

# Regulatory WLAN Antenna Information (Example)h

(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)**

Brand Name	
Model Name	Compal HDL20
Antenna Vendor	SmartAnt Co., LTD
Antenna Part Number	<input type="checkbox"/> Main Antenna: CPL06-220530 (B)
	<input type="checkbox"/> Aux Antenna: CPL06-220530 (G)
With WLAN Module	<input type="checkbox"/> WM3B2100
(Check Box)	<input type="checkbox"/> WM3B2200BG
	<input type="checkbox"/> WM3B2915ABG
	<input checked="" type="checkbox"/> 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 <b>and</b> 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. <b>(S. Korea requires photographs of antennas for approval submission). Taiwan requires pictures of each antenna type shown in the system.</b>	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:

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 (CPL06-220530 (B))	SmartAnt	PIFA	50 ohm Coaxial. length: 71.5cm diameter: 1.37mm Connector: I-Pex	2400-2500MHz 2.74 dBi (peak)	2400-2500MHz 4.75 dBi (peak)	2400-2500MHz 2.0 max	2400-2500MHz 2.01 dBi (peak)
				5150-5350MHz 1.29 dBi (peak)	5150-5350MHz 4.17 dBi (peak)	5150-5350MHz 2.5 max	5150-5350MHz 2.88 dBi (peak)
				5475-5725MHz 0.95 dBi (peak)	5475-5725MHz 3.90 dBi (peak)	5475-5725MHz 2.5 max	5475-5725MHz 2.95 dBi (peak)
				5725-5875MHz 0.95 dBi (peak)	5725-5875MHz 3.97 dBi (peak)	5725-5875MHz 2.5 max	5725-5875MHz 3.02 dBi (peak)
Auxiliary antenna (CPL06-220530 (G))	SmartAnt	PIFA	50 ohm Coaxial. length: 96.9cm diameter: 1.37mm Connector: I-Pex	2400-2500MHz 2.96 dBi (peak)	2400-2500MHz 5.58 dBi (peak)	2400-2500MHz 2.0 max	2400-2500MHz 2.62 dBi (peak)
				5150-5350MHz -0.17 dBi (peak)	5150-5350MHz 3.71 dBi (peak)	5150-5350MHz 2.5 max	5150-5350MHz 3.88 dBi (peak)
				5475-5725MHz -0.20 dBi (peak)	5475-5725MHz 3.78 dBi (peak)	5475-5725MHz 2.5 max	5475-5725MHz 3.98 dBi (peak)
				5725-5875MHz -0.17 dBi (peak)	5725-5875MHz 3.90 dBi (peak)	5725-5875MHz 2.5 max	5725-5875MHz 4.07 dBi (peak)

### Antenna Peak Gain Table:

Frequency (MHz)	Main antenna			Aux Antenna		
	Horizontal (dBi)	Vertical (dBi)	Hori+Ver (dBi)	Horizontal (dBi)	Vertical (dBi)	Hori+Ver (dBi)
2400	0.78	1.73	2.92	1.12	1.47	2.83
2450	-0.05	1.66	2.74	-0.43	1.25	2.70
2500	1.11	0.47	2.42	0.49	1.24	2.96
5150	0.77	-1.62	1.02	-2.18	-1.81	-0.88
5250	1.16	0.20	1.29	-1.39	-1.39	-0.21
5350	-0.49	-1.26	-0.28	-1.65	-1.98	-0.17
5475	0.20	-3.20	0.41	-2.54	-4.71	-1.36
5600	-0.23	-2.49	-0.03	-1.23	-3.93	-0.95
5725	0.64	-2.02	0.95	-0.91	-2.58	-0.20
5800	-0.29	-2.42	-0.01	-0.90	-2.55	-0.22
5875	-1.22	-3.47	-0.91	-0.82	-3.28	-0.17

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

## Section 2. Dimensioned Photos or Drawings of Antennas

Include a dimensioned photo and dimensioned drawing of antenna here.

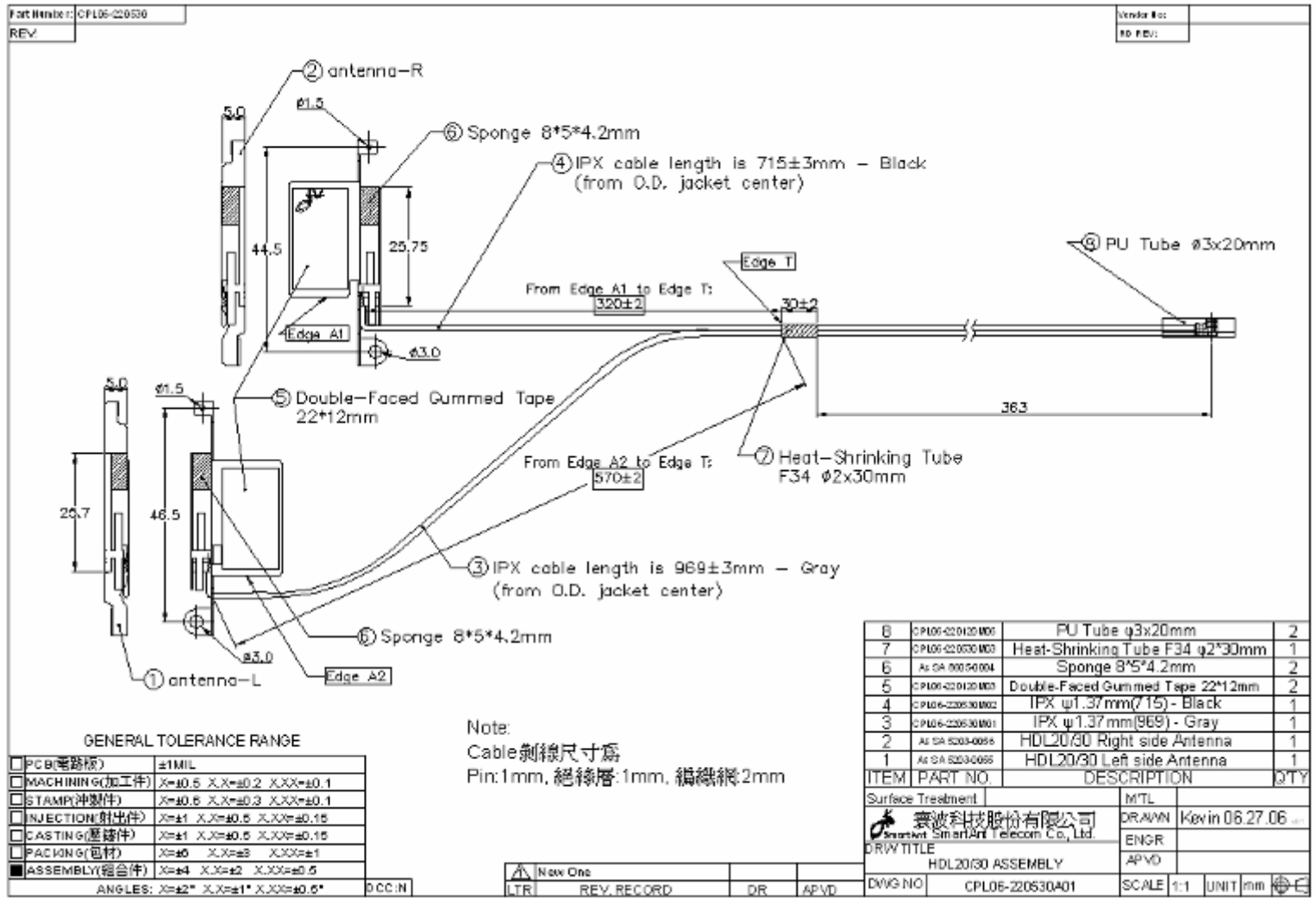
### Main Antenna Photo:



### Aux Antenna Photo:



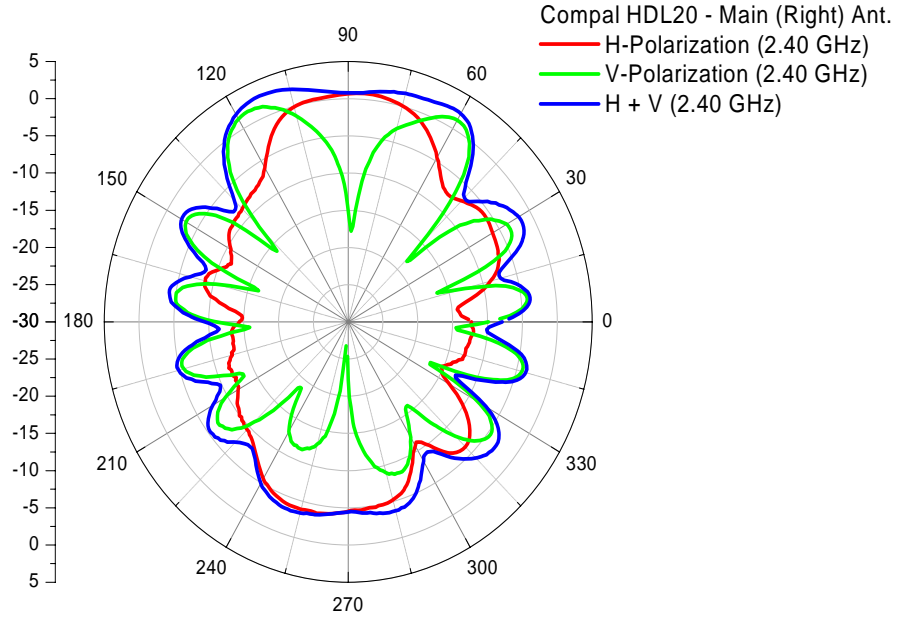
### Antenna Dimensioned Drawing:



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

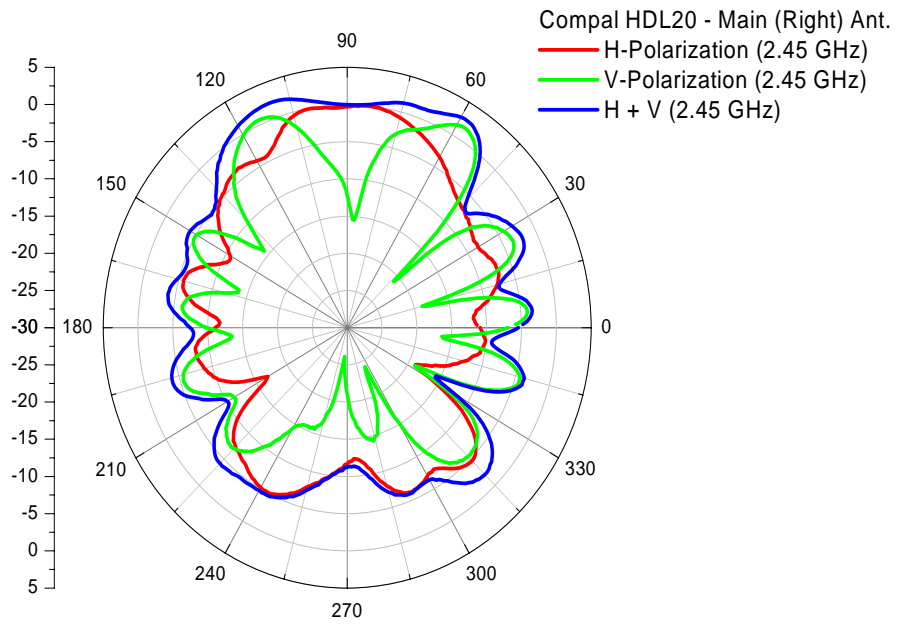
### 2400-2500MHz radiation characteristic

#### Main antenna: 2400 MHz



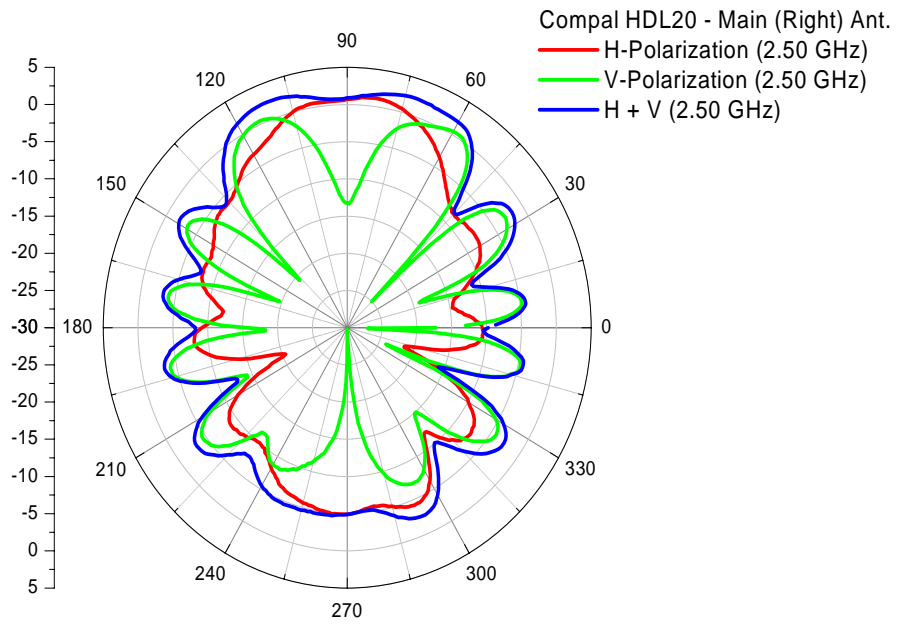
Center Frequency	2400 MHz	
Horizontal (dBi) peak / average	0.78	-5.50
Vertical (dBi) peak / average	1.73	-6.31
Horz+Vert (dBi) peak / average	2.92	-2.50

Main antenna: 2450 MHz



Center Frequency	2450 MHz	
Horizontal (dBi) peak / average	-0.05	-5.68
Vertical (dBi) peak / average	1.66	-5.88
Horz+Vert (dBi) peak / average	2.74	-2.77

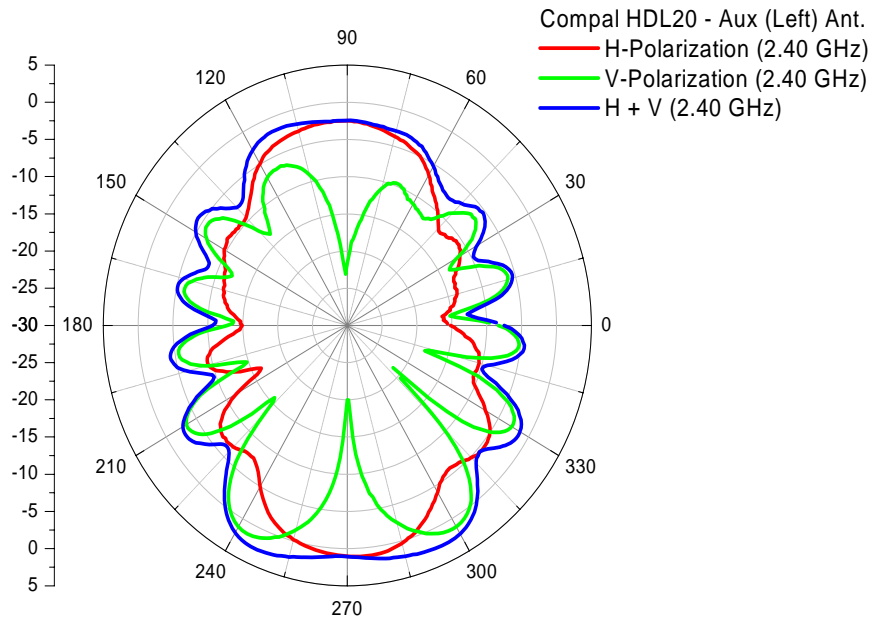
**Main antenna: 2500 MHz**



Center Frequency	2500 MHz	
Horizontal (dBi) peak / average	1.11	-5.33
Vertical (dBi) peak / average	0.47	-5.70
Horz+Vert (dBi) peak / average	2.42	-2.50

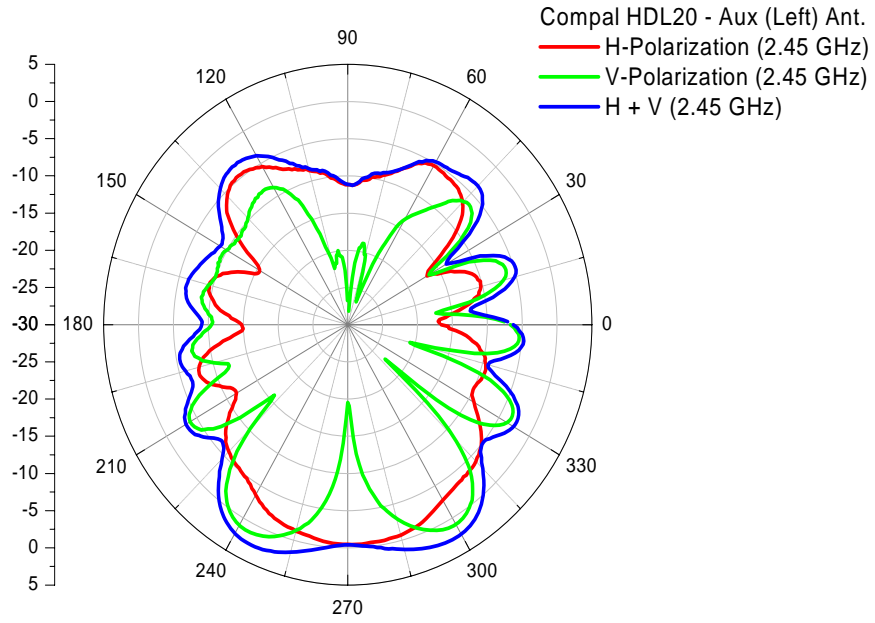


**Auxiliary antenna: 2400 MHz**



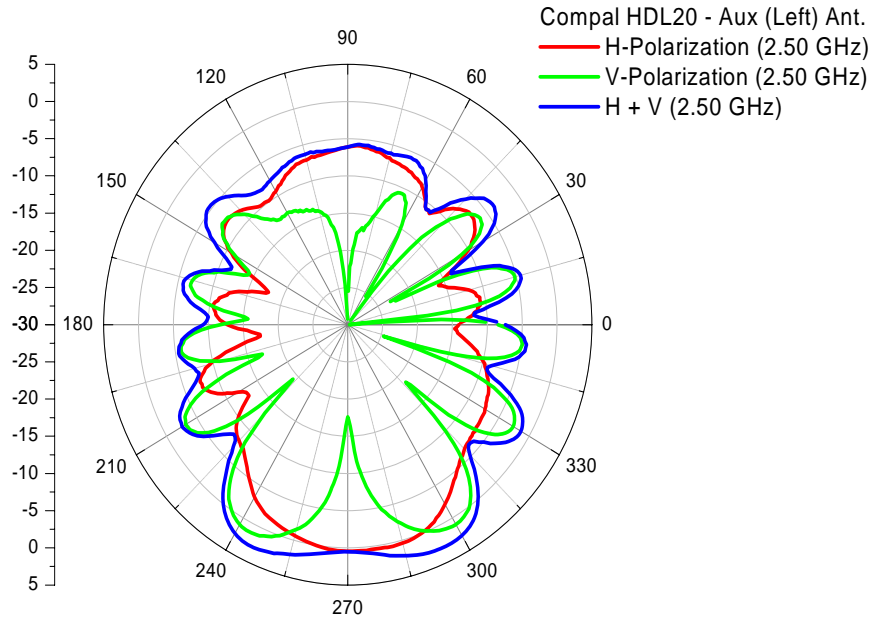
Center Frequency	2400 MHz	
Horizontal (dBi) peak / average	1.12	-5.02
Vertical (dBi) peak / average	1.47	-5.49
Horz+Vert (dBi) peak / average	2.83	-2.23

## Auxiliary antenna: 2450 MHz



Center Frequency	2450 MHz	
Horizontal (dBi) peak / average	-0.43	-6.64
Vertical (dBi) peak / average	1.25	-6.67
Horz+Vert (dBi) peak / average	2.70	-2.84

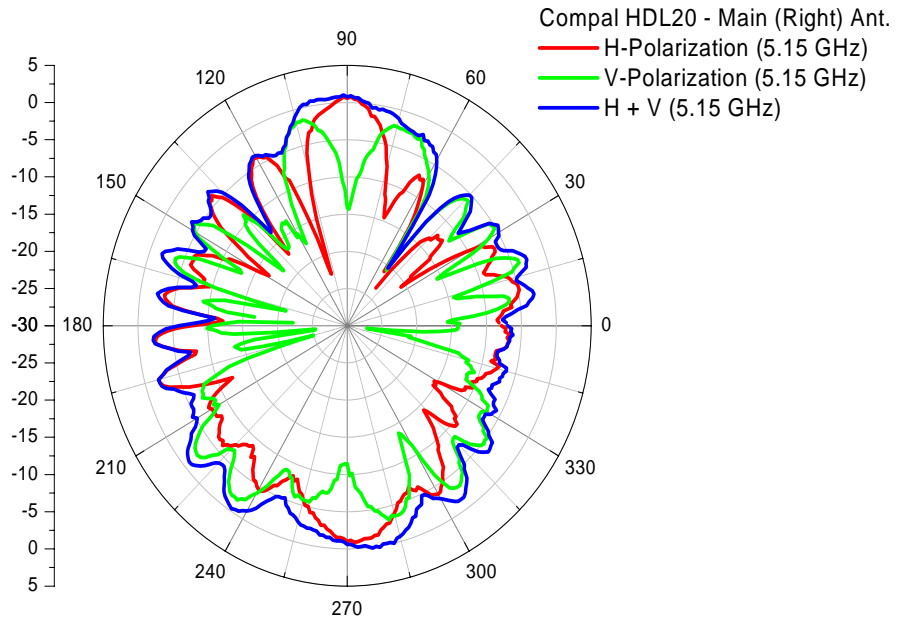
## Auxiliary antenna: 2500 MHz



Center Frequency	2500 MHz	
Horizontal (dBi) peak / average	0.49	-6.12
Vertical (dBi) peak / average	1.24	-6.33
Horz+Vert (dBi) peak / average	2.96	-2.71

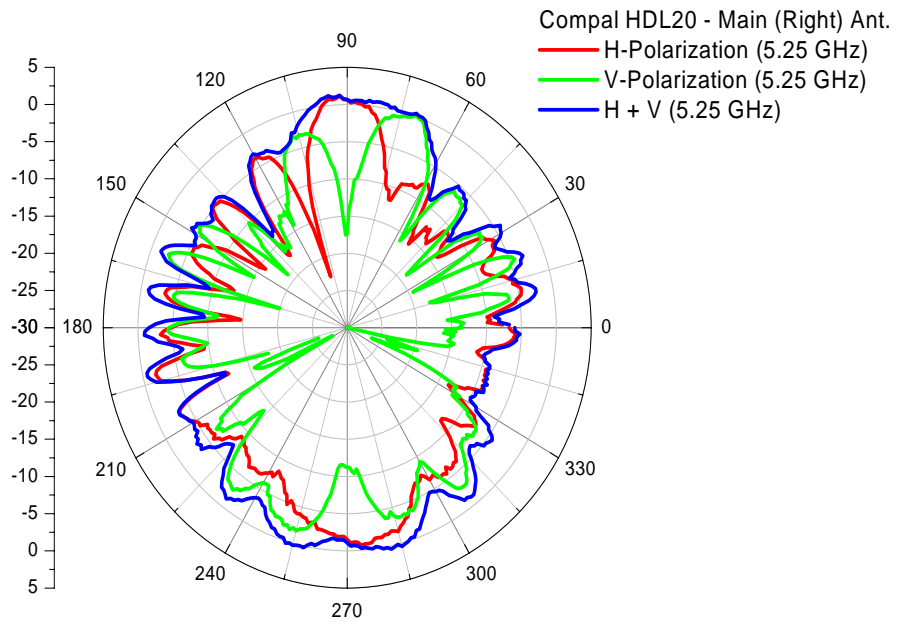
**5150-5350 MHz radiation characteristic**

**Main antenna: 5150 MHz**



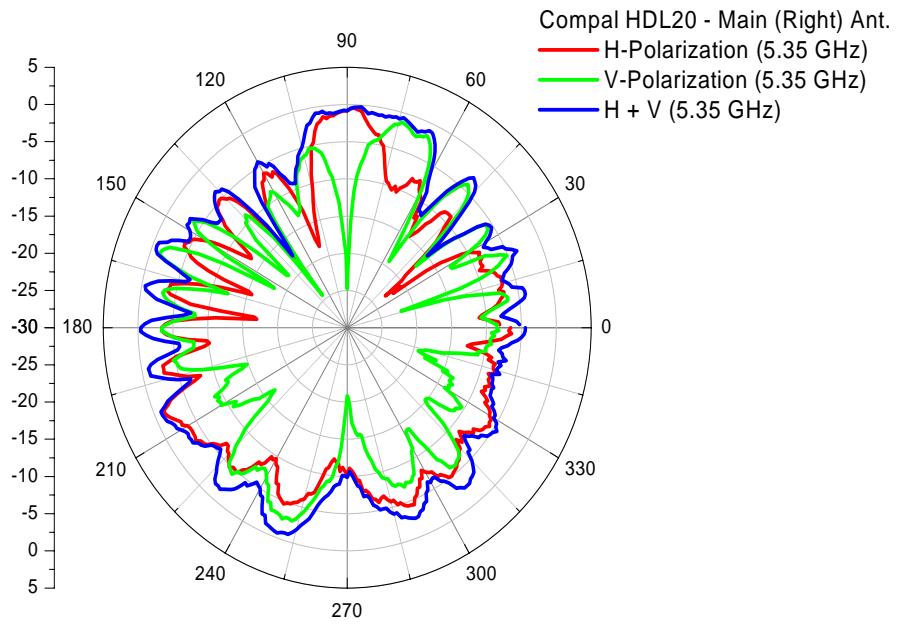
Center Frequency	5150 MHz	
Horizontal (dBi) peak / average	0.77	-5.82
Vertical (dBi) peak / average	-1.62	-6.77
Horz+Vert (dBi) peak / average	1.02	-3.26

Main antenna: 5250 MHz



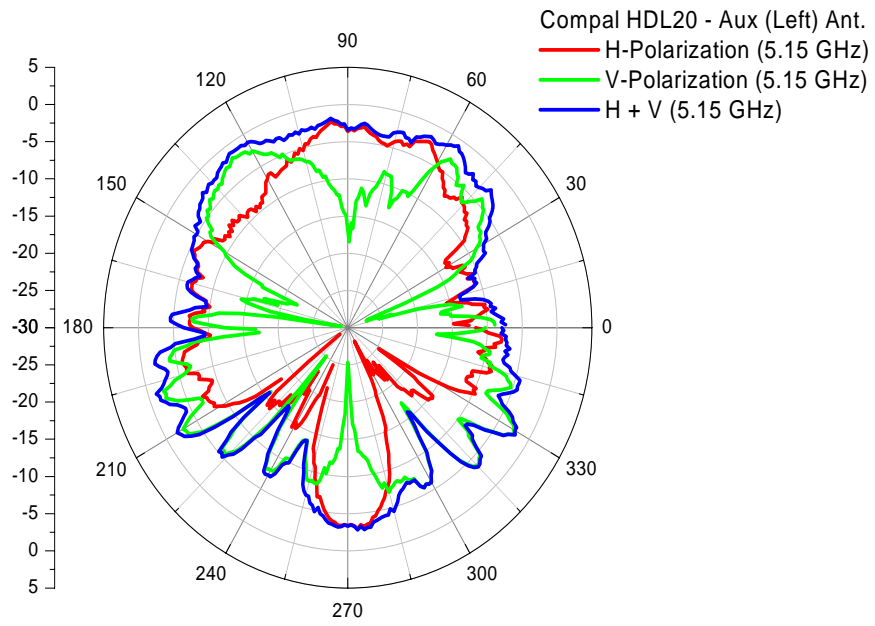
Center Frequency	5250 MHz	
Horizontal (dBi) peak / average	1.16	-5.51
Vertical (dBi) peak / average	0.20	-6.54
Horz+Vert (dBi) peak / average	1.29	-2.98

**Main antenna: 5350 MHz**



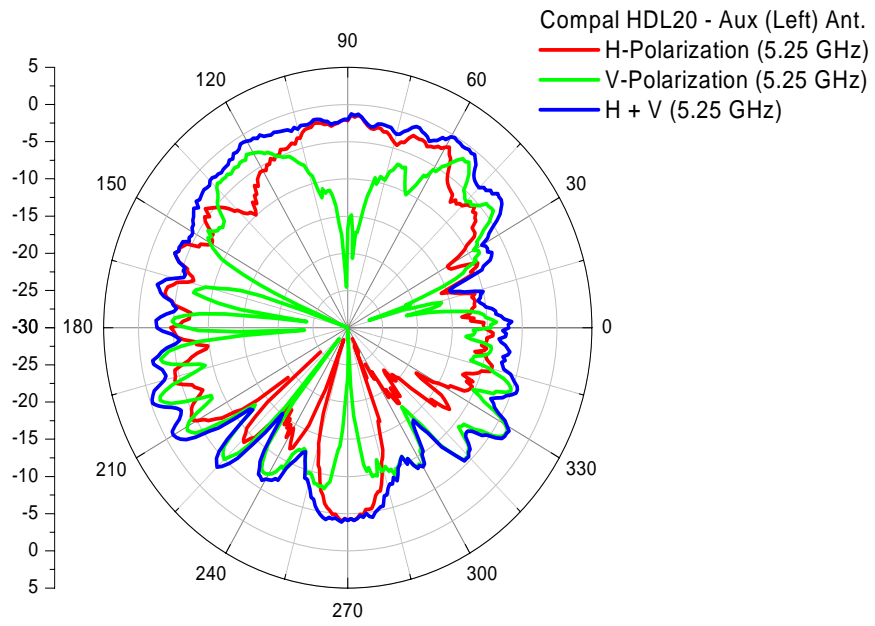
Center Frequency	5350 MHz	
Horizontal (dBi) peak / average	-0.49	-6.46
Vertical (dBi) peak / average	-1.26	-7.41
Horz+Vert (dBi) peak / average	-0.28	-3.90

## Auxiliary antenna: 5150 MHz



Center Frequency	5150 MHz	
Horizontal (dBi) peak / average	-2.18	-6.68
Vertical (dBi) peak / average	-1.81	-6.30
Horz+Vert (dBi) peak / average	-0.88	-4.47

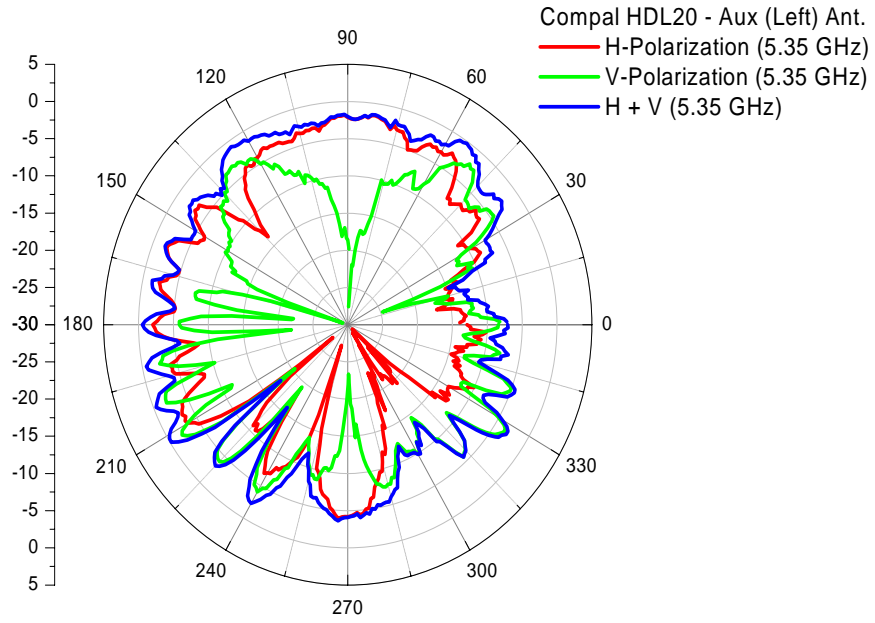
**Auxiliary antenna: 5250 MHz**



Center Frequency	5250 MHz	
Horizontal (dBi) peak / average	-1.39	-5.71
Vertical (dBi) peak / average	-1.39	-6.35
Horz+Vert (dBi) peak / average	-0.21	-4.01



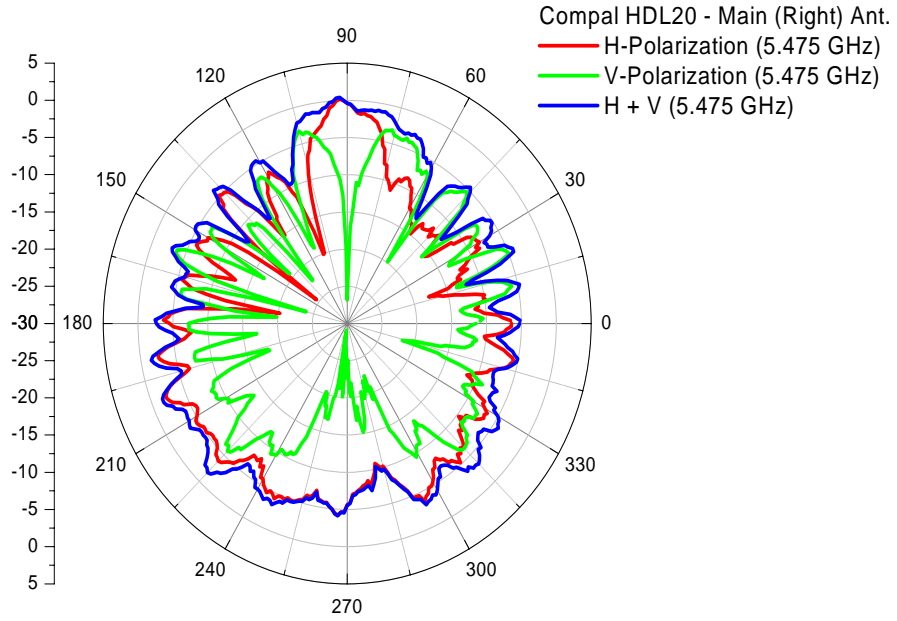
## Auxiliary antenna: 5350 MHz



Center Frequency	5350 MHz	
Horizontal (dBi) peak / average	-1.65	-5.30
Vertical (dBi) peak / average	-1.98	-6.73
Horz+Vert (dBi) peak / average	-0.17	-3.94

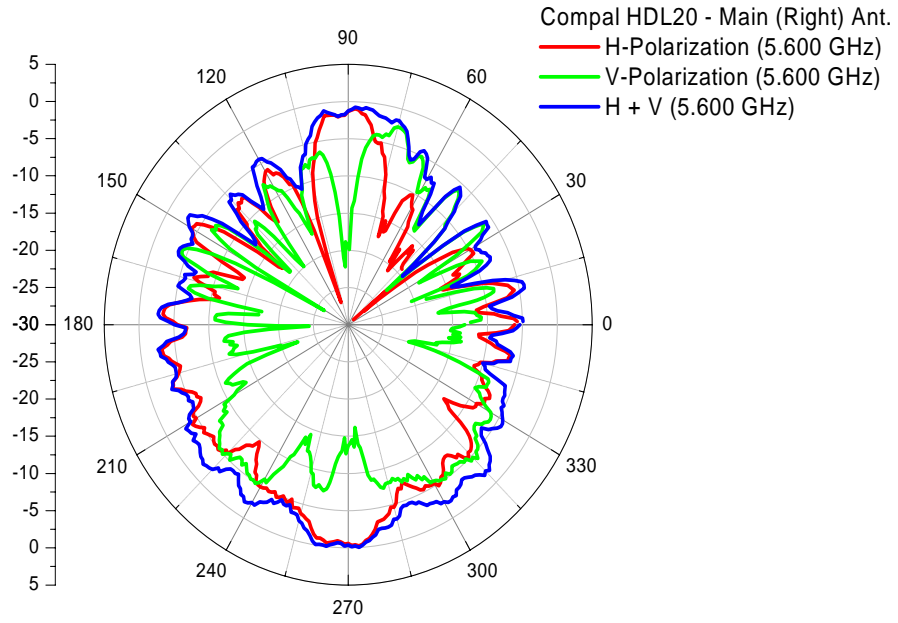
**5475-5725MHz radiation characteristic**

**Main antenna: 5475 MHz**



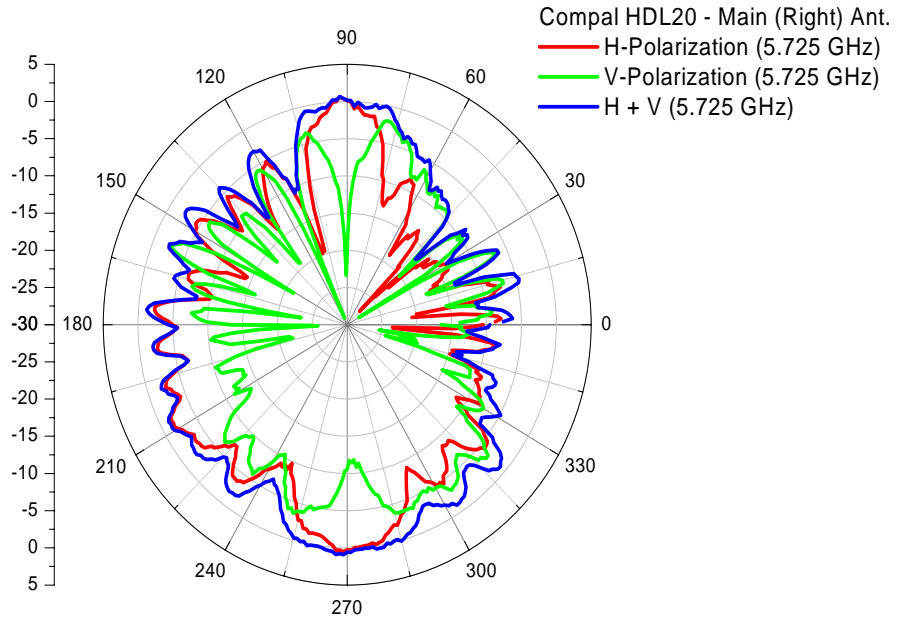
Center Frequency	5475 MHz	
Horizontal (dBi) peak / average	0.20	-6.56
Vertical (dBi) peak / average	-3.20	-9.12
Horz+Vert (dBi) peak / average	0.41	-4.64

Main antenna: 5600 MHz



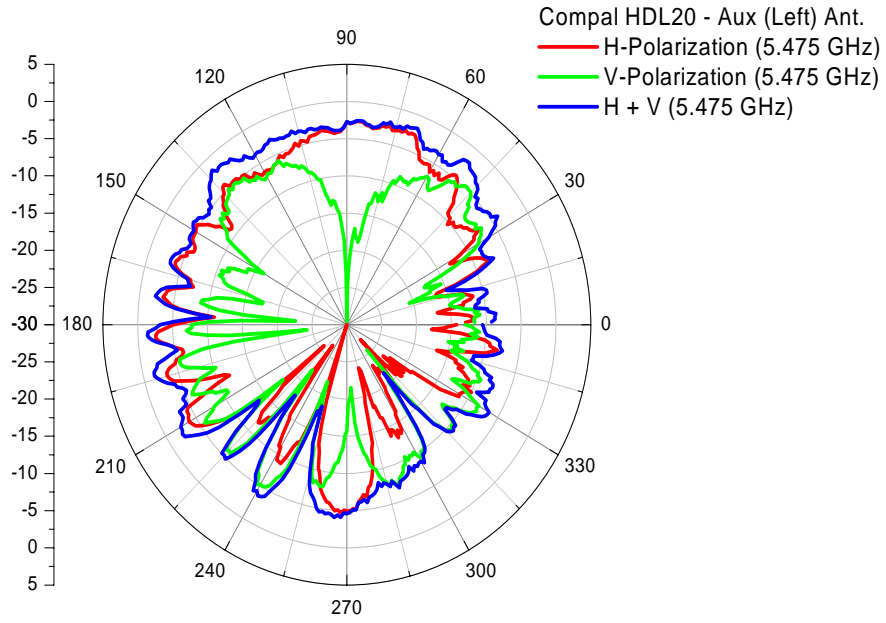
Center Frequency	5600 MHz	
Horizontal (dBi) peak / average	-0.23	-6.06
Vertical (dBi) peak / average	-2.49	-8.55
Horz+Vert (dBi) peak / average	-0.03	-4.12

Main antenna: 5725 MHz



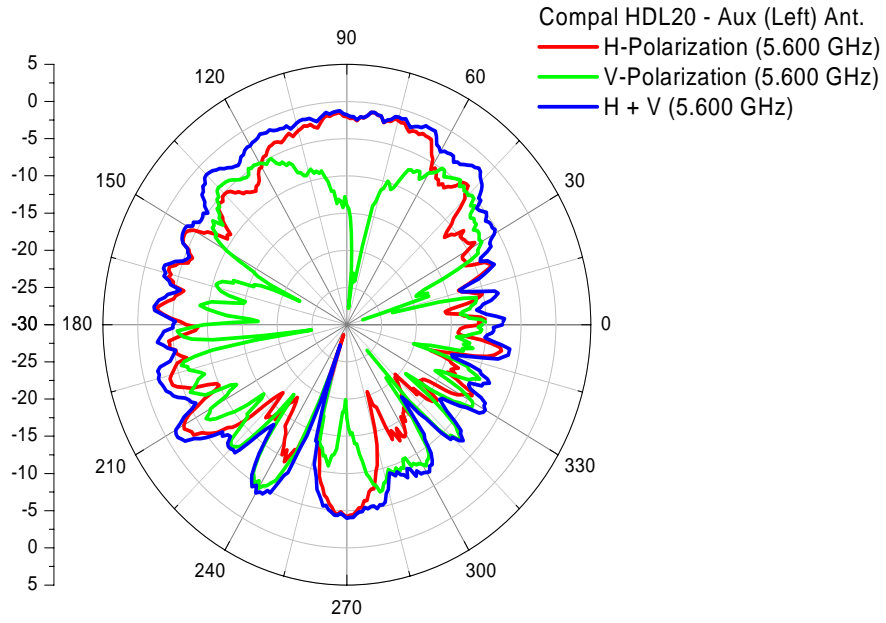
Center Frequency	5725 MHz	
Horizontal (dBi) peak / average	0.64	-5.42
Vertical (dBi) peak / average	-2.02	-7.72
Horz+Vert (dBi) peak / average	0.95	-3.41

## Auxiliary antenna: 5475 MHz



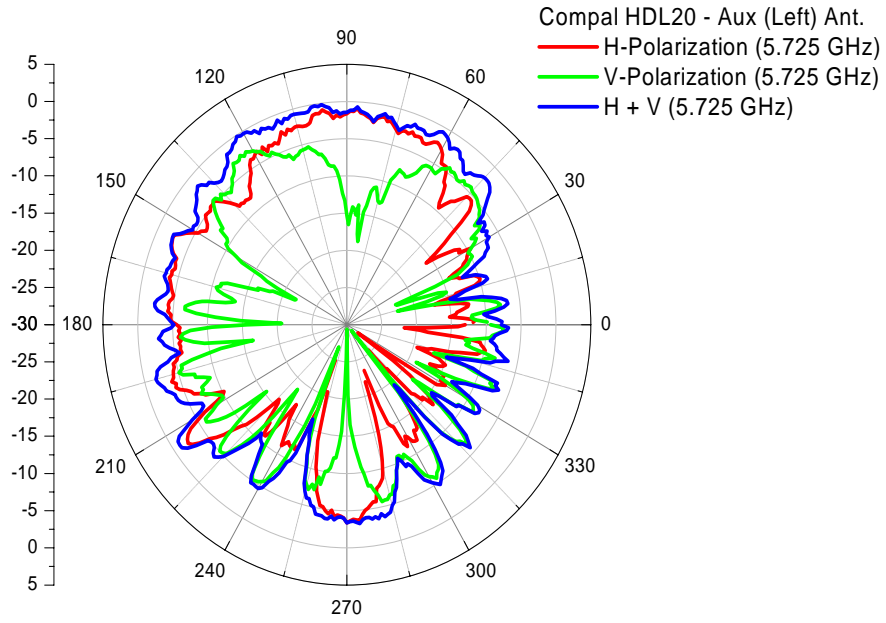
Center Frequency	5475 MHz	
Horizontal (dBi) peak / average	-2.54	-6.81
Vertical (dBi) peak / average	-4.71	-9.05
Horz+Vert (dBi) peak / average	-1.06	-4.78

## Auxiliary antenna: 5600 MHz



Center Frequency	5600 MHz	
Horizontal (dBi) peak / average	-1.23	-6.41
Vertical (dBi) peak / average	-3.93	-8.98
Horz+Vert (dBi) peak / average	-0.95	-4.49

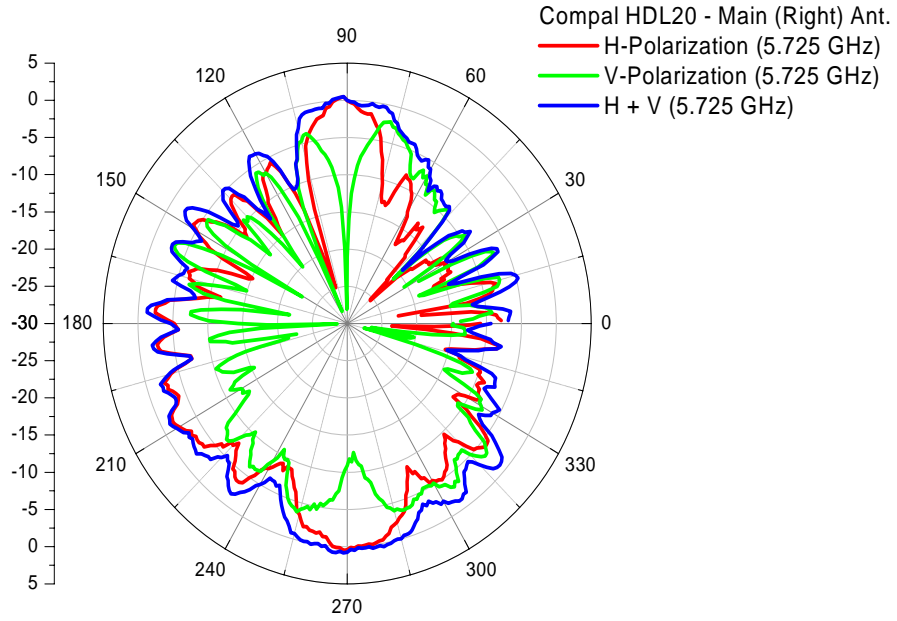
## Auxiliary antenna: 5725 MHz



Center Frequency	5725 MHz	
Horizontal (dBi) peak / average	-0.91	-6.14
Vertical (dBi) peak / average	-2.58	-8.11
Horz+Vert (dBi) peak / average	-0.20	-4.49

**5725-5875 MHz radiation characteristic**

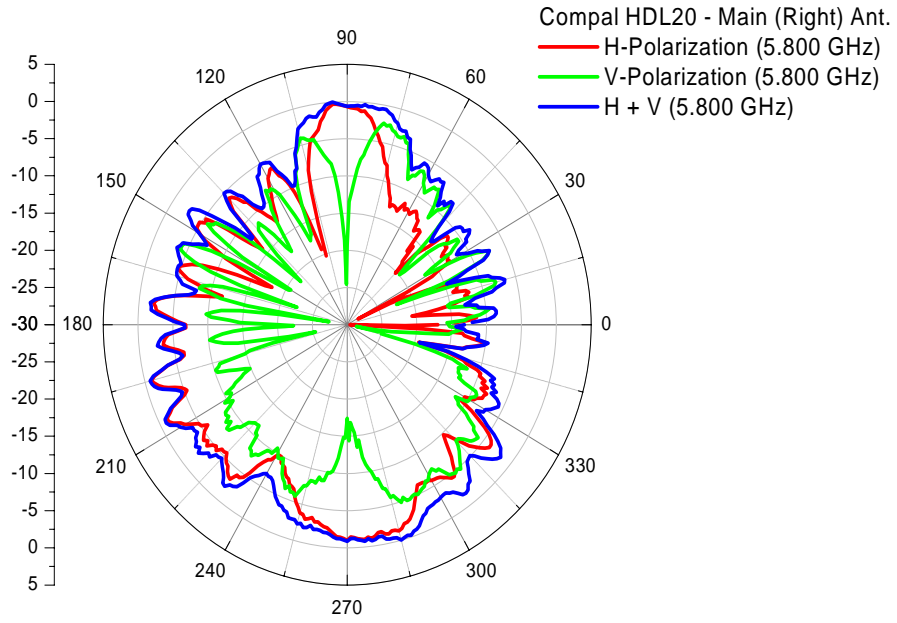
**Main antenna: 5725 MHz**



Center Frequency	5725 MHz	
Horizontal (dBi) peak / average	0.64	-5.37
Vertical (dBi) peak / average	-2.02	-7.77
Horz+Vert (dBi) peak / average	0.85	-3.49

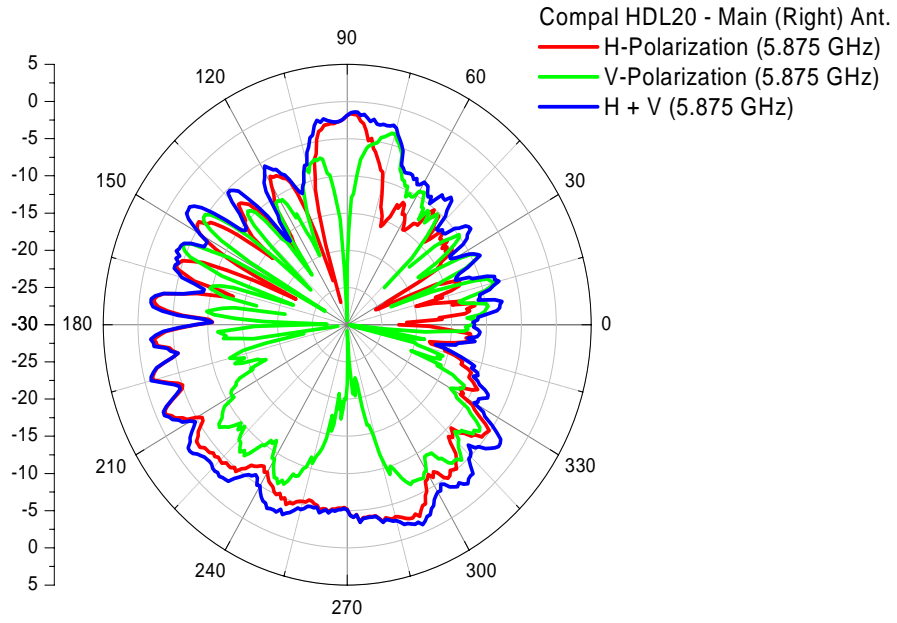


**Main antenna: 5800 MHz**



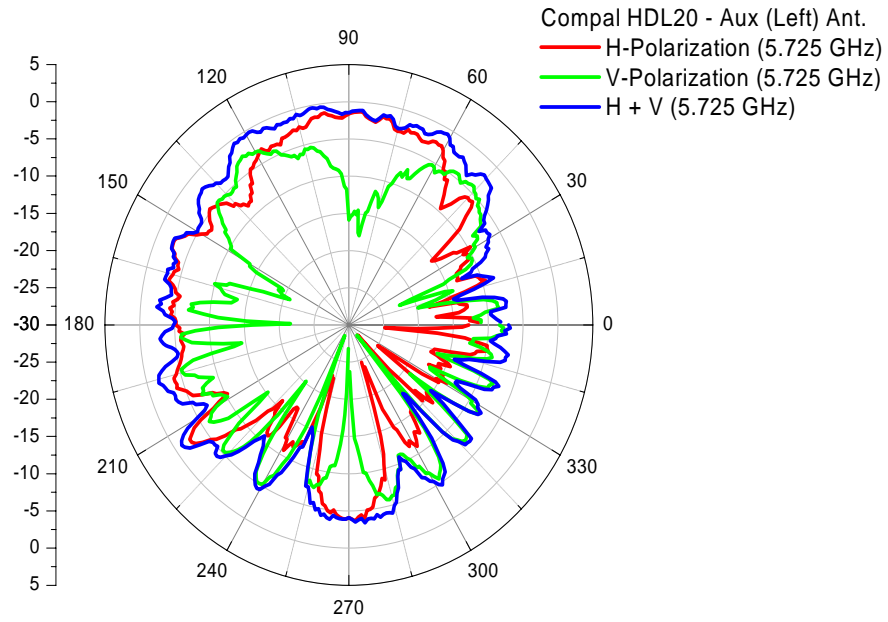
Center Frequency	5800 MHz	
Horizontal (dBi) peak / average	-0.29	-5.74
Vertical (dBi) peak / average	-2.42	-8.84
Horz+Vert (dBi) peak / average	-0.01	-4.01

**Main antenna: 5875 MHz**



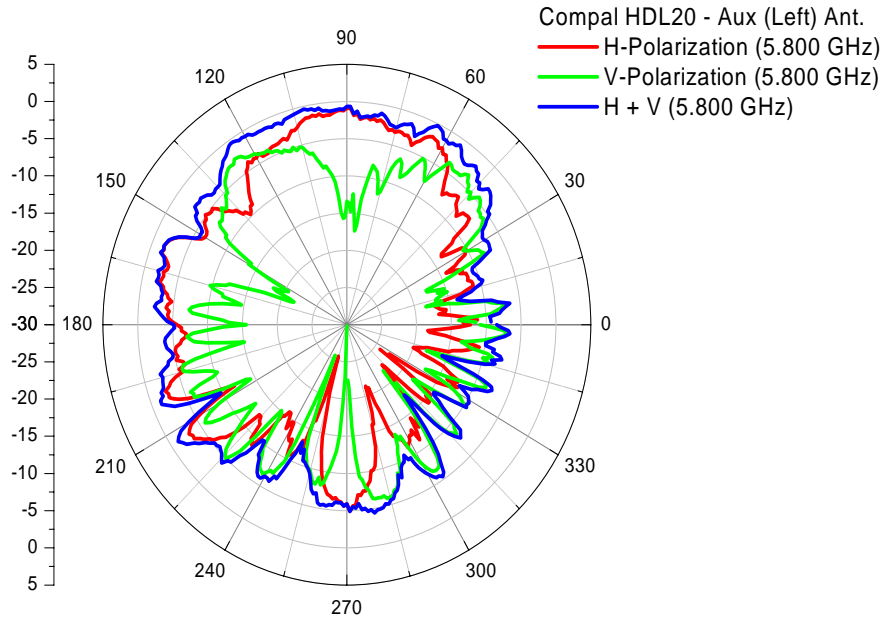
Center Frequency	5875 MHz	
Horizontal (dBi) peak / average	-1.22	-6.43
Vertical (dBi) peak / average	-3.47	-10.01
Horz+Vert (dBi) peak / average	-0.91	-4.85

## Auxiliary antenna: 5725 MHz



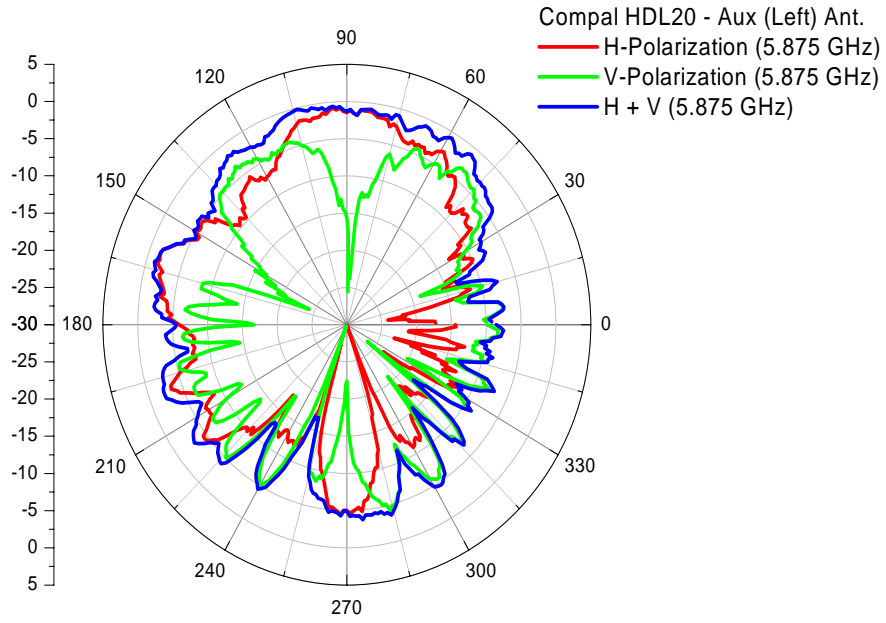
Center Frequency	5725 MHz	
Horizontal (dBi) peak / average	-0.91	-6.14
Vertical (dBi) peak / average	-2.58	-8.11
Horz+Vert (dBi) peak / average	-0.20	-4.49

## Auxiliary antenna: 5800 MHz



Center Frequency	5800 MHz	
Horizontal (dBi) peak / average	-0.90	-6.29
Vertical (dBi) peak / average	-2.55	-8.21
Horz+Vert (dBi) peak / average	-0.22	-4.13

**Auxiliary antenna: 5875 MHz**



Center Frequency	5875 MHz	
Horizontal (dBi) peak / average	-0.82	-6.52
Vertical (dBi) peak / average	-3.28	-8.03
Horz+Vert (dBi) peak / average	-0.17	-4.20

## **Section 4. Host Platform Information**

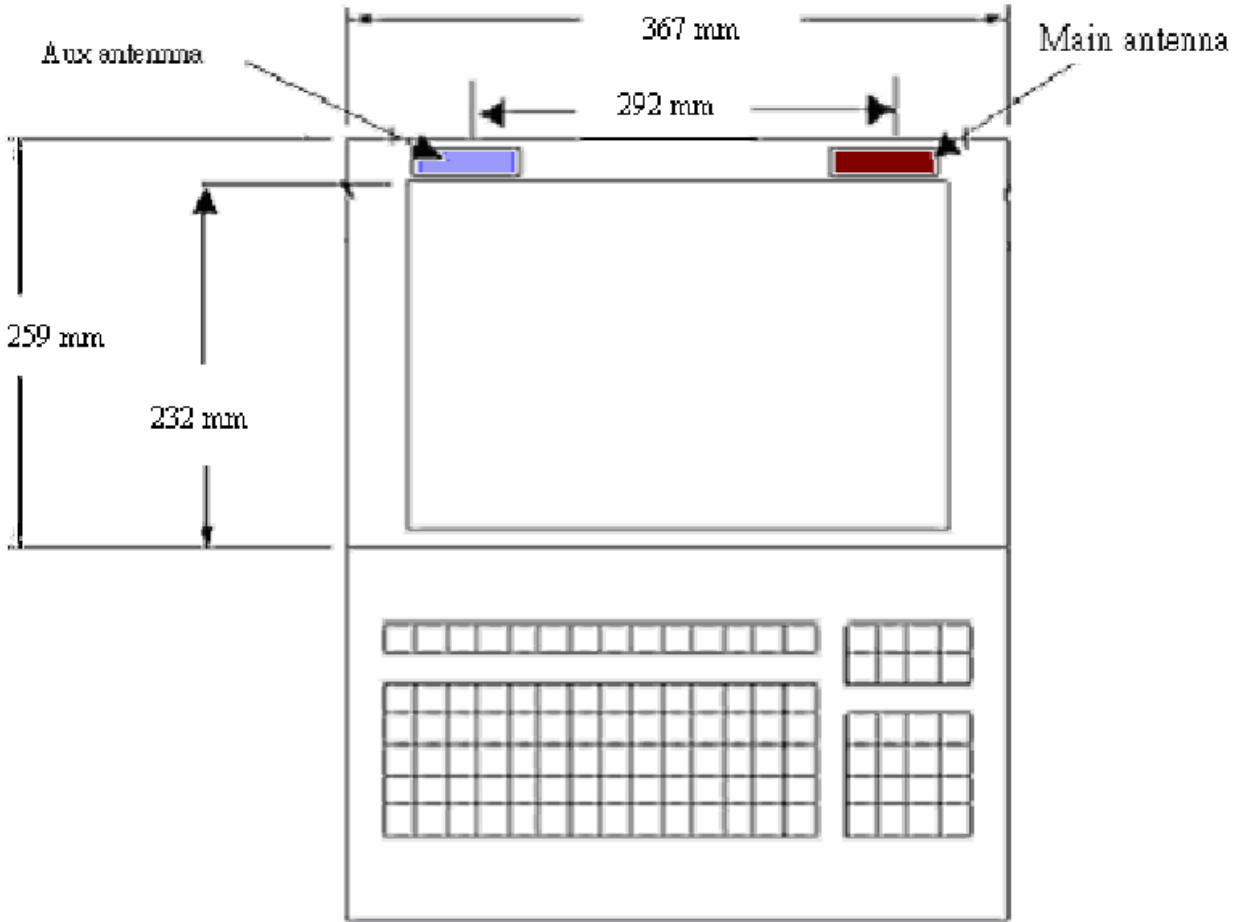
OEM / ODM Host platform: (XXXXXXX) platform correlated to antenna data

**Rating Label Photo:**

**Module Location Photo: (if Singapore required)**

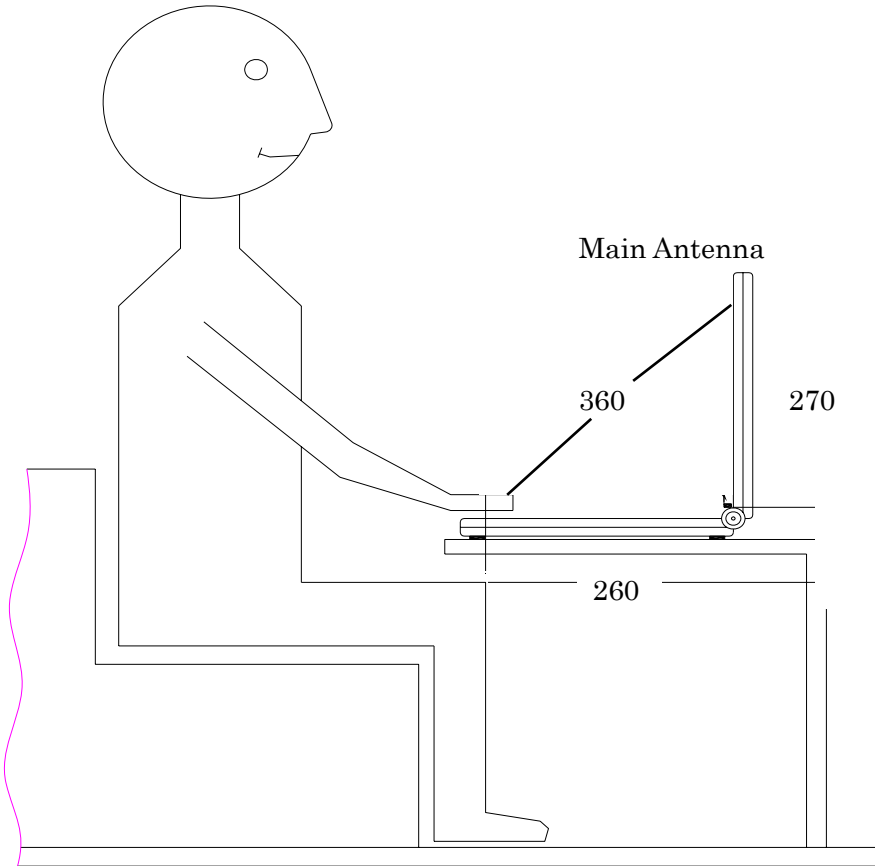
## Section 5. Antenna Host Platform Location Information

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



## Section 6. Antenna dimensional information for SAR evaluation

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

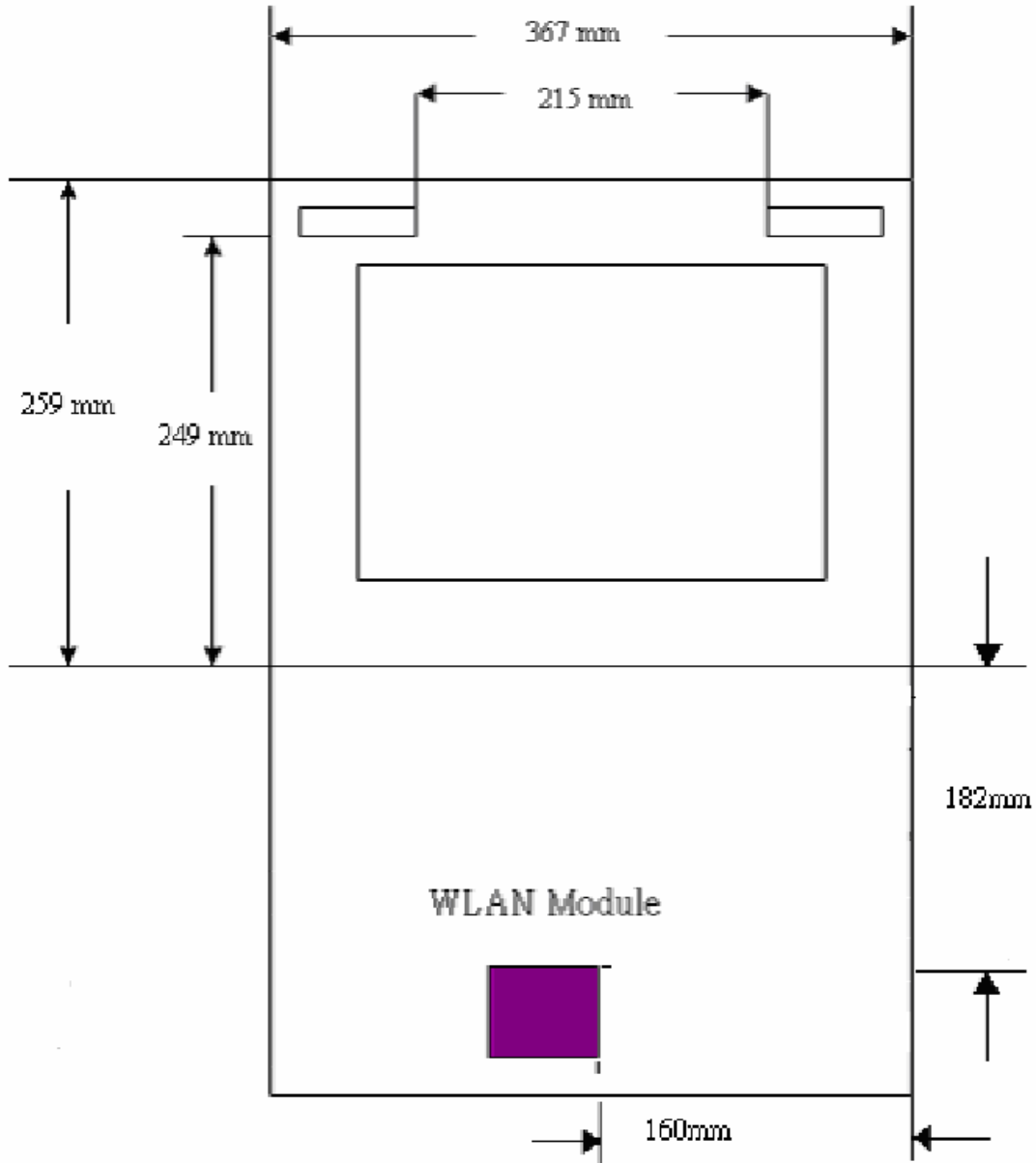




## Section 7. Diagram Example of Co-Location Antenna Separation

Include a **dimensioned photo** or **dimensioned drawing** showing the distance (mm) between WLAN antenna and 2<sup>nd</sup> radiator transmit antenna.

(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
Argentina						
Brazil						
Indonesia						
Israel						
Malaysia						
Mexico						
Singapore						
USA, Canada						