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)

Antenna information									
Vendor			**Type**		**Antenna Part number** (Main)		**Antenna Part number** (Aux)		
VSO			**Dipole**		**JR2Q00498-X0**		**JR2Q00498-X0**		
Peak gain w/ cable loss (dBi)*									
	2.4GHz 2400-2483.5 MHz	**5.2GHz** 5150-5250MHz	**5.3GHz** 5250-5350MHz	**5.6GHz** 5470-5725MHz	**5.8GHz** 5725-5850MHz	**6.2GHz** 5925-6425MHz	**6.5GHz** 6425-6525MHz	**6.7GHz** 6525-6875MHz	**7.0 GHz** 6875-7125MHz
Main	2.04	2.14	2.14	2.04	2.33	1.93	1.73	1.73	1.43
Aux	1.74	2.14	2.14	2.04	2.33	1.93	1.73	1.73	1.43

Address: 7th Floor, No. 880, Zhongzheng Road, Zhonghe District, New Taipei City

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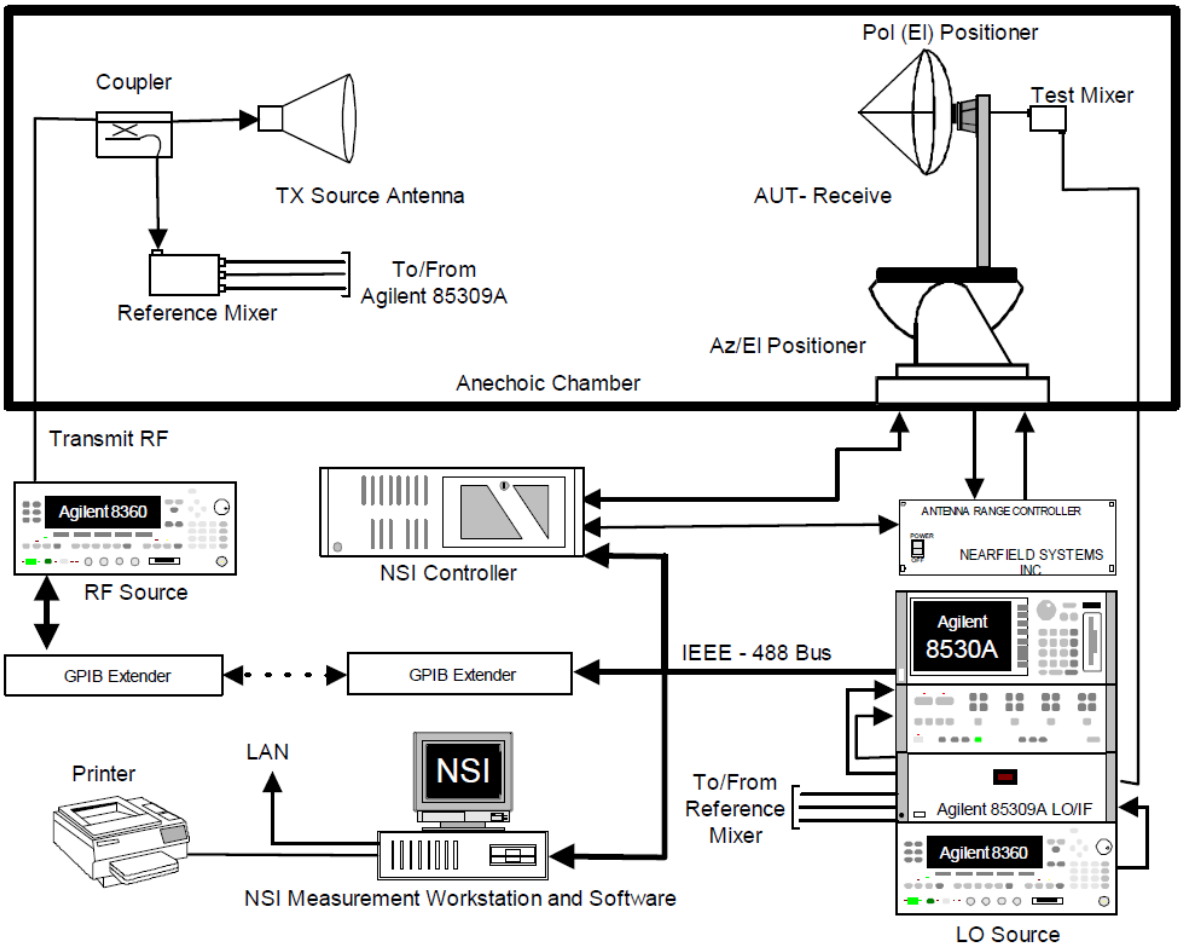
1. **Applicable test methods**
   Host antenna testing under a Full Anechoic Chamber.

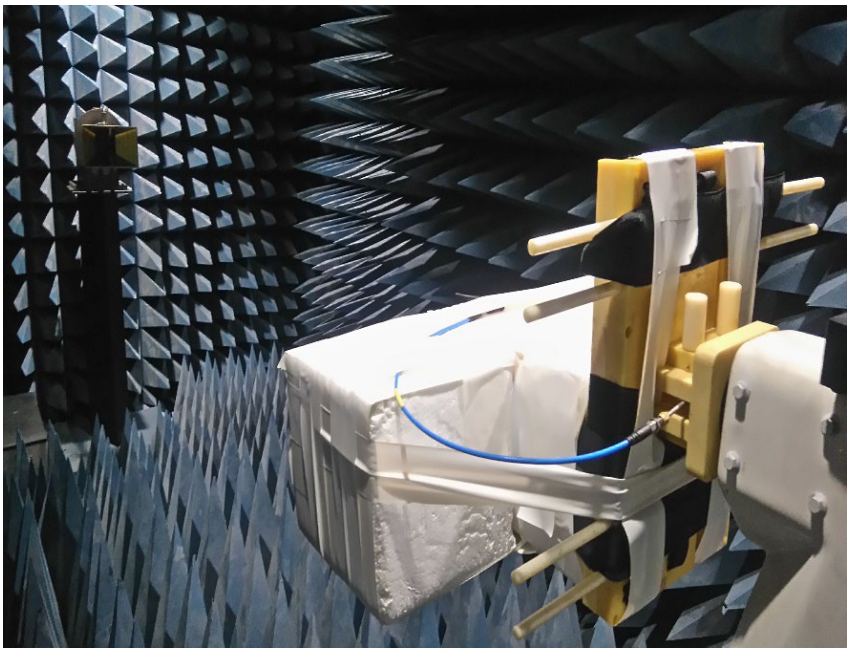
2. **Test & System Description**
   a. Test setup



b. Equipment list

編號	設備	型號
1	Anechoic Chamber	WavePro FFC-600
2	Network Analyzer	Agilent 5071C
3	Measurement systems	NSI2000
4	RF cable	7M 30M~18GHz

3. Setup photo



Antenna Information

Section 1. Antenna Assembly Specifications

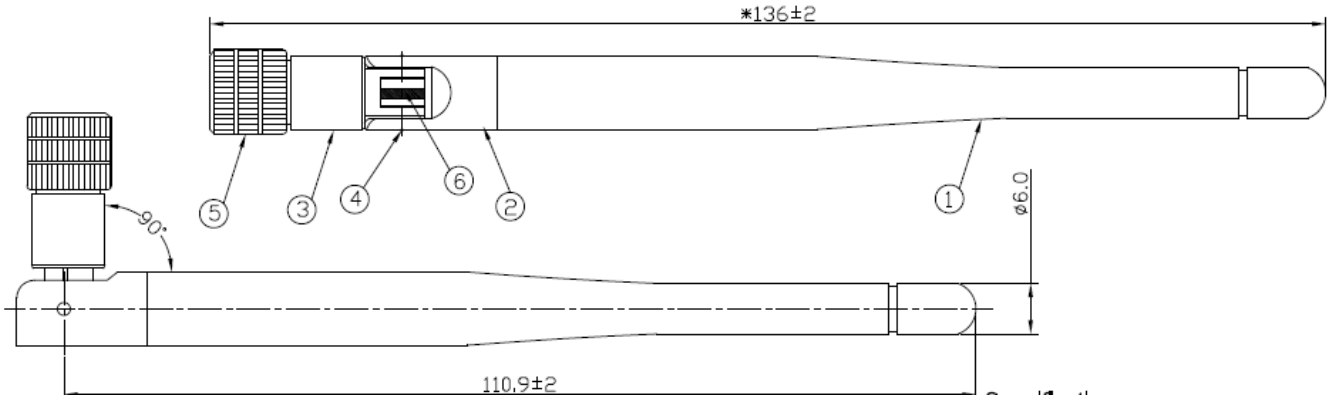
1A Antenna Part Number	1B Manufacturer	1C Antenna Type	1D Cable Assembly Part Number and Information	Freq Range MHz	1E * Peak Gain W/ Cable loss (dBi)	1F Peak Gain w/o Cable Loss (dBi)	1G Max VSWR	1H Cable Loss (dB)
(P/N: JR2Q00498-X0) Main Antenna	VSO	Dipole	(P/N: JR2Q00307-X2) 50 ohm Coaxial length: 20cm diameter: 1.13mm	2400-2483.5	2.04	2.7	2.0	0.66
				5150-5250	2.14	3.1	2.0	0.96
				5250-5350	2.14	3.1	2.0	0.96
				5470-5725	2.04	3	2.0	0.96
				5725-5850	2.33	3.5	2.0	1.17
				5925-6425	1.93	3.1	2.0	1.17
				6425-6525	1.73	2.9	2.0	1.17
				6525-6875	1.73	2.9	2.0	1.17
				6875-7125	1.43	2.6	2.0	1.17
(P/N: JR2Q00498-X0) Aux Antenna	VSO	Dipole	(P/N: JR2Q00307-X2) 50 ohm Coaxial length: 20cm diameter: 1.13mm	2400-2483.5	1.74	2.7	2.0	0.66
				5150-5250	2.14	3.1	2.0	0.96
				5250-5350	2.14	3.1	2.0	0.96
				5470-5725	2.04	3	2.0	0.96
				5725-5850	2.33	3.5	2.0	1.17
				5925-6425	1.93	3.1	2.0	1.17
				6425-6525	1.73	2.9	2.0	1.17
				6525-6875	1.73	2.9	2.0	1.17
				6875-7125	1.43	2.6	2.0	1.17

- **3D Antenna Peak Gain required being test in system basis.**

Section 2. Dimensioned Photos and Drawings of Antennas

Include the dimensioned photo and drawing of Main antenna here.

Main Antenna Drawing:

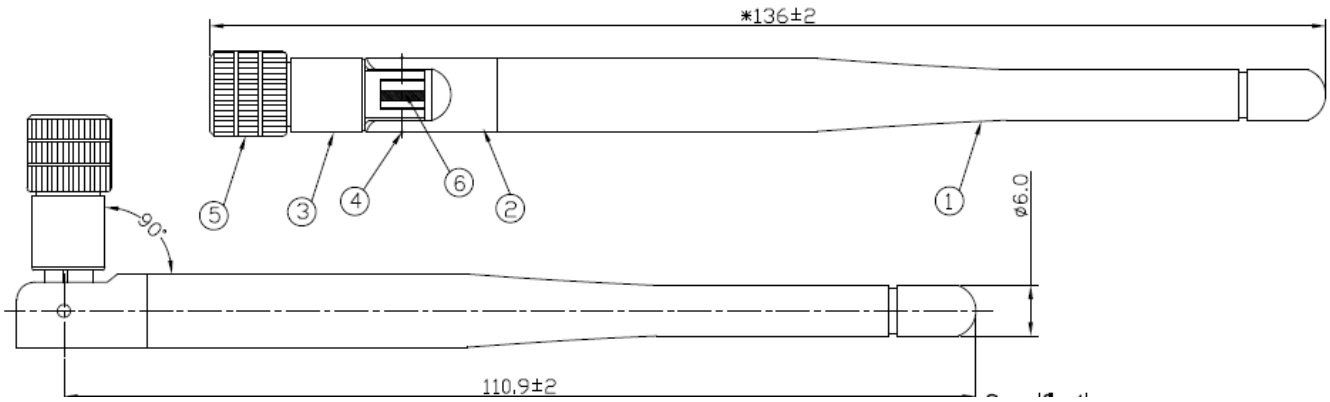


Main Antenna Photo (Front/Back):

Note: antenna photo should include L type ruler

Include the dimensioned photo and drawing of Aux antenna here.

Aux Antenna Drawing:

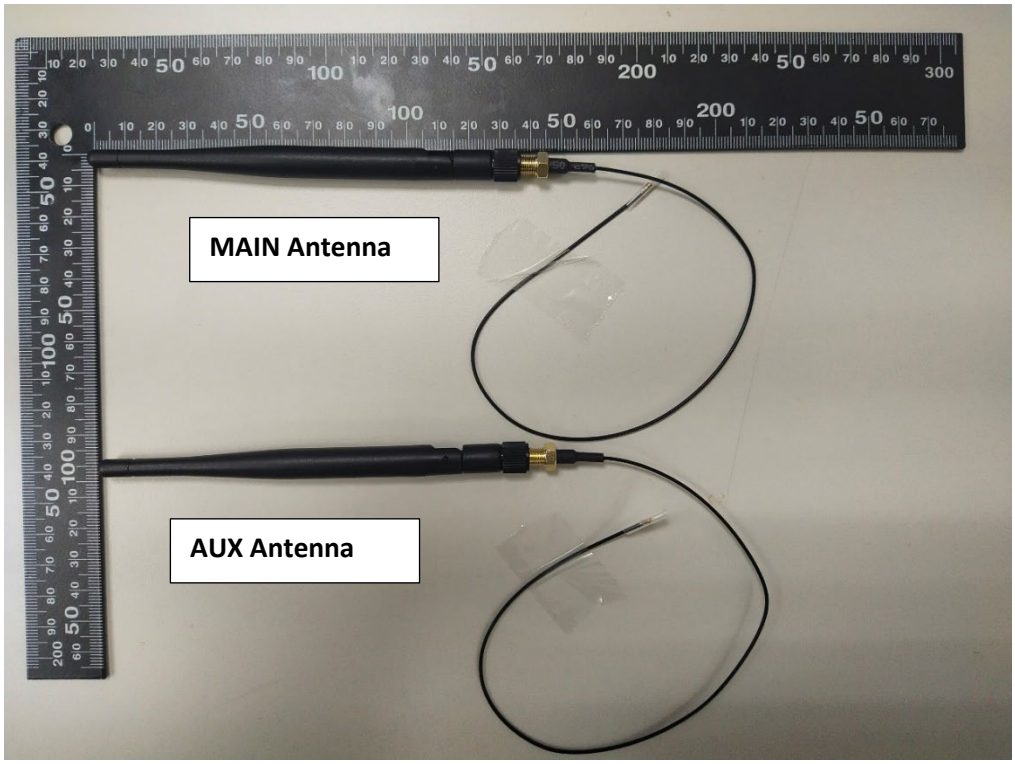


Aux Antenna Photo (Front/Back):

Include front view photo of all 2 antennas here.

Antenna Manufacturer: VSO

Antenna Part Number: JR2Q00498-X0 (Main), JR2Q00498-X0 (Aux)



Include back view photo of all 2 antennas here.

Antenna Manufacturer: VSO

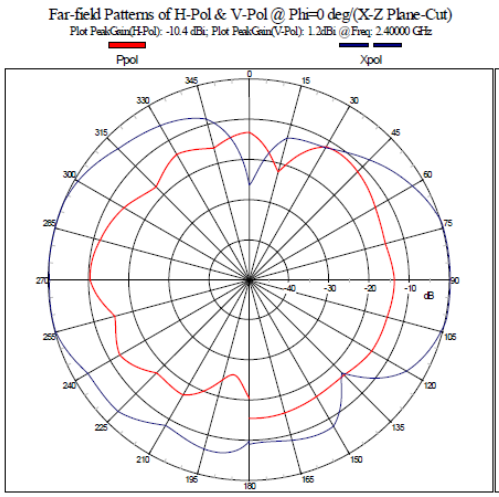
Antenna Part Number: JR2Q00498-X0 (Main), JR2Q00498-X0 (Aux)

Note: antenna photo should include L type ruler

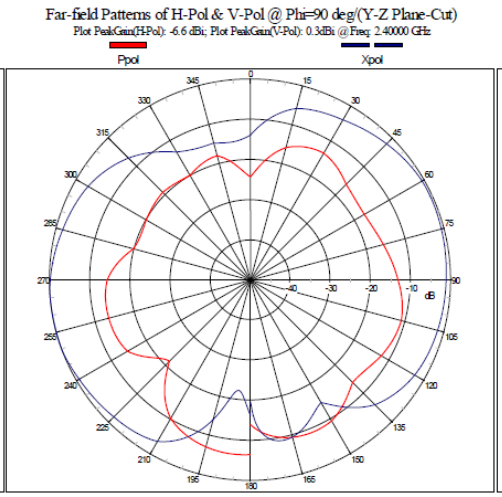
Section 3. Radiation characteristics of antenna loaded in Host Platform

2400-2500MHz radiation characteristic

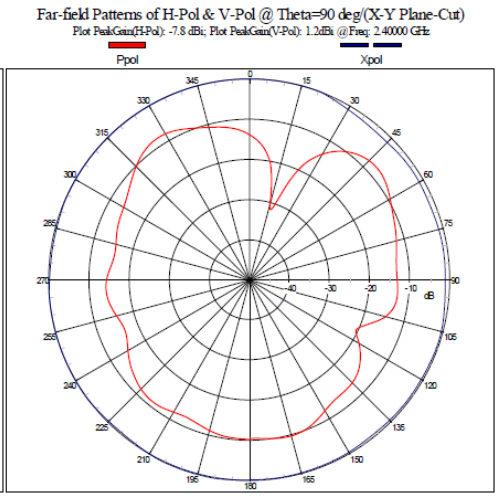
Main antenna: 2400 MHz



X-Z Plane



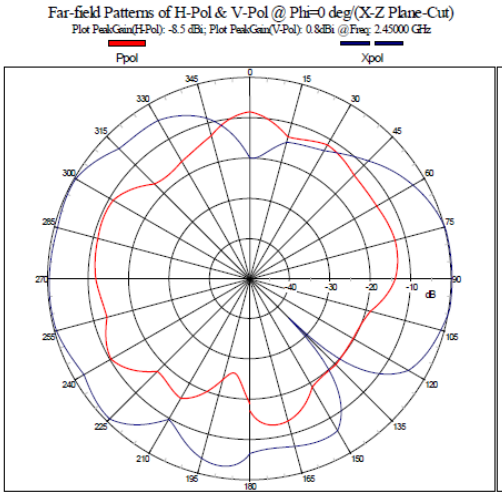
Y-Z Plane



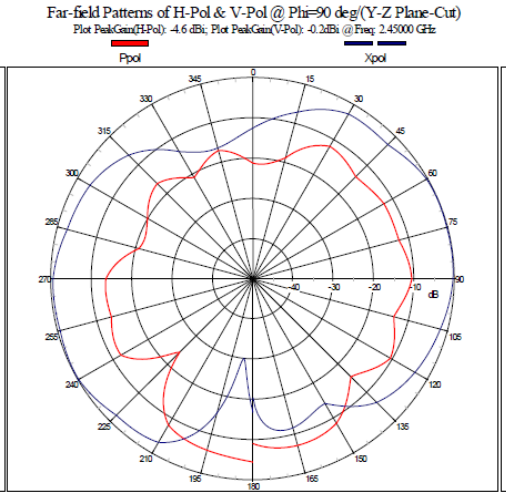
X-Y Plane

Center Frequency	**2400 MHz**
Three-dimensional (dBi) peak	**2.4**

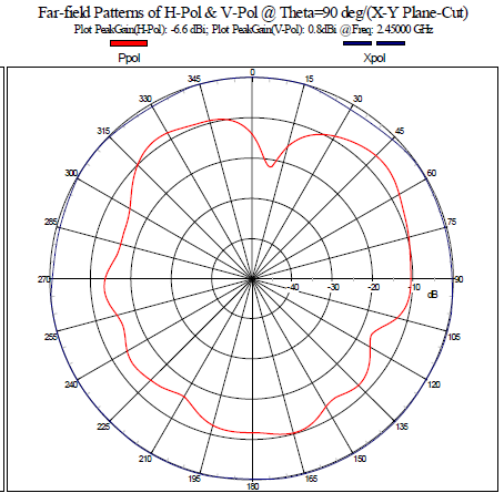
Main antenna: 2450 MHz



X-Z Plane



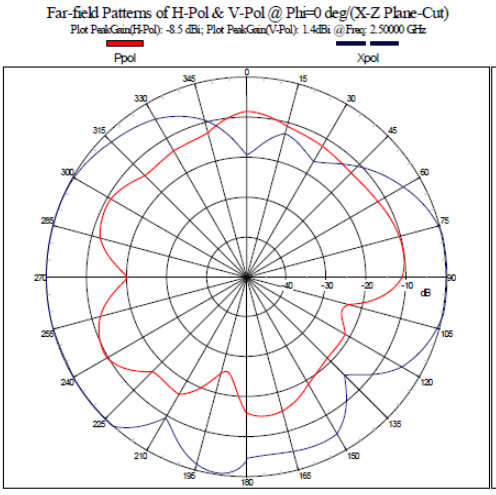
Y-Z Plane



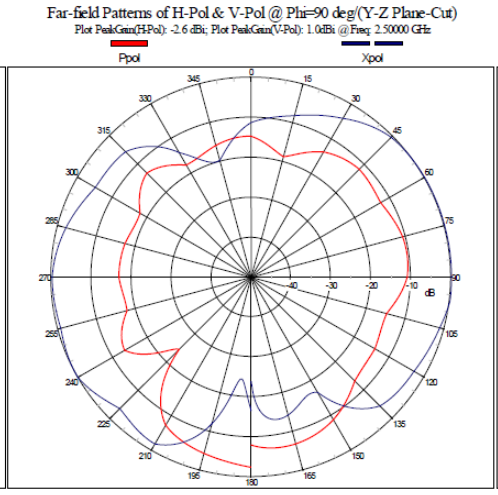
X-Y Plane

Center Frequency	**2450 MHz**
Three-dimensional (dBi) peak	**1.9**

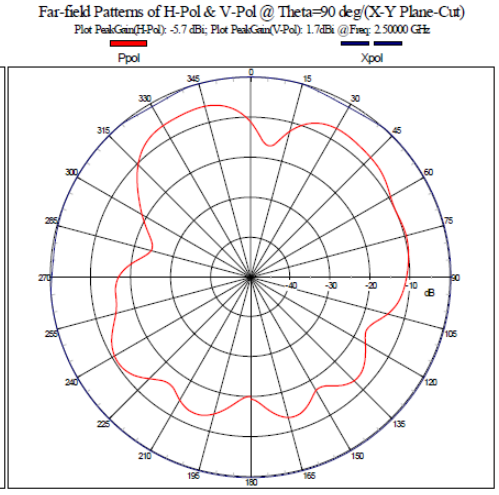
Main antenna: 2500 MHz



X-Z Plane



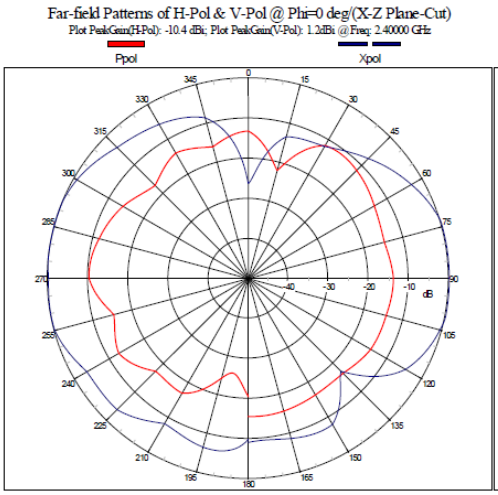
Y-Z Plane



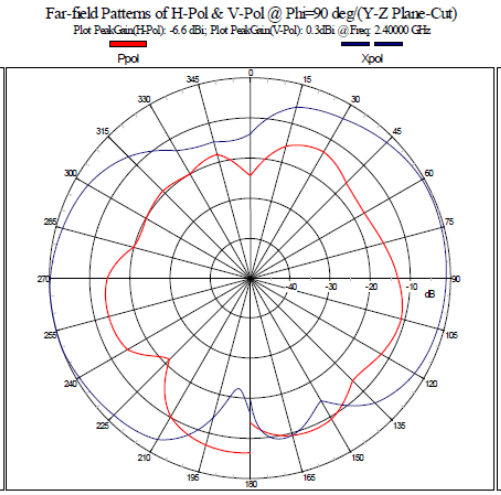
X-Y Plane

Center Frequency	**2500 MHz**
Three-dimensional (dBi) peak	**2.7**

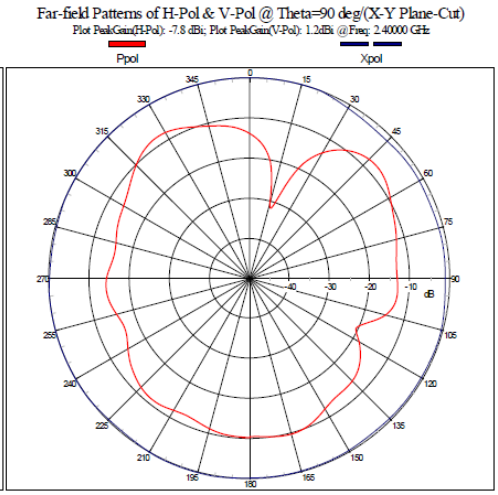
Aux antenna: 2400 MHz



X-Z Plane



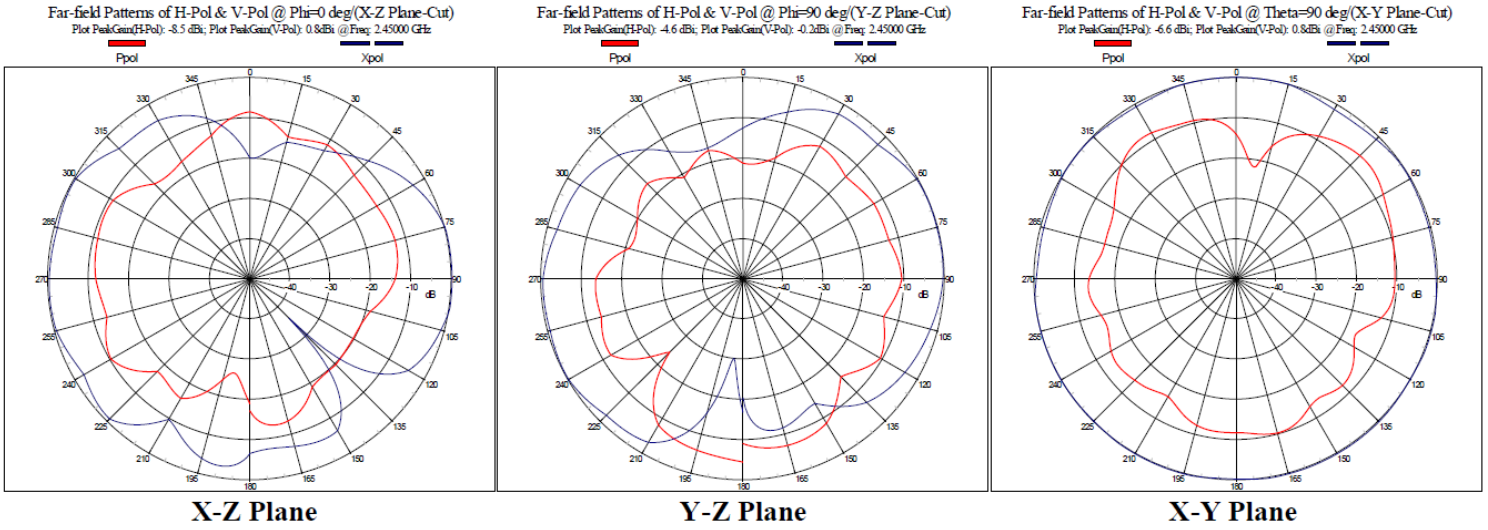
Y-Z Plane



X-Y Plane

Center Frequency	**2400 MHz**
Three-dimensional (dBi) peak	**2.4**

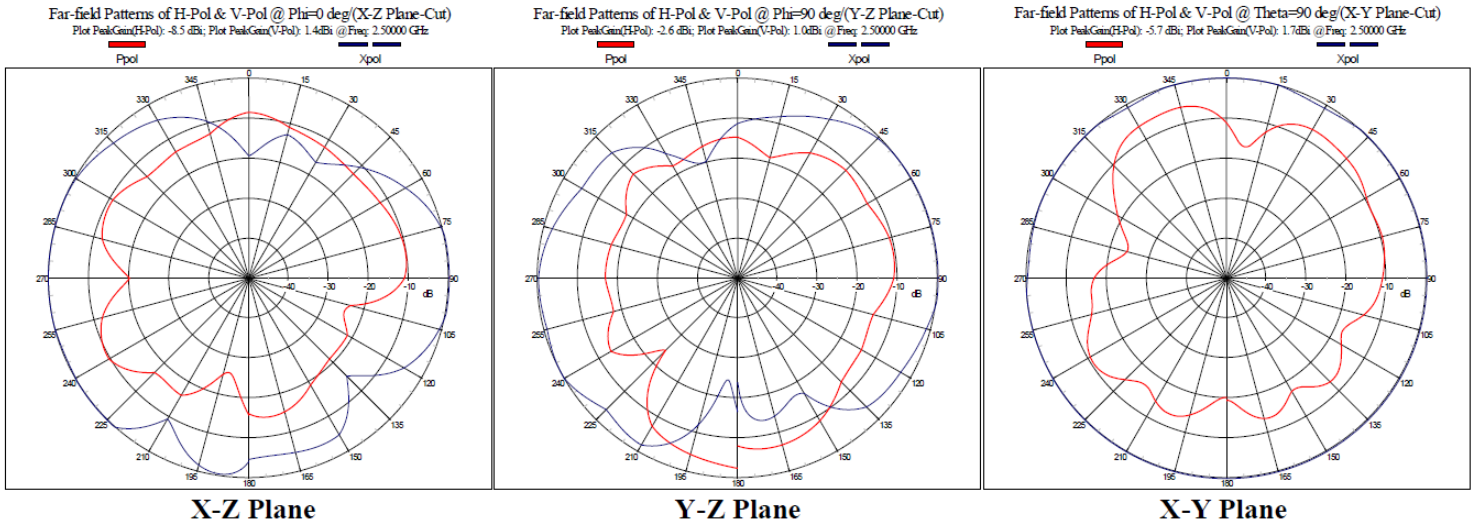
Aux antenna: 2450 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**2450 MHz**
Three-dimensional (dBi) peak	**1.9**

Aux antenna: 2500 MHz

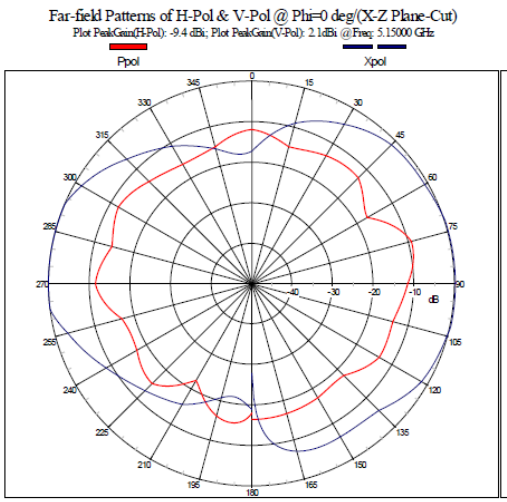


X-Z Plane **Y-Z Plane** **X-Y Plane**

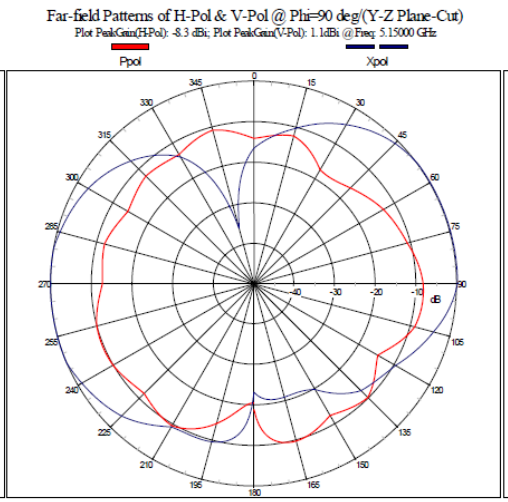
Center Frequency	**2500 MHz**
Three-dimensional (dBi) peak	**2.7**

5150-5350MHz radiation characteristic

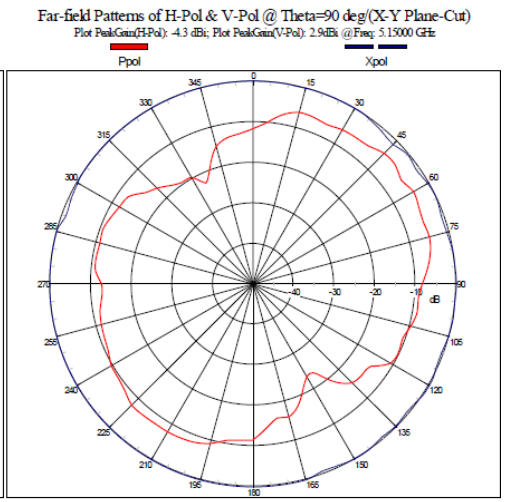
Main antenna: 5150 MHz



X-Z Plane



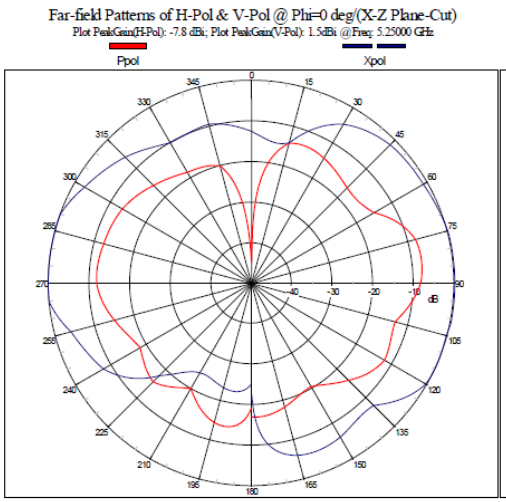
Y-Z Plane



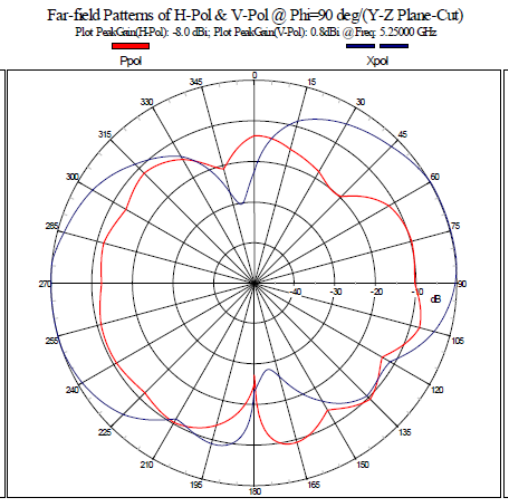
X-Y Plane

Center Frequency	**5150 MHz**
Three-dimensional (dBi) peak	3.1

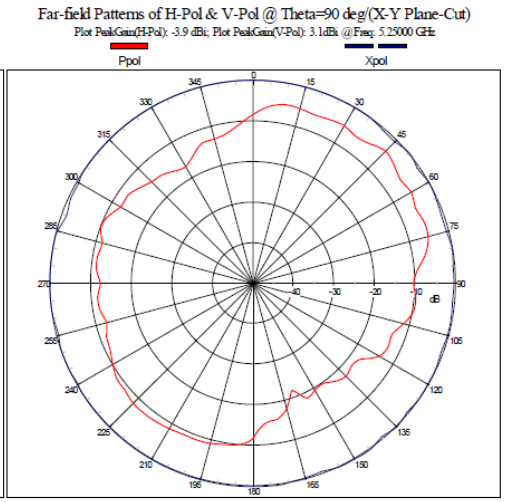
Main antenna: 5250 MHz



X-Z Plane



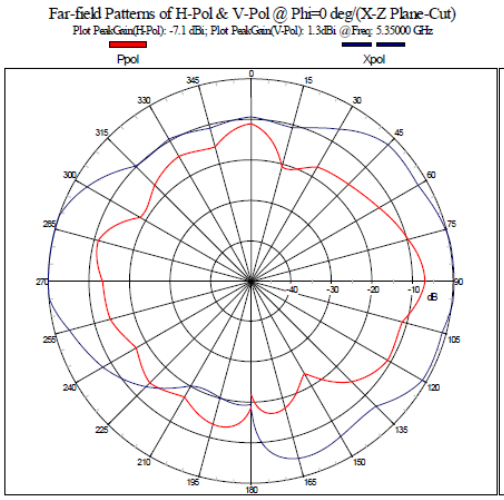
Y-Z Plane



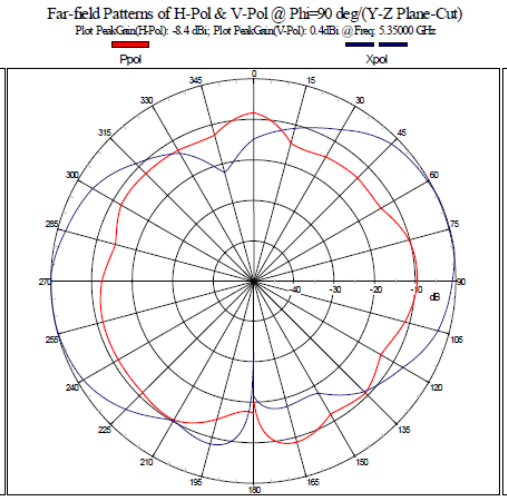
X-Y Plane

Center Frequency	**5250 MHz**
Three-dimensional (dBi) peak	3

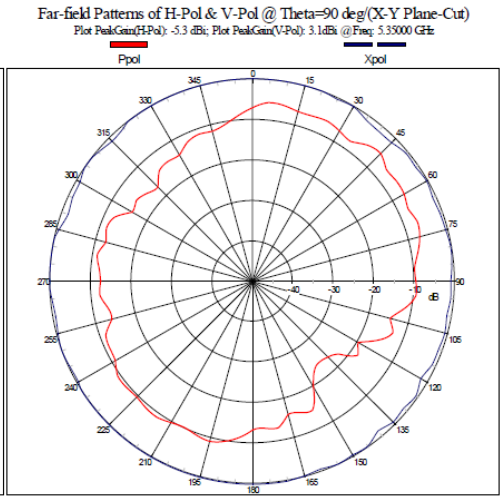
Main antenna: 5350 MHz



X-Z Plane



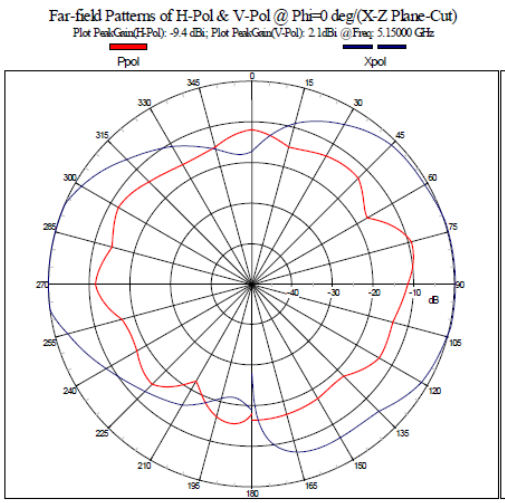
Y-Z Plane



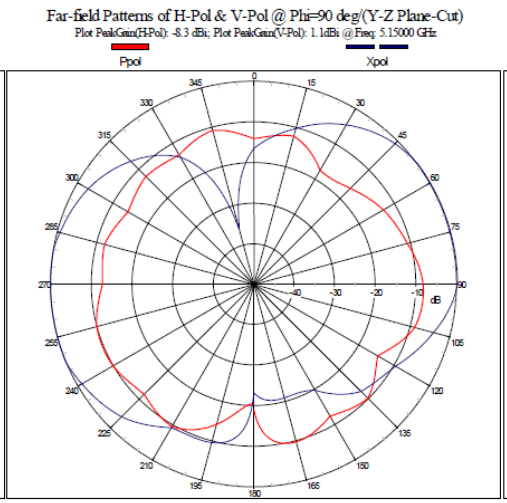
X-Y Plane

Center Frequency	**5350 MHz**
Three-dimensional (dBi) peak	**2.8**

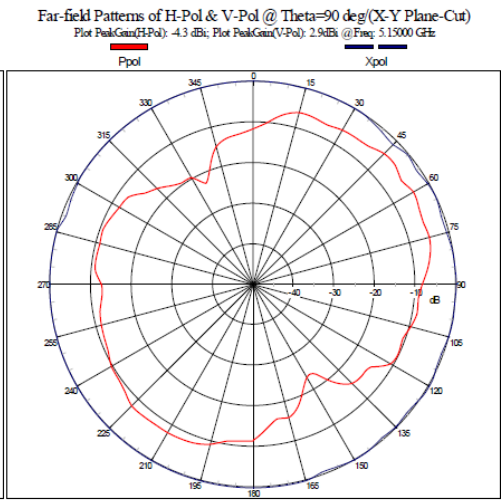
Aux antenna: 5150 MHz



X-Z Plane



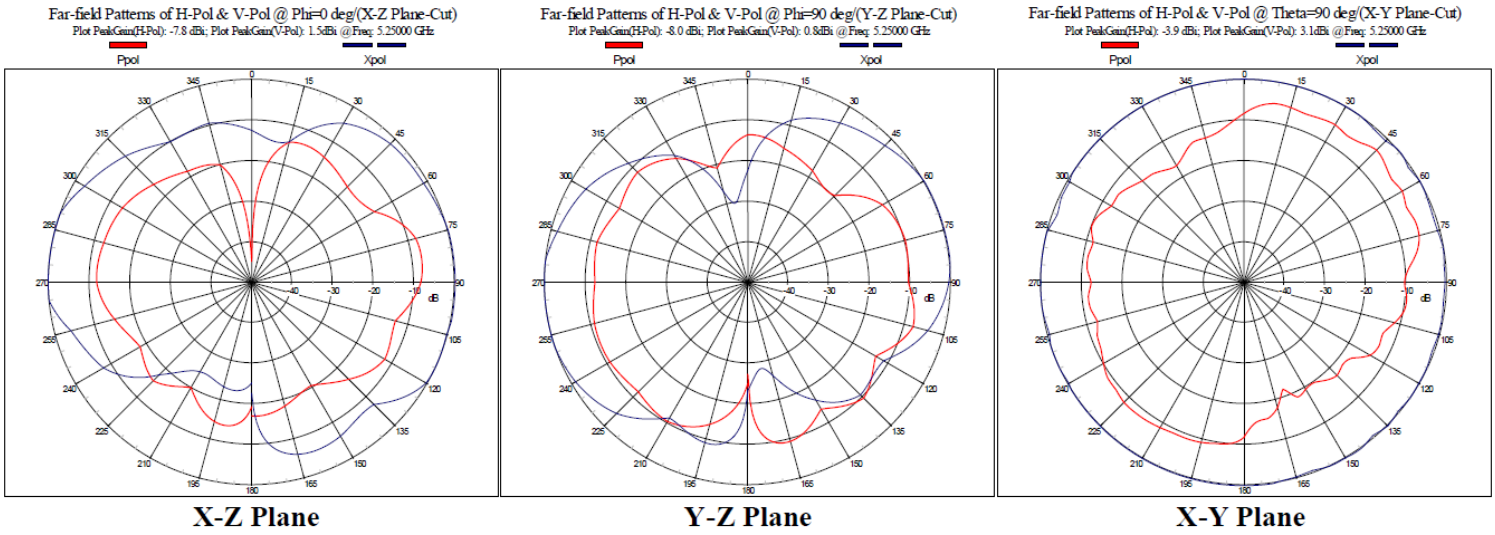
Y-Z Plane



X-Y Plane

Center Frequency	**5150 MHz**
Three-dimensional (dBi) peak	**3.1**

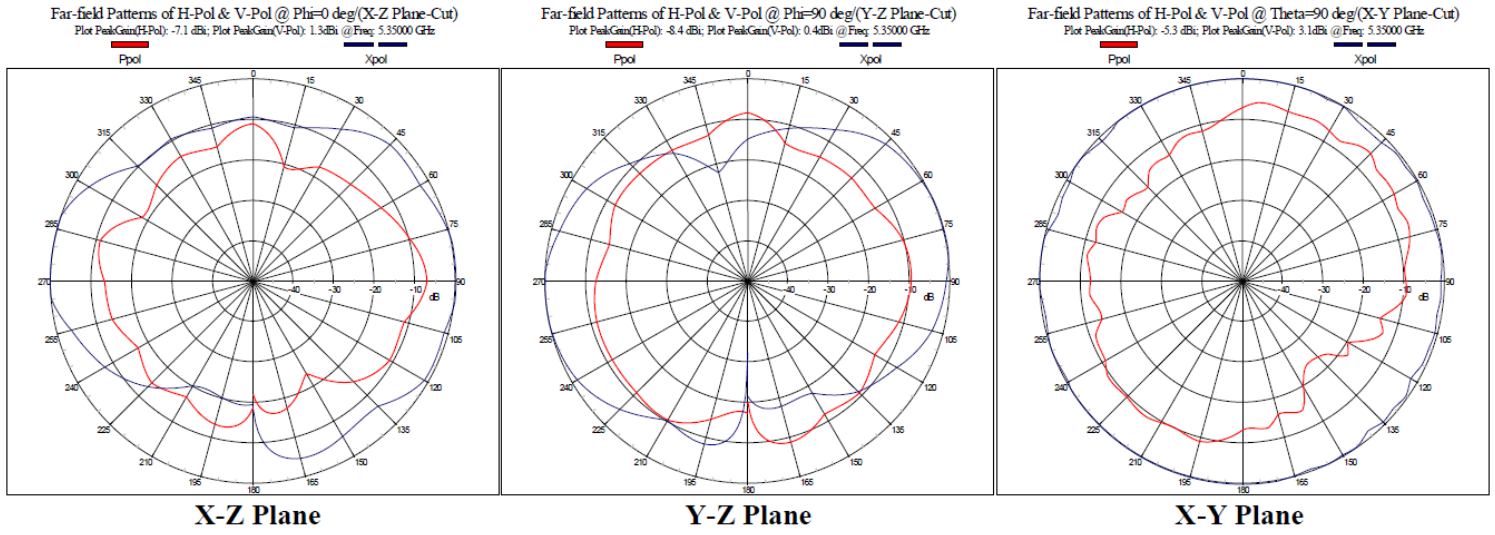
Aux antenna: 5250 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**5250 MHz**
Three-dimensional (dBi) peak	**3**

Aux antenna: 5350 MHz

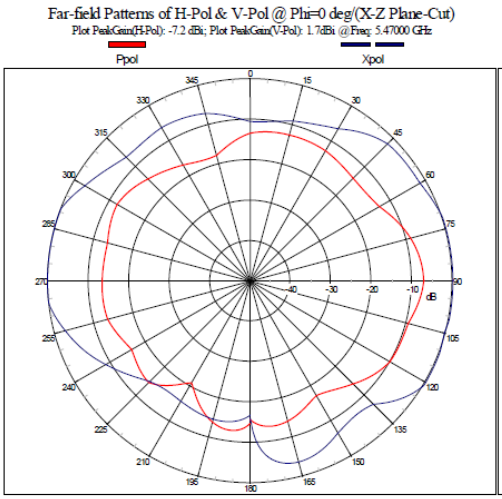


X-Z Plane **Y-Z Plane** **X-Y Plane**

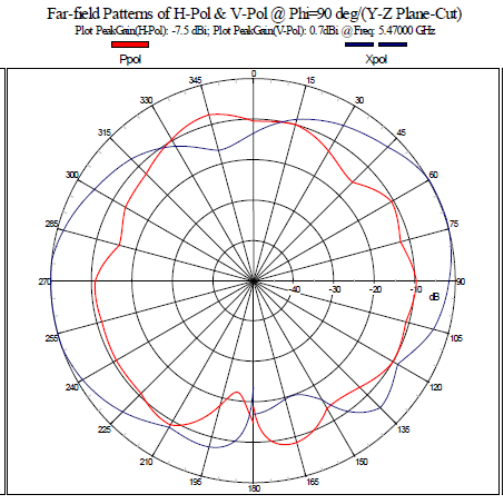
Center Frequency	**5350 MHz**
Three-dimensional (dBi) peak	**2.8**

5470-5725MHz radiation characteristic

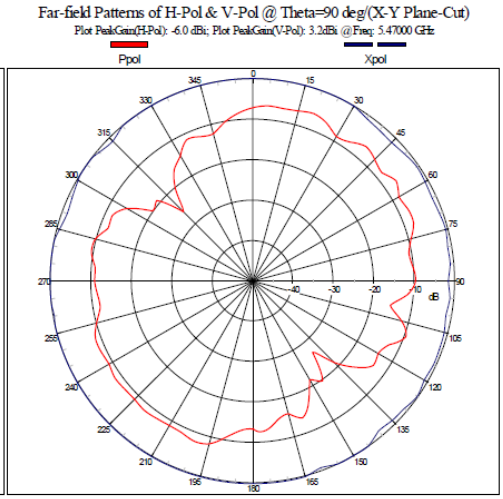
Main antenna: 5470 MHz



X-Z Plane



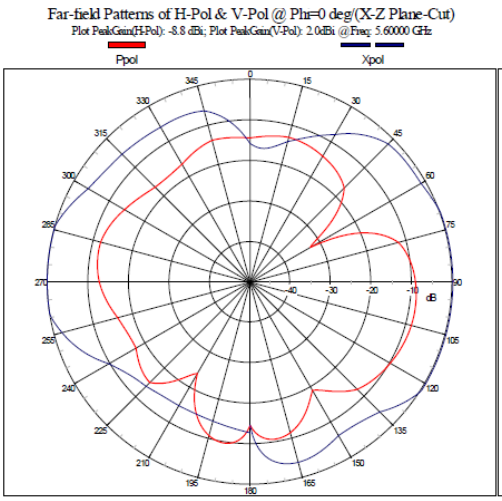
Y-Z Plane



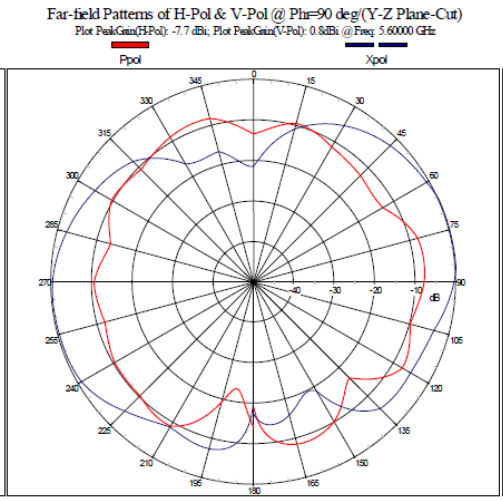
X-Y Plane

Center Frequency	**5470 MHz**
Three-dimensional (dBi) peak	**3**

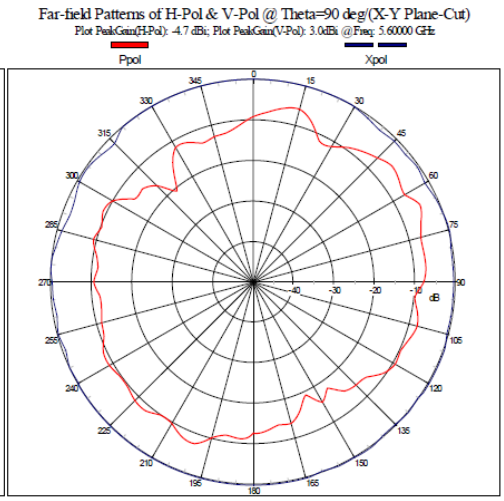
Main antenna: 5600 MHz



X-Z Plane



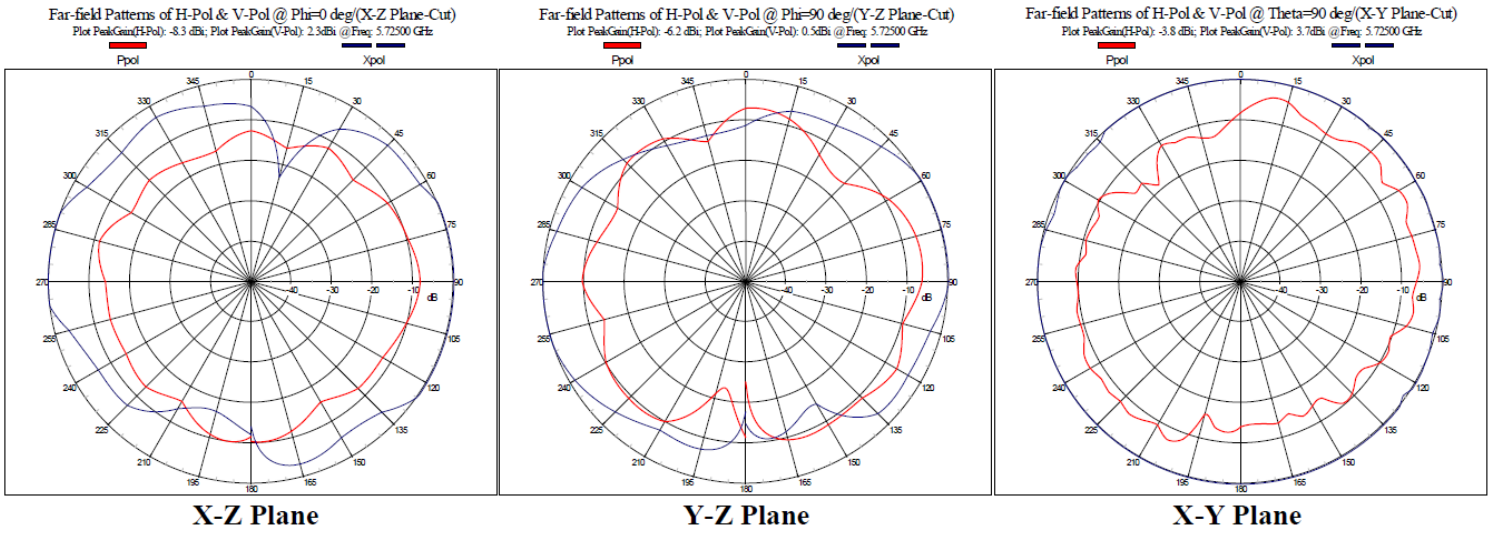
Y-Z Plane



X-Y Plane

Center Frequency	**5600 MHz**
Three-dimensional (dBi) peak	**2.8**

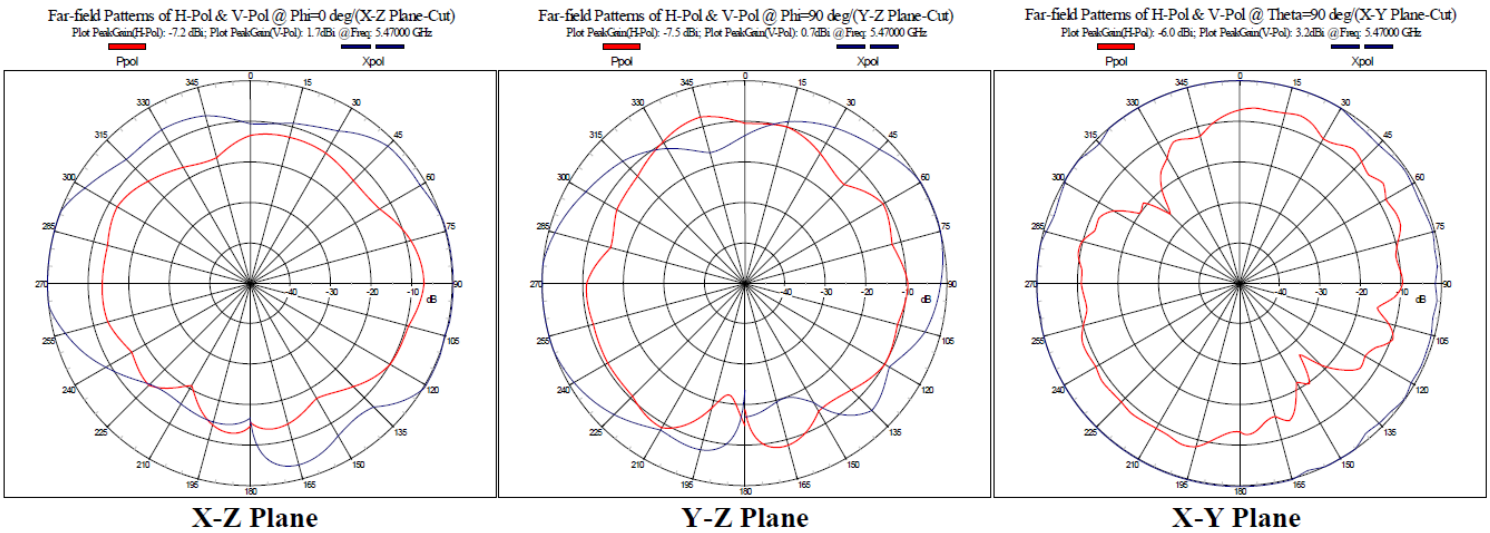
Main antenna: 5725 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**5725 MHz**
Three-dimensional (dBi) peak	3

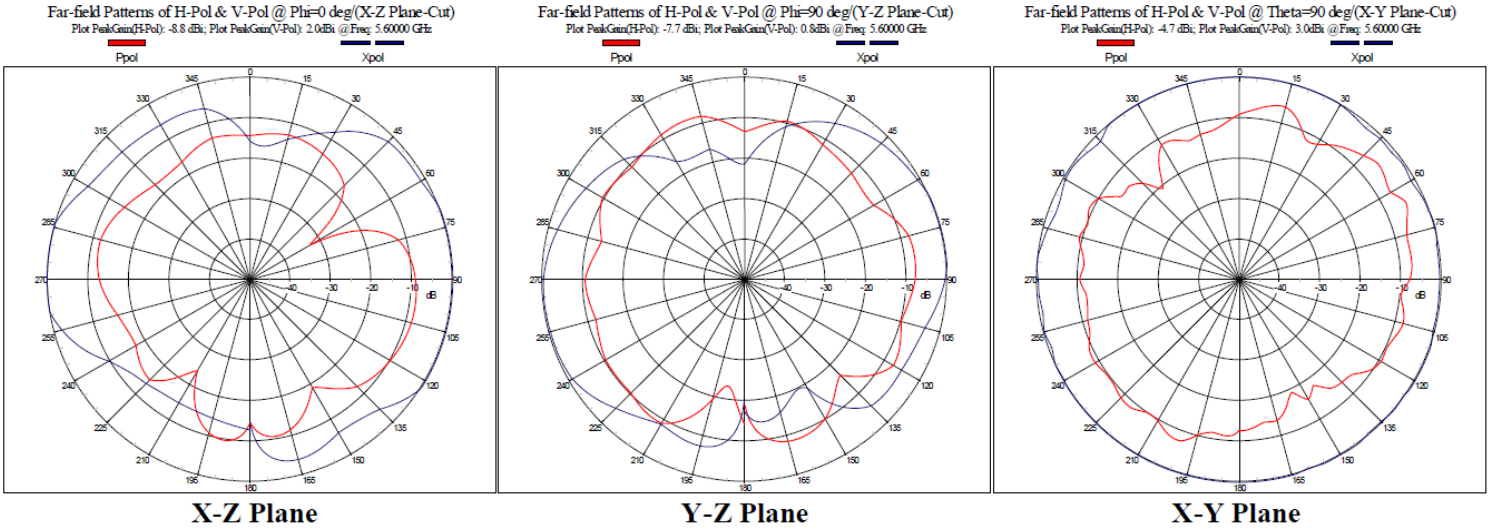
Aux antenna: 5470 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**5470 MHz**
Three-dimensional (dBi) peak	3

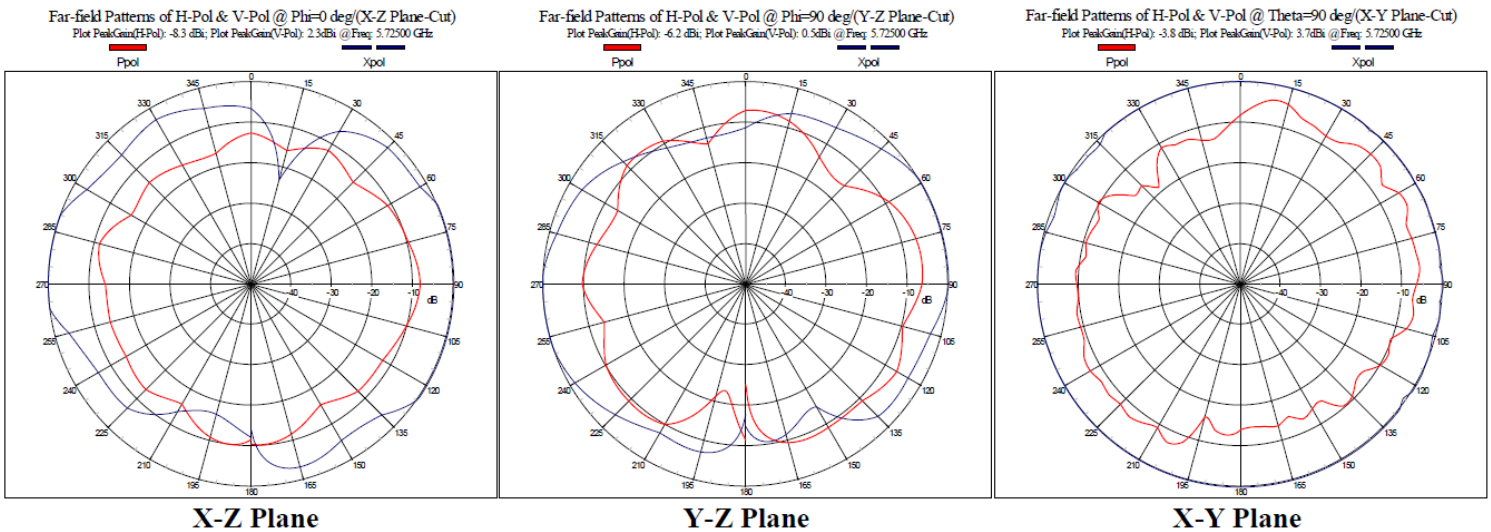
Aux antenna: 5600 MHz



X-Z Plane | Y-Z Plane | X-Y Plane

Center Frequency	**5600 MHz**
Three-dimensional (dBi) peak	**2.8**

Aux antenna: 5725 MHz

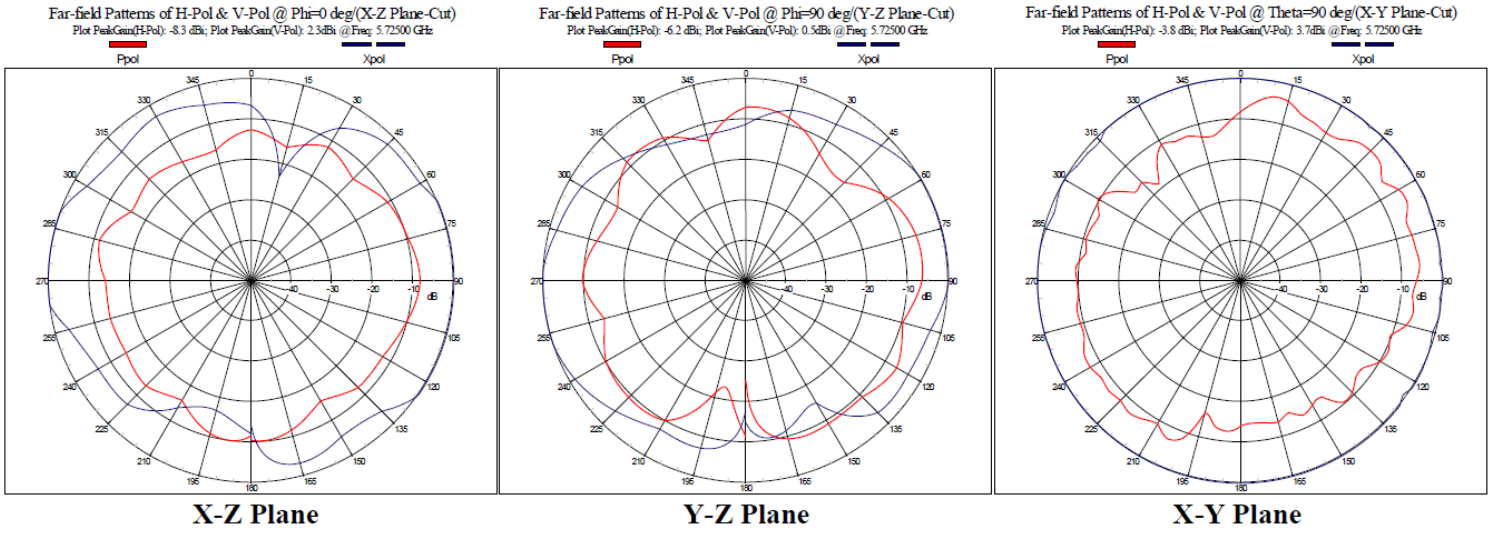


X-Z Plane | Y-Z Plane | X-Y Plane

Center Frequency	**5725 MHz**
Three-dimensional (dBi) peak	**3**

5725-5850MHz radiation characteristic

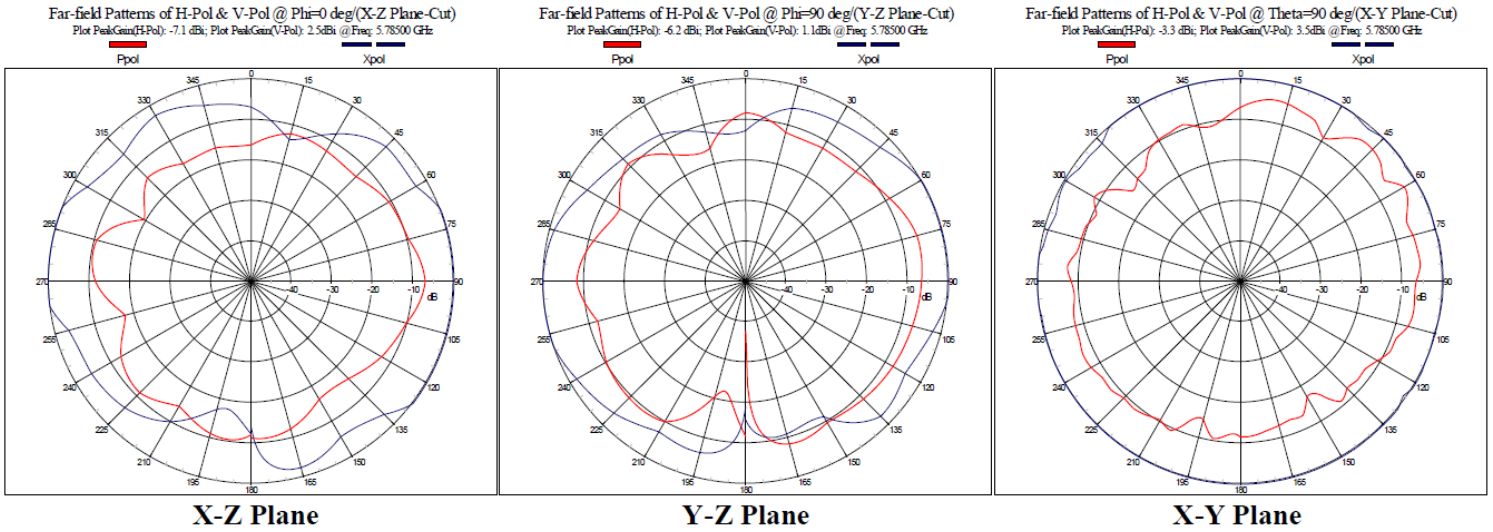
Main antenna: 5725 MHz



X-Z Plane | Y-Z Plane | X-Y Plane

Center Frequency	**5725 MHz**
Three-dimensional (dBi) peak	**3**

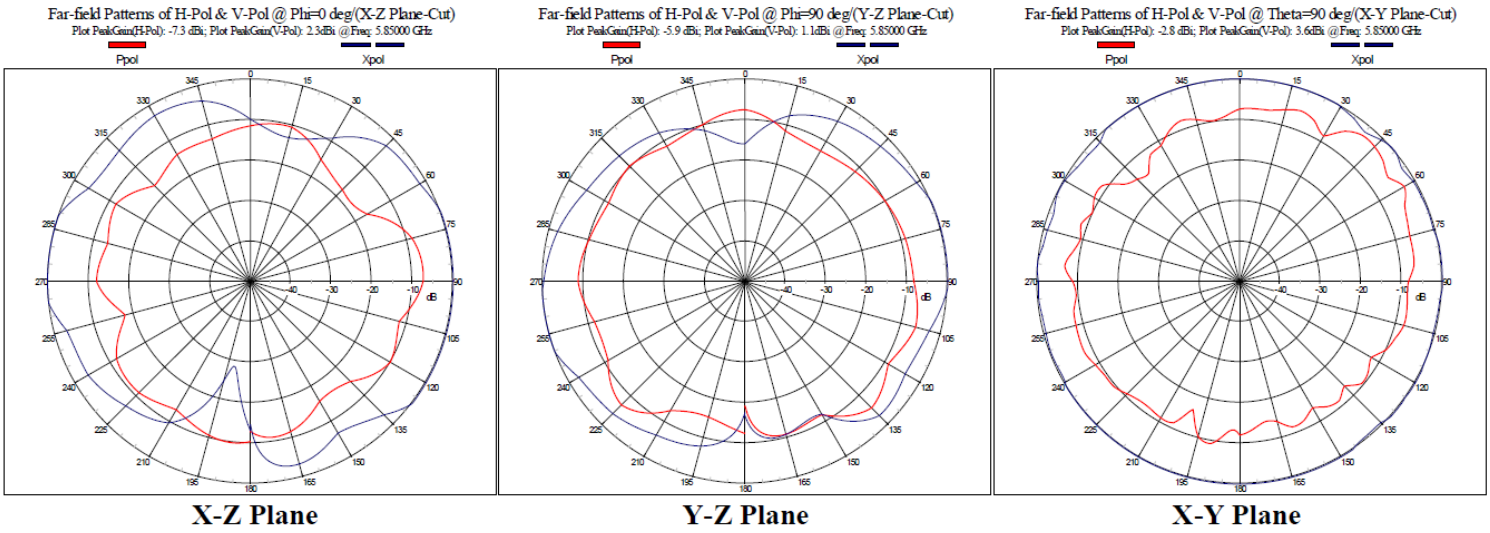
Main antenna: 5785 MHz



X-Z Plane | Y-Z Plane | X-Y Plane

Center Frequency	**5785 MHz**
Three-dimensional (dBi) peak	**3.5**

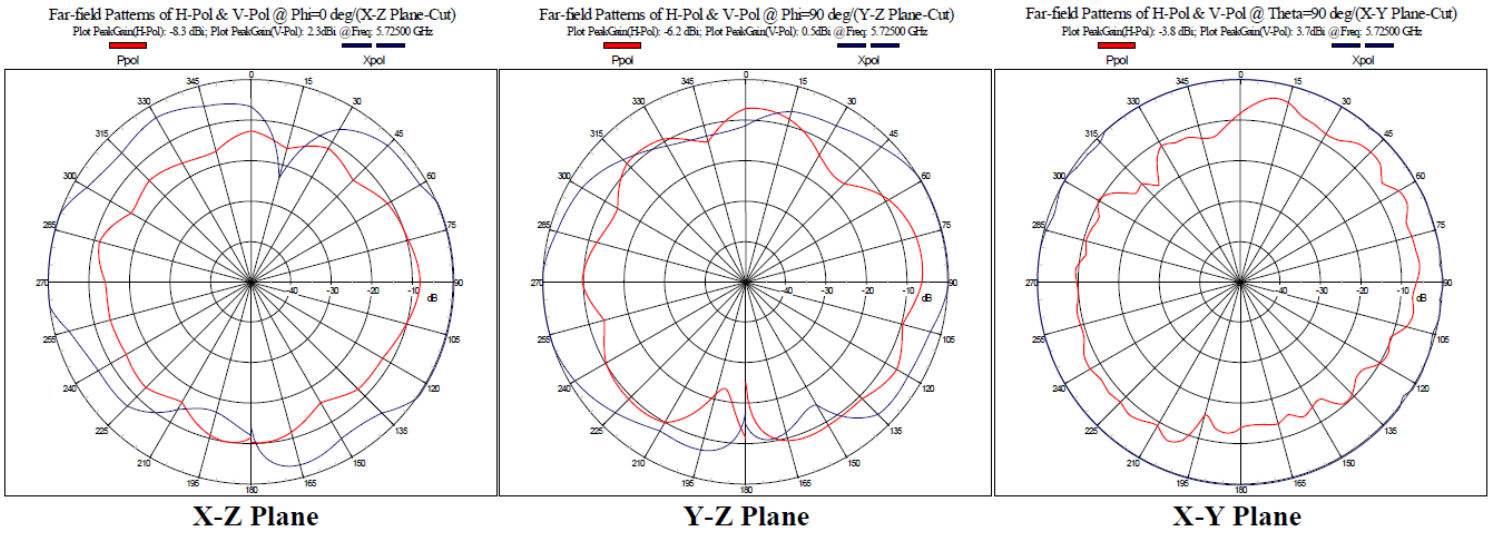
Main antenna: 5850 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**5850 MHz**
Three-dimensional (dBi) peak	**3.3**

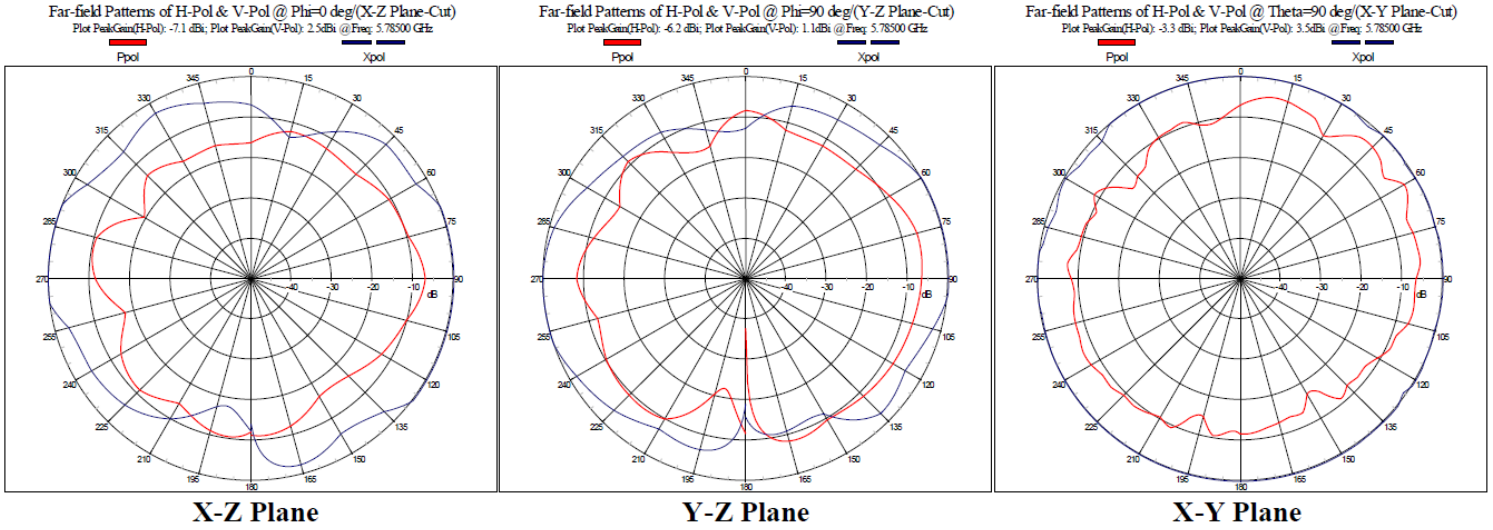
Aux antenna: 5725 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**5725 MHz**
Three-dimensional (dBi) peak	**3**

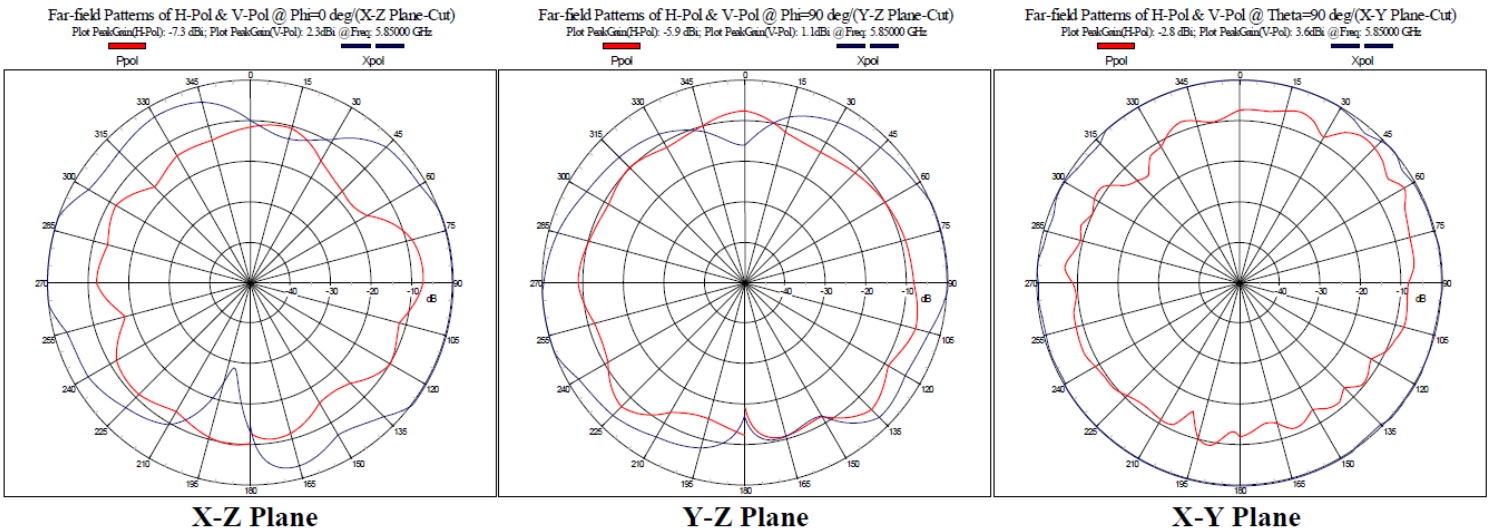
Aux antenna: 5785 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**5785 MHz**
Three-dimensional (dBi) peak	**3.5**

Aux antenna: 5850 MHz

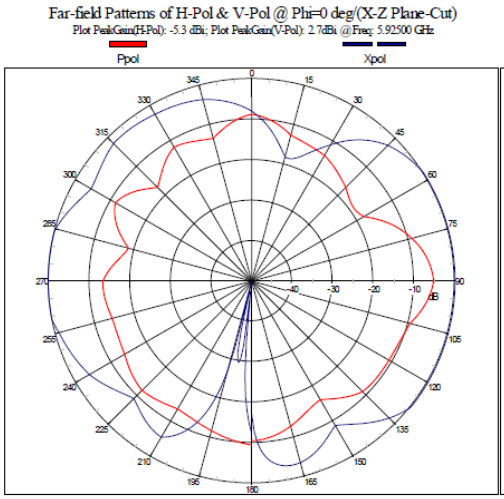


X-Z Plane **Y-Z Plane** **X-Y Plane**

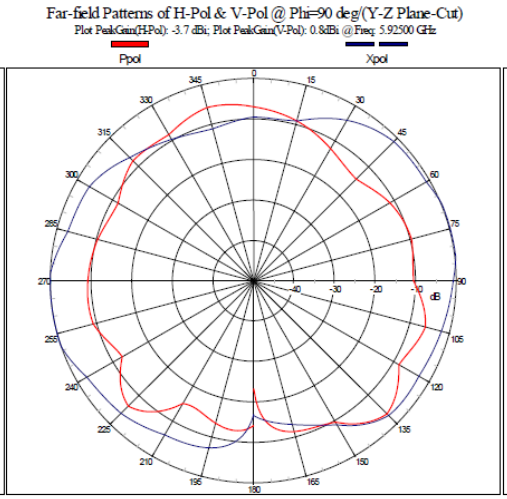
Center Frequency	**5850 MHz**
Three-dimensional (dBi) peak	**3.3**

5925-6425MHz radiation characteristic

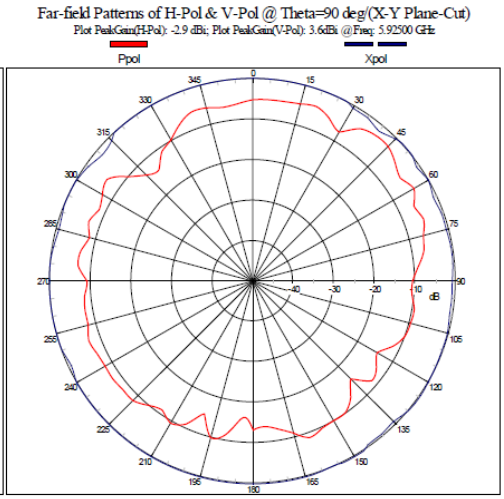
Main antenna: 5925 MHz



X-Z Plane



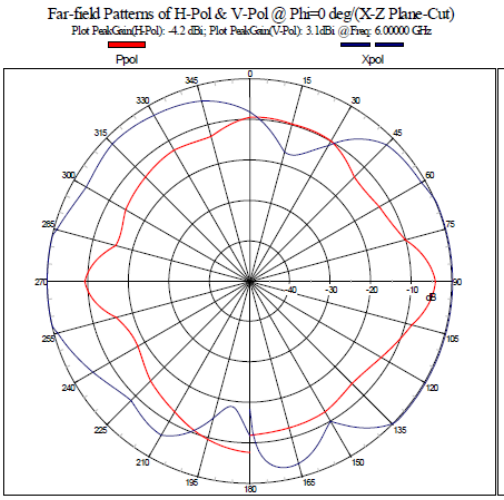
Y-Z Plane



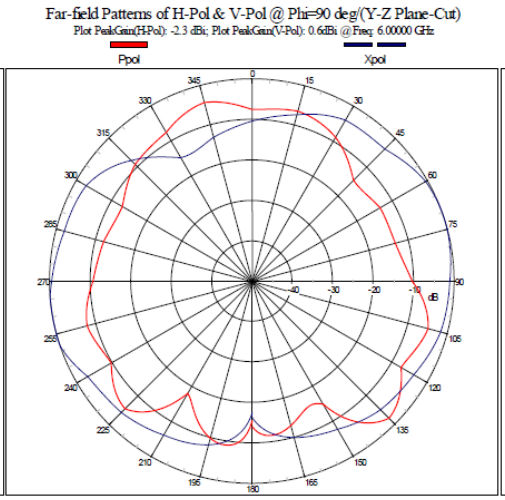
X-Y Plane

Center Frequency	**5925 MHz**
Three-dimensional (dBi) peak	**3.1**

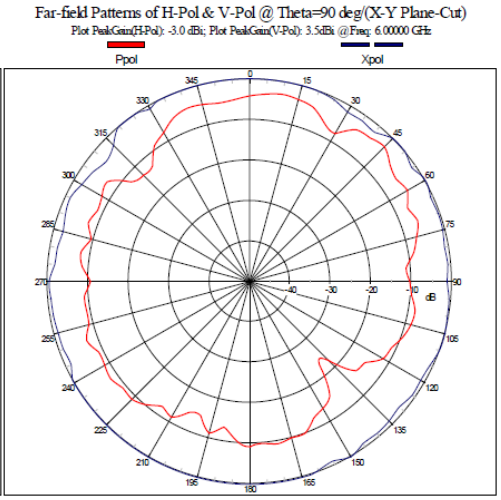
Main antenna: 6000 MHz



X-Z Plane



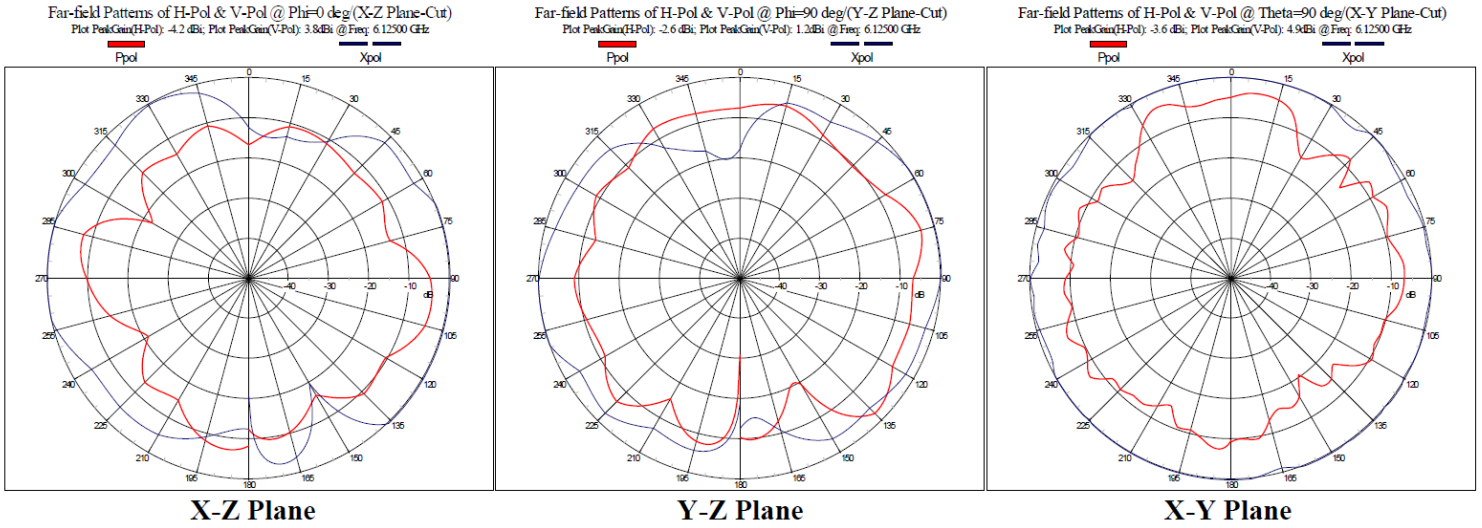
Y-Z Plane



X-Y Plane

Center Frequency	**6000 MHz**
Three-dimensional (dBi) peak	**3.1**

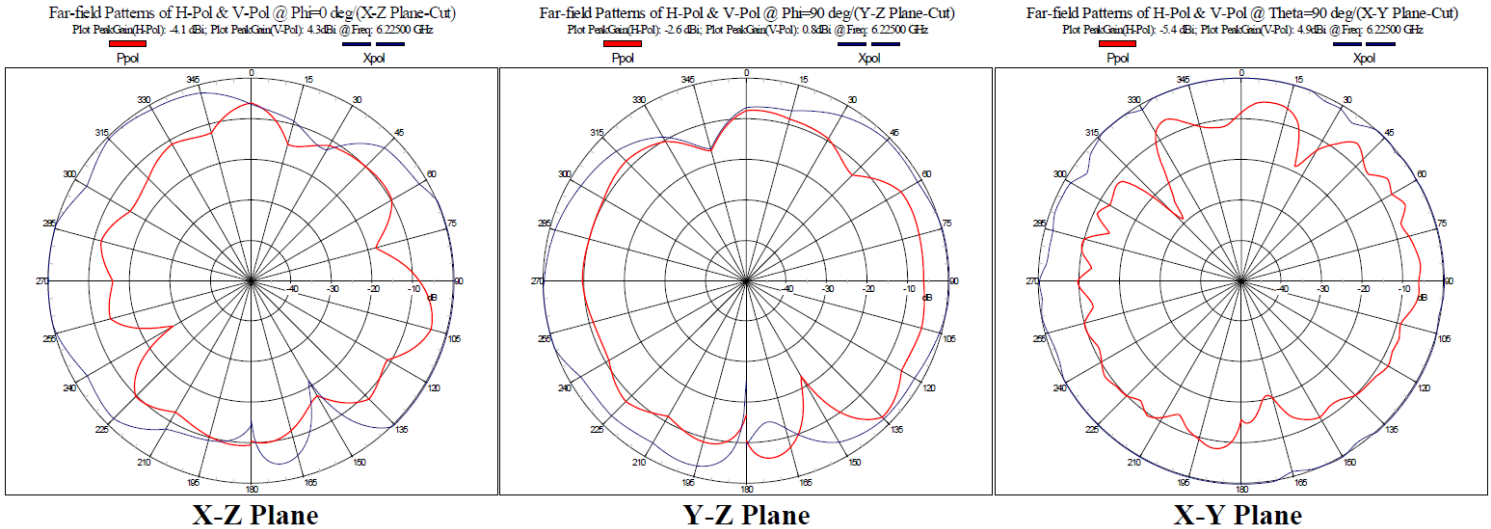
Main antenna: 6125 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**6125 MHz**
Three-dimensional (dBi) peak	**2.8**

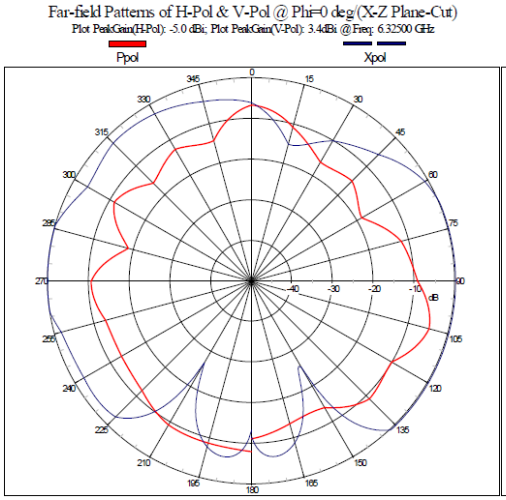
Main antenna: 6225 MHz



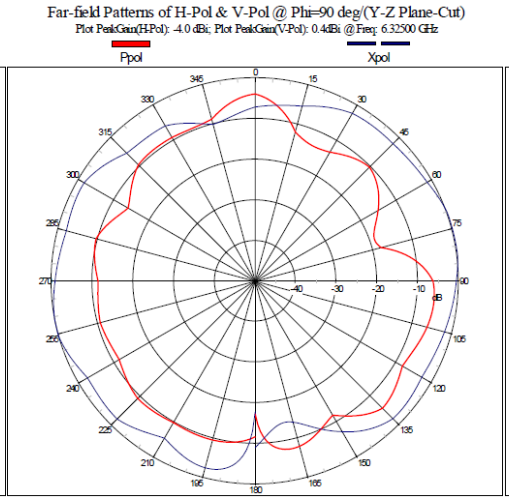
X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**6225 MHz**
Three-dimensional (dBi) peak	**2.8**

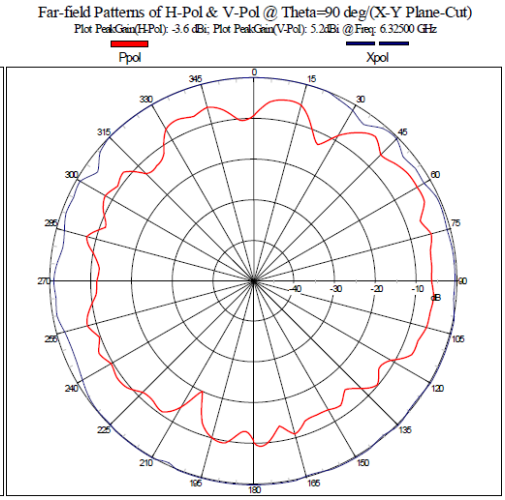
Main antenna: 6325 MHz



X-Z Plane



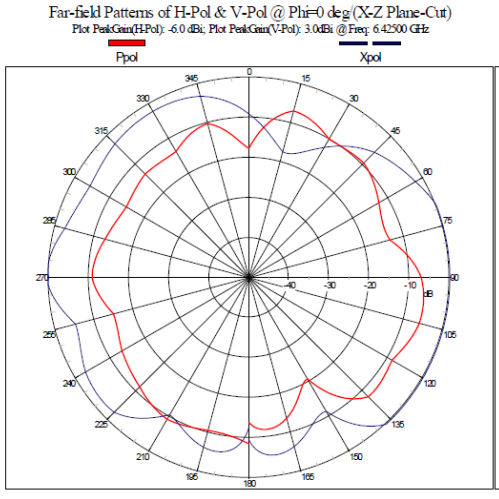
Y-Z Plane



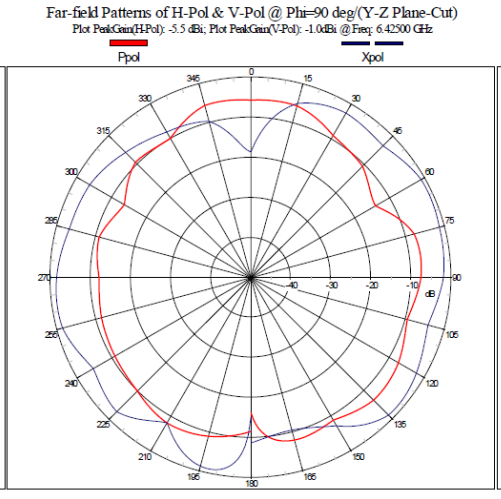
X-Y Plane

Center Frequency	**6325 MHz**
Three-dimensional (dBi) peak	**2.8**

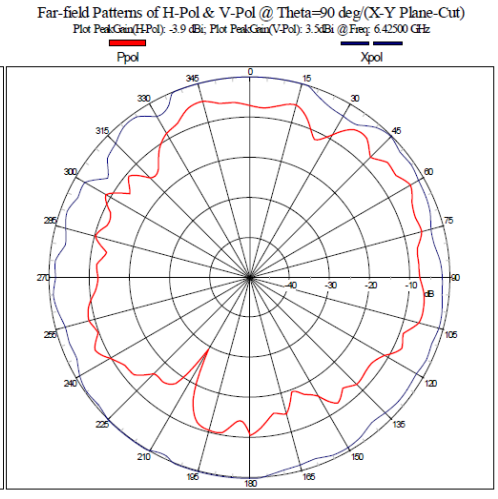
Main antenna: 6425 MHz



X-Z Plane



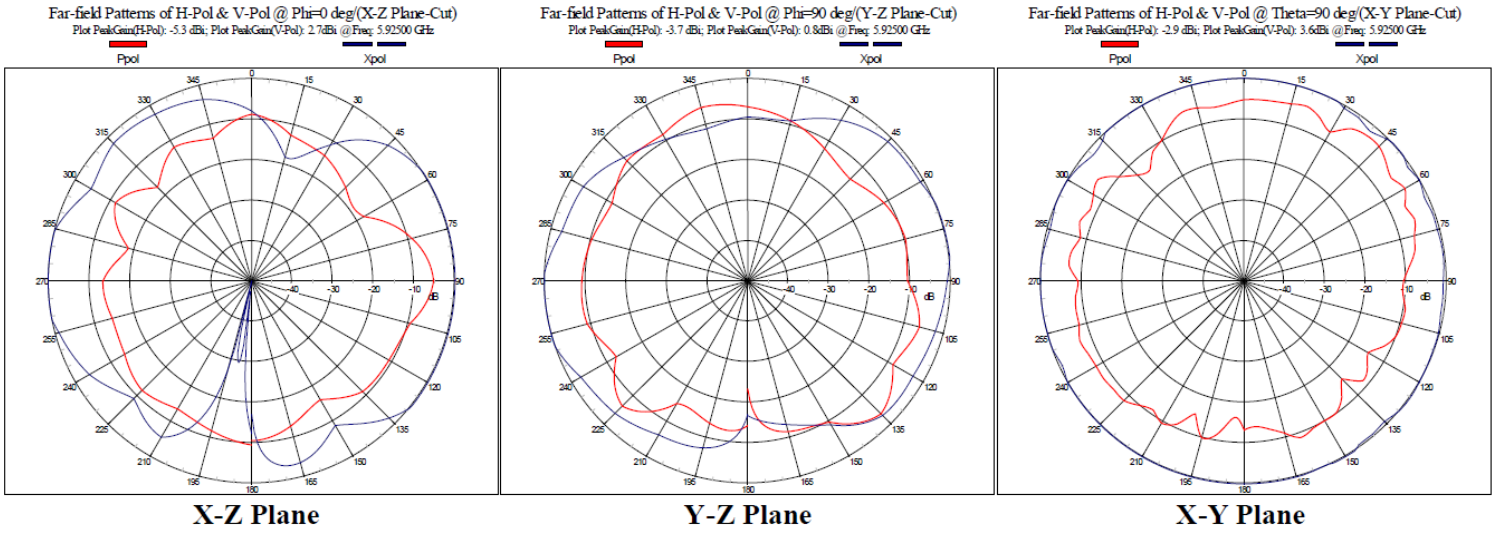
Y-Z Plane



X-Y Plane

Center Frequency	**6425 MHz**
Three-dimensional (dBi) peak	**2.9**

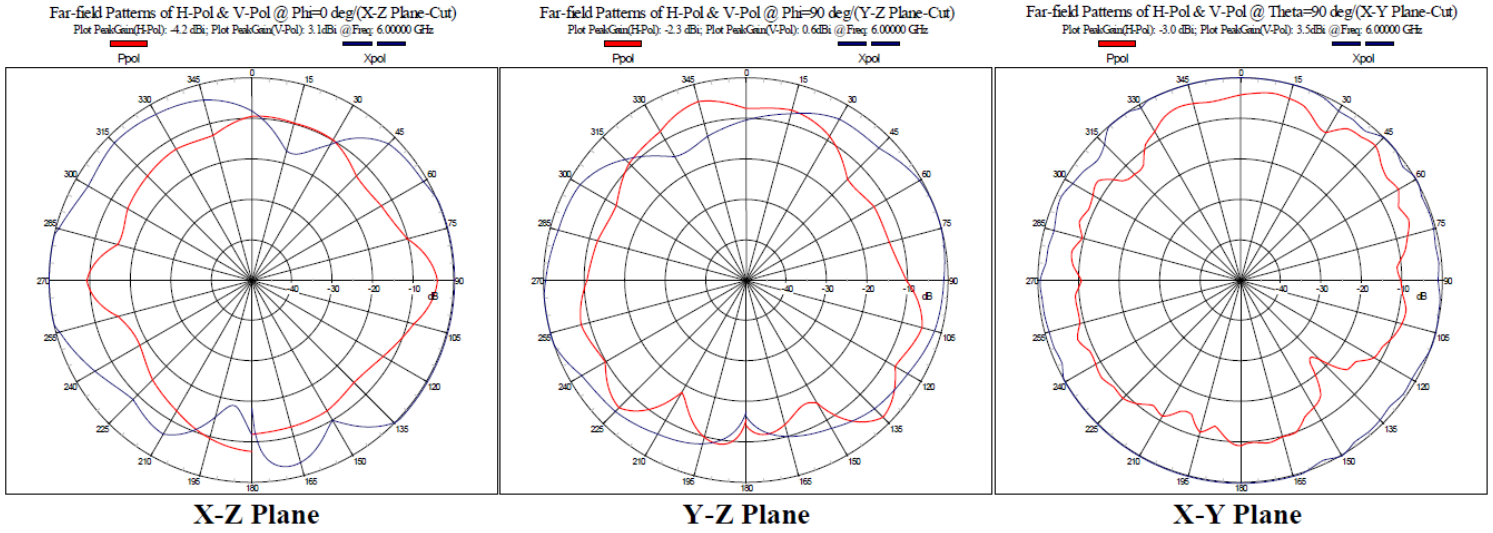
Aux antenna: 5925 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**5925 MHz**
Three-dimensional (dBi) peak	3.1

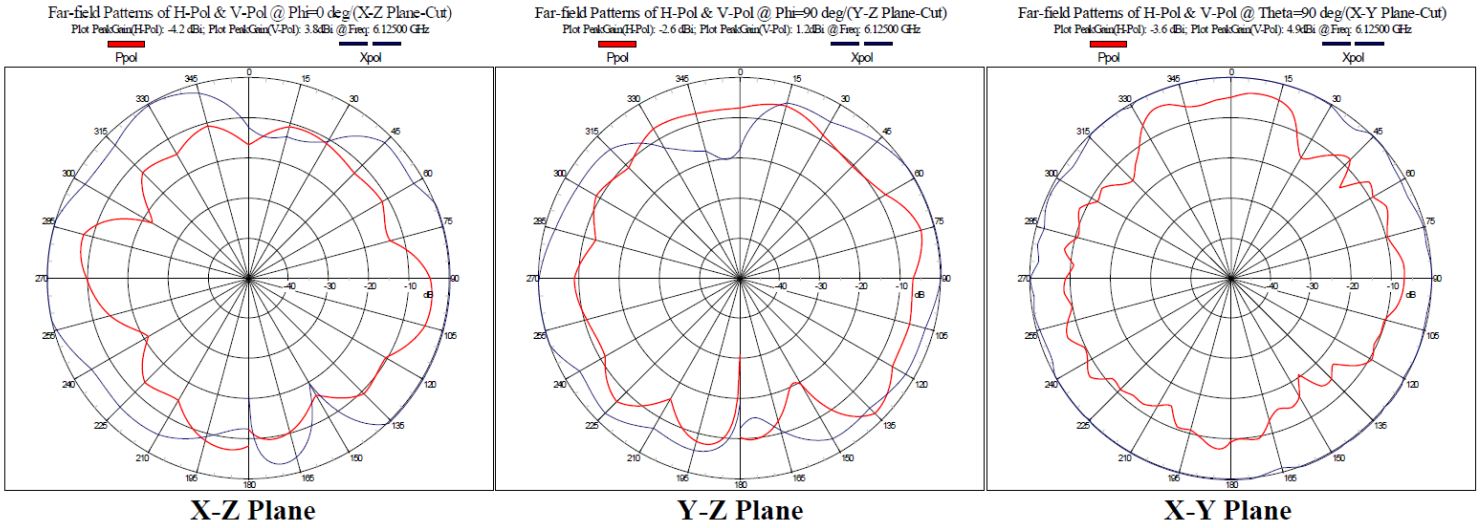
Aux antenna: 6000 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**6000 MHz**
Three-dimensional (dBi) peak	3.1

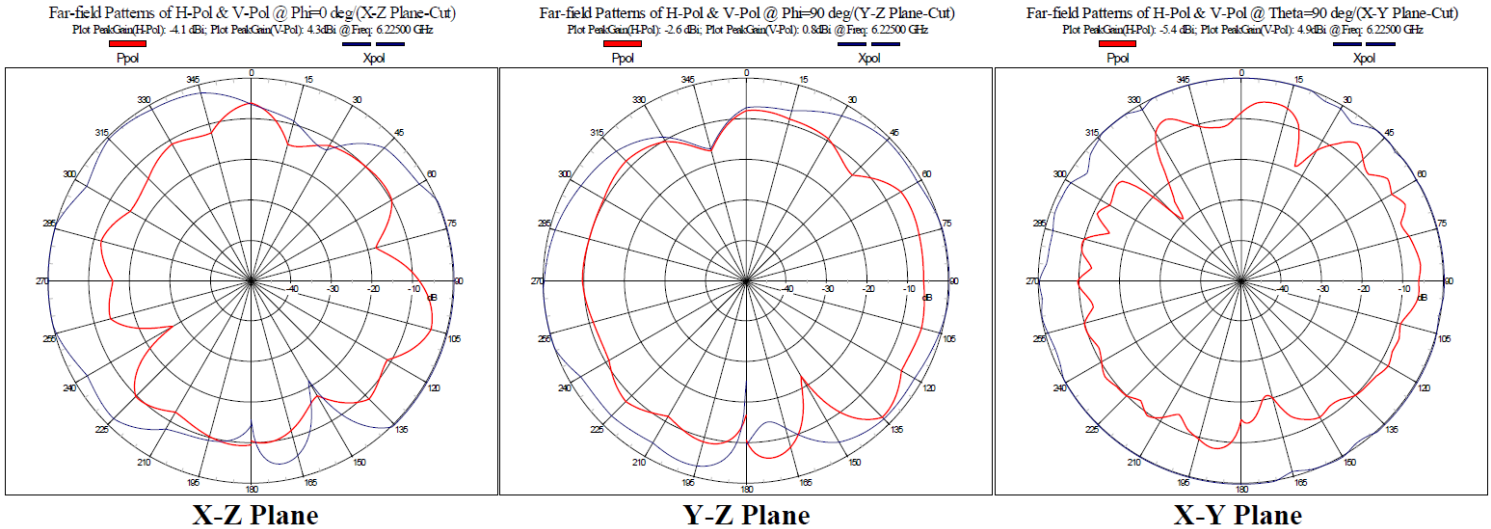
Aux antenna: 6125 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**6125 MHz**
Three-dimensional (dBi) peak	**2.8**

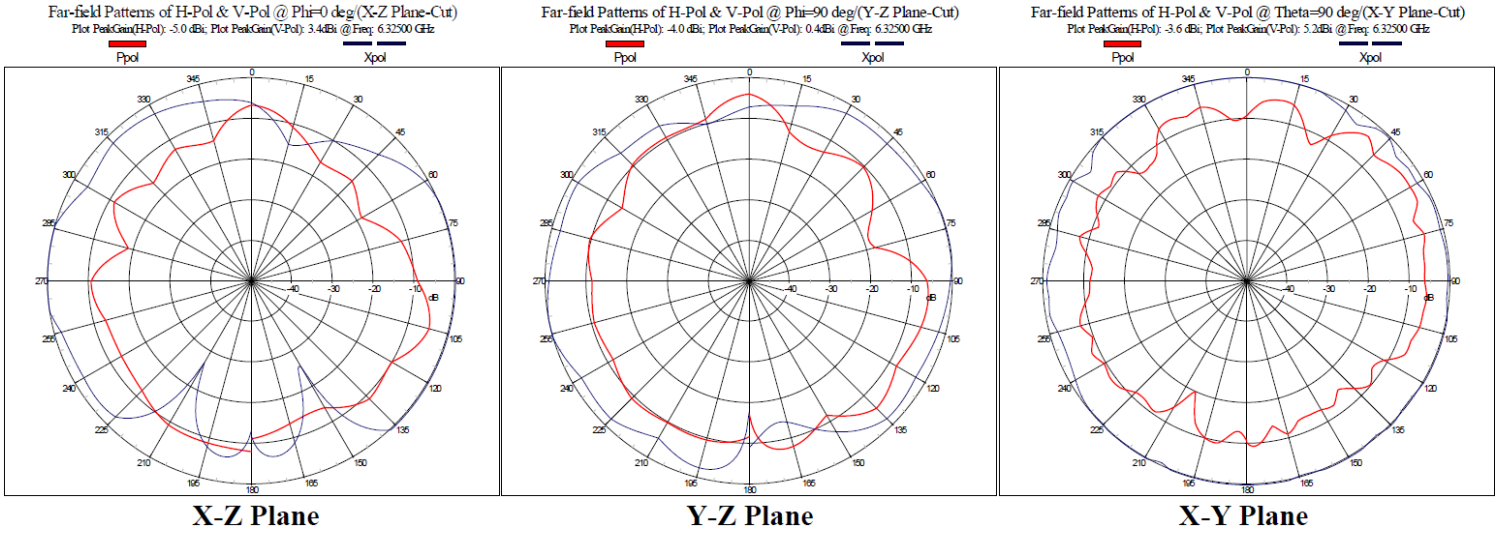
Aux antenna: 6225 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**6225 MHz**
Three-dimensional (dBi) peak	**2.8**

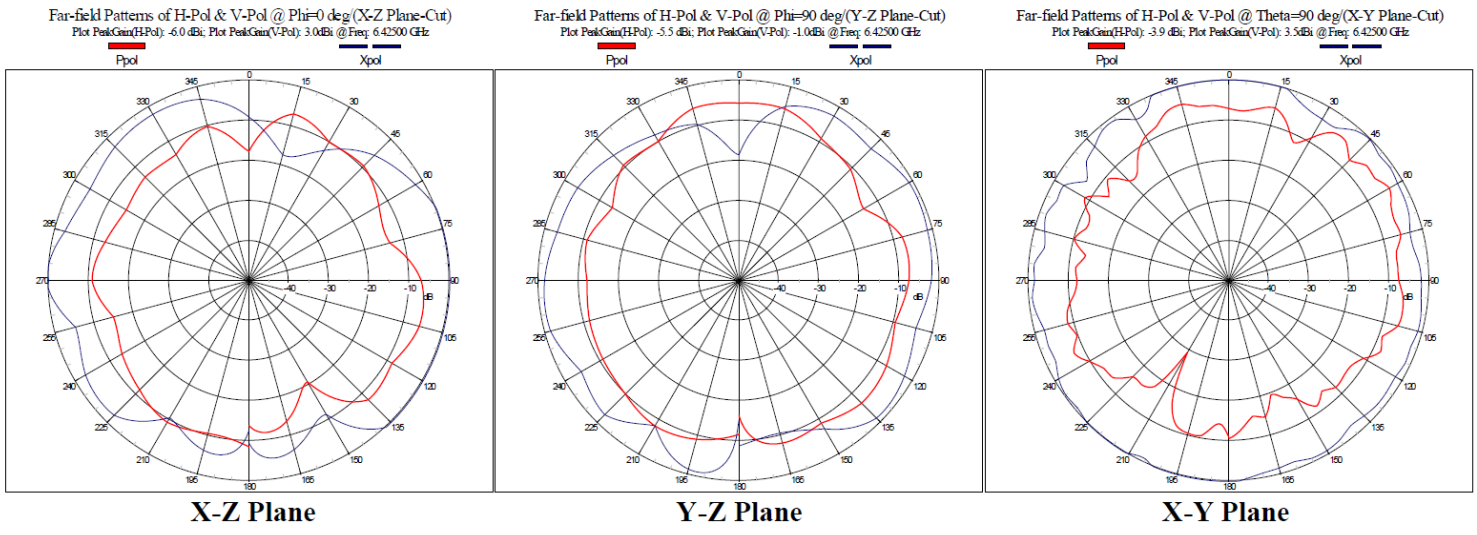
Aux antenna: 6325 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**6325 MHz**
Three-dimensional (dBi) peak	**2.8**

Aux antenna: 6425 MHz

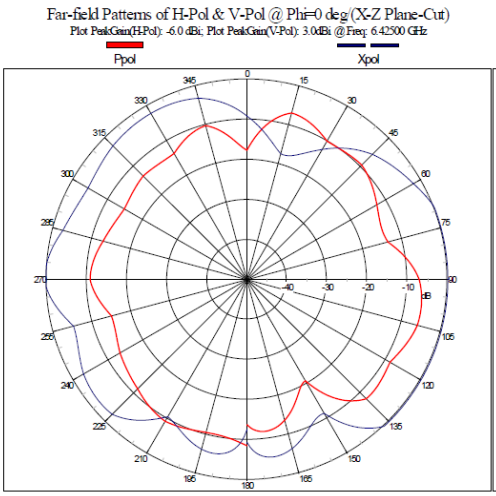


X-Z Plane **Y-Z Plane** **X-Y Plane**

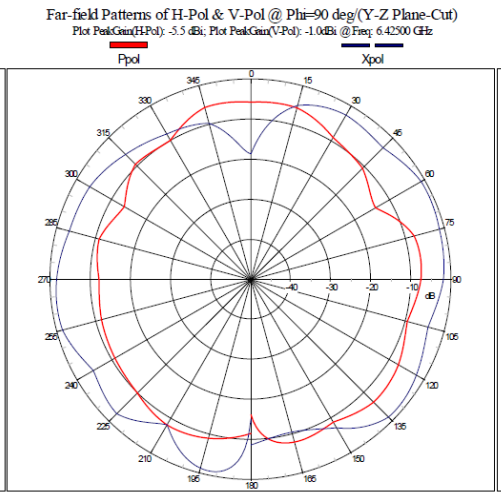
Center Frequency	**6425 MHz**
Three-dimensional (dBi) peak	**2.9**

6425-6525MHz radiation characteristic

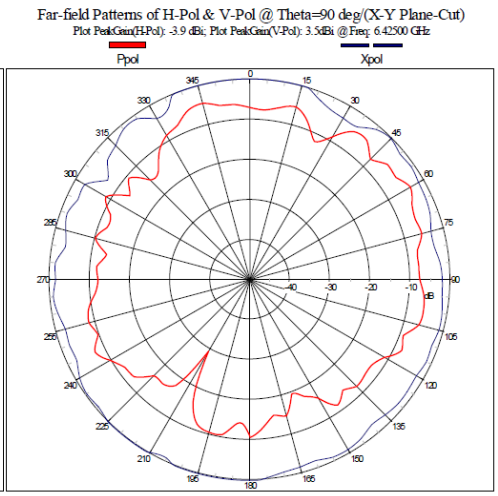
Main antenna: 6425 MHz



X-Z Plane



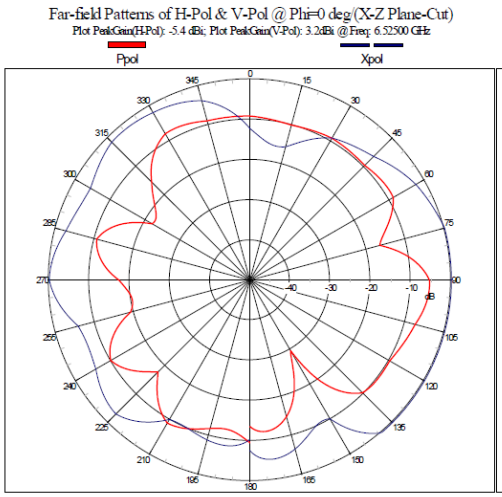
Y-Z Plane



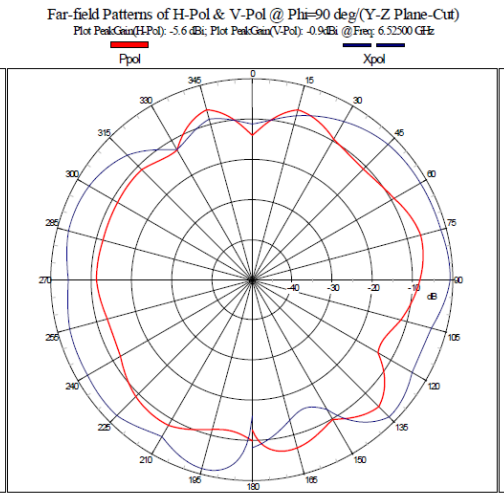
X-Y Plane

Center Frequency	**6425 MHz**
Three-dimensional (dBi) peak	**2.9**

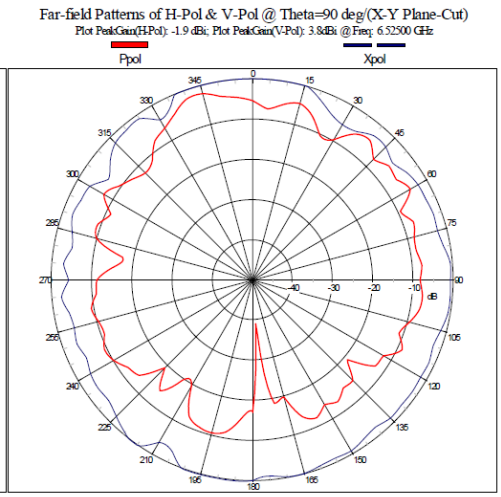
Main antenna: 6525 MHz



X-Z Plane



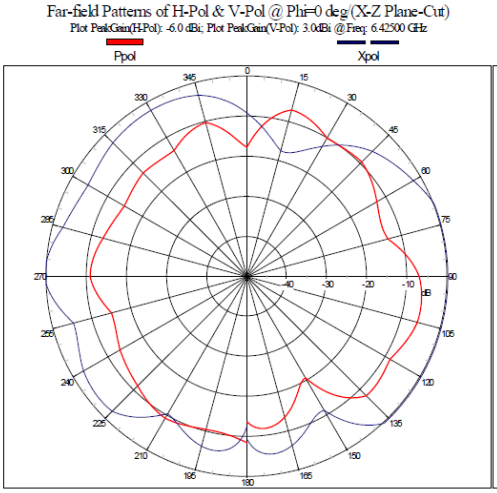
Y-Z Plane



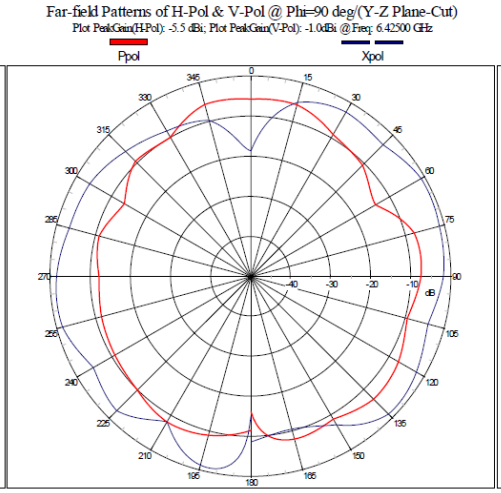
X-Y Plane

Center Frequency	**6525 MHz**
Three-dimensional (dBi) peak	**2.8**

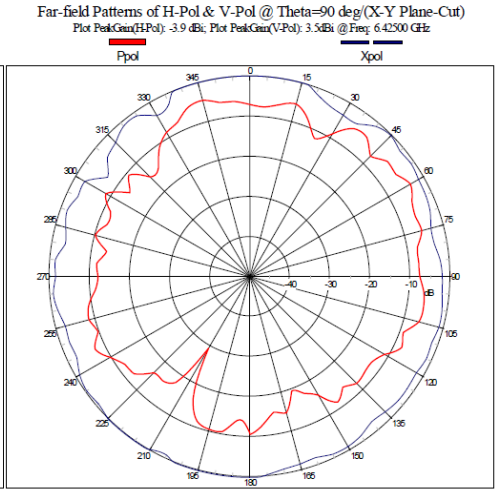
Aux antenna: 6425 MHz



X-Z Plane



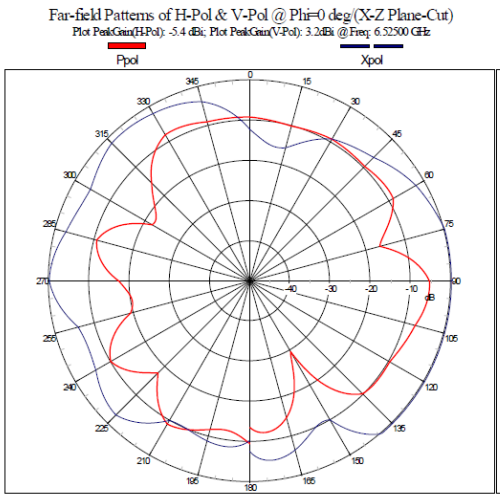
Y-Z Plane



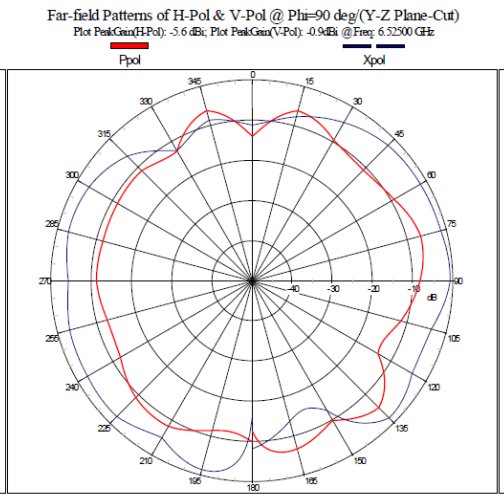
X-Y Plane

Center Frequency	**6425 MHz**
Three-dimensional (dBi) peak	**2.9**

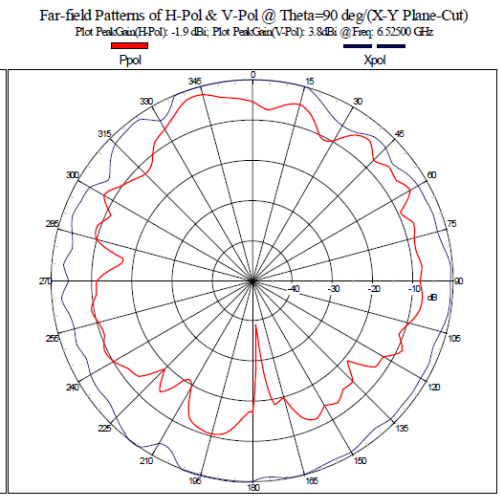
Aux antenna: 6525 MHz



X-Z Plane



Y-Z Plane

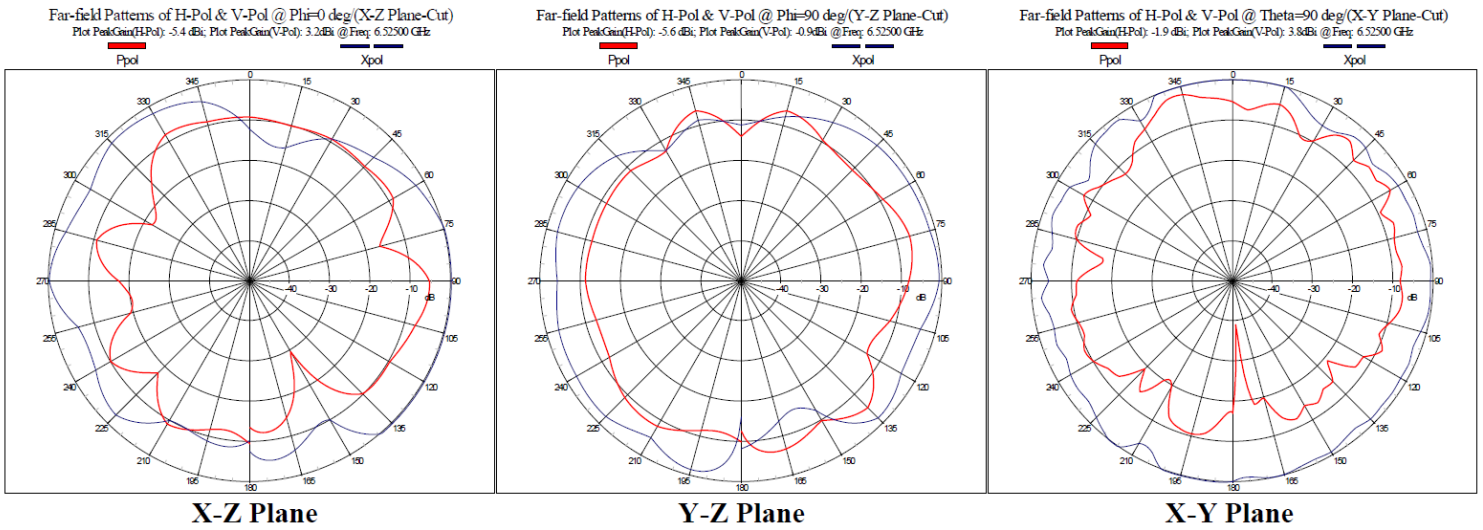


X-Y Plane

Center Frequency	**6525 MHz**
Three-dimensional (dBi) peak	**2.8**

6525-6875MHz radiation characteristic

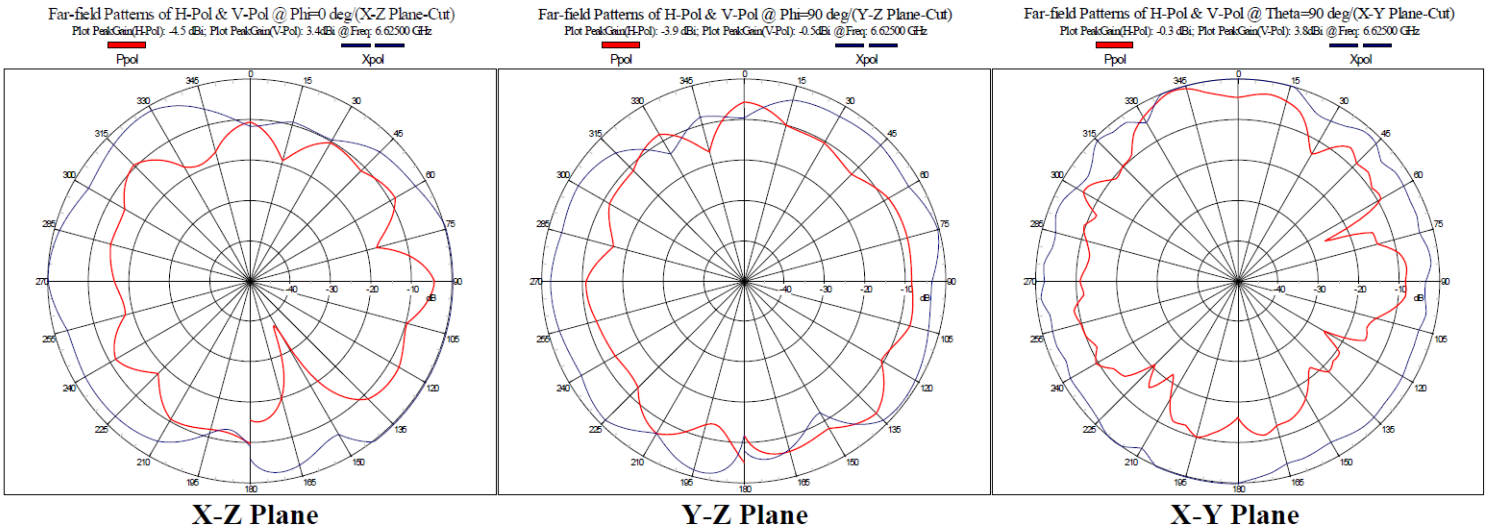
Main antenna: 6525 MHz



X-Z Plane　　Y-Z Plane　　X-Y Plane

Center Frequency	**6525 MHz**
Three-dimensional (dBi) peak	**2.8**

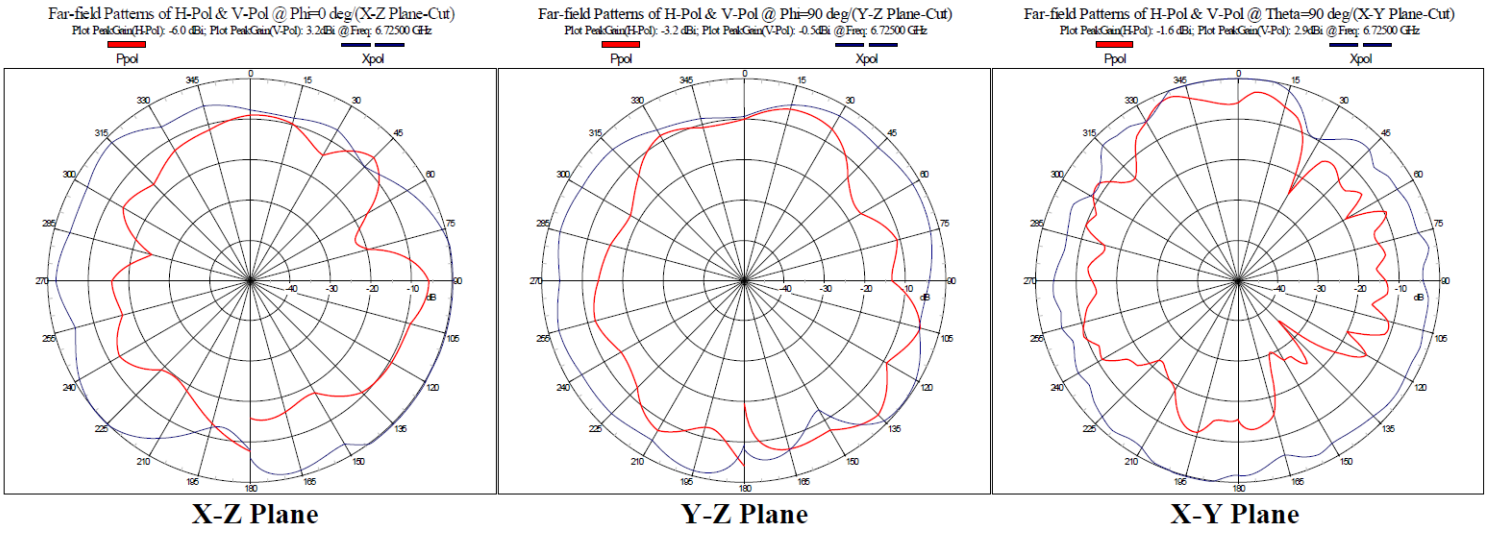
Main antenna: 6625 MHz



X-Z Plane　　Y-Z Plane　　X-Y Plane

Center Frequency	**6625 MHz**
Three-dimensional (dBi) peak	**2.7**

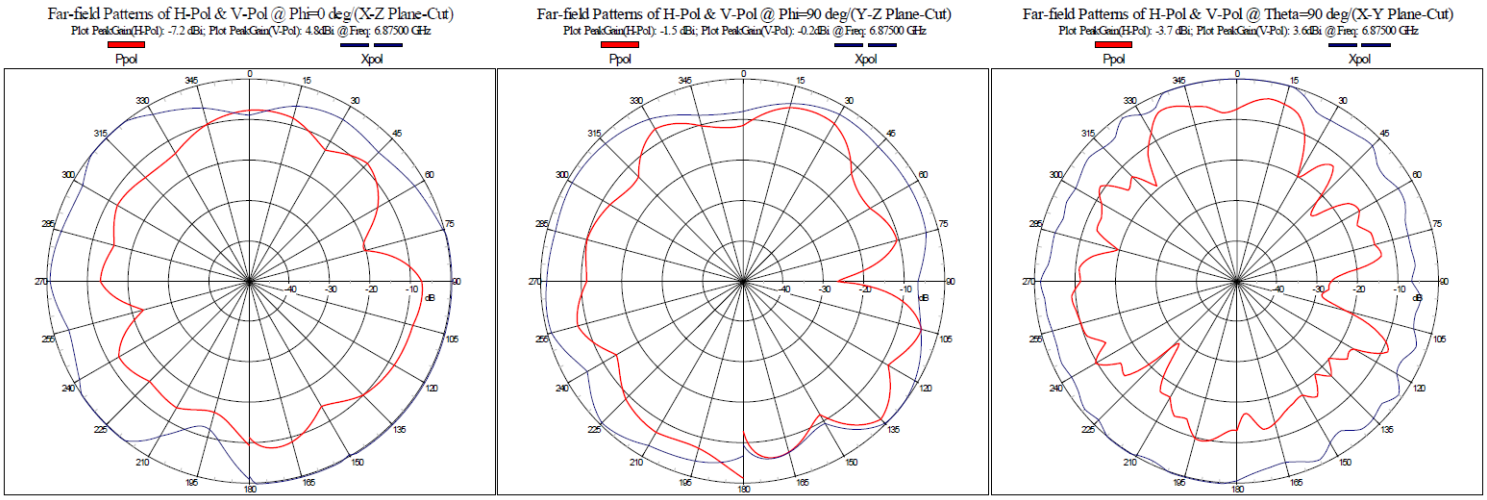
Main antenna: 6725 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**6725 MHz**
Three-dimensional (dBi) peak	**2.9**

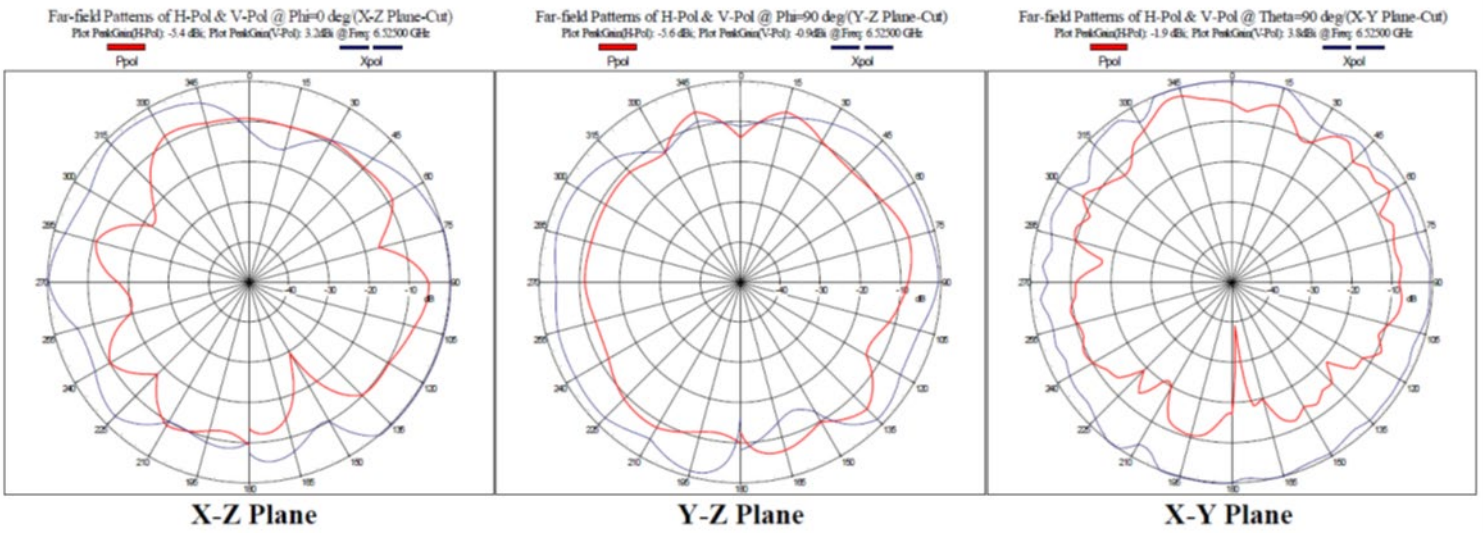
Main antenna: 6875 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**6875 MHz**
Three-dimensional (dBi) peak	**2.6**

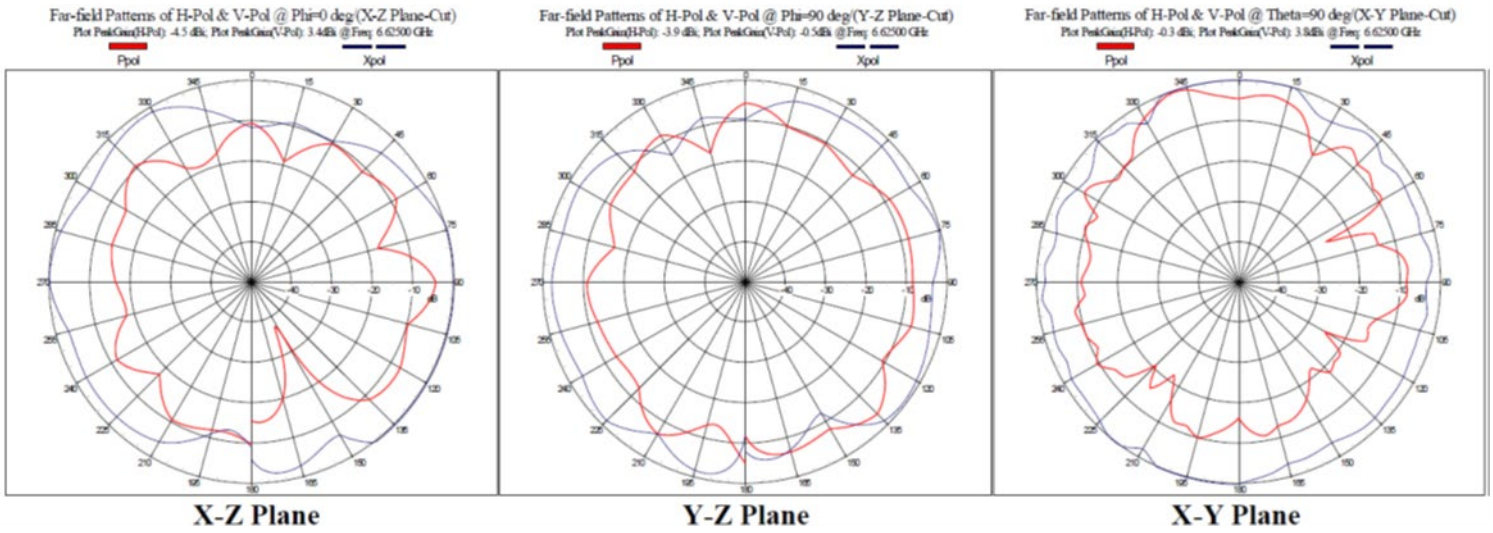
Aux antenna: 6525 MHz



X-Z Plane Y-Z Plane X-Y Plane

Center Frequency	**6525 MHz**
Three-dimensional (dBi) peak	**2.8**

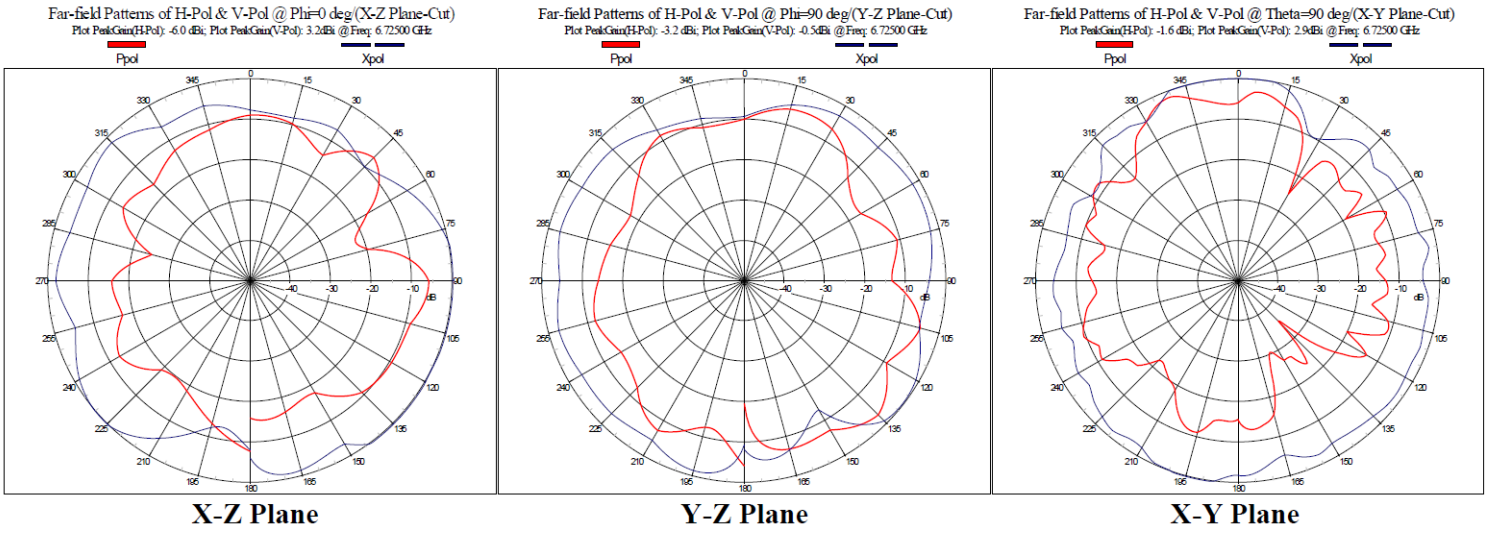
Aux antenna: 6625 MHz



X-Z Plane Y-Z Plane X-Y Plane

Center Frequency	**6625 MHz**
Three-dimensional (dBi) peak	**2.7**

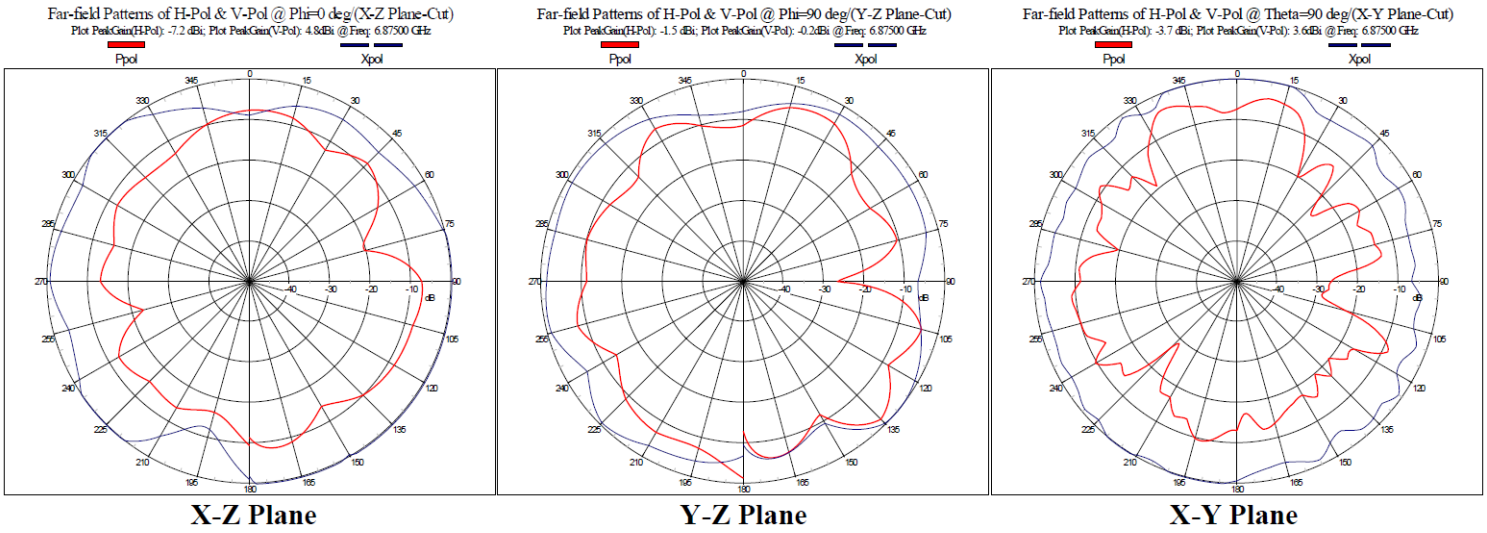
Aux antenna: 6725 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**6725 MHz**
Three-dimensional (dBi) peak	**2.9**

Aux antenna: 6875 MHz

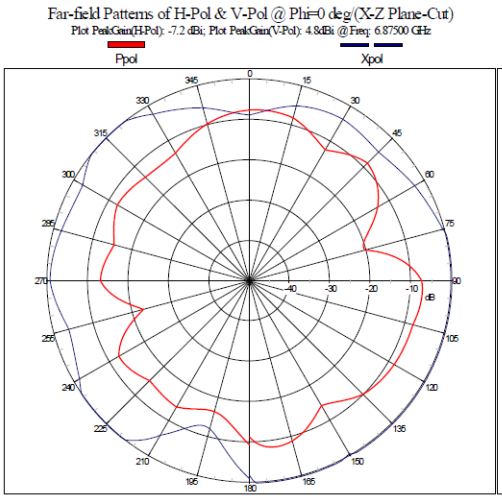


X-Z Plane **Y-Z Plane** **X-Y Plane**

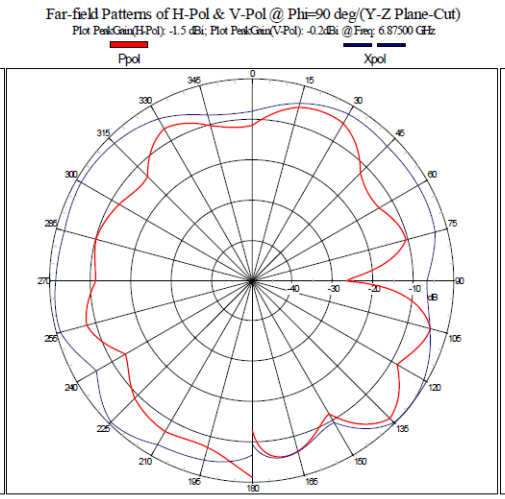
Center Frequency	**6875 MHz**
Three-dimensional (dBi) peak	**2.6**

6875-7125MHz radiation characteristic

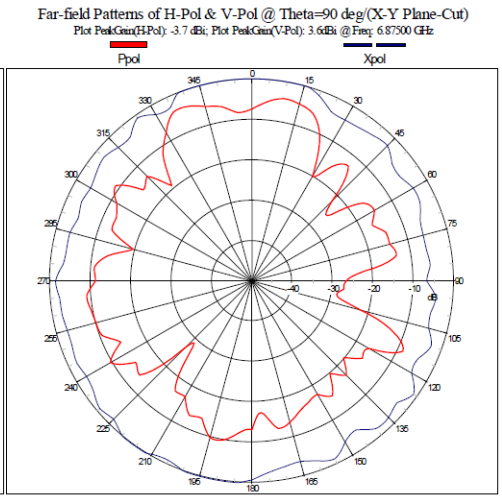
Main antenna: 6875 MHz



X-Z Plane



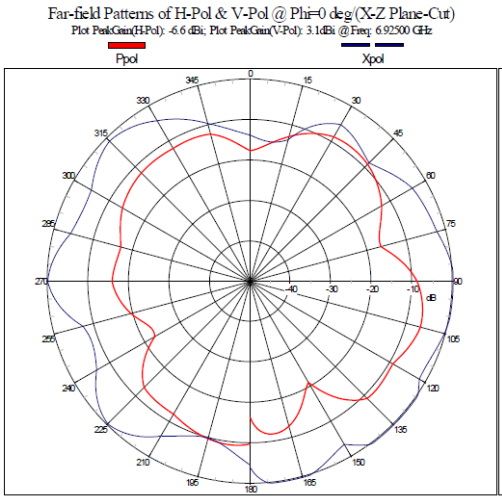
Y-Z Plane



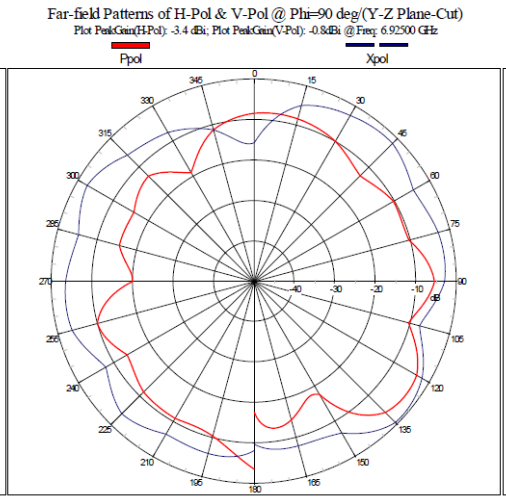
X-Y Plane

Center Frequency	**6875 MHz**
Three-dimensional (dBi) peak	**2.6**

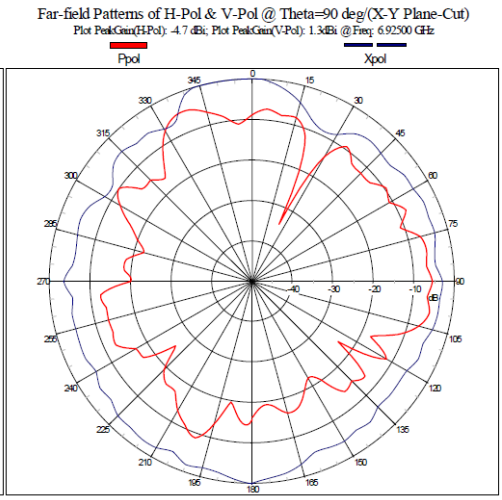
Main antenna: 6925 MHz



X-Z Plane



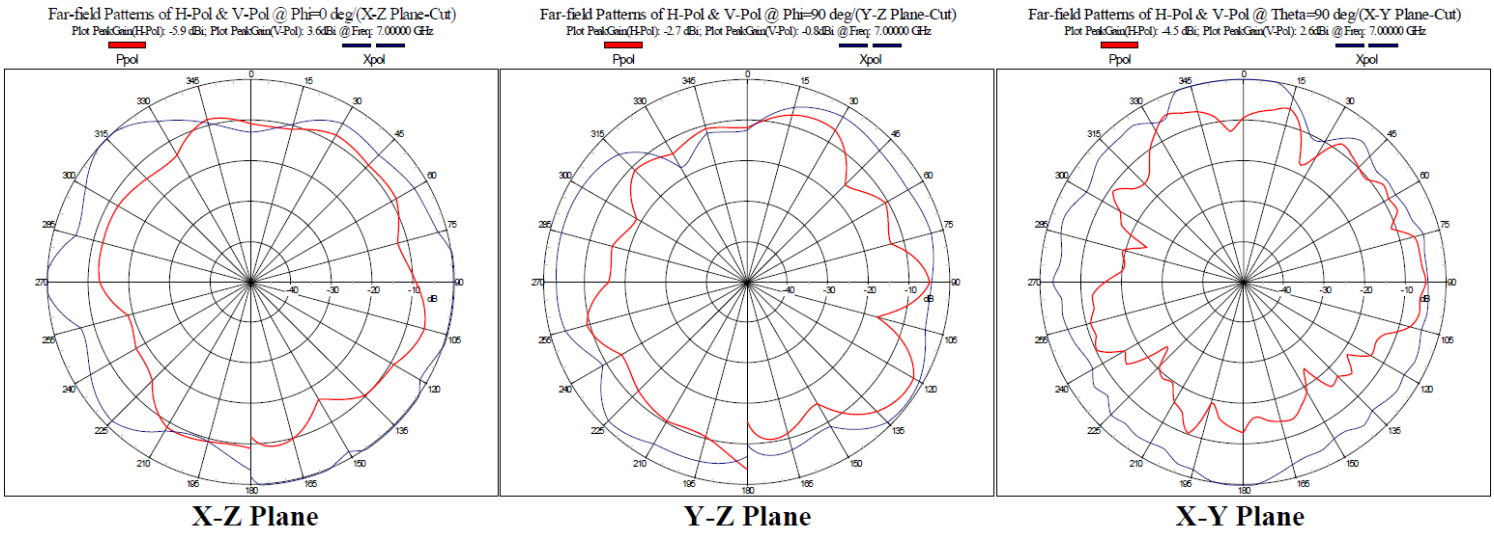
Y-Z Plane



X-Y Plane

Center Frequency	**6925 MHz**
Three-dimensional (dBi) peak	**2.2**

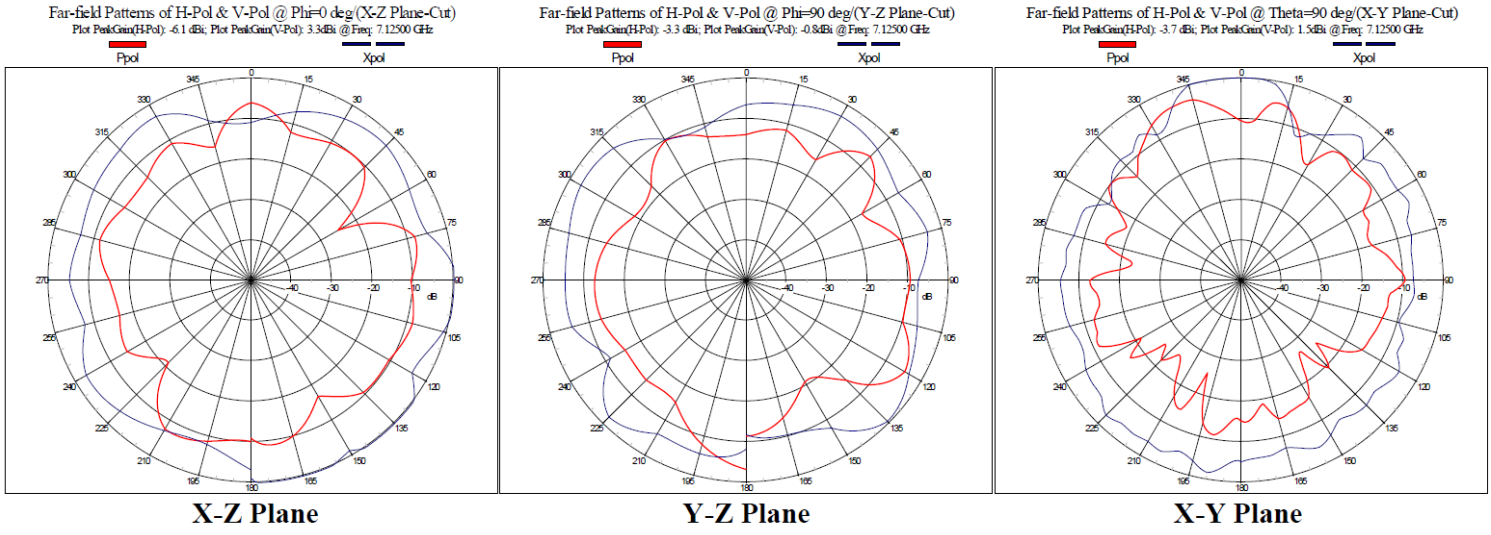
Main antenna: 7000 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**7000 MHz**
Three-dimensional (dBi) peak	**2.3**

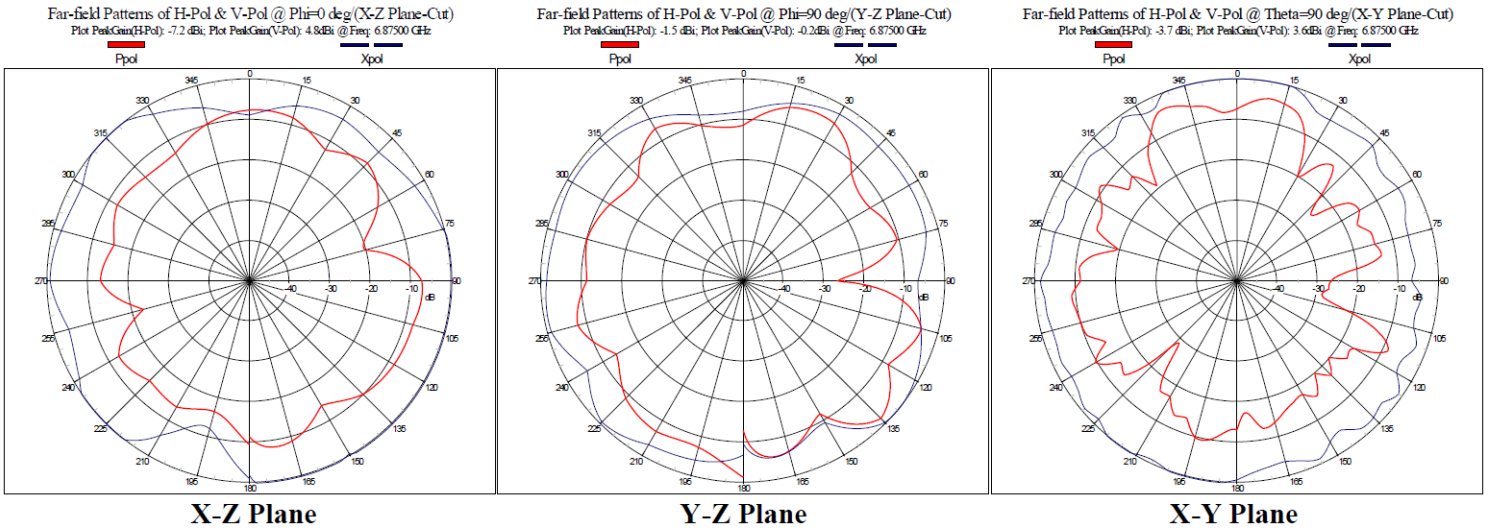
Main antenna: 7125 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**7125 MHz**
Three-dimensional (dBi) peak	**2.1**

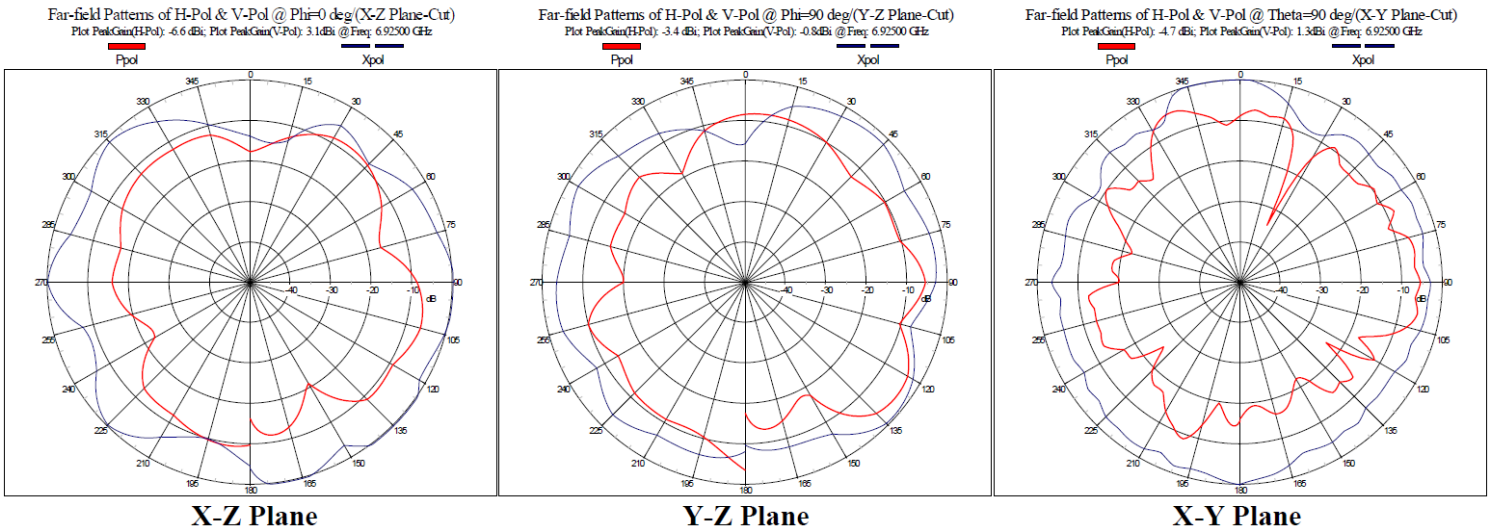
Aux antenna: 6875 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**6875 MHz**
Three-dimensional (dBi) peak	**2.6**

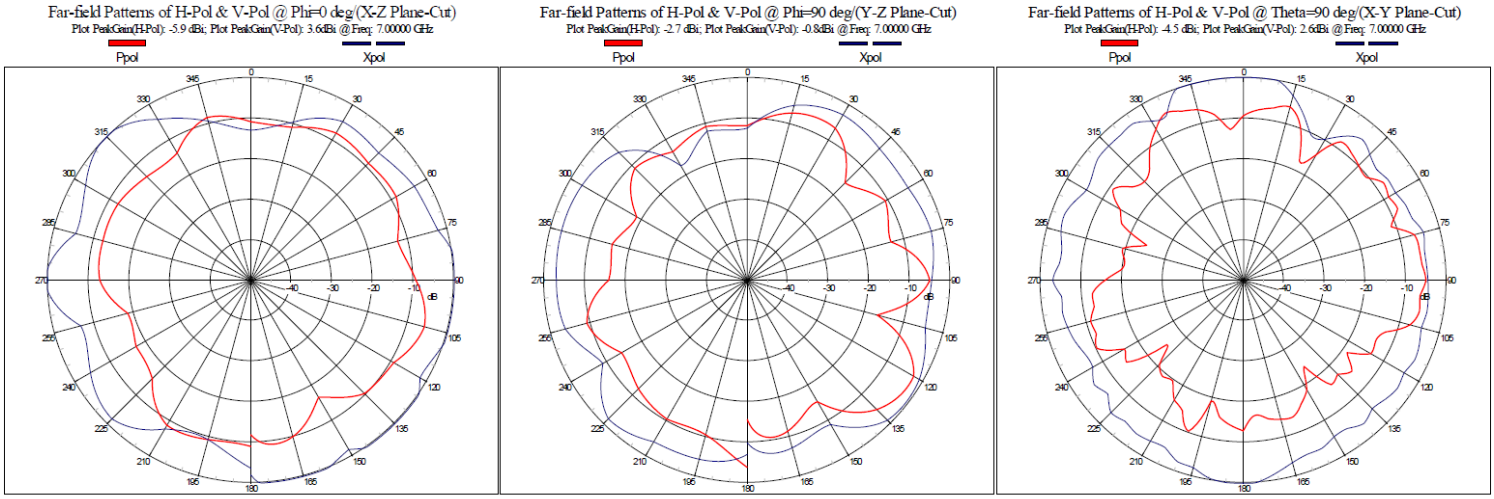
Aux antenna: 6925 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**6925 MHz**
Three-dimensional (dBi) peak	**2.2**

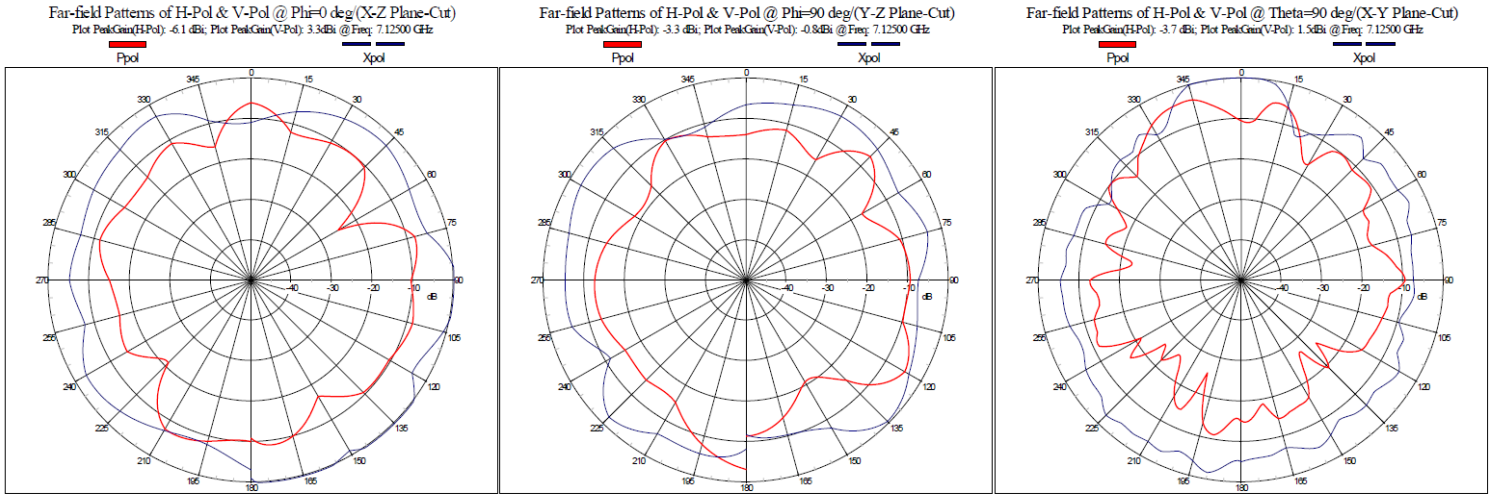
Aux antenna: 7000 MHz



X-Z Plane **Y-Z Plane** **X-Y Plane**

Center Frequency	**7000 MHz**
Three-dimensional (dBi) peak	**2.3**

Aux antenna: 7125 MHz



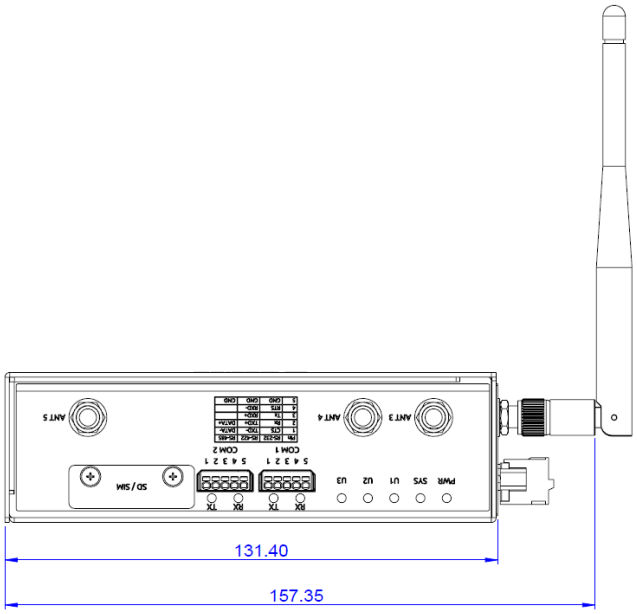
X-Z Plane **Y-Z Plane** **X-Y Plane**

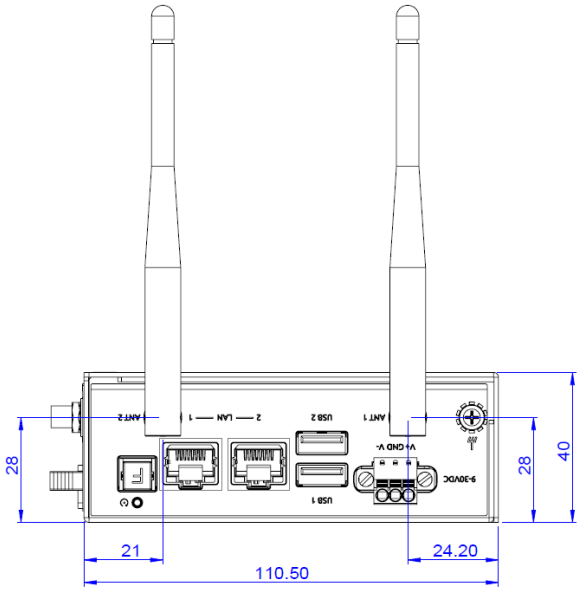
Center Frequency	**7125 MHz**
Three-dimensional (dBi) peak	**2.1**

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).

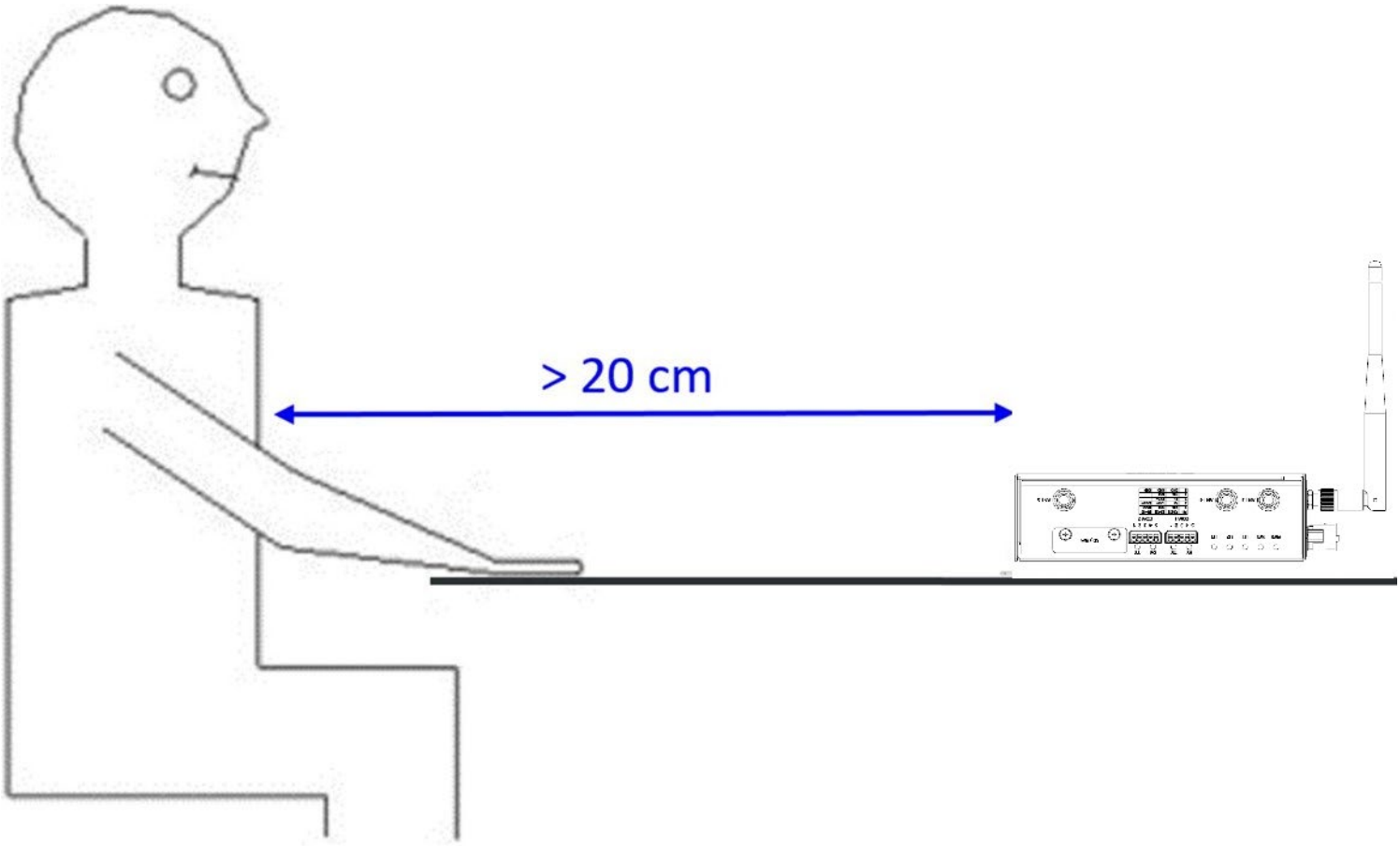
Any antenna that transmits must show dimensions to bottom of laptop. Provide a description of the materials that are used for supporting or surrounding transmit antennas; for example, non-conductive plastics vs. conductive coated plastic or metallic materials.





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.



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)