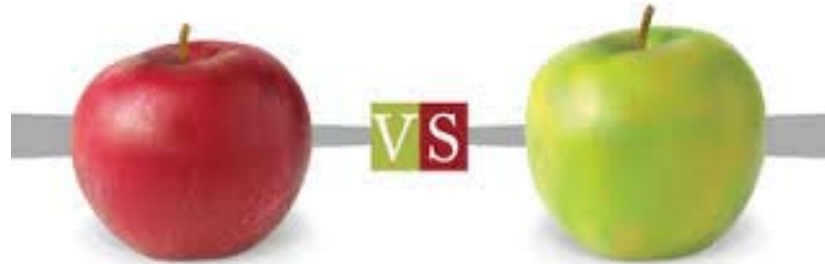


## Stadium Antenna Specs Comparison



## All Stadium Antennas are Not Built Same Ways



*Galtronics provides ....*

- Technologically advanced, superior performing, and flexible stadium antenna solutions to overcome ever increasing 4G/LTE data capacity demands and challenges.
- Consistent and repeatable performance on key specifications such as PIM, USLS, ISO, RL, MIMO, Patterns etc. to achieve better network KPIs and customer satisfaction.
- Low profile, robust, and future-proof design to ensure long term network performance and quicker network deployment.
- Cost-effective solutions and low cost of ownership for higher ROI.

# Models Compared

Manufacturer	Model#
Galtronics	D5777i, D5778i,D5503i,5501i,P-GTx2003-D2-XR
CommScope	CNLPA3055M-V1, CMAX-3030-CPUSEV53, CNLPX3055F
Broadradio	GWHPX0505F, GWHPX0505M-H25
JMA	XEW-FRO-130,XGU-165,XGU-FRO-128
CCI	IDA-30F-Z-H2-Cx

## D5777i vs. GWHPX0505F Specs Comparison

30/30 Beamwidth	D5777i	GWHPX0505F	Summary
General Specifications			
Manufacturer	Galtronics	BROADRADIO	
Operating Frequency Band	1710 – 2700 MHz   698 – 960 MHz	1710 – 2690 MHz   790 – 960 MHz	GT model also covers 700 Mhz band but BR model don't
Electrical Specifications			
Beam Tilt, degrees	0	0°	
Beamwidth, Horizontal, degrees	30-23/35-28	50	
Beamwidth, Vertical, degrees	30-23/35-27	50	
Gain dBi	14-15.5/12.5-13.5	9.5	
Polarization	X-Pol	X-Pol	
Front-to-Back Ratio, Copolarization 180° ± 30°, dB	>30/>27	25	GT model has much better F/B ratio to maximize bore side RF coverage
Isolation, dB	30	25	GT model has much better ISO specs than BR model to better control interference
PIM @ 2 x 43 dBm	-150	-107 dBm	
Input Power per Port, maximum, watts	150	50	GT model has more than twice the power handling capability than BR model
Mechanical Specifications			
RF Connector Interface	7-16, 4.1/9.5, 4.3-10 DIN Female	7-16 DIN Female	GT model supports new 4.3-10 connectors for better PIM performance
RF Connector Quantity, total	2	2	
Dimensions			
Depth	155.0 mm   6.1 in	137 mm   5.4 in	
Length	627.0 mm   24.7 in	1350 mm   53.15 in	GT model is 53% shorter in length than BR model
Width	787.0 mm   30.9 in	884 mm   34.8 in	GT model has 11% less width than BR model
Net Weight	12 kg   26.45 lb	32 kg   70.5 lb	GT model weighs 63% lighter than BR model

## D5778i vs. GWHPX0505F Specs Comparison

60/60 Beamwidth	D5778i	GWHPX0505F	Summary
General Specifications			
Manufacturer	Galtronics (GT)	BROADRADIO	
Operating Frequency Band	1695 – 2700 MHz   698 – 960 MHz	1710 – 2690 MHz   790 – 960 MHz	GT model also covers 700 MHz band but BR model don't
Electrical Specifications			
Beam Tilt, degrees	0°	0°	
Beam width, Horizontal, degrees	58-63/58-67	50	
Beam width, Vertical, degrees	65-69/55-65	50	
Gain dBi	8.5-9/8	9.5	
Polarization	X-Pol	X-Pol	
Front-to-Back Ratio, Copolarization 180° ± 30°, dB	30	25	GT model has much better F/B ratio to maximize bore side RF coverage
Isolation, dB	30	25	GT model has much better ISO specs than BR model to better control interference
PIM @ 2 x 43 dBm	-150	-107 dBm	
Input Power per Port, maximum, watts	150/125	50	GT model has more than twice the power handling capability than BR model
Mechanical Specifications			
RF Connector Interface	7-16, 4.1/9.5, 4.3-10 DIN Female	7-16 DIN Female	GT model supports new 4.3-10 connectors for better PIM performance
RF Connector Quantity, total	2	2	
Dimensions			
Depth	127 mm   5 in	137 mm   5.4 in	
Length	350 mm   13.8 in	1350 mm   53.15 in	GT model is 74% shorter in length than BR model
Width	335 mm   13.2 in	884 mm   34.8 in	GT model has 62% less width than BR model
Net Weight	2.6 kg   5.73 lb	32 kg   70.5 lb	GT model weighs 92% lighter than BR model

# D5778i vs. GWHPX0505M-H25 Specs Comparison

60/60 Beamwidth	D5778i	GWHPX0505M-H25	Summary
General Specifications			
Manufacturer	Galtronics (GT)	BROADRADIO	
Operating Frequency Band	1695 – 2700 MHz   698 – 960 MHz	1710 – 2500 MHz   824 – 960 MHz	GT model covers ultra-broad band in both low and high band unlike BR which doesn't cover 700 nor 2600 MHz LTE band
Electrical Specifications			
Beam Tilt, degrees	0	0°-20°	
Beam width, Horizontal, degrees	58-63/58-67	50	
Beam width, Vertical, degrees	65-69/55-65	50	
Gain dBi	8.5-9/8	9.5	
Polarization	X-Pol	X-Pol	
Front-to-Back Ratio, Copolarization 180° ± 30°, dB	30	30	
Isolation, dB	30	N/A	BR has not published any ISO specs on the datasheet
PIM @ 2 x 43 dBm	-150	-107 dBm	
Input Power per Port, maximum, watts	150/125	50	GT model has more than twice the power handling capability than BR model
Mechanical Specifications			
RF Connector Interface	7-16, 4.1/9.5, 4.3-10 DIN Female	7-16 DIN Female	GT model supports new 4.3-10 connectors for better PIM performance
RF Connector Quantity, total	2	2	
Dimensions			
Depth	127 mm   5 in	140 mm   5.51 in	
Length	350 mm   13.8 in	1359 mm   53.5 in	GT model is 74% shorter in length than BR model
Width	335 mm   13.2 in	852 mm   33.5 in	GT model has 60% less width than BR model
Net Weight	2.6 kg   5.73 lb	32 kg   70.5 lb	GT model weighs 91% lighter than BR model

# D5778i vs. CNLPX3055F Specs Comparison

	D5778i	CNLPX3055F	Summary
General Specifications			
Manufacturer	Galtronics (GT)	CommScope	
Operating Frequency Band	1695 – 2700 MHz   698 – 960 MHz	1710 – 2170, 2300 - 2690 MHz   790 – 960 MHz	GT model covers ultra-wide frequency band in both low band and band unlike Agus which covers narrow band and doesn't cover 700 Mhz & AWS-3 band
Electrical Specifications			
Beam Tilt, degrees	0	0	
Beamwidth, Horizontal, degrees	58-63/58-67	81-79/90	
Beamwidth, Vertical, degrees	65-69/55-65	48-47/55	
Gain dBi	8.5-9/8	9.5/9.5	
Polarization	X-Pol	X-Pol	
Front-to-Back Ratio, Copolarization 180° ± 30°, dB	25/20	38/40	
Isolation, dB	25	30	
PIM @ 2 x 43 dBm	-150	-150	
Input Power per Port, maximum, watts	150/125	100	
Mechanical Specifications			
RF Connector Interface	7-16, 4.1/9.5, 4.3-10 DIN Female	7-16 DIN Female	GT model supports new 4.3-10 connector unlike Commscope which only supports older style 7/16-DIN connectors
RF Connector Quantity, total	2	2	
Dimensions			
Depth	127 mm   5 in	411 mm   16.2 in	GT model has 69% less Depth than Argus model
Length	350 mm   13.8 in	1354 mm   53.3 in	GT model is 74% shorter than Argus model
Width	335 mm   13.2 in	853 mm   33.6 in	GT model has 61% less width than Argus model
Net Weight	2.6 kg   5.73 lb	37 kg   81.6 lb	GT model weighs 93% less than Argus model

# D5777i vs. CMAX-3030-CPUSEV53 Specs Comparison

30x30 Beamwidth	D5777i	CMAX-3030-CPUSEV53	Summary
General Specifications			
Manufacturer	Galtronics	Argus®	
Operating Frequency Band	1710 – 2700 MHz   698 – 960 MHz	1710 – 2700 MHz   698 – 960 MHz	
Electrical Specifications			
Beam Tilt, degrees	0	0	
Beamwidth, Horizontal, degrees	30-23/35-28	38-28/34-29	
Beamwidth, Vertical, degrees	30-23/35-27	38-28/34-29	
Gain dBi	14-15.5/12.5-13.5	12.6-15.3/14.2-15.4	
Polarization	X-Pol	X-Pol	
Front-to-Back Ratio, Copolarization 180° ± 30°, dB	>30/>27	32-36/30-32	
Isolation, dB	30	23	GT model has much better Isolation specs than Argus
PIM @ 2 x 43 dBm	-150	-153	
Input Power per Port, maximum, watts	150	200	
Mechanical Specifications			
RF Connector Interface	7-16, 4.1/9.5, 4.3-10 DIN Female	7-16 DIN Female	GT model supports new 4.3-10 connector unlike Argus which only supports older style 7/16-DIN connectors
RF Connector Quantity, total	2	2	
Dimensions			
Depth	155.0 mm   6.1 in	167.0 mm   6.6 in	
Length	627.0 mm   24.7 in	1060 mm   41.7 in	GT model is 41% shorter than Argus model
Width	787.0 mm   30.9 in	740.0 mm   29.1 in	
Net Weight	12 kg   26.45 lb	20 kg   44.1 lb	GT model weighs 40% less than Argus model



# D5778i vs. CNLPA3055M-V1 Specs Comparison

60/60 Beamwidth	D5778i	CNLPA3055M-V1	Summary
General Specifications			
Manufacturer	Galtronics (GT)	Argus®	
Operating Frequency Band	1695 – 2700 MHz   698 – 960 MHz	1710 – 2500 MHz   824 – 960 MHz	GT model covers ultra-wide frequency band in both low band and band unlike Argus which covers narrow band and doesn't cover 700 nor 2600 MHz LTE band
Electrical Specifications			
Beam Tilt, degrees	0	0	
Beam width, Horizontal, degrees	58-63/58-67	49-50/56	
Beam width, Vertical, degrees	65-69/55-65	41-48/53	
Gain dBi	8.5-9/8	9.5/9.5	
Polarization	X-Pol	V-Pol	GT model is X-POL to support MIMO configurations for higher capacity unlike Argus model which is a V-pol
Front-to-Back Ratio, Copolarization 180° ± 30°, dB	30	25/20	GT model has much better F/B ratio than Argus
Isolation, dB	30	23	GT model has much better Isolation specs than Argus
PIM @ 2 x 43 dBm	-150	-150	
Input Power per Port, maximum, watts	150/125	50	GTB model can handle more than double input power than Argus model
Mechanical Specifications			
RF Connector Interface	7-16, 4.1/9.5, 4.3-10 DIN Female	7-16 DIN Female	GT model supports new 4.3-10 connector unlike Argus which only supports older style 7/16-DIN connectors
RF Connector Quantity, total	2	1	GT model has two connectors for MIMO unlike Argus has one for V-POL
Dimensions			
Depth	127 mm   5 in	315 mm   12.4 in	GT model has 60% less Depth than Argus model
Length	350 mm   13.8 in	1510 mm   59.4 in	GT model is 77% shorter than Argus model
Width	335 mm   13.2 in	855 mm   33.7 in	GT model has 61% less width than Argus model
Net Weight	2.6 kg   5.73 lb	44 kg   97 lb	GT model weighs 94% less than Argus model

# D5777i vs. IDA-30F-Z-H2-Cx Specs Comparison

30/30 Beamwidth	D5777i	IDA-30F-Z-H2-Cx	Summary
General Specifications			
Manufacturer	Galtronics	CCI	
Operating Frequency Band	1710 – 2700 MHz   698 – 960 MHz	1710 – 2700 MHz   698 – 960 MHz	
Electrical Specifications			
Beam Tilt, degrees	0°	0°	
Beamwidth, Horizontal, degrees	30-23/35-28	25-37/30-37	
Beamwidth, Vertical, degrees	30-23/35-27	26-40/31-37	
Gain dBi	14-15.5/12.5-13.5	11.4-14.3/12.7-13.9	
Polarization	X-Pol	X-Pol	
Front-to-Back Ratio, Copolarization 180° ± 30°, dB	>30/>27	35	
Isolation, dB	30	23-25/28	GT model has better ISO specs than BR model to better control interference
PIM @ 2 x 43 dBm	-150	-150	
Input Power per Port, maximum, watts	150	250	
Mechanical Specifications			
RF Connector Interface	7-16, 4.1/9.5, 4.3-10 DIN Female	7-16, 4.1/9.5, 4.3-10 DIN Female	
RF Connector Quantity, total	2	2	
Dimensions			
Depth	155.0 mm   6.1 in	176 mm   6.9 in	
Length	627.0 mm   24.7 in	764 mm   30.1 in	GT model is 18% shorter in length than BR model
Width	787.0 mm   30.9 in	620 mm   24.4 in	
Net Weight	12 kg   26.45 lb	9 kg   19.8 lb	

# D5501i vs. XEW-FRO-130 Specs Comparison

30/60 Beamwidth	D5501i	XEW-FRO-130	Summary
General Specifications			
Manufacturer	Galtronics	JMA	
Operating Frequency Band	1710 – 2700 MHz   698 – 960 MHz	1710 – 2360 MHz   698 – 945 MHz	GT model covers 2600 Mhz LTE band but JMA model don't
Electrical Specifications			
Beam Tilt, degrees	0°	0°	
Beamwidth, Horizontal, degrees	30/30-27	37-28/37-33	GT model has tighter HBW pattern to minimize any adjacent sector interference
Beamwidth, Vertical, degrees	65/65	68-66/68-58	
Gain dBi	10.5-11.5/10-11	11.4-14.3/12.7-13.9	
Polarization	X-Pol	X-Pol	
Front-to-Back Ratio, Copolarization 180° ± 30°, dB			
	>30/>27	35	
Isolation, dB			
	>25	>25	
PIM @ 2 x 43 dBm			
	-150	-150	
Input Power per Port, maximum, watts	150	100	GT model has 33% higher input power handling capability
Mechanical Specifications			
RF Connector Interface	7-16, 4.1/9.5, 4.3-10 DIN Female	7-16 DIN Female	GT model support 4.3-10 connector but JMA don't
RF Connector Quantity, total	2	2	
Dimensions			
Depth	133 mm   5.2 in	142.2 mm   5.6 in	
Length	367 mm   14.4 in	318 mm   12.5 in	
Width	627 mm   24.7 in	617.2 mm   24.3 in	
Net Weight	4.8 kg   10.6 lb	5.2 kg   13 lb	GT model is 18% lighter in weight than JMA model

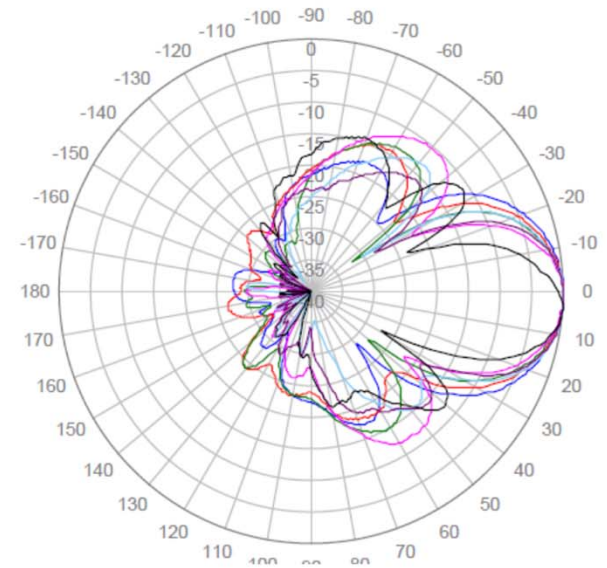
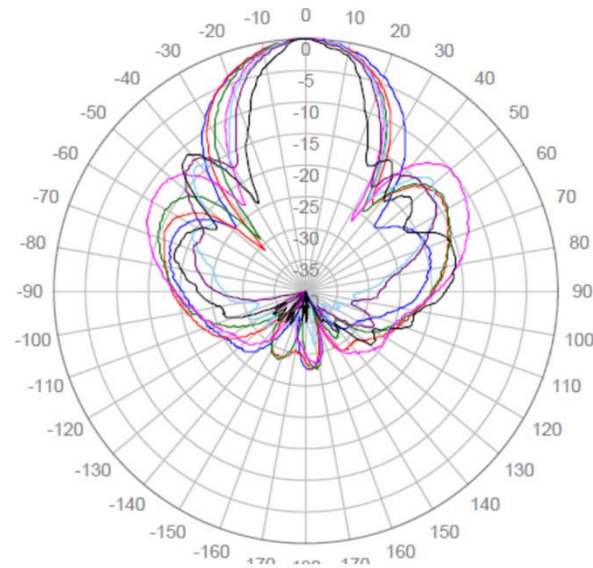
## D5503i vs. XGU-165 Specs Comparison

60/60, 30/60 Beamwidth	D5503i	XGU-165	Summary
General Specifications			
Manufacturer	Galtronics (GT)	JMA	
Operating Frequency Band	1695 – 2700 MHz   698 – 960 MHz	1695 – 2700 MHz   698 – 960 MHz	
Electrical Specifications			
Beam Tilt, degrees	0°	0°	
Beamwidth, Horizontal, degrees	65-50/67-63	66-53/75-69	
Beamwidth, Vertical, degrees	38-27/69-65	40-29/75-64	
Gain dBi	10-11.5/8-8.8	11.4-14.3/12.7-13.9	
Polarization	X-Pol	X-Pol	
Front-to-Back Ratio, Copolarization 180° ± 30°, dB	25/20	28/20	
Isolation, dB	30/25	26/28	
PIM @ 2 x 43 dBm	-150	-150	
Input Power per Port, maximum, watts	150/125	125/250	
Mechanical Specifications			
RF Connector Interface	7-16, 4.1/9.5, 4.3-10 DIN Female	7-16 DIN Female	GT model support 4.3-10 connector but JMA don't
RF Connector Quantity, total	2	2	
Dimensions			
Depth	127 mm   5 in	142.2 mm   5.6 in	
Length	350 mm   13.8 in	304.8 mm   12 in	
Width	335 mm   13.2 in	320 mm   12.6 in	
Net Weight	2.8 kg   6.17 lb	4.9 kg   10.8 lb	GT model is 43% lighter in weight than JMA model

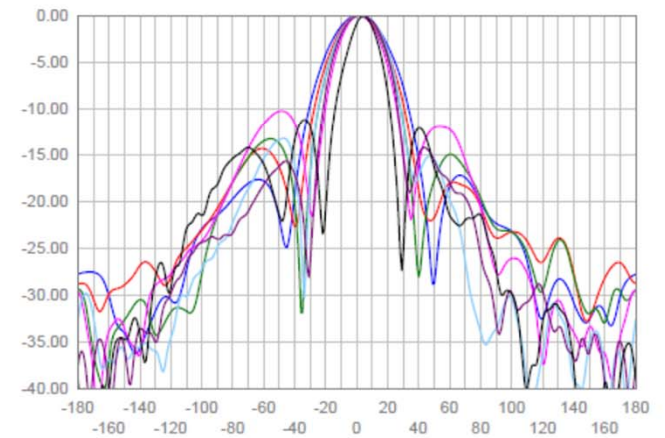
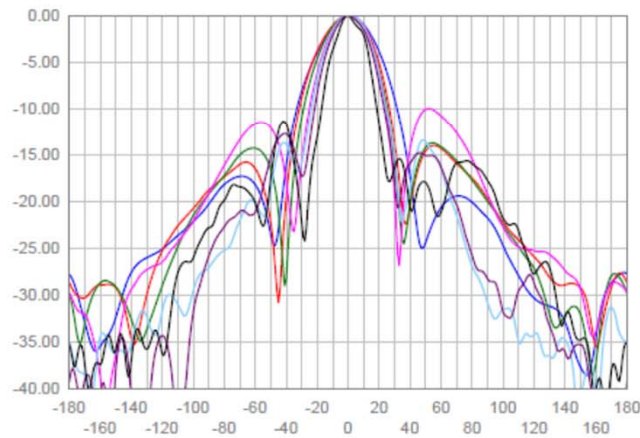
# P-GTx2003-D2-XR vs. XGU-FRO-128 Specs Comparison

20/60 Beamwidth	P-GTx2003-D2-XR	XGU-FRO-128	Summary
General Specifications			
Manufacturer	Galtronics (GT)	JMA	
Operating Frequency Band	1695 – 2700 MHz   698 – 960 MHz	1695 – 2700 MHz   698 – 960 MHz	
Electrical Specifications			
Beam Tilt, degrees	0°	0°	
Beamwidth, Horizontal, degrees	26-20/24-20	37-25/33-29	GT model has tighter HBW pattern to minimize any sector overlaps
Beamwidth, Vertical, degrees	64-50/70-63	69-42/66-60	
Gain dBi	10-11.5/11-13	10.7-12.5/10.5-10.6	
Polarization	X-Pol	X-Pol	
Front-to-Back Ratio, Copolarization 180° ± 30°, dB	25/30	25/25	GT model has better F/B ration in low band
Isolation, dB	25	28/28	
PIM @ 2 x 43 dBm	-153	-153	
Input Power per Port, maximum, watts	150/250	125/250	
Mechanical Specifications			
RF Connector Interface	7-16, 4.1/9.5, 4.3-10 DIN Female	7-16 DIN Female	GT model support 4.3-10 connector but JMA don't
RF Connector Quantity, total	2	2	
Dimensions			
Depth	170 mm   6.7 in	180.3 mm   7.1 in	
Length	364 mm   14.3 in	372 mm   14.6 in	
Width	896 mm   35.2 in	616 mm   24.3 in	
Net Weight	9.7 kg   21.4 lb	3.2 kg   7 lb; estimated	

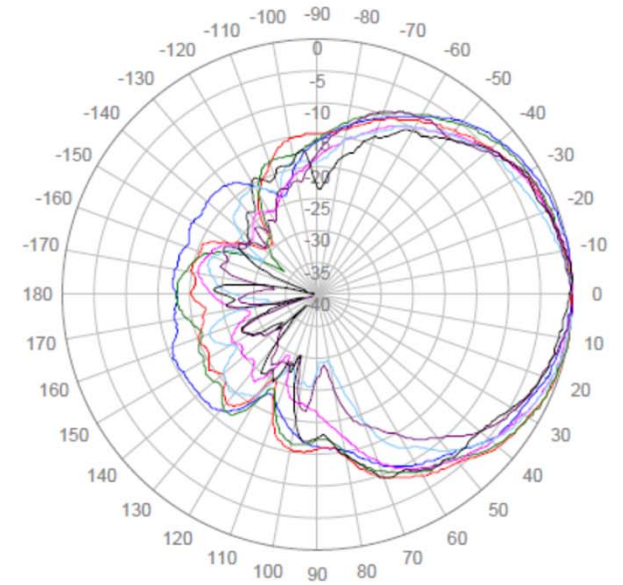
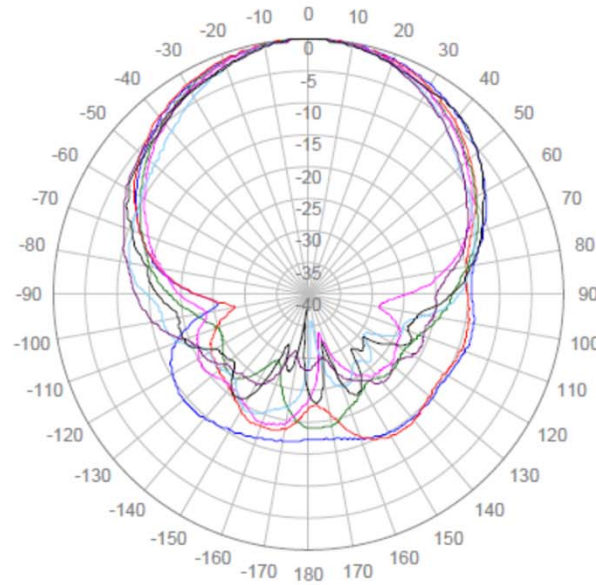
# D5777i Patterns



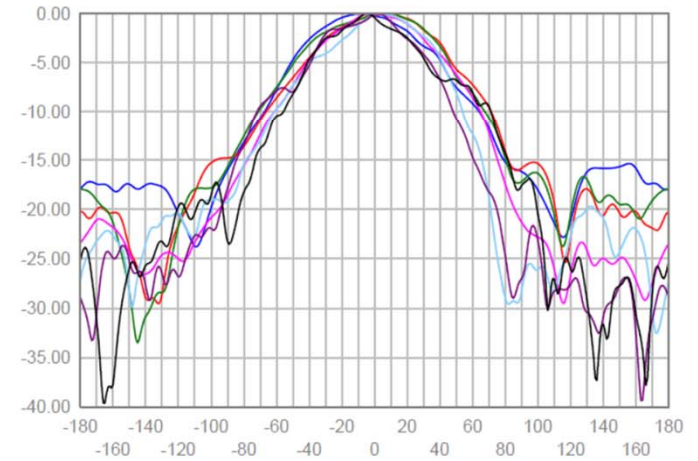
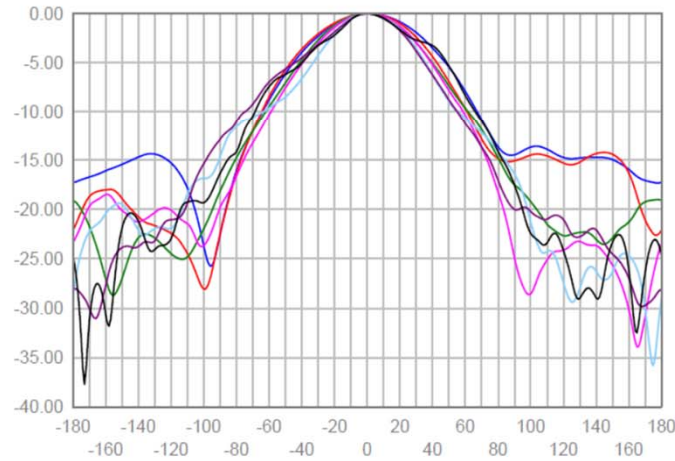
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- (22) Galtronics\_EXTENT\_D5777i\_m45\_925MHz
- (39) Galtronics\_EXTENT\_D5777i\_m45\_1950MHz
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- (73) Galtronics\_EXTENT\_D5777i\_m45\_2600MHz



# D5778i Patterns



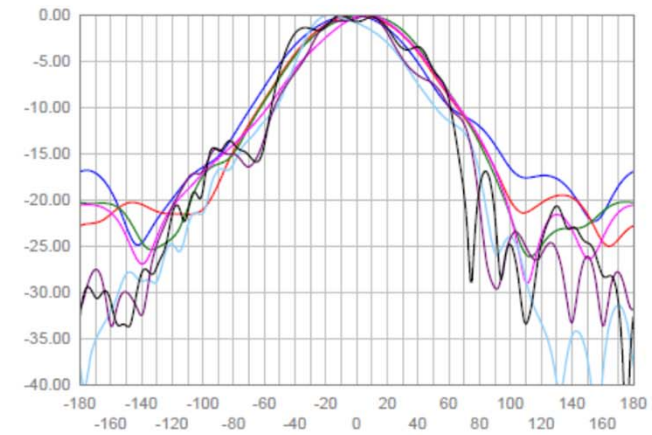
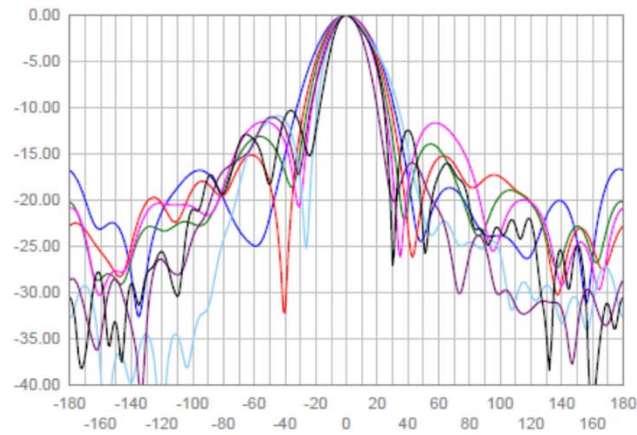
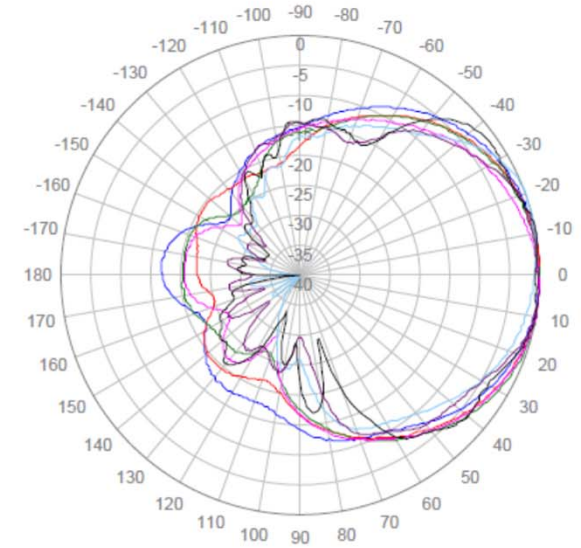
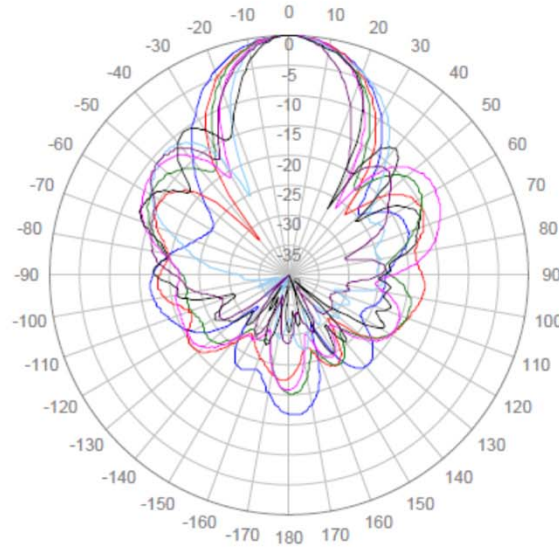
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- (22) Galtronics\_EXTENT\_D5777i\_m45\_925MHz
- (39) Galtronics\_EXTENT\_D5777i\_m45\_1950MHz
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# D5501i Patterns

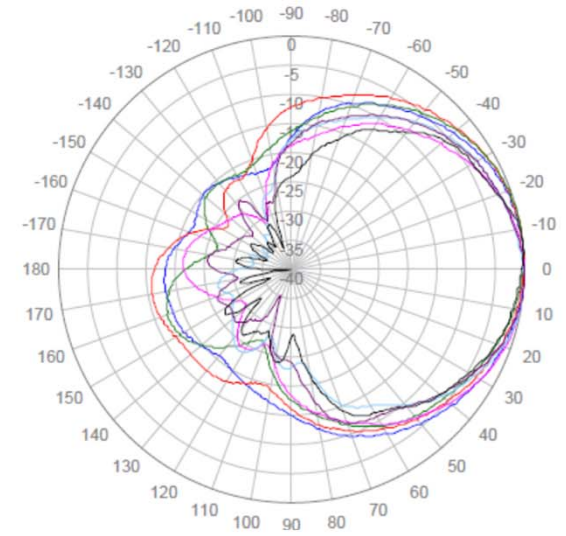
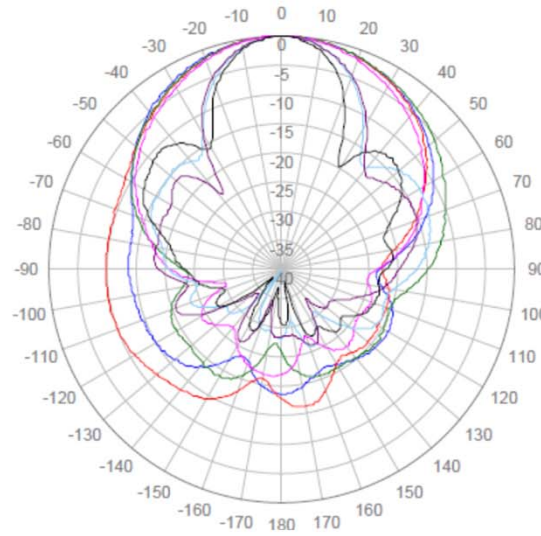


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- (22) Galtronics\_EXTENT\_D5777i\_m45\_925MHz
- (39) Galtronics\_EXTENT\_D5777i\_m45\_1950MHz
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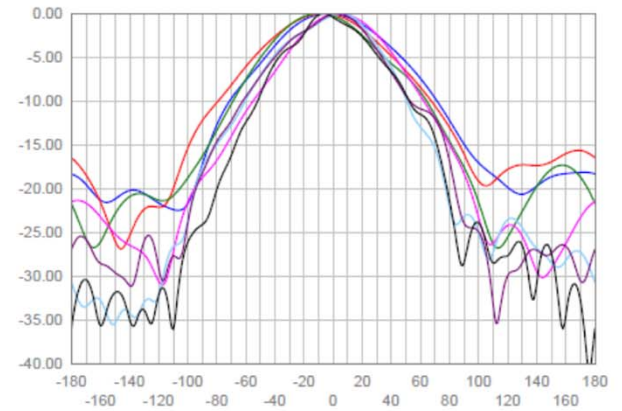
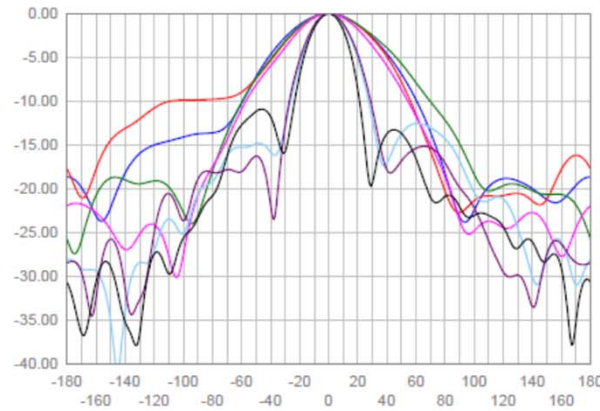




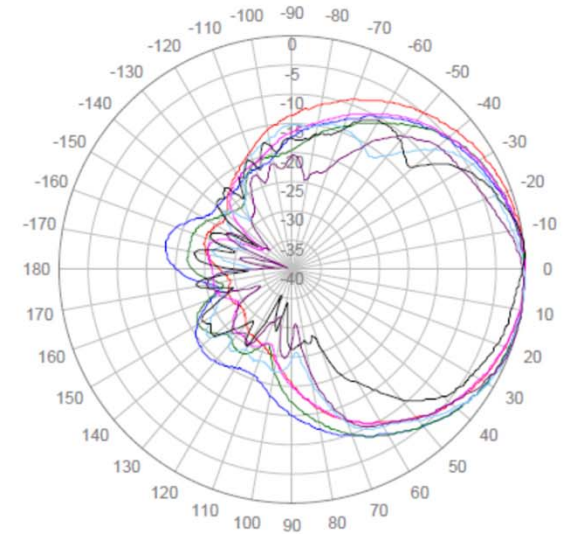
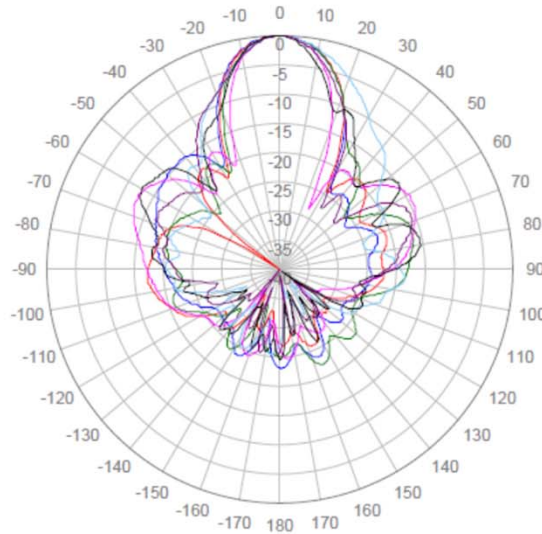
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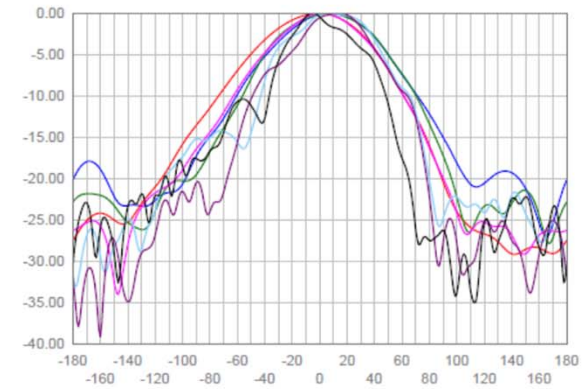
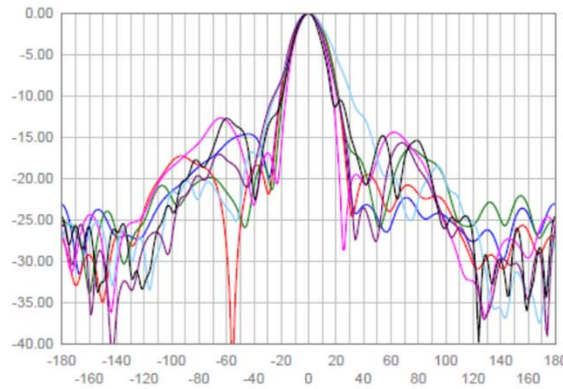
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- (22) Galtronics\_EXTENT\_D5777i\_m45\_925MHz
- (39) Galtronics\_EXTENT\_D5777i\_m45\_1950MHz
- (47) Galtronics\_EXTENT\_D5777i\_m45\_2110MHz
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# P-GTx2003-D2-XR Patterns

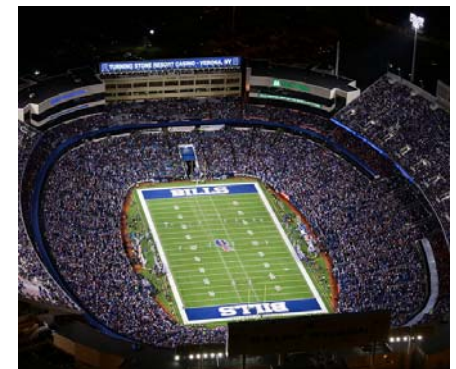


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- (11) Galtronics\_EXTENT\_D5777i\_m45\_793MHz
- (16) Galtronics\_EXTENT\_D5777i\_m45\_851MHz
- (22) Galtronics\_EXTENT\_D5777i\_m45\_925MHz
- (39) Galtronics\_EXTENT\_D5777i\_m45\_1950MHz
- (47) Galtronics\_EXTENT\_D5777i\_m45\_2110MHz
- (73) Galtronics\_EXTENT\_D5777i\_m45\_2600MHz



# Why Galtronics' Stadium Antenna Solution?

- 37 years antenna development experience
- **Over twenty large stadium antenna deployment experience**
- **Smaller dimension for low visual impact and deployment ease**
- Ultra-wide low and high band (694-960; 1695-2690 Mhz)
- Flexible mounting solutions
- **MIMO configurations**
- Faster network deployment to increase network density
- **PIM certified to meet -153 dBc and 1.5:1 VSWR across all bands**
- **Superior USLS and patterns to better control interference, improve quality and SINR**
- Lower Network TCO provides higher ROI
- RoHS compliant and IP65 rated for outdoor deployment



# Thank you.

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