Regulatory WLAN Antenna Information

Brand Name	**Quanta for HPQ**
Model Name	**Sputnik**
Antenna Vendor	**FOXCONN**
Antenna Part Number	☐ Main Antenna: **WDAN-HQTT8001-DF (DQ6TT800108)**
	☐ Aux Antenna: **WDAN-HQTT8003-DF (DQ6TT800302)**
	☐ MIMO Antenna:
With WLAN Module	☐ WM3B2100
(Check Box)	☐ WM3B2200BG
	☐ WM3B2915ABG
	☐ WM3945ABG

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	Main & Aux antenna (Peak Gain W/ cable loss)	Required	Required	Required	Required	Required
	1E OR 1F, 1G, 1H					
1F	Main & Aux antenna (Peak Gain only)	Required	Required	Required	Required	Required
1G	VSWR of cable including connector	Required	Required	Required	Required	Required
1H	Main & Aux antenna (Cable loss W/ connector)	Required	Required	Required	Required	Required
2	Dimensioned Photographs and Drawings of main & auxiliary 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	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, BT, 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

Antenna Assembly Summary:

Normal Mode

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: *WDAN-HQT T8001-DF*) Main Antenna	HON HAI PRECISION IND. CO.,LTD.	PIFA	(P/N:FOXCONN 703-3000-215) 50 ohm Coaxial. length: 350mm diameter: 1.37mm Connector: FOXCONN SGX0003-02	2400-2500MHz 2.78 dBi (peak)	2400-2500MHz 3.64 dBi (peak)	2400-2500MHz 2.0 max	2400-2500MHz 0.86 dB
				4985-5985MHz 2.42 dBi (peak)	4985-5985MHz 3.90 dBi (peak)	4985-5985MHz 2.0 max	4900-5985MHz 1.48 dB
(P/N: *WDAN-HQT T8003-DF*) Auxiliary antenna	HON HAI PRECISION IND. CO.,LTD.	PIFA	(P/N:FOXCONN 703-3008-215) 50 ohm Coaxial. length: 335m diameter: 1.37mm Connector: FOXCONN SGX0003-02	2400-2500MHz 2.82 dBi (peak)	2400-2500MHz 3.64 dBi (peak)	2400-2500MHz 2.0 max	2400-2500MHz 0.82 dB
				4985-5985MHz 1.64 dBi (peak)	4985-5985MHz 3.03 dBi (peak)	4985-5985MHz 2.0 max	4900-5985MHz 1.39 dB

Tablet Mode

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: *WDAN-HQT T8001-DF*) Main Antenna	HON HAI PRECISION IND. CO.,LTD.	PIFA	(P/N:FOXCONN 703-3000-215) 50 ohm Coaxial. length: 350mm diameter: 1.37mm Connector: FOXCONN SGX0003-02	2400-2500MHz 2.94 dBi (peak)	2400-2500MHz 3.80 dBi (peak)	2400-2500MHz 2.0 max	2400-2500MHz 0.86 dB
				4985-5985MHz 2.02 dBi (peak)	4985-5985MHz 3.50 dBi (peak)	4985-5985MHz 2.0 max	4900-5985MHz 1.48 dB
(P/N: *WDAN-HQT T8003-DF*) Auxiliary antenna	HON HAI PRECISION IND. CO.,LTD.	PIFA	(P/N:FOXCONN 703-3008-215) 50 ohm Coaxial. length: 335mm diameter: 1.37mm Connector: FOXCONN SGX0003-02	2400-2500MHz 2.91 dBi (peak)	2400-2500MHz 3.73 dBi (peak)	2400-2500MHz 2.0 max	2400-2500MHz 0.82 dB
				4985-5985MHz 2.12 dBi (peak)	4985-5985MHz 3.51 dBi (peak)	4985-5985MHz 2.0 max	4900-5985MHz 1.39 dB

Antenna Peak Gain Table:

1. Normal Mode

	Main antenna			Aux Antenna		
Frequency (MHz)	XY plane (dBi)	XZ plane (dBi)	YZ plane (dBi)	XY plane (dBi)	XZ plane (dBi)	YZ plane (dBi)
2400	1.62	0.56	1.53	2.82	0.01	-0.53
2450	2.78	0.29	2.13	2.31	1.08	0.99
2500	2.49	-1.69	1.49	2.23	0.54	0.8
4985	-0.43	0.41	0.67	0.27	-0.57	0.22
5485	1.48	1.15	1.56	1.64	0.18	1.25
5985	-0.18	2.42	1.02	1.23	0.28	0.40

2. Tablet Mode

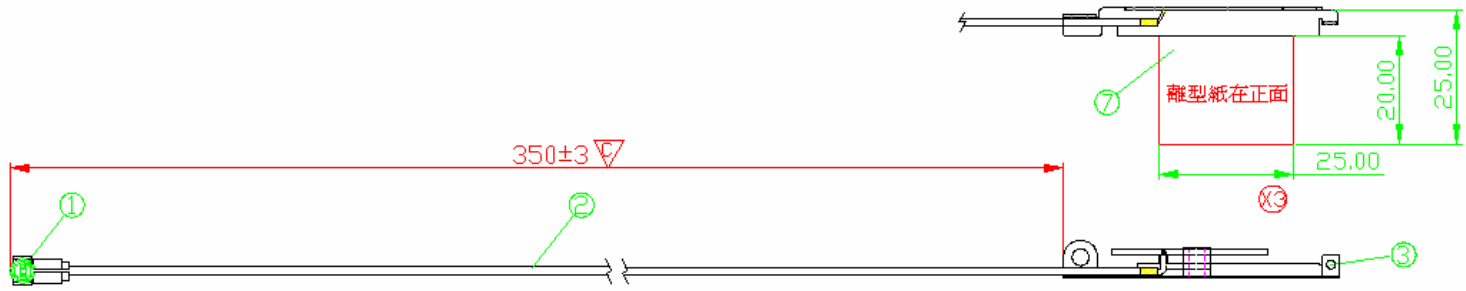
	Main antenna			Aux Antenna		
Frequency (MHz)	XY plane (dBi)	XZ plane (dBi)	YZ plane (dBi)	XY plane (dBi)	XZ plane (dBi)	YZ plane (dBi)
2400	1.00	-3.4	-1.23	1.65	-1.56	-0.33
2450	2.48	-2.15	-0.08	2.91	-1.29	1.35
2500	2.94	-2.93	-0.5	1.92	-0.78	1.18
4985	0.02	0.77	-1.87	0.45	-0.41	-1.83
5485	1.47	-0.38	-0.02	2.12	0.24	0.03
5985	0.04	2.02	-1.1	1.67	1.00	1.20

- **Antenna Peak Gain required being test in system basis.**

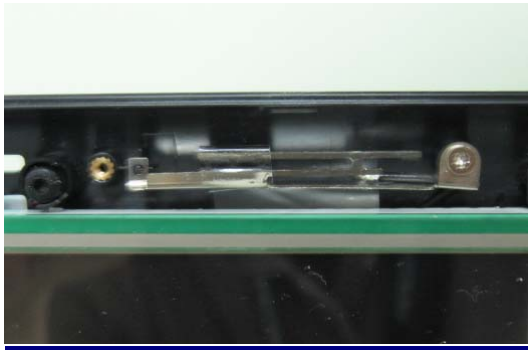
Section 2. Dimensioned Photos or Drawings of Antennas

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

Main Antenna Dimensioned Drawing:



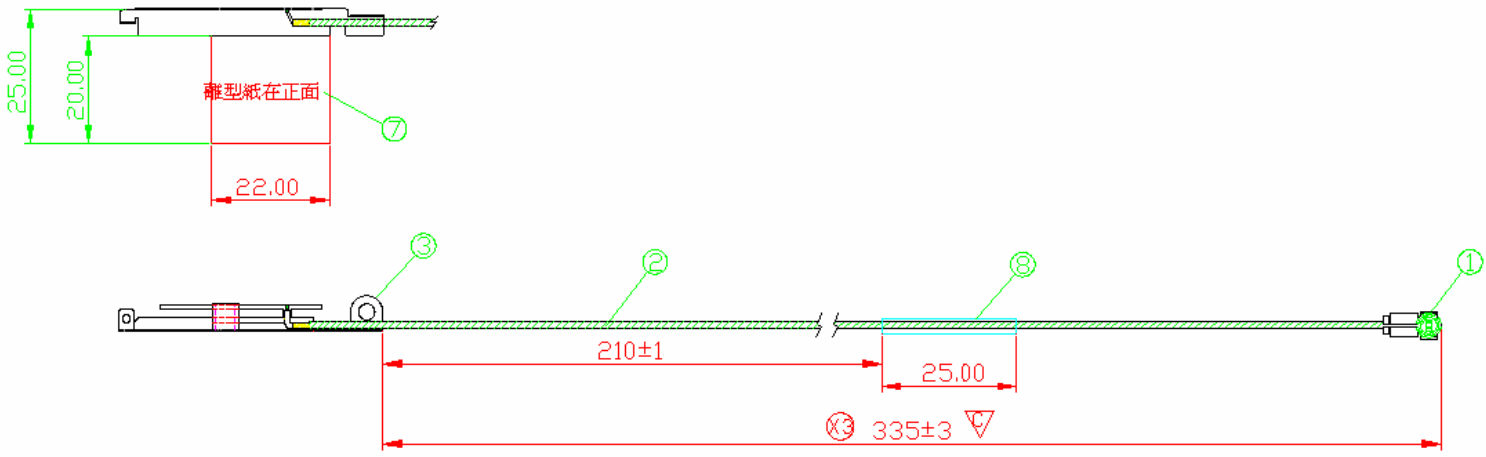
Main Antenna Photo:



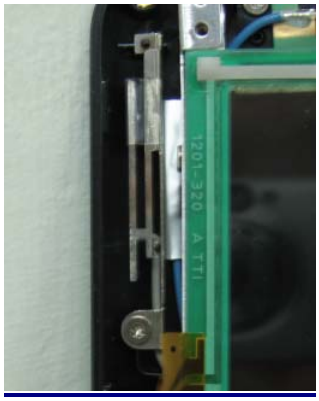
500

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

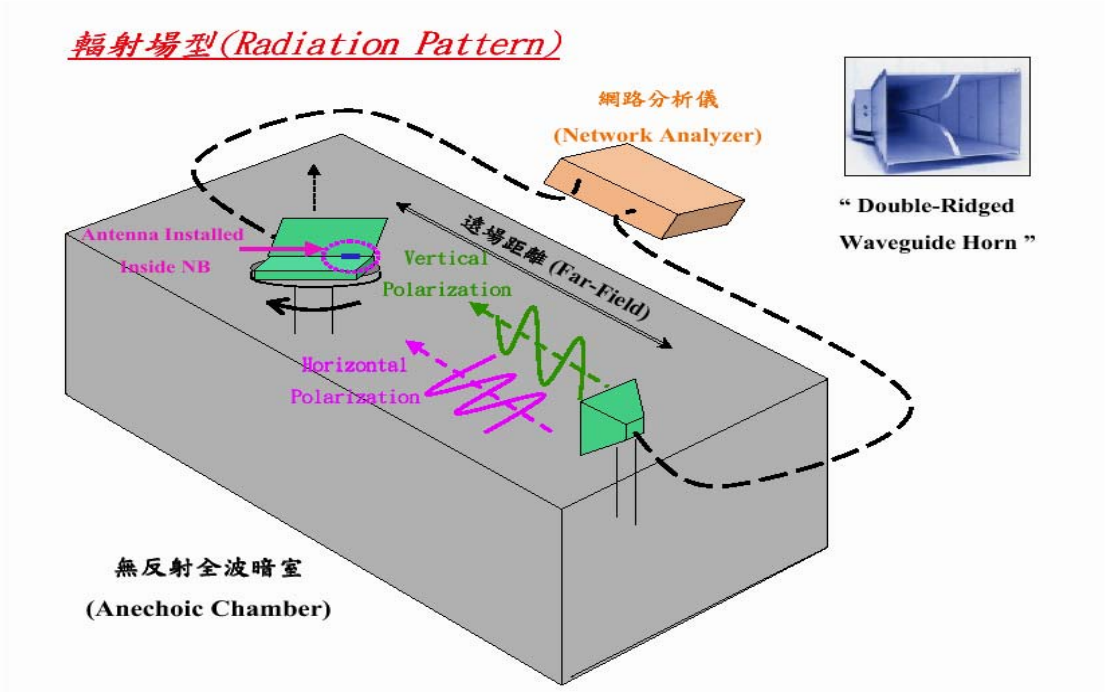
Aux Antenna Dimensioned Drawing:

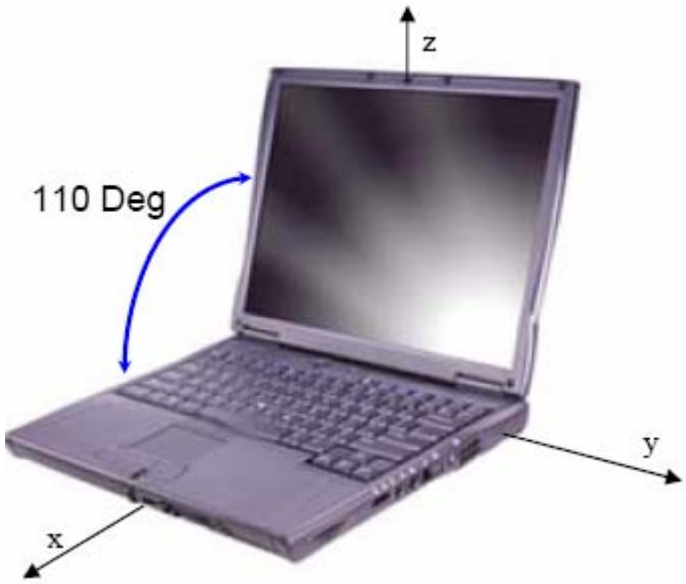


Aux Antenna Photo:

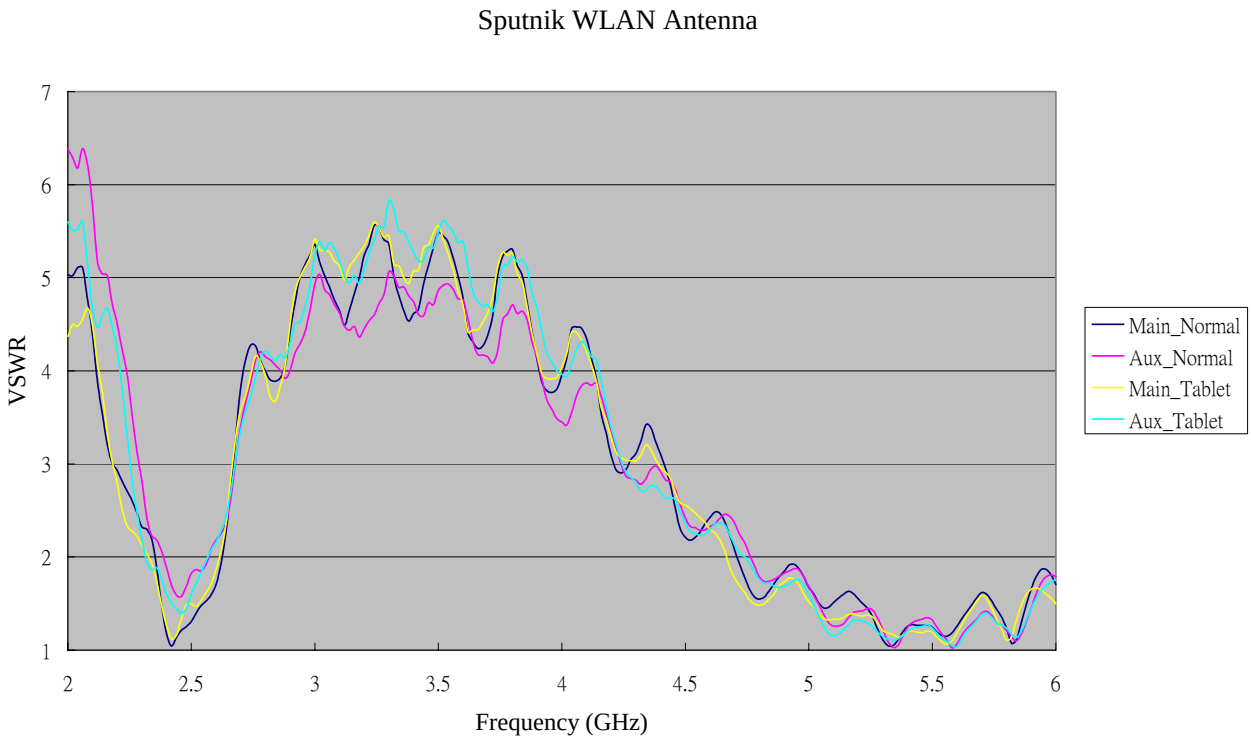


Section 3. Test Set-Up Clarification



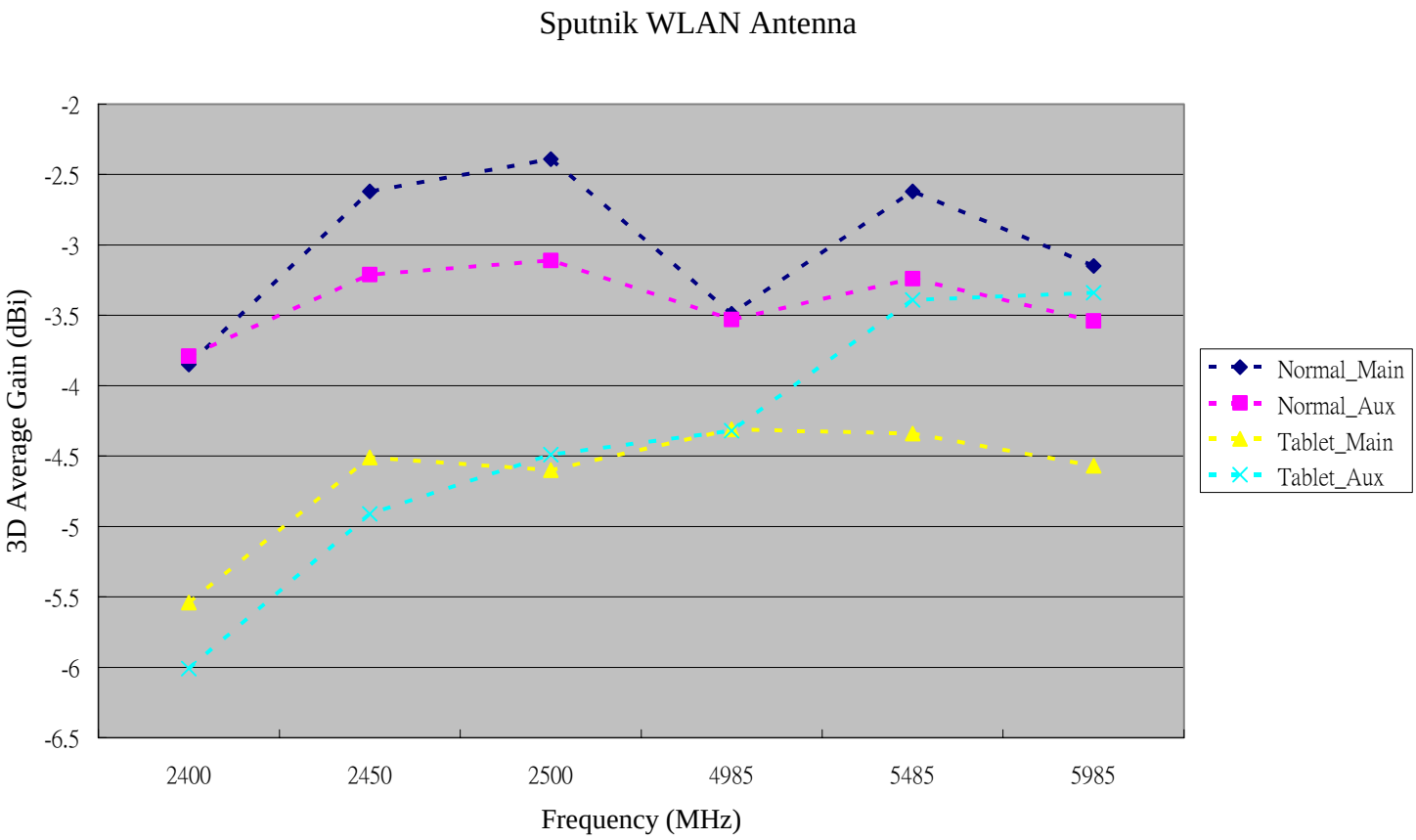


Section 4. VSWR Data Table and Plot



Marker Point (MHz)	2400	2450	2500	4985	5235	5485	5735	5985
Main WLAN Antenna (Normal)	1.17	1.13	1.30	1.78	1.44	1.26	1.52	1.81
Aux. WLAN Antenna (Normal)	1.88	1.59	1.82	1.78	1.44	1.34	1.37	1.80
Main WLAN Antenna (Tablet)	1.26	1.16	1.49	1.59	1.37	1.20	1.45	1.55
Aux. WLAN Antenna (Tablet)	1.60	1.43	1.59	1.69	1.28	1.27	1.35	1.72

Section 5. Antenna Total Efficiency Data

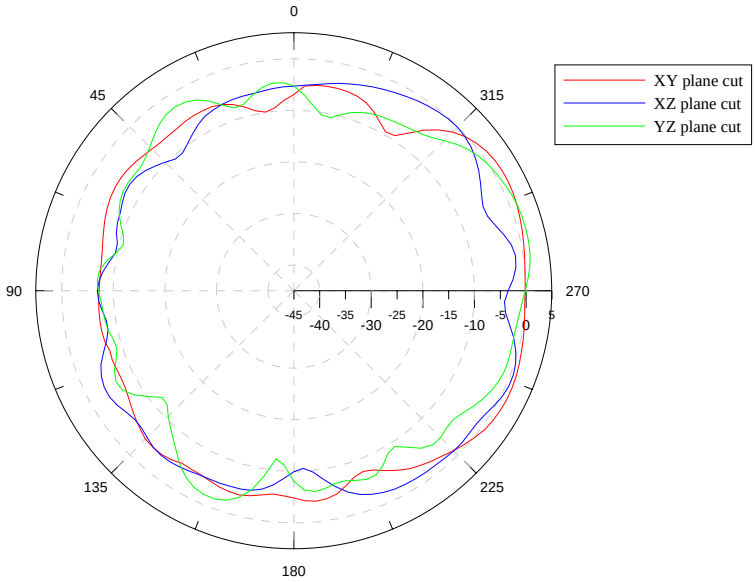


Section 6. Radiation Pattern

One 2D plot for each frequency point. Three curves on each plot.

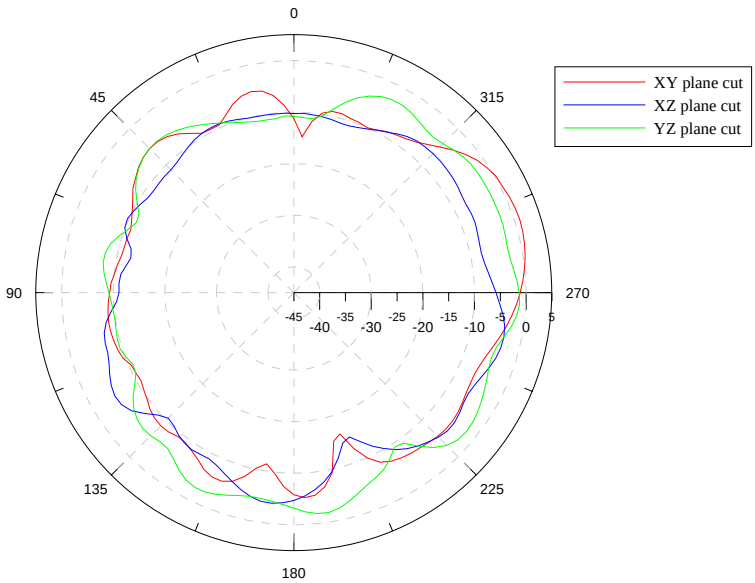
Main antenna: 2400 MHz

Normal Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	1.62	0.56	1.53
Average Gain	-3.03	-3.73	-4.07

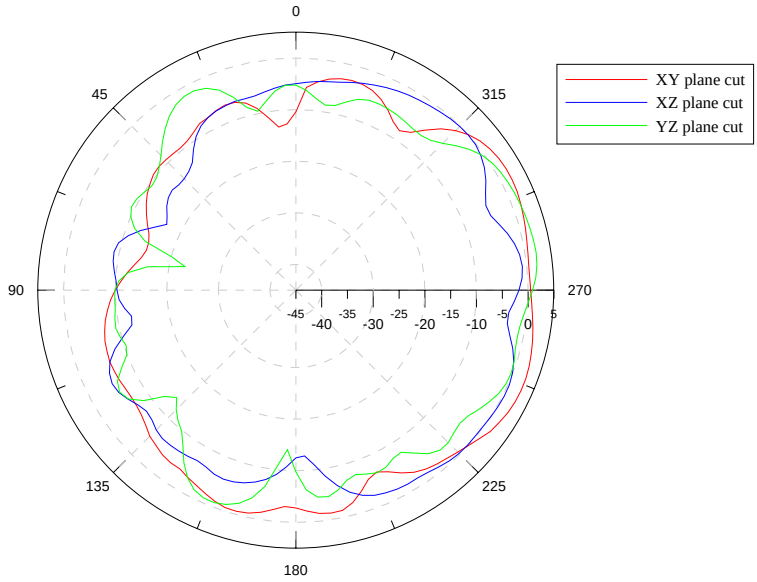
Tablet Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	1.00	-3.40	-1.23
Average Gain	-5.57	-7.61	-4.90

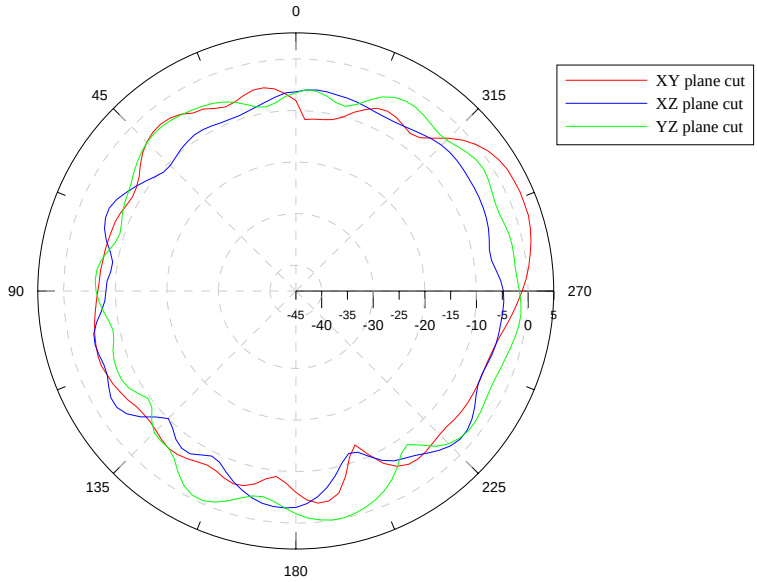
Main antenna: 2450 MHz

Normal Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	2.78	0.29	2.13
Average Gain	-2.30	-3.94	-3.68

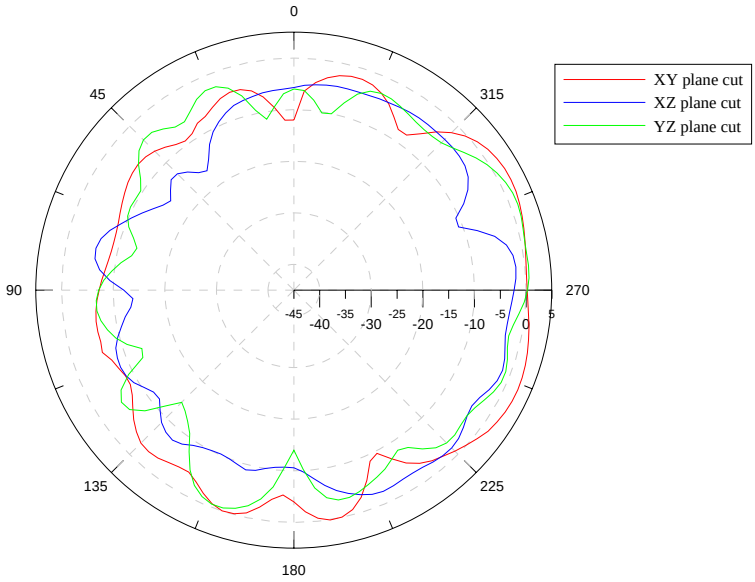
Tablet Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	2.48	-2.15	-0.08
Average Gain	-4.08	-6.00	-3.84

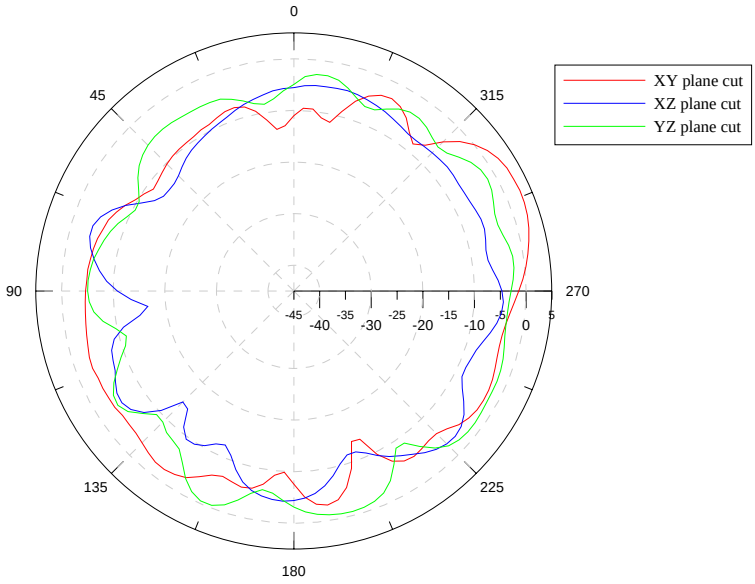
Main antenna: 2500 MHz

Normal Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	2.49	-1.69	1.49
Average Gain	-2.20	-5.63	-3.87

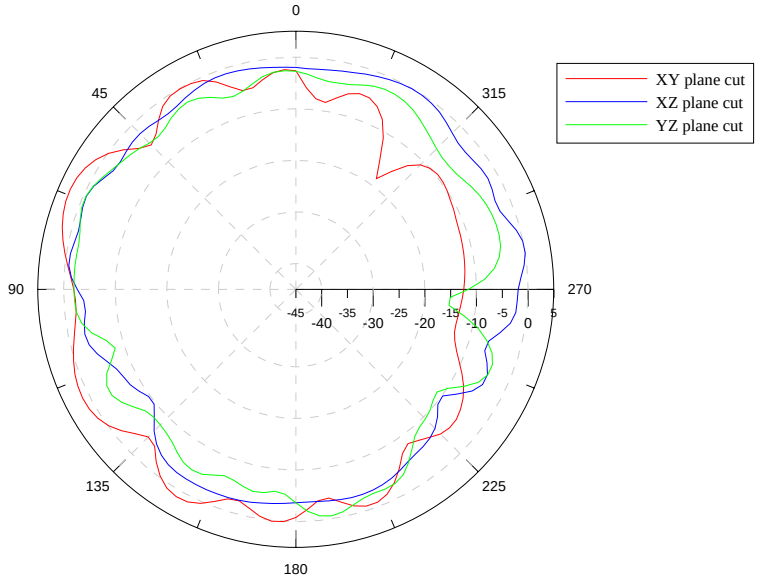
Tablet Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	2.94	-2.93	-0.50
Average Gain	-3.68	-6.91	-4.07

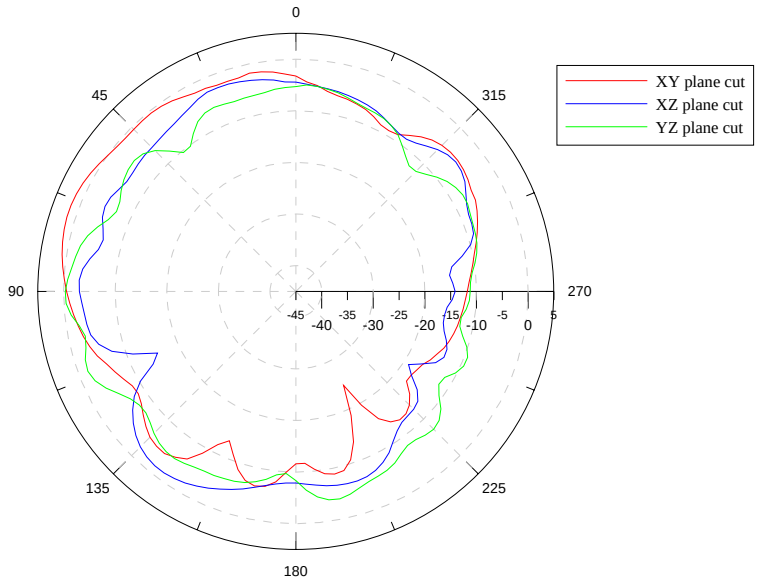
Auxiliary antenna: 2400 MHz

Normal Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	2.82	0.01	-0.53
Average Gain	-2.53	-2.70	-4.23

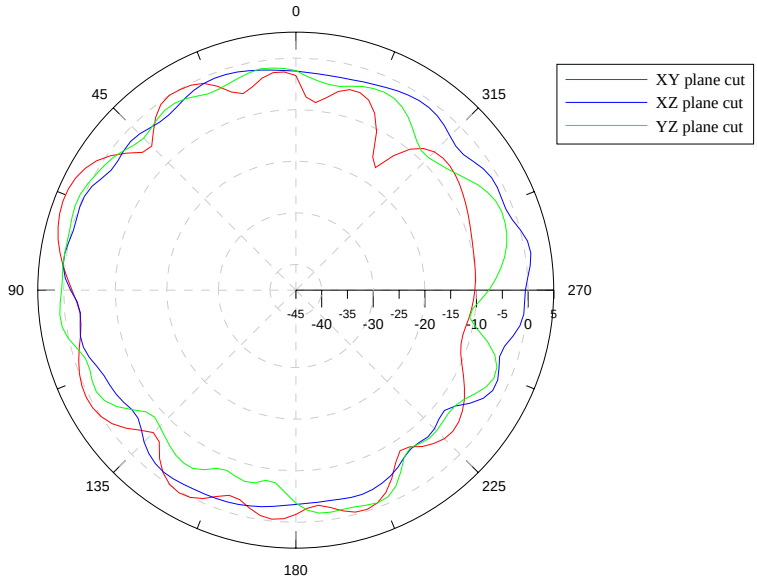
Tablet Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	1.65	-1.56	-0.33
Average Gain	-4.33	-5.97	-6.00

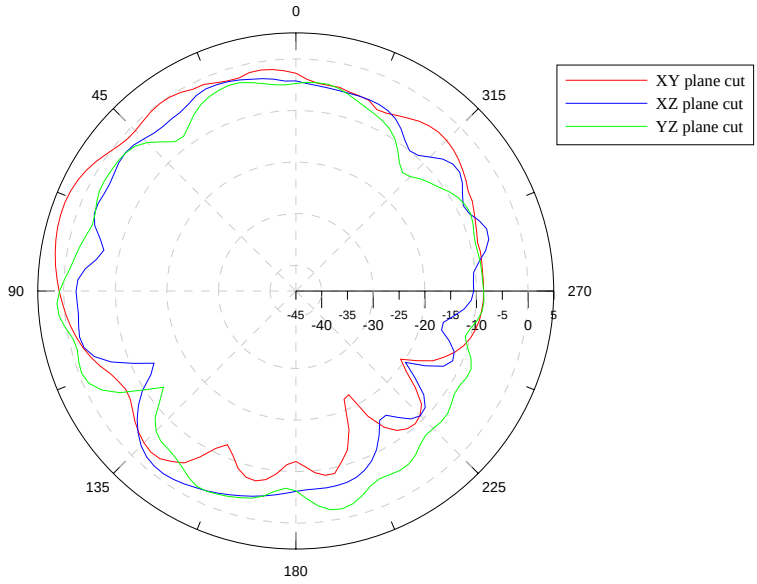
Auxiliary antenna: 2450 MHz

Normal Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	2.31	1.08	0.99
Average Gain	-2.58	-2.19	-3.05

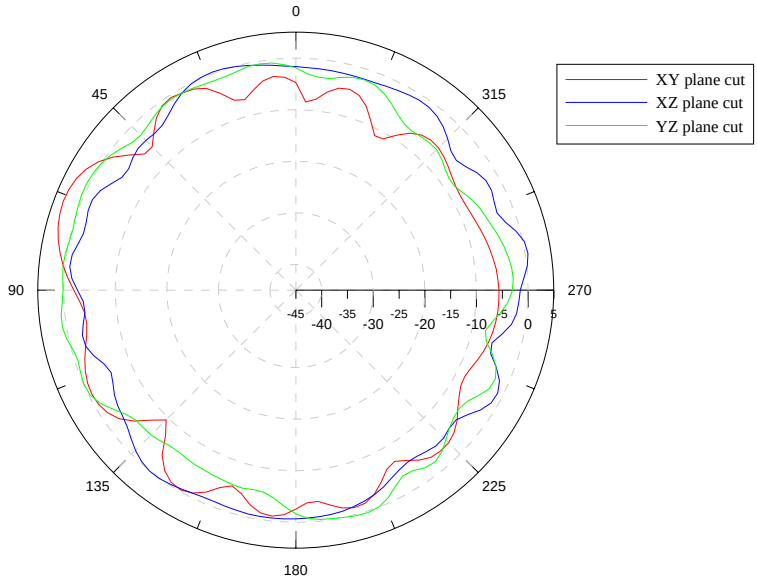
Tablet Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	2.91	-1.29	1.35
Average Gain	-3.41	-5.25	-4.55

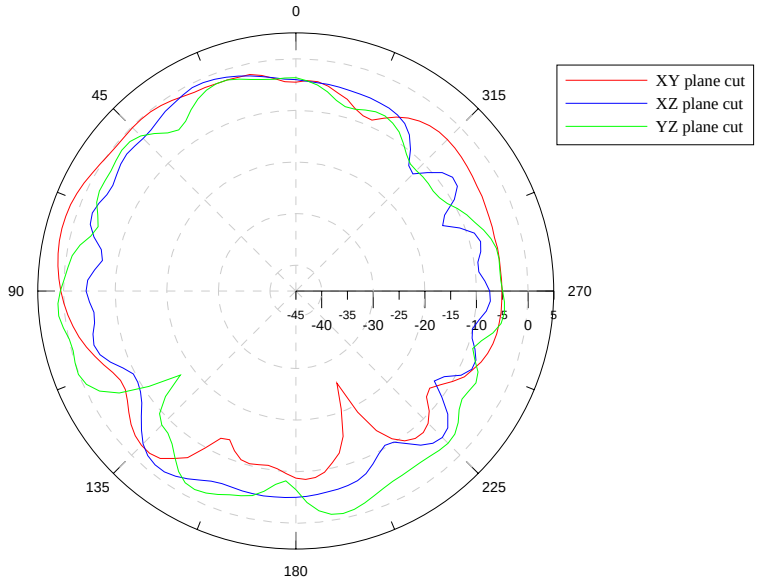
Auxiliary antenna: 2500 MHz

Normal Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	2.23	0.54	0.80
Average Gain	-2.95	-2.04	-2.35

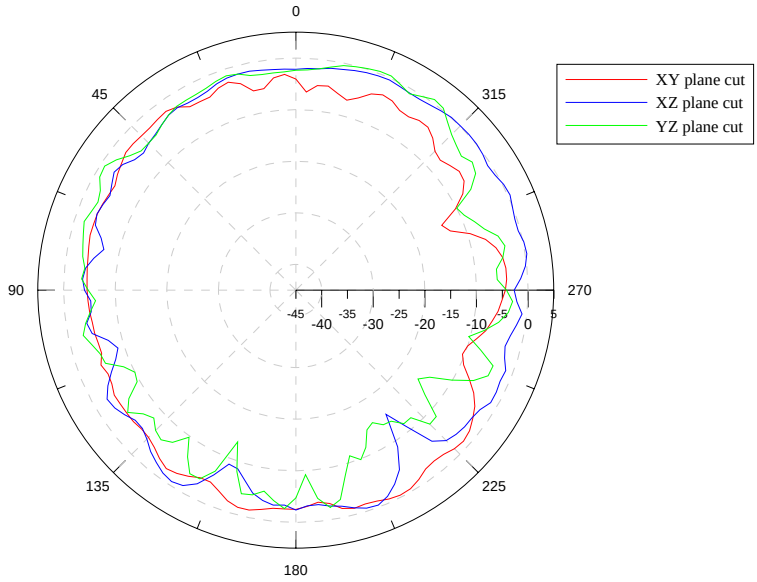
Tablet Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	1.92	-0.78	1.18
Average Gain	-3.56	-5.12	-3.83

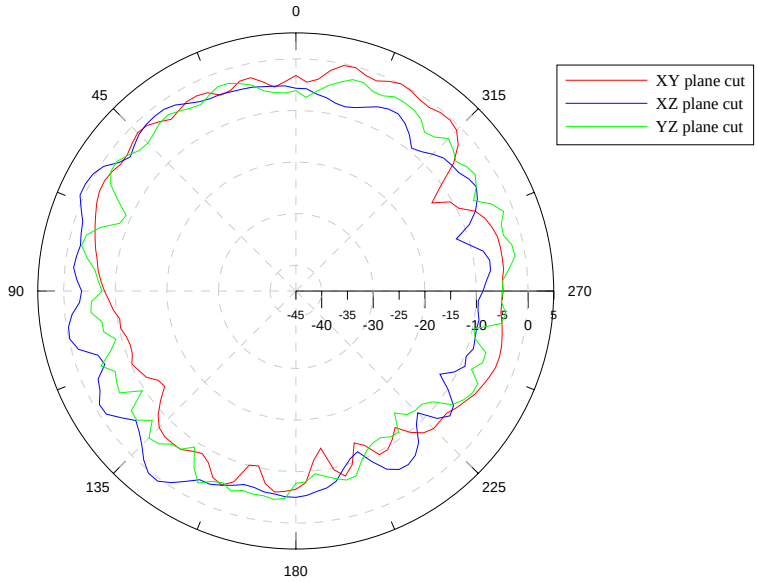
Main antenna: 4985 MHz

Normal Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	-0.43	0.41	0.67
Average Gain	-3.88	-2.43	-3.91

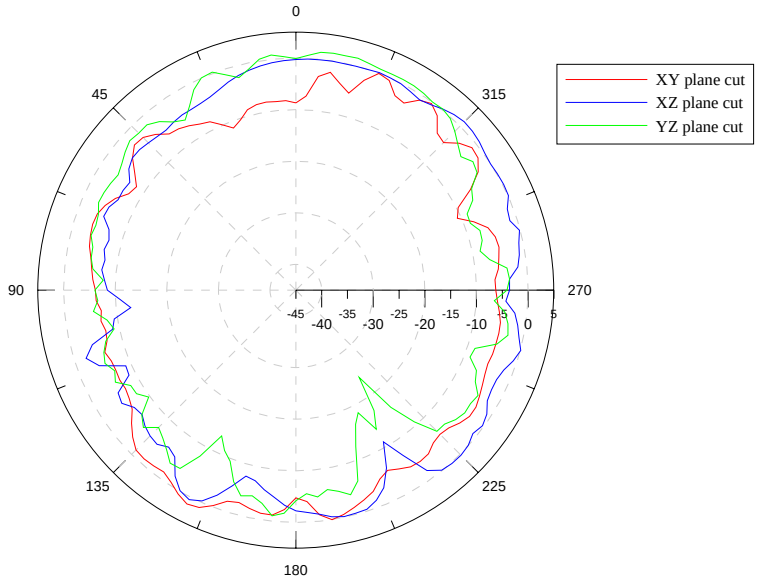
Tablet Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	0.02	0.77	-1.87
Average Gain	-4.74	-4.24	-5.10

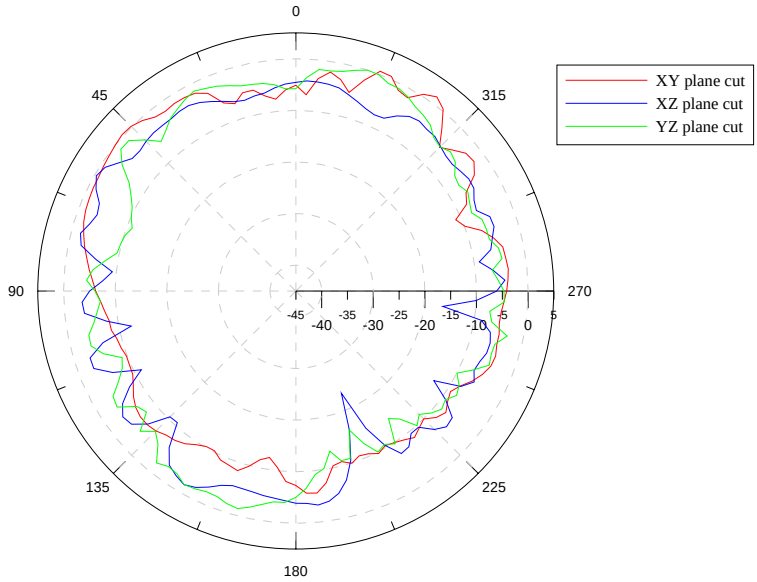
Main antenna: 5485 MHz

Normal Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	1.48	1.15	1.56
Average Gain	-3.76	-2.19	-3.36

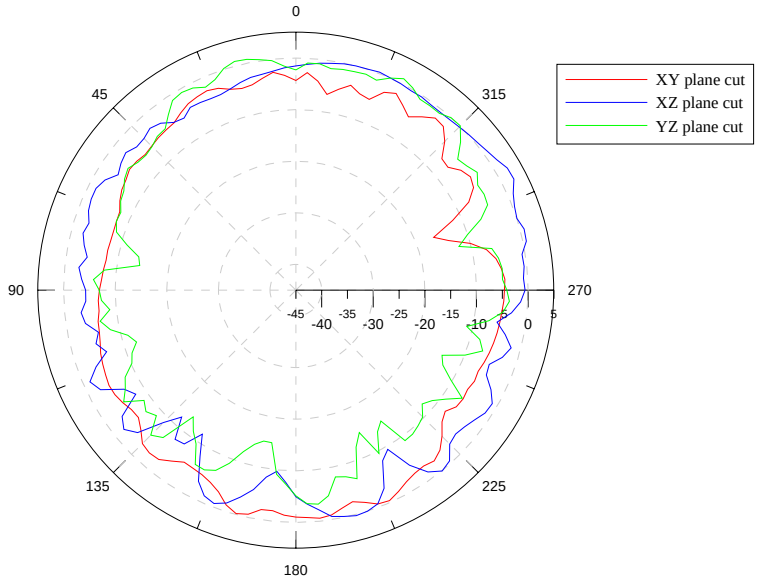
Tablet Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	1.47	-0.38	-0.02
Average Gain	-4.43	-5.19	-4.67

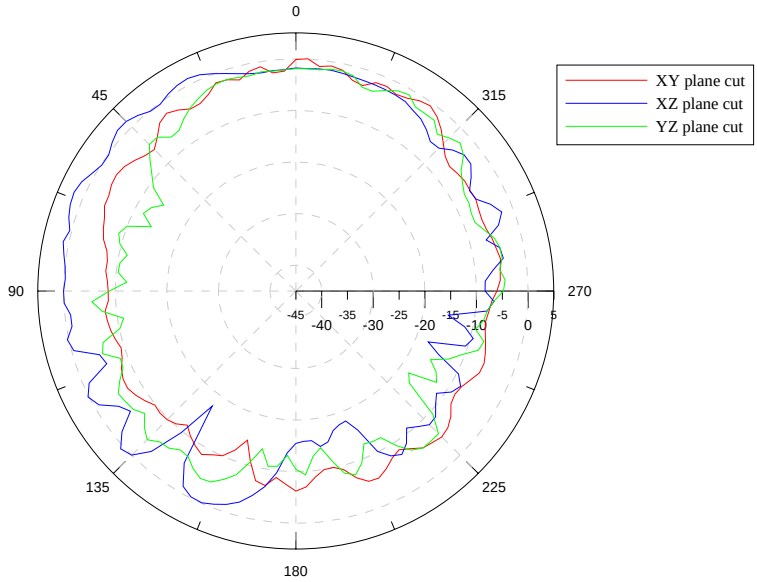
Main antenna: 5985 MHz

Normal Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	-0.18	2.42	1.02
Average Gain	-4.16	-2.05	-4.55

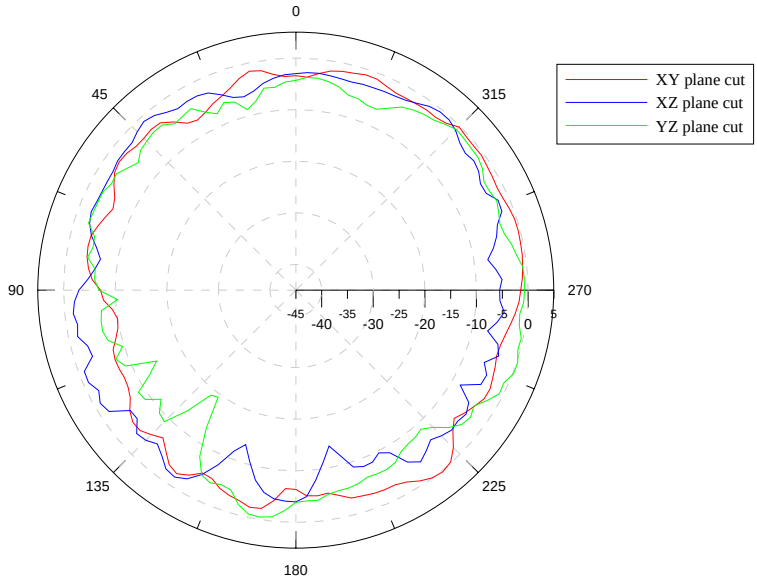
Tablet Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	0.04	2.02	-1.10
Average Gain	-5.13	-2.57	-5.72

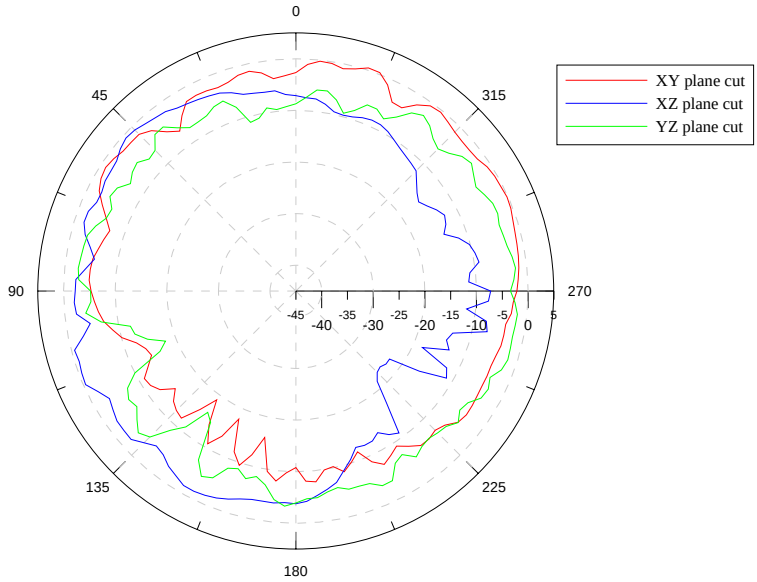
Auxiliary antenna: 4985 MHz

Normal Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	0.27	-0.57	0.22
Average Gain	-3.06	-3.74	-3.98

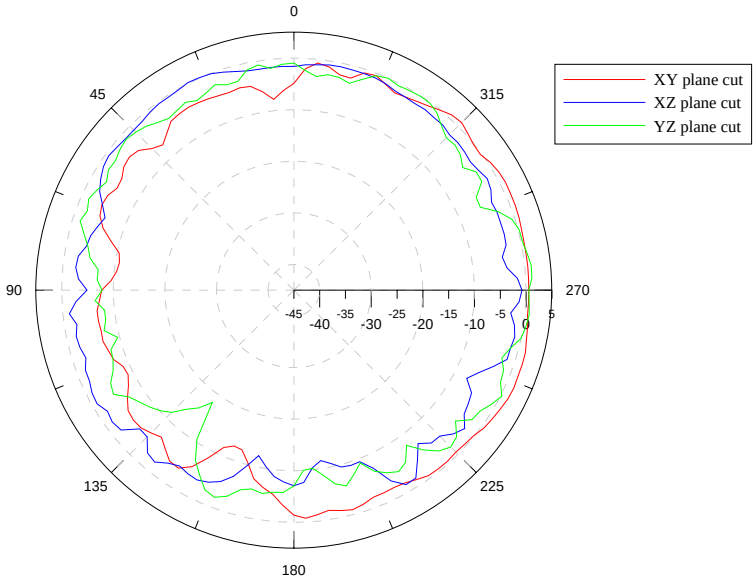
Tablet Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	0.45	-0.41	-1.83
Average Gain	-3.93	-4.99	-5.16

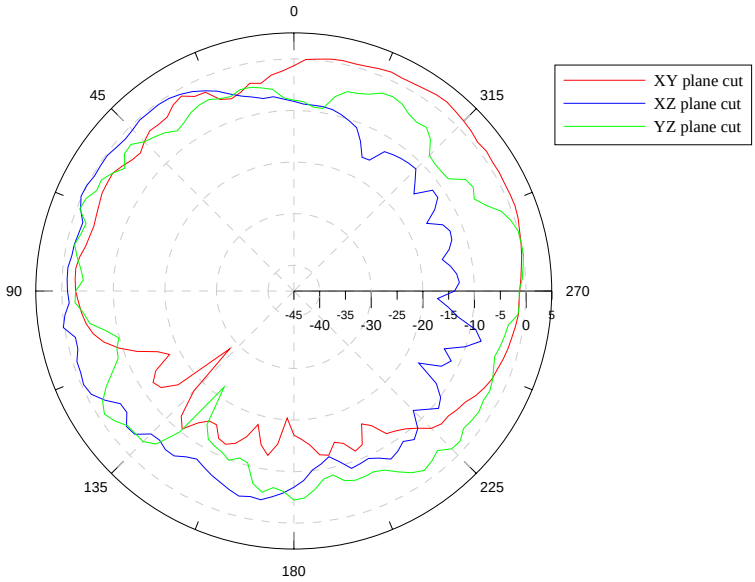
Auxiliary antenna: 5485 MHz

Normal Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	1.64	0.18	1.25
Average Gain	-2.12	-2.63	-2.95

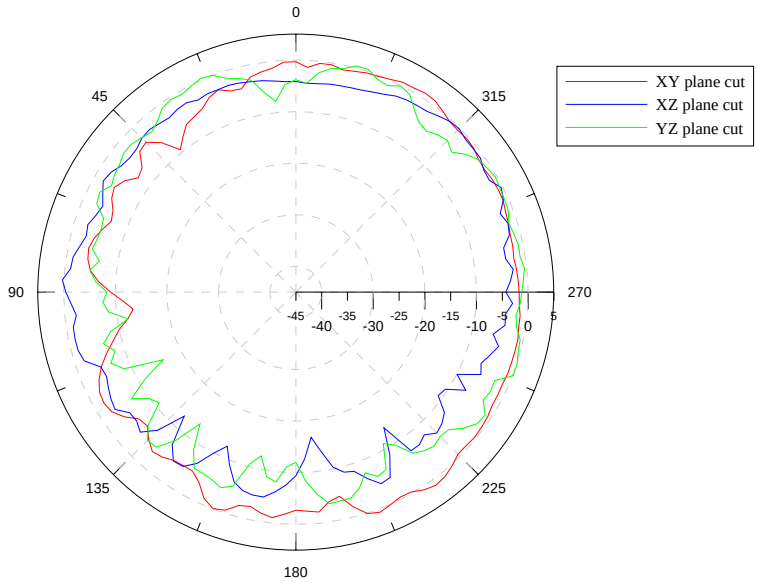
Tablet Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	2.12	0.24	0.03
Average Gain	-2.93	-4.82	-4.02

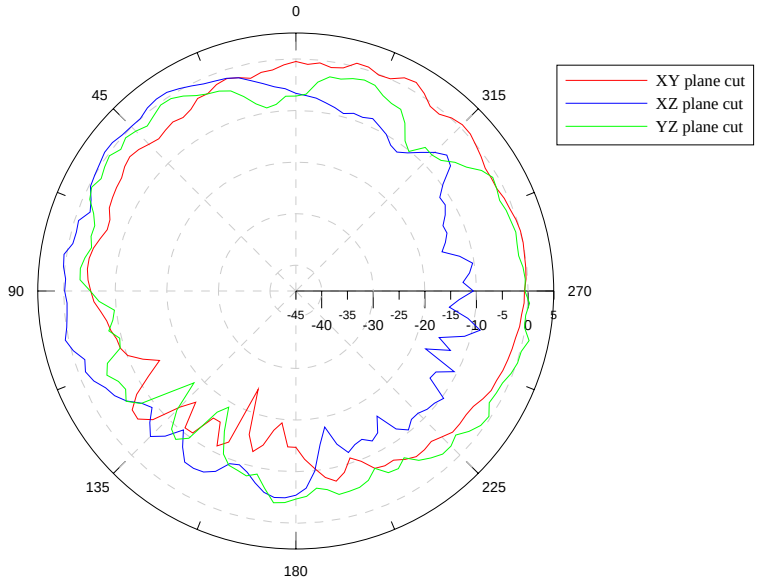
Auxiliary antenna: 5985 MHz

Normal Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	1.23	0.28	0.40
Average Gain	-2.06	-3.70	-3.27

Tablet Mode



Center Frequency (MHz)	XY plane cut (dBi)	XZ plane cut (dBi)	YZ plane cut (dBi)
Peak Gain	1.67	1.00	1.20
Average Gain	-3.31	-4.41	-3.44

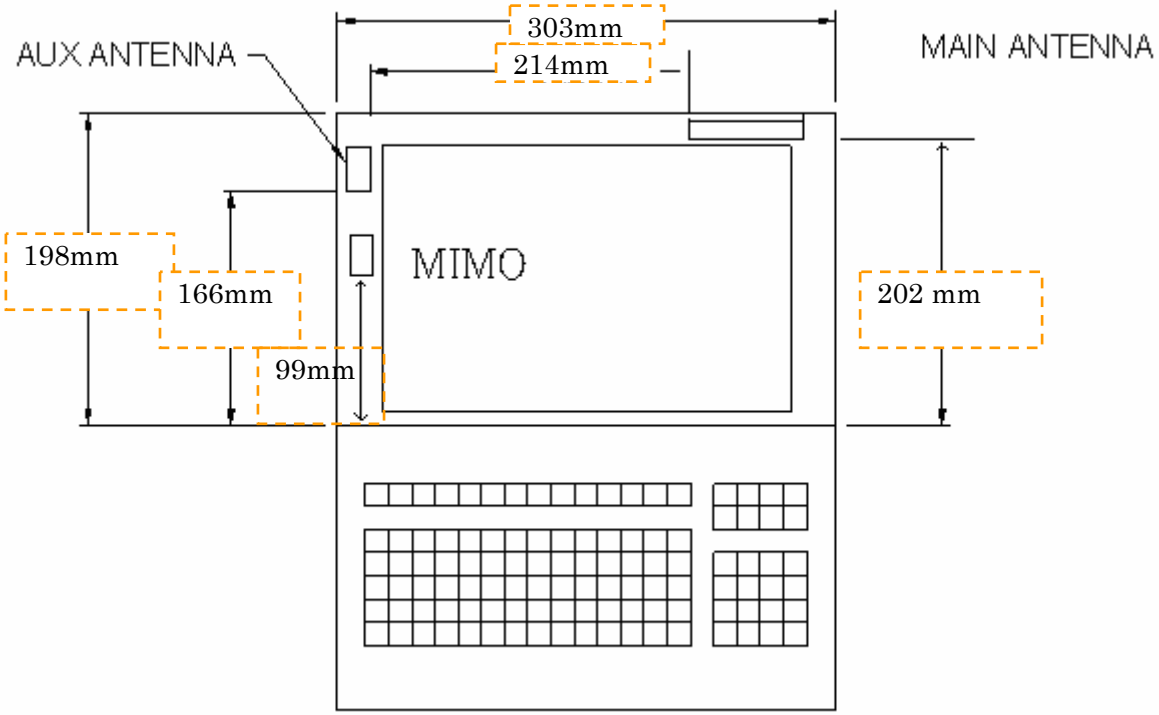
Section 7. Host Platform Information

OEM / ODM Host platform: (XXXXXXX – specify platform regulatory model number)

Rating Label Photo:

Section 8. Antenna Host Platform Location Information

Include a dimensioned photo or dimensioned drawing of main and auxiliary antenna placements.



Section 9. Antenna dimensional information for SAR evaluation