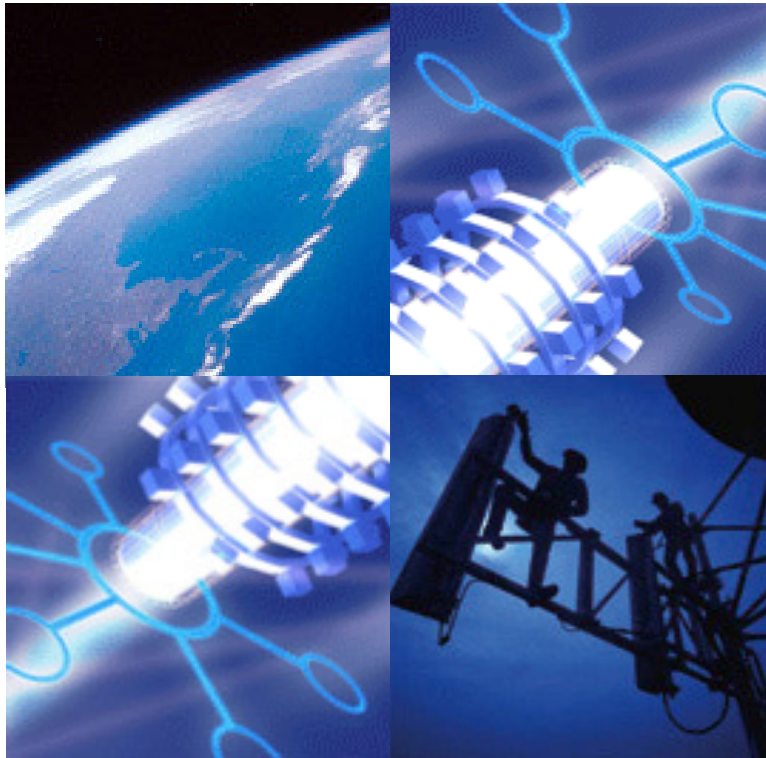






ABOUT RYMSA GROUP

RYMSA designs, manufactures and distributes a wide range of sophisticated antennas and components for the telecommunications industry. In operation for over 30 years, the firm has established its renown in radiation technology as applied to the fields of broadcasting, wireless, space and defense systems. With production and design facilities in Spain, the United States and Mexico, RYMSA provides innovative technical solutions tailored to meet the needs of its clients around the world.



30 years of antenna technology know-how applied to:
Innovation ▪ Performance ▪ Quality



RYMSA TELECOM DIVISION'S MISSION

The Telecom division's mission is to further the global reach of wireless telecommunications through continued development of high quality yet cost-effective antenna solutions to the mobile telecom industry. The company strives to meet and exceed the needs of its clientele around the world. To grow revenues and profitability RYMSA will look beyond existing markets and put particular emphasis on markets in the developing world.

COMPLEX ENGINEERING, SIMPLE SOLUTIONS

RYMSA Telecom has applied over 30 years of expertise and leadership to engineer elegantly simple solutions for complex wireless antenna problems. The company's focus has always been to develop high performance base station antennas that are rugged and reliable.

Leading-edge engineering innovations include:

- Protecta™ single-piece radome, designed to provide structural integrity while offering longlasting protection from the elements
- TruePol™ antenna cavity and dipole system designed to yield excellent cross-polar discrimination, gain, front-to-back ratio, and pattern symmetry for superior broadband performance
- AccuPattern™ phase shifter, allowing a wide range of beam tilt adjustments while maintaining sidelobe suppression

Today, the Telecom division develops antennas for all the major standards and bandwidths of wireless telephony: AMPS, Cellular 850, GSM 900, DCS 1800, PCS 1900, UMTS, AWS, etc., and its overriding technical performance objectives are:

- To perfect the integrity and uniformity of coverage patterns
- To maximize consistent signal strength in all areas of the cell to enable operators to make full use of capacity without degrading voice quality
- To optimize antenna form-factors in order to minimize tower loads and visual impact, while reducing installation and operating expenses.

The company's extensive portfolio includes:

- Panel antennas: Single-band and Multi-band antennas (Dual-Band, Tri-Band, Quad-Band)
- Indoor antennas and repeaters
- Roof-top and monopole antennas: Tri-sector multi-radome, Tri-sector mono-radome
- Remote Electrical Tilt system: the "RET" and the site control unit (SCU)

EXCEPTIONAL QUALITY AND RELIABILITY

RYMSA's top priority is to provide trouble-free products that minimize or even eliminate the need for operator intervention once they have been installed. The company consistently delivers this by continuously monitoring the manufacturing process. Finished products are subjected to a variety of punishing tests using the most modern tools: anechoic chamber, radiant patterns, environmental trials (temperature and humidity, corrosion, vibration, rain, wind resistance). RYMSA's Total Quality System is endorsed by the DIN EN ISO 9001 Certification Organization and 100 percent of RYMSA antennas are tested for passive intermodulation (PIM), ensuring that every antenna works dependably at peak performance.

OUTSTANDING CUSTOMER SERVICE

RYMSA Telecom is thoroughly committed to total customer satisfaction. Our exceptionally responsive customer service representatives make it easy to track orders and coordinate deliveries to ensure on-time installation. Skilled technical experts are available to answer installation questions and support installation crews.





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SINGLE-BAND PANEL ANTENNA

CELLULAR 850

Frequency	HBW	VBW	Gain (dBi)	Polarization	Tilt	Height (mm)	Model	Page
824 - 896	65°	7.5°	17,1	Vertical	Fixed 0°, 2°, 4°, 6°	2530	AT41-683TX	6
824 - 896	65°	7.5°	17,1	± 45°	Fixed 0°, 2°, 4°, 6°	2530	AT41-684TX	7
824 - 896	65°	7.5°	17,1	± 45°	Variable 0°-8°	2530	AT41-684TV	8
824 - 896	65°	10°	16,2	Vertical	Fixed 0°, 2°, 4°, 6°	1985	AT41-663TX	9
824 - 896	65°	10°	16,2	± 45°	Fixed 0°, 2°, 4°, 6°	1985	AT41-664TX	10
824 - 896	65°	10°	16,2	± 45°	Variable 0°-10°	1985	AT41-664TV	11
824 - 896	65°	15°	14,7	Vertical	Fixed 0°, 2°, 4°, 6°	1340	AT41-643TX	12
824 - 896	65°	15°	14,7	± 45°	Fixed 0°, 2°, 4°, 6°	1340	AT41-644TX	13
824 - 896	65°	15°	14,7	± 45°	Variable 0°-8°	1340	AT41-644TV	14
824 - 896	85°	7.5°	16	Vertical	Fixed 0°, 2°, 4°, 6°	2530	AT41-685TX	15
824 - 896	85°	7.5°	16	± 45°	Fixed 0°, 2°, 4°, 6°	2530	AT41-686TX	16
824 - 896	85°	7.5°	16	± 45°	Variable 0°-8°	2530	AT41-686TV	17
824 - 896	85°	10°	15	Vertical	Fixed 0°, 2°, 4°, 6°	1985	AT41-665TX	18
824 - 896	85°	10°	15	± 45°	Fixed 0°, 2°, 4°, 6°	1985	AT41-666TX	19
824 - 896	85°	10°	15	± 45°	Variable 0°-10°	1985	AT41-666TV	20
824 - 896	85°	15°	13,5	Vertical	Fixed 0°, 2°, 4°, 6°	1340	AT41-645TX	21
824 - 896	85°	15°	13,5	± 45°	Fixed 0°, 2°, 4°, 6°	1340	AT41-646TX	22
824 - 896	85°	15°	13,5	± 45°	Variable 0°-10°	1340	AT41-646TV	23

AT 41-683TX

SINGLE-BAND PANEL ANTENNA

CELLULAR 850

824-894
 H64° V7.6°
 Fixed Tilt
 0°, 2°, 4°, 6°

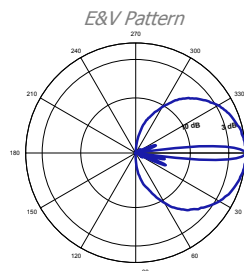
ELECTRICAL SPECIFICATIONS

CELLULAR 850

Antenna Model	AT41-683TX
Polarization	Vertical
Frequency (MHz)	824 - 894
Horizontal Beamwidth	64°
Vertical Beamwidth	7,6°
Gain (dBi)	17.1
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	18
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30
VSWR	< 1,4 : 1
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	1 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	1270
Lateral Windload @ 160 km/h (N)	260
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	22
Antenna Dimension (mm) H X W X D	2530 X 310 X 110



AT 41-684TX

SINGLE-BAND PANEL ANTENNA

CELLULAR 850

824-894

H64° V7.6°

Fixed Tilt
0°, 2°, 4°, 6°

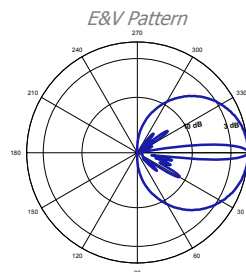
ELECTRICAL SPECIFICATIONS

CELLULAR 850

Antenna Model	AT41-684TX
Polarization	± 45°
Frequency (MHz)	824 - 894
Horizontal Beamwidth	64°
Vertical Beamwidth	7,6°
Gain (dBi)	17.1
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	16
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 12
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	1270
Lateral Windload (N)	260
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	22
Antenna Dimension (mm) H X W X D	2530 X 310 X 110



AT 41-684TV

SINGLE-BAND PANEL ANTENNA

CELLULAR 850

824-894

H64° V7.4°

Variable Tilt
0°-8°

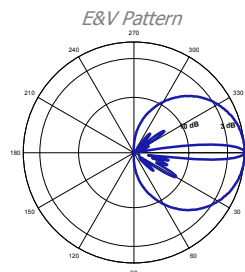
ELECTRICAL SPECIFICATIONS

CELLULAR 850

Antenna Model	AT41-684TV
Polarization	± 45°
Frequency (MHz)	824 - 894
Horizontal Beamwidth	64°
Vertical Beamwidth	7,4°
Gain (dBi)	17.1
Vertical Electrical Tilt	VARIABLE 0°-8°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	1270
Lateral Windload (N)	260
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	24
Antenna Dimension (mm) H X W X D	2530 X 310 X 110



AT 41-663TX

SINGLE-BAND PANEL ANTENNA

CELLULAR 850

824-894
 H64° V10.1°
 Fixed Tilt
 0°, 2°, 4°, 6°

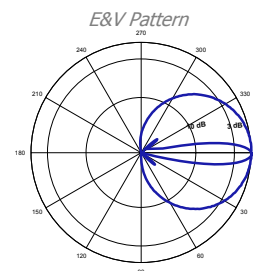
ELECTRICAL SPECIFICATIONS

CELLULAR 850

Antenna Model	AT41-663TX
Polarization	Vertical
Frequency (MHz)	824 - 894
Horizontal Beamwidth	64°
Vertical Beamwidth	10,1°
Gain (dBi)	16.2
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	18
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30
VSWR	< 1,4 : 1
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	1 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	970
Lateral Windload @ 160 km/h (N)	200
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	18
Antenna Dimension (mm) H X W X D	1985 X 310 X 110



AT 41-664TX

SINGLE-BAND PANEL ANTENNA

CELLULAR 850

824-894
 H64° V10.3°
 Fixed Tilt
 0°, 2°, 4°, 6°

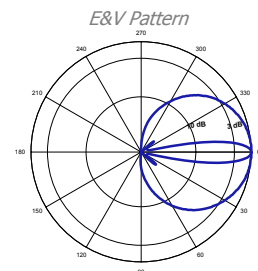
ELECTRICAL SPECIFICATIONS

CELLULAR 850

Antenna Model	AT41-664TX
Polarization	± 45°
Frequency (MHz)	824 - 894
Horizontal Beamwidth	64°
Vertical Beamwidth	10,3°
Gain (dBi)	16.2
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	22
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	970
Lateral Windload (N)	200
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	18
Antenna Dimension (mm) H X W X D	1985 X 310 X 110



AT 41-664TV

SINGLE-BAND PANEL ANTENNA

CELLULAR 850

824-894

H64° V10.5°

Variable Tilt
0°-10°

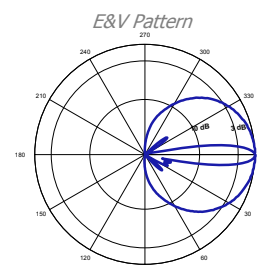
ELECTRICAL SPECIFICATIONS

CELLULAR 850

Antenna Model	AT41-664TV
Polarization	± 45°
Frequency (MHz)	824 - 894
Horizontal Beamwidth	64°
Vertical Beamwidth	10,5°
Gain (dBi)	16.2
Vertical Electrical Tilt	VARIABLE 0°-10°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	19
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	970
Lateral Windload (N)	200
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	20
Antenna Dimension (mm) H X W X D	1985 X 310 X 110



AT 41-643TX

SINGLE-BAND PANEL ANTENNA

CELLULAR 850

824-894

H64° V15°

Fixed Tilt
0°, 2°, 4°, 6°

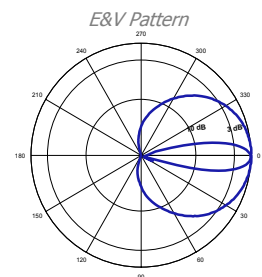
ELECTRICAL SPECIFICATIONS

CELLULAR 850

Antenna Model	AT 41-643TX
Polarization	Vertical
Frequency (MHz)	824 - 894
Horizontal Beamwidth	64°
Vertical Beamwidth	15°
Gain (dBi)	14.7
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	20
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 27
VSWR	< 1,4 : 1
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	1 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	670
Lateral Windload @ 160 km/h (N)	130
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	13
Antenna Dimension (mm) H X W X D	1340 X 310 X 110



AT 41-644TX

SINGLE-BAND PANEL ANTENNA

CELLULAR 850

824-894

H64° V15°

Fixed Tilt
0°, 2°, 4°, 6°

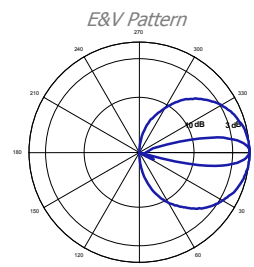
ELECTRICAL SPECIFICATIONS

CELLULAR 850

Antenna Model	AT 41-644TX
Polarization	± 45°
Frequency (MHz)	824 - 894
Horizontal Beamwidth	64°
Vertical Beamwidth	15°
Gain (dBi)	14.7
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	20
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 12
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	670
Lateral Windload (N)	130
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	13
Antenna Dimension (mm) H X W X D	1340 X 310 X 110



AT 41-644TV

SINGLE-BAND PANEL ANTENNA

CELLULAR 850

824-894

H64° V15°

Variable Tilt
0°-8°

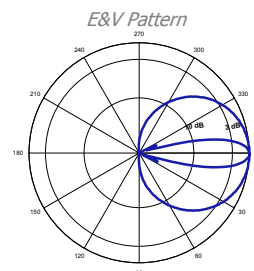
ELECTRICAL SPECIFICATIONS

CELLULAR 850

Antenna Model	AT 41-644TV
Polarization	± 45°
Frequency (MHz)	824 - 894
Horizontal Beamwidth	64°
Vertical Beamwidth	15°
Gain (dBi)	14.7
Vertical Electrical Tilt	VARIABLE 0°-8°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	20
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 12
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	670
Lateral Windload (N)	130
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	15
Antenna Dimension (mm) H X W X D	1340 X 310 X 110



AT 41-685TX

SINGLE-BAND PANEL ANTENNA

CELLULAR 850

824-894

H88° V7.8°

Fixed Tilt
0°, 2°, 4°, 6°

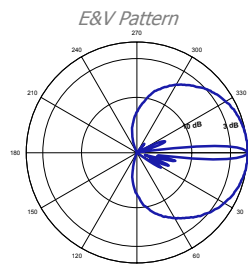
ELECTRICAL SPECIFICATIONS

CELLULAR 850

Antenna Model	AT41-685TX
Polarization	Vertical
Frequency (MHz)	824 - 894
Horizontal Beamwidth	88°
Vertical Beamwidth	7,8°
Gain (dBi)	16
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	22
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 22
VSWR	< 1,4 : 1
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	1 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	1270
Lateral Windload @ 160 km/h (N)	260
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	22
Antenna Dimension (mm) H X W X D	2530 X 310 X 110



AT 41-686TX

SINGLE-BAND PANEL ANTENNA

CELLULAR 850

824-894

H88° V7.8°

Fixed Tilt
0°, 2°, 4°, 6°

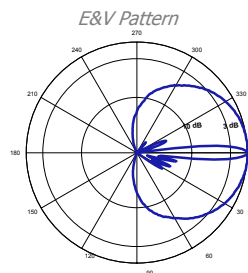
ELECTRICAL SPECIFICATIONS

CELLULAR 850

Antenna Model	AT41-686TX
Polarization	± 45°
Frequency (MHz)	824 - 894
Horizontal Beamwidth	88°
Vertical Beamwidth	7,8°
Gain (dBi)	16
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	19
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 25
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	1270
Lateral Windload (N)	260
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	22
Antenna Dimension (mm) H X W X D	2530 X 310 X 110



AT 41-686TV

SINGLE-BAND PANEL ANTENNA

CELLULAR 850

824-894

H88° V7.6°

Variable Tilt
0°-8°

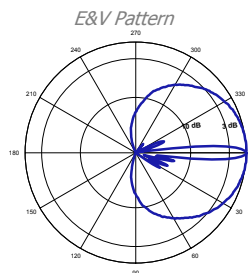
ELECTRICAL SPECIFICATIONS

CELLULAR 850

Antenna Model	AT41-686TV
Polarization	± 45°
Frequency (MHz)	824 - 894
Horizontal Beamwidth	88°
Vertical Beamwidth	7,6°
Gain (dBi)	16
Vertical Electrical Tilt	VARIABLE 0°-8°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	16
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 22
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	1270
Lateral Windload (N)	260
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	24
Antenna Dimension (mm) H X W X D	2530 X 310 X 110



AT 41-665TX

SINGLE-BAND PANEL ANTENNA

CELLULAR 850

824-894

H88° V10.1°

Fixed Tilt
0°, 2°, 4°, 6°

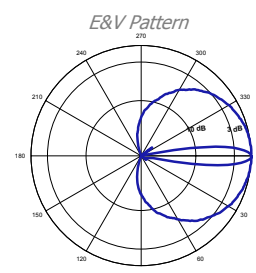
ELECTRICAL SPECIFICATIONS

CELLULAR 850

Antenna Model	AT41-665TX
Polarization	Vertical
Frequency (MHz)	824 - 894
Horizontal Beamwidth	88°
Vertical Beamwidth	10,1°
Gain (dBi)	15
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	23
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 25
VSWR	< 1,4 : 1
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	1 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	970
Lateral Windload @ 160 km/h (N)	200
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	18
Antenna Dimension (mm) H X W X D	1985 X 310 X 110



AT 41-666TX

SINGLE-BAND PANEL ANTENNA

CELLULAR 850

824-894

H88° V10.3°

Fixed Tilt
0°, 2°, 4°, 6°

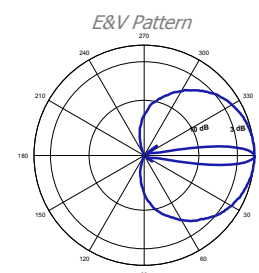
ELECTRICAL SPECIFICATIONS

CELLULAR 850

Antenna Model	AT41-666TX
Polarization	± 45°
Frequency (MHz)	824 - 894
Horizontal Beamwidth	88°
Vertical Beamwidth	10,3°
Gain (dBi)	15
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	20
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 25
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	970
Lateral Windload (N)	200
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	18
Antenna Dimension (mm) H X W X D	1985 X 310 X 110



AT 41-666TV

SINGLE-BAND PANEL ANTENNA

CELLULAR 850

824-894

H88° V10.4°

Variable Tilt
0°-10°

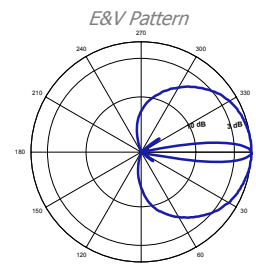
ELECTRICAL SPECIFICATIONS

CELLULAR 850

Antenna Model	AT41-666TV
Polarization	± 45°
Frequency (MHz)	824 - 894
Horizontal Beamwidth	88°
Vertical Beamwidth	10,4°
Gain (dBi)	15
Vertical Electrical Tilt	VARIABLE 0°-10°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	21
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 25
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	970
Lateral Windload (N)	200
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	20
Antenna Dimension (mm) H X W X D	1985 X 310 X 110



AT 41-645TX

SINGLE-BAND PANEL ANTENNA

CELLULAR 850

824-894
 H88° V15.2°
 Fixed Tilt
 0°, 2°, 4°, 6°

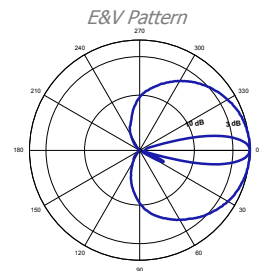
ELECTRICAL SPECIFICATIONS

CELLULAR 850

Antenna Model	AT 41-645TX
Polarization	Vertical
Frequency (MHz)	824 - 894
Horizontal Beamwidth	88°
Vertical Beamwidth	15,2°
Gain (dBi)	13.5
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	20
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 23
VSWR	< 1,4 : 1
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	1 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	670
Lateral Windload @ 160 km/h (N)	130
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	13
Antenna Dimension (mm) H X W X D	1340 X 310 X 110



AT 41-646TX

SINGLE-BAND PANEL ANTENNA

CELLULAR 850

824-894

H88° V15.3°

Fixed Tilt
0°, 2°, 4°, 6°

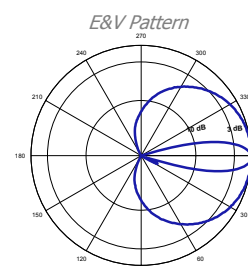
ELECTRICAL SPECIFICATIONS

CELLULAR 850

Antenna Model	AT 41-646TX
Polarization	± 45°
Frequency (MHz)	824 - 894
Horizontal Beamwidth	88°
Vertical Beamwidth	15,3°
Gain (dBi)	13.5
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	18
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 23
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 12
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	670
Lateral Windload (N)	130
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	13
Antenna Dimension (mm) H X W X D	1340 X 310 X 110



AT 41-646TV

SINGLE-BAND PANEL ANTENNA

CELLULAR 850

824-894

H88° V15°

Variable Tilt
0°-10°

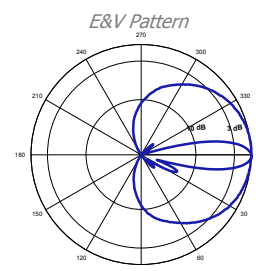
ELECTRICAL SPECIFICATIONS

CELLULAR 850

Antenna Model	AT 41-646TV
Polarization	± 45°
Frequency (MHz)	824 - 894
Horizontal Beamwidth	88°
Vertical Beamwidth	15°
Gain (dBi)	13.5
Vertical Electrical Tilt	VARIABLE 0°-10°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	18
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 23
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 12
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	670
Lateral Windload (N)	130
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	15
Antenna Dimension (mm) H X W X D	1340 X 310 X 110



SINGLE-BAND PANEL ANTENNA

GSM 900

Frequency	HBW	VBW	Gain (dBi)	Polarization	Tilt	Height (mm)	Model	Page
870 - 960	65°	7.5°	17,5	Vertical	Fixed 2°, 6°	2530	AT42-683TX	25
870 - 960	65°	7.5°	17,5	± 45°	Fixed 0°, 2°, 4°, 6°	2530	AT42-684TX	26
870 - 960	65°	7.5°	17,5	± 45°	Variable 0°-8°	2530	AT42-684TV	27
870 - 960	65°	10°	16,6	Vertical	Fixed 0°	1985	AT42-663TX	28
870 - 960	65°	10°	16,6	± 45°	Fixed 0°, 6°	1985	AT42-664TX	29
870 - 960	65°	10°	16,6	± 45°	Variable 0°-10°	1985	AT42-664TV	30
870 - 960	68°	14.5°	15,1	Vertical	Fixed 0°	1340	AT42-643TX	31
870 - 960	65°	14.5°	15,1	± 45°	Fixed 0°	1340	AT42-644TX	32
870 - 960	65°	14.5°	15,1	± 45°	Variable 0°-8°	1340	AT42-644TV	33
870 - 960	85°	7.5°	16,2	Vertical	Fixed 0°, 2°, 3°, 6	2530	AT42-685TX	34
870 - 960	85°	7.5°	16,2	± 45°	Fixed 0°	2530	AT42-686TX	35
870 - 960	85°	7.5°	16,2	± 45°	Variable 0°-8°	2530	AT42-686TV	36
870 - 960	85°	10°	15,3	Vertical	Fixed 0°, 6°	1985	AT42-665TX	37
870 - 960	85°	10°	15,3	± 45°	Fixed 0°	1985	AT42-666TX	38
870 - 960	85°	10°	15,3	± 45°	Variable 0°-10°	1985	AT42-666TV	39
870 - 960	85°	14.5°	13,8	Vertical	Fixed 0°	1340	AT42-645TX	40
870 - 960	85°	14.5°	13,8	± 45°	Fixed 0°	1340	AT42-646TX	41
870 - 960	85°	14.5°	13,8	± 45°	Variable 0°-10°	1340	AT42-646TV	42

AT 42-683TX

SINGLE-BAND PANEL ANTENNA

GSM 900

870-960
 H64° V7.1°
 Fixed Tilt
 2°, 6°

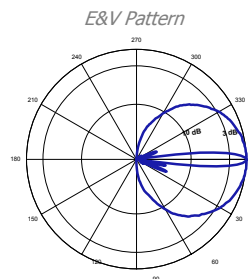
ELECTRICAL SPECIFICATIONS

GSM 900

Antenna Model	AT42-683TX
Polarization	Vertical
Frequency (MHz)	870 - 960
Horizontal Beamwidth	64°
Vertical Beamwidth	7,1°
Gain (dBi)	17.5
Vertical Electrical Tilt	FIXED 2°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	18
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30
VSWR	< 1,4 : 1
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	1 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	1270
Lateral Windload @ 160 km/h (N)	260
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	22
Antenna Dimension (mm) H X W X D	2530 X 310 X 110



AT 42-684TX

SINGLE-BAND PANEL ANTENNA

GSM 900

870-960
 H64° V7.2°
 Fixed Tilt
 0°, 2°, 4°, 6°

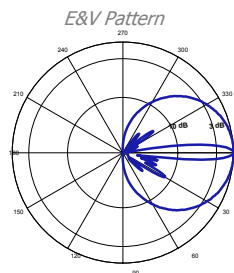
ELECTRICAL SPECIFICATIONS

GSM 900

Antenna Model	AT42-684TX
Polarization	± 45°
Frequency (MHz)	870 - 960
Horizontal Beamwidth	64°
Vertical Beamwidth	7,2°
Gain (dBi)	17.5
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	16
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 12
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance ()	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	1270
Lateral Windload (N)	260
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	22
Antenna Dimension (mm) H X W X D	2530 X 310 X 110



AT 42-684TV

SINGLE-BAND PANEL ANTENNA

GSM 900

870-960

H64° V7.4°

Variable Tilt
0°-8°

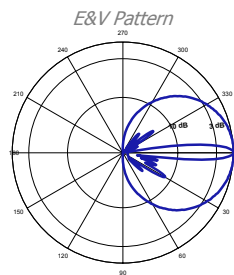
ELECTRICAL SPECIFICATIONS

GSM 900

Antenna Model	AT42-684TV
Polarization	± 45°
Frequency (MHz)	870 - 960
Horizontal Beamwidth	64°
Vertical Beamwidth	7,4°
Gain (dBi)	17.5
Vertical Electrical Tilt	VARIABLE 0°-8°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	1270
Lateral Windload (N)	260
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	24
Antenna Dimension (mm) H X W X D	2530 X 310 X 110



AT 42-663TX

SINGLE-BAND PANEL ANTENNA

GSM 900

870-960
 H64° V10.3°
 Fixed Tilt
 0°

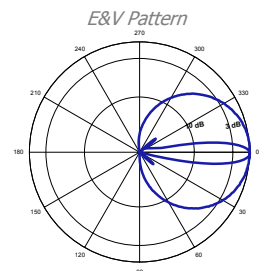
ELECTRICAL SPECIFICATIONS

GSM 900

Antenna Model	AT42-663TX
Polarization	Vertical
Frequency (MHz)	870 - 960
Horizontal Beamwidth	64°
Vertical Beamwidth	10,3°
Gain (dBi)	16.6
Vertical Electrical Tilt	FIXED 0°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	18
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30
VSWR	< 1,4 : 1
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	1 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	970
Lateral Windload @ 160 km/h (N)	200
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	18
Antenna Dimension (mm) H X W X D	1985 X 310 X 110



AT 42-664TX

SINGLE-BAND PANEL ANTENNA

GSM 900

870-960
 H64° V10.5°
 Fixed Tilt
 0°, 6°

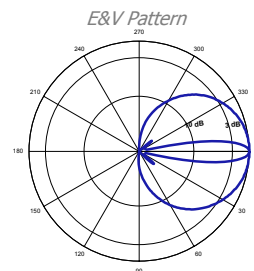
ELECTRICAL SPECIFICATIONS

GSM 900

Antenna Model	AT42-664TX
Polarization	± 45°
Frequency (MHz)	870 - 960
Horizontal Beamwidth	64°
Vertical Beamwidth	10,5°
Gain (dBi)	16.6
Vertical Electrical Tilt	FIXED 0°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	22
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	970
Lateral Windload (N)	200
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	18
Antenna Dimension (mm) H X W X D	1985 X 310 X 110



AT 42-664TV

SINGLE-BAND PANEL ANTENNA

GSM 900

870-960
 H64° V10.4°
 Variable Tilt
 0°-10°

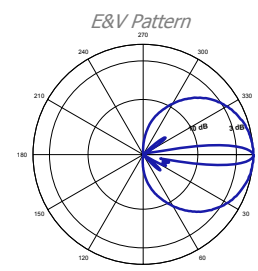
ELECTRICAL SPECIFICATIONS

GSM 900

Antenna Model	AT42-664TV
Polarization	± 45°
Frequency (MHz)	870 - 960
Horizontal Beamwidth	64°
Vertical Beamwidth	10,4°
Gain (dBi)	16.6
Vertical Electrical Tilt	VARIABLE 0°-10°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	19
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	970
Lateral Windload (N)	200
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	20
Antenna Dimension (mm) H X W X D	1985 X 310 X 110



AT 42-643TX

SINGLE-BAND PANEL ANTENNA

GSM 900

870-960
 H64° V14.4°
 Fixed Tilt
 0°

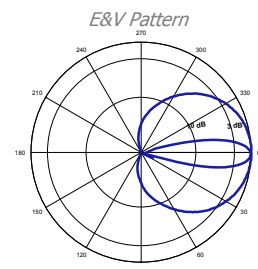
ELECTRICAL SPECIFICATIONS

GSM 900

Antenna Model	AT42-643TX
Polarization	Vertical
Frequency (MHz)	870 - 960
Horizontal Beamwidth	64°
Vertical Beamwidth	14,4°
Gain (dBi)	15.1
Vertical Electrical Tilt	FIXED 0°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	20
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 27
VSWR	< 1,4 : 1
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	1 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	670
Lateral Windload @ 160 km/h (N)	130
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	13
Antenna Dimension (mm) H X W X D	1340 X 310 X 110



AT 42-644TX

SINGLE-BAND PANEL ANTENNA

GSM 900

870-960
 H64° V14.3°
 Fixed Tilt
 0°

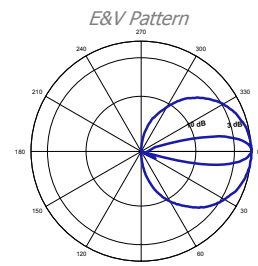
ELECTRICAL SPECIFICATIONS

GSM 900

Antenna Model	AT42-644TX
Polarization	± 45°
Frequency (MHz)	870 - 960
Horizontal Beamwidth	64°
Vertical Beamwidth	14,3°
Gain (dBi)	15.1
Vertical Electrical Tilt	FIXED 0°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	20
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 12
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	670
Lateral Windload (N)	130
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	13
Antenna Dimension (mm) H X W X D	1340 X 310 X 110



AT 42-644TV

SINGLE-BAND PANEL ANTENNA

GSM 900

870-960
 H64° V14.3°
 Variable Tilt
 0°-8°

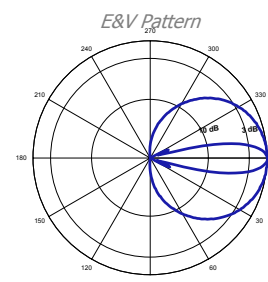
ELECTRICAL SPECIFICATIONS

GSM 900

Antenna Model	AT42-644TV
Polarization	± 45°
Frequency (MHz)	870 - 960
Horizontal Beamwidth	64°
Vertical Beamwidth	14,3°
Gain (dBi)	15.1
Vertical Electrical Tilt	VARIABLE 0°-8°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	20
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 12
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	670
Lateral Windload (N)	130
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	15
Antenna Dimension (mm) H X W X D	1340 X 310 X 110



AT 42-685TX

SINGLE-BAND PANEL ANTENNA

GSM 900

870-960
 H88° V7.3°
 Fixed Tilt
 0°, 2°, 4°, 6°

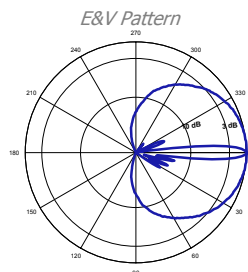
ELECTRICAL SPECIFICATIONS

GSM 900

Antenna Model	AT42-685TX
Polarization	Vertical
Frequency (MHz)	870 - 960
Horizontal Beamwidth	88°
Vertical Beamwidth	7,3°
Gain (dBi)	16.2
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	22
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 22
VSWR	< 1,4 : 1
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	1 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	1270
Lateral Windload @ 160 km/h (N)	260
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	22
Antenna Dimension (mm) H X W X D	2530 X 310 X 110



AT 42-686TX

SINGLE-BAND PANEL ANTENNA

GSM 900

870-960
 H88° V7.4°
 Fixed Tilt
 0°

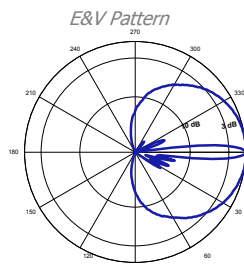
ELECTRICAL SPECIFICATIONS

GSM 900

Antenna Model	AT42-686TX
Polarization	± 45°
Frequency (MHz)	870 - 960
Horizontal Beamwidth	88°
Vertical Beamwidth	7,4°
Gain (dBi)	16.2
Vertical Electrical Tilt	FIXED 0°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	19
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 25
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	1270
Lateral Windload (N)	260
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	22
Antenna Dimension (mm) H X W X D	2530 X 310 X 110



AT 42-686TV

SINGLE-BAND PANEL ANTENNA

GSM 900

870-960

H88° V7.1°

Variable Tilt
0°-8°

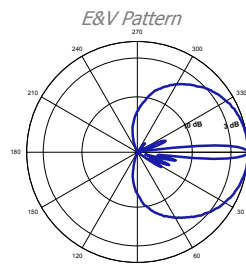
ELECTRICAL SPECIFICATIONS

GSM 900

Antenna Model	AT42-686TV
Polarization	± 45°
Frequency (MHz)	870 - 960
Horizontal Beamwidth	88°
Vertical Beamwidth	7,1°
Gain (dBi)	16.2
Vertical Electrical Tilt	VARIABLE 0°-8°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	16
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 22
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	1270
Lateral Windload (N)	260
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	24
Antenna Dimension (mm) H X W X D	2530 X 310 X 110



AT 42-665TX

SINGLE-BAND PANEL ANTENNA

GSM 900

870-960
 H88° V10.2°
 Fixed Tilt
 0°

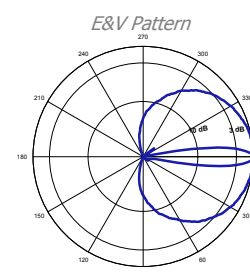
ELECTRICAL SPECIFICATIONS

GSM 900

Antenna Model	AT42-665TX
Polarization	Vertical
Frequency (MHz)	870 - 960
Horizontal Beamwidth	88°
Vertical Beamwidth	10,2°
Gain (dBi)	15.3
Vertical Electrical Tilt	FIXED 0°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	23
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 25
VSWR	< 1,4 : 1
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	1 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	970
Lateral Windload @ 160 km/h (N)	200
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	18
Antenna Dimension (mm) H X W X D	1985 X 310 X 110



AT 42-666TX

SINGLE-BAND PANEL ANTENNA

GSM 900

870-960
H88° V10.2°
Fixed Tilt
0°

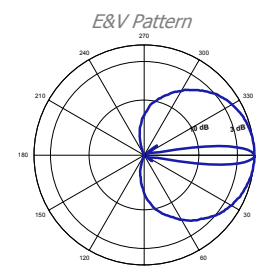
ELECTRICAL SPECIFICATIONS

GSM 900

Antenna Model	AT42-666TX
Polarization	± 45°
Frequency (MHz)	870 - 960
Horizontal Beamwidth	88°
Vertical Beamwidth	10,2°
Gain (dBi)	15.3
Vertical Electrical Tilt	FIXED 0°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	20
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 25
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	970
Lateral Windload (N)	200
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	18
Antenna Dimension (mm) H X W X D	1985 X 310 X 110



AT 42-666TV

SINGLE-BAND PANEL ANTENNA

GSM 900

870-960
H88° V10.2°
Variable Tilt
0°-10°

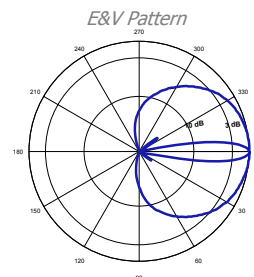
ELECTRICAL SPECIFICATIONS

GSM 900

Antenna Model	AT42-666TV
Polarization	± 45°
Frequency (MHz)	870 - 960
Horizontal Beamwidth	88°
Vertical Beamwidth	10,2°
Gain (dBi)	15.3
Vertical Electrical Tilt	VARIABLE 0°-10°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	21
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 25
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	970
Lateral Windload (N)	200
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	20
Antenna Dimension (mm) H X W X D	1985 X 310 X 110



AT 42-645TX

SINGLE-BAND PANEL ANTENNA

GSM 900

870-960
 H88° V14.5°
 Fixed Tilt
 0°

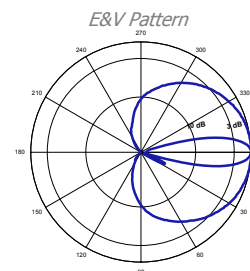
ELECTRICAL SPECIFICATIONS

GSM 900

Antenna Model	AT42-645TX
Polarization	Vertical
Frequency (MHz)	870 - 960
Horizontal Beamwidth	88°
Vertical Beamwidth	14,5°
Gain (dBi)	13.8
Vertical Electrical Tilt	FIXED 0°
Upper Sidelobe Suppression for the 1rst lobe above main beam (dB)	20
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 23
VSWR	< 1,4 : 1
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	1 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	670
Lateral Windload @ 160 km/h (N)	130
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	13
Antenna Dimension (mm) H X W X D	1340 X 310 X 110



AT 42-646TX

SINGLE-BAND PANEL ANTENNA

GSM 900

870-960
 H88° V14.5°
 Fixed Tilt
 0°

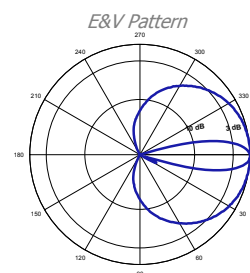
ELECTRICAL SPECIFICATIONS

GSM 900

Antenna Model	AT42-646TX
Polarization	± 45°
Frequency (MHz)	870 - 960
Horizontal Beamwidth	88°
Vertical Beamwidth	14,5°
Gain (dBi)	13.8
Vertical Electrical Tilt	FIXED 0°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	18
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 23
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 12
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	670
Lateral Windload (N)	130
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	13
Antenna Dimension (mm) H X W X D	1340 X 310 X 110



AT 42-646TV

SINGLE-BAND PANEL ANTENNA

GSM 900

870-960
 H88° V14.5°
 Variable Tilt
 0°-10°

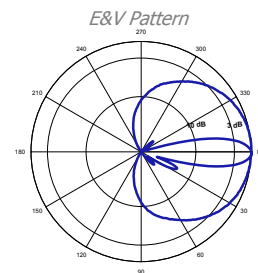
ELECTRICAL SPECIFICATIONS

GSM 900

Antenna Model	AT42-646TV
Polarization	± 45°
Frequency (MHz)	870 - 960
Horizontal Beamwidth	88°
Vertical Beamwidth	14,5°
Gain (dBi)	13.8
Vertical Electrical Tilt	VARIABLE 0°-10°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	18
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 23
VSWR	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 12
Isolation Between Ports	> 30
Maximum Power Per Input (W)	500
Intermodulation (dBc)	< - 150
Impedance (Ω)	50

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload (N)	670
Lateral Windload (N)	130
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	15
Antenna Dimension (mm) H X W X D	1340 X 310 X 110



SINGLE-BAND PANEL ANTENNA

BROADBAND 1800-1900-UMTS

Frequency	HBW	VBW	Gain (dBi)	Polarization	Tilt	Height (mm)	Model	Page
1710 - 2170	30°	6,5°	21	Vertical	Fixed 0°	1340	MG V1-800TX	44
1710 - 2170	30°	6,5°	21	± 45°	Fixed 0°, 2°, 4°, 6°	1340	MG D1-800TX	45
1710 - 2170	30°	6,5°	21	± 45°	Variable 2°-12°	1340	MG D1-800TV	46
1710 - 2170	65°	5°	19,3	Vertical	Fixed 0°, 2°, 4°, 6°	1860	MG V3-900TX	47
1710 - 2170	65°	5°	19,3	± 45°	Fixed 0°, 2°, 4°, 6°	1860	MG D3-900TX	48
1710 - 2170	65°	5°	19,3	± 45°	Variable 0°-6°	1860	MG D3-900TV	49
1710 - 2170	65°	6,5°	18	Vertical	Fixed 0°, 2°, 4°, 6°	1340	MG V3-800TX	50
1710 - 2170	65°	6,5°	18	± 45°	Fixed 0°, 2°, 4°, 6°	1340	MG D3-800TX	51
1710 - 2170	65°	6,5°	18	± 45°	Variable 0°-10°	1340	MG D3-800TV	52
1710 - 2170	65°	14,5°	14,5	Vertical	Fixed 4°	540	MG V3-400TX	53
1710 - 2170	65°	14,5°	14,5	± 45°	Fixed 0°, 2°	540	MG D3-400TX	54
1710 - 2170	65°	14,5°	14,5	± 45°	Variable 0°-16°	670	MG D3-400TV	55
1710 - 2170	85°	5°	18	Vertical	Fixed 0°, 2°, 4°, 6°	1860	MG V5-900TX	56
1710 - 2170	85°	5°	18	± 45°	Fixed 0°, 2°, 4°, 6°	1860	MG D5-900TX	57
1710 - 2170	85°	6,5°	17	Vertical	Fixed 0°, 2°, 4°, 6°	1340	MG V5-800TX	58
1710 - 2170	85°	6,5°	17	± 45°	Fixed 0°, 2°, 4°, 6°	1340	MG D5-800TX	59
1710 - 2170	85°	6,5°	17	± 45°	Variable 0°-10°	1340	MG D5-800TV	60
1710 - 2170	85°	14,5°	14	± 45°	Variable 0°-16°	670	MG D5-400TV	61

MG V1-800TX

SINGLE-BAND PANEL ANTENNA

BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H29° V7.2°

H27° V6.7°

H26° V6.4°

Fixed Tilt
0°

Fixed Tilt
0°

Fixed Tilt
0°

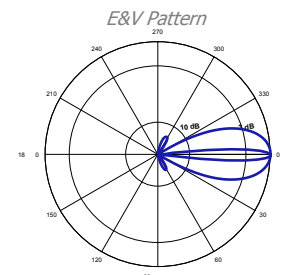
ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

Antenna Model	MG V1-800TX		
Polarization	Vertical		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	29°	27°	26°
Vertical Beamwidth	7,2°	6,7°	6,4°
Gain (dBi)	20.7	20.9	21.2
Vertical Electrical Tilt	FIXED 0°	FIXED 0°	FIXED 0°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	20	20	20
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30	> 29	> 29
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	1 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed	200
Survival Wind Speed (km/h)	320
Front Windload @ 160 km/h (N)	170
Lateral Windload @ 160 km/h (N)	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	7
Antenna Dimension (mm) H X W X D	1340 X 300 X 90



MG D1-800TX

SINGLE-BAND PANEL ANTENNA

BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H29° V7.1°

H27° V6.8°

H26° V6.2°

Fixed Tilt
0°, 2°, 4°, 6°

Fixed Tilt
0°, 2°, 4°, 6°

Fixed Tilt
0°, 2°, 4°, 6°

ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

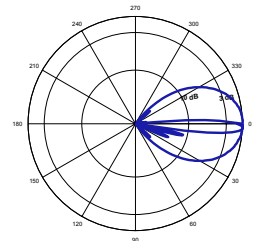
Antenna Model	MG D1-800TX		
Polarization	± 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	29°	27°	26°
Vertical Beamwidth	7,1°	6,8°	6,2°
Gain (dBi)	20.7	21.2	21.4
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1rst lobe above main beam (dB)	20	20	20
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30	> 30	> 30
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation Between Ports (dB)	> 30	> 30	> 30
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	620
Lateral Windload @ 160 km/h (N)	120
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	14
Antenna Dimension (mm) H X W X D	1340 X 300 X 90



E&V Pattern



MG D1-800TV

SINGLE-BAND PANEL ANTENNA

BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H38° V7°

H35° V6.7°

H32° V6.4°

Variable Tilt
2°-12°

Variable Tilt
2°-12°

Variable Tilt
2°-12°

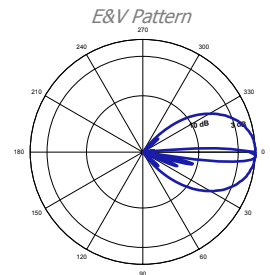
ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

Antenna Model	MG D1-800TV		
Polarization	± 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	38°	35°	32°
Vertical Beamwidth	7°	6,7°	6,4°
Gain (dBi)	20.1	21.2	21.3
Vertical Electrical Tilt	VARIABLE 2°-12°	VARIABLE 2°-12°	VARIABLE 2°-12°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	17	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30	> 30	> 30
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation Between Ports (dB)	> 30	> 30	> 30
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	620
Lateral Windload @ 160 km/h (N)	120
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	15
Antenna Dimension (mm) H X W X D	1340 X 300 X 90



MG V3-900TX

SINGLE-BAND PANEL ANTENNA

BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H69° V5.2°

H67° V5°

H64° V4.7°

Fixed Tilt
0°, 2°, 4°, 6°

Fixed Tilt
0°, 2°, 4°, 6°

Fixed Tilt
0°, 2°, 4°, 6°

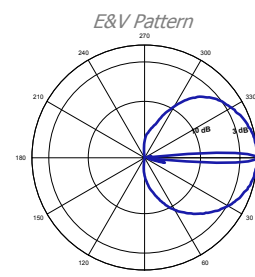
ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

Antenna Model	MG V3-900TX		
Polarization	Vertical		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	69°	67°	64°
Vertical Beamwidth	5,2°	5°	4,7°
Gain (dBi)	18.2	18.6	18.9
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	16	16	16
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 27	> 27	> 27
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	1 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed	200
Survival Wind Speed (km/h)	480
Front Windload @ 160 km/h (N)	250
Lateral Windload @ 160 km/h (N)	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	11
Antenna Dimension (mm) H X W X D	1860 X 160 X 90



MG D3-900TX

SINGLE-BAND PANEL ANTENNA

BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H68° V5.5°

H64° V5.3°

H62° V5°

Fixed Tilt
0°, 2°, 4°, 6°

Fixed Tilt
0°, 2°, 4°, 6°

Fixed Tilt
0°, 2°, 4°, 6°

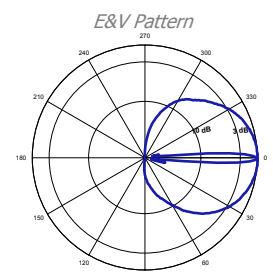
ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

Antenna Model	MG D3-900TX		
Polarization	± 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	68°	64°	62°
Vertical Beamwidth	5,5°	5,3°	5°
Gain (dBi)	18.6	18.8	19.3
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	20	20	20
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30	> 30	> 30
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation Between Ports (dB)	> 30	> 30	> 30
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	480
Lateral Windload @ 160 km/h (N)	250
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	11
Antenna Dimension (mm) H X W X D	1860 X 160 X 90



MG D3-900TV

SINGLE-BAND PANEL ANTENNA

BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H69° V5.1°

H66° V5°

H63° V5°

Variable Tilt
0°-6°

Variable Tilt
0°-6°

Variable Tilt
0°-6°

ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

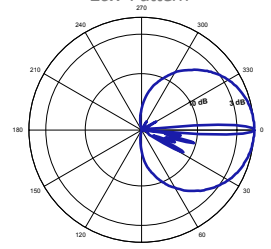
Antenna Model	MG D3-900TV		
Polarization	± 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	69°	66°	63°
Vertical Beamwidth	5,1°	5°	5°
Gain (dBi)	18.8	19.2	19.5
Vertical Electrical Tilt	VARIABLE 0°-6°	VARIABLE 0°-6°	VARIABLE 0°-6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	20	20	20
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30	> 30	> 30
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation Between Ports (dB)	> 30	> 30	> 30
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	480
Lateral Windload @ 160 km/h (N)	250
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	12
Antenna Dimension (mm) H X W X D	1860 X 160 X 90



E&V Pattern



MG V3-800TX

SINGLE-BAND PANEL ANTENNA

BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H69° V7°

H67° V6.6°

H64° V6.4°

Fixed Tilt
0°, 2°, 4°, 6°

Fixed Tilt
0°, 2°, 4°, 6°

Fixed Tilt
0°, 2°, 4°, 6°

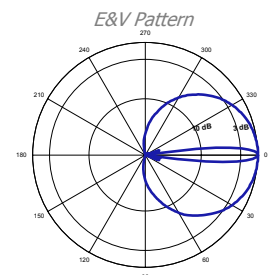
ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

Antenna Model	MG V3-800TX		
Polarization	Vertical		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	69°	67°	64°
Vertical Beamwidth	7°	6,6°	6,4°
Gain (dBi)	17.4	17.6	18
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	18	16	16
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 27	> 30	> 30
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	1 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed	200
Survival Wind Speed (km/h)	370
Front Windload @ 160 km/h (N)	170
Lateral Windload @ 160 km/h (N)	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	7
Antenna Dimension (mm) H X W X D	1340 X 160 X 90



MG D3-800TX

SINGLE-BAND PANEL ANTENNA

BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H66° V7.2°

H64° V6.6°

H63° V6.3°

Fixed Tilt
0°, 2°, 4°, 6°

Fixed Tilt
0°, 2°, 4°, 6°

Fixed Tilt
0°, 2°, 4°, 6°

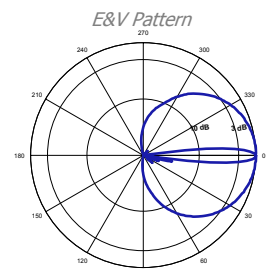
ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

Antenna Model	MG D3-800TX		
Polarization	± 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	66°	64°	63°
Vertical Beamwidth	7,2°	6,6°	6,3°
Gain (dBi)	17.9	18	18.5
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1rst lobe above main beam (dB)	20	20	20
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30	> 30	> 30
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation Between Ports (dB)	> 30	> 30	> 30
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	370
Lateral Windload @ 160 km/h (N)	170
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	7
Antenna Dimension (mm) H X W X D	1340 X 160 X 90



MG D3-800TV

SINGLE-BAND PANEL ANTENNA

BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H67° V6.8°

H65° V6.6°

H63° V6.3°

Variable Tilt
0°-10°

Variable Tilt
0°-10°

Variable Tilt
0°-10°

ELECTRICAL SPECIFICATIONS

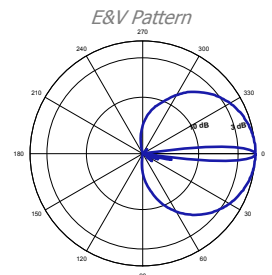
BROADBAND 1800 1900 UMTS

Antenna Model	MG D3-800TV		
Polarization	± 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	67°	65°	63°
Vertical Beamwidth	6,8°	6,6°	6,3°
Gain (dBi)	17.6	17.8	18.2
Vertical Electrical Tilt	VARIABLE 0°-10°	VARIABLE 0°-10°	VARIABLE 0°-10°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	18	18	18
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30	> 30	> 30
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation Between Ports (dB)	> 30	> 30	> 30
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	320
Lateral Windload @ 160 km/h (N)	170
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	8
Antenna Dimension (mm) H X W X D	1340 X 160 X 90

This antenna is available with variable electrical tilt 4°-14°



MG V3-400TX

SINGLE-BAND PANEL ANTENNA

BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H67° V16°

H65° V15.5°

H63° V14.2°

Fixed Tilt
4°

Fixed Tilt
4°

Fixed Tilt
4°

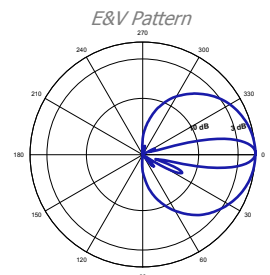
ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

Antenna Model	MG V3-400TX		
Polarization	Vertical		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	67°	65°	63°
Vertical Beamwidth	16°	15,5°	14,2°
Gain (dBi)	14.5	14.6	14.9
Vertical Electrical Tilt	FIXED 4°	FIXED 4°	FIXED 4°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	15	15	16
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 27	> 27	> 27
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	1 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed	200
Survival Wind Speed (km/h)	130
Front Windload @ 160 km/h (N)	70
Lateral Windload @ 160 km/h (N)	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	3
Antenna Dimension (mm) H X W X D	540 X 160 X 90



MG D3-400TX

SINGLE-BAND PANEL ANTENNA

BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H69° V16.6°

H66° V15.8°

H63° V14.1°

Fixed Tilt
0°, 2°

Fixed Tilt
0°, 2°

Fixed Tilt
0°, 2°

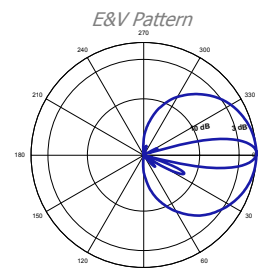
ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

Antenna Model	MG D3-400TX		
Polarization	± 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	69°	66°	63°
Vertical Beamwidth	16,6°	15,8°	14,1°
Gain (dBi)	14.2	14.4	14.7
Vertical Electrical Tilt	FIXED 0°, 2°	FIXED 0°, 2°	FIXED 0°, 2°
Upper Sidelobe Suppression for the 1rst lobe above main beam (dB)	14	14	14
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30	> 30	> 30
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation Between Ports (dB)	> 30	> 30	> 30
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	130
Lateral Windload @ 160 km/h (N)	70
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	3
Antenna Dimension (mm) H X W X D	540 X 160 X 90



MG D3-400TV

SINGLE-BAND PANEL ANTENNA

BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H68° V14°

H66° V13°

H62° V12.5°

Variable Tilt
0°-16°

Variable Tilt
0°-16°

Variable Tilt
0°-16°

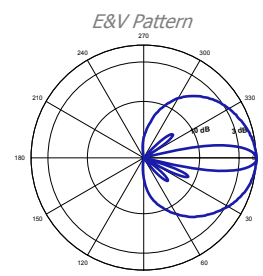
ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

Antenna Model	MG D3-400TV		
Polarization	± 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	68°	66°	62°
Vertical Beamwidth	14°	13°	12,5°
Gain (dBi)	14.7	14.9	15.2
Vertical Electrical Tilt	VARIABLE 0°-16°	VARIABLE 0°-16°	VARIABLE 0°-16°
Upper Sidelobe Suppression for the 1rst lobe above main beam (dB)	17	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30	> 30	> 28
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation Between Ports (dB)	> 30	> 30	> 30
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	160
Lateral Windload @ 160 km/h (N)	90
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	4
Antenna Dimension (mm) H X W X D	670 X 160 X 90



MG V5-900TX

SINGLE-BAND PANEL ANTENNA

BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H88° V5.6°

H86° V5.1°

H83° V4.8°

Fixed Tilt
0°, 2°, 4°, 6°

Fixed Tilt
0°, 2°, 4°, 6°

Fixed Tilt
0°, 2°, 4°, 6°

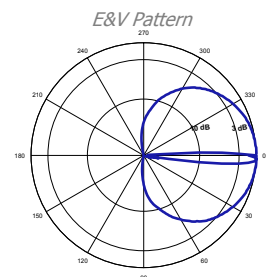
ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

Antenna Model	MG V5-900TX		
Polarization	Vertical		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	88°	86°	83°
Vertical Beamwidth	5,6°	5,1°	4,8°
Gain (dBi)	17.2	17.5	17.8
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	17	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 25	> 25	> 25
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	1 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed	200
Survival Wind Speed (km/h)	480
Front Windload @ 160 km/h (N)	250
Lateral Windload @ 160 km/h (N)	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	11
Antenna Dimension (mm) H X W X D	1860 X 160 X 90



MG D5-900TX

SINGLE-BAND PANEL ANTENNA

BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H89° V5.5°

H89° V5.3°

H87° V5°

Fixed Tilt
0°, 2°, 4°, 6°

Fixed Tilt
0°, 2°, 4°, 6°

Fixed Tilt
0°, 2°, 4°, 6°

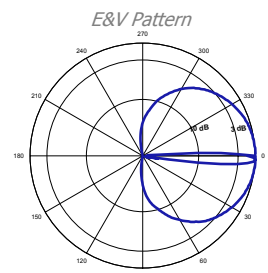
ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

Antenna Model	MG D5-900TX		
Polarization	± 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	89°	89°	87°
Vertical Beamwidth	5,5°	5,3°	5°
Gain (dBi)	17.5	17.8	17.9
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1rst lobe above main beam (dB)	18	18	18
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 28	> 28	> 28
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation Between Ports (dB)	> 30	> 30	> 30
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	480
Lateral Windload @ 160 km/h (N)	250
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	11
Antenna Dimension (mm) H X W X D	1860 X 160 X 90



MG V5-800TX

SINGLE-BAND PANEL ANTENNA

BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H89° V7.6°

H87° V7.3°

H84° V6.5°

Fixed Tilt
0°, 2°, 4°, 6°

Fixed Tilt
0°, 2°, 4°, 6°

Fixed Tilt
0°, 2°, 4°, 6°

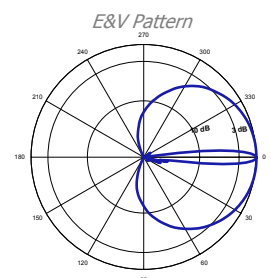
ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

Antenna Model	MG V5-800TX		
Polarization	Vertical		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	89°	87°	84°
Vertical Beamwidth	7,6°	7,3°	6,5°
Gain (dBi)	16.2	16.5	16.9
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	17	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 25	> 25	> 25
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	1 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed	200
Survival Wind Speed (km/h)	370
Front Windload @ 160 km/h (N)	170
Lateral Windload @ 160 km/h (N)	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	7
Antenna Dimension (mm) H X W X D	1340 X 160 X 90



MG D5-800TX

SINGLE-BAND PANEL ANTENNA

BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H84° V7.5°

H83° V7°

H83° V6.5°

Fixed Tilt
0°, 2°, 4°, 6°

Fixed Tilt
0°, 2°, 4°, 6°

Fixed Tilt
0°, 2°, 4°, 6°

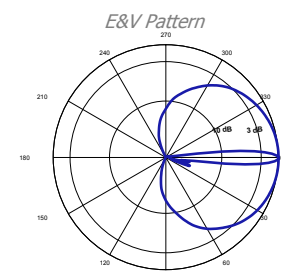
ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

Antenna Model	MG D5-800TX		
Polarization	± 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	84°	83°	83°
Vertical Beamwidth	7,5°	7°	6,5°
Gain (dBi)	16.5	16.5	16.8
Vertical Electrical Tilt	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°	FIXED 0°, 2°, 4°, 6°
Upper Sidelobe Suppression for the 1rst lobe above main beam (dB)	16	16	20
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30	> 30	> 30
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation Between Ports (dB)	> 30	> 30	> 30
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	370
Lateral Windload @ 160 km/h (N)	170
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	7
Antenna Dimension (mm) H X W X D	1340 X 160 X 90



MG D5-800TV

SINGLE-BAND PANEL ANTENNA

BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H84° V7.2°

H83° V6.8°

H83° V6.5°

Variable Tilt
0°-10°

Variable Tilt
0°-10°

Variable Tilt
0°-10°

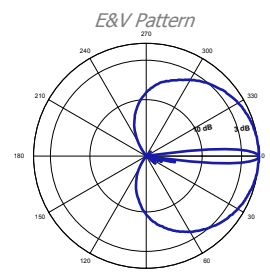
ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

Antenna Model	MG D5-800TV		
Polarization	± 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	84°	83°	83°
Vertical Beamwidth	7,2°	6,8°	6,5°
Gain (dBi)	16.4	16.4	16.6
Vertical Electrical Tilt	VARIABLE 0°-10°	VARIABLE 0°-10°	VARIABLE 0°-10°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	20	20	20
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 26	> 26	> 24
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation Between Ports (dB)	> 30	> 30	> 30
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	370
Lateral Windload @ 160 km/h (N)	170
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	8
Antenna Dimension (mm) H X W X D	1340 X 160 X 90



MG D5-400TV

SINGLE-BAND PANEL ANTENNA

BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H84° V16°

H83° V15.5°

H83° V14°

Variable Tilt
0°-16°

Variable Tilt
0°-16°

Variable Tilt
0°-16°

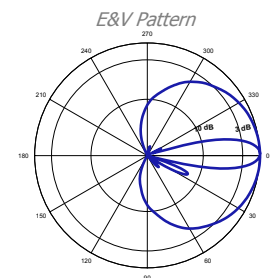
ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

Antenna Model	MG D5-400TV		
Polarization	± 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	84°	83°	83°
Vertical Beamwidth	16°	15,5°	14°
Gain (dBi)	13.8	14	14.2
Vertical Electrical Tilt	VARIABLE 0°-16°	VARIABLE 0°-16°	VARIABLE 0°-16°
Upper Sidelobe Suppression for the 1rst lobe above main beam (dB)	20	20	20
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 28	> 28	> 28
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation Between Ports (dB)	> 30	> 30	> 30
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	2 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	160
Lateral Windload @ 160 km/h (N)	90
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	4
Antenna Dimension (mm) H X W X D	670 X 160 X 90





MULTI-BAND PANEL ANTENNA

DUAL-BAND PANEL ANTENNA

GSM 900/ BROADBAND 1800-UMTS

Frequency	HBW	VBW	Gain (dBi)	Polarization	Tilt	Height (mm)	Model	Page
876 - 960 1710 - 2170	65° 65°	7 6,5°	17 17,5	± 45° ± 45°	Variable 2°-10° Variable 2°-10°	2580	TG D3-800TV	63
876 - 960 1710 - 2170	65° 65°	9,5° 6,5°	15,6 17,5	± 45° ± 45°	Variable 0°-10° Variable 2°-10°	1990	TG D3-600TV	64
876 - 960 1710 - 2170	65° 65°	14,5° 6,5°	14 17,5	± 45° ± 45°	Variable 0°-8° Variable 2°-10°	1340	TG D3-400TV	65

TG D3-800TV

DUAL-BAND PANEL ANTENNA

GSM 900/ BROADBAND 1800-UMTS

876 - 960	1710-1880	1920-2170
H61° V7.6°	H63° V6.7°	H60° V6.1°
Variable Tilt 2°-10°	Variable Tilt 2°-10°	Variable Tilt 2°-10°

ELECTRICAL SPECIFICATIONS

GSM 900

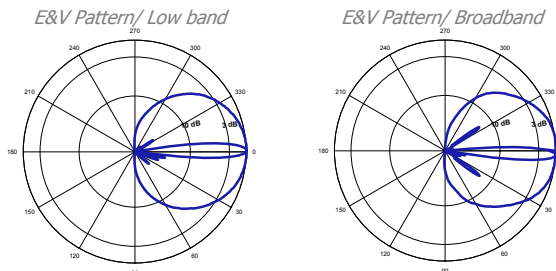
BROADBAND 1800 UMTS

Antenna Model	TG D3-800TV		
Polarization	± 45°		
Frequency	876 - 960	1710 - 1880	1920 - 2170
Horizontal Beamwidth	61°	63°	60°
Vertical Beamwidth	7,6°	6,7°	6,1°
Gain (dBi)	16.9	17.1	17.5
Vertical Electrical Tilt	VARIABLE 2°-10°	VARIABLE 2°-10°	VARIABLE 2°-10°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	17	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 28	> 28	> 30
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ±60° (dB)	> 7	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 40 (876-960//1710-2170) > 33 (1710-2170//1710-2170)		
Maximum Power Per Input (W)	250	250	
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	4 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	1330
Lateral Windload @ 160 km/h (N)	300
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	34
Antenna Dimension (mm) H X W X D	2580 x 340 x 140

This antenna is available with variable electrical tilt 4°-14°



TG D3-600TV

DUAL-BAND PANEL ANTENNA

GSM 900/ BROADBAND 1800-UMTS

876 - 960	1710-1880	1920-2170
H62° V11°	H63° V6.9°	H62° V6.4°
Variable Tilt 0°-10°	Variable Tilt 2°-10°	Variable Tilt 2°-10°

ELECTRICAL SPECIFICATIONS

GSM 900

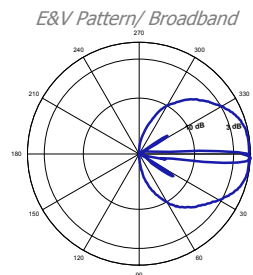
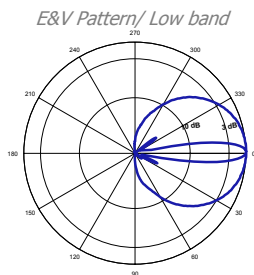
BROADBAND 1800 UMTS

Antenna Model	TG D3-600TV		
Polarization	± 45°		
Frequency	876 - 960	1710 - 1880	1920 - 2170
Horizontal Beamwidth	62°	63°	62°
Vertical Beamwidth	11°	6,9°	6,4°
Gain (dBi)	15.6	17.4	17.5
Vertical Electrical Tilt	VARIABLE 0°-10°	VARIABLE 2°-10°	VARIABLE 2°-10°
Upper Sidelobe Suppression for the 1rst lobe above main beam (dB)	15	16	16
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 25	> 30	> 30
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ±60° (dB)	> 7	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 40 (876-960//1710-2170) > 33 (1710-2170//1710-2170)		
Maximum Power Per Input (W)	250	250	
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	4 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	1020
Lateral Windload @ 160 km/h (N)	230
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	27
Antenna Dimension (mm) H X W X D	1990 x 340 x 140

This antenna is available with variable electrical tilt 4°-14°



TG D3-400TV

DUAL-BAND PANEL ANTENNA

GSM 900/ BROADBAND 1800-UMTS

876 - 960

1710-1880

1920-2170

H65° V14.2°

H64° V6.5°

H63° V6.5°

Variable Tilt
0°-8°

Variable Tilt
2°-10°

Variable Tilt
2°-10°

ELECTRICAL SPECIFICATIONS

GSM 900

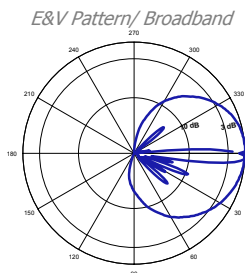
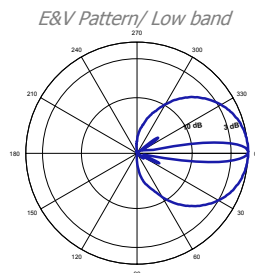
BROADBAND 1800 UMTS

Antenna Model	TG D3-400TV		
Polarization	± 45°		
Frequency	876 - 960	1710 - 1880	1920 - 2170
Horizontal Beamwidth	65°	64°	63°
Vertical Beamwidth	14.2°	6.5°	6.5°
Gain (dBi)	14	17.3	17.4
Vertical Electrical Tilt	Variable 0°-8°	Variable 2°-10°	Variable 2°-10°
Upper Sidelobe Suppression for the 1 st lobe above main beam (dB)	15	17	17
Front-to-Back Ratio/Cpol @ ± 20° (dB)	> 26	> 28	> 28
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 7	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 40 (876-960//1710-2170) > 33 (1710-2170//1710-2170)		
Maximum Power Per Input (W)	250	250	
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	4 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	680
Lateral Windload @ 160 km/h (N)	150
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	22
Antenna Dimension (mm) H X W X D	1340 x 340 x 140

This antenna is available with variable electrical tilt 4°-14°





MULTI-BAND PANEL ANTENNA
DUAL-BAND PANEL ANTENNA
CELLULAR 850/ BROADBAND 1900-UMTS

Frequency	HBW	VBW	Gain (dBi)	Polarization	Tilt	Height (mm)	Model	Page
824 - 894 1850 - 2170	65° 65°	7.5° 6,5°	16,5 17.5	± 45° ± 45°	Variable 0°-8° Variable 0°-10°	2580	TGA D3-800TV	67
824 - 894 1850 - 2170	65° 65°	10.5° 6,5°	15 17.5	± 45° ± 45°	Variable 0°-10° Variable 0°-10°	1990	TGA D3-600TV	68
824 - 894 1850 - 2170	65° 65°	14,5° 6,5°	13.5 17.5	± 45° ± 45°	Variable 0°-10° Variable 0°-10°	1340	TGA D3-400TV	69

TGA D3-800TV

DUAL-BAND PANEL ANTENNA

CELLULAR 850/ BROADBAND 1900-UMTS

824 - 894	1850-1990	1920-2170
H65° V7.7°	H63° V6.5°	H62° V6.3°
Variable Tilt 0°-8°	Variable Tilt 0°-10°	Variable Tilt 0°-10°

ELECTRICAL SPECIFICATIONS

CELLULAR 850

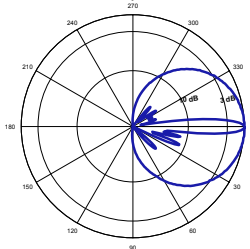
BROADBAND 1900 UMTS

Antenna Model	TGA D3-800TV		
Polarization	± 45°		
Frequency	824 - 894	1850 - 1990	1920 - 2170
Horizontal Beamwidth	65°	63°	62°
Vertical Beamwidth	7,7°	6,5°	6,3°
Gain (dBi)	16.7	17.7	17.7
Vertical Electrical Tilt	VARIABLE 0°-8°	VARIABLE 0°-10°	VARIABLE 0°-10°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	16	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30	> 30	> 30
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 40 (824-894//1850-2170) > 33 (1850-2170//1850-2170)		
Maximum Power Per Input (W)	500	250	
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

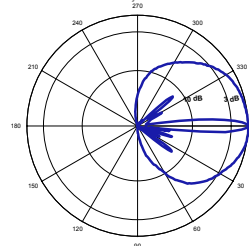
MECHANICAL SPECIFICATIONS

Connectors	4 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	1330
Lateral Windload @ 160 km/h (N)	300
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	34
Antenna Dimension (mm) H X W X D	2580 x 340 x 140

E&V Pattern/ Low band



E&V Pattern/ Broadband



TGA D3-600TV

DUAL-BAND PANEL ANTENNA

CELLULAR 850/ BROADBAND 1900-UMTS

824 - 894	1850-1990	1920-2170
H67° V10.7°	H62° V6.5°	H61° V6.3°
Variable Tilt 0°-10°	Variable Tilt 0°-10°	Variable Tilt 0°-10°

ELECTRICAL SPECIFICATIONS

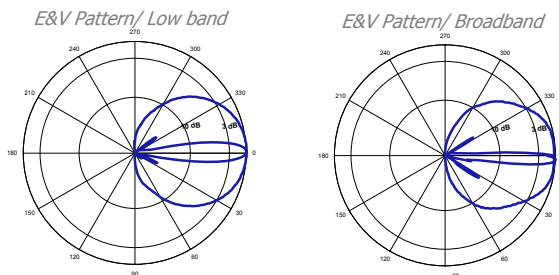
CELLULAR 850

BROADBAND 1900 UMTS

Antenna Model	TGA D3-600TV		
Polarization	± 45°		
Frequency	824 - 894	1850 - 1990	1920 - 2170
Horizontal Beamwidth	67°	62°	61°
Vertical Beamwidth	10,7°	6,5°	6,3°
Gain (dBi)	15.1	17.7	17.7
Vertical Electrical Tilt	VARIABLE 0°-10°	VARIABLE 0°-10°	VARIABLE 0°-10°
Upper Sidelobe Suppression for the 1rst lobe above main beam (dB)	16	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 27	> 29	> 29
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 40 (824-894//1850-2170) > 33 (1850-2170//1850-2170)		
Maximum Power Per Input (W)	500	250	
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	4 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	1020
Lateral Windload @ 160 km/h (N)	230
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	27
Antenna Dimension (mm) H X W X D	1990 x 340 x 140



TGA D3-400TV

DUAL-BAND PANEL ANTENNA

CELLULAR 850/ BROADBAND 1900-UMTS

824 - 894	1850-1990	1920-2170
H69° V14.2°	H63° V6.6°	H63° V6.4°
Variable Tilt 0°-10°	Variable Tilt 0°-10°	Variable Tilt 0°-10°

ELECTRICAL SPECIFICATIONS

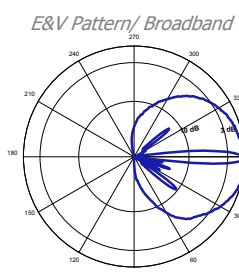
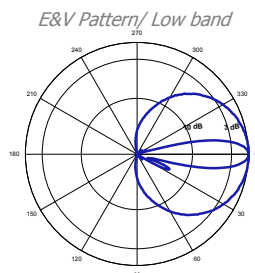
CELLULAR 850

BROADBAND 1900 UMTS

Antenna Model	TGA D3-400TV		
Polarization	± 45°		
Frequency	824 - 894	1850 - 1990	1920 - 2170
Horizontal Beamwidth	69°	63°	63°
Vertical Beamwidth	14,2°	6,6°	6,4°
Gain (dBi)	13.6	17.5	17.5
Vertical Electrical Tilt	VARIABLE 0°-10°	VARIABLE 0°-10°	VARIABLE 0°-10°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	18	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 28	> 28	> 28
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 40 (824-894//1850-2170) > 33 (1850-2170//1850-2170)		
Maximum Power Per Input (W)	500	250	
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	4 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	680
Lateral Windload @ 160 km/h (N)	150
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	22
Antenna Dimension (mm) H X W X D	1340 x 340 x 140





MULTI-BAND PANEL ANTENNA

DUAL- BAND PANEL ANTENNA

2x BROADBAND 1800-1900-UMTS

Frequency	HBW	VBW	Gain (dBi)	Polarization	Tilt	Height (mm)	Model	Page
1710 - 2170	65°	6,5°	18	± 45°	Fixed 0°	1340	BG D3-800TX	71
1710 - 2170	65°	6,5°	18	± 45°	Fixed 0°			
1710 - 2170	65°	6,5°	18	± 45°	Variable 0°-10°	1340	BG D3-800TV	72
1710 - 2170	65°	6,5°	18	± 45°	Variable 0°-10°			
1710 - 2170	65°	6,5°	18	± 45°	Variable 0°-10°	1440	BGR D3A-800TV	73
1710 - 2170	65°	6,5°	18	± 45°	Variable 0°-10°			
1710 - 2170	65°	13°	15	± 45°	Variable 0°-12°	650	BG D3-400TV	74
1710 - 2170	65°	13°	15	± 45°	Variable 0°-12°			

This antenna is frequently named as "Twin Beam" or "Side-By-Side" antenna

BG D3-800TX SIDE-BY-SIDE ANTENNA

2x BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H65° V7.2°

H64° V6.3°

H63° V6°

Fixed Tilt
0°

Fixed Tilt
0°

Fixed Tilt
0°

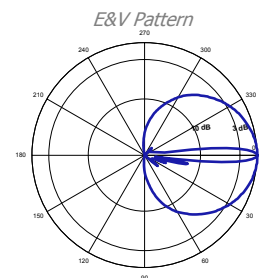
ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

Antenna Model	BG D3-800TXX		
Polarization	± 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	65°	64°	63°
Vertical Beamwidth	7,2°	6,3°	6°
Gain (dBi)	17.9	17.9	18.2
Vertical Electrical Tilt	FIXED 0°	FIXED 0°	FIXED 0°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	18	18	18
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30	> 30	> 30
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation Between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 33 (1710-2170//1710-2170)		
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	4 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	620
Lateral Windload @ 160 km/h (N)	120
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	14
Antenna Dimension (mm) H X W X D	1340 X 300 X 90



BG D3-800TV

SIDE-BY-SIDE ANTENNA

2x BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H66° V6.5°

H64° V6.4°

H62° V6°

Variable Tilt
0°-10°

Variable Tilt
0°-10°

Variable Tilt
0°-10°

ELECTRICAL SPECIFICATIONS

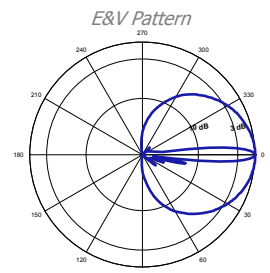
BROADBAND 1800 1900 UMTS

Antenna Model	BG D3-800TV		
Polarization	± 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	66°	64°	62°
Vertical Beamwidth	6,5°	6,4°	6°
Gain (dBi)	17.7	18.1	18.2
Vertical Electrical Tilt	VARIABLE 0°-10°	VARIABLE 0°-10°	VARIABLE 0°-10°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	17	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30	> 30	> 30
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation Between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 33 (1710-2170//1710-2170)		
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	4 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	620
Lateral Windload @ 160 km/h (N)	120
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	16
Antenna Dimension (mm) H X W X D	1340 X 300 X 90

This antenna is available with variable electrical tilt 4°-14°



BGR D3A-800TV

SIDE-BY-SIDE ANTENNA

Variable Azimuth / RET integrated
2x BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H63° V6.5°

H63° V6.5°

H62° V6.3°

Variable Tilt
0°-10°

Variable Tilt
0°-10°

Variable Tilt
0°-10°

ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

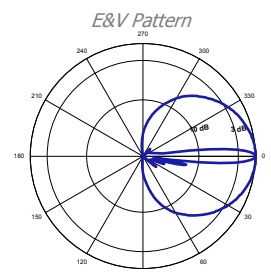
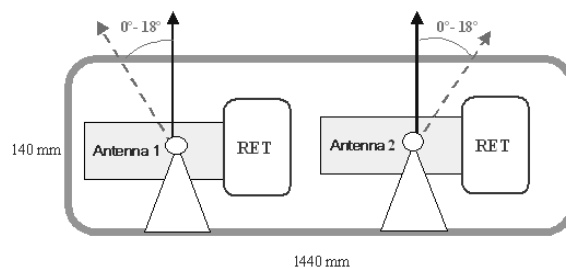
Antenna Model	BGR D3A-800TV		
Polarization	± 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	63°	63°	62°
Vertical Beamwidth	6,5°	6,5°	6,3°
Gain (dBi)	17.7	17.7	17.8
Vertical Electrical Tilt	VARIABLE 0°-10°	VARIABLE 0°-10°	VARIABLE 0°-10°
Variable Azimuth	0° - 18°		
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	17	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30	> 30	> 30
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation Between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 33 (1710-2170//1710-2170)		
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	4 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	730
Lateral Windload @ 160 km/h (N)	160
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	22
Antenna Dimension (mm) H X W X D	1440 X 340 X 140



Disposition of the variable azimuth and the integrated RET



BG D3-400TV

SIDE-BY-SIDE ANTENNA

2x BROADBAND 1800-1900-UMTS

1710-1880

1850-1990

1920-2170

H65° V13.9°

H65° V13.4°

H64° V13°

Variable Tilt
0°-12°

Variable Tilt
0°-12°

Variable Tilt
0°-12°

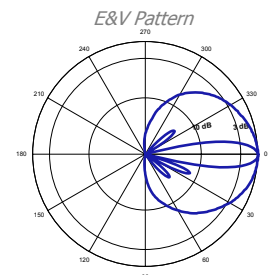
ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

Antenna Model	BG D3-400TV		
Polarization	± 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	65°	65°	64°
Vertical Beamwidth	13,9°	13,4°	13°
Gain (dBi)	15	15	15.3
Vertical Electrical Tilt	VARIABLE 0°-12°	VARIABLE 0°-12°	VARIABLE 0°-12°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	17	18	18
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 27	> 27	> 30
VSWR	< 1,4 : 1	< 1,4 : 1	< 1,4 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation Between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 33 (1710-2170//1710-2170)		
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	4 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	310
Lateral Windload @ 160 km/h (N)	60
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	8
Antenna Dimension (mm) H X W X D	650 X 300 X 90





MULTI-BAND PANEL ANTENNA

TRI-BAND PANEL ANTENNA

GSM 900/ 2x BROADBAND 1800-UMTS

Frequency	HBW	VBW	Gain (dBi)	Polarization	Tilt	Height (mm)	Model	Page
876 - 960 1710 - 2170 1710 - 2170	65° 65° 65°	7,5° 6,5° 6,5°	17 17,5 17,5	± 45° ± 45° ± 45°	Variable 2°-10° Variable 2°-10° Variable 2°-10°	2580	TT D3-800TV	76
876 - 960 1710 - 2170 1710 - 2170	65° 65° 65°	10,5° 6,5° 6,5°	15,5 17,5 17,5	± 45° ± 45° ± 45°	Variable 0°-10° Variable 2°-10° Variable 2°-10°	1990	TT D3-600TV	77
876 - 960 1710 - 2170 1710 - 2170	65° 65° 65°	15° 6,5° 6,5°	14 17,5 17,5	± 45° ± 45° ± 45°	Variable 0°-8° Variable 2°-10° Variable 2°-10°	1340	TT D3-400TV	78

TT D3-800TV

TRI-BAND PANEL ANTENNA

GSM 900/ 2x BROADBAND 1800-UMTS

876 - 960	1710-1880	1920-2170
H60° V7.5°	H66° V6.7°	H61° V6.3°
Variable Tilt 2°-10°	Variable Tilt 2°-10°	Variable Tilt 2°-10°

ELECTRICAL SPECIFICATIONS

GSM 900

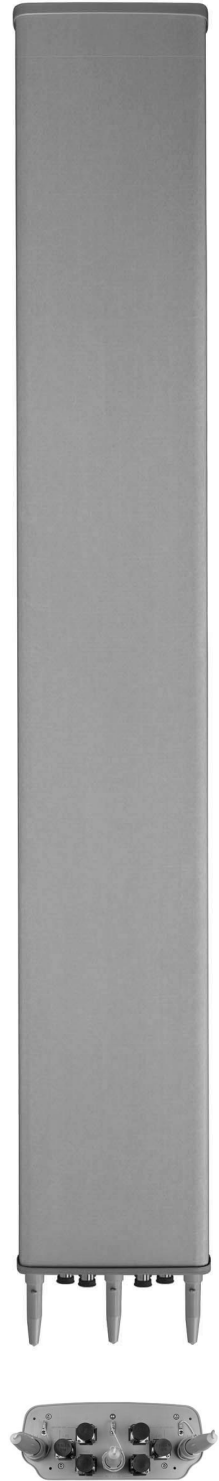
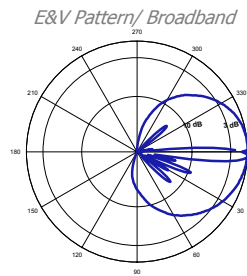
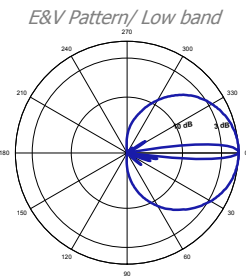
BROADBAND 1800 UMTS

Antenna Model	TT D3-800TV		
Polarization	± 45°		
Frequency	876 - 960	1710 - 1880	1920 - 2170
Horizontal Beamwidth	60°	66°	61°
Vertical Beamwidth	7.5°	6.7°	6.3°
Gain (dBi)	16.9	17.3	17.5
Vertical Electrical Tilt	VARIABLE 2°-10°	VARIABLE 2°-10°	VARIABLE 2°-10°
Upper Sidelobe Suppression for the 1rst lobe above main beam (dB)	17	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30	> 30	> 30
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 7	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 40 (876-960//1710-2170) > 33 (1710-2170//1710-2170)		
Maximum Power Per Input (W)	250	250	
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	6 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @160 km/h (N)	1330
Lateral Windload @160 km/h (N)	300
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	37
Antenna Dimension (mm) H X W X D	2580 x 340 x 140

This antenna is available with variable electrical tilt 4°-14°



TT D3-600TV

TRI-BAND PANEL ANTENNA

GSM 900/ 2x BROADBAND 1800-UMTS

876 - 960

1710-1880

1920-2170

H62° V10.7°

H65° V6.7°

H62° V6.2°

Variable Tilt
0°-10°

Variable Tilt
2°-10°

Variable Tilt
2°-10°

ELECTRICAL SPECIFICATIONS

GSM 900

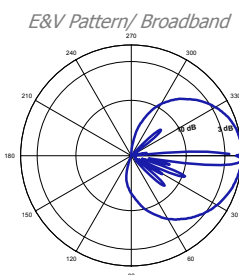
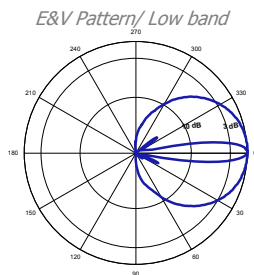
BROADBAND 1800 UMTS

Antenna Model	TT D3-600TV		
Polarization	± 45°		
Frequency	876 - 960	1710 - 1880	1920 - 2170
Horizontal Beamwidth	62°	65°	62°
Vertical Beamwidth	10.7°	6.7°	6.2°
Gain (dBi)	15.6	17.4	17.5
Vertical Electrical Tilt	VARIABLE 0°-10°	VARIABLE 2°-10°	VARIABLE 2°-10°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	15	16	16
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 25	> 30	> 30
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 7	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 40 (876-960//1710-2170) > 33 (1710-2170//1710-2170)		
Maximum Power Per Input (W)	250	250	
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	6 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @160 km/h (N)	1020
Lateral Windload @160 km/h (N)	230
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	29
Antenna Dimension (mm) H X W X D	1990 x 340 x 140

This antenna is available with variable electrical tilt 4°-14°



TT D3-400TV

TRI-BAND PANEL ANTENNA

GSM 900/ 2x BROADBAND 1800-UMTS

876 - 960	1710-1880	1920-2170
H64° V14°	H65° V6.8°	H63° V6.4°
Variable Tilt 0°-8°	Variable Tilt 2°-10°	Variable Tilt 2°-10°

ELECTRICAL SPECIFICATIONS

GSM 900

BROADBAND 1800 UMTS

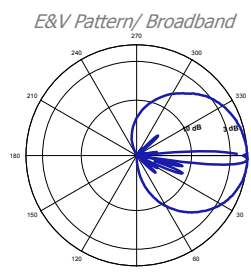
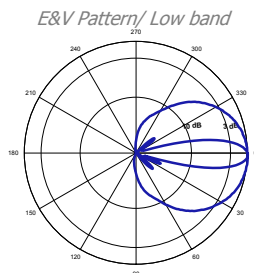
Antenna Model	TT D3-400TV		
Polarization	± 45°		
Frequency	876 - 960	1710 - 1880	1920 - 2170
Horizontal Beamwidth	64°	65°	63°
Vertical Beamwidth	14°	6.8°	6.4°
Gain (dBi)	14.4	17.3	17.4
Vertical Electrical Tilt	VARIABLE 0°-8°	VARIABLE 2°-10°	VARIABLE 2°-10°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	15	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 26	> 28	> 28
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 7	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 40 (876-960//1710-2170) > 33 (1710-2170//1710-2170)		
Maximum Power Per Input (W)	250	250	
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	6 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @160 km/h (N)	680
Lateral Windload @160 km/h (N)	150
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	23
Antenna Dimension (mm) H X W X D	1340 x 340 x 140



This antenna is available with variable electrical tilt 4°-14°





MULTI-BAND PANEL ANTENNA

QUAD-BAND PANEL ANTENNA

2x CELLULAR 850/ 2x BROADBAND 1900-UMTS

Frequency	HBW	VBW	Gain (dBi)	Polarization	Tilt	Height (mm)	Model	Page
824 - 894 1850 - 2170	65° 65°	14,5° 6,5°	13.5 17	± 45° ± 45°	Variable 0°-10° Variable 0°-10°	2620	TGA 2D3-800TV	80
824 - 894 1850 - 2170	65° 65°	14,5° 6,5°	13.5 17	± 45° ± 45°	Variable 0°-10° Variable 0°-10°			

TGA 2D3-800TV

QUAD-BAND PANEL ANTENNA

2xCELLULAR 850/ 2xBROADBAND 1900-UMTS

824 - 894

1850-1990

1920-2170

H70° V14.6°

H64° V6.7°

H63° V6.6°

Variable Tilt
0°-10°

Variable Tilt
0°-10°

Variable Tilt
0°-10°

ELECTRICAL SPECIFICATIONS

CELLULAR 850

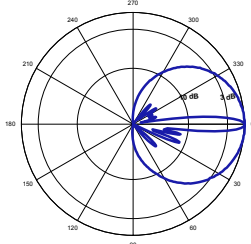
BROADBAND 1900 UMTS

Antenna Model	TGA2 D3-800TV		
Polarization	+/- 45°		
Frequency	824 - 894	1850 - 1990	1920 - 2170
Horizontal Beamwidth	70°	64°	63°
Vertical Beamwidth	14,6°	6,7°	6,6°
Gain (dBi)	13,7	16,7	16,7
Vertical Electrical Tilt	VARIABLE 0°-10°	VARIABLE 0°-10°	VARIABLE 0°-10°
Upper Sidelobe Suppression for the 1rst lobe above main beam (dB)	17	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 27	> 27	> 27
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 40 (824-894//1850-2170) > 33 (1850-2170//1850-2170)		
Maximum Power Per Input (W)	500	250	
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

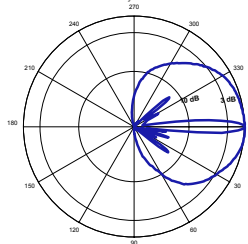
MECHANICAL SPECIFICATIONS

Connectors	8 x 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Front Windload @ 160 km/h (N)	1350
Lateral Windload @ 160 km/h (N)	300
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	40
Antenna Dimension (mm) H X W X D	2620 X 340 X 140

E&V Pattern/ Low band



E&V Pattern/ Broadband





TRI-SECTOR ANTENNA

BROADBAND 1800-1900-UMTS

	Frequency	HBW	VBW	Gain (dBi)	Polarization	Tilt	Height (mm)	Model	Page
3x	1710 - 2170	65°	6,5°	17.5	± 45°	Variable 0°-10	2040	SB D3-800TV Mono-Radome	82
3x	1710 - 2170	65°	6,5°	17.5	± 45°	Variable 0°-10	1900	TS D3-800TV Multi-Radome	83

SB D3-800TV

TRI-SECTOR ANTENNA

BROADBAND

1710-1880

1850-1990

1920-2170

H67° V6.9°

H64° V6.6°

H62° V6.4°

Variable Tilt
0°-10°

Variable Tilt
0°-10°

Variable Tilt
0°-10°

ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

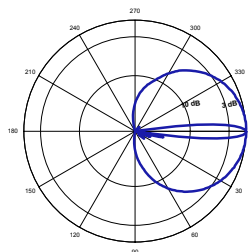
Antenna Model	SB D3-800TV		
Polarization	± 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	67°	64°	62°
Vertical Beamwidth	6,9°	6,6°	6,4°
Gain (dBi)	17.2	17.2	17.5
Vertical Electrical Tilt	VARIABLE 0°-10°	VARIABLE 0°-10°	VARIABLE 0°-10°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	17	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 28	> 28	> 28
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 33 (1710-2170//1710-2170)		
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		



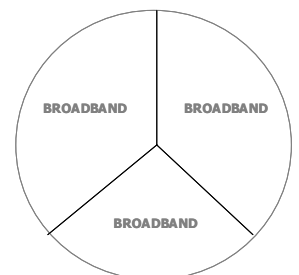
MECHANICAL SPECIFICATIONS

Connectors	6 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Windload @ 160 km/h (N)	300
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	35
Antenna Dimension (mm) H X D	2040 X 210

E&V Pattern



Tri-Sector configuration



TS D3-800TV TRI-SECTOR With 3 standards antennas BROADBAND

876 - 960

1710-1880

1920-2170

H67° V6.9°

H64° V6.6°

H62° V6.4°

Variable Tilt
0°-10°Variable Tilt
0°-10°Variable Tilt
0°-10°

ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

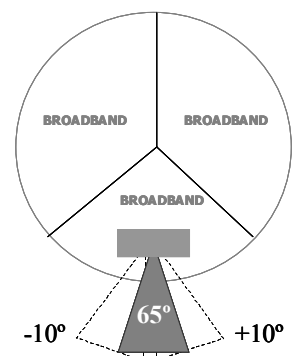
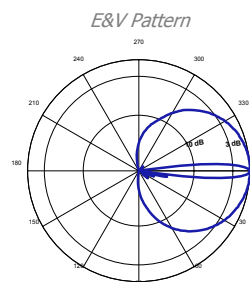
Antenna Model	SB D3-800TV		
Polarization	+/- 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	67°	64°	62°
Vertical Beamwidth	6,9°	6,6°	6,4°
Gain (dBi)	17.2	17.4	17.5
Vertical Electrical Tilt	VARIABLE 0°-10°	VARIABLE 0°-10°	VARIABLE 0°-10°
Azimuth Variable	-10° to +10°		
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	17	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 28	> 28	> 28
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 33 (1710-2170//1710-2170)		
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	6 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Windload @ 160 km/h (N)	400
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	70
Antenna Dimension (mm) H X D	1900 X 400



Tri-Sector configuration





TRI-SECTOR ANTENNA

GSM 900/ BROADBAND 1800-UMTS

	Frequency	HBW	VBW	Gain (dBi)	Polarization	Tilt	Height (mm)	Model	Page
3x	876 - 960 1710 - 2170	65° 65°	8° 6,5°	17 17,5	± 45° ± 45°	Variable 2°-10° Variable 2°-10°	2990	SB TG-800TV	85
3x	876 - 960 1710 - 2170	65° 65°	10° 6,5°	15,5 17,5	± 45° ± 45°	Variable 0°-10° Variable 2°-10°	2300	SB TG-600TV	86
3x	876 - 960 1710 - 2170	65° 65°	14,5° 6,5°	14 17,5	± 45° ± 45°	Variable 0°-10° Variable 2°-10°	1670	SB TG-400TV	87

SB TG-800TV

TRI-SECTOR ANTENNA

GSM 900/ BROADBAND

876 - 960	1710-1880	1920-2170
H65° V7.5°	H64° V6.8°	H60° V6.4°
Variable Tilt 0°-10°	Variable Tilt 2°-10°	Variable Tilt 2°-10°

ELECTRICAL SPECIFICATIONS

GSM 900

BROADBAND 1800 UMTS

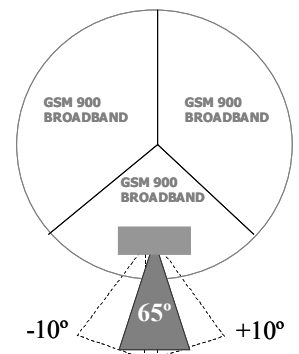
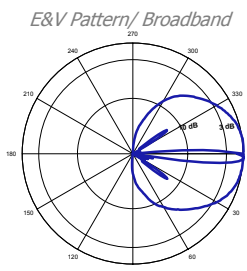
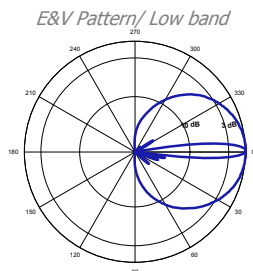
Antenna Model	SB TG-800TV		
Polarization	± 45°		
Frequency	876 - 960	1710 - 1880	1920 - 2170
Horizontal Beamwidth	65°	64°	60°
Vertical Beamwidth	7,5°	6,8°	6,4°
Gain (dBi)	16.8	17.3	17.5
Vertical Electrical Tilt	VARIABLE 0°-10°	VARIABLE 2°-10°	VARIABLE 2°-10°
Azimuth Variable	-10° to +10°		
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	17	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 28	> 28	> 30
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 7	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 40 (876-960//1710-2170) > 33 (1710-2170//1710-2170)		
Maximum Power Per Input (W)	250	250	
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	12 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Windload @ 160 km/h (N)	990
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	160
Antenna Dimension (mm) H X D	2990 X 500



Tri-Sector configuration with Variable Azimuth



SB TG-600TV

TRI-SECTOR ANTENNA

GSM 900/ BROADBAND

876 - 960

H66° V11.6°

Variable Tilt
0°-10°

1710-1880

H64° V6.8°

Variable Tilt
2°-10°

1920-2170

H60° V6.3°

Variable Tilt
2°-10°

ELECTRICAL SPECIFICATIONS

GSM 900

BROADBAND 1800 UMTS

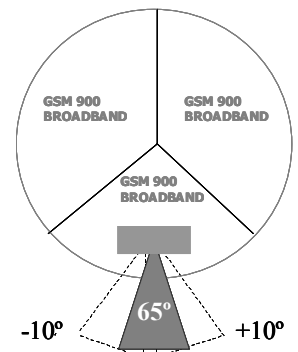
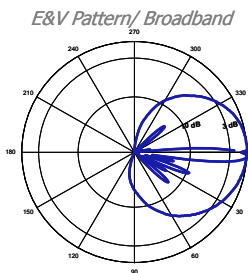
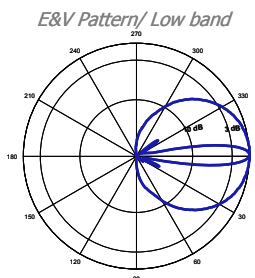
Antenna Model	SB TG-600TV		
Polarization	± 45°		
Frequency	876 - 960	1710 - 1880	1920 - 2170
Horizontal Beamwidth	66°	64°	60°
Vertical Beamwidth	11,6°	6,8°	6,3°
Gain (dBi)	15.3	17.3	17.5
Vertical Electrical Tilt	VARIABLE 0°-10°	VARIABLE 2°-10°	VARIABLE 2°-10°
Azimuth Variable	-10° to +10°		
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	15	16	16
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 25	> 30	> 30
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 7	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 40 (876-960//1710-2170) > 33 (1710-2170//1710-2170)		
Maximum Power Per Input (W)	250	250	
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	12 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Windload @ 160 km/h (N)	770
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	140
Antenna Dimension (mm) H X D	2300 X 500



Tri-Sector configuration with Variable Azimuth



SB TG-400TV

TRI-SECTOR ANTENNA

GSM 900/ BROADBAND

876 - 960	1710-1880	1920-2170
H67° V14°	H65° V6.9°	H60° V6.3°
Variable Tilt 0°-10°	Variable Tilt 2°-10°	Variable Tilt 2°-10°

ELECTRICAL SPECIFICATIONS

GSM 900

BROADBAND 1800 UMTS

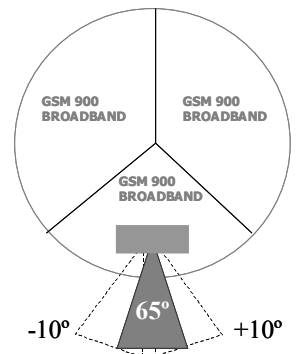
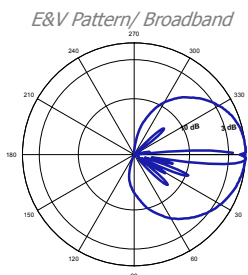
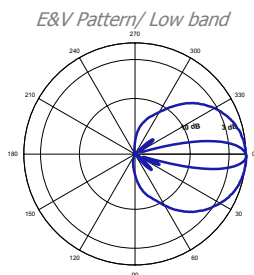
Antenna Model	SB TG-400TV		
Polarization	± 45°		
Frequency	876 - 960	1710 - 1880	1920 - 2170
Horizontal Beamwidth	67°	65°	60°
Vertical Beamwidth	14°	6,9°	6,3°
Gain (dBi)	14.2	17.4	17.5
Vertical Electrical Tilt	VARIABLE 0°-10°	VARIABLE 2°-10°	VARIABLE 2°-10°
Azimuth Variable	-10° to +10°		
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	15	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 26	> 28	> 28
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 7	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 40 (876-960//1710-2170) > 33 (1710-2170//1710-2170)		
Maximum Power Per Input (W)	250	250	
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	12 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Windload @ 160 km/h (N)	550
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	100
Antenna Dimension (mm) H X D	1670 X 500



Tri-Sector configuration with Variable Azimuth





TRI-SECTOR ANTENNA

CELLULAR 850/ BROADBAND 1900-UMTS

	Frequency	HBW	VBW	Gain (dBi)	Polarization	Tilt	Height (mm)	Model	Page
3x	824 - 894 1850 - 2170	65° 65°	8° 6,5°	16,5 17,5	± 45° ± 45°	Variable 2°-8° Variable 2°-10°	2990	SB TGA-800TV	89
3x	824 - 894 1850 - 2170	65° 65°	10° 6,5°	15 17,5	± 45° ± 45°	Variable 0°-8° Variable 2°-10°	2300	SB TGA-600TV	90
3x	824 - 894 1850 - 2170	65° 65°	14,5° 6,5°	13,5 17,5	± 45° ± 45°	Variable 0°-10° Variable 2°-10°	1670	SB TGA-400TV	91

SB TGA-800TV

TRI-SECTOR ANTENNA

CELLULAR 850/ BROADBAND

824-894	1850-1990	1920-2170
H70° V7.8°	H60° V6.6°	H60° V6.4°
Variable Tilt 0°-8°	Variable Tilt 2°-10°	Variable Tilt 2°-10°

ELECTRICAL SPECIFICATIONS

CELLULAR 850

BROADBAND 1900 UMTS

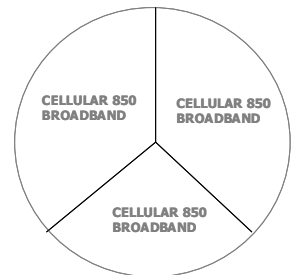
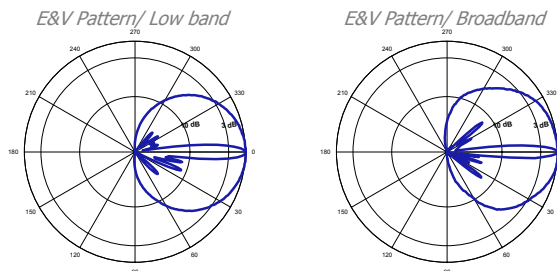
Antenna Model	SB TGA-800TV		
Polarization	± 45°		
Frequency	824 - 894	1850 - 1990	1920 - 2170
Horizontal Beamwidth	70°	60°	60°
Vertical Beamwidth	7,8°	6,6°	6,4°
Gain (dBi)	16.3	17.4	17.5
Vertical Electrical Tilt	VARIABLE 0°-8°	VARIABLE 2°-10°	VARIABLE 2°-10°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	16	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30	> 30	> 30
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 40 (824-894//1850-2170) > 33 (1850-2170//1850-2170)		
Maximum Power Per Input (W)	500	250	
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		



MECHANICAL SPECIFICATIONS

Connectors	12 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Windload @ 160 km/h (N)	890
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	150
Antenna Dimension (mm) H X D	2990 X 450

Tri-Sector configuration



SB TGA-600TV

TRI-SECTOR ANTENNA

CELLULAR 850/ BROADBAND

824-894	1850-1990	1920-2170
H70° V11°	H61° V6.6°	H61° V6.4°
Variable Tilt 0°-8°	Variable Tilt 2°-10°	Variable Tilt 2°-10°

ELECTRICAL SPECIFICATIONS

CELLULAR 850

BROADBAND 1900 UMTS

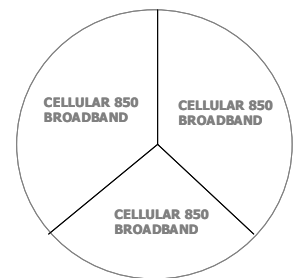
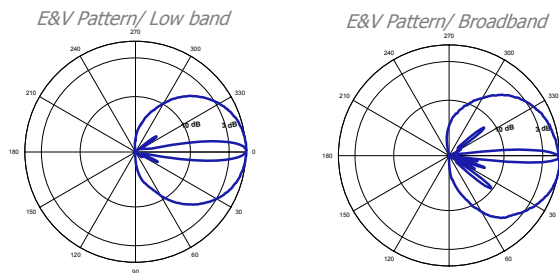
Antenna Model	SB TGA-600TV		
Polarization	± 45°		
Frequency	824 - 894	1850 - 1990	1920 - 2170
Horizontal Beamwidth	70°	61°	61°
Vertical Beamwidth	11°	6,6°	6,4°
Gain (dBi)	15.1	17.4	17.5
Vertical Electrical Tilt	VARIABLE 0°-8°	VARIABLE 2°-10°	VARIABLE 2°-10°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	16	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 27	> 29	> 29
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 40 (824-894//1850-2170) > 33 (1850-2170//1850-2170)		
Maximum Power Per Input (W)	500	250	
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		



MECHANICAL SPECIFICATIONS

Connectors	12 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Windload @ 160 km/h (N)	680
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	130
Antenna Dimension (mm) H X D	2300 X 450

Tri-Sector configuration



SB TGA-400TV

TRI-SECTOR ANTENNA

CELLULAR 850/ BROADBAND

824-894	1850-1990	1920-2170
H70° V14.6°	H62° V6.6°	H61° V6.3°
Variable Tilt 0°-10°	Variable Tilt 0°-10°	Variable Tilt 0°-10°

ELECTRICAL SPECIFICATIONS

CELLULAR 850

BROADBAND 1900 UMTS

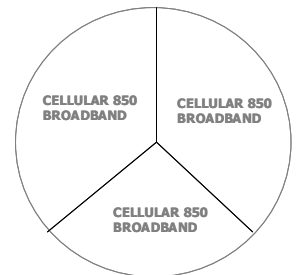
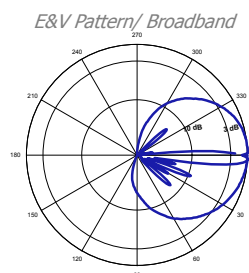
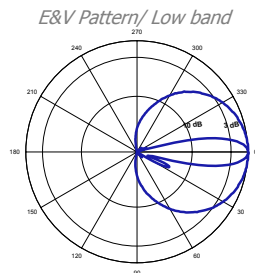
Antenna Model	SB TGA-400TV		
Polarization	± 45°		
Frequency	824 - 894	1850 - 1990	1920 - 2170
Horizontal Beamwidth	70°	62°	61°
Vertical Beamwidth	14,6°	6,6°	6,3°
Gain (dBi)	13.3	17.4	17.5
Vertical Electrical Tilt	VARIABLE 0°-10°	VARIABLE 0°-10°	VARIABLE 0°-10°
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	18	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 28	> 28	> 28
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 40 (824-894//1850-2170) > 33 (1850-2170//1850-2170)		
Maximum Power Per Input (W)	500	250	
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	12 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Windload @ 160 km/h (N)	490
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	95
Antenna Dimension (mm) H X D	1670 X 450



Tri-Sector configuration





TRI-SECTOR ANTENNA

GSM 900/ BROADBAND 1800-UMTS

	Frequency	HBW	VBW	Gain (dBi)	Polarization	Tilt	Height (mm)	Model	Page
3x	876 - 960	65°	7,5°	16,5	± 45°	Variable 2°-10°	2990	SB TT-800TV	93
	1710 - 2170	65°	6,5°	17,5	± 45°	Variable 2°-10°			
	1710 - 2170	65°	6,5°	17,5	± 45°	Variable 2°-10°			
3x	876 - 960	65°	10,5°	15,5	± 45°	Variable 0°-10°	2300	SB TT-600TV	94
	1710 - 2170	65°	6,5°	17,5	± 45°	Variable 2°-10°			
	1710 - 2170	65°	6,5°	17,5	± 45°	Variable 2°-10°			
3x	876 - 960	65°	15°	14	± 45°	Variable 0°-10°	1670	SB TT-400TV	95
	1710 - 2170	65°	6,5°	17,5	± 45°	Variable 2°-10°			
	1710 - 2170	65°	6,5°	17,5	± 45°	Variable 2°-10°			

SB TT-800TV

TRI-SECTOR ANTENNA

GSM 900/ 2x BROADBAND

876 - 960	1710-1880	1920-2170
H65° V7.5°	H64° V6.8°	H60° V6.4°
Variable Tilt 0°-10°	Variable Tilt 2°-10°	Variable Tilt 2°-10°

ELECTRICAL SPECIFICATIONS

GSM 900

BROADBAND 1800 UMTS

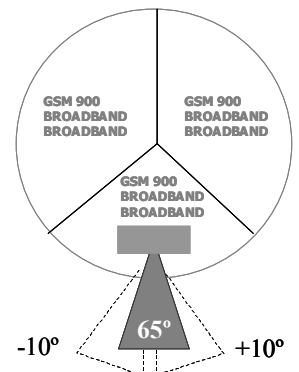
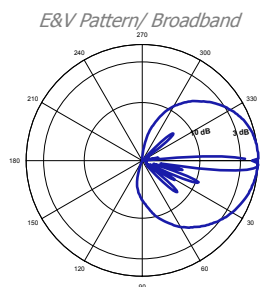
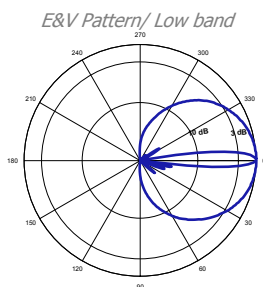
Antenna Model	SB TT-800TV		
Polarization	± 45°		
Frequency	876 - 960	1710 - 1880	1920 - 2170
Horizontal Beamwidth	65°	64°	60°
Vertical Beamwidth	7,5°	6,8°	6,4°
Gain (dBi)	16.6	17.3	17.5
Vertical Electrical Tilt	VARIABLE 0°-10°	VARIABLE 2°-10°	VARIABLE 2°-10°
Variable Azimuth	-10° to +10°		
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	17	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30	> 30	> 30
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 7	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 40 (876-960//1710-2170) > 33 (1710-2170//1710-2170)		
Maximum Power Per Input (W)	250	250	
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		



MECHANICAL SPECIFICATIONS

Connectors	18 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Windload @ 160 km/h (N)	990
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	170
Antenna Dimension (mm) H X D	2990 X 500

Tri-Sector configuration with Variable Azimuth



SB TT-600TV

TRI-SECTOR ANTENNA

GSM 900/ 2x BROADBAND

876 - 960	1710-1880	1920-2170
H66° V11.6°	H64° V6.8°	H60° V6.3°
Variable Tilt 0°-10°	Variable Tilt 2°-10°	Variable Tilt 2°-10°

ELECTRICAL SPECIFICATIONS

GSM 900

BROADBAND 1800 UMTS

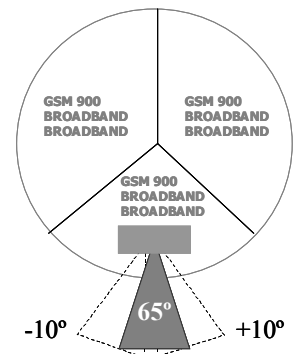
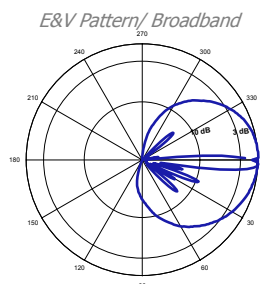
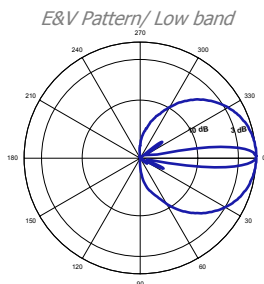
Antenna Model	SB TT-600TV		
Polarization	± 45°		
Frequency	876 - 960	1710 - 1880	1920 - 2170
Horizontal Beamwidth	66°	64°	60°
Vertical Beamwidth	11,6°	6,8°	6,3°
Gain (dBi)	15.3	17.3	17.5
Vertical Electrical Tilt	VARIABLE 0°-10°	VARIABLE 2°-10°	VARIABLE 2°-10°
Variable Azimuth	-10° to +10°		
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	15	16	16
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 25	> 30	> 30
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 7	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 40 (876-960//1710-2170) > 33 (1710-2170//1710-2170)		
Maximum Power Per Input (W)	250	250	
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	18 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Windload @ 160 km/h (N)	770
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	140
Antenna Dimension (mm) H X D	2300 X 500



Tri-Sector configuration with Variable Azimuth



SB TT-400TV

TRI-SECTOR ANTENNA

GSM 900/ 2x BROADBAND

876 - 960

1710-1880

1920-2170

H67° V14°

H65° V6.9°

H60° V6.3°

Variable Tilt
0°-10°

Variable Tilt
2°-10°

Variable Tilt
2°-10°

ELECTRICAL SPECIFICATIONS

GSM 900

BROADBAND 1800 UMTS

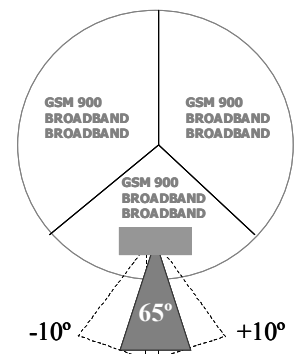
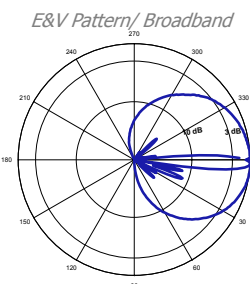
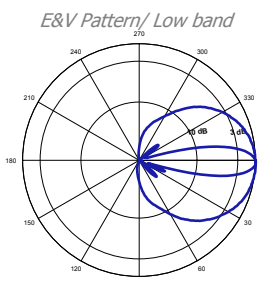
Antenna Model	SB TT-400TV		
Polarization	± 45°		
Frequency	876 - 960	1710 - 1880	1920 - 2170
Horizontal Beamwidth	67°	65°	60°
Vertical Beamwidth	14°	6,9°	6,3°
Gain (dBi)	14.2	17.4	17.5
Vertical Electrical Tilt	VARIABLE 0°-10°	VARIABLE 2°-10°	VARIABLE 2°-10°
Variable Azimuth	-10° to +10°		
Upper Sidelobe Suppression for the 1st lobe above main beam (dB)	15	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 26	> 28	> 28
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 7	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 40 (876-960//1710-2170) > 33 (1710-2170//1710-2170)		
Maximum Power Per Input (W)	250	250	
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

MECHANICAL SPECIFICATIONS

Connectors	18 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Windload @ 160 km/h (N)	550
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	100
Antenna Dimension (mm) H X D	1670 X 500



Tri-Sector configuration with Variable Azimuth





TRI-SECTOR ANTENNA

2x BROADBAND 1800-1900-UMTS

	Frequency	HBW	VBW	Gain (dBi)	Polarization	Tilt	Height (mm)	Model	Page
3x	1710 - 2170	65°	6,5°	18	± 45°	Variable 0°-10°	2990	SB BG-800TV	97
	1710 - 2170	65°	6,5°	18	± 45°	Variable 0°-10°			

SB BG-800TV

TRI-SECTOR ANTENNA

2x BROADBAND

1710-1880

1850-1990

1920-2170

H66° V6.5°

H64° V6.4°

H62° V6°

Variable Tilt
0°-10°

Variable Tilt
0°-10°

Variable Tilt
0°-10°

ELECTRICAL SPECIFICATIONS

BROADBAND 1800 1900 UMTS

Antenna Model	SB BG-800TV		
Polarization	± 45°		
Frequency	1710 - 1880	1850 - 1990	1920 - 2170
Horizontal Beamwidth	66°	64°	62°
Vertical Beamwidth	6,5°	6,4°	6°
Gain (dBi)	17.7	18.1	18.2
Vertical Electrical Tilt	VARIABLE 0°-10°	VARIABLE 0°-10°	VARIABLE 0°-10°
Upper Sidelobe Suppression for the 1rst lobe above main beam (dB)	17	17	17
Front-to-Back Ratio /Cpol @ ± 20° (dB)	> 30	> 30	> 30
VSWR	< 1,5 : 1	< 1,5 : 1	< 1,5 : 1
Cross Polar Ratio @ ± 60° (dB)	> 10	> 10	> 10
Isolation between Ports (dB)	> 30	> 30	> 30
Interband Isolation (dB)	> 33 (1710-2170//1710-2170)		
Maximum Power Per Input (W)	250		
Intermodulation (dBc)	< - 150		
Impedance (Ω)	50		

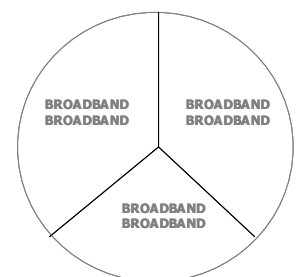
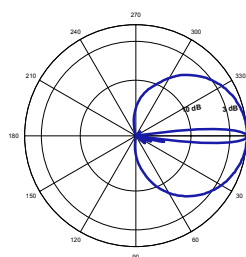
MECHANICAL SPECIFICATIONS

Connectors	12 X 7/16 Female
Connector Position	Bottom
Survival Wind Speed (km/h)	200
Windload @ 160 km/h (N)	890
Radome Color	Grey, paintable
Temperature Range (°C)	-55° to +60°
Humidity	100%
Antenna Weight (kg)	70
Antenna Dimension (mm) H X D	2040 X 450



Tri-Sector configuration

E&V Pattern





RET SYSTEMS

For Electrical Downtilt Antennas

Model	Protocol	Page
RACU (Remote Antenna Control Unit)	AISG 1.1 and AISG 2.0 compliant	99
SCU (Site Control Unit)	AISG 1.1 and AISG 2.0 compliant	100
Cables	AISG 1.1 and AISG 2.0 compliant	101

RET SYSTEM

Remote Antenna Control Unit (RACU)

For Electrical Downtilt Antennas



ELECTRICAL SPECIFICATIONS

Unit Model	RACU-001	RACU-020
Interface	RS485	
	AISG 1.1 Protocol	AISG 2.0 Protocol
Adjustment Time (Full Range)	60 sec	
Power Supply	+10 to +30 V	
	5W to 10W (in motion)	
	< 1W (idle)	

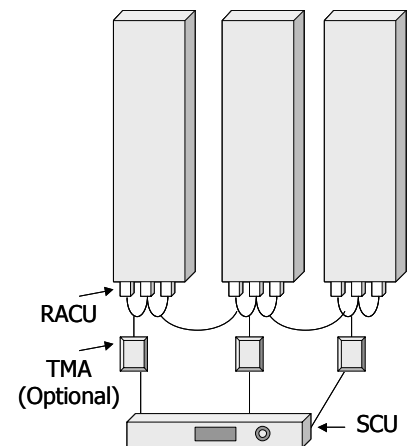
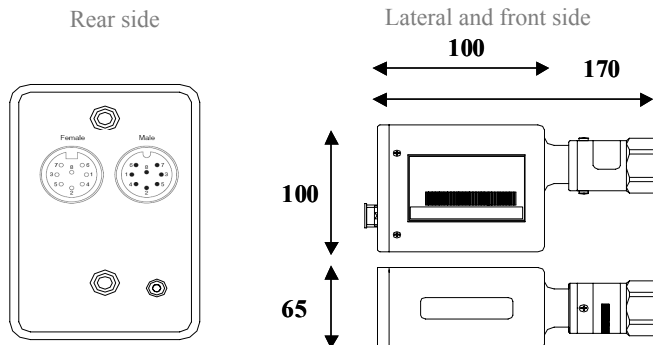
MECHANICAL SPECIFICATIONS

Dimensions (mm)	170 x 100 x 65
Weight (kg)	1.1
Connectors	2 x 8 pin connector according to IEC 60130-9; according to AISG.
	Daisy chain in: male
	Daisy chain out: female
Housing Material	ABS chromate. Nut in aluminium
Grounding	All metallic parts are DC grounded
Temperature Range	-40° to +60°C
Humidity	100%



Packing components : Remote Control Unit (RACU) , termination load

Example of configuration with Tri-Band antenna



RET SYSTEM

Site Control Unit (SCU)

For Remote Antenna Control Unit (RACU)
And Tower Mounted Amplifier (TMA)

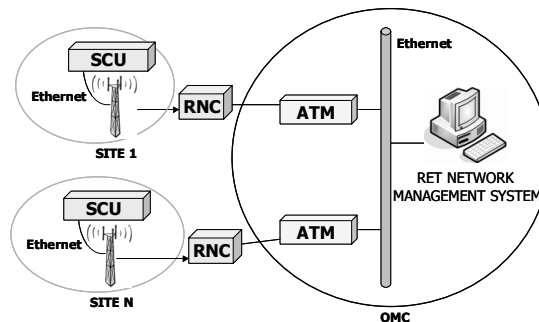


ELECTRICAL SPECIFICATIONS

Site Control Unit Model	SCU-001	SCU-020
Interface	RS485	
	AISG 1.1 Protocol	AISG 2.0 Protocol
Input Voltage	DC: -48V	
	AC: 100-240 v, 50 to 60 Hz	
Output Voltage	3 x 24 VDC	
	3 x 12 VDC	
Total Output Power	50 W	
Connector to RACU	3 X 8 pin connectors according to IEC 60130-9; according to AISG. Daisy chain in & out: female.	
Interface to BTS/PC/modem	Ethernet/RS-232	
Protocols to BTS/PC/modem	TCP/IP, HTTP/HTML, UDP, DHCP, FTP, SNMP, ICMP/PING	
Maximum number of ALD	32 logical unit (consumption total < 50W)	
	Alarms visible at the SCU via LED/ LCD	
Alarm interface to BTS	8 configurable opto-isolated alarm signal outputs and common reference return	

MECHANICAL SPECIFICATIONS

Mounting device	Kits for 19 inch rack or wall mounting kit available
Dimensions (mm)	430 x 170 x 43
Weight (kg)	2.4 kg
Temperature Range	-25° to +55°C

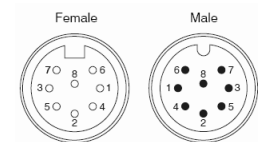


RET SYSTEM POWER SUPPLY AND CONTROL CABLE



ELECTRICAL SPECIFICATIONS

Type No.	MC XXX
Connectors	2 x 8 pin circular connector according to 60130-9, Ed. 3.0 (in accordance with AISG 1.1), female/male
Construction	Screen 1 x twisted pair 100 Ω/1 MHz 24 AWG 2 x power supply, 1 x DC return 18 AWG
Temperature Range	-40 °C to +80°C (fixed position)
Protection Class	IP 67 (connected)
Cable diameter	8 mm
Flammability	VL 1581 VW-1 CSA FT1
Minimum bending radius	Single bending 7,5 x D Multiple bending 15 x D



Type No	Description	Length
MC001	Control Cable	1 m
MC002	Control Cable	2 m
MC003	Control Cable	3 m
MC005	Control Cable	5 m
MC010	Control Cable	10 m
MC020	Control Cable	20 m
MC025	Control Cable	25 m
MC040	Control Cable	40 m
MC050	Control Cable	50 m
MC060	Control Cable	60 m
MC080	Control Cable	80 m
MC100	Control Cable	100 m

Pin assignment according to AISG

- 1 +13V DC (+12 V DC nominal)
- 2 Optional, not used
- 3 RS 485 B
- 4 RS 485 GND Optional, not used
- 5 RS 485 A
- 6 +29 VDC (+24 V DC nominal)
- 7 DC Return
- 8 Optional not used

For indoor and outdoor

Control Cable assembled with suitable connectors for Remote Electrical Tilt (RET) components



WORLDWIDE PRESENCE



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