

Regulatory WLAN Antenna Information (WWAN SKU_NB Mode)

Platform information							
Brand	ODM	Platform model name (RMN)	Platform type (ex: Notebook PC, convertible PC, AIO...etc)			*SAR minimum separation (mm)	
HP Inc.	Inventec	(HSN-I55C)	convertible PC			13.615mm	
Antenna information							
Vendor		Type	Antenna Part number (Main/TX2)			Antenna Part number (Aux/ TX1)	
Hong Bo		PIFA	6036B0317401 (00-3302701450)			6036B0317401 (00-3302701450)	
Peak gain w/ cable loss (dBi)							
2.4GHz 2400-2500MHz	5.2&5.3GHz 5150-5350MHz	5.5GHz 5470-5725MHz	5.8GHz 5725-5850MHz	6.2GHz 5925-6425MHz	6.5GHz 6425-6525MHz	6.7GHz 6525-6875MHz	6.9GHz 6875-7125MHz
1.4	2.96	2.53	2.3	1.95	1.44	1.84	0.78
Module information							
Model	Form factor and suffixes (NGW/ HMW AND AN/ NB/ BN....)						
AX211.D2WG	Intel Garfield Peak 2 AX211 Wi-Fi 6e +BT 5.2 M.2 1216 vPro 160MHz CNVi WW WLAN						
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 <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

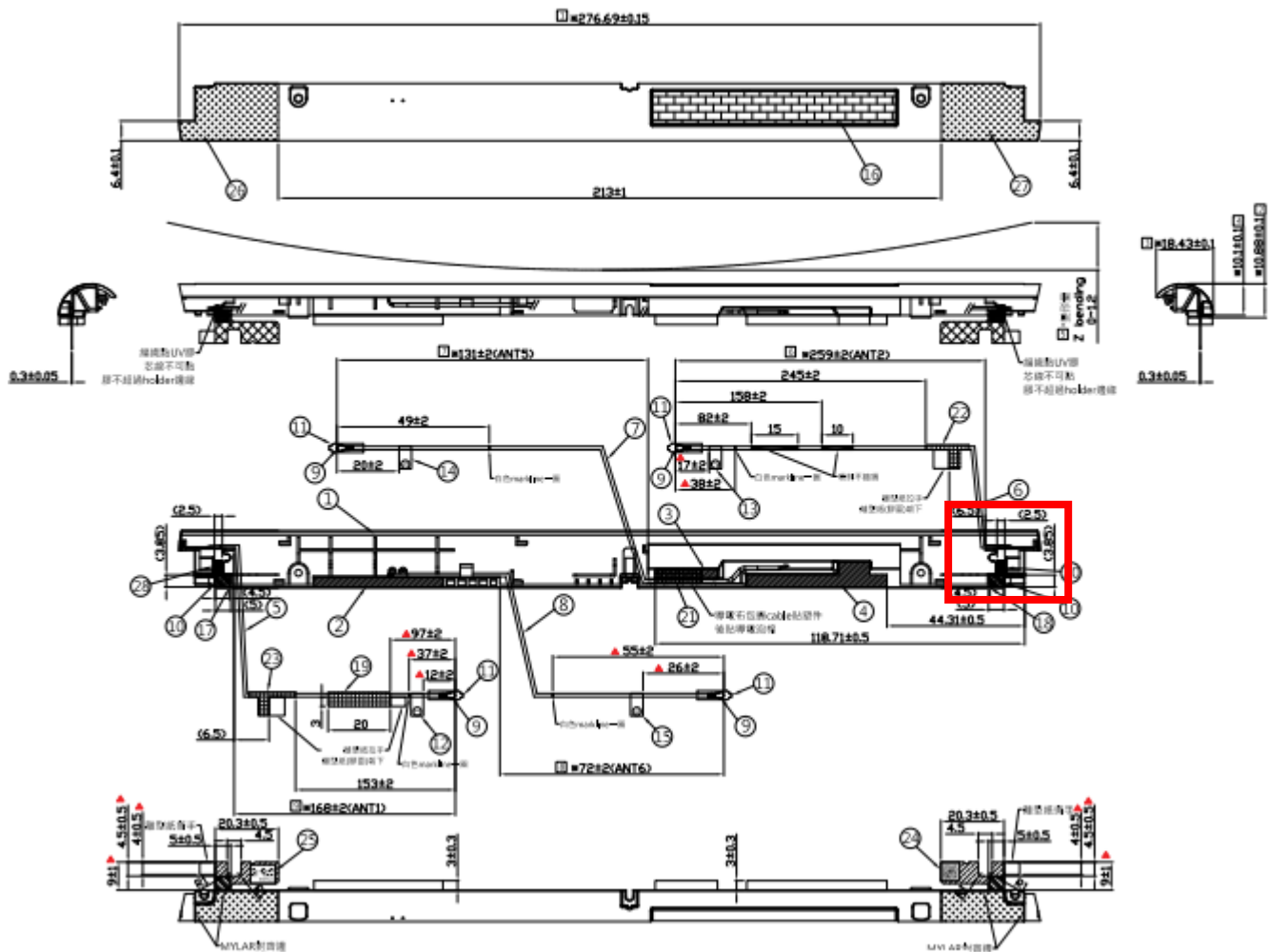
1A Antenna Part Number	1B Manu- facturer	1C Antenna Type	1D Cable Assembly Part Number and Information	Freq Range MHz	1E *Peak Gain W/ Cable loss (dBi)	1F Peak Gain w/o Cable Loss (dBi)	1G Max VSWR	1H Cable Loss (dB)
P/N: 6036B0317401 (00-3302701450) Main Antenna	Hong Bo	PIFA	P/N: I-PEX :20565-001R-13 50 ohm Coaxial length: 266.5mm diameter: 1.13mm Connector Type: IPEX MHF-4L Plug	2400-2500	0.64	1.56	3	0.92
				5150-5250	2.5	3.82	3	1.32
				5250-5350	1.93	3.26	3	1.33
				5470-5725	2.53	3.91	3	1.38
				5725-5850	2.3	3.71	3	1.41
				5925-6425	1.95	3.40	3	1.45
				6425-6525	0.8	2.31	3	1.51
				6525-6875	0.79	2.33	3	1.54
				6875-7125	0.78	2.39	3	1.61
P/N: 6036B0317401 (00-3302701450) AUX Antenna	Hong Bo	PIFA	P/N: I-PEX :20565-001R-13 50 ohm Coaxial length: 175.5mm diameter: 1.13mm Connector Type: IPEX MHF-4L Plug	2400-2500	1.4	2	3	0.6
				5150-5250	2.96	3.83	3	0.87
				5250-5350	2.93	3.81	3	0.88
				5470-5725	1.72	2.63	3	0.91
				5725-5850	1.38	2.31	3	0.93
				5925-6425	1.44	2.4	3	0.96
				6425-6525	1.44	2.44	3	1
				6525-6875	1.84	2.86	3	1.02
				6875-7125	0.67	1.73	3	1.06

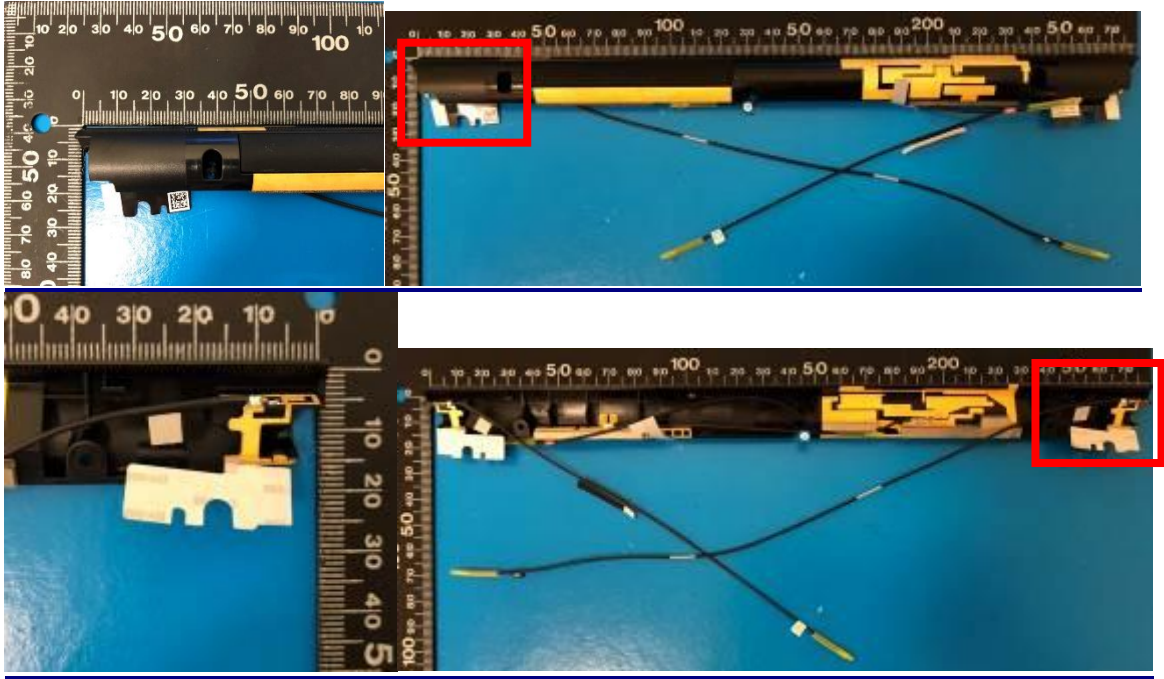
- Antenna Peak Gain required being test in system basis.
- 1E frame contend absolutely peak antenna gain include H/V

Tx1 Antenna Dimensioned Drawing:



Tx2 (or Rx2) Antenna Dimensioned Drawing:

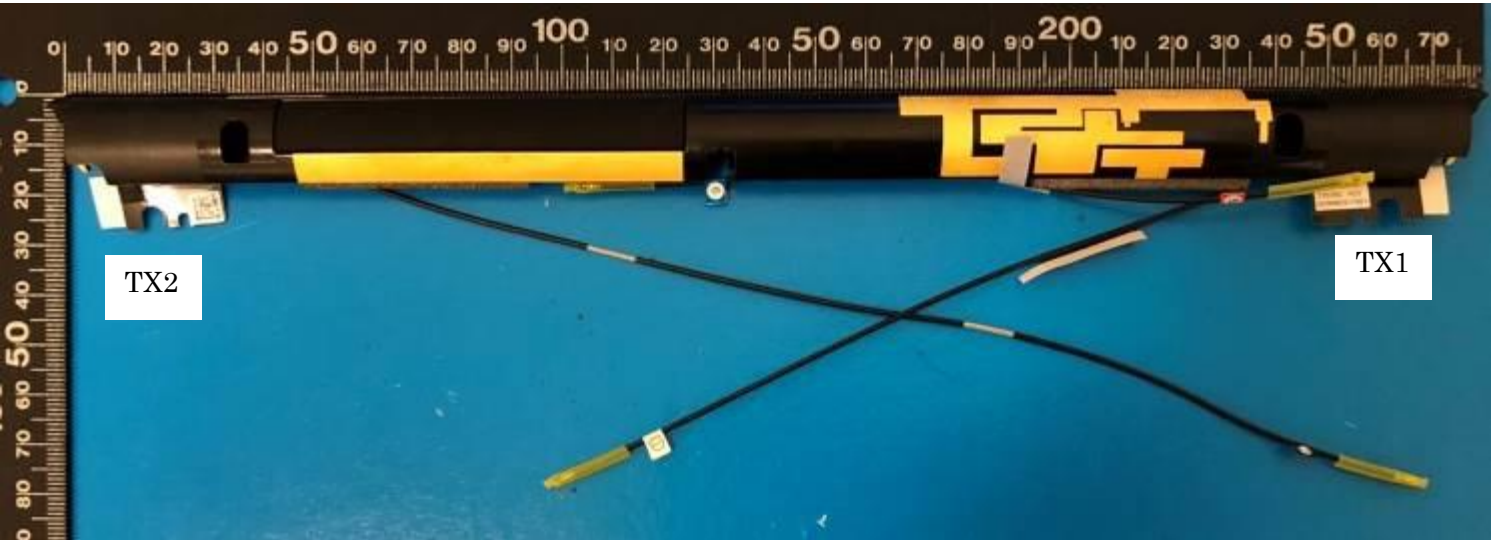




Note: antenna photo should include L type ruler

Include front view photo of all 2 antennas here.

Antenna Manufacturer: Hong Bo
Antenna Part Number: 6036B0317401 (00-3302701450) (Tx1),
6036B0317401 (00-3302701450) (Tx2 or Rx2)



Note: antenna photo should include L type ruler

Include back view photo of all 2 antennas here.

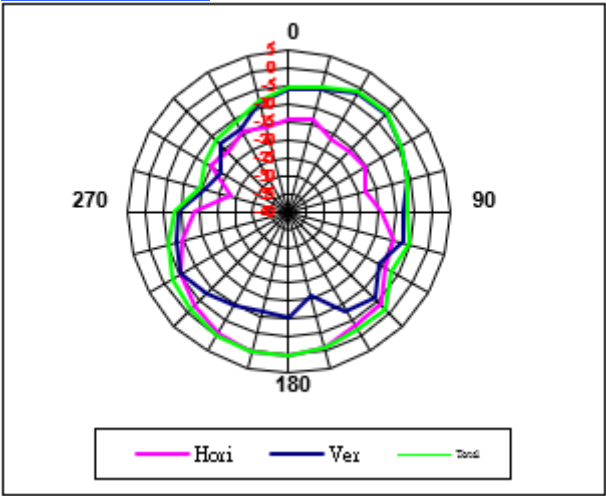
Antenna Manufacturer: Hong Bo
Antenna Part Number: 6036B0317401 (00-3302701450) (Tx1),
6036B0317401 (00-3302701450) (Tx2 or Rx2)



Section 3. Radiation characteristics of antennae Loaded in Host Platform

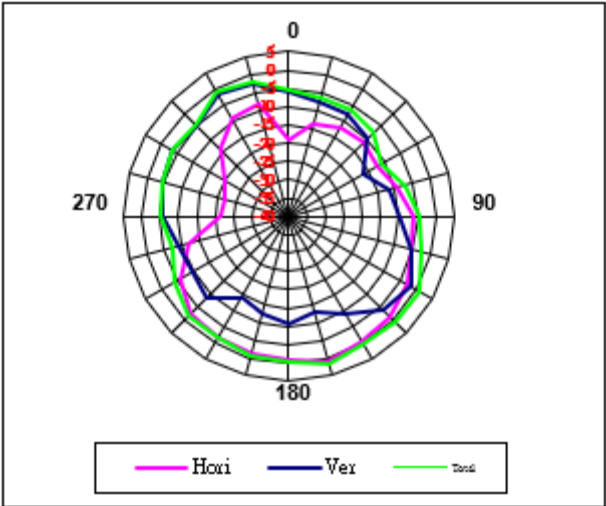
2400-2500MHz radiation characteristic (1E Peak Gain W/ Cable loss (dBi))

Main antenna:
2400-2500MHz



Frequency (MHz)	2400-2500
Horizontal+ Vertical (dBi) peak	0.64

Aux antenna:
2400-2500MHz

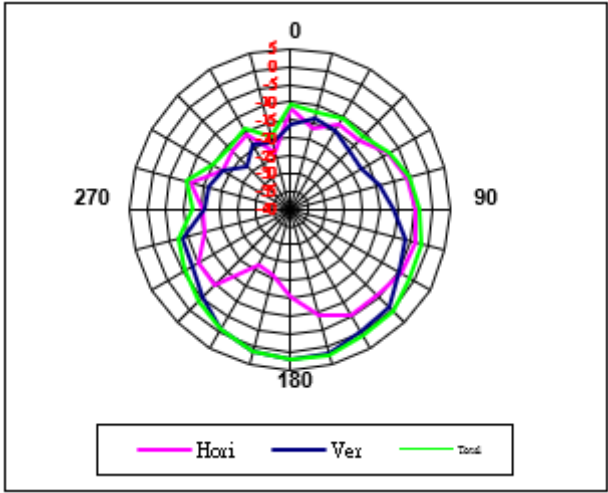


Frequency (MHz)	2400-2500
Horizontal+ Vertical (dBi) peak	1.40

5150-5250MHz radiation characteristic

Main antenna:

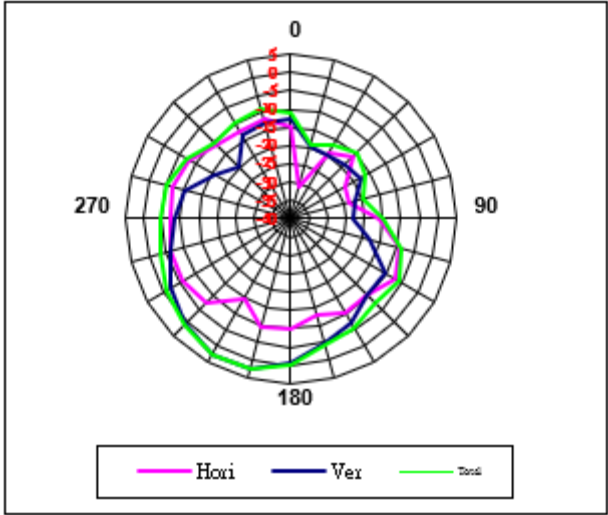
5150-5250MHz



Frequency (MHz)	5150-5250
Horizontal+ Vertical (dBi) peak	2.50

Aux antenna:

5150-5250MHz



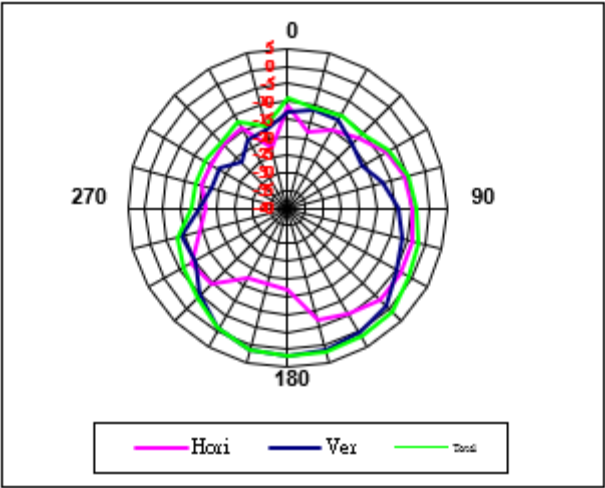
Frequency (MHz)	5150-5250
Horizontal+ Vertical (dBi) peak	2.96

Doc.No. 20211125

5250-5350MHz radiation characteristic

Main antenna:

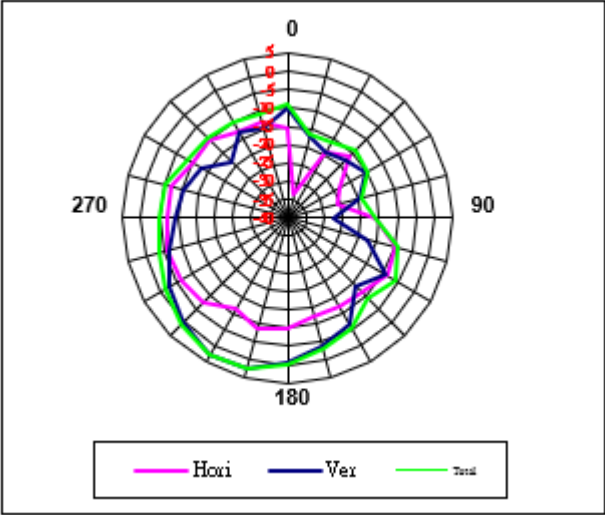
5250-5350MHz



Frequency (MHz)	5250-5350
Horizontal+ Vertical (dBi) peak	1.93

Aux antenna:

5250-5350MHz

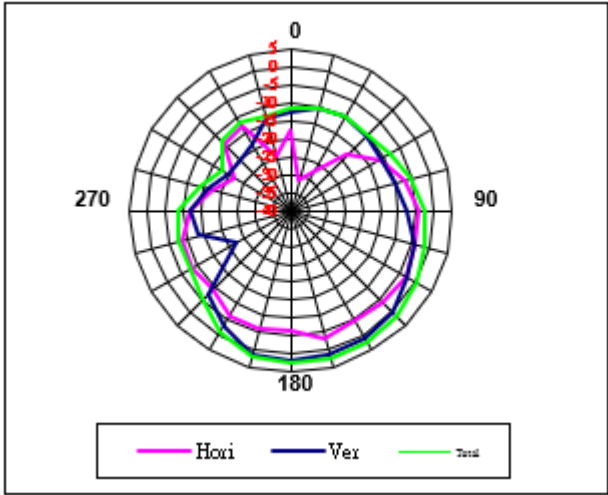


Frequency (MHz)	5250-5350
Horizontal+ Vertical (dBi) peak	2.93

5470-5725MHz radiation characteristic(1E Peak Gain W/ Cable loss (dBi))

Main antenna:

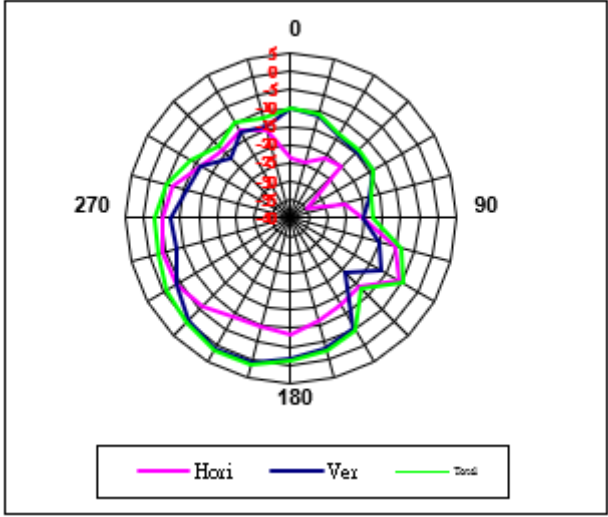
5470-5725MHz



Frequency (MHz)	5470-5725
Horizontal+ Vertical (dBi) peak	2.53

Aux antenna:

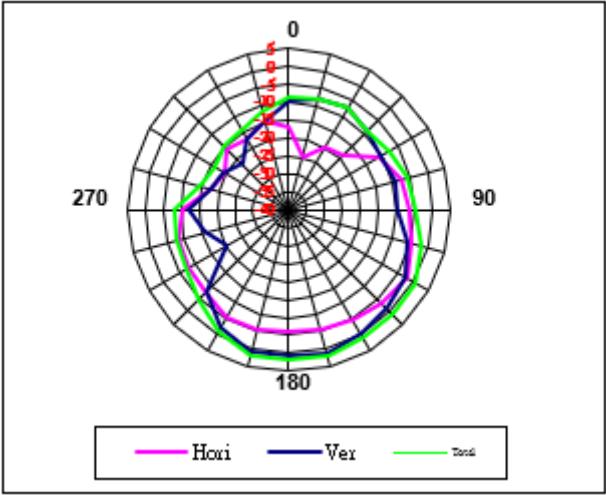
5470-5725MHz



Frequency (MHz)	5470-5725
Horizontal+ Vertical (dBi) peak	1.72

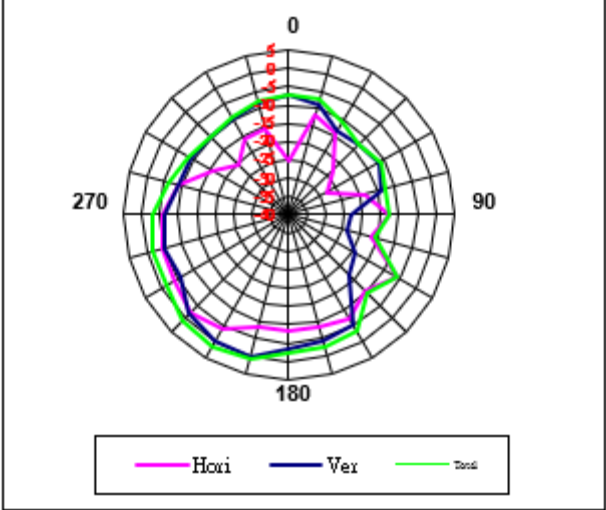
5725-5850MHz radiation characteristic(1E Peak Gain W/ Cable loss (dBi))

Main antenna:
5725-5850MHz



Frequency (MHz)	5725-5850
Horizontal+ Vertical (dBi) peak	2.30

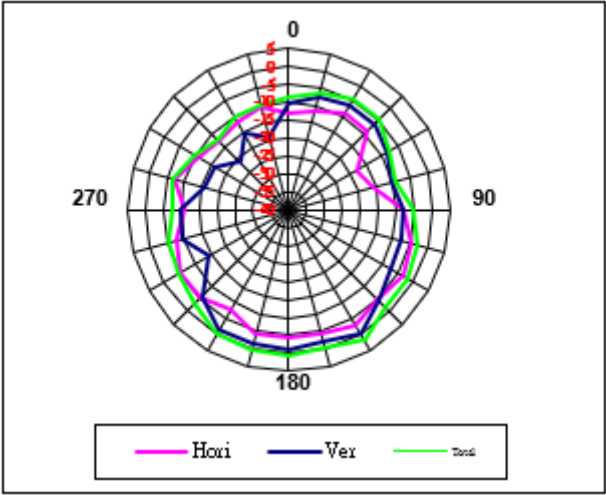
Aux antenna:
5725-5850MHz



Frequency (MHz)	5725-5850
Horizontal+ Vertical (dBi) peak	1.38

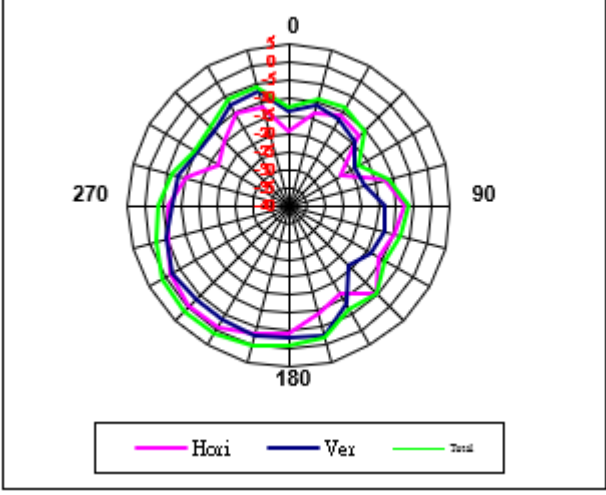
5925-6425MHz radiation characteristic(1E Peak Gain W/ Cable loss (dBi))

Main antenna:
5925-6425MHz



Frequency (MHz)	5925-6425
Horizontal+ Vertical (dBi) peak	1.95

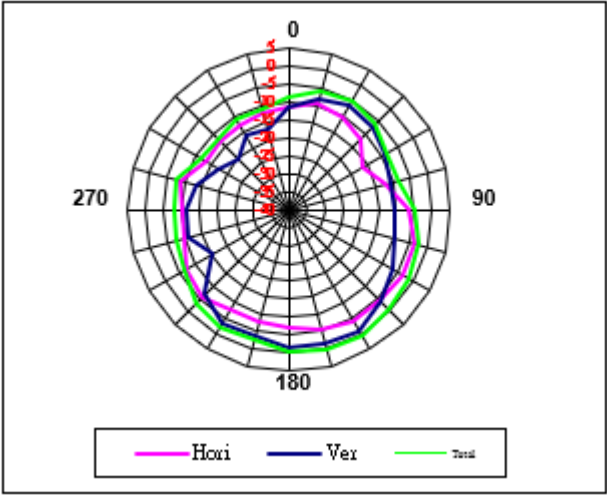
Aux antenna:
5925-6425MHz



Frequency (MHz)	5925-6425
Horizontal+ Vertical (dBi) peak	1.44

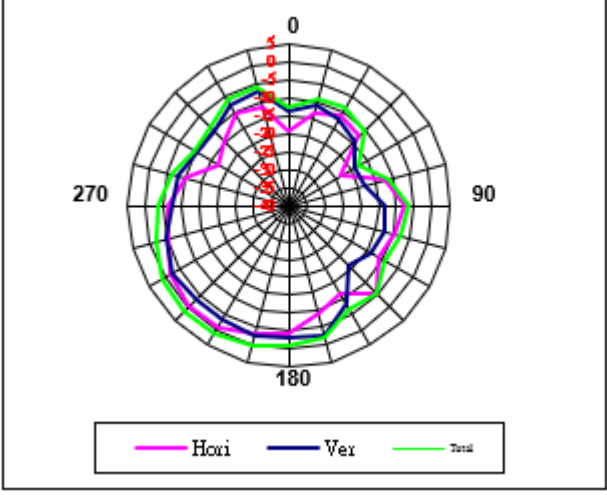
6425-6525MHz radiation characteristic (1E Peak Gain W/ Cable loss (dBi))

Main antenna:
6425-6525MHz



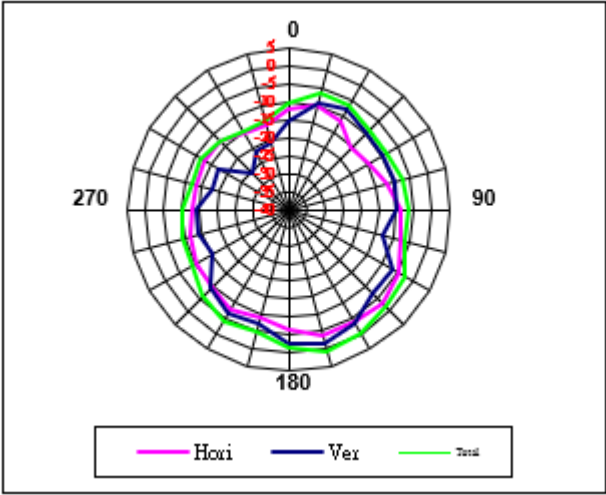
Frequency (MHz)	6425-6525
Horizontal+ Vertical (dBi) peak	0.80

Aux antenna:
6425-6525MHz



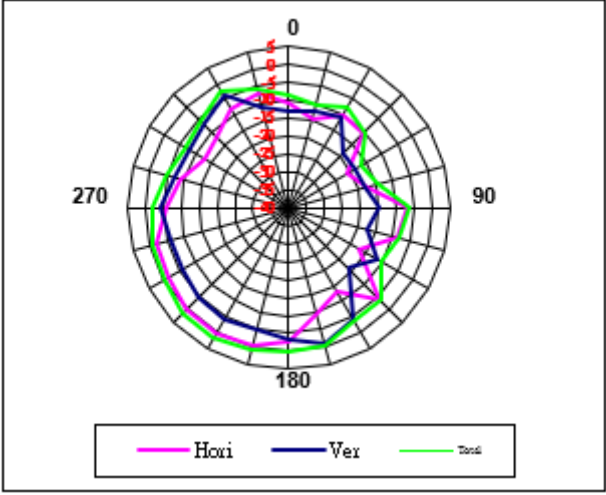
Frequency (MHz)	6425-6525
Horizontal+ Vertical (dBi) peak	1.44

Main antenna:
6525-6875MHz



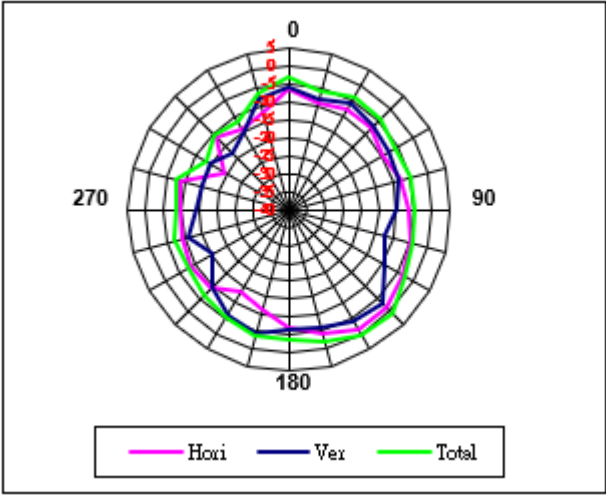
Frequency (MHz)	6525-6875
Horizontal+ Vertical (dBi) peak	0.79

Aux antenna:
6525-6875MHz



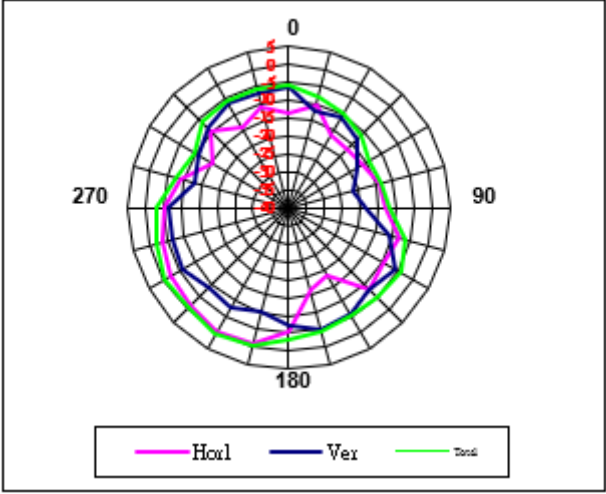
Frequency (MHz)	6525-6875
Horizontal+ Vertical (dBi) peak	1.84

Main antenna:
6875-7125MHz



Frequency (MHz)	6875-7125
Horizontal+ Vertical (dBi) peak	0.78

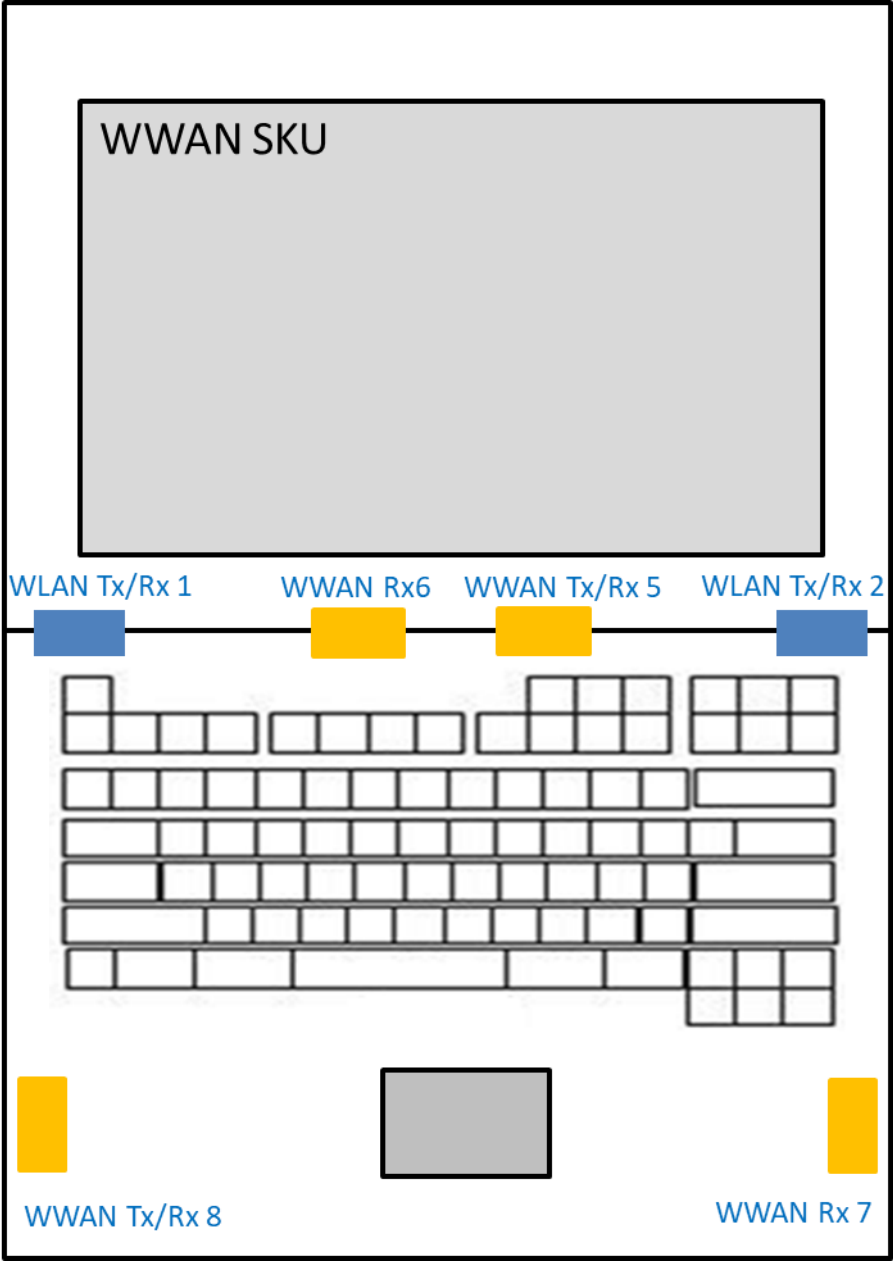
Aux antenna:
6875-7125MHz



Frequency (MHz)	6875-7125
Horizontal+ Vertical (dBi) peak	0.67

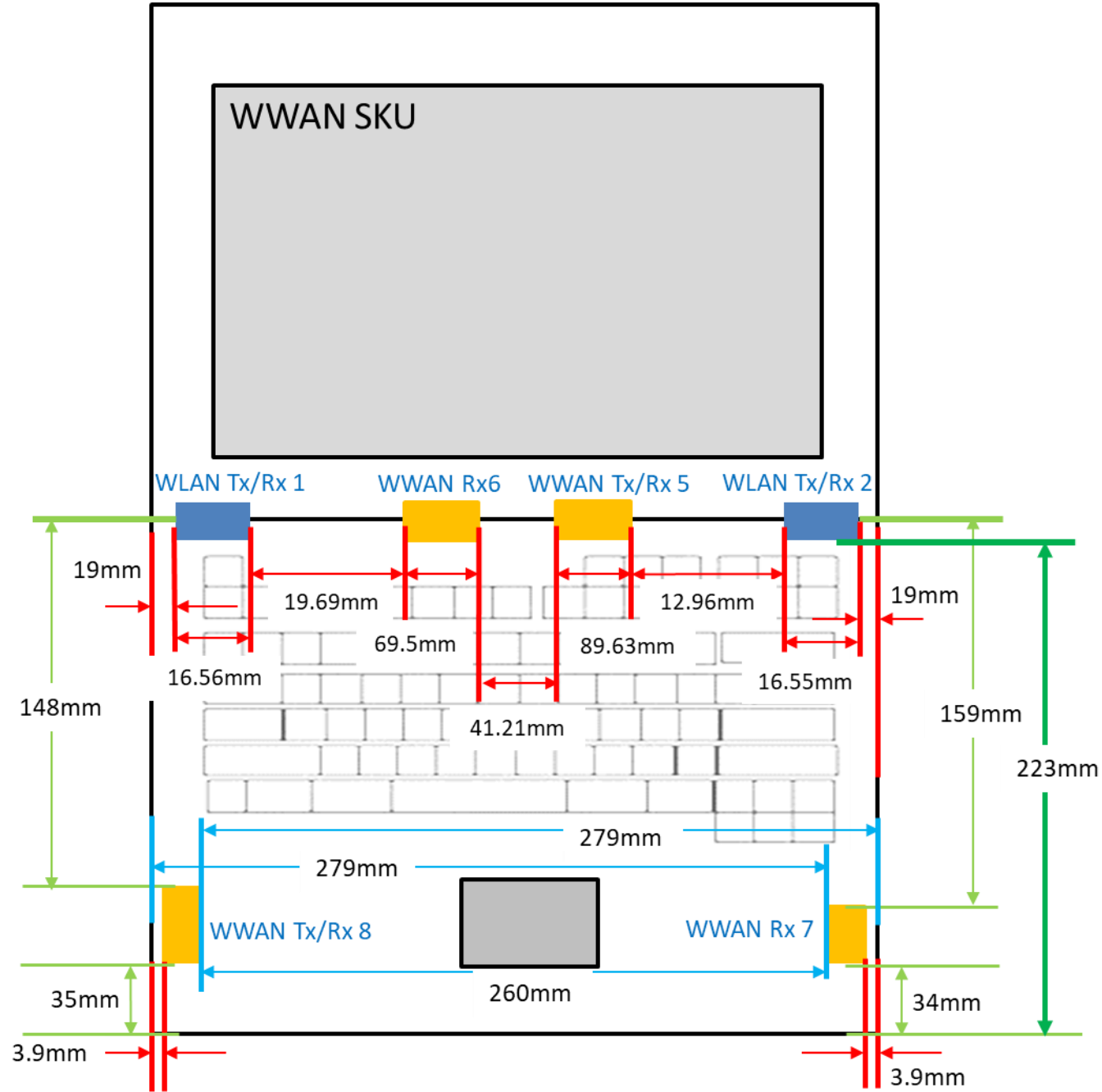
Section 4. Antenna Host Platform Location Information

Include a **dimensioned photo(s) or dimensioned drawing(s)** of Main and Aux 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.

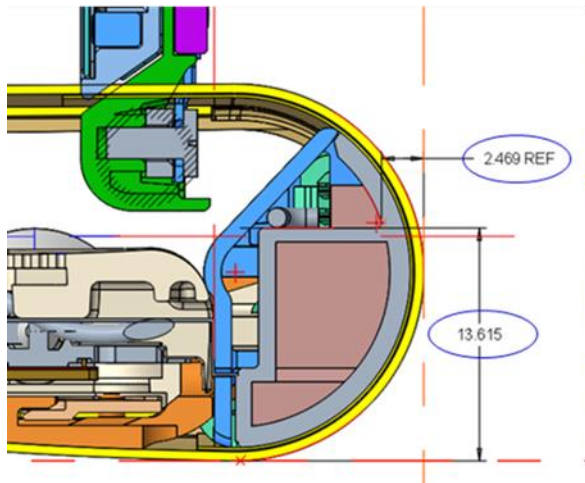


Section 5. Antenna dimensional information for SAR evaluation

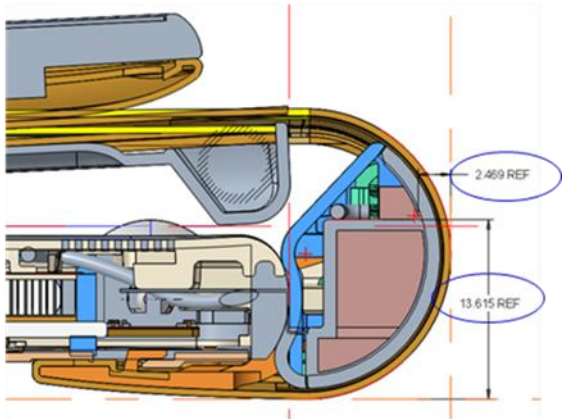
Include a **dimensioned photo(s) or dimensioned drawing(s)** showing the distance (mm) between the transmit antennas and the user. For notebook/laptop hosts show lapheld position (example below). For tablet hosts show all orientations including lapheld, primary & secondary portrait, primary & secondary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



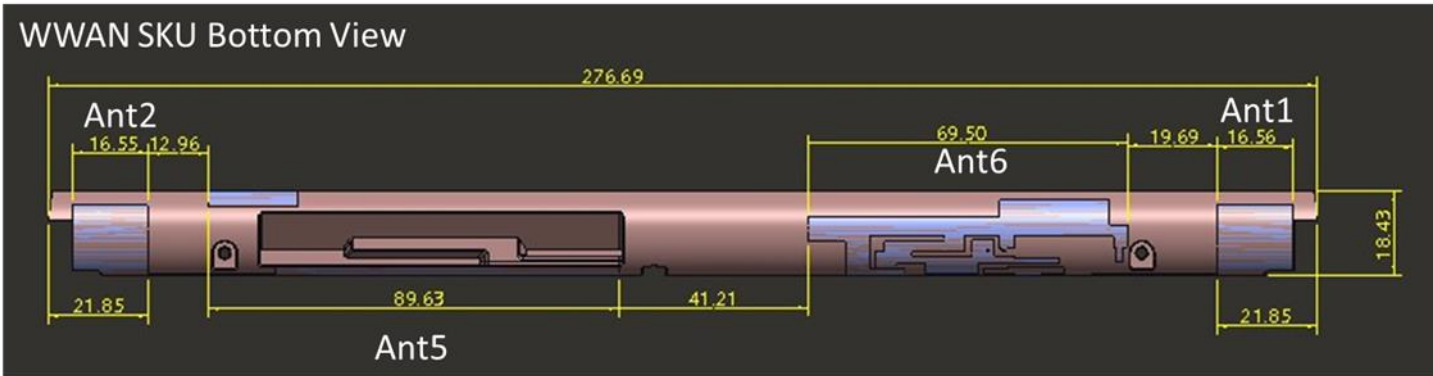
WLAN ANT 1/2 NB_Mode



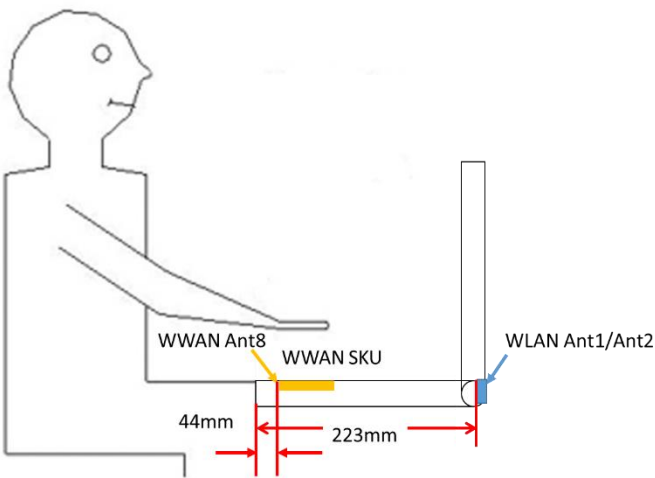
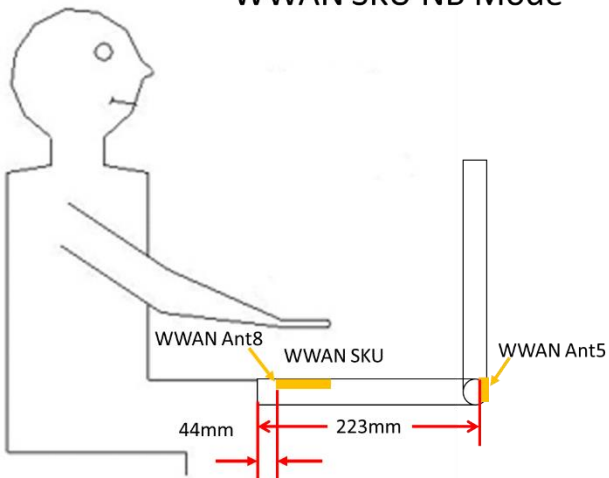
WLAN ANT 1/2 TB_Mode



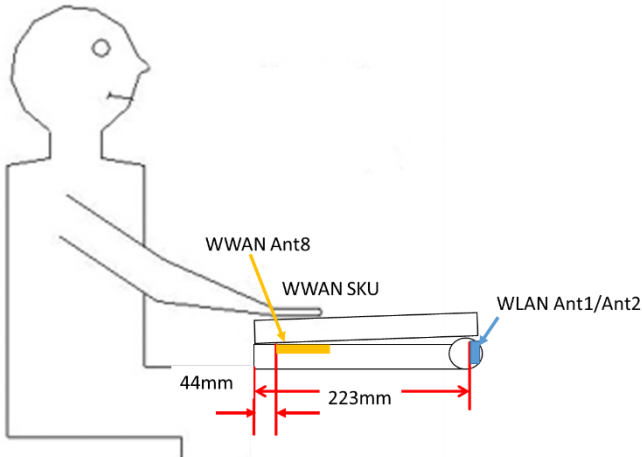
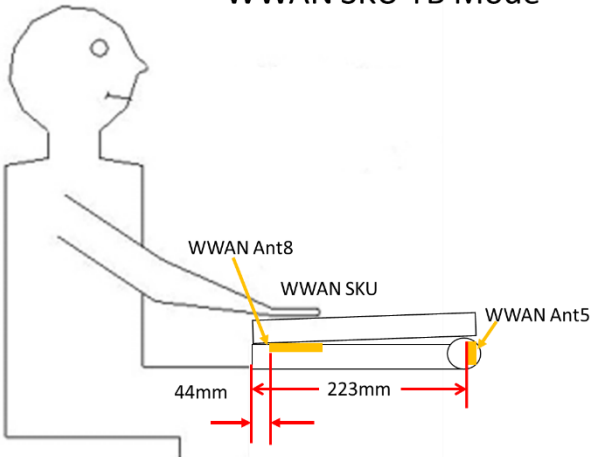
WWAN SKU Bottom View



WWAN SKU NB Mode



WWAN SKU TB Mode



Section 6. 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,..

(Note: Due to the evolving rules regarding co-location, each platform will need to be reviewed on a case by case basis)

