Regulatory WLAN Antenna Information

(English Language Required for Intel Regulatory Review / Approval)
(OEM/ODM or antenna vendor is required to complete this document with platform antenna information.
Remove Intel references and make this your own document)

Platform information				
Brand	**ODM**	********Platform model name**	**Platform type (ex: regular NB, convertible PC, AIO…etc)**	**˙SAR minimum separation (mm)**
Samsung	HuaQin	NB6100	NB	5.1mm

*****Please fill in exact product model name and make sure the model name is visible on product cover or any parts for end users recognize for authority inspection.**

Antenna information				Peak gain w/ cable loss (dBi)			
Vendor	**Type**	**Antenna Part number (Main/ Tx1)**	**Antenna Part number (Aux/Tx2)**	**2.4GHz** 2400-2500MHz	**5.2GHz** 5150-5350MHz	**5.5GHz** 5470-5725MHz	**5.8GHz** 5725-5850MHz
RX	PIFA	F00167113110001		1.71	1.52	0.92	0.92
RX	PIFA		F00167113110001	-2.42	-0.52	-2.11	-1.64

Module information (Please check with "x" when applies, or to fill-in proper model in empty column)
Please specify (manual key-in) if you use non-regular sku, ie. Low power sku or mid power sku.

Model	Form factor and suffixes											
7265 (StP2)		NGW		D2W		9560 (JfP2)		NGW	√	D2W		D2W (LTE)
		AN		NB	BN	9461 (JfP1)		NGW		D2W		
3165 (StP1)		NGW				9462 (JfP1 DIV)		NGW		D2W		
3168 (SdP)		NGW				AX201(HrP2)		NGW	√	D2W		D2W (LTE)
8265 (WsP)		NGW		D2W		AX200(CcP2)		NGW		D2W (LTE)		
9260 (ThP2)		NGW		D2W (LTE)								

Intel Reference Gain/Type/ Separation distance

Antenna Type	Antenna Peak gain (In dBi)				Distance to the end user (mm)
	2.4GHz 2400-2500MHz	5.2GHz 5150-5350MHz	5.5GHz 5470-5725MHz	5.8GHz 5725-5850MHz	
PIFA (Tx1-Ant)	2.23	2.98	2.95	2.22	>12(8260 generic sku) >8 (generic sku) >5 (low power sku)
PIFA (Tx2-Ant)	2.94	0.49	1.75	1.65	>12(8260 generic sku) >8 (generic sku) >5 (low power sku)

Notes (marked with ˙)

˙SAR minimum separation (mm)

- Regular NB: Minimum antenna-to-body (from antenna bottom to the bottom of the device)
- Tablet / Convertible PC: Minimum antenna-to-edge (5 sides of the device)

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 and 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	NA	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. (S. Korea requires photographs of antennas for approval submission). Taiwan requires pictures of each antenna type shown in the system.	Required	Required	Desired	Required (Photos)	Required (Photos)
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 : F00167213110001 Tx1/ Rx1 Antenna Black	RX Electronics Co., Ltd	PIFA	1) RX 2) 50 ohm Coaxial 3)length:203mm diameter:1.13mm	2400-2500MHz 0.64dBi (peak)	2400-2500MHz 1.77 dBi (peak)	2400-2500MHz 2.0 max	2400-2500MHz 1.13 dBi (peak)
				5150-5350MHz 1.33dBi (peak)	5150-5350MHz 3.08dBi (peak)	5150-5350MHz 2.5 max	5150-5350MHz 1.75 dBi (peak)
				5470-5725MHz 0.27 dBi (peak)	5470-5725MHz 2.09 dBi (peak)	5470-5725MHz 2.5 max	5470-5725MHz 1.82 dBi (peak)
				5725-5850MHz 0.27 dBi (peak)	5725-5850MHz 2.15dBi (peak)	5725-5850MHz 2.5 max	5725-5850MHz 1.88dBi (peak)
(P/N : F00167213110001 Tx2/ Rx2 Antenna Grey	RX Electronics Co., Ltd	PIFA	1) RX 2) 50 ohm Coaxial 3)length:285mm diameter: 1.13mm	2400-2500MHz -2.36 dBi (peak)	2400-2500MHz -1.43 dBi(peak)	2400-2500MHz 2.0 max	2400-2500MHz 0.93 dBi (peak)
				5150-5350MHz -0.67dBi (peak)	5150-5350MHz 0.94dBi (peak)	5150-5350MHz 2.5 max	5150-5350MHz 1.61 dBi (peak)
				5470-5725MHz -1.93 dBi (peak)	5470-5725MHz -0.16dBi (peak)	5470-5725MHz 2.5 max	5470-5725MHz 1.77 dBi (peak)
				5725-5850MHz -1.64 dBi (peak)	5725-5850MHz 0.22 dBi (peak)	5725-5850MHz 2.5 max	5725-5850MHz 1.86 dBi (peak)

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

2022-12-7

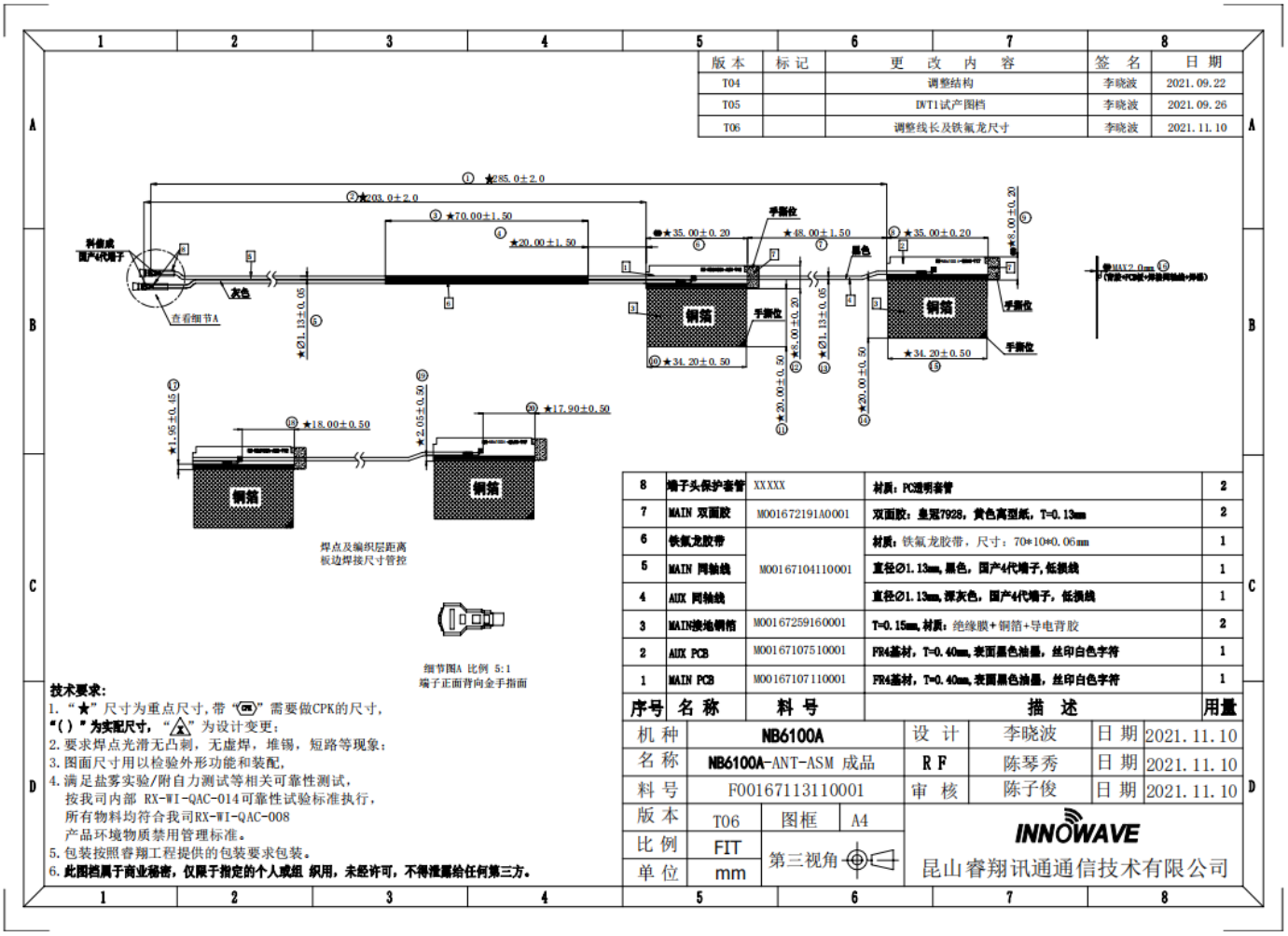
Antenna Peak Gain Table:

Frequency (MHz)	Tx1 antenna		Tx2 (or Rx2) Antenna	
	Horizontal (dBi)	Vertical (dBi)	Horizontal (dBi)	Vertical (dBi)
2400	-1.44	-3.25	-3.55	-2.42
2450	1.71	-3.22	-3.12	-4.1
2500	-0.66	-2.44	-2.58	-3.41
5150	0.45	-3.29	-2.64	-2.41
5250	0.53	-1.15	-4.11	-0.52
5350	1.52	-2.33	-3.45	-2.44
5470	-0.44	-2.11	-2.55	-3.12
5600	-0.87	-1.44	-2.11	-3.45
5725	0.92	-3.22	-3.14	-3.41
5785	-0.11	-2.84	-2.44	-2.24
5850	-1.52	-4.22	-1.64	-3.34

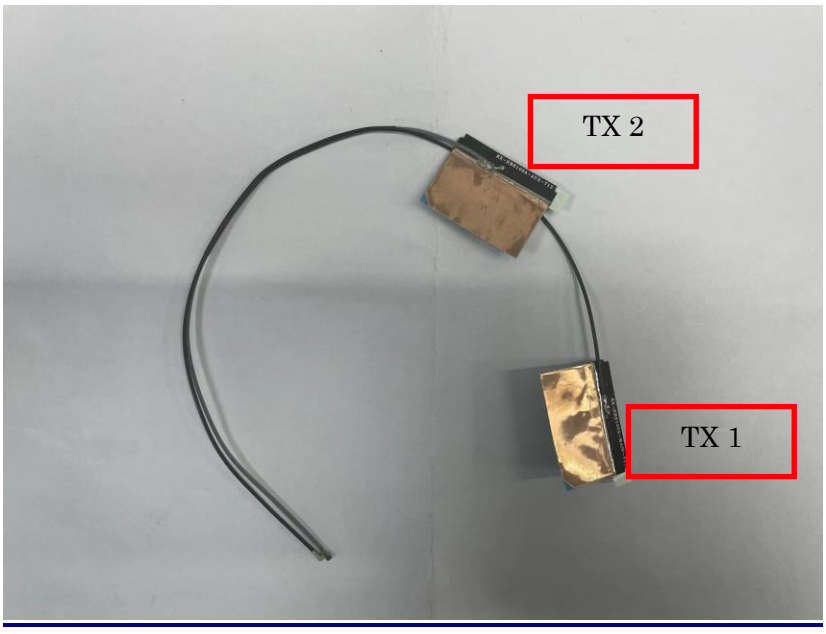
Section 2. Dimensioned Photos or Drawings of Antennas

Include a dimensioned photo and dimensioned drawing of antenna here.

Antenna Dimensioned Drawing:

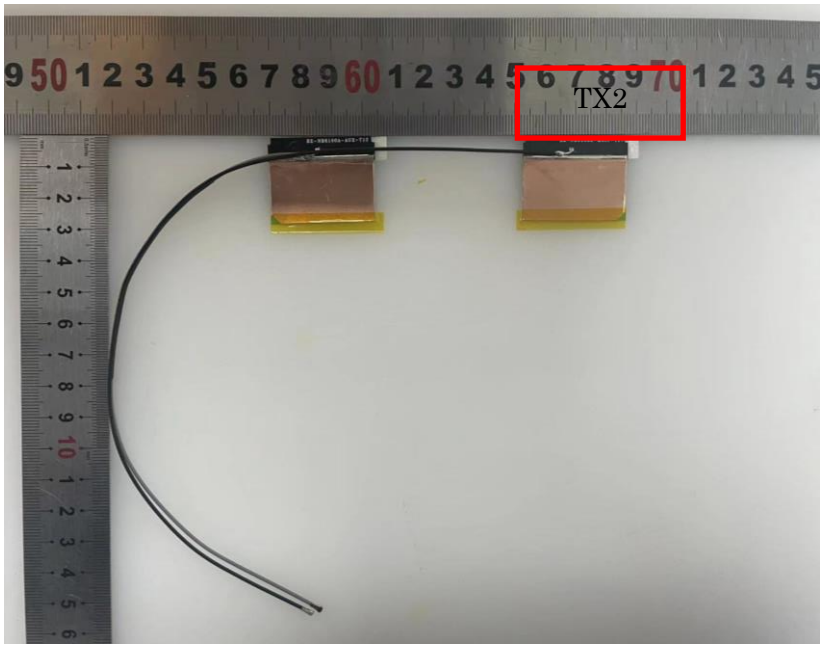


Antenna Photo:



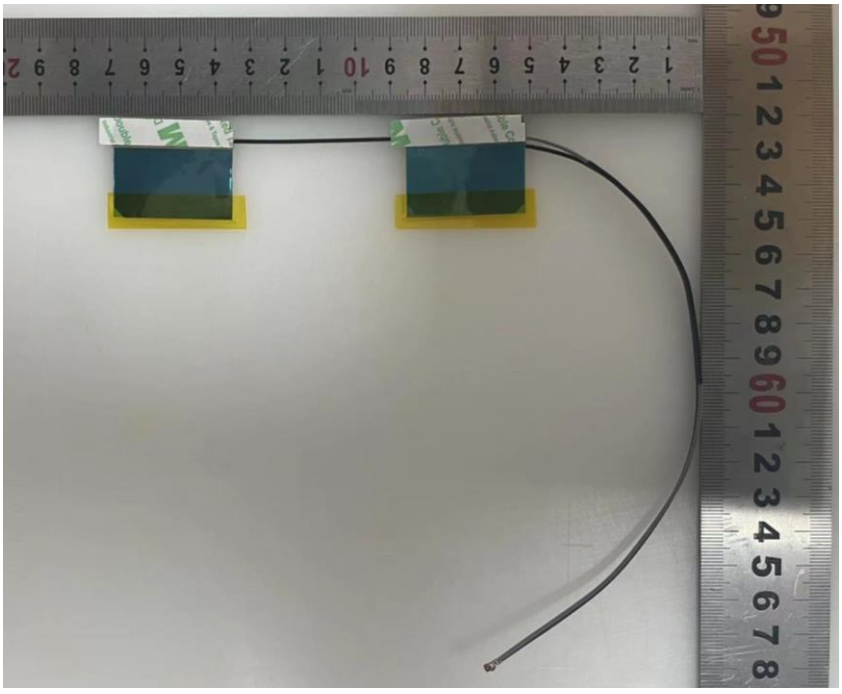
Include front view photo of all 2 antennas here.

Antenna Manufacturer: RX
Antenna Part Number: F00167113110001



Include back view photo of all 2 antennas here.

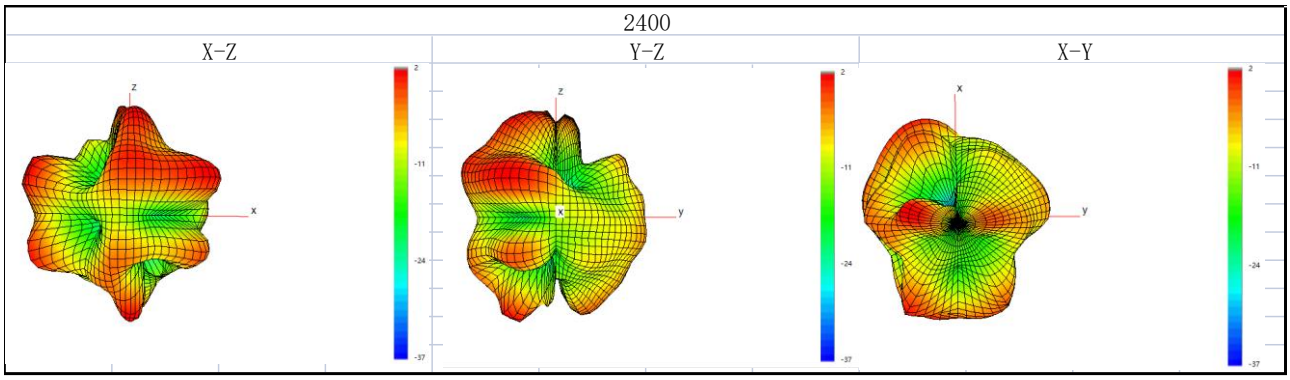
Antenna Manufacturer: RX
Antenna Part Number: F00167113110001



Section 3. Radiation characteristics of antennae Loaded in Host Platform

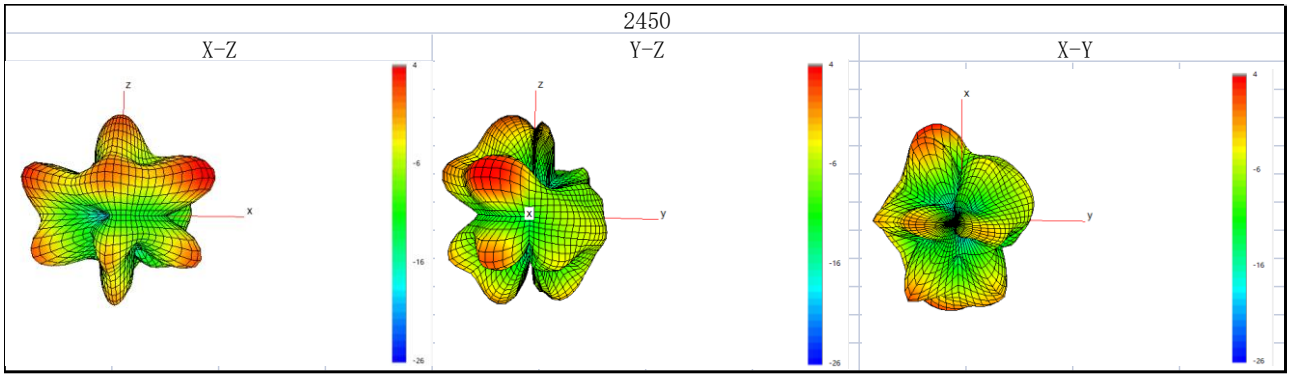
2400-2500MHz radiation characteristic

Tx1 antenna: 2400 MHz



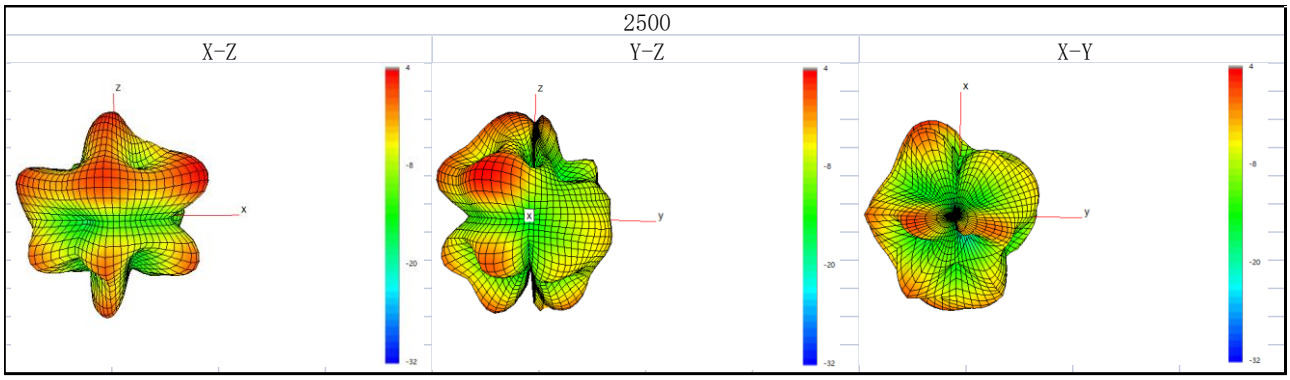
Frequency (Mhz)	2400
Horizontal peak gain (dBi)	-1.44
Vertical peak gain (dBi)	-3.25

Tx1 antenna: 2450 MHz



Frequency (Mhz)	2450
Horizontal peak gain (dBi)	1.71
Vertical peak gain (dBi)	-3.22

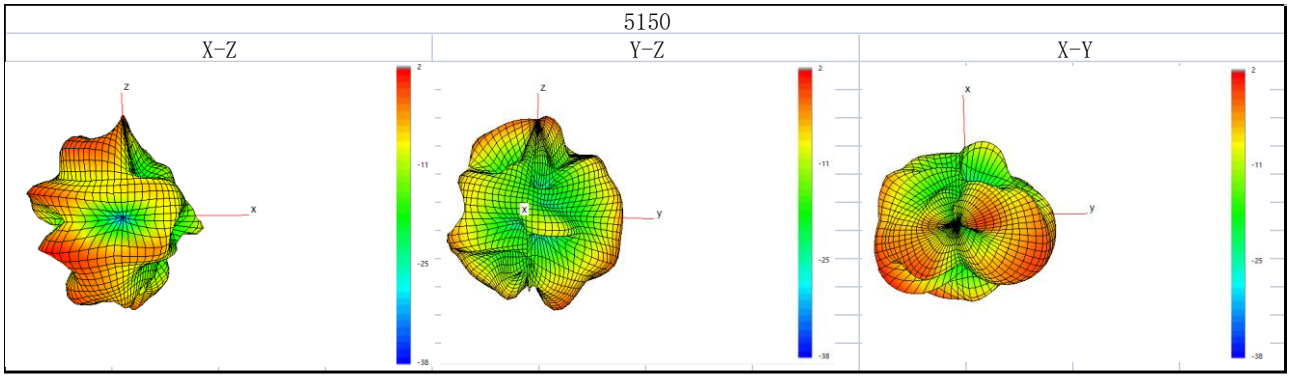
Tx1 antenna: 2500 MHz



Frequency (Mhz)	2500
Horizontal peak gain (dBi)	-0.66
Vertical peak gain (dBi)	-2.44

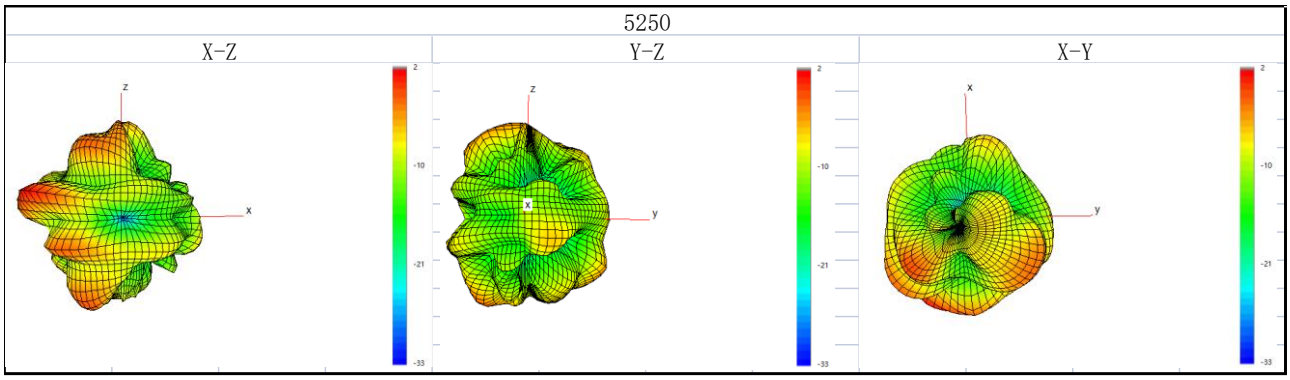
5150-5850MHz radiation characteristic

Tx1 antenna: 5150 MHz



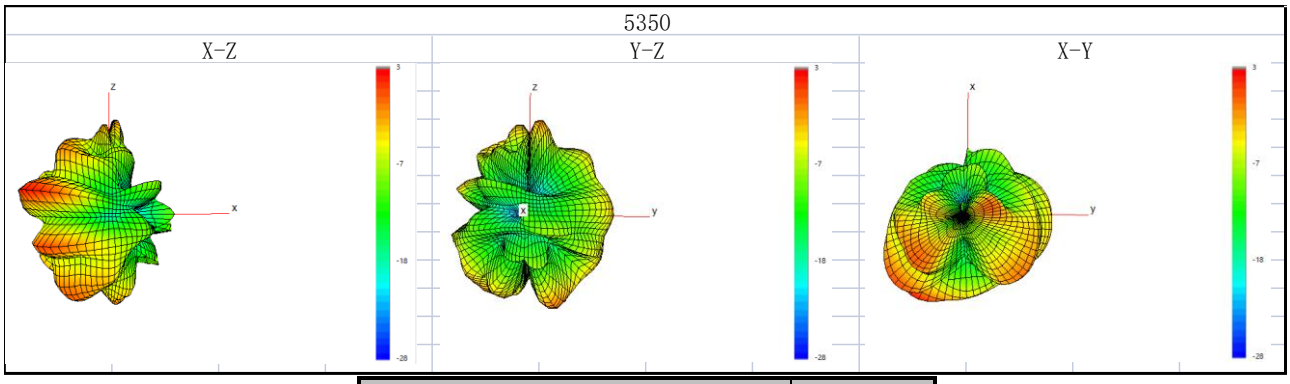
Frequency (Mhz)	5150
Horizontal peak gain (dBi)	0.45
Vertical peak gain (dBi)	-3.29

Tx1 antenna: 5250 MHz



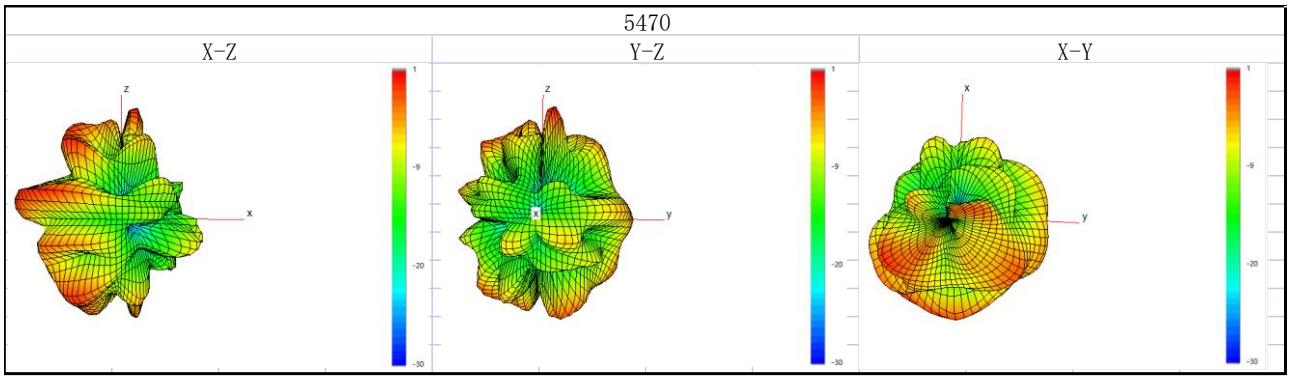
Frequency (Mhz)	5250
Horizontal peak gain (dBi)	0.53
Vertical peak gain (dBi)	-1.15

Tx1 antenna: 5350 MHz



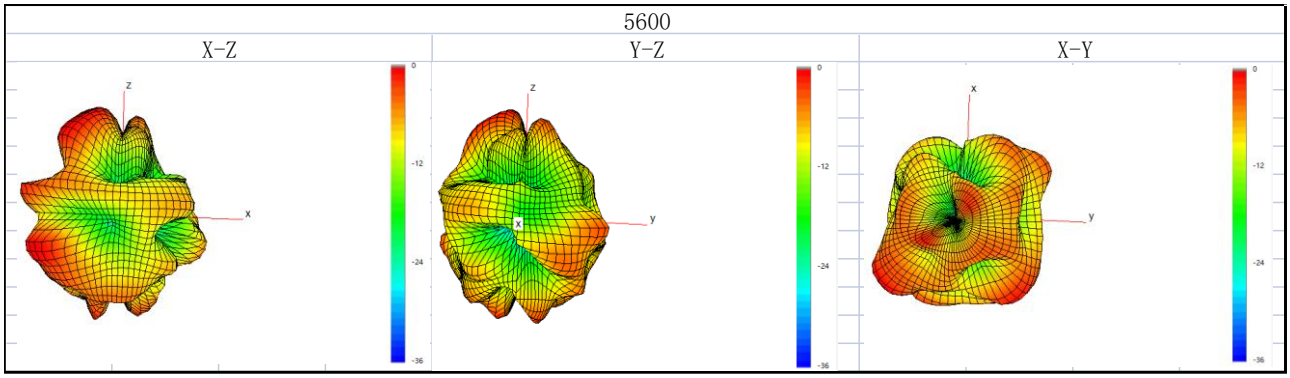
Frequency (Mhz)	5350
Horizontal peak gain (dBi)	1.52
Vertical peak gain (dBi)	-2.33

Tx1 antenna: 5470 MHz



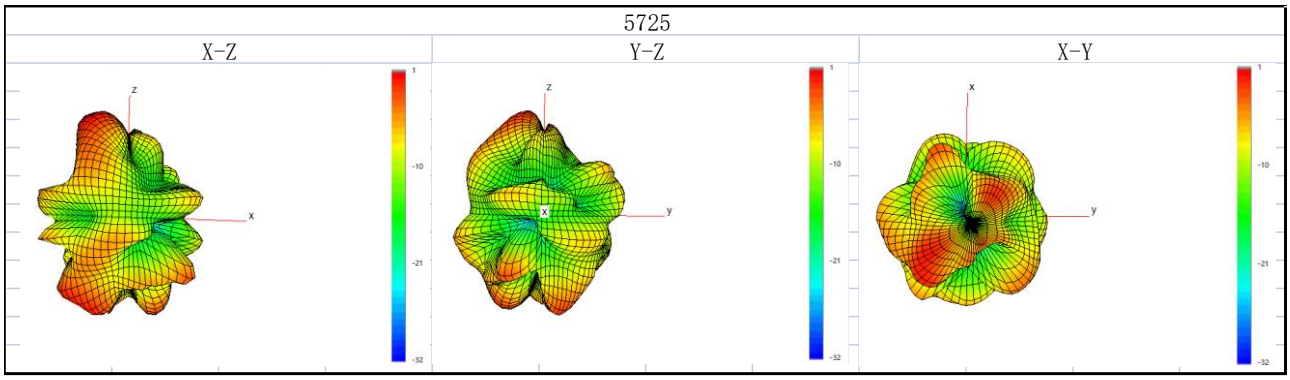
Frequency (Mhz)	5470
Horizontal peak gain (dBi)	-0.44
Vertical peak gain (dBi)	-2.11

Tx1 antenna: 5600MHz



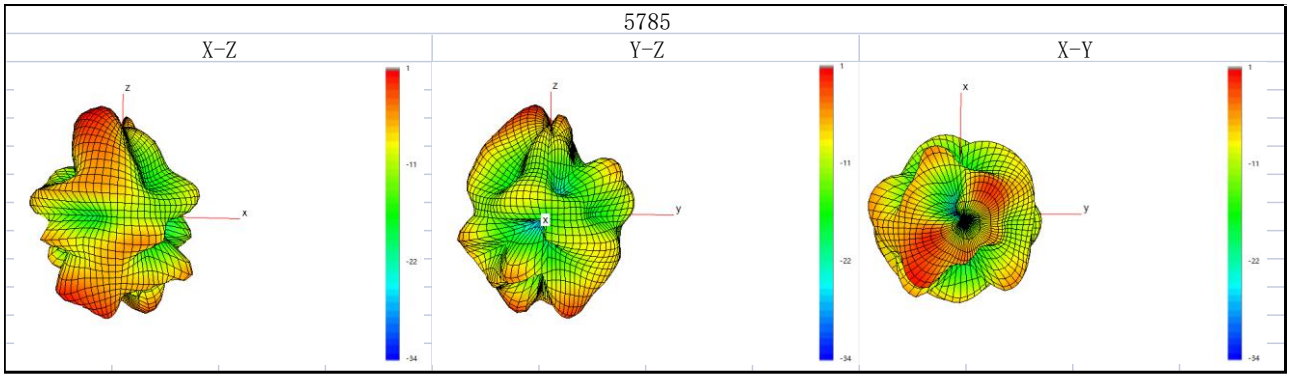
Frequency (Mhz)	5600
Horizontal peak gain (dBi)	-0.87
Vertical peak gain (dBi)	-1.44

Tx1 antenna: 5725MHz



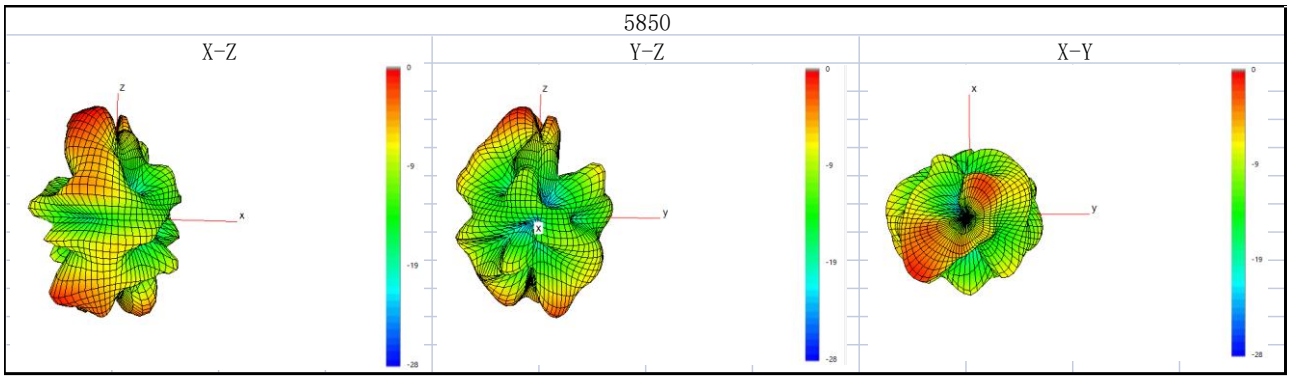
Frequency (Mhz)	5725
Horizontal peak gain (dBi)	0.92
Vertical peak gain (dBi)	-3.22

Tx1 antenna: 5785MHz



Frequency (Mhz)	5785
Horizontal peak gain (dBi)	-0.11
Vertical peak gain (dBi)	-2.84

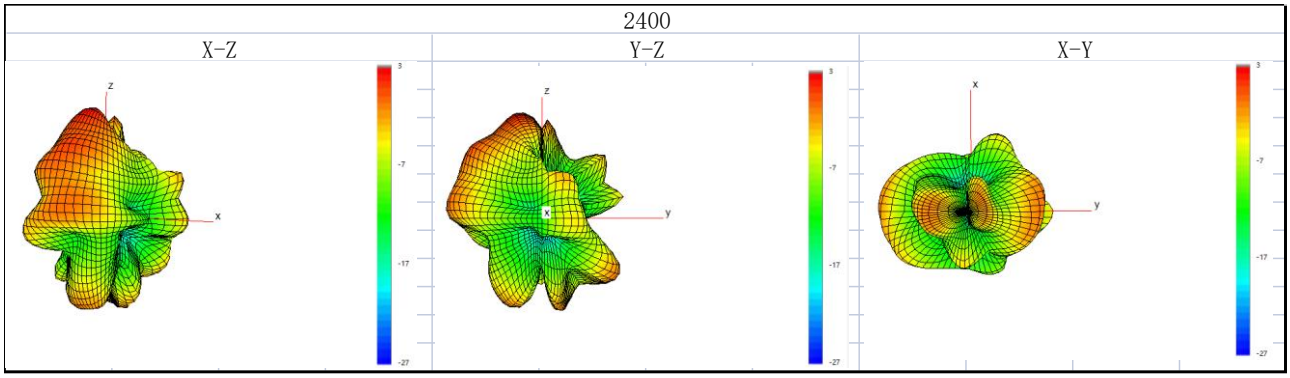
Tx1 antenna: 5850MHz



Frequency (Mhz)	5850
Horizontal peak gain (dBi)	-1.52
Vertical peak gain (dBi)	-4.22

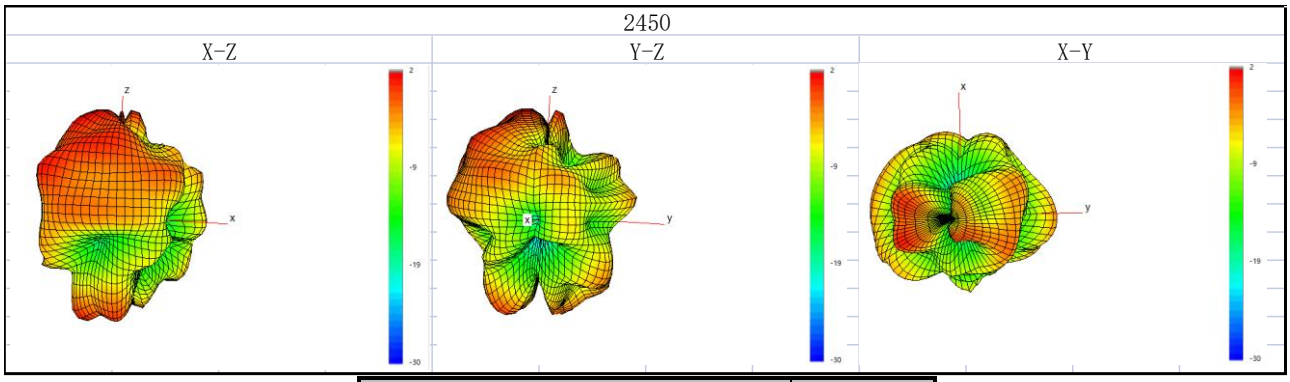
2400-2500MHz radiation characteristic

Tx2 antenna: 2400 MHz



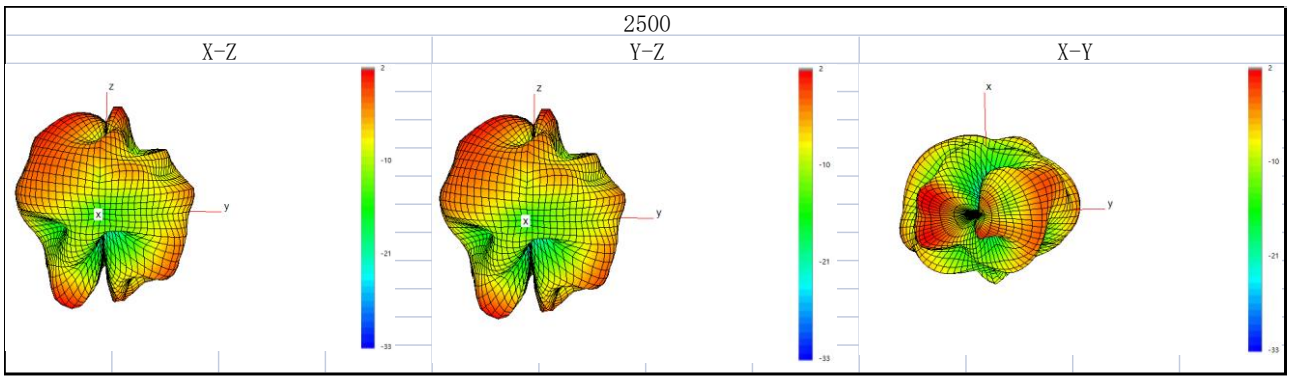
Frequency (Mhz)	2400
Horizontal peak gain (dBi)	-3.55
Vertical peak gain (dBi)	-2.42

Tx2 antenna: 2450 MHz



Frequency (Mhz)	2450
Horizontal peak gain (dBi)	-3.12
Vertical peak gain (dBi)	-4.1

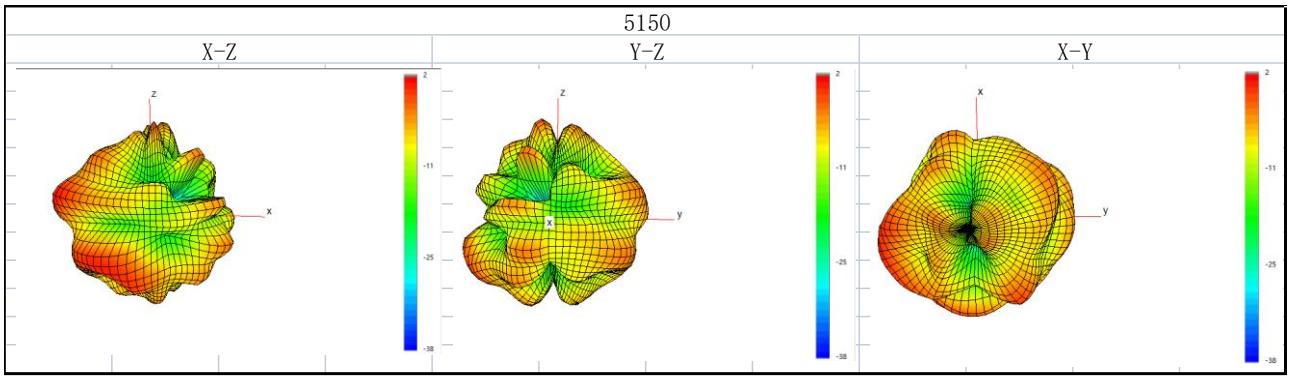
Tx2 antenna: 2500 MHz



Frequency (Mhz)	2500
Horizontal peak gain (dBi)	-2.58
Vertical peak gain (dBi)	-3.41

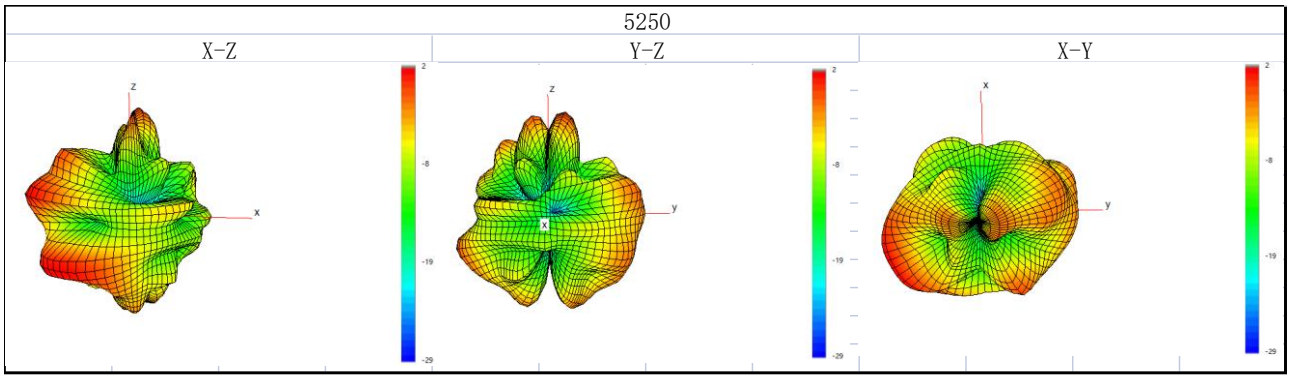
5150-5850MHz radiation characteristic

Tx2 antenna: 5150 MHz



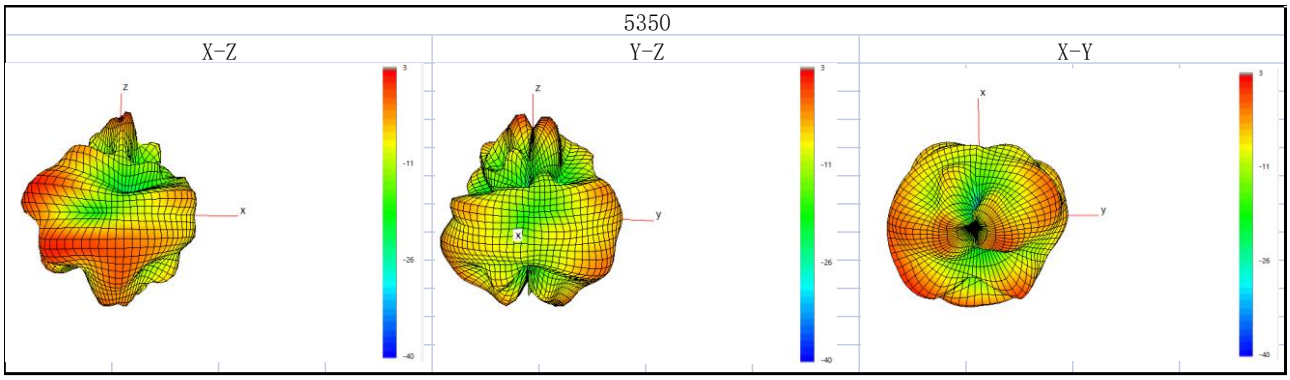
Frequency (Mhz)	5150
Horizontal peak gain (dBi)	-2.64
Vertical peak gain (dBi)	-2.41

Tx2 antenna: 5250 MHz



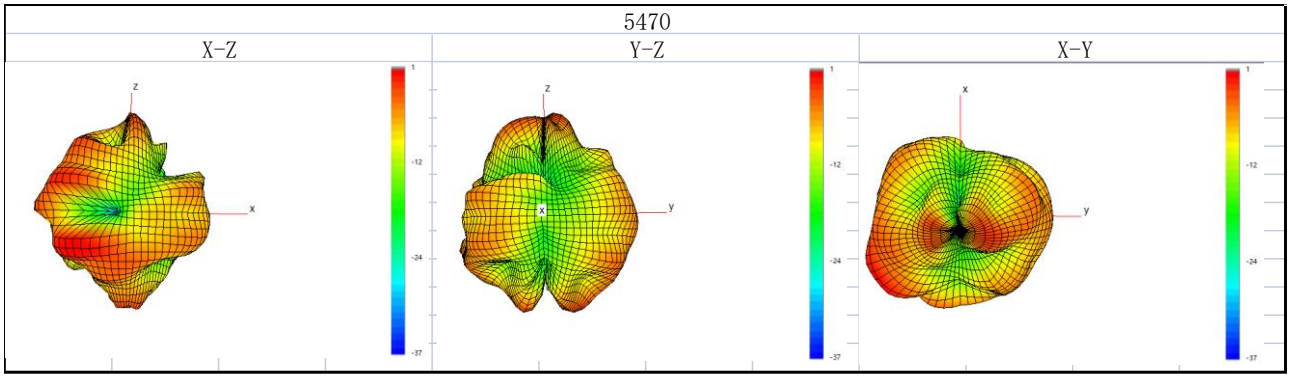
Frequency (Mhz)	5250
Horizontal peak gain (dBi)	-4.11
Vertical peak gain (dBi)	-0.52

Tx2 antenna: 5350 MHz



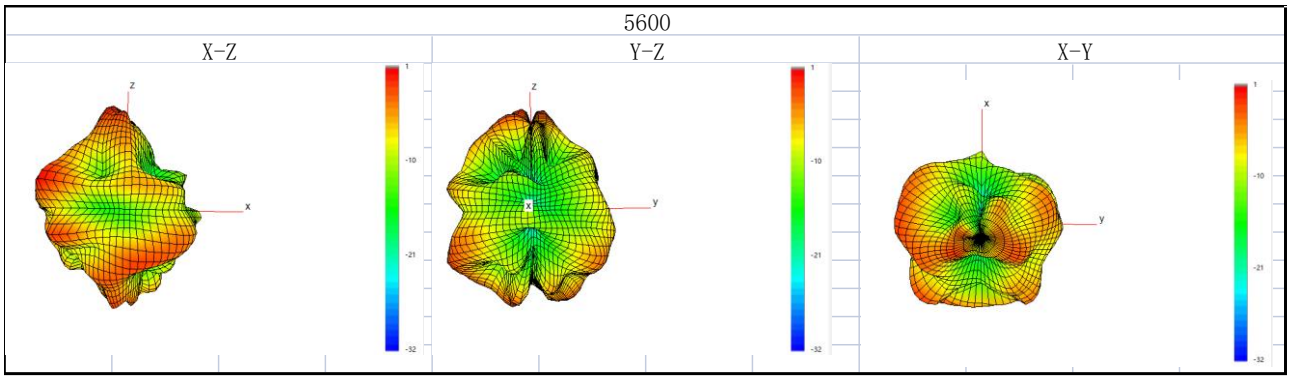
Frequency (Mhz)	5350
Horizontal peak gain (dBi)	-3.45
Vertical peak gain (dBi)	-2.44

Tx2 antenna: 5470 MHz



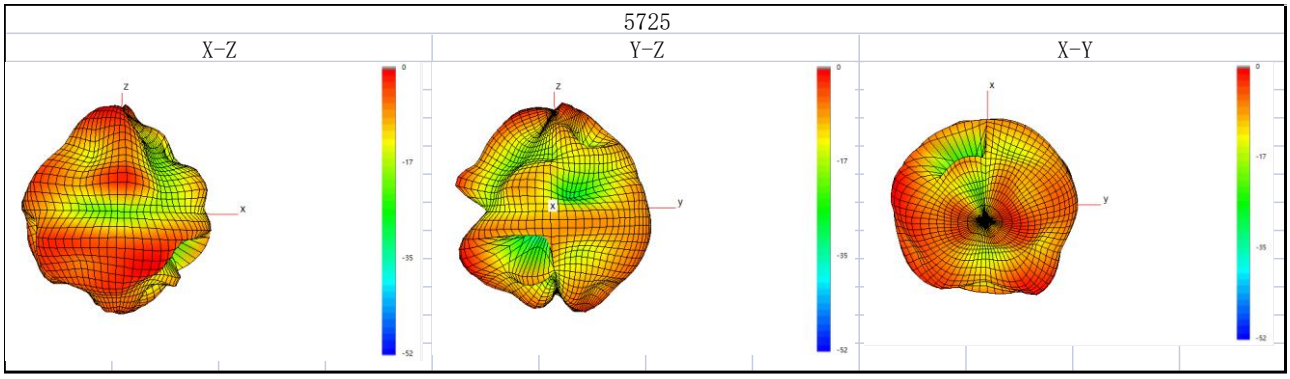
Frequency (Mhz)	5470
Horizontal peak gain (dBi)	-2.55
Vertical peak gain (dBi)	-3.12

Tx2 antenna: 5600MHz



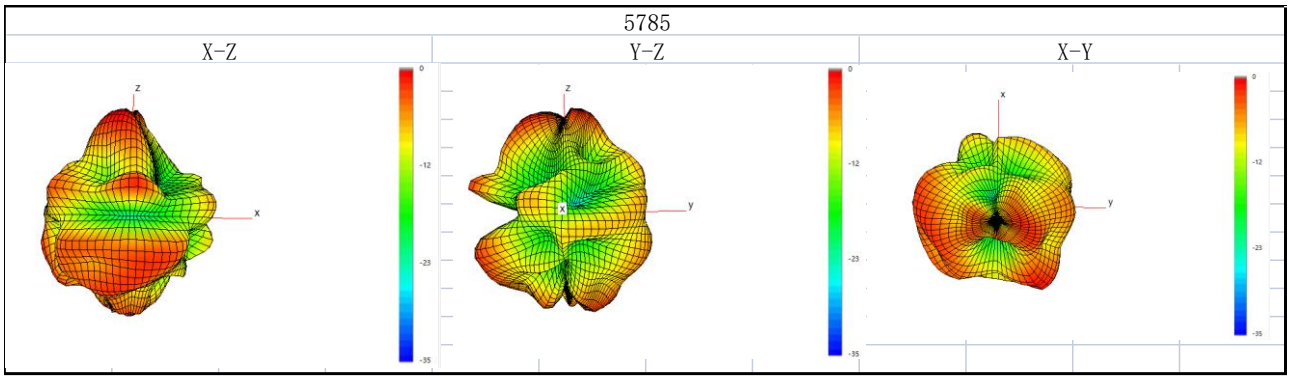
Frequency (Mhz)	5600
Horizontal peak gain (dBi)	-2.11
Vertical peak gain (dBi)	-3.45

Tx2 antenna: 5725MHz



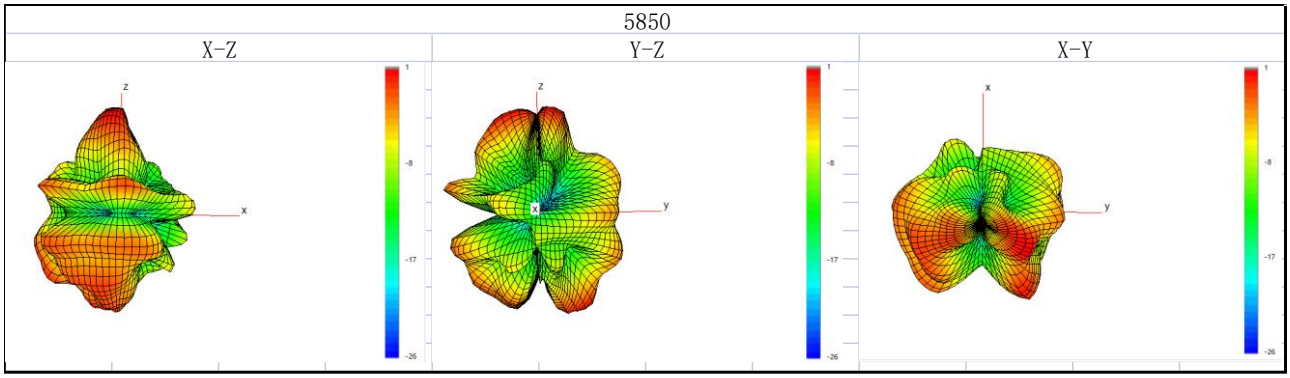
Frequency (Mhz)	5725
Horizontal peak gain (dBi)	-3.14
Vertical peak gain (dBi)	-3.41

Tx2 antenna: 5785MHz



Frequency (Mhz)	5785
Horizontal peak gain (dBi)	-2.44
Vertical peak gain (dBi)	-2.24

Tx2 antenna: 5850MHz



Frequency (Mhz)	5850
Horizontal peak gain (dBi)	-1.64
Vertical peak gain (dBi)	-3.34

Section 4. Host Platform Information

OEM / ODM Host platform: (NB6100) platform correlated to antenna data

Rating Label Photo:

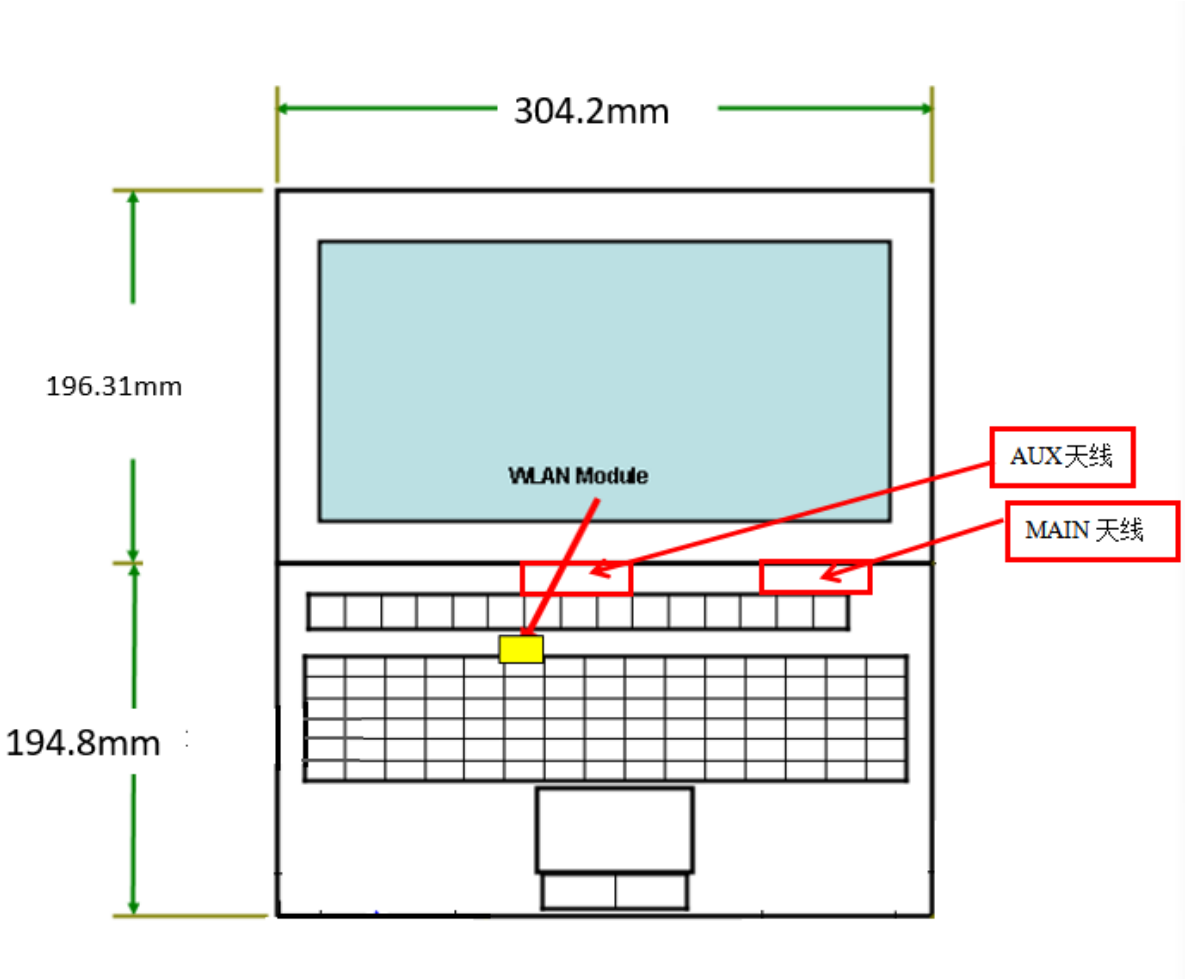

SAMSUNG

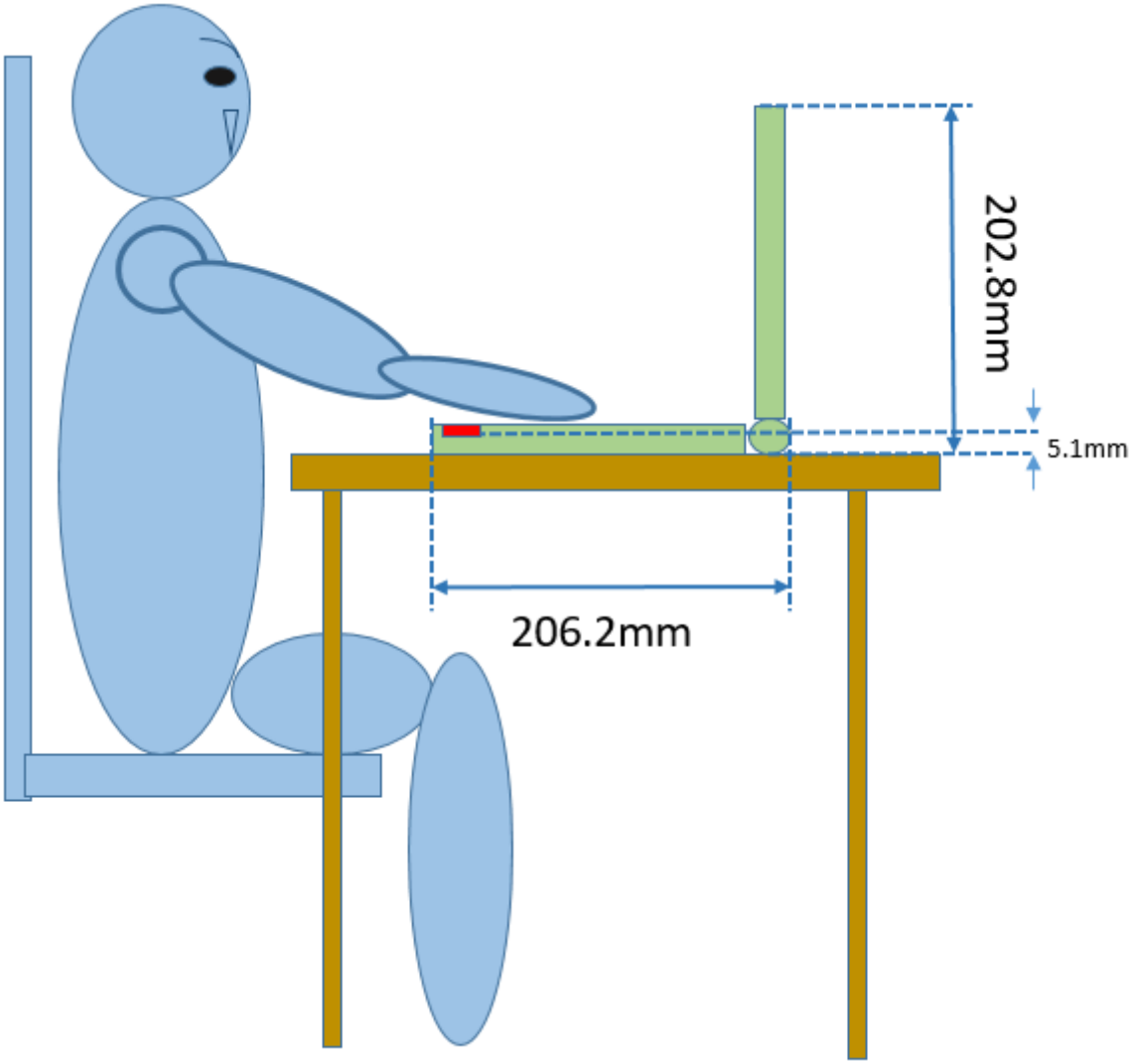
Section 5. Antenna dimensional information for SAR evaluation

Include a **dimensioned photo(s) or dimensioned drawing(s)** of Tx1, Tx2 and Tx3 antenna placements (measurements are not required for receive-only antenna).
Any antenna that transmits must show dimensions to bottom of laptop. Provide a description of the materials that are used for supporting or surrounding transmit antennas; for example, non-conductive plastics vs. conductive coated plastic or metallic materials.

Section 6. Antenna Host Platform Location Information

Include a **dimensioned photo or dimensioned drawing** showing the distance (mm) between **all WLAN transmit antennas** and other co-located radiator transmit antenna such as Bluetooth, WWAN




202.8mm
5.1mm
206.2mm