

# Regulatory WLAN Antenna Information

## 2.4/5GHz Mini Cooper Series Multiple Band Antennas with Cable & Connector For IEEE802.11 a/g/n

(English Language Required for Intel Regulatory Review / Approval)

<b>Platform</b>	
Platform Owner	Compal Inc.
Brand Name	Mini Cooper
Model Name	
ODM	
Target Launch Date	(YYYY/MM/DD)
<b>Antenna</b>	
Brand Name	Tyco Electronics
Part Number	■ Tx1 Antenna: 2023987-1
	■ Tx2 (or Rx2) Antenna (Rx2 for 512 family ONLY) 2023987-1
	■ Tx3 (or Rx3) Antenna (Rx3 for 4965AGN ONLY) 2023986-1
<b>Module</b>	
With WLAN Module	4322 HMC
(Check Box)	4312 HMC

## 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 <u>and</u> 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> ). <u>Taiwan requires pictures of each antenna type shown in the system.</u>	Required	Required	Desired	<u>Required (Photos)</u>	<u>Required (Photos)</u>
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:

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:2023987-1) Tx1 antenna	Tyco	PIFA	Example: (P/N: U.FL-2LP-XXX) 50 ohm Coaxial. length: 53.4cm diameter: 1.1mm Connector: U.FL	2400-2500MHz -2.16 dBi (peak) *	2400-2500MHz -0.7 dBi (peak) *	2400-2500MHz 2.05 max *	2400-2500MHz 1.43 dBi (peak) *
				2496-2690MHz 0.08 dBi (peak) *	2496-2690MHz 1.53 dBi (peak) *	2496-2690MHz 2.07 max *	2496-2690MHz 1.45 dBi (peak) *
				5150-5350MHz 1.15 dBi (peak) *	5150-5350MHz 3.18dBi (peak) *	5150-5350MHz 1.62 max *	5150-5350MHz 2.03 dBi (peak) *
				5470-5725MHz -2.13 dBi (peak) *	5470-5725MHz -0.02 dBi (peak) *	5470-5725MHz 1.58 max *	5470-5725MHz 2.11 dBi (peak) *
				5725-5850MHz -0.49 dBi (peak) *	5725-5850MHz 1.7 dBi (peak) *	5725-5850MHz 1.63 max *	5725-5850MHz 2.19 dBi (peak) *
(P/N: 2023987-1) Tx2 (or Rx2 for 512 family) antenna	Tyco	PIFA	Example: (P/N: U.FL-2LP-XXX) 50 ohm Coaxial. length: 46.5cm diameter: 1.1mm Connector: U.FL	2400-2500MHz 0.04dBi (peak) *	2400-2500MHz 0.98 dBi (peak) *	2400-2500MHz 1.35 max *	2400-2500MHz 0.94 dBi (peak) *
				2496-2690MHz -0.22 dBi (peak) *	2496-2690MHz 0.73 dBi (peak) *	2496-2690MHz 2.47 max *	2496-2690MHz 0.95 dBi (peak) *
				5150-5350MHz 0.23dBi (peak) *	5150-5350MHz 1.56 dBi (peak) *	5150-5350MHz 1.47 max *	5150-5350MHz 1.33 dBi (peak) *
				5470-5725MHz -0.23 dBi (peak) *	5470-5725MHz 1.15 dBi (peak) *	5470-5725MHz 2.08 max *	5470-5725MHz 1.38 dBi (peak) *
				5725-5850MHz -1.22 dBi (peak) *	5725-5850MHz 0.21dBi (peak) *	5725-5850MHz 2.71 max *	5725-5850MHz 1.43 dBi (peak) *
(P/N: 2023986-1) Tx3 (or Rx3) antenna	Tyco	PIFA	Example: (P/N: U.FL-2LP-XXX) 50 ohm Coaxial. length: 32.3cm diameter: 1.1mm Connector: U.FL	2400-2500MHz 1.09 dBi (peak)	2400-2500MHz 2.73 dBi (peak)	2400-2500MHz 3.2 max	2400-2500MHz 1.64 dBi (peak)
				2496-2690MHz 2.09 dBi (peak)	2496-2690MHz 3.8 dBi (peak)	2496-2690MHz 2.2 max	2496-2690MHz 1.71 dBi (peak)
				5150-5350MHz 1.26 dBi (peak)	5150-5350MHz 2.97 dBi (peak)	5150-5350MHz 1.88 max	5150-5350MHz 2.31 dBi (peak)
				5470-5725MHz 0.42 dBi (peak)	5470-5725MHz 2.82 dBi (peak)	5470-5725MHz 2.05 max	5470-5725MHz 2.4 dBi (peak)
				5725-5850MHz 0.42 dBi (peak)	5725-5850MHz 2.91dBi (peak)	5725-5850MHz 2.84 max	5725-5850MHz 2.49 dBi (peak)

### NOTE:

(\* If Rx2/Rx3 only (2<sup>nd</sup> or 3<sup>rd</sup> antenna receives only, e.g. for 512 family & 4965AGN) then the information marked with \* is not required

**Antenna Peak Gain Table:**

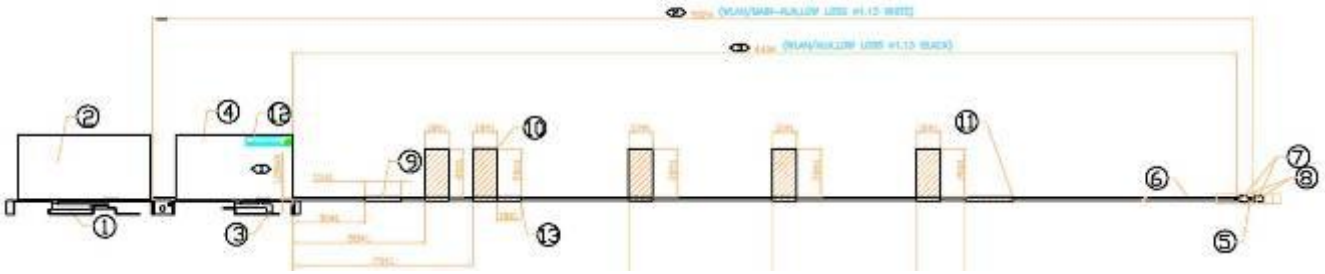
Frequency (MHz)	Tx1 antenna		Tx2 (or Rx2) Antenna		Tx3 (or Rx3) Antenna	
	Horizontal (dBi)	Vertical (dBi)	Horizontal (dBi)	Vertical (dBi)	Horizontal (dBi)	Vertical (dBi)
2400	-5.62	-3.57	-4.15	-2.21	-0.95	0.29
2450	-4.23	-2.18	-1.15	-1.14	0.08	1.09
2500	-2.82	-2.16	0.04	-0.67	-0.52	0.84
2501	-2.95	0.08	-1.49	-0.22	-1.56	0.59
2593	-2.83	-0.22	-0.13	-3.5	0.01	1.16
2685	-2.8	-0.57	-1.94	-3.06	0.48	2.09
5150	0.32	-0.99	-0.45	-5.58	1.15	-1.2
5250	1.15	-1.2	-0.65	0.23	0.63	-1.42
5350	0.7	-0.66	-0.83	-2.41	1.26	-1.73
5470	-3.9	-2.73	-0.23	-0.82	0.21	-0.68
5600	-4.96	-2.15	-1.11	-2.52	-0.41	-1.72
5725	-4.93	-2.13	-1.32	-2.57	0.42	0.01
5785	-0.49	-0.65	-1.22	-2.52	-0.4	0.04
5850	-1.75	-1.78	-1.62	-2.42	-0.18	0.19

- Antenna Peak Gain required being test in system basis.
- 1E frame contend absolutely peak antenna gain include H/V
- If Rx2 only (2<sup>nd</sup> antenna receives only, e.g. for 512 family) then the information is not required for Rx2.
- If Rx3 only (3<sup>rd</sup> antenna receives only, e.g. for 4965AGN) then the information is not required for Rx3.

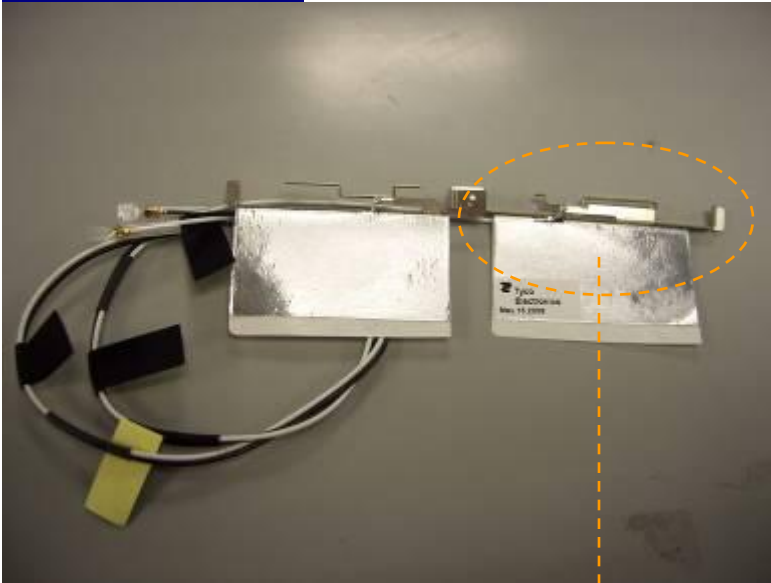
## Section 2. Dimensioned Photos or Drawings of Antennas

Include a dimensioned photo and dimensioned drawing of Tx1 antenna here.

### Tx1 Antenna Dimensioned Drawing:



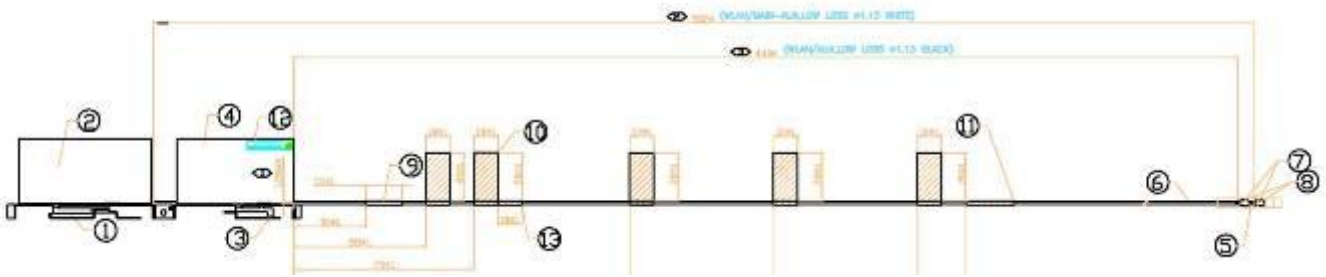
### Tx1 Antenna Photo:



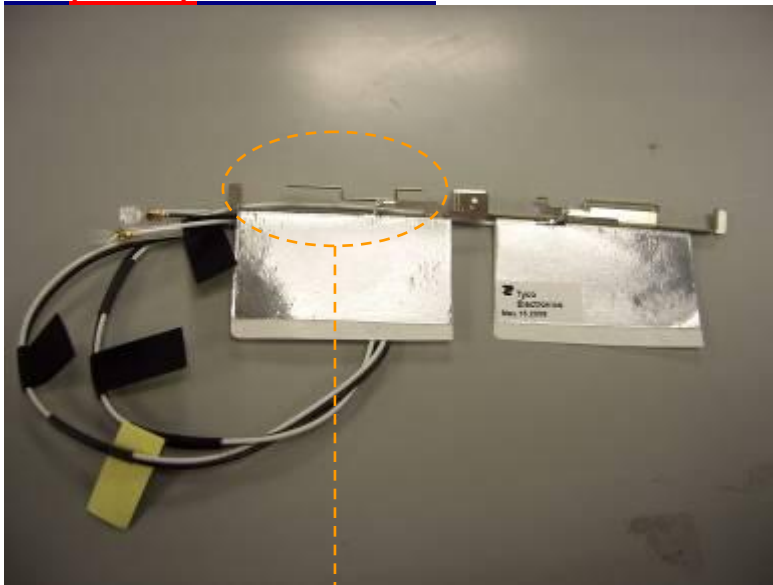
Main antenna

Include a dimensioned photo and dimensioned drawing of Tx2 (or Rx2) antenna here.

**Tx2 (or Rx2) Antenna Dimensioned Drawing:**



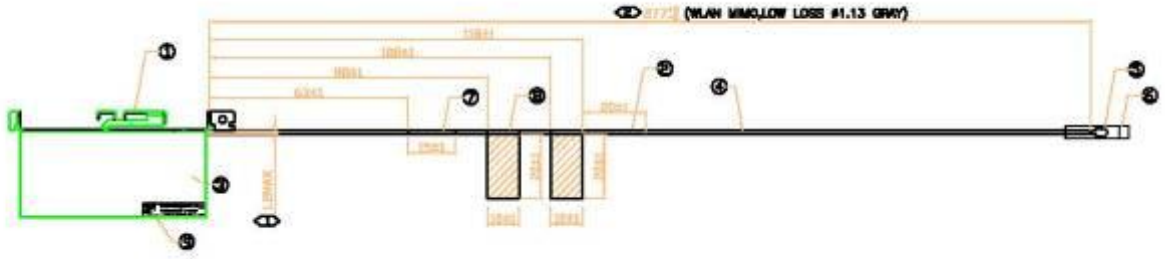
**Tx2 (or Rx2) Antenna Photo:**



AUX  
antenna

**Include a dimensioned photo and dimensioned drawing of Tx3 (or Rx3) antenna here.**

**Tx3 (or Rx3) Antenna Dimensioned Drawing:**



**Tx3 (or Rx3) Antenna Photo:**



**Include front view photo of all 3 antennas here.**

Antenna Manufacturer: TYCO

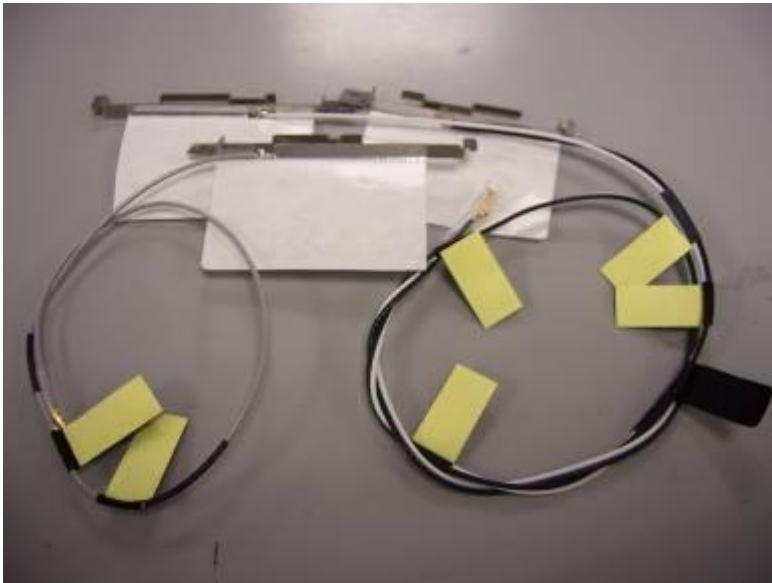
Antenna Part Number: 2023987 (Tx1), 2023987 (Tx2 or Rx2), 2023986 (Tx3 or Rx3)



**Include back view photo of all 3 antennas here.**

Antenna Manufacturer: TYCO

Antenna Part Number: 2023987 (Main), 2023987 (Aux), 2023986 (MIMO)

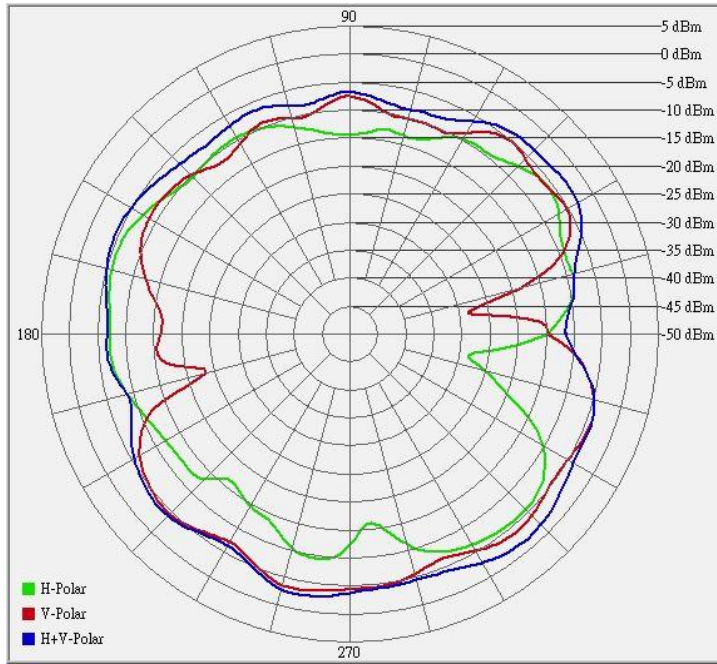




## Section 3. Radiation characteristics of antennae Loaded in Host Platform

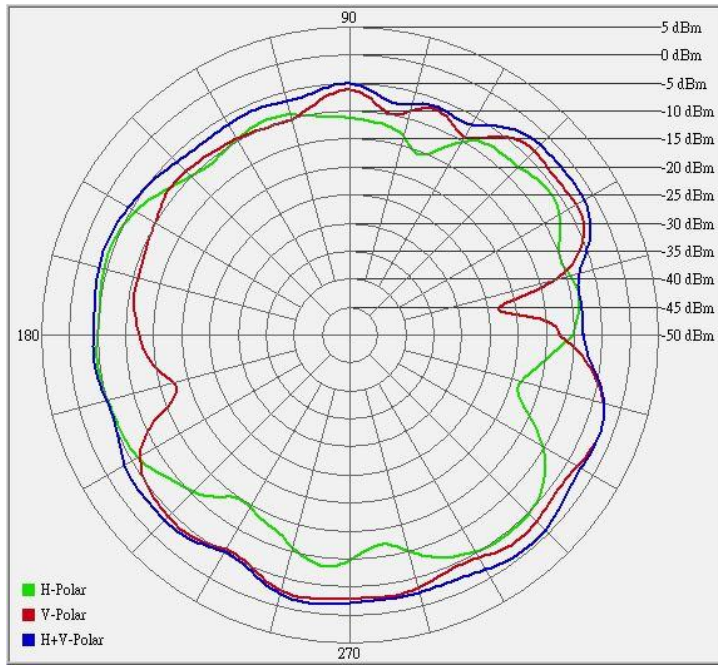
### 2400-2500MHz radiation characteristic

#### TX1 MAIN antenna: 2400 MHz



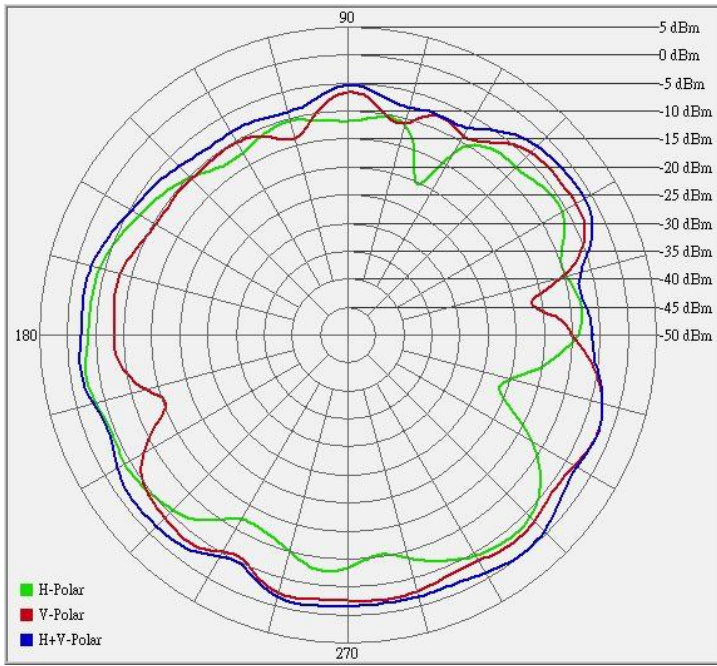
Center Frequency	<b>2400 MHz</b>
Horizontal (dBi) peak	<b>-5.62</b>
Vertical (dBi) peak	<b>-3.57</b>

**TX1 main antenna: 2450 MHz**



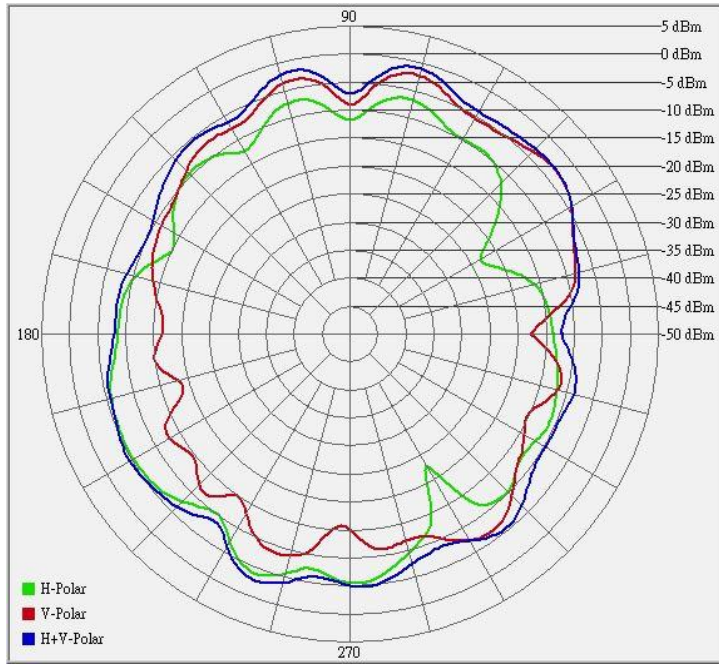
Center Frequency	<b>2450 MHz</b>
Horizontal (dBi) peak	<b>-4.23</b>
Vertical (dBi) peak	<b>-2.18</b>

**TX1 main antenna: 2500 MHz**



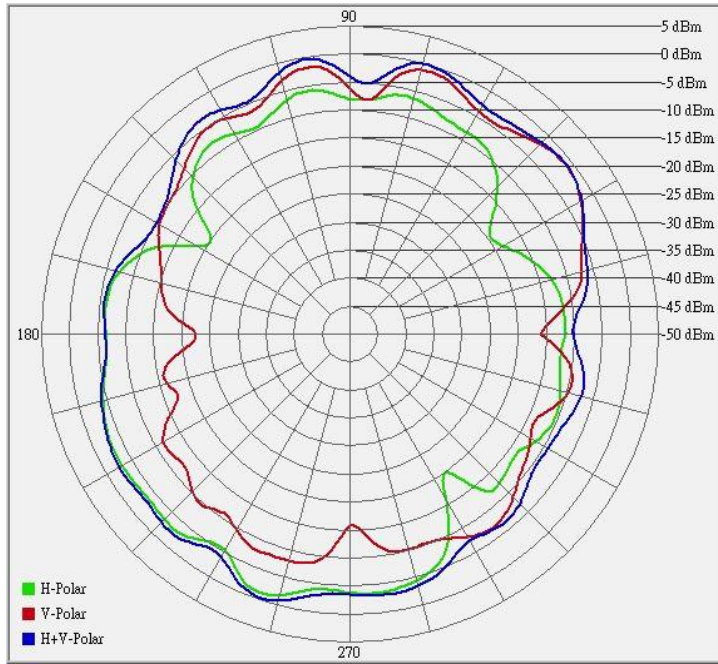
Center Frequency	<b>2500 MHz</b>
Horizontal (dBi) peak	<b>-2.82</b>
Vertical (dBi) peak	<b>-2.16</b>

**Tx2 (or Rx2) AUX antenna: 2400 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



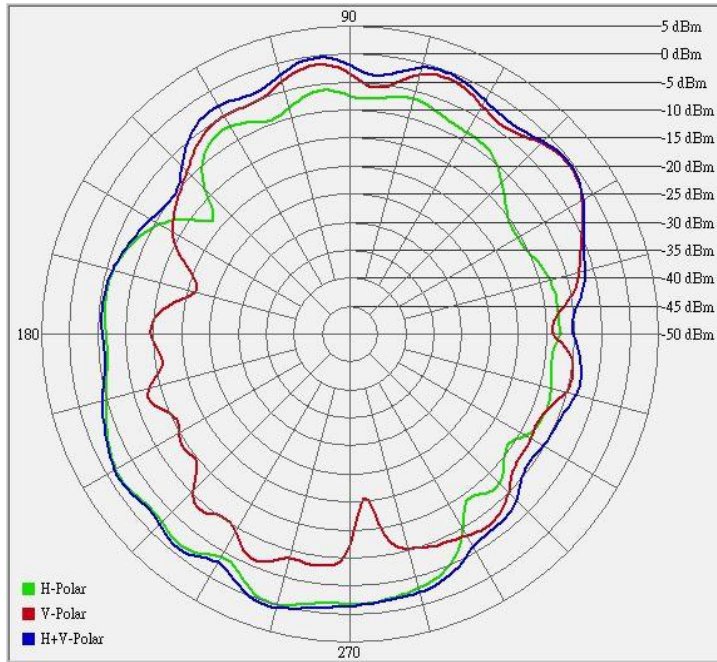
Center Frequency	<b>2400 MHz</b>
Horizontal (dBi) peak	<b>-4.15</b>
Vertical (dBi) peak	<b>-2.21</b>

**Tx2 (or Rx2) AUX antenna: 2450 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



Center Frequency	<b>2450 MHz</b>
Horizontal (dBi) peak	<b>-1.15</b>
Vertical (dBi) peak	<b>-1.14</b>

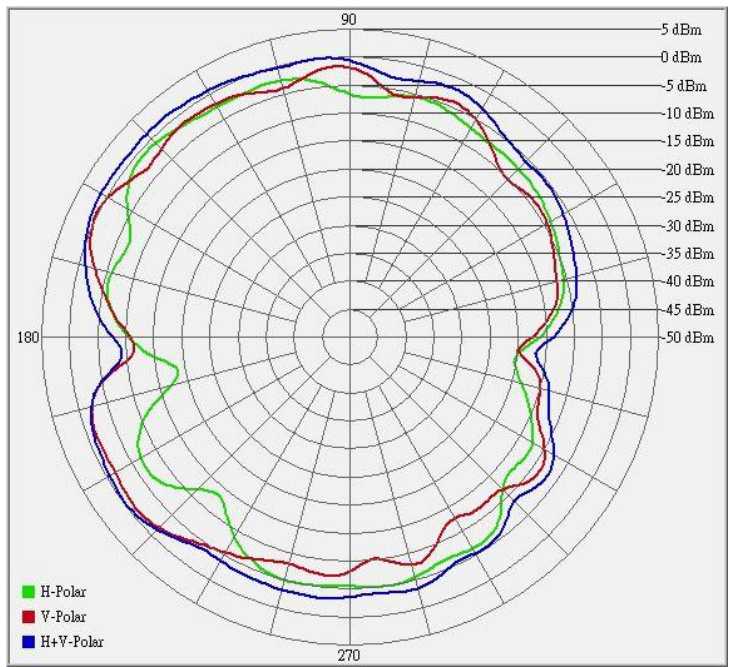
**Tx2 (or Rx2) AUX antenna: 2500 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



Center Frequency	<b>2500 MHz</b>
Horizontal (dBi) peak	<b>0.04</b>
Vertical (dBi) peak	<b>-0.67</b>

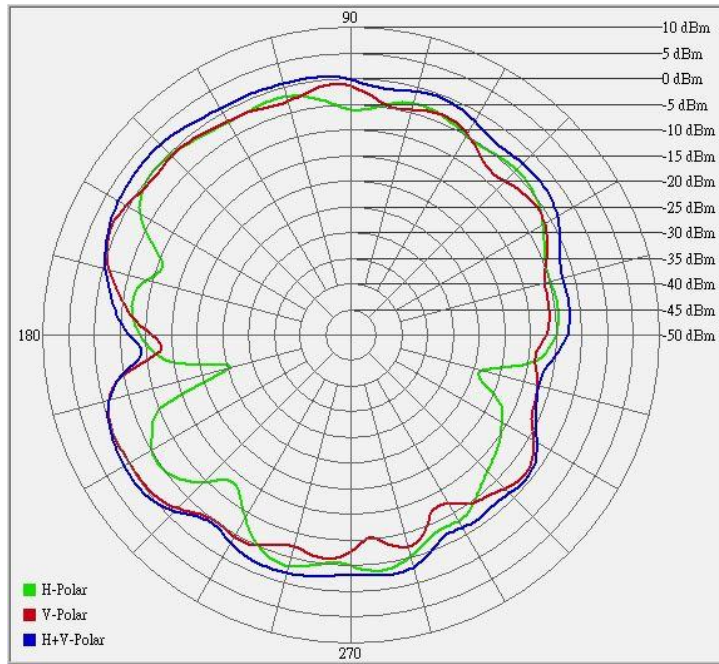


**Tx3 (or Rx3) MIMO antenna: 2400 MHz (Plot is not required if 3<sup>rd</sup> Antenna is receive only e.g. Rx3 for 4965AGN)**



Center Frequency	<b>2400 MHz</b>
Horizontal (dBi) peak	<b>-0.95</b>
Vertical (dBi) peak	<b>0.29</b>

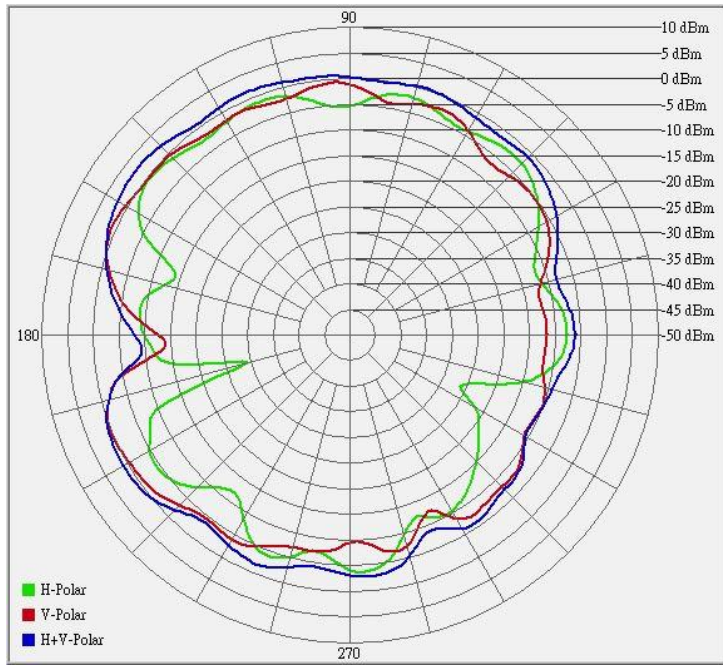
**Tx3 (or Rx3) MIMO antenna: 2450 MHz (Plot is not required if 3<sup>rd</sup> Antenna is receive only e.g. Rx3 for 4965AGN)**



Center Frequency	<b>2450 MHz</b>
Horizontal (dBi) peak	<b>0.08</b>
Vertical (dBi) peak	<b>1.09</b>



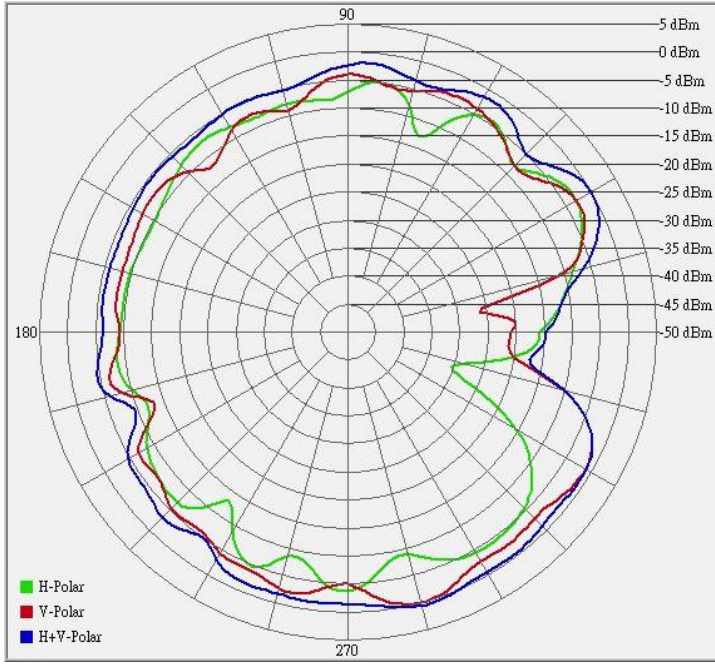
**Tx3 (or Rx3) MIMO antenna: 2500 MHz (Plot is not required if 3<sup>rd</sup> Antenna is receive only e.g. Rx3 for 4965AGN)**



Center Frequency	<b>2500 MHz</b>
Horizontal (dBi) peak	<b>-0.52</b>
Vertical (dBi) peak	<b>0.84</b>

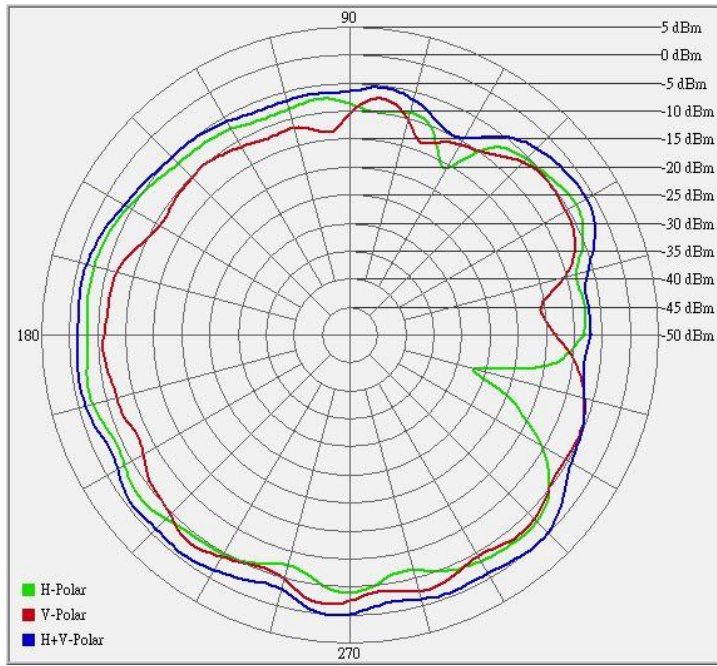
**2490-2700MHz radiation characteristic**

**TX1 MAIN antenna: 2501MHz**



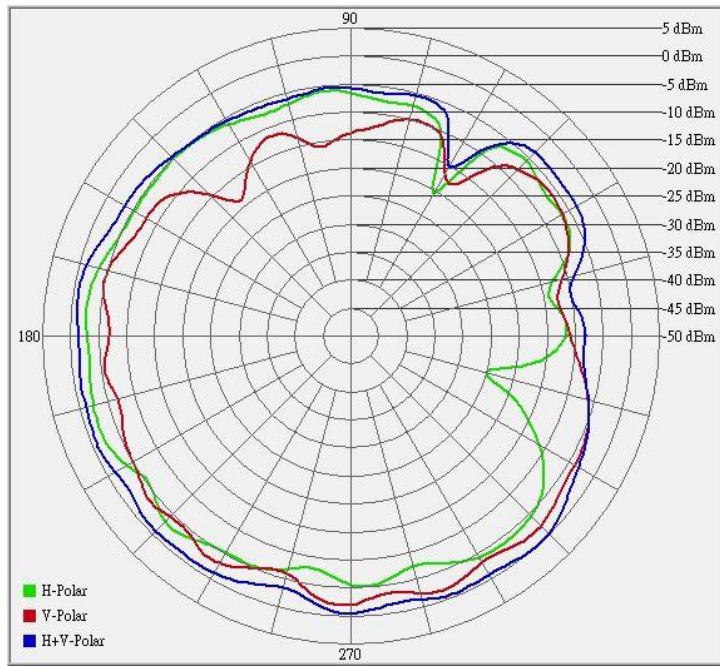
Center Frequency	<b>2501 MHz</b>
Horizontal (dBi) peak	<b>-2.95</b>
Vertical (dBi) peak	<b>0.08</b>

**TX1 MAIN antenna: 2593MHz**



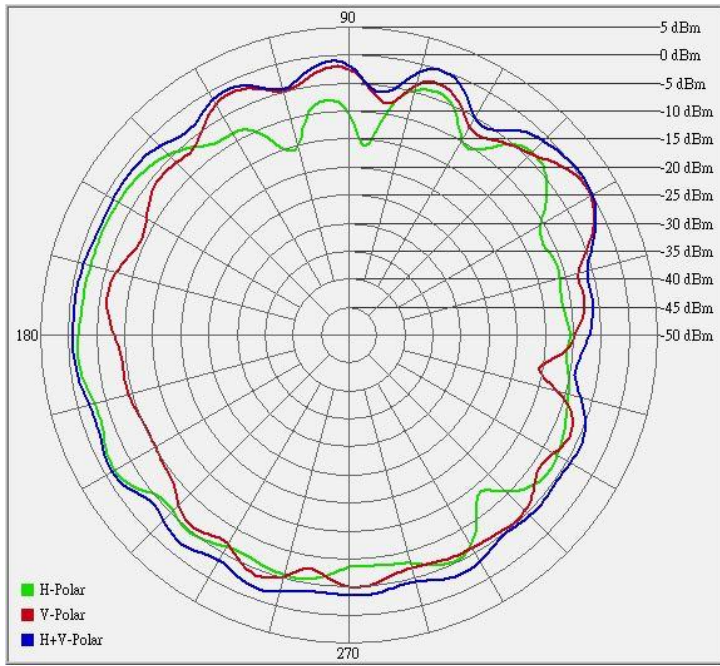
Center Frequency	<b>2593 MHz</b>
Horizontal (dBi) peak	<b>-2.83</b>
Vertical (dBi) peak	<b>-0.22</b>

**TX1 MAIN antenna: 2683 MHz**



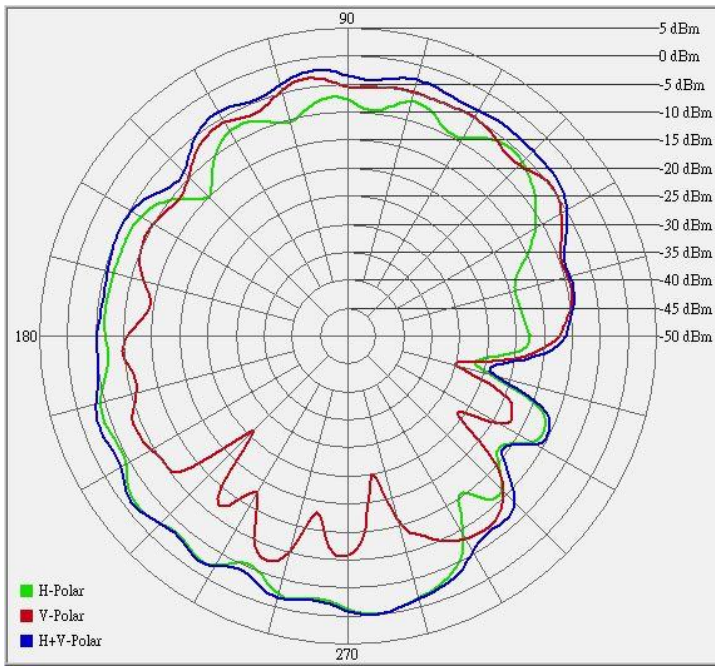
Center Frequency	<b>2685 MHz</b>
Horizontal (dBi) peak	<b>-2.8</b>
Vertical (dBi) peak	<b>-0.57</b>

**Tx2 (or Rx2) AUX antenna: 2501MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



Center Frequency	<b>2501 MHz</b>
Horizontal (dBi) peak	<b>-1.49</b>
Vertical (dBi) peak	<b>-0.22</b>

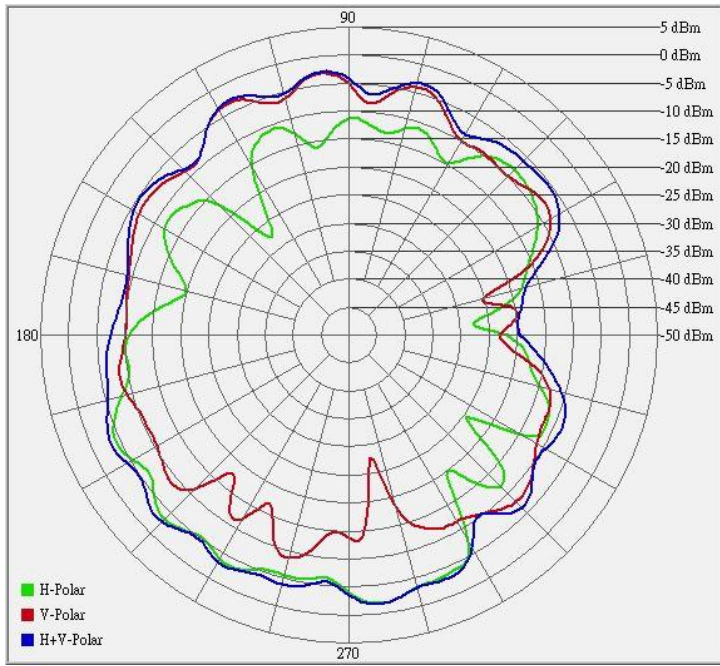
**Tx2 (or Rx2) AUX antenna: 2593MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



Center Frequency	<b>2593 MHz</b>
Horizontal (dBi) peak	<b>-0.13</b>
Vertical (dBi) peak	<b>-3.5</b>

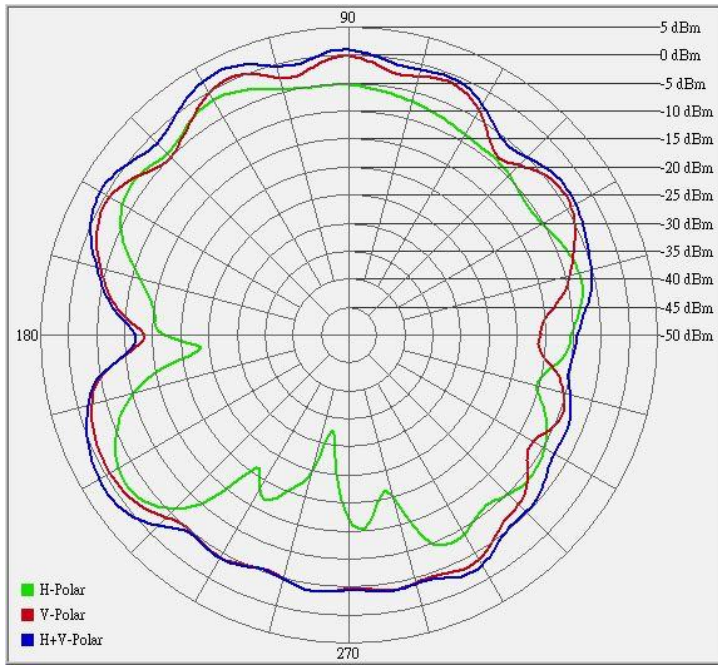


**Tx2 (or Rx2) AUX antenna: 2685 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



Center Frequency	<b>2685 MHz</b>
Horizontal (dBi) peak	<b>-1.94</b>
Vertical (dBi) peak	<b>-3.06</b>

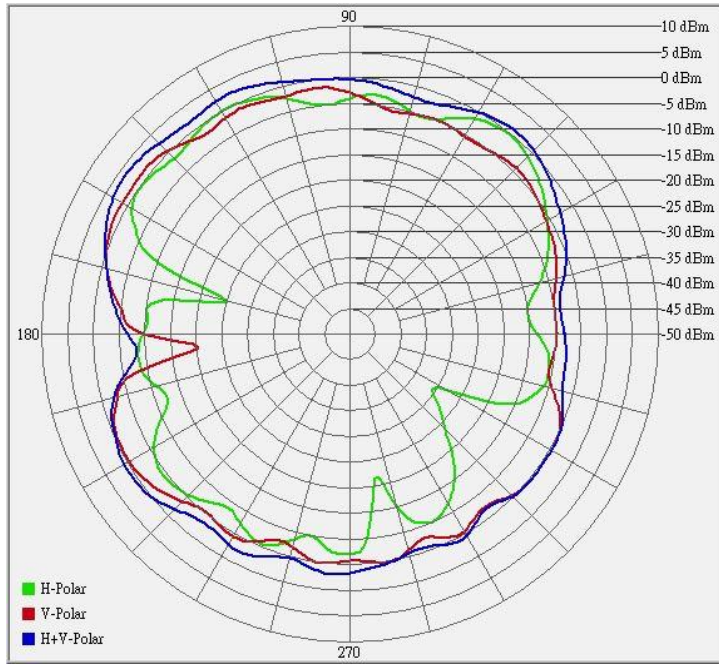
**Tx3 (or Rx3) MIMO antenna: 2501 MHz (Plot is not required if 3<sup>rd</sup> Antenna is receive only e.g. Rx3 for 4965AGN)**



Center Frequency	<b>2501 MHz</b>
Horizontal (dBi) peak	<b>-1.56</b>
Vertical (dBi) peak	<b>0.59</b>

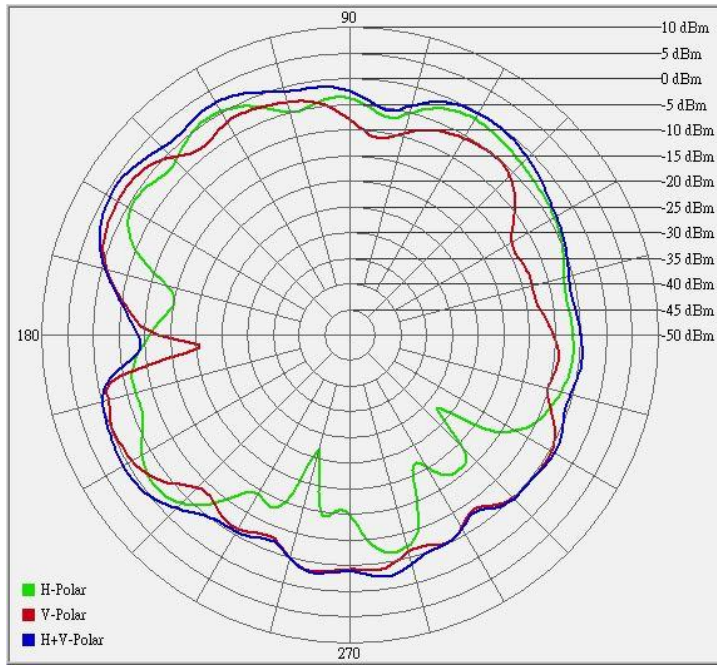


**Tx3 (or Rx3) MIMO antenna: 2593MHz** (Plot is not required if 3<sup>rd</sup> Antenna is receive only e.g. Rx3 for 4965AGN)



Center Frequency	<b>2593 MHz</b>
Horizontal (dBi) peak	<b>0.01</b>
Vertical (dBi) peak	<b>1.16</b>

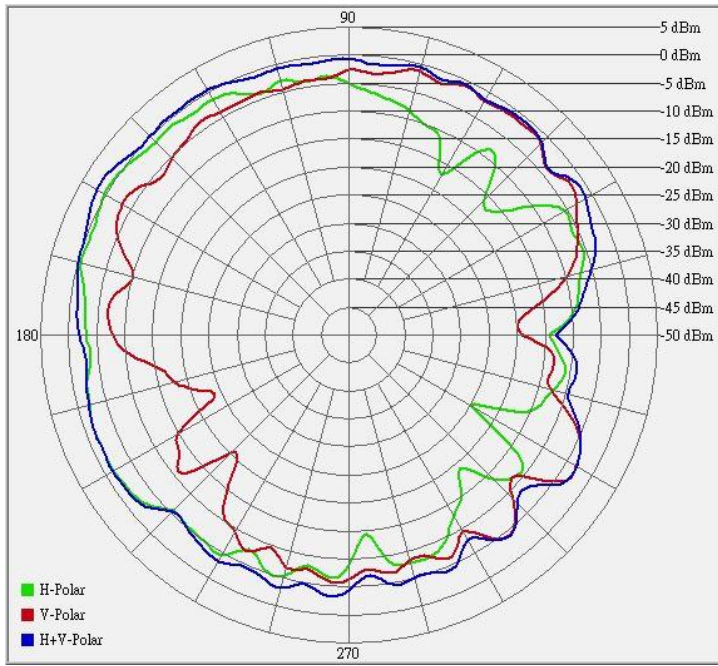
**Tx3 (or Rx3) MIMO antenna: 2685 MHz (Plot is not required if 3<sup>rd</sup> Antenna is receive only e.g. Rx3 for 4965AGN)**



Center Frequency	<b>2685 MHz</b>
Horizontal (dBi) peak	<b>0.48</b>
Vertical (dBi) peak	<b>2.09</b>

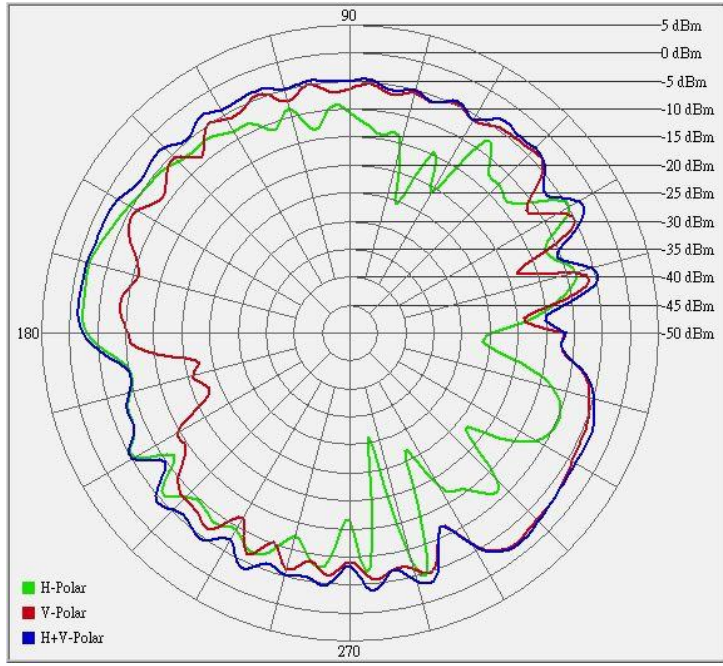
## 5150-5350 MHz radiation characteristic

### TX1 MAIN antenna: 5150 MHz



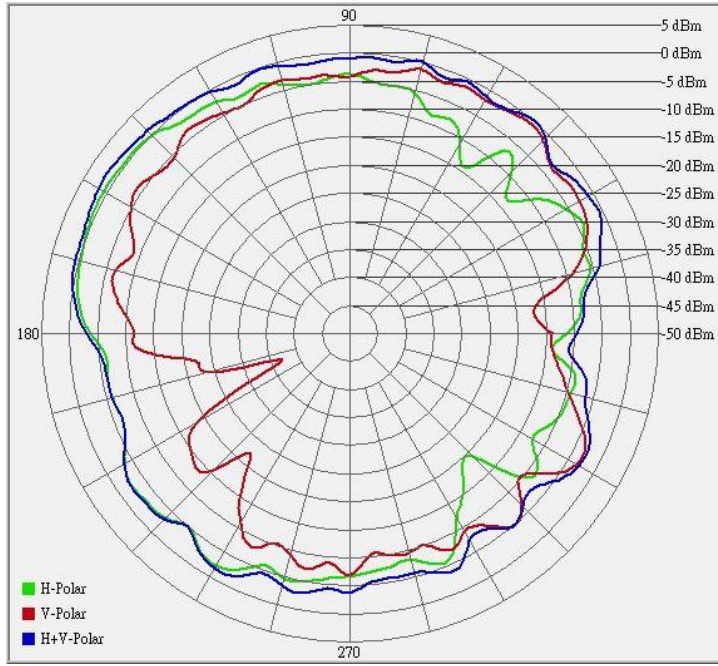
Center Frequency	<b>5150 MHz</b>
Horizontal (dBi) peak	<b>0.32</b>
Vertical (dBi) peak	<b>-0.99</b>

**TX1 MAIN antenna: 5250 MHz**



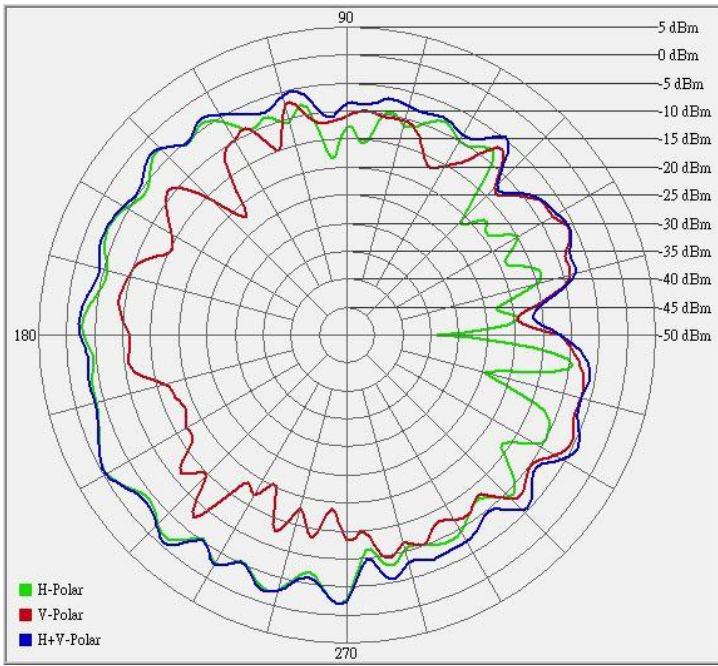
Center Frequency	<b>5250 MHz</b>
Horizontal (dBi) peak	<b>1.15</b>
Vertical (dBi) peak	<b>-1.2</b>

**TX1 MAIN antenna: 5350 MHz**



Center Frequency	<b>5350 MHz</b>
Horizontal (dBi) peak	<b>0.7</b>
Vertical (dBi) peak	<b>-0.66</b>

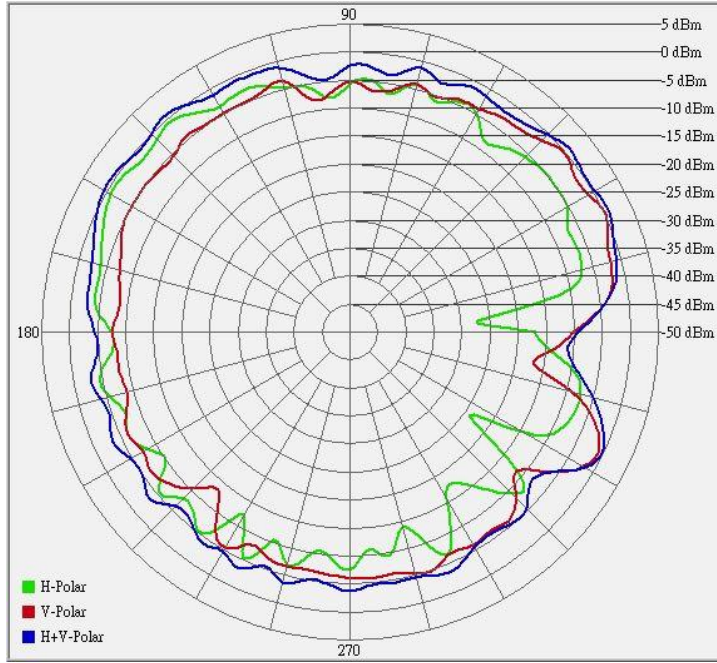
**Tx2 (or Rx2) AUX antenna: 5150 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



Center Frequency	<b>5150 MHz</b>
Horizontal (dBi) peak	<b>-0.45</b>
Vertical (dBi) peak	<b>-5.58</b>

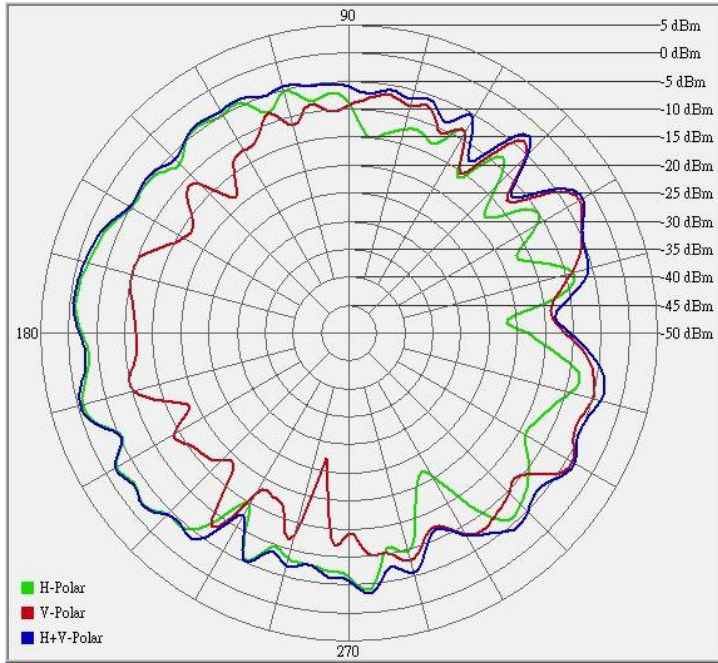


**Tx2 (or Rx2) AUX antenna: 5250 MHz**



Center Frequency	<b>5250 MHz</b>
Horizontal (dBi) peak	<b>-0.65</b>
Vertical (dBi) peak	<b>0.23</b>

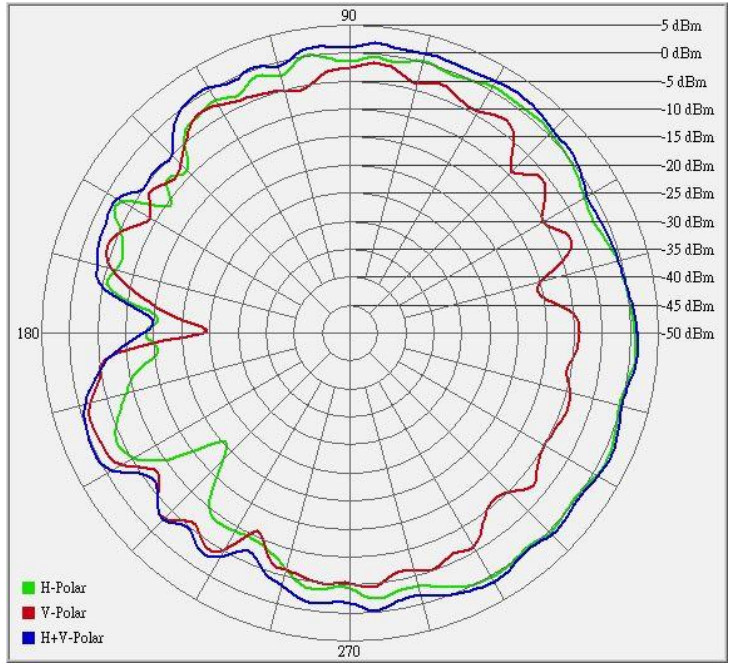
**Tx2 (or Rx2) AUX antenna: 5350 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



Center Frequency	<b>5350 MHz</b>
Horizontal (dBi) peak	<b>-0.83</b>
Vertical (dBi) peak	<b>-2.41</b>

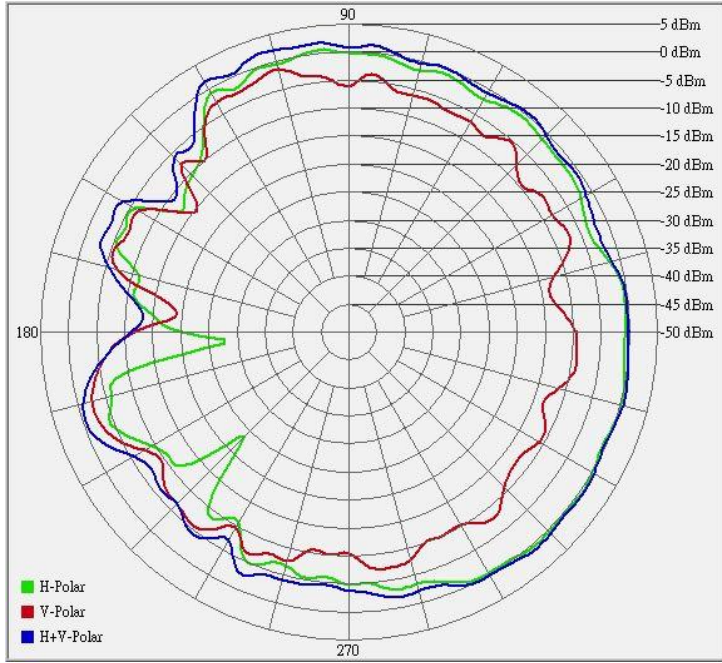


**Tx3 (or Rx3) MIMO antenna: 5150 MHz (Plot is not required if 3<sup>rd</sup> Antenna is receive only e.g. Rx3 for 4965AGN)**



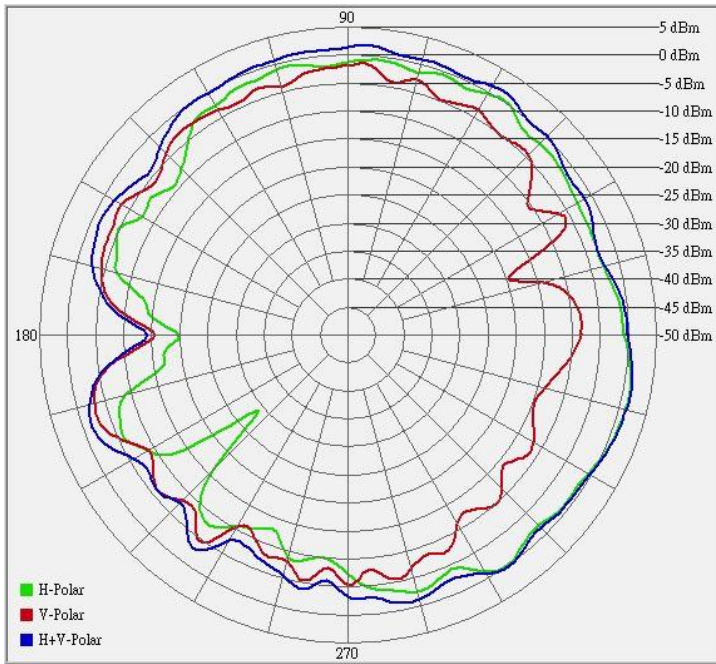
Center Frequency	<b>5150 MHz</b>
Horizontal (dBi) peak	<b>1.15</b>
Vertical (dBi) peak	<b>-1.2</b>

**Tx3 (or Rx3) MIMO antenna: 5250 MHz**



Center Frequency	<b>5250 MHz</b>
Horizontal (dBi) peak	<b>0.63</b>
Vertical (dBi) peak	<b>-1.42</b>

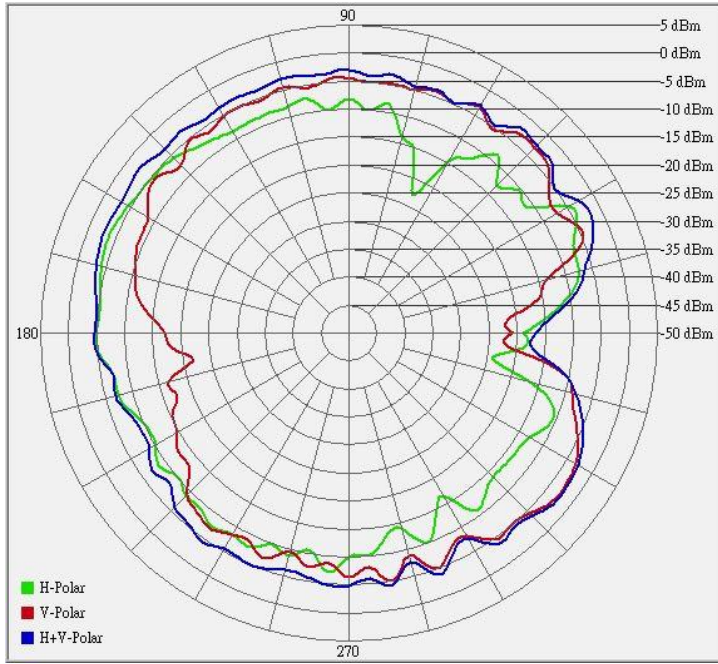
**Tx3 (or Rx3) MIMO antenna: 5350 MHz (Plot is not required if 3<sup>rd</sup> Antenna is receive only e.g. Rx3 for 4965AGN)**



Center Frequency	<b>5350 MHz</b>
Horizontal (dBi) peak	<b>1.26</b>
Vertical (dBi) peak	<b>-1.73</b>

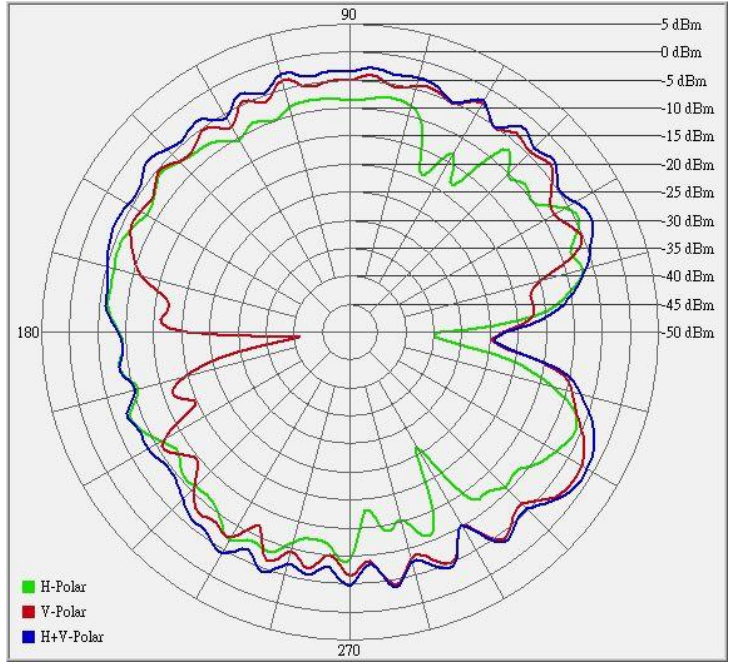
**5470-5725MHz radiation characteristic**

**TX1 MAIN antenna: 5470 MHz**



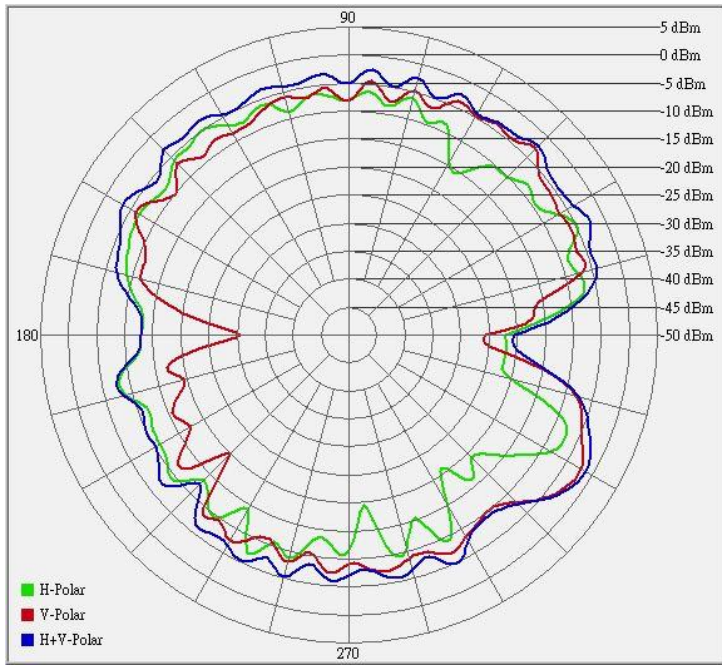
Center Frequency	<b>5470 MHz</b>
Horizontal (dBi) peak	<b>-3.9</b>
Vertical (dBi) peak	<b>-2.73</b>

**TX1 MAIN antenna: 5597.5 MHz**



Center Frequency	<b>5597.5 MHz</b>
Horizontal (dBi) peak	<b>-4.96</b>
Vertical (dBi) peak	<b>-2.15</b>

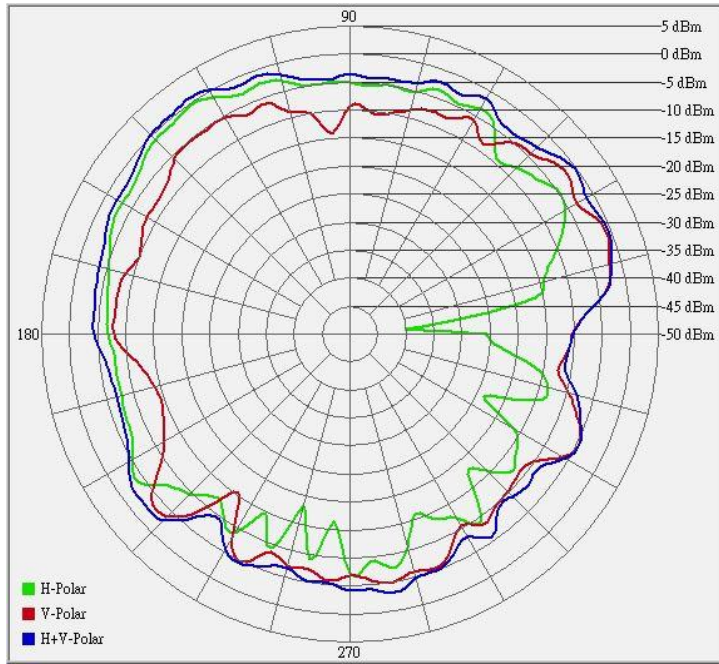
**TX1 MAIN antenna: 5725 MHz**



Center Frequency	<b>5725 MHz</b>
Horizontal (dBi) peak	<b>-4.93</b>
Vertical (dBi) peak	<b>-2.13</b>

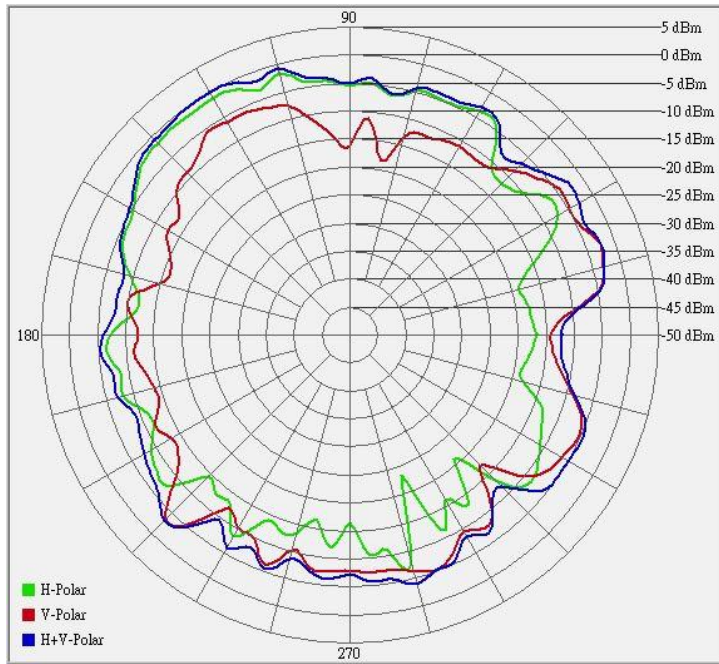


**Tx2 (or Rx2) AUX antenna: 5470 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



Center Frequency	<b>5470 MHz</b>
Horizontal (dBi) peak	<b>-0.23</b>
Vertical (dBi) peak	<b>-0.82</b>

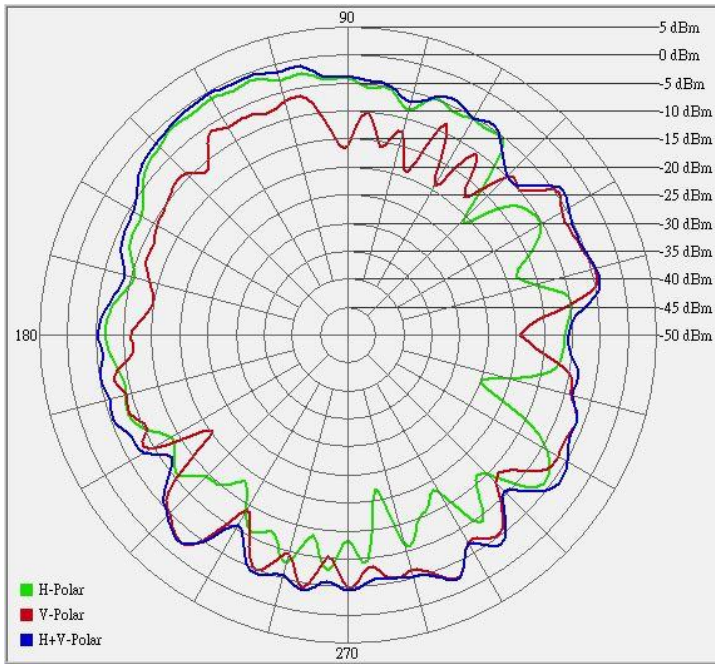
**Tx2 (or Rx2) AUX antenna: 5597.5 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



Center Frequency	<b>5597.5 MHz</b>
Horizontal (dBi) peak	<b>-1.11</b>
Vertical (dBi) peak	<b>-2.52</b>

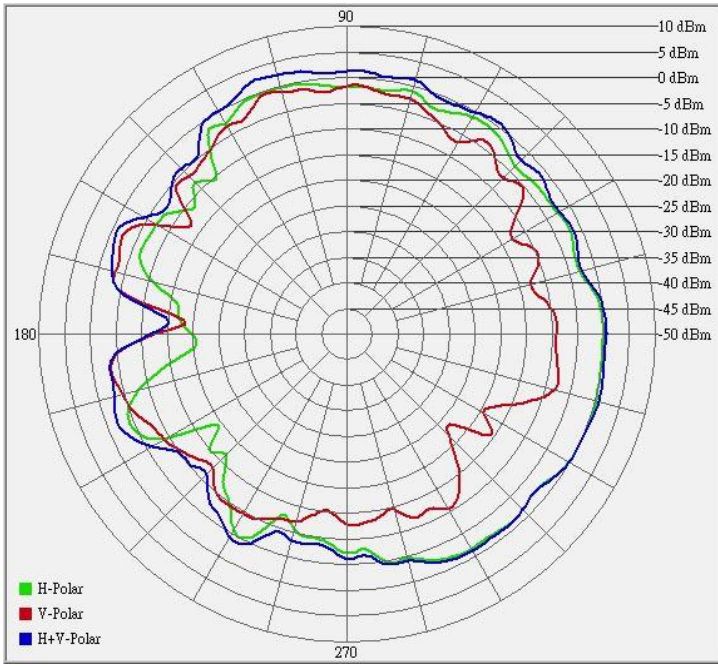


**Tx2 (or Rx2) AUX antenna: 5725 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



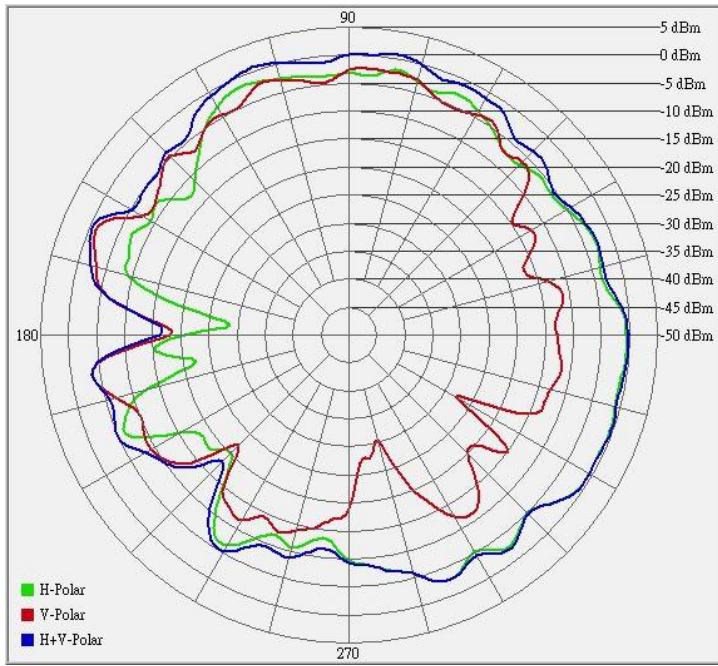
Center Frequency	<b>5725 MHz</b>
Horizontal (dBi) peak	<b>-1.32</b>
Vertical (dBi) peak	<b>-2.57</b>

**Tx3 (or Rx3) MIMO 5470 MHz (Plot is not required if 3<sup>rd</sup> Antenna is receive only e.g. Rx3 for 4965AGN)**



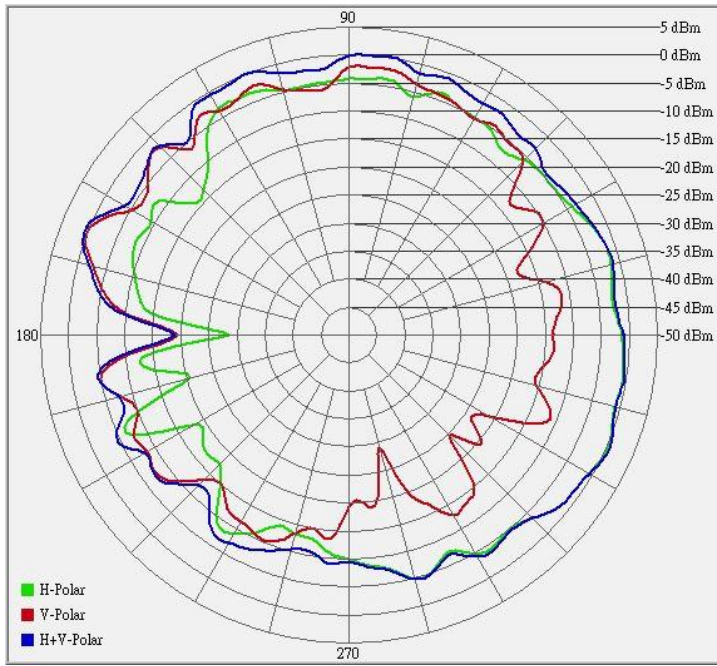
Center Frequency	<b>5470 MHz</b>
Horizontal (dBi) peak	<b>0.21</b>
Vertical (dBi) peak	<b>-0.68</b>

**Tx3 (or Rx3) MIMO antenna: 5597.5 MHz (Plot is not required if 3<sup>rd</sup> Antenna is receive only e.g. Rx3 for 4965AGN)**



Center Frequency	<b>5597.5 MHz</b>
Horizontal (dBi) peak	<b>-0.41</b>
Vertical (dBi) peak	<b>-1.72</b>

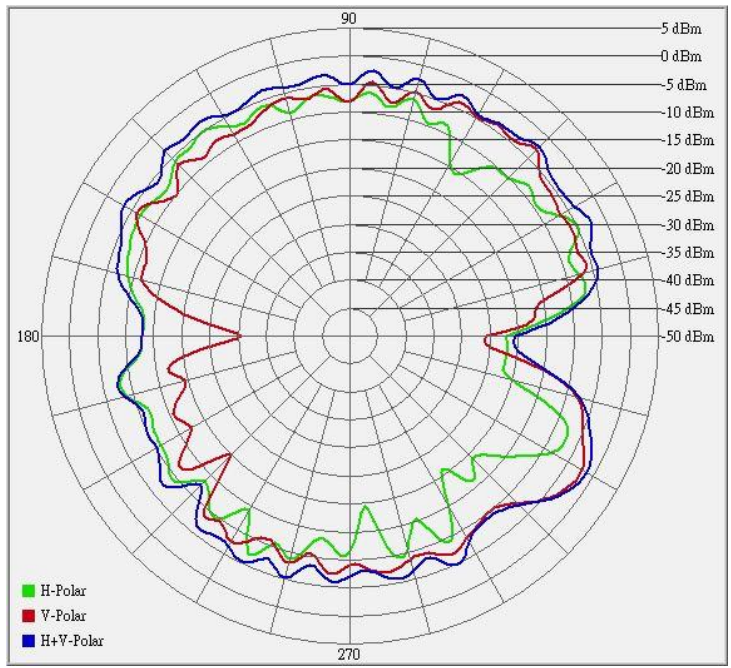
**Tx3 (or Rx3) MIMO antenna: 5725 MHz (Plot is not required if 3<sup>rd</sup> Antenna is receive only e.g. Rx3 for 4965AGN)**



Center Frequency	<b>5725 MHz</b>
Horizontal (dBi) peak	<b>0.42</b>
Vertical (dBi) peak	<b>0.01</b>

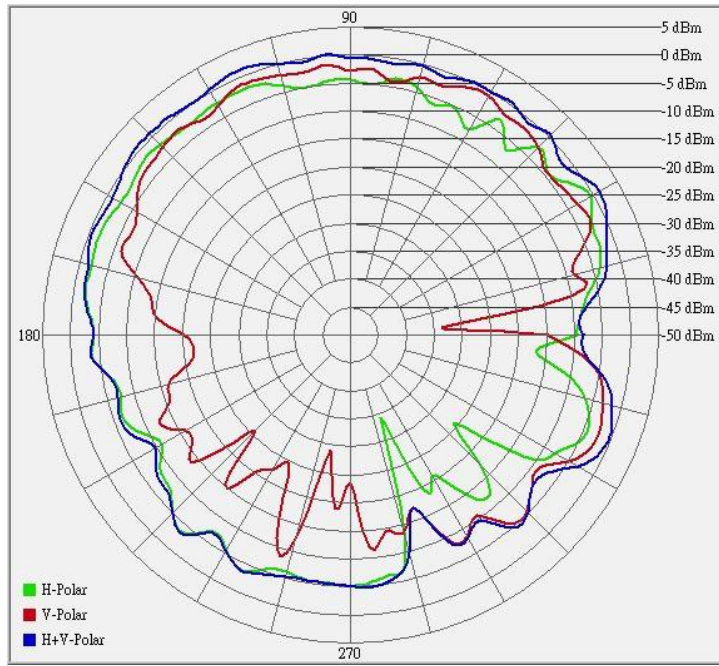
**5725-5850 MHz radiation characteristic**

**TX1 MAIN antenna: 5725 MHz**



Center Frequency	<b>5725 MHz</b>
Horizontal (dBi) peak	<b>-4.93</b>
Vertical (dBi) peak	<b>-2.13</b>

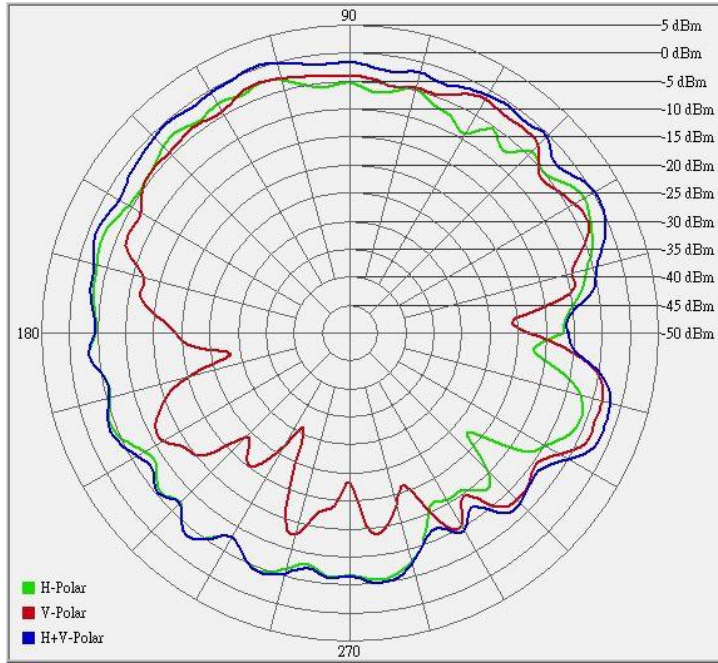
**TX1 MAIN antenna: 5785 MHz**



Center Frequency	<b>5785 MHz</b>
Horizontal (dBi) peak	<b>-0.49</b>
Vertical (dBi) peak	<b>-0.65</b>



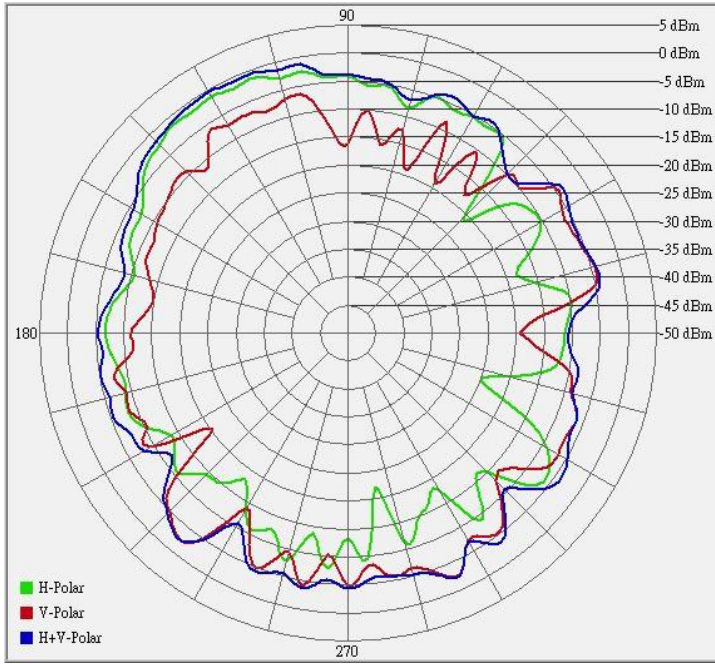
**TX1 MAIN antenna: 5850 MHz**



Center Frequency	<b>5850 MHz</b>
Horizontal (dBi) peak	<b>-1.75</b>
Vertical (dBi) peak	<b>-1.78</b>

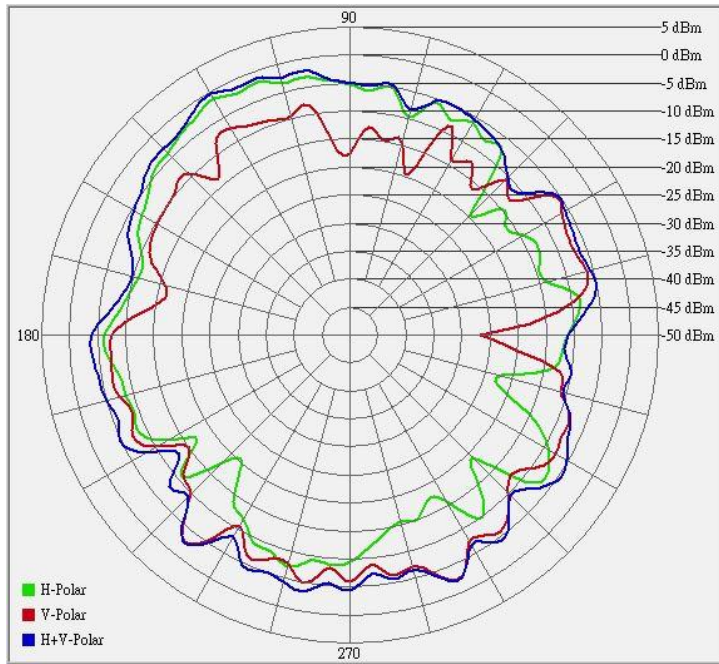


**Tx2 (or Rx2) AUX antenna: 5725 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



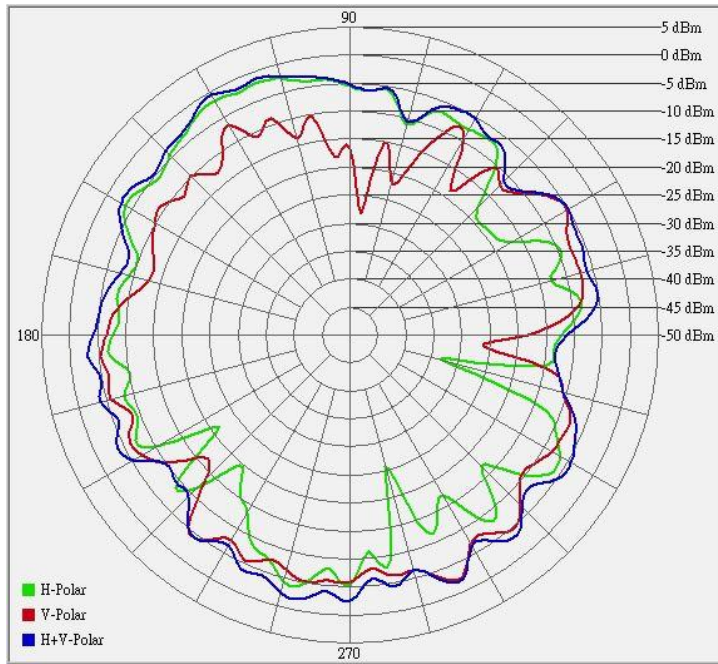
Center Frequency	<b>5725 MHz</b>
Horizontal (dBi) peak	<b>-1.32</b>
Vertical (dBi) peak	<b>-2.57</b>

**Tx2 (or Rx2) AUX antenna: 5785 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



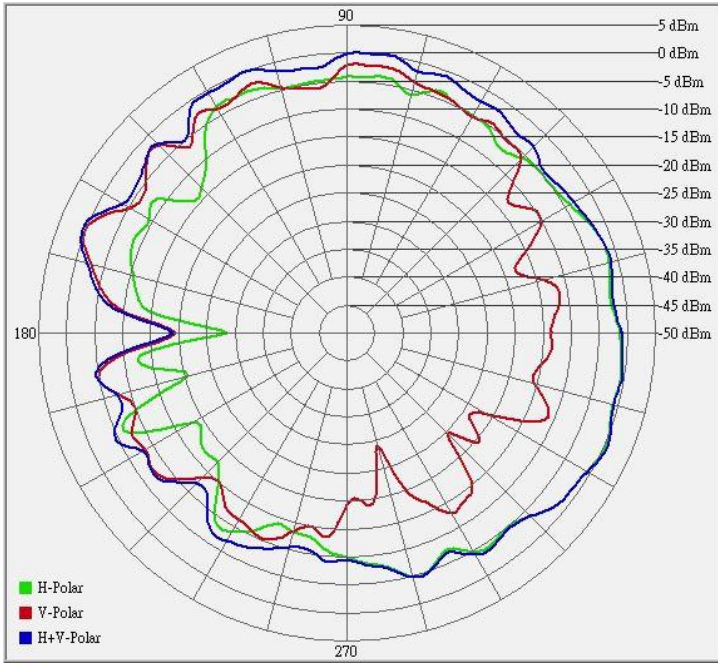
Center Frequency	<b>5785 MHz</b>
Horizontal (dBi) peak	<b>-1.22</b>
Vertical (dBi) peak	<b>-2.52</b>

**Tx2 (or Rx2) AUX antenna: 5850 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



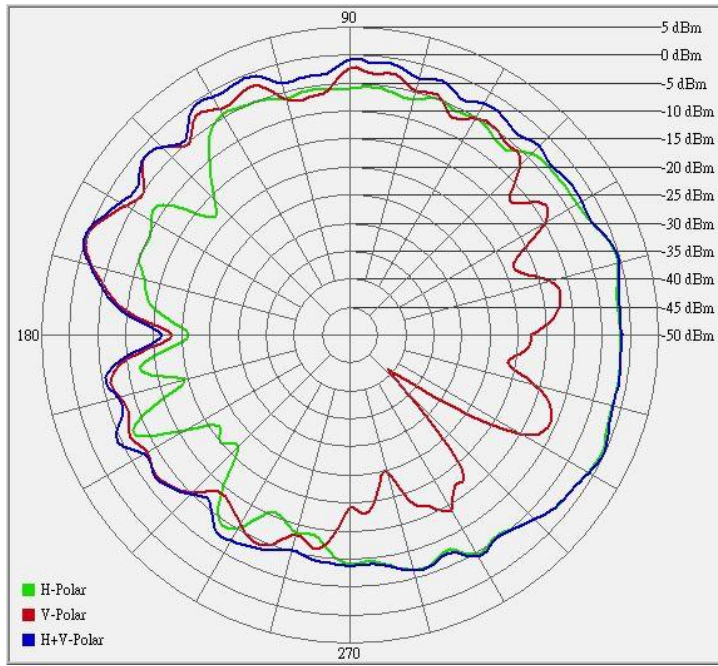
Center Frequency	<b>5850 MHz</b>
Horizontal (dBi) peak	<b>-1.62</b>
Vertical (dBi) peak	<b>-2.42</b>

**Tx3 (or Rx3) MIMO antenna: 5725 MHz (Plot is not required if 3<sup>rd</sup> Antenna is receive only e.g. Rx3 for 4965AGN)**



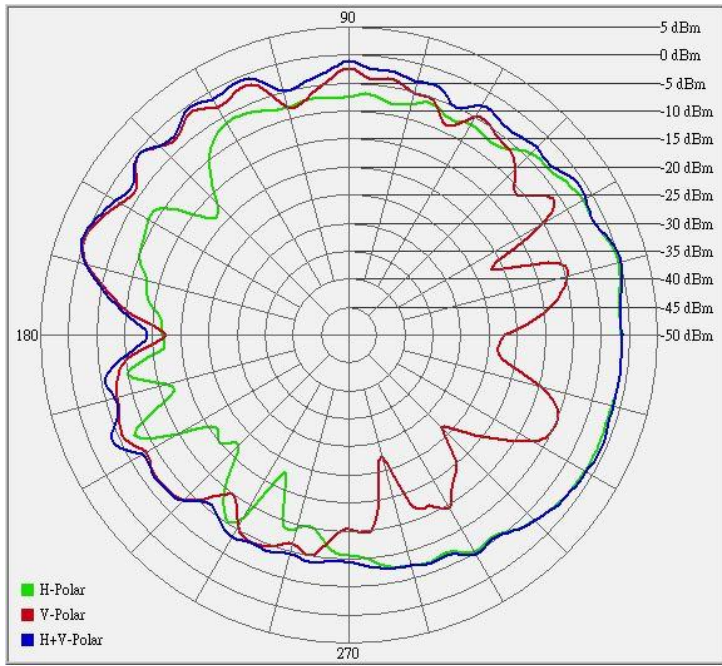
Center Frequency	<b>5725 MHz</b>
Horizontal (dBi) peak	<b>0.42</b>
Vertical (dBi) peak	<b>0.01</b>

**Tx3 (or Rx3) MIMO antenna: 5785 MHz (Plot is not required if 3<sup>rd</sup> Antenna is receive only e.g. Rx3 for 4965AGN)**



Center Frequency	<b>5785 MHz</b>
Horizontal (dBi) peak	<b>-0.4</b>
Vertical (dBi) peak	<b>0.04</b>

**Tx3 (or Rx3) MIMO antenna: 5850 MHz (Plot is not required if 3<sup>rd</sup> Antenna is receive only e.g. Rx 3 for 4965AGN)**



Center Frequency	<b>5850 MHz</b>
Horizontal (dBi) peak	<b>-0.18</b>
Vertical (dBi) peak	<b>0.19</b>

## Section 4. Host Platform Information

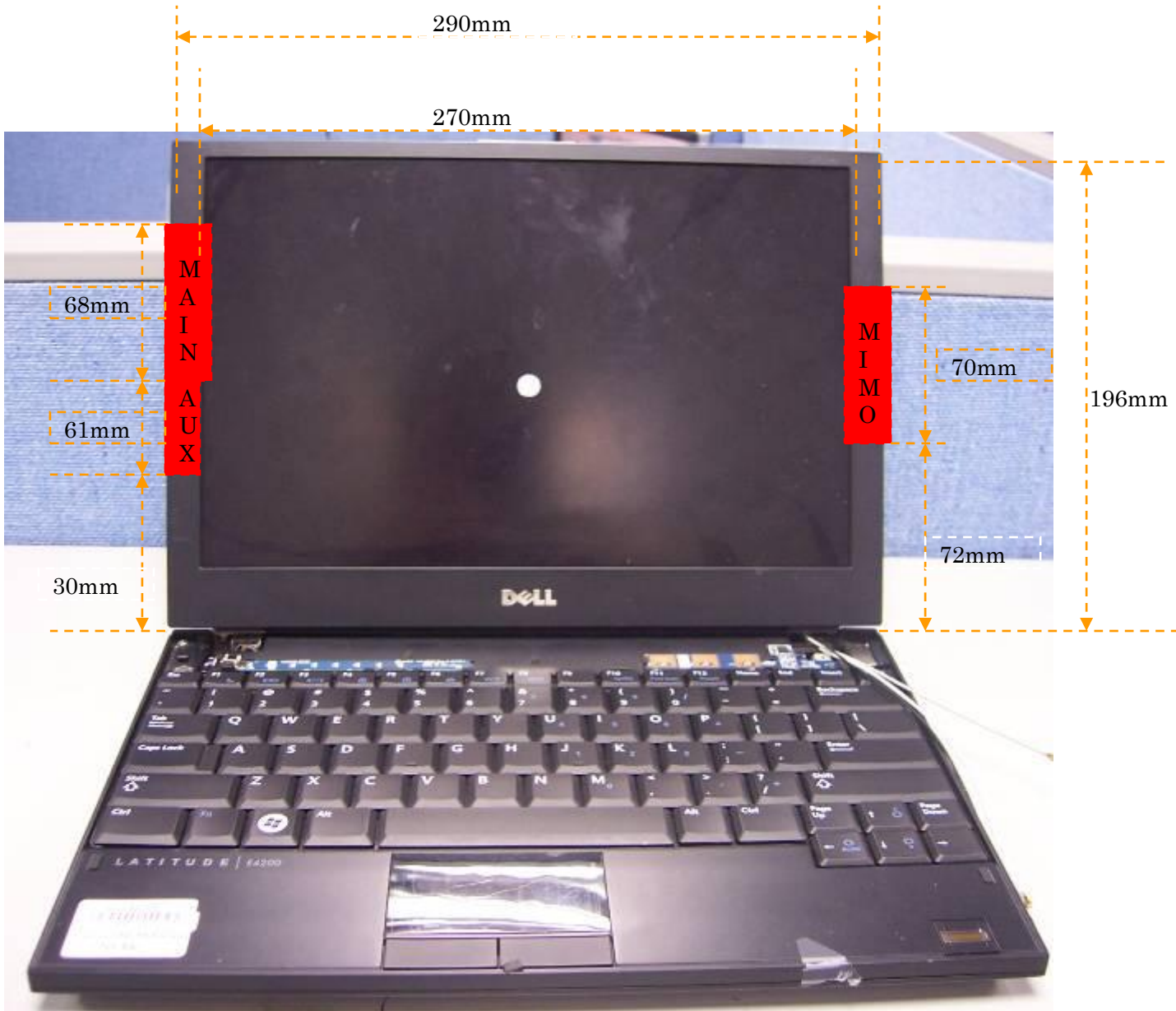
OEM / ODM Host platform: Mini Cooper platform correlated to antenna data

**Rating Label Photo:**



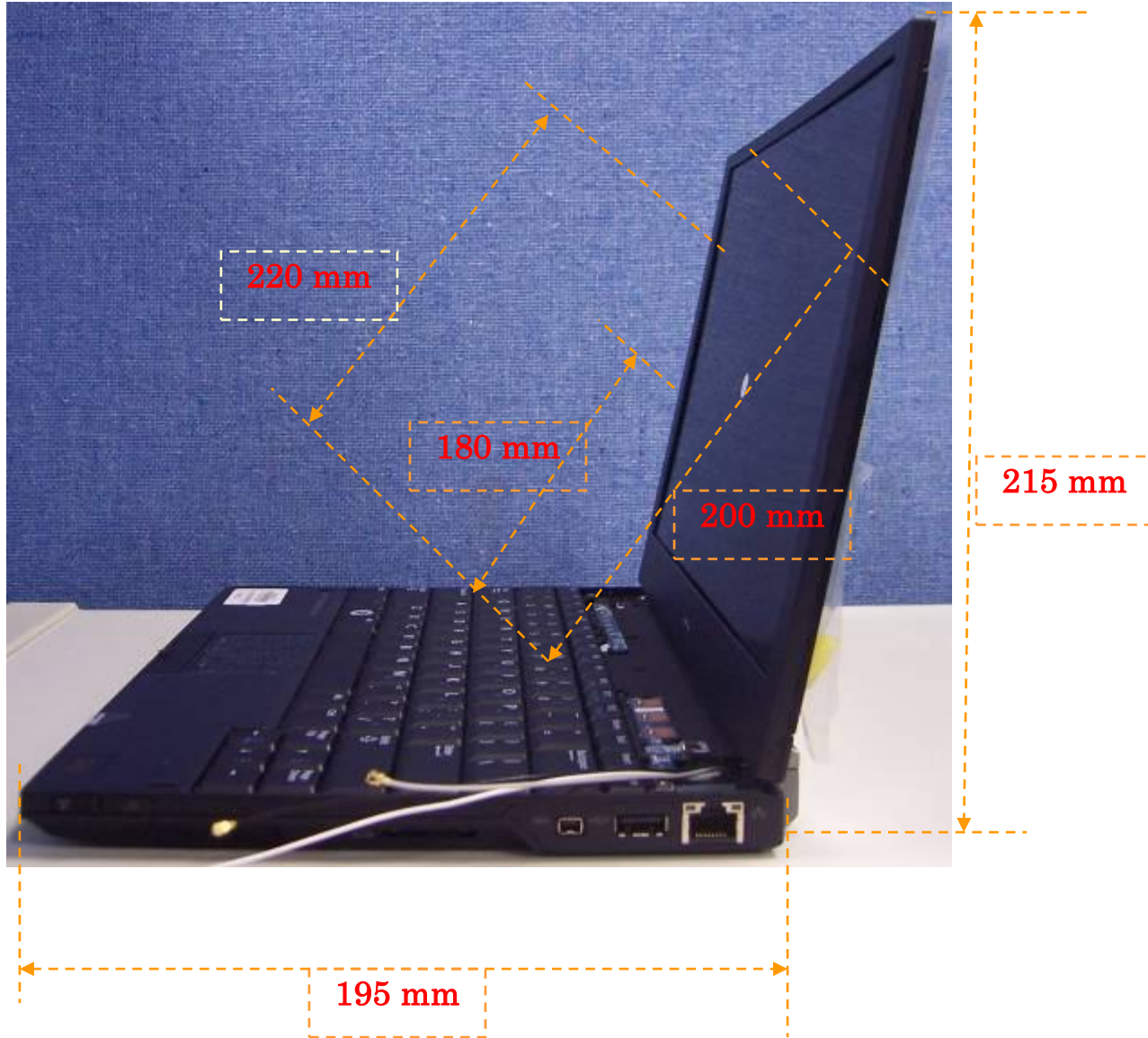
## Section 5. Antenna Host Platform Location Information

Include a **dimensioned photo or dimensioned drawing** of Tx1, Tx2 and Tx3 antenna placements (measurements are not required for receive-only antenna). Any antenna that transmits must show dimensions to bottom of laptop.



## Section 6. Antenna dimensional information for SAR evaluation

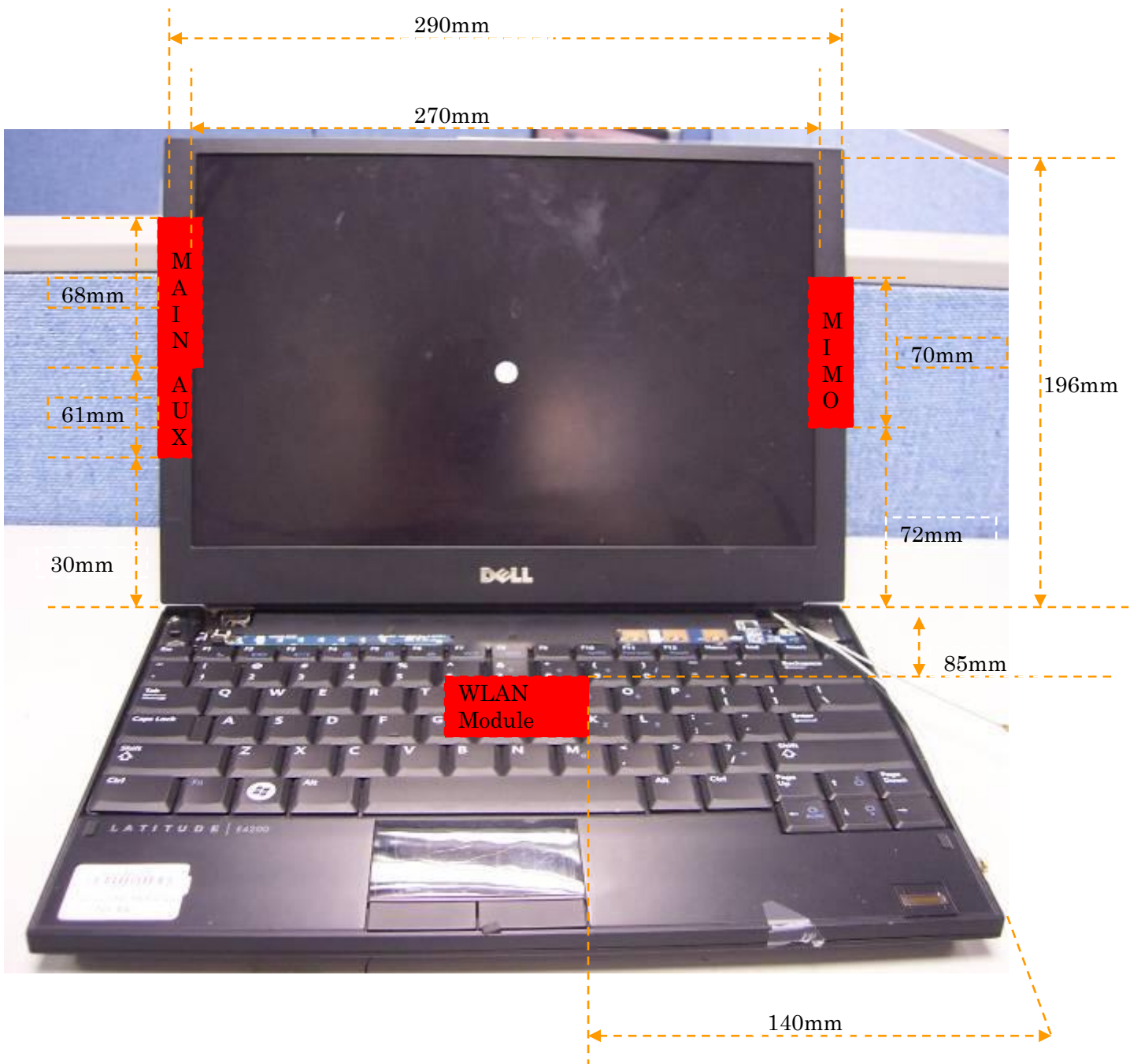
Include a **dimensioned photo or dimensioned drawing** showing the distance (mm) between the transmit antennas and the user (excluding hands, wrist, feet, lap/ thigh, and ankle)



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