

Regulatory WWAN Antenna Information

Platform information						
Brand	ODM	Platform model name		Platform type (ex: regular NB, convertible PC, AIO...etc)		*SAR minimum separation (mm)
HP Inc.	Inventec	HSN-I70C		Regular NB		338.4
Antenna information						Maximum Peak gain
Vendor	Type	Antenna Part number (Ant5 TX/RX)	Antenna Part number (Ant6 RX)	Antenna Part number (Ant7 RX)	Antenna Part number (Ant8 TX/RX)	1780 MHz (Choice TX high peak gain)
WNC	PIFA	6036B0403001 (81EACC15.G65)	6036B0402501 (81EACC15.G67)	6036B0402401 (81EACC15.G66)	6036B0402501 (81EACC15.G67)	1.85 dBi
Module information						
Model	Form factor and suffixes (NGW/ HMW AND AN/ NB/ BN....)					
Balvenie	5G RMM-G4 WWAN 4x4 radio module					

Antenna vendor connect person	
Antenna Vendor	WNC
contact person	Annie Lo
E-mail	annie.lo@wnc.com.tw
Tel/Mobile	886-3-666-7799 ext: 3415
Web address	https://www.wnc.com.tw
Address	20 Park Avenue II, Hsinchu Science Park Hsinchu 300, Taiwan

Antenna Sample / Antenna Data Requirements for worldwide regulatory approval

Section	Description of Required OEM / ODM Antenna Information	US / IC	EU	Japan	Taiwan	S.Korea
1A	Part Number for Antenna Assembly	Required	Required	Required	Required	Required
1B	Antenna Manufacturer Name	Required	Required	Required	Required	Required
1C	Description of Antenna Type	Required	N/A	N/A	N/A	N/A
1D	Tx antenna Gain (Peak Gain W/ cable loss) *	Required	Required	Required	Required	Required
2	Dimensioned Photographs and Drawings of Tx and Rx antennas	Required	Required	Required	Required	Required
3	Radiation patterns of antennas loaded in the host platform.	N/A	Required	Required	Required	N/A
4	Platform model name / number - correlated to antenna manufacturer and antenna part number	Required	Required	Desired	Required	Desired
5	Photograph(s) or Drawings showing location of antennas in platform. (S. Korea requires photographs of antennas for approval submission). Taiwan requires pictures of each antenna type shown in the system.	Required	Required	Desired	<u>Required (Photos)</u>	<u>Required (Photos)</u>
6	Mech. drawings / photos with dimensions of antenna locations and distance from end-user (For evaluation of SAR testing requirement).	Required	N/A	N/A	N/A	N/A
7	Photograph(s) or Drawings showing the location of all antennas (WLAN, other) and distance between those transmitting antennas. Information will be used to evaluate whether co-location testing is required.	Required	N/A	N/A	N/A	N/A
8	Local representative contact information for LMA/ PARS process.	Required	N/A	N/A	N/A	N/A

b. Equipment list

Test location: SGS

Testing date: 2026.04.24

Equipment Description	Manufacturer	Identification no.	Current calibration date	Next calibration date
Network analyzer	Agilent	E5071C	2026/01/07	2027/01/06
Measurement software	ETS-Lindgren	EMQuest	N/A	N/A
Multi axis positioning system(MAPSTM)	ETS-Lindgren	EMCO 2115	N/A	N/A
Multi axis positioning system(MAPSTM)	ETS-Lindgren	EMCO 2110	N/A	N/A
MAPSTM controller	ETS-Lindgren	EMCO 2090	N/A	N/A
Horn antenna	ETS-Lindgren	3164-10	2026/03/03	2027/03/03
ETS OTA Chamber	ETS-Lindgren	AMS-8500	2026/03/03	2027/03/03
Cable	ETS-Lindgren	RFC SMS-100-NMR Series	N/A	N/A

Note: Chamber calibration included full set of implement

Antenna Information

Section 1. Antenna Assembly Specifications

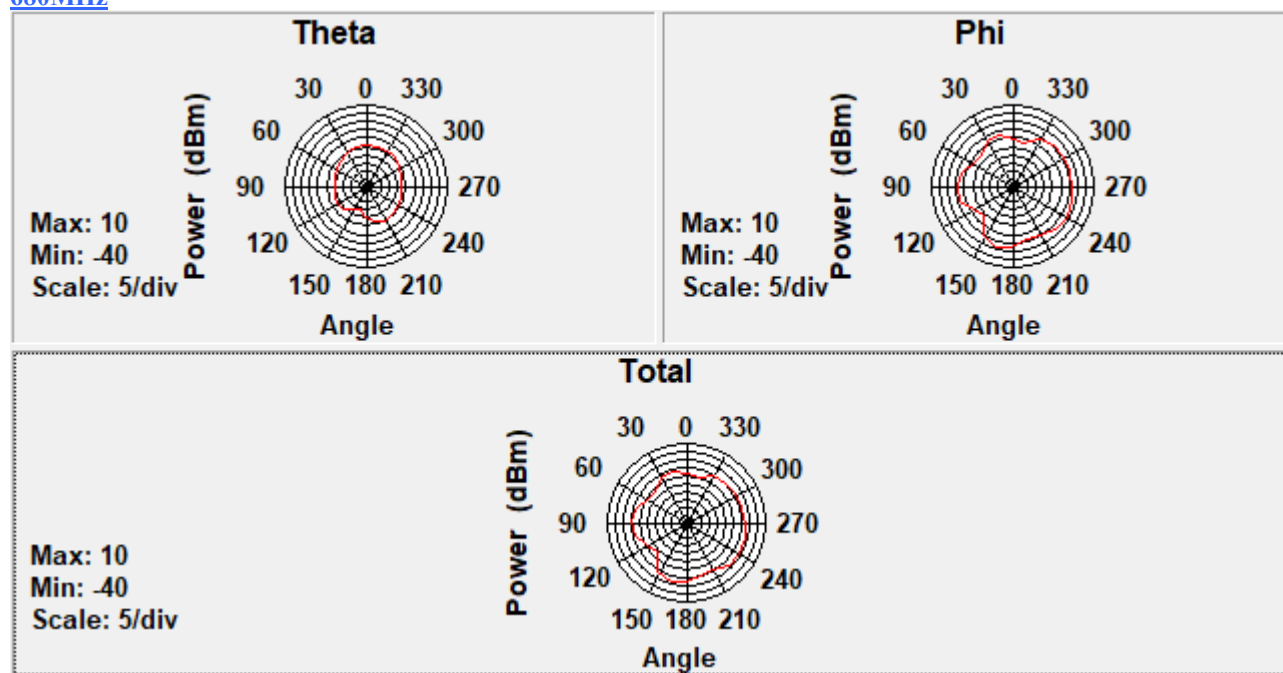
Communication System	Band	Frequency(MHz) from low to high spectrum		1A Part Number for Antenna Assembly	1B Antenna Manufacturer Name	1C Description of Antenna Type	1D Tx Antenna Gain (dBi) Ant5
WCDMA/ LTE	1	1920	1980	Ant5 : 81EACC15.G65 (6036B0403001)	WNC	PIFA	-0.31
WCDMA/ LTE	2	1850	1910				0.57
LTE	3	1710	1785				1.85
WCDMA/ LTE	4	1710	1755				1.74
WCDMA/ LTE	5	824	849				-0.65
LTE	7	2500	2570				0.74
WCDMA/ LTE	8	880	915				-0.02
LTE	12	699	716				-1.48
LTE	13	777	787				0.16
LTE	14	788	798				-0.32
LTE	17	704	716				-1.48
LTE	18	815	830				-0.93
LTE	19	830	845				-0.65
LTE	20	832	862				-0.65
LTE	25	1850	1915				0.57
LTE	26	814	849				-0.65
LTE	28	703	748				-1.16
LTE	30	2305	2315				0.82
LTE	34	2010	2025				-0.23
LTE	38	2570	2620				0.25
LTE	39	1880	1920				-0.01
LTE	40	2300	2400				1.12
LTE	41	2496	2690				0.74
LTE	42	3400	3600				-2.69
LTE	43	3600	3800				-2.69
LTE	48	3550	3700				-2.69
LTE	66	1710	1780				1.85
LTE	71	663	698				-2.5
5G NR FR1	1	1920	1980				-0.31
5G NR FR1	2	1850	1910				0.57
5G NR FR1	3	1710	1785				1.85
5G NR FR1	5	824	849				-0.65
5G NR FR1	7	2500	2570				0.74
5G NR FR1	8	880	914				-0.02
5G NR FR1	12	699	716				-1.48
5G NR FR1	14	788	798				-0.32
5G NR FR1	20	832	862				-0.65
5G NR FR1	25	1850	1915				0.57
5G NR FR1	26	814	849				-0.65
5G NR FR1	28	703	748				-1.16
5G NR FR1	30	2305	2315				0.82

5G NR FR1	38	2570	2620				0.25
5G NR FR1	40	2300	2400				1.12
5G NR FR1	41	2496	2690				0.74
5G NR FR1	48	3550	3700				-2.69
5G NR FR1	66	1710	1780				1.85
5G NR FR1	71	663	698				-2.5
5G NR FR1	77	3300	4200				-1.61
5G NR FR1	78	3300	3800				-2.69
5G NR FR1	79	4400	5000				-4.69

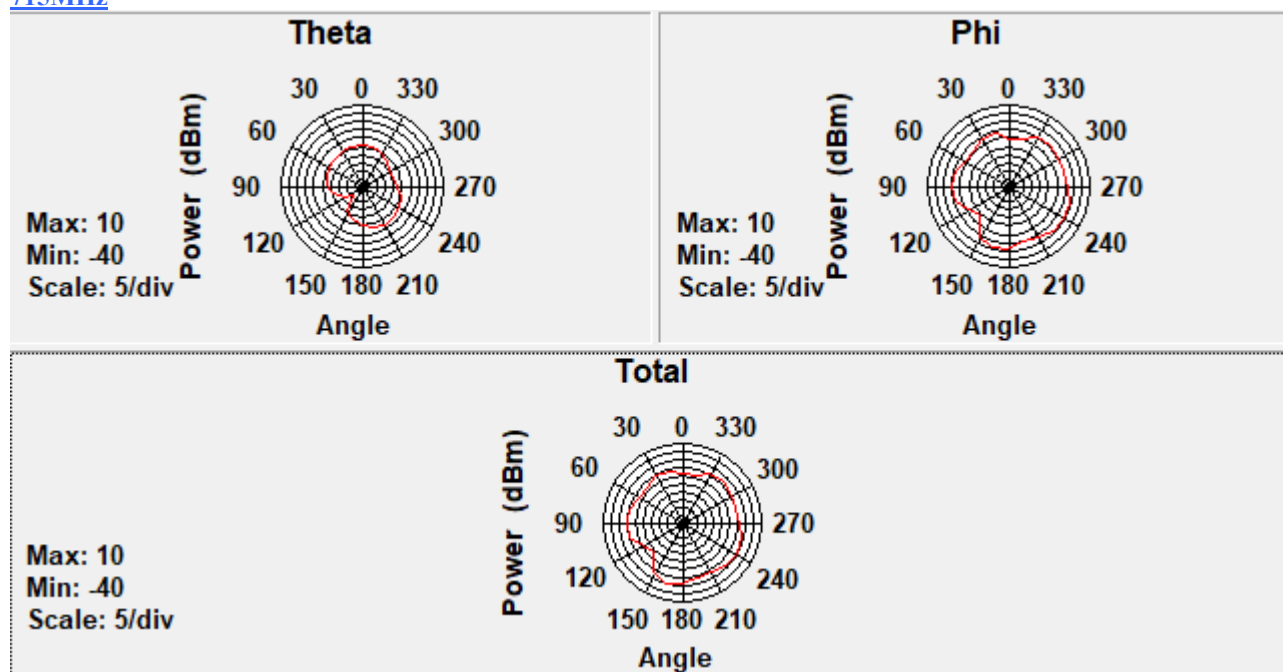
Communication System	Band	Frequency(MHz) from low to high spectrum		1A Part Number for Antenna Assembly	1B Antenna Manufacturer Name	1C Description of Antenna Type	1D Tx Antenna Gain (dBi) Ant5
LTE	1	1920	1980	Ant8 : 81EACC15.G67 (6036B0402501)	WNC	PIFA	-1.79
LTE	2	1850	1910				0.96
LTE	3	1710	1785				-1.4
LTE	4	1710	1755				-1.82
LTE	7	2500	2570				-0.47
LTE	25	1850	1915				0.96
LTE	30	2305	2315				-1.14
LTE	34	2010	2025				-1.26
LTE	38	2570	2620				-0.47
LTE	39	1880	1920				-0.67
LTE	40	2300	2400				0.1
LTE	41	2496	2690				-0.47
LTE	42	3400	3600				0.43
LTE	43	3600	3800				0.51
LTE	48	3550	3700				0.51
LTE	66	1710	1780				-1.4
5G NR FR1	1	1920	1980				-1.79
5G NR FR1	2	1850	1910				0.96
5G NR FR1	3	1710	1785				-1.4
5G NR FR1	7	2500	2570				-0.47
5G NR FR1	25	1850	1915				0.96
5G NR FR1	30	2305	2315				-1.14
5G NR FR1	38	2570	2620				-0.47
5G NR FR1	40	2300	2400				0.1
5G NR FR1	41	2496	2690				-0.47
5G NR FR1	48	3550	3700				0.51
5G NR FR1	66	1710	1780				-1.4
5G NR FR1	77	3300	4200				0.84
5G NR FR1	78	3300	3800				0.51
5G NR FR1	79	4400	5000				0.6

- The listed frequency 2D radiation pattern is required

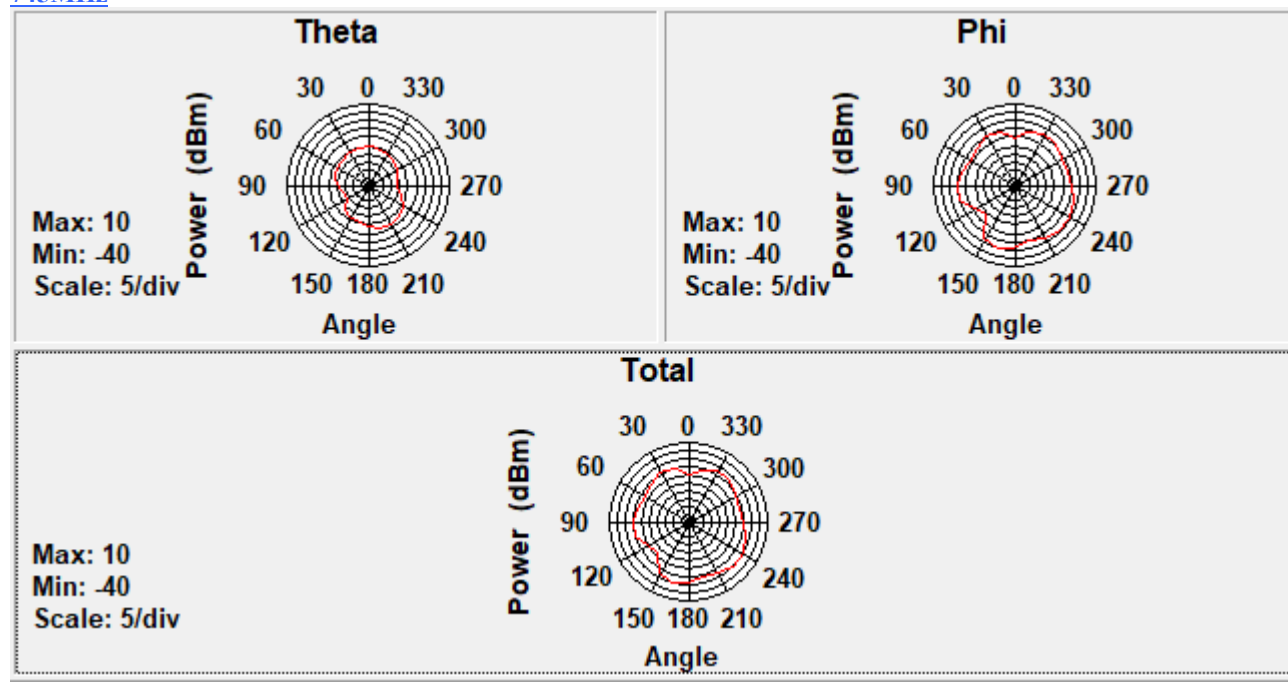
- [Ant5:](#)

680MHz

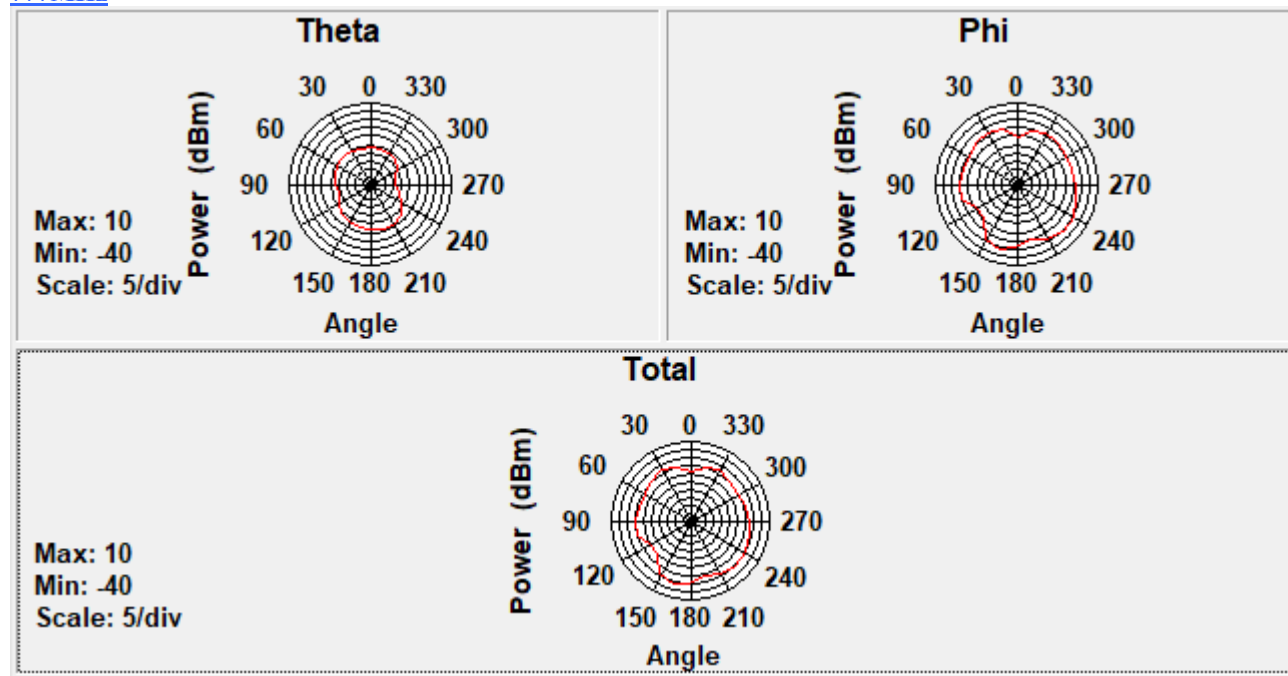
Center Frequency	680MHz
Horizontal (dBi) peak	-15.56
Vertical (dBi) peak	-2.5

715MHz

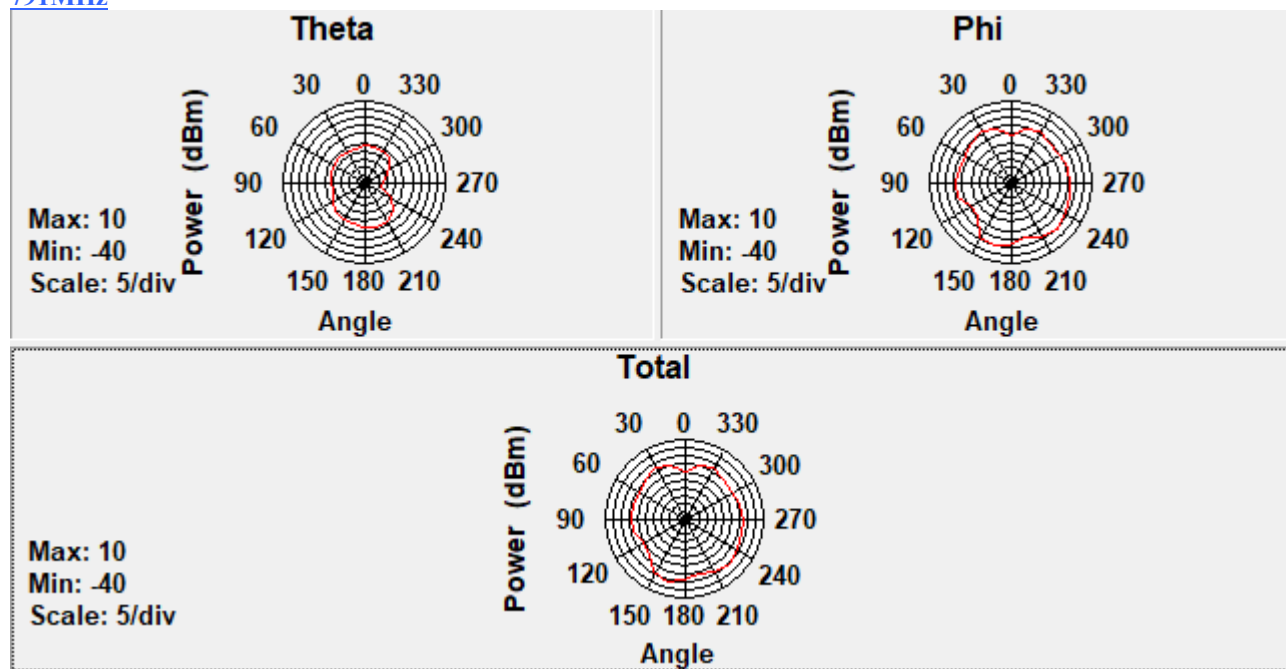
Center Frequency	715MHz
Horizontal (dBi) peak	-13.3
Vertical (dBi) peak	-1.48

745MHz

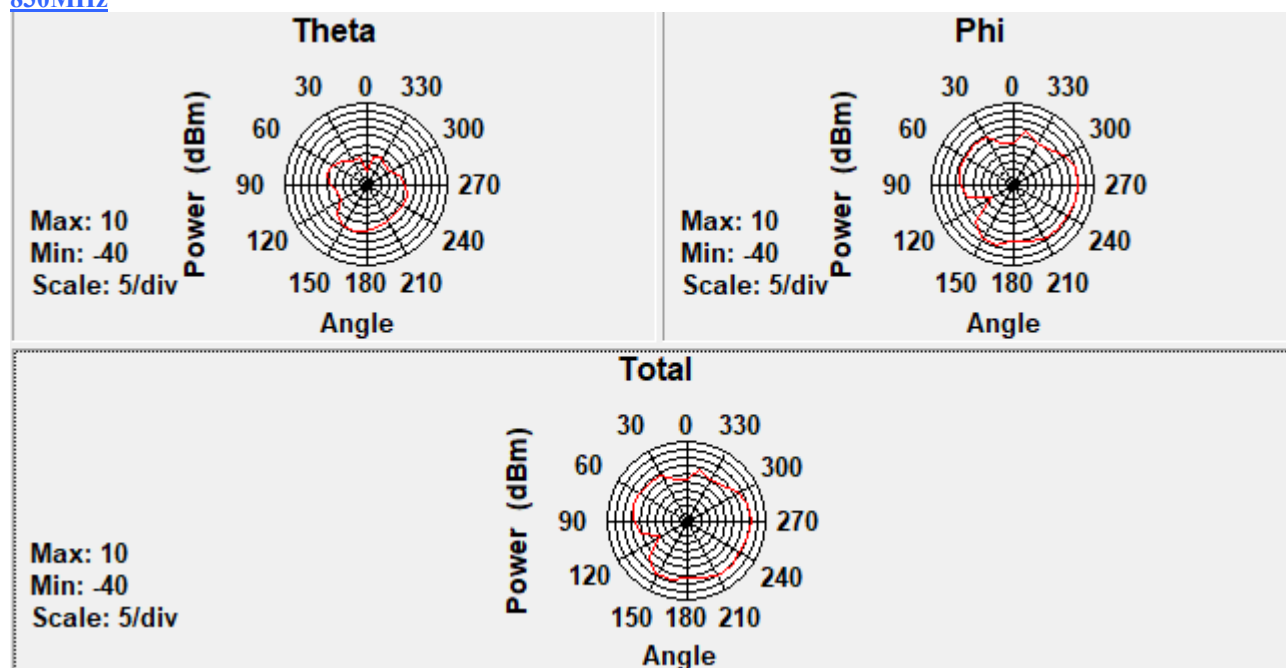
Center Frequency	745MHz
Horizontal (dBi) peak	-12.8
Vertical (dBi) peak	-1.16

777MHz

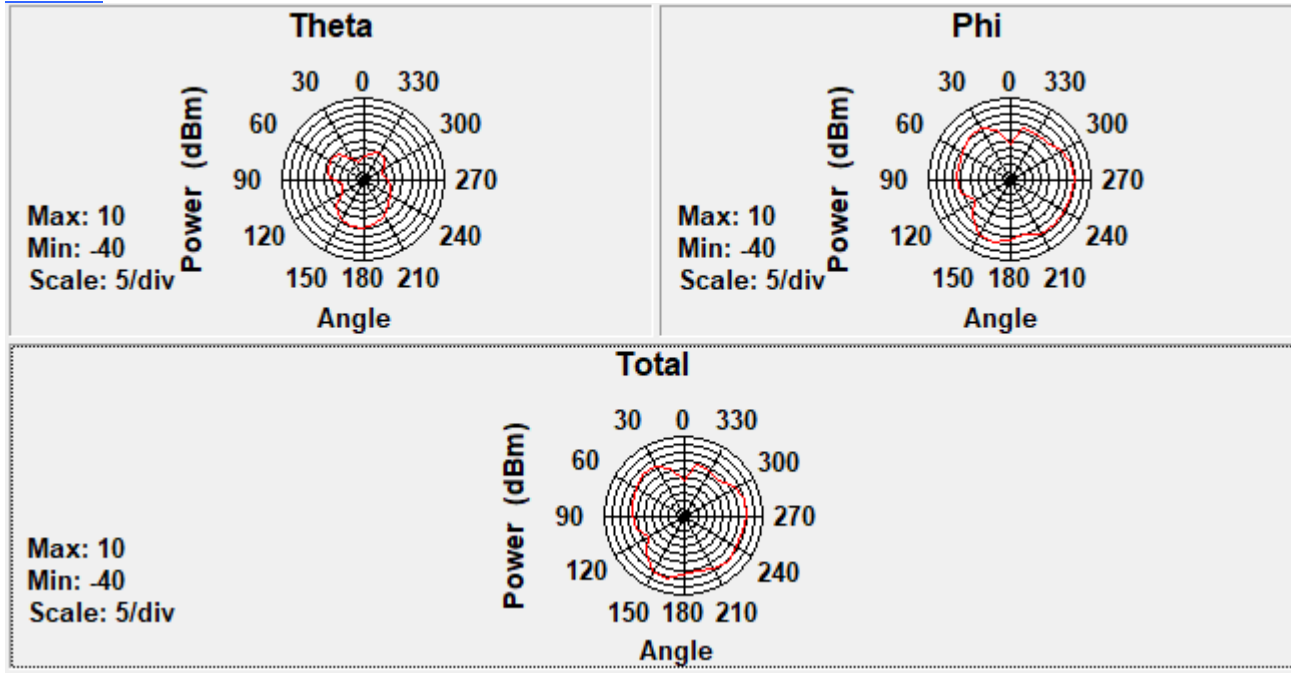
Center Frequency	777MHz
Horizontal (dBi) peak	-11.88
Vertical (dBi) peak	0.16

791MHz

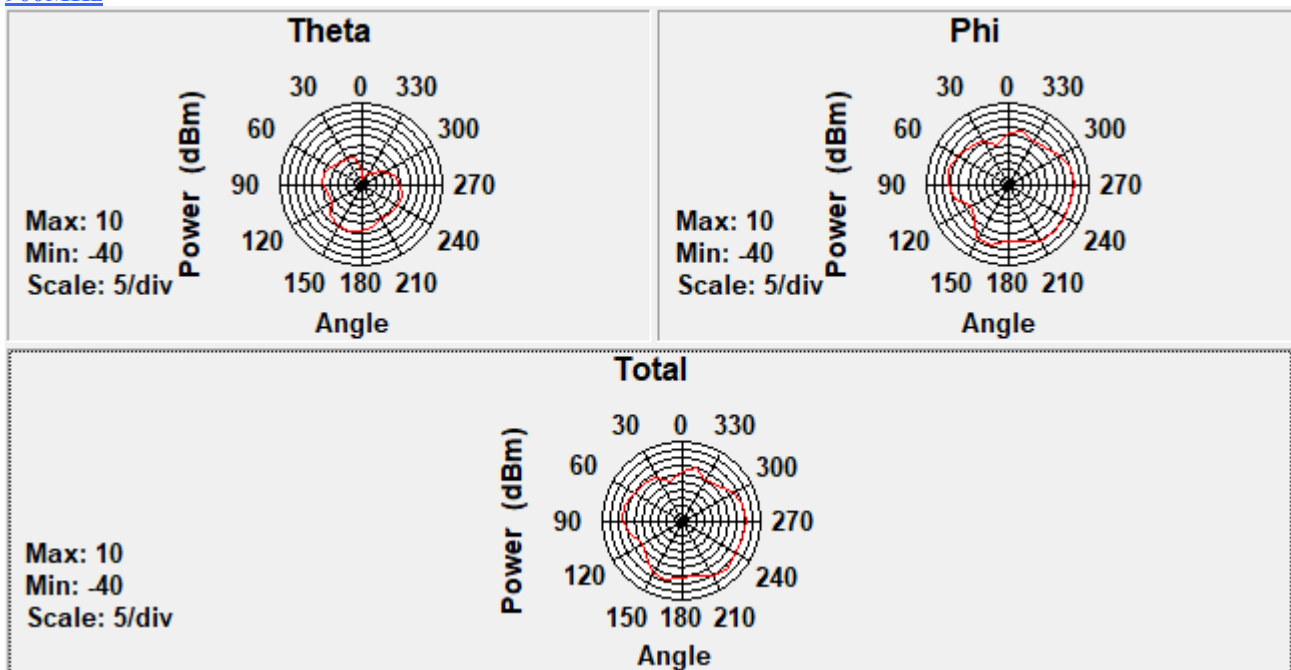
Center Frequency	791MHz
Horizontal (dBi) peak	-12.15
Vertical (dBi) peak	-0.32

830MHz

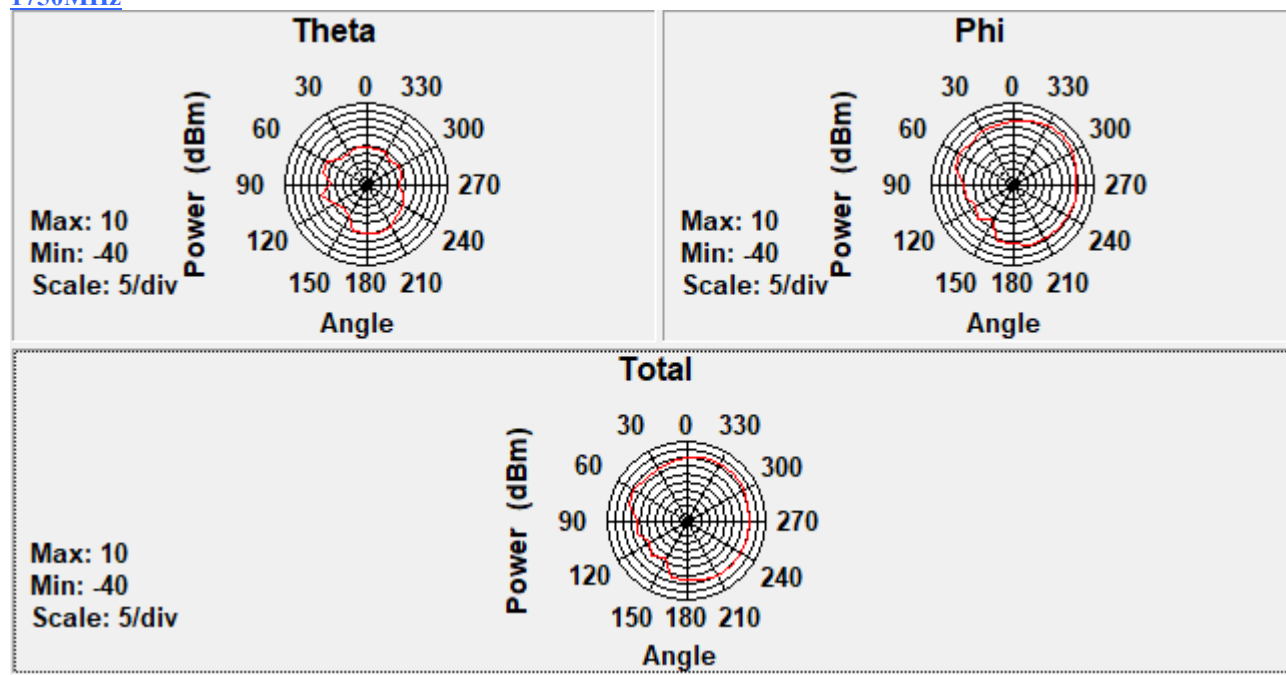
Center Frequency	830MHz
Horizontal (dBi) peak	-11.65
Vertical (dBi) peak	-0.93

845MHz

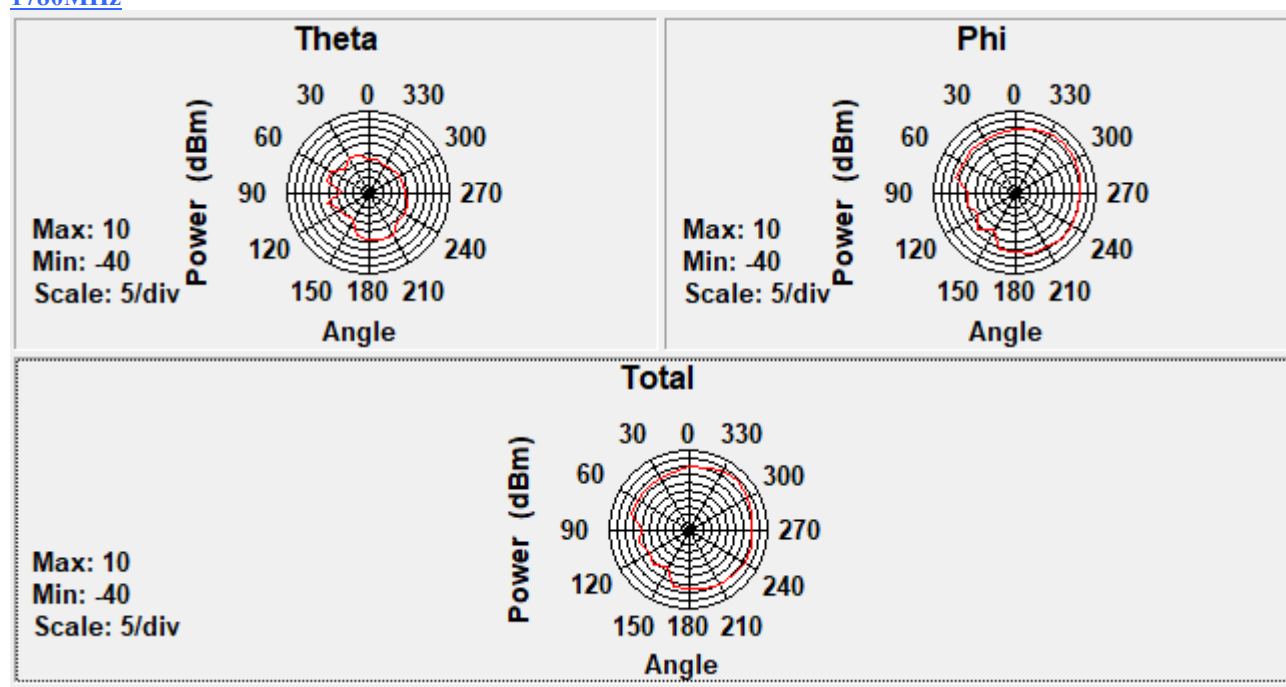
Center Frequency	845MHz
Horizontal (dBi) peak	-10.91
Vertical (dBi) peak	-0.65

900MHz

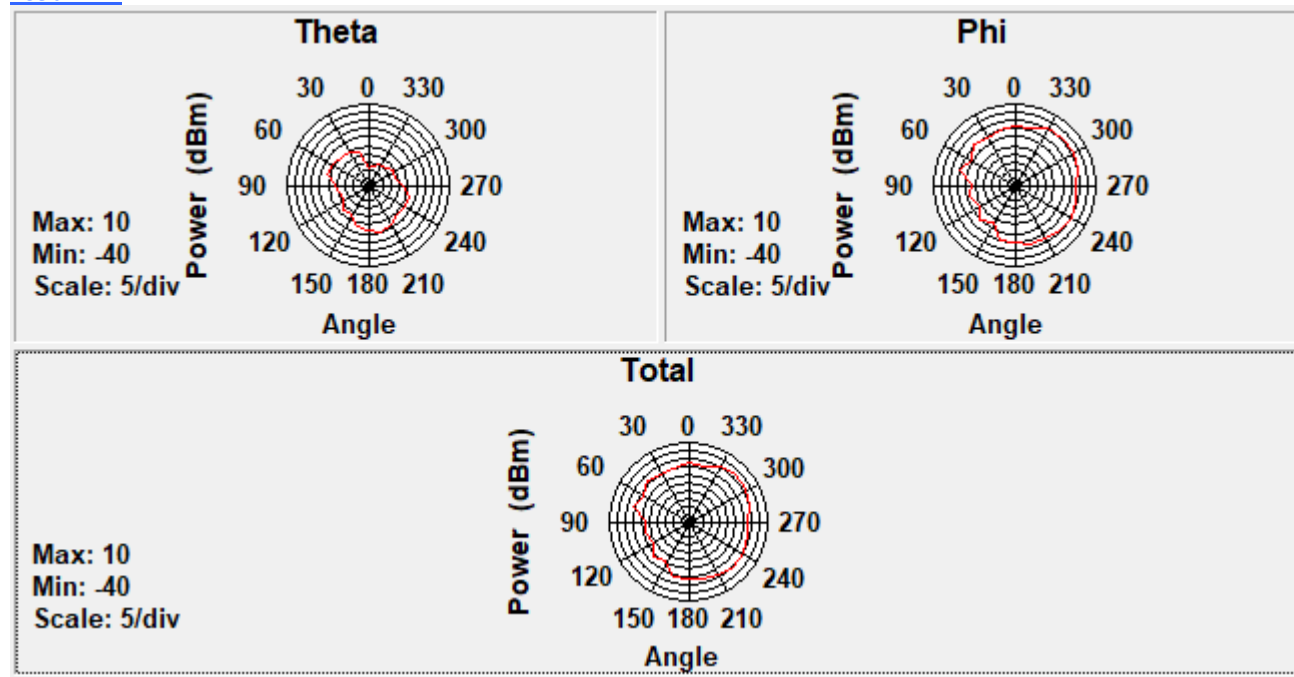
Center Frequency	900MHz
Horizontal (dBi) peak	-11.15
Vertical (dBi) peak	-0.02

1750MHz

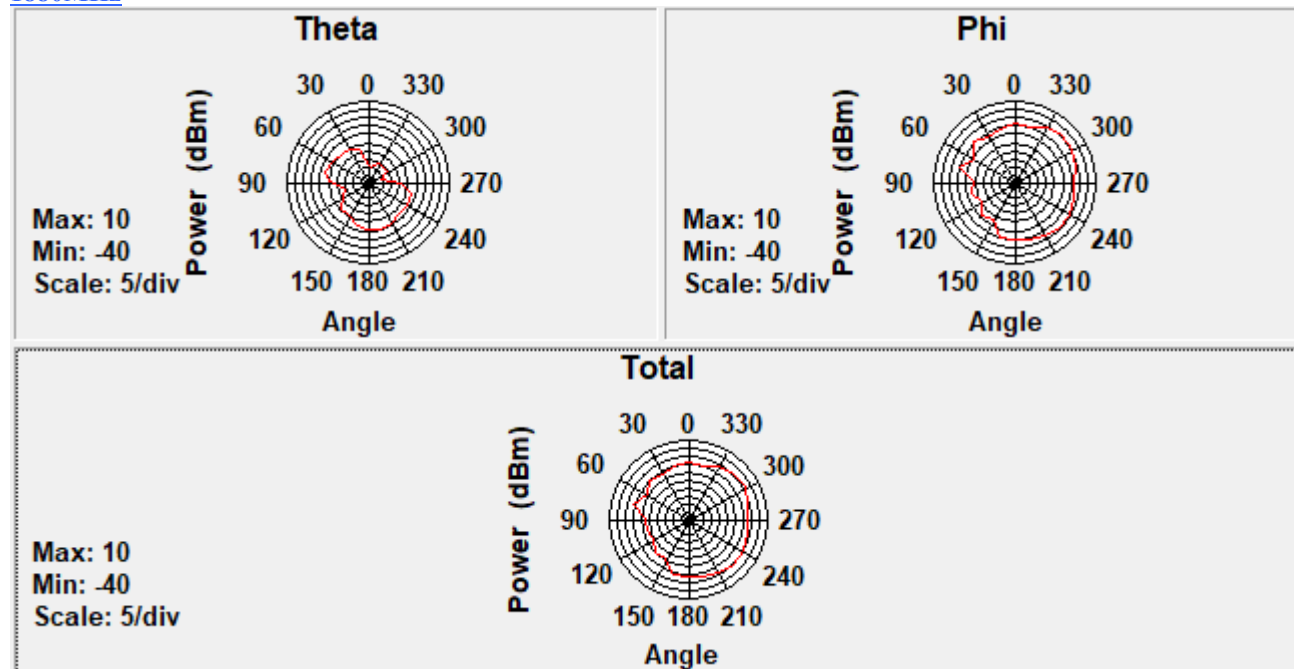
Center Frequency	1750MHz
Horizontal (dBi) peak	-9.42
Vertical (dBi) peak	1.74

1780MHz

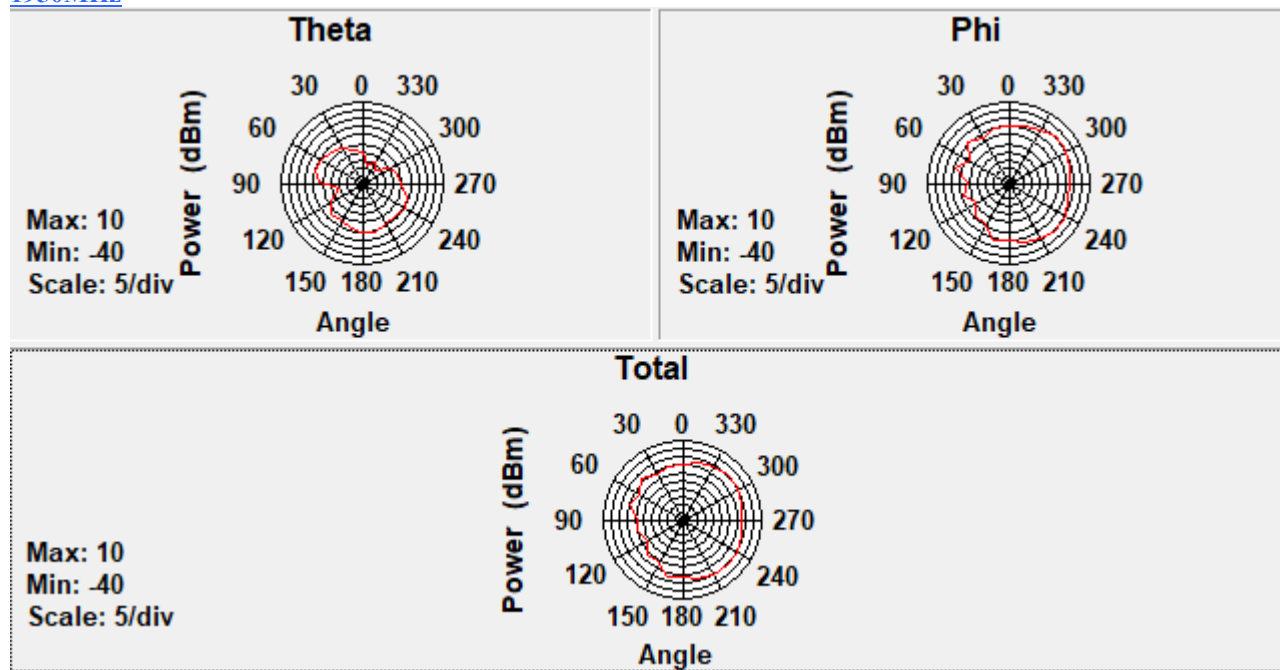
Center Frequency	1780MHz
Horizontal (dBi) peak	-10.36
Vertical (dBi) peak	1.85

1850MHz

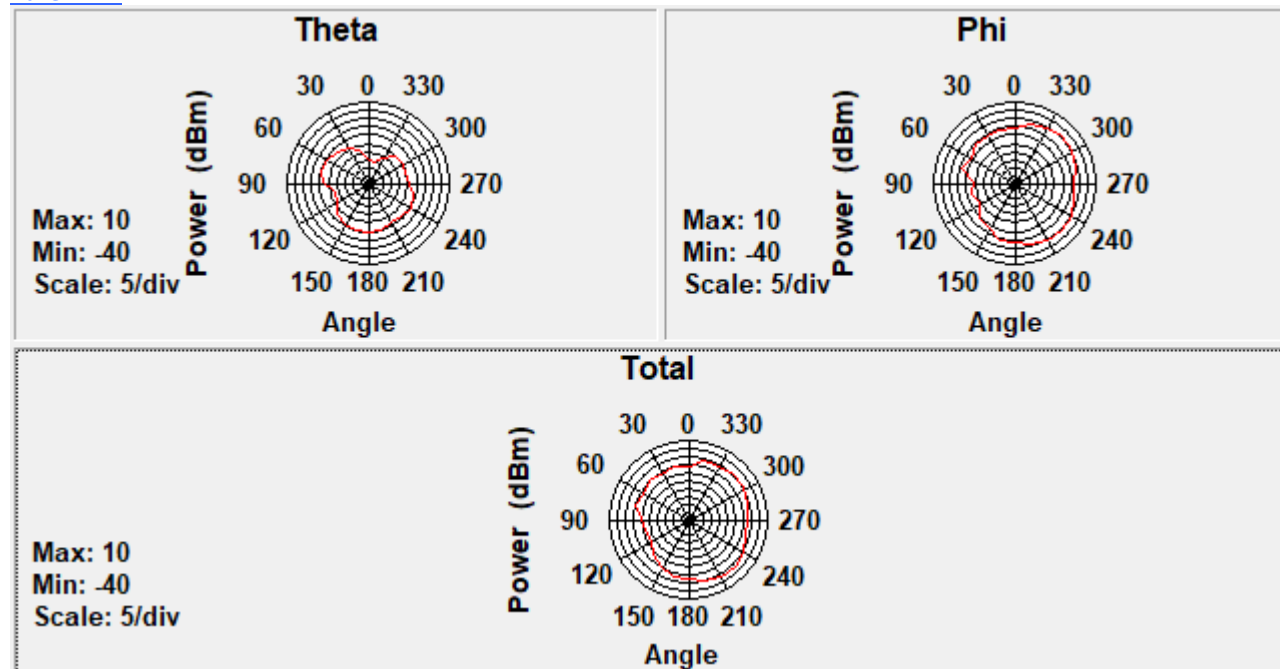
Center Frequency	1850MHz
Horizontal (dBi) peak	-11.21
Vertical (dBi) peak	0.57

1880MHz

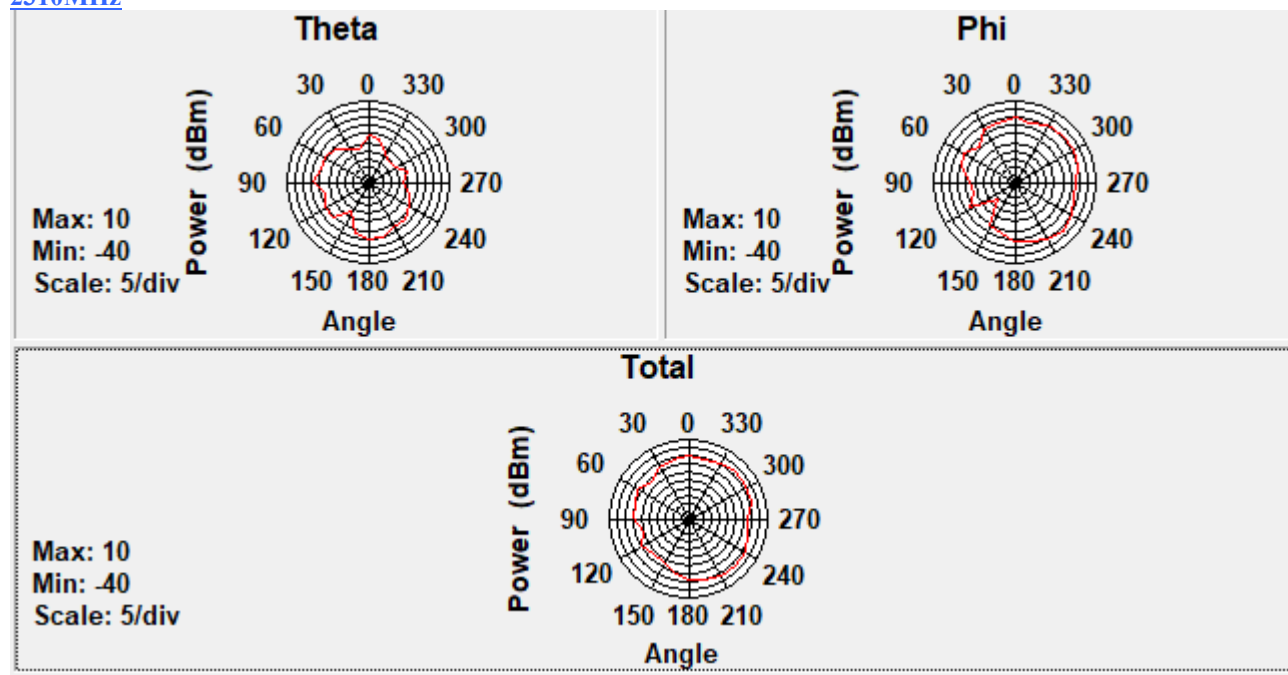
Center Frequency	1880MHz
Horizontal (dBi) peak	-10.58
Vertical (dBi) peak	-0.01

1950MHz

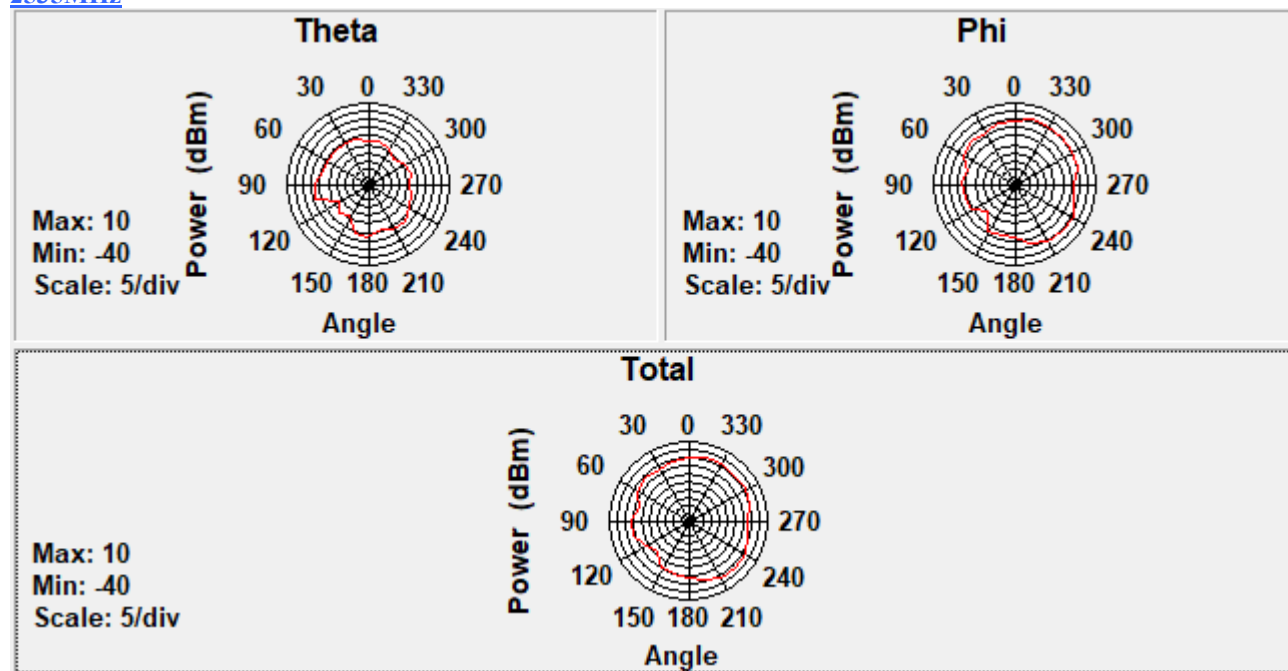
Center Frequency	1950MHz
Horizontal (dBi) peak	-9.59
Vertical (dBi) peak	-0.31

2025MHz

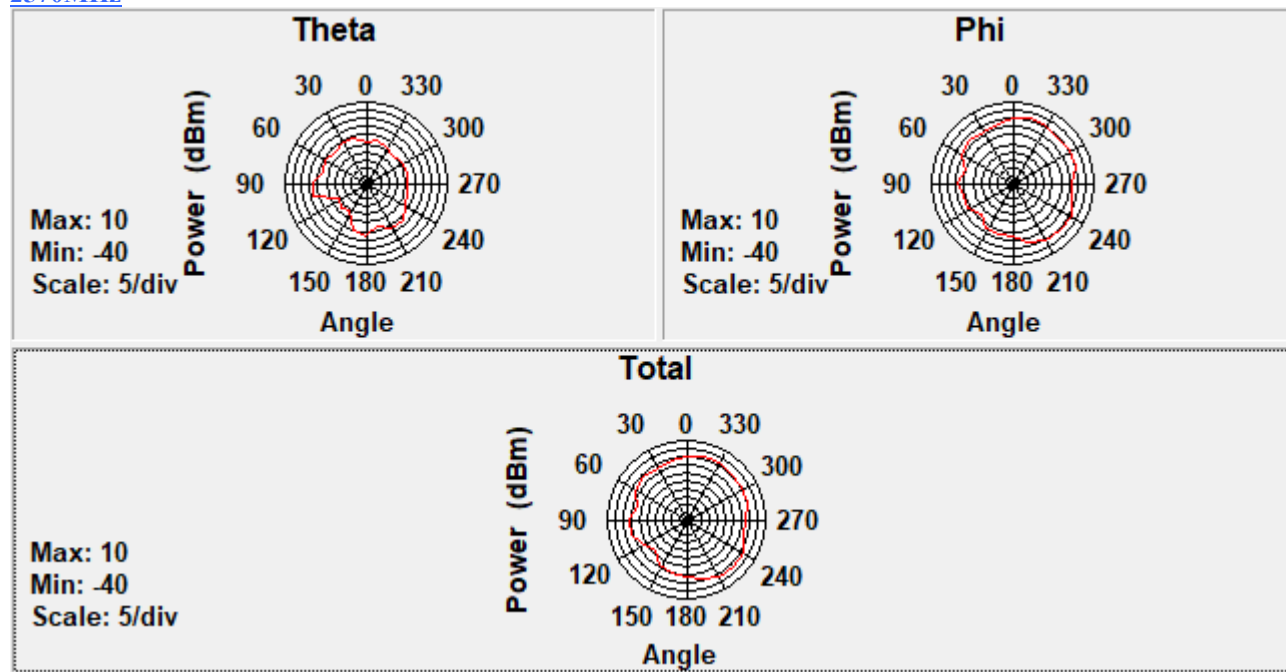
Center Frequency	2025MHz
Horizontal (dBi) peak	-10.29
Vertical (dBi) peak	-0.23

2310MHz

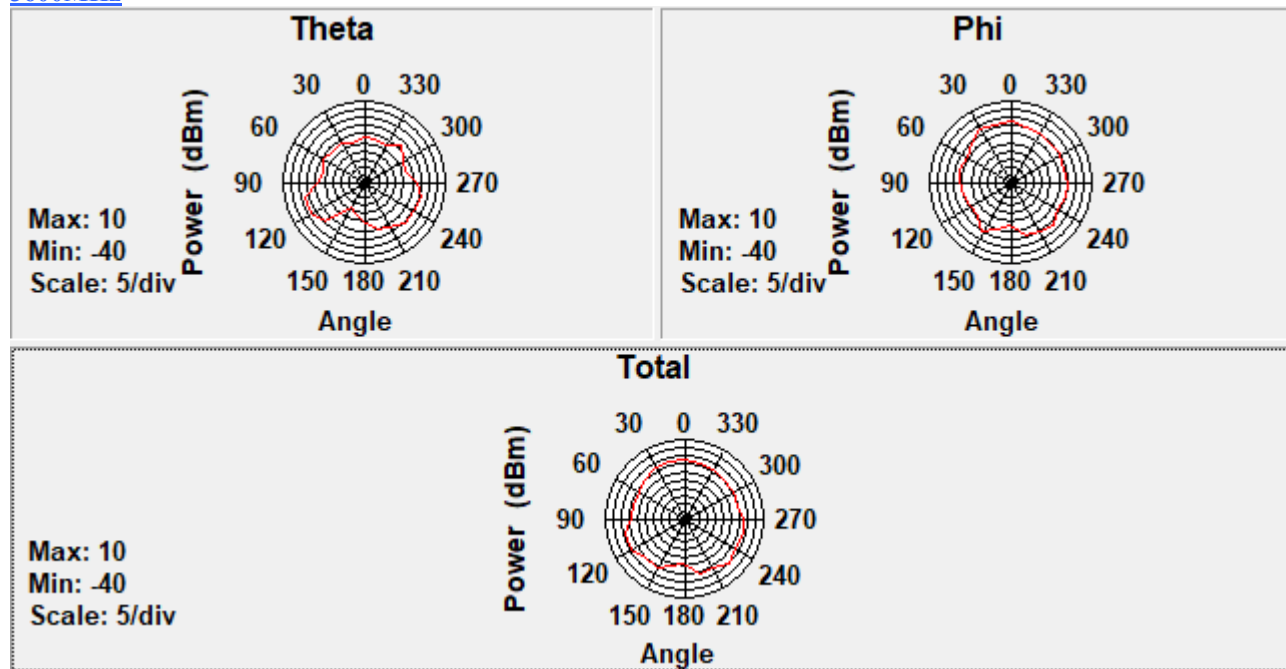
Center Frequency	2310MHz
Horizontal (dBi) peak	-6.21
Vertical (dBi) peak	0.82

2535MHz

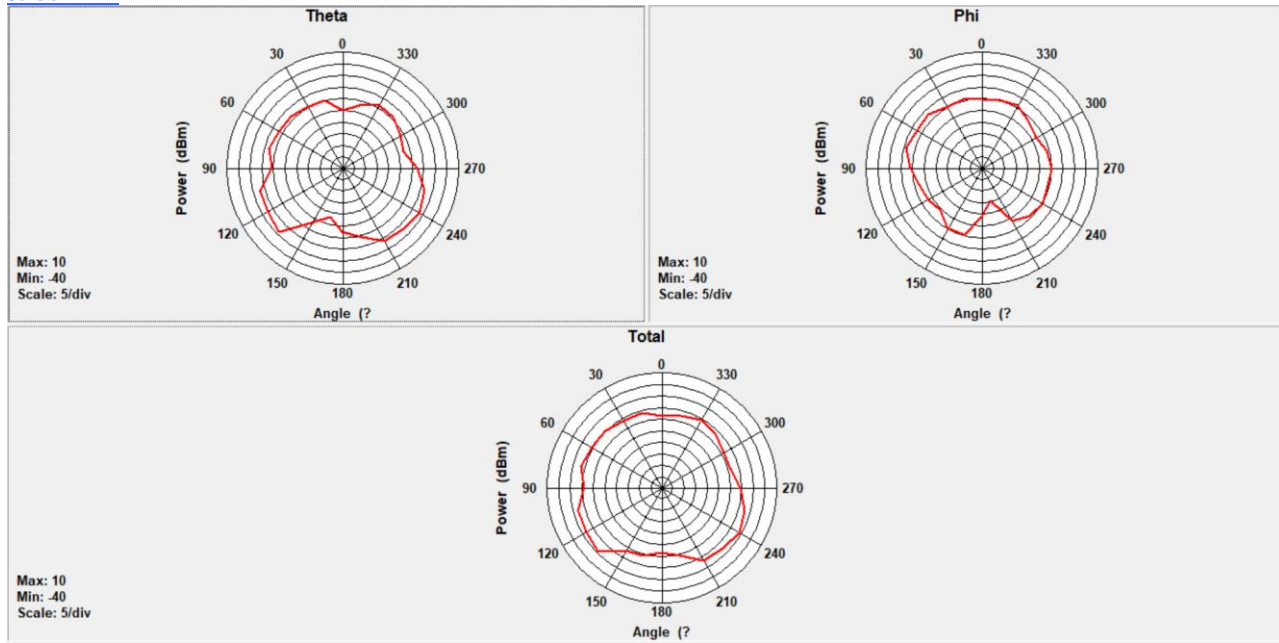
Center Frequency	2535MHz
Horizontal (dBi) peak	-7.57
Vertical (dBi) peak	0.74

2570MHz

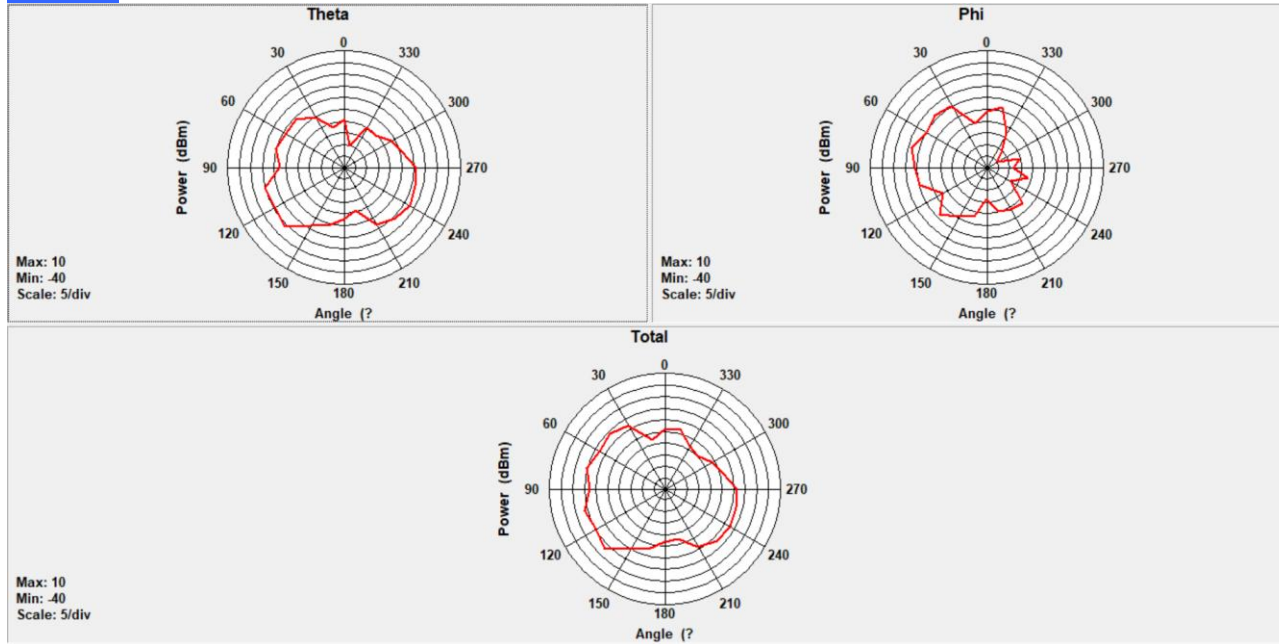
Center Frequency	2570MHz
Horizontal (dBi) peak	-7.65
Vertical (dBi) peak	0.25

3600MHz

Center Frequency	3600MHz
Horizontal (dBi) peak	-2.69
Vertical (dBi) peak	-3.22

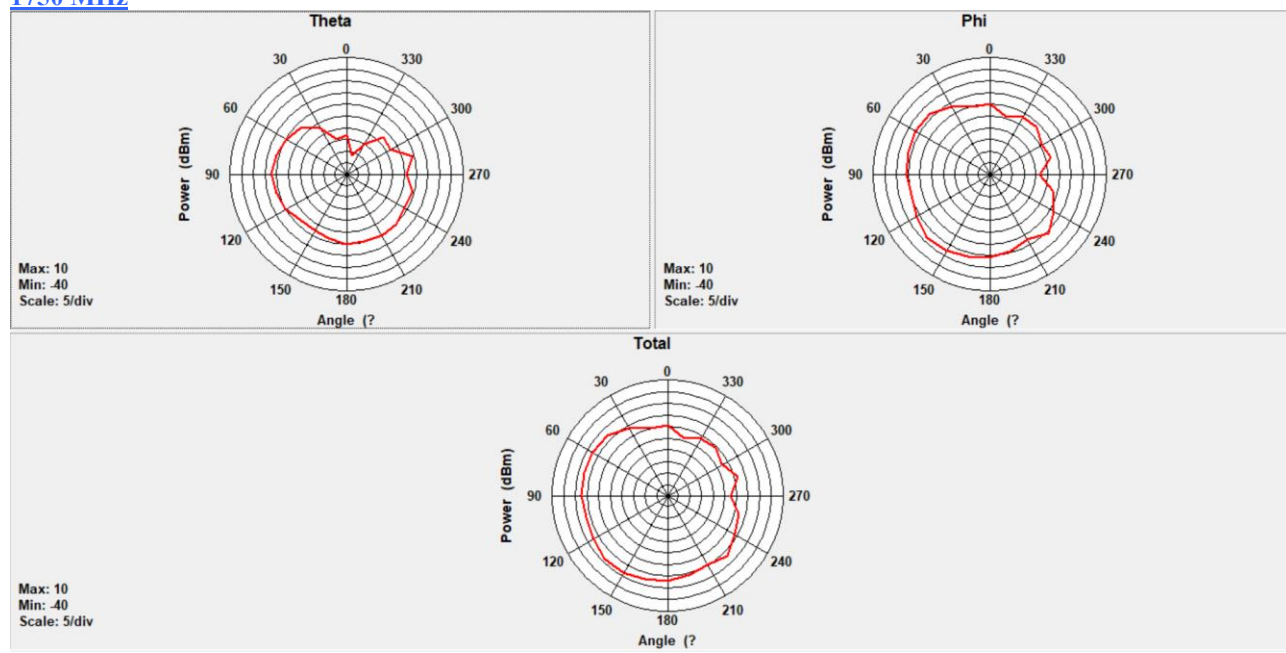
3900MHz

Center Frequency	3900MHz
Horizontal (dBi) peak	-1.61
Vertical (dBi) peak	-6.66

4400MHz

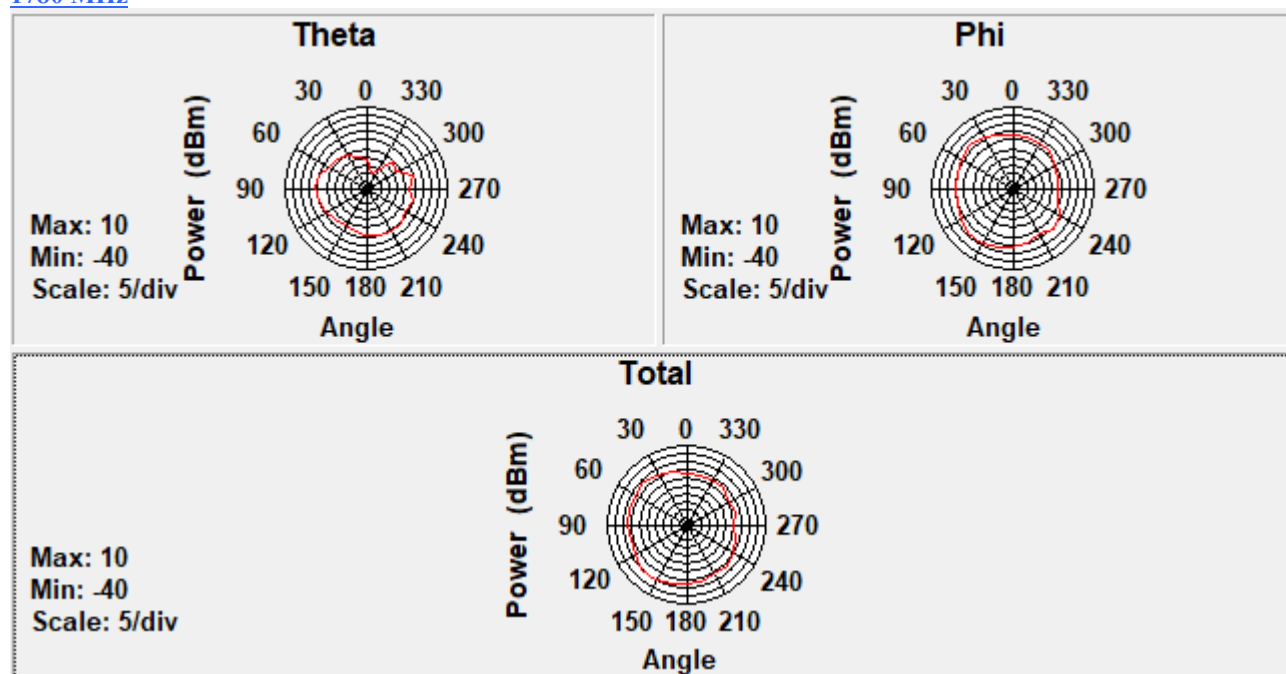
Center Frequency	4400MHz
Horizontal (dBi) peak	-4.69
Vertical (dBi) peak	-7.07

● **Ant8:**
Example
1750 MHz

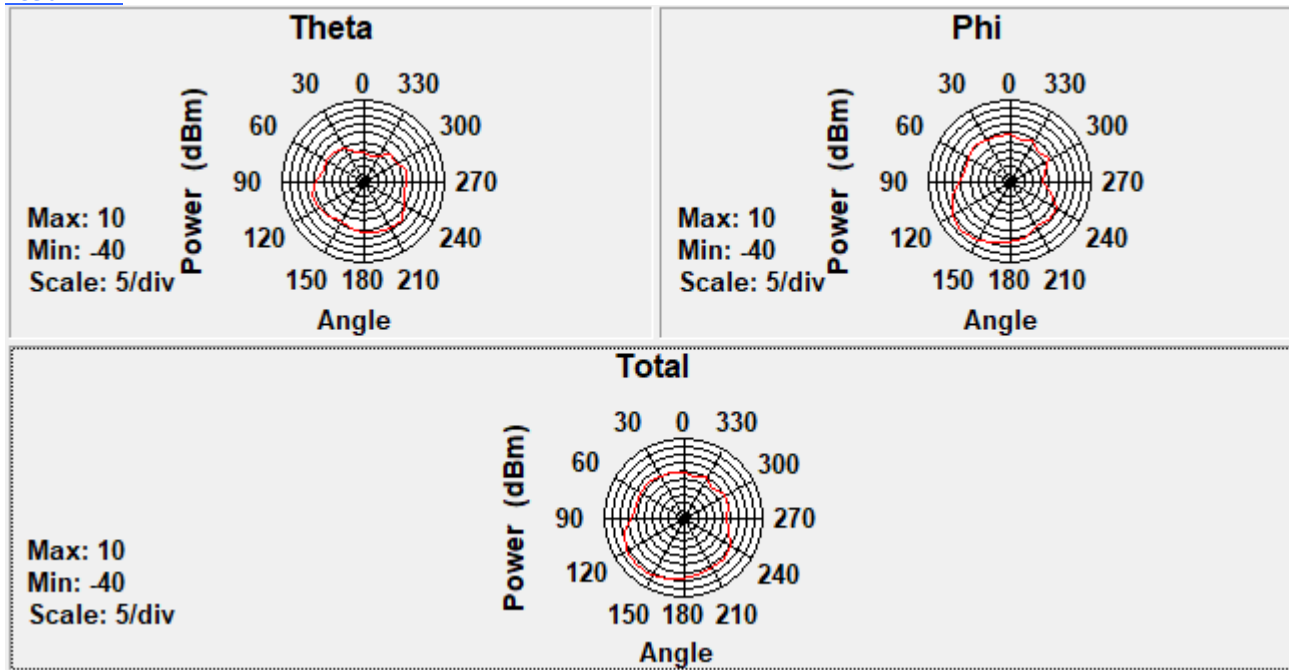


Center Frequency	1750MHz
Horizontal (dBi) peak	-8.3
Vertical (dBi) peak	-1.82

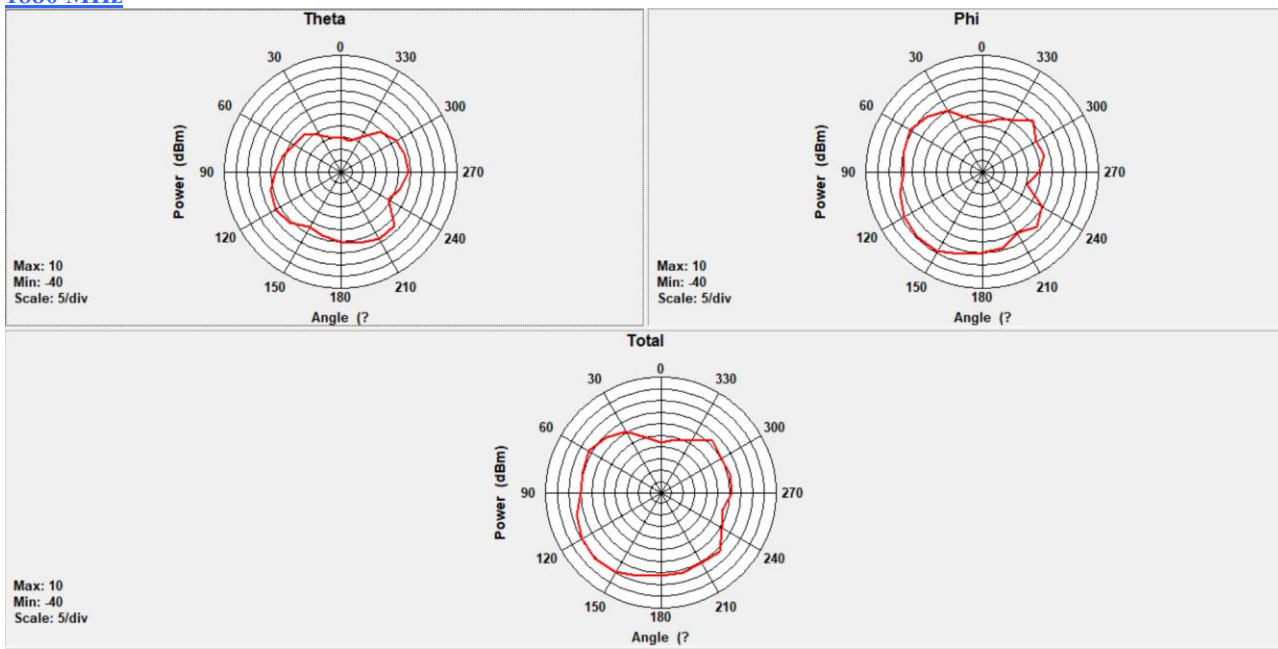
1780 MHz



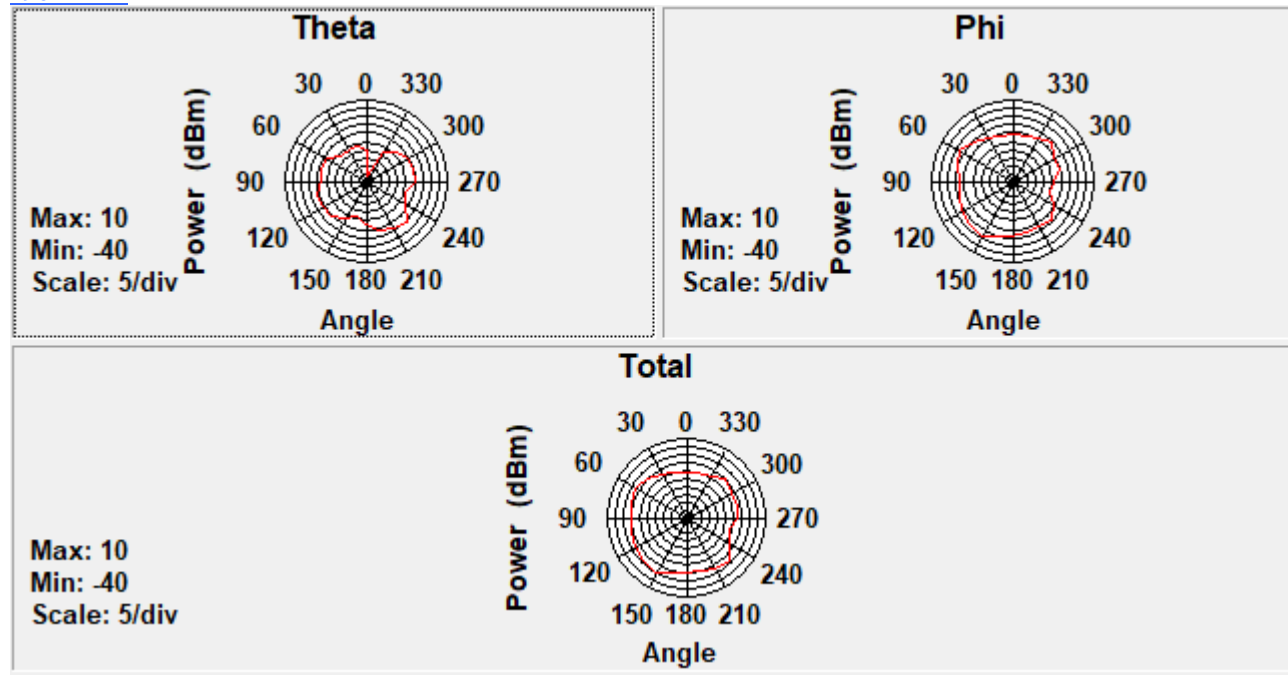
Center Frequency	1780MHz
Horizontal (dBi) peak	-8.99
Vertical (dBi) peak	-1.4

1850 MHz

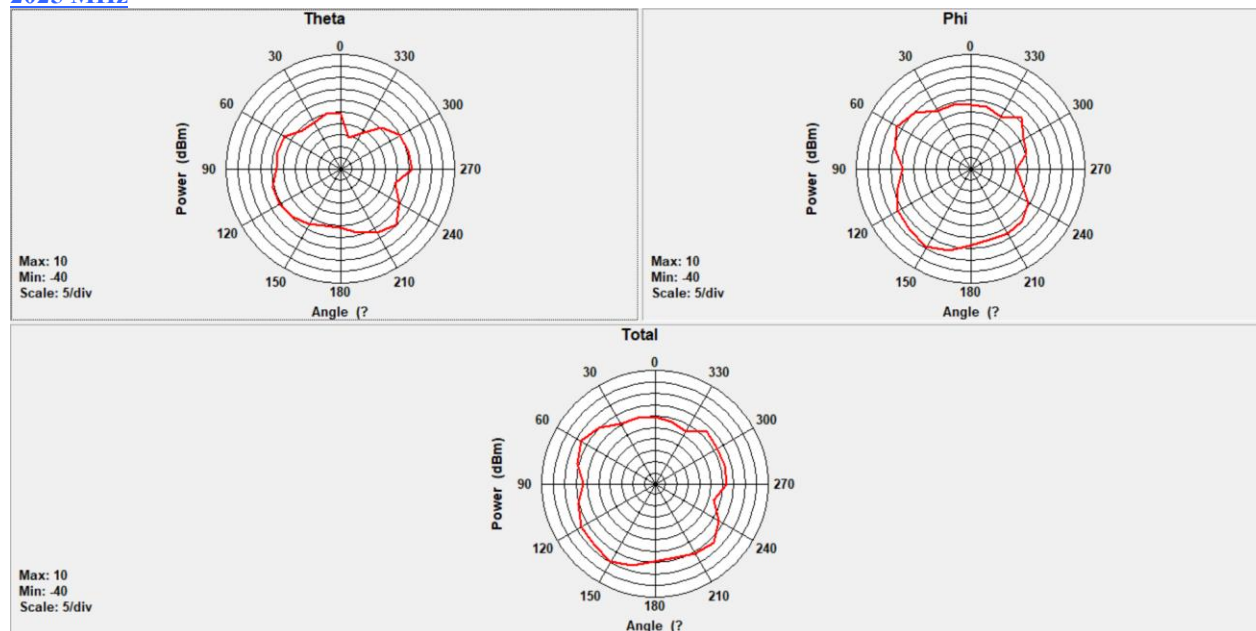
Center Frequency	1850MHz
Horizontal (dBi) peak	-7.09
Vertical (dBi) peak	0.96

1880 MHz

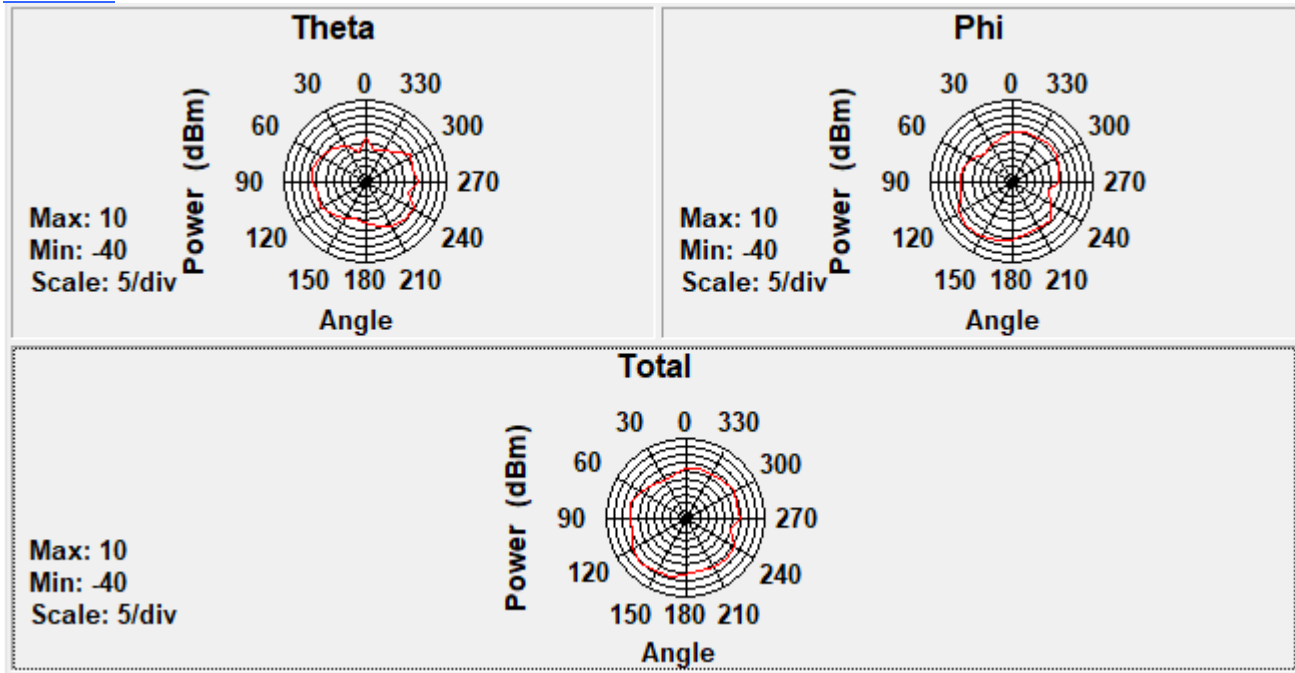
Center Frequency	1880MHz
Horizontal (dBi) peak	-7.19
Vertical (dBi) peak	0.67

1962 MHz

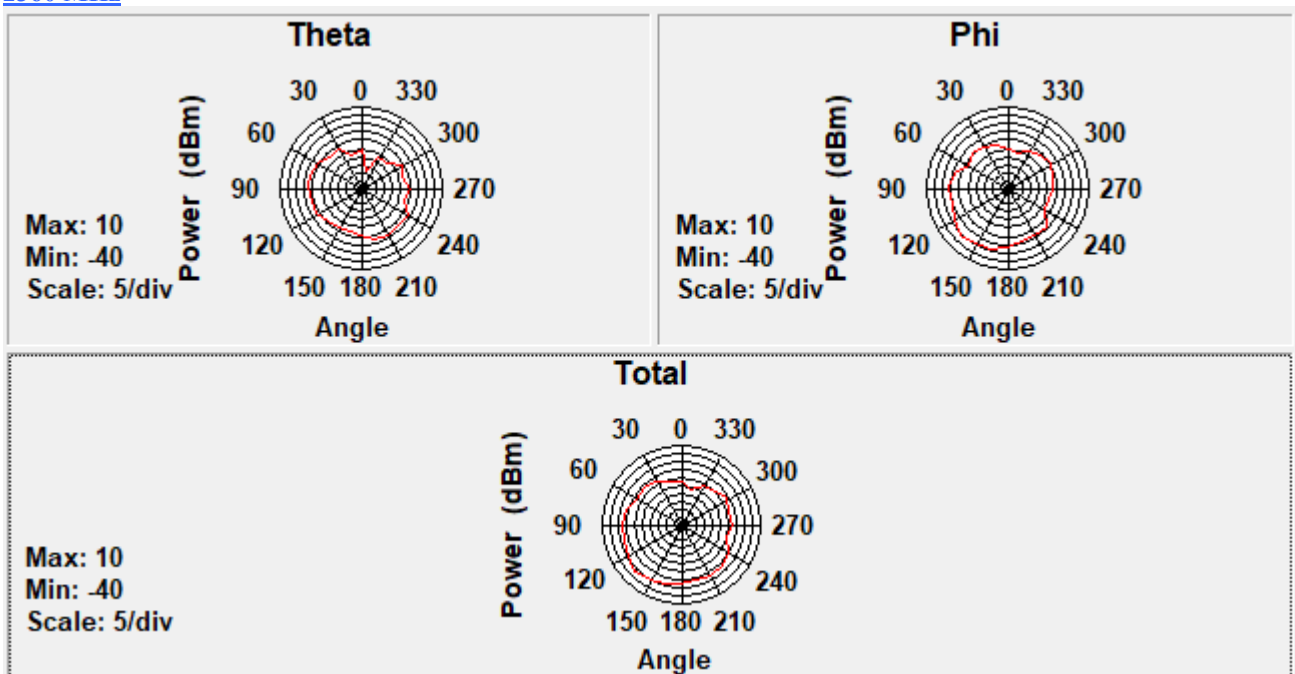
Center Frequency	1962MHz
Horizontal (dBi) peak	-5.3
Vertical (dBi) peak	-1.79

2025 MHz

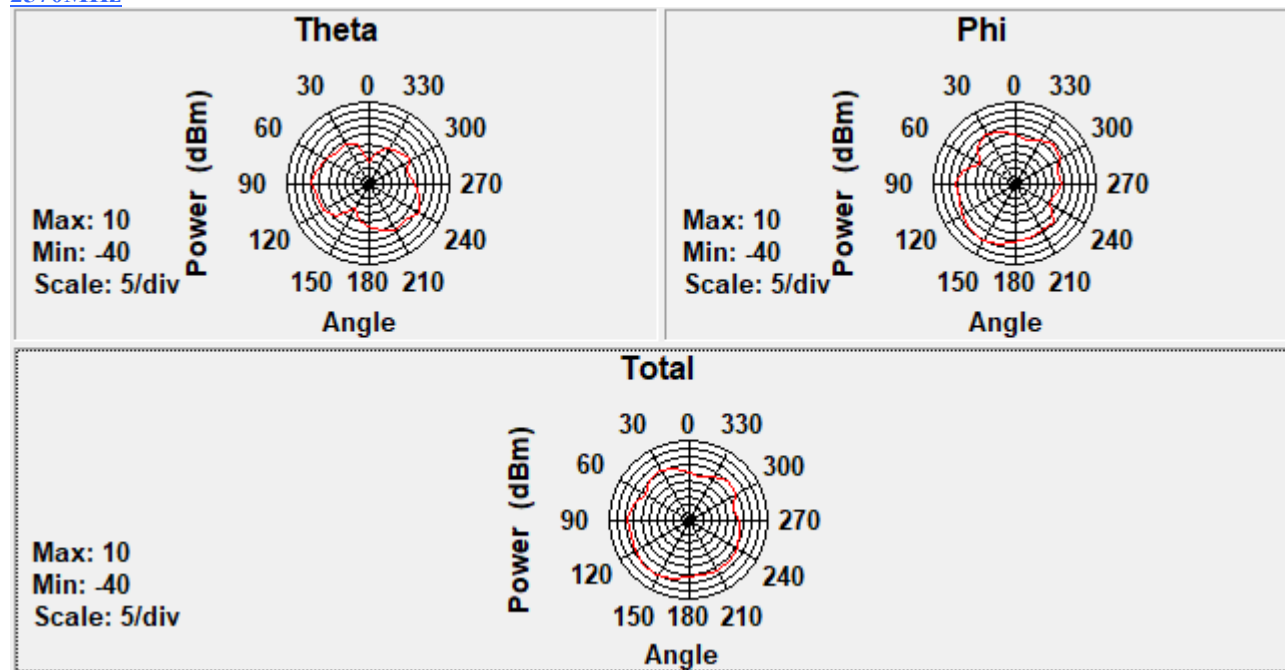
Center Frequency	2025MHz
Horizontal (dBi) peak	-5.56
Vertical (dBi) peak	-1.26

2315MHz

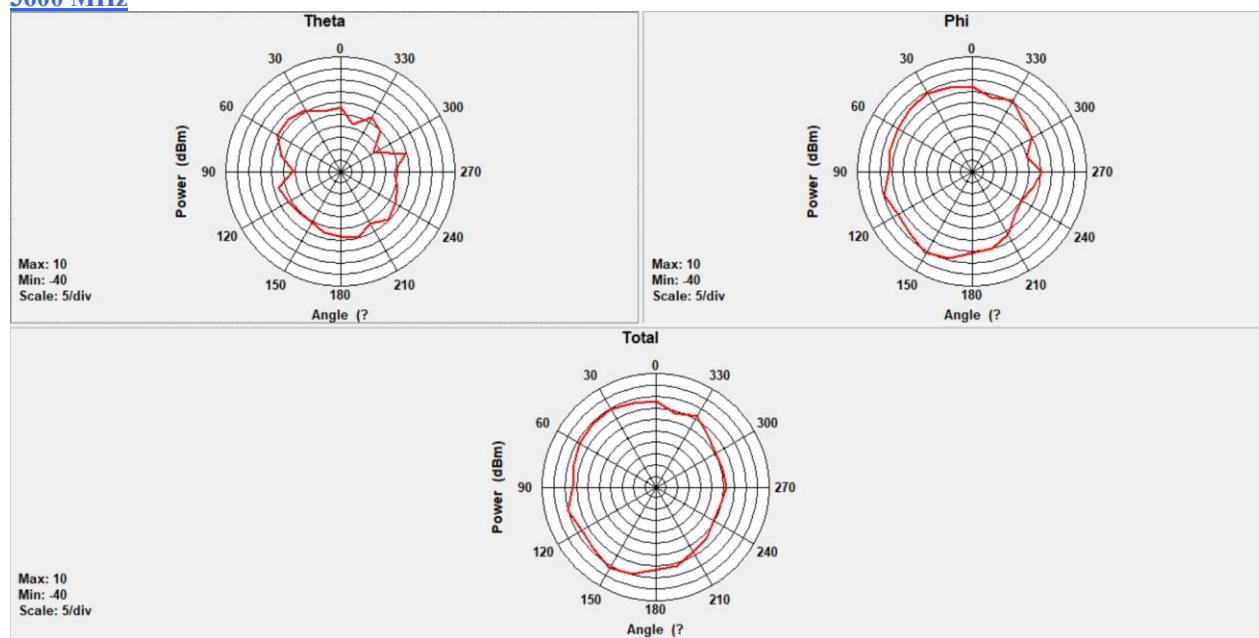
Center Frequency	2315MHz
Horizontal (dBi) peak	-6.57
Vertical (dBi) peak	-1.14

2360 MHz

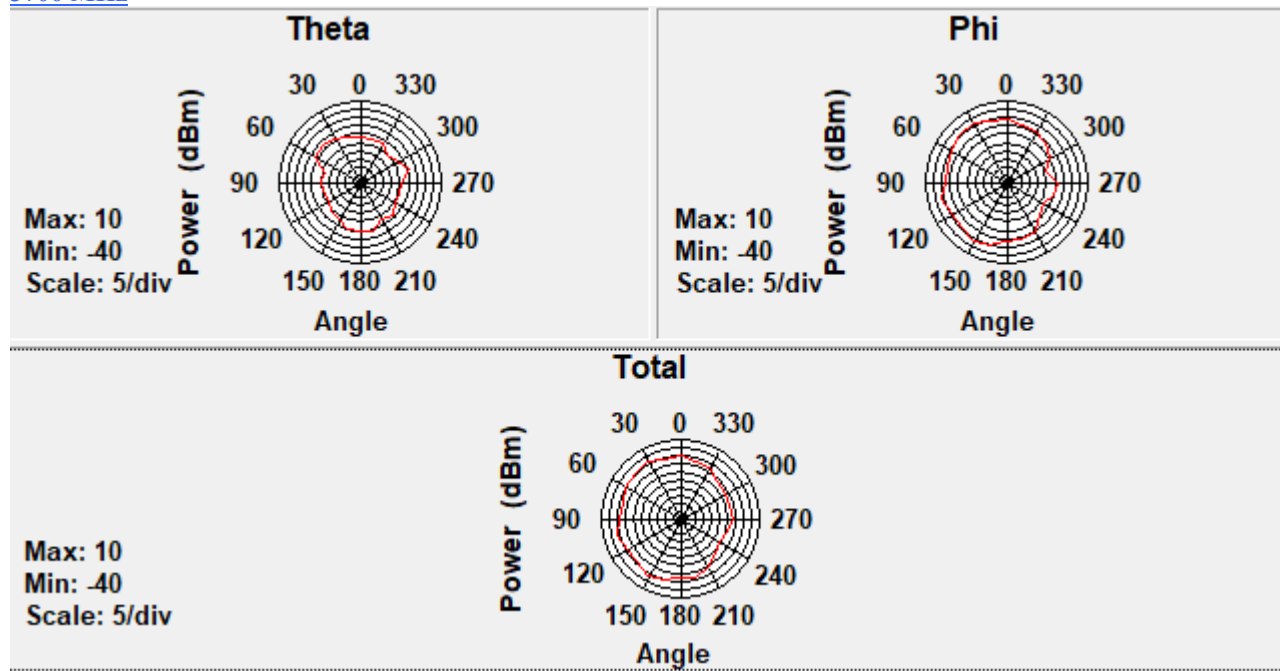
Center Frequency	2360MHz
Horizontal (dBi) peak	-7.12
Vertical (dBi) peak	0.1

2570MHz

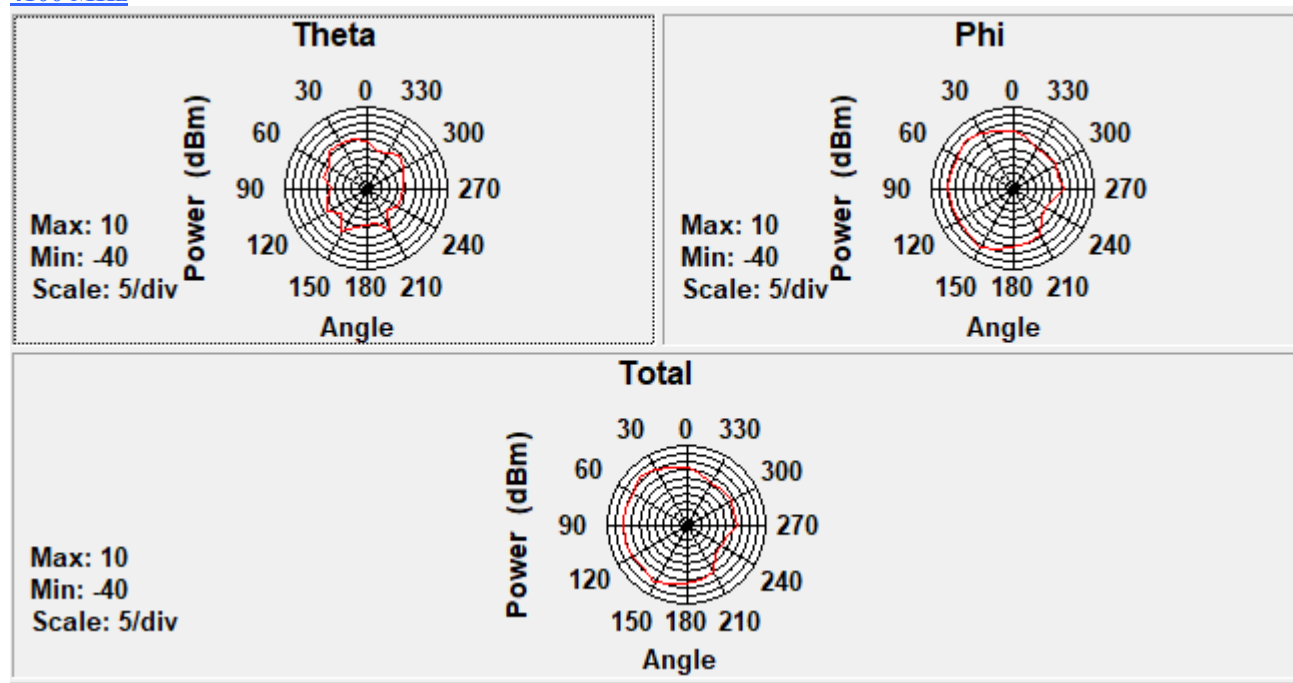
Center Frequency	2570MHz
Horizontal (dBi) peak	-5.16
Vertical (dBi) peak	-0.47

3600 MHz

Center Frequency	3600MHz
Horizontal (dBi) peak	-8.31
Vertical (dBi) peak	0.43

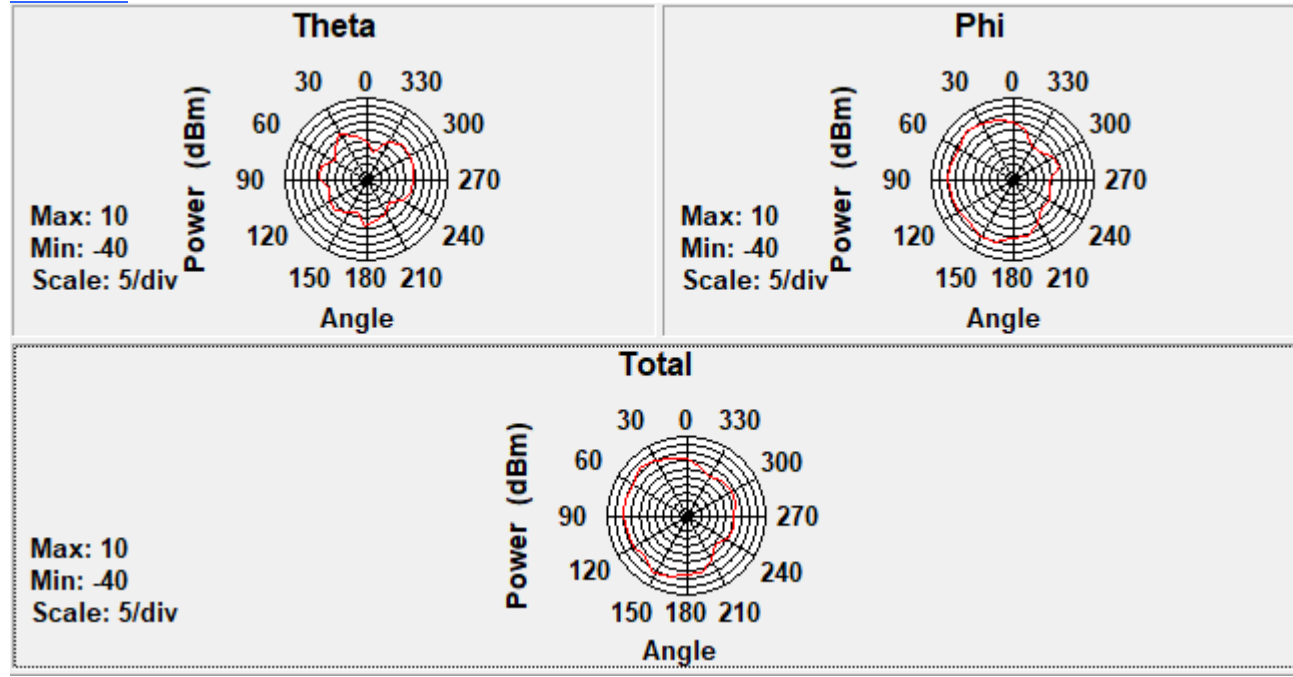
3700 MHz

Center Frequency	3700MHz
Horizontal (dBi) peak	-8.91
Vertical (dBi) peak	0.51

4100 MHz

Center Frequency	4100MHz
Horizontal (dBi) peak	-9
Vertical (dBi) peak	0.84

4500 MHz



Center Frequency	4500MHz
Horizontal (dBi) peak	-8.58
Vertical (dBi) peak	0.6