Amphenol
ANTENNA SOLUTIONS

TRI-SECTOR Base Station Antennas & Enclosures

TRIO™ and UNICELL™

www.amphenol-antennas.com

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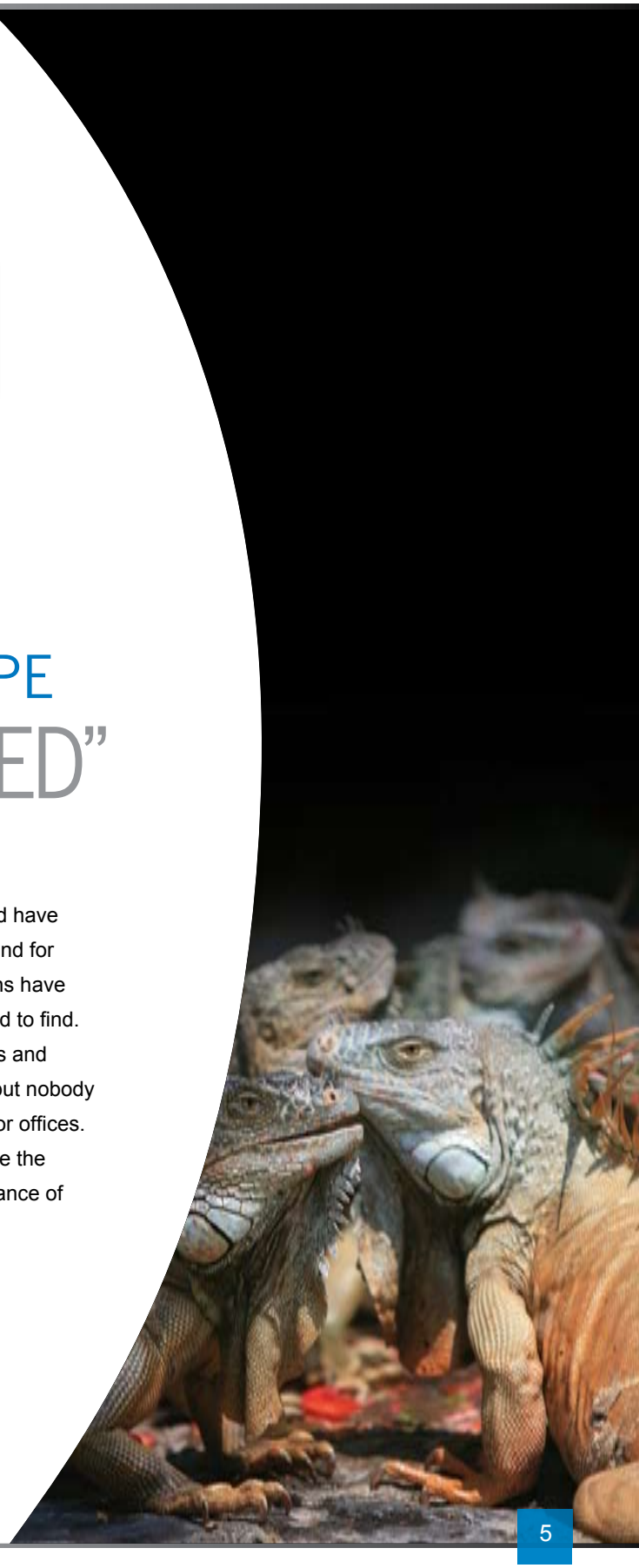
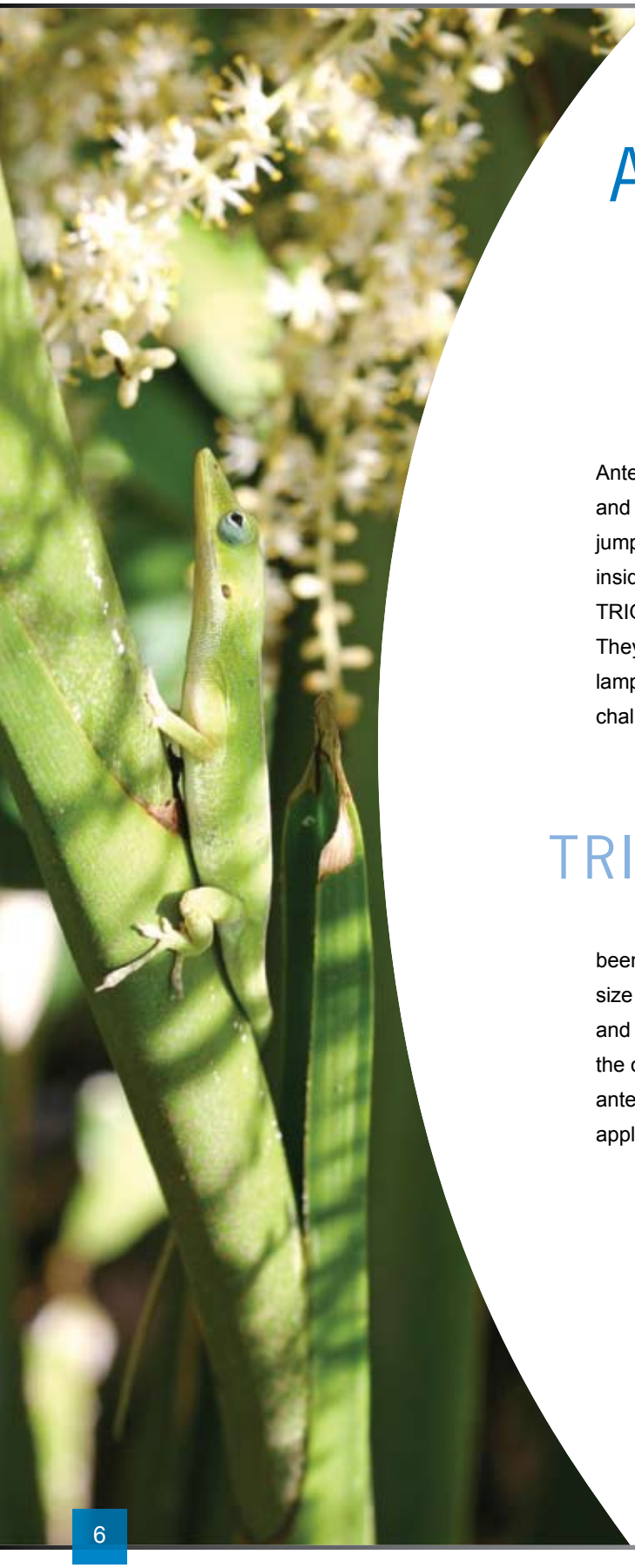
THE WIRELESS LANDSCAPE IS GETTING "CROWDED"

For more than 20 years, service providers around the world have been deploying and expanding their networks to keep up with demand for high quality voice and data services. Remote and industrial locations have been the first choice for cell sites but these locations are getting hard to find. The sites that do exist are now overflowing with antennas, amplifiers and cabling. New cell sites are needed to deliver 3G and 4G services, but nobody wants to see the unsightly infrastructure near their homes, schools or offices. City planners and service providers need a win-win solution to insure the availability of wireless services without degrading the visual appearance of the community.





A WIN-WIN "SOLUTION"

TRIO antennas and UNICELL enclosures from Amphenol Antenna Solutions provide a win-win solution for service providers and communities. Both product families are able to conceal antennas, jumper cables and masthead amplifiers for a complete 3-sector cell site inside a small, low visual impact enclosure. Due to their small size, TRIO antennas and UNICELL enclosures blend into the environment. They can be discretely deployed as flagpoles, roof-top vents, street lamps or telephone poles to enable site approval in even the most challenging locations.

TRIO

TRIO is a family of 3-sector base station antennas that have been optimized to provide maximum RF performance in the smallest size possible. Redundant components such as individual radomes and separate antenna back structures have been combined to reduce the over-all diameter. Due to their small size and light weight, TRIO antennas are ideally suited for rooftop and low centerline street furniture applications.

UNICELL

UNICELL is a family of antenna enclosures designed to accept "off-the-shelf" base station antennas. UNICELL provides long term flexibility by allowing antennas on each sector to be individually replaced as coverage requirements or available spectrum change. Light weight concealment panels on each sector allow easy field access to the internal antennas without having to lift or remove the UNICELL structure. Enclosures can be stacked two-high for multiband applications or to provide collocation opportunities for a second service provider.

EXPERIENCE

Amphenol Antenna Solutions has over a decade of experience deploying TRIO and UNICELL site solutions. We understand the unique packaging challenges associated with these sites and have designed these products to provide trouble free installation and easy serviceability. In addition, we have developed a full line of accessories including TMA mounting canisters, lightning protection kits and flag pole adapter kits that are simple to deploy and allow customization to meet your site requirements.

TRIO ANTENNAS

TRIO products from Amphenol Antenna Solutions are 3-sector base station antennas concealed inside compact cylindrical shrouds. Due to their extremely small size, TRIO products blend into the environment enabling quick site approval in the most challenging urban settings. TRIO antennas have been successfully deployed as lamp posts, telephone poles, flagpoles and roof-top vents in communities around the world. These low visual impact solutions increase the number of candidate sites within the search ring leading to faster site approval and reduced site acquisition costs.

TRIO antennas have been engineered to provide maximum RF performance in the smallest possible diameter. Rather than re-packaging existing sector antenna designs, Amphenol Antenna Solutions started over to create high performance building blocks that are optimized for the cylindrical environment. With this new technology, we have developed an impressive portfolio of wideband and multi-band TRIO antennas with features such as azimuth panning and remote electrical tilt inside small, low visual impact enclosures.

FEATURES:

- Diameters ranging from 191mm (7.5-inch) to 460mm (18-inch)
- Wideband, Dual-Band and Tri-Band configurations
- Removable connector access panels
- Remote Electrical Tilt and Azimuth Panning capable

TRIO Antennas Matrix

TRIO191 (Diameter = 191 mm)

Model Number	Height	Frequency	Az. BW	Az. Pan	Gain	Elect. Tilt	Page No.
WB3X080X06F250	610 mm	1710-2170 MHz	80°	Fixed	13.5 dBi	2°	10
WB3X080X12Fx50	1219 mm	1710-2170 MHz	80°	Fixed	16.0 dBi	2°, 6°	11

TRIO230 (Diameter = 230 mm)

Model Number	Height	Frequency	Az. BW	Az. Pan	Gain	Elect. Tilt	Page No.
GSM3X75-13-A	1905 mm	870-960 MHz	73°	Fixed	14.5 dBi	2°-12°	13
GSM3X75-22-A	2515 mm	870-960 MHz	73°	Fixed	15.0 dBi	2°-12°	15
5176703*	1710 mm	1710-2170 MHz	65°	Fixed	17.5 dBi	2°-14°	17
5162703*	1940 mm	1710-2170 MHz	65°	Fixed	18.5 dBi	0°-10°	21
5230703*	1940 mm	1710-2170 MHz	65°	Fixed	18.5 dBi	4°-14°	25
WB3X072X18x00	1828 mm	1710-2170 MHz	72°	Fixed	18.0 dBi	0°-10°	29
WB3X072X24x00	2337 mm	1710-2170 MHz	72°	Fixed	19.0 dBi	0°-6°	33

TRIO280 (Diameter = 280 mm)

Model Number	Height	Frequency	Az. BW	Az. Pan	Gain	Elect. Tilt	Page No.
5066222	1365 mm	880-960 / 1710-1880 MHz	73° / 79°	Fixed	13.0 / 15.0 dBi	2° / 2°	35
5067222	1365 mm	880-960 / 1920-2170 MHz	76° / 65°	Fixed	13.0 / 15.0 dBi	2° / 2°	37

TRIO310 (Diameter = 310 mm)

Model Number	Height	Frequency	Az. BW	Az. Pan	Gain	Elect. Tilt	Page No.
5176903*	1710 mm	1710-2170 MHz	65°	± 15°	17.5 dBi	2°-14°	39
5162903*	1990 mm	1710-2170 MHz	65°	± 15°	18.5 dBi	0°-10°	43
5230903*	1990 mm	1710-2170 MHz	65°	± 15°	18.5 dBi	4°-14°	47
5863703	2291 mm	880-960 / 1710-2170 MHz	65°	Fixed	16.5 / 18.0 dBi	0°-10° / 0°-10°	51
5880713	3069 mm	880-960 / 1710-2170 / 1710-2170 MHz	65°	Fixed	17.5 / 17.2 / 17.3 dBi	0°-10° / 0°-12° / 0°-12°	55

TRIO325 (Diameter = 325 mm)

Model Number	Height	Frequency	Az. BW	Az. Pan	Gain	Elect. Tilt	Page No.
5270500*	2430 mm	880-960 / 1710-2170 MHz	65° / 65°	Fixed	15.0 / 17.0 dBi	0°-10° / 0°-10	59
5270200	2830 mm	880-960 / 1710-2170 MHz	65° / 65°	Fixed	15.0 / 17.0 dBi	0°-10° / 0°-10	61
5270400**	3120 mm	880-960 / 1710-2170 MHz	65° / 65°	Fixed	15.0 / 17.0 dBi	0°-10° / 0°-10	63

TRIO380 (Diameter = 388 mm)

Model Number	Height	Frequency	Az. BW	Az. Pan	Gain	Elect. Tilt	Page No.
5177703*	1710 mm	1710-2170 / 1710-2170 MHz	65°	Fixed	17.5 dBi	2°-14°	65
5863903*	2291 mm	880-960 / 1710-2170 MHz	65° / 65°	± 15°	16.5 / 18.0 dBi	0°-10° / 0°-10°	67
5860903*	3069 mm	880-960 / 1710-2170 MHz	65° / 65°	± 15°	17.5 / 18.0 dBi	0°-10° / 0°-10°	71
5880903*	3069 mm	880-960 / 1710-2170 / 1710-2170 MHz	65° / 65°/ 65°	± 15°	17.5 / 17.2 / 17.3 dBi	0°-10° / 0°-12° / 0°-12°	75

TRIO460 (Diameter = 458 mm)

Model Number	Height	Frequency	Az. BW	Az. Pan	Gain	Elect. Tilt	Page No.
SL3X065X17x00**	1727 mm	806-940 MHz	65°	Fixed	14.5 dBi	2°-14°	79
WB3X065T17x00**	1727 mm	1710-2170 / 1710-2170 MHz	65°	Fixed	17.5 dBi	2°-10°	81
DS3X065X17x10**	1727 mm	806-940 / 1710-2170 MHz	65° / 65°	Fixed	14.0 / 17.0 dBi	2°-14° / 2°-10°	83
DS3X065X17x00**	1727 mm	806-940 / 1710-2170 MHz	65° / 65°	Fixed	14.5 / 17.5 dBi	2°-14° / 2°-10°	85
TW3X065X17x00**	1727 mm	824-960 / 1710-2170 / 1710-2170 MHz	65°/ 65°/ 65°	Fixed	14.0 / 17.0 / 17.0 dBi	2°-14° / 2°-10°/ 2°-10°	87

* *Single-sector and dual-sector also available. See individual datasheet for model numbers.*

** *Flag Pole capable.*

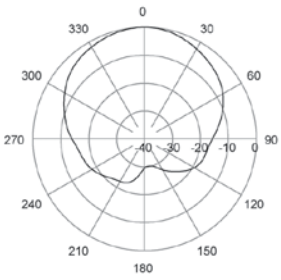
WB3X080X06F250

191 mm | X-Pol | Wideband FET TRIO | 80° | 13.5 dBi

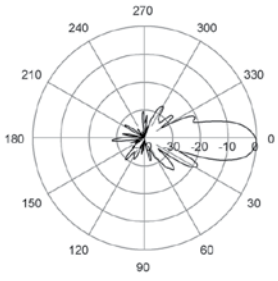
- Tri-sector with fixed electrical tilt
- Utility pole mount design

Electrical Characteristics	1710-2170 MHz		
Frequency band	1710-1880 MHz	1850-1990 MHz	1900-2170 MHz
Polarization	±45°		
Horizontal beamwidth	74°	78°	80°
Vertical beamwidth	22°	20°	18°
Gain	10.7 dBd / 12.8 dBi	11.1 dBd / 13.2 dBi	11.4 dBd / 13.5 dBi
Omni gain	4.9 dBd / 7.0 dBi		
Electrical downtilt	2°		
Impedance	50Ω		
VSWR	< 1.4:1		
1st upper side lobe	< -16 dB		
Front-to-Back ratio	> 18 dB		
IM3 (2x20W carrier)	< -147 dBc		
Input power	6 x 300 W		
Connector(s)	6 ports / 7/16-DIN / Female / Radial		
Operating temperature	-40 to +60° C		-40 to +140° F
Mechanical Characteristics			
Overall Dimensions Height x Diameter	610 x 191 mm		24.0 x 7.5 in
Weight	5.9 kg		13.0 lbs
Survival wind speed	200 km/hr		125 mph
Wind load @ 160 km/hr (100 mph)	62 N		13.7 lbf
Mounting Options			
Utility pole mounting kit	WB3X-MKS-01		

1800 MHz

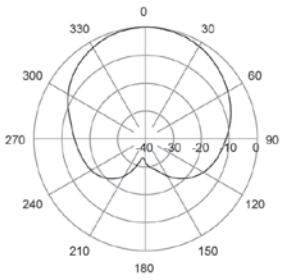


Horizontal



2° | Vertical

1900 MHz



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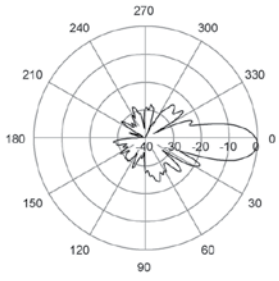
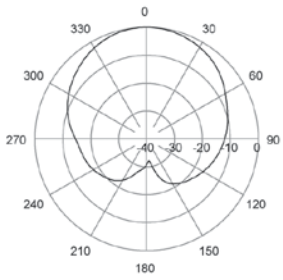


2° | Vertical

2100 MHz



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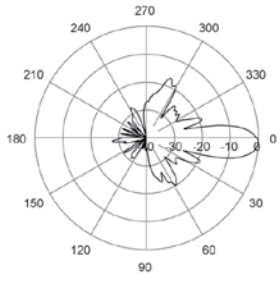


2° | Vertical

- Tri-sector with fixed electrical tilt
- Utility pole mount design

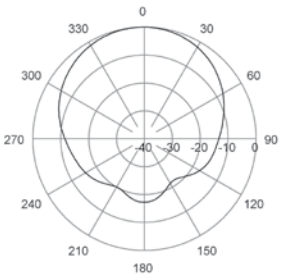
WB3X080X12Fx50

WB3X080X12F250 WB3X080X12F650

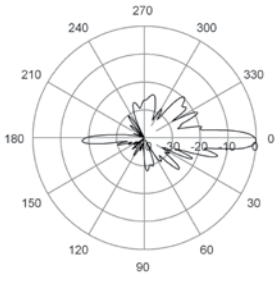
191 mm | X-Pol | Wideband FET TRIO | 80° | 16.0 dBi

Electrical Characteristics	1710-2170 MHz		
Frequency band	1710-1880 MHz	1850-1990 MHz	1900-2170 MHz
Polarization	±45°		
Horizontal beamwidth	80°	79°	80°
Vertical beamwidth	7.6°	7.1°	6.5°
Gain	13.8 dBd / 15.9 dBi	13.7 dBd / 15.8 dBi	13.9 dBd / 16.0 dBi
Electrical downtilt (x)	2°, 6°		
Impedance	50Ω		
VSWR	< 1.4:1		
1st upper side lobe	< -16 dB		
Front-to-Back ratio	> 18 dB		
IM3 (2x20W carrier)	< -147 dBc		
Input power	6 x 300 W		
Connector(s)	6 ports / 7/16-DIN / Female / Radial		
Operating temperature	-40 to +60° C		-40 to +140° F
Mechanical Characteristics			
Overall Dimensions Height x Diameter	1219 x 191 mm		48.0 x 7.5 in
Weight	8.6 kg		19.0 lbs
Survival wind speed	200 km/hr		125 mph
Wind load @ 160 km/hr (100 mph)	125 N		28 lbf
Mounting Options			
Utility pole mounting kit	WB3X-MKS-01		

1800 MHz

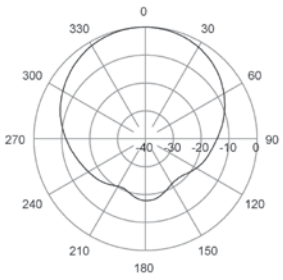


Horizontal



2° | Vertical

1900 MHz



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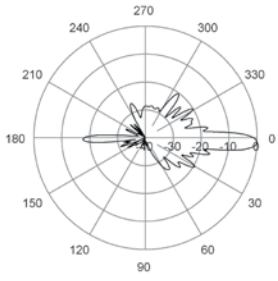
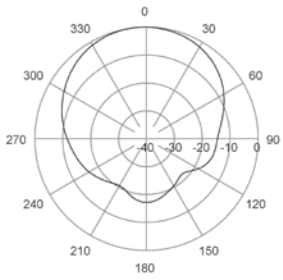


2° | Vertical

2100 MHz



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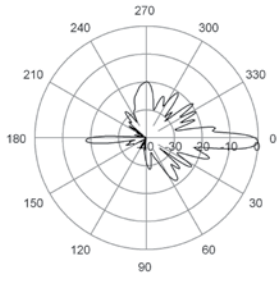


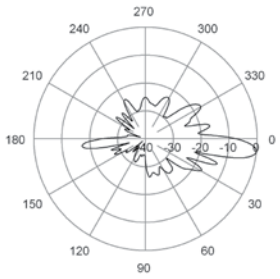
2° | Vertical

WB3X080X12Fx50

WB3X080X12F250 WB3X080X12F650

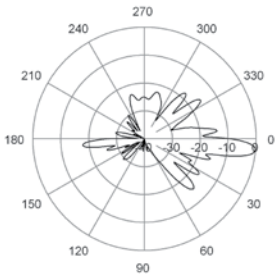
191 mm | X-Pol | Wideband FET TRIO | 80° | 16.0 dBi

1800 MHz



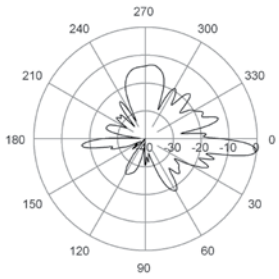
6° | Vertical

1900 MHz



6° | Vertical

2100 MHz



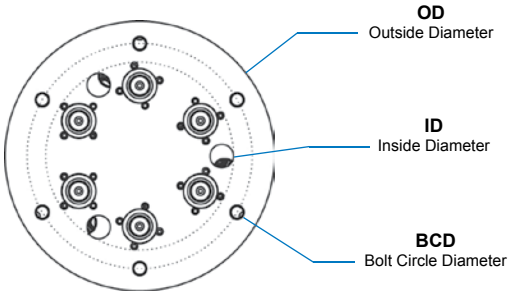
6° | Vertical

GSM3X75-13-A

230 mm | X-Pol | VET TRIO | 73° | 14.5 dBi

Electrical Characteristics		
Frequency band	870-960 MHz	
Polarization	±45°	
Horizontal beamwidth	73° (±5° each beam nominally)	
Vertical beamwidth	14.5° (±1.5°)	
Gain	12.4 dBd / 14.5 dBi	
Electrical downtilt	2°-12°	
Impedance	50Ω	
VSWR	< 1.4:1	
1st upper side lobe	< -16 dB typical	
Inter-port isolation	> 25 dB any pair ports	
IM3 (2x20W carrier)	< -153 dBc	
Maximum power per port	2 x 250 W per sector	
Connector(s)	6 ports / 7/16-DIN / Female / Bottom	
Operating temperature	-40 to +60° C	-40 to +140° F
Mechanical Characteristics		
Overall Dimensions Height x Diameter	1905 x 230 mm	75.0 x 9.1 in
Array Height	1350 mm	53.0 in
Access Panel Height x Diameter	430 x 230 mm	16.9 x 9.1 in
Lightning finial	220 x 8 mm	8.6 x 0.3 in
Weight - Antenna	20 kg	44 lbs
Survival wind speed	200 km/hr	125 mph
Wind load @ 160 km/hr (100 mph)	345 N	77.6 lbf
Mounting Options		
Mounting adaptor	Integral base flange adaptor supplied	

Trio Flange Interface

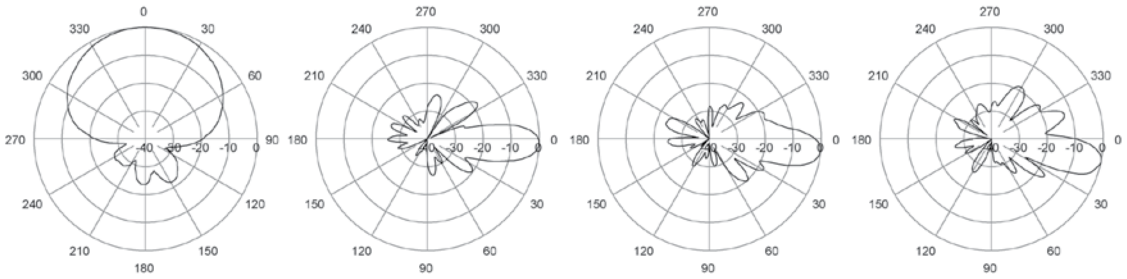


OD: 9.06 in (230 mm)
ID: 6.30 in (160 mm)
BCD: 6 mounting holes equally spaced on a 7.60 in (192 mm) bolt circle
Flange Thickness: 0.79 in (20 mm)

GSM3X75-13-A

230 mm | X-Pol | VET TRIO | 73° | 14.5 dBi

870-960 MHz



2° | Horizontal | 2° | Vertical | 6° | Vertical | 12° | Vertical

GSM3X75-22-A

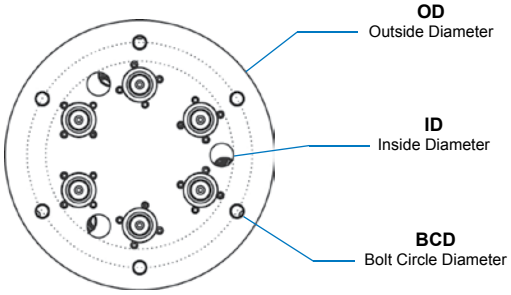
GSM3X75-22-AET

230 mm | X-Pol | VET TRIO | 73° | 15.0 dBi

Model number options:
GSM3X75-22-A Manual Electrical Tilt Antenna
GSM3X75-22-AET Remote Electrical Tilt Antenna

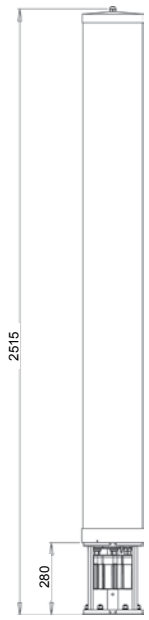
Electrical Characteristics		
Frequency band	870-960 MHz	
Polarization	±45°	
Horizontal beamwidth	73° (±5° each beam nominally)	
Vertical beamwidth	10° (±1°)	
Gain	12.9 dBd / 15.0 dBi	
Electrical downtilt	2°-12°	
Impedance	50Ω	
VSWR	< 1.4:1	
1st upper side lobe	< -15 dB typical	
Inter-port isolation	> 25 dB any pair ports	
IM3 (2x20W carrier)	< -153 dBc	
Maximum power per port	2 x 250 W per sector	
Connector(s)	6 ports / 7/16-DIN / Female / Bottom	
Operating temperature	-40 to +60° C	-40 to +140° F
Tracking between ports	<1.5 dB across ±60° sector	
Mechanical Characteristics		
Overall Dimensions Height x Diameter	2515 x 230 mm	99.0 x 9.1 in
Array Height	1990 mm	78.3 in
Access Panel Height x Diameter	430 x 230 mm	16.9 x 9.1 in
Lightning finial	220 x 8 mm	8.6 x 0.3 in
Weight - Antenna	38 kg	84 lbs
Survival wind speed	200 km/hr	125 mph
Wind load @ 160 km/hr (100 mph)	465 N	105 lbf
Mounting Options		
Mounting adaptor	Integral base flange adaptor supplied	

Trio Flange Interface



OD: 9.06 in (230 mm)
ID: 6.30 in (160 mm)
BCD: 6 mounting holes equally spaced on a 7.60 in (192 mm) bolt circle
Flange Thickness: 0.79 in (20 mm)

Dimensions (in mm)

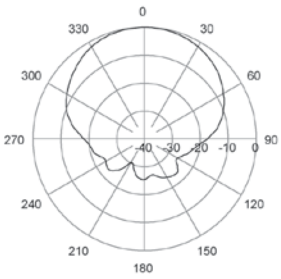


GSM3X75-22-A

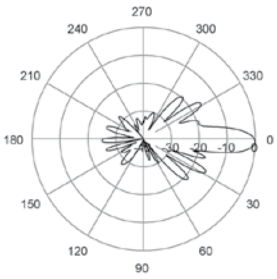
GSM3X75-22-AET

230 mm | X-Pol | VET TRIO | 73° | 15.0 dBi

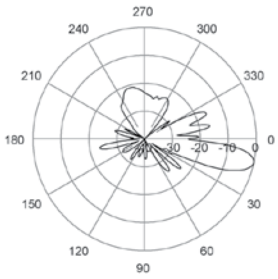
870-960 MHz



2° | Horizontal



2° | Vertical



12° | Vertical

5176703

5176603 5176603G

230 mm | X-Pol | Wideband VET TRIO | 65° | 17.5 dBi

- Tri-sector Wideband antenna, 2 connectors per sector
- Variable electrical tilt 2-14°
- Very small diameter (230 mm) for low wind load
- MET and RET versions, AISG1.1 or 3GPP/AISG2.0
- Dual-sector & Single-sector antennas available

Model number reference:

Tri-sector	*Dual-sector*	*Single-sector*	
5176703	5176702	5176701	Manual Electrical Tilt Antenna
5176603	5176602	5176601	Remote Electrical Tilt Antenna, AISG1.1
5176603G	5176602G	5176601G	Remote Electrical Tilt Antenna, 3GPP/AISG2.0

Electrical Characteristics		
Frequency band	1710-2170 MHz	
Polarization	±45°	
Horizontal beamwidth	65° (-3 dB)	
Vertical beamwidth	7° (-3 dB)	
Gain	15.4 dBd / 17.5 dBi	
Electrical downtilt	2-14°	
Impedance	50Ω	
VSWR	< 1.4:1	
Upper sidelobe rejection (20° sector above main beam)	> 18 dB typical	
Null fill (first null below main beam)	< 22 dB typical	
Isolation between ports	> 30 dB	
Front-to-Back ratio	> 25 dB	
IM3 (2x20W carrier)	< -153 dBc	
Maximum power per port	160 W	
Connector(s)	6 ports / 7/16-DIN / Female, Long Neck / Bottom	
RET Part Number (one unit per sector)	RETU-CA41 for AISG1.1 protocol (3 units included in 5176603) RETU-CG41 for 3GPP/AISG2.0 protocol (3 units included in 5176603G)	
Environmental		
Operating temperature	-40 to +60° C	-40 to +140° F
Environmental	ETS 300 019	
RoHS compliant	Yes	
Mechanical Characteristics		
Total Height (includes 250 mm service area)	1710 mm	67.3 in
Effective Height x Diameter	1335 x 230 mm	52.6 x 9.1 in
Weight	25 kg	55.1 lbs
Survival wind speed	200 km/hr	125 mph
Operational wind speed	160 km/hr	99 mph
Wind load @ 160 km/hr (100 mph)	184 N	41 lbf
Shroud	Outdoor plastic, RAL 7035 Grey	
Relative directions of internal antennas (sector axis)	0° 120° 240°	
Packaging		
Packing dimensions	2100 x 370 x 430 mm	82.7 x 14.6 x 16.9 in
Packing weight	53 kg	116.8 lbs
Packing volume	0.334 m^3	11.8 ft^3

Accessories	Part Number	Description
Lightning protection kit	TRX-LPK	Lightning finial
Trio extension	TRX230-E085-002	Mounting Mast, 85 cm high x 230 mm dia
Trio-Pack (delivered w/non-penetrating platform)	Please contact us	

Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.

5176703

5176603 5176603G

230 mm | X-Pol | Wideband VET TRIO | 65° | 17.5 dBi

A service area at the bottom can be opened for the access to the connectors and to the manual adjustments of the electrical downtilts.

Electrical Downtilt Control

The electrical downtilt can be controlled separately on each sector.

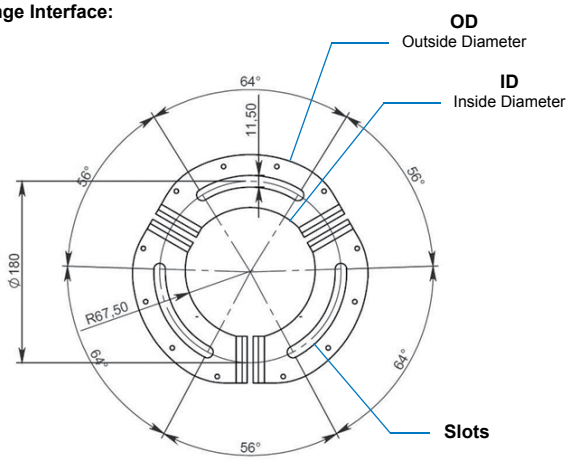
Manual control: The electrical tilt is changed by turning the adjustment screw at the end of the tilt indicator with a 10 mm socket wrench.

Remote control: The antenna can be delivered with one RET module for each sector installed in the service area, compatible with 3GPP/AISG2.0 or AISG1.1.

The remote control of other equipments or sectors is possible by “daisy-chain” through the use of an extra AISG connector located on the RET module.

Dimensions (in mm)

Trio Flange Interface:



OD: 230 mm (9.1 in)
ID: 135 mm (5.3 in)

Slots: 3 curved slots x 11.5 mm (0.45 in) wide on a 180 mm (7.1 in) dia. bolt circle

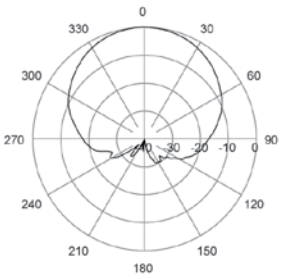
Flange Thickness: 5 mm (0.20 in)

5176703

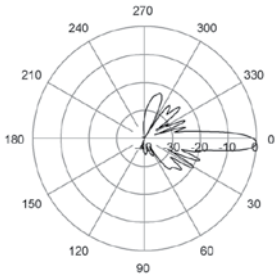
5176603 5176603G

230 mm | X-Pol | Wideband VET TRIO | 65° | 17.5 dBi

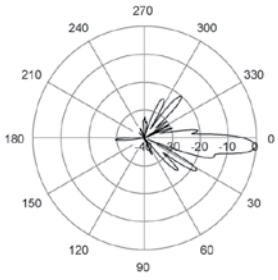
1800 MHz



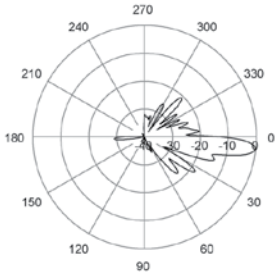
Horizontal



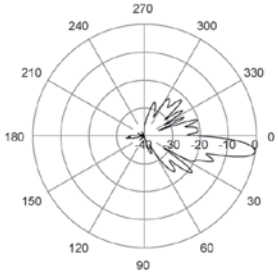
2° | Vertical



4° | Vertical

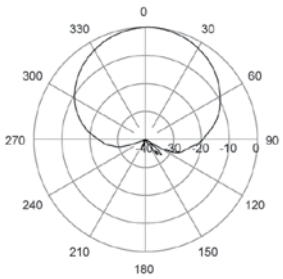


6° | Vertical

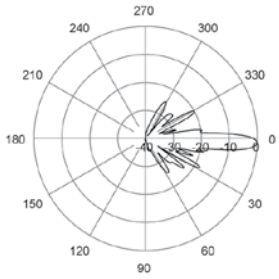


8° | Vertical

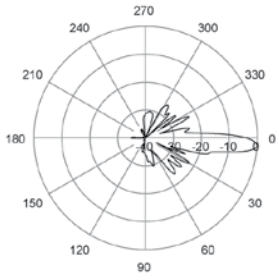
1900 MHz



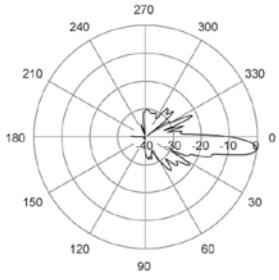
Horizontal



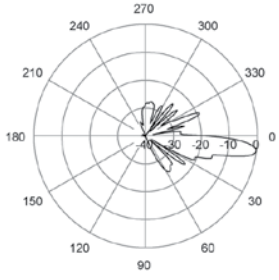
2° | Vertical



4° | Vertical

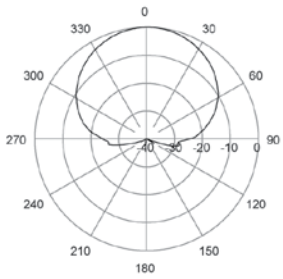


6° | Vertical

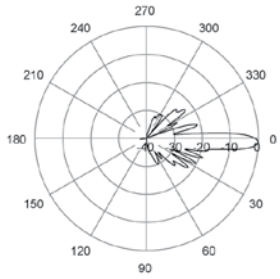


8° | Vertical

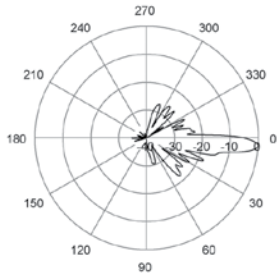
2100 MHz



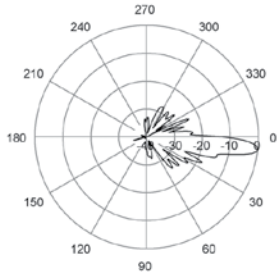
Horizontal



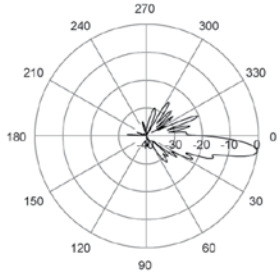
2° | Vertical



4° | Vertical



6° | Vertical



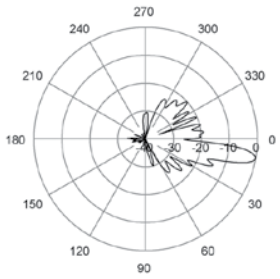
8° | Vertical

5176703

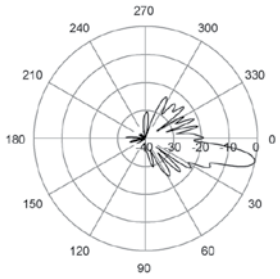
5176603 5176603G

230 mm | X-Pol | Wideband VET TRIO | 65° | 17.5 dBi

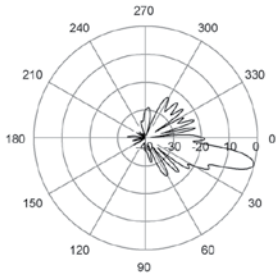
1800 MHz



10° | Vertical

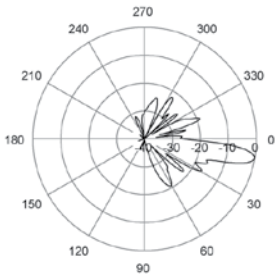


12° | Vertical

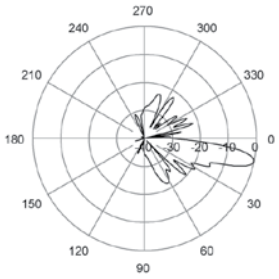


14° | Vertical

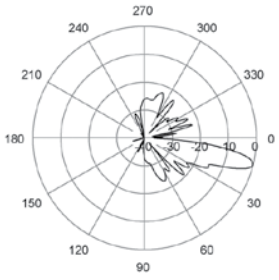
1900 MHz



10° | Vertical

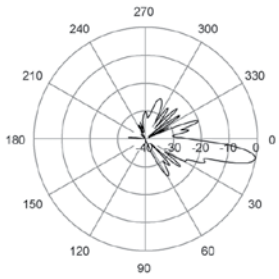


12° | Vertical

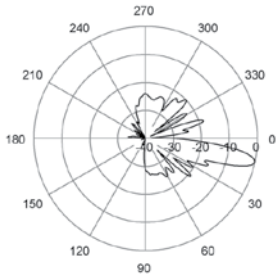


14° | Vertical

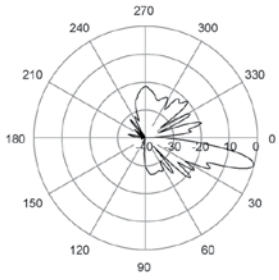
2100 MHz



10° | Vertical



12° | Vertical



14° | Vertical

5162703

5162603 5162603G

230 mm | X-Pol | Wideband VET TRIO | 65° | 18.5 dBi

- Tri-sector Wideband antenna, 2 connectors per sector
- Variable electrical tilt 0-10°
- Very small diameter (230 mm) for low wind load
- MET and RET versions, AISG1.1 or 3GPP/AISG2.0
- Dual-sector & Single-sector antennas available

Model number reference:

Tri-sector	*Dual-sector*	*Single-sector*	
5162703	5162702	5162701	Manual Electrical Tilt Antenna
5162603	5162602	5162601	Remote Electrical Tilt Antenna, AISG1.1
5162603G	5162602G	5162601G	Remote Electrical Tilt Antenna, 3GPP/AISG2.0

Electrical Characteristics		
Frequency band	1710-2170 MHz	
Polarization	±45°	
Horizontal beamwidth	65° (-3 dB)	
Vertical beamwidth	6° (-3 dB)	
Gain	16.4 dBd / 18.5 dBi	
Electrical downtilt	0-10°	
Impedance	50Ω	
VSWR	< 1.5:1	
Upper sidelobe rejection (20° sector above main beam)	> 18 dB typical	
Null fill (first null below main beam)	< 18 dB typical	
Isolation between ports	> 30 dB	
Front-to-Back ratio	> 25 dB	
IM3 (2x20W carrier)	< -153 dBc	
Maximum power per port	160 W	
Connector(s)	6 ports / 7/16-DIN / Female, Long Neck / Bottom	
RET Part Number (one unit per sector)	RETU-CA41 for AISG1.1 protocol (3 units included in 5162603) RETU-CG41 for 3GPP/AISG2.0 protocol (3 units included in 5162603G)	
Environmental		
Operating temperature	-40 to +60° C	-40 to +140° F
Environmental	ETS 300 019	
RoHS compliant	Yes	
Mechanical Characteristics		
Total Height (includes 250 mm service area)	1940 mm	76.4 in
Effective Height x Diameter	1565 x 230 mm	61.6 x 9.1 in
Weight	27 kg	59.5 lbs
Survival wind speed	200 km/hr	125 mph
Operational wind speed	160 km/hr	99 mph
Wind load @ 160 km/hr (100 mph)	222 N	50 lbf
Shroud	Outdoor plastic, RAL 7035 Grey	
Relative directions of internal antennas (sector axis)	0° 120° 240°	
Packaging		
Packing dimensions	2480 x 370 x 430 mm	97.6 x 14.6 x 16.9 in
Packing weight	62 kg	136.7 lbs
Packing volume	0.395 m^3	13.9 ft^3

Accessories	Part Number	Description
Lightning protection kit	TRX-LPK	Lightning finial
Trio extension	TRX230-E085-002	Mounting Mast, 85 cm high x 230 mm dia
Trio-Pack (delivered w/non-penetrating platform)	Please contact us	

5162703

5162603 5162603G

230 mm | X-Pol | Wideband VET TRIO | 65° | 18.5 dBi

A service area at the bottom can be opened for the access to the connectors and to the manual adjustments of the electrical downtilts.

Electrical Downtilt Control

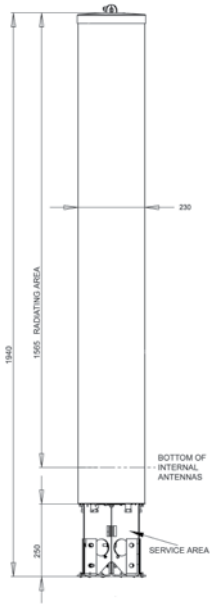
The electrical downtilt can be controlled separately on each sector.

Manual control: The electrical tilt is changed by turning the adjustment screw at the end of the tilt indicator with a 10 mm socket wrench.

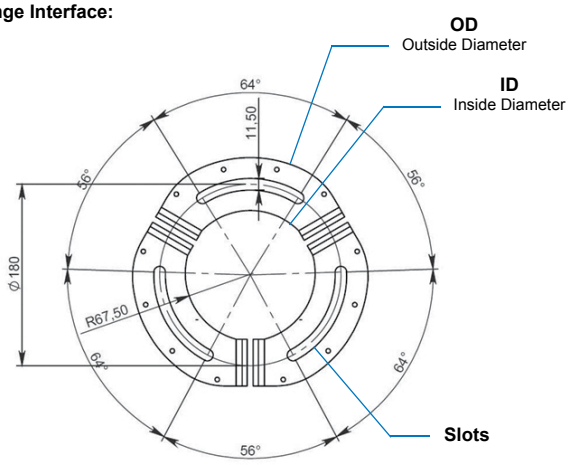
Remote control: The antenna can be delivered with one RET module for each sector installed in the service area, compatible with 3GPP/AISG2.0 or AISG1.1.

The remote control of other equipments or sectors is possible by “daisy-chain” through the use of an extra AISG connector located on the RET module.

Dimensions (in mm)



Trio Flange Interface:



OD: 230 mm (9.1 in)

ID: 135 mm (5.3 in)

Slots: 3 curved slots x 11.5 mm (0.45 in) wide on a 180 mm (7.1 in) dia. bolt circle

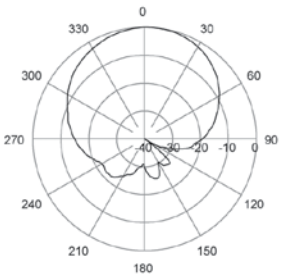
Flange Thickness: 5 mm (0.20 in)

5162703

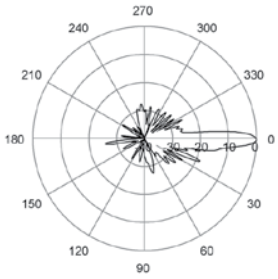
5162603 5162603G

230 mm | X-Pol | Wideband VET TRIO | 65° | 18.5 dBi

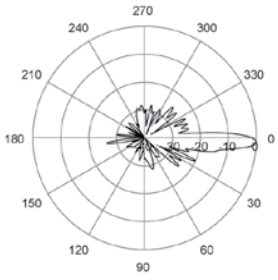
1800 MHz



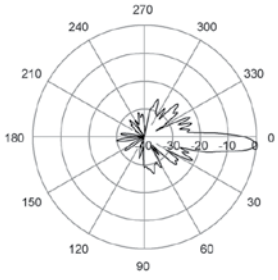
Horizontal



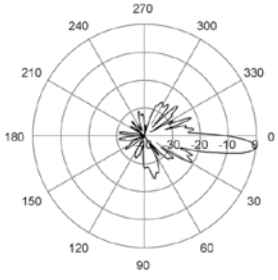
0° | Vertical



2° | Vertical

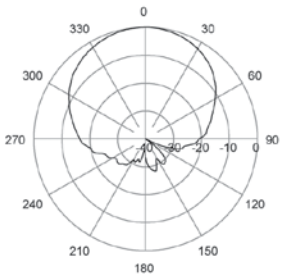


4° | Vertical

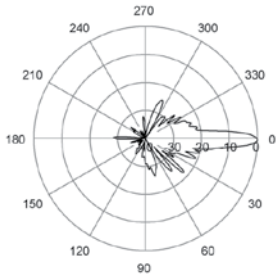


6° | Vertical

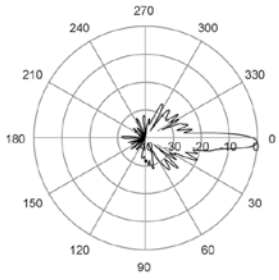
1900 MHz



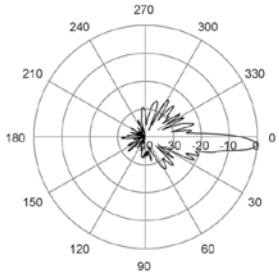
Horizontal



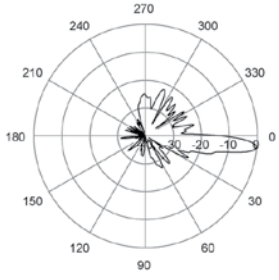
0° | Vertical



2° | Vertical

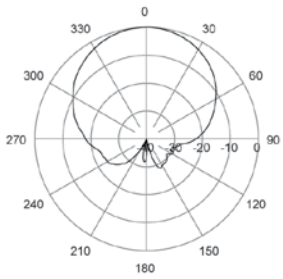


4° | Vertical

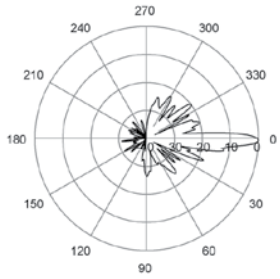


6° | Vertical

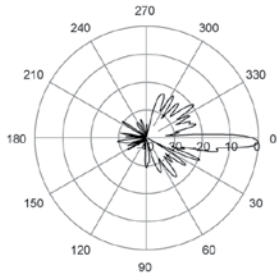
2100 MHz



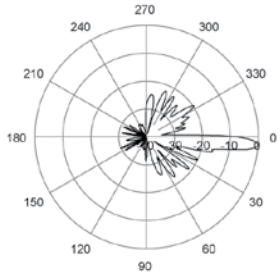
Horizontal



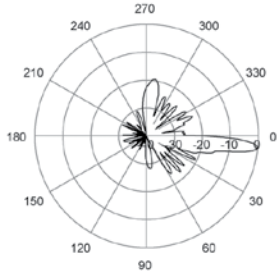
0° | Vertical



2° | Vertical



4° | Vertical



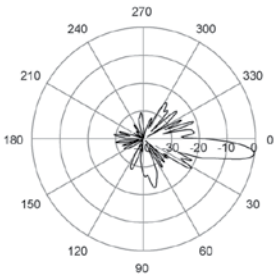
6° | Vertical

5162703

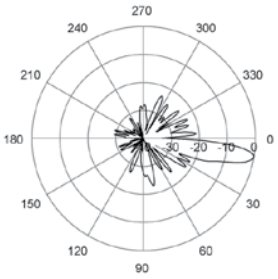
5162603 5162603G

230 mm | X-Pol | Wideband VET TRIO | 65° | 18.5 dBi

1800 MHz

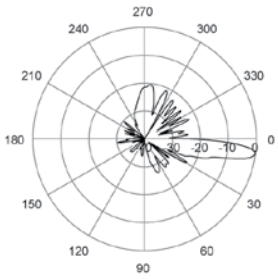


8° | Vertical

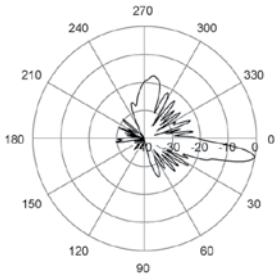


10° | Vertical

1900 MHz

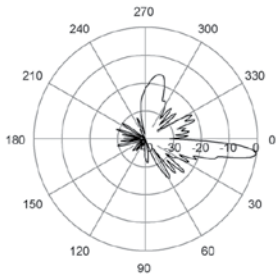


8° | Vertical

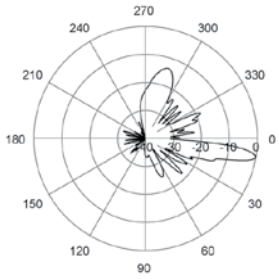


10° | Vertical

2100 MHz



8° | Vertical



10° | Vertical

5230703

5230603 5230603G

230 mm | X-Pol | Wideband VET TRIO | 65° | 18.5 dBi

- Tri-sector Wideband antenna, 2 connectors per sector
- Variable electrical tilt 4-14°
- Very small diameter (230 mm) for low wind load
- MET and RET versions, AISG1.1 or 3GPP/AISG2.0
- Dual-sector & Single-sector antennas available

Model number reference:

Tri-sector	*Dual-sector*	*Single-sector*	
5230703	5230702	5230701	Manual Electrical Tilt Antenna
5230603	5230602	5230601	Remote Electrical Tilt Antenna, AISG1.1
5230603G	5230602G	5230601G	Remote Electrical Tilt Antenna, 3GPP/AISG2.0

Electrical Characteristics		
Frequency band	1710-2170 MHz	
Polarization	±45°	
Horizontal beamwidth	65° (-3 dB)	
Vertical beamwidth	6° (-3 dB)	
Gain	16.4 dBd / 18.5 dBi	
Electrical downtilt	4-14°	
Impedance	50Ω	
VSWR	< 1.4:1	
Upper sidelobe rejection (20° sector above main beam)	> 18 dB typical	
Null fill (first null below main beam)	< 18 dB typical	
Isolation between ports	> 30 dB	
Front-to-Back ratio	> 25 dB	
IM3 (2x20W carrier)	< -153 dBc	
Maximum power per port	160 W	
Connector(s)	6 ports / 7/16-DIN / Female, Long Neck / Bottom	
RET Part Number (one unit per sector)	RETU-CA41 for AISG1.1 protocol (3 units included in 5230603) RETU-CG41 for 3GPP/AISG2.0 protocol (3 units included in 5230603G)	
Environmental		
Operating temperature	-40 to +60° C	-40 to +140° F
Environmental	ETS 300 019	
RoHS compliant	Yes	
Mechanical Characteristics		
Total Height (includes 250 mm service area)	1940 mm	76.4 in
Effective Height x Diameter	1565 x 230 mm	61.6 x 9.1 in
Weight	27 kg	59.5 lbs
Survival wind speed	200 km/hr	125 mph
Operational wind speed	160 km/hr	99 mph
Wind load @ 160 km/hr (100 mph)	222 N	50 lbf
Shroud	Outdoor plastic, RAL 7035 Grey	
Relative directions of internal antennas (sector axis)	0° 120° 240°	
Packaging		
Packing dimensions	2480 x 350 x 430 mm	97.6 x 13.8 x 16.9 in
Packing weight	57 kg	125.7 lbs
Packing volume	0.373 m^3	13.2 ft^3

Accessories	Part Number	Description
Lightning protection kit	TRX-LPK	Lightning finial
Trio extension	TRX230-E085-002	Mounting Mast, 85 cm high x 230 mm dia
Trio-Pack (delivered w/non-penetrating platform)	Please contact us	

5230703

5230603 5230603G

230 mm | X-Pol | Wideband VET TRIO | 65° | 18.5 dBi

A service area at the bottom can be opened for the access to the connectors and to the manual adjustments of the electrical downtilts.

Electrical Downtilt Control

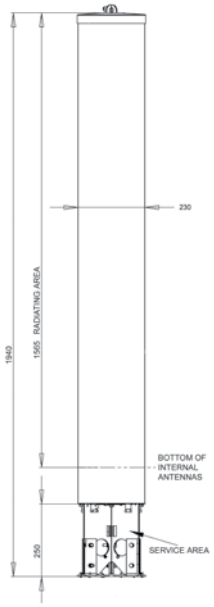
The electrical downtilt can be controlled separately on each sector.

Manual control: The electrical tilt is changed by turning the adjustment screw at the end of the tilt indicator with a 10 mm socket wrench.

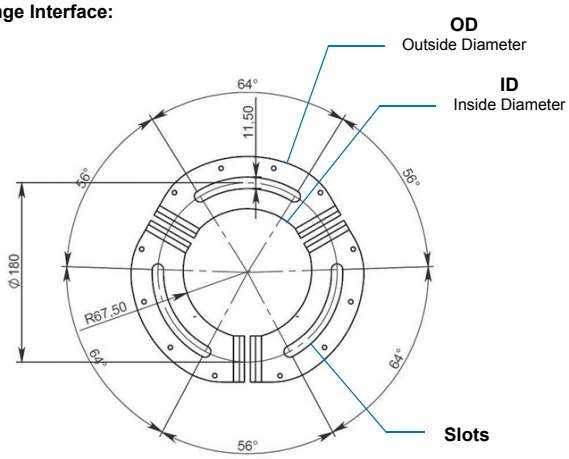
Remote control: The antenna can be delivered with one RET module for each sector installed in the service area, compatible with 3GPP/AISG2.0 or AISG1.1.

The remote control of other equipments or sectors is possible by “daisy-chain” through the use of an extra AISG connector located on the RET module.

Dimensions (in mm)



Trio Flange Interface:



OD: 230 mm (9.1 in)
ID: 135 mm (5.3 in)

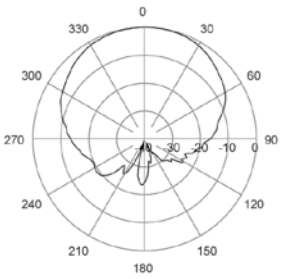
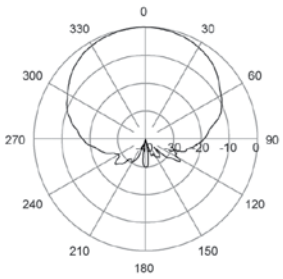
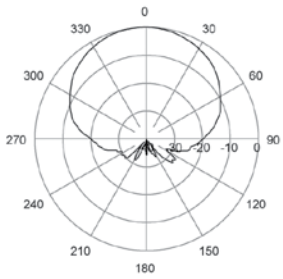
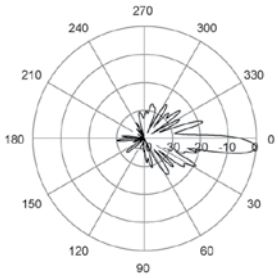
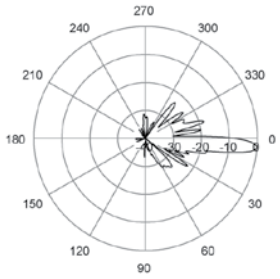
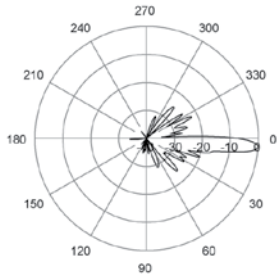
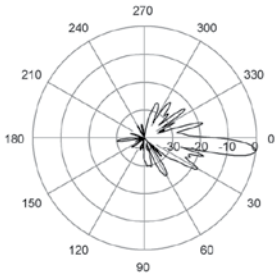
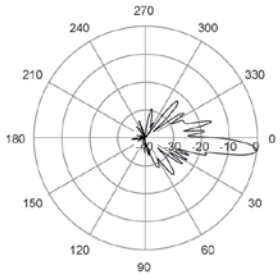
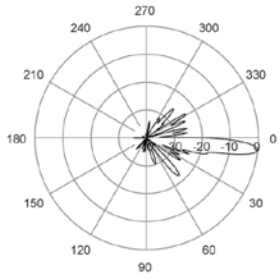
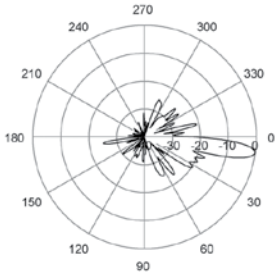
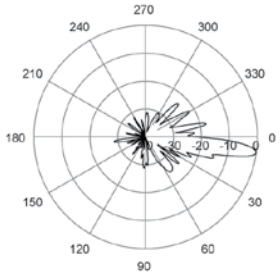
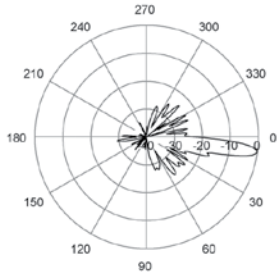
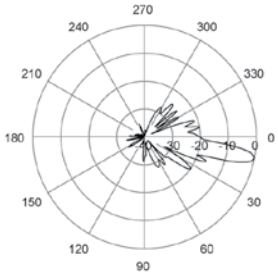
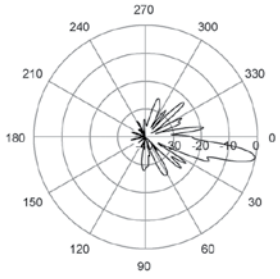
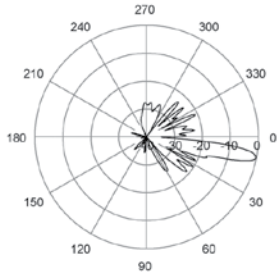
Slots: 3 curved slots x 11.5 mm (0.45 in) wide on a 180 mm (7.1 in) dia. bolt circle

Flange Thickness: 5 mm (0.20 in)

5230703

5230603 5230603G

230 mm | X-Pol | Wideband VET TRIO | 65° | 18.5 dBi

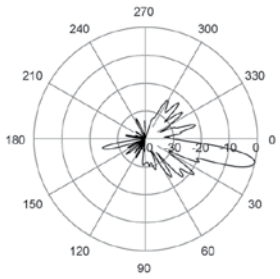
1800 MHz	1900 MHz	2100 MHz
		
Horizontal	Horizontal	Horizontal
		
4° | Vertical	4° | Vertical	4° | Vertical
		
6° | Vertical	6° | Vertical	6° | Vertical
		
8° | Vertical	8° | Vertical	8° | Vertical
		
10° | Vertical	10° | Vertical	10° | Vertical

5230703

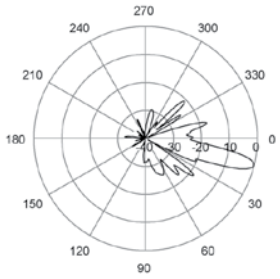
5230603 5230603G

230 mm | X-Pol | Wideband VET TRIO | 65° | 18.5 dBi

1800 MHz

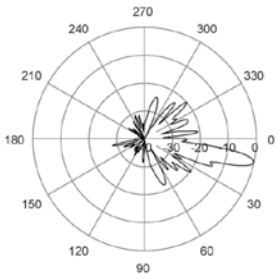


12° | Vertical

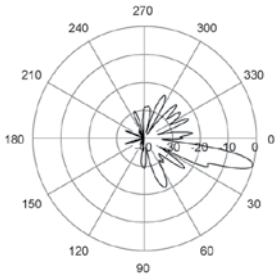


14° | Vertical

1900 MHz

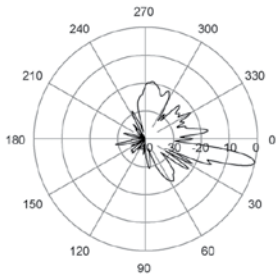


12° | Vertical

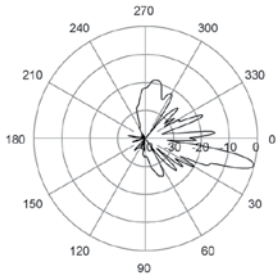


14° | Vertical

2100 MHz



12° | Vertical



14° | Vertical

WB3X072X18x00

WB3X072X18M00 WB3X072X18R00

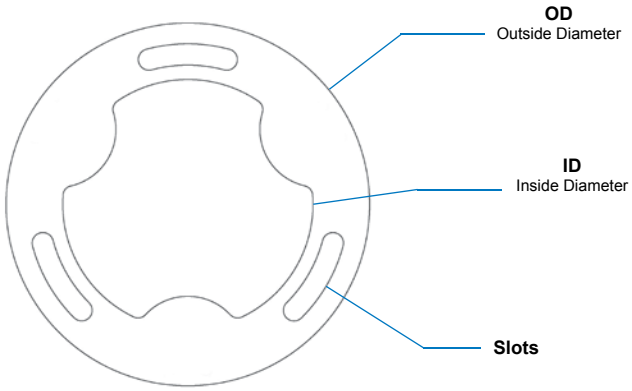
230 mm | X-Pol | Wideband VET TRIO | 72° | 18.0 dBi

Model number options (x):
WB3X072X18M00 Manual Electrical Tilt Antenna
WB3X072X18R00 Remote Electrical Tilt Antenna

Electrical Characteristics	1710-2170 MHz		
Frequency band	1710-1880 MHz	1850-1990 MHz	1900-2170 MHz
Polarization	±45°		
Horizontal beamwidth	74°	72°	70°
Vertical beamwidth	6.8°	6.5°	6.2°
Gain	15.0 dBd / 17.1 dBi	15.5 dBd / 17.6 dBi	15.9 dBd / 18.0 dBi
Electrical downtilt	0°-10°		
Impedance	50Ω		
VSWR	< 1.4:1		
1st upper side lobe	< -13 dB		
1st null	> -25 dB		
Inter-port isolation	> 28 dB (> 30 dB typical)		
Front-to-Back ratio	> 22 dB		
Maximum power per port	6 x 200 W		
Connector(s)	6 ports / 7/16-DIN / Female / Bottom		
RET Type / Part Number	3 x Internal / RETU-EA01		
Operating temperature	-40 to +60° C		-40 to +140° F
Mechanical Characteristics			
Overall Dimensions Height x Diameter	1828 x 230 mm		72.0 x 9.1 in
Weight	27.4 kg		60.5 lbs
Survival wind speed	200 km/hr		125 mph
Wind load @ 160 km/hr (100 mph)	645 N		145 lbf

Accessories	Part Number	Description
Lightning protection kit	UNX-LPK	Copper air finial with 6m (20 ft) cable attached
Flag adapter kit	W3X-F	230 mm Trio ball and truck assembly
Mounting mast	W3X-M-120	230 mm flange welded to a 3m (10 ft) pipe

Trio Flange Interface:



OD: 9.08 in (230.6 mm)
ID: 6.25 in (158.8 mm)

Slots: 3 x 0.531 in. (13.5 mm) wide x 30° slots equally spaced on a 7.50 in (190.5 mm) bolt circle

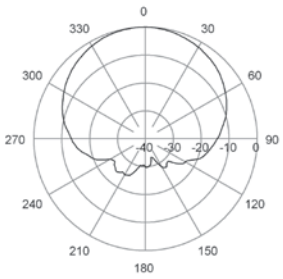
Flange Thickness: 0.375 in (9.5 mm)

WB3X072X18x00

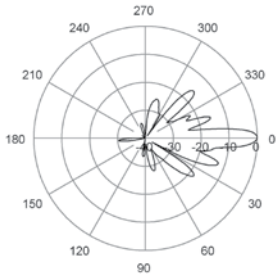
WB3X072X18M00 WB3X072X18R00

230 mm | X-Pol | Wideband VET TRIO | 72° | 18.0 dBi

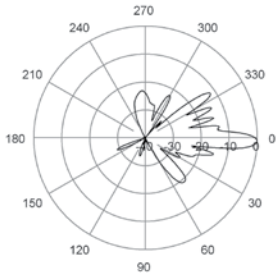
1800 MHz



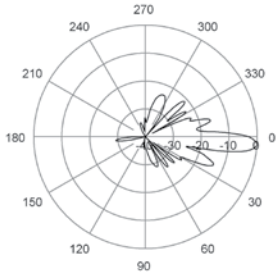
Horizontal



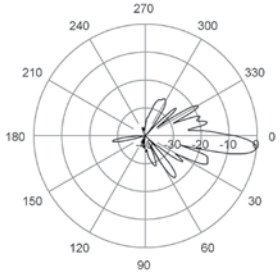
0° | Vertical



2° | Vertical

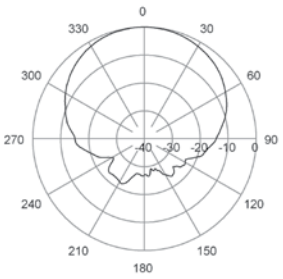


4° | Vertical

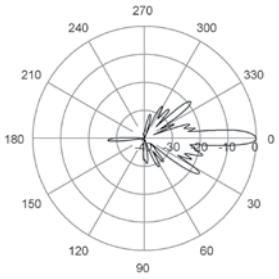


6° | Vertical

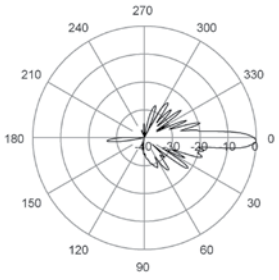
1900 MHz



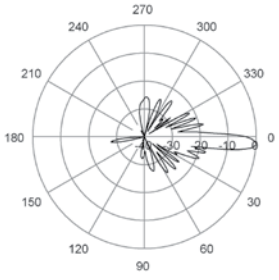
Horizontal



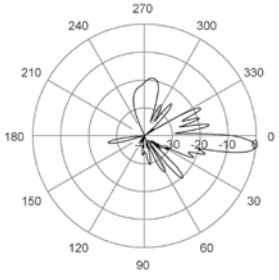
0° | Vertical



2° | Vertical

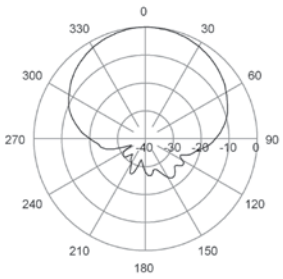


4° | Vertical

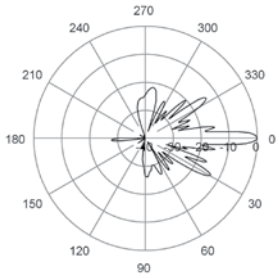


6° | Vertical

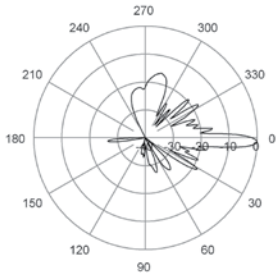
2100 MHz



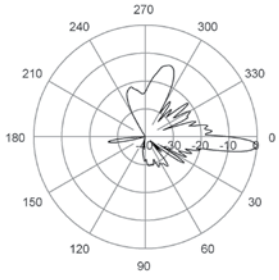
Horizontal



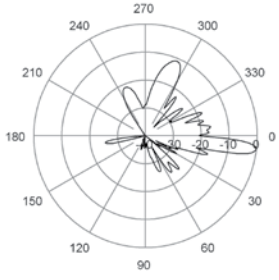
0° | Vertical



2° | Vertical



4° | Vertical



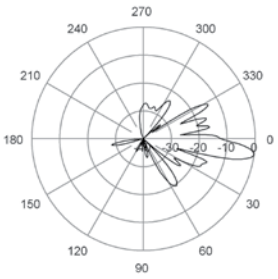
6° | Vertical

WB3X072X18x00

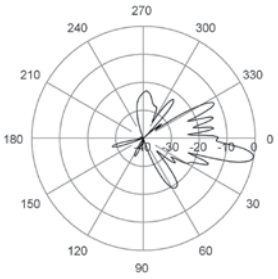
WB3X072X18M00 WB3X072X18R00

230 mm | X-Pol | Wideband VET TRIO | 72° | 18.0 dBi

1800 MHz

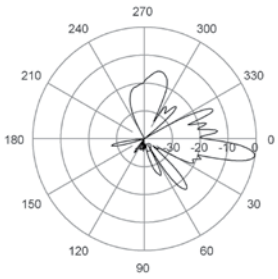


8° | Vertical

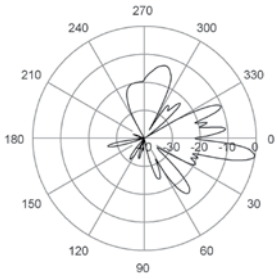


10° | Vertical

1900 MHz

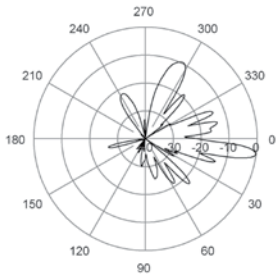


8° | Vertical

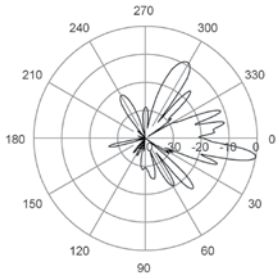


10° | Vertical

2100 MHz



8° | Vertical



10° | Vertical

WB3X072X24x00

WB3X072X24M00 WB3X072X24R00

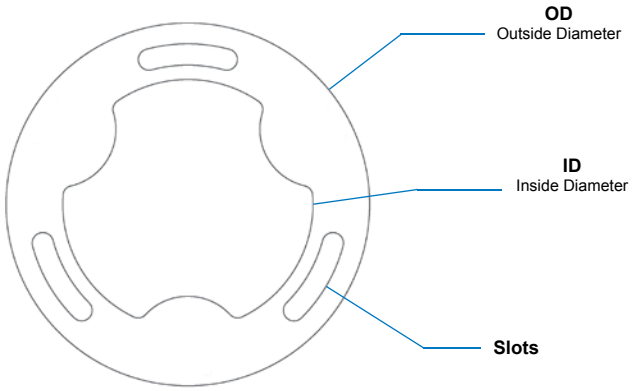
230 mm | X-Pol | Wideband VET TRIO | 72° | 19.0 dBi

Model number options (x):
WB3X072X24M00 Manual Electrical Tilt Antenna
WB3X072X24R00 Remote Electrical Tilt Antenna

Electrical Characteristics	1710-2170 MHz		
Frequency band	1710-1880 MHz	1850-1990 MHz	1900-2170 MHz
Polarization	±45°		
Horizontal beamwidth	74°	72°	70°
Vertical beamwidth	4.8°	4.6°	4.5°
Gain	16.0 dBd / 18.1 dBi	16.5 dBd / 18.6 dBi	16.9 dBd / 19.0 dBi
Electrical downtilt	0°-6°		
Impedance	50Ω		
VSWR	< 1.4:1		
1st upper side lobe	< -13 dB		
1st null	> -25 dB		
Inter-port isolation	> 28 dB (> 30 dB typical)		
Front-to-Back ratio	> 22 dB		
Maximum power per port	6 x 200 W		
Connector(s)	6 ports / 7/16-DIN / Female / Bottom		
RET Type / Part Number	3 x Internal / RETU-EA01		
Operating temperature	-40 to +60° C		-40 to +140° F
Mechanical Characteristics			
Overall Dimensions Height x Diameter	2337 x 230 mm		92.0 x 9.1 in
Weight	30.1 kg		66.5 lbs
Survival wind speed	200 km/hr		125 mph
Wind load @ 160 km/hr (100 mph)	860 N		193 lbf

Accessories	Part Number	Description
Lightning protection kit	UNX-LPK	Copper air finial with 6m (20 ft) cable attached
Flag adapter kit	W3X-F	230 mm Trio ball and truck assembly
Mounting mast	W3X-M-120	230 mm flange welded to a 3m (10 ft) pipe

Trio Flange Interface:



OD: 9.08 in (230.6 mm)
ID: 6.25 in (158.8 mm)

Slots: 3 x 0.531 in. (13.5 mm) wide x 30° slots equally spaced on a 7.50 in (190.5 mm) bolt circle

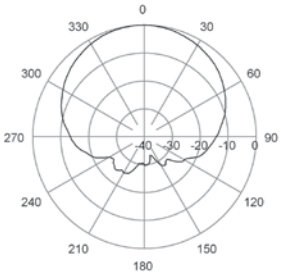
Flange Thickness: 0.375 in (9.5 mm)

WB3X072X24x00

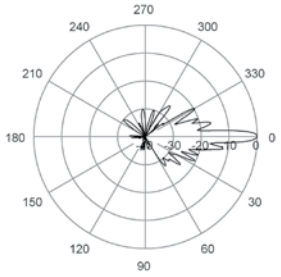
WB3X072X24M00 WB3X072X24R00

230 mm | X-Pol | Wideband VET TRIO | 72° | 19.0 dBi

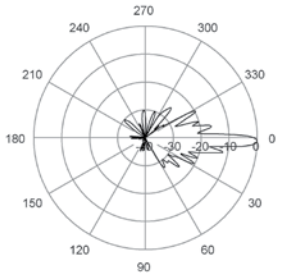
1800 MHz



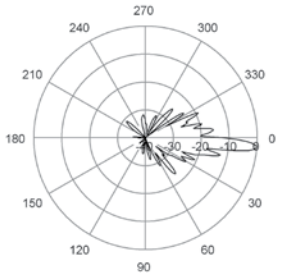
Horizontal



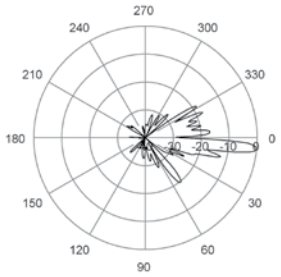
0° | Vertical



2° | Vertical

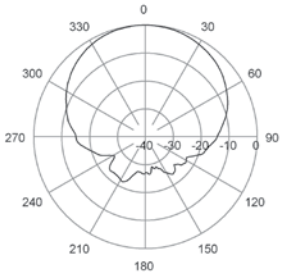


4° | Vertical

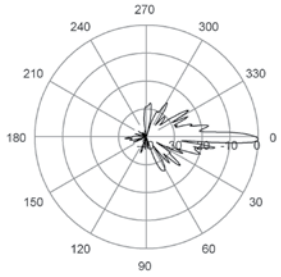


6° | Vertical

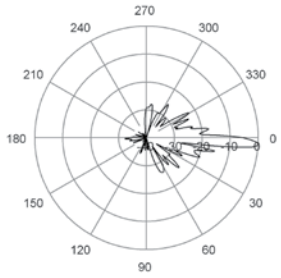
1900 MHz



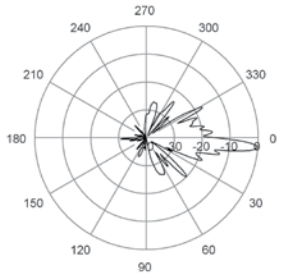
Horizontal



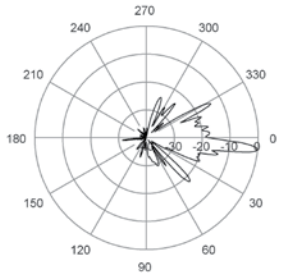
0° | Vertical



2° | Vertical

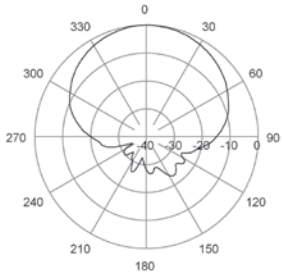


4° | Vertical

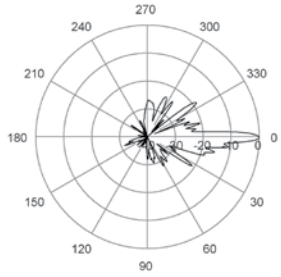


6° | Vertical

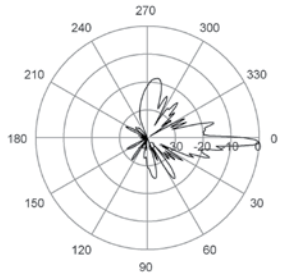
2100 MHz



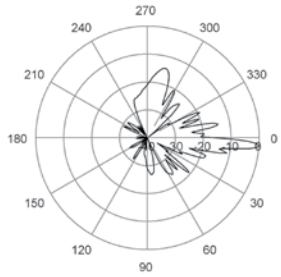
Horizontal



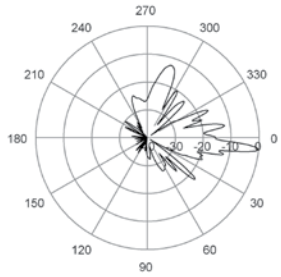
0° | Vertical



2° | Vertical



4° | Vertical



6° | Vertical

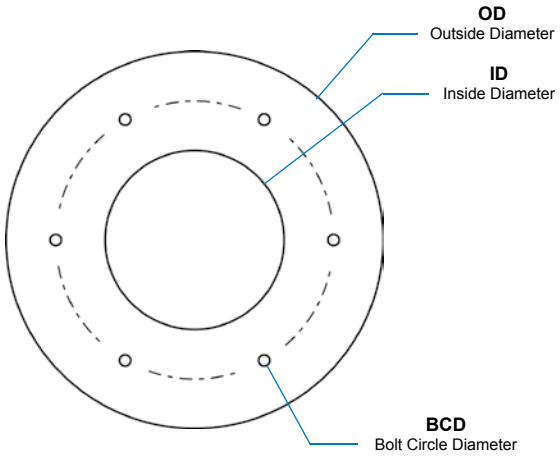
- Tri-sector dual band (GSM900 / UMTS) antenna
- Features GRP housing and is flange mounted at base
- 2° Fixed electrical tilt

5066222

280 mm | XX-Pol | Dual Band FET TRIO | 73°/79° | 13.0/15.0 dBi

Electrical Characteristics		
Frequency band	880-960 MHz	1710-1880 MHz
Polarization	±45°	
Horizontal beamwidth	73° (± 3°)	79° (± 4°)
Vertical beamwidth	15° (± 2°)	
Gain	10.9 dBd / 13.0 dBi	12.9 dBd / 15.0 dBi
Electrical downtilt	2°	
Impedance	50Ω	
VSWR	< 1.4:1	
Inter-port isolation	> 28 dB	> 30 dB
IM3 (2x20W carrier)	-110 dBm	
Front-to-Back ratio	> 22 dB	
Maximum power per port	6 x 200 W	
Connector(s)	6 ports / 7/16-DIN / Female / Bottom	
Mechanical Characteristics		
Overall Dimensions Height x Diameter	1365 x 280 mm	53.7 x 11.0 in
Weight	22.0 kg	48.5 lbs
Wind load @ 160 km/hr (100 mph)	400 N	89.9 lbf
Materials	GRP Cylindrical Shroud, Colour Goose Gray, Aluminium Flages top & bottom	

Trio Flange Interface:

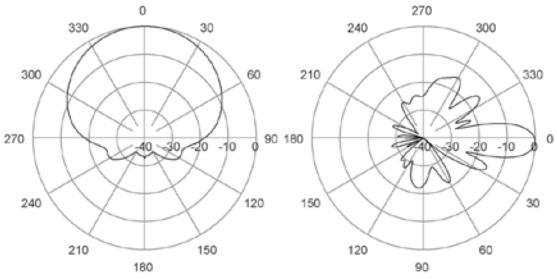


OD: 11.02 in (280 mm)
ID: 5.51 in (140 mm)
BCD: 6 x M10 mounting holes equally spaced on a 8.27 in (210 mm) bolt circle
Flange Thickness: 0.393 in (10 mm)

5066222

280 mm | XX-Pol | Dual Band FET TRIO | 73°/79° | 13.0/15.0 dBi

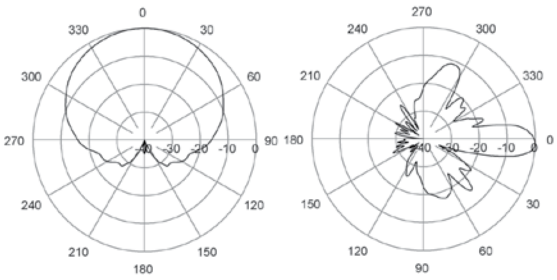
880-960 MHz



Horizontal

2° | Vertical

1710-1880 MHz



Horizontal

2° | Vertical

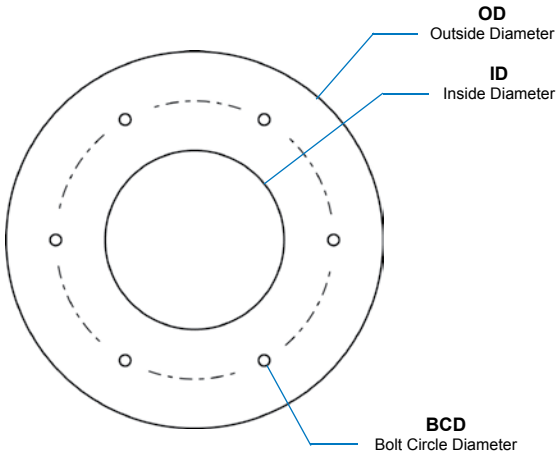
- Tri-sector dual band (GSM900 / UMTS) antenna
- Features GRP housing and is flange mounted at base
- 2° Fixed electrical tilt

5067222

280 mm | XX-Pol | Dual Band FET TRIO | 76°/65° | 13.0/15.0 dBi

Electrical Characteristics		
Frequency band	880-960 MHz	1920-2170 MHz
Polarization	±45°	
Horizontal beamwidth	76° (± 3°, -3 dB points)	65° (± 3°, -3 dB points)
Vertical beamwidth	17° (± 2°)	10.5° (± 1°)
Gain	10.9 dBd / 13.0 dBi	12.9 dBd / 15.0 dBi
Electrical downtilt	2°	
Impedance	50Ω	
VSWR	< 1.4:1	
Inter-port isolation	> 28 dB	> 30 dB full band
IM3 (2x20W carrier)	-110 dBm	
Front-to-Back ratio	> 25 dB (over rear 80°)	
Maximum power per port	6 x 200 W	
Lightning protection	DC grounded	
Connector(s)	6 ports / 7/16-DIN / Female / Bottom	
Mechanical Characteristics		
Overall Dimensions Height x Diameter	1365 x 280 mm	53.7 x 11.0 in
Weight	22.0 kg	48.5 lbs
Wind load @ 160 km/hr (100 mph)	400 N	89.9 lbf
Materials	GRP Cylindrical Shroud, Colour Goose Gray, Aluminium Flages top & bottom	

Trio Flange Interface:

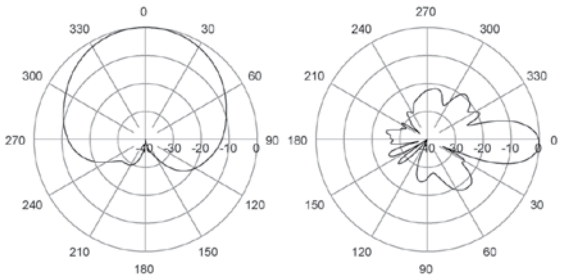


OD: 11.02 in (280 mm)
ID: 5.51 in (140 mm)
BCD: 6 x M10 mounting holes equally spaced on a 8.27 in (210 mm) bolt circle
Flange Thickness: 0.393 in (10 mm)

5067222

280 mm | XX-Pol | Dual Band FET TRIO | 76°/65° | 13.0/15.0 dBi

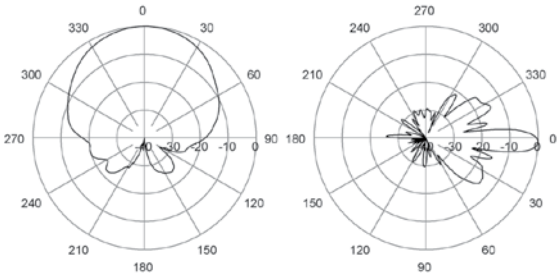
880-960 MHz



Horizontal

2° | Vertical

1920-2170 MHz



Horizontal

2° | Vertical

5176903

5176803 5176803G

310 mm | X-Pol | Wideband VET TRIO | 65° | 17.5 dBi

- Tri-sector Wideband antenna, 2 connectors per sector
- Variable electrical tilt 2-14°
- Independent azimuth panning ±15° on each sector
- Very small diameter (310 mm) for low wind load
- MET and RET versions, AISG1.1 or 3GPP/AISG2.0
- Dual-sector & Single-sector antennas available

Model number reference:

Tri-sector	*Dual-sector*	*Single-sector*	
5176903	5176902	5176901	Manual Electrical Tilt Antenna
5176803	5176802	5176801	Remote Electrical Tilt Antenna, AISG1.1
5176803G	5176802G	5176801G	Remote Electrical Tilt Antenna, 3GPP/AISG2.0

Electrical Characteristics		
Frequency band	1710-2170 MHz	
Polarization	±45°	
Horizontal beamwidth	65° (-3 dB)	
Vertical beamwidth	7° (-3 dB)	
Gain	15.4 dBd / 17.5 dBi	
Electrical downtilt	2-14°	
Impedance	50Ω	
VSWR	< 1.4:1	
Upper sidelobe rejection (20° sector above main beam)	> 18 dB typical	
Null fill (first null below main beam)	< 22 dB typical	
Isolation between ports	> 30 dB	
Front-to-Back ratio	> 25 dB	
IM3 (2x20W carrier)	< -153 dBc	
Maximum power per port	160 W	
Connector(s)	6 ports / 7/16-DIN / Female, Long Neck / Bottom	
RET Part Number (one unit per sector)	RETU-CA51 for AISG1.1 protocol (3 units included in 5176803) RETU-CG51 for 3GPP/AISG2.0 protocol (3 units included in 5176803G)	
Environmental		
Operating temperature	-40 to +60° C	-40 to +140° F
Environmental	ETS 300 019	
RoHS compliant	Yes	
Mechanical Characteristics		
Total Height (includes 250 mm service area)	1710 mm	67.3 in
Effective Height x Diameter	1332 x 310 mm	52.4 x 12.2 in
Weight	32 kg	70.5 lbs
Survival wind speed	200 km/hr	125 mph
Operational wind speed	160 km/hr	99 mph
Wind load @ 160 km/hr (100 mph)	268 N	60.2 lbf
Shroud	Outdoor plastic, RAL 7035 Grey	
Relative directions of internal antennas (sector axis)	0° (±15°) 120° (±15°) 240° (±15°)	
Packaging		
Packing dimensions	2480 x 450 x 510 mm	97.6 x 17.7 x 20.1 in
Packing weight	75 kg	165.3 lbs
Packing volume	0.632 m^3	22.3 ft^3

Accessories	Part Number	Description
Lightning protection kit	TRX-LPK	Lightning finial
Trio extension	TRX310-E085-001 TRX310-E085-002*	Mounting Mast, 85 cm high x 310 mm dia Mounting Mast, 85 cm high x 310 mm dia
	**shroud stops 20 cm above bottom flange for cables out on the side*	
Trio-Pack (delivered w/non-penetrating platform)	Please contact us	

5176903

5176803 5176803G

310 mm | X-Pol | Wideband VET TRIO | 65° | 17.5 dBi

A service area at the bottom can be opened for the access to the connectors and to the manual adjustments of the electrical downtilts and the azimuth panning.

Electrical Downtilt Control

The electrical downtilt can be controlled separately on each sector.

Manual control: The electrical tilt is changed by turning the adjustment screw at the end of the tilt indicator with a 10 mm socket wrench.

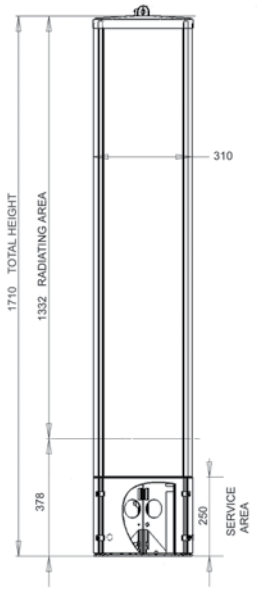
Remote control: The antenna can be delivered with one RET module for each sector installed in the service area, compatible with 3GPP/AISG2.0 or AISG1.1.

The remote control of other equipments or sectors is possible by “daisy-chain” through the use of an extra AISG connector located on the RET module.

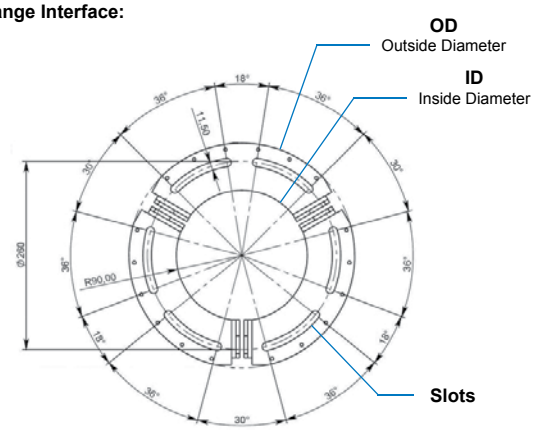
Azimuth Adjustment

The azimuth pointing direction of each sector can be adjusted in a ±15° range from its nominal direction, independently for each sector. The azimuth direction is changed by turning the adjustment screw at the end of the azimuth indicator with a 10 mm socket wrench.

Dimensions (in mm)



Trio Flange Interface:



OD: 310 mm (12.2 in)
ID: 180 mm (7.1 in)

Slots: 6 curved slots x 11.5 mm (0.45 in) wide on a 260 mm (10.2 in) dia. bolt circle

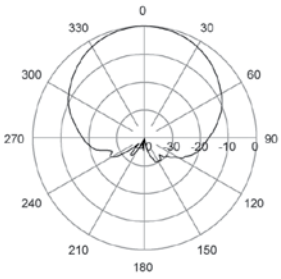
Flange Thickness: 5 mm (0.20 in)

5176903

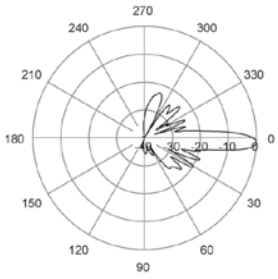
5176803 5176803G

310 mm | X-Pol | Wideband VET TRIO | 65° | 17.5 dBi

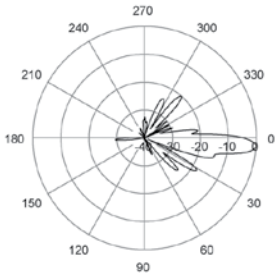
1800 MHz



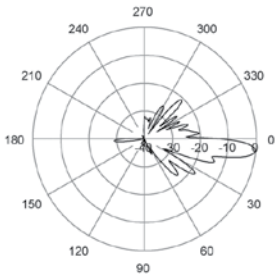
Horizontal



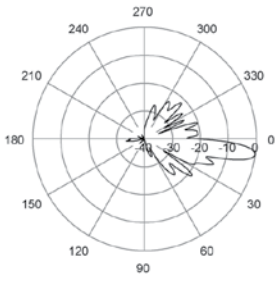
2° | Vertical



4° | Vertical

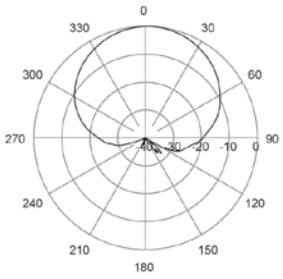


6° | Vertical

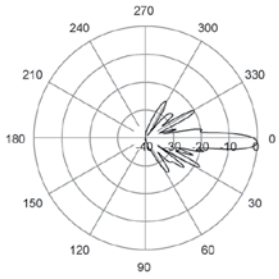


8° | Vertical

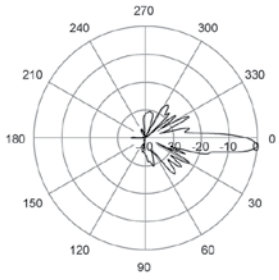
1900 MHz



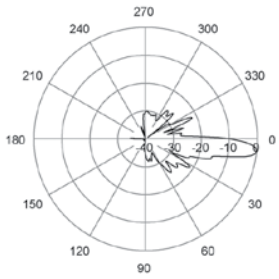
Horizontal



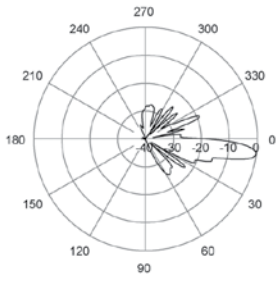
2° | Vertical



4° | Vertical

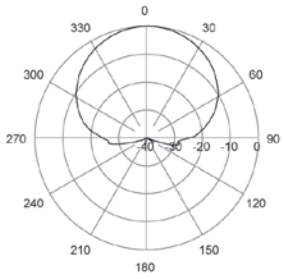


6° | Vertical

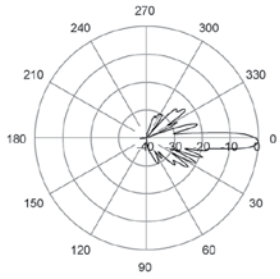


8° | Vertical

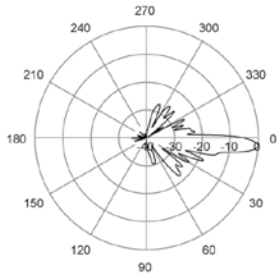
2100 MHz



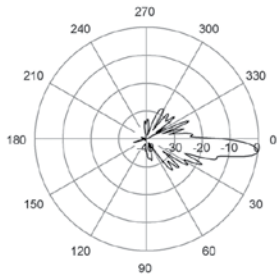
Horizontal



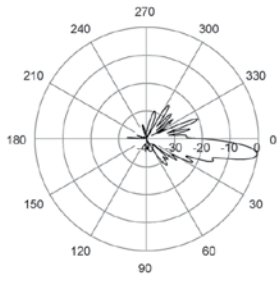
2° | Vertical



4° | Vertical



6° | Vertical



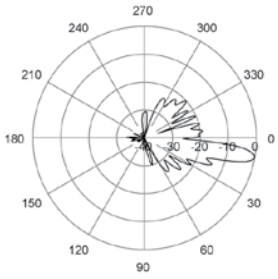
8° | Vertical

5176903

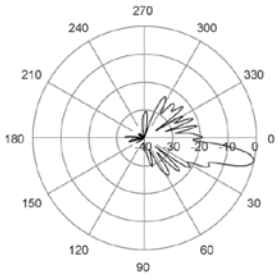
5176803 5176803G

310 mm | X-Pol | Wideband VET TRIO | 65° | 17.5 dBi

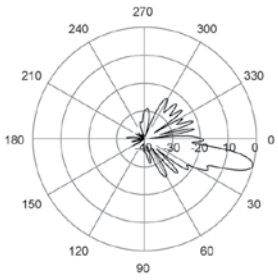
1800 MHz



10° | Vertical

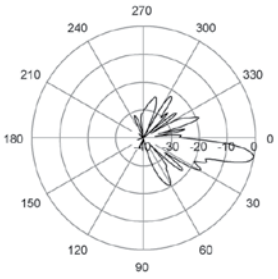


12° | Vertical

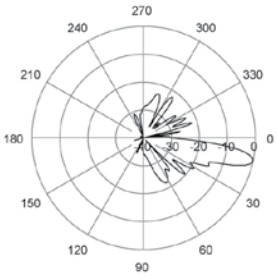


14° | Vertical

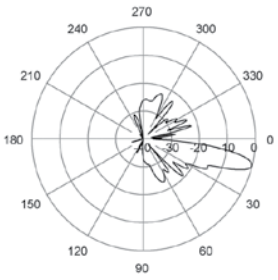
1900 MHz



10° | Vertical

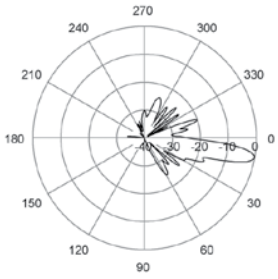


12° | Vertical

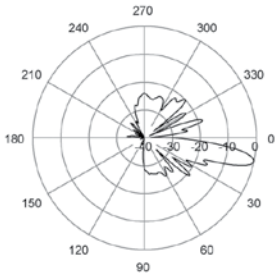


14° | Vertical

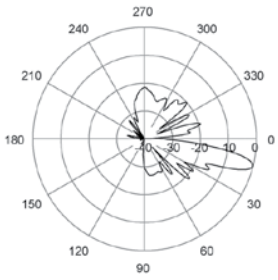
2100 MHz



10° | Vertical



12° | Vertical



14° | Vertical

5162903

5162803 5162803G

310 mm | X-Pol | Wideband VET TRIO | 65° | 18.5 dBi

- Tri-sector Wideband antenna, 2 connectors per sector
- Variable electrical tilt 0-10°
- Independent azimuth panning ±15° on each sector
- Very small diameter (310 mm) for low wind load
- MET and RET versions, AISG1.1 or 3GPP/AISG2.0
- Dual-sector & Single-sector antennas available

Model number reference:

Tri-sector	*Dual-sector*	*Single-sector*	
5162903	5162902	5162901	Manual Electrical Tilt Antenna
5162803	5162802	5162801	Remote Electrical Tilt Antenna, AISG1.1
5162803G	5162802G	5162801G	Remote Electrical Tilt Antenna, 3GPP/AISG2.0

Electrical Characteristics		
Frequency band	1710-2170 MHz	
Polarization	±45°	
Horizontal beamwidth	65° (-3 dB)	
Vertical beamwidth	6° (-3 dB)	
Gain	16.4 dBd / 18.5 dBi	
Electrical downtilt	0-10°	
Impedance	50Ω	
VSWR	< 1.4:1	
Upper sidelobe rejection (20° sector above main beam)	> 18 dB typical	
Null fill (first null below main beam)	< 18 dB typical	
Isolation between ports	> 30 dB	
Front-to-Back ratio	> 25 dB	
IM3 (2x20W carrier)	< -153 dBc	
Maximum power per port	160 W	
Connector(s)	6 ports / 7/16-DIN / Female, Long Neck / Bottom	
RET Part Number (one unit per sector)	RETU-CA51 for AISG1.1 protocol (3 units included in 5162803) RETU-CG51 for 3GPP/AISG2.0 protocol (3 units included in 5162803G)	
Environmental		
Operating temperature	-40 to +60° C	-40 to +140° F
Environmental	ETS 300 019	
RoHS compliant	Yes	
Mechanical Characteristics		
Total Height (includes 250 mm service area)	1990 mm	78.3 in
Effective Height x Diameter	1590 x 310 mm	62.6 x 12.2 in
Weight	37 kg	81.6 lbs
Survival wind speed	200 km/hr	125 mph
Operational wind speed	160 km/hr	99 mph
Wind load @ 160 km/hr (100 mph)	252 N	56.7 lbf
Shroud	Outdoor plastic, RAL 7035 Grey	
Relative directions of internal antennas (sector axis)	0° (±15°) 120° (±15°) 240° (±15°)	
Packaging		
Packing dimensions	2480 x 450 x 510 mm	97.6 x 17.7 x 20.1 in
Packing weight	79 kg	174.2 lbs
Packing volume	0.569 m^3	20.1 ft^3

Accessories	Part Number	Description
Lightning protection kit	TRX-LPK	Lightning finial
Trio extension	TRX310-E085-001 TRX310-E085-002*	Mounting Mast, 85 cm high x 310 mm dia Mounting Mast, 85 cm high x 310 mm dia
	**shroud stops 20 cm above bottom flange for cables out on the side*	
Trio-Pack (delivered w/non-penetrating platform)	Please contact us	

5162903

5162803 5162803G

310 mm | X-Pol | Wideband VET TRIO | 65° | 18.5 dBi

A service area at the bottom can be opened for the access to the connectors and to the manual adjustments of the electrical downtilts and the azimuth panning.

Electrical Downtilt Control

The electrical downtilt can be controlled separately on each sector.

Manual control: The electrical tilt is changed by turning the adjustment screw at the end of the tilt indicator with a 10 mm socket wrench.

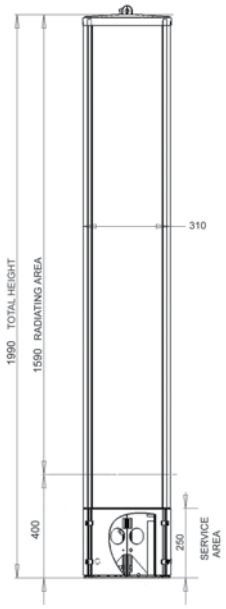
Remote control: The antenna can be delivered with one RET module for each sector installed in the service area, compatible with 3GPP/AISG2.0 or AISG1.1.

The remote control of other equipments or sectors is possible by “daisy-chain” through the use of an extra AISG connector located on the RET module.

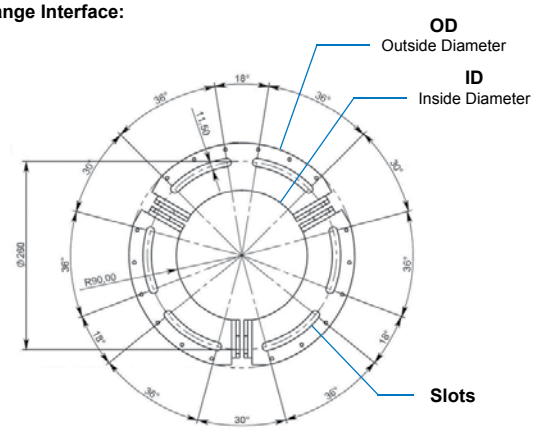
Azimuth Adjustment

The azimuth pointing direction of each sector can be adjusted in a ±15° range from its nominal direction, independently for each sector. The azimuth direction is changed by turning the adjustment screw at the end of the azimuth indicator with a 10 mm socket wrench.

Dimensions (in mm)



Trio Flange Interface:



OD: 310 mm (12.2 in)
ID: 180 mm (7.1 in)

Slots: 6 curved slots x 11.5 mm (0.45 in) wide on a 260 mm (10.2 in) dia. bolt circle

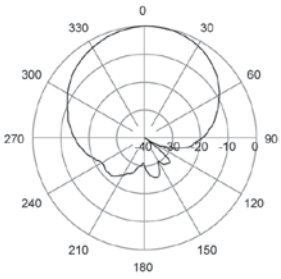
Flange Thickness: 5 mm (0.20 in)

5162903

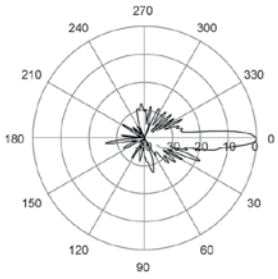
5162803 5162803G

310 mm | X-Pol | Wideband VET TRIO | 65° | 18.5 dBi

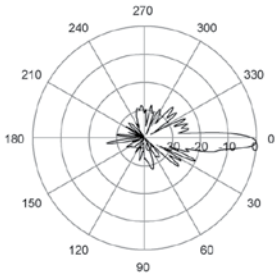
1800 MHz



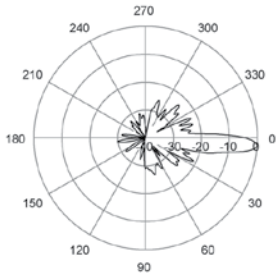
Horizontal



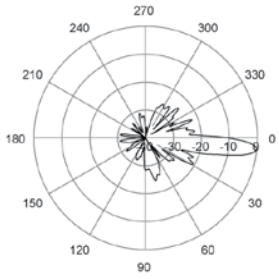
0° | Vertical



2° | Vertical

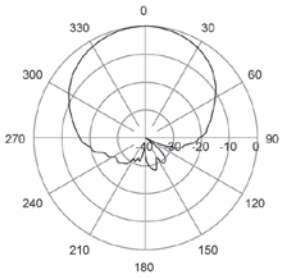


4° | Vertical

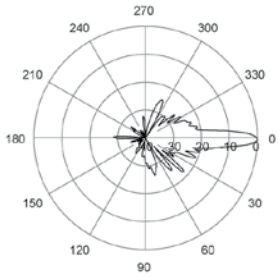


6° | Vertical

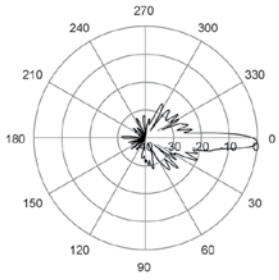
1900 MHz



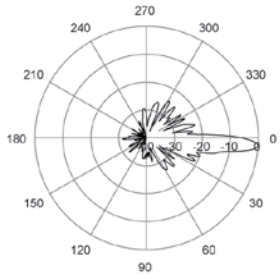
Horizontal



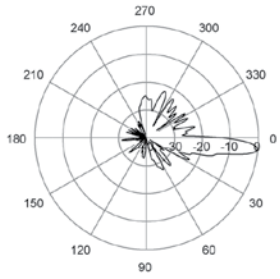
0° | Vertical



2° | Vertical

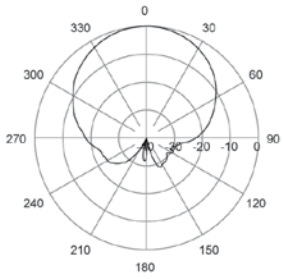


4° | Vertical

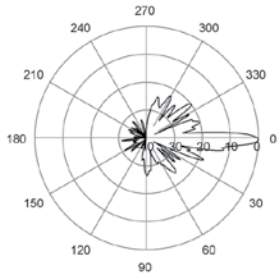


6° | Vertical

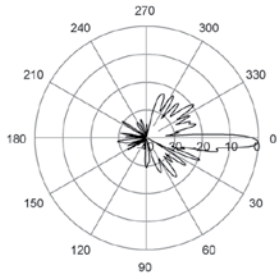
2100 MHz



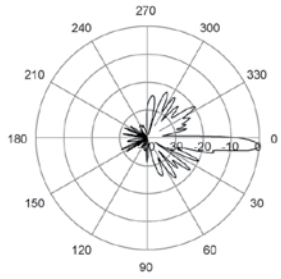
Horizontal



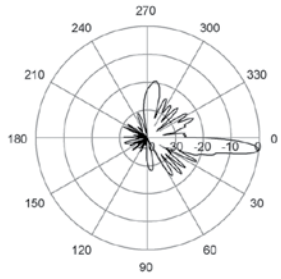
0° | Vertical



2° | Vertical



4° | Vertical



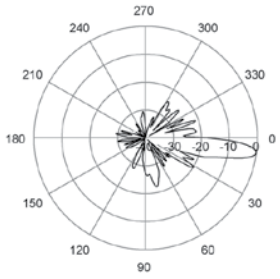
6° | Vertical

5162903

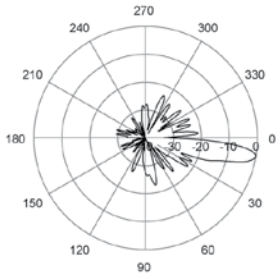
5162803 5162803G

310 mm | X-Pol | Wideband VET TRIO | 65° | 18.5 dBi

1800 MHz

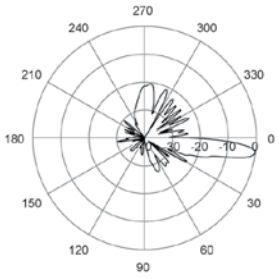


8° | Vertical

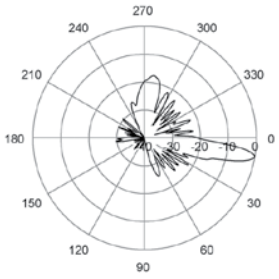


10° | Vertical

1900 MHz

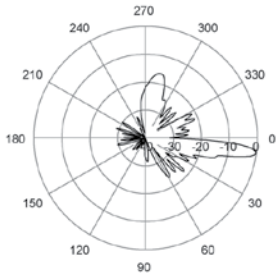


8° | Vertical

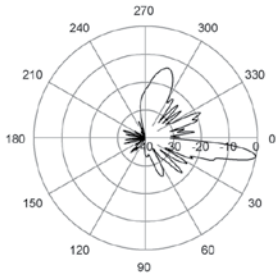


10° | Vertical

2100 MHz



8° | Vertical



10° | Vertical

5230903

5230803 5230803G

310 mm | X-Pol | Wideband VET TRIO | 65° | 18.5 dBi

- Tri-sector Wideband antenna, 2 connectors per sector
- Variable electrical tilt 4-14°
- Independent azimuth panning ±15° on each sector
- Very small diameter (310 mm) for low wind load
- MET and RET versions, AISG1.1 or 3GPP/AISG2.0
- Dual-sector & Single-sector antennas available

Model number reference:

Tri-sector	*Dual-sector*	*Single-sector*	
5230903	5230902	5230901	Manual Electrical Tilt Antenna
5230803	5230802	5230801	Remote Electrical Tilt Antenna, AISG1.1
5230803G	5230802G	5230801G	Remote Electrical Tilt Antenna, 3GPP/AISG2.0

Electrical Characteristics		
Frequency band	1710-2170 MHz	
Polarization	±45°	
Horizontal beamwidth	65° (-3 dB)	
Vertical beamwidth	6° (-3 dB)	
Gain	16.4 dBd / 18.5 dBi	
Electrical downtilt	4-14°	
Impedance	50Ω	
VSWR	< 1.4:1	
Upper sidelobe rejection (20° sector above main beam)	> 18 dB typical	
Null fill (first null below main beam)	< 18 dB typical	
Isolation between ports	> 30 dB	
Front-to-Back ratio	> 25 dB	
IM3 (2x20W carrier)	< -153 dBc	
Maximum power per port	160 W	
Connector(s)	6 ports / 7/16-DIN / Female, Long Neck / Bottom	
RET Part Number (one unit per sector)	RETU-CA51 for AISG1.1 protocol (3 units included in 5230803) RETU-CG51 for 3GPP/AISG2.0 protocol (3 units included in 5230803G)	
Environmental		
Operating temperature	-40 to +60° C	-40 to +140° F
Environmental	ETS 300 019	
RoHS compliant	Yes	
Mechanical Characteristics		
Total Height (includes 250 mm service area)	1990 mm	78.3 in
Effective Height x Diameter	1590 x 310 mm	62.6 x 12.2 in
Weight	37 kg	81.6 lbs
Survival wind speed	200 km/hr	125 mph
Operational wind speed	160 km/hr	99 mph
Wind load @ 160 km/hr (100 mph)	252 N	56.7 lbf
Shroud	Outdoor plastic, RAL 7035 Grey	
Relative directions of internal antennas (sector axis)	0° (±15°) 120° (±15°) 240° (±15°)	
Packaging		
Packing dimensions	2480 x 450 x 510 mm	97.6 x 17.7 x 20.1 in
Packing weight	81 kg	178.6 lbs
Packing volume	0.569 m^3	20.1 ft^3

Accessories	Part Number	Description
Lightning protection kit	TRX-LPK	Lightning finial
Trio extension	TRX310-E085-001 TRX310-E085-002*	Mounting Mast, 85 cm high x 310 mm dia Mounting Mast, 85 cm high x 310 mm dia
	**shroud stops 20 cm above bottom flange for cables out on the side*	
Trio-Pack (delivered w/non-penetrating platform)	Please contact us	

5230903

5230803 5230803G

310 mm | X-Pol | Wideband VET TRIO | 65° | 18.5 dBi

A service area at the bottom can be opened for the access to the connectors and to the manual adjustments of the electrical downtilts and the azimuth panning.

Electrical Downtilt Control

The electrical downtilt can be controlled separately on each sector.

Manual control: The electrical tilt is changed by turning the adjustment screw at the end of the tilt indicator with a 10 mm socket wrench.

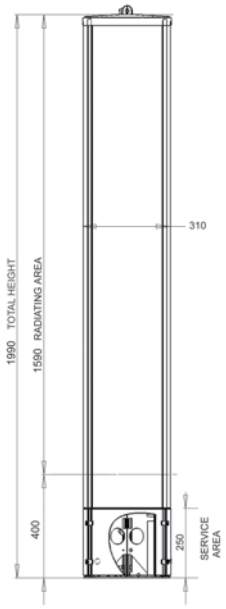
Remote control: The antenna can be delivered with one RET module for each sector installed in the service area, compatible with 3GPP/AISG2.0 or AISG1.1.

The remote control of other equipments or sectors is possible by “daisy-chain” through the use of an extra AISG connector located on the RET module.

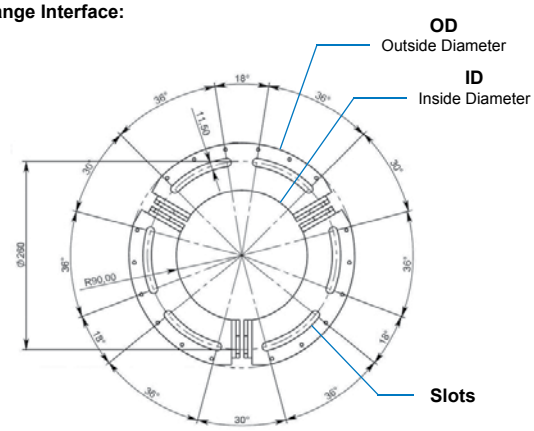
Azimuth Adjustment

The azimuth pointing direction of each sector can be adjusted in a ±15° range from its nominal direction, independently for each sector. The azimuth direction is changed by turning the adjustment screw at the end of the azimuth indicator with a 10 mm socket wrench.

Dimensions (in mm)



Trio Flange Interface:



OD: 310 mm (12.2 in)
ID: 180 mm (7.1 in)

Slots: 6 curved slots x 11.5 mm (0.45 in) wide on a 260 mm (10.2 in) dia. bolt circle

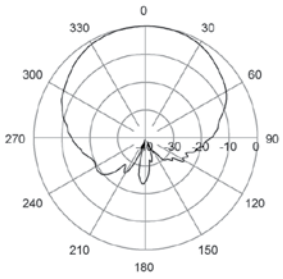
Flange Thickness: 5 mm (0.20 in)

5230903

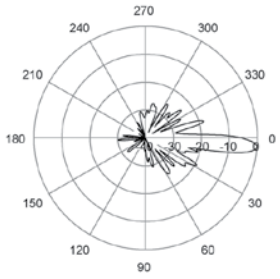
5230803 5230803G

310 mm | X-Pol | Wideband VET TRIO | 65° | 18.5 dBi

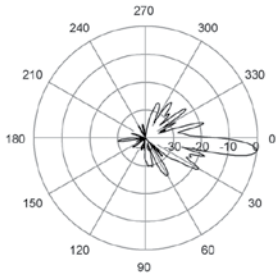
1800 MHz



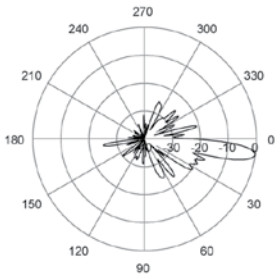
Horizontal



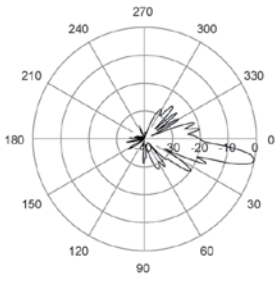
4° | Vertical



6° | Vertical

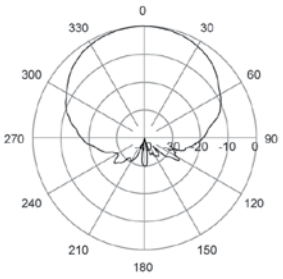


8° | Vertical

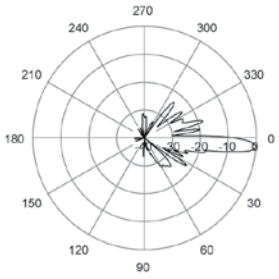


10° | Vertical

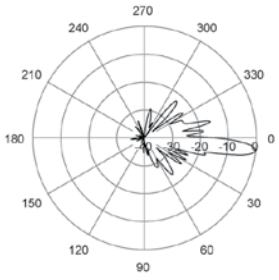
1900 MHz



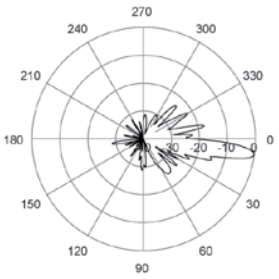
Horizontal



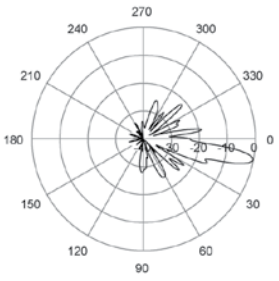
4° | Vertical



6° | Vertical

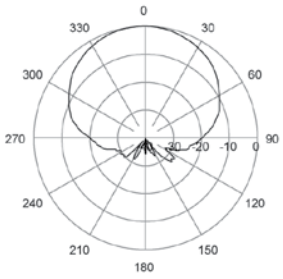


8° | Vertical

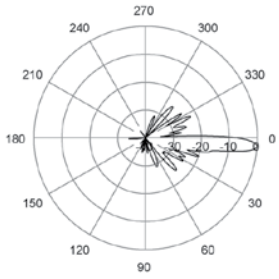


10° | Vertical

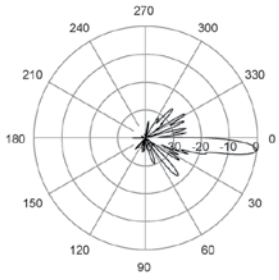
2100 MHz



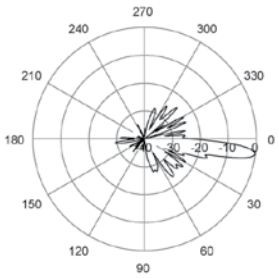
Horizontal



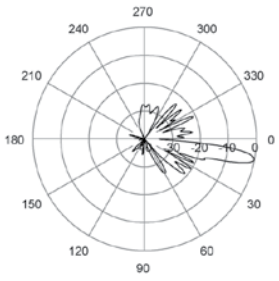
4° | Vertical



6° | Vertical



8° | Vertical



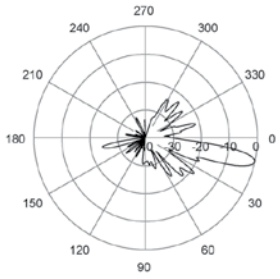
10° | Vertical

5230903

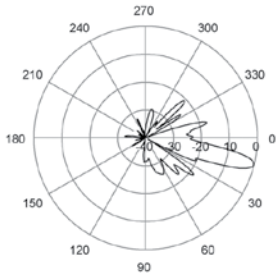
5230803 5230803G

310 mm | X-Pol | Wideband VET TRIO | 65° | 18.5 dBi

1800 MHz

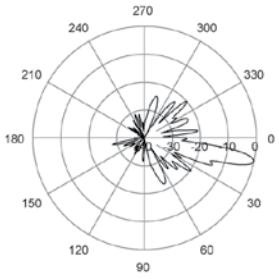


12° | Vertical

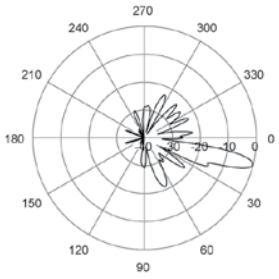


14° | Vertical

1900 MHz

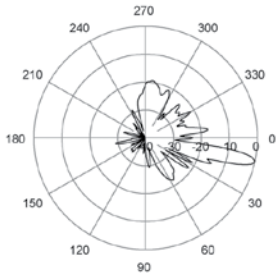


12° | Vertical

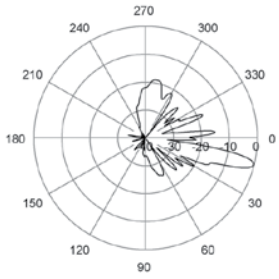


14° | Vertical

2100 MHz



12° | Vertical



14° | Vertical

5863703

5863603 5863603G

310 mm | XX-Pol | Dual Band VET TRIO | 65° | 16.5/18.0 dBi

- Tri-sector Dual Band antenna, 4 connectors per sector
- Independent tilt on each band 0-10° / 0-10°
- Very small diameter (310 mm) for low wind load
- MET and RET versions, AISG1.1 or 3GPP/AISG2.0
- Single RET module per sector to control all tilt angles
- Dual-sector & Single-sector antennas available

Model number reference:

Tri-sector	*Dual-sector*	*Single-sector*	
5863703	5863702	5863701	Manual Electrical Tilt Antenna
5863603	5863602	5863601	Remote Electrical Tilt Antenna, AISG1.1
5863603G	5863602G	5863601G	Remote Electrical Tilt Antenna, 3GPP/AISG2.0

Electrical Characteristics	880-960 MHz	1710-2170 MHz	
Frequency band	880-960 MHz	1710-1880 MHz	1900-2170 MHz
Polarization	±45°	±45°	
Horizontal beamwidth (-3 dB)	65°	65°	64°
Vertical beamwidth (-3 dB)	9°	6°	6°
Gain tilt 0° tilt 5° tilt 10°	16.0...16.5 dBi 16.0...16.5 dBi 15.9...16.4 dBi	17.3...17.6 dBi 17.2...17.4 dBi 17.2...17.3 dBi	17.6...18.1 dBi 17.4...17.9 dBi 17.3...17.7 dBi
Electrical downtilt	0-10°	0-10°	
Impedance	50Ω	50Ω	
VSWR	< 1.4:1	< 1.4:1	
Upper sidelobe rejection (20° sector above main beam)	18 dB typical	18 dB typical	
Isolation between ports	> 30 dB	> 30 dB	
Isolation between bands	45 dB typical	45 dB typical	
Front-to-Back ratio	> 30 dB	> 30 dB	
IM3 (2x20W carrier)	< -110 dBm	< -110 dBm	
Maximum power per port	200 W	160 W	
Connector(s)	12 ports / 7/16-DIN / Female, Long Neck / Bottom		
RET Part Number (one unit per sector)	MDCU-A0001 for AISG1.1 protocol (3 units included in 5863603) MDCU-G0001 for 3GPP/AISG2.0 protocol (3 units included in 5863603G)		

We can provide a RET module with separate control of the motors to allow dual-operators or dual-technology control. Please contact us.

Environmental		
Operating temperature	-40 to +60° C	-40 to +140° F
Environmental	ETS 300 019	
RoHS compliant	Yes	

Mechanical Characteristics		
Total Height (includes 250 mm service area)	2291 mm	90.2 in
Effective Height x Diameter	1900 x 310 mm	74.8 x 12.2 in
Weight	45 kg	99.2 lbs
Survival wind speed	200 km/hr	125 mph
Operational wind speed	160 km/hr	99 mph
Wind load @ 160 km/hr (100 mph)	312 N	70.1 lbf
Shroud	Outdoor plastic, RAL 7035 Grey	

Accessories	Part Number	Description
Lightning protection kit	TRX-LPK	Lightning finial
Trio extension	TRX310-E085-001 TRX310-E085-002*	Mounting Mast, 85 cm high x 310 mm dia Mounting Mast, 85 cm high x 310 mm dia
	**shroud stops 20 cm above bottom flange for cables out on the side*	
Trio-Pack (delivered w/non-penetrating platform)	Please contact us	

5863703

5863603 5863603G

310 mm | XX-Pol | Dual Band VET TRIO | 65° | 16.5/18.0 dBi

Access Ports Description (Connectors)

Each sector has 4 connectors located inside the service area and marked with colour rings. A service area at the bottom can be opened for the access to the connectors and to the manual adjustments of the electrical downtilts.

Low Band 880-960 MHz ports	RED rings	2 x 7/16-DIN Female Long Neck
High band 1710-2170 MHz ports (wide band)	BLUE rings	2 x 7/16-DIN Female Long Neck

Electrical Downtilt Control

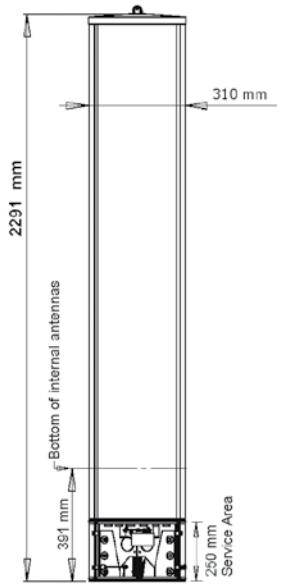
Electrical downtilt can be controlled separately for Low Band and High Band.
The two tilt indicators are covered by a removable transparent cap.

Manual control: A coloured knob at the end of the tilt indicator allows change of the tilt without need for a tool. Knob colour is identical to connector colours as defined above. To access the knob, the cap is removed by turning it counter clockwise. It is re-installed by opposite rotation.

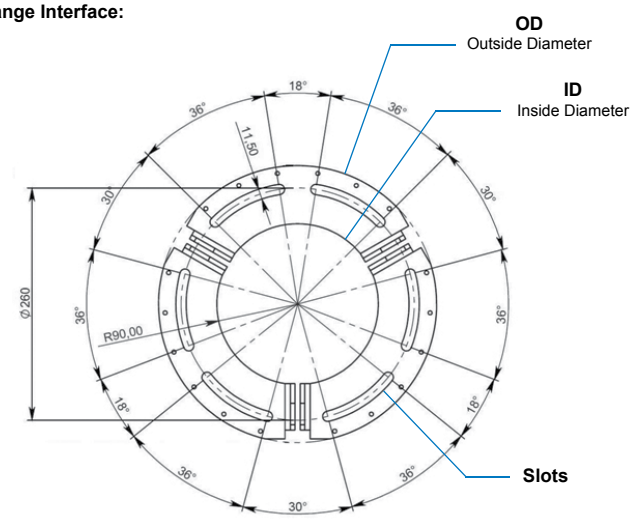
Remote control: The remote control of the electrical tilt is managed by a module (MDCU) totally inserted at the bottom of the antenna. One single module controls individually the tilt of each band (no need of daisy chain cables between the bands). For RET control, the transparent cap must be in place and locked.

This module does not add any additional length at the bottom of the antenna. The tilt angle indicator stays always visible and the antenna still has manual tilt control (manual override).

Dimensions (in mm)



Trio Flange Interface:



OD: 310 mm (12.2 in)
ID: 180 mm (7.1 in)

Slots: 6 curved slots x 11.5 mm (0.45 in) wide on a 260 mm (10.2 in) dia. bolt circle

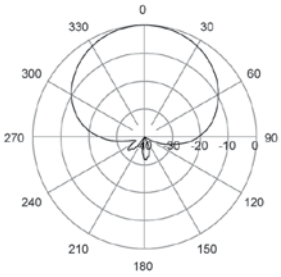
Flange Thickness: 5 mm (0.20 in)

5863703

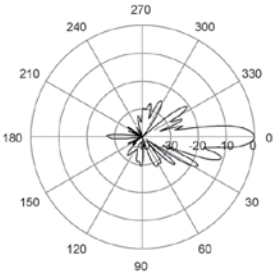
5863603 5863603G

310 mm | XX-Pol | Dual Band VET TRIO | 65° | 16.5/18.0 dBi

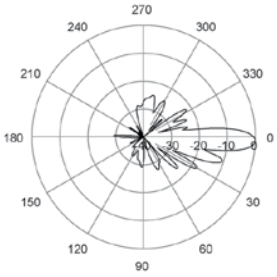
880-960 MHz



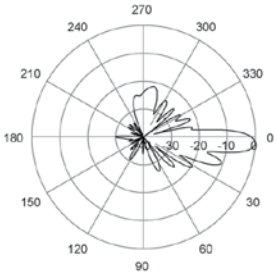
Horizontal



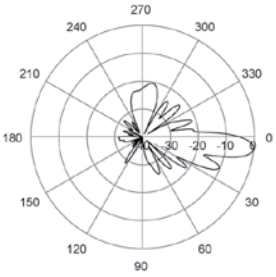
0° | Vertical



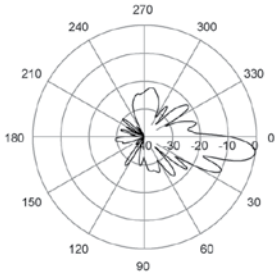
2° | Vertical



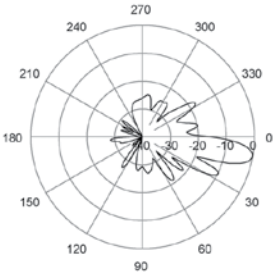
4° | Vertical



6° | Vertical

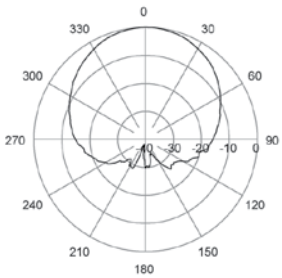


8° | Vertical

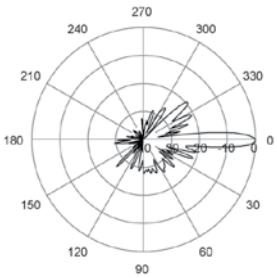


10° | Vertical

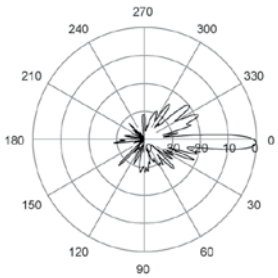
1710-2170 MHz



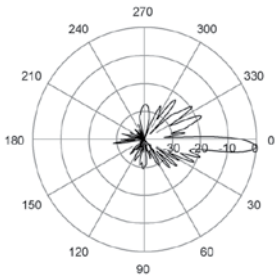
Horizontal



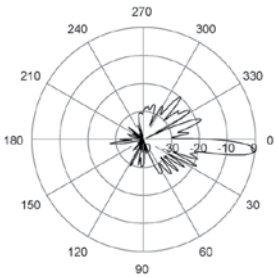
0° | Vertical



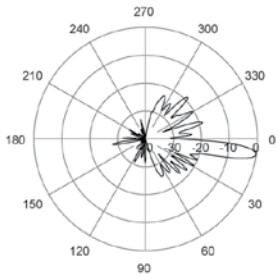
2° | Vertical



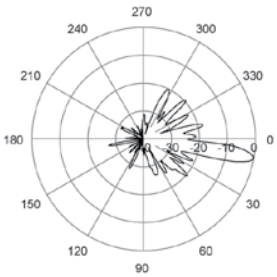
4° | Vertical



6° | Vertical



8° | Vertical



10° | Vertical

- Tri-sector Tri Band antenna, 4 connectors per sector
- Low band and one High Band diplexed for common feeder sharing
- Independent tilt on each band 0-10° / 0-12° / 0-12°
- Very small diameter (310 mm) for low wind load
- MET and RET versions, AISG1.1 or 3GPP/AISG2.0
- Single RET module per sector to control all tilt angles
- Dual-sector & Single-sector antennas available

5880713

5880613 5880613G

310 mm | XXX-Pol | Tri Band VET TRIO | 65° | 17.5/17.2/17.3 dBi

Model number reference:

Tri-sector	*Dual-sector*	*Single-sector*	
5880713	5880712	5880711	Manual Electrical Tilt Antenna
5880613	5880612	5880611	Remote Electrical Tilt Antenna, AISG1.1
5880613G	5880612G	5880611G	Remote Electrical Tilt Antenna, 3GPP/AISG2.0

Electrical Characteristics	880-960 MHz	1710-2170 MHz		1710-2170 MHz	
Frequency band	880-960 MHz	1710-1880 MHz	1900-2170 MHz	1710-1880 MHz	1900-2170 MHz
Polarization	±45°	±45°		±45°	
Horizontal beamwidth (-3 dB)	65°	65°	62°	65°	62°
Vertical beamwidth (-3 dB)	7°	7°	7°	7°	7°
Gain tilt 0° tilt 5° tilt 10°	17.0...17.5 dBi 17.0...17.5 dBi 16.9...17.4 dBi	16.5...16.7 dBi 16.3...16.5 dBi 16.0...16.3 dBi	16.7...17.2 dBi 16.5...17.0 dBi 16.3...16.5 dBi	16.5...16.9 dBi 16.4...16.7 dBi 16.3...16.5 dBi	16.9...17.3 dBi 16.7...17.2 dBi 16.5...17.0 dBi
Electrical downtilt	0-10°	0-12°		0-12°	
Impedance	50Ω	50Ω		50Ω	
VSWR	< 1.4:1	< 1.4:1		< 1.4:1	
Upper sidelobe rejection (20° sector above main beam)	18 dB typical	18 dB typical		18 dB typical	
Isolation between ports	> 30 dB	> 30 dB		> 30 dB	
Isolation between bands	45 dB typical	45 dB typical		45 dB typical	
Front-to-Back ratio	> 30 dB	> 30 dB		> 30 dB	
IM3 (2x20W carrier)	< -110 dBm	< -110 dBm		< -110 dBm	
Maximum power per port	200 W	160 W		160 W	
Connector(s)	12 ports / 7/16-DIN / Female, Long Neck / Bottom				
RET Part Number (one unit per sector)	MDCU-A0002 for AISG1.1 protocol (3 units included in 5880613) MDCU-G0002 for 3GPP/AISG2.0 protocol (3 units included in 5880613G)				
Environmental					
Operating temperature	-40 to +60° C		-40 to +140° F		
Environmental	ETS 300 019				
RoHS compliant	Yes				
Mechanical Characteristics					
Total Height (includes 250 mm service area)	3069 mm		120.8 in		
Effective Height x Diameter	2676 x 310 mm		105.4 x 12.2 in		
Weight	80 kg		176.4 lbs		
Survival wind speed	200 km/hr		125 mph		
Operational wind speed	160 km/hr		99 mph		
Wind load @ 160 km/hr (100 mph)	460 N		103.4 lbf		
Shroud	Outdoor plastic, RAL 7035 Grey				
Accessories	Part Number	Description			
Lightning protection kit	TRX-LPK	Lightning finial			
Trio extension	TRX310-E085-001 TRX310-E085-002*	Mounting Mast, 85 cm high x 310 mm dia Mounting Mast, 85 cm high x 310 mm dia			
	**shroud stops 20 cm above bottom flange for cables out on the side*				
Trio-Pack (delivered w/non-penetrating platform)	Please contact us				

5880713

5880613 5880613G

310 mm | XXX-Pol | Tri Band VET TRIO | 65° | 17.5/17.2/17.3 dBi

Access Ports Description (Connectors)

Each sector has 4 connectors located inside the service area and marked with colour rings. Low band Red and High band White are diplexed and share the same connectors. A service area at the bottom can be opened for the access to the connectors and to the manual adjustments of the electrical downtilts.

Low Band 880-960 MHz ports	RED rings	2 x 7/16-DIN Female Long Neck
High Band 1710-2170 MHz ports (top array)	WHITE rings	
High Band 1710-2170 MHz ports (bottom array)	BLUE rings	2 x 7/16-DIN Female Long Neck

Electrical Downtilt Control

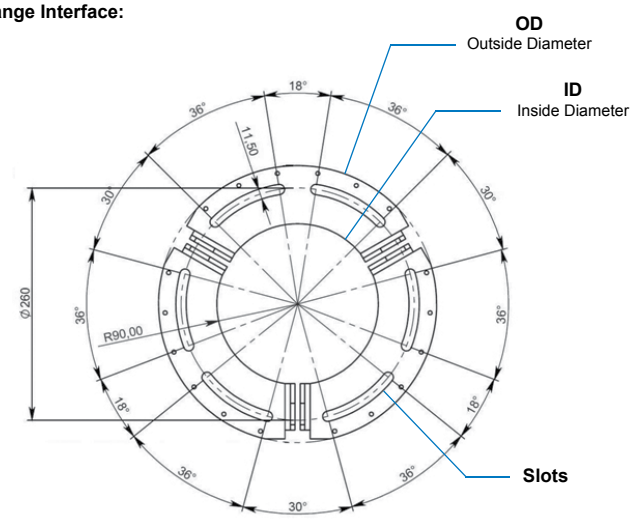
Electrical downtilt can be controlled separately for Low Band, High Band White and High Band Blue.
The three tilt indicators are covered by a removable transparent cap.

Manual control: A coloured knob at the end of the tilt indicator allows change of the tilt without need for a tool. Knob colour is identical to connector colours as defined above. To access the knob, the cap is removed by turning it counter clockwise. It is re-installed by opposite rotation.

Remote control: The remote control of the electrical tilt is managed by a module (MDCU) totally inserted at the bottom of the antenna. One single module controls individually the tilt of each band (no need of daisy chain cables between the bands). For RET control, the transparent cap must be in place and locked.

This module does not add any additional length at the bottom of the antenna. The tilt angle indicator stays always visible and the antenna still has manual tilt control (manual override).

Trio Flange Interface:



OD: 310 mm (12.2 in)
ID: 180 mm (7.1 in)

Slots: 6 curved slots x 11.5 mm (0.45 in) wide on a 260 mm (10.2 in) dia. bolt circle

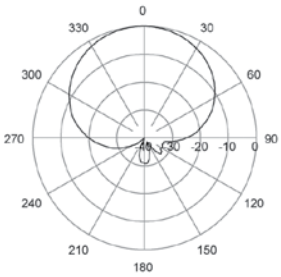
Flange Thickness: 5 mm (0.20 in)

5880713

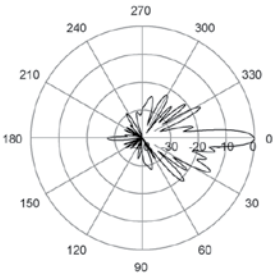
5880613 5880613G

310 mm | XXX-Pol | Tri Band VET TRIO | 65° | 17.5/17.2/17.3 dBi

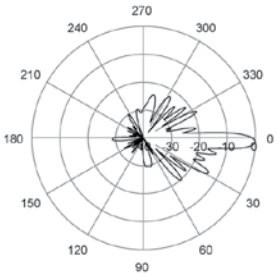
880-960 MHz



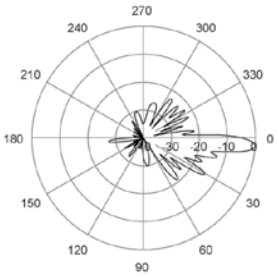
Horizontal



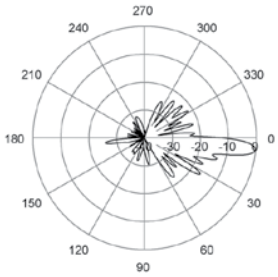
0° | Vertical



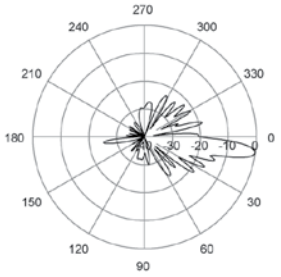
2° | Vertical



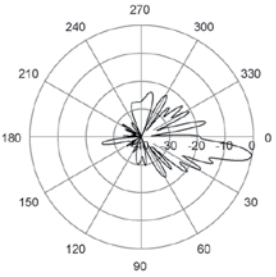
4° | Vertical



6° | Vertical

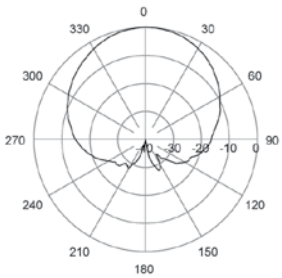


8° | Vertical

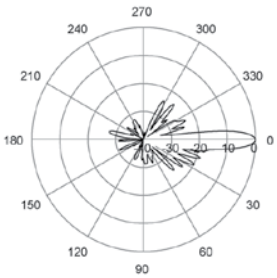


10° | Vertical

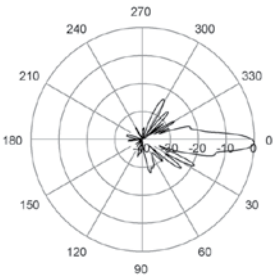
1710-2170 MHz (top array)



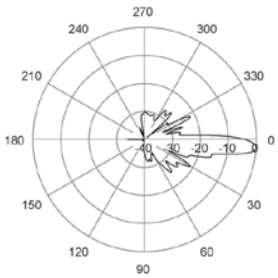
Horizontal



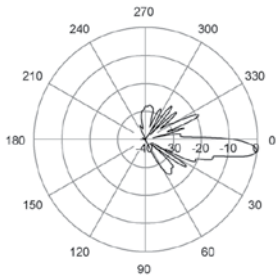
0° | Vertical



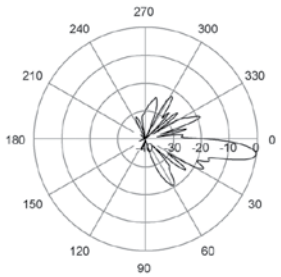
2° | Vertical



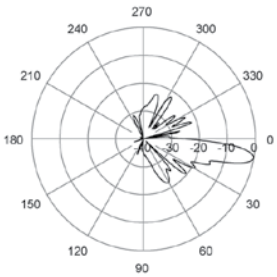
4° | Vertical



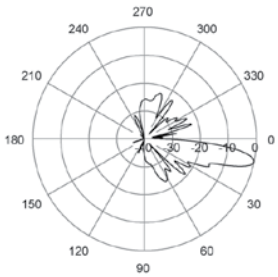
6° | Vertical



8° | Vertical



10° | Vertical



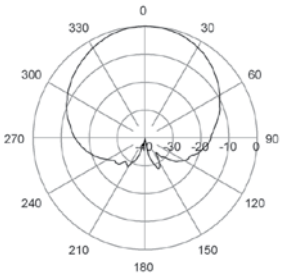
12° | Vertical

5880713

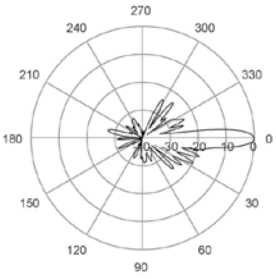
5880613 5880613G

310 mm | XXX-Pol | Tri Band VET TRIO | 65° | 17.5/17.2/17.3 dBi

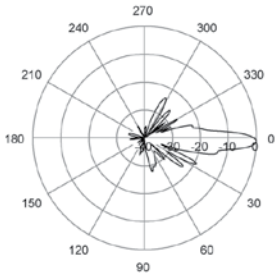
1710-2170 MHz (bottom array)



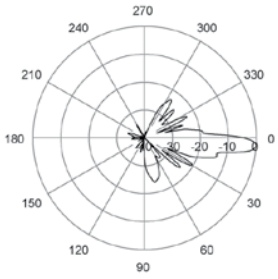
Horizontal



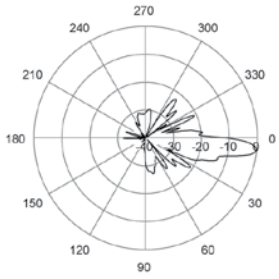
0° | Vertical



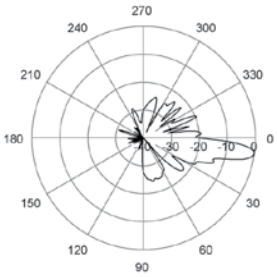
2° | Vertical



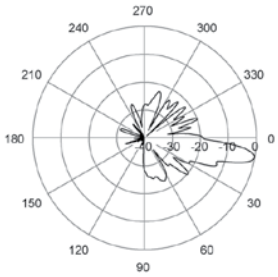
4° | Vertical



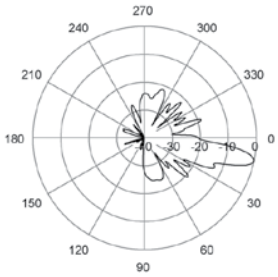
6° | Vertical



8° | Vertical



10° | Vertical



12° | Vertical

5270500

5270603 5270606

325 mm | XX-Pol | Dual Band VET TRIO | 65° | 15.0/17.0 dBi

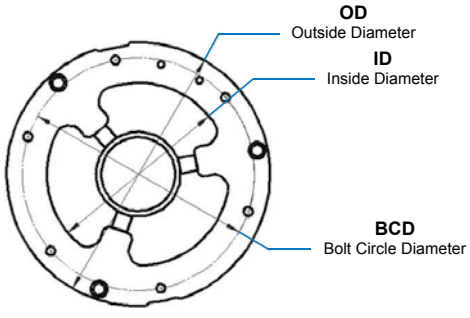
- Tri-sector, “monopole” dual band antenna, 12 connectors
- Independent tilt on each band 0-10° / 0-10°
- MET and RET versions
- Dual-sector & Single-sector antennas available

Model number reference:

Tri-sector	*Dual-sector*	*Single-sector*	
5270500	5270510	5270520	Manual Electrical Tilt Antenna
5270603	5270612	5270614	Manual Electrical Tilt for GSM Band, Remote Electrical Tilt for Wideband
5270606	5270621	5270622	Remote Electrical Tilt Antenna for both bands

Electrical Characteristics	880-960 MHz	1710-2170 MHz	
Frequency band	880-960 MHz	1710-1880 MHz	1900-2170 MHz
Polarization	±45°	±45°	
Horizontal beamwidth	70°	68°	65°
Vertical beamwidth	9.5°	6.5°	5.5°
Gain	12.9 dBd / 15.0 dBi	13.9 dBd / 16.0 dBi	14.9 dBd / 17.0 dBi
Electrical downtilt	0-10°	0-10°	
Impedance	50Ω	50Ω	
Return loss	> 15.6 dB	> 15.0 dB	
Upper sidelobes	< -16 dB typical		
Front-to-Back ratio	> 20 dB	> 29 dB	
Isolation	> 25 dB		
IM3 (2x20W carrier)	< -153 dBc		
Maximum power per port	200 W	160 W	
Connector(s)	12 ports / 7/16-DIN / Female / Bottom		
RET Part Number	5270603: RET-CD71; 5270606: RETU-DCA71		
Mechanical Characteristics			
Overall Dimensions Height x Diameter	2430 x 325 mm		95.7 x 12.8 in
Weight	65 kg		143 lbs
Survival wind speed	200 km/hr		125 mph
Wind load @ 160 km/hr (100 mph)	484 N		109 lbf
Color	RAL 7035 Grey		

Trio Flange Interface:



OD: 316 mm (12.44 in)
ID: 220 mm (8.66 in)

BCD: 6 x 10.5 mm (0.41 in) dia. mounting holes equally spaced on a 280 mm (11 in) dia. bolt circle

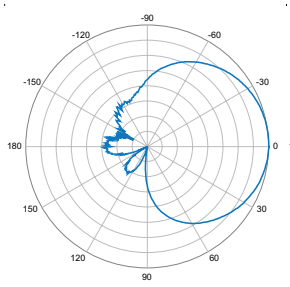
Flange Thickness: 20 mm (0.79 in)

5270500

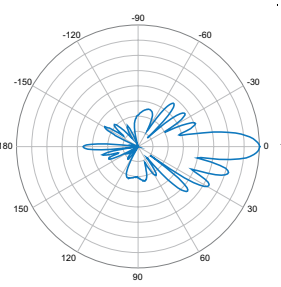
5270603 5270606

325 mm | XX-Pol | Dual Band VET TRIO | 65° | 15.0/17.0 dBi

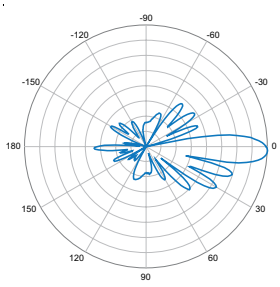
880-960 MHz



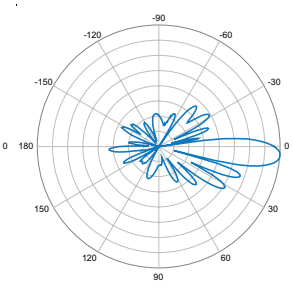
Horizontal



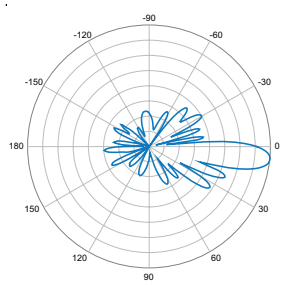
0° | Vertical



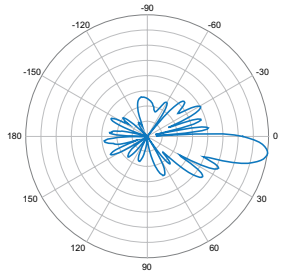
2° | Vertical



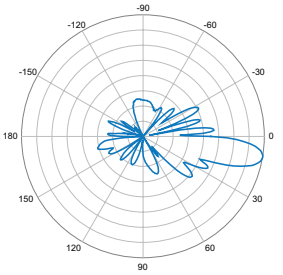
4° | Vertical



6° | Vertical

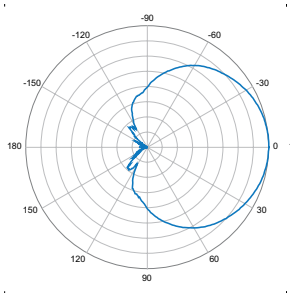


8° | Vertical

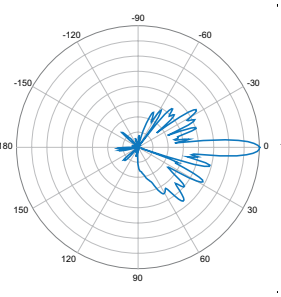


10° | Vertical

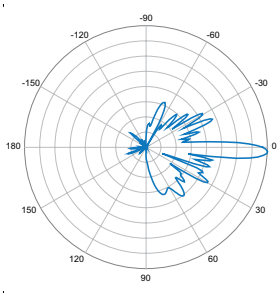
1710-2170 MHz



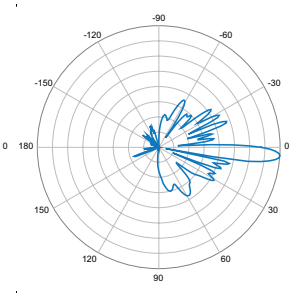
Horizontal



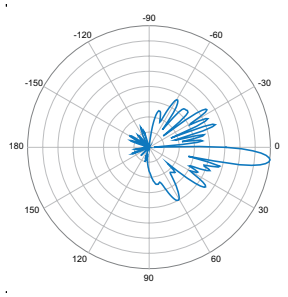
0° | Vertical



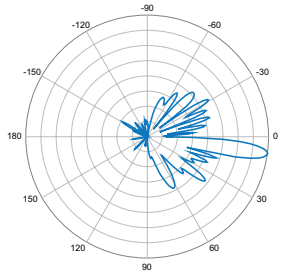
2° | Vertical



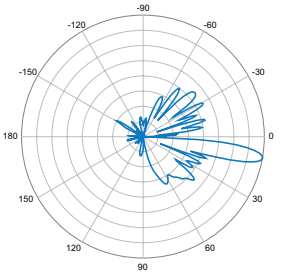
4° | Vertical



6° | Vertical



8° | Vertical



10° | Vertical

5270200

5270303 5270306

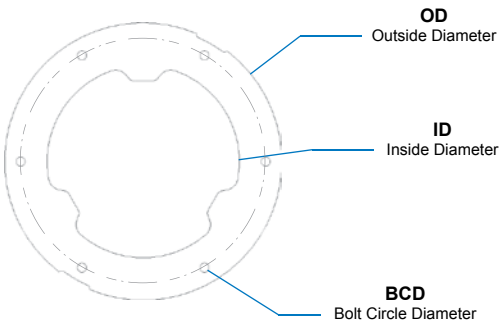
325 mm | XX-Pol | Dual Band VET TRIO | 65° | 15.0/17.0 dBi

- Tri-sector, “monopole” dual band antenna, 12 connectors
- Independent tilt on each band 0-10° / 0-10°
- MET and RET versions
- Flag pole kit available

Model number options:
5270200 Manual Electrical Tilt Antenna
5270303 Manual Electrical Tilt for GSM Band, Remote Electrical Tilt for Wideband
5270306 Remote Electrical Tilt Antenna for both bands

Electrical Characteristics	880-960 MHz	1710-2170 MHz	
Frequency band	880-960 MHz	1710-1880 MHz	1900-2170 MHz
Polarization	±45°	±45°	
Horizontal beamwidth	70°	68°	65°
Vertical beamwidth	9.5°	6.5°	5.5°
Gain	12.9 dBd / 15.0 dBi	13.9 dBd / 16.0 dBi	14.9 dBd / 17.0 dBi
Electrical downtilt	0-10°	0-10°	
Impedance	50Ω	50Ω	
Return loss	> 15.6 dB	> 15.0 dB	
Upper sidelobes	< -16 dB typical		
Front-to-Back ratio	> 20 dB	> 29 dB	
Isolation	> 25 dB		
IM3 (2x20W carrier)	-153 dBc		
Maximum power per port	200 W	160 W	
Connector(s)	12 ports / 7/16-DIN / Female / Bottom		
RET Part Number	5270303: RET-CD71; 5270306: RETU-DCA71		
Mechanical Characteristics			
Overall Dimensions Height x Diameter	2830 x 325 mm		111.4 x 12.8 in
Weight	70.0 kg		154 lbs
Survival wind speed	200 km/hr		125 mph
Wind load @ 160 km/hr (100 mph)	496 N		111 lbf
Color	RAL 7035 Grey		
Mounting Options	Part Number	Description	
Adapter plate	3902908/68	Adapter plate to provide six M10 x 1.5 tapped holes on 240 mm (9.4 in) bolt circle	

Trio Flange Interface:



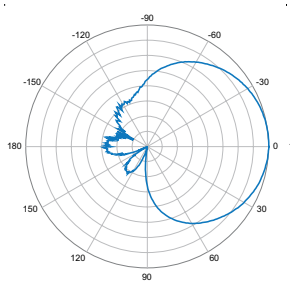
OD: 316 mm (12.44 in)
ID: 200 mm (7.87 in)
BCD: 6 x 11 mm (0.43 in) dia. mounting holes equally spaced on a 280 mm (11.20 in) dia. bolt circle
Flange Thickness: 20 mm (0.79 in)

5270200

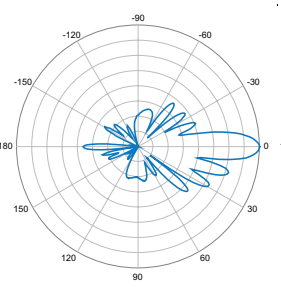
5270303 5270306

325 mm | XX-Pol | Dual Band VET TRIO | 65° | 15.0/17.0 dBi

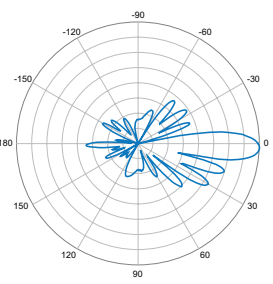
880-960 MHz



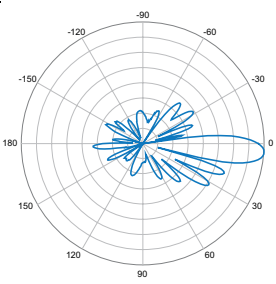
Horizontal



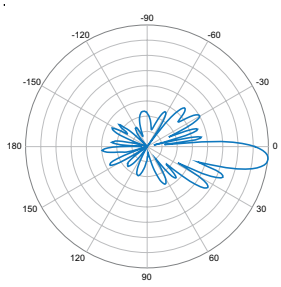
0° | Vertical



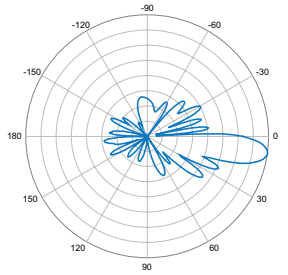
2° | Vertical



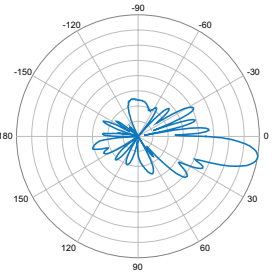
4° | Vertical



6° | Vertical

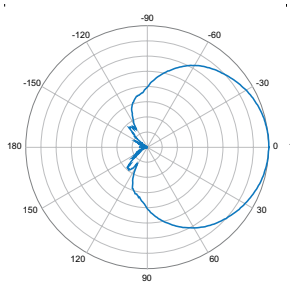


8° | Vertical

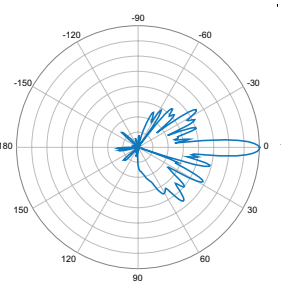


10° | Vertical

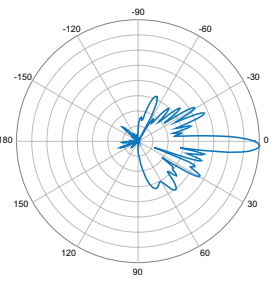
1710-2170 MHz



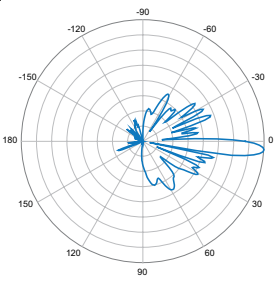
Horizontal



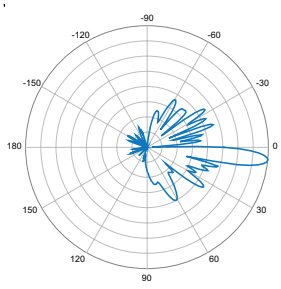
0° | Vertical



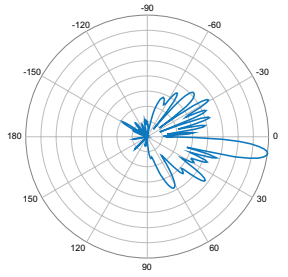
2° | Vertical



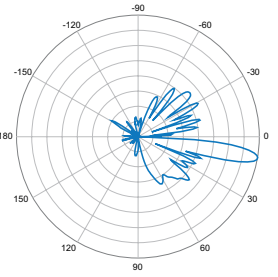
4° | Vertical



6° | Vertical



8° | Vertical



10° | Vertical

- Flag Tri-sector, “monopole” dual band antenna, 12 connectors
- Independent tilt on each band 0-10° / 0-10°
- MET and RET versions
- Flag pole kit included

5270400

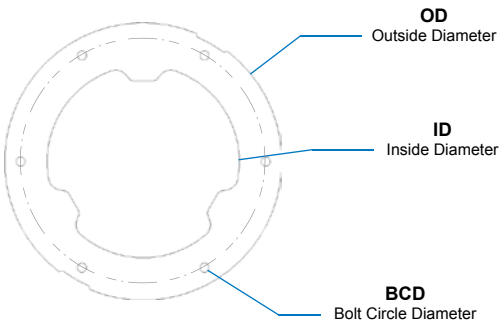
5270403 5270406

325 mm | XX-Pol | Dual Band VET TRIO | 65° | 15.0/17.0 dBi

Model number reference:
5270400 Manual Electrical Tilt Antenna
5270403 Manual Electrical Tilt for GSM Band, Remote Electrical Tilt for Wideband
5270406 Remote Electrical Tilt Antenna for both bands

Electrical Characteristics	880-960 MHz	1710-2170 MHz	
Frequency band	880-960 MHz	1710-1880 MHz	1900-2170 MHz
Polarization	±45°	±45°	
Horizontal beamwidth	70°	68°	65°
Vertical beamwidth	9.5°	6.5°	5.5°
Gain	12.9 dBd / 15.0 dBi	13.9 dBd / 16.0 dBi	14.9 dBd / 17.0 dBi
Electrical downtilt	0-10°	0-10°	
Impedance	50Ω	50Ω	
Return loss	> 15.6 dB	> 15.0 dB	
Upper sidelobes	< -16 dB typical		
Front-to-Back ratio	> 20 dB	> 29 dB	
Isolation	> 25 dB		
IM3 (2x20W carrier)	< -153 dBc		
Maximum power per port	200 W	160 W	
Connector(s)	12 ports / 7/16-DIN / Female / Bottom		
RET Part Number	5270403: RET-CD71; 5270406: RETU-DCA71		
Mechanical Characteristics			
Height (with Finial) x Diameter	3120 x 325 mm		122.8 x 12.8 in
Weight	85 kg		187 lbs
Wind load @ 160 km/hr (100 mph) for Tri-Sector + maximum flag size	1800 N		405 lbf
Color	RAL 7035 Grey		
Mounting Options	Part Number	Description	
Adapter plate	3902908/68	Adapter plate to provide six M10 x 1.5 tapped holes on 240 mm (9.4 in) bolt circle	

Trio Flange Interface:



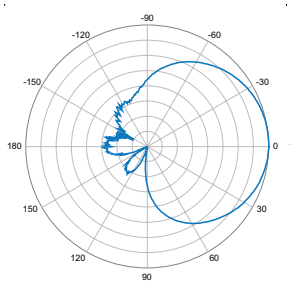
OD: 316 mm (12.44 in)
ID: 200 mm (7.87 in)
BCD: 6 x 11 mm (0.43 in) dia. mounting holes equally spaced on a 280 mm (11.20 in) dia. bolt circle
Flange Thickness: 20 mm (0.79 in)

5270400

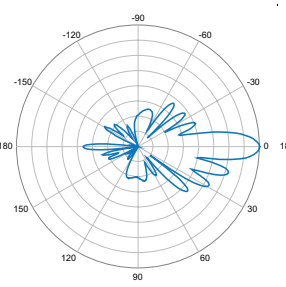
5270403 5270406

325 mm | XX-Pol | Dual Band VET TRIO | 65° | 15.0/17.0 dBi

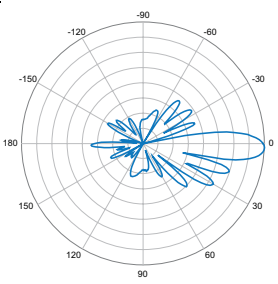
880-960 MHz



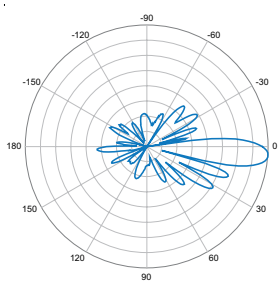
Horizontal



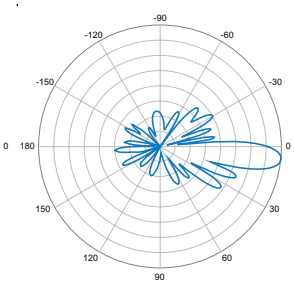
0° | Vertical



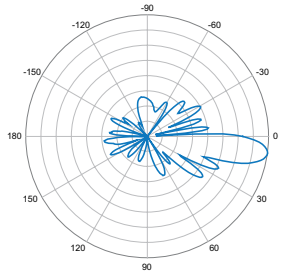
2° | Vertical



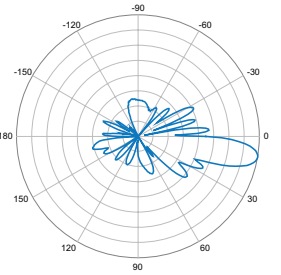
4° | Vertical



6° | Vertical

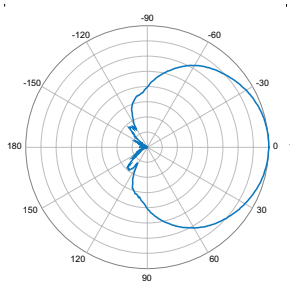


8° | Vertical

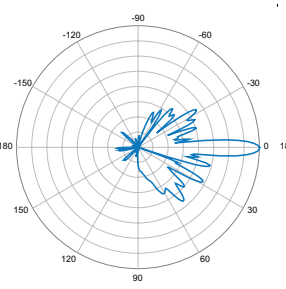


10° | Vertical

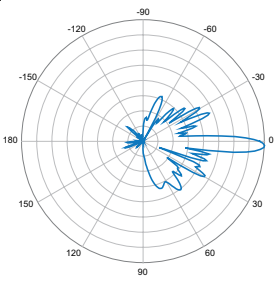
1710-2170 MHz



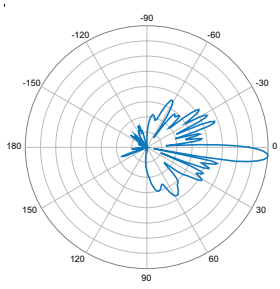
Horizontal



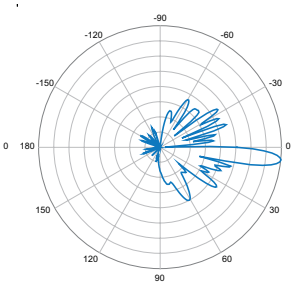
0° | Vertical



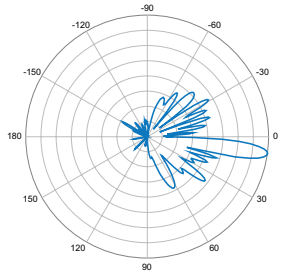
2° | Vertical



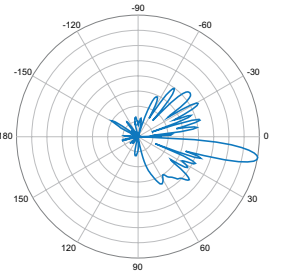
4° | Vertical



6° | Vertical



8° | Vertical



10° | Vertical

5177703

5177603 5177603G

388 mm | XX-Pol | Twin Wideband VET TRIO | 65° | 17.5 dBi

- Tri-sector Twin Wideband antenna, 4 connectors per sector
- Two independent arrays per sector
- Variable electrical tilt 2-14°
- Very small diameter (388 mm) for low wind load
- MET and RET versions, AISG1.1 or 3GPP/AISG2.0
- Dual-sector & Single-sector antennas available

Model number reference:

Tri-sector	*Dual-sector*	*Single-sector*	
5177703	5177702	5177701	Manual Electrical Tilt Antenna
5177603	5177602	5177601	Remote Electrical Tilt Antenna, AISG1.1
5177603G	5177602G	5177601G	Remote Electrical Tilt Antenna, 3GPP/AISG2.0

Electrical Characteristics		
Frequency band	1710-2170 MHz	
Polarization	±45°	
Horizontal beamwidth	65° (-3 dB)	
Vertical beamwidth	7° (-3 dB)	
Gain	15.4 dBd / 17.5 dBi	
Electrical downtilt	2-14°	
Impedance	50Ω	
VSWR	< 1.4:1	
Upper sidelobe rejection (20° sector above main beam)	> 18 dB typical	
Null fill (first null below main beam)	< 18 dB typical	
Isolation between ports	> 30 dB	
Front-to-Back ratio	> 25 dB	
Isolation between arrays in the same sector	> 32 dB	
IM3 (2x20W carrier)	< -153 dBc	
Maximum power per port	160 W	
Connector(s)	12 ports / 7/16-DIN / Female, Long Neck / Bottom	
RET Part Number (one unit per sector)	RETU-DCA21 for AISG1.1 protocol (3 units included in 5177603) RETU-DCG21 for 3GPP/AISG2.0 protocol (3 units included in 5177603G)	
Environmental		
Operating temperature	-40 to +60° C	-40 to +140° F
Environmental	ETS 300 019	
RoHS compliant	Yes	
Mechanical Characteristics		
Total Height (includes 250 mm service area)	1710 mm	67.3 in
Effective Height x Diameter	1335 x 388 mm	52.6 x 15.3 in
Weight	53 kg	116.8 lbs
Survival wind speed	200 km/hr	125 mph
Operational wind speed	160 km/hr	99 mph
Wind load @ 160 km/hr (100 mph)	402 N	90.4 lbf
Shroud	Outdoor plastic, RAL 7035 Grey	
Relative directions of internal antennas (sector axis)	0° 120° 240°	
Packaging		
Packing dimensions	1880 x 600 x 530 mm	74 x 23.6 x 20.9 in
Packing weight	105 kg	231.5 lbs
Packing volume	0.60 m^3	21.2 ft^3

Accessories	Part Number	Description
Lightning protection kit	TRX-LPK	Lightning finial
Trio extension	TRX380-E085-001 TRX380-E085-002*	Mounting Mast, 85 cm high x 388 mm dia Mounting Mast, 85 cm high x 388 mm dia
	**shroud stops 20 cm above bottom flange for cables out on the side*	
Trio-Pack (delivered w/non-penetrating platform)	Please contact us	

5177703

5177603 5177603G

388 mm | XX-Pol | Twin Wideband VET TRIO | 65° | 17.5 dBi

Access Ports Description (Connectors)

Each sector has 4 connectors located inside the service area and marked with colour rings. A service area at the bottom can be opened for the access to the connectors and to the manual adjustments of the electrical downtilts.

Wide band 1710-2170 MHz ports	WHITE rings	2 x 7/16-DIN Female Long Neck
Wide band 1710-2170 MHz ports Recommended for UMTS2100	BLUE rings	2 x 7/16-DIN Female Long Neck

Electrical Downtilt Control

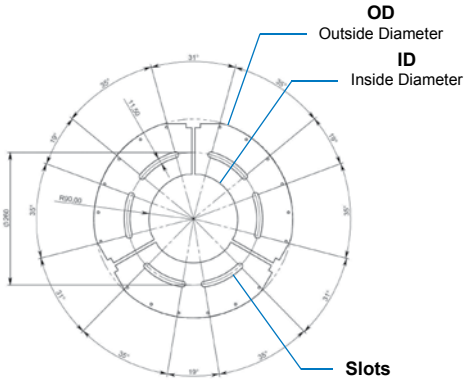
The electrical downtilt can be controlled separately on each internal array of each sector.

Manual control: The electrical tilt is changed by turning the adjustment screw at the end of the tilt indicator with a 10 mm socket wrench.

Remote control: The antenna can be delivered with double-RET module for each sector installed in the service area, compatible with 3GPP/AISG2.0 or AISG1.1. The remote control of other equipments or sectors is possible by “daisy-chain” through the use of an extra AISG connector located on the RET module.

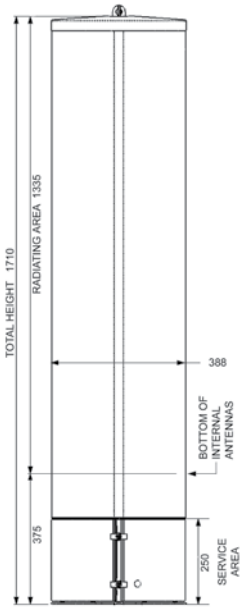
The antennas delivered with RET units fitted in it are supplied with the necessary AISG cable for the daisy-chain between the two RET of each double-RET module (one cable per sector).

Trio Flange Interface:

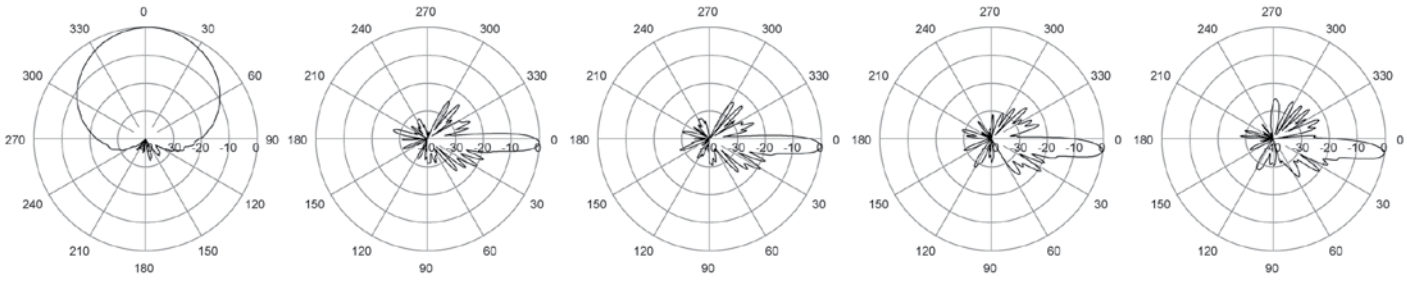


OD: 388 mm (15.3 in)
ID: 180 mm (7.1 in)
Slots: 6 curved slots x 11.5 mm (0.45 in) wide on a 260 mm (10.2 in) dia. bolt circle
Flange Thickness: 5 mm (0.20 in)

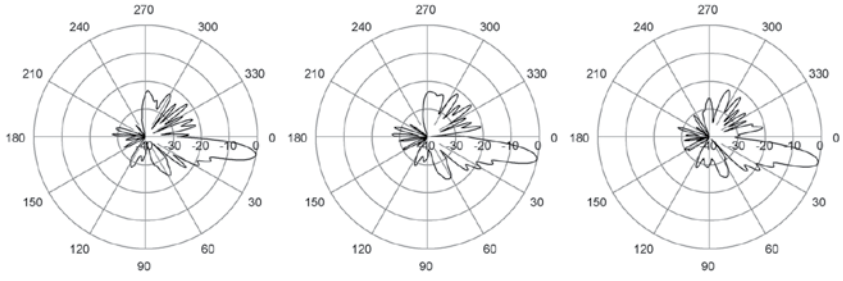
Dimensions (in mm)



1710-2170 MHz



Horizontal | 2° | Vertical | 4° | Vertical | 6° | Vertical | 8° | Vertical



10° | Vertical | 12° | Vertical | 14° | Vertical

5863903

5863803 5863803G

388 mm | XX-Pol | Dual Band VET TRIO | 65° | 16.5/18.0 dBi

- Tri-sector Dual Band antenna, 4 connectors per sector
- Independent tilt on each band 0-10° / 0-10°
- Independent azimuth panning ±15° on each sector
- Very small diameter (388 mm) for low wind load
- MET and RET versions, AISG1.1 or 3GPP/AISG2.0
- Dual-sector & Single-sector antennas available

Model number reference:

Tri-sector	*Dual-sector*	*Single-sector*	
5863903	5863902	5863901	Manual Electrical Tilt Antenna
5863803	5863802	5863801	Remote Electrical Tilt Antenna, AISG1.1
5863803G	5863802G	5863801G	Remote Electrical Tilt Antenna, 3GPP/AISG2.0

Electrical Characteristics	880-960 MHz	1710-2170 MHz	
Frequency band	880-960 MHz	1710-1880 MHz	1900-2170 MHz
Polarization	±45°	±45°	
Horizontal beamwidth (-3 dB)	65°	65°	64°
Vertical beamwidth (-3 dB)	9°	6°	6°
Gain tilt 0° tilt 5° tilt 10°	16.0...16.5 dBi 16.0...16.5 dBi 15.9...16.4 dBi	17.3...17.6 dBi 17.2...17.4 dBi 17.2...17.3 dBi	17.6...18.1 dBi 17.4...17.9 dBi 17.3...17.7 dBi
Electrical downtilt	0-10°	0-10°	
Impedance	50Ω	50Ω	
VSWR	< 1.4:1	< 1.4:1	
Upper sidelobe rejection (20° sector above main beam)	18 dB typical	18 dB typical	
Isolation between ports	> 30 dB	> 30 dB	
Isolation between bands	45 dB typical	45 dB typical	
Front-to-Back ratio	> 30 dB	> 30 dB	
IM3 (2x20W carrier)	< -110 dBm	< -110 dBm	
Maximum power per port	200 W	160 W	
Connector(s)	12 ports / 7/16-DIN / Female, Long Neck / Bottom		
RET Part Number (one unit per sector)	MDCU-A0001 for AISG1.1 protocol (3 units included in 5863803) MDCU-G0001 for 3GPP/AISG2.0 protocol (3 units included in 5863803G)		

We can provide a RET module with separate control of the motors to allow dual-operators or dual-technology control. Please contact us.

Environmental		
Operating temperature	-40 to +60° C	-40 to +140° F
Environmental	ETS 300 019	
RoHS compliant	Yes	

Mechanical Characteristics		
Total Height (includes 250 mm service area)	2291 mm	90.2 in
Effective Height x Diameter	1900 x 388 mm	74.8 x 15.3 in
Weight	68 kg	149.9 lbs
Survival wind speed	200 km/hr	125 mph
Operational wind speed	160 km/hr	99 mph
Wind load @ 160 km/hr (100 mph)	428 N	96.2 lbf
Shroud	Outdoor plastic, RAL 7035 Grey	
Relative directions of internal antennas (sector axis)	0° (±15°) 120° (±15°) 240° (±15°)	

Packaging		
Packing dimensions	2480 x 530 x 600 mm	97.6 x 20.9 x 23.6 in
Packing weight	140 kg	308.6 lbs
Packing volume	0.789 m^3	27.9 ft^3

Accessories	Part Number	Description
Lightning protection kit	TRX-LPK	Lightning finial
Trio extension	TRX380-E085-001 TRX380-E085-002*	Mounting Mast, 85 cm high x 388 mm dia Mounting Mast, 85 cm high x 388 mm dia
	**shroud stops 20 cm above bottom flange for cables out on the side*	
Trio-Pack (delivered w/non-penetrating platform)	Please contact us	

5863903

5863803 5863803G

388 mm | XX-Pol | Dual Band VET TRIO | 65° | 16.5/18.0 dBi

Access Ports Description (Connectors)

Each sector has 4 connectors located inside the service area and marked with colour rings. A service area at the bottom can be opened for the access to the connectors and to the manual adjustments of the electrical downtilts and the azimuth panning.

Low Band 880-960 MHz ports	RED rings	2 x 7/16-DIN Female Long Neck
High band 1710-2170 MHz ports (wide band)	BLUE rings	2 x 7/16-DIN Female Long Neck

Electrical Downtilt Control

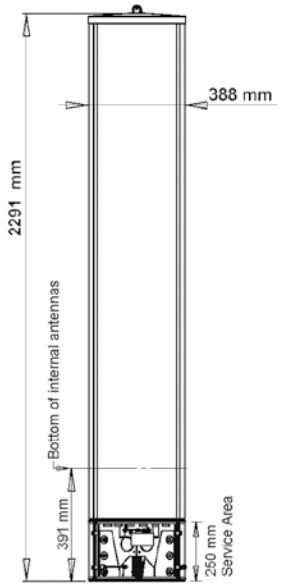
Electrical downtilt can be controlled separately for Low Band and High Band.
The two tilt indicators are covered by a removable transparent cap.

Manual control: A coloured knob at the end of the tilt indicator allows change of the tilt without need for a tool. Knob colour is identical to connector colours as defined above. To access the knob, the cap is removed by turning it counter clockwise. It is re-installed by opposite rotation.

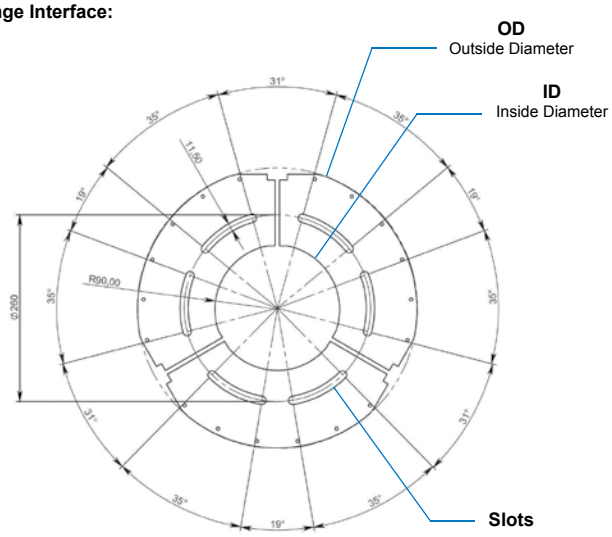
Remote control: The remote control of the electrical tilt is managed by a module (MDCU) totally inserted at the bottom of the antenna. One single module controls individually the tilt of each band (no need of daisy chain cables between the bands). For RET control, the transparent cap must be in place and locked.

This module does not add any additional length at the bottom of the antenna. The tilt angle indicator stays always visible and the antenna still has manual tilt control (manual override).

Dimensions (in mm)



Trio Flange Interface:



OD: 388 mm (15.3 in)
ID: 180 mm (7.1 in)

Slots: 6 curved slots x 11.5 mm (0.45 in) wide on a 260 mm (10.2 in) dia. bolt circle

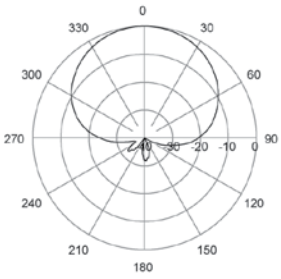
Flange Thickness: 5 mm (0.20 in)

5863903

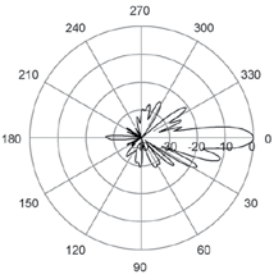
5863803 5863803G

388 mm | XX-Pol | Dual Band VET TRIO | 65° | 16.5/18.0 dBi

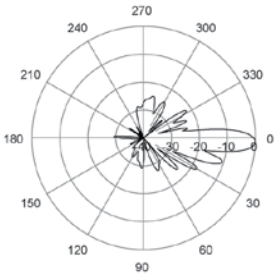
880-960 MHz



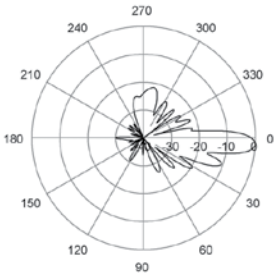
Horizontal



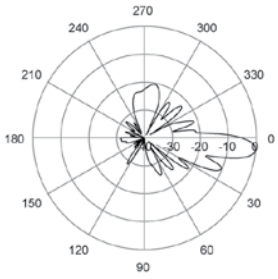
0° | Vertical



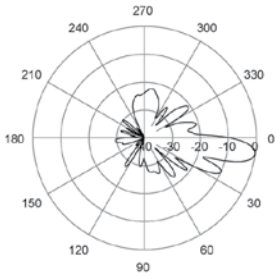
2° | Vertical



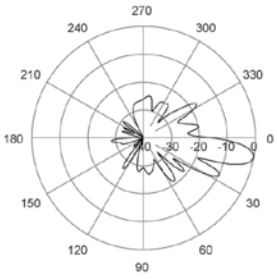
4° | Vertical



6° | Vertical

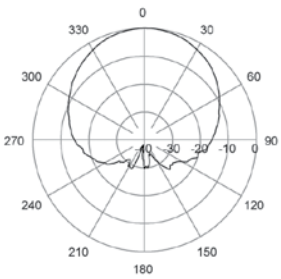


8° | Vertical

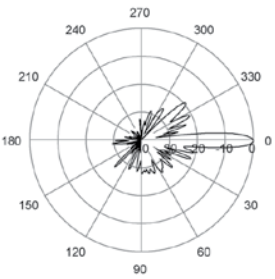


10° | Vertical

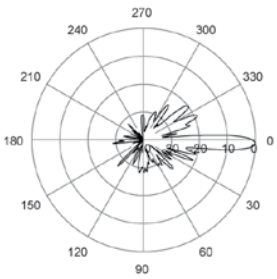
1710-2170 MHz



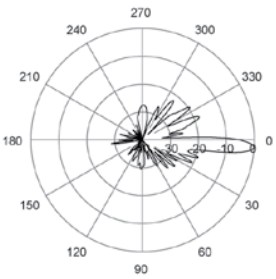
Horizontal



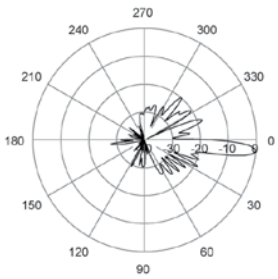
0° | Vertical



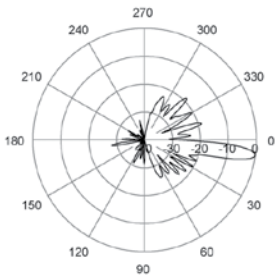
2° | Vertical



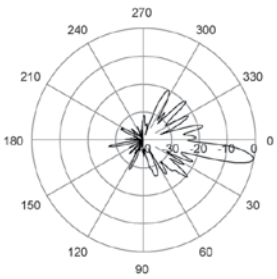
4° | Vertical



6° | Vertical



8° | Vertical



10° | Vertical

5860903

5860803 5860803G

388 mm | XX-Pol | Dual Band VET TRIO | 65° | 17.5/18.0 dBi

- Tri-sector Dual Band antenna, 4 connectors per sector
- Independent tilt on each band 0-10° / 0-10°
- Independent azimuth panning ±15° on each sector
- Very small diameter (388 mm) for low wind load and visual impact
- MET and RET versions, AISG1.1 or 3GPP/AISG2.0
- Dual-sector & Single-sector antennas available

Model number reference:

Tri-sector	*Dual-sector*	*Single-sector*	
5860903	5860902	5860901	Manual Electrical Tilt Antenna
5860803	5860802	5860801	Remote Electrical Tilt Antenna, AISG1.1
5860803G	5860802G	5860801G	Remote Electrical Tilt Antenna, 3GPP/AISG2.0

Electrical Characteristics	880-960 MHz	1710-2170 MHz	
Frequency band	880-960 MHz	1710-1880 MHz	1900-2170 MHz
Polarization	±45°	±45°	
Horizontal beamwidth (-3 dB)	65°	65°	64°
Vertical beamwidth (-3 dB)	7°	6°	6°
Gain tilt 0° tilt 5° tilt 10°	17.0...17.5 dBi 17.0...17.5 dBi 16.9...17.4 dBi	17.3...17.6 dBi 17.2...17.4 dBi 17.2...17.3 dBi	17.6...18.1 dBi 17.4...17.9 dBi 17.3...17.7 dBi
Electrical downtilt	0-10°	0-10°	
Impedance	50Ω	50Ω	
VSWR	< 1.4:1	< 1.4:1	
Upper sidelobe rejection (20° sector above main beam)	18 dB typical	18 dB typical	
Isolation between ports	> 30 dB	> 30 dB	
Isolation between bands	45 dB typical	45 dB typical	
Front-to-Back ratio	> 30 dB	> 30 dB	
IM3 (2x20W carrier)	< -110 dBm	< -110 dBm	
Maximum power per port	200 W	160 W	
Connector(s)	12 ports / 7/16-DIN / Female, Long Neck / Bottom		
RET Part Number (one unit per sector)	MDCU-A0001 for AISG1.1 protocol (3 units included in 5860803) MDCU-G0001 for 3GPP/AISG2.0 protocol (3 units included in 5860803G)		

We can provide a RET module with separate control of the motors to allow dual-operators or dual-technology control. Please contact us.

Environmental		
Operating temperature	-40 to +60° C	-40 to +140° F
Environmental	ETS 300 019	
RoHS compliant	Yes	

Mechanical Characteristics		
Total Height (includes 250 mm service area)	3069 mm	120.8 in
Effective Height x Diameter	2676 x 388 mm	105.4 x 15.3 in
Weight	80 kg	176.4 lbs
Survival wind speed	200 km/hr	125 mph
Operational wind speed	160 km/hr	99 mph
Wind load @ 160 km/hr (100 mph)	570 N	128.1 lbf
Shroud	Outdoor plastic, RAL 7035 Grey	
Relative directions of internal antennas (sector axis)	0° (±15°) 120° (±15°) 240° (±15°)	

Packaging		
Packing dimensions	3250 x 550 x 610 mm	128 x 21.7 x 24 in
Packing weight	192 kg	423.3 lbs
Packing volume	1.09 m^3	38.5 ft^3

Accessories	Part Number	Description
Lightning protection kit	TRX-LPK	Lightning finial
Trio extension	TRX380-E085-001 TRX380-E085-002*	Mounting Mast, 85 cm high x 388 mm dia Mounting Mast, 85 cm high x 388 mm dia
	**shroud stops 20 cm above bottom flange for cables out on the side*	
Trio-Pack (delivered w/non-penetrating platform)	Please contact us	

5860903

5860803 5860803G

388 mm | XX-Pol | Dual Band VET TRIO | 65° | 17.5/18.0 dBi

Access Ports Description (Connectors)		
Each sector has 4 connectors located inside the service area and marked with colour rings. A service area at the bottom can be opened for the access to the connectors and to the manual adjustments of the electrical downtilts and the azimuth panning.		
Low Band 880-960 MHz ports	RED rings	2 x 7/16-DIN Female Long Neck
High band 1710-2170 MHz ports (wide band)	BLUE rings	2 x 7/16-DIN Female Long Neck

Electrical Downtilt Control

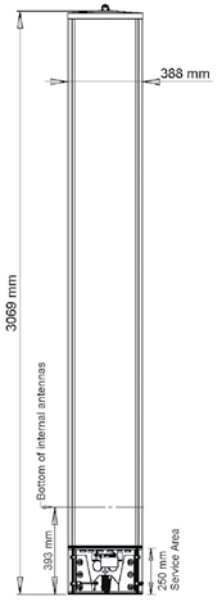
Electrical downtilt can be controlled separately for Low Band and High Band.
The two tilt indicators are covered by a removable transparent cap.

Manual control: A coloured knob at the end of the tilt indicator allows change of the tilt without need for a tool. Knob colour is identical to connector colours as defined above. To access the knob, the cap is removed by turning it counter clockwise. It is re-installed by opposite rotation.

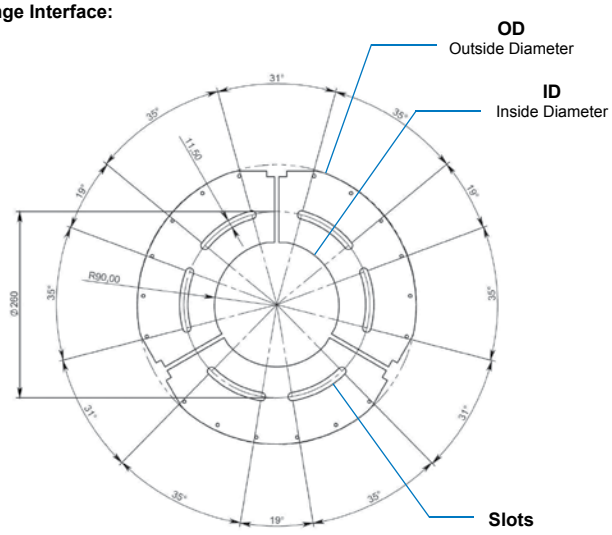
Remote control: The remote control of the electrical tilt is managed by a module (MDCU) totally inserted at the bottom of the antenna. One single module controls individually the tilt of each band (no need of daisy chain cables between the bands). For RET control, the transparent cap must be in place and locked.

This module does not add any additional length at the bottom of the antenna. The tilt angle indicator stays always visible and the antenna still has manual tilt control (manual override).

Dimensions (in mm)



Trio Flange Interface:



OD: 388 mm (15.3 in)
ID: 180 mm (7.1 in)

Slots: 6 curved slots x 11.5 mm (0.45 in) wide on a 260 mm (10.2 in) dia. bolt circle

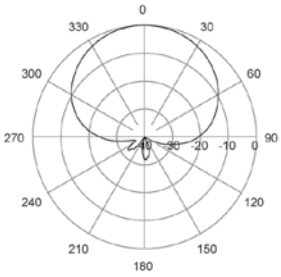
Flange Thickness: 5 mm (0.20 in)

5860903

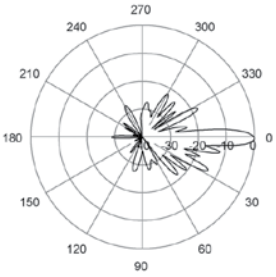
5860803 5860803G

388 mm | XX-Pol | Dual Band VET TRIO | 65° | 17.5/18.0 dBi

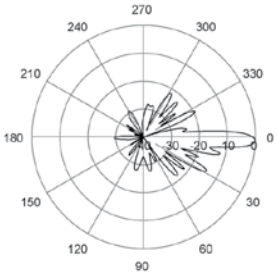
880-960 MHz



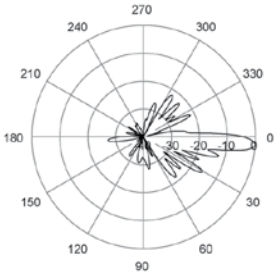
Horizontal



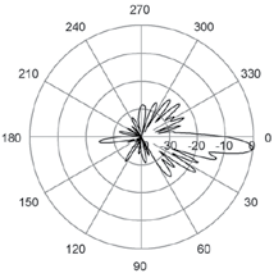
0° | Vertical



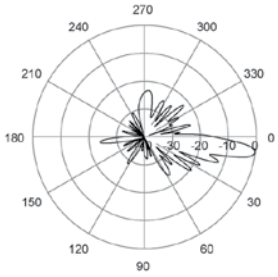
2° | Vertical



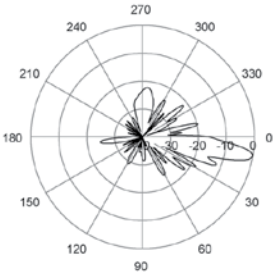
4° | Vertical



6° | Vertical

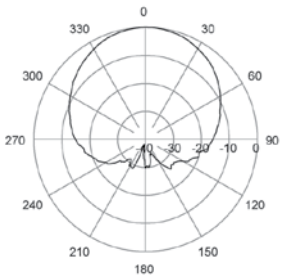


8° | Vertical

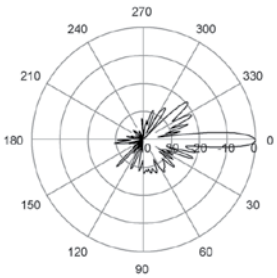


10° | Vertical

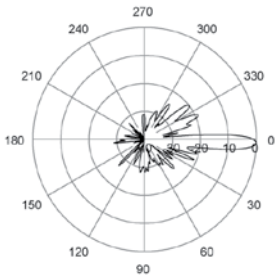
1710-2170 MHz



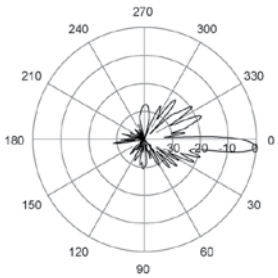
Horizontal



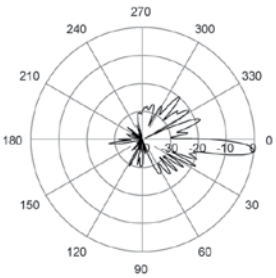
0° | Vertical



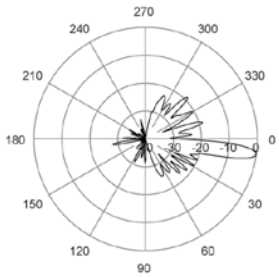
2° | Vertical



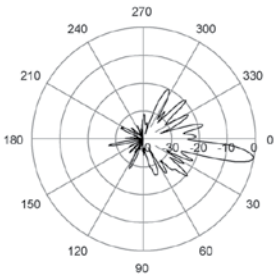
4° | Vertical



6° | Vertical



8° | Vertical



10° | Vertical

5880903

5880803 5880803G

388 mm | XXX-Pol | Tri Band VET TRIO | 65° | 17.5/17.2/17.3 dBi

- Tri-sector Tri Band antenna, 6 connectors per sector
- Independent tilt on each band 0-10° / 0-12° / 0-12°
- Independent azimuth panning ±15° on each sector
- Very small diameter (388 mm) for low wind load
- MET and RET versions, AISG1.1 or 3GPP/AISG2.0
- Dual-sector & Single-sector antennas available

Model number reference:

Tri-sector	*Dual-sector*	*Single-sector*	
5880903	5880902	5880901	Manual Electrical Tilt Antenna
5880803	5880802	5880801	Remote Electrical Tilt Antenna, AISG1.1
5880803G	5880802G	5880801G	Remote Electrical Tilt Antenna, 3GPP/AISG2.0

Electrical Characteristics	880-960 MHz	1710-2170 MHz		1710-2170 MHz	
Frequency band	880-960 MHz	1710-1880 MHz	1900-2170 MHz	1710-1880 MHz	1900-2170 MHz
Polarization	±45°	±45°		±45°	
Horizontal beamwidth (-3 dB)	65°	65°	62°	65°	62°
Vertical beamwidth (-3 dB)	7°	7°	7°	7°	7°
Gain tilt 0° tilt 5° tilt 10°	17.0...17.5 dBi 17.0...17.5 dBi 16.9...17.4 dBi	16.5...16.7 dBi 16.3...16.5 dBi 16.0...16.3 dBi	16.7...17.2 dBi 16.5...17.0 dBi 16.3...16.5 dBi	16.5...16.9 dBi 16.4...16.7 dBi 16.3...16.5 dBi	16.9...17.3 dBi 16.7...17.2 dBi 16.5...17.0 dBi
Electrical downtilt	0-10°	0-12°		0-12°	
Impedance	50Ω	50Ω		50Ω	
VSWR	< 1.4:1	< 1.4:1		< 1.4:1	
Upper sidelobe rejection (20° sector above main beam)	18 dB typical	18 dB typical		18 dB typical	
Isolation between ports	> 30 dB	> 30 dB		> 30 dB	
Isolation between bands	45 dB typical	45 dB typical		45 dB typical	
Front-to-Back ratio	> 30 dB	> 30 dB		> 30 dB	
IM3 (2x20W carrier)	< -110 dBm	< -110 dBm		< -110 dBm	
Maximum power per port	200 W	160 W		160 W	
Connector(s)	18 ports / 7/16-DIN / Female, Long Neck / Bottom				
RET Part Number (one unit per sector)	MDCU-A0002 for AISG1.1 protocol (3 units included in 5880803) MDCU-G0002 for 3GPP/AISG2.0 protocol (3 units included in 5880803G)				

We can provide a RET module with separate control of the motors to allow dual-operators or dual-technology control. Please contact us.

Environmental		
Operating temperature	-40 to +60° C	-40 to +140° F
Environmental	ETS 300 019	
RoHS compliant	Yes	

Mechanical Characteristics		
Total Height (includes 250 mm service area)	3069 mm	120.8 in
Effective Height x Diameter	2676 x 388 mm	105.4 x 15.3 in
Weight	98 kg	216 lbs
Survival wind speed	200 km/hr	125 mph
Operational wind speed	160 km/hr	99 mph
Wind load @ 160 km/hr (100 mph)	570 N	128.1 lbf
Shroud	Outdoor plastic, RAL 7035 Grey	
Relative directions of internal antennas (sector axis)	0° (±15°) 120° (±15°) 240° (±15°)	

Packaging		
Packing dimensions	3250 x 550 x 610 mm	128 x 21.7 x 24 in
Packing weight	210 kg	463 lbs
Packing volume	1.09 m^3	38.5 ft^3

Accessories	Part Number	Description
Lightning protection kit	TRX-LPK	Lightning finial
Trio extension	TRX380-E085-001 TRX380-E085-002*	Mounting Mast, 85 cm high x 388 mm dia Mounting Mast, 85 cm high x 388 mm dia
	**shroud stops 20 cm above bottom flange for cables out on the side*	
Trio-Pack (delivered w/non-penetrating platform)	Please contact us	

5880903

5880803 5880803G

388 mm | XXX-Pol | Tri Band VET TRIO | 65° | 17.5/17.2/17.3 dBi

Access Ports Description (Connectors)

Each sector has 6 connectors located inside the service area and marked with colour rings. A service area at the bottom can be opened for the access to the connectors and to the manual adjustments of the electrical downtilts and the azimuth panning.

Low Band 880-960 MHz ports	RED rings	2 x 7/16-DIN Female Long Neck
High band 1710-2170 MHz ports (top array) pattern optimised for DCS1800	WHITE rings	2 x 7/16-DIN Female Ultra Long Neck
High band 1710-2170 MHz ports (bottom array) pattern optimised for UMTS2100	BLUE rings	2 x 7/16-DIN Female Long Neck

Electrical Downtilt Control

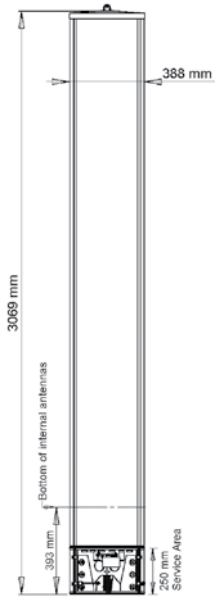
Electrical downtilt can be controlled separately for Low Band, High Band White and High Band Blue. The three tilt indicators are covered by a removable transparent cap.

Manual control: A coloured knob at the end of the tilt indicator allows change of the tilt without need for a tool. Knob colour is identical to connector colours as defined above. To access the knob, the cap is removed by turning it counter clockwise. It is re-installed by opposite rotation.

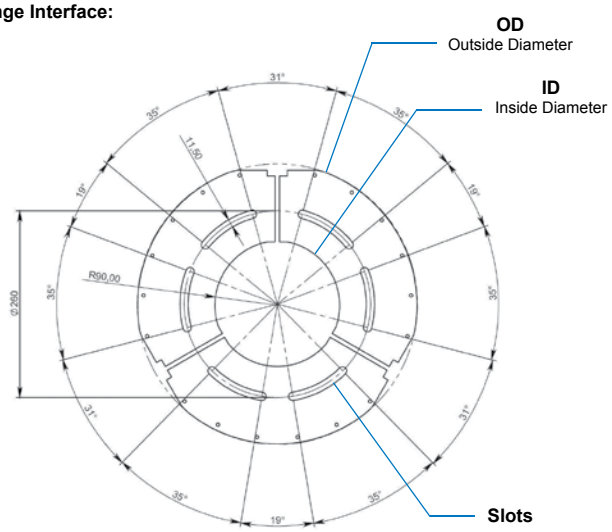
Remote control: The remote control of the electrical tilt is managed by a module (MDCU) totally inserted at the bottom of the antenna. One single module controls individually the tilt of each band (no need of daisy chain cables between the bands). For RET control, the transparent cap must be in place and locked.

This module does not add any additional length at the bottom of the antenna. The tilt angle indicator stays always visible and the antenna still has manual tilt control (manual override).

Dimensions



Trio Flange Interface:



OD: 388 mm (15.3 in)
ID: 180 mm (7.1 in)

Slots: 6 curved slots x 11.5 mm (0.45 in) wide on a 260 mm (10.2 in) dia. bolt circle

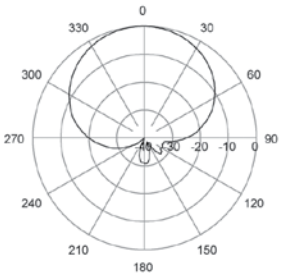
Flange Thickness: 5 mm (0.20 in)

5880903

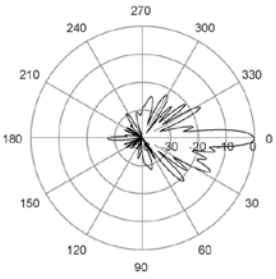
5880803 5880803G

388 mm | XXX-Pol | Tri Band VET TRIO | 65° | 17.5/17.2/17.3 dBi

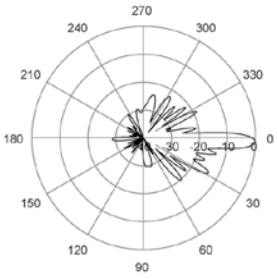
880-960 MHz



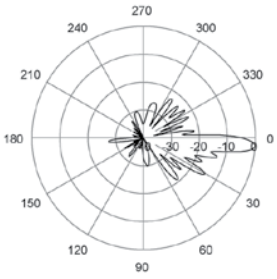
Horizontal



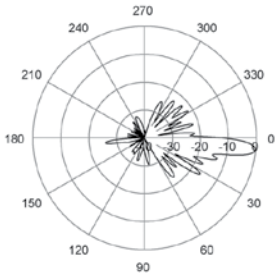
0° | Vertical



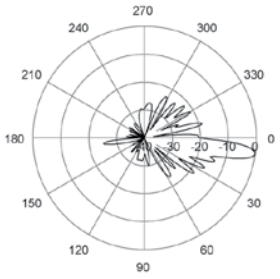
2° | Vertical



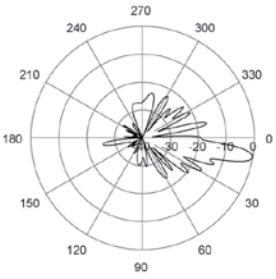
4° | Vertical



6° | Vertical

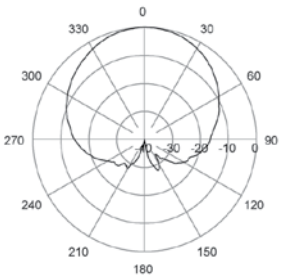


8° | Vertical

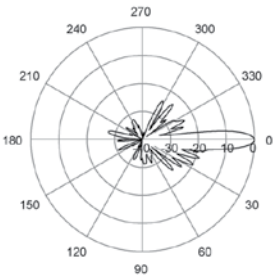


10° | Vertical

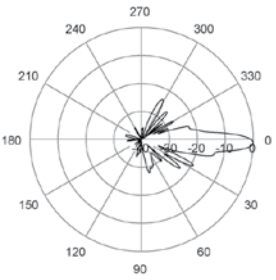
1710-2170 MHz (top array)



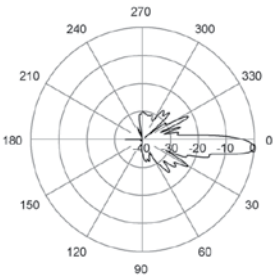
Horizontal



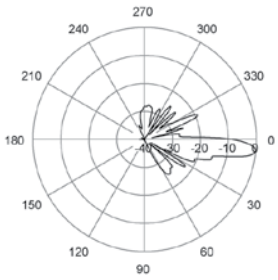
0° | Vertical



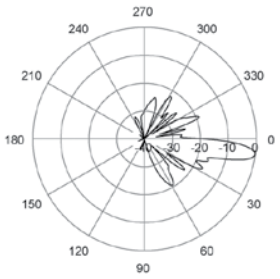
2° | Vertical



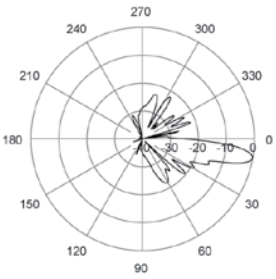
4° | Vertical



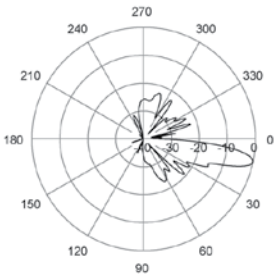
6° | Vertical



8° | Vertical



10° | Vertical



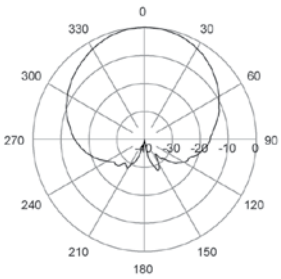
12° | Vertical

5880903

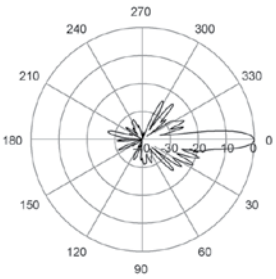
5880803 5880803G

388 mm | XXX-Pol | Tri Band VET TRIO | 65° | 17.5/17.2/17.3 dBi

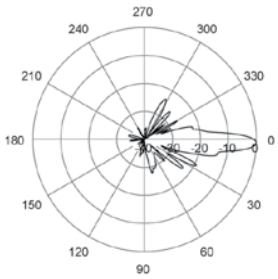
1710-2170 MHz (bottom array)



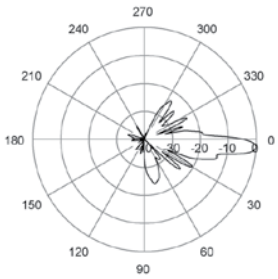
Horizontal



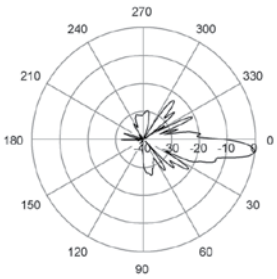
0° | Vertical



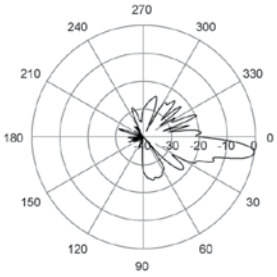
2° | Vertical



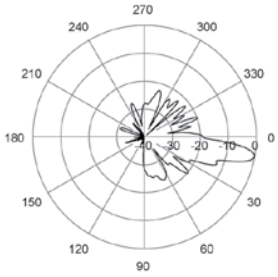
4° | Vertical



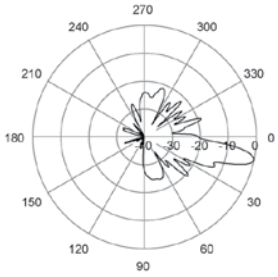
6° | Vertical



8° | Vertical



10° | Vertical



12° | Vertical

SL3X065X17x00

SL3X065X17M00 SL3X065X17R00

460 mm | X-Pol | VET TRIO | 65° | 14.5 dBi

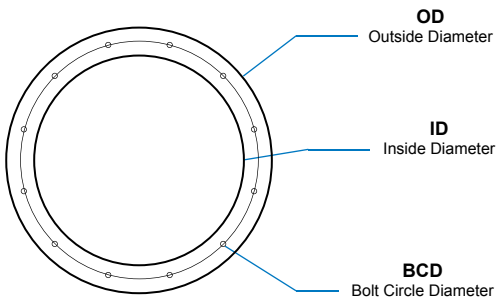
Model number options (x):
SL3X065X17M00 Manual Electrical Tilt Antenna
SL3X065X17R00 Remote Electrical Tilt Antenna

Electrical Characteristics		
Frequency band	806-940 MHz	
Polarization	±45°	
Horizontal beamwidth	65°	
Vertical beamwidth	14.5°	
Gain	12.4 dBd / 14.5 dBi	
Electrical downtilt	2°-14°	
Impedance	50Ω	
VSWR	< 1.5:1	
1st upper side lobe	< -16 dB typical	
Inter-port isolation	> 25 dB	
Front-to-Back ratio	> 25 dB	
Maximum power per port	6 x 500 W	
Connector(s)	6 ports / 7/16-DIN / Female / Bottom	
RET Type / Part Number	3 x External / RETU-EA01	
Operating temperature	-40 to +60° C	-40 to +140° F
Mechanical Characteristics		
Overall Dimensions Height x Diameter	1727 x 457 mm	68 x 18 in
Weight	51 kg	113 lbs
Survival wind speed	200 km/hr	125 mph
Wind load @ 160 km/hr (100 mph)	425 N	96 lbf

Accessories	Part Number	Description
Lightning protection kit	UNX-LPK	Copper air finial with 6m (20 ft) cable attached
Flag adapter kit	D3X-F	460 mm Trio ball and truck assembly
Mounting mast	D3X-M-120	460 mm flange welded to a 3 m (10 ft) pipe

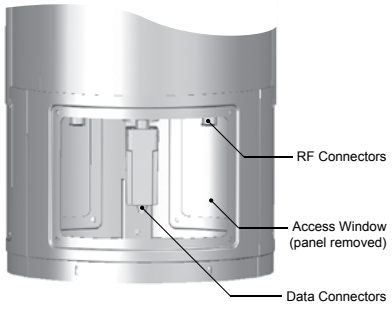
Flag adapter kit (ball & truck) shown on top of Trio Antenna is an optional accessory

Trio Flange Interface:



OD: 17.75 in (450.9 mm)
ID: 14.00 in (355.6 mm)
BCD: 12 x 0.56 dia (14.2 mm) mounting holes equally spaced on a 15.75 in (400.1 mm) bolt circle
Flange Thickness: 0.50 in (12.7 mm)

Removable panels provide easy access to RF and data cable connections.

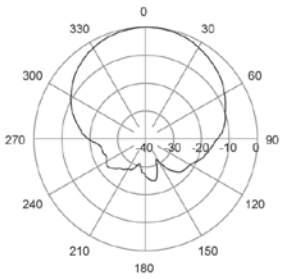


SL3X065X17x00

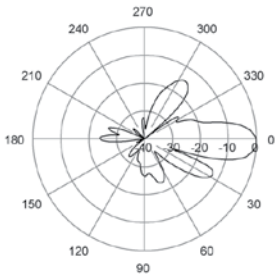
SL3X065X17M00 SL3X065X17R00

460 mm | X-Pol | VET TRIO | 65° | 14.5 dBi

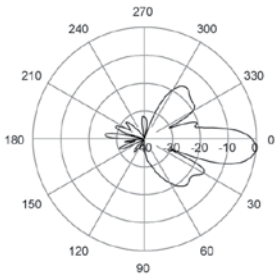
806-940 MHz



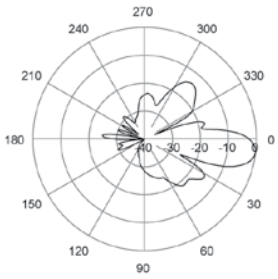
Horizontal



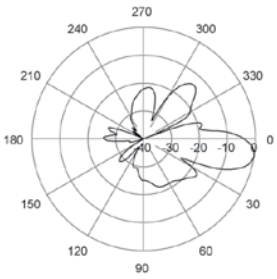
2° | Vertical



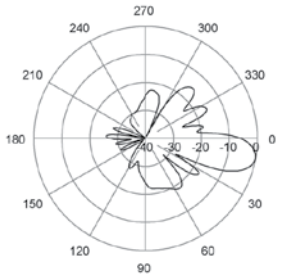
4° | Vertical



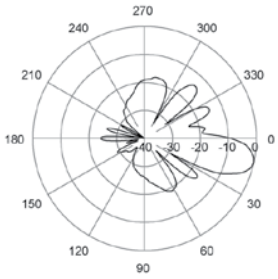
6° | Vertical



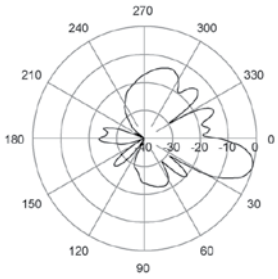
8° | Vertical



10° | Vertical



12° | Vertical



14° | Vertical

WB3X065T17x00

WB3X065T17M00 WB3X065T17R00

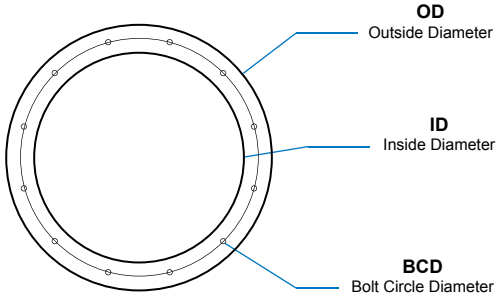
460 mm | XX-Pol | Twin Wideband VET TRIO | 65° | 17.5 dBi

Model number options (x):
WB3X065T17M00 Manual Electrical Tilt Antenna
WB3X065T17R00 Remote Electrical Tilt Antenna

Electrical Characteristics	1710-2170 MHz		
Frequency band	1710-1880 MHz	1850-1990 MHz	1900-2170 MHz
Polarization	±45°		
Horizontal beamwidth	68°	65°	62°
Vertical beamwidth	6.8°	6.6°	6.2°
Gain	14.4 dBd / 16.5 dBi	14.9 dBd / 17.0 dBi	15.4 dBd / 17.5 dBi
Electrical downtilt	2°-10°		
Impedance	50Ω		
VSWR	< 1.5:1		
1st upper side lobe	< -18 dB		
Inter-port isolation	> 30 dB		
Front-to-Back ratio	> 25 dB		
Maximum power per port	12 x 250 W		
Connector(s)	12 ports / 7/16-DIN / Female / Bottom		
RET Type / Part Number	6 x External / RETU-EA01		
Operating temperature	-40 to +60° C		-40 to +140° F
Mechanical Characteristics			
Overall Dimensions Height x Diameter	1727 x 457 mm		68 x 18 in
Weight	64 kg		140 lbs
Survival wind speed	200 km/hr		125 mph
Wind load @ 160 km/hr (100 mph)	425 N		96 lbf

Accessories	Part Number	Description
Lightning protection kit	UNX-LPK	Copper air finial with 6m (20 ft) cable attached
Flag adapter kit	D3X-F	460 mm Trio ball and truck assembly
Mounting mast	D3X-M-120	460 mm flange welded to a 3 m (10 ft) pipe

Trio Flange Interface:

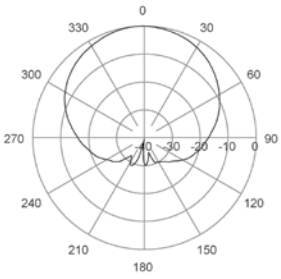


OD: 17.75 in (450.9 mm)
ID: 14.00 in (355.6 mm)

BCD: 12 x 0.56 dia (14.2 mm) mounting holes equally spaced on a 15.75 in (400.1 mm) bolt circle

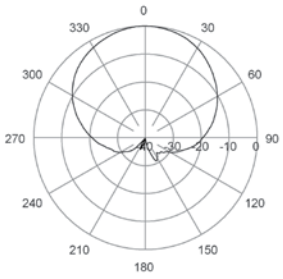
Flange Thickness: 0.50 in (12.7 mm)

1800 MHz



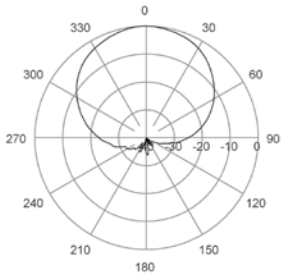
Horizontal

1900 MHz



Horizontal

2100 MHz

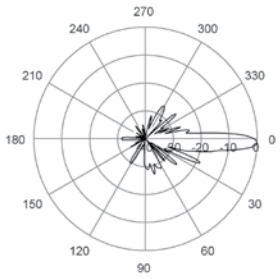
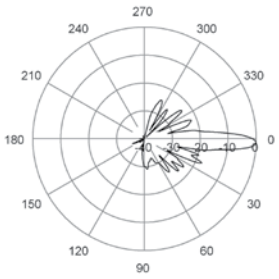
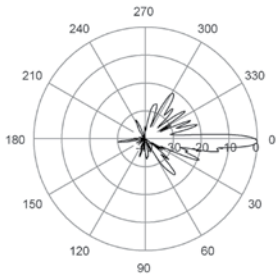
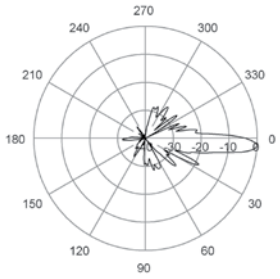
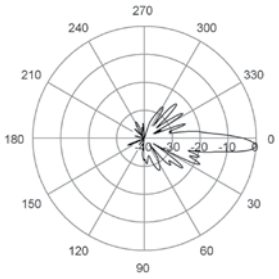
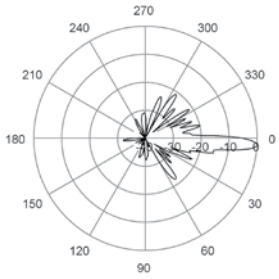
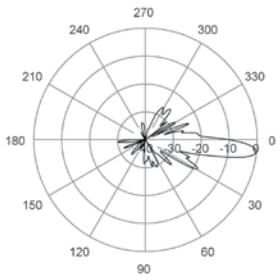
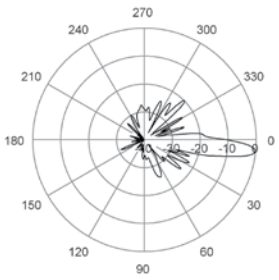
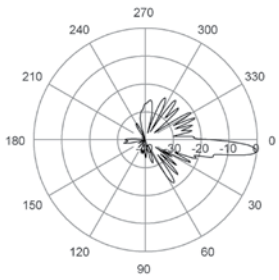
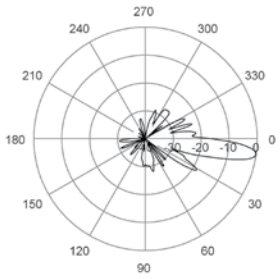
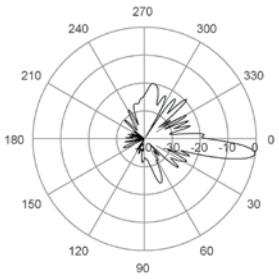
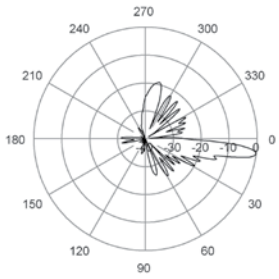
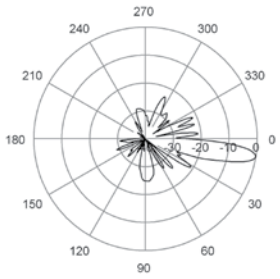
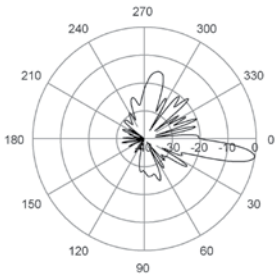
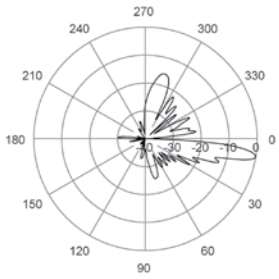


Horizontal

WB3X065T17x00

WB3X065T17M00 WB3X065T17R00

460 mm | XX-Pol | Twin Wideband VET TRIO | 65° | 17.5 dBi

1800 MHz	1900 MHz	2100 MHz
		
2° | Vertical	2° | Vertical	2° | Vertical
		
4° | Vertical	4° | Vertical	4° | Vertical
		
6° | Vertical	6° | Vertical	6° | Vertical
		
8° | Vertical	8° | Vertical	8° | Vertical
		
10° | Vertical	10° | Vertical	10° | Vertical

DS3X065X17x10

DS3X065X17M10 DS3X065X17R10

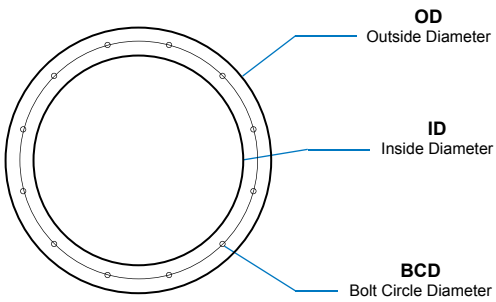
460 mm | XX-Pol | Dual Band VET TRIO w/Diplexer | 65° | 14.0/17.0 dBi

Model number options (x):
DS3X065X17M10 Manual Electrical Tilt Antenna
DS3X065X17R10 Remote Electrical Tilt Antenna

Electrical Characteristics	806-940 MHz	1710-2170 MHz		
Frequency band	806-940 MHz	1710-1880 MHz	1850-1990 MHz	1900-2170 MHz
Polarization	±45°	±45°		
Horizontal beamwidth	65°	65°	63°	60°
Vertical beamwidth	14.5°	6.8°	6.6°	6.2°
Gain	11.9 dBd / 14.0 dBi	13.9 dBd / 16.0 dBi	14.4 dBd / 16.5 dBi	14.9 dBd / 17.0 dBi
Electrical downtilt	2°-14°	2°-10°		
Impedance	50Ω	50Ω		
VSWR	< 1.5:1	< 1.5:1		
1st upper side lobe	< -16 dB typical	< -18 dB typical		
Inter-port isolation	> 25 dB	> 30 dB		
Inter-band isolation	> 25 dB	> 30 dB		
Front-to-Back ratio	> 25 dB	> 25 dB		
Maximum power per port	6 x 500 W	6 x 250 W		
Connector(s)	6 ports / 7/16-DIN / Female / Bottom			
RET Type / Part Number	6 x External / RETU-EA01			
Operating temperature	-40 to +60° C		-40 to +140° F	
Mechanical Characteristics				
Overall Dimensions Height x Diameter	1727 x 457 mm		68 x 18 in	
Weight	64 kg		140 lbs	
Survival wind speed	200 km/hr		125 mph	
Wind load @ 160 km/hr (100 mph)	425 N		96 lbf	
Accessories	Part Number	Description		
Lightning protection kit	UNX-LPK	Copper air finial with 6m (20 ft) cable attached		
Flag adapter kit	D3X-F	460 mm Trio ball and truck assembly		
Mounting mast	D3X-M-120	460 mm flange welded to a 3 m (10 ft) pipe		

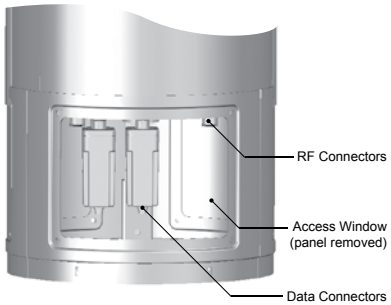
Flag adapter kit (ball & truck) shown on top of Trio Antenna is an optional accessory

Trio Flange Interface:



OD: 17.75 in (450.9 mm)
ID: 14.00 in (355.6 mm)
BCD: 12 x 0.56 dia (14.2 mm) mounting holes equally spaced on a 15.75 in (400.1 mm) bolt circle
Flange Thickness: 0.50 in (12.7 mm)

Removable panels provide easy access to RF and data cable connections.

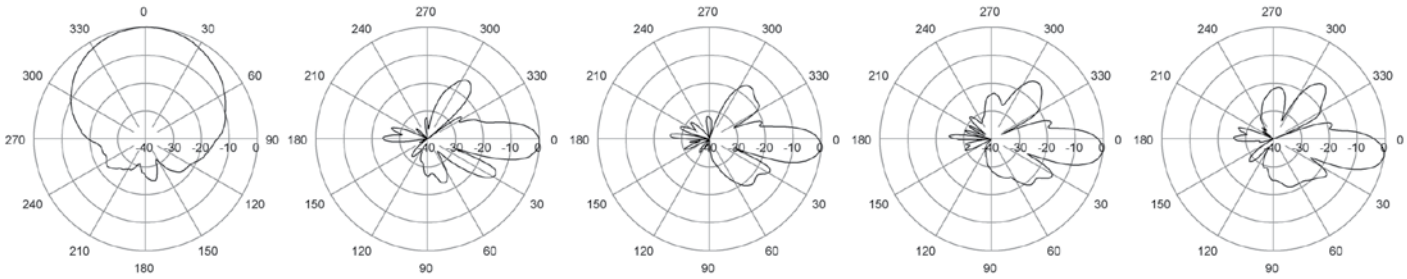


DS3X065X17x10

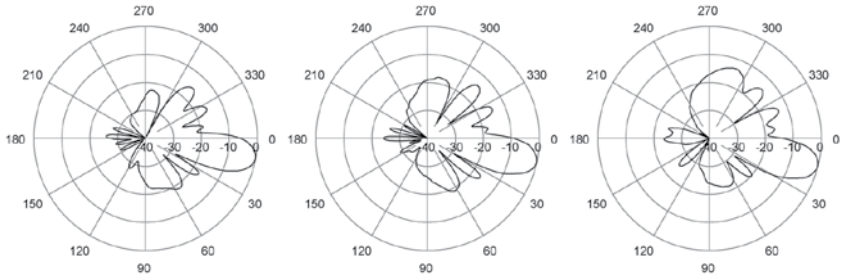
DS3X065X17M10 DS3X065X17R10

460 mm | XX-Pol | Dual Band VET TRIO w/Diplexer | 65° | 14.0/17.0 dBi

806-940 MHz

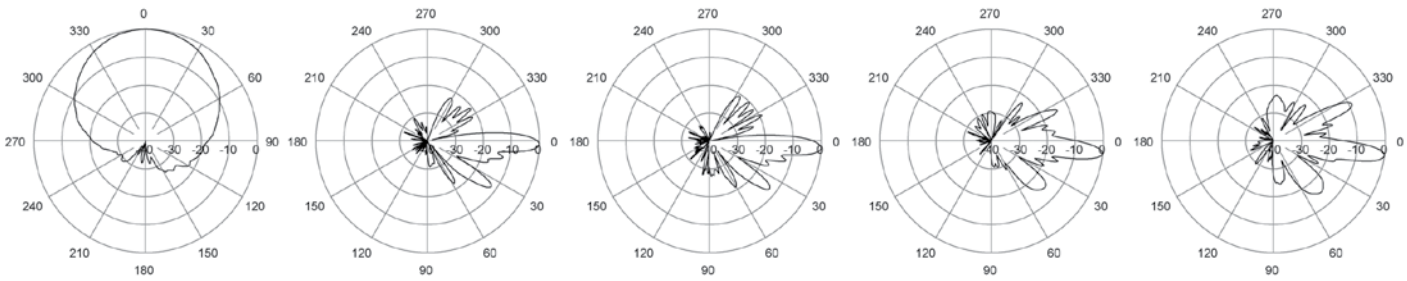


Horizontal | 2° | Vertical | 4° | Vertical | 6° | Vertical | 8° | Vertical

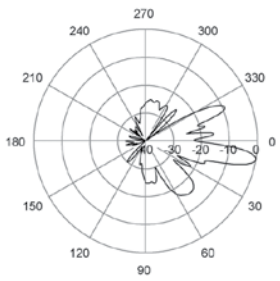


10° | Vertical | 12° | Vertical | 14° | Vertical

1710-2170 MHz



Horizontal | 2° | Vertical | 4° | Vertical | 6° | Vertical | 8° | Vertical



10° | Vertical

DS3X065X17x00

DS3X065X17M00 DS3X065X17R00

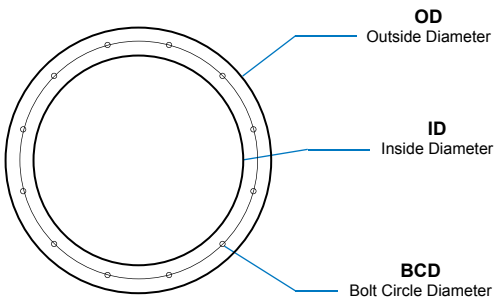
460 mm | XX-Pol | Dual Band VET TRIO | 65° | 14.5/17.5 dBi

Model number options (x):
DS3X065X17M00 Manual Electrical Tilt Antenna
DS3X065X17R00 Remote Electrical Tilt Antenna

Electrical Characteristics	806-940 MHz	1710-2170 MHz		
Frequency band	806-940 MHz	1710-1880 MHz	1850-1990 MHz	1900-2170 MHz
Polarization	±45°	±45°		
Horizontal beamwidth	65°	65°	63°	60°
Vertical beamwidth	14.5°	6.8°	6.6°	6.2°
Gain	12.4 dBd / 14.5 dBi	14.4 dBd / 16.5 dBi	14.9 dBd / 17.0 dBi	15.4 dBd / 17.5 dBi
Electrical downtilt	2°-14°	2°-10°		
Impedance	50Ω	50Ω		
VSWR	< 1.5:1	< 1.5:1		
1st upper side lobe	< -16 dB typical	< -18 dB typical		
Inter-port isolation	> 25 dB	> 30 dB		
Inter-band isolation	> 25 dB	> 30 dB		
Front-to-Back ratio	> 25 dB	> 25 dB		
Maximum power per port	6 x 500 W	6 x 250 W		
Connector(s)	12 ports / 7/16-DIN / Female / Bottom			
RET Type / Part Number	6 x External / RETU-EA01			
Operating temperature	-40 to +60° C		-40 to +140° F	
Mechanical Characteristics				
Overall Dimensions Height x Diameter	1727 x 457 mm		68 x 18 in	
Weight	64 kg		140 lbs	
Survival wind speed	200 km/hr		125 mph	
Wind load @ 160 km/hr (100 mph)	425 N		96 lbf	
Accessories	Part Number	Description		
Lightning protection kit	UNX-LPK	Copper air finial with 6m (20 ft) cable attached		
Flag adapter kit	D3X-F	460 mm Trio ball and truck assembly		
Mounting mast	D3X-M-120	460 mm flange welded to a 3 m (10 ft) pipe		

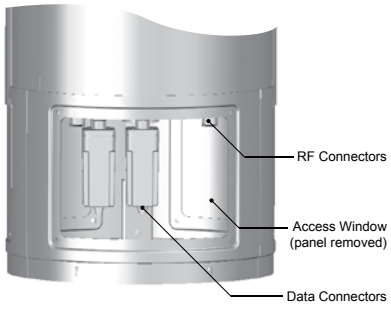
Flag adapter kit (ball & truck) shown on top of Trio Antenna is an optional accessory

Trio Flange Interface:



OD: 17.75 in (450.9 mm)
ID: 14.00 in (355.6 mm)
BCD: 12 x 0.56 dia (14.2 mm) mounting holes equally spaced on a 15.75 in (400.1 mm) bolt circle
Flange Thickness: 0.50 in (12.7 mm)

Removable panels provide easy access to RF and data cable connections.

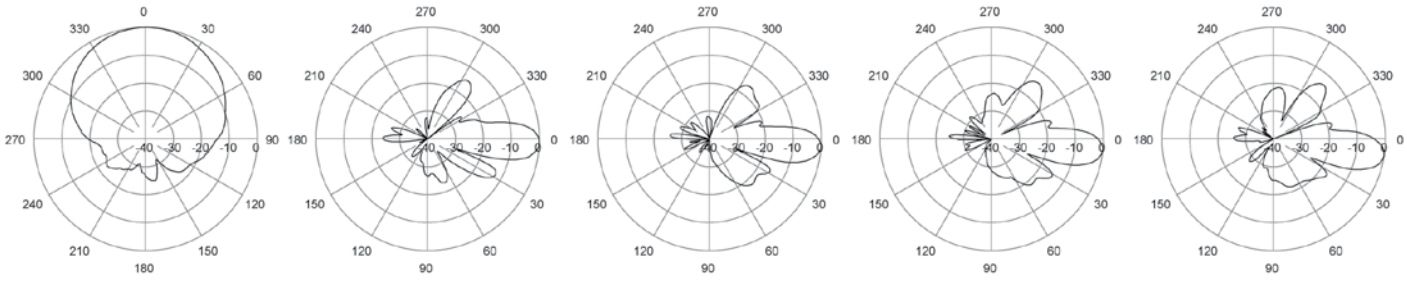


DS3X065X17x00

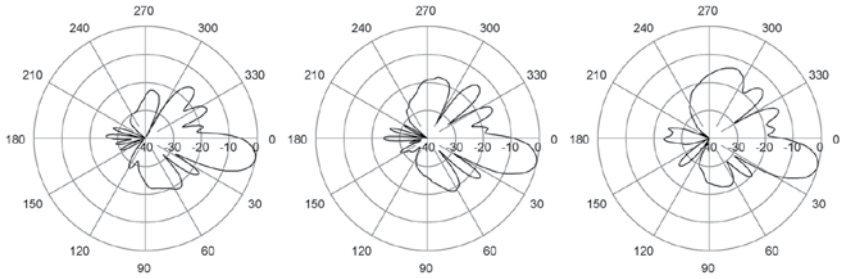
DS3X065X17M00 DS3X065X17R00

460 mm | XX-Pol | Dual Band VET TRIO | 65° | 14.5/17.5 dBi

806-940 MHz

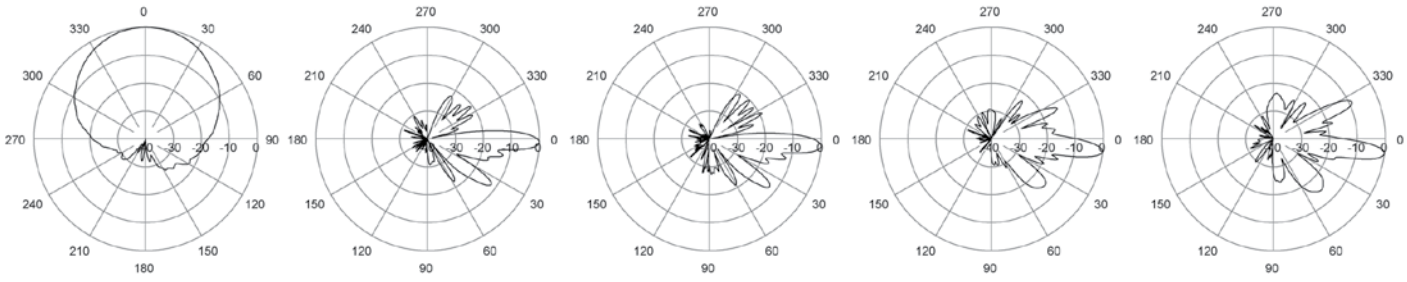


Horizontal | 2° | Vertical | 4° | Vertical | 6° | Vertical | 8° | Vertical

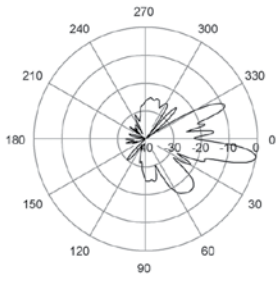


10° | Vertical | 12° | Vertical | 14° | Vertical

1710-2170 MHz



Horizontal | 2° | Vertical | 4° | Vertical | 6° | Vertical | 8° | Vertical



10° | Vertical

TW3X065X17x00

TW3X065X17M00 TW3X065X17R00

Model number options (x):
TW3X065X17M00 Manual Electrical Tilt Antenna
TW3X065X17R00 Remote Electrical Tilt Antenna

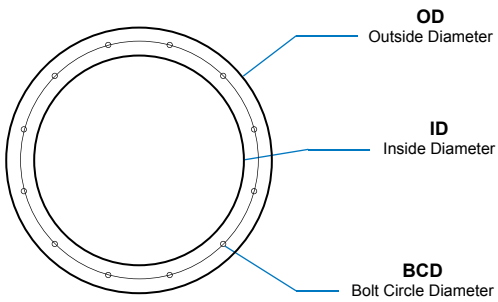
460 mm | XXX-Pol | Tri Band VET TRIO w/Diplexer | 65° | 14.0/17.0/17.0 dBi

Electrical Characteristics	824-960 MHz		1710-2170 MHz		
Frequency band	824-896 Mhz	870-960 MHz	1710-1880 MHz	1850-1990 MHz	1900-2170 MHz
Polarization	±45°		±45°		
Horizontal beamwidth	65°		65°	63°	60°
Vertical beamwidth	14.5°	14.0°	6.8°	6.6°	6.2°
Gain	11.9 dBd / 14.0 dBi		13.9 dBd / 16.0 dBi	14.4 dBd / 16.5 dBi	14.9 dBd / 17.0 dBi
Electrical downtilt	2°-14°		2°-10°		
Impedance	50Ω		50Ω		
VSWR	< 1.4:1	< 1.5:1	< 1.5:1		
1st upper side lobe	< -16 dB typical	< -18 dB typical	< -18 dB typical		
In band isolation	> 25 dB	> 30 dB	> 30 dB		
Inter-band isolation	> 25 dB	> 30 dB	> 30 dB		
Front-to-Back ratio	> 25 dB		> 25 dB		
Maximum power per port	6 x 500 W		12 x 250 W		
Connector(s)	12 ports / 7/16-DIN / Female / Bottom				
RET Type / Part Number	9 x External / RETU-EA01				
Operating temperature	-40 to +60° C		-40 to +140° F		

Mechanical Characteristics		
Overall Dimensions Height x Diameter	1727 x 457 mm	68 x 18 in
Weight	69 kg	152 lbs
Survival wind speed	200 km/hr	125 mph
Wind load @ 160 km/hr (100 mph)	425 N	96 lbf

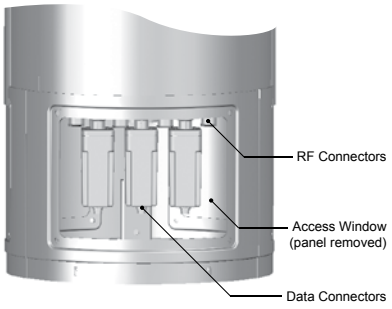
Accessories	Part Number	Description
Lightning protection kit	UNX-LPK	Copper air finial with 6m (20 ft) cable attached
Flag adapter kit	D3X-F	460 mm Trio ball and truck assembly
Mounting mast	D3X-M-120	460 mm flange welded to a 3 m (10 ft) pipe

Trio Flange Interface:



OD: 17.75 in (450.9 mm)
ID: 14.00 in (355.6 mm)
BCD: 12 x 0.56 dia (14.2 mm) mounting holes equally spaced on a 15.75 in (400.1 mm) bolt circle
Flange Thickness: 0.50 in (12.7 mm)

Removable panels provide easy access to RF and data cable connections.

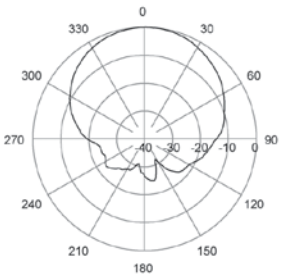


TW3X065X17x00

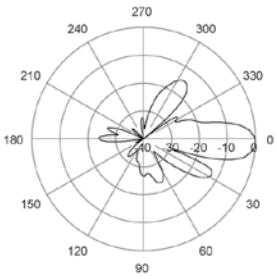
TW3X065X17M00 TW3X065X17R00

460 mm | XXX-Pol | Tri Band VET TRIO w/Diplexer | 65° | 14.0/17.0/17.0 dBi

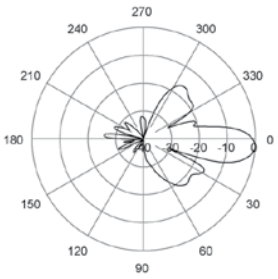
806-940 MHz



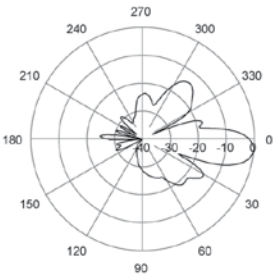
Horizontal



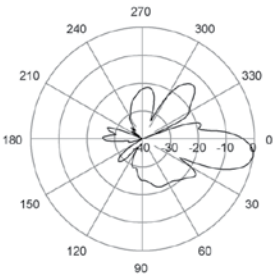
2° | Vertical



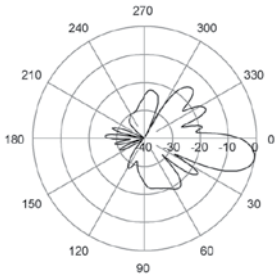
4° | Vertical



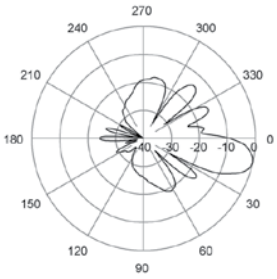
6° | Vertical



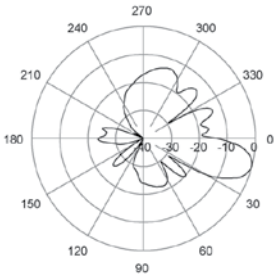
8° | Vertical



10° | Vertical

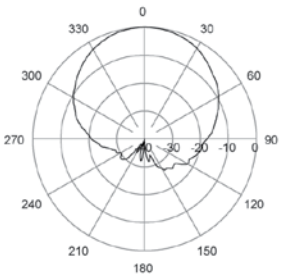


12° | Vertical

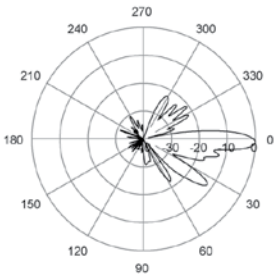


14° | Vertical

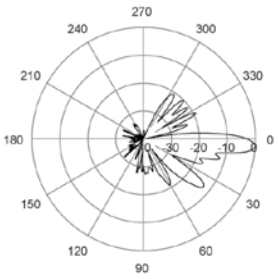
1710-2170 MHz



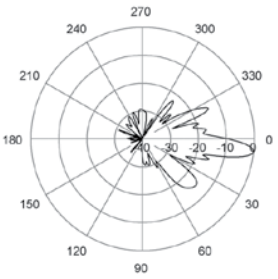
Horizontal



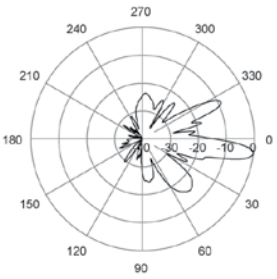
2° | Vertical



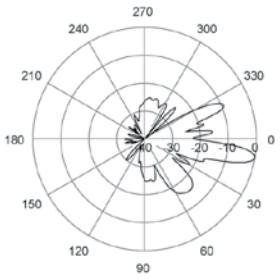
4° | Vertical



6° | Vertical

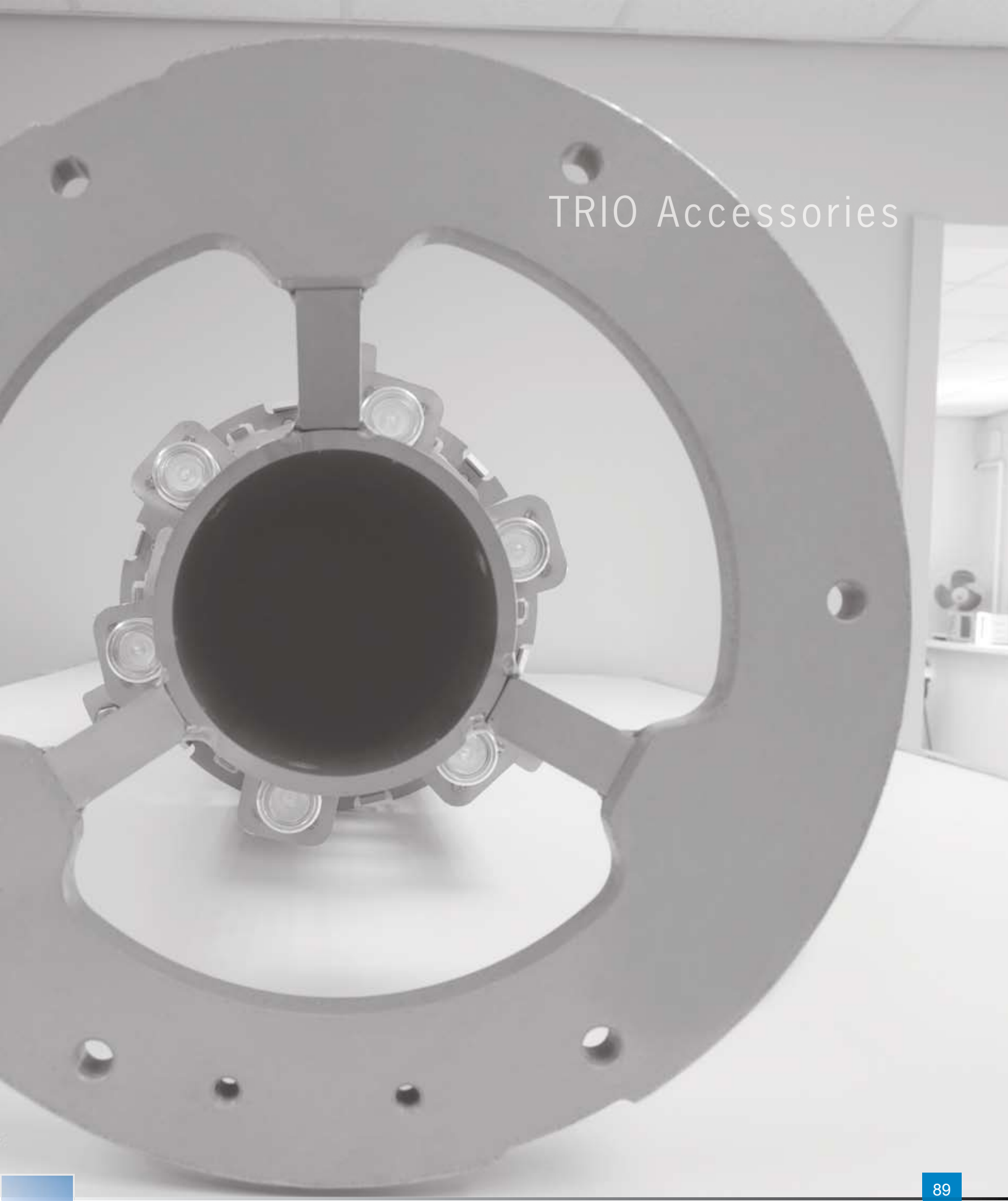


8° | Vertical



10° | Vertical

TRIO Accessories



TRIO ACCESSORIES

Amphenol Antenna Solutions provides optional accessories for the TRIO antennas product range to help simplify installation.

Flag Adapter Kit
Custom ball and truck assembly kit designed to simplify deployment of TRIO antennas as flag poles. Each kit includes a 305mm diameter anodized aluminum gold ball and a welded aluminum truck assembly.

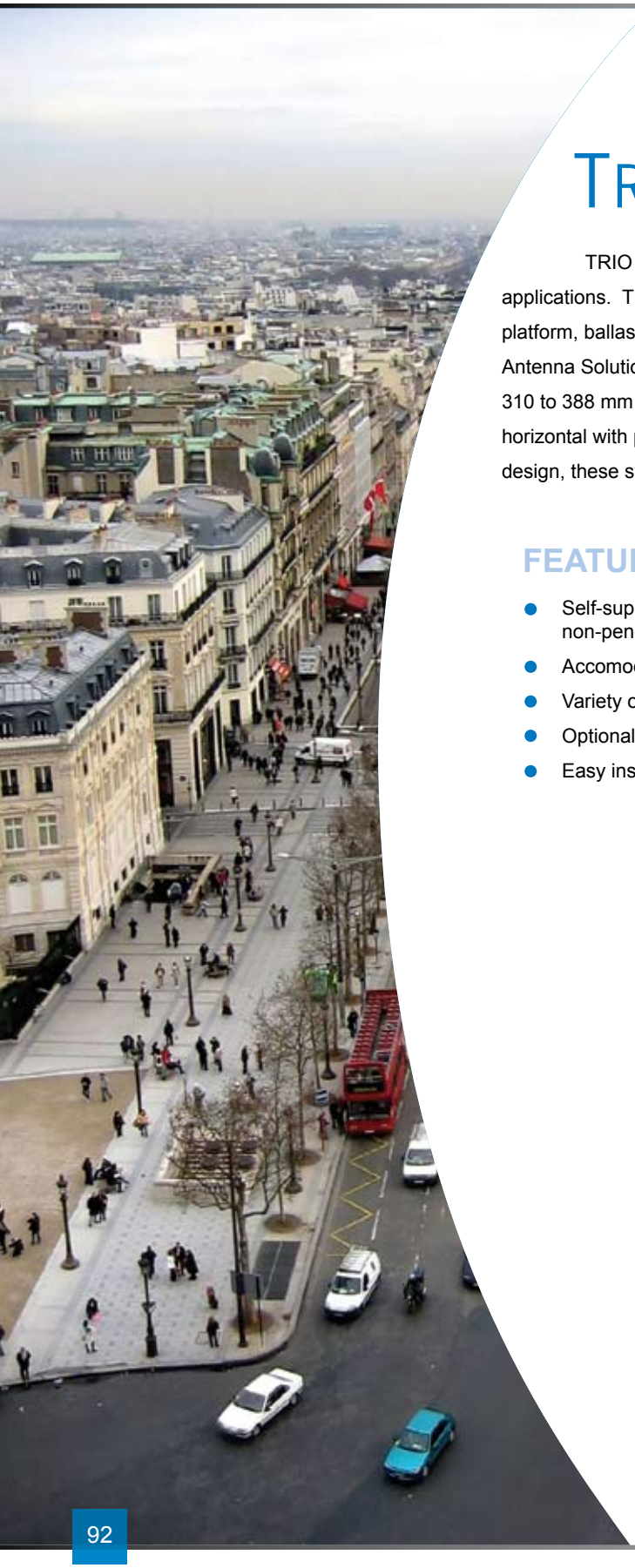
Lightning Protection Kit
18-inch (460 mm) copper air finial with a 20 ft (6 m) section of #4 AWG braided copper cable pre-attached. The kit provides all necessary hardware for installation on top of the TRIO antenna.

Mounting Mast
Interface flange welded to a 10 ft (3 m) steel mast pipe. The mast can be used with standard wall or pipe mounting kits to provide an inexpensive TRIO mounting system. Custom lengths are available upon request.

TRIO Extension
Same construction, diameter and appearance as TRIO antenna to house MHAs and simplify cable installation and weatherproofing.

TRIO Accessories Model Numbers

	TRIO Model Numbers	Trio Accessories Part Numbers				
		Flag Adapter Kit	Lightning Protection Kit	Mounting Mast	TRIO Extension	Non-Pentrating Platform compatible
TRIO191	WB3X080X06Fx50	--	--	--	--	No
	WB3X080X12Fx50	--	--	--	--	No
TRIO230	GSM3X75-13-A	--	integral	--	--	Yes
	GSM3X75-22-A	--	integral	--	--	Yes
	5162703	--	TRX-LPK	--	TRX230-E085-002	Yes
	5176703	--	TRX-LPK	--	TRX230-E085-002	Yes
	5230703	--	TRX-LPK	--	TRX230-E085-002	Yes
	WB3X072X18x00	W3X-F	UNX-LPK	W3X-M-120	--	No
	WB3X072X24x00	W3X-F	UNX-LPK	W3X-M-120	--	No
TRIO280	5066222	--	integral	--	--	Yes
	5067222	--	integral	--	--	Yes
TRIO310	5176903	--	TRX-LPK	--	TRX310-E085-001 TRX310-E085-002	Yes
	5230903	--	TRX-LPK	--	TRX310-E085-001 TRX310-E085-002	Yes
	5162903	--	TRX-LPK	--	TRX310-E085-001 TRX310-E085-002	Yes
	5863703	--	TRX-LPK	--	TRX310-E085-001 TRX310-E085-002	Yes
	5880713	--	TRX-LPK	--	TRX310-E085-001 TRX310-E085-002	Yes
TRIO325	5270500	--	integral	--	--	Yes
	5270200	--	integral	--	--	Yes
	5270400	integral	integral	--	--	No
TRIO380	5177703	--	TRX-LPK	--	TRX380-E085-001 TRX380-E085-002	Yes
	5860903	--	TRX-LPK	--	TRX380-E085-001 TRX380-E085-002	Yes
	5863903	--	TRX-LPK	--	TRX380-E085-001 TRX380-E085-002	Yes
	5880903	--	TRX-LPK	--	TRX380-E085-001 TRX380-E085-002	Yes
TRIO460	SL3X065X17x00	D3X-F	UNX-LPK	D3X-M-120	--	No
	WB3X065T17x00	D3X-F	UNX-LPK	D3X-M-120	--	No
	DS3X065X17x10	D3X-F	UNX-LPK	D3X-M-120	--	No
	DS3X065X17x00	D3X-F	UNX-LPK	D3X-M-120	--	No
	TW3X065X17x00	D3X-F	UNX-LPK	D3X-M-120	--	No

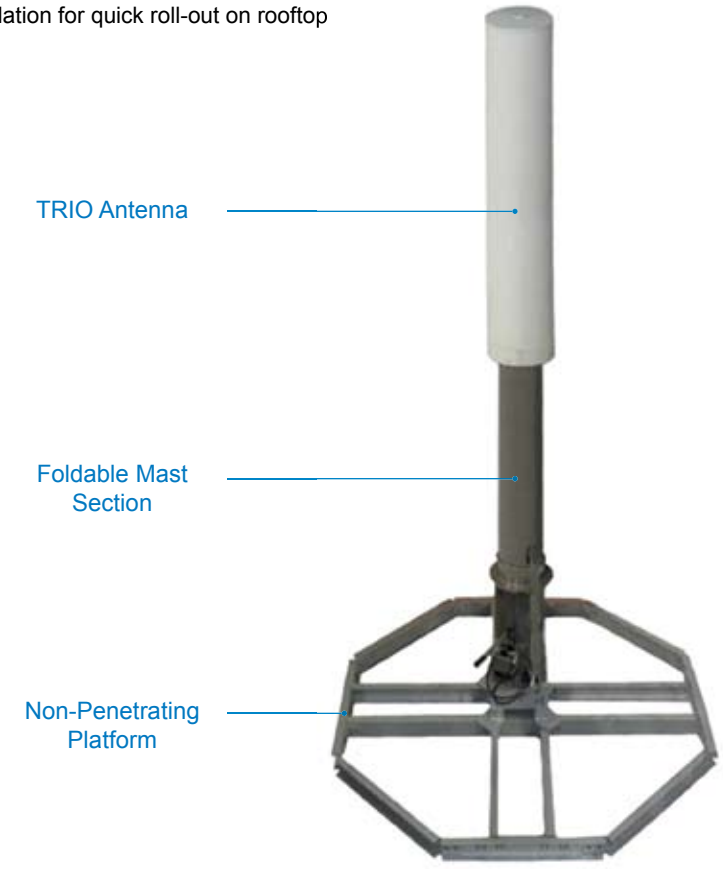


TRIO ANTENNA SUPPORTS

TRIO Antenna Supports provide quick and easy installation for TRIO rooftop applications. These ready-to-use system packages include non-penetrating octogonal platform, ballast, and foldable mast section to receive a Tri-Sector antenna from Amphenol Antenna Solutions' TRIO range. The mast section of the structure can also accommodate 310 to 388 mm diameter Trio Extensions for MHA housing and is foldable from vertical to horizontal with provision for optional manual hydraulic operation. With a low visual impact design, these systems help to achieve site approval in the most challenging environments.

FEATURES:

- Self-supporting foldable structure for a TRIO antenna on a non-penetrating platform
- Accomodates 230 mm, 310 mm and 388 mm diameter Trio antennas
- Variety of heights from 3.06 m to 7.91 m depending on antenna
- Optional manual hydraulic operation
- Easy installation for quick roll-out on rooftop



TRIO Antenna Support Model Numbers

Choose antenna, select needed height at the top, and find antenna support model number option.

TRIO Antenna	3.0 m - 3.9 m	4.0 m - 4.9 m	5.0 m - 5.9 m	6.0 m - 6.9 m	7.0 m - 7.9 m
5880903	--	TRX-M2-03B Top Height: 4.42m	TRX-L2-13B Top Height: 5.42 m	TRX-L2-23B Top Height: 6.42 m	TRX-L6-33B Top Height: 7.42 m
5880903 + TRIO Extension	--	--	TRX-L2-03C Top Height: 5.27 m	TRX-L2-13C Top Height: 6.27 m	TRX-L6-23C Top Height: 7.27 m
5860903	--	TRX-M2-03B Top Height: 4.42 m	TRX-L2-13B Top Height: 5.42 m	TRX-L2-23B Top Height: 6.42 m	TRX-L6-33B Top Height: 7.42 m
5860903 + TRIO Extension	--	--	TRX-L2-03C Top Height: 5.27 m	TRX-L2-13C Top Height: 6.27 m	TRX-L6-23C Top Height: 7.27 m
5863903	TRX-M0-03B Top Height: 3.64 m	TRX-M2-13B Top Height: 4.64 m	TRX-L2-23B Top Height: 5.64 m	TRX-L4-33B Top Height: 6.64 m	TRX-L6-43B Top Height: 7.64 m
5863903 + TRIO Extension	--	TRX-M2-03C Top Height: 4.49 m	TRX-L2-13C Top Height: 5.49 m	TRX-L2-23C Top Height: 6.49 m	TRX-L6-33C Top Height: 7.49 m
5177703	TRX-M0-03B Top Height: 3.06 m	TRX-M2-13B Top Height: 4.06 m	TRX-L2-23B Top Height: 5.06 m	TRX-L2-33B Top Height: 6.06 m	TRX-L6-43B Top Height: 7.06 m
5177703 + TRIO Extension	TRX-M0-03C Top Height: 3.91 m	TRX-L2-13C Top Height: 4.91 m	TRX-L2-23C Top Height: 5.91 m	TRX-L4-33C Top Height: 6.91 m	TRX-L6-43C Top Height: 7.91 m
5162903	TRX-S0-03B Top Height: 3.34 m	TRX-M0-13B Top Height: 4.34 m	TRX-L2-23B Top Height: 5.34 m	TRX-L2-33B Top Height: 6.34 m	TRX-L6-43B Top Height: 7.34 m
5162903 + TRIO Extension	--	TRX-M0-03C Top Height: 4.19 m	TRX-M2-13C Top Height: 5.19 m	TRX-L2-23C Top Height: 6.19 m	TRX-L4-33C Top Height: 7.19 m
5176903	TRX-S0-03B Top Height: 3.06 m	TRX-M0-13B Top Height: 4.06 m	TRX-M2-23B Top Height: 5.06 m	TRX-L2-33B Top Height: 6.06 m	TRX-L4-43B Top Height: 7.06 m
5176903 + TRIO Extension	TRX-M0-03C Top Height: 3.91 m	TRX-M2-13C Top Height: 4.91 m	TRX-L2-23C Top Height: 5.91 m	TRX-L4-33C Top Height: 6.91 m	TRX-L6-43C Top Height: 7.91 m
5880713	--	TRX-M0-03B Top Height: 4.42 m	TRX-L2-13B Top Height: 5.42 m	TRX-L2-23B Top Height: 6.42 m	TRX-L6-33B Top Height: 7.42 m
5880713 + TRIO Extension	--	--	TRX-L2-03C Top Height: 5.27 m	TRX-L2-13C Top Height: 6.27 m	TRX-L4-23C Top Height: 7.27 m
5863703	TRX-M0-03B Top Height: 3.65 m	TRX-M2-13B Top Height: 4.65 m	TRX-L2-23B Top Height: 5.65 m	TRX-L2-33B Top Height: 6.65 m	TRX-L6-43B Top Height: 7.65 m
5863703 + TRIO Extension	--	TRX-M2-03C Top Height: 4.5 m	TRX-L2-13C Top Height: 5.5 m	TRX-L2-23C Top Height: 6.5 m	TRX-L6-33C Top Height: 7.5 m
5162703	TRX-S0-02A Top Height: 3.29 m	TRX-M0-12A Top Height: 4.29 m	TRX-M2-22A Top Height: 5.29 m	TRX-L2-32A Top Height: 6.29 m	TRX-L2-42A Top Height: 7.29 m
5176703	TRX-S0-02A Top Height: 3.06 m	TRX-M0-12A Top Height: 4.06 m	TRX-M2-22A Top Height: 5.06 m	TRX-L2-32A Top Height: 6.06 m	TRX-L2-42A Top Height: 7.06 m
Optional Hydraulic Cylinder and Pump	TRX-HYD-01				

TRX-S0-02A* to TRX-L6-43C*

Heights from 3.06 mm to 7.91 mm | Self-supporting | Foldable

* Refer to the *TRIO Antenna Support Model Numbers* table on page 93 for available options.

Supporting Structure Mechanical Characteristics		
Total height including antenna (TOP)		**3.06 to 7.91 m** (above roof)
Platform footprints:	S size: M size: L size:	2040 x 2040 mm octogonal 2544 x 2544 mm octogonal 3378 x 3378 mm octogonal
Ballast		Installed in the platform. Ballast weight: 0 kg - 630 kg, depending on configuration. Ballast is supplied and made of concrete blocks.
Mast section diameters:	230 mm dia TRIO 310 mm dia TRIO 388 mm dia TRIO	273 mm 355 mm 355 mm
Weights of steel parts:	S size platform: M size platform: L size plateform: Masts:	419 kg 508 kg 624 kg 61 kg - 296 kg, depending on configuration
Material: Platform and mast: Standard mast paint color:		Hot dipped galvanized steel RAL7035 (same as antenna shroud) *Other optional colors available on request*
Wind Speed		Operational: 160 km/hr Survival: 200 km/hr
Installation		A detailed installation manual is supplied with the structure.

Hydraulic Mechanism

Option TRX-HYD-01

Manual hydraulic cylinder and pump

UNICELL Products

UNICELL

UNICELL enclosures are a family of cylindrical structures designed to accept and conceal three standard Amphenol Antenna Solutions dual polarized antennas. Like TRIO antennas, UNICELL enclosures blend into their surroundings enabling rapid site approval in sensitive urban environments.

UNICELL provides flexibility. Flexibility to change the tilt or pointing direction of an installed antenna; flexibility to replace an antenna with a different gain or azimuth beamwidth design; or the flexibility to change to completely new antenna technology as it becomes available or as network requirements dictate. UNICELL enclosures enable these changes without changing the visual appearance of the site!

FEATURES:

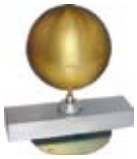
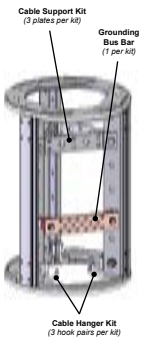
- 3-Sector antenna enclosures
- 2 diameters: 368 mm (14-inch) & 511 mm (20-inch)
- Removable concealment panels
- Easy field access to internal antennas
- Stackable to meet co-location requirements
- Azimuth panning and mechanical tilt kits available

UNICELL Enclosures

Enclosure Family	Diameter	Applications / Features	UNICELL Model Number		
			1830 mm (72 inch)	2435 mm (96 inch)	2745 mm (108 inch)
UNICELL 14	368 mm (14.5 inch)	• GSM 1800, PCS 1900, UMTS, AWS • Azimuth Swivel*	UNX14-14	UNX14-19	--
UNICELL 20	511 mm (20.1 inch)	• All frequency bands • ±30° Azimuth* • 4° Mechanical tilt*	UNX20-14	UNX20-19	UNX20-25

** Feature is available in certain antenna and Unicell combinations only. Please refer to individual antenna datasheet for full application and features.*

UNICELL Accessories

Accessory	Description	Accessory Part Number for use with:	
		UNICELL 14	UNICELL 20
	**Flag Adapter Kit** Custom ball and truck assembly kit designed to simplify deployment of TRIO antennas as flag poles. Each kit includes a 305mm diameter anodized aluminum gold ball and a welded aluminum truck assembly.	UNX14-F	UNX20-F
	**Lightning Protection Kit** 18-inch (460 mm) copper air finial with a 20 ft (6 m) section of #4 AWG braided copper cable pre-attached. The kit provides all necessary hardware for installation on top of the TRIO antenna.	UNX-LPK	UNX-LPK
	**Mounting Mast** Interface flange welded to a 10 ft (3 m) steel mast pipe. The mast can be used with standard wall or pipe mounting kits to provide an inexpensive Trio mounting system. Custom lengths are available upon request.	UNX14-M-120	UNX20-M-120
	**Cable Access Canister** Steel construction with same diameter and appearance as Unicell structure to simplify cable installation and weatherproofing.	UNX14-C	UNX20-C
	**Cable Support Kits** Three steel plates able to mount inside a cable access canister with holes to accept standard coaxial cable snap hooks.	UNX14-CSK	UNX20-CSK
	Grounding Bus Bar Kits Copper grounding bar sized to fit inside cable access canister cover with insulated supports.	UNX14-GBK	UNX20-GBK
	Cable Hanger Kit Bolt-on hooks that mount inside cable access canister to support standard cable hanging grips.	UNX-HK	UNX-HK

UNICELL and Antennas Compatibility

Each compatible UNICELL and Antenna sets will list the appropriate Mounting Kit and its azimuth & elevation features.

Unicell	Model Number	UNX14-14	UNX14-19	UNX20-14	UNX20-19	UNX20-25
800 MHz	B800X065-13-x	--	--	*Included* Fixed Az / Fixed El	*Included* Fixed Az / Fixed El	--
	B800X065-19-x	--	--	--	*Included* Fixed Az / Fixed El	*Included* Fixed Az / Fixed El
	B800X065-25-x	--	--	--	--	*Included* Fixed Az / Fixed El
	BMX065X13x000	*Included* ±25° Az / Fixed El	*Included* ±25° Az / Fixed El	UNX20-AZ ±30° Az / Fixed El	UNX20-AZ ±30° Az / Fixed El	--
	BMX090X13x000	*Included* ±25° Az / Fixed El	*Included* ±25° Az / Fixed El	UNX20-AZ ±30° Az / Fixed El	UNX20-AZ ±30° Az / Fixed El	--
1900 MHz	PCSX065-13-x	*Included* ±30° Az / Fixed El	*Included* ±30° Az / Fixed El	UNX20-TILT ±30° Az / 0-4° El	UNX20-TILT ±30° Az / 0-4° El	--
	PCSX065-18-x	--	*Included* ±30° Az / Fixed El	--	UNX20-TILT ±30° Az / 0-4° El	UNX20-TILT ±30° Az / 0-4° El
	PCSX065-18-xH	--	--	--	UNX20-TILT ±30° Az / 0-4° El	UNX20-TILT ±30° Az / 0-4° El
	PCSX065-19-x06	--	*Included* ±25° Az / Fixed El	--	UNX20-AZ ±30° Az / Fixed El	UNX20-AZ ±30° Az / Fixed El
	PCSX085-13-x	*Included* ±30° Az / Fixed El	*Included* ±30° Az / Fixed El	UNX20-TILT ±30° Az / 0-4° El	UNX20-TILT ±30° Az / 0-4° El	--
	PCSX085-18-x	--	*Included* ±30° Az / Fixed El	--	UNX20-TILT ±30° Az / 0-4° El	UNX20-TILT ±30° Az / 0-4° El
	PCSX085-19-x28	--	*Included* ±25° Az / Fixed El	--	UNX20-AZ ±30° Az / Fixed El	UNX20-AZ ±30° Az / Fixed El
1700-2170 MHz	W65-13-x010	*Included* ±25° Az / Fixed El	*Included* ±25° Az / Fixed El	UNX20-AZ ±30° Az / Fixed El	UNX20-AZ ±30° Az / Fixed El	--
	W65-19-A28	--	*Included* ±25° Az / Fixed El	--	UNX20-AZ ±30° Az / Fixed El	UNX20-AZ ±30° Az / Fixed El
	W65-19-x06	--	*Included* ±25° Az / Fixed El	--	UNX20-AZ ±30° Az / Fixed El	UNX20-AZ ±30° Az / Fixed El
	W85-13-x010	*Included* ±25° Az / Fixed El	*Included* ±25° Az / Fixed El	UNX20-AZ ±30° Az / Fixed El	UNX20-AZ ±30° Az / Fixed El	--
	W85-19-x28	--	*Included* ±25° Az / Fixed El	--	UNX20-AZ ±30° Az / Fixed El	UNX20-AZ ±30° Az / Fixed El
	WBX033X14x050	--	--	UNX20-WBX Fixed Az / Fixed El	--	--
	WBX033X17x050	--	--	--	UNX20-WBX Fixed Az / Fixed El	UNX20-WBX Fixed Az / Fixed El
	WBX045X17x050	--	--	--	UNX20-WBX Fixed Az / Fixed El	UNX20-WBX Fixed Az / Fixed El
	WBX065T17x050	--	--	--	UNX20-WBX Fixed Az / Fixed El	UNX20-WBX Fixed Az / Fixed El
	WBX065T20x050	--	--	--	UNX20-WBX Fixed Az / Fixed El	UNX20-WBX Fixed Az / Fixed El
	WBX065X10Fx00	*Included* ±30° Az / Fixed El	--	UNX20-TILT ±30° Az / 0-4° El	--	--
	WBX065X10x050	UNX14-WBX-AZ ±30° Az / Fixed El	--	UNX20-WBX-AZ ±30° Az / Fixed El	--	--
	WBX065X13Fx00	*Included* ±30° Az / Fixed El	*Included* ±30° Az / Fixed El	UNX20-TILT ±30° Az / 0-4° El	UNX20-TILT ±30° Az / 0-4° El	--
	WBX065X14x050	UNX14-WBX-AZ ±30° Az / Fixed El	UNX14-WBX-AZ ±30° Az / Fixed El	UNX20-WBX-AZ ±30° Az / Fixed El	UNX20-WBX-AZ ±30° Az / Fixed El	--
	WBX065X17x050	--	UNX14-WBX-AZ ±30° Az / Fixed El	--	UNX20-WBX-AZ ±30° Az / Fixed El	UNX20-WBX-AZ ±30° Az / Fixed El
	WBX065X18Fx00	--	*Included* ±30° Az / Fixed El	--	UNX20-TILT ±30° Az / 0-4° El	UNX20-TILT ±30° Az / 0-4° El
	WBX065X20x050	--	UNX14-WBX-AZ ±30° Az / Fixed El	--	UNX20-WBX-AZ ±30° Az / Fixed El	UNX20-WBX-AZ ±30° Az / Fixed El
	WBX085X10Fx00	*Included* ±30° Az / Fixed El	--	UNX20-TILT ±30° Az / 0-4° El	--	--
	WBX085X13Fx00	*Included* ±30° Az / Fixed El	*Included* ±30° Az / Fixed El	UNX20-TILT ±30° Az / 0-4° El	UNX20-TILT ±30° Az / 0-4° El	--
	WBX085X18Fx00	--	*Included* ±30° Az / Fixed El	--	UNX20-TILT ±30° Az / 0-4° El	UNX20-TILT ±30° Az / 0-4° El
	WWT65-13-x010	--	--	*Included* Fixed Az / Fixed El	*Included* Fixed Az / Fixed El	--
	WWT65-19-A28	--	--	--	*Included* Fixed Az / Fixed El	*Included* Fixed Az / Fixed El
	WWT65-19-X06	--	--	--	*Included* Fixed Az / Fixed El	*Included* Fixed Az / Fixed El
1710-2170 / 2400-2700 MHz	DMX065X20x050	--	--	--	UNX20-WBX Fixed Az / Fixed El	UNX20-WBX Fixed Az / Fixed El

UNX14-xx

14-inch diameter Antenna Enclosure

- 3-Sectors inside cylindrical enclosure
- Accommodates standard Amphenol Antenna Solutions cross-polarized antennas
- Independent azimuth adjustment per sector
- Stackable to satisfy co-location requirements
- Removable radome segments for easy field access

Mechanical Specifications				
Unicell Model Number (xx)	**UNX14-14**		**UNX14-19**	
Diameter of radome	368 mm	14.5 in	368 mm	14.5 in
Height	1829 mm	72 in	2438 mm	96 in
Weight *(excluding antennas)*	51.8 kg	114 lbs	60.9 kg	134 lbs
Antennas accommodated	See Unicell and Antenna Compatibility table or individual antenna datasheet.			
Azimuth swivel for antenna width < 7 in (177 mm)	Yes*		Yes*	
Azimuth swivel for antenna width > 7 in (177 mm)	No		No	
Mechanical tilt:	No		No	
Stackable	Yes		Yes	
Windload @ 100mph (160km/h)	363 N	82 lbf	484 N	109 lbf
Survival wind - single model	241 km/h	150 mph	241 km/h	150 mph
Survival wind - stacked models	241 km/h	150 mph	185 km/h	115 mph

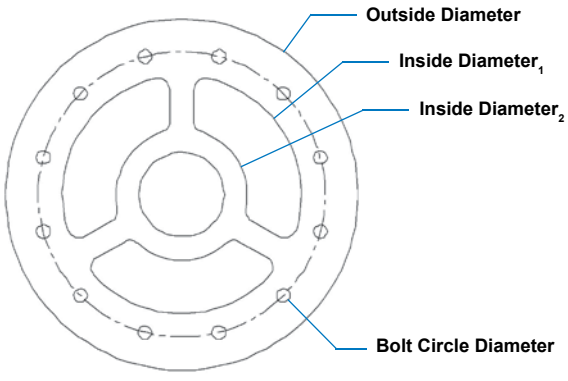
**Azimuth swivel will depend on antenna model used. See Unicell and Antenna Compatibility table for available features.*

Electrical Characteristics	
Gain loss through radome	< 0.3 dB
VSWR	< 1.4:1 Max
Port to port isolation	> 28 dB
Sector to sector isolation	> 45 dB
Front to back ratio	> 25 dB

Refer to individual antenna datasheets for all other electrical specifications.

Mounting Options	Part Number	Description
Mounting mast	UNX14-M-120	Mounting mast, 120 in x 14 in dia
Flag adapter kit	UNX14-F	14 in Unicell ball and truck assembly
Cable access canister	UNX14-C	14 in Unicell Canister
Lightning protection kit	UNX-LPK	Copper air finial with 6m (20 ft) cable attached

Unicell Flange Interface:



OD: 14.75 inches (374.7 mm)
ID1: 10.00 inches (254 mm)
ID2: 5.50 inches (139.7 mm)

BCD: 12 x 0.53 inch dia. (13.5 mm) on 12.0 inch dia. (304.8 mm) bolt circle

UNX20-xx

20-inch diameter Antenna Enclosure

- 3-Sectors inside cylindrical enclosure
- Accommodates a wide variety of Cellular, PCS, and WideBand antennas
- ± 30° independent azimuth adjustment per sector
- Stackable to satisfy co-location requirements
- Removable radome segments for easy field access

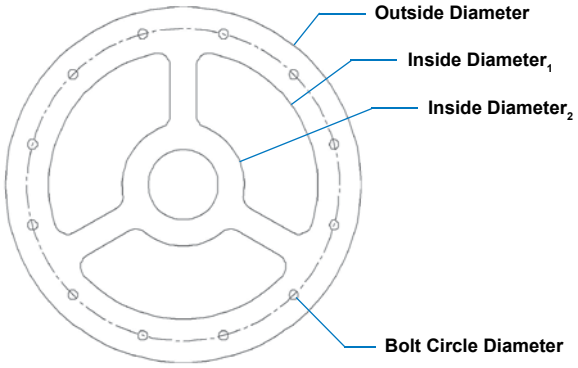
Mechanical Specifications						
Unicell Model Number (xx)	**UNX20-14**		**UNX20-19**		**UNX20-25**	
Diameter of radome	511 mm	20.1 in	511 mm	20.1 in	511 mm	20.1 in
Height	1829 mm	72 in	2438 mm	96 in	2743 mm	108 in
Weight *(excluding antennas)*	80.3 kg	177 lbs	90.0 kg	198 lbs	100.7 kg	222 lbs
Antennas accommodated	See Unicell and Antenna Compatibility table or individual antenna datasheet.					
Azimuth swivel for antenna width < 7 in (177 mm)	± 30° w/ optional mounting kit		± 30° w/ optional mounting kit		--	
Mechanical til for antenna width < 7 in (177 mm)	4° w/ optional mounting kit		4° w/ optional mounting kit		--	
Azimuth swivel for antenna width > 7 in (177 mm)	No		No		No	
Mechanical tilt for antenna width > 7 in (177 mm)	No		No		No	
Stackable	Yes		Yes		Yes	
Windload @ 100mph (160km/h)	463 N	104 lbf	606 N	136 lbf	770 N	173 lbf
Survival wind - single model	241 km/h	150 mph	241 km/h	150 mph	241 km/h	150 mph
Survival wind - stacked models	201 km/h	125 mph	160 km/h	100 mph	137 km/h	85 mph

Electrical Characteristics	
Gain loss through radome	< 0.3 dB
VSWR	< 1.4:1 Max
Port to port isolation	> 28 dB
Sector to sector isolation	> 45 dB
Front to back ratio	> 25 dB

Refer to individual antenna datasheets for all other electrical specifications.

Accessories	Part Number	Description
Mounting mast	UNX20-M-120	Mounting mast, 120 in x 20 in dia
Flag adapter kit	UNX20-F	20 in Unicell ball and truck assembly
Cable access canister	UNX20-C	20 in Unicell Canister
Lightning protection kit	UNX-LPK	Copper air finial with 6m (20 ft) cable attached

Unicell Flange Interface:



OD: 20.50 inches (520.7 mm)
ID1: 15.50 inches (393.7 mm)
ID2: 7.05 inches (179.1 mm)

BCD: 12 x 0.53 inch dia. (13.5 mm) on 18.0 inch dia. (457.2 mm) bolt circle

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