

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 only	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	Part number of Antenna Assembly / cable impedance, length & diameter.	Required	Desired	Desired	Desired	Desired
1E	Tx1, Tx2 & Tx3 antenna (Peak Gain W/ cable loss) *	Required	Required	Required	Required	Required
	1E OR 1F, 1G, 1H					
1F	Tx1, Tx2 & Tx3 antenna (Peak Gain only) *	Required	Required	Required	Required	Required
1G	VSWR of cable including connector	Required	Required	Required	Required	Required
1H	Tx1, Tx2 & Tx3 antenna (Cable loss W/ connector) *	Required	Required	Required	Required	Required
2	Dimensioned Photographs <u>and</u> Drawings of Tx1, Tx2, and Tx3 (or Rx3) antennas	Required	Required	Required	Required	Required
3	Radiation patterns of antennas loaded in the host platform.	Required	Desired	Required	N/A	Required
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. <u>(S. Korea requires photographs of antennas for approval submission). Taiwan requires pictures of each antenna type shown in the system.</u>	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

Antenna Information

Section 1. Antenna Assembly Specifications

1A Antenna Part Number	1B Manufacture	1C Antenna Type	1D Cable Assembly Part Number and Information	1E *Peak Gain W/ Cable loss (dBi)	1F Peak Gain w/o Cable Loss (dBi)	1G VSWR	1H Cable Loss (dBi)
(P/N:WA-P-LB-01-126 main) Tx1 Antenna (White)	INPAQ	PIFA	1. Cable : 50 ohm coaxial cable 2. Diameter : 1.13mm. 3. Cable Length : 265mm 4. Connector P/N : I-PEX MHF-4L : 20565-001R-13 ST 0.81 connector :C87P115-00001-H	2400-2500MHz 0.39dBi (peak)	2400-2500MHz 1.08 dBi (peak)	2400-2500MHz 2.0 max	2400-2500MHz 0.69 dBi (peak)
				5150-5350MHz -1.38 dBi (peak)	5150-5350MHz -0.28 dBi (peak)	5150-5350MHz 2.0 max	5150-5350MHz 1.1 dBi (peak)
				5470-5725MHz -1.94 dBi (peak)	5470-5725MHz -0.82 dBi (peak)	5470-5725MHz 2.0 max	5470-5725MHz 1.12 dBi (peak)
				5725-5850MHz -1.32 dBi (peak)	5725-5850MHz -0.16 dBi (peak)	5725-5850MHz 2.0 max	5725-5850MHz 1.16 dBi (peak)
(P/N: WA-P-LB-02-257 aux) Tx2 Antenna (Black)	INPAQ	PIFA	1. Cable : 50 ohm coaxial cable 2. Diameter : 1.13mm. 3. Cable Length : 183mm 4. Connector P/N : I-PEX MHF-4L : 20565-001R-13 ST 0.81 connector :C87P115-00001-H	2400-2500MHz -0.59 dBi (peak)	2400-2500MHz -0.13 dBi (peak)	2400-2500MHz 2.0 max	2400-2500MHz 0.46 dBi (peak)
				5150-5350MHz -2.03 dBi (peak)	5150-5350MHz -1.3 dBi (peak)	5150-5350MHz 2.0 max	5150-5350MHz 0.73 dBi (peak)
				5470-5725MHz -2.03 dBi (peak)	5470-5725MHz -1.28 dBi (peak)	5470-5725MHz 2.0 max	5470-5725MHz 0.75 dBi (peak)
				5725-5850MHz -3.55 dBi (peak)	5725-5850MHz -2.77 dBi (peak)	5725-5850MHz 2.0 max	5725-5850MHz 0.78 dBi (peak)

- Antenna Peak Gain required being test in system basis.
- 1E frame contend absolutely peak antenna gain include H/V

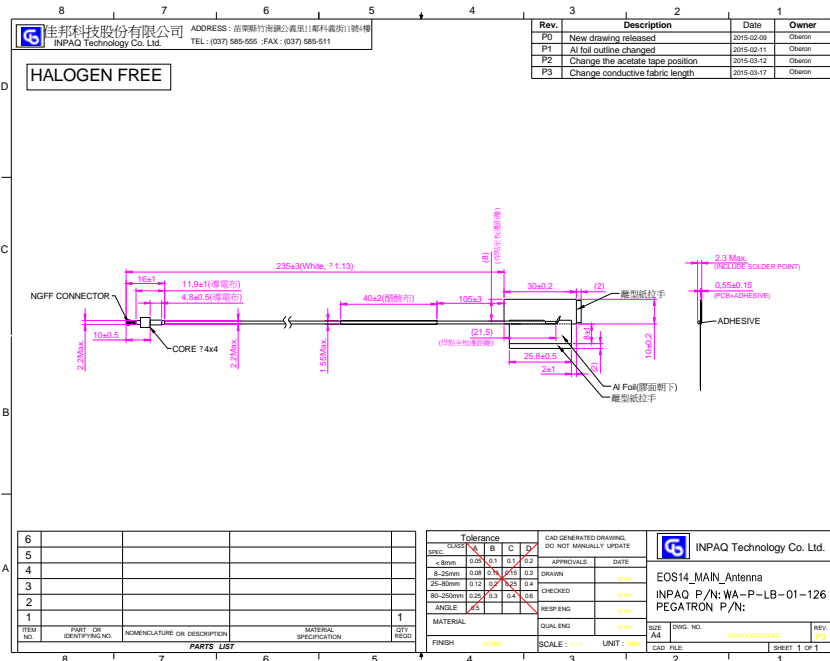
Antenna Peak Gain Table:

Frequency (MHz)	Tx1 antenna		Tx2 (or Rx2) Antenna	
	Horizontal (dBi)	Vertical (dBi)	Horizontal (dBi)	Vertical (dBi)
2400	-6.54	-2.70	-6.66	-0.59
2450	-4.32	0.39	-7.20	-1.11
2500	-4.57	-1.67	-7.58	-2.25
5150	-5.71	-1.38	-8.06	-2.31
5250	-4.77	-1.50	-6.54	-3.11
5350	-5.62	-1.51	-7.53	-2.03
5470	-5.33	-1.94	-6.52	-2.03
5600	-3.82	-3.99	-4.45	-6.71
5725	-4.70	-2.41	-4.98	-8.49
5785	-5.19	-1.32	-5.68	-6.55
5850	-7.54	-2.15	-3.55	-3.77

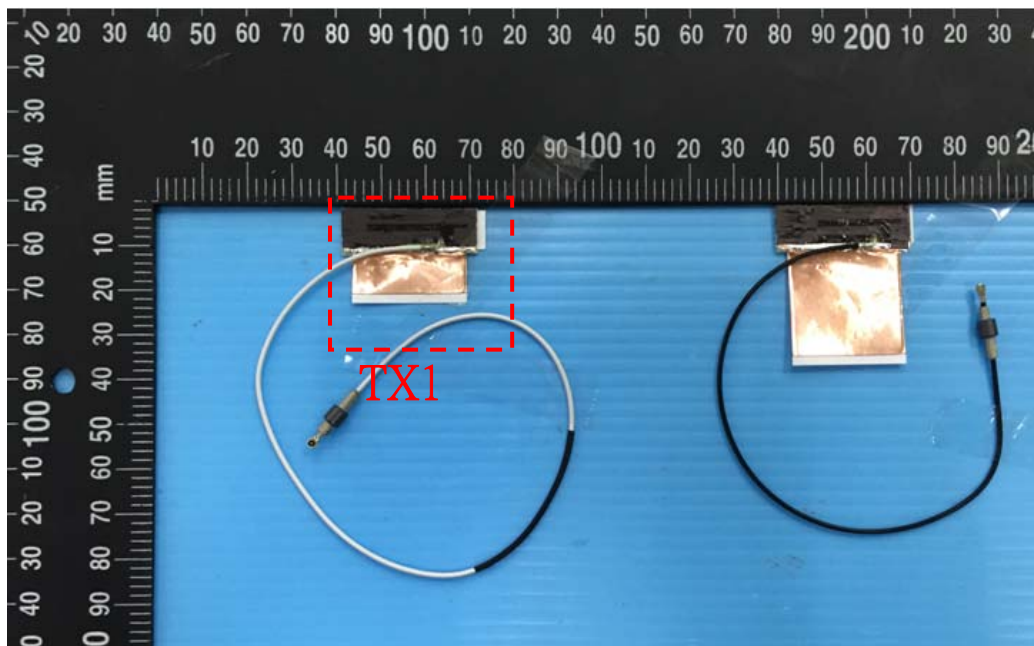
Section 2. Dimensioned Photos or Drawings of Antennas

Include a dimensioned photo and dimensioned drawing of Tx1 antenna here.

Tx1 Antenna Dimensioned Drawing:

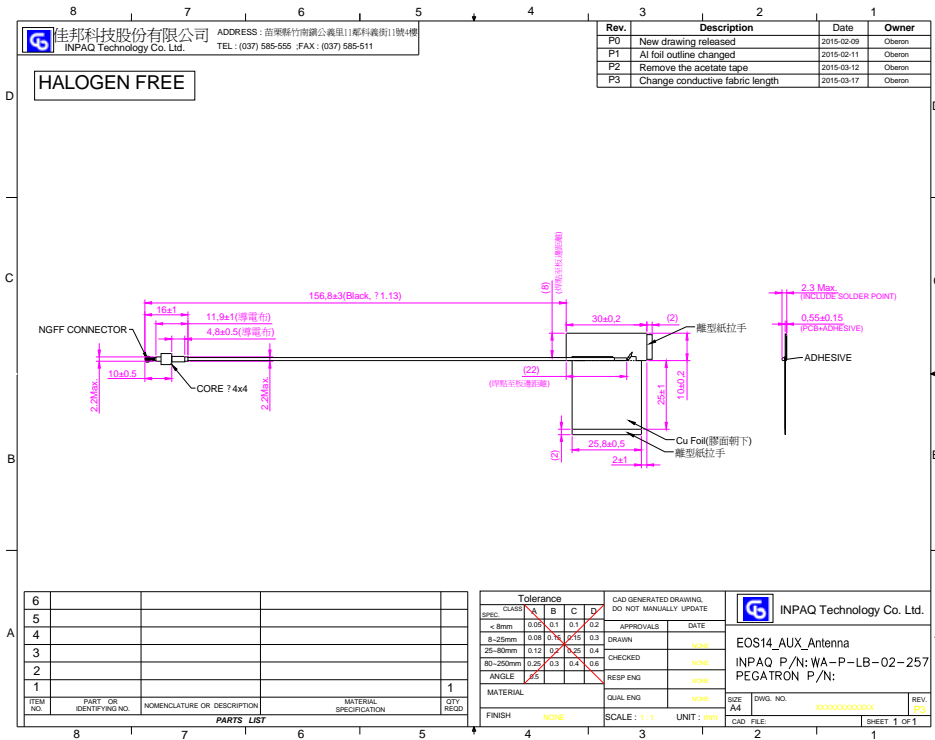


Tx1 Antenna Photo:

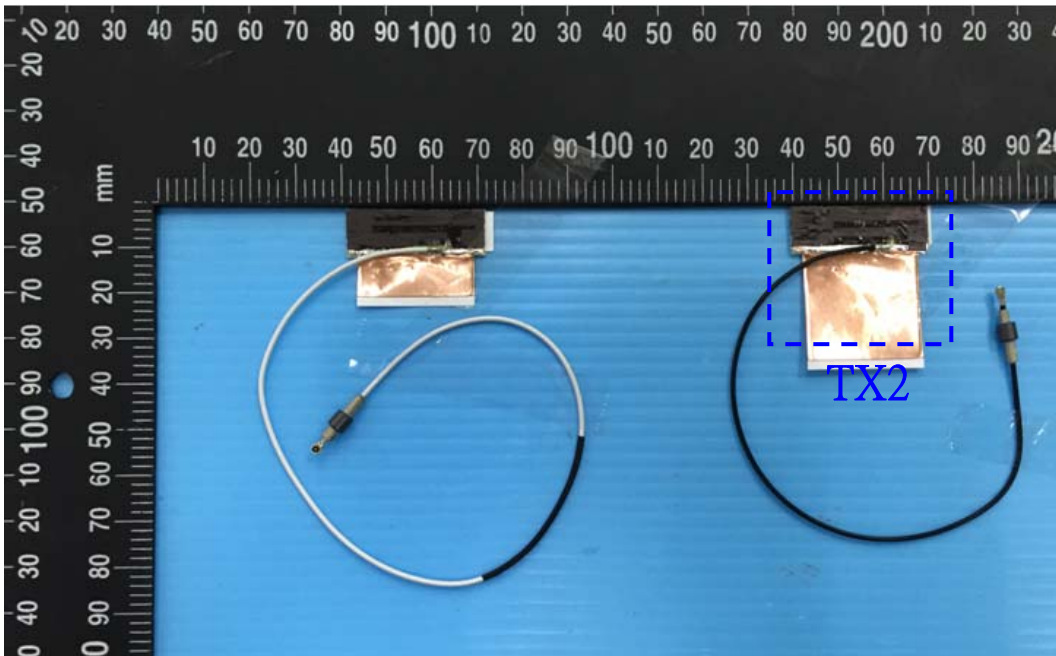


Include a dimensioned photo and dimensioned drawing of Tx2 (or Rx2) antenna here.

Tx2 (or Rx2) Antenna Dimensioned Drawing:

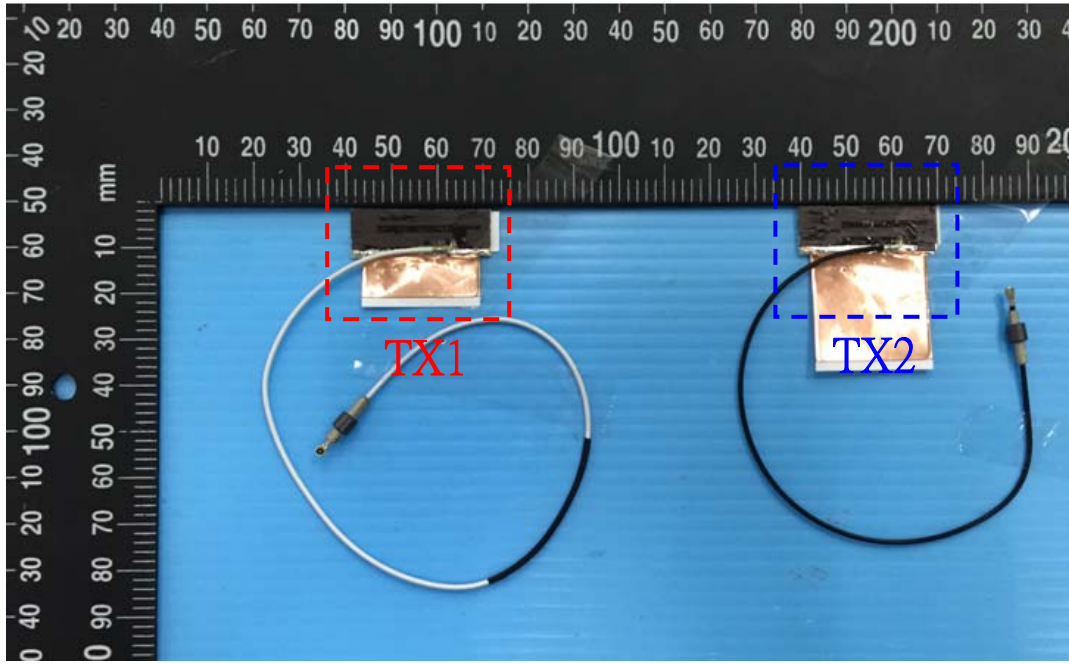


Tx2 (or Rx2) Antenna Photo:



Include front view photo of all 2 antennas here.

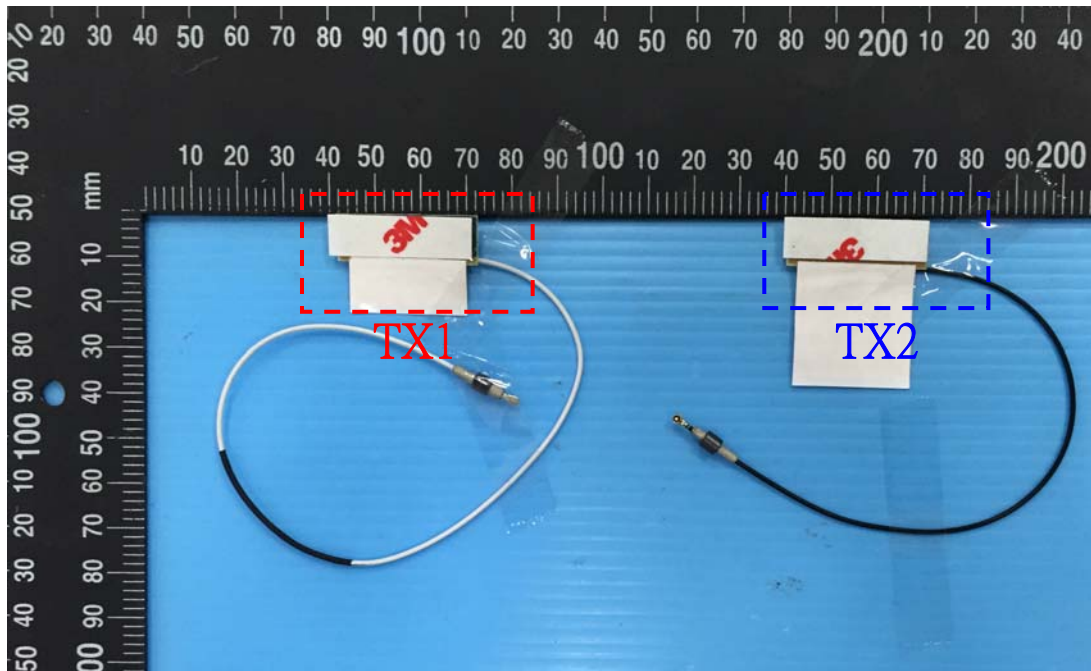
Antenna Manufacturer: INPAQ
Antenna Part Number: WA-P-LB-01-126 (Tx1), WA-P-LB-02-257 (Tx2)



Include back view photo of all 2 antennas here.

Antenna Manufacturer: INPAQ
Antenna Part Number: WA-P-LB-01-126 (Tx1), WA-P-LB-02-257 (Tx2)

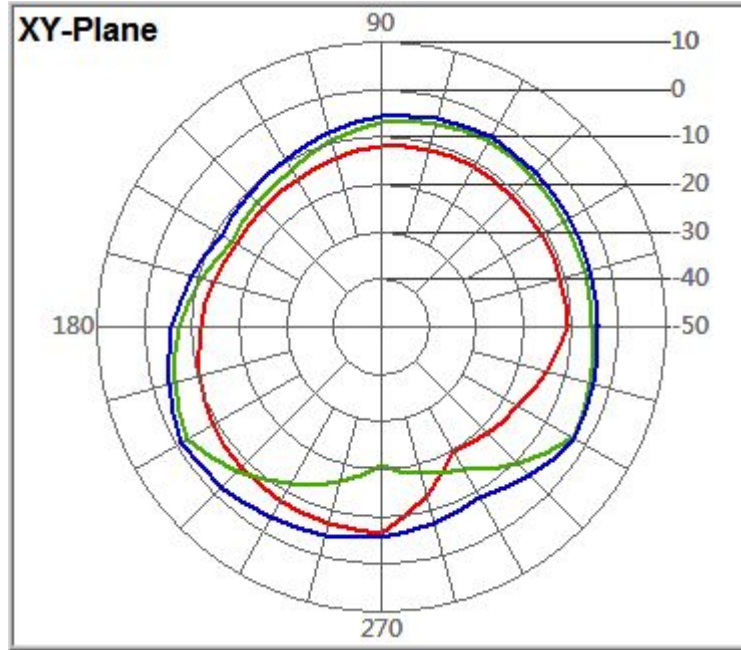
Section 3. Radiation characteristics of antennae Loaded in Host Platform 2400-2500 MHz radiation characteristic



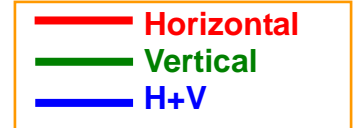
Section 3. Radiation characteristics of antennae Loaded in Host Platform

2400-2500MHz radiation characteristic

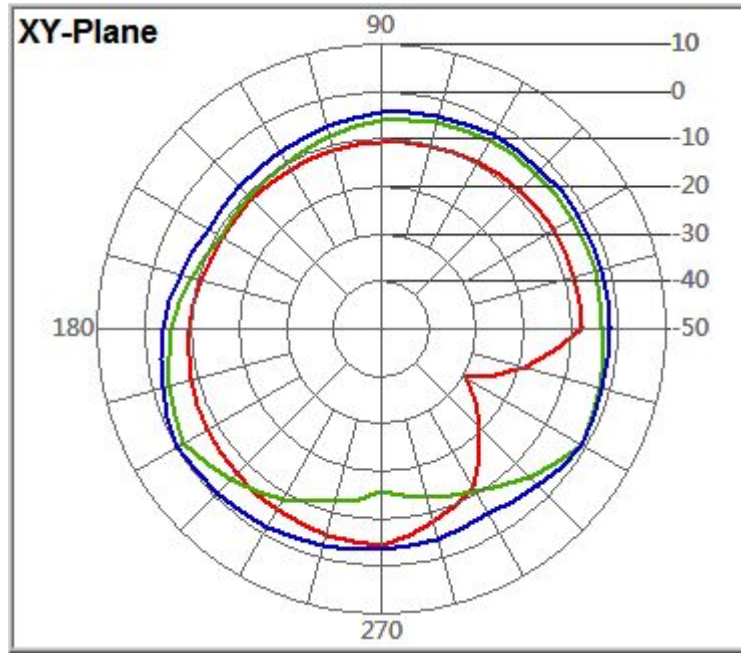
Tx1 antenna: 2400 MHz



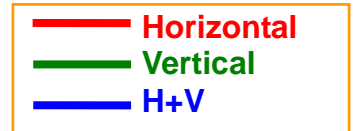
Center Frequency	2400 MHz
Horizontal (dBi) peak	-6.54
Vertical (dBi) peak	-2.70



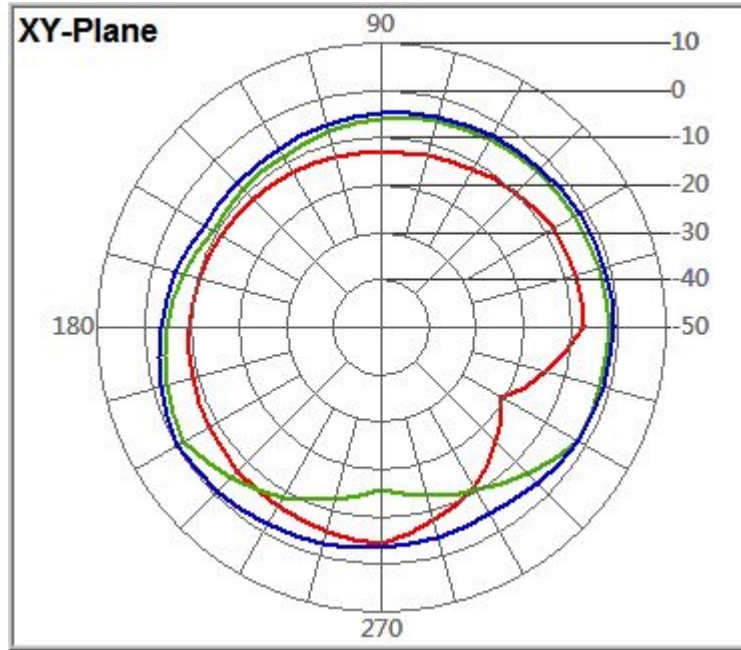
Tx1 antenna: 2450 MHz






Center Frequency	2450 MHz
Horizontal (dBi) peak	-4.32
Vertical (dBi) peak	0.39



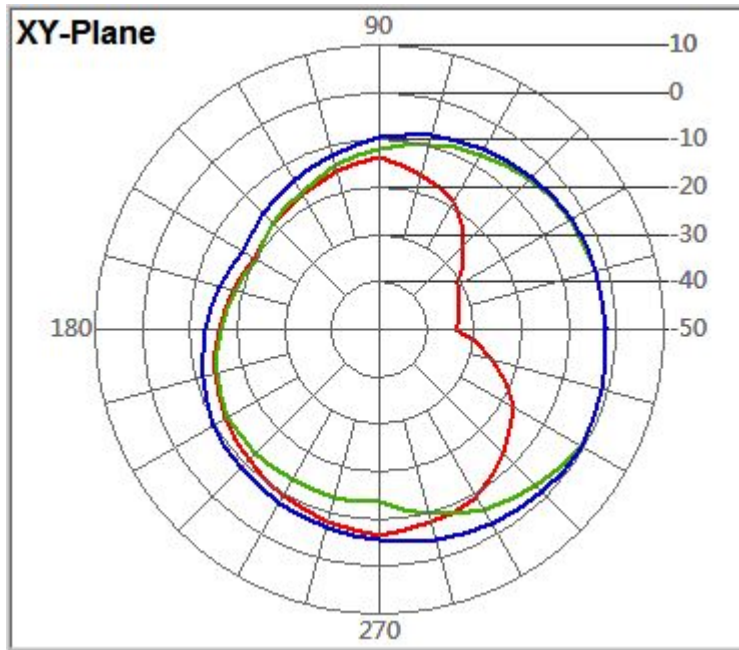
Tx1 antenna:2500 MHz



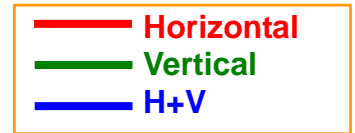
Center Frequency	2500 MHz
Horizontal (dBi) peak	-4.57
Vertical (dBi) peak	-1.67

	Horizontal
	Vertical
	H+V

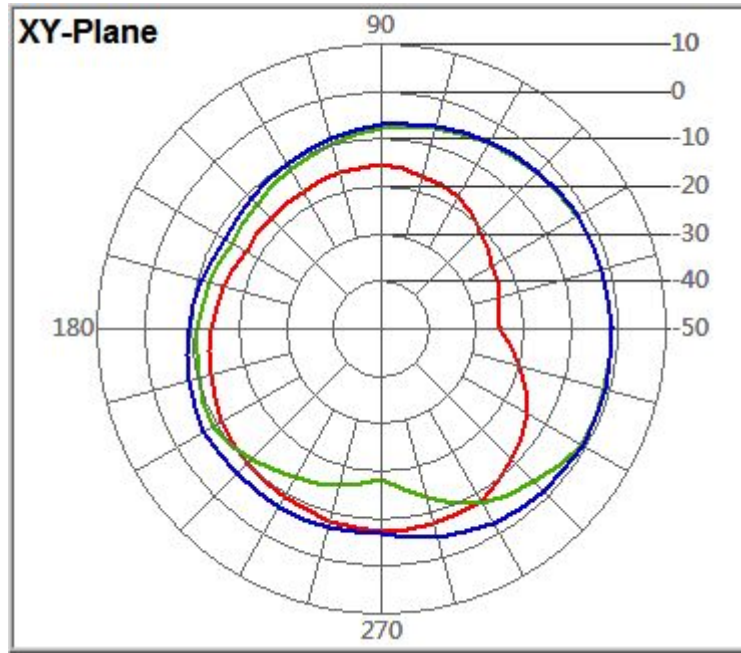
Tx2 antenna: 2400 MHz



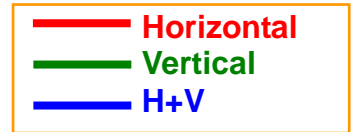
Center Frequency	2400 MHz
Horizontal (dBi) peak	-6.66
Vertical (dBi) peak	-0.59



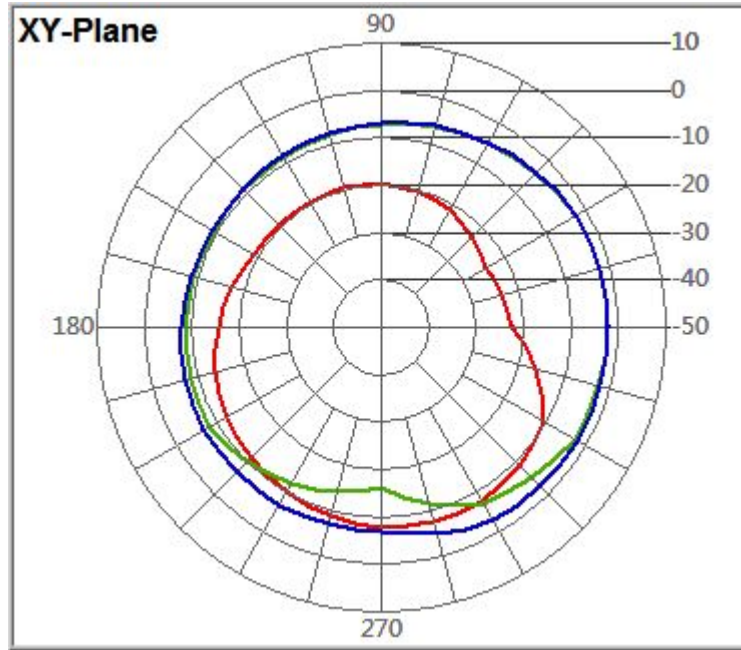
Tx2 antenna: 2450 MHz






Center Frequency	2450 MHz
Horizontal (dBi) peak	-7.20
Vertical (dBi) peak	-1.11



Tx2 antenna:2500 MHz

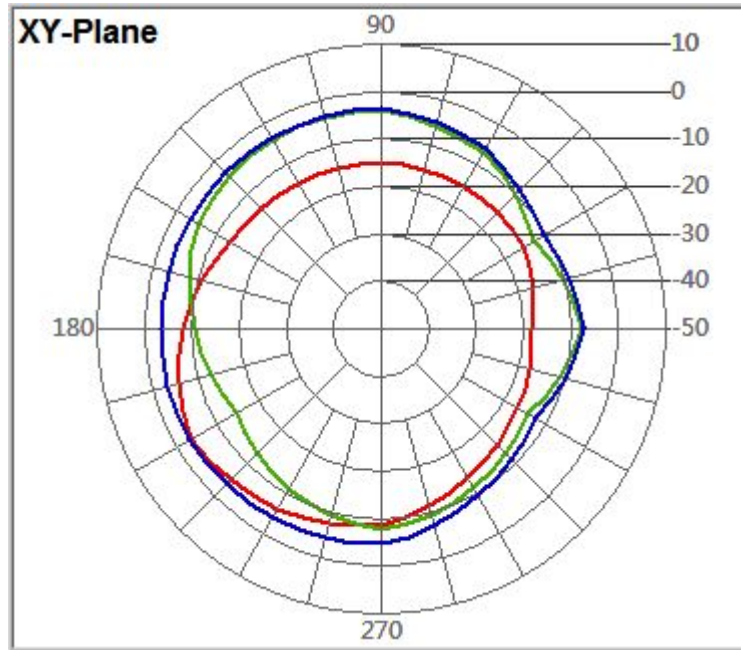


Center Frequency	2500 MHz
Horizontal (dBi) peak	-7.58
Vertical (dBi) peak	-2.25

	Horizontal
	Vertical
	H+V

5150-5350 MHz radiation characteristic

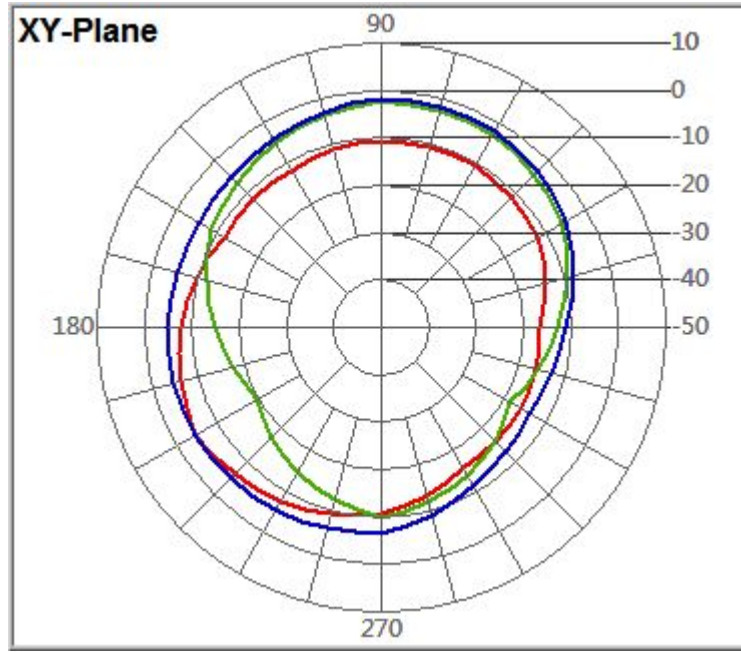
Tx1 antenna: 5150 MHz



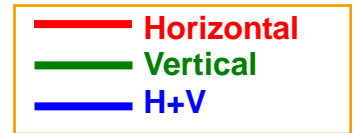
Center Frequency	5150 MHz
Horizontal (dBi) peak	-5.71
Vertical (dBi) peak	-1.38

—	Horizontal
—	Vertical
—	H+V

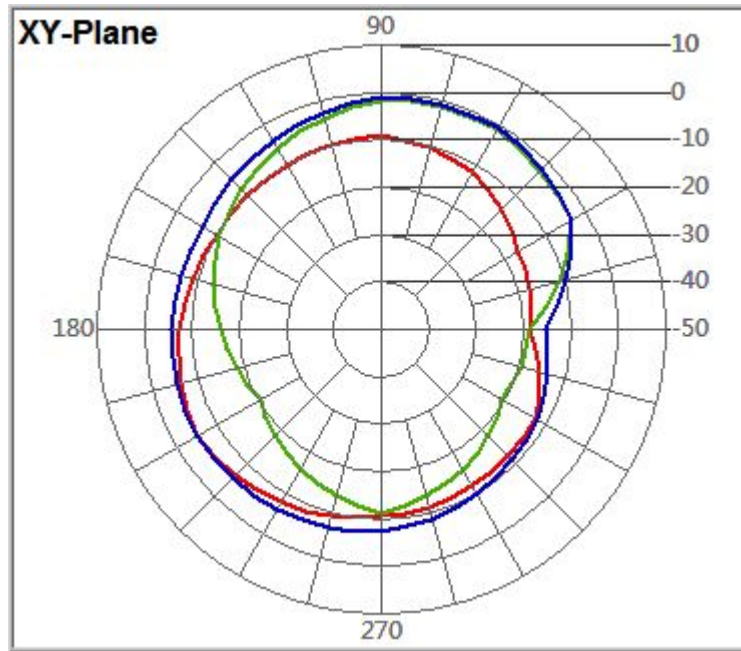
Tx1 antenna: 5250 MHz



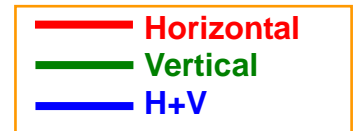
Center Frequency	5250 MHz
Horizontal (dBi) peak	-4.77
Vertical (dBi) peak	-1.50



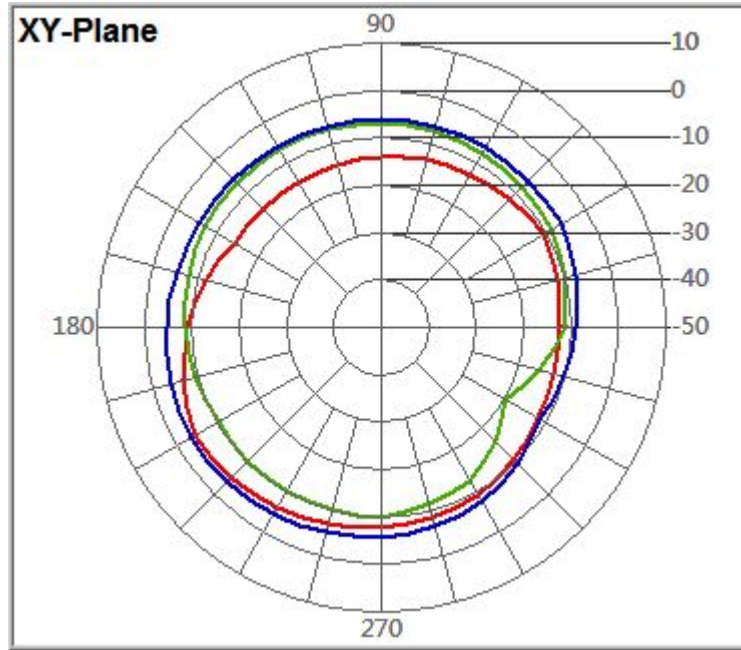
Tx1 antenna: 5350 MHz



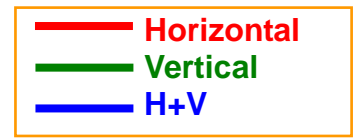
Center Frequency	5350 MHz
Horizontal (dBi) peak	-5.62
Vertical (dBi) peak	-1.51



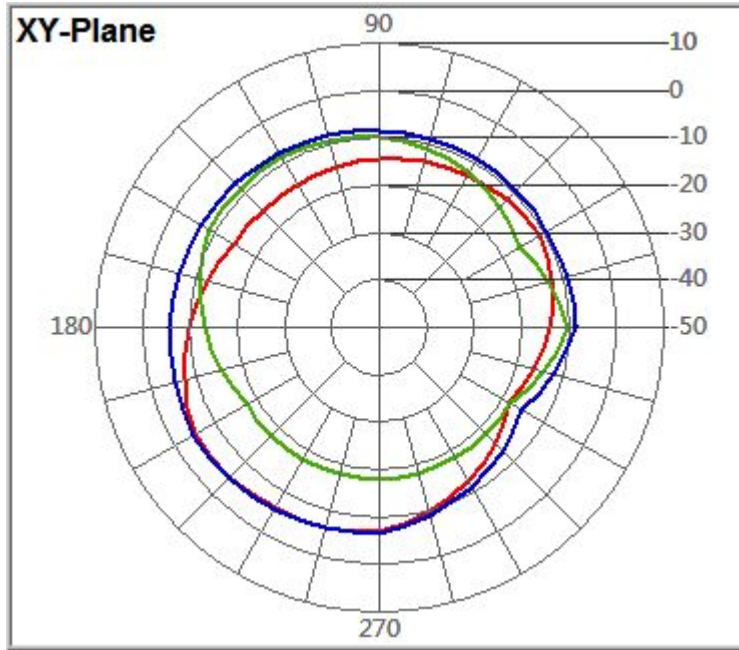
Tx2 antenna: 5150 MHz



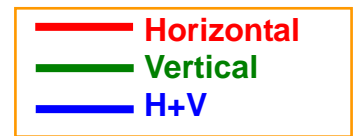
Center Frequency	5150 MHz
Horizontal (dBi) peak	-8.06
Vertical (dBi) peak	-2.31



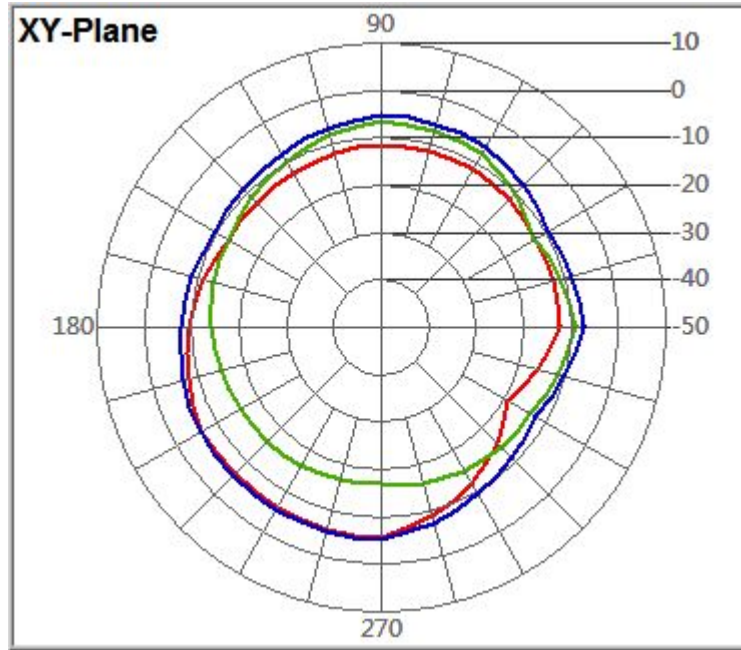
Tx2 antenna: 5250 MHz



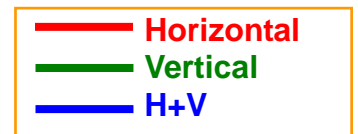
Center Frequency	5250 MHz
Horizontal (dBi) peak	-6.54
Vertical (dBi) peak	-3.11



Tx2 antenna: 5350 MHz

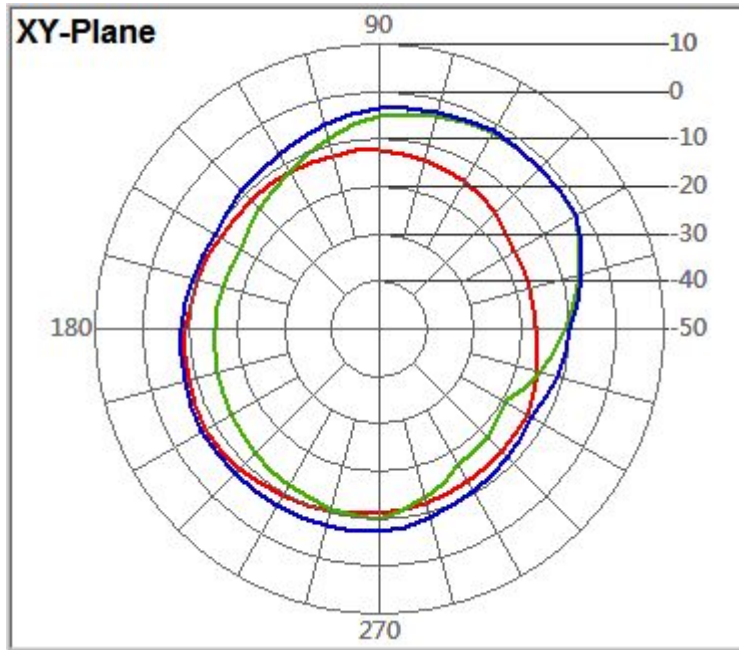


Center Frequency	5350 MHz
Horizontal (dBi) peak	-7.53
Vertical (dBi) peak	-2.03

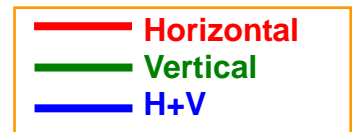


5470-5725MHz radiation characteristic

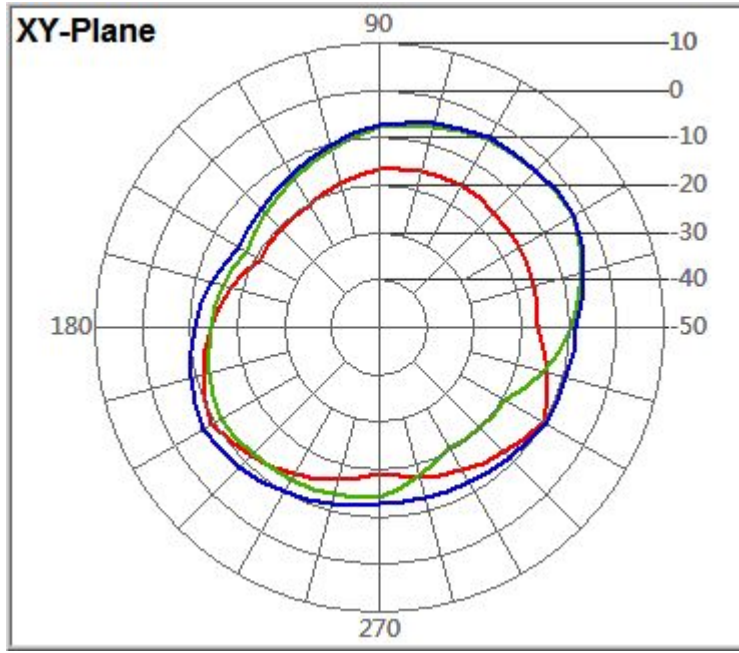
Tx1 antenna: 5470 MHz



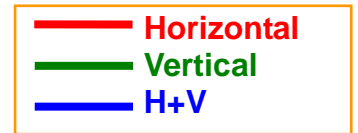
Center Frequency	5470 MHz
Horizontal (dBi) peak	-5.33
Vertical (dBi) peak	-1.94



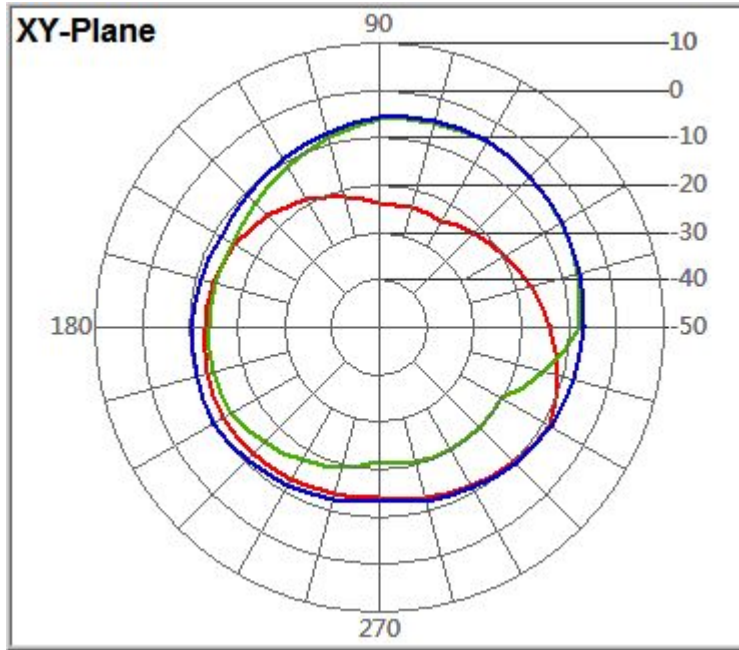
Tx1 antenna: 5600 MHz



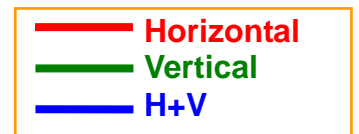
Center Frequency	5600 MHz
Horizontal (dBi) peak	-3.82
Vertical (dBi) peak	-3.99



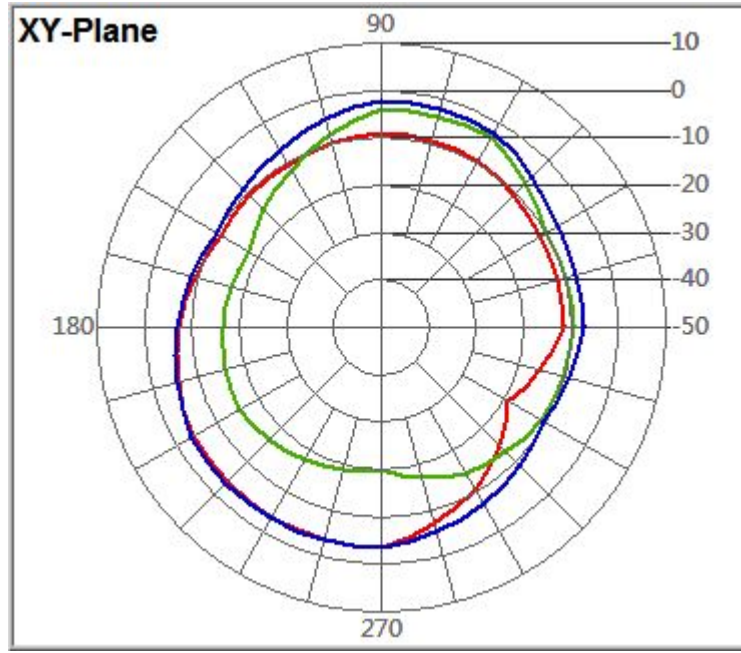
Tx1 antenna: 5725 MHz






Center Frequency	5725 MHz
Horizontal (dBi) peak	-4.70
Vertical (dBi) peak	-2.41



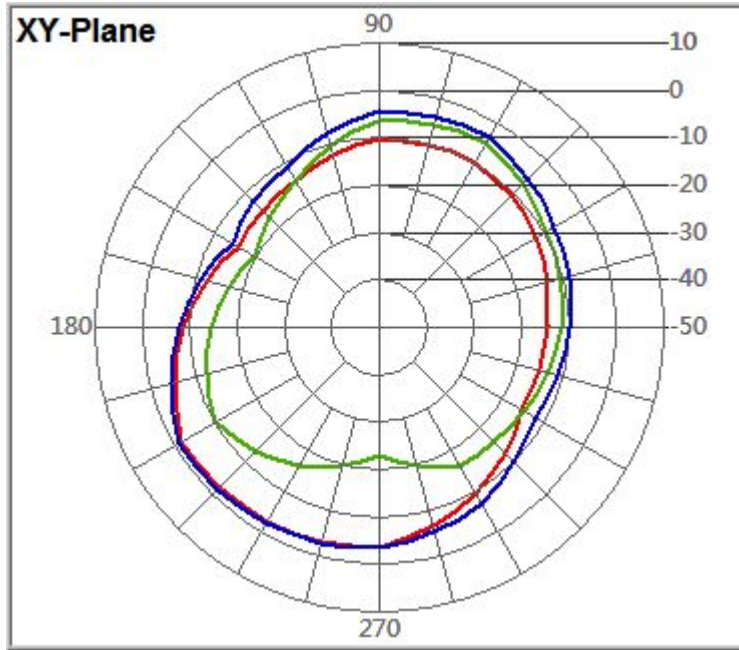
Tx2 antenna: 5470 MHz



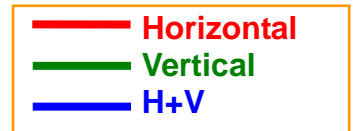
Center Frequency	5470 MHz
Horizontal (dBi) peak	-6.52
Vertical (dBi) peak	-2.03

	Horizontal
	Vertical
	H+V

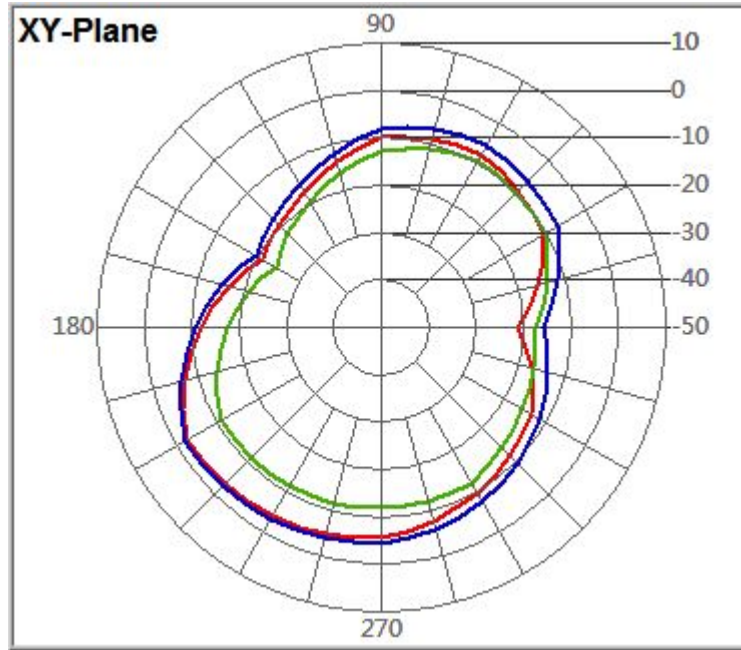
Tx2 antenna: 5600 MHz



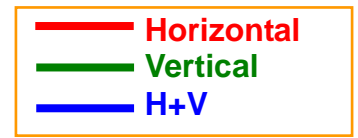
Center Frequency	5600 MHz
Horizontal (dBi) peak	-4.45
Vertical (dBi) peak	-6.71



Tx2 antenna: 5725 MHz

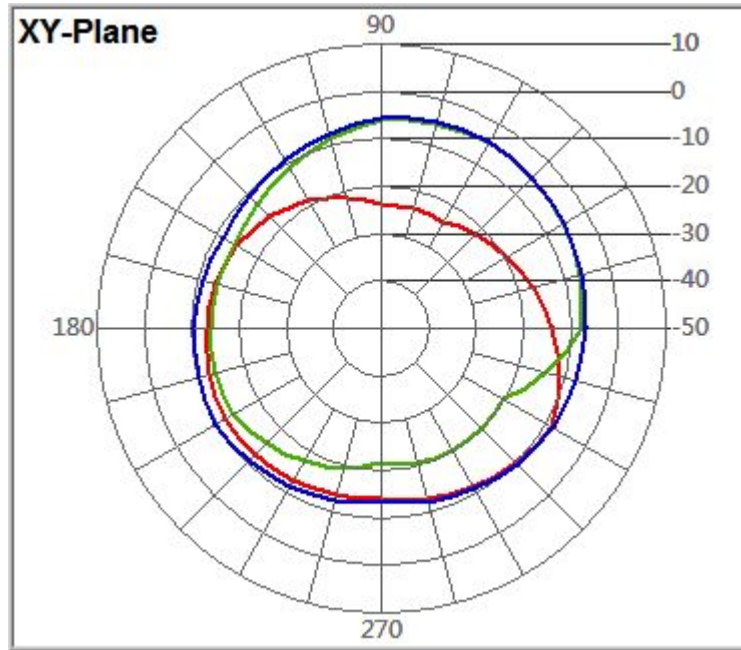


Center Frequency	5725 MHz
Horizontal (dBi) peak	-4.98
Vertical (dBi) peak	-8.49

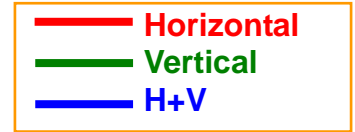


5725-5850 MHz radiation characteristic

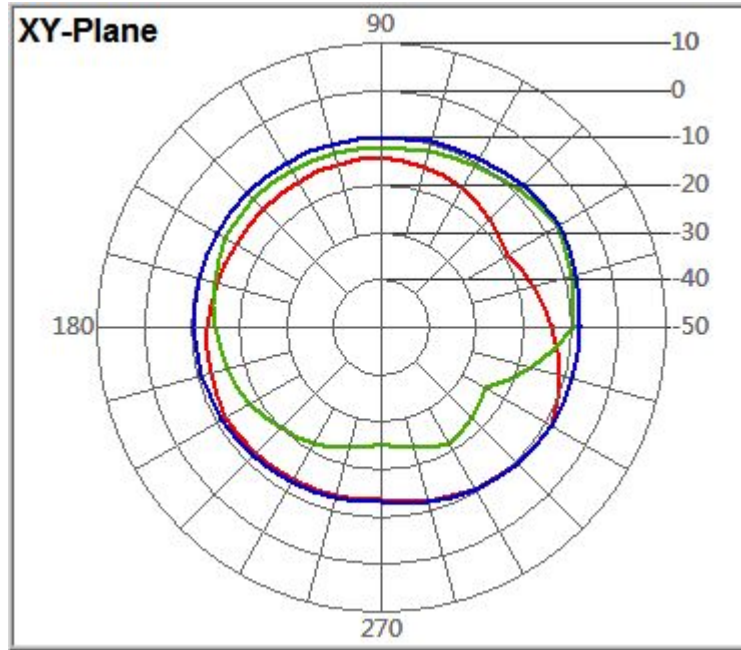
Tx1 antenna: 5725 MHz



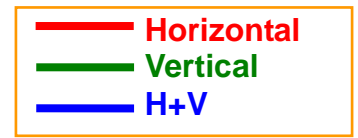
Center Frequency	5725 MHz
Horizontal (dBi) peak	-4.70
Vertical (dBi) peak	-2.41



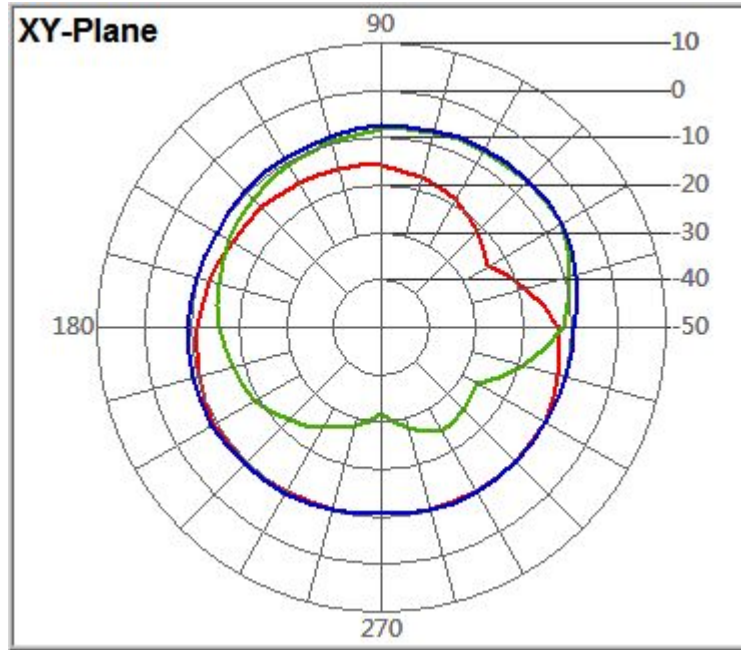
Tx1 antenna: 5785 MHz



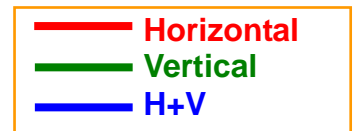
Center Frequency	5785MHz
Horizontal (dBi) peak	-5.19
Vertical (dBi) peak	-1.32



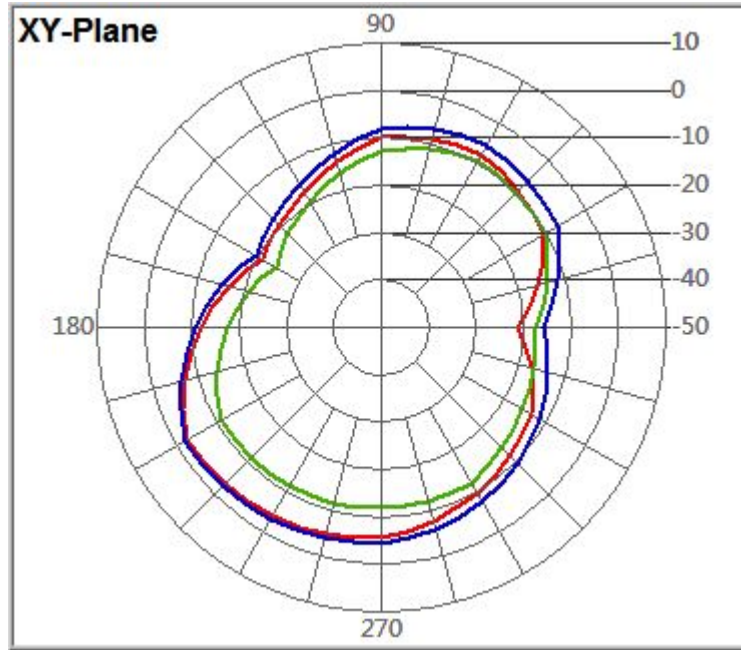
Tx1 antenna: 5850 MHz



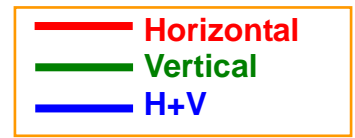
Center Frequency	5850 MHz
Horizontal (dBi) peak	-7.54
Vertical (dBi) peak	-2.15



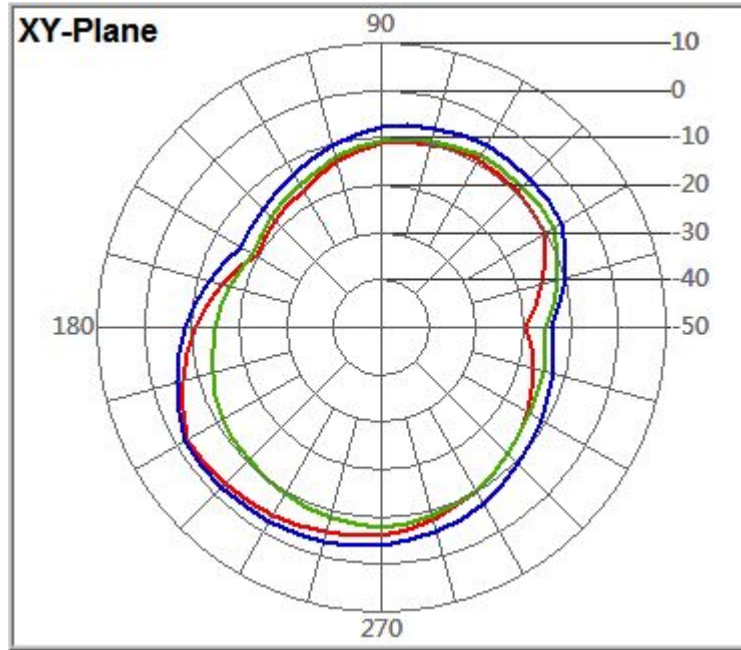
Tx2 antenna: 5725 MHz



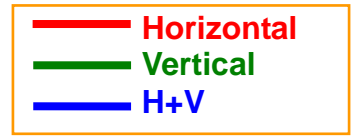
Center Frequency	5725 MHz
Horizontal (dBi) peak	-4.98
Vertical (dBi) peak	-8.49



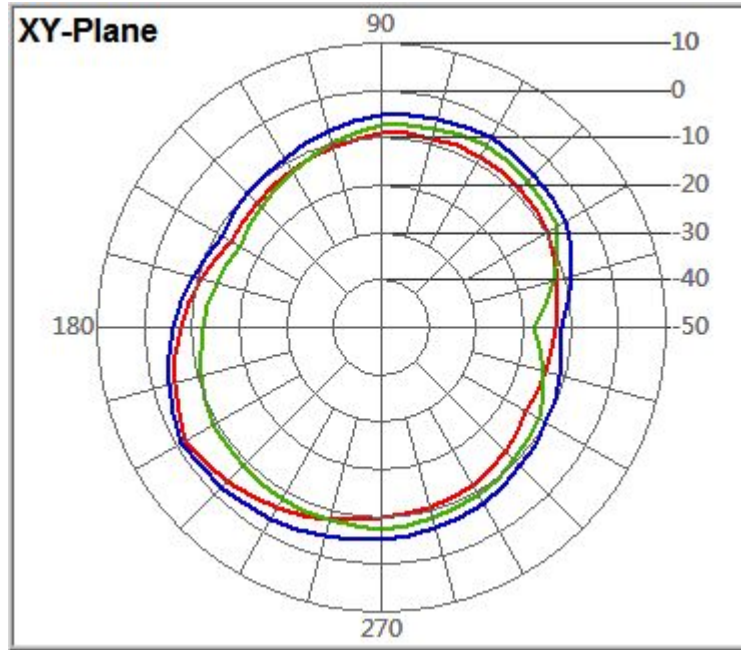
Tx2 antenna: 5785 MHz



Center Frequency	5785MHz
Horizontal (dBi) peak	-5.68
Vertical (dBi) peak	-6.55



Tx2 antenna: 5850 MHz



Center Frequency	5850 MHz
Horizontal (dBi) peak	-3.55
Vertical (dBi) peak	-3.77

