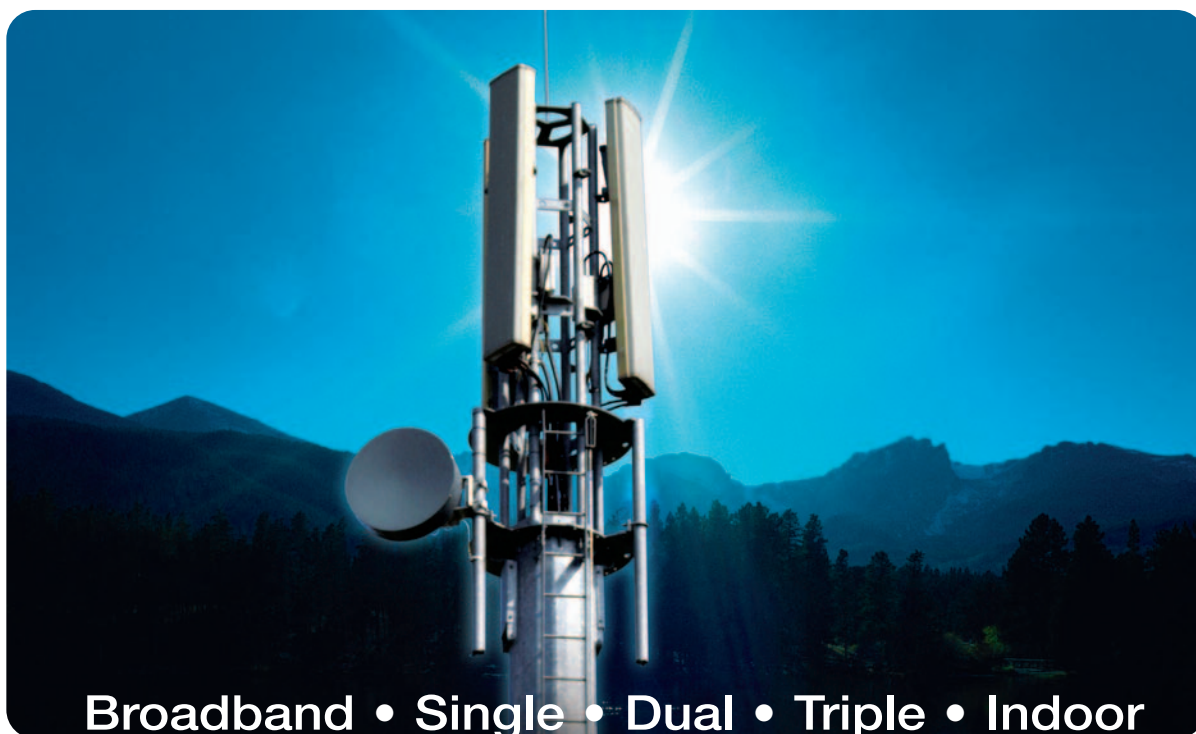




Broadband • Single • Dual • Triple • Indoor

Antennas

YOUR PARTNER IN CONCEPTS AND COMPETITIVE TECHNOLOGIES

Broadband, Single, Dual, Triple and Indoor Antennas

simplified solutions

antennas



A Tradition of Quality Since 1946

Powerwave delivers antennas to customers around the world, offering solutions for all mobile telephony standards. Our designers and engineers build on years of experience; we have developed and manufactured top-quality antennas since 1946.

State of the Art Antennas Is the Key to Reducing Total Cost of Ownership

The Powerwave broadband multiband antennas offer network operators fast and successful roll-out of next generation networks with excellent RF-performance. Our antennas are designed to overcome 3G deployment challenges, such as space and installation issues as well as various co-siting scenarios. The Powerwave broadband antenna technology simplifies logistics for network operators active in multiple markets.

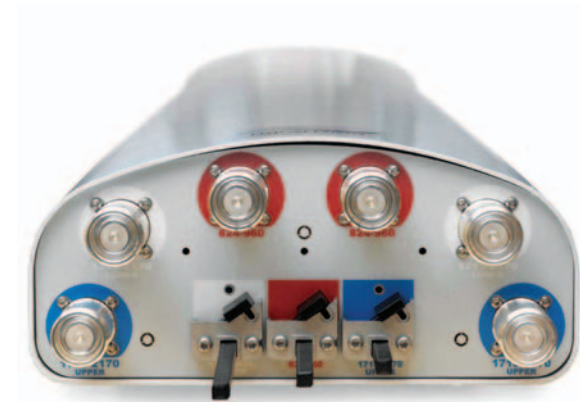
The Powerwave “clean” antenna platform technology provides consistent world class performance of complex multiband antennas and allows for our antennas to be manufactured in high volumes. This capability enables Powerwave to offer industry leading delivery capability to network operators.

Comprehensive Antenna Portfolio

The Powerwave Antenna portfolio consists of slim broadband antennas for any single, dual or triple band application with MET & RET functionality

Benefits:

- Fulfill the most severe electrical specifications
- Designed to last in harsh environmental conditions
- Stringent testing program during development ensuring high performance
- Internal and independent environmental testing before commercial release of new antennas
- Extensive testing in production to ensure the highest quality
- High-volume production platforms with tuning-free antennas
- Easy to install with pre-mounted brackets



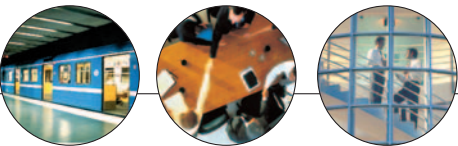
Broadband
cross polarized
antennas

broadband cross

antennas

Range MHz	Part Number	Gain dBi (dBd)	Electrical Downtilt	HBW	Number of Ports	Family
806-960	7471.00	14.2 (12.1)	2-12.0	65°	2	Low Broadband
806-960	7472.00	16.5 (14.4)	0-7.5	65°	2	Low Broadband
806-960	7473.00	17.5 (15.4)	0-5.5	65°	2	Low Broadband
806-960	7476.00	15 (12.9)	0	65°	2	Low Broadband
806-960	7476.02	15 (12.9)	2	65°	2	Low Broadband
806-960	7476.06	15 (12.9)	6	65°	2	Low Broadband
806-960	7477.00	16.5 (14.4)	0	65°	2	Low Broadband
806-960	7477.02	16.5 (14.4)	2	65°	2	Low Broadband
806-960	7477.06	16.5 (14.4)	6	65°	2	Low Broadband
806-960	7478.00	18 (15.9)	0	65°	2	Low Broadband
806-960	7478.02	18 (15.9)	2	65°	2	Low Broadband
806-960	7478.06	18 (15.9)	6	65°	2	Low Broadband
806-960	7481.00	13.5 (11.4)	0	90°	2	Low Broadband
806-960	7482.00	15 (12.9)	0	90°	2	Low Broadband
806-960	7483.00	16.5 (14.4)	0	90°	2	Low Broadband
806-960	7486.00	13.5 (11.4)	0	90°	2	Low Broadband
806-960	7486.02	13.5 (11.4)	2	90°	2	Low Broadband
806-960	7486.06	13.5 (11.4)	6	90°	2	Low Broadband
806-960	7487.00	15 (12.9)	0	90°	2	Low Broadband
806-960	7487.02	15 (12.9)	2	90°	2	Low Broadband
806-960	7487.06	15 (12.9)	6	90°	2	Low Broadband
806-960	7488.00	16.5 (14.4)	0	90°	2	Low Broadband
806-960	7488.02	16.5 (14.4)	2	90°	2	Low Broadband
806-960	7488.06	16.5 (14.4)	6	90°	2	Low Broadband
1710-2170	7700.00	15.5 (13.4)	0	65°	2	High Broadband
1710-2170	7700.06	15.5 (13.4)	6	65°	2	High Broadband

Range MHz	Part Number	Gain dBi (dBd)	Electrical Downtilt	HBW	Number of Ports	Family
1710-2170	7701.00	18 (15.9)	0	65°	2	High Broadband
1710-2170	7701.02	18 (15.9)	2	65°	2	High Broadband
1710-2170	7701.06	18 (15.9)	6	65°	2	High Broadband
1710-2170	7720.00	15 (12.9)	0-16	65°	2	High Broadband
1710-2170	7721.00	18 (15.9)	0-8	65°	2	High Broadband
1710-2170	7721.10	18 (15.9)	2-10	65°	2	High Broadband
1710-2170	7722.00	19.5 (17.4)	0-5.5	65°	2	High Broadband
1710-2170	7735.00A	13.5 (11.4)	0-16	90°	2	High Broadband
1710-2170	7740.00A	16.5 (14.4)	0-8	90°	2	High Broadband
1710-2170	7745.00A	18 (15.9)	0-5.5	90°	2	High Broadband
824-960/1710-2170	7750.00	14/17.5 (11.9/15.4)	2-12/0-8	65°	2	Dual Broadband
824-960/1710-2170	7752.00	14/17.5 (11.9/15.4)	2-12/0-8	65°	2	Dual Broadband
824-960/1710-2170	7755.00	14/17.5 (11.9/15.4)	2-12/0-8	65°	2	Dual Broadband
1710-2170	7760.00	17.5/18/18.5 (15.4/15.9/16.4)	0-8	65°	2	Dual High Broadband
1710-2170	7762.00	16.3/16.5/16.7 (14.2/14.4/14.6)	0-8	90°	2	Dual High Broadband
1710-2170	7765.00	18.8/19.2/19.7 (16.7/17.1/17.6)	0-5.5	65°	2	Dual High Broadband
1710-2170	7766.00	17.4/17.6/17.8 (15.3/15.5/15.7)	0-5.5	90°	2	Dual High Broadband
800/1900	7770.00	13.5/16.5 (11.4/14.4)	0-10/0-8	90°	2	Dual Broadband
800/1900	7772.00	15/16.5 (12.9/14.4)	0-10/0-8	90°	2	Dual Broadband
824-960/2*1710-2170	7780.00	14.5/14.4/14.8 (12.4/12.3/12.7)	2-12/0-12/0-12	65°	2	Triple Broadband
824-960/2*1710-2170	7782.00	16.5/16.5/16.8 (14.4/14.4/14.7)	2-9/0-10/0-10	65°	2	Triple Broadband
824-960/2*1710-2170	7785.00	17.4/17.2/17.5 (15.3/15.1/15.4)	2-8/0-8/0-8	65°	2	Triple Broadband

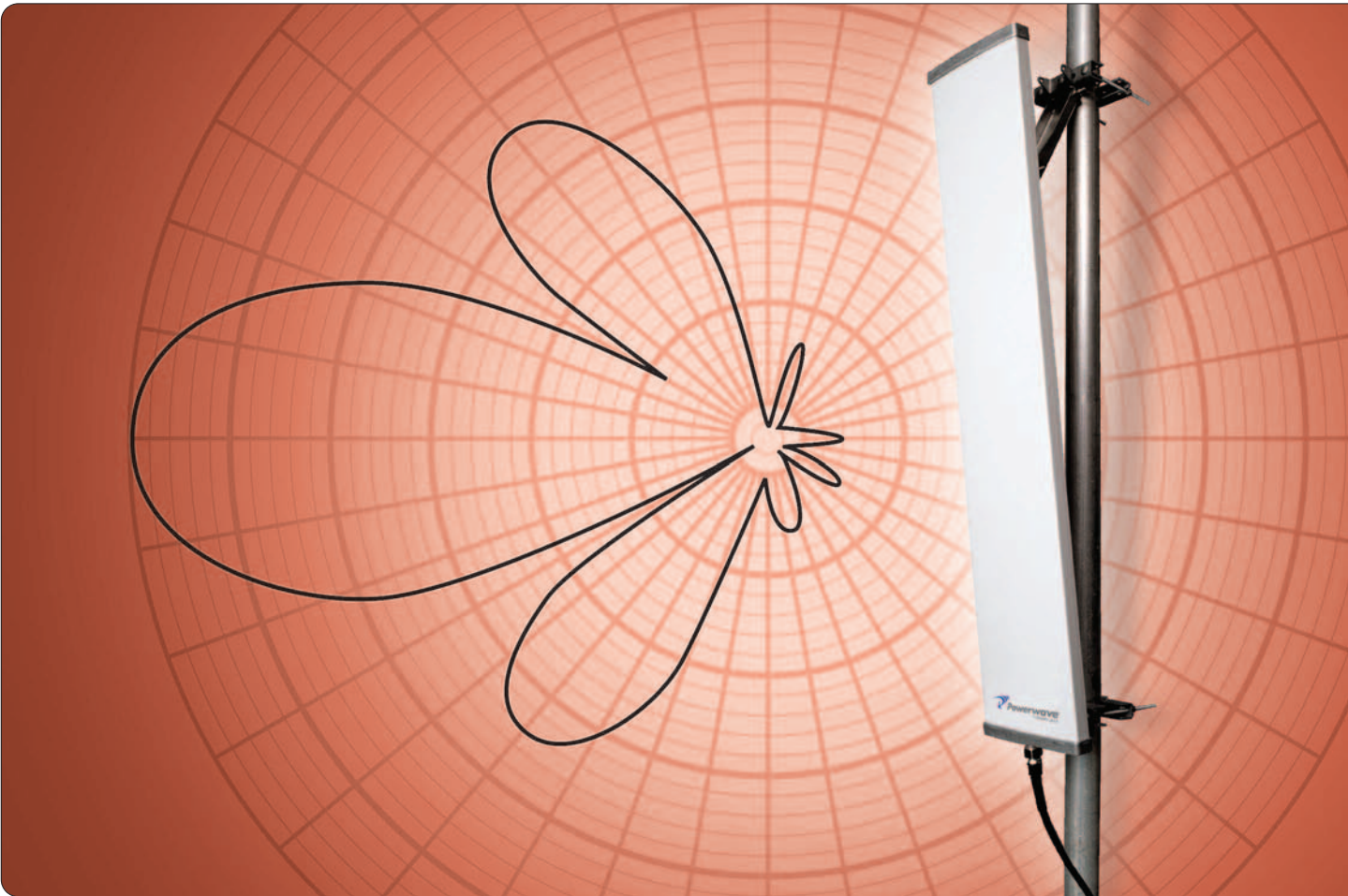


Single Band

vertical polarized
antennas

single band vertical

antennas



Range MHz	Part Number	Gain dBi (dBd)	Electrical Downtilt	HBW	Number of Ports	Family
870-960	4168.11.33.00	11 (8.9)	0	360°	1	Omni
870-960	4168.11.33.02	11 (8.9)	2	360°	1	Omni
870-960	4168.11.33.03	11 (8.9)	3	360°	1	Omni
870-960	4168.11.33.06	11 (8.9)	6	360°	1	Omni
870-960	4168.11.33.52	11 (8.9)	2	360°	1	Omni
806-896	4168.21.33.00	11 (8.9)	0	360°	1	Omni
806-896	4168.21.33.03	11 (8.9)	3	360°	1	Omni
870-960	7143.16.33.00	17 (14.9)	0	60°	1	City
806-896	7143.24.33.00	15.5 (13.4)	0	60°	1	City
806-896	7143.24.33.06	15.5 (13.4)	6	60°	1	City
806-896	7143.24.33.50	15 (12.9)	Adjustable	60°	1	City
806-896	7143.26.33.00	17 (14.9)	0	60°	1	City
806-896	7143.26.33.06	17 (14.9)	6	60°	1	City
806-896	7143.26.33.08	17 (14.9)	8	60°	1	City
806-896	7143.48.33.00	18 (15.9)	0	60°	1	City
806-896	7143.48.33.02	18 (15.9)	2	60°	1	City
806-896	7143.48.33.05	18 (15.9)	5	60°	1	City
806-896	7144.24.33.00	14 (11.9)	0	90°	1	City
806-896	7144.24.33.50	13.5 (11.4)	Adjustable	90°	1	City
806-896	7144.26.33.00	15 (12.9)	0	90°	1	City
806-896	7144.48.33.00	16.5 (14.4)	0	90°	1	City
806-896	7144.48.33.05	16.5 (14.4)	5	90°	1	City
806-896	7145.24.33.00	13.5 (11.4)	0	105°	1	City
806-896	7145.24.33.50	13 (10.9)	Adjustable	105°	1	City
806-896	7145.26.33.00	14.5 (12.4)	0	105°	1	City
806-896	7145.48.33.00	16 (13.9)	0	105°	1	City
1850-1990	7182.40	18 (15.9)	0	65°	1	Metro
1850-1990	7182.42	18 (15.9)	2	65°	1	Metro
1850-1990	7182.44	18 (15.9)	4	65°	1	Metro
1850-1990	7182.46	18 (15.9)	6	65°	1	Metro
1850-1990	7182.66	18 (15.9)	2	65°	1	Metro
1850-1990	7183.42	17 (14.9)	2	65°	1	Metro
1850-1990	7183.46	17 (14.9)	6	65°	1	Metro

Single Band
vertical polarized
antennas

single band vertical

antennas

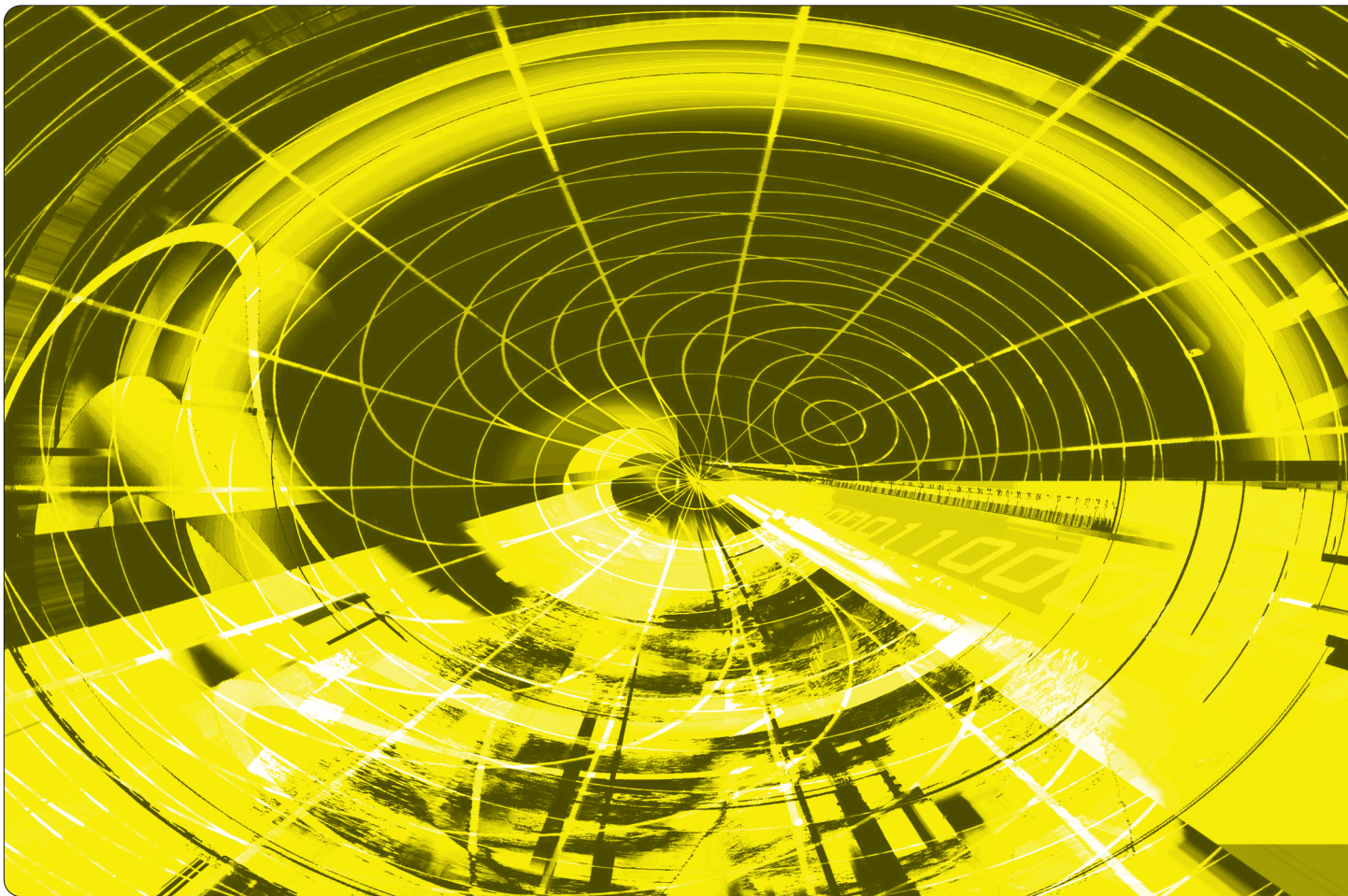
Range MHz	Part Number	Gain dBi (dBd)	Electrical Downtilt	HBW	Number of Ports	Family
1850-1990	7184.40	16.5 (14.4)	0	90°	1	Metro
1850-1990	7184.42	16.5 (14.4)	2	90°	1	Metro
1850-1990	7184.44	16.5 (14.4)	4	90°	1	Metro
1850-1990	7185.40	20 (17.9)	0	30°	1	Metro
1850-1990	7185.42	20 (17.9)	2	30°	1	Metro
1850-1990	7185.44	20 (17.9)	4	30°	1	Metro
1850-1990	7194.40	13.5 (11.4)	0	90°	1	Metro
1850-1990	7195.44	15 (12.9)	4	65°	1	Metro
1850-1990	7198.40	15.5 (13.4)	0	90°	1	Metro
1850-1990	7199.40	19.5 (17.4)	0	90°	1	Metro
1850-1990	7199.42	19.5 (17.4)	2	90°	1	Metro
1850-1990	7200.40	18 (15.9)	0	90°	1	Metro
1850-1990	7200.42	18 (15.9)	2	90°	1	Metro
1850-1990	7200.43	18 (15.9)	3	90°	1	Metro
1850-1990	7200.44	18 (15.9)	4	90°	1	Metro
1850-1990	7200.46	18 (15.9)	6	90°	1	Metro
1850-1990	7220.40	20 (17.9)	0	65°	1	Metro
1850-1990	7220.42	20 (17.9)	2	65°	1	Metro
1850-1990	7220.44	20 (17.9)	4	65°	1	Metro
1850-1990	7221.40	23 (20.9)	0	30°	1	Metro
1850-1990	7221.42	23 (20.9)	2	30°	1	Metro
1850-1990	7221.44	23 (20.9)	4	30°	1	Metro
1850-1990	7198.40	15.5 (13.4)	0	90°	1	Metro
1850-1990	7199.40	19.5 (17.4)	0	90°	1	Metro
1850-1990	7199.42	19.5 (17.4)	2	90°	1	Metro
1850-1990	7200.40	18 (15.9)	0	90°	1	Metro
1850-1990	7200.42	18 (15.9)	2	90°	1	Metro
1850-1990	7200.43	18 (15.9)	3	90°	1	Metro
1850-1990	7200.44	18 (15.9)	4	90°	1	Metro
1850-1990	7200.46	18 (15.9)	6	90°	1	Metro
1850-1990	7220.40	20 (17.9)	0	65°	1	Metro
1850-1990	7220.42	20 (17.9)	2	65°	1	Metro
1850-1990	7220.44	20 (17.9)	4	65°	1	Metro

Range MHz	Part Number	Gain dBi (dBd)	Electrical Downtilt	HBW	Number of Ports	Family
1850-1990	7221.40	23 (20.9)	0	30°	1	Metro
1850-1990	7221.42	23 (20.9)	2	30°	1	Metro
1850-1990	7221.44	23 (20.9)	4	30°	1	Metro
870-960	7225.04	13 (10.9)	0	65°	1	Urban
870-960	7226.03	15.5 (13.4)	6	65°	1	Urban
870-960	7226.04	15.5 (13.4)	0	65°	1	Urban
870-960	7227.04	17 (14.9)	0	65°	1	Urban
870-960	7228.03	18 (15.9)	0	65°	1	Urban
870-960	7228.04	18 (15.9)	0	65°	1	Urban
870-960	7228.06	17.5 (15.4)	6	65°	1	Urban
870-960	7228.08	18 (15.9)	2	65°	1	Urban
870-960	7230.04	12 (9.9)	0	90°	1	Urban
870-960	7231.04	14 (11.9)	0	90°	1	Urban
870-960	7231.06	14 (11.9)	6	90°	1	Urban
870-960	7232.04	15 (12.9)	0	90°	1	Urban
870-960	7232.07	15 (12.9)	4	90°	1	Urban
870-960	7233.04	16.5 (14.4)	0	90°	1	Urban
870-960	7233.06	16.5 (14.4)	6	90°	1	Urban
870-960	7233.08	16.5 (14.4)	2	90°	1	Urban
806-896	7270.02	12.5 (10.4)	0	65°	1	Urban
806-896	7271.02	15.5 (13.4)	0	65°	1	Urban
806-896	7271.03	15 (12.9)	5	65°	1	Urban
806-896	7272.02	17 (14.9)	0	65°	1	Urban
806-896	7273.02	18 (15.9)	0	65°	1	Urban
806-896	7273.03	17.5 (15.4)	4	65°	1	Urban
806-896	7275.02	11.5 (9.4)	0	90°	1	Urban
806-896	7276.02	14 (11.9)	0	90°	1	Urban
806-896	7277.02	15 (12.9)	0	90°	1	Urban
806-896	7278.02	16 (13.9)	0	90°	1	Urban
806-960	7804.00	17 (14.9)	0	35°	1	ALP
806-896	7824.00	15 (12.9)	0	80°	1	ALP
806-896	7834.00	14 (11.9)	0	90°	1	ALP
806-896	7838.00	16 (13.9)	0	90°	1	ALP

Single Band
cross polarized
antennas

single band cross

antennas



Range MHz	Part Number	Gain dBi (dBd)	Electrical Downtilt	HBW	Number of Ports	Family
870-960	7216.03	12.5 (10.4)	0	65°	2	XUrban
870-960	7217.03	15 (12.9)	7	65°	2	XUrban
870-960	7217.04	15.5 (13.4)	0	65°	2	XUrban
870-960	7217.11	14.5 (12.4)	9	65°	2	XUrban
870-960	7218.03	17.5 (15.4)	6	65°	2	XUrban
870-960	7218.04	17.5 (15.4)	4	65°	2	XUrban
870-960	7218.05	18 (15.9)	0	65°	2	XUrban
870-960	7218.09	18 (15.9)	2	65°	2	XUrban
870-960	7218.13	17.5 (15.4)	6	65°	2	XUrban
870-960	7218.14	17.5 (15.4)	4	65°	2	XUrban
870-960	7218.15	18 (15.9)	0	65°	2	XUrban
870-960	7218.19	18 (15.9)	2	65°	2	XUrban
870-960	7255.03	16.5 (14.4)	6	65°	2	XUrban
870-960	7255.04	17 (14.9)	0	65°	2	XUrban
806-896	7263.01	15 (12.9)	0	65°	2	XUrban
806-896	7263.04	14.5 (12.4)	6	65°	2	XUrban
806-896	7281.02	16.5 (14.4)	0	65°	2	XUrban
870-960	7216.03	12.5 (10.4)	0	65°	2	XUrban
870-960	7217.03	15 (12.9)	7	65°	2	XUrban
870-960	7217.04	15.5 (13.4)	0	65°	2	XUrban
870-960	7217.11	14.5 (12.4)	9	65°	2	XUrban
870-960	7218.03	17.5 (15.4)	6	65°	2	XUrban
870-960	7218.04	17.5 (15.4)	4	65°	2	XUrban
870-960	7218.05	18 (15.9)	0	65°	2	XUrban
870-960	7218.09	18 (15.9)	2	65°	2	XUrban
870-960	7218.13	17.5 (15.4)	6	65°	2	XUrban
870-960	7218.14	17.5 (15.4)	4	65°	2	XUrban
870-960	7218.15	18 (15.9)	0	65°	2	XUrban
870-960	7218.19	18 (15.9)	2	65°	2	XUrban
870-960	7255.03	16.5 (14.4)	6	65°	2	XUrban
870-960	7255.04	17 (14.9)	0	65°	2	XUrban
806-896	7263.01	15 (12.9)	0	65°	2	XUrban
806-896	7263.04	14.5 (12.4)	6	65°	2	XUrban
806-896	7281.02	16.5 (14.4)	0	65°	2	XUrban
806-896	7281.04	16.5 (14.4)	6	65°	2	XUrban

Single Band
cross polarized
antennas

single band cross

antennas

Range MHz	Part Number	Gain dBi (dBd)	Electrical Downtilt	HBW	Number of Ports	Family
806-896	7282.03	12.5 (10.4)	4	65°	2	XUrban
806-896	7390.00	10.5 (8.4)	0	90°	2	AL Antennas
806-960	7471.00	14.2 (12.1)	2-12.0	65°	2	Low Broadband
806-960	7472.00	16.5 (14.4)	0-7.5	65°	2	Low Broadband
806-896	7281.04	16.5 (14.4)	6	65°	2	XUrban
806-896	7282.03	12.5 (10.4)	4	65°	2	XUrban
806-896	7390.00	10.5 (8.4)	0	90°	2	AL Antennas
806-960	7471.00	14.2 (12.1)	2-12.0	65°	2	Low Broadband
806-960	7472.00	16.5 (14.4)	0-7.5	65°	2	Low Broadband
806-960	7473.00	17.5 (15.4)	0-5.5	65°	2	Low Broadband
806-960	7476.00	15 (12.9)	0	65°	2	Low Broadband
806-960	7476.02	15 (12.9)	2	65°	2	Low Broadband
806-960	7476.06	15 (12.9)	6	65°	2	Low Broadband
806-960	7477.00	16.5 (14.4)	0	65°	2	Low Broadband
806-960	7477.02	16.5 (14.4)	2	65°	2	Low Broadband
806-960	7477.06	16.5 (14.4)	6	65°	2	Low Broadband
806-960	7478.00	18 (15.9)	0	65°	2	Low Broadband
806-960	7478.02	18 (15.9)	2	65°	2	Low Broadband
806-960	7478.06	18 (15.9)	6	65°	2	Low Broadband
806-960	7481.00	13.5 (11.4)	0	90°	2	Low Broadband
806-960	7482.00	15 (12.9)	0	90°	2	Low Broadband
806-960	7483.00	16.5 (14.4)	0	90°	2	Low Broadband
806-960	7486.00	13.5 (11.4)	0	90°	2	Low Broadband
806-960	7486.02	13.5 (11.4)	2	90°	2	Low Broadband
806-960	7486.06	13.5 (11.4)	6	90°	2	Low Broadband
806-960	7487.00	15 (12.9)	0	90°	2	Low Broadband

Range MHz	Part Number	Gain dBi (dBd)	Electrical Downtilt	HBW	Number of Ports	Family
806-960	7487.02	15 (12.9)	2	90°	2	Low Broadband
806-960	7487.06	15 (12.9)	6	90°	2	Low Broadband
806-960	7488.00	16.5 (14.4)	0	90°	2	Low Broadband
806-960	7488.02	16.5 (14.4)	2	90°	2	Low Broadband
806-960	7488.06	16.5 (14.4)	6	90°	2	Low Broadband
1710-2170	7700.00	15.5 (13.4)	0	65°	2	High Broadband
1710-2170	7700.06	15.5 (13.4)	6	65°	2	High Broadband
1710-2170	7701.00	18 (15.9)	0	65°	2	High Broadband
1710-2170	7701.02	18 (15.9)	2	65°	2	High Broadband
1710-2170	7701.06	18 (15.9)	6	65°	2	High Broadband
1710-2170	7720.00	15 (12.9)	0-16	65°	2	High Broadband
1710-2170	7721.00	18 (15.9)	0-8	65°	2	High Broadband
1710-2170	7721.10	18 (15.9)	0-8	65°	2	High Broadband
1710-2170	7722.00	19.5 (17.4)	0-5.5	65°	2	High Broadband
1710-2170	7735.00A	13.5 (11.4)	0-16	90°	2	High Broadband
1710-2170	7740.00A	16.5 (14.4)	0-8	90°	2	High Broadband
1710-2170	7745.00A	18 (15.9)	0-5.5	90°	2	High Broadband



Dual Band
vertical and cross polarized
antennas

Triple Band
cross polarized antennas
and Indoor antennas

antennas

Range MHz	Part Number	Gain dBi (dBd)	Electrical Downtilt	HBW	Number of Ports	Family
806-896/1850-1990	7332.00	14/17 (11.9/14.9)	0	80°	2	AL Antennas
806-896/1850-1990	7332.06	14/17 (11.9/14.9)	6	80°	2	AL Antennas
806-896/1850-1990	7333.00	14.5/17.5 (12.4/15.4)	0	70°	2	AL Antennas
806-896/1850-1990	7333.06	14.5/17.5 (12.4/15.4)	6	70°	2	AL Antennas
806-896/1850-1990	7334.00	13.5/16.5 (11.4/14.4)	0	90°	2	AL Antennas
806-896/1850-1990	7334.06	13.5/16.5 (11.4/14.4)	6	90°	2	AL Antennas
806-896/1850-1990	7337.00	12/15 (9.9/12.9)	0	70°	2	AL Antennas
806-896/1850-1990	7338.00	11.5/14.5 (9.4/12.4)	0	80°	2	AL Antennas
806-896/1850-1990	7339.00	11/14 (8.9/11.9)	0	90°	2	AL Antennas
806-896/1850-1990	7850.00	13.5/16 (11.4/13.9)	Adjustable/Adjustable	90°	2	AL Antennas
870-960/1710-1880	7329.00	15/15 (12.9/12.9)	0	65°	4	AL Antennas
870-960/1710-1880	7330.00	15.5/17.5 (13.4/15.4)	0	65°	4	AL Antennas
870-960/1710-1880	7330.02	15.5/17.5 (13.4/15.4)	2	65°	4	AL Antennas
870-960/1710-1880	7330.04	15.5/17.5 (13.4/15.4)	4	65°	4	AL Antennas
870-960/1710-1880	7330.06	15.5/17.5 (13.4/15.4)	6	65°	4	AL Antennas
870-960/1710-1880	7331.00	16.5/16 (14.4/13.9)	0	65°	4	AL Antennas
870-960/1710-1880	7331.02	16.5/16 (14.4/13.9)	2	65°	4	AL Antennas
870-960/1710-1880	7331.04	16.5/16 (14.4/13.9)	4	65°	4	AL Antennas
870-960/1710-1880	7331.06	16.5/16 (14.4/13.9)	6	65°	4	AL Antennas
824-960/1710-2170	7750.00	14/17.5 (11.9/15.4)	2-12/0-8	65°	4	Dual Broadband
824-960/1710-2170	7752.00	14/17.5 (11.9/15.4)	2-12/0-8	65°	4	Dual Broadband
824-960/1710-2170	7755.00	14/17.5 (11.9/15.4)	2-12/0-8	65°	4	Dual Broadband
1710-2170	7760.00	17.5/18/18.5 (15.4/15.9/16.4)	0-8	65°	4	Dual High Broadband
1710-2170	7762.00	16.3/16.5/16.7 (14.2/14.4/14.6)	0-8	90°	4	Dual High Broadband
1710-2170	7765.00	18.8/19.2/19.7 (16.7/17.1/17.6)	0-5.5	65°	4	Dual High Broadband
1710-2170	7766.00	17.4/17.6/17.8 (15.3/15.5/15.7)	0-5.5	90°	4	Dual High Broadband
870-960/1710-1880	7770.00	13.5/16.5 (11.4/14.4)	0	90°	4	Dual Broadband
870-960/1710-1880	7772.00	15/16.5 (12.9/14.4)	0	90°	4	Dual Broadband

Triple Band

Range MHz	Part Number	Gain dBi (dBd)	Electrical Downtilt	HBW	Number of Ports	Family
824-960/2*1710-2170	7780.00	14.5/14.4/14.8 (12.4/12.3/12.7)	2-12/0-12/0-12	65°	6	Triple Broadband
824-960/2*1710-2170	7782.00	16.5/16.5/16.8 (14.4/14.4/14.7)	2-9/0-10/0-10	65°	6	Triple Broadband
824-960/2*1710-2170	7785.00	17.4/17.2/17.5 (15.3/15.1/15.4)	2-8/0-8/0-8	65°	6	Triple Broadband

Indoor

Range MHz	Part Number	Gain dBi (dBd)	Electrical Downtilt	HBW	Family
800/2500	7336.00	3 (0.9)	0	360°	Indoor
800/2500	7336.10	6/9 (3.9/6.9)	0	90°/60°	Indoor
800/1900	7999.00	9/9 (6.9/6.9)	0	70°/60°	Indoor

*Referred to in the US as Dual Band Hex Pole Antenna

Single/Dual/Triple Band RET modules

Remote Electrical Tilt provides faster, easier and more flexible optimization of network coverage at a lower cost.

ret modules

antennas

Remote Electrical Tilt

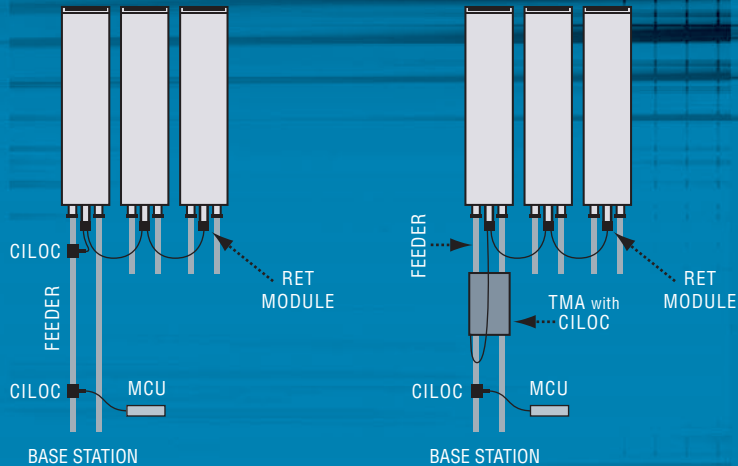
The Powerwave Remote-Controlled Electrical Down-Tilt (RET) module consists of a stepping motor that can be connected to the positioning rod used for adjusting the electrical down tilt of Powerwave Manual Electrical Tilt antennas.

Upon command from the Master Control Unit (MCU), the stepping motor moves the positioning rod up or down to achieve the desired antenna tilt angle.

The unit can be mounted on site on an antenna that is already in place or can be delivered already mounted on a Powerwave antenna.

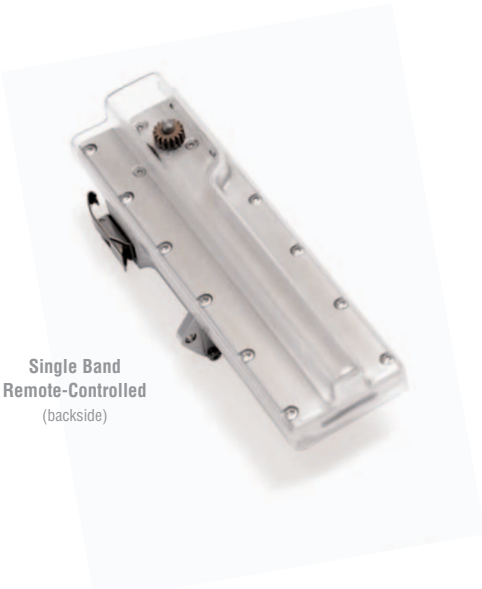
Network configuration, adaptation and fine tuning are greatly simplified and associated operational costs are brought to a minimum:

- Power control and cell breathing by varying antenna coverage foot-prints
- Fine tuning of soft handover situations during live operation
- Real-time adaptation to changes in capacity needs (e.g., during rush hour)
- Remote re-configuration when changing network plans or expanding existing networks.
- AISG compliant



Power Supply	Current Draw	All Other Operational States	Type	Part Number
+9 to+30V	< 500 mA at Vin <10V < 400 mA at Vin <19V < 250 mA at Vin >19V	< 100 mA at Vin <19V < 50 mA at Vin >19V	Single Band RET Module	7010.00
+9 to+30V	(same as above)	(same as above)	Dual Band RET Unit	7020.00
+9 to+30V	(same as above)	(same as above)	Triple Band RET Unit	*7030.00

*7032.00 for single motor version



Antenna brackets

Rugged brackets with aesthetic design and the flexibility to address multiple situations and requirements.

installation solutions

antennas



Antenna Brackets

All Powerwave antennas are delivered with mounting brackets pre-mounted. The intent is to reduce logistic and tower crew installation costs for our customers. All brackets have a high quality surface treatment to maintain the Powerwave standard for product exposure to severe environments. By using steel in the sheet metal parts of the tilt brackets, a robust and rigid design is ensured.

Powerwave Antenna Brackets accommodate several models, are easy to install and are ideal for stealth installations:

- Precise alignment of sector boundaries
- Use with any length antenna
- Can be used with standard tilt brackets included on antennas
- Can mount with or without mechanical tilt

Mechanical Specifications

Mounting: Bracket mounts to 3"OD - 4.5" OD pipe
Brackets: Can be used with standard antenna tilt brackets
Tilt: Can mount with or without mechanical tilt

Examples

Example of 91"long modular antenna

- Height 91" (2300 mm)
- Width 11" (280 mm) (per antenna)
- Maximum wind area 14.6 sq ft.
- Outer antenna circle diameter 20" without mechanical tilt

Example of 51" PCS antenna

- Height 51" (1300mm)
- Width 6.5" (165 mm) per antenna
- Maximum wind area 4.6 sq ft.



Triple Mount Brackets
Part Number 7454.00

about Powerwave

Please contact your
Powerwave representative
for more information or
go to our website at
www.Powerwave.com.

The Powerwave Product
And Solution Suite:

ANTENNA SYSTEMS

Clean Sites

Antennas

- Antenna Brackets
- Remote Electrical Tilt

Filters

Tower Mounted Amplifiers

- Current Injectors
- Power Distribution Units

BASE STATION SYSTEMS

Power Amplifier Products

- Multi-Carrier Power Amplifiers

RF Conditioning Products

- Base Station Filters
- Microwave Filters

Integrated Radio Products

- Digital Radio Head

COVERAGE SYSTEMS

MCPA Booster Systems

Repeater Systems

Coverage System Innovations

- Coverage Engineering and System Design
- Indoor and Outdoor Coverage Products
- Complete Solutions
- Multiband Indoor Antennas
- Amplifiers
- Repeater Systems
- Distribution Products
- Network Management and Services

Microwave Link Systems

One global source for wireless communications

Powerwave Technologies stands as a single, powerful, global supplier of end-to-end wireless infrastructure solutions, with a proven history. Our expanded portfolio is as broad and deep as any in the industry, ranging from Antenna Systems to Base Station Systems to Coverage Systems. We have resources on-the-ground in over 50 countries and four continents. Powerwave brings together a worldwide network of customer-focused employees and partners, along with combined R&D resources and technology. This gives us the ability to rapidly turn ideas and innovations into cost-effective, real-world solutions that deliver world-class quality and reliability.

Coverage and capacity

In established wireless markets, the trend towards mobile data and increased usage per subscriber will drive demand for more capacity. In addition, coverage enhancements in specialized or challenging environments will be a critical aspect of wireless network growth. In emerging markets, the demand for coverage will most likely override the need for capacity in the near future. Regardless of your market demands, region or technology mix, Powerwave is ready with efficient coverage and capacity solutions. Our leading edge solutions are engineered to deliver the highest quality customer experience for the lowest capital expenditure. And our "future-proof" modular architecture is designed for seamless rollout of next generation 3G technologies.

Technology leadership

As a technology leader, Powerwave invests significant funds in research and development. Our market-driven research approach has brought about a number of innovations, from product advances such as ultra-linear amplifiers to higher-value concepts like Clean Site solutions and Base Station Co-Siting.

Global Partner

Wherever your wireless infrastructure project may be, chances are that local Powerwave resources are close by. In addition, our expanded global manufacturing platform ensures that we can provide high-volume, cost-effective production close to your project sites, speeding delivery and driving down costs.

Integrated solutions

Powerwave is moving the industry forward with integrated solutions that speed up time to market, reduce clutter on the tower, streamline deployment and take efficiency to new heights. For example, by integrating RF conditioning front end subsystems with power amplifiers, we're able to rapidly create downlink solutions that turn conventional thinking upside down. What used to go in the base station can now mount on the mast-closer to the antenna-delivering greater efficiency and higher functionality, reduced power consumption, lower operational costs and longer system life.

Quality and reliability

Powerwave employees are intensely quality-minded and we strive to provide our customers with the most reliable products and services available in the market today. Beyond being both an ISO 9001, TL 9000 and ISO 14000 certified company, Powerwave has earned a reputation in the marketplace with leading OEMs and operators for consistently delivering world-class quality and reliability.



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