



## 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 <u>photographs of antennas for approval submission</u> ). 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, 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

## NOTE:

(\*) if 3<sup>rd</sup> antenna is Rx only (e.g. receive only for 4965AGN) then peak gain and cable loss not required

# Antenna Information

## Section 1. Antenna Assembly Specifications

### Antenna Assembly Summary:

#### Laptop 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)
Main Antenna (WNC P/N:81.EGG15.G12)  (customer P/N:6036B0063702)	Wistron Neweb Corporation	PIFA	P/N: 1371580B(221)  50 ohm Coaxial. length: 580 mm diameter: 1.37 mm Connector: RF connector	2400-2500MHz -0.35 dBi (peak)	2400-2500MHz 1.09 dBi (peak)	2400-2500MHz 2.0 max	2400-2500MHz 1.44 dBi (peak)
				5150-5350MHz -1.64 dBi (peak)	5150-5350MHz 0.62 dBi (peak)	5150-5350MHz 2.5 max	5150-5350MHz 2.26 dBi (peak)
				5470-5725MHz -0.83 dBi (peak)	5470-5725MHz 1.57 dBi (peak)	5470-5725MHz 2.5 max	5470-5725MHz 2.40 dBi (peak)
				5725-5850MHz -0.13 dBi (peak)	5725-5850MHz 2.30 dBi (peak)	5725-5850MHz 2.5 max	5725-5850MHz 2.43 dBi (peak)
AUX Antenna (WNC P/N:81.EGG15.G13)  (customer P/N:6036B0063602)	Wistron Neweb Corporation	PIFA	P/N: 1371685W(221)  50 ohm Coaxial. length: 685 mm diameter: 1.37 mm Connector: RF connector	2400-2500MHz 1.62 dBi (peak)	2400-2500MHz 3.29 dBi (peak)	2400-2500MHz 2.0 max	2400-2500MHz 1.67 dBi (peak)
				5150-5350MHz -0.24 dBi (peak)	5150-5350MHz 2.39 dBi (peak)	5150-5350MHz 2.5 max	5150-5350MHz 2.63 dBi (peak)
				5470-5725MHz -0.91 dBi (peak)	5470-5725MHz 1.88 dBi (peak)	5470-5725MHz 2.5 max	5470-5725MHz 2.78 dBi (peak)
				5725-5850MHz -1.79 dBi (peak)	5725-5850MHz 1.03 dBi (peak)	5725-5850MHz 2.5 max	5725-5850MHz 2.83 dBi (peak)

#### NOTE:

(\*) If Rx3 only (3<sup>rd</sup> antenna receives only, e.g. for 4965AGN) then the information marked with \* is not required

#### Laptop Mode

### Antenna Peak Gain Table:

Frequency (MHz)	Main Antenna		Aux Antenna	
	Horizontal (dBi)	Vertical (dBi)	Horizontal (dBi)	Vertical (dBi)
2400	-0.35	-1.60	1.62	0.03
2450	-1.06	-2.12	0.93	-0.66
2500	-1.46	-0.77	1.56	0.56
5150	-1.73	-4.62	-1.56	-2.88
5250	-1.64	-5.30	-1.29	-0.60
5350	-1.90	-6.11	-0.82	-0.24
5470	-2.28	-5.82	-1.17	-0.91
5600	-0.83	-3.72	-1.41	-2.45
5725	-1.14	-4.55	-2.32	-2.59
5785	-0.94	-4.62	-2.04	-2.18
5850	-0.13	-4.70	-1.79	-3.15

- Antenna Peak Gain required being test in system basis.
- 1E frame contend absolutely peak antenna gain include H/V
- If Rx3 only (3<sup>rd</sup> antenna receives only, e.g. for 4965AGN) then the information is not required for Rx3.

**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)
<b>Main Antenna</b> (WNC P/N:81.EGG15.G12)  (customer P/N:6036B0063702)	Wistron Neweb Corporation	PIFA	<b>P/N: 1371580B(221)</b>  <b>50 ohm Coaxial.</b> <b>length: 580 mm</b> <b>diameter: 1.37 mm</b> <b>Connector: RF connector</b>	2400-2500MHz <b>-0.35</b> dBi (peak)	2400-2500MHz <b>1.09</b> dBi (peak)	2400-2500MHz <b>2.0</b> max	2400-2500MHz <b>1.44</b> dBi (peak)
				5150-5350MHz <b>-1.64</b> dBi (peak)	5150-5350MHz <b>0.62</b> dBi (peak)	5150-5350MHz <b>2.5</b> max	5150-5350MHz <b>2.26</b> dBi (peak)
				5470-5725MHz <b>-0.83</b> dBi (peak)	5470-5725MHz <b>1.57</b> dBi (peak)	5470-5725MHz <b>2.5</b> max	5470-5725MHz <b>2.40</b> dBi (peak)
				5725-5850MHz <b>-0.13</b> dBi (peak)	5725-5850MHz <b>2.30</b> dBi (peak)	5725-5850MHz <b>2.5</b> max	5725-5850MHz <b>2.43</b> dBi (peak)
<b>AUX Antenna</b> (WNC P/N:81.EGG15.G13)  (customer P/N:6036B0063602)	Wistron Neweb Corporation	PIFA	<b>P/N: 1371685W(221)</b>  <b>50 ohm Coaxial.</b> <b>length: 685 mm</b> <b>diameter: 1.37 mm</b> <b>Connector: RF connector</b>	2400-2500MHz <b>-1.12</b> dBi (peak)	2400-2500MHz <b>0.55</b> dBi (peak)	2400-2500MHz <b>2.0</b> max	2400-2500MHz <b>1.67</b> dBi (peak)
				5150-5350MHz <b>-3.19</b> dBi (peak)	5150-5350MHz <b>-0.56</b> dBi (peak)	5150-5350MHz <b>2.5</b> max	5150-5350MHz <b>2.63</b> dBi (peak)
				5470-5725MHz <b>-3.05</b> dBi (peak)	5470-5725MHz <b>-0.27</b> dBi (peak)	5470-5725MHz <b>2.5</b> max	5470-5725MHz <b>2.78</b> dBi (peak)
				5725-5850MHz <b>-1.99</b> dBi (peak)	5725-5850MHz <b>0.84</b> dBi (peak)	5725-5850MHz <b>2.5</b> max	5725-5850MHz <b>2.83</b> dBi (peak)

**NOTE:**

(\* ) If Rx3 only (3<sup>rd</sup> antenna receives only, e.g. for 4965AGN) then the information marked with \* is not required

**Tablet Mode****Antenna Peak Gain Table:**

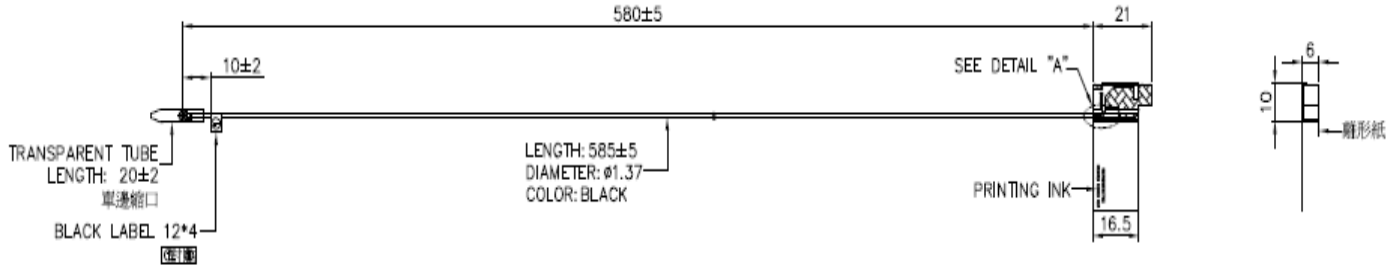
Frequency (MHz)	Main Antenna		Aux Antenna	
	Horizontal (dBi)	Vertical (dBi)	Horizontal (dBi)	Vertical (dBi)
2400	-0.35	-1.60	-1.12	-6.03
2450	-1.06	-2.12	-1.74	-5.90
2500	-1.46	-0.77	-1.26	-5.84
5150	-1.73	-4.62	-5.74	-6.23
5250	-1.64	-5.30	-4.74	-4.30
5350	-1.90	-6.11	-3.19	-6.01
5470	-2.28	-5.82	-3.61	-6.24
5600	-0.83	-3.72	-5.37	-4.16
5725	-1.14	-4.55	-5.04	-3.05
5785	-0.94	-4.62	-2.10	-2.97
5850	-0.13	-4.70	-3.33	-1.99

- Antenna Peak Gain required being test in system basis.
- 1E frame contend absolutely peak antenna gain include H/V
- If Rx3 only (3<sup>rd</sup> antenna receives only, e.g. for 4965AGN) then the information is not required for Rx3.

## Section 2. Dimensioned Photos or Drawings of Antennas

Include a dimensioned photo and dimensioned drawing of Main \ A UX antenna here.

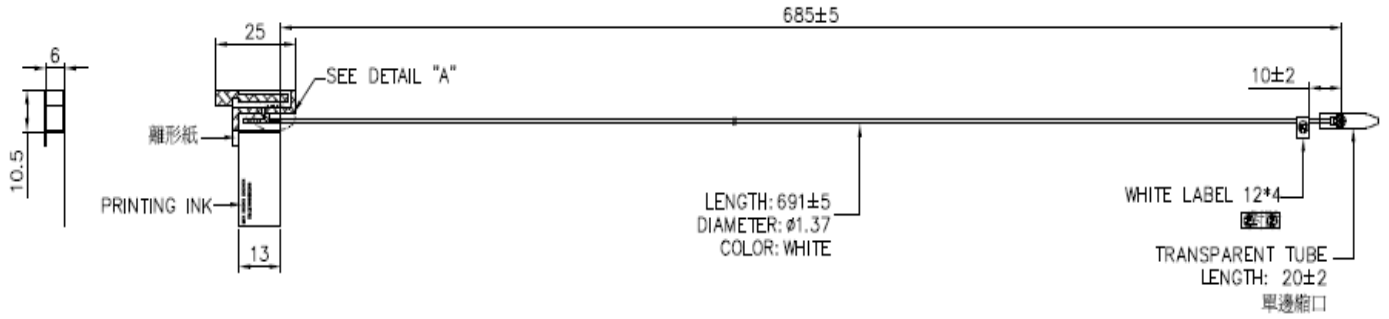
### Main Antenna Dimensioned Drawing:



### Main Antenna Photo:



**Auxiliary Antenna Dimensioned Drawing:**



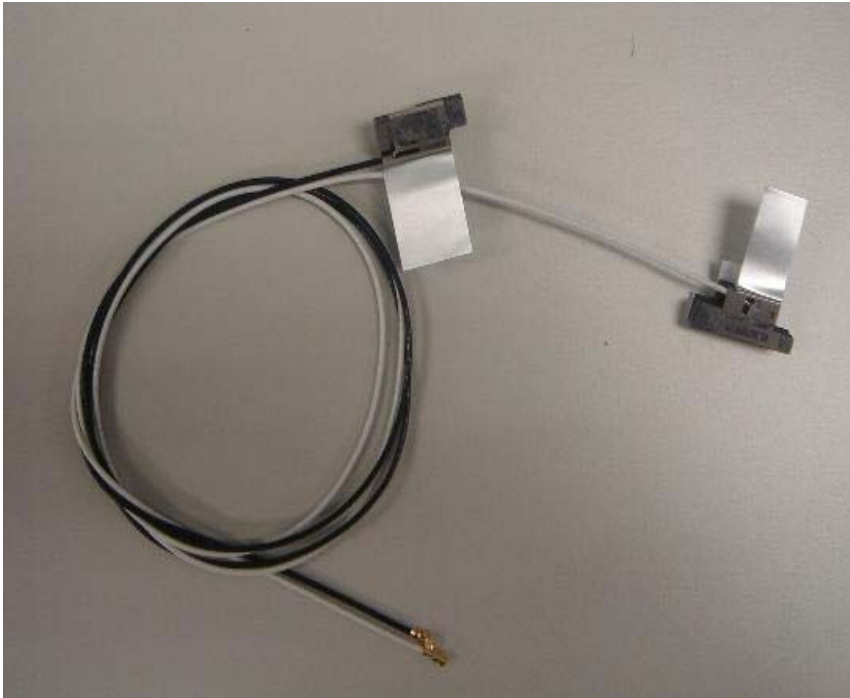
**Auxiliary Antenna Photo:**



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

Antenna Manufacturer: Wistron Neweb Corporation

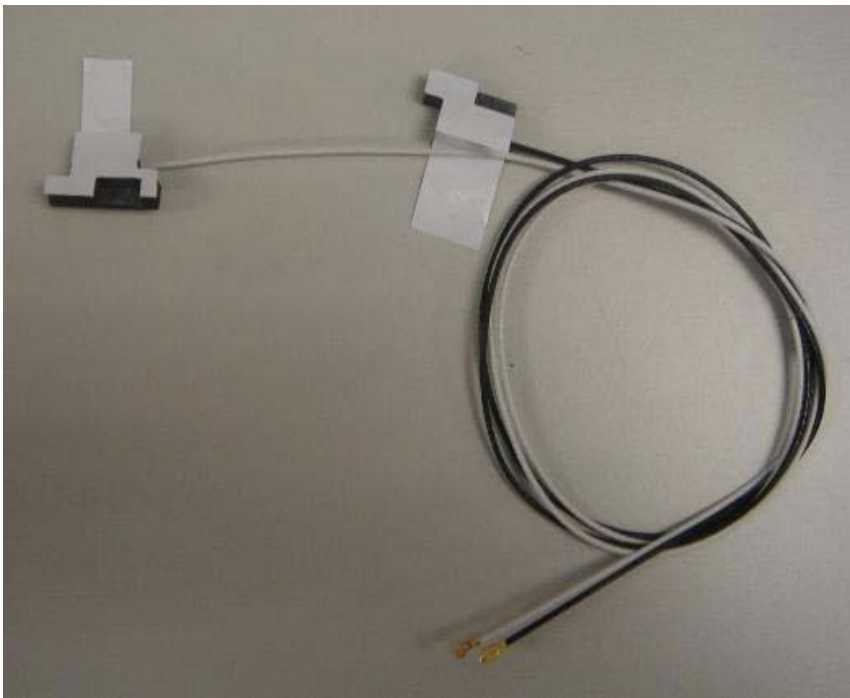
Antenna Part Number: 6036B0063702 (Tx1), 6036B0063602 (Tx2 or Rx2)



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

Antenna Manufacturer: Wistron Neweb Corporation

Antenna Part Number: 6036B0063702 (Tx1), 6036B0063602 (Tx2 or Rx2)

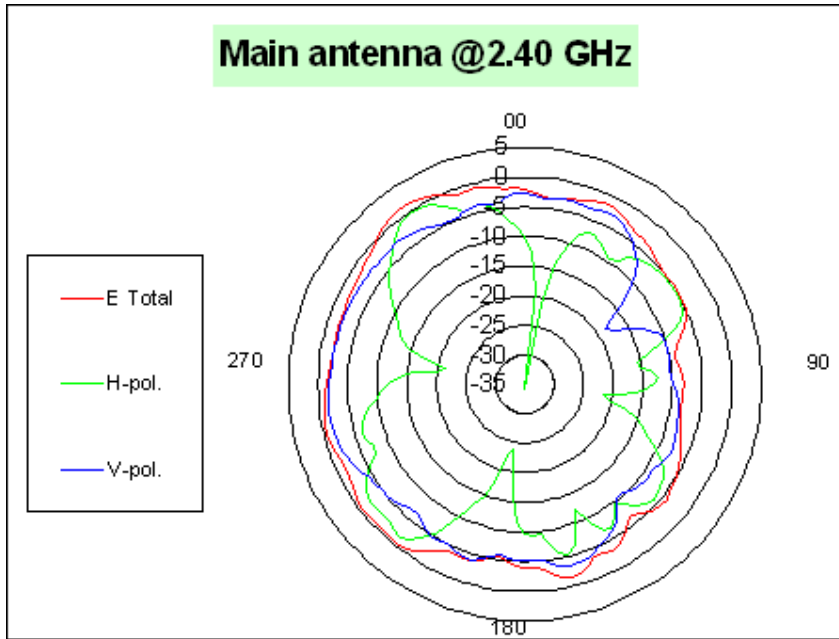


## Section 3. Radiation characteristics of antennae Loaded in Host Platform

### 2400-2500MHz radiation characteristic

**Laptop mode:**

**Main antenna: 2400 MHz**

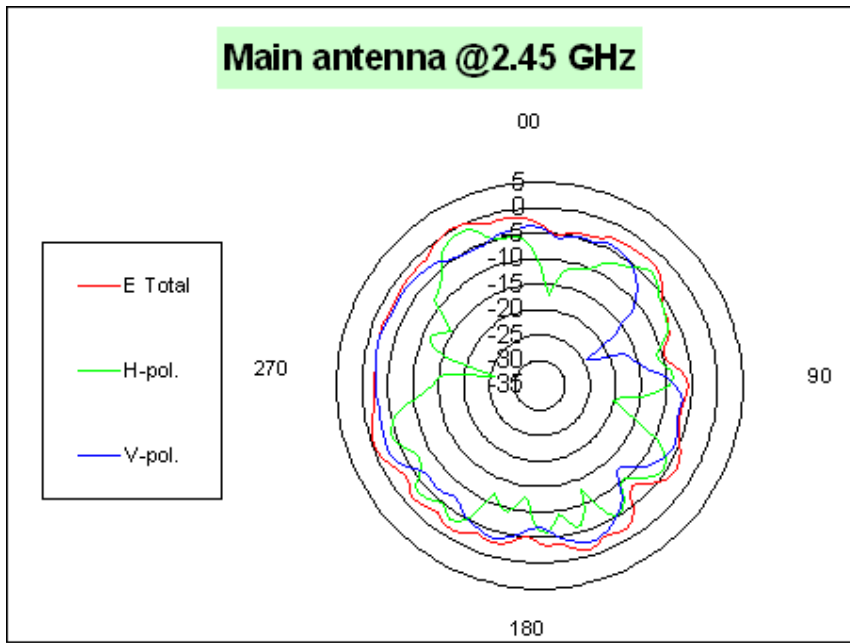


	H-pol	V pol
Peak Gain	-0.35	-1.60



**Laptop mode:**

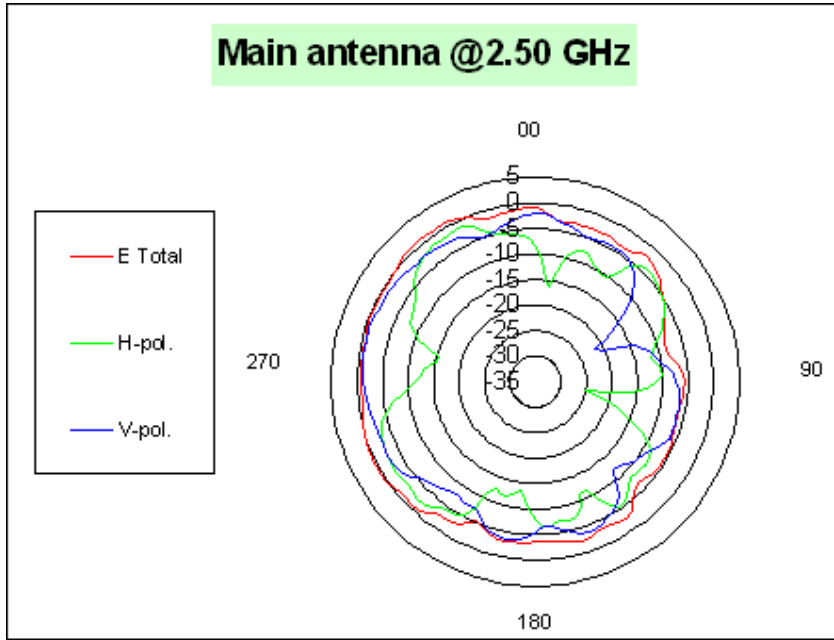
**Main antenna: 2450 MHz**



	H-pol	V pol
Peak Gain	-1.06	-2.12

**Laptop mode:**

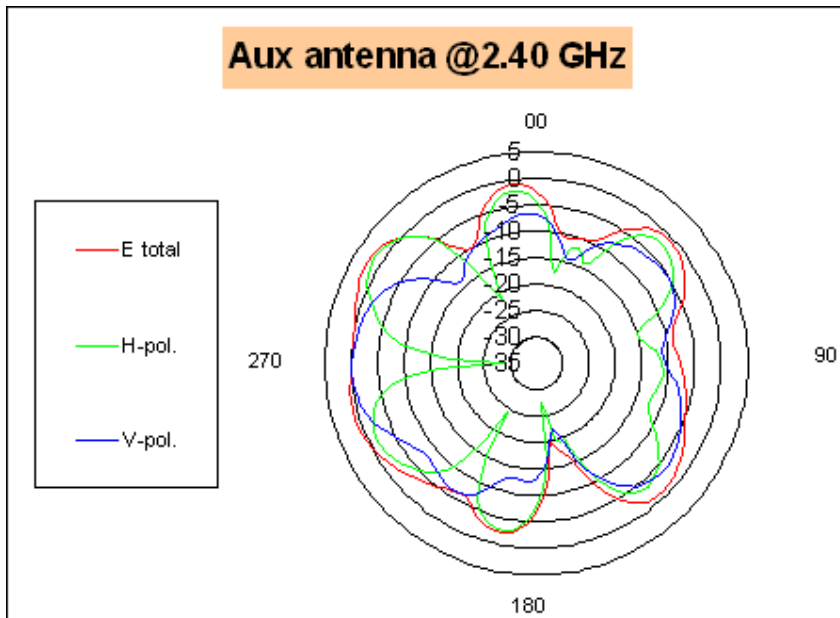
**Main antenna: 2500 MHz**



	H-pol	V pol
Peak Gain	-1.46	-0.77

**Laptop mode:**

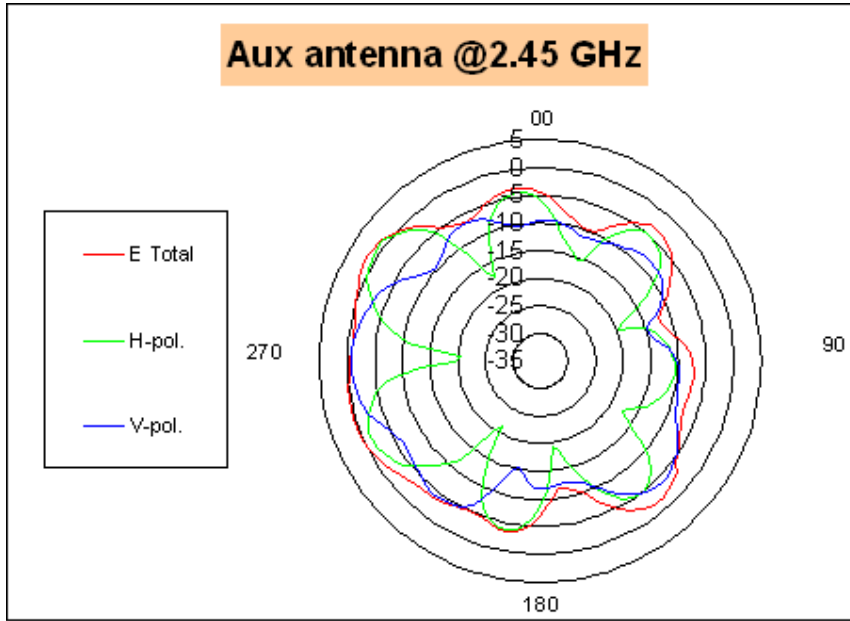
**Auxiliary antenna: 2400 MHz**



	H-pol	V pol
Peak Gain	1.62	0.03

**Laptop mode:**

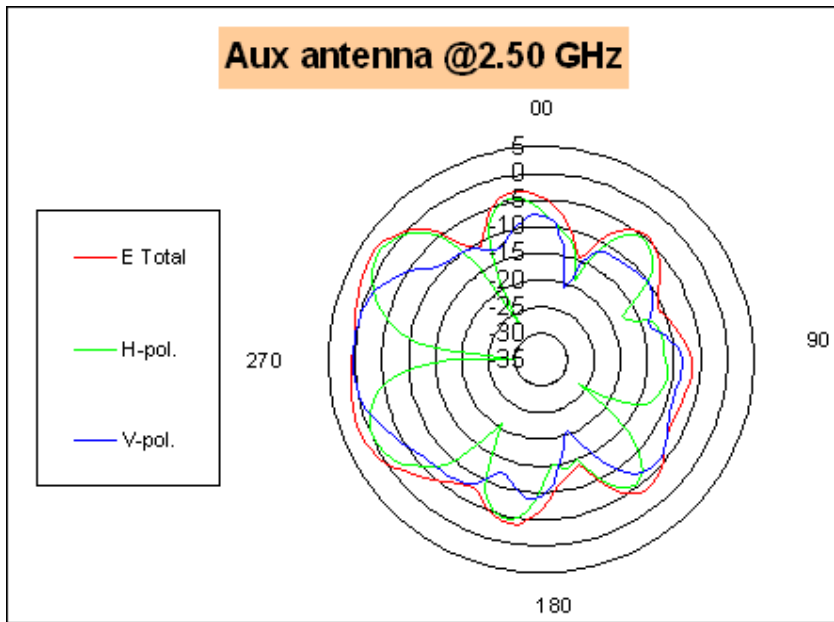
**Auxiliary antenna: 2450 MHz**



	H-pol	V pol
Peak Gain	0.93	-0.66

**Laptop mode:**

**Auxiliary antenna: 2500 MHz**

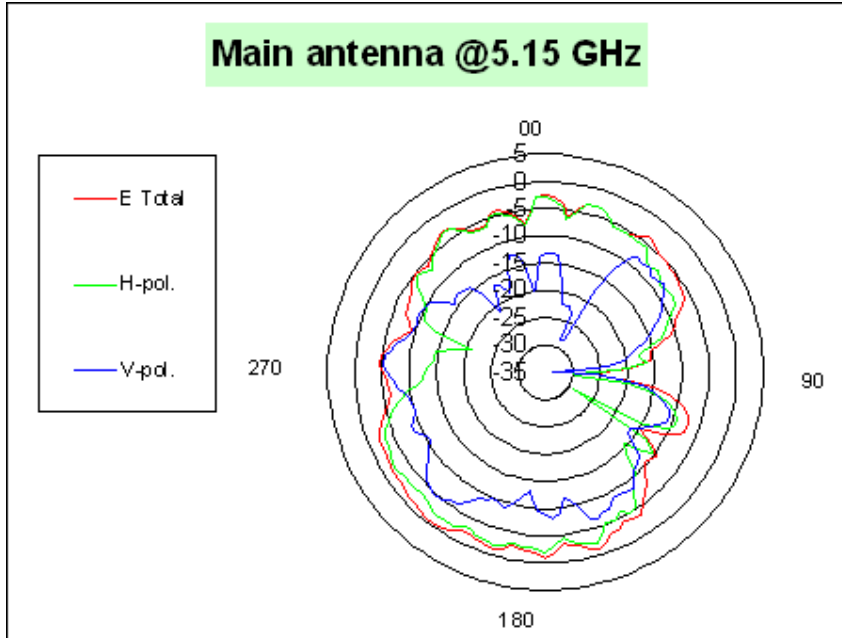


	H-pol	V pol
Peak Gain	1.56	0.56

**5150-5350 MHz radiation characteristic**

**Laptop mode:**

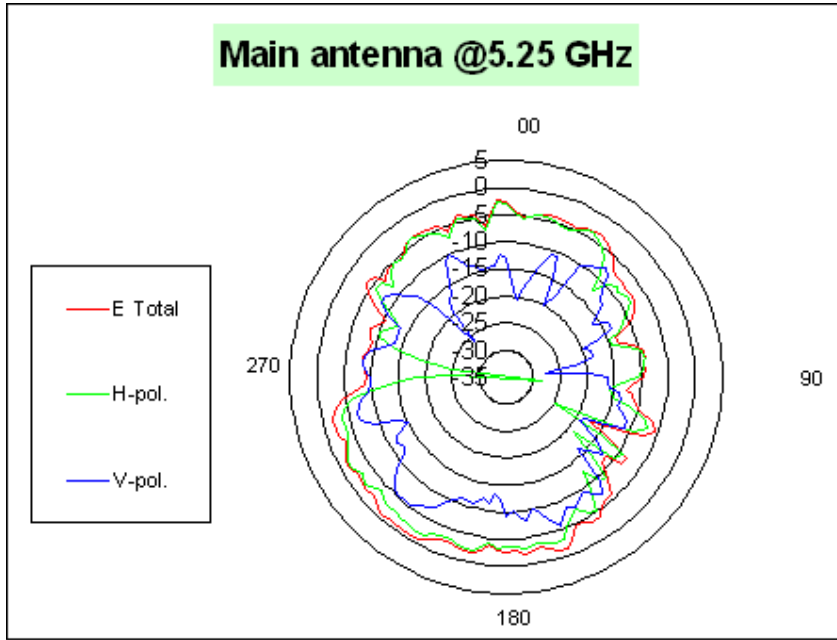
**Main antenna: 5150 MHz**



	H-pol	V pol
Peak Gain	-1.73	-4.62

**Laptop mode:**

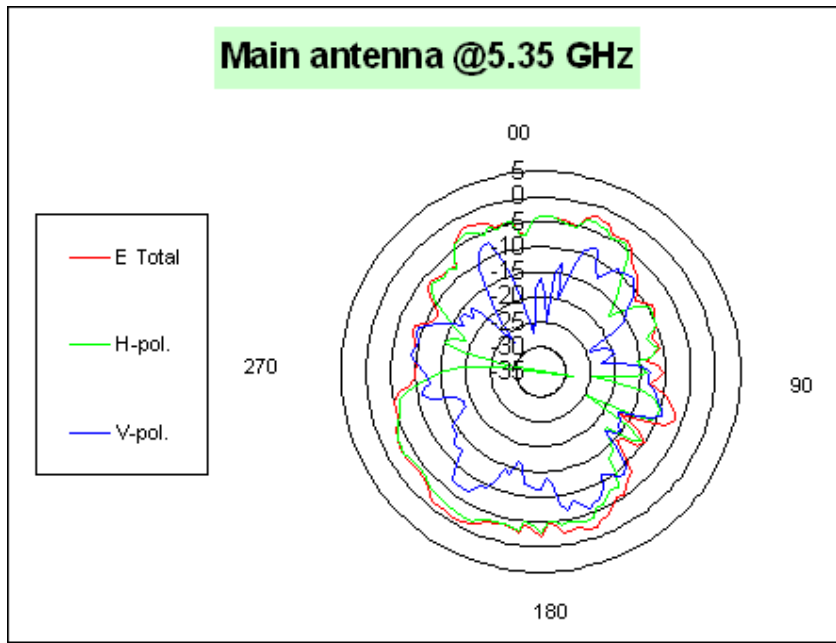
**Main antenna: 5250 MHz**



	H-pol	V pol
Peak Gain	-1.64	-5.30

**Laptop mode:**

**Main antenna: 5350 MHz**

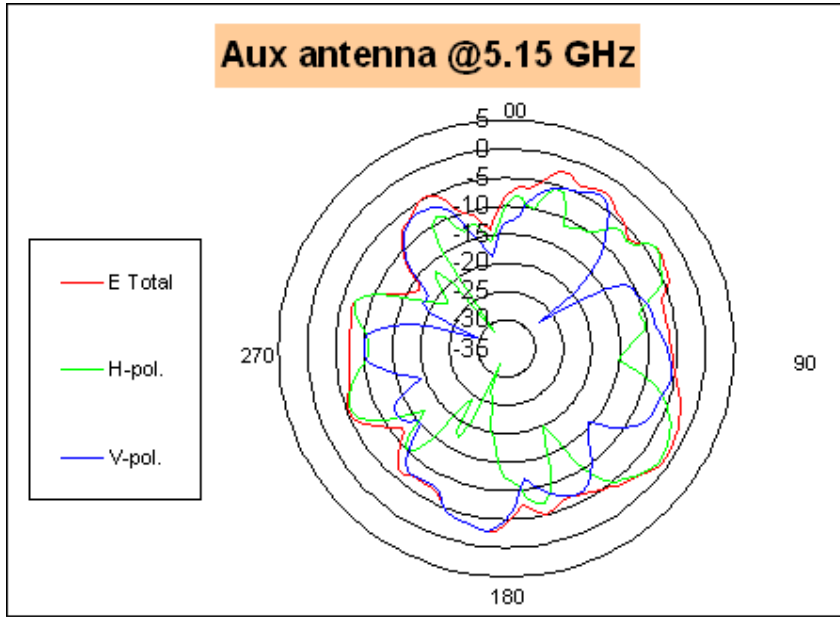


	H-pol	V pol
Peak Gain	-1.90	-6.11



**Laptop mode:**

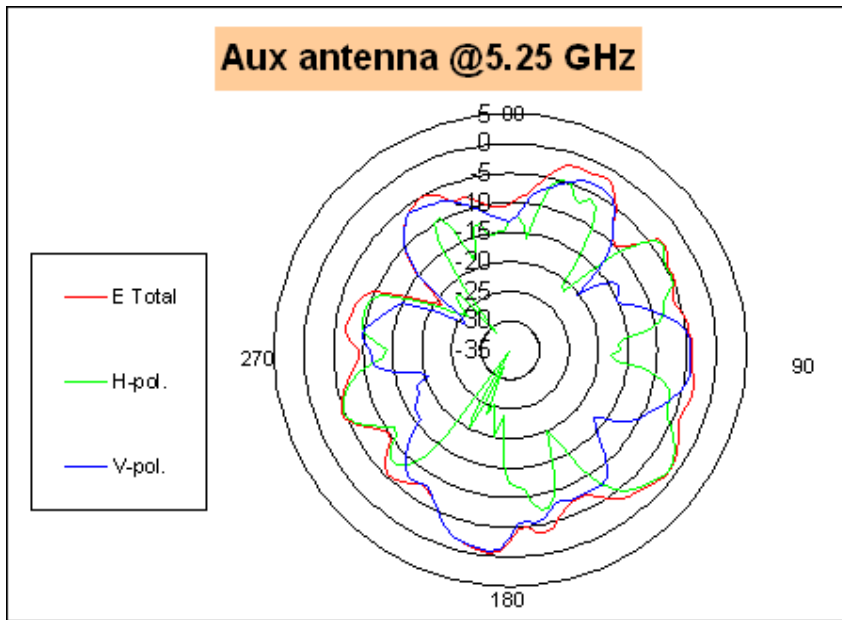
**Auxiliary antenna: 5150 MHz**



	H-pol	V pol
Peak Gain	-1.56	-2.88

**Laptop mode:**

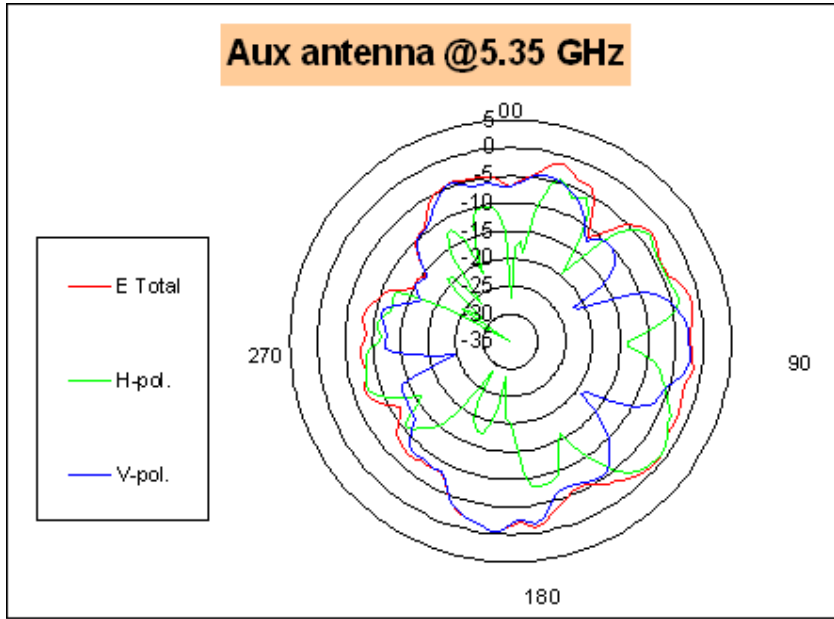
**Auxiliary antenna: 5250 MHz**



	H-pol	V pol
Peak Gain	-1.29	-0.60

**Laptop mode:**

**Auxiliary antenna: 5350 MHz**

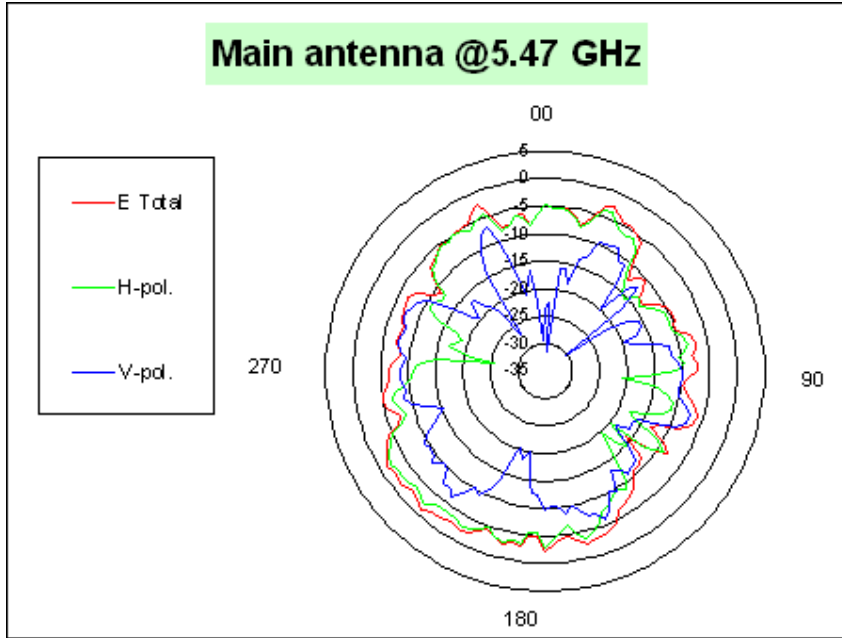


	H-pol	V pol
Peak Gain	-0.82	-0.24

**5470-5725MHz radiation characteristic**

**Laptop mode:**

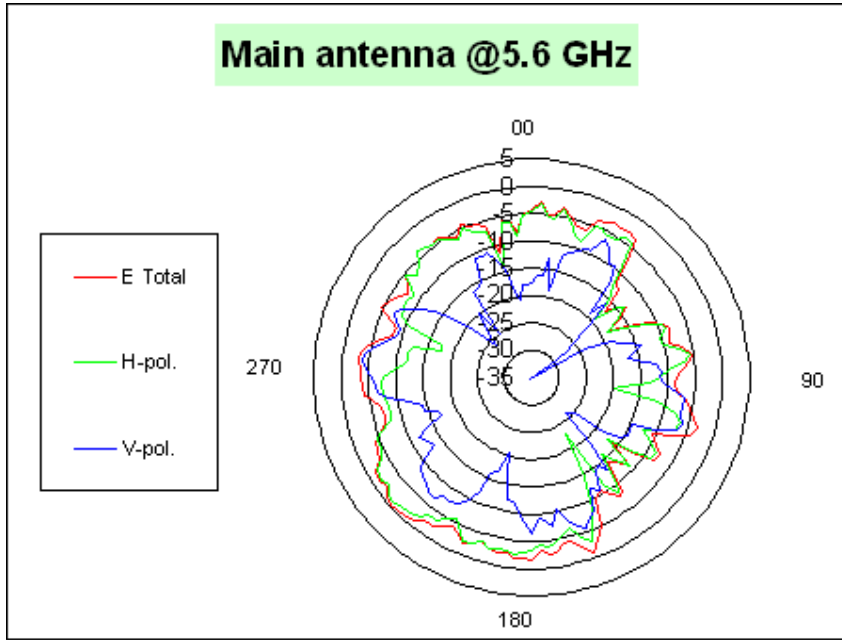
**Main antenna: 5470 MHz**



	H-pol	V pol
Peak Gain	-2.28	-5.82

**Laptop mode:**

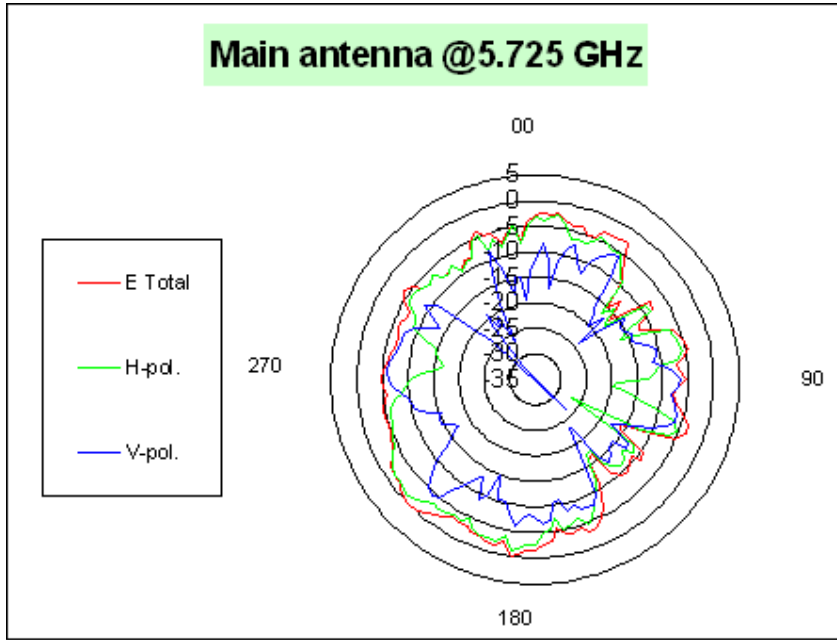
**Main antenna: 5600 MHz**



	H-pol	V pol
Peak Gain	-0.83	-3.72

**Laptop mode:**

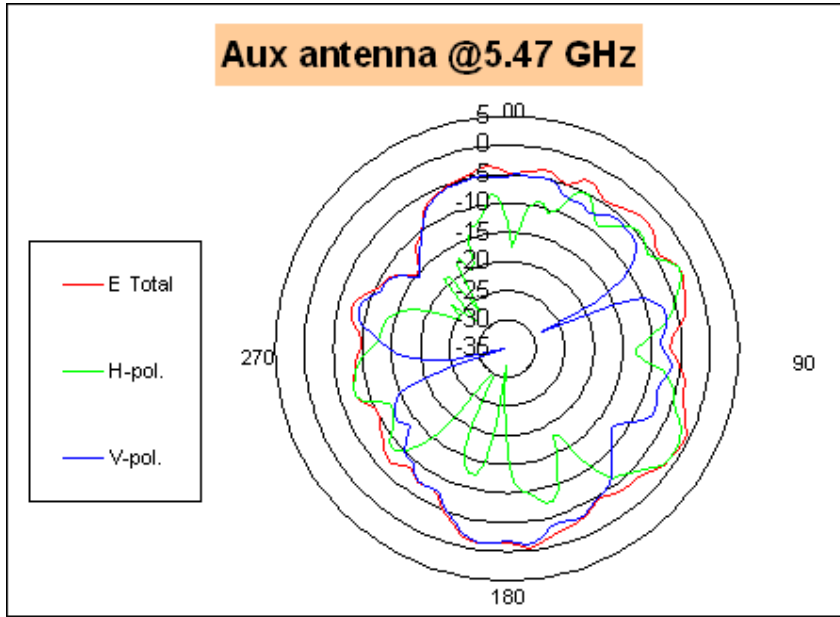
**Main antenna: 5725 MHz**



	H-pol	V pol
Peak Gain	-1.14	-4.55

**Laptop mode:**

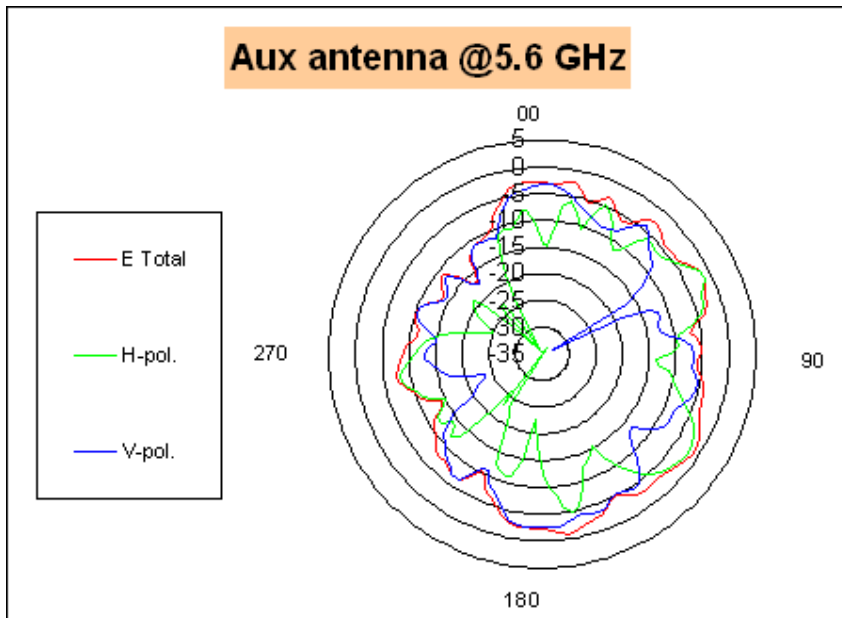
**Auxiliary antenna: 5470 MHz**



	H-pol	V pol
Peak Gain	-1.17	-0.91

**Laptop mode:**

**Auxiliary antenna: 5600 MHz**

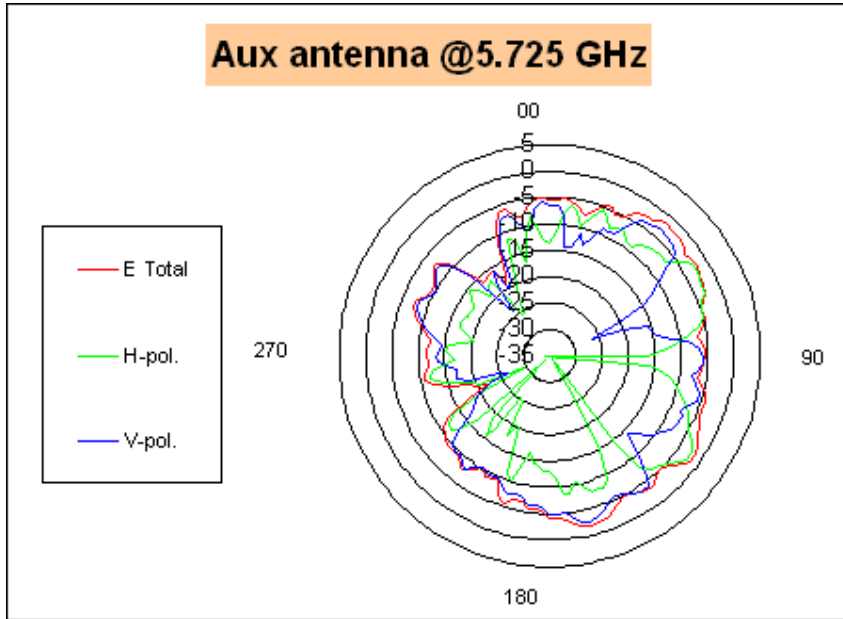


	H-pol	V pol
Peak Gain	-1.41	-2.45



**Laptop mode:**

**Auxiliary antenna: 5725 MHz**

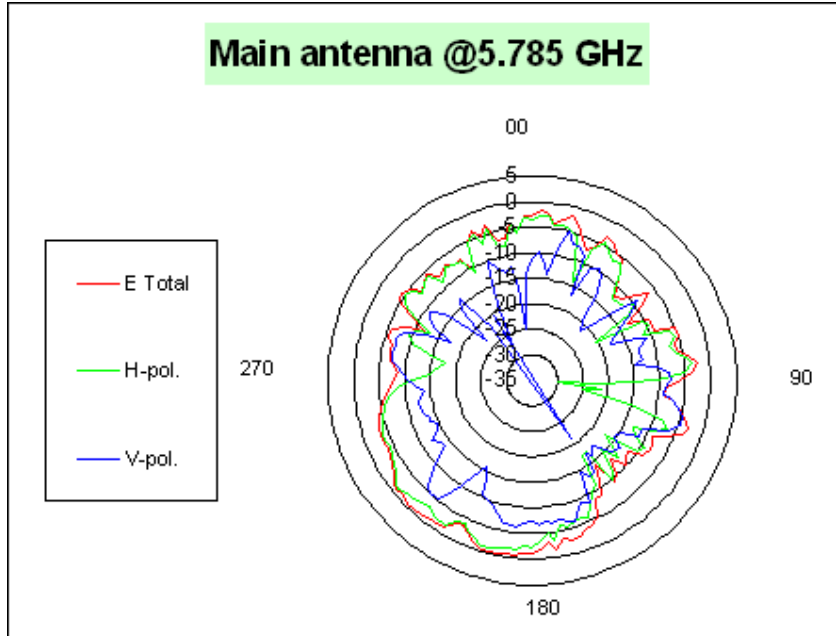


	H-pol	V pol
Peak Gain	-2.32	-2.59

**5785-5850MHz radiation characteristic**

**Laptop mode:**

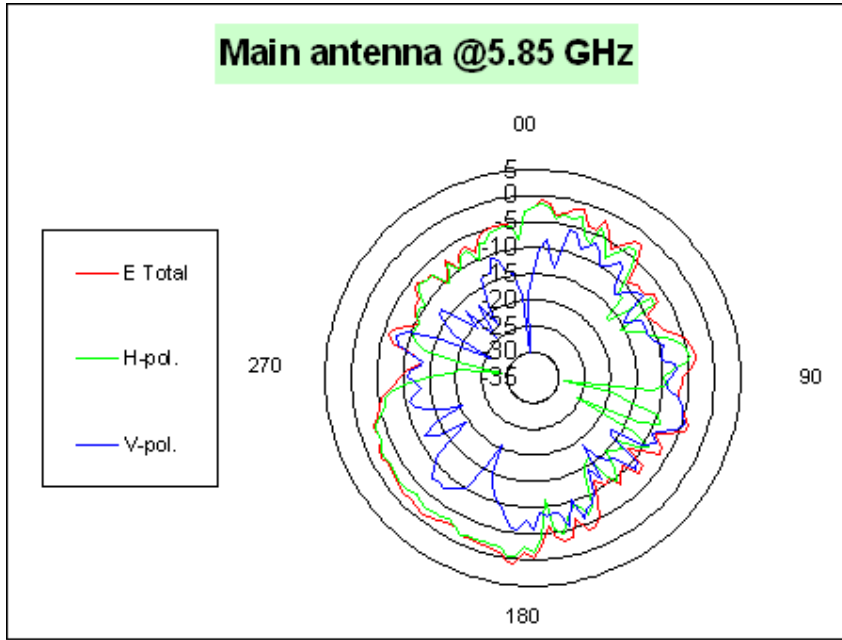
**Main antenna: 5785 MHz**



	H-pol	V pol
Peak Gain	-0.94	-4.62

**Laptop mode:**

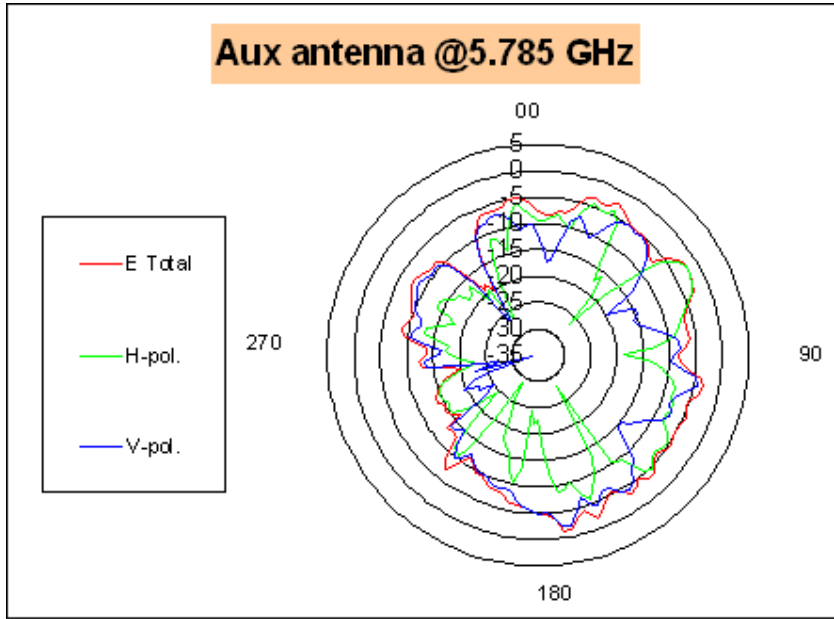
**Main antenna: 5850 MHz**



	H-pol	V pol
Peak Gain	-0.13	-4.70

**Laptop mode:**

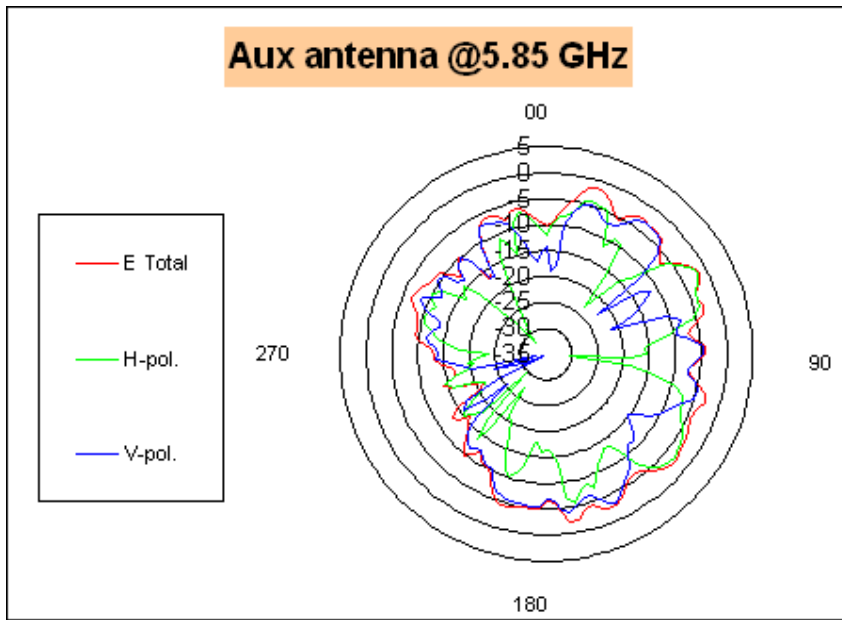
**Auxiliary antenna: 5785 MHz**



	H-pol	V pol
Peak Gain	-2.04	-2.18

**Laptop mode:**

**Auxiliary antenna: 5850 MHz**

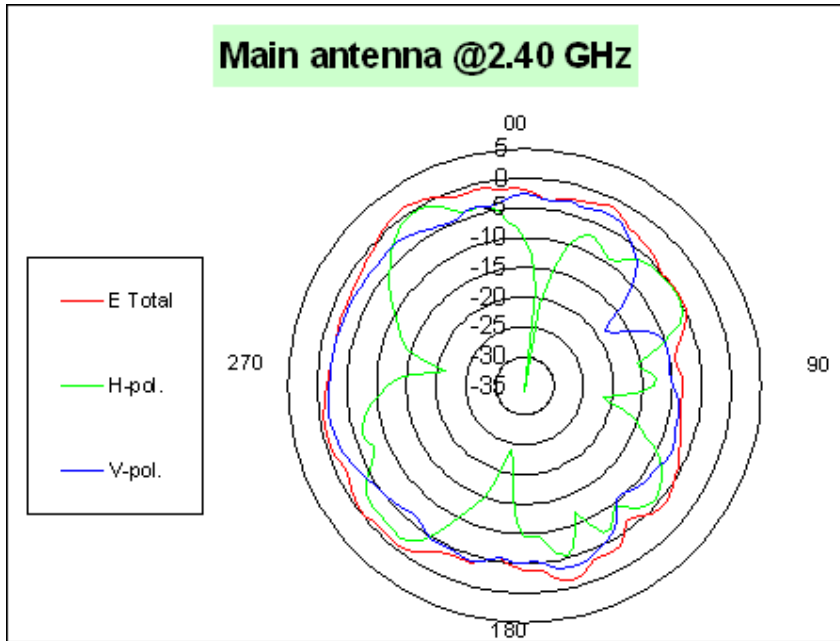


	H-pol	V pol
Peak Gain	-1.79	-3.15

2400-2500MHz radiation characteristic

**Tablet mode:**

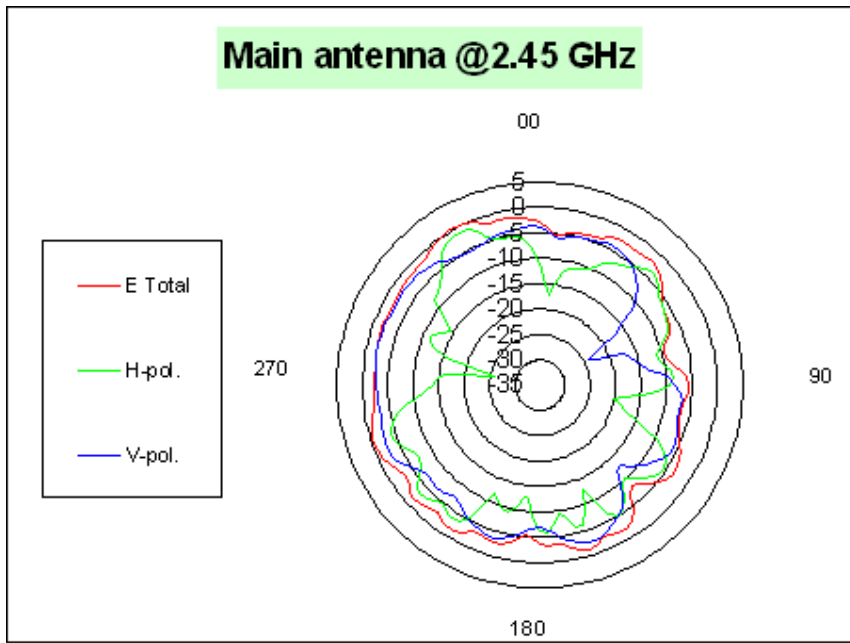
**Main antenna: 2400 MHz**



	H-pol	V pol
Peak Gain	-0.35	-1.60

**Tablet mode:**

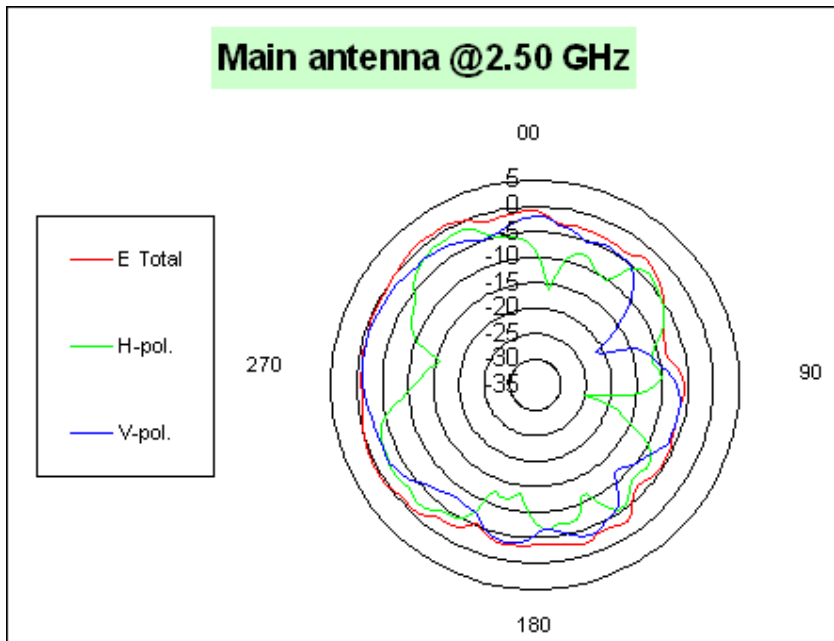
**Main antenna: 2450 MHz**



	H-pol	V pol
Peak Gain	-1.06	-2.12

**Tablet mode:**

**Main antenna: 2500 MHz**

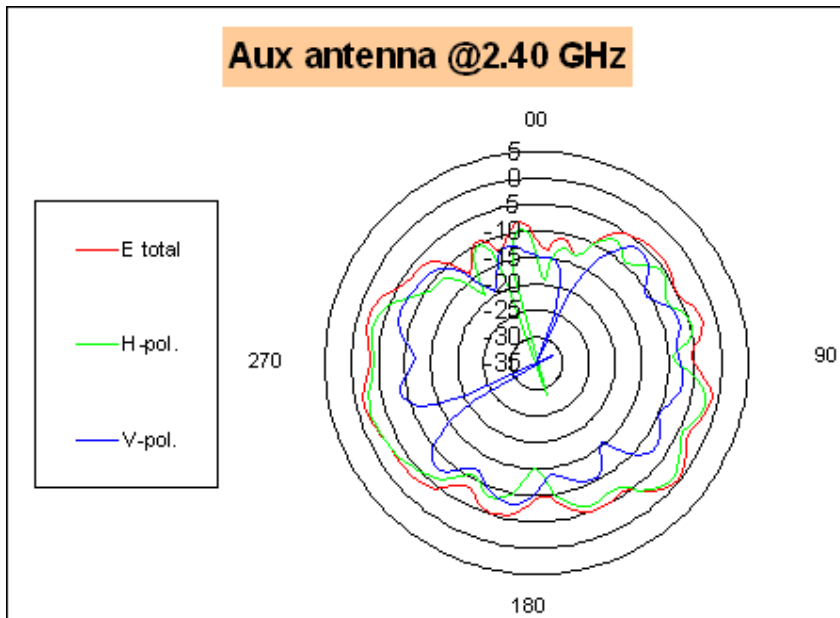


	H-pol	V pol
Peak Gain	-1.46	-0.77



**Tablet mode:**

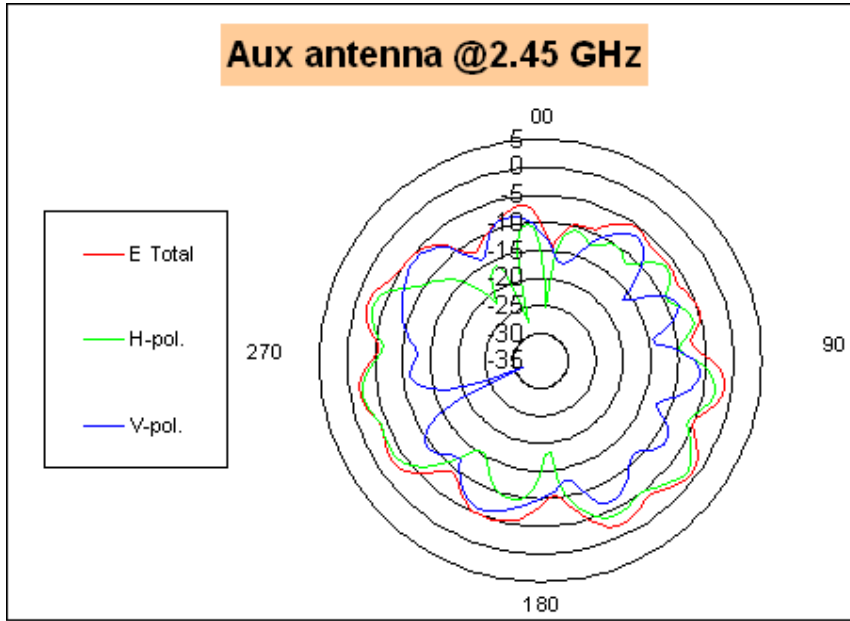
**Auxiliary antenna: 2400 MHz**



	H-pol	V pol
Peak Gain	-1.12	-6.03

**Tablet mode:**

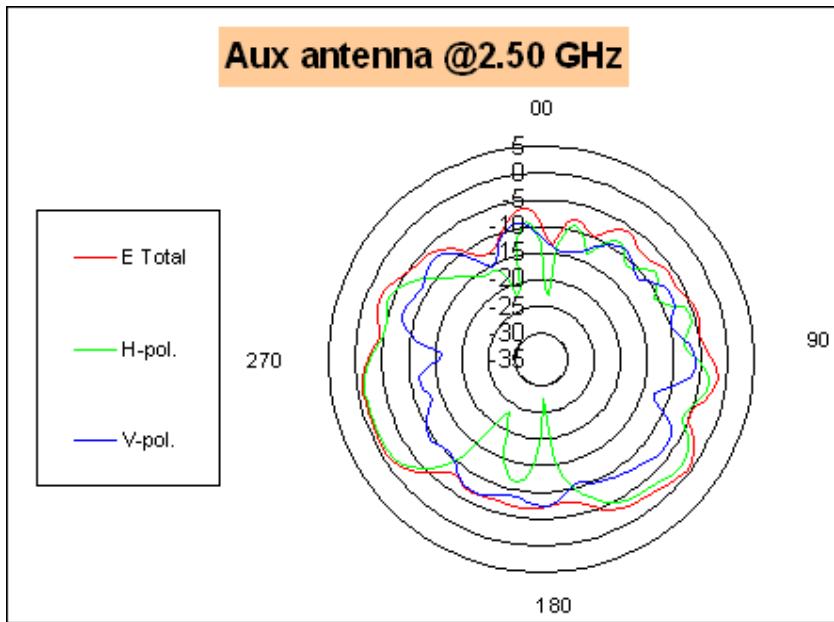
**Auxiliary antenna: 2450 MHz**



	H-pol	V pol
Peak Gain	-1.74	-5.90

**Tablet mode:**

**Auxiliary antenna: 2500 MHz**

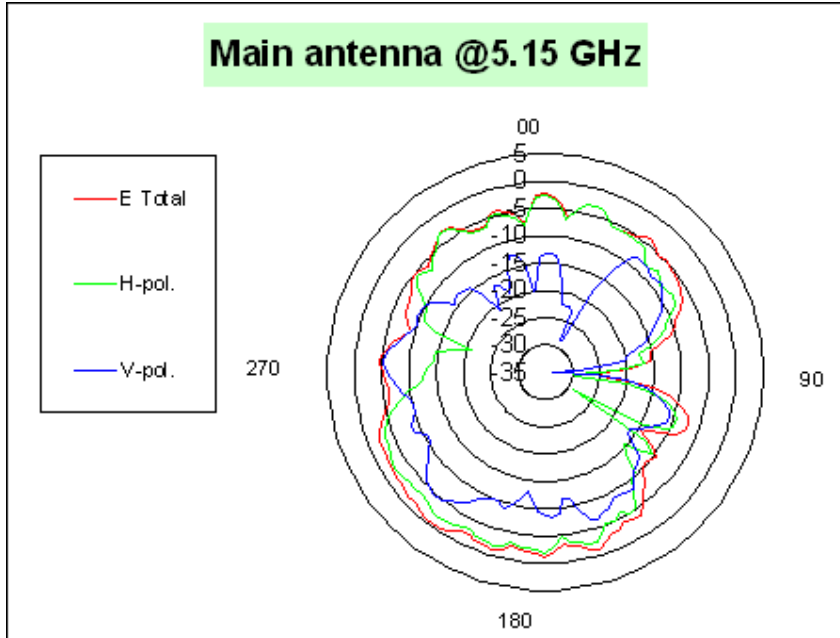


	H-pol	V pol
Peak Gain	-1.26	-5.84

**5150-5350 MHz radiation characteristic**

**Tablet mode:**

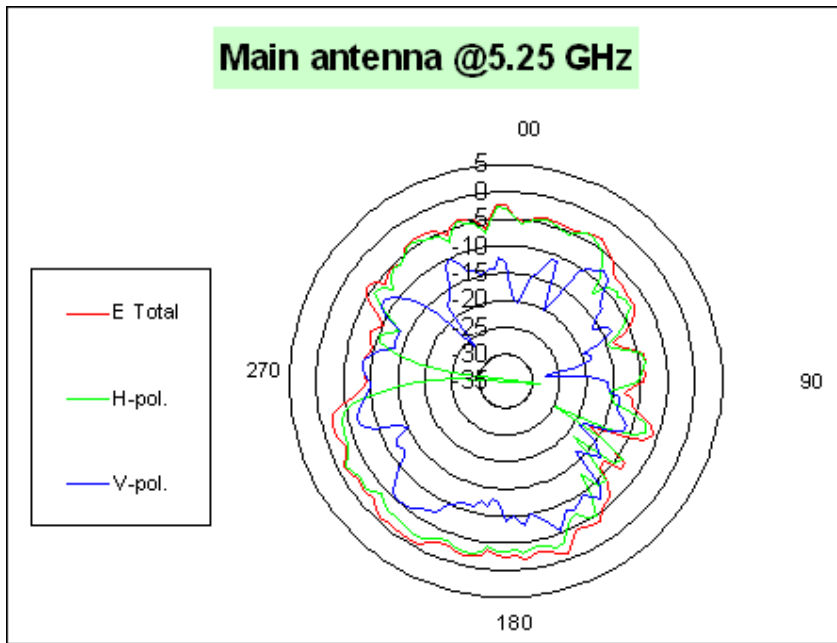
**Main antenna: 5150 MHz**



	H-pol	V pol
Peak Gain	-1.73	-4.62

**Tablet mode:**

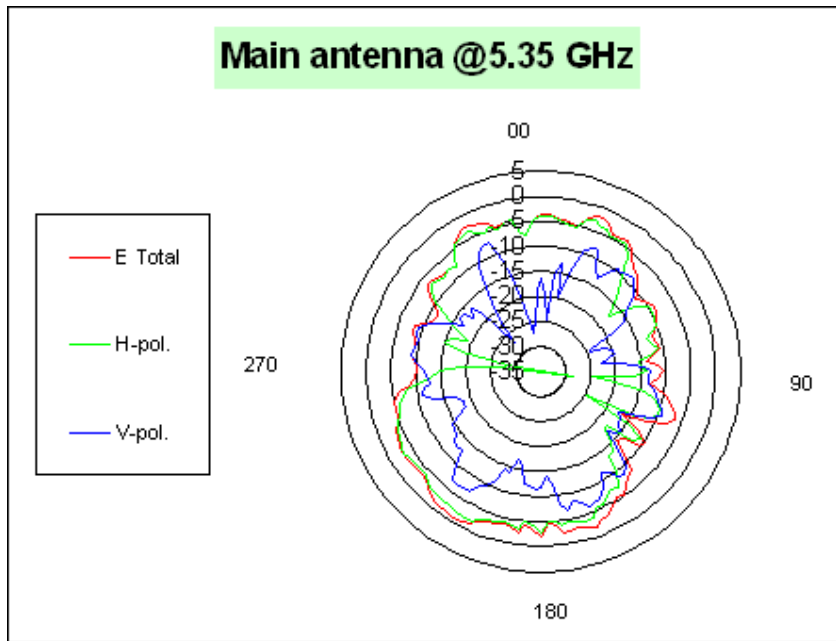
**Main antenna: 5250 MHz**



	H-pol	V pol
Peak Gain	-1.64	-5.30

**Tablet mode:**

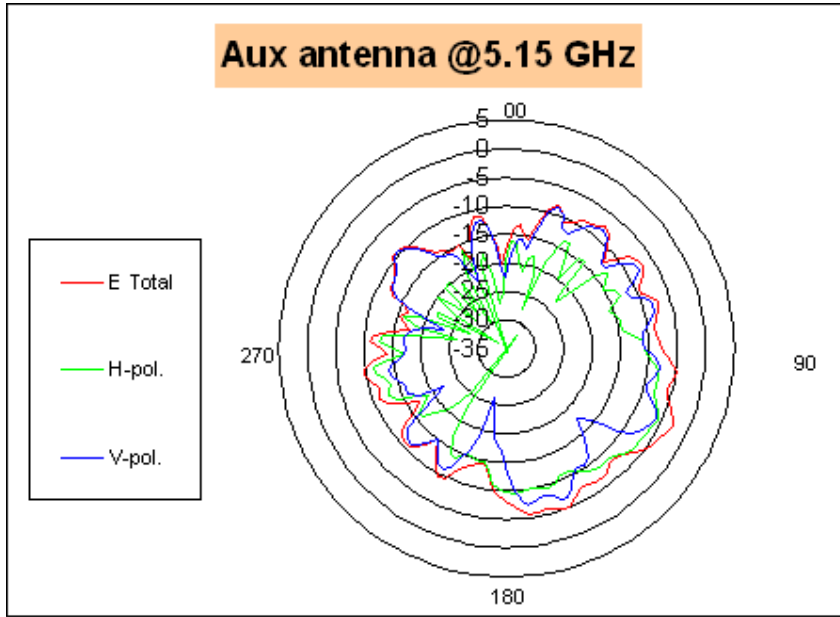
**Main antenna: 5350 MHz**



	H-pol	V pol
Peak Gain	-1.90	-6.11

**Tablet mode:**

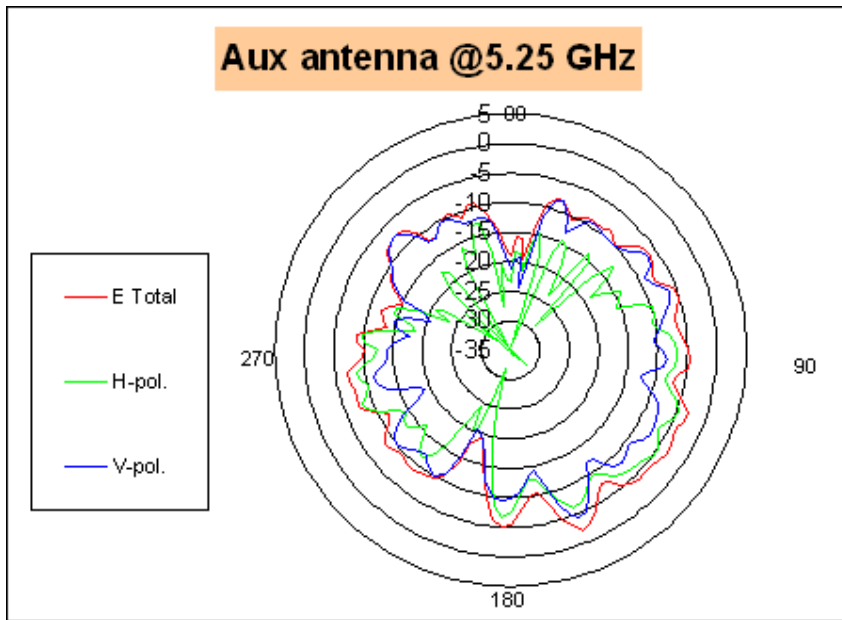
**Auxiliary antenna: 5150 MHz**



	H-pol	V pol
Peak Gain	-5.74	-6.23

**Tablet mode:**

**Auxiliary antenna: 5250 MHz**

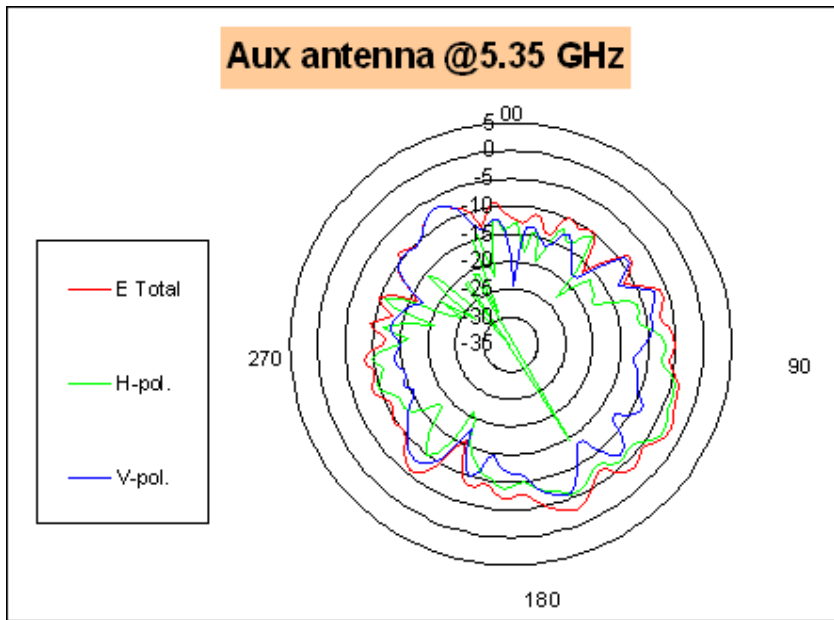


	H-pol	V pol
Peak Gain	-4.74	-4.30



**Tablet mode:**

**Auxiliary antenna: 5350 MHz**

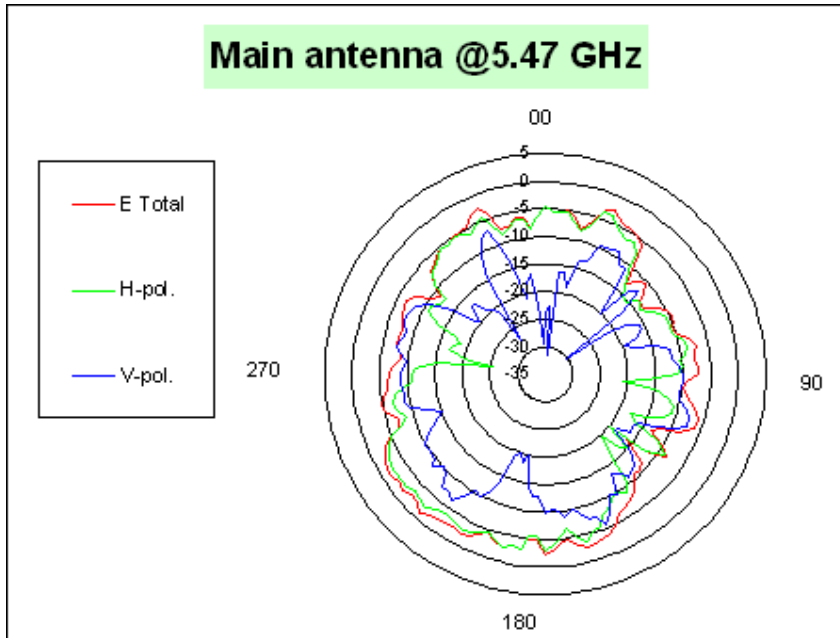


	H-pol	V pol
Peak Gain	-3.19	-6.01

5470-5725MHz radiation characteristic

**Tablet mode:**

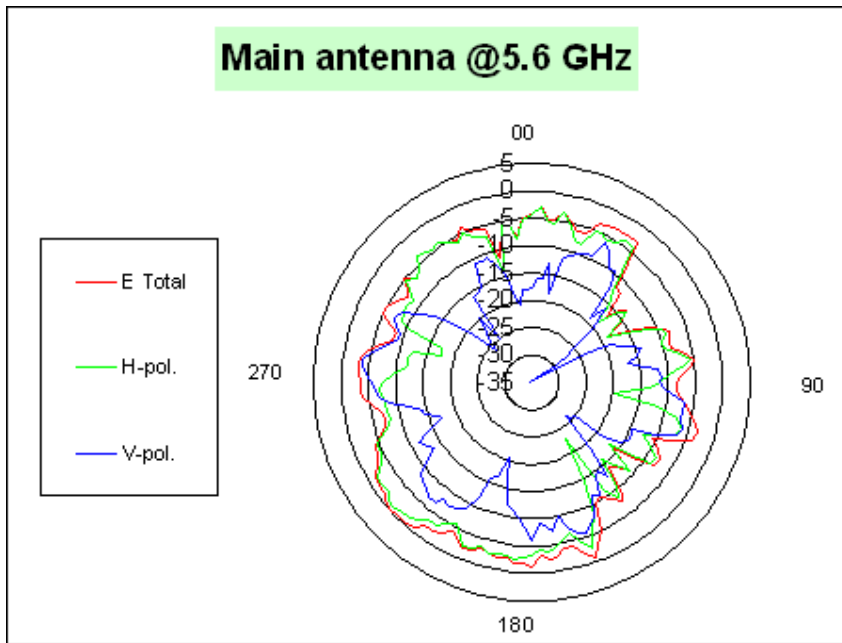
**Main antenna: 5470 MHz**



	H-pol	V pol
Peak Gain	-2.28	-5.82

**Tablet mode:**

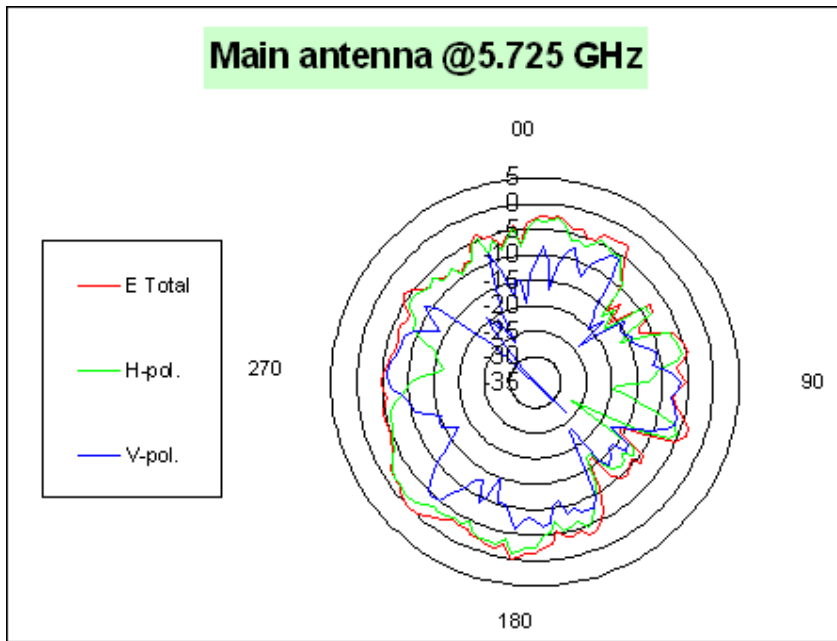
**Main antenna: 5600 MHz**



	H-pol	V pol
Peak Gain	-0.83	-3.72

**Tablet mode:**

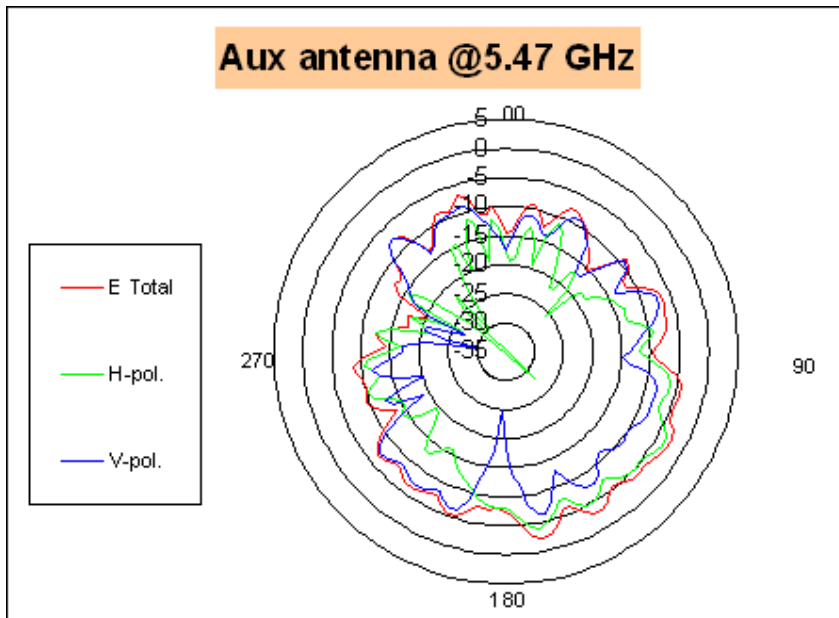
**Main antenna: 5725 MHz**



	H-pol	V pol
Peak Gain	-1.14	-4.55

**Tablet mode:**

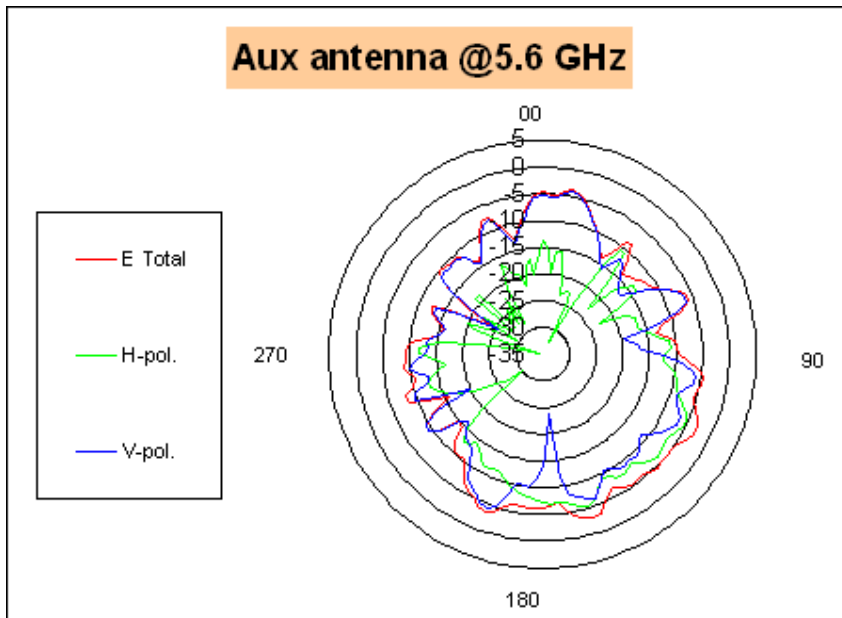
**Auxiliary antenna: 5470 MHz**



	H-pol	V pol
Peak Gain	-3.61	-6.24

**Tablet mode:**

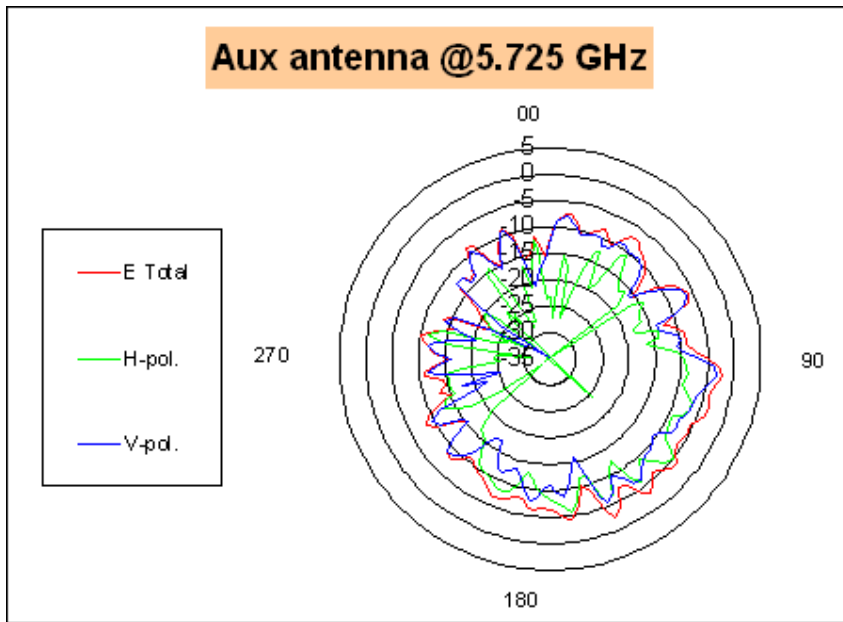
**Auxiliary antenna: 5600 MHz**



	H-pol	V pol
Peak Gain	-5.37	-4.16

**Tablet mode:**

**Auxiliary antenna: 5725 MHz**

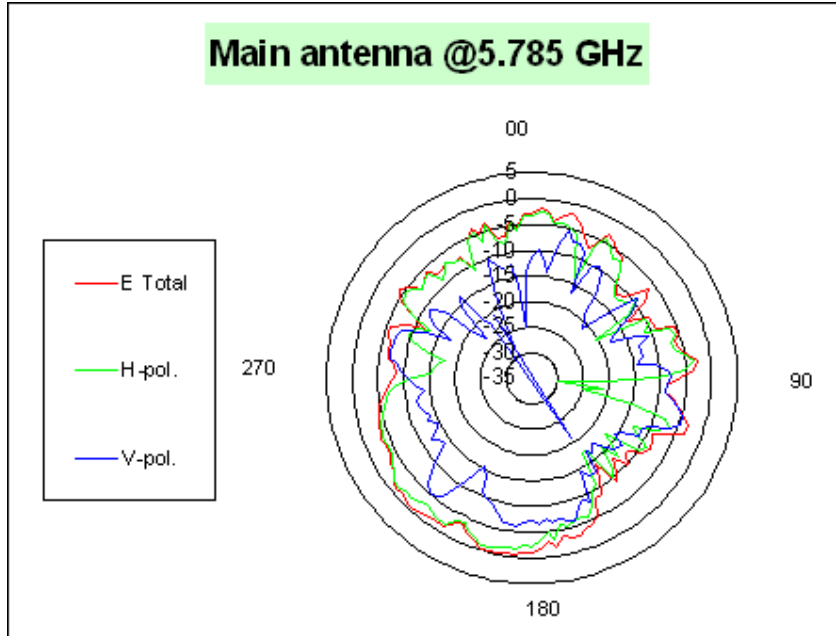


	H-pol	V pol
Peak Gain	-5.04	-3.05

**5785-5850MHz radiation characteristic**

**Tablet mode:**

**Main antenna: 5785 MHz**

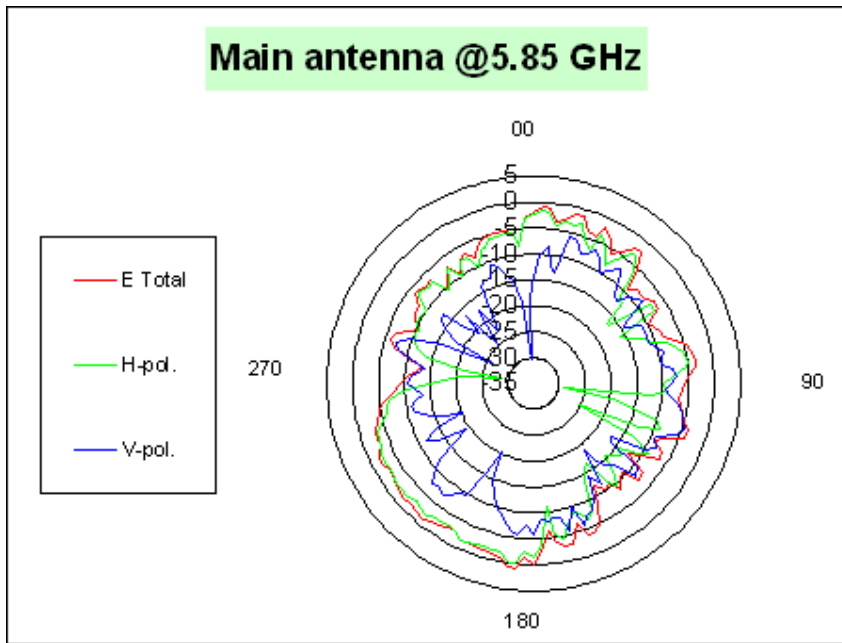


	H-pol	V pol
Peak Gain	-0.94	-4.62



**Tablet mode:**

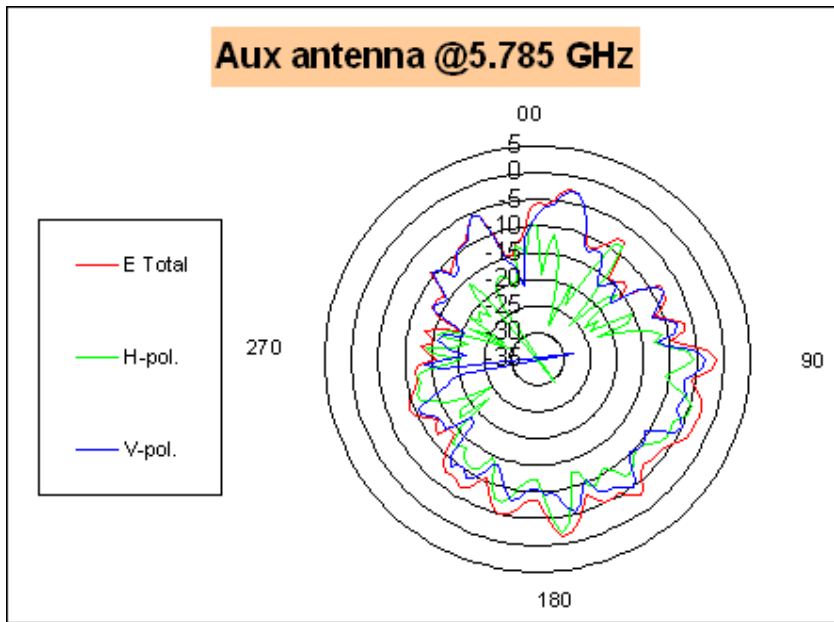
**Main antenna: 5850 MHz**



	H-pol	V pol
Peak Gain	-0.13	-4.70

**Tablet mode:**

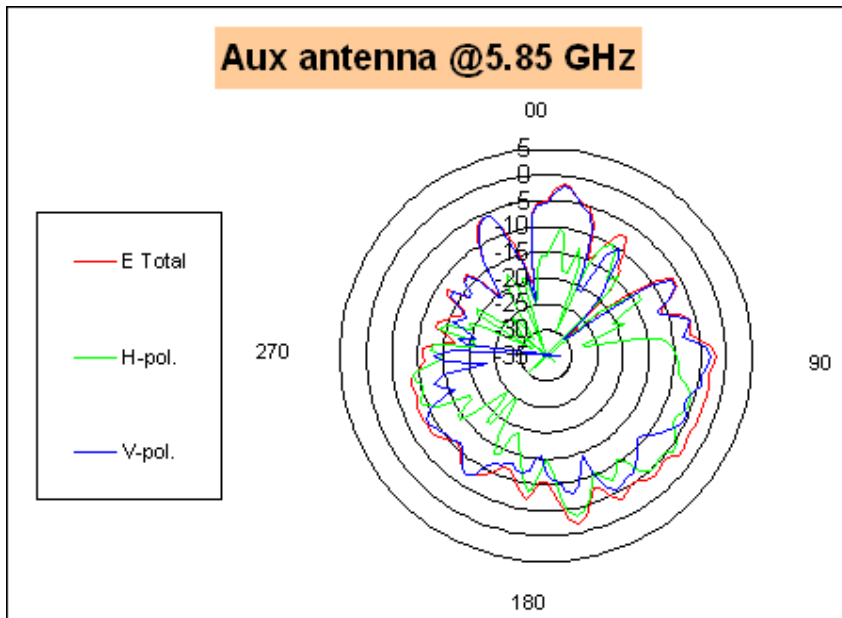
**Auxiliary antenna: 5785 MHz**



	H-pol	V pol
Peak Gain	-2.10	-2.97

**Tablet mode:**

**Auxiliary antenna: 5850 MHz**

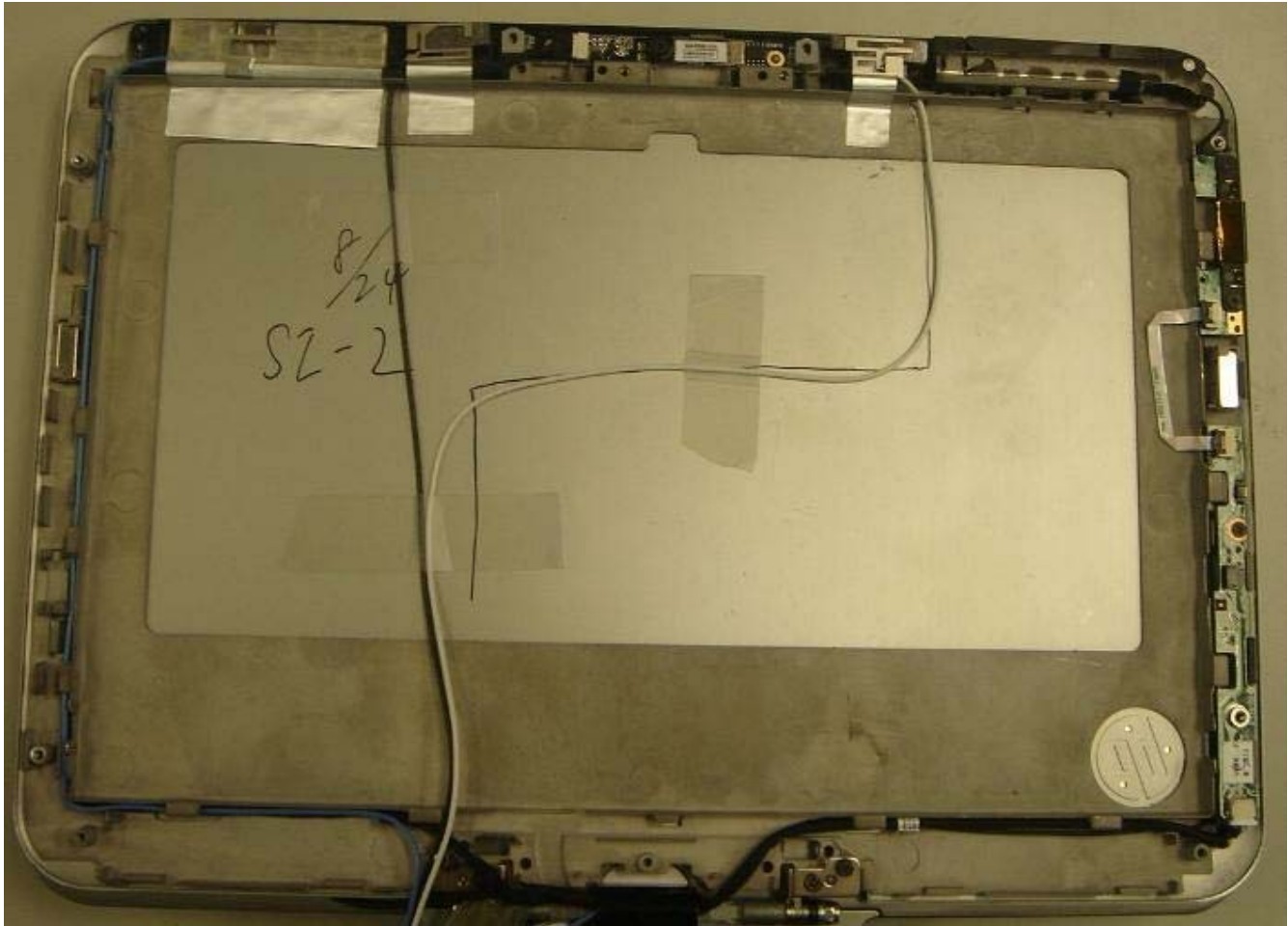


	H-pol	V pol
Peak Gain	-3.33	-1.99

## Section 4. Host Platform Information

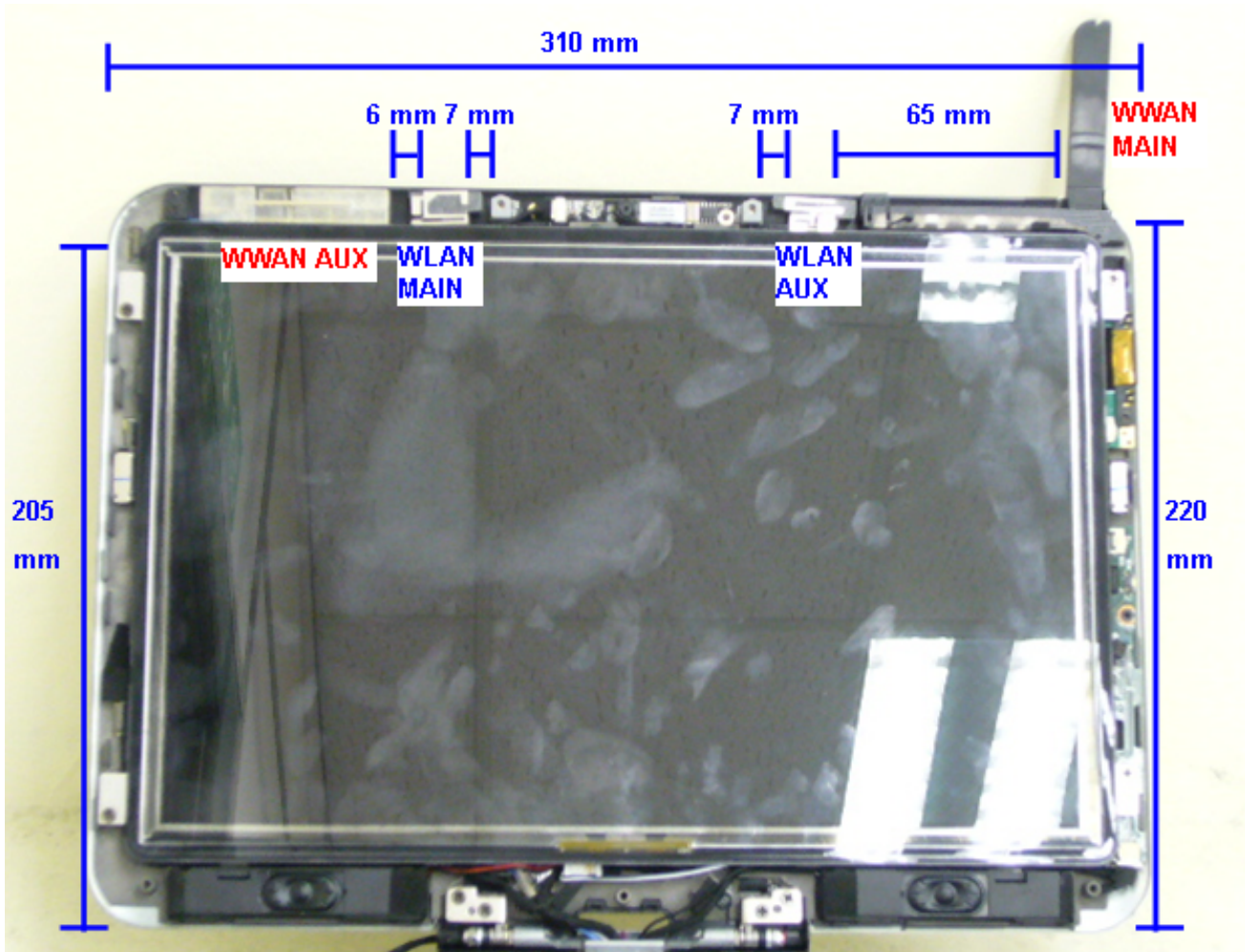
OEM / ODM Host platform: (XXXXXXX) platform correlated to antenna data

Rating Label Photo:



## Section 5. Antenna Host Platform Location Information

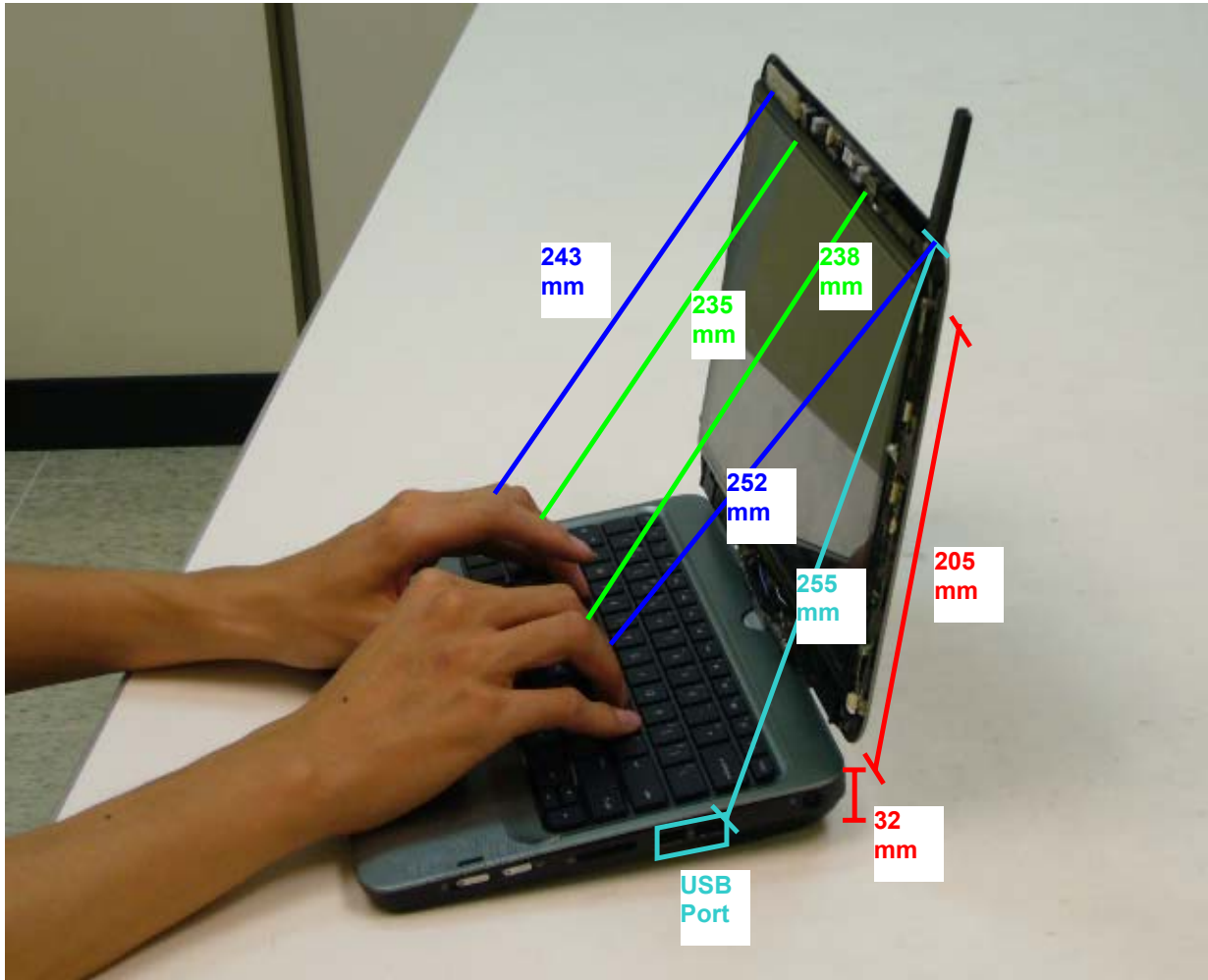
Include a **dimensioned photo or dimensioned drawing** of Tx1, Tx2 and Tx3 antenna placements. (Not applicable for receive-only antenna e.g. Rx3 for 4965AGN)



## Section 6. Antenna dimensional information for SAR evaluation

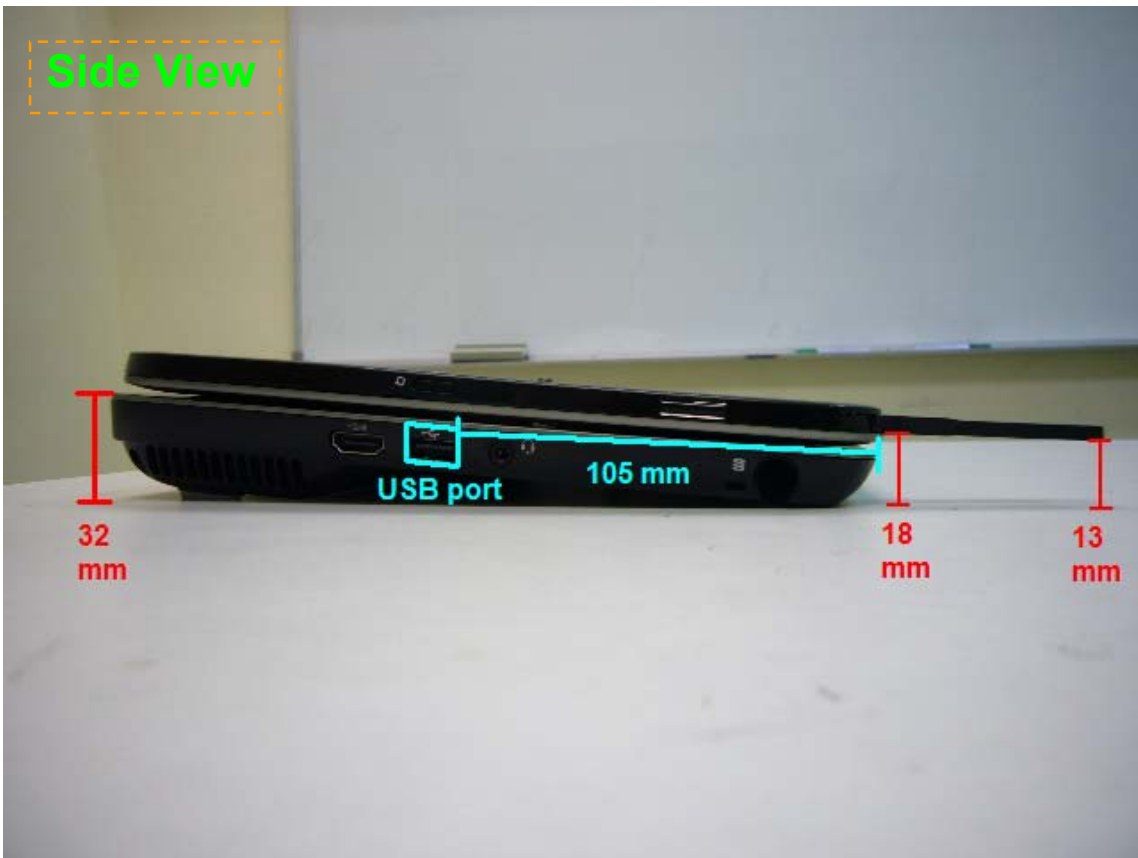
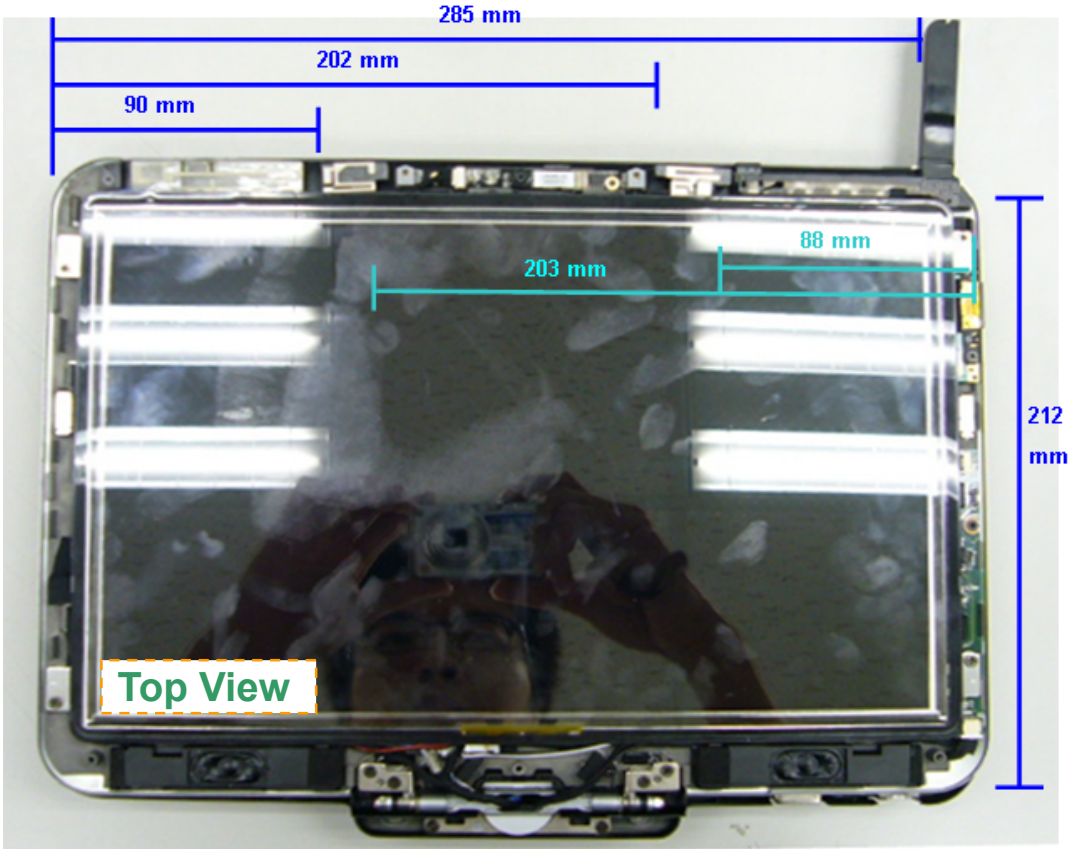
Include a **dimensioned photo or dimensioned drawing** showing the distance (mm) between the transmit antennas and the user (excluding hands, wrist, feet, lap/ thigh, and ankle)

Laptop mode:





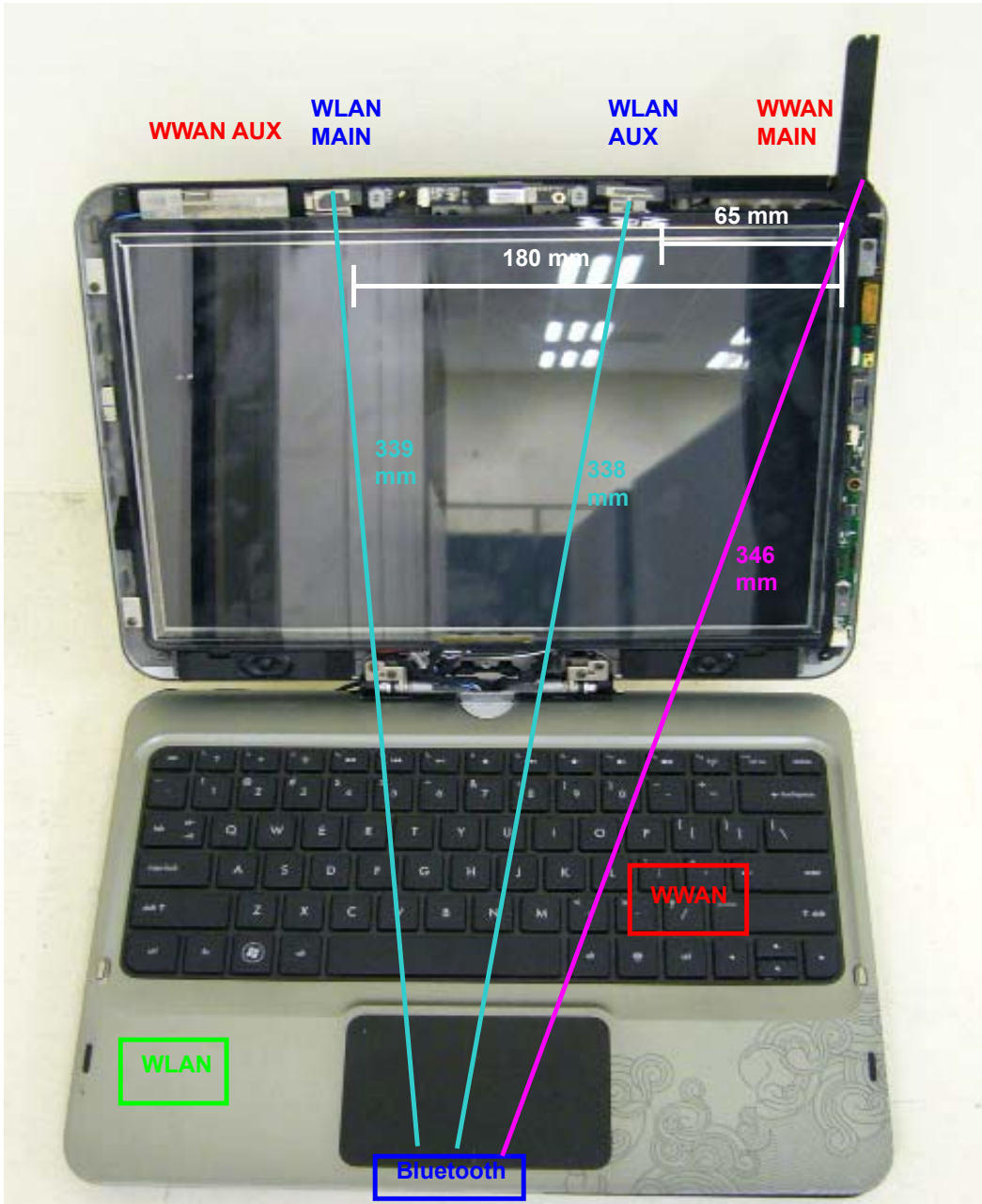
### Tablet mode:



## 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,..

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





## 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
<b>Argentina</b>						
<b>Brazil</b>						
<b>Indonesia</b>						
<b>Israel</b>						
<b>Malaysia</b>						
<b>Mexico</b>						
<b>Singapore</b>						Telecommunication Equipment Dealer License Required
<b>South Africa</b>						
<b>USA, Canada</b>						