

# Regulatory WLAN Antenna Information (TB mode)

Platform information							
Brand	ODM	Platform model name	Platform type (ex: regular NB, convertible PC, AIO...etc)	SAR minimum separation (mm)			
HP Inc.	Inventec	Oleander (HSN-I38C)	convertible PC	1.7 mm (Edge)			
Antenna information				Peak gain w/ cable loss (dBi)			
Vendor	Type	Antenna Part number (Tx1)	Antenna Part number (Tx2)	2.4GHz	5.2GHz	5.5GHz	5.8GHz
HONG-BO	PIFA	6036B0252501 (260-27364)	6036B0252501 (260-27364)	-1.22	0.1	-0.23	-1.96
Module information							
Model		Form factor and suffixes ( NGW/ HMW AND AN/ NB/ BN....)					
AX201NGW		Intel Wi-Fi 6 AX201 + BT5 (Harrison Peak 2 )					

## 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	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. (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

# 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)
Tx1 Antenna  Antenna P/N : 6036B0252501 (260-27364)	HONG-BO	PIFA	50 ohm Coaxial. Length: 342 mm Diameter: 1.13 mm Connector: 20565-001R-13	2400-2500MHz -1.22 dBi (peak)	2400-2500MHz -0.22 dBi (peak)	2400-2500MHz 3.0 max	2400-2500MHz 1.00 dBi (peak)
				5150-5350MHz 0.10 dBi (peak)	5150-5350MHz 1.60 dBi (peak)	5150-5350MHz 3.0 max	5150-5350MHz 1.50 dBi (peak)
				5470-5725MHz -0.23 dBi (peak)	5470-5725MHz 1.33 dBi (peak)	5470-5725MHz 3.0 max	5470-5725MHz 1.56 dBi (peak)
				5725-5850MHz -2.21 dBi (peak)	5725-5850MHz -0.63 dBi (peak)	5725-5850MHz 3.0 max	5725-5850MHz 1.58 dBi (peak)
Tx2 Antenna  Antenna P/N : 6036B0252501 (260-27364)	HONG-BO	PIFA	50 ohm Coaxial. Length: 407.5 mm Diameter: 1.13 mm Connector: 20565-001R-13	2400-2500MHz -1.5 dBi (peak)	2400-2500MHz -0.30 dBi (peak)	2400-2500MHz 3.0 max	2400-2500MHz 1.20 dBi (peak)
				5150-5350MHz -0.08 dBi (peak)	5150-5350MHz 1.70 dBi (peak)	5150-5350MHz 3.0 max	5150-5350MHz 1.78 dBi (peak)
				5470-5725MHz -1.7 dBi (peak)	5470-5725MHz 0.16 dBi (peak)	5470-5725MHz 3.0 max	5470-5725MHz 1.86 dBi (peak)
				5725-5850MHz -1.96 dBi (peak)	5725-5850MHz -0.08 dBi (peak)	5725-5850MHz 3.0 max	5725-5850MHz 1.88 dBi (peak)

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

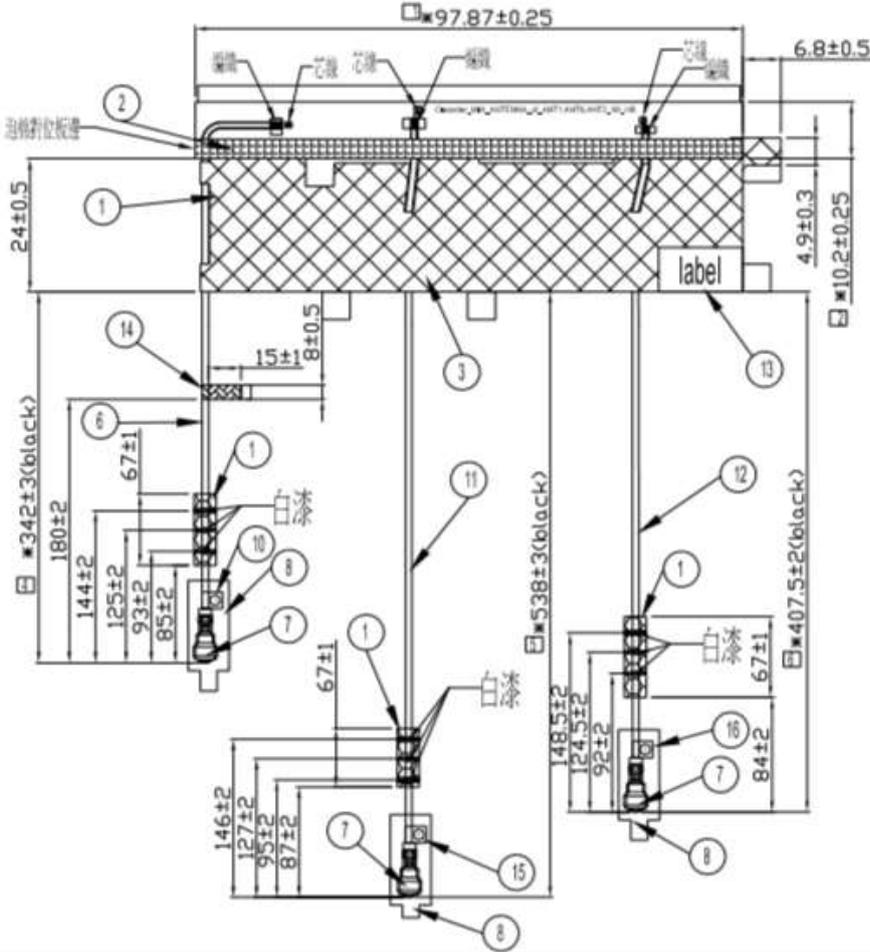
**Antenna Peak Gain Table:**

Frequency (MHz)	Tx1 antenna		Tx2 (or Rx2) Antenna	
	Horizontal (dBi)	Vertical (dBi)	Horizontal (dBi)	Vertical (dBi)
2400	-1.81	-4.61	-6.37	-4.10
2450	-1.22	-4.32	-4.96	-3.30
2500	-2.57	-4.63	-6.03	-1.50
5150	-0.88	-3.76	-2.70	-2.57
5250	-0.61	-5.34	-1.10	-2.61
5350	0.10	-5.15	-0.08	-1.83
5470	-0.23	-2.40	-1.70	-1.92
5600	-1.99	-3.17	-4.27	-2.73
5725	-3.49	-2.21	-1.96	-4.09
5785	-6.75	-4.61	-2.33	-4.64
5850	-8.12	-6.47	-3.23	-4.03

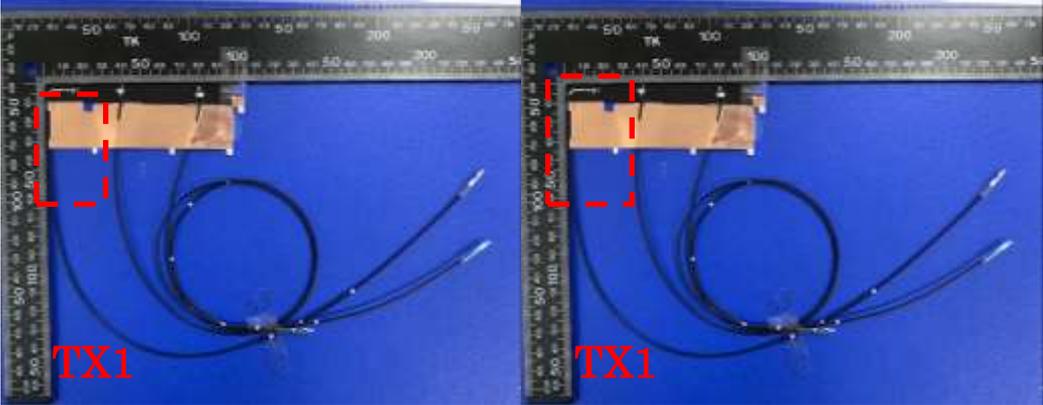
# Section 2. Dimensioned Photos or Drawings of Antennas

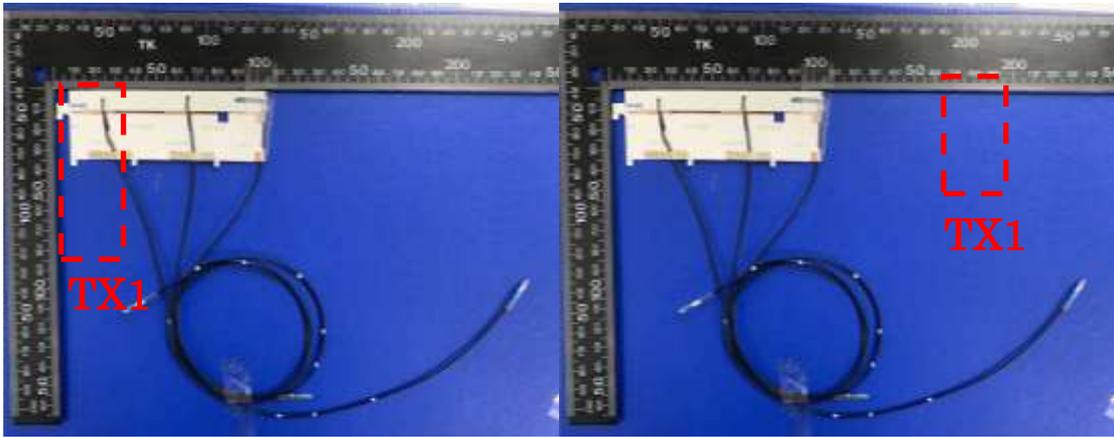
Include a dimensioned photo and dimensioned drawing of Tx1 antenna here.

## Tx1 Antenna Dimensioned Drawing:



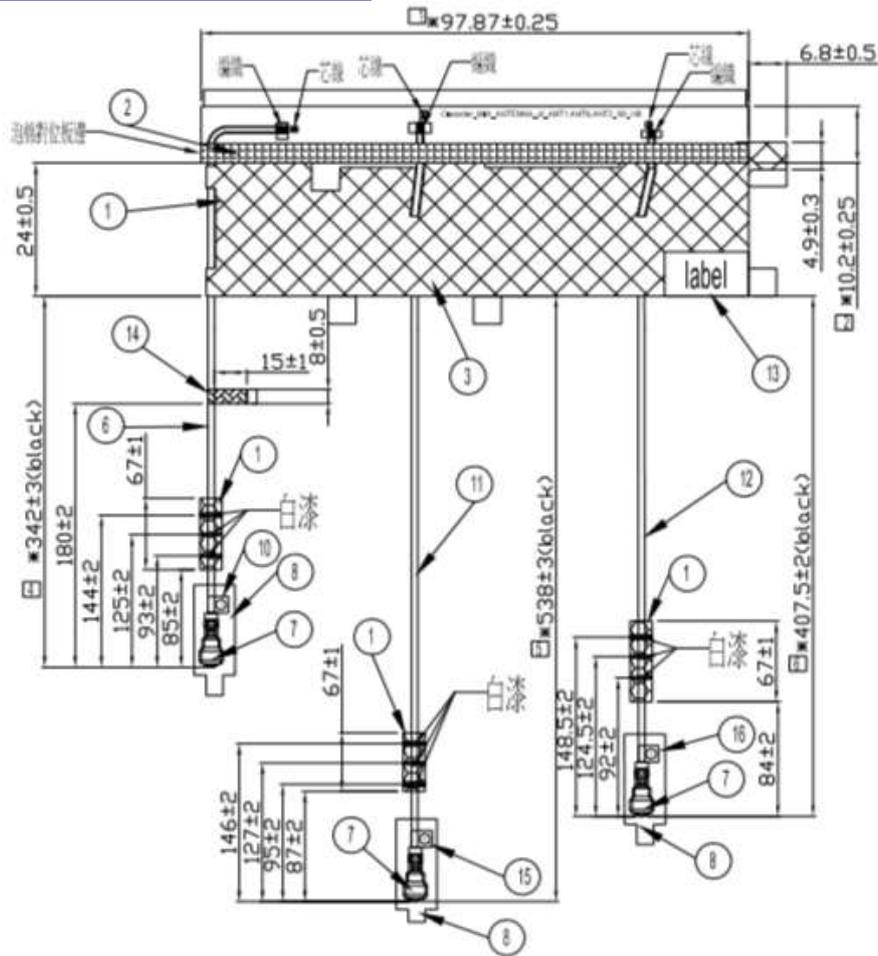
## Tx1 Antenna Photo:



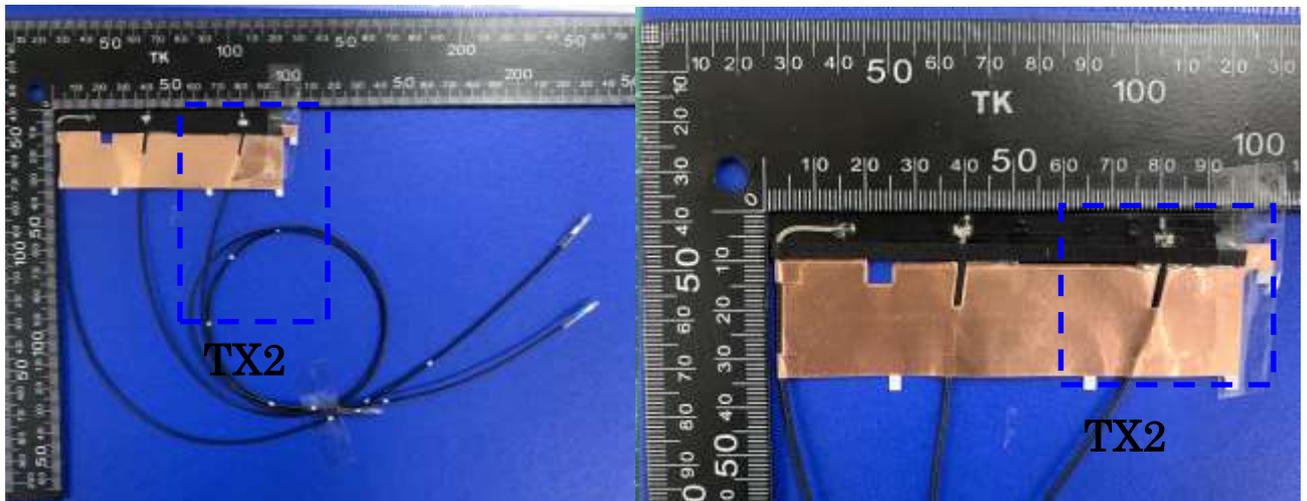


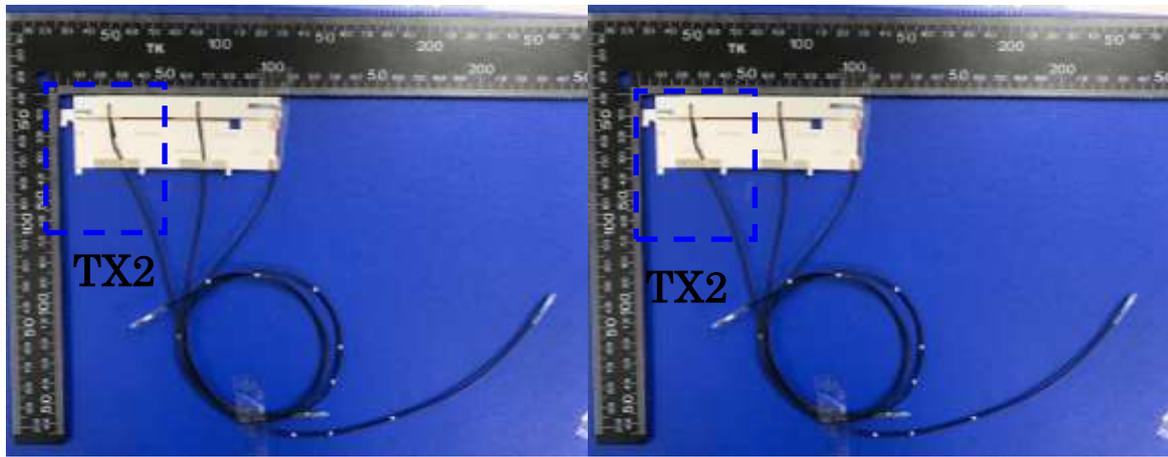
Include a dimensioned photo and dimensioned drawing of Tx2 (or Rx2) antenna here.

Tx2 (or Rx2) Antenna Dimensioned Drawing:



Tx2 (or Rx2) Antenna Photo:

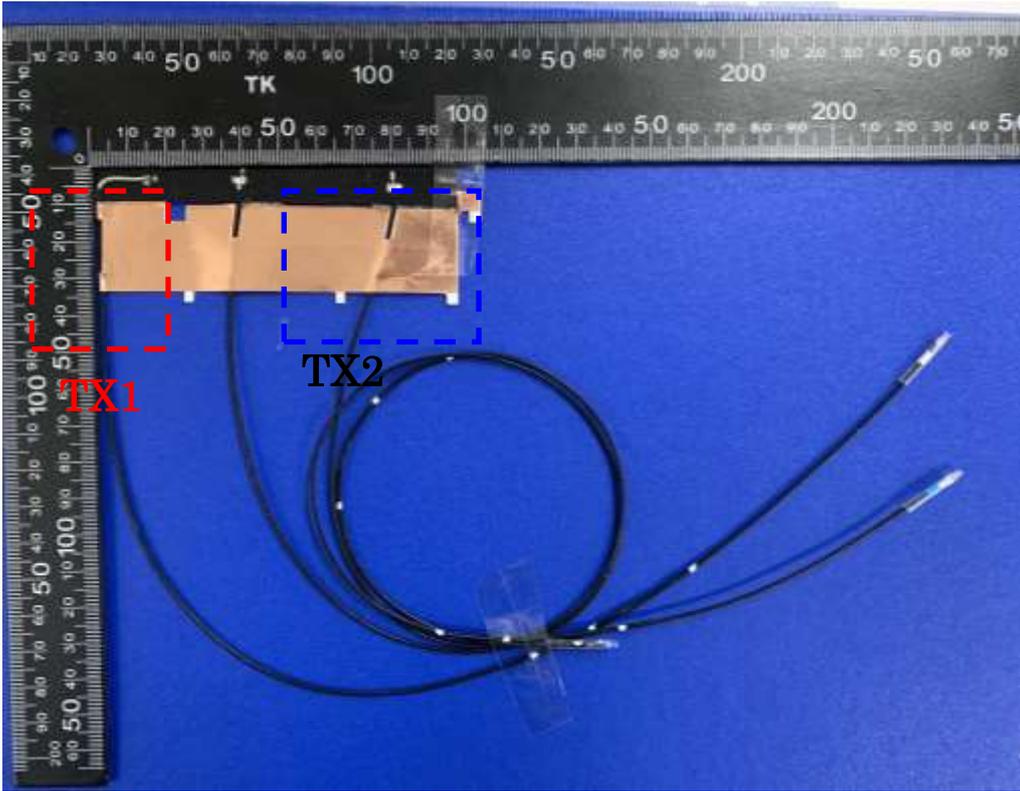




**Include front view photo of all 2 antennas here.**

Antenna Manufacturer: HONG-BO

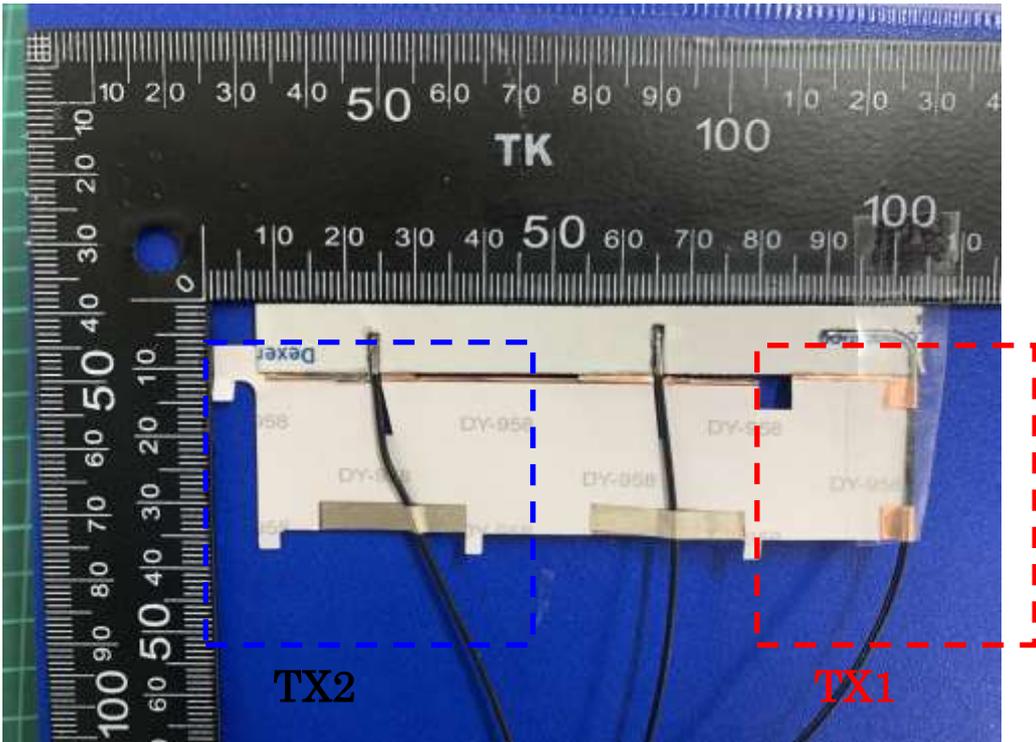
Antenna Part Number: 6036B0252501(260-27364) (Tx1) , 6036B0252501(260-27364) (Tx2 or Rx2)



**Include back view photo of all 2 antennas here.**

Antenna Manufacturer: HONG-BO

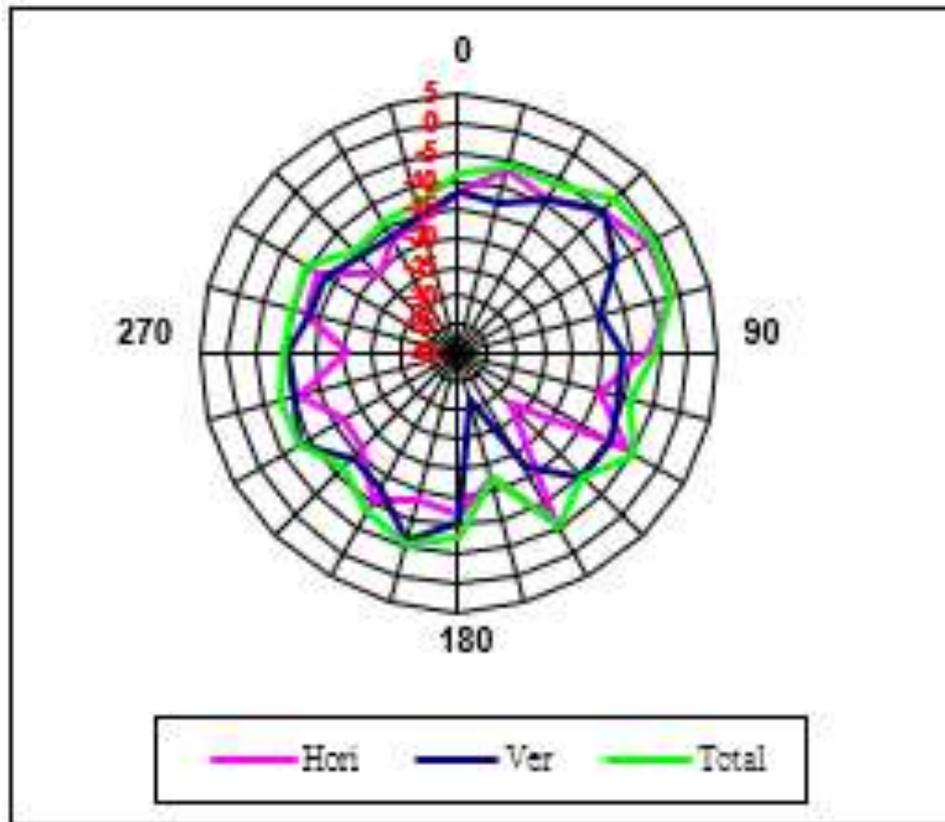
Antenna Part Number: 6036B0252501(260-27364) (Tx1) , 6036B0252501(260-27364) (Tx2 or Rx2)



### Section 3. Radiation characteristics of antennae Loaded in Host Platform

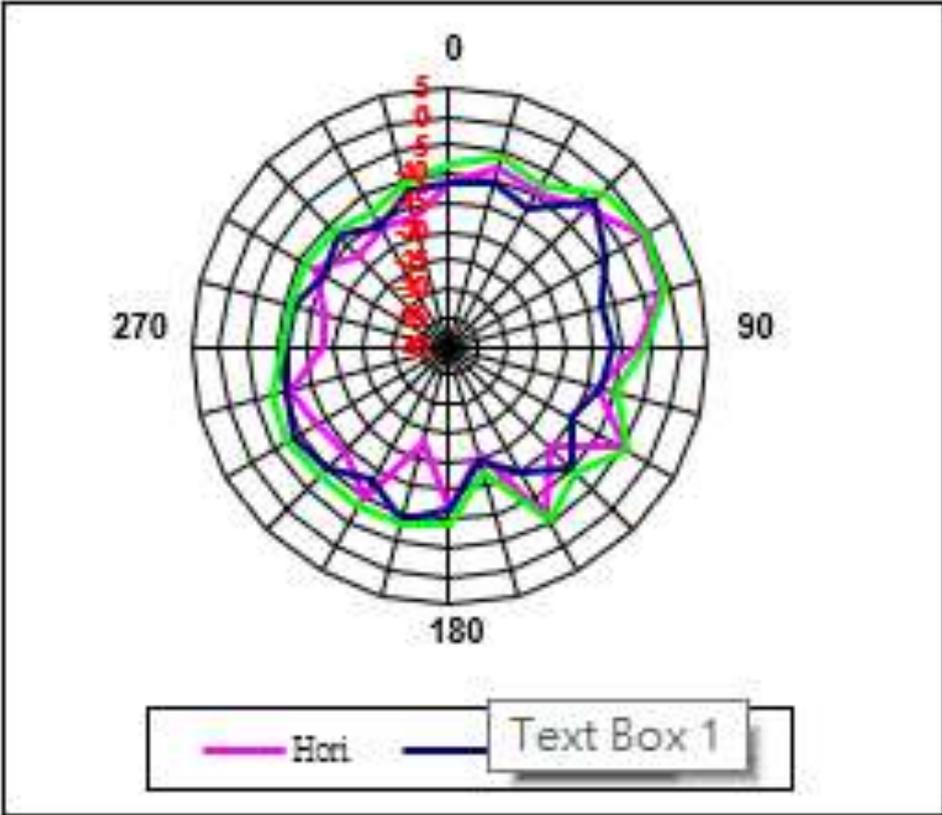
#### 2400-2500MHz radiation characteristic

Tx1 antenna: 2400 MHz



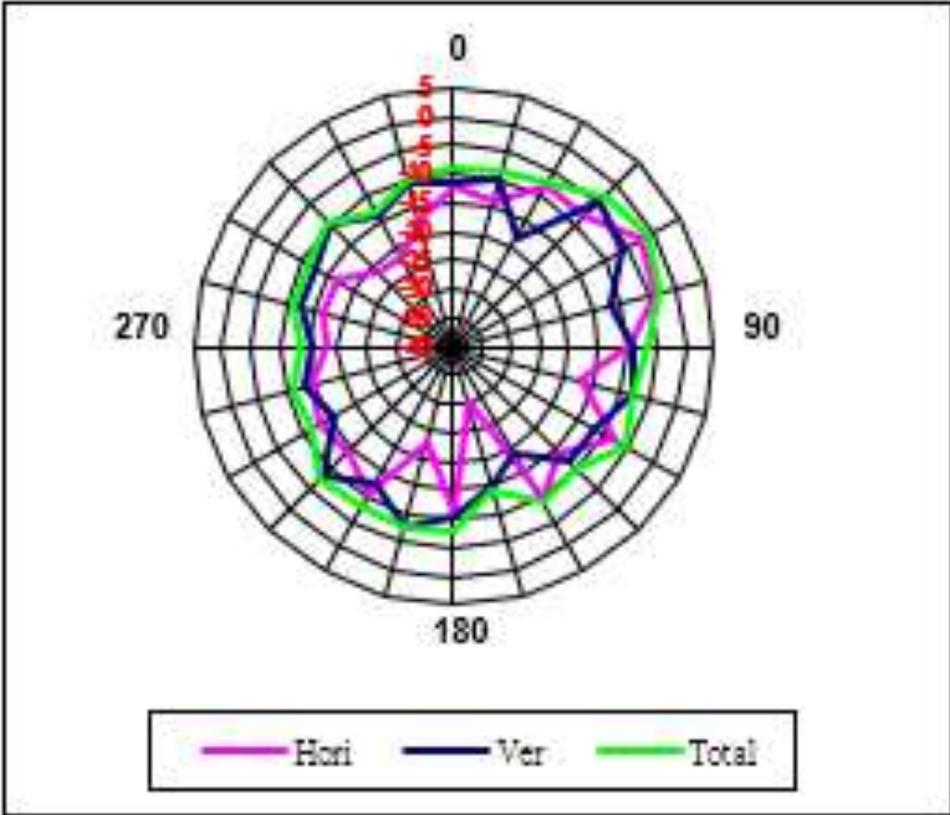
Frequency (MHz)	2400
Horizontal peak gain (dBi)	-1.81
Vertical peak gain (dBi)	-4.61

Tx1 antenna: 2450 MHz



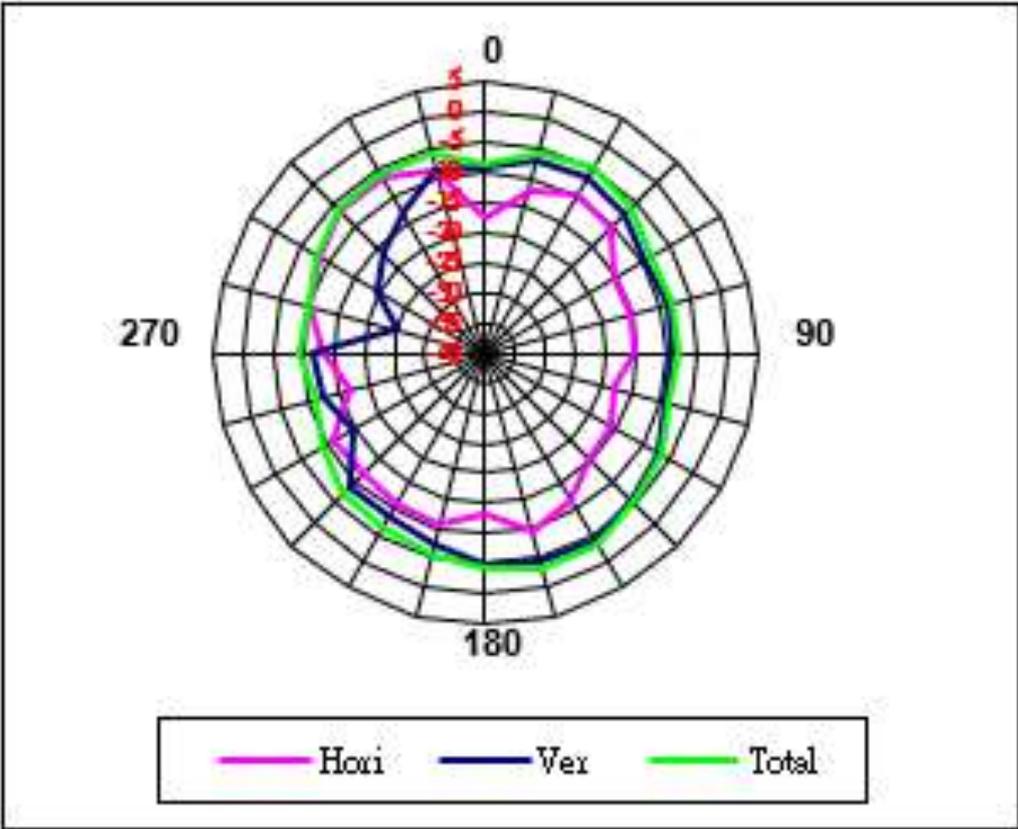
Frequency (MHz)	2450
Horizontal peak gain (dBi)	-1.22
Vertical peak gain (dBi)	-4.32

Tx1 antenna: 2500 MHz



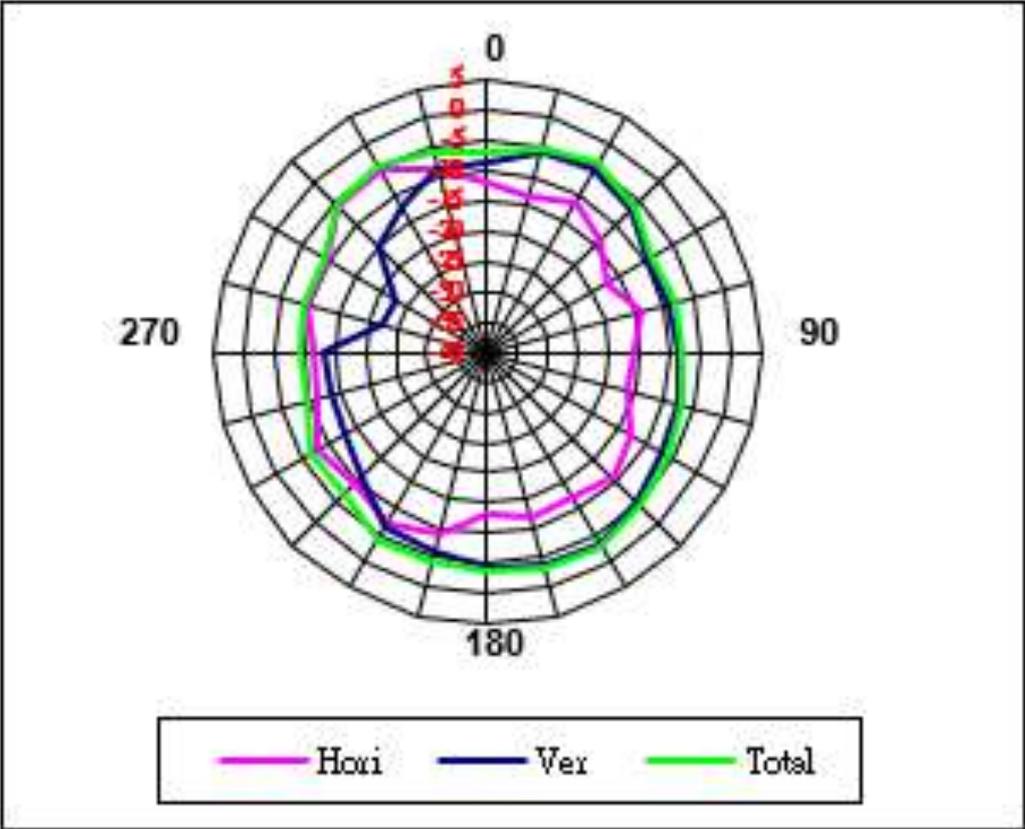
Frequency (MHz)	2500
Horizontal peak gain (dBi)	-2.57
Vertical peak gain (dBi)	-4.63

Tx2 (or Rx2) antenna: 2400 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)



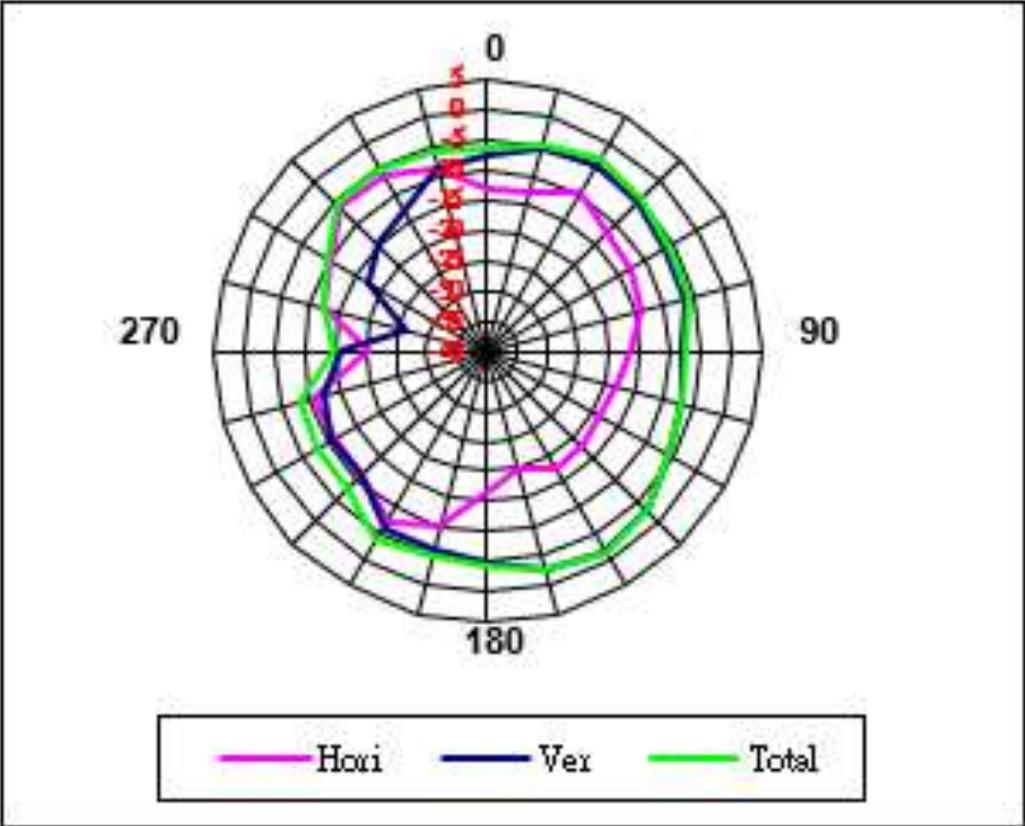
Frequency (MHz)	2400
Horizontal peak gain (dBi)	-6.37
Vertical peak gain (dBi)	-4.10

Tx2 (or Rx2) antenna: 2450 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)



Frequency (MHz)	2450
Horizontal peak gain (dBi)	4.96
Vertical peak gain (dBi)	-3.30

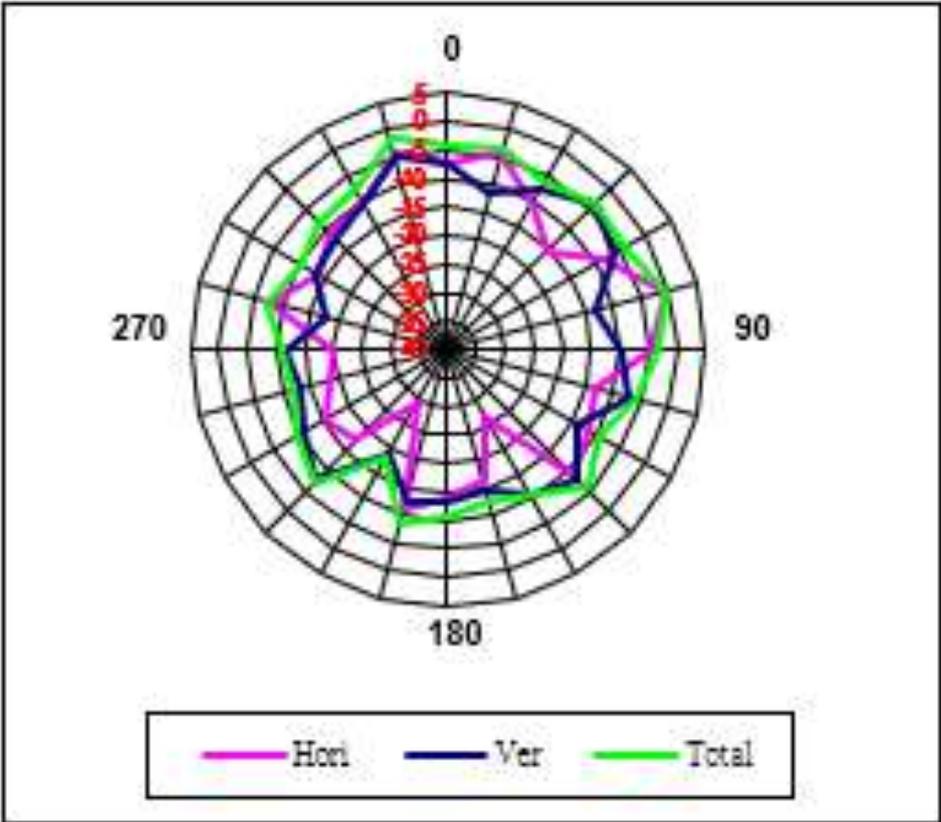
Tx2 (or Rx2) antenna: 2500 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)



Frequency (MHz)	2500
Horizontal peak gain (dBi)	-6.03
Vertical peak gain (dBi)	-1.50

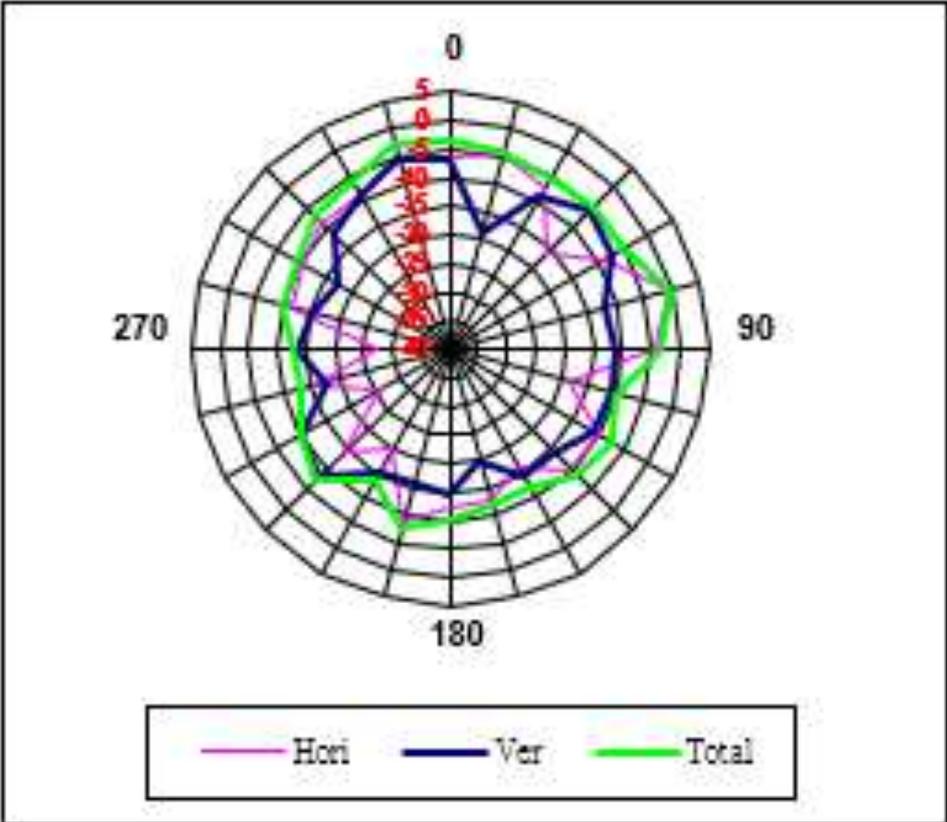
5150-5350 MHz radiation characteristic

Tx1 antenna: 5150 MHz



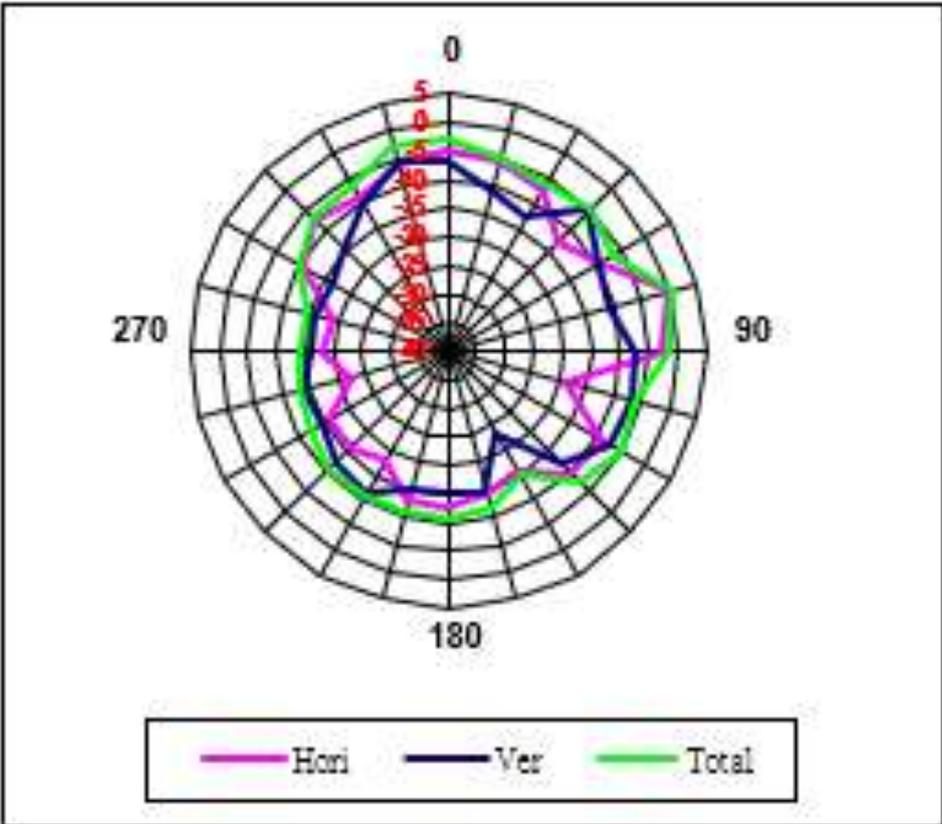
Frequency (MHz)	5150
Horizontal peak gain (dBi)	-0.88
Vertical peak gain (dBi)	-3.76

Tx1 antenna: 5250 MHz



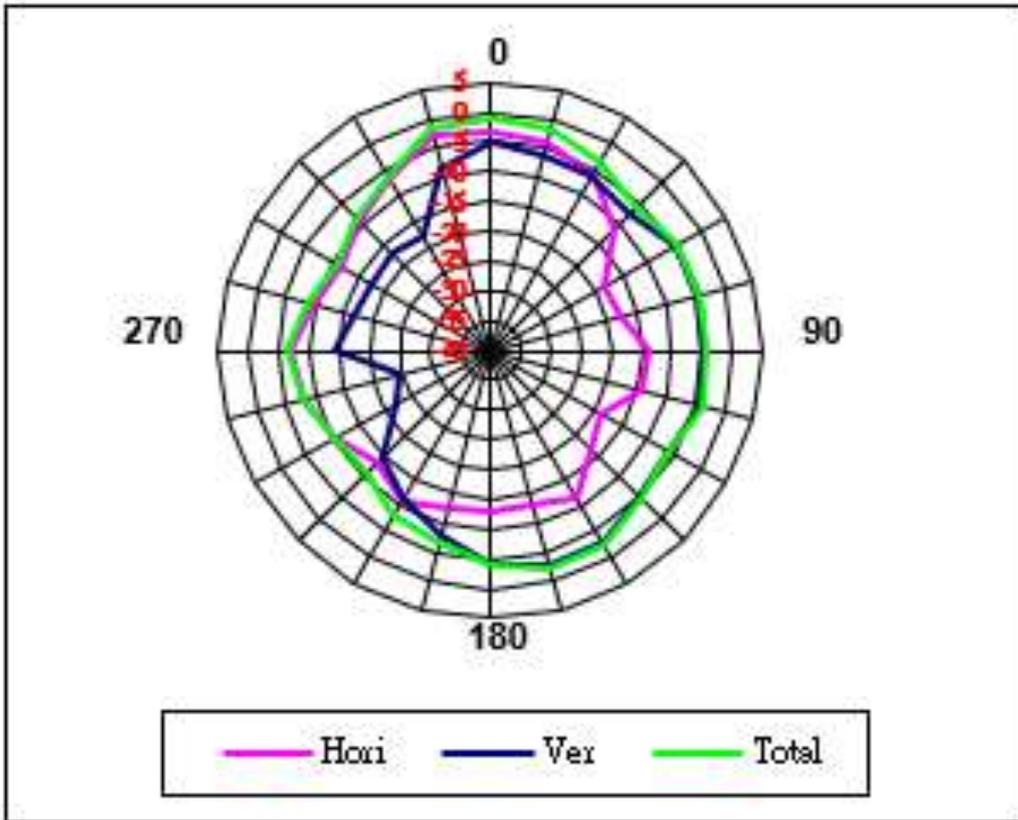
Frequency (MHz)	5250
Horizontal peak gain (dBi)	-0.61
Vertical peak gain (dBi)	-5.34

Tx1 antenna: 5350 MHz



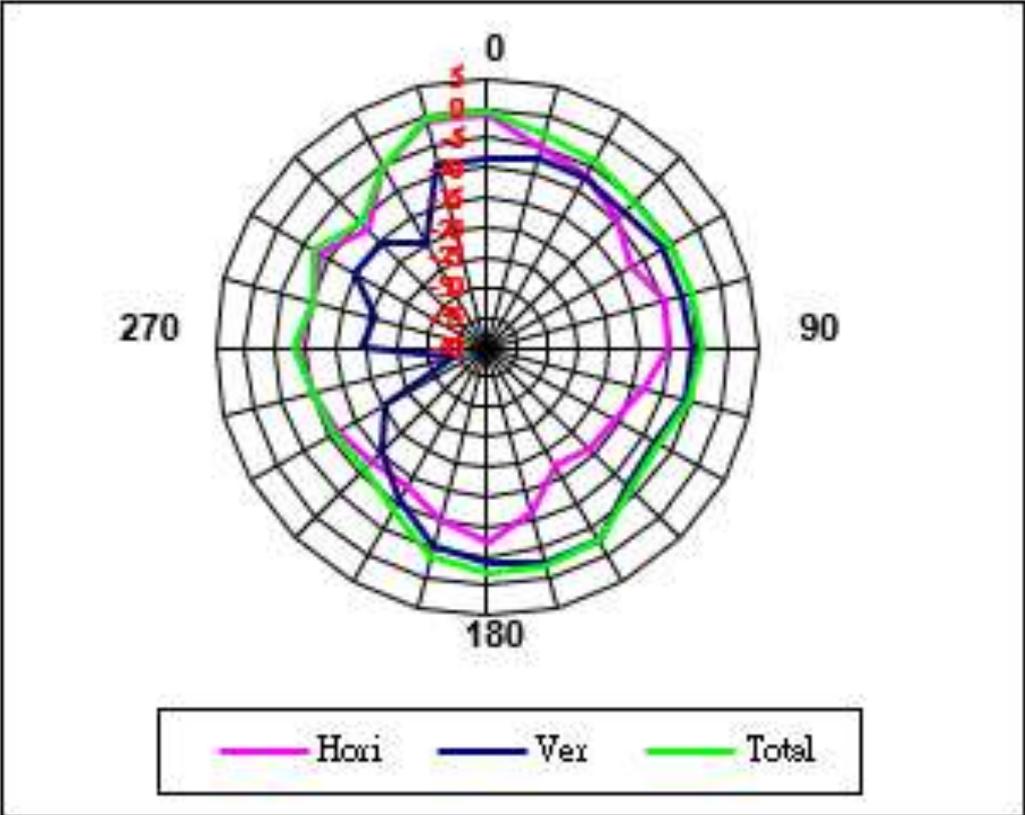
Frequency (MHz)	5350
Horizontal peak gain (dBi)	0.10
Vertical peak gain (dBi)	-5.15

Tx2 (or Rx2) antenna: 5150 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)



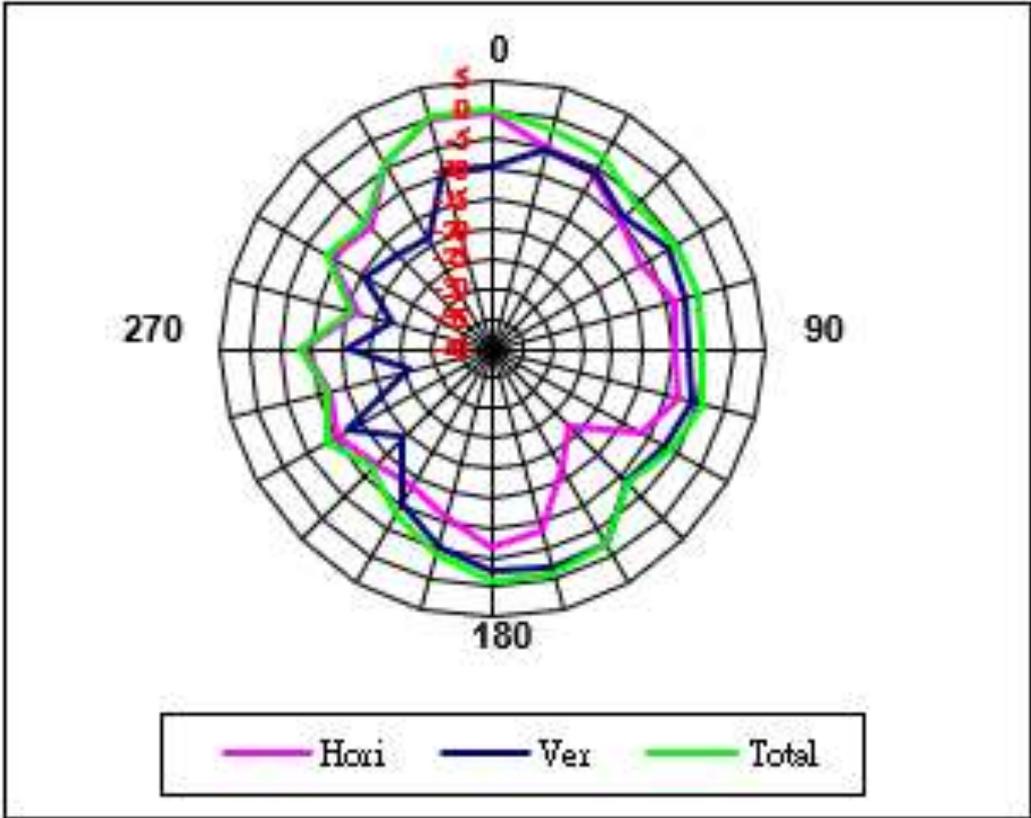
Frequency (MHz)	5150
Horizontal peak gain (dBi)	-2.70
Vertical peak gain (dBi)	-2.57

Tx2 (or Rx2) antenna: 5250 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)



Frequency (MHz)	5250
Horizontal peak gain (dBi)	-1.10
Vertical peak gain (dBi)	-2.61

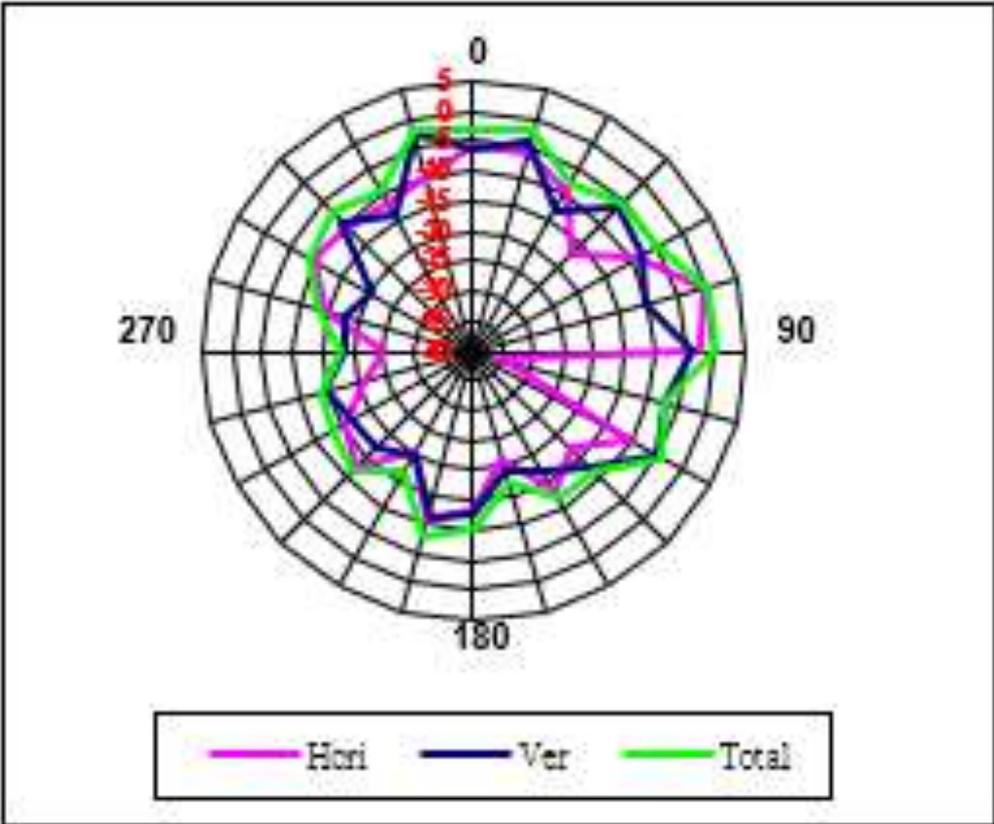
Tx2 (or Rx2) antenna: 5350 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)



Frequency (MHz)	5350
Horizontal peak gain (dBi)	-0.08
Vertical peak gain (dBi)	-1.83

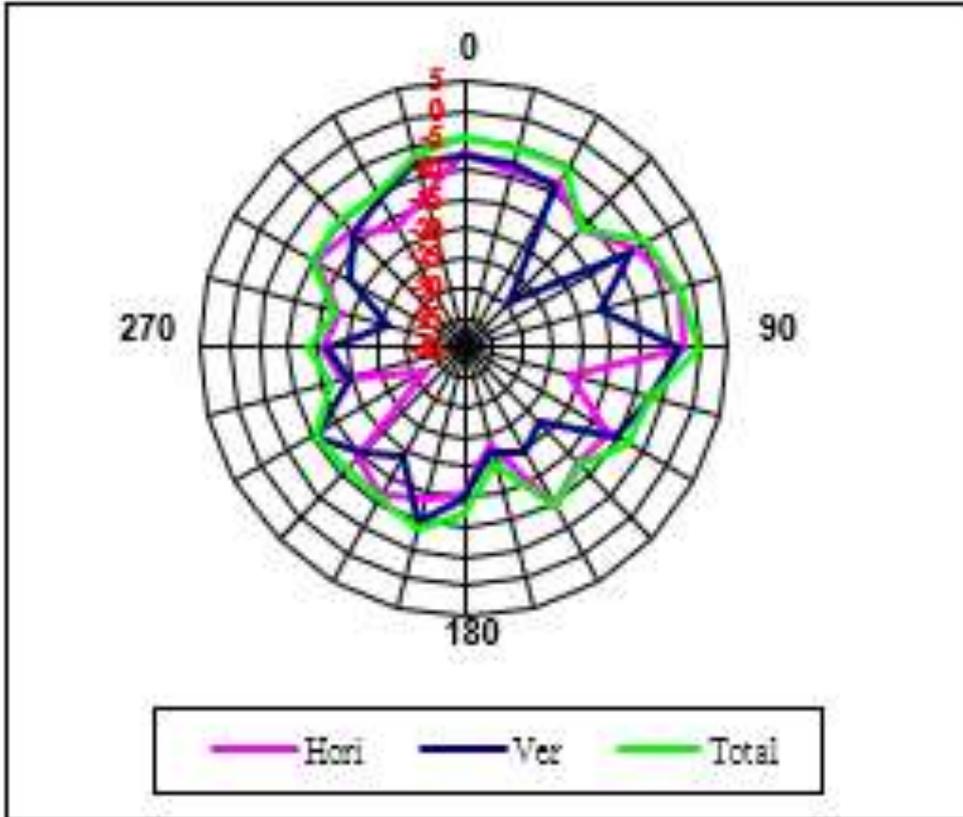
5470-5725MHz radiation characteristic

Tx1 antenna: 5470 MHz



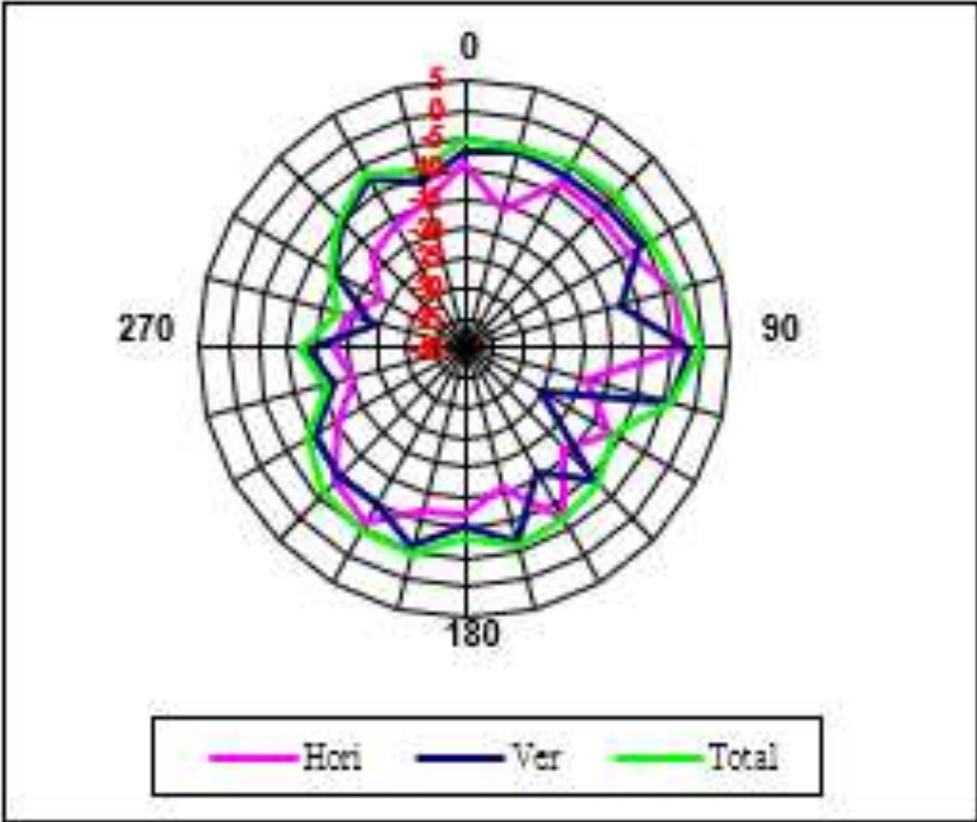
Frequency (MHz)	5470
Horizontal peak gain (dBi)	-0.23
Vertical peak gain (dBi)	-2.40

Tx1 antenna: 5600 MHz



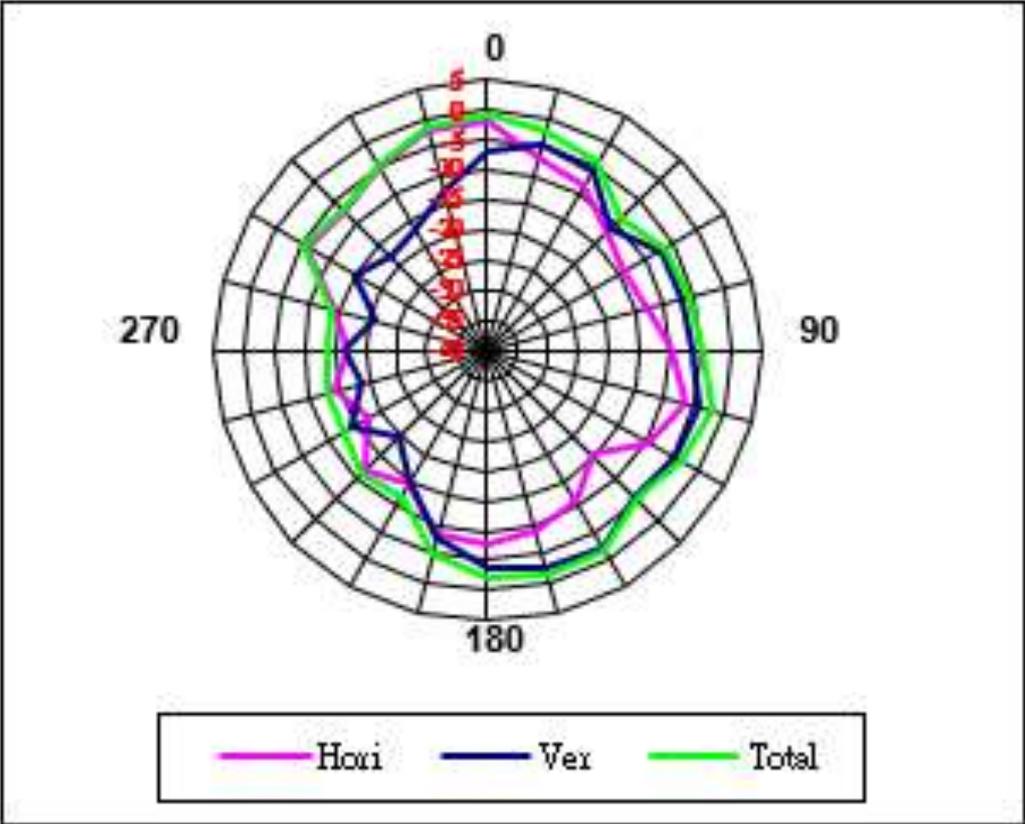
Frequency (MHz)	5600
Horizontal peak gain (dBi)	-1.99
Vertical peak gain (dBi)	-3.17

Tx1 antenna: 5725 MHz



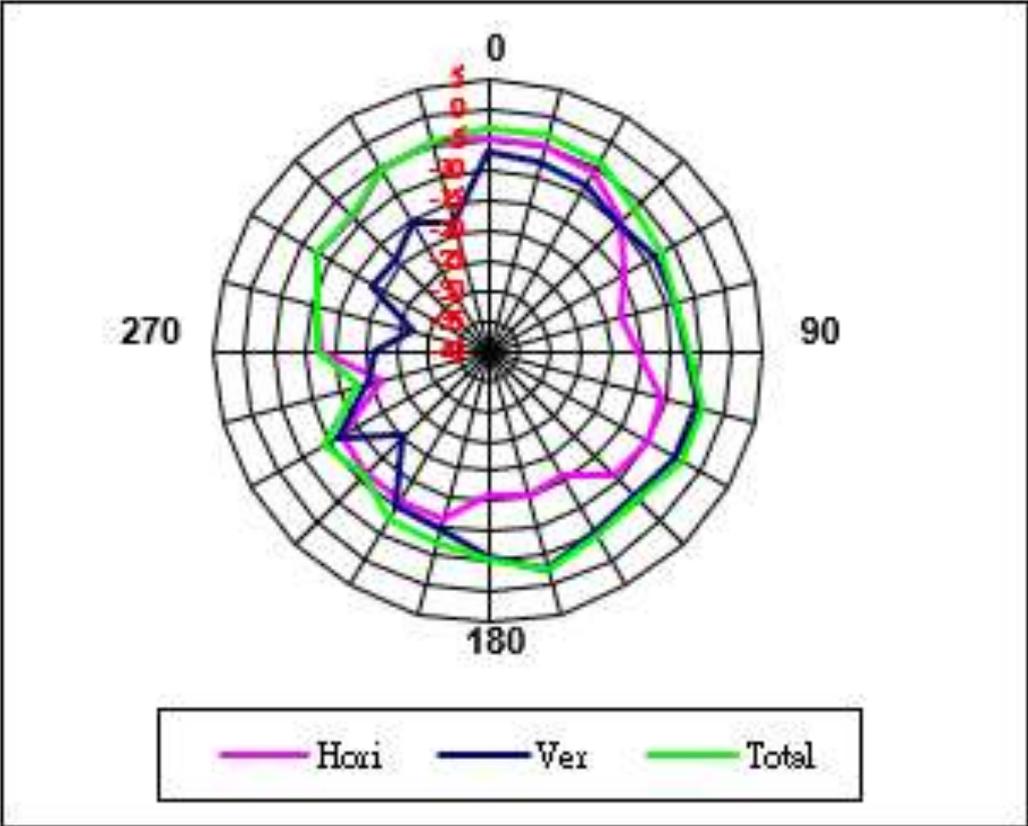
Frequency (MHz)	5725
Horizontal peak gain (dBi)	-3.49
Vertical peak gain (dBi)	-2.21

Tx2 (or Rx2) antenna: 5470 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)



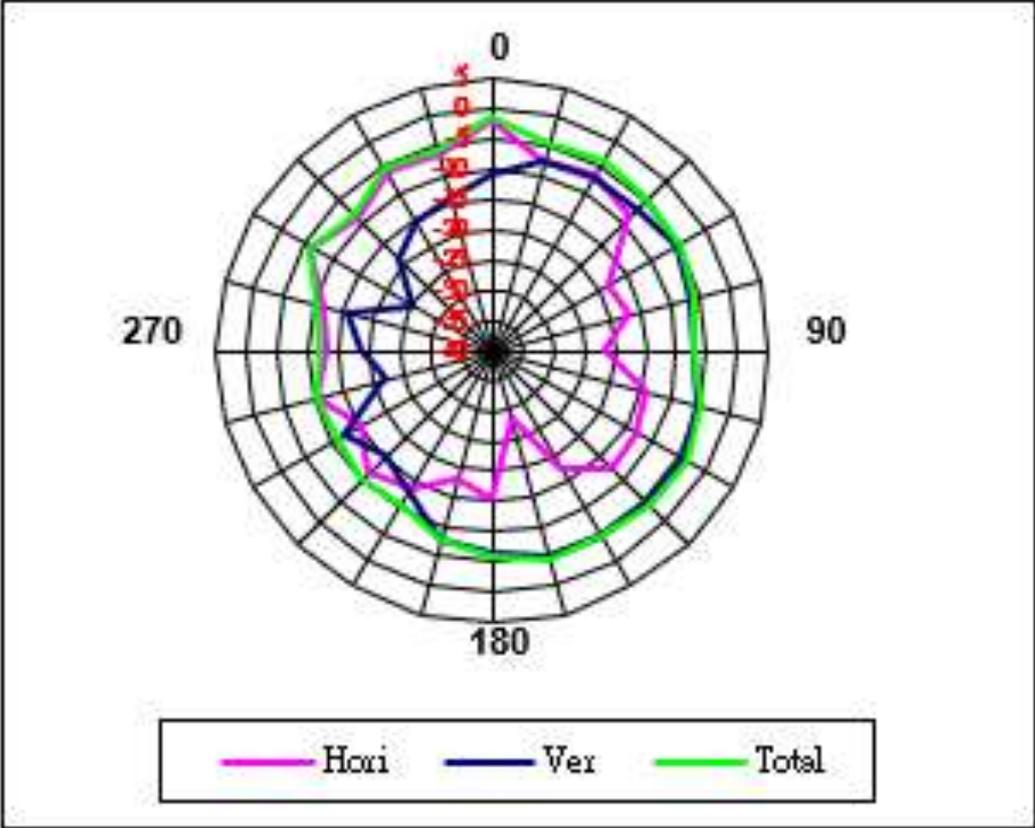
Frequency (MHz)	5470
Horizontal peak gain (dBi)	-1.70
Vertical peak gain (dBi)	-1.92

Tx2 (or Rx2) antenna: 5600 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)



Frequency (MHz)	5600
Horizontal peak gain (dBi)	4.27
Vertical peak gain (dBi)	-2.73

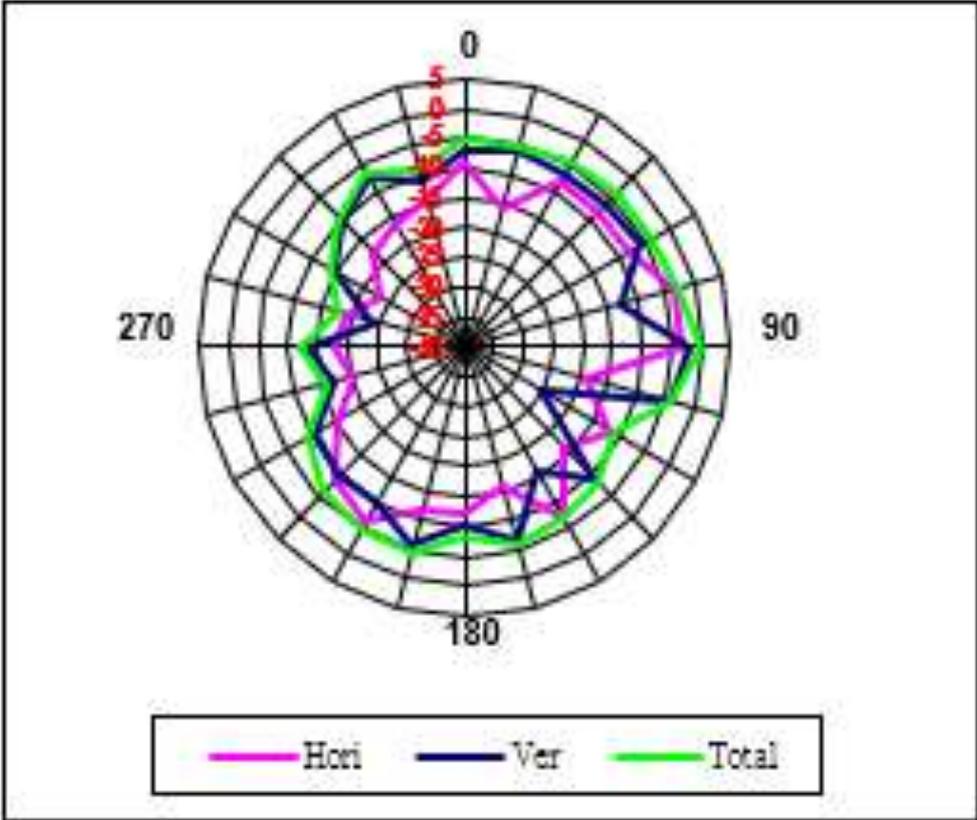
Tx2 (or Rx2) antenna: 5725 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)



Frequency (MHz)	5725
Horizontal peak gain (dBi)	-1.96
Vertical peak gain (dBi)	4.09

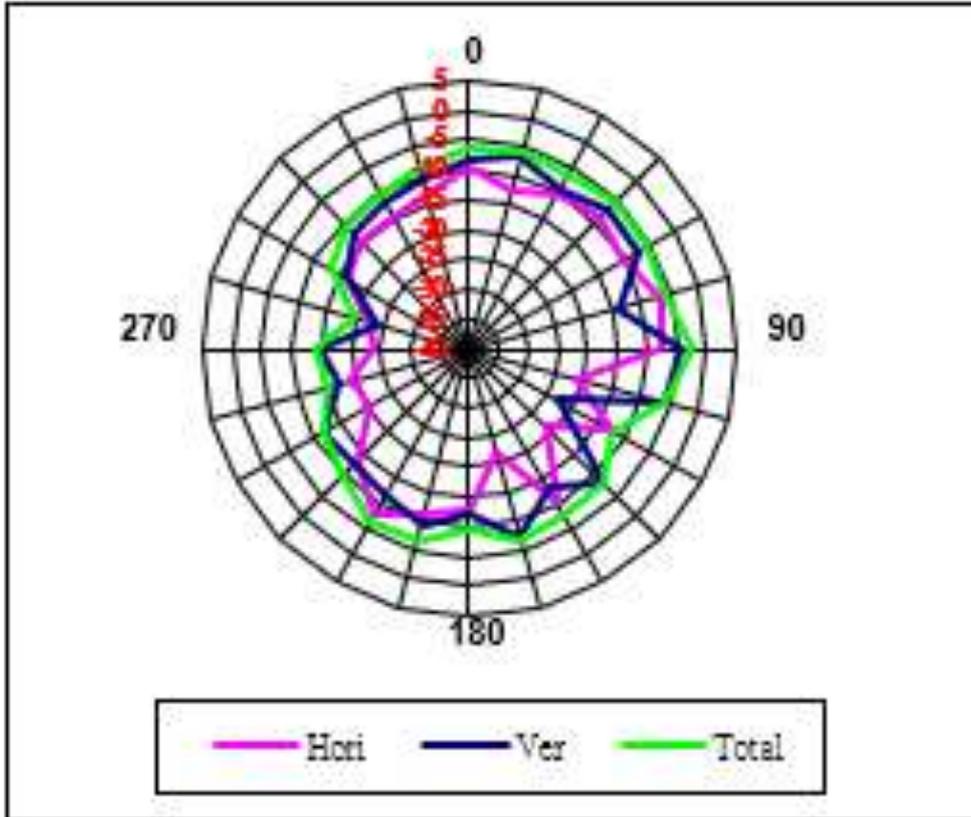
5725-5850 MHz radiation characteristic

Tx1 antenna: 5725 MHz



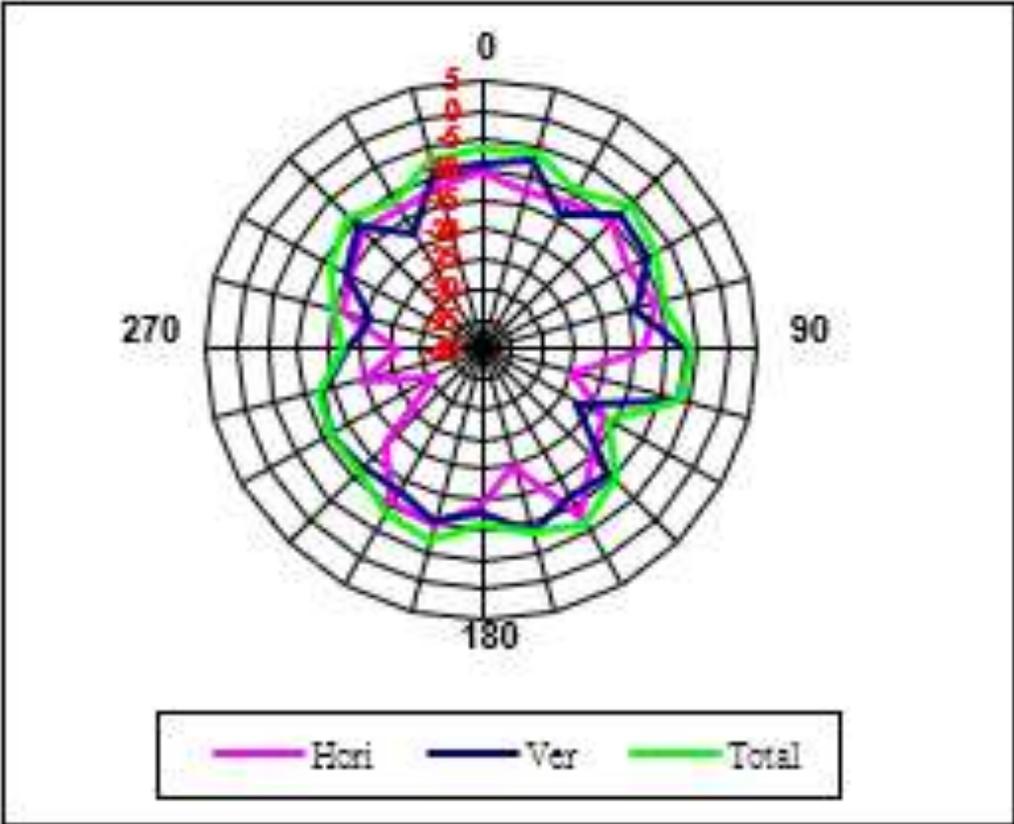
Frequency (MHz)	5725
Horizontal peak gain (dBi)	-3.49
Vertical peak gain (dBi)	-2.21

Tx1 antenna: 5785 MHz



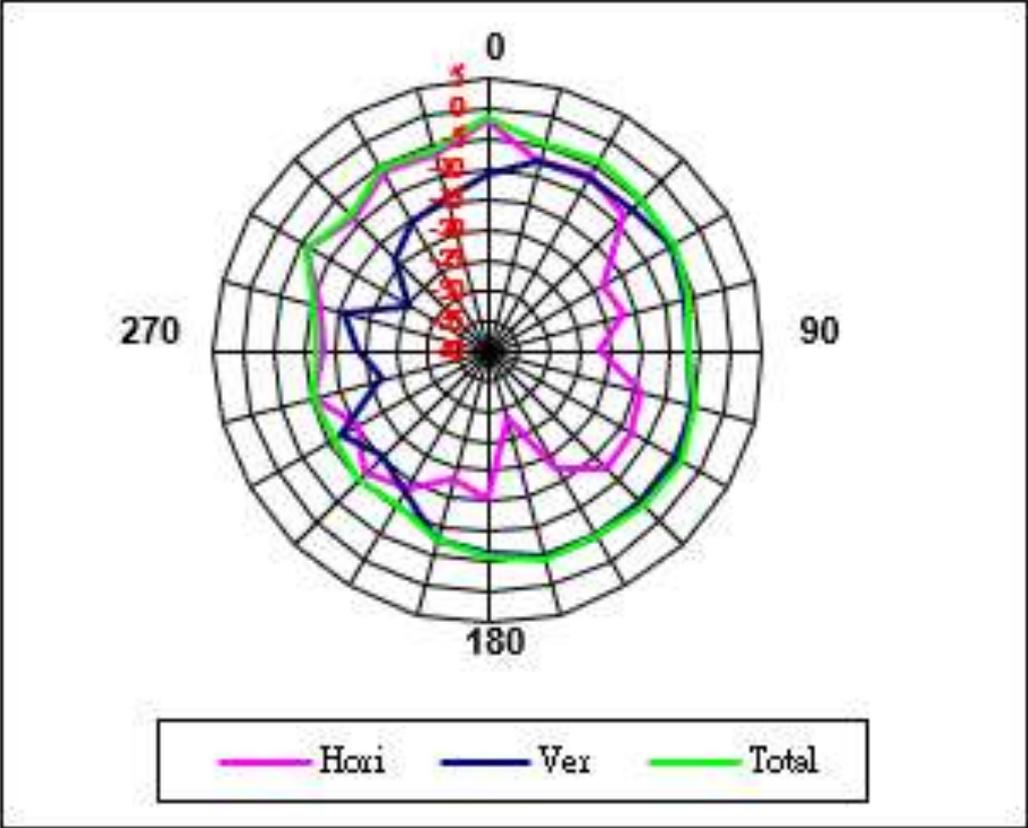
Frequency (MHz)	5785
Horizontal peak gain (dBi)	-6.75
Vertical peak gain (dBi)	-4.61

Tx1 antenna: 5850 MHz



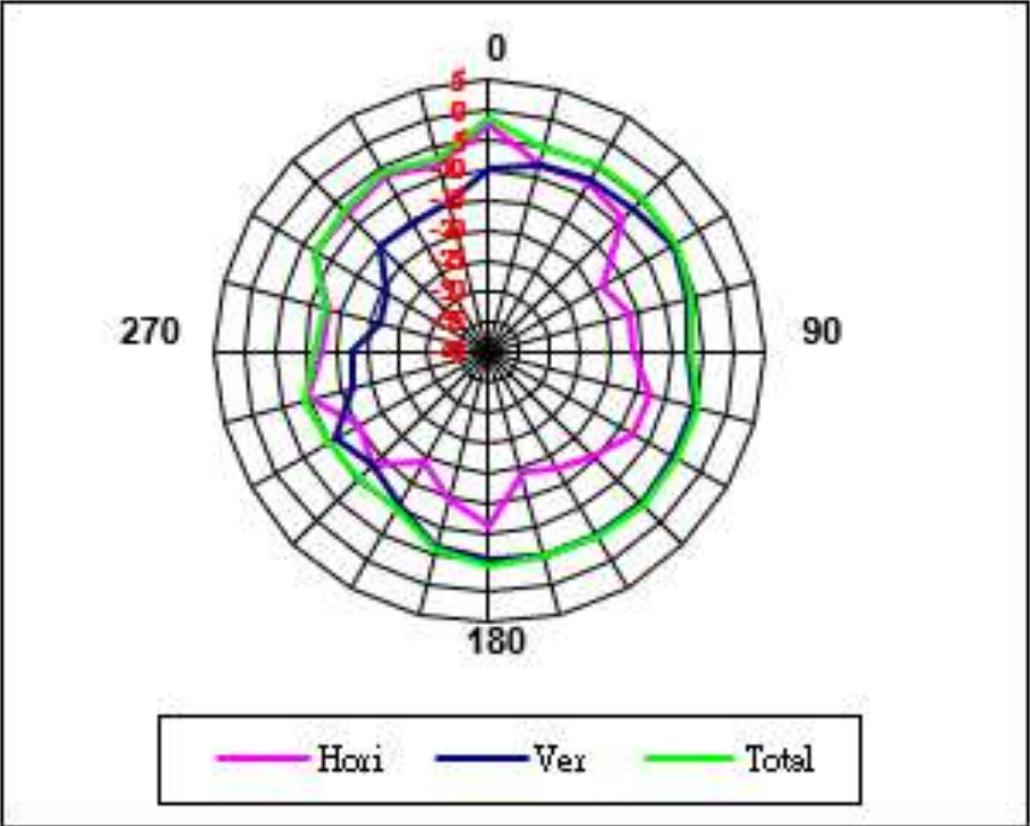
Frequency (MHz)	5850
Horizontal peak gain (dBi)	-8.12
Vertical peak gain (dBi)	-6.47

Tx2 (or Rx2) antenna: 5725 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)



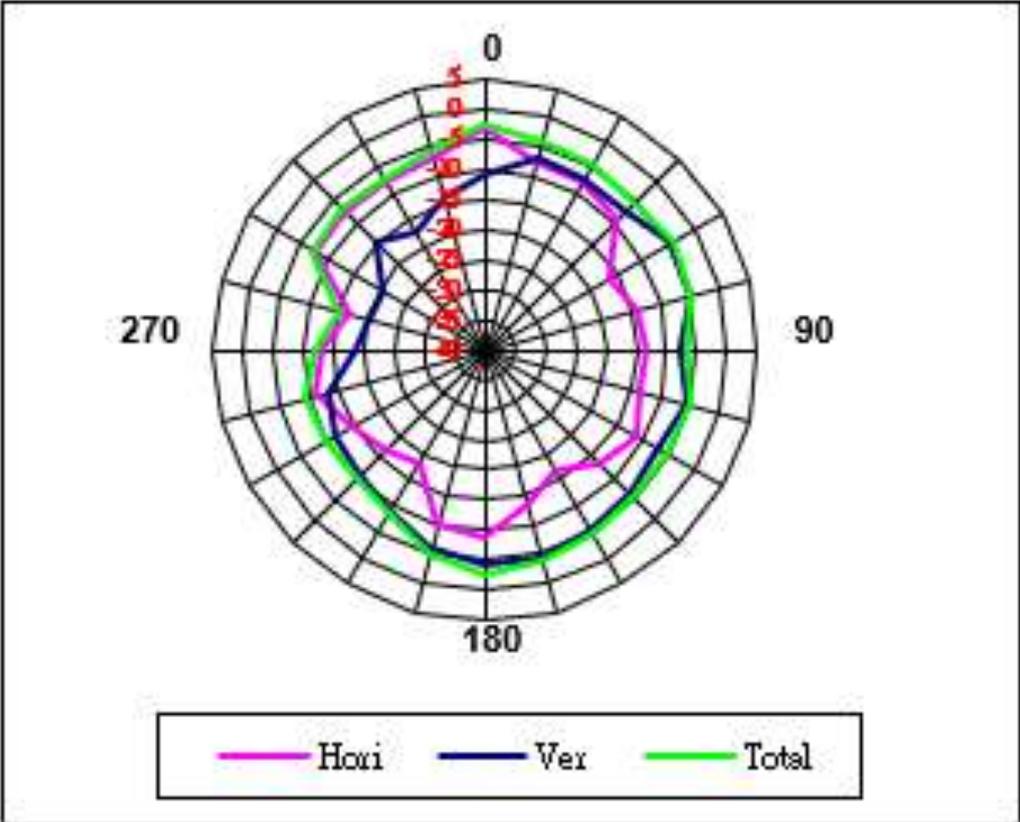
Frequency (MHz)	5725
Horizontal peak gain (dBi)	-1.96
Vertical peak gain (dBi)	-4.09

Tx2 (or Rx2) antenna: 5785 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)



Frequency (MHz)	5785
Horizontal peak gain (dBi)	-2.33
Vertical peak gain (dBi)	4.64

Tx2 (or Rx2) antenna: 5850 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)

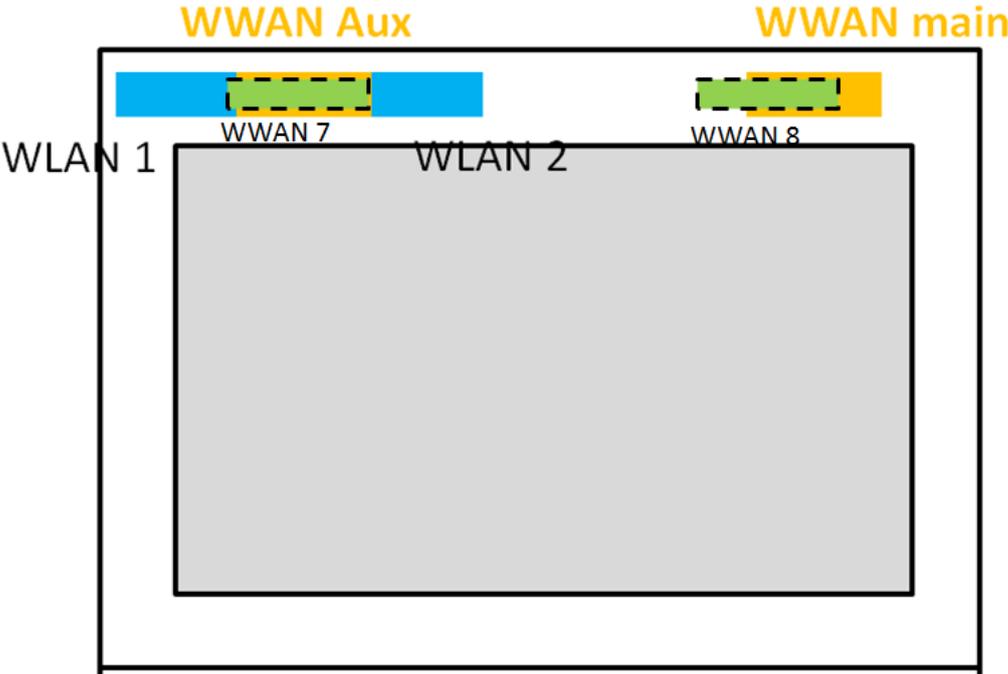
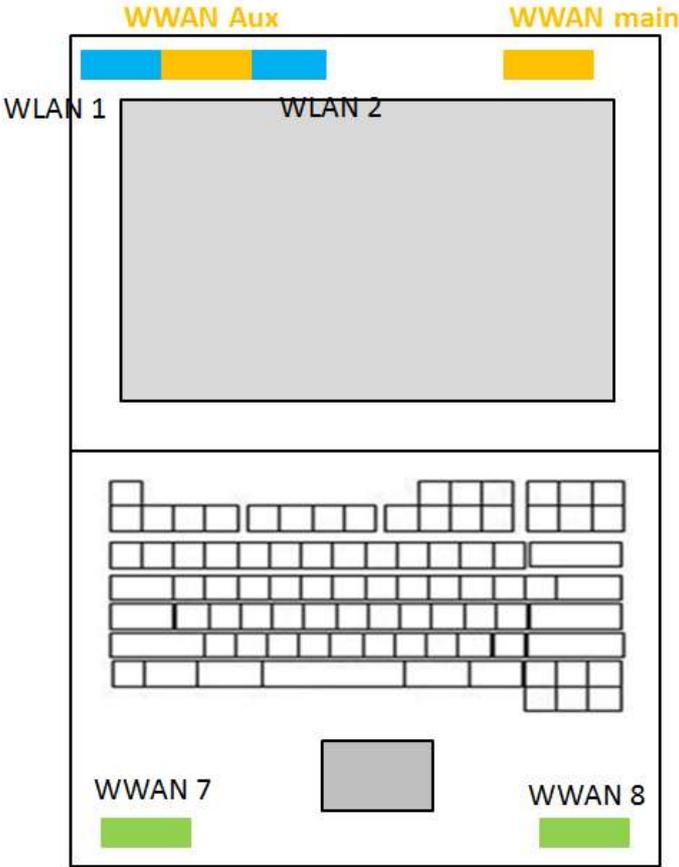


Frequency (MHz)	5850
Horizontal peak gain (dBi)	-3.23
Vertical peak gain (dBi)	-4.03

# Section 4. Host Platform Information

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

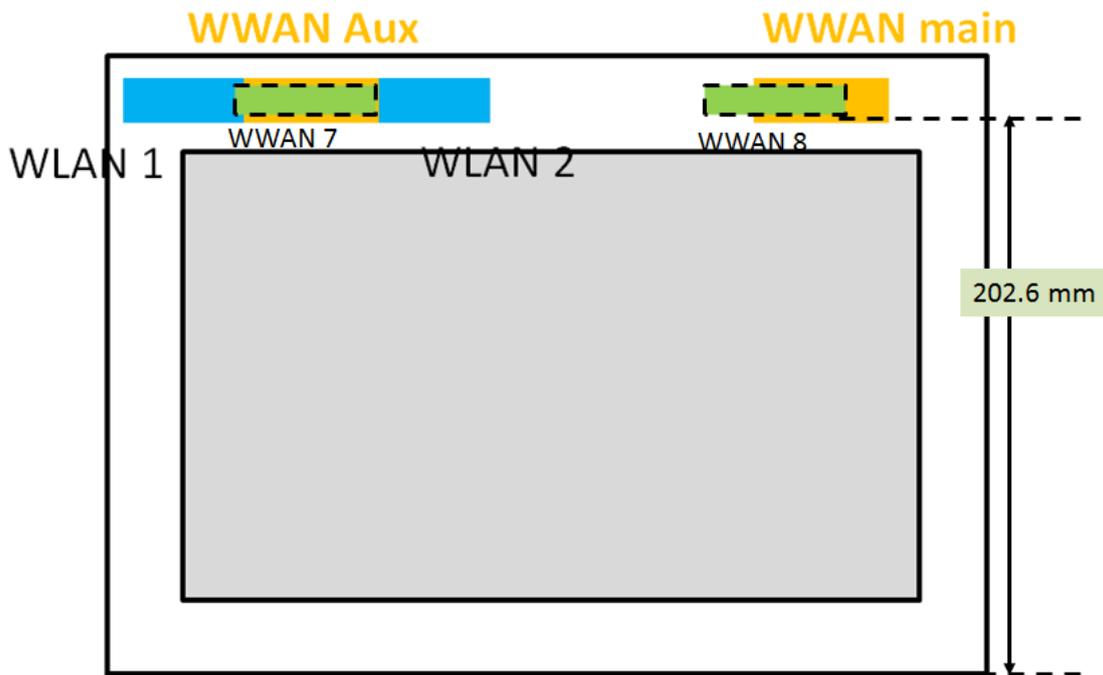
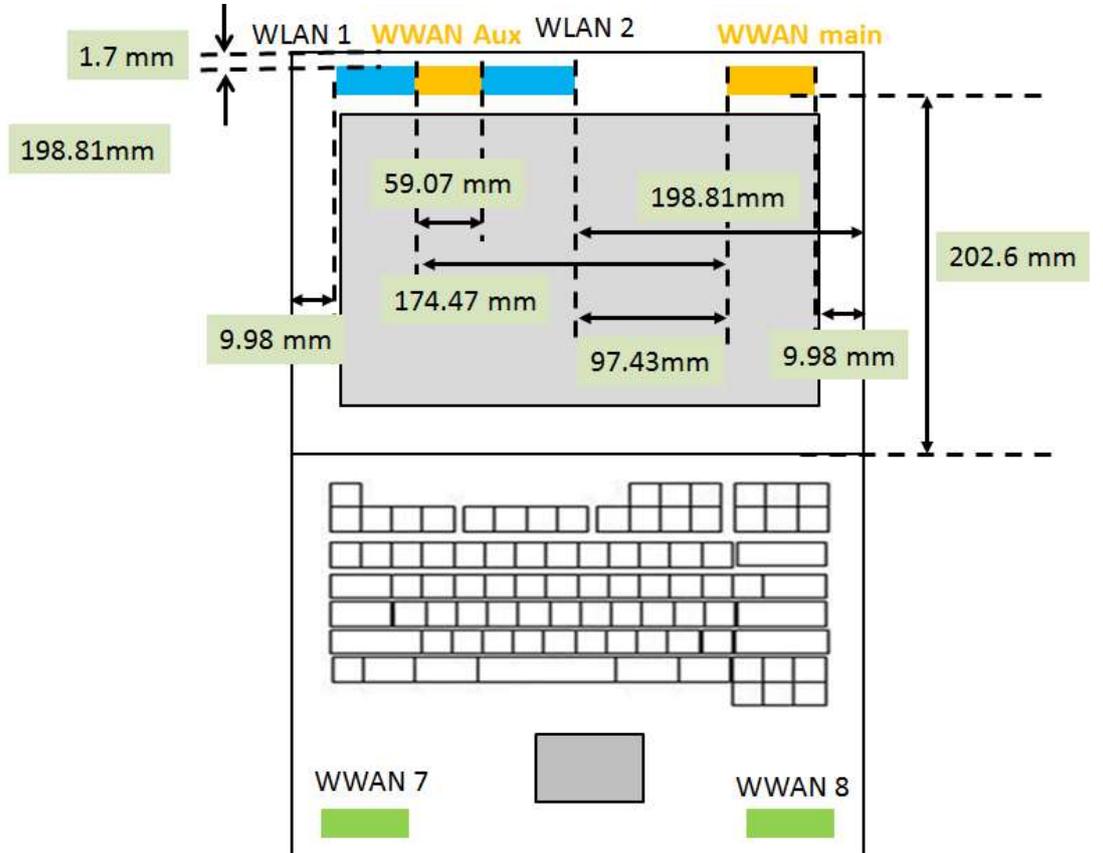
Rating Label Photo:



## Section 5. Antenna Host Platform Location Information

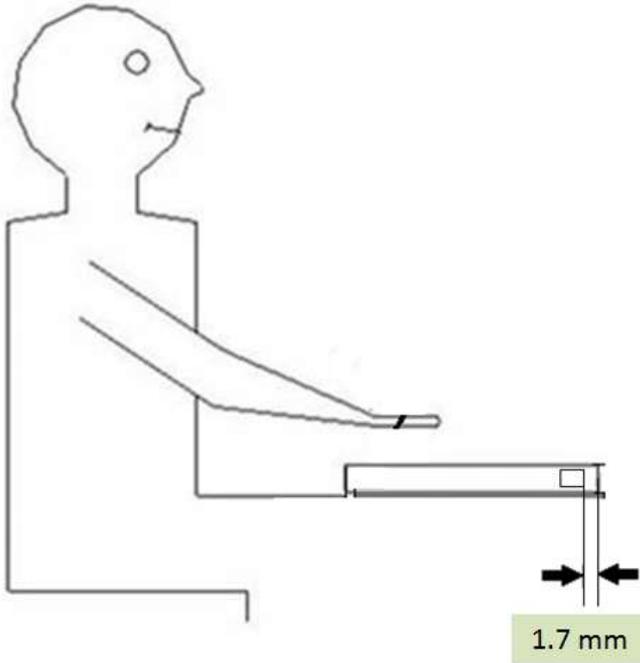
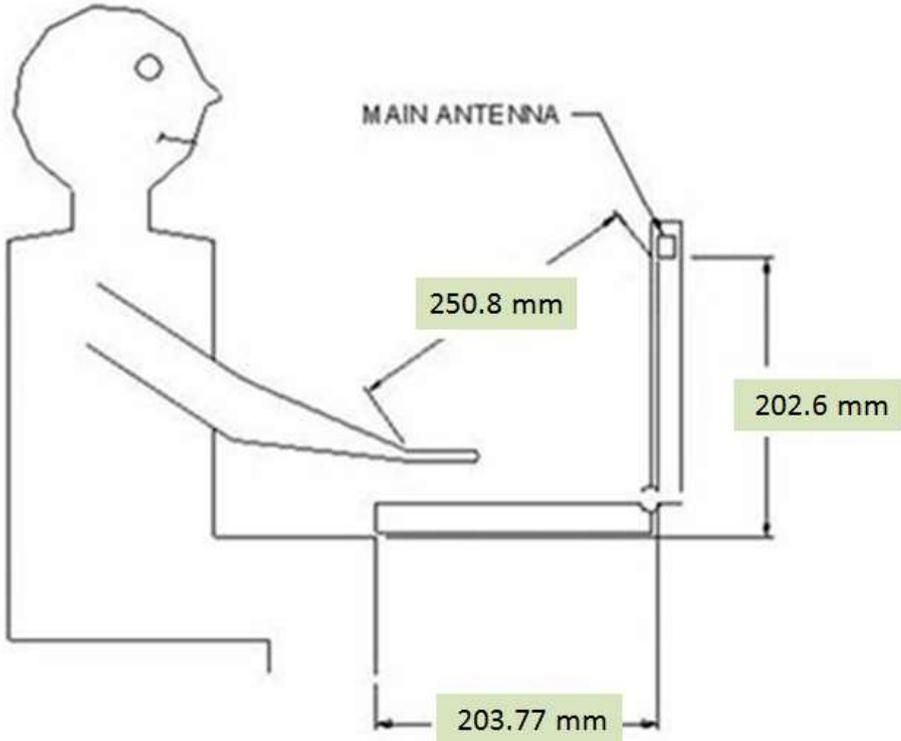
Include a **dimensioned photo(s) or dimensioned drawing(s)** of Tx1, Tx2 and Tx3 antenna placements (measurements are not required for receive-only antenna).

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.



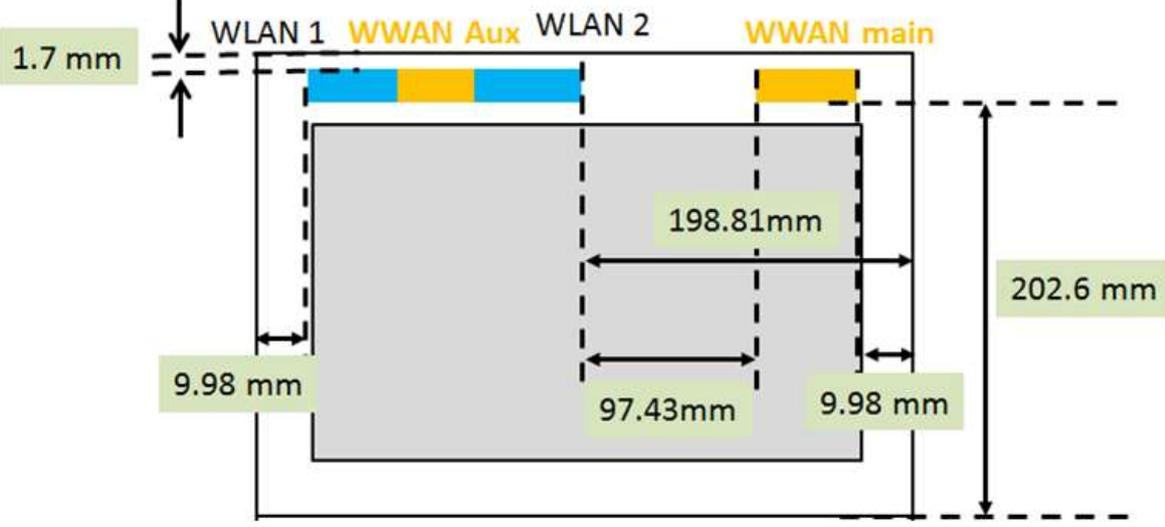
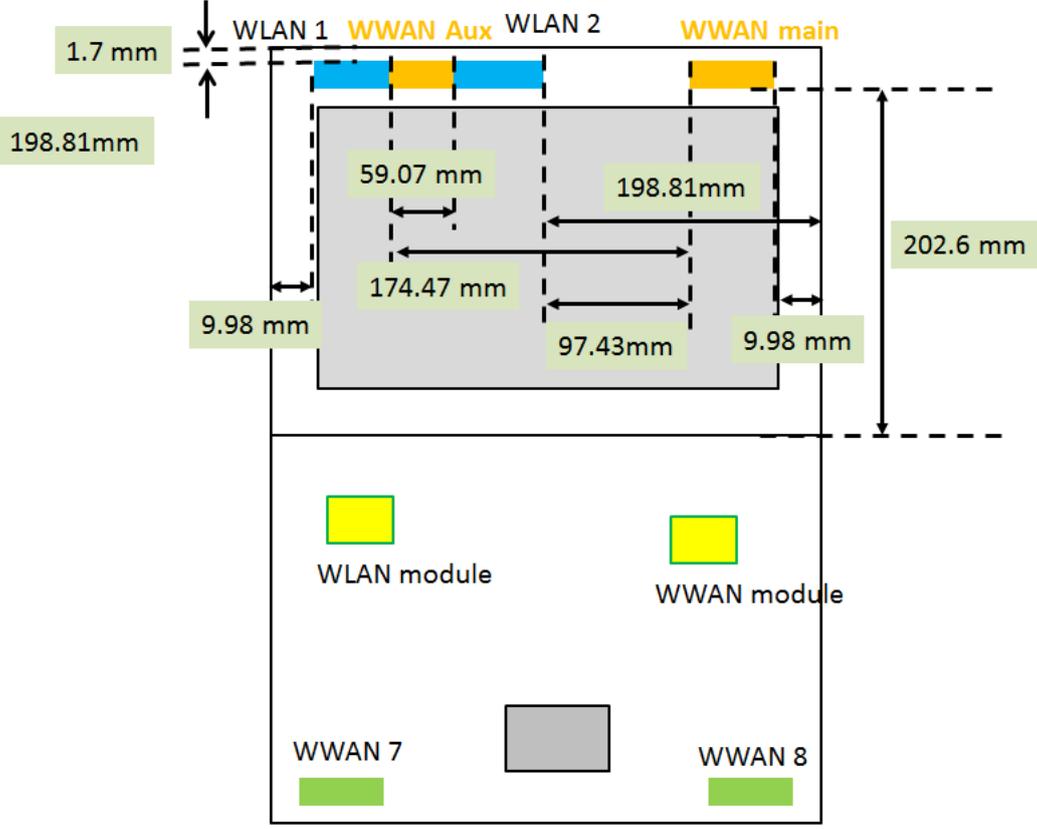
# Section 6. Antenna dimensional information for SAR evaluation

Include a **dimensioned photo(s) or dimensioned drawing(s)** showing the distance (mm) between the transmit antennas and the user (excluding hands, wrist, feet, and ankle). For notebook/laptop hosts show lapheld position (example below). For tablet hosts show all orientations including lapheld, primary & secondary portrait, primary & secondary landscape positions. Include a description of any proximity sensors or power throttling implementations that limit or exclude use of any host orientation.



# Section 7. Diagram Example of Co-Location Antenna Separation

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,..



**Section 8. Local representative contact information**

Local representative contact information is required for regulatory support for target countries below.

	Local company name	Contact name	Phone number	FAX Number	e-Mail Address	Notes
Argentina						
Azerbaijan						
Cambodia						
Canada						
Croatia						
Indonesia						
Israel						
Malaysia						
Moldova						
Philippines						
Singapore						Telecommunication Equipment Dealer License Required
South Africa						
Taiwan						
USA						
Vietnam						