Regulatory WLAN Antenna Information
2.45/5GHz XXX15 Multiple Band Antennas with Cable & Connector
For IEEE802.11b/g/a, UNII

(English Language Required for Intel Regulatory Review / Approval)

Intel Corporation

Antenna Sample / Antenna Data
Requirements for worldwide regulatory approval

Section	Description of Required OEM / ODM Antenna Information	US / IC	EU	Japan	Taiwan	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	N/A	N/A	N/A	N/A
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 or Drawings of main & auxiliary antennas	Required	Desired	Required	Required	Required
3	Radiation patterns of antennas loaded in the host platform.	Required	Desired	Required	Required	Required
4	Platform model name / number - correlated to antenna manufacturer and antenna part number	Required	Required	Required	Required	Required
5	Photograph(s) or Drawings showing location of antennas in platform.	Required	Required	Required	Required	Desired
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 and distance those antennas. Information will be used to evaluate whether co-location testing is required.	Required	N/A	N/A	N/A	N/A

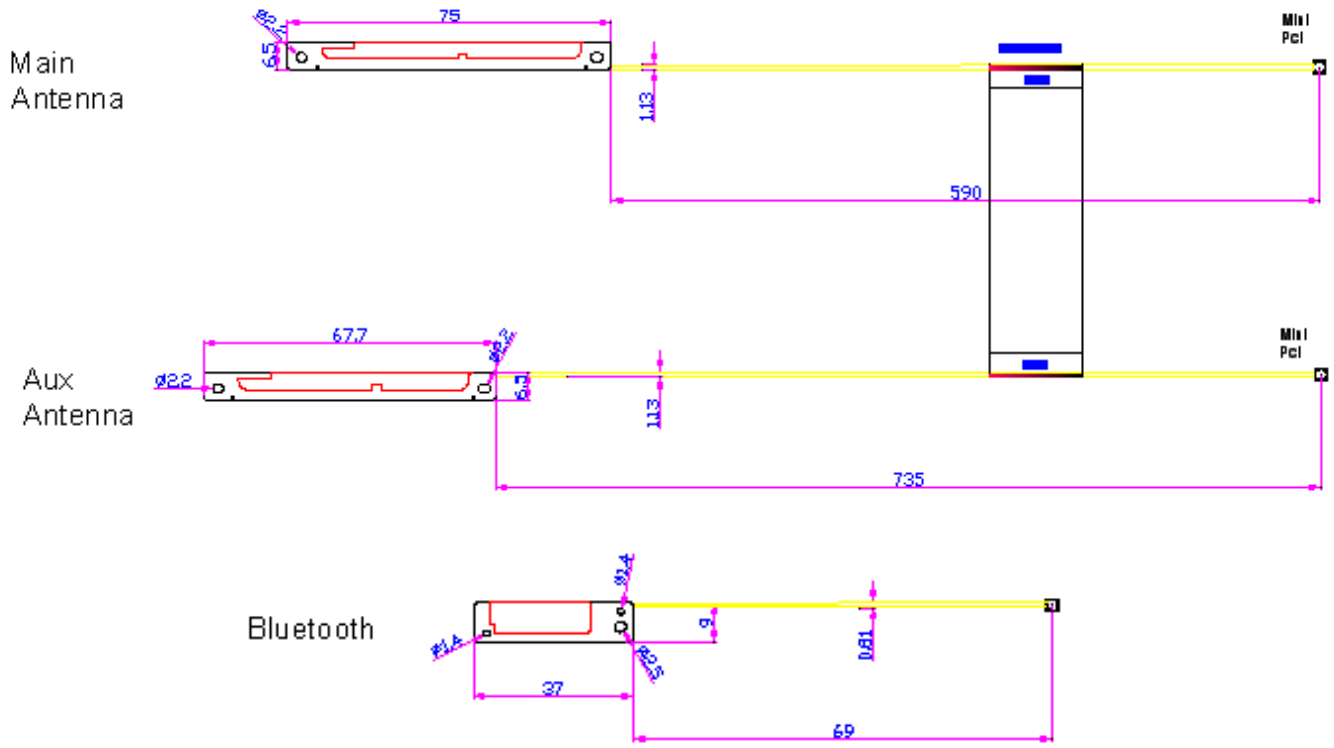
Antenna Information

Section 1. Antenna Assembly Specifications

Antenna Assembly Summary:

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: CAN4313359012501B Main Antenna	Phycomp/ Yageo Corporation	Semi-PIFA	Connector: (Hirose U.FL-LP) (Ipex MHF) 50 ohm Coaxial. Length: 590mm diameter: 1.13mm	2400-2500MHz -2.2 dBi (peak)	2400-2500MHz 3.49 dBi (peak)	2400-2500MHz 2.5 max	2400-2500MHz -1.29 dBi (peak)
				4900-5150MHz -0.4 dBi (peak)	4900-5150MHz 1.8 dBi (peak)	5150-5150MHz 2.85 max	4900-5150MHz -1.40 dBi (peak)
				5350-5470MHz 2.2 dBi (peak)	5350-5470MHz 0.01 dBi (peak)	5350-5470MHz 2.85 max	5350-5470MHz -2.21 dBi (peak)
				5725-5900MHz 2.0 dBi (peak)	5725-5900MHz 0.27 dBi (peak)	5725-5900MHz 2.85 max	5725-5900MHz -2.27 dBi (peak)
P/N: CAN4313359012501B Auxiliary Antenna	Phycomp/ Yageo Corporation	Semi-PIFA	Connector: (Hirose U.FL-LP) (Ipex MHF) 50 ohm Coaxial. Length: 735mm diameter: 1.13mm	2400-2500MHz -0.2 dBi (peak)	2400-2500MHz 1.77 dBi (peak)	2400-2500MHz 2.5 max	2400-2500MHz -1.57 dBi (peak)
				4900-5150MHz -0.4 dBi (peak)	4900-5150MHz 2.81 dBi (peak)	4900-5150MHz 2.85 max	4900-5150MHz -2.41 dBi (peak)
				5350-5470MHz -0.2 dBi (peak)	5350-5470MHz 2.68 dBi (peak)	5350-5470MHz 2.85 max	5350-5470MHz -2.48 dBi (peak)
				5725-5900MHz 0.6 dBi (peak)	5725-5900MHz 1.92 dBi (peak)	5725-5900MHz 2.85 max	5725-5900MHz -2.52 dBi (peak)
P/N: CAN4313359022501B Bluetooth Antenna	Phycomp/ Yageo Corporation	Semi-PIFA	Connector: (Hirose U.FL-LP) (Ipex MHF) 50 ohm Coaxial. Length: 69mm diameter: 0.81mm	2400-2500MHz 1.1 dBi (peak)	2400-2500MHz -1.47 dBi (peak)	2400-2500MHz 2.0 max	2400-2500MHz 0.37 dBi (peak)

Section 2. Dimensioned Photos or Drawings of Antennas

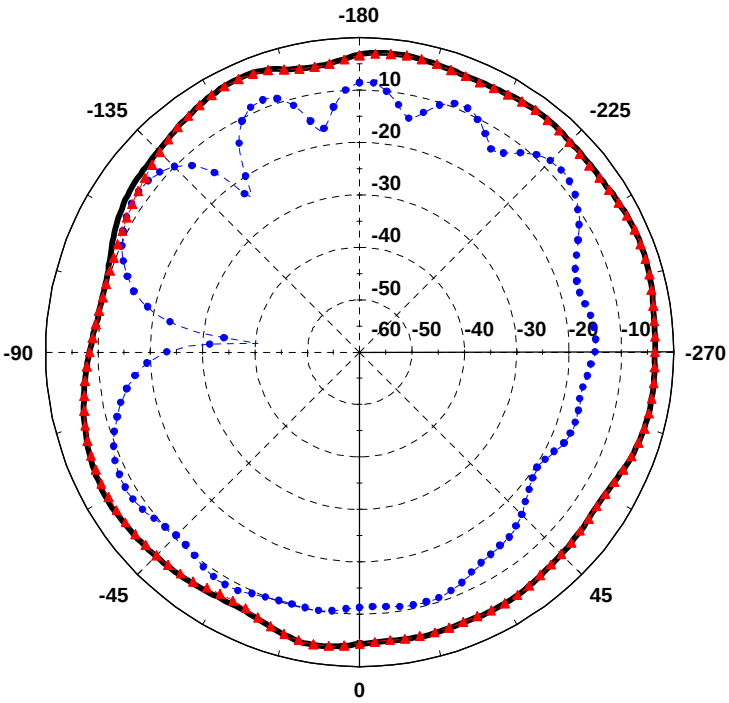


Section 3. Radiation characteristics of antennae Loaded in Host Platform

2400-2500MHz radiation characteristic

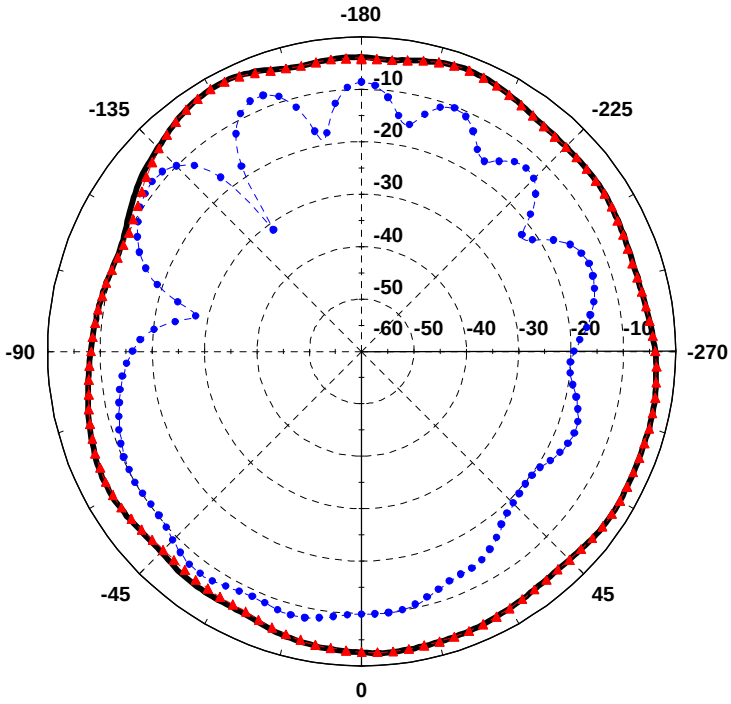
Main Antenna (Left Antenna: Red-Vertical Polarization; Blue-Horizontal Polarization)

Main antenna: 2400 MHz (Only YZ Plane)



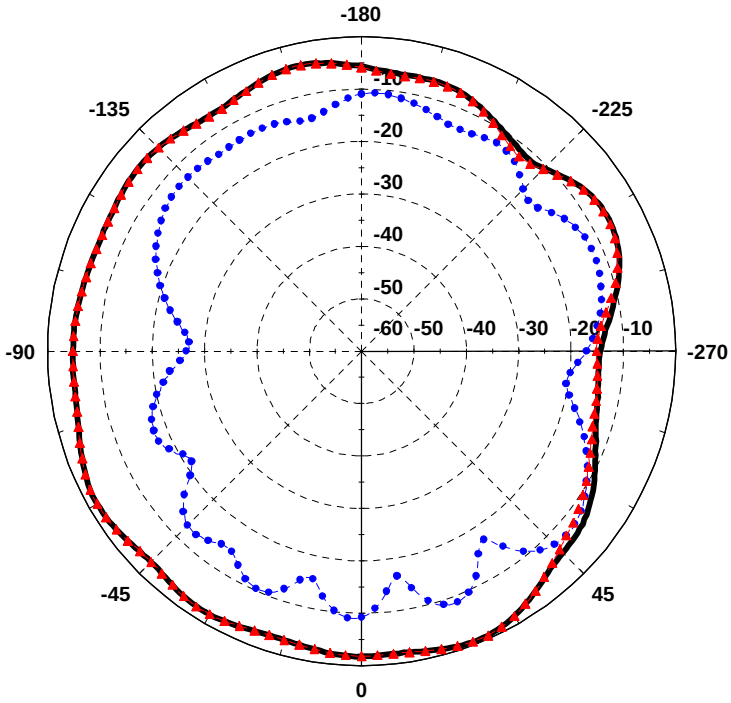
Vertical Pol.(max)=	-2.5
Vertical Pol.(avg)=	-4.6
Horizontal Pol.(max)=	-7.9
Horizontal Pol.(avg)=	-11.5
Total Gain(max)=	-2.4
Total Gain(avg)=	-4.4
Unit =	dBi

Main antenna: 2500 MHz (Only YZ Plane)



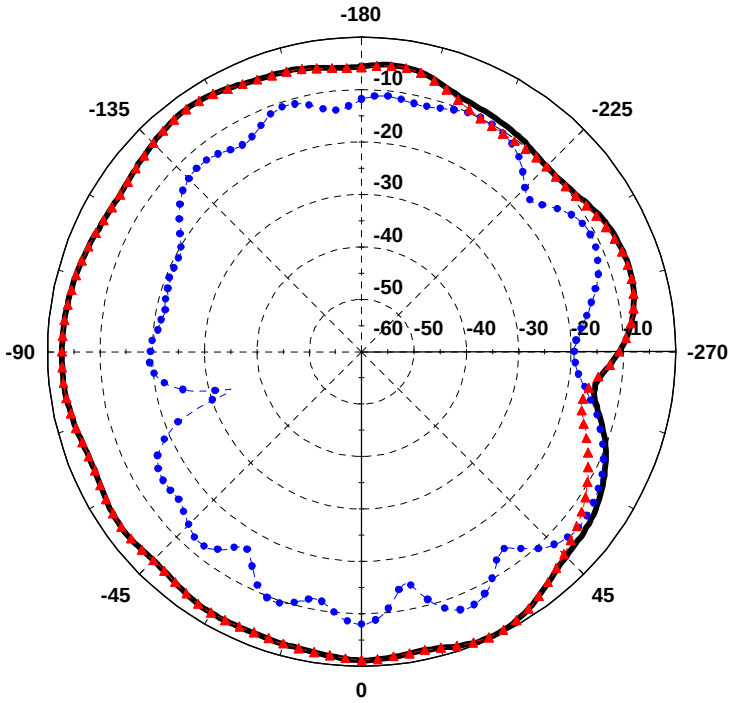
Vertical Pol.(max)=	-2.2
Vertical Pol.(avg)=	-4.4
Horizontal Pol.(max)=	-7.5
Horizontal Pol.(avg)=	-11.9
Total Gain(max)=	-2.2
Total Gain(avg)=	-4.3
Unit =	dBi

Auxiliary antenna: 2400 MHz (Only YZ Plane)



Vertical Pol.(max)=	-0.6
Vertical Pol.(avg)=	-4.8
Horizontal Pol.(max)=	-7.4
Horizontal Pol.(avg)=	-13.1
Total Gain(max)=	-0.5
Total Gain(avg)=	-4.7
Unit =	dBi

Auxiliary antenna: 2500 MHz (Only YZ Plane)

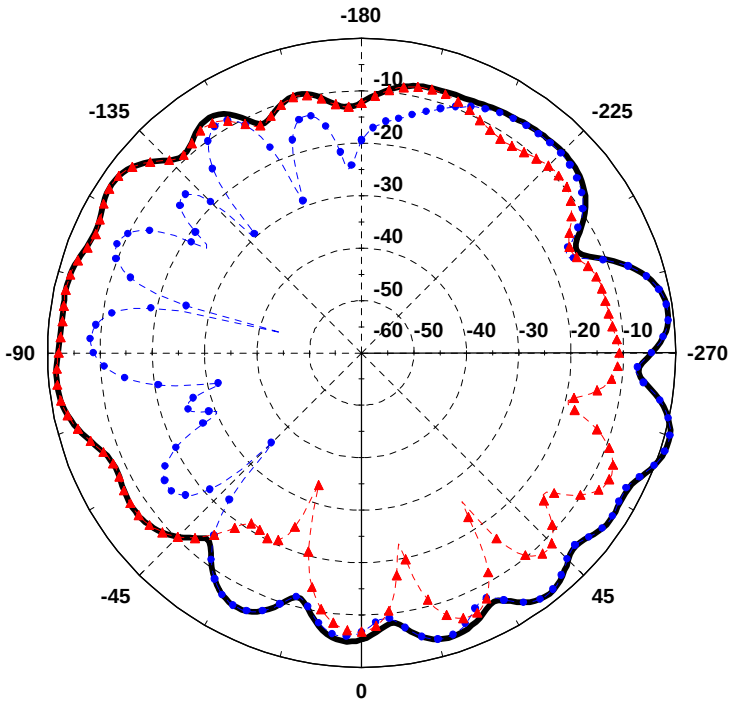


Vertical Pol.(max)=	-0.3
Vertical Pol.(avg)=	-4.3
Horizontal Pol.(max)=	-6.6
Horizontal Pol.(avg)=	-12.1
Total Gain(max)=	-0.2
Total Gain(avg)=	-4.2
Unit =	dBi

2400-2500MHz radiation characteristic

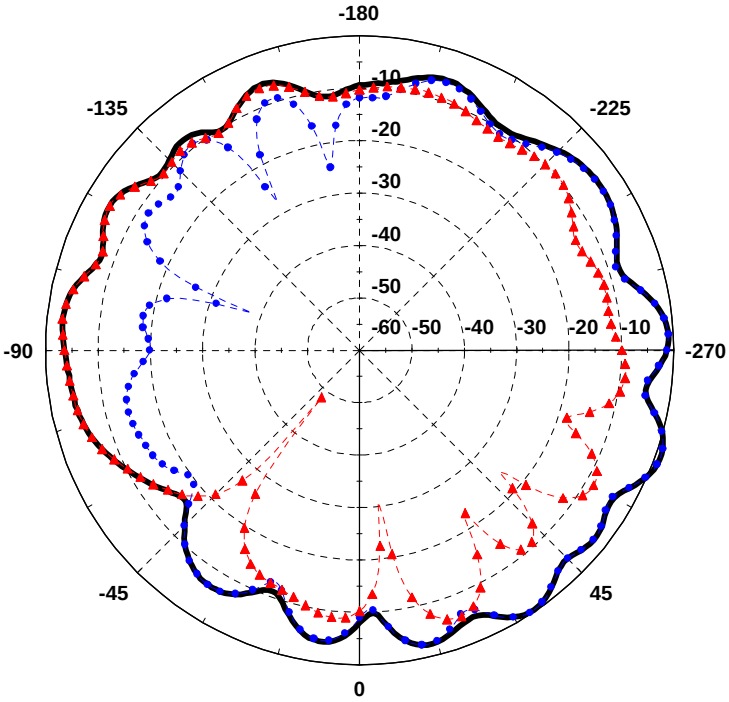
Bluetooth Antenna (Red-Vertical Polarization; Blue-Horizontal Polarization)

Main antenna: 2400 MHz



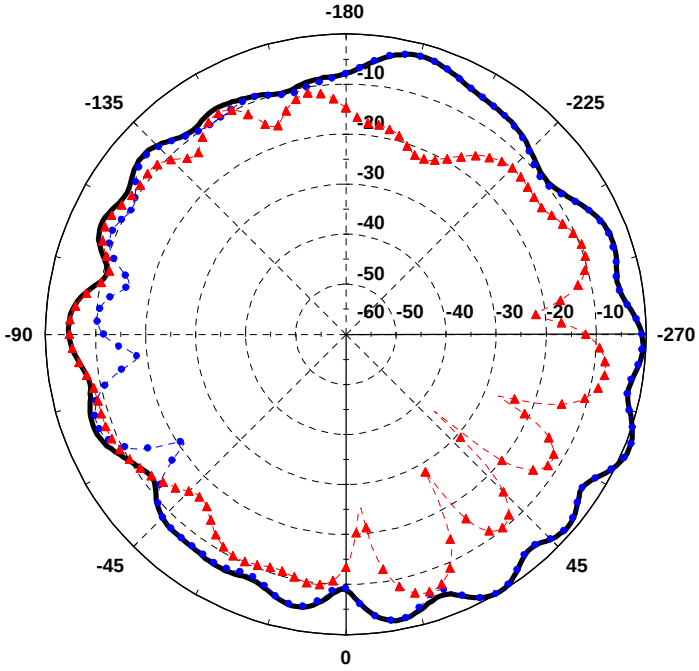
Vertical Pol.(max)=	-1.5
Vertical Pol.(avg)=	-7.7
Horizontal Pol.(max)=	1.1
Horizontal Pol.(avg)=	-6.8
Total Gain(max)=	1.1
Total Gain(avg)=	-4.8
Unit =	dBi

Main antenna: 2440 MHz



Vertical Pol.(max)=	-2.9
Vertical Pol.(avg)=	-9.0
Horizontal Pol.(max)=	1.0
Horizontal Pol.(avg)=	-6.2
Total Gain(max)=	1.0
Total Gain(avg)=	-5.0

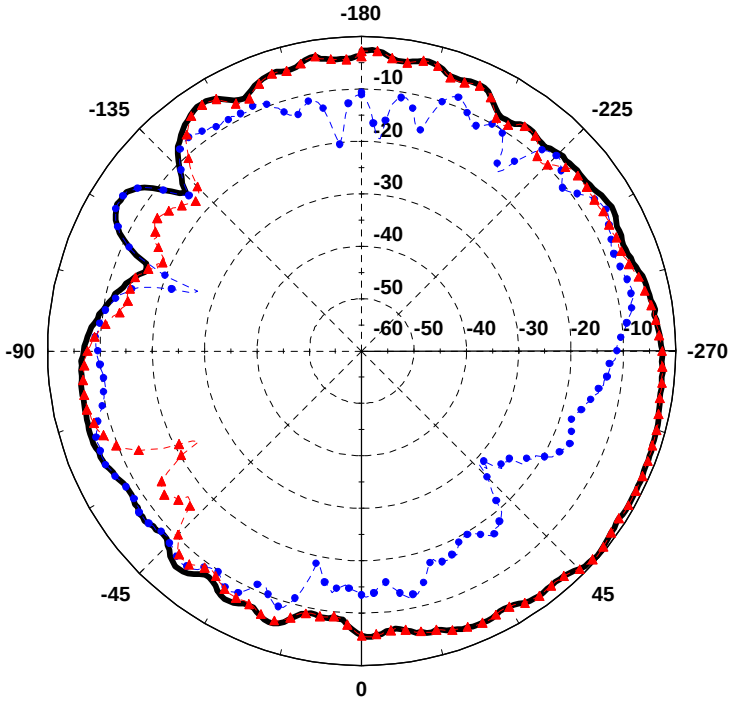
Main antenna: 2480 MHz



Vertical Pol.(max)=	-4.7
Vertical Pol.(avg)=	-10.8
Horizontal Pol.(max)=	1.0
Horizontal Pol.(avg)=	-5.1
Total Gain(max)=	1.0
Total Gain(avg)=	-4.7
Unit =	dBi

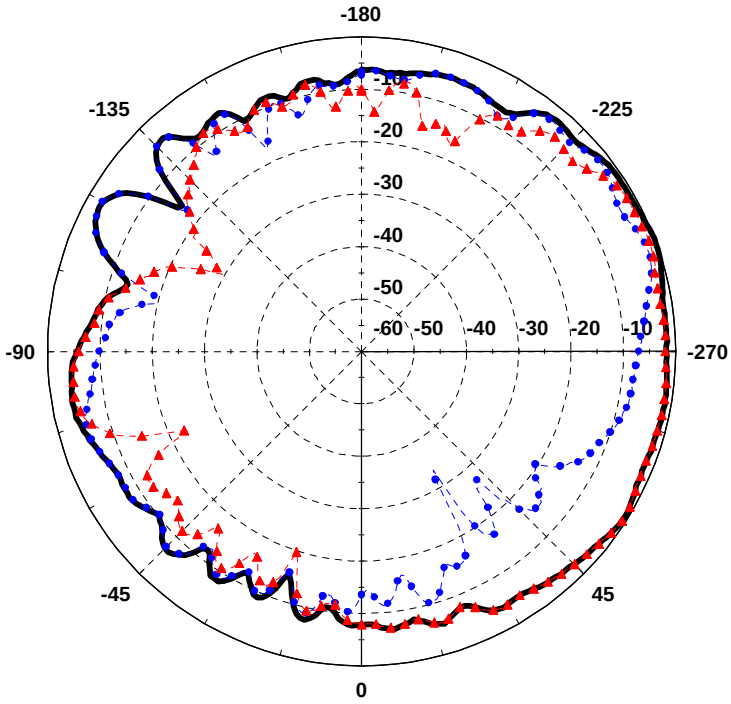
I900-5900 MHz radiation characteristic

Main antenna: 5150 MHz (Only YZ Plane)



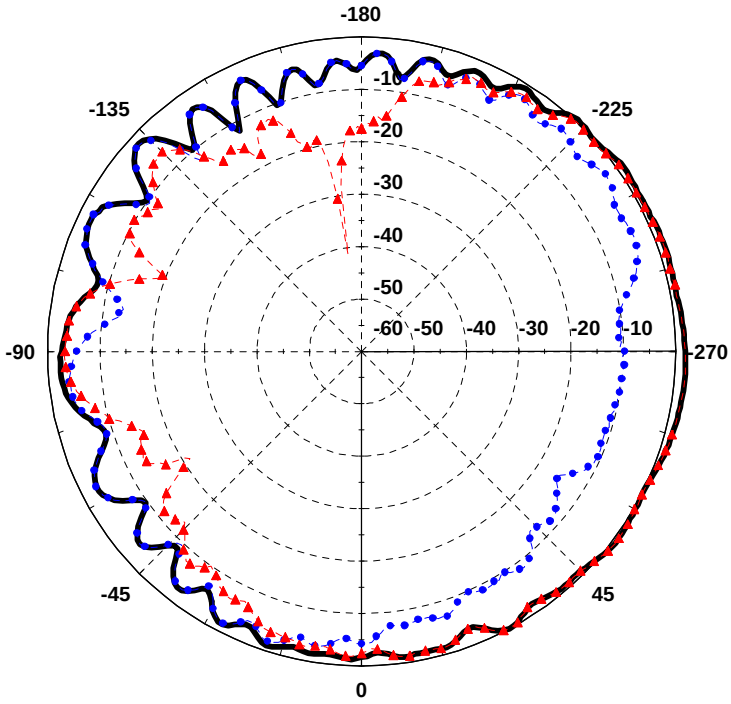
Vertical Pol.(max)=	-0.4
Vertical Pol.(avg)=	-5.3
Horizontal Pol.(max)=	-5.6
Horizontal Pol.(avg)=	-10.3
Total Gain(max)=	-0.4
Total Gain(avg)=	-4.8
Unit =	dBi

Main antenna: 5350 MHz (Only YZ Plane)



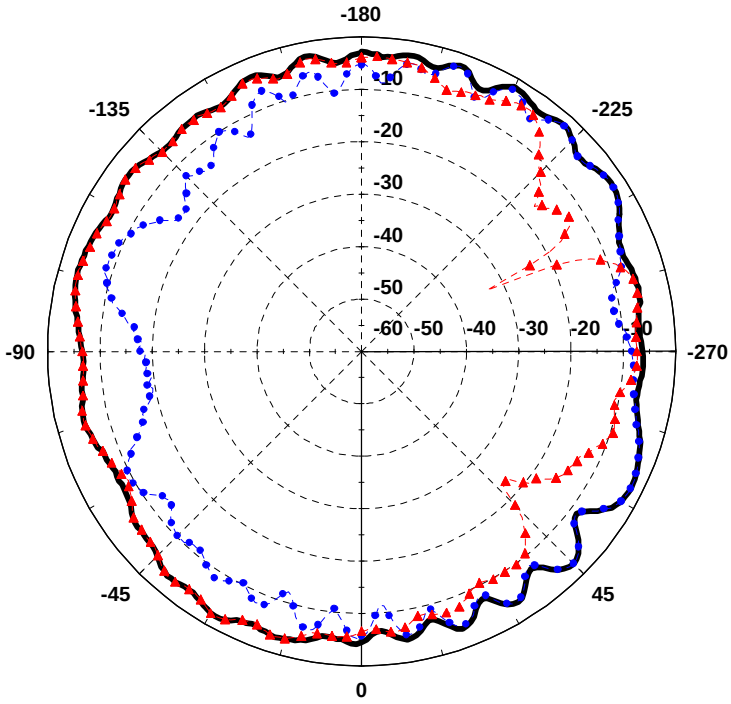
Vertical Pol.(max)=	-0.6
Vertical Pol.(avg)=	-5.8
Horizontal Pol.(max)=	-1.8
Horizontal Pol.(avg)=	-7.4
Total Gain(max)=	-0.1
Total Gain(avg)=	-4.5
Unit =	dBi

Main antenna: 5725 MHz (Only YZ Plane)



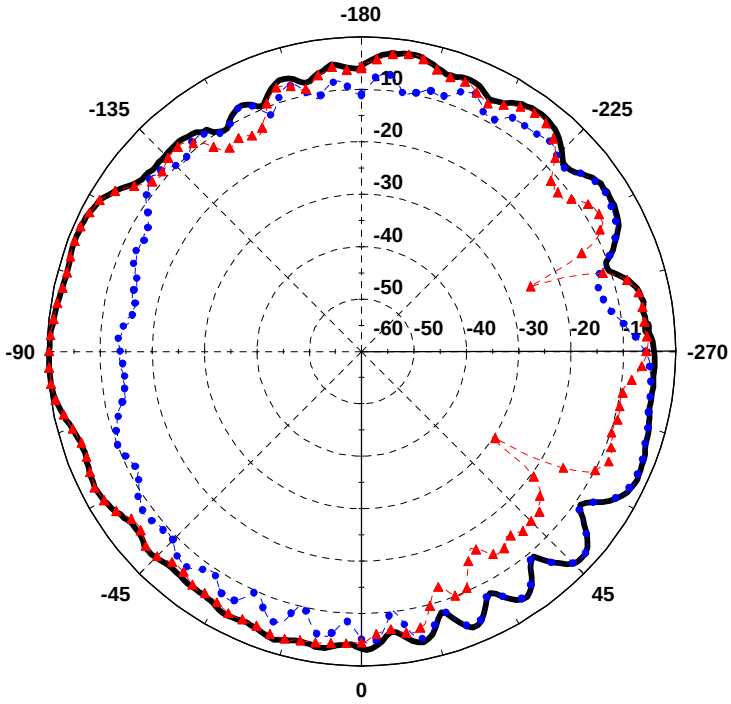
Vertical Pol.(max)=	2.0
Vertical Pol.(avg)=	-2.8
Horizontal Pol.(max)=	-1.7
Horizontal Pol.(avg)=	-5.6
Total Gain(max)=	2.0
Total Gain(avg)=	-1.8
Unit =	dBi

Auxiliary antenna: 5150 MHz (Only YZ Plane)



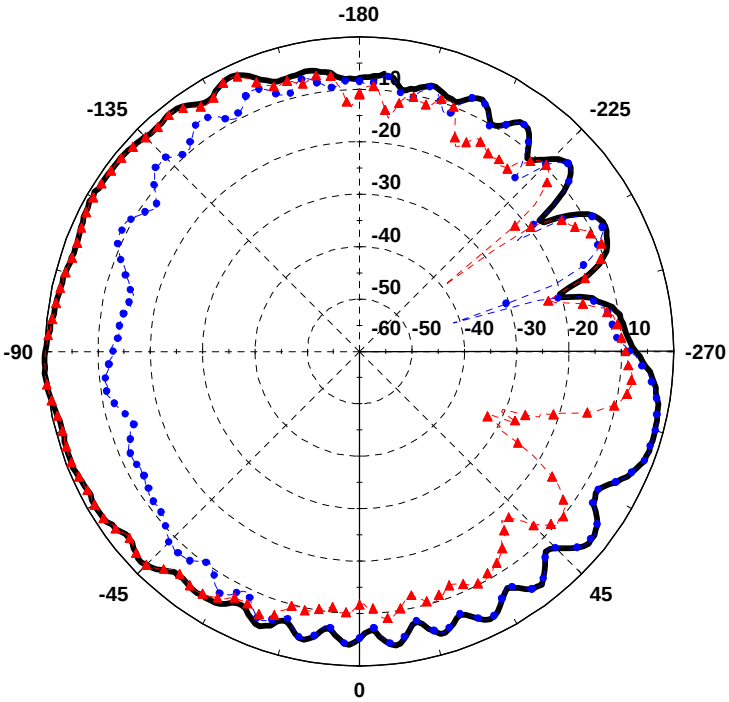
Vertical Pol.(max)=	-2.2
Vertical Pol.(avg)=	-6.2
Horizontal Pol.(max)=	-2.1
Horizontal Pol.(avg)=	-6.9
Total Gain(max)=	-1.7
Total Gain(avg)=	-4.5
Unit =	dBi

Auxiliary antenna: 5350 MHz (Only YZ Plane)



Vertical Pol.(max)=	-0.2
Vertical Pol.(avg)=	-5.3
Horizontal Pol.(max)=	-2.0
Horizontal Pol.(avg)=	-7.2
Total Gain(max)=	-0.2
Total Gain(avg)=	-4.0
Unit =	dBi

Auxiliary antenna: 5725 MHz

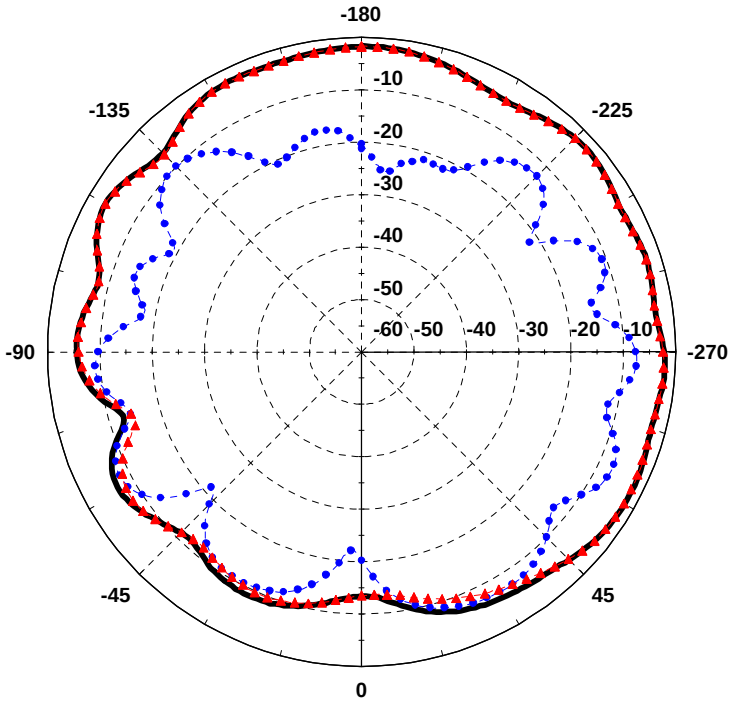


Vertical Pol.(max)=	0.3
Vertical Pol.(avg)=	-5.4
Horizontal Pol.(max)=	-1.5
Horizontal Pol.(avg)=	-7.3
Total Gain(max)=	0.3
Total Gain(avg)=	-3.9
Unit =	dBi

2400-2500MHz radiation characteristic

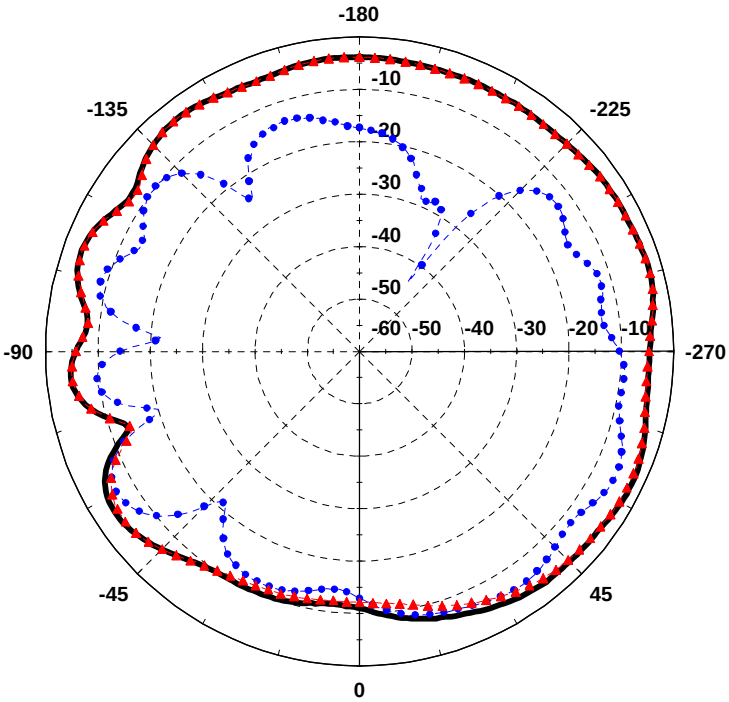
Main Antenna (Red-Vertical Polarization; Blue-Horizontal Polarization)

Main antenna: 2400 MHz (Only XZ Plane)



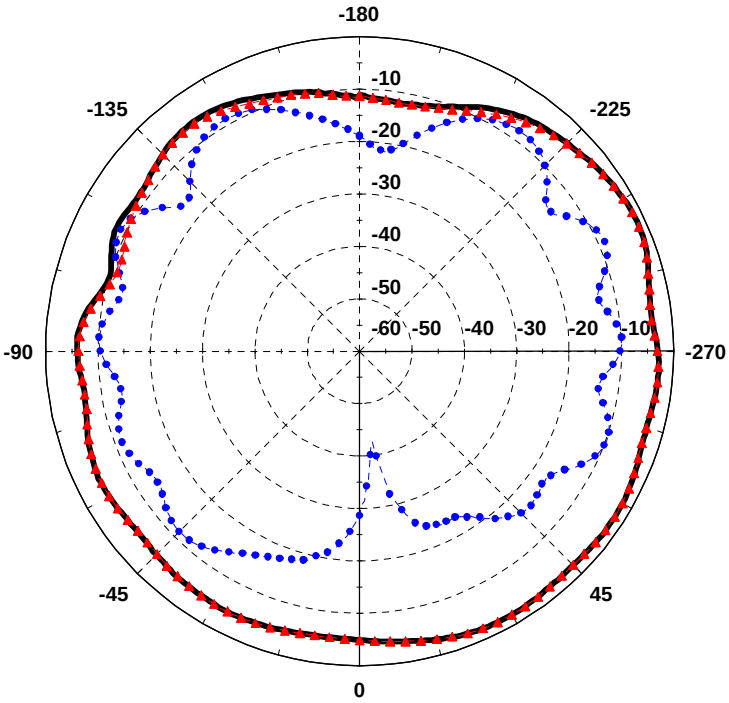
Vertical Pol.(max)=	-1.6
Vertical Pol.(avg)=	-4.7
Horizontal Pol.(max)=	-7.1
Horizontal Pol.(avg)=	-11.8
Total Gain(max)=	-1.6
Total Gain(avg)=	-4.5
Unit =	dBi

Main antenna: 2500 MHz (Only XZ Plane)



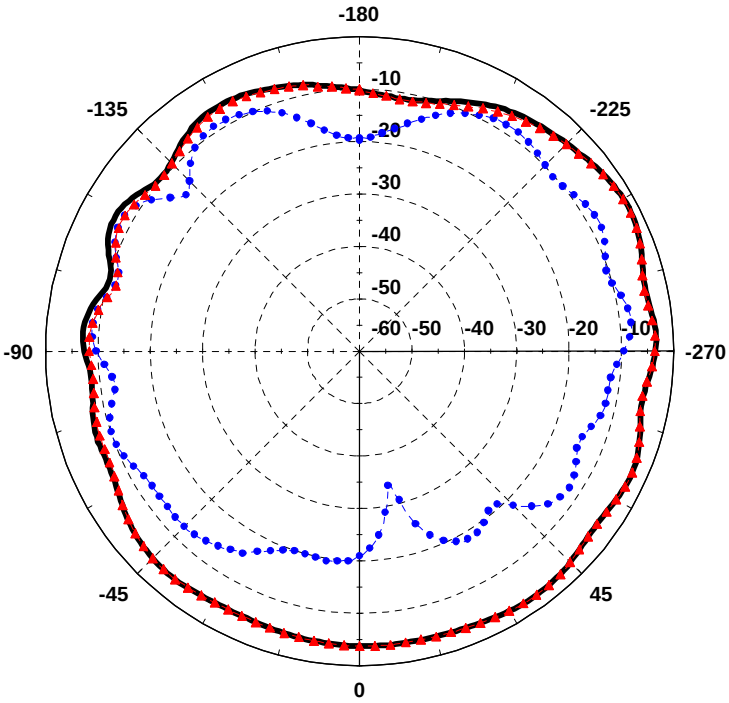
Vertical Pol.(max)=	-2.5
Vertical Pol.(avg)=	-5.1
Horizontal Pol.(max)=	-5.6
Horizontal Pol.(avg)=	-10.8
Total Gain(max)=	-2.2
Total Gain(avg)=	-4.8
Unit =	dBi

Auxiliary antenna: 2400 MHz (Only XZ Plane)



Vertical Pol.(max)=	-1.6
Vertical Pol.(avg)=	-4.7
Horizontal Pol.(max)=	-8.0
Horizontal Pol.(avg)=	-12.6
Total Gain(max)=	-1.5
Total Gain(avg)=	-4.6
Unit =	dBi

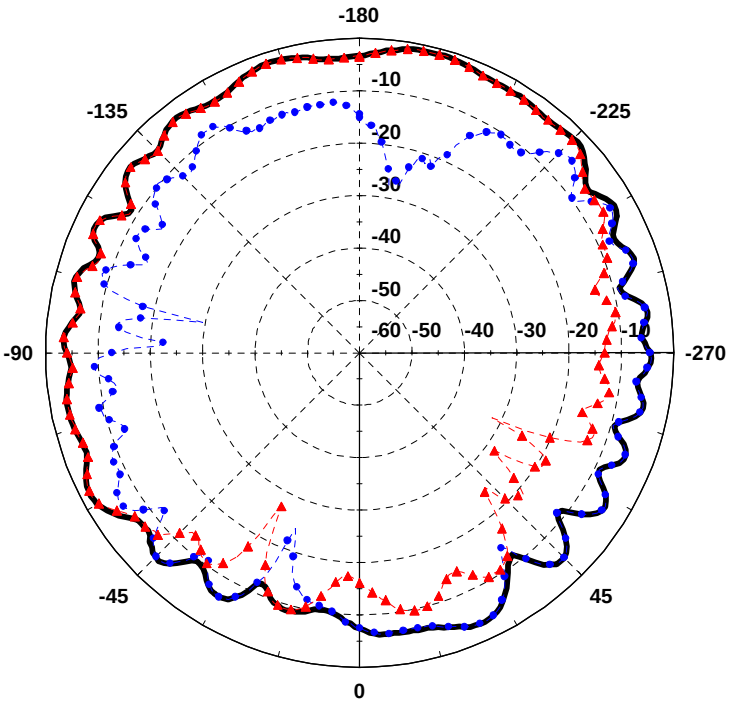
Auxiliary antenna: 2500 MHz (Only XZ Plane)



Vertical Pol.(max)=	-1.8
Vertical Pol.(avg)=	-5.2
Horizontal Pol.(max)=	-7.8
Horizontal Pol.(avg)=	-11.8
Total Gain(max)=	-1.7
Total Gain(avg)=	-5.0
Unit =	dBi

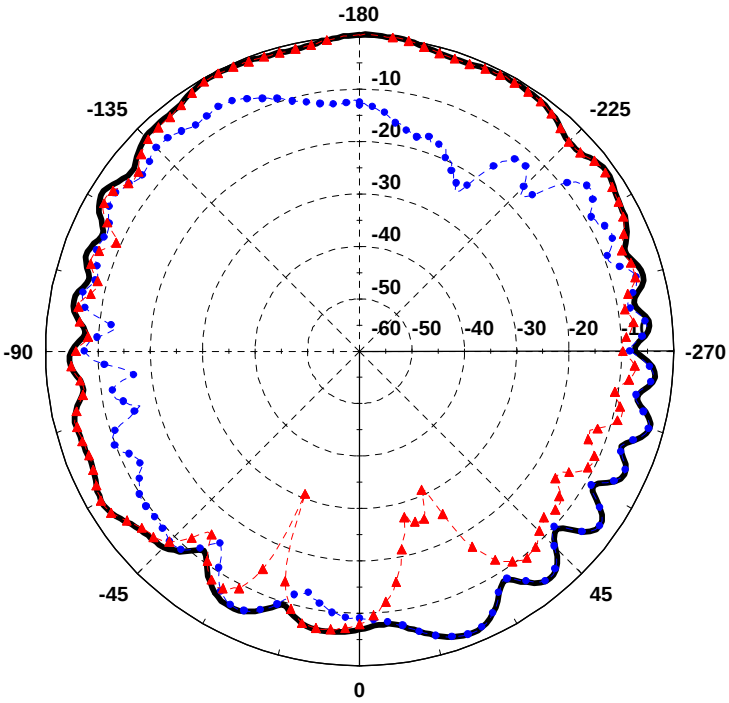
I900-5900 MHz radiation characteristic

Main antenna: 5150 MHz (Only XZ Plane)



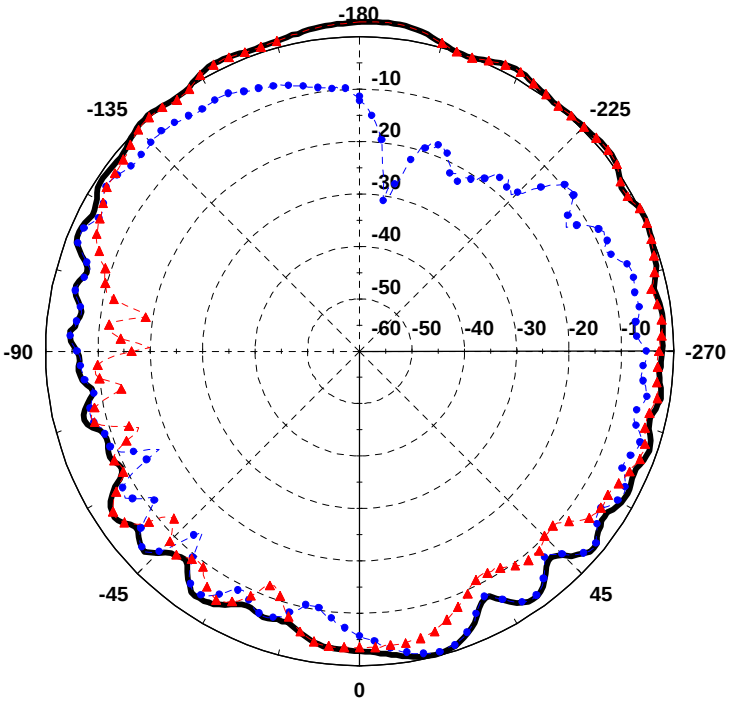
Vertical Pol.(max)=	-1.0
Vertical Pol.(avg)=	-5.8
Horizontal Pol.(max)=	-3.3
Horizontal Pol.(avg)=	-8.4
Total Gain(max)=	-1.0
Total Gain(avg)=	-4.6
Unit =	dBi

Main antenna: 5350 MHz (Only XZ Plane)



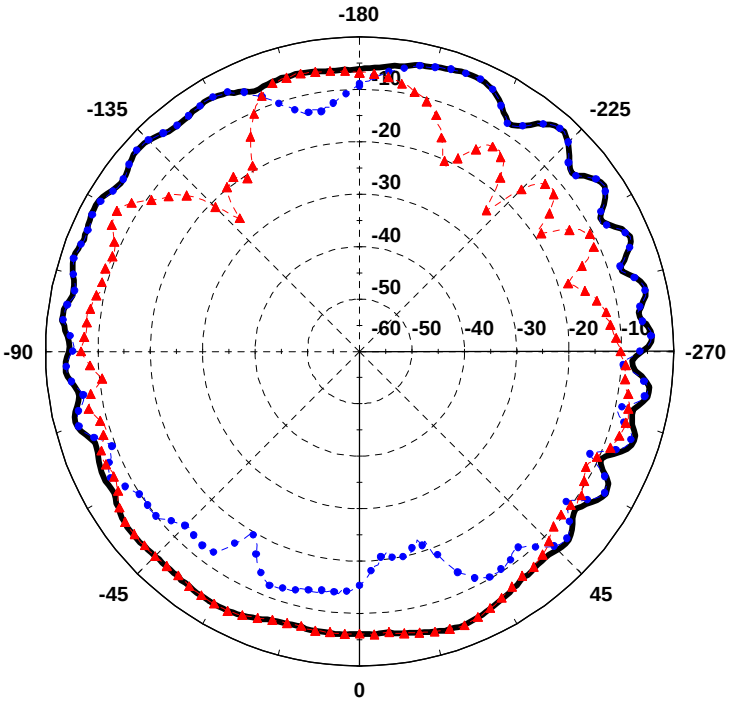
Vertical Pol.(max)=	0.5
Vertical Pol.(avg)=	-4.5
Horizontal Pol.(max)=	-2.1
Horizontal Pol.(avg)=	-7.5
Total Gain(max)=	0.5
Total Gain(avg)=	-3.4
Unit =	dBi

Main antenna: 5725 MHz (Only XZ Plane)



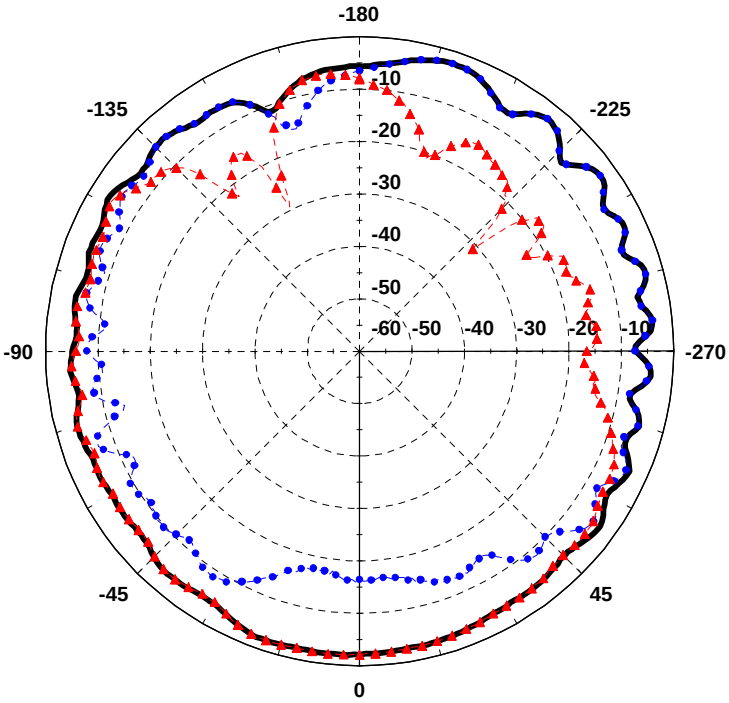
Vertical Pol.(max)=	3.0
Vertical Pol.(avg)=	-2.1
Horizontal Pol.(max)=	-0.6
Horizontal Pol.(avg)=	-5.9
Total Gain(max)=	3.0
Total Gain(avg)=	-1.3
Unit =	dBi

Auxiliary antenna: 5150 MHz (Only XZ Plane)



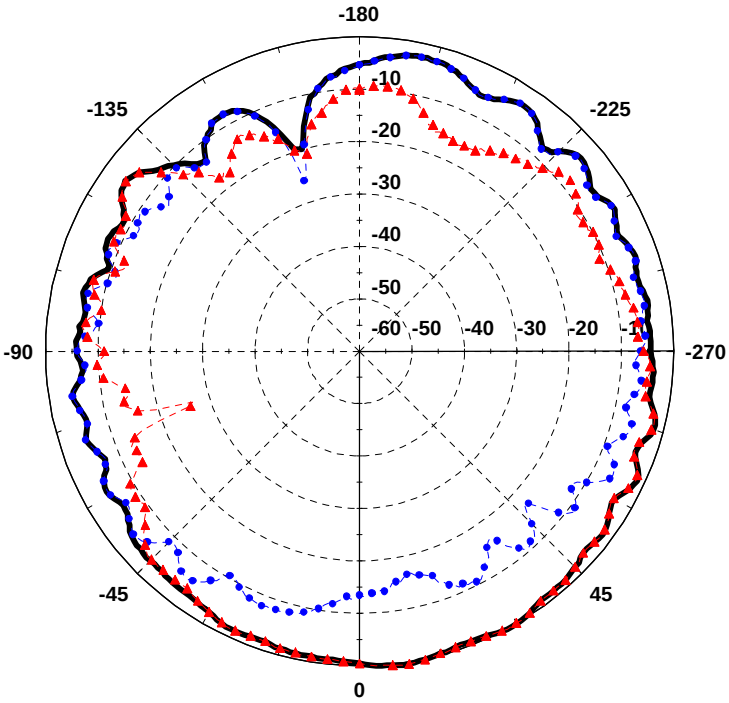
Vertical Pol.(max)=	-4.0
Vertical Pol.(avg)=	-7.9
Horizontal Pol.(max)=	-2.6
Horizontal Pol.(avg)=	-6.5
Total Gain(max)=	-2.4
Total Gain(avg)=	-4.9
Unit =	dBi

Auxiliary antenna: 5350 MHz (Only XZ Plane)



Vertical Pol.(max)=	-1.9
Vertical Pol.(avg)=	-6.4
Horizontal Pol.(max)=	-2.3
Horizontal Pol.(avg)=	-7.1
Total Gain(max)=	-1.9
Total Gain(avg)=	-4.4
Unit =	dBi

Auxiliary antenna: 5725 MHz (Only XZ Plane)

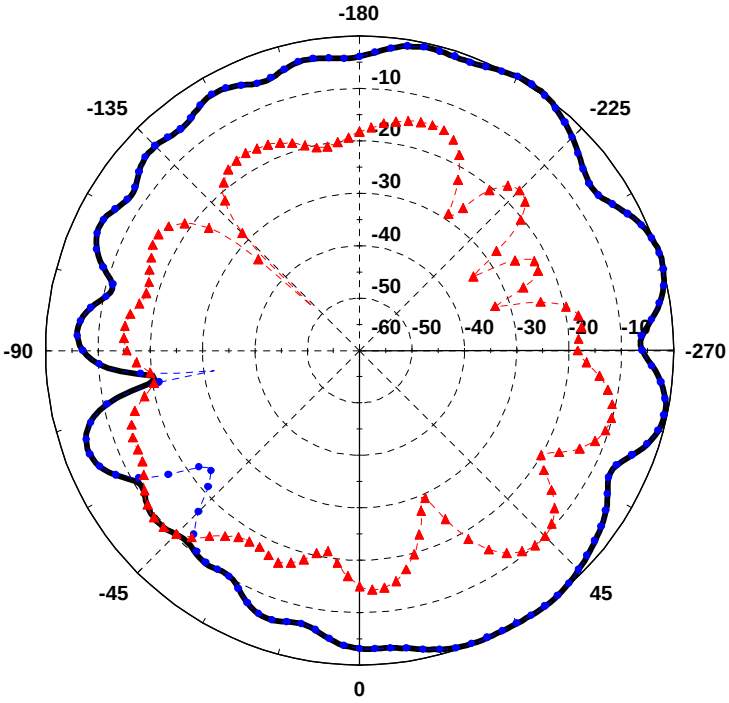


Vertical Pol.(max)=	0.5
Vertical Pol.(avg)=	-5.0
Horizontal Pol.(max)=	-2.6
Horizontal Pol.(avg)=	-7.3
Total Gain(max)=	0.5
Total Gain(avg)=	-3.7
Unit =	dBi

2400-2500MHz radiation characteristic

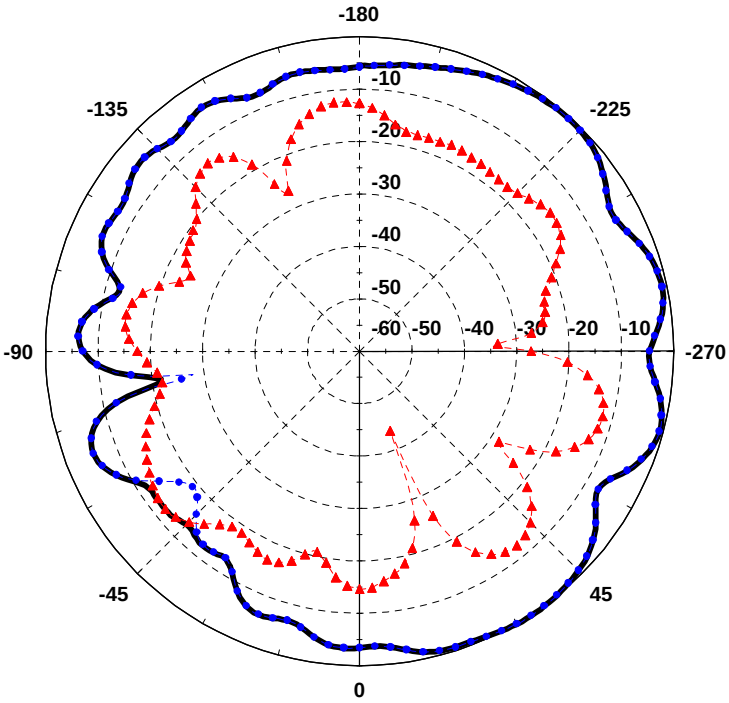
Main Antenna (Left Antenna: Red-Vertical Polarization; Blue-Horizontal Polarization)

Main antenna: 2400 MHz (Only XY Plane)



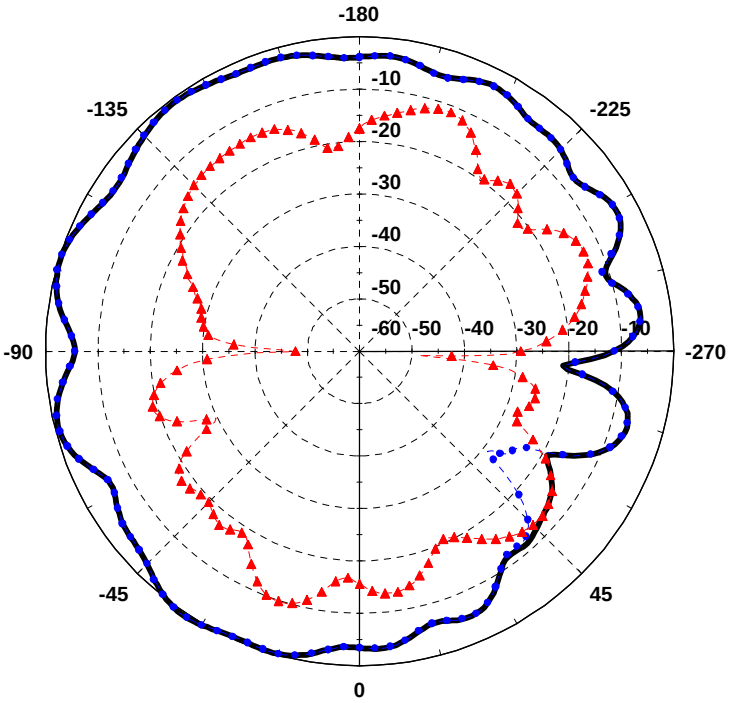
Vertical Pol.(max)=	-9.4
Vertical Pol.(avg)=	-10.5
Horizontal Pol.(max)=	0.5
Horizontal Pol.(avg)=	-3.4
Total Gain(max)=	0.5
Total Gain(avg)=	-3.3
Unit =	dBi

Main antenna: 2500 MHz (Only XY Plane)



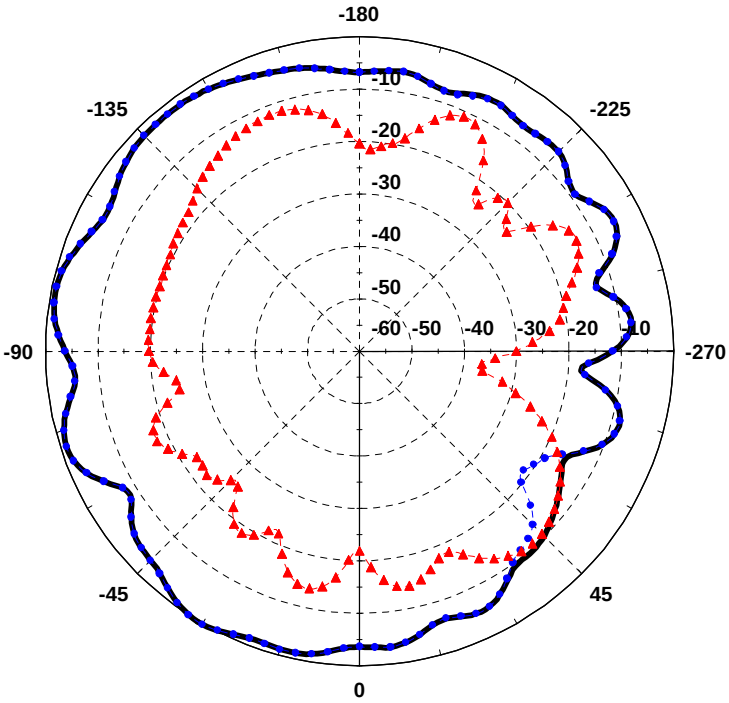
Vertical Pol.(max)=	-9.9
Vertical Pol.(avg)=	-10.8
Horizontal Pol.(max)=	0.2
Horizontal Pol.(avg)=	-3.9
Total Gain(max)=	0.2
Total Gain(avg)=	-3.8
Unit =	dBi

Auxiliary antenna: 2400 MHz (Only XY Plane)



Vertical Pol.(max)=	-9.8
Vertical Pol.(avg)=	-10.3
Horizontal Pol.(max)=	0.6
Horizontal Pol.(avg)=	-3.6
Total Gain(max)=	0.6
Total Gain(avg)=	-3.6
Unit =	dBi

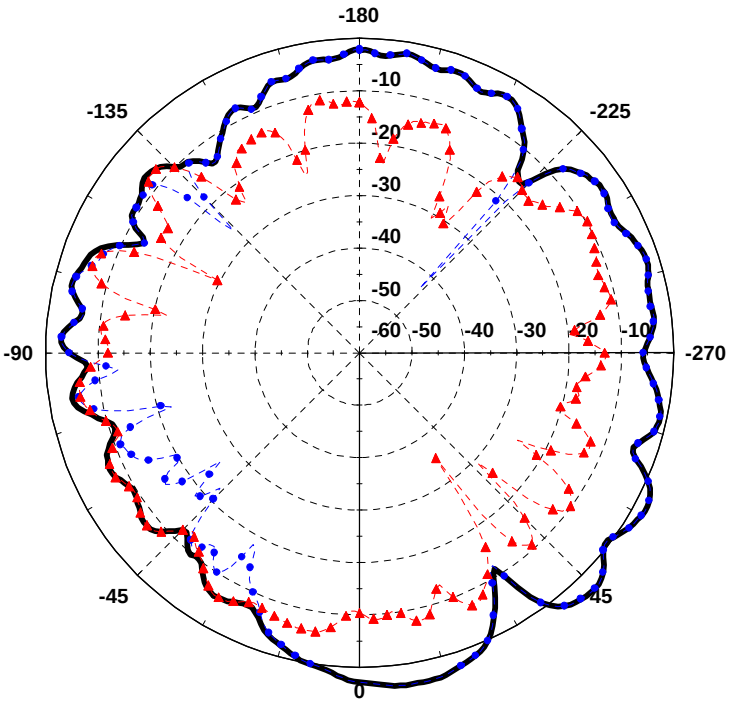
Auxiliary antenna: 2500 MHz (Only XY Plane)



Vertical Pol.(max)=	-10.6
Vertical Pol.(avg)=	-11.3
Horizontal Pol.(max)=	0.2
Horizontal Pol.(avg)=	-4.4
Total Gain(max)=	0.2
Total Gain(avg)=	-4.4
Unit =	dBi

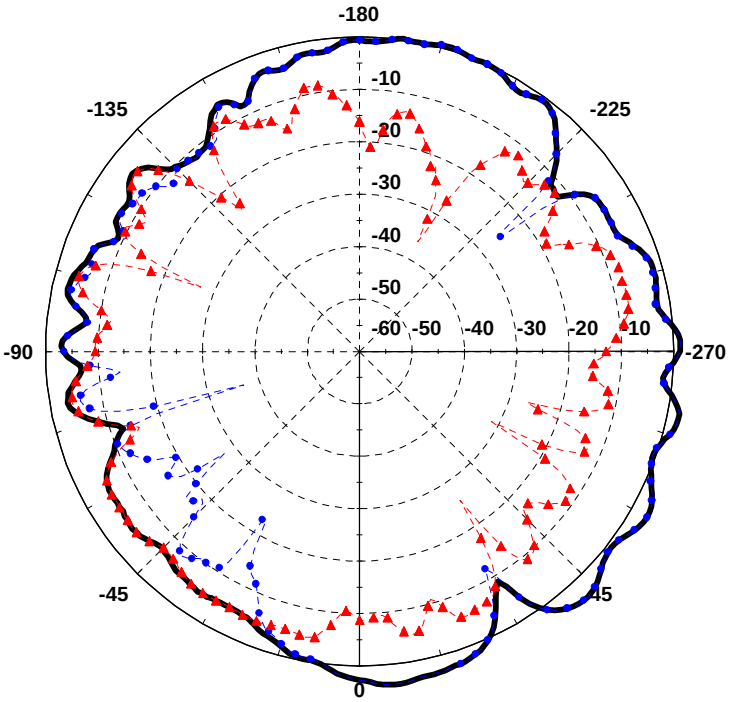
I900-5900 MHz radiation characteristic

Main antenna: 5150 MHz (Only XY Plane)



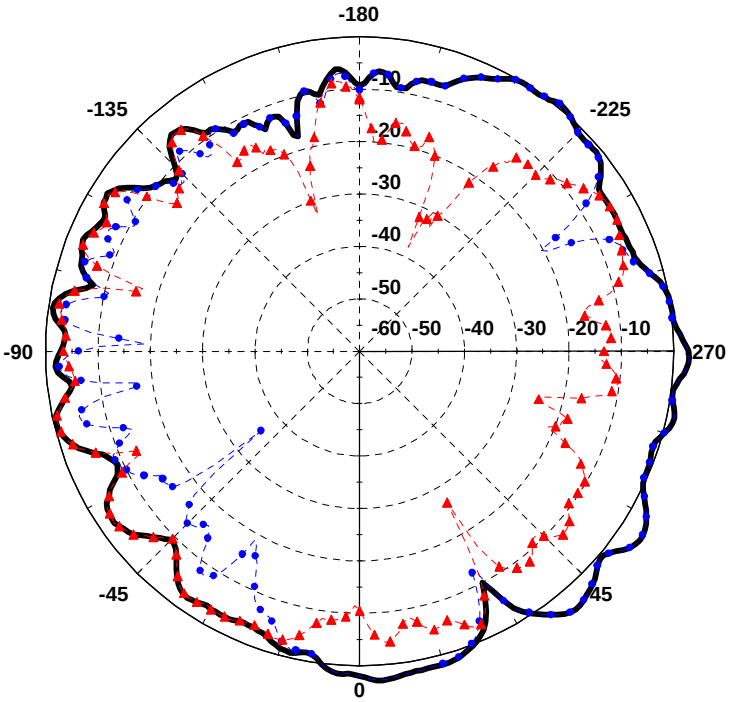
Vertical Pol.(max)=	-6.0
Vertical Pol.(avg)=	-10.9
Horizontal Pol.(max)=	4.1
Horizontal Pol.(avg)=	-2.7
Total Gain(max)=	4.1
Total Gain(avg)=	-2.5
Unit =	dBi

Main antenna: 5350 MHz (Only XY Plane)



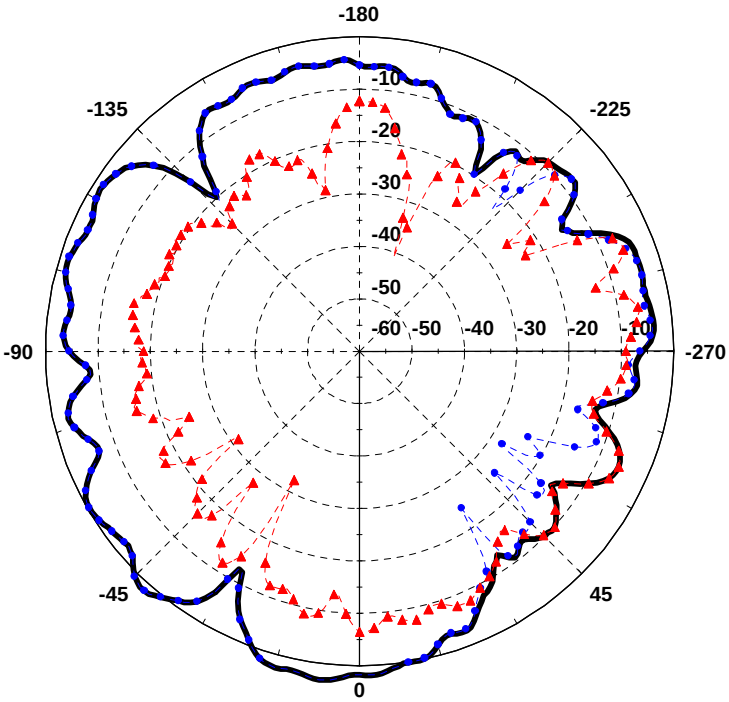
Vertical Pol.(max)=	-4.2
Vertical Pol.(avg)=	-9.0
Horizontal Pol.(max)=	4.0
Horizontal Pol.(avg)=	-1.7
Total Gain(max)=	4.0
Total Gain(avg)=	-1.4
Unit =	dBi

Main antenna: 5725 MHz (Only XY Plane)



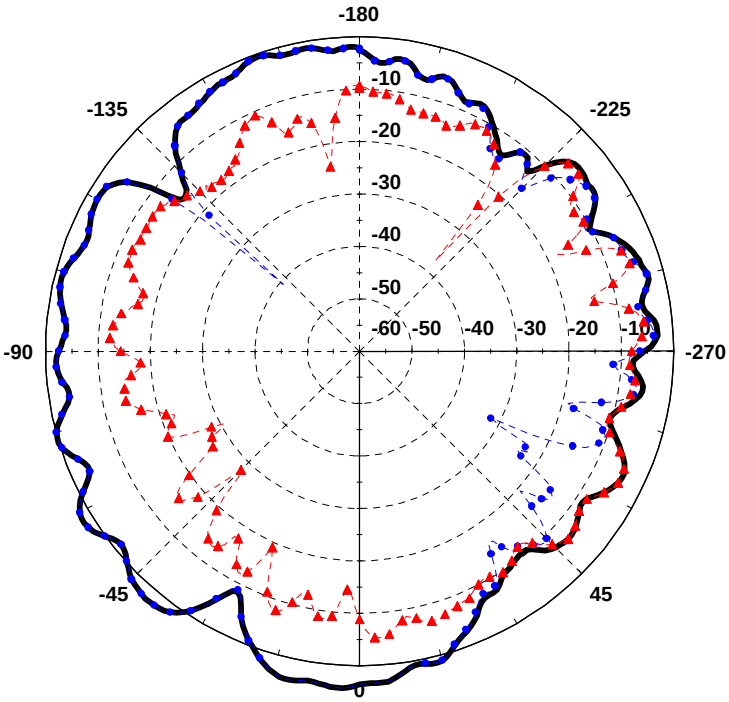
Vertical Pol.(max)=	-0.7
Vertical Pol.(avg)=	-7.0
Horizontal Pol.(max)=	4.5
Horizontal Pol.(avg)=	-2.2
Total Gain(max)=	4.5
Total Gain(avg)=	-1.4
Unit =	dBi

Auxiliary antenna: 5150 MHz (Only XY Plane)



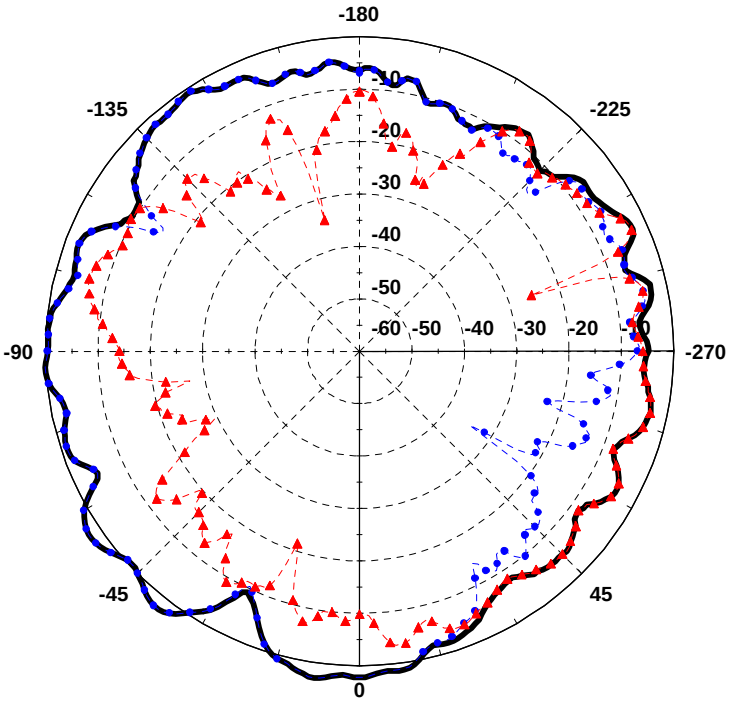
Vertical Pol.(max)=	-5.8
Vertical Pol.(avg)=	-9.4
Horizontal Pol.(max)=	3.2
Horizontal Pol.(avg)=	-3.8
Total Gain(max)=	3.2
Total Gain(avg)=	-3.6
Unit =	dBi

Auxiliary antenna: 5350 MHz (Only XY Plane)



Vertical Pol.(max)=	-4.3
Vertical Pol.(avg)=	-10.5
Horizontal Pol.(max)=	4.4
Horizontal Pol.(avg)=	-2.4
Total Gain(max)=	4.4
Total Gain(avg)=	-2.1
Unit =	dBi

Auxiliary antenna: 5725 MHz (Only XY Plane)



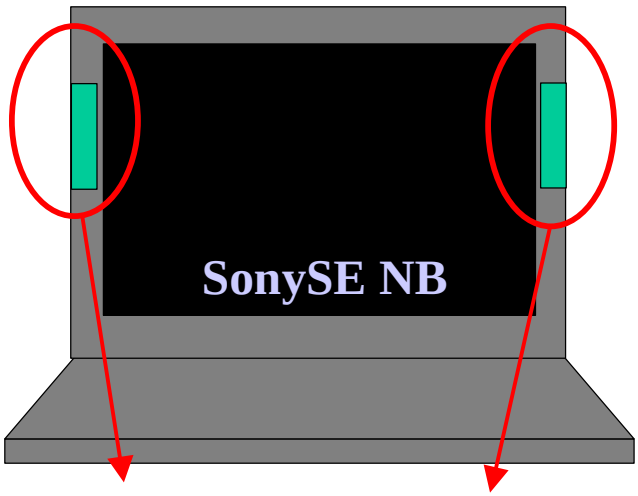
Vertical Pol.(max)=	-3.1
Vertical Pol.(avg)=	-8.9
Horizontal Pol.(max)=	3.0
Horizontal Pol.(avg)=	-3.3
Total Gain(max)=	3.0
Total Gain(avg)=	-2.7
Unit =	dBi

Section 4. Host Platform Information

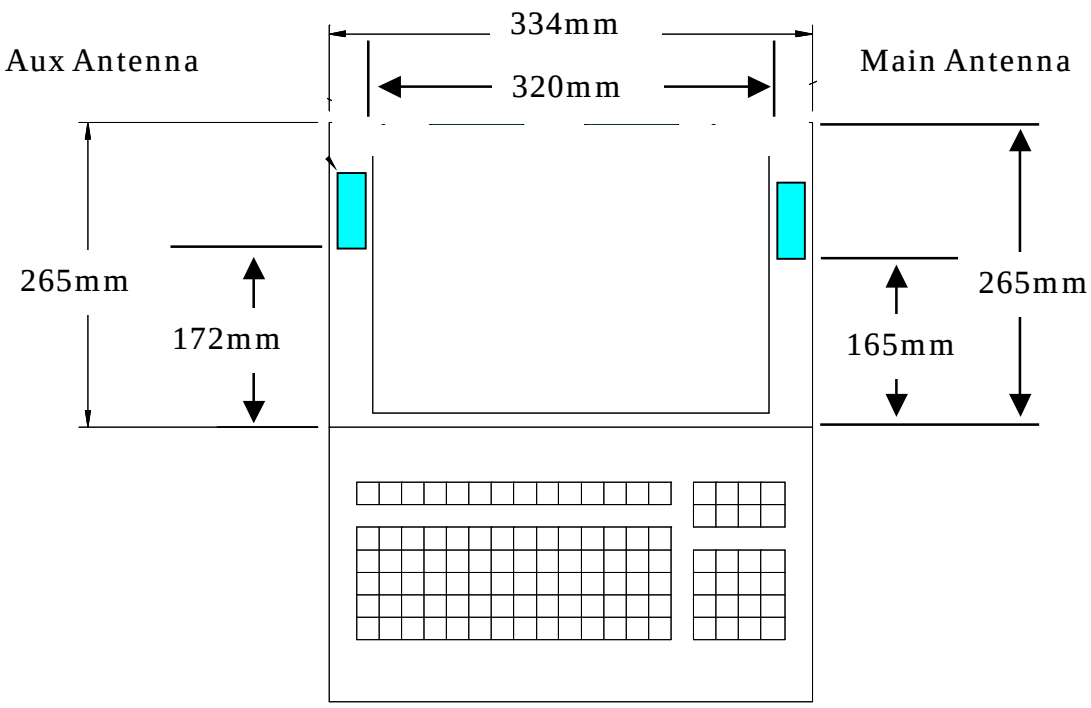
OEM / ODM Host platform: Asustek XXX15 Platform

Section 5. Antenna Host Platform Location Information

nclude a dimensioned photos or dimensioned drawings of main and auxiliary antenna placements.

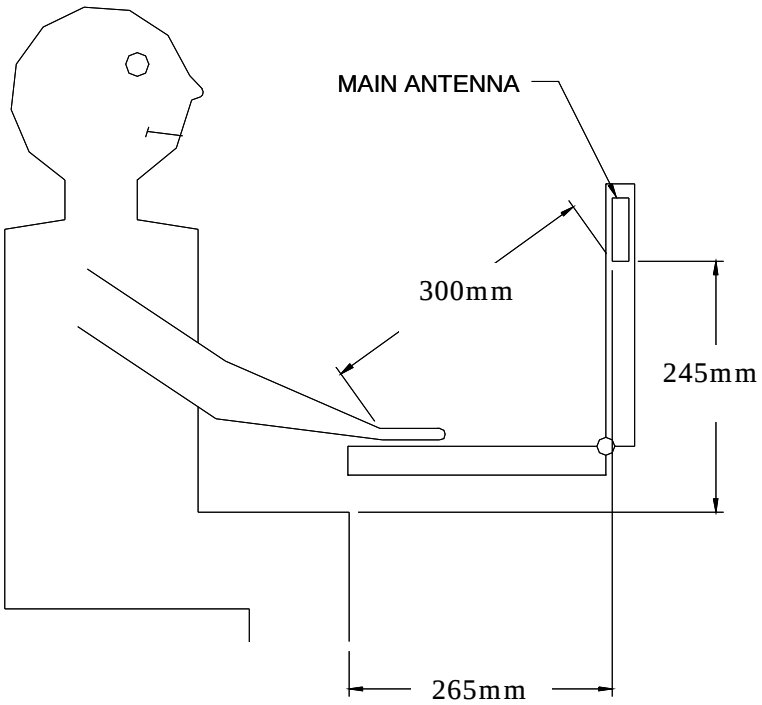


Left: Aux Antenna Right: Main Antenna



Section 6. Antenna dimensional information for SAR evaluation

Include a dimensioned photos or dimensioned drawings showing the distance (mm) between the transmit (main) antenna and the user (excluding hands, wrist, feet, and ankle)



Section 7. Diagram Example of Co-Location Antenna Separation

ndicate distance between WLAN module antennas and Bluetooth/other radio antenna element.

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