

## Regulatory WLAN Antenna Information

(English Language Required for Intel Regulatory Review / Approval)

Platform	
Platform Owner	Compal Corporation
Brand Name	Lenovo
Model Name	20017(4186)
ODM	Compal Corporation
Target Launch Date	2009/08/21
Antenna	
Brand Name	Yageo
Part Number	<input checked="" type="checkbox"/> Tx1 Antenna: CAN 4313801022701B
	<input checked="" type="checkbox"/> Tx2 (or Rx2) Antenna (Rx2 for 512 family ONLY) CAN 4313801022701B
	<input checked="" type="checkbox"/> Tx3 Antenna: CAN 4313801022701B
Module	
With WLAN Module	<input type="checkbox"/> W M 3B2200BG
(Check Box)	<input type="checkbox"/> W M 3B2915A BG
	<input type="checkbox"/> W M 3945A BG
	<input checked="" type="checkbox"/> 622AN Family
	<input checked="" type="checkbox"/> 633AN Family
	<input checked="" type="checkbox"/> 622ANX Family
	<input checked="" type="checkbox"/> 512ANX Family
	<input checked="" type="checkbox"/> 533AN Family
	<input checked="" type="checkbox"/> 512AN Family

## 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 Manufacturer	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)
CAN4313801022701B  Tx1 main antenna	YAGEO Corporation	PIFA	50 ohm Coaxial length: 646 mm diameter: 1.37 mm Connector: Hirose U.FL-LP IPEX MHF or equivalent	2400-2500MHz 1.96 dBi (peak)	2400-2500MHz 4.11 dBi (peak)	2400-2500MHz 3.00 max	2400-2500MHz 2.15 dBi (peak)
				2496-2690MHz 1.31 dBi (peak)	2496-2690MHz 3.53 dBi (peak)	2496-2690MHz 3.00 max	2496-2690MHz 2.22 dBi (peak)
				5150-5350MHz 2.65 dBi (peak)	5150-5350MHz 5.91 dBi (peak)	5150-5350MHz 3.00 max	5150-5350MHz 3.26 dBi (peak)
				5470-5725MHz 2.98 dBi (peak)	5470-5725MHz 6.36 dBi (peak)	5470-5725MHz 3.00 max	5470-5725MHz 3.38 dBi (peak)
				5725-5850MHz 2.98 dBi (peak)	5725-5850MHz 6.42 dBi (peak)	5725-5850MHz 3.00 max	5725-5850MHz 3.44 dBi (peak)
CAN4313801022701B  Tx2 aux antenna	YAGEO Corporation	PIFA	50 ohm Coaxial length: 730 mm diameter: 1.37 mm Connector: Hirose U.FL-LP IPEX MHF or equivalent	2400-2500MHz 1.35 dBi (peak)	2400-2500MHz 3.78 dBi (peak)	2400-2500MHz 3.00 max	2400-2500MHz 2.43 dBi (peak)
				2496-2690MHz 0.49 dBi (peak)	2496-2690MHz 2.99 dBi (peak)	2496-2690MHz 3.00 max	2496-2690MHz 2.50 dBi (peak)
				5150-5350MHz 2.01 dBi (peak)	5150-5350MHz 5.70 dBi (peak)	5150-5350MHz 3.00 max	5150-5350MHz 3.69 dBi (peak)
				5470-5725MHz 2.23 dBi (peak)	5470-5725MHz 6.05 dBi (peak)	5470-5725MHz 3.00 max	5470-5725MHz 3.82 dBi (peak)
				5725-5850MHz 2.23 dBi (peak)	5725-5850MHz 6.12 dBi (peak)	5725-5850MHz 3.00 max	5725-5850MHz 3.89 dBi (peak)
CAN4313801022701B  Tx3 (or Rx3) mimo antenna	YAGEO Corporation	PIFA	50 ohm Coaxial length: 340 mm diameter: 1.37 mm Connector: Hirose U.FL-LP IPEX MHF or equivalent	2400-2500MHz -0.47 dBi (Peak)	2400-2500MHz 0.66 dBi (peak)	2400-2500MHz 3.00 max	2400-2500MHz 1.13 dBi (peak)
				2496-2690MHz -1.20 dBi (Peak)	2496-2690MHz -0.03 dBi (peak)	2496-2690MHz 3.00 max	2496-2690MHz 1.17 dBi (peak)
				5150-5350MHz 2.57 dBi (Peak)	5150-5350MHz 4.29 dBi (peak)	5150-5350MHz 3.00 max	5150-5350MHz 1.72 dBi (peak)
				5470-5725MHz 2.94 dBi (Peak)	5470-5725MHz 4.72 dBi (peak)	5470-5725MHz 3.00 max	5470-5725MHz 1.78 dBi (peak)
				5725-5850MHz 2.56 dBi (peak)	5725-5850MHz 4.37 dBi (peak)	5725-5850MHz 3.00 max	5725-5850MHz 1.81 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:**

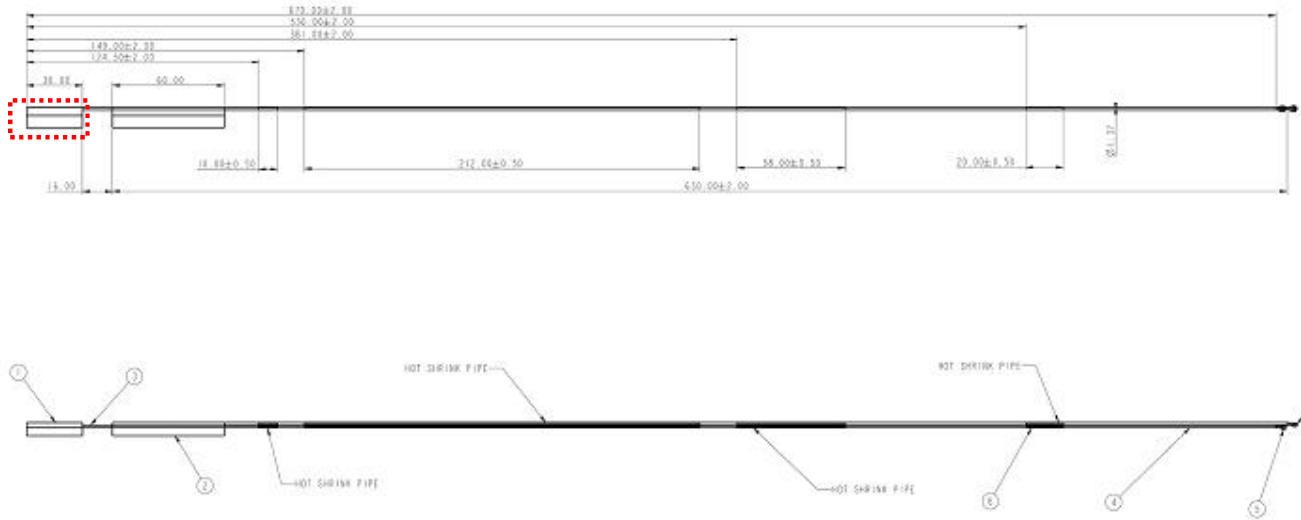
Frequency (MHz)	Tx1 Antenna		Tx2 Antenna		Tx3 Antenna	
	Horizontal (dBi)	Vertical (dBi)	Horizontal (dBi)	Vertical (dBi)	Horizontal (dBi)	Vertical (dBi)
2400	1.19	0.48	1.35	-0.64	-1.33	-0.47
2450	1.96	-1.80	-0.18	-1.01	-0.88	-1.50
2500	0.83	-1.07	-0.61	-1.38	-2.92	-1.86
2501	0.80	-1.31	0.30	-0.27	-3.53	-1.46
2593	1.31	-0.76	0.49	-0.69	-3.00	-1.23
2685	-0.26	-1.78	-1.10	-4.04	-2.36	-1.20
5150	2.65	2.40	2.01	1.04	-4.05	-1.46
5250	2.22	2.17	0.25	-0.33	-0.09	2.52
5350	2.07	1.82	0.24	0.55	0.00	2.57
5470	-0.04	-0.24	-1.02	-1.73	-2.42	2.94
5600	1.57	0.94	0.93	0.60	-3.33	0.89
5725	2.98	2.50	2.23	1.27	-2.05	0.95
5785	2.21	2.26	1.89	0.53	-0.76	2.56
5850	0.08	-0.05	0.13	-2.85	-1.76	0.80

- 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.

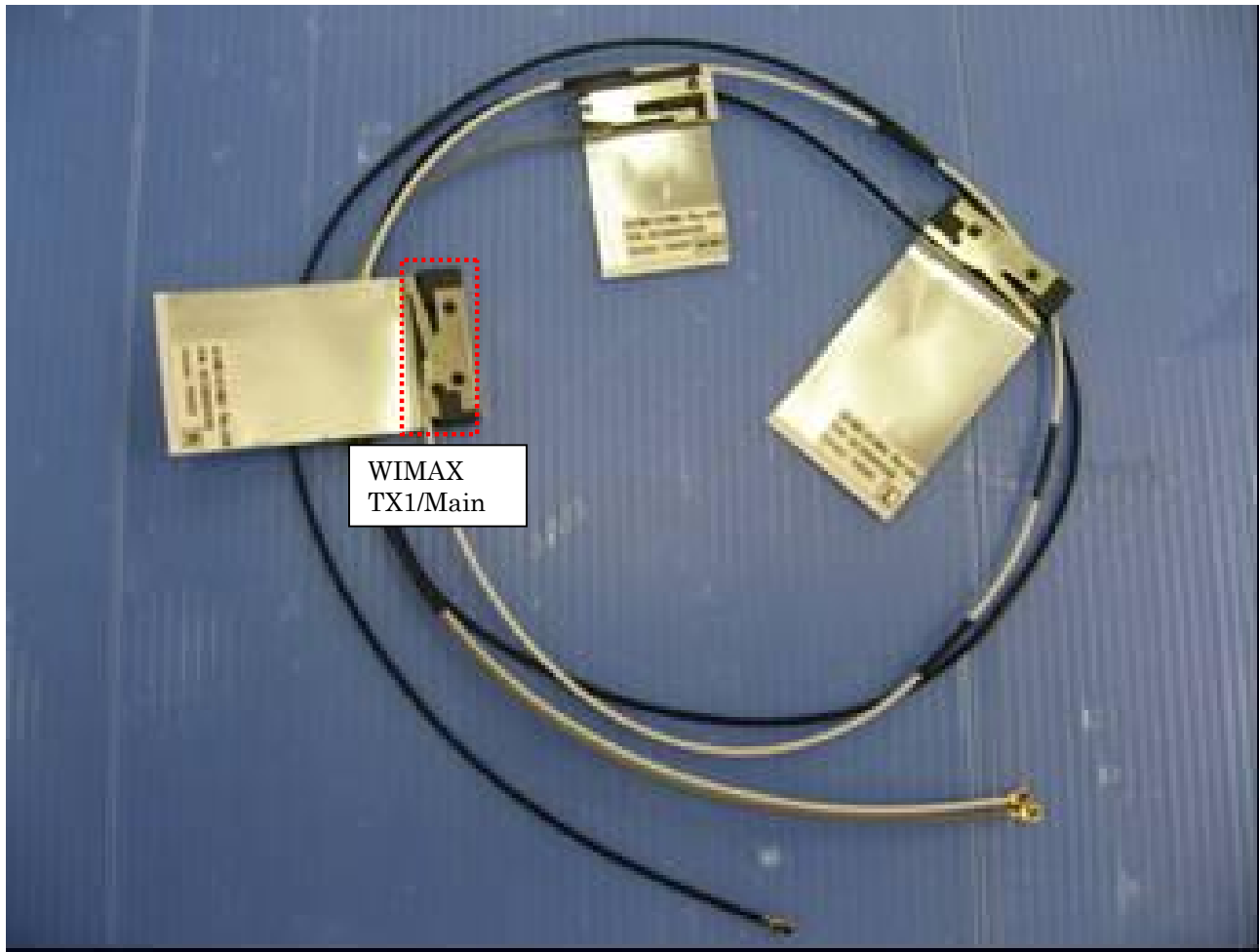
## Section 2. Dimensioned Photos or Drawings of Antennas

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

### Tx1 (Main) Antenna Dimensioned Drawing:

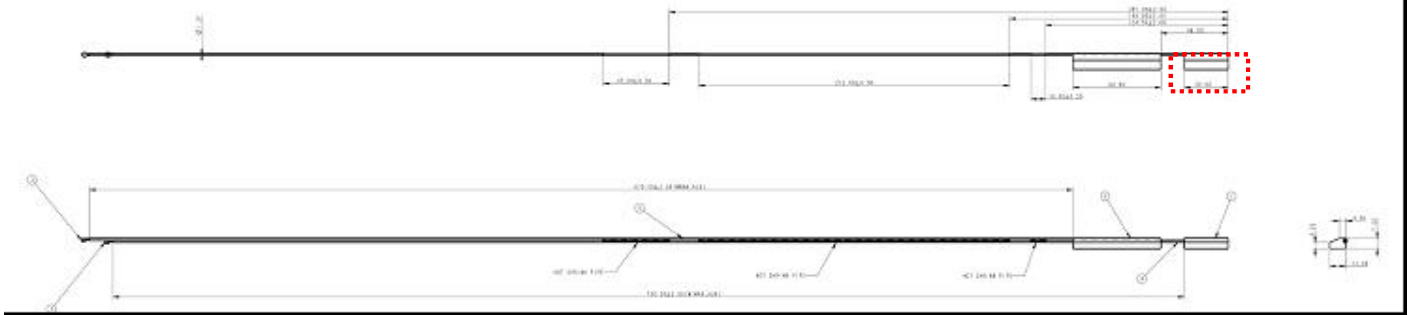


### Tx1 (Main) Antenna Photo:

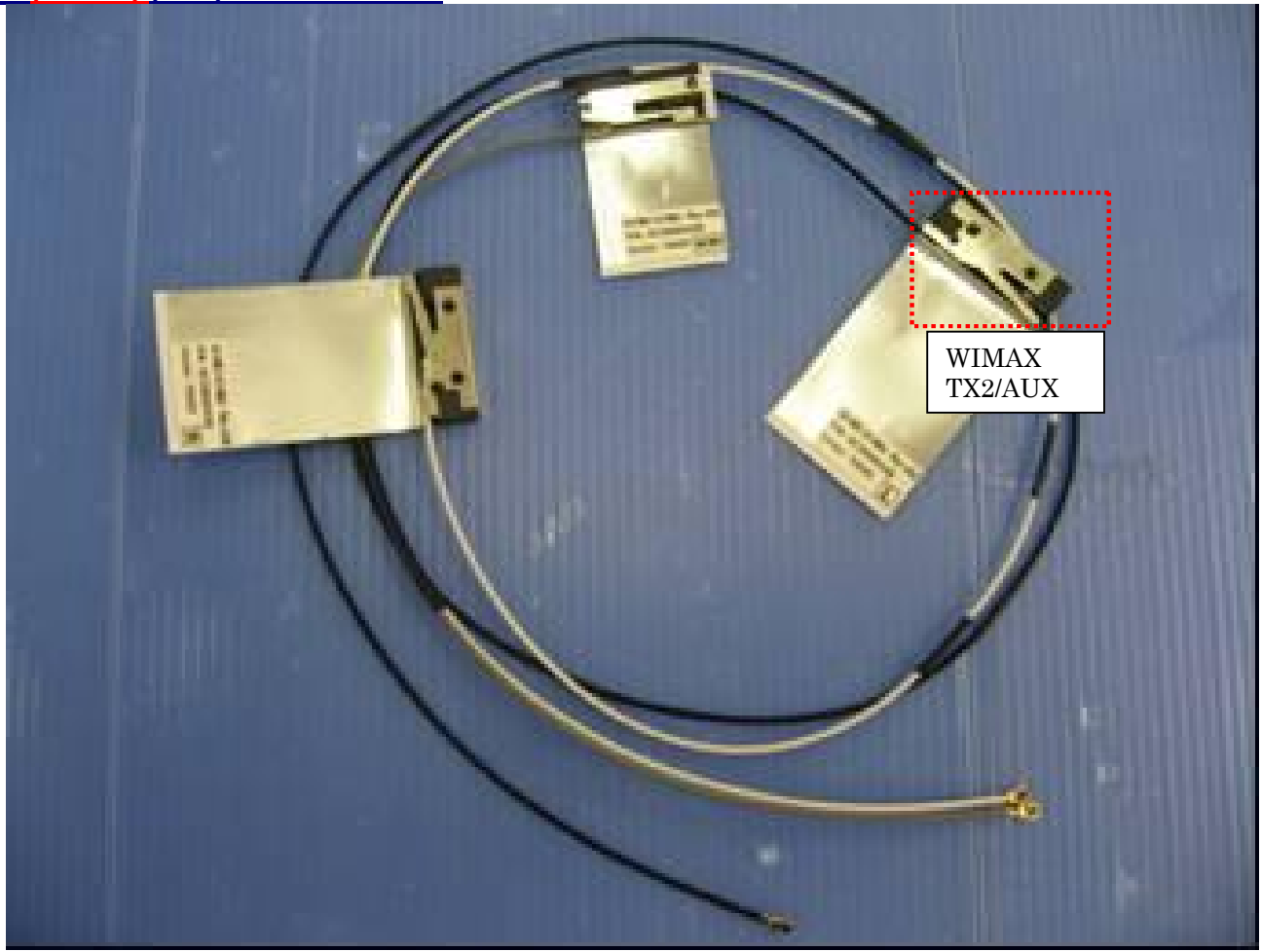


Include a dimensioned photo and dimensioned drawing of Tx2 (or Rx2) antenna here.

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

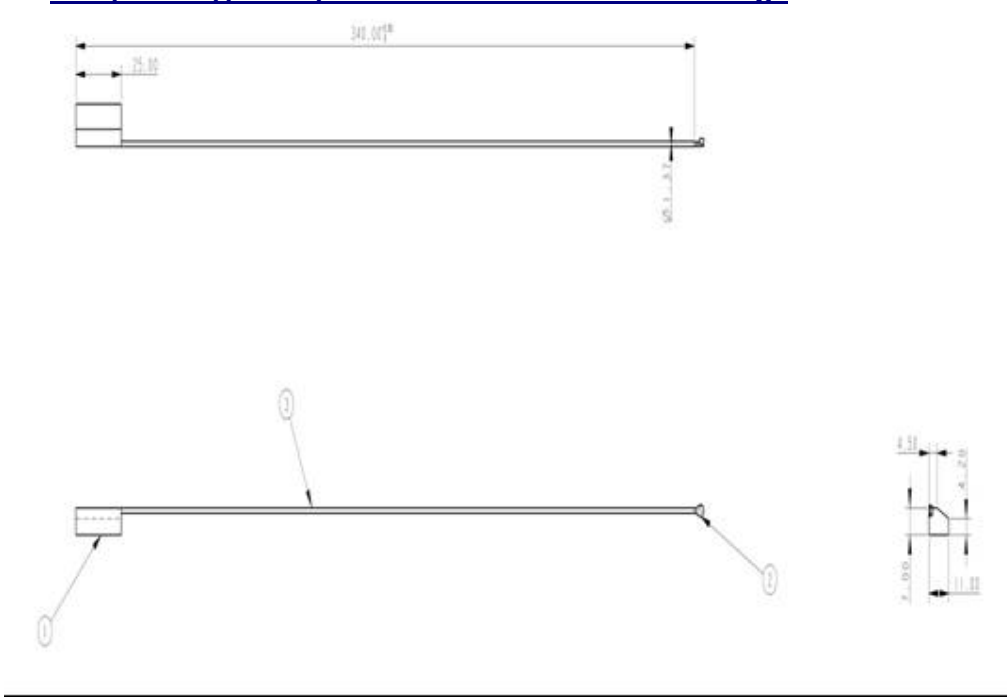


**Tx2 (or Rx2) (Aux) Antenna Photo:**

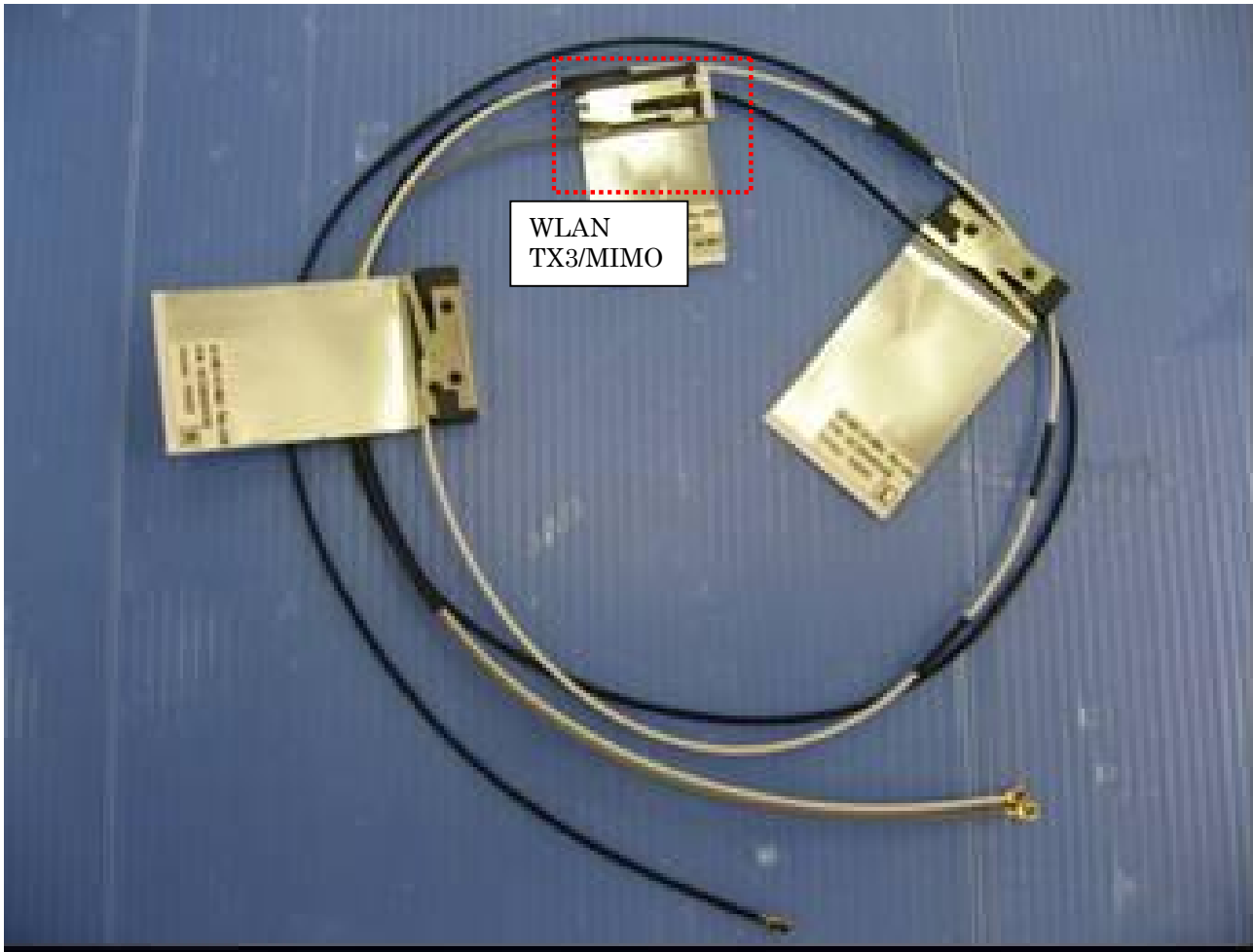


Include a dimensioned photo and dimensioned drawing of Tx3 (or Rx3) antenna here.

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



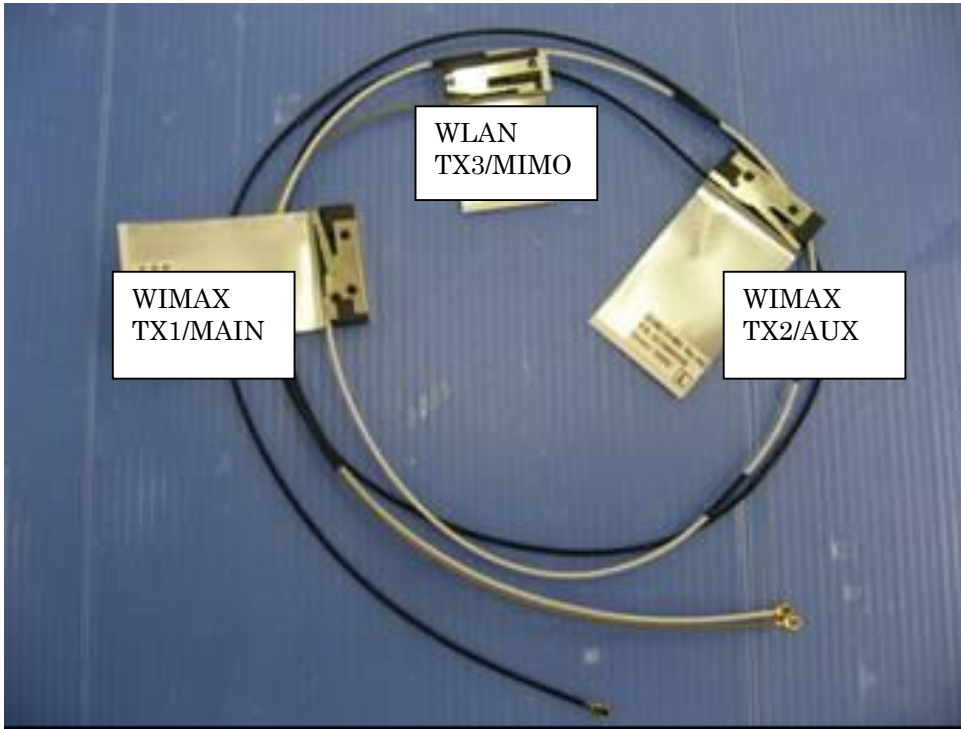
**Tx3 (or Rx3)(MIMO) Antenna Photo:**



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

Antenna Manufacturer: YAGEO

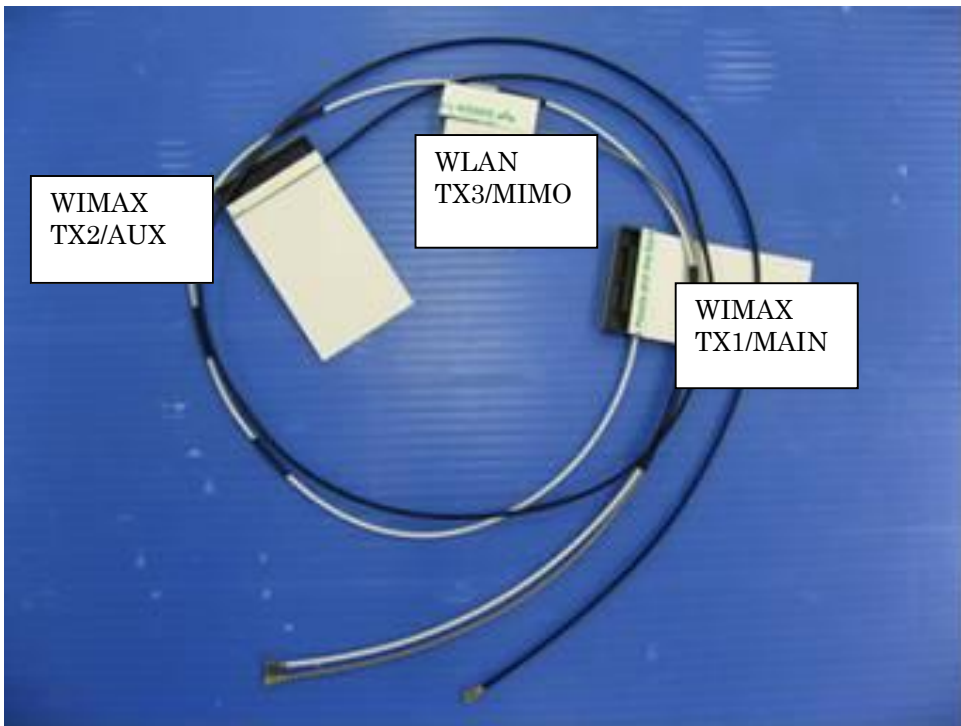
Antenna Part Number: CAN4313801022701B (Tx1/Main), CAN4313801022701B (Tx2/Aux or Rx2) ,  
CAN4313801022701B (Tx3/MIMO)



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

Antenna Manufacturer: YAGEO

Antenna Part Number: CAN4313801022701B (Tx1/Main), CAN4313801022701B (Tx2/Aux or Rx2) ,  
CAN4313801022701B (Tx3/MIMO)

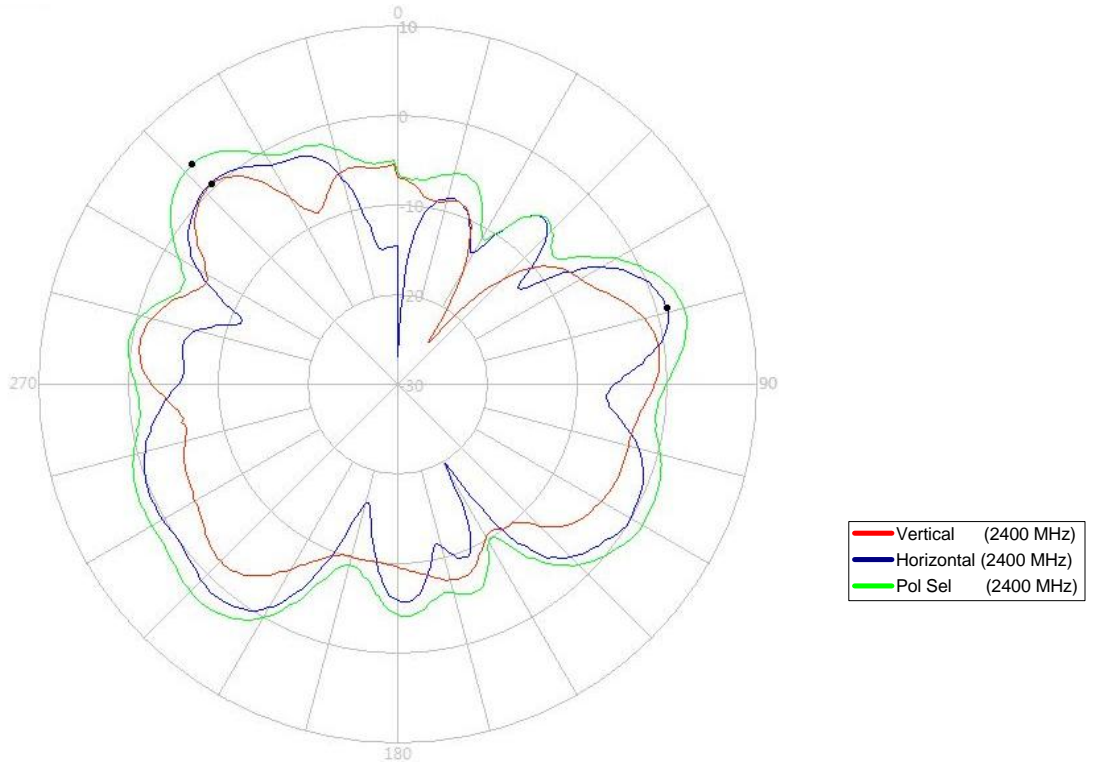




## Section 3. Radiation characteristics of antennae Loaded in Host Platform

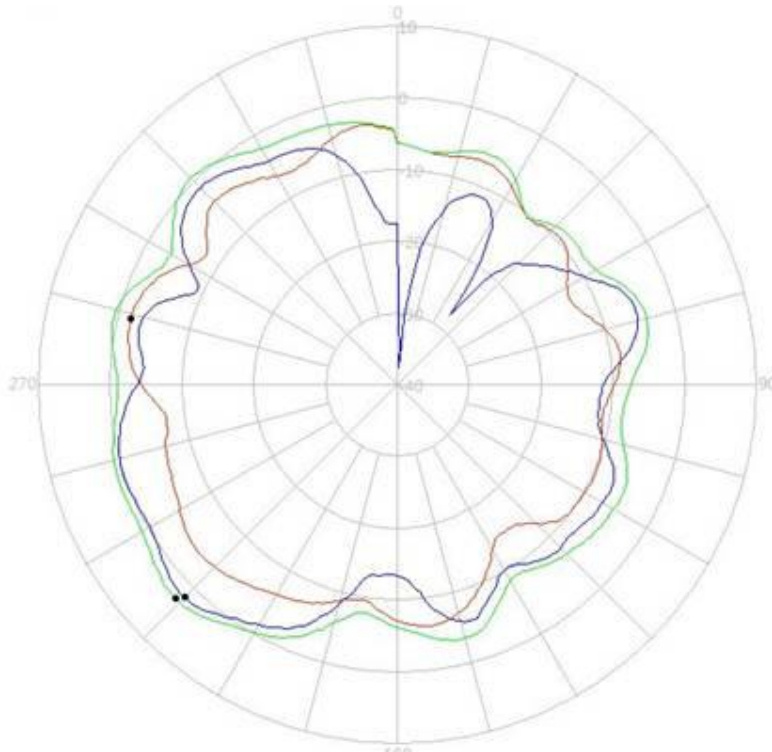
### 2400-2500MHz radiation characteristic

**Tx1 antenna: 2400 MHz**



Center Frequency	<b>2400 MHz</b>
Horizontal (dBi) Peak	<b>1.19</b>
Vertical (dBi) Peak	<b>0.48</b>

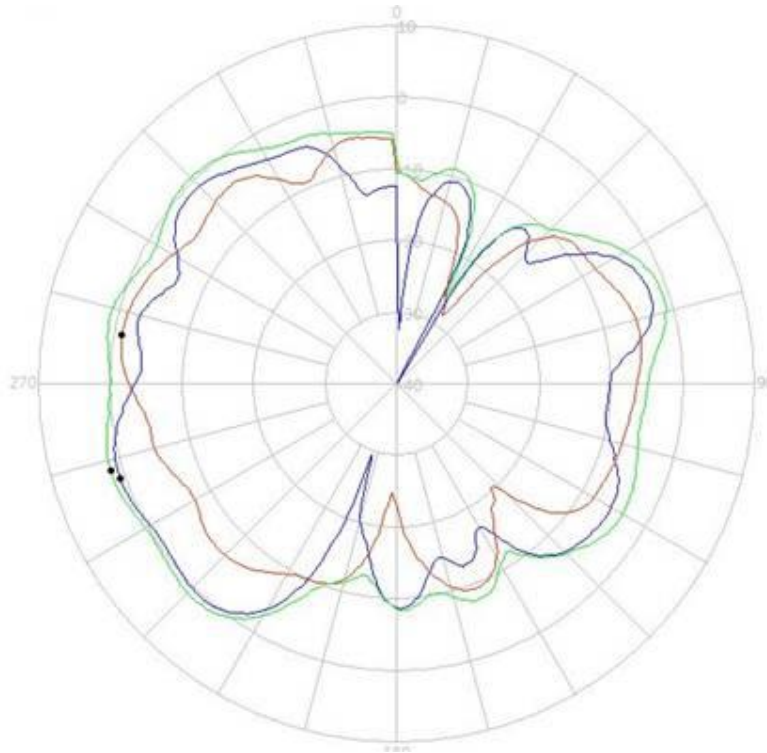
**Tx1 antenna: 2450 MHz**



Vertical	(2450 MHz)
Horizontal	(2450 MHz)
Pol Sel	(2450 MHz)

Center Frequency	<b>2450 MHz</b>
Horizontal (dBi) Peak	<b>1.96</b>
Vertical (dBi) Peak	<b>-1.80</b>

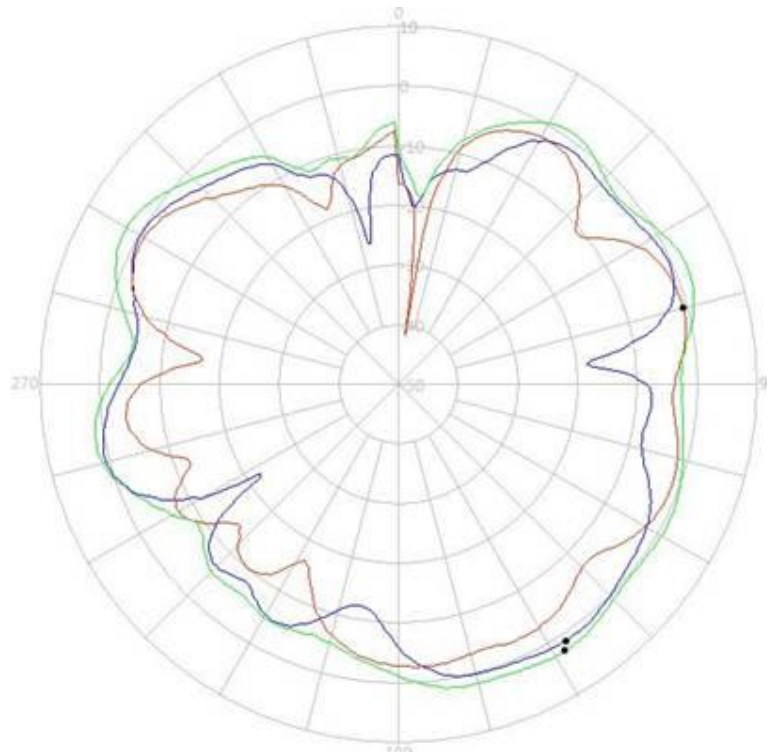
### Tx1 antenna: 2500 MHz



Vertical (2500 MHz)
Horizontal (2500 MHz)
Pol Sel (2500 MHz)

Center Frequency	<b>2500 MHz</b>
Horizontal (dBi) Peak	<b>0.83</b>
Vertical (dBi) Peak	<b>-1.07</b>

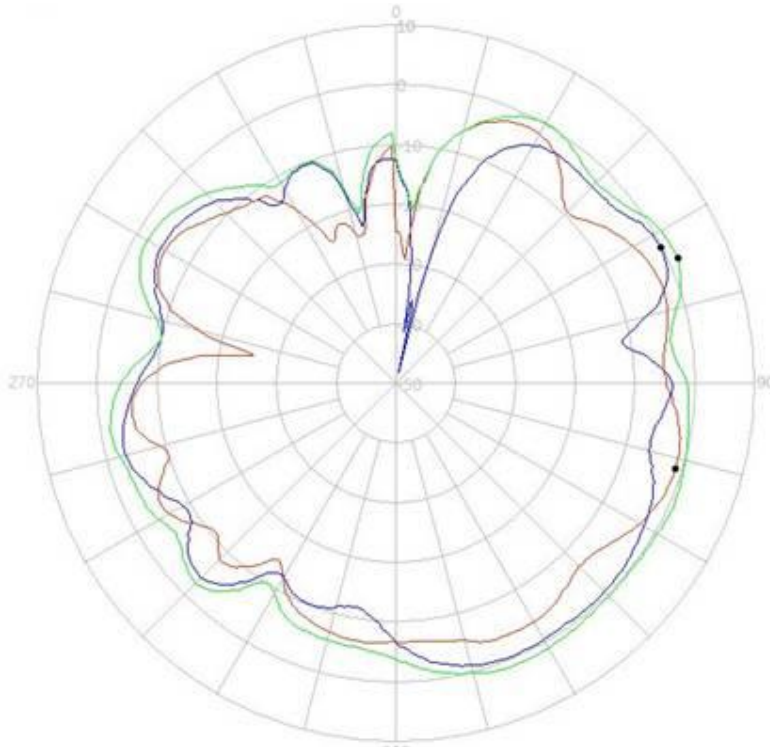
**Tx2 (or Rx2) antenna: 2400 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



Vertical (2400 MHz)
Horizontal (2400 MHz)
Pol Sel (2400 MHz)

Center Frequency	<b>2400 MHz</b>
Horizontal (dBi) Peak	<b>1.35</b>
Vertical (dBi) Peak	<b>-0.64</b>

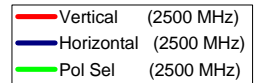
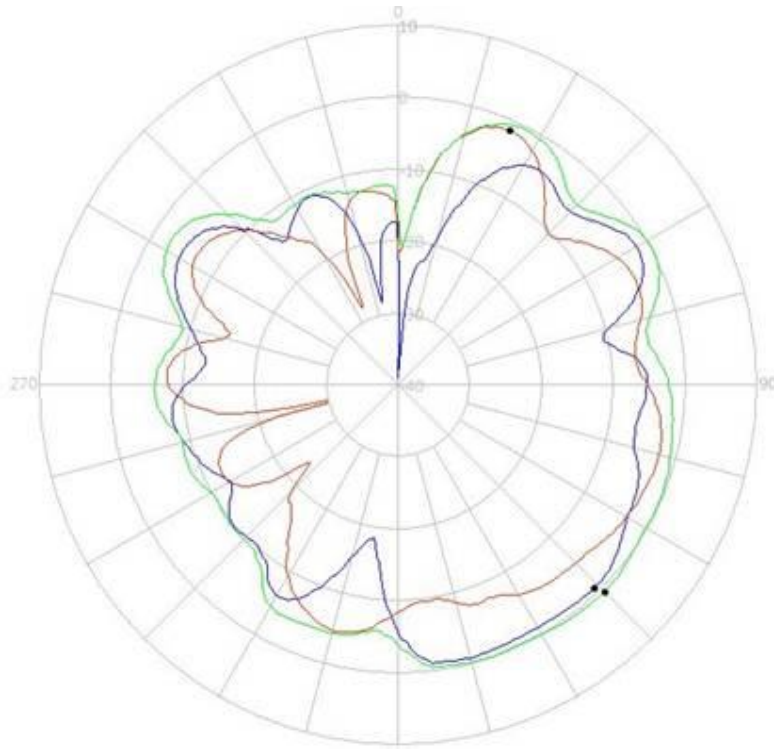
**Tx2 (or Rx2) antenna: 2450 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



Vertical	(2450 MHz)
Horizontal	(2450 MHz)
Pol Sel	(2450 MHz)

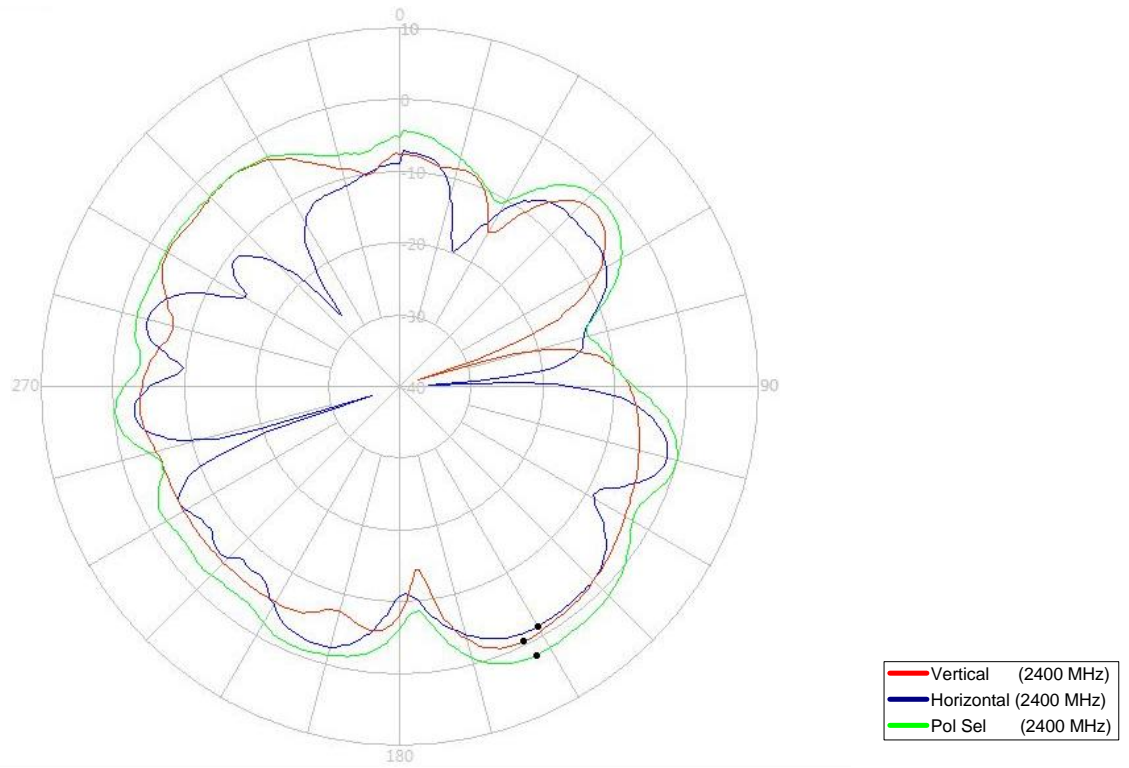
Center Frequency	<b>2450 MHz</b>
Horizontal (dBi) Peak	<b>-0.18</b>
Vertical (dBi) Peak	<b>-1.01</b>

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



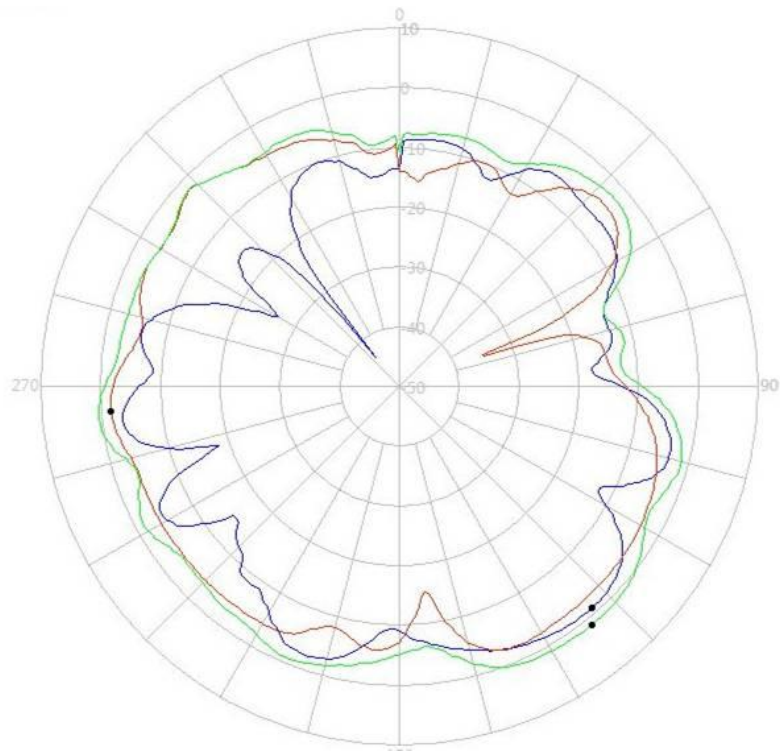
Center Frequency	<b>2500 MHz</b>
Horizontal (dBi) Peak	<b>-0.61</b>
Vertical (dBi) Peak	<b>-1.38</b>

**Tx3 (or Rx3) 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>-1.33</b>
Vertical (dBi) Peak	<b>-0.47</b>
H+V (dBi) Average	<b>-2.50</b>

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



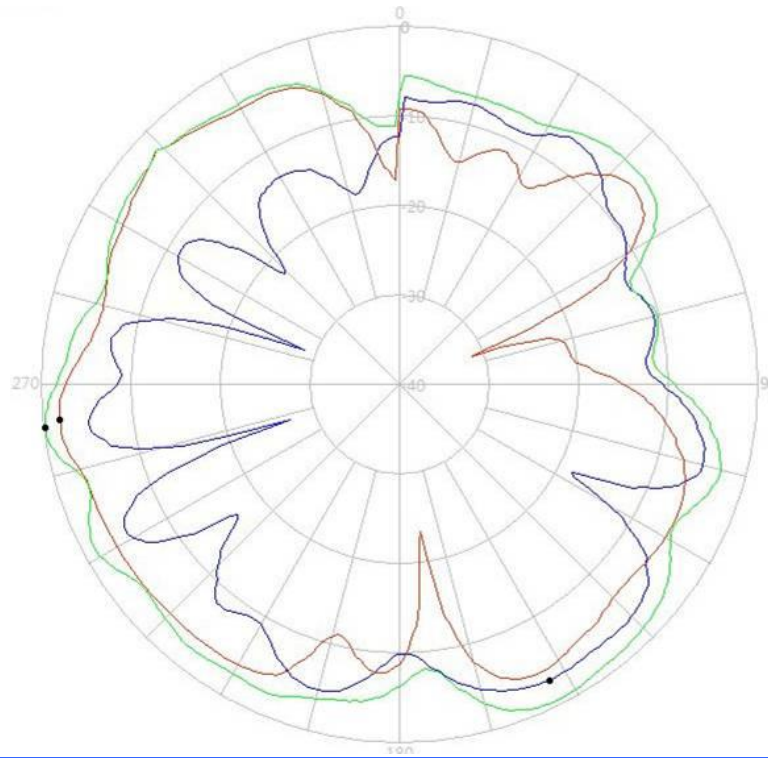
Vertical	(2450 MHz)
Horizontal	(2450 MHz)
Pol Sel	(2450 MHz)

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Center Frequency	<b>2450 MHz</b>
Horizontal (dBi) Peak	<b>-0.88</b>
Vertical (dBi) Peak	<b>-1.50</b>
H+V (dBi) Average	<b>-2.87</b>



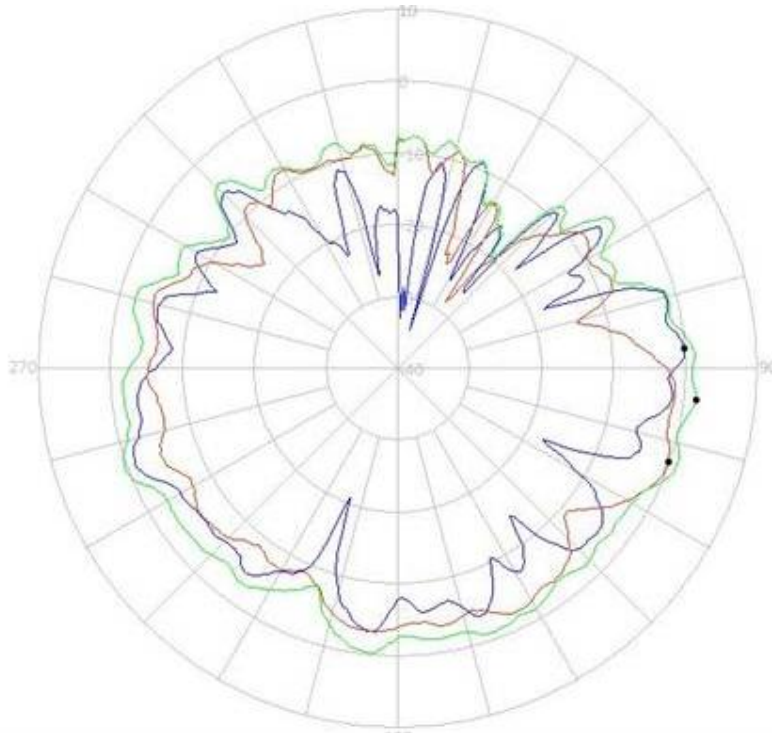
**Tx3 (or Rx3) antenna: 2500 MHz (Plot is not required if 3<sup>rd</sup> Antenna is receive only e.g. Rx3 for 4965AGN)**



Center Frequency	<b>2500 MHz</b>
Horizontal (dBi) Peak	<b>-2.92</b>
Vertical (dBi) Peak	<b>-1.86</b>
H+V (dBi) Average	<b>-3.85</b>

2490-2700MHz radiation characteristic

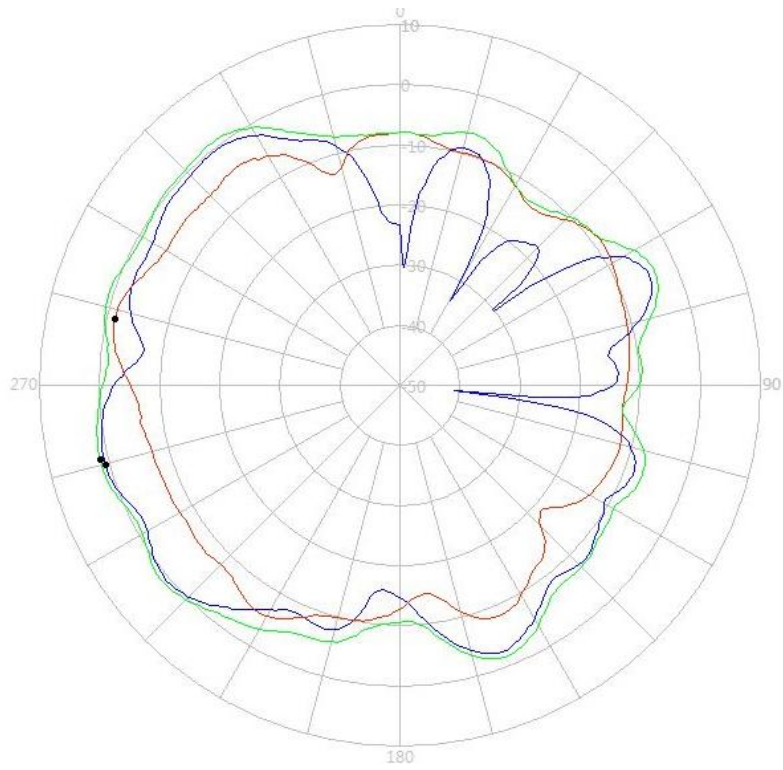
Tx1antenna: 2501MHz



Vertical	(2501 MHz)
Horizontal	(2501 MHz)
Pol Sel	(2501 MHz)

Center Frequency	<b>2501 MHz</b>
Horizontal (dBi) Peak	<b>0.08</b>
Vertical (dBi) Peak	<b>-0.05</b>

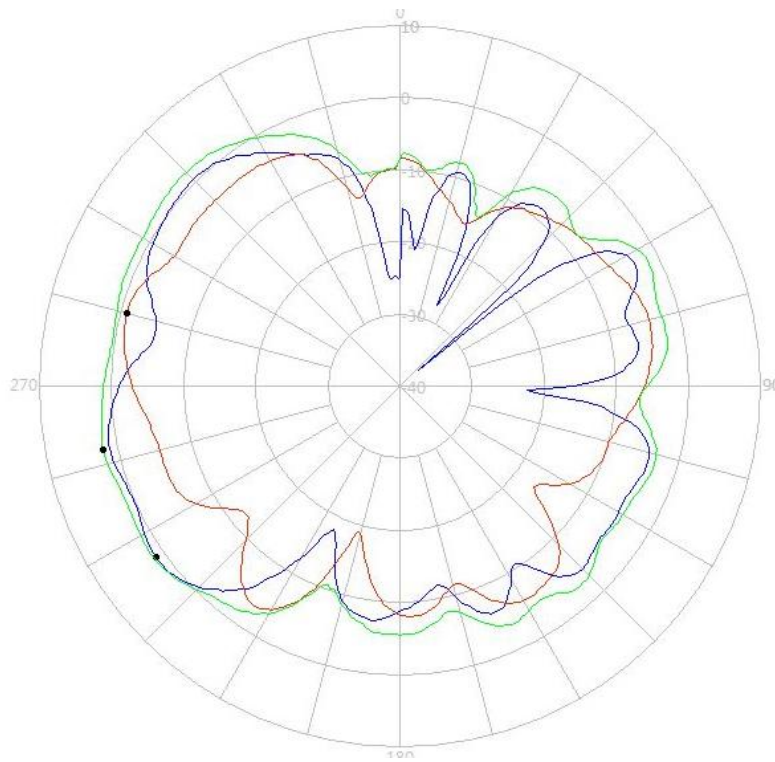
**Tx1 antenna: 2593MHz**



Vertical	(2593 MHz)
Horizontal	(2593 MHz)
Pol Sel	(2593 MHz)

Center Frequency	<b>2593 MHz</b>
Horizontal (dBi) Peak	<b>0.80</b>
Vertical (dBi) Peak	<b>-1.31</b>

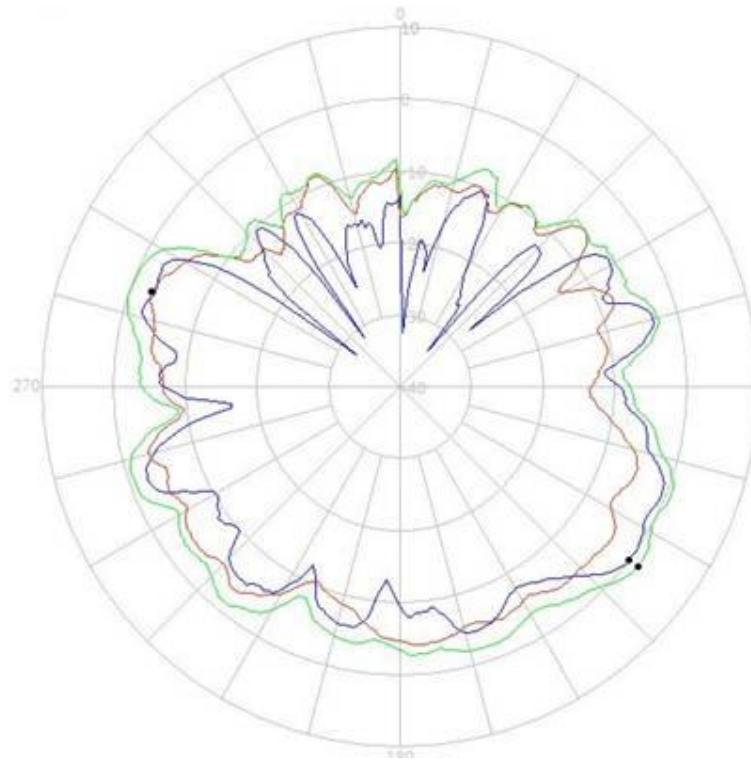
### Tx1 antenna: 2685 MHz



<span style="color: red;">—</span> Vertical	(2685 MHz)
<span style="color: blue;">—</span> Horizontal	(2685 MHz)
<span style="color: green;">—</span> Pol Sel	(2685 MHz)

Center Frequency	<b>2685 MHz</b>
Horizontal (dBi) Peak	<b>1.31</b>
Vertical (dBi) Peak	<b>-0.76</b>

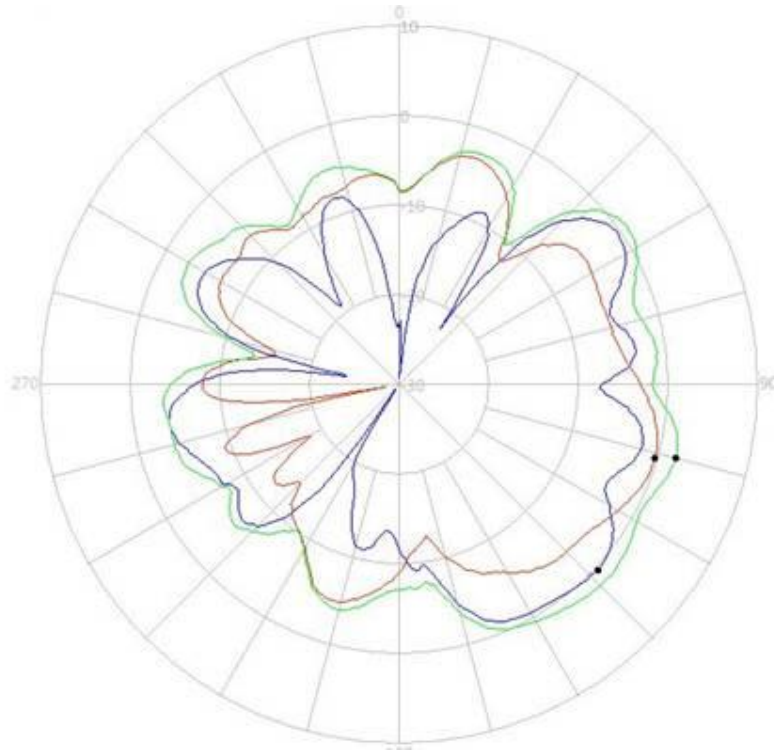
**Tx2 (or Rx2) antenna: 2501MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



Vertical	(2501 MHz)
Horizontal	(2501 MHz)
Pol Sel	(2501 MHz)

Center Frequency	<b>2501 MHz</b>
Horizontal (dBi) Peak	<b>0.13</b>
Vertical (dBi) Peak	<b>-2.85</b>

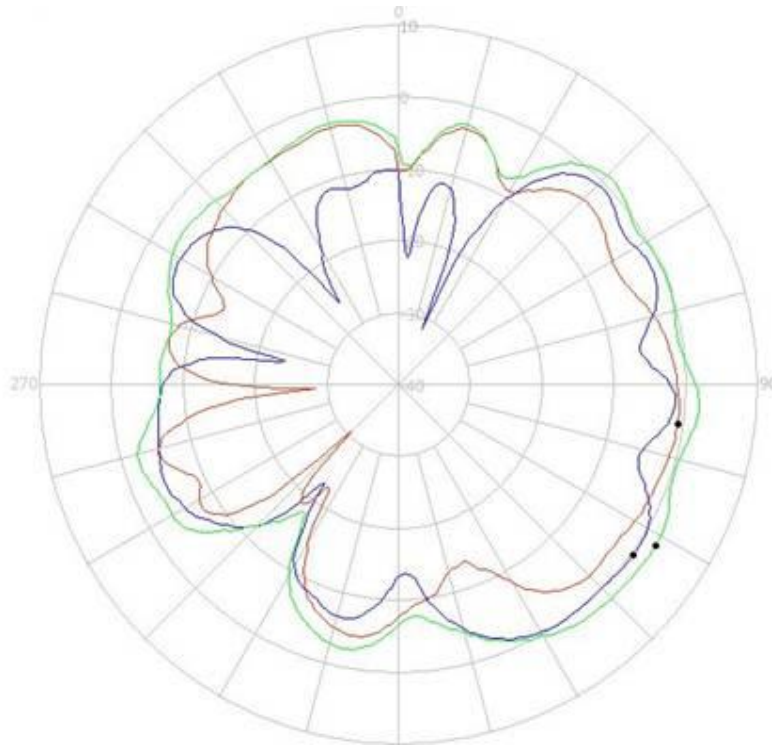
**Tx2 (or Rx2) antenna: 2593MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



<span style="color: red;">—</span> Vertical	(2593 MHz)
<span style="color: blue;">—</span> Horizontal	(2593 MHz)
<span style="color: green;">—</span> Pol Sel	(2593 MHz)

Center Frequency	<b>2593 MHz</b>
Horizontal (dBi) Peak	<b>0.30</b>
Vertical (dBi) Peak	<b>-0.27</b>

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

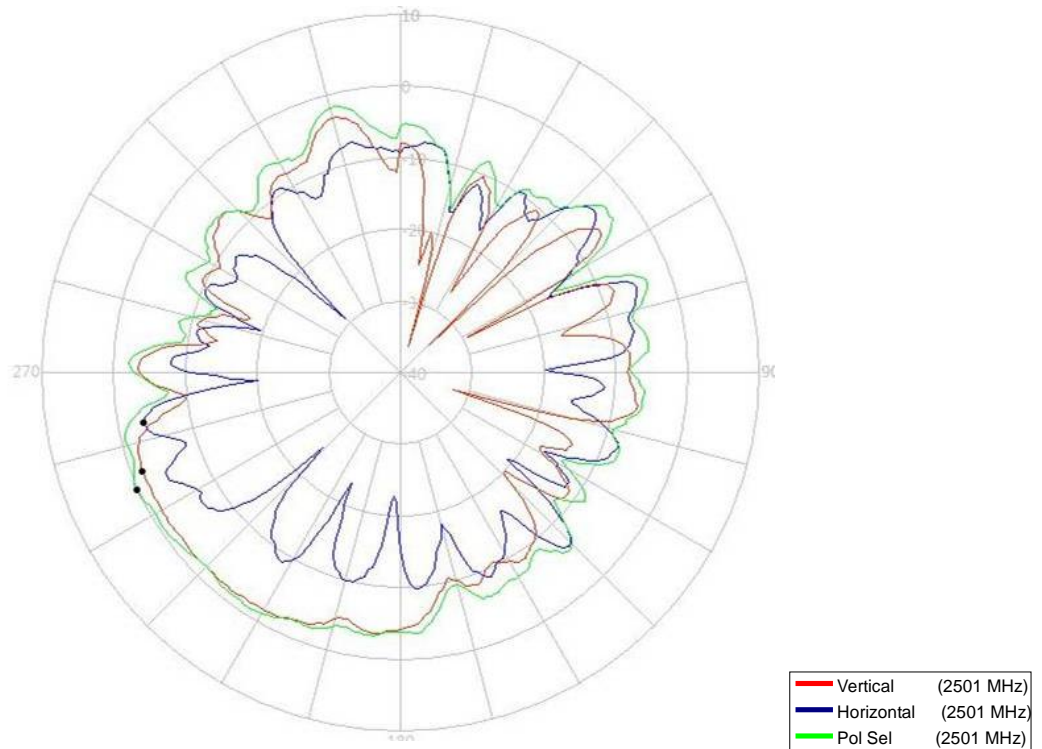


Vertical	(2685 MHz)
Horizontal	(2685 MHz)
Pol Sel	(2685 MHz)

Center Frequency	<b>2685 MHz</b>
Horizontal (dBi) Peak	<b>0.49</b>
Vertical (dBi) Peak	<b>-0.69</b>

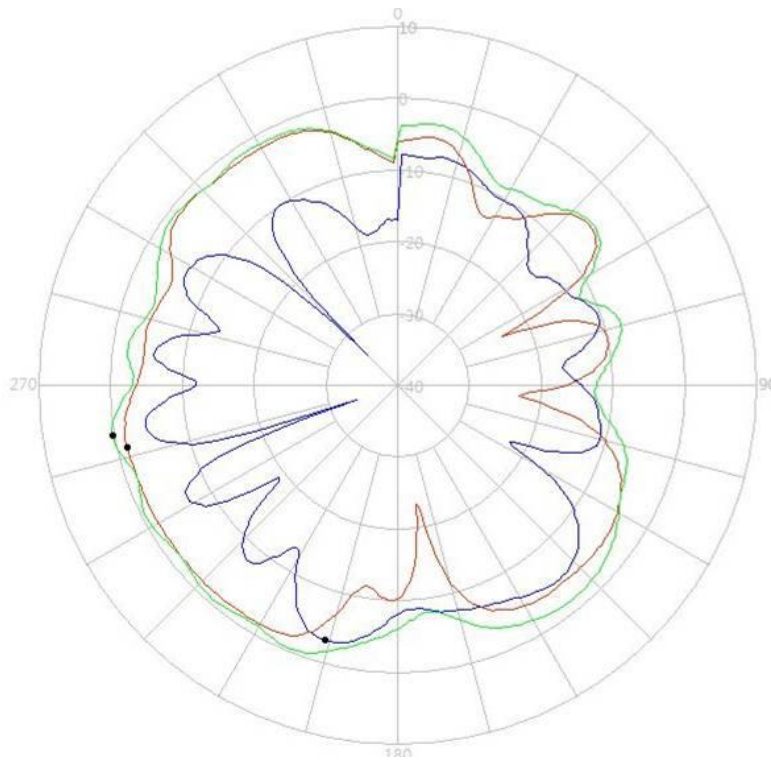
**Tx3 (or Rx3) antenna: 2501 MHz (Plot is not required if 3<sup>rd</sup> Antenna is receive only e.g. Rx3 for**





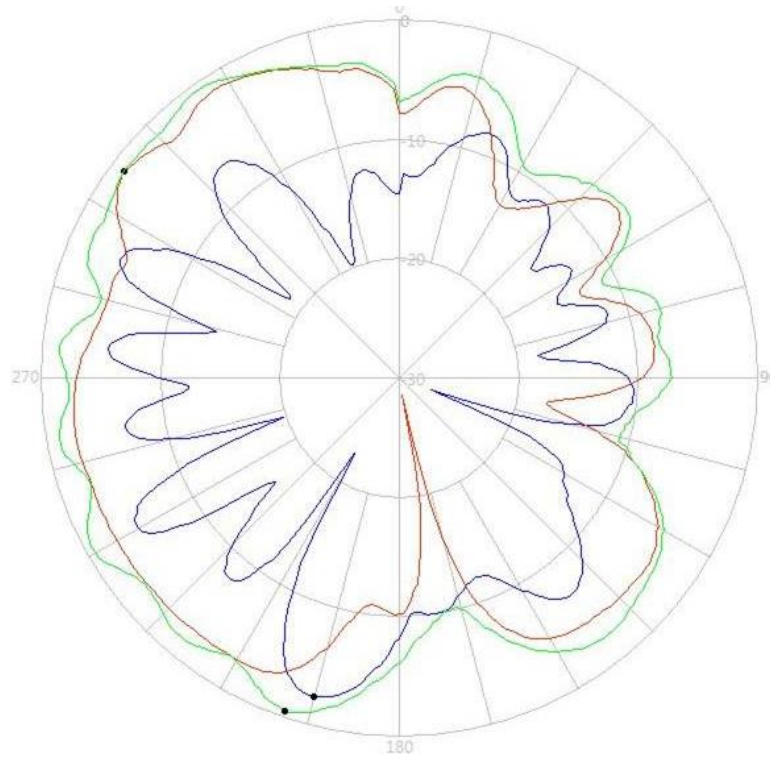
Tx3 (or Rx3) antenna: 2593MHz (Plot is not required if 3<sup>rd</sup> Antenna is receive only e.g. Rx3 for





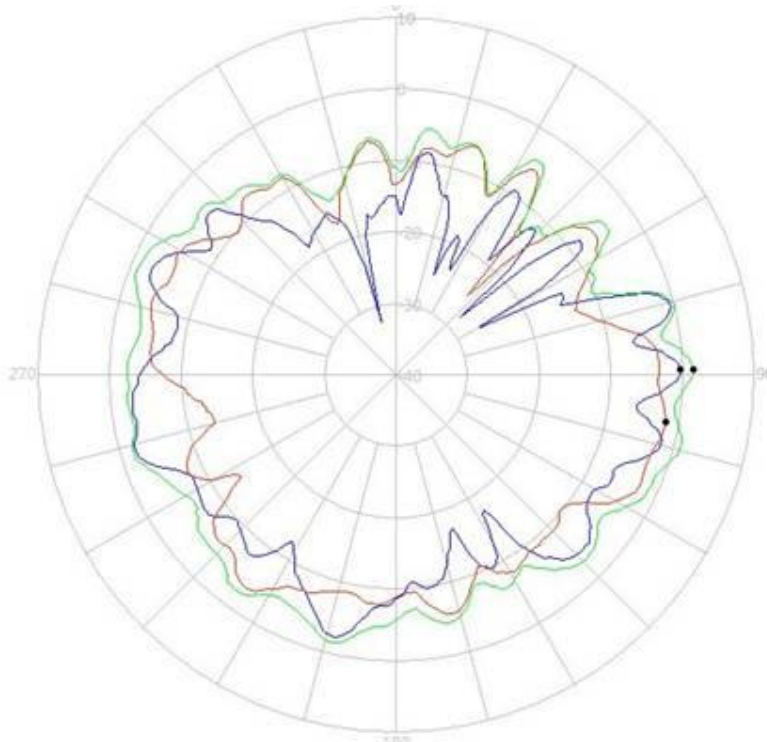
Center Frequency	<b>2593 MHz</b>
Horizontal (dBi) Peak	<b>-3.00</b>
Vertical (dBi) Peak	<b>-1.23</b>
H+V (dBi) Average	<b>-3.20</b>

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



[5150-5350 MHz radiation characteristic](#)

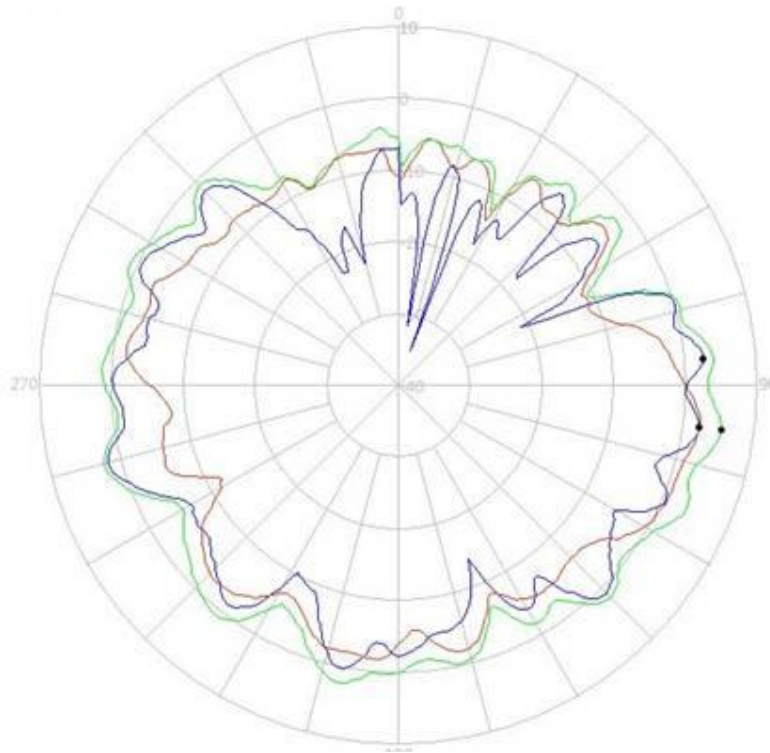
**Tx1 antenna: 5150 MHz**



— Vertical (5150 MHz)  
— Horizontal (5150 MHz)  
— Pol Sel (5150 MHz)

Center Frequency	<b>5150 MHz</b>
Horizontal (dBi) Peak	<b>-0.26</b>
Vertical (dBi) Peak	<b>-1.78</b>

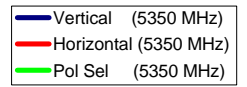
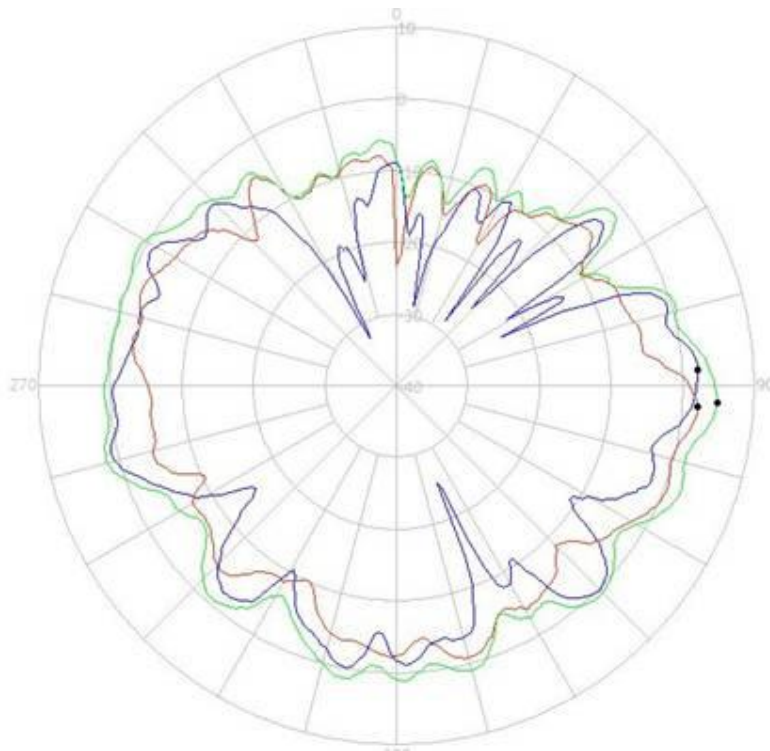
**Tx1 antenna: 5250 MHz**



Vertical (5250 MHz)
Horizontal (5250 MHz)
Pol Sel (5250 MHz)

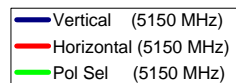
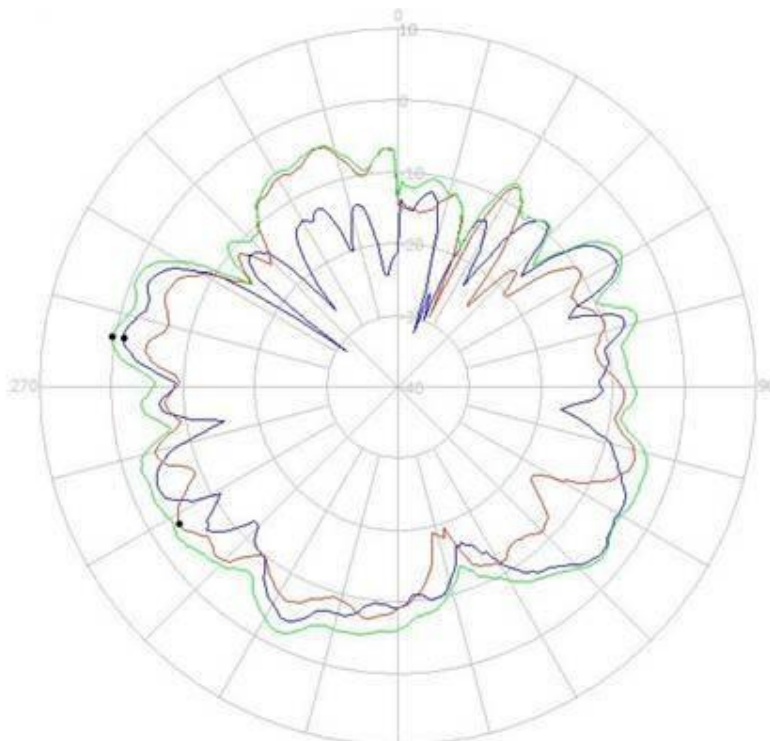
Center Frequency	<b>5250 MHz</b>
Horizontal (dBi) Peak	<b>2.65</b>
Vertical (dBi) Peak	<b>2.40</b>

**Tx1 antenna: 5350 MHz**



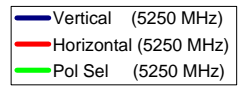
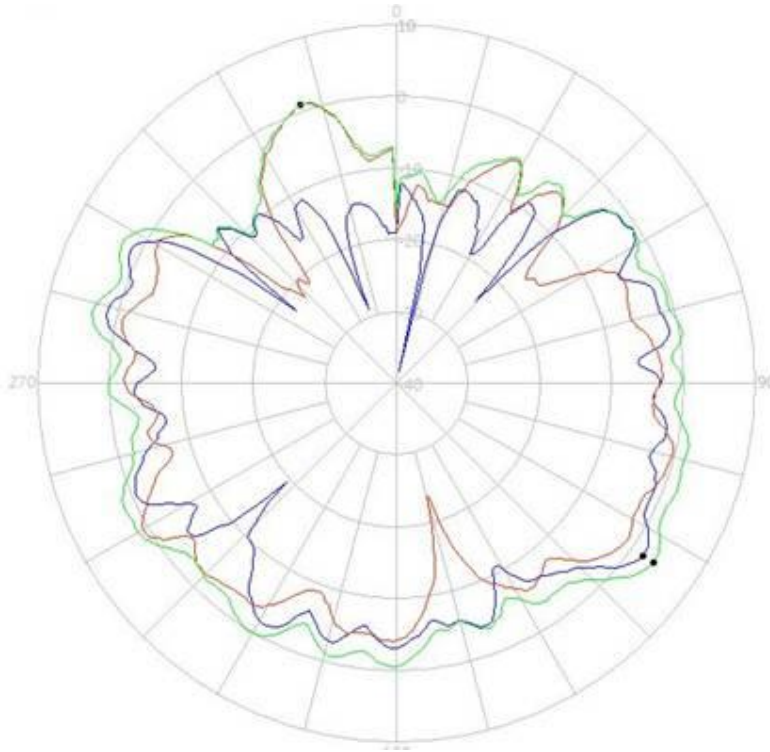
Center Frequency	<b>5350 MHz</b>
Horizontal (dBi) Peak	<b>2.22</b>
Vertical (dBi) Peak	<b>2.17</b>

**Tx2 (or Rx2) 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>-1.10</b>
Vertical (dBi) Peak	<b>-4.04</b>

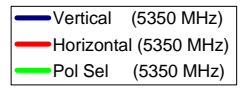
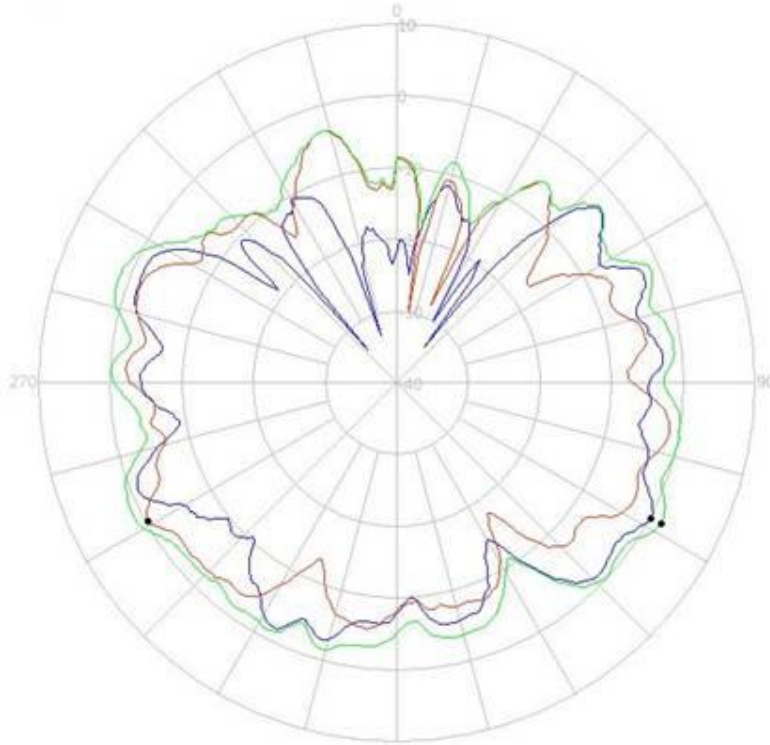
**Tx2 (or Rx2) antenna: 5250 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



Center Frequency	<b>5250 MHz</b>
Horizontal (dBi) Peak	<b>2.01</b>
Vertical (dBi) Peak	<b>1.04</b>



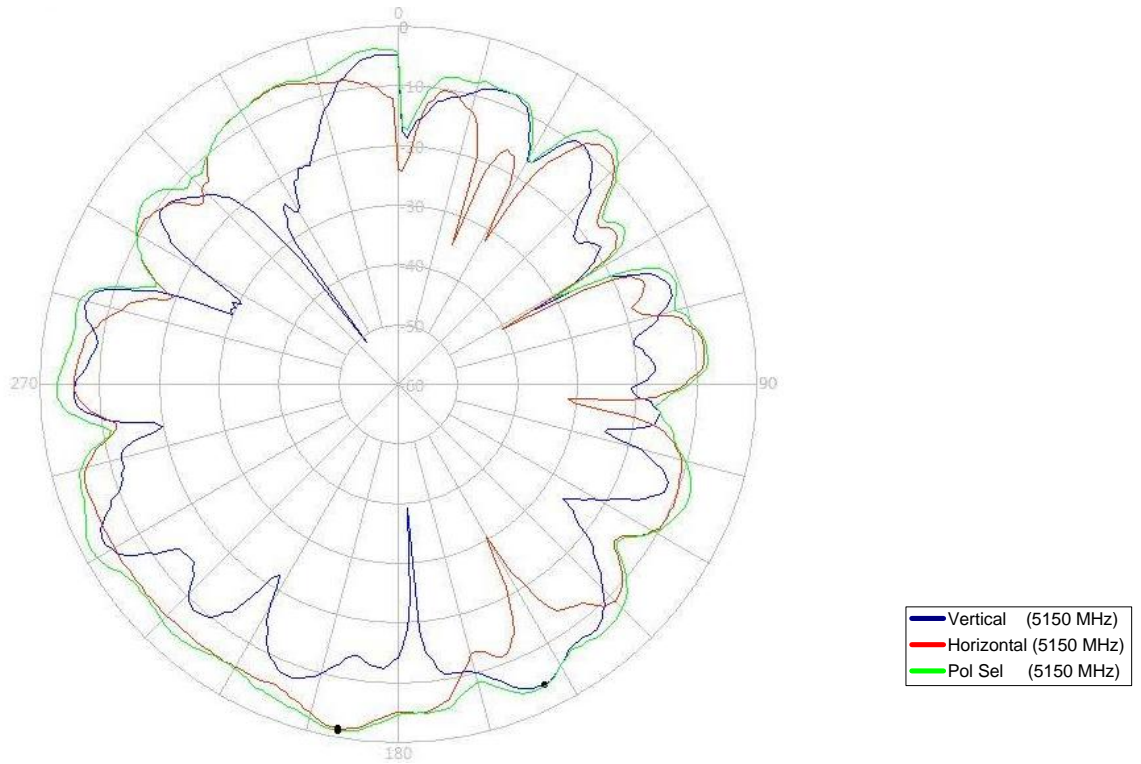
**Tx2 (or Rx2) antenna: 5350 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 f or 512 family)**



Center Frequency	<b>5350 MHz</b>
Horizontal (dBi) Peak	<b>0.25</b>
Vertical (dBi) Peak	<b>-0.33</b>

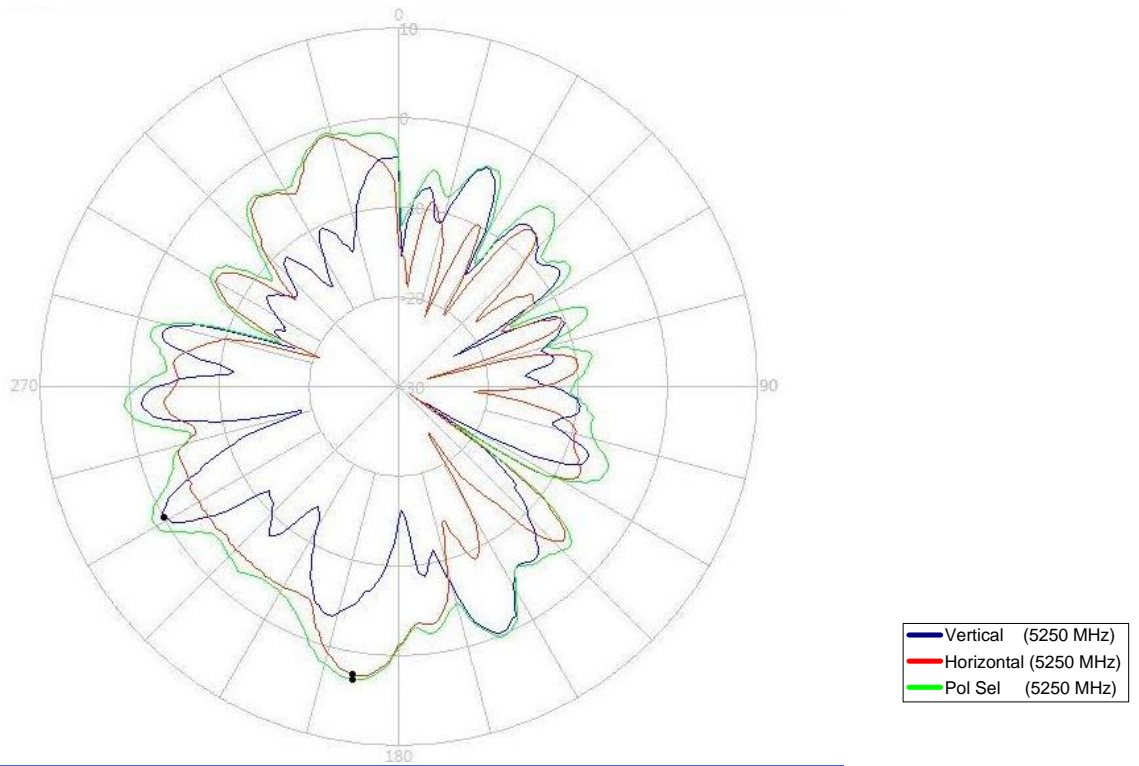


**Tx3 (or Rx3) antenna: 5150 MHz (Plot is not required if 3<sup>rd</sup> Antenna is receive only e.g. Rx3 for 4965AGN)**



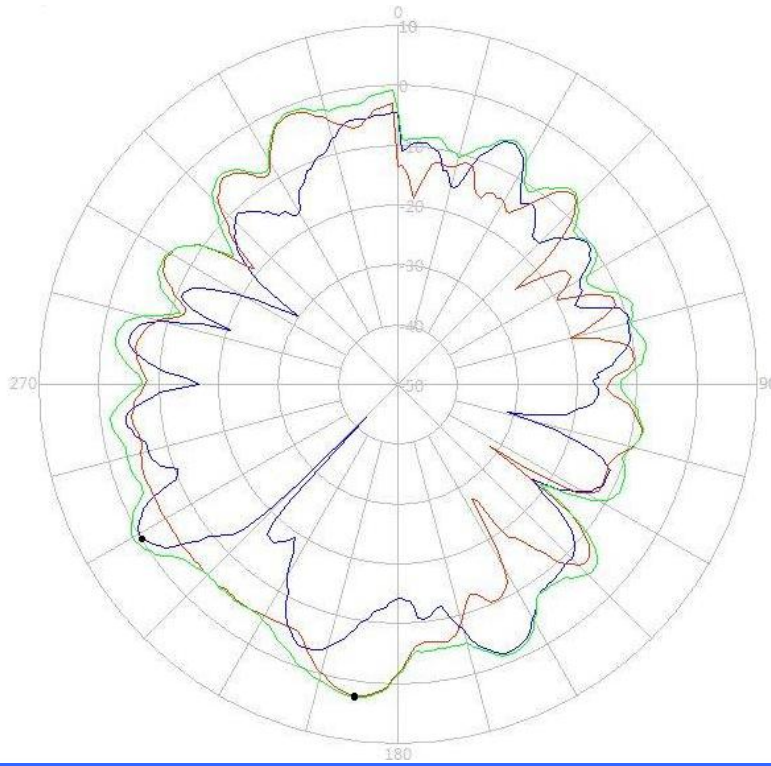
Center Frequency	<b>5150 MHz</b>
Horizontal (dBi) Peak	<b>-4.05</b>
Vertical (dBi) Peak	<b>-1.46</b>
H+V (dBi) Average	<b>-6.28</b>

**Tx3 (or Rx3) antenna: 5250 MHz (Plot is not required if 3<sup>rd</sup> Antenna is receive only e.g. Rx3 for 4965AGN)**



Center Frequency	<b>5250 MHz</b>
Horizontal (dBi) Peak	<b>-0.09</b>
Vertical (dBi) Peak	<b>2.52</b>
H+V (dBi) Average	<b>-3.43</b>

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



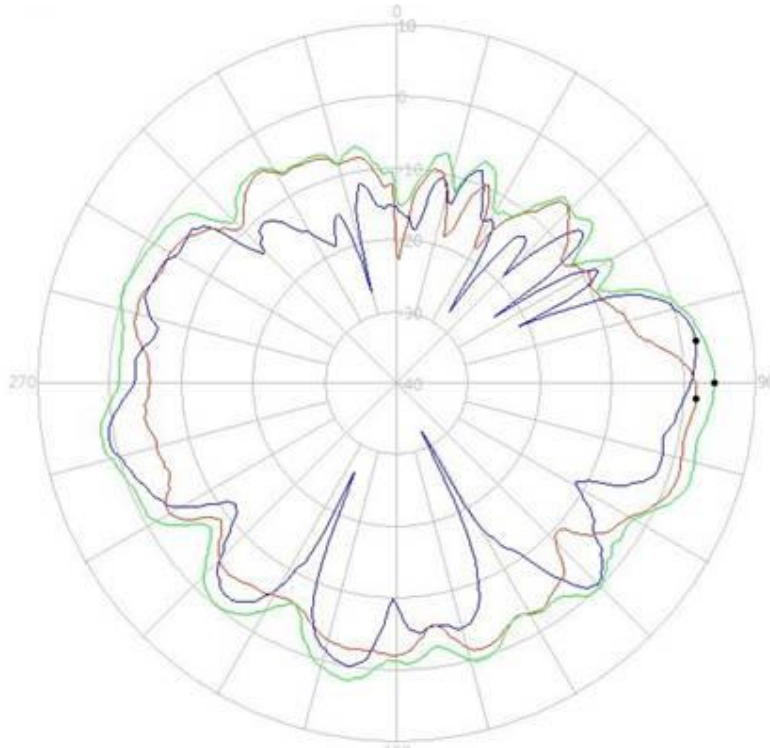
— Vertical (5350 MHz)  
— Horizontal (5350 MHz)  
— Pol Sel (5350 MHz)

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Center Frequency	<b>5350 MHz</b>
Horizontal (dBi) Peak	<b>0.00</b>
Vertical (dBi) Peak	<b>2.57</b>
H+V (dBi) Average	<b>-4.26</b>

5470-5725MHz radiation characteristic

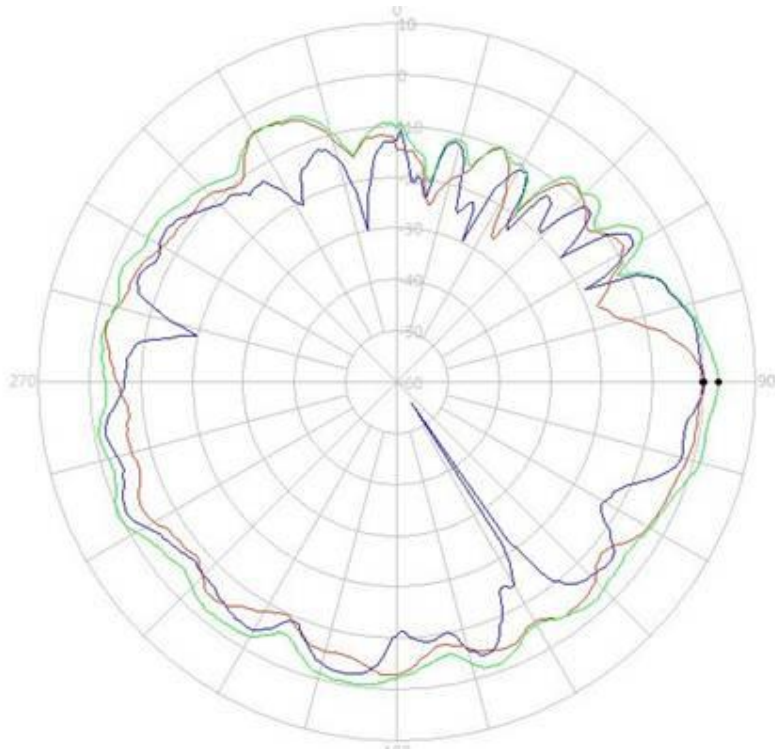
Tx1 antenna: 5470 MHz



Vertical (5470 MHz)
Horizontal (5470 MHz)
Pol Sel (5470 MHz)

Center Frequency	<b>5470 MHz</b>
Horizontal (dBi) Peak	<b>2.07</b>
Vertical (dBi) Peak	<b>1.82</b>

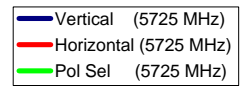
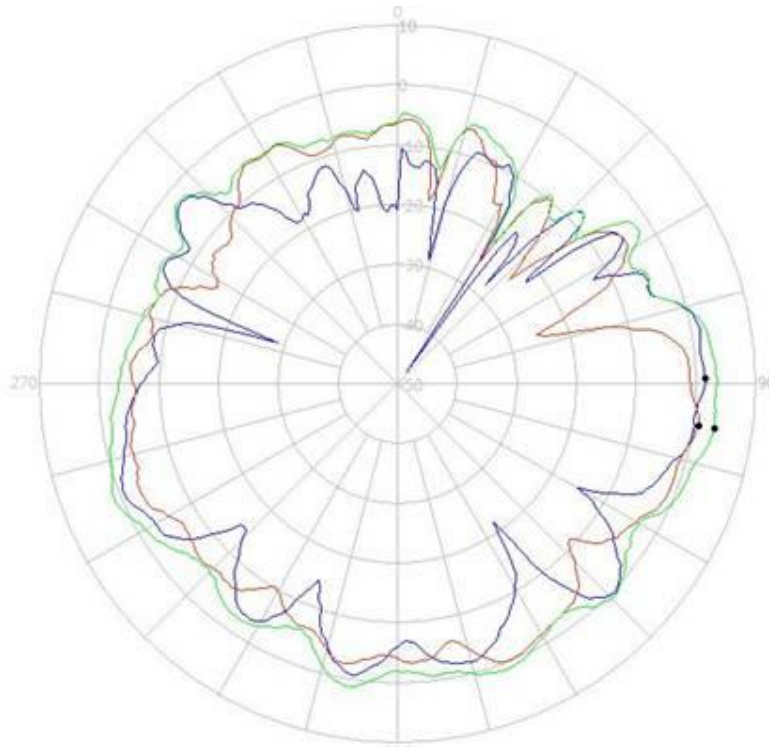
**Tx1 antenna: 5597.5 MHz**



Vertical (5597.5 MHz)
Horizontal (5597.5 MHz)
Pol Sel (5597.5 MHz)

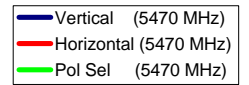
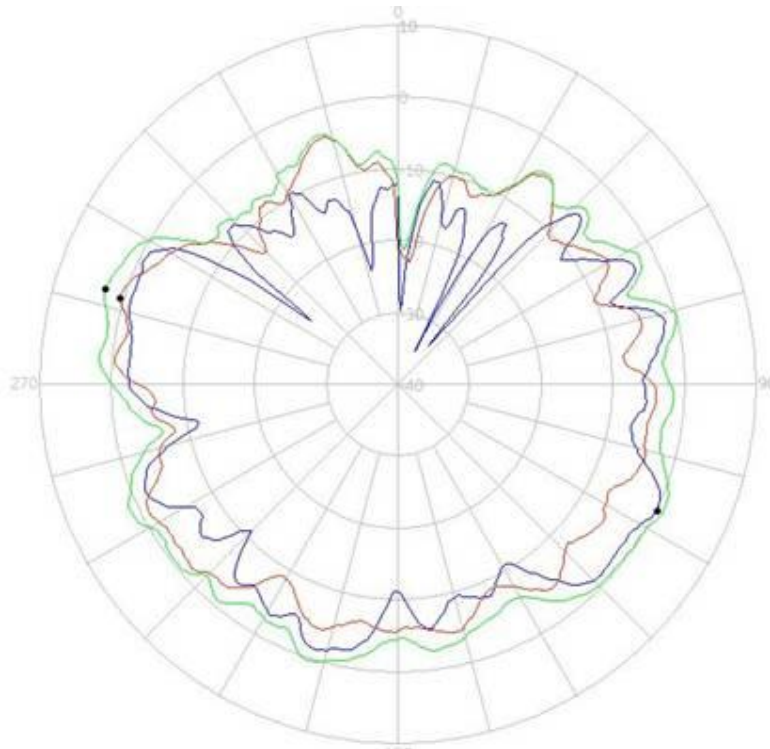
Center Frequency	<b>5597.5 MHz</b>
Horizontal (dBi) Peak	<b>-0.04</b>
Vertical (dBi) Peak	<b>-0.24</b>

**Tx1 antenna: 5725 MHz**



Center Frequency	<b>5725 MHz</b>
Horizontal (dBi) Peak	<b>1.57</b>
Vertical (dBi) Peak	<b>0.94</b>

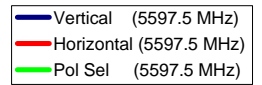
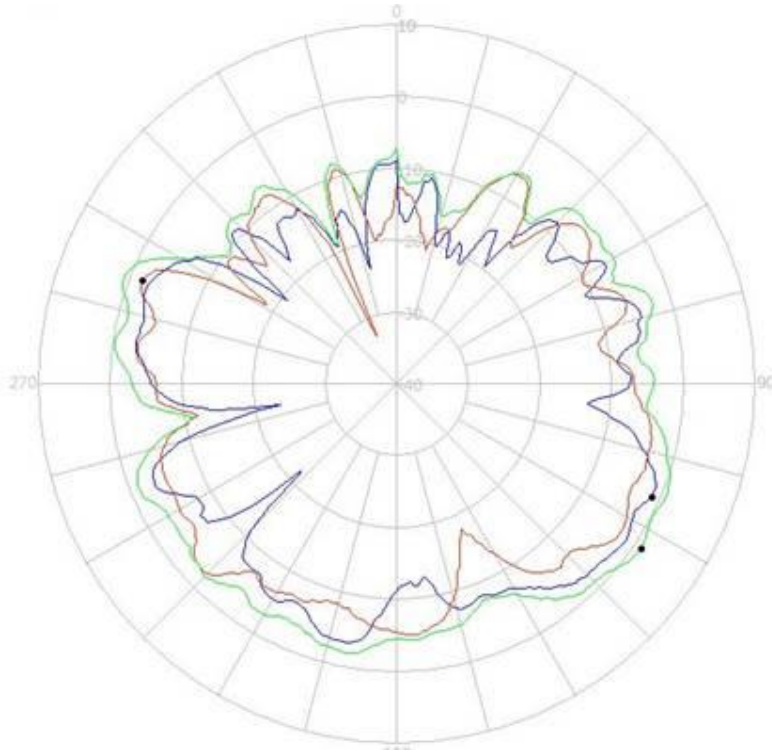
**Tx2 (or Rx2) antenna: 5470 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



Center Frequency	<b>5470 MHz</b>
Horizontal (dBi) Peak	<b>0.24</b>
Vertical (dBi) Peak	<b>0.55</b>



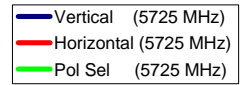
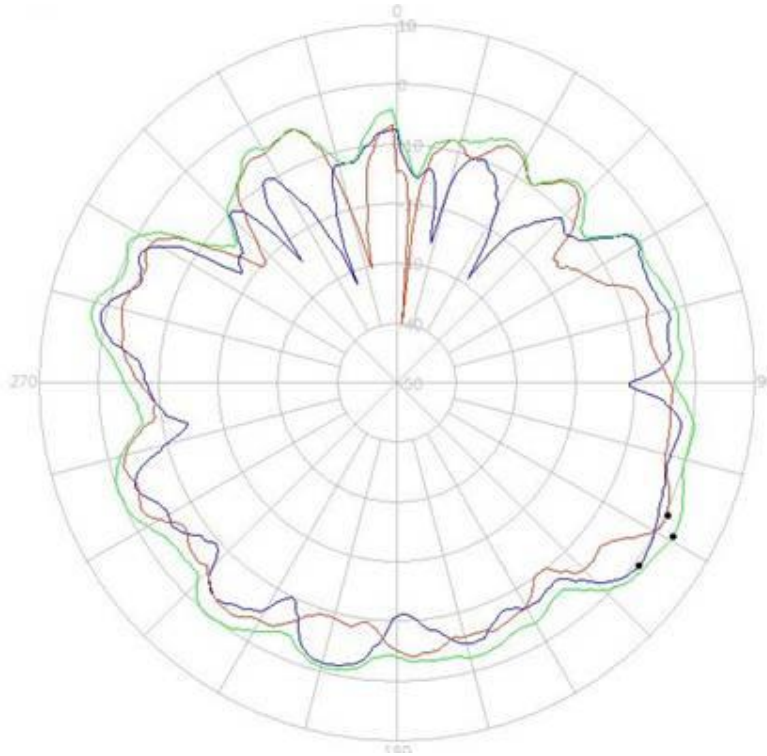
**Tx2 (or Rx2) antenna: 5597.5 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



Center Frequency	<b>5597.5 MHz</b>
Horizontal (dBi) Peak	<b>-1.02</b>
Vertical (dBi) Peak	<b>-1.73</b>

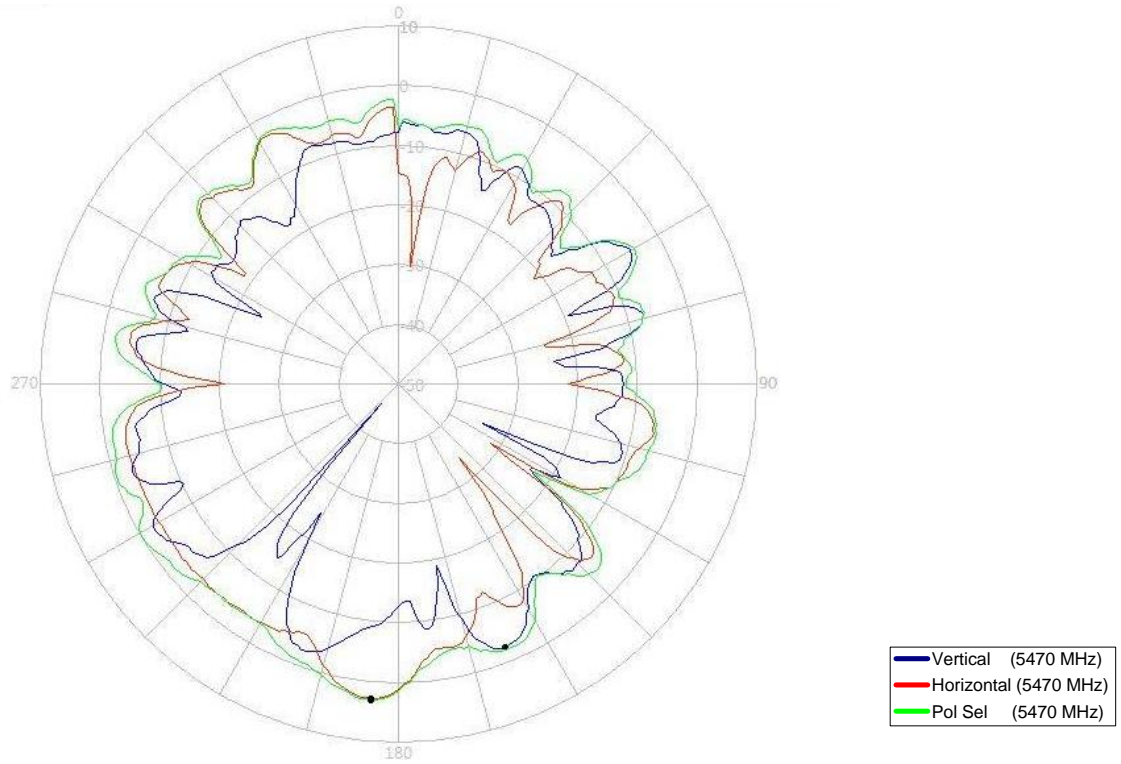


**Tx2 (or Rx2) antenna: 5725 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



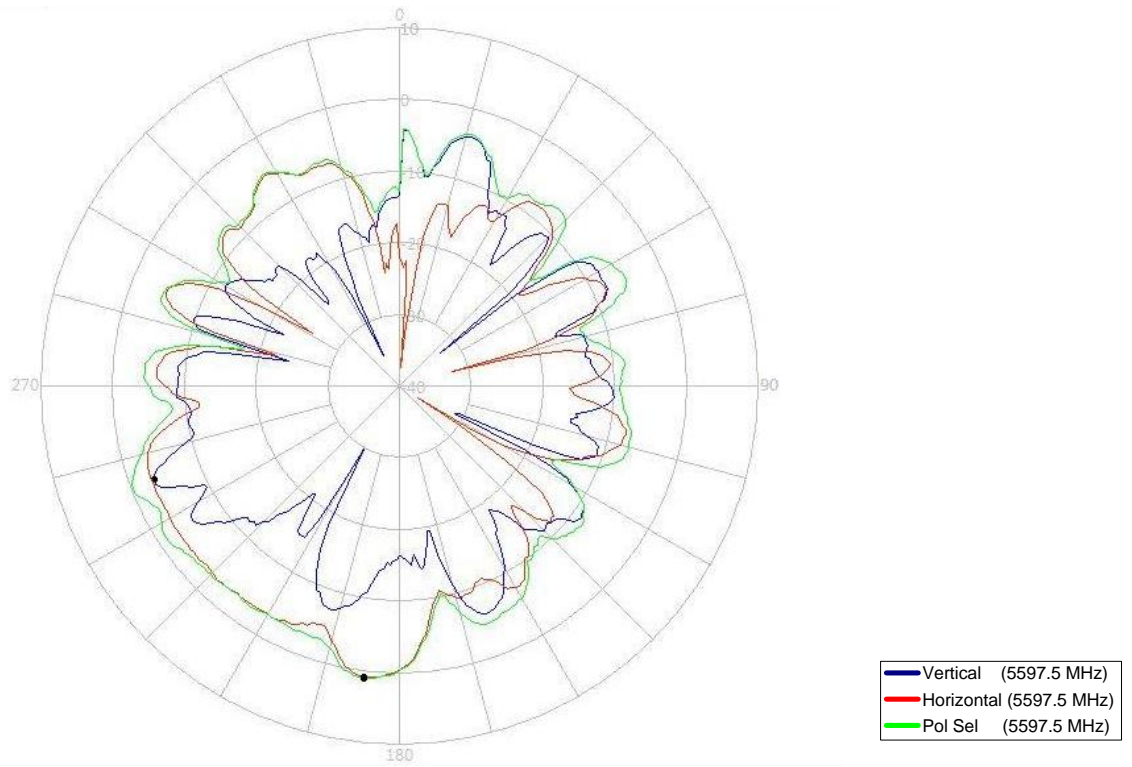
Center Frequency	<b>5725 MHz</b>
Horizontal (dBi) Peak	<b>0.93</b>
Vertical (dBi) Peak	<b>0.60</b>

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



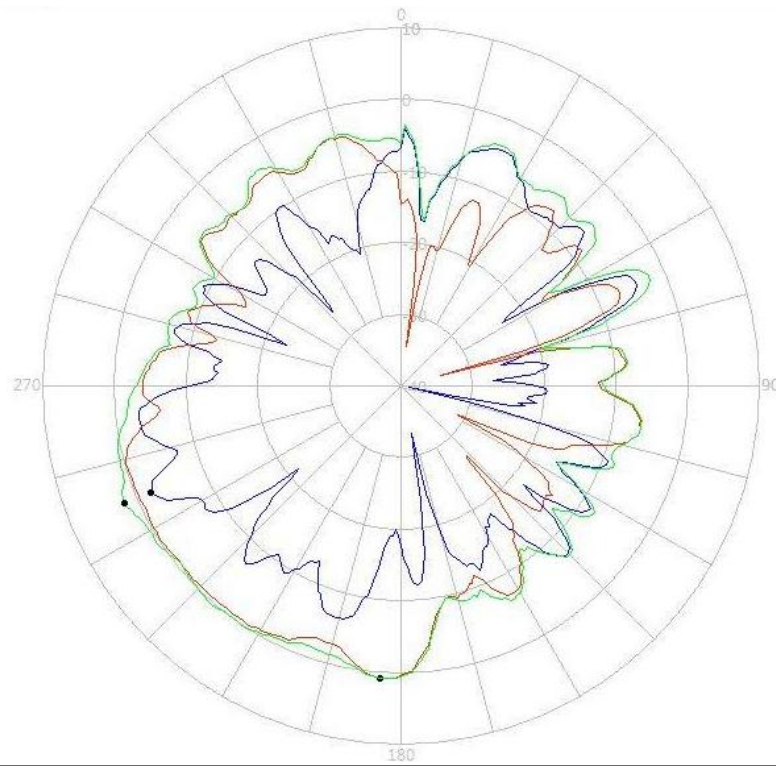
Center Frequency	<b>5470 MHz</b>
Horizontal (dBi) Peak	<b>-2.42</b>
Vertical (dBi) Peak	<b>2.94</b>
H+V (dBi) Average	<b>-3.98</b>

**Tx3 (or Rx3) 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>-3.33</b>
Vertical (dBi) Peak	<b>0.89</b>
H+V (dBi) Average	<b>-5.29</b>

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

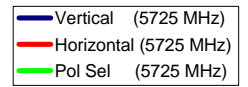
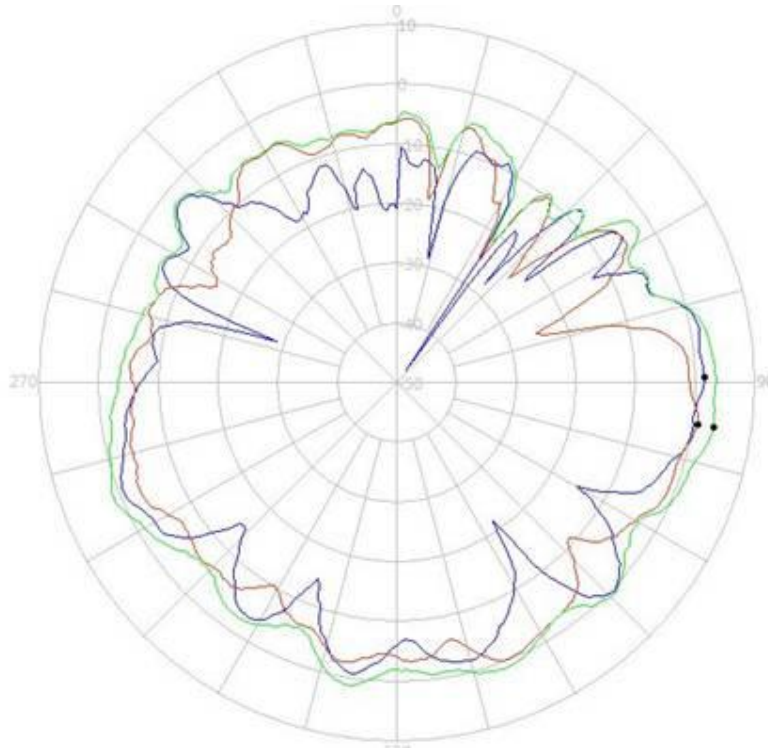


— Vertical (5725 MHz)  
— Horizontal (5725 MHz)  
— Pol Sel (5725 MHz)

Center Frequency	<b>5725 MHz</b>
Horizontal (dBi) Peak	<b>-2.05</b>
Vertical (dBi) Peak	<b>0.95</b>
H+V (dBi) Average	<b>-3.77</b>

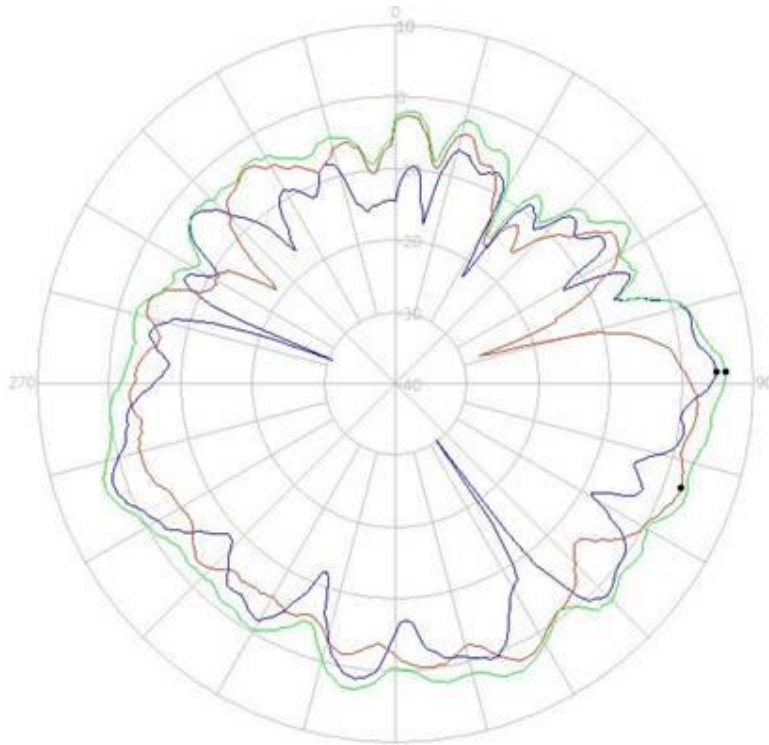
**5725-5850 MHz radiation characteristic**

**Tx1 antenna: 5725 MHz**



Center Frequency	<b>5725 MHz</b>
Horizontal (dBi) Peak	<b>1.57</b>
Vertical (dBi) Peak	<b>0.94</b>

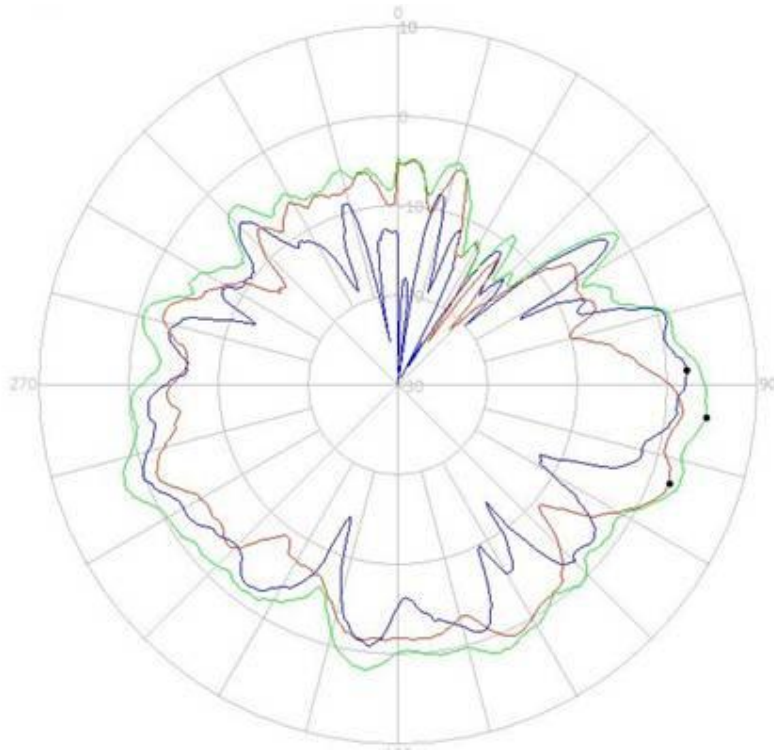
**Tx1 antenna: 5785 MHz**



Vertical (5787.5 MHz)
Horizontal (5787.5 MHz)
Pol Sel (5787.5 MHz)

Center Frequency	<b>5785 MHz</b>
Horizontal (dBi) Peak	<b>2.86</b>
Vertical (dBi) Peak	<b>0.49</b>

**Tx1 antenna: 5850 MHz**

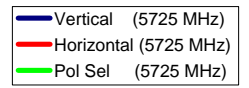
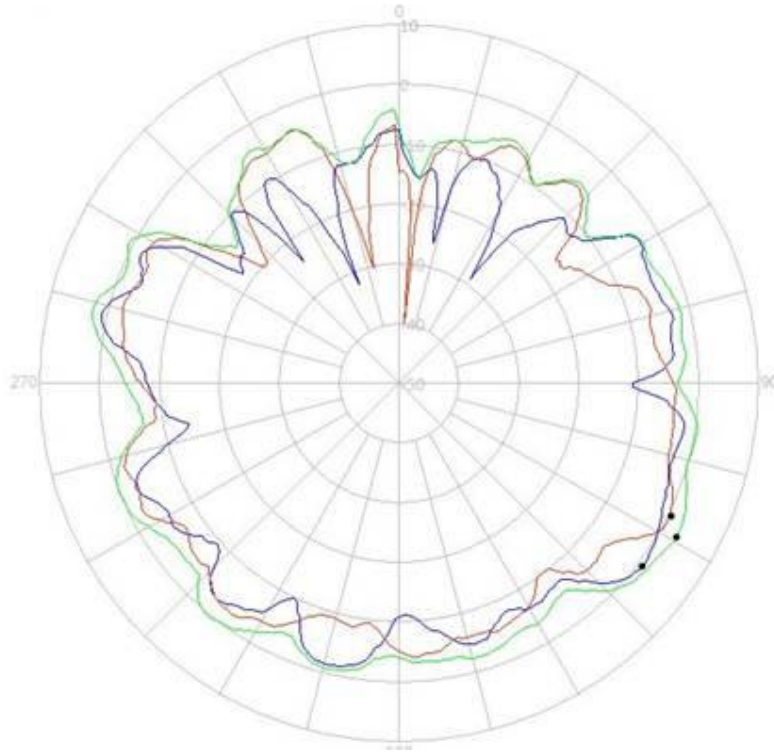


Vertical (5850 MHz)
Horizontal (5850 MHz)
Pol Sel (5850 MHz)

Center Frequency	<b>5850 MHz</b>
Horizontal (dBi) Peak	<b>2.21</b>
Vertical (dBi) Peak	<b>2.26</b>

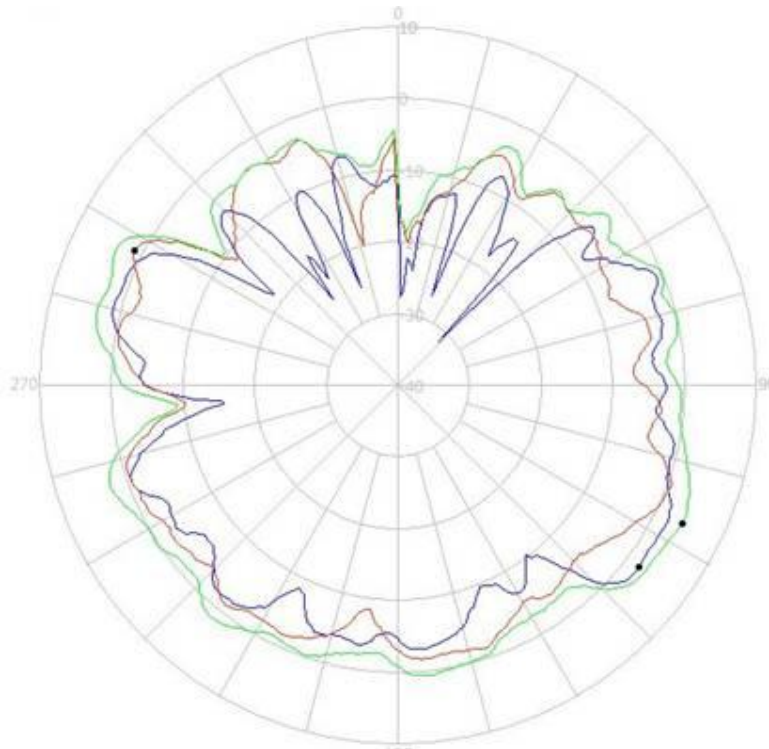


**Tx2 (or Rx2) antenna: 5725 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



Center Frequency	<b>5725 MHz</b>
Horizontal (dBi) Peak	<b>0.93</b>
Vertical (dBi) Peak	<b>0.60</b>

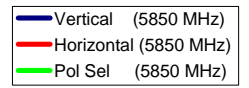
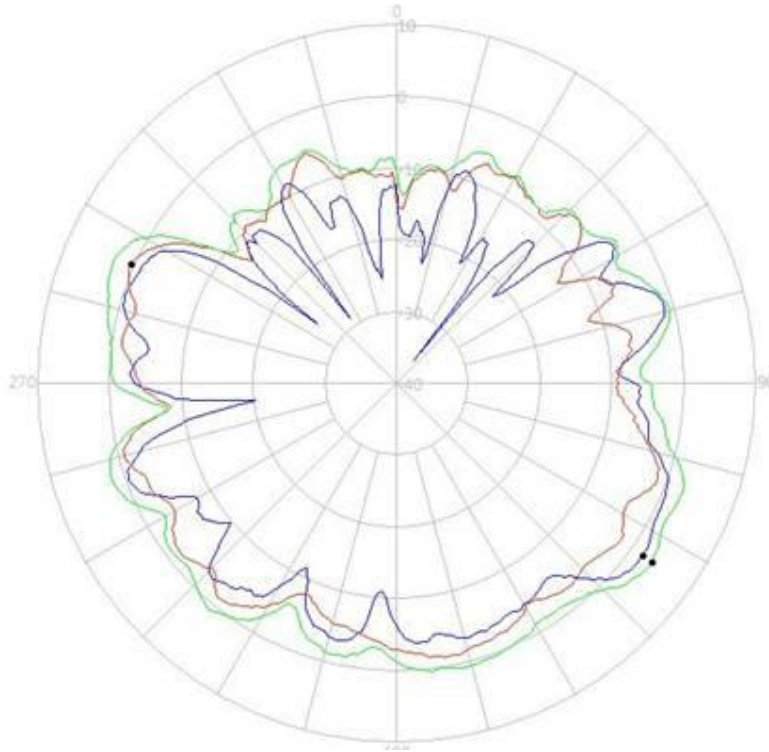
**Tx2 (or Rx2) antenna: 5785 MHz (Plot is not required if 2<sup>nd</sup> Antenna is receive only e.g. Rx2 for 512 family)**



- Vertical (5787.5 MHz)
- Horizontal (5787.5 MHz)
- Pol Sel (5787.5 MHz)

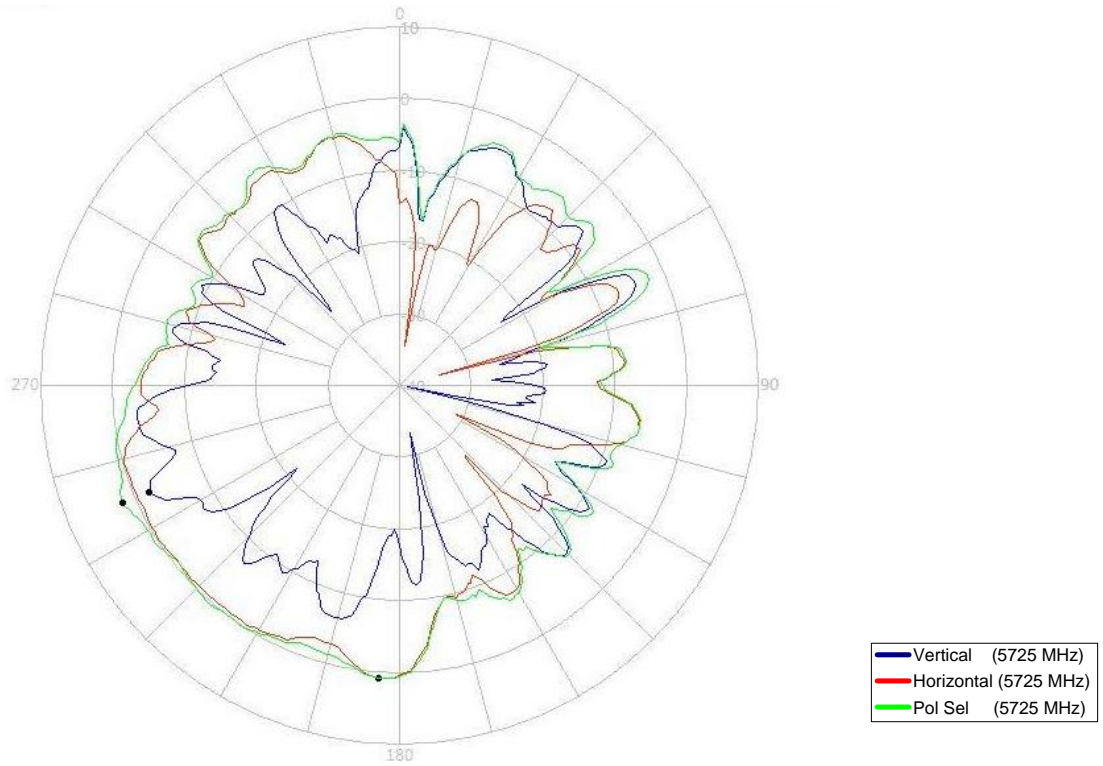
Center Frequency	<b>5785 MHz</b>
Horizontal (dBi) Peak	<b>2.23</b>
Vertical (dBi) Peak	<b>1.27</b>

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



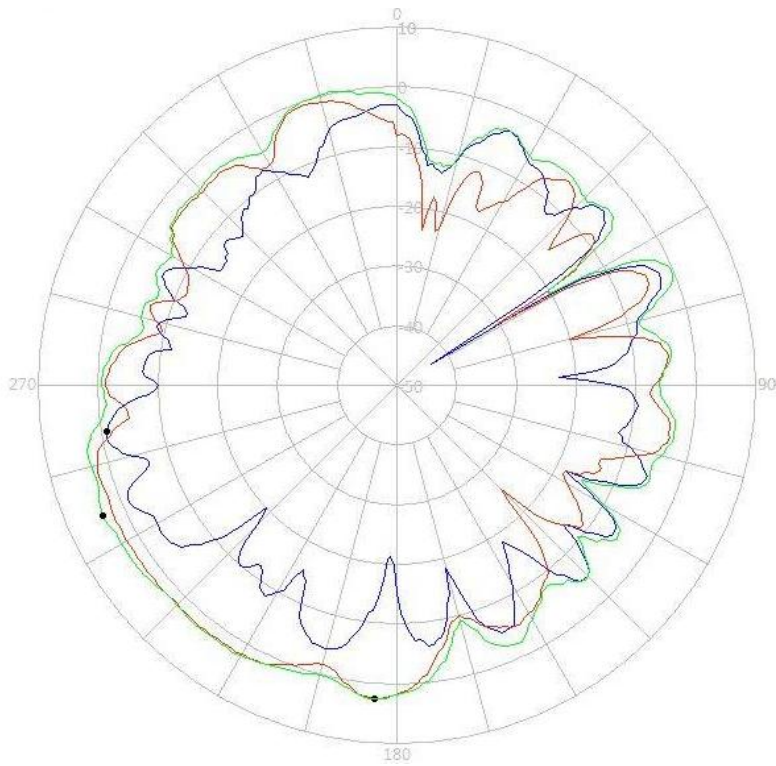
Center Frequency	<b>5850 MHz</b>
Horizontal (dBi) Peak	<b>1.89</b>
Vertical (dBi) Peak	<b>0.53</b>

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



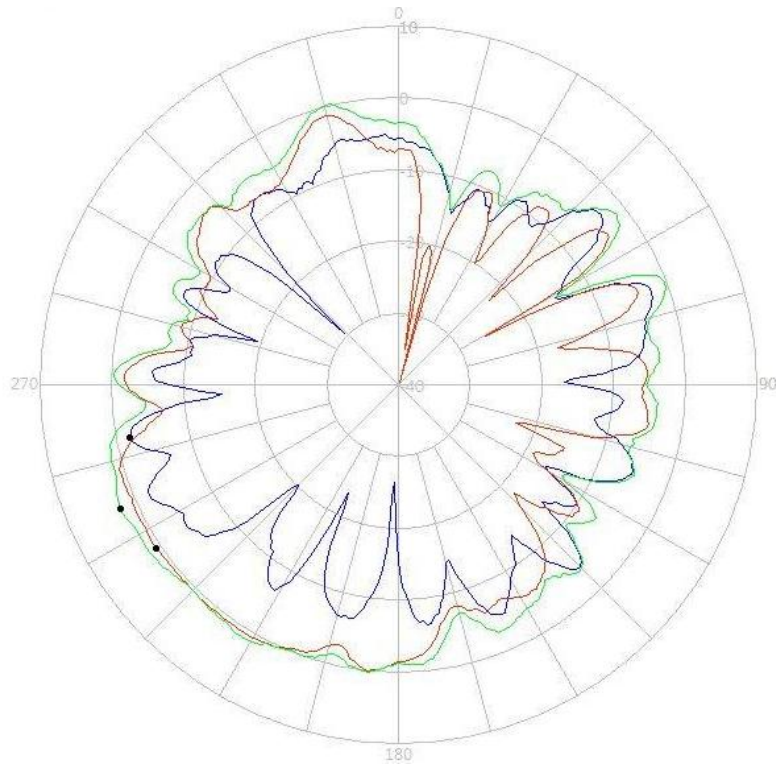
Center Frequency	<b>5725 MHz</b>
Horizontal (dBi) Peak	<b>-2.05</b>
Vertical (dBi) Peak	<b>0.95</b>
H+V (dBi) Average	<b>-3.77</b>

**Tx3 (or Rx3) 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>-0.76</b>
Vertical (dBi) Peak	<b>2.56</b>
H+V (dBi) Average	<b>-1.46</b>

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



Vertical (5850 MHz)
Horizontal (5850 MHz)
Pol Sel (5850 MHz)

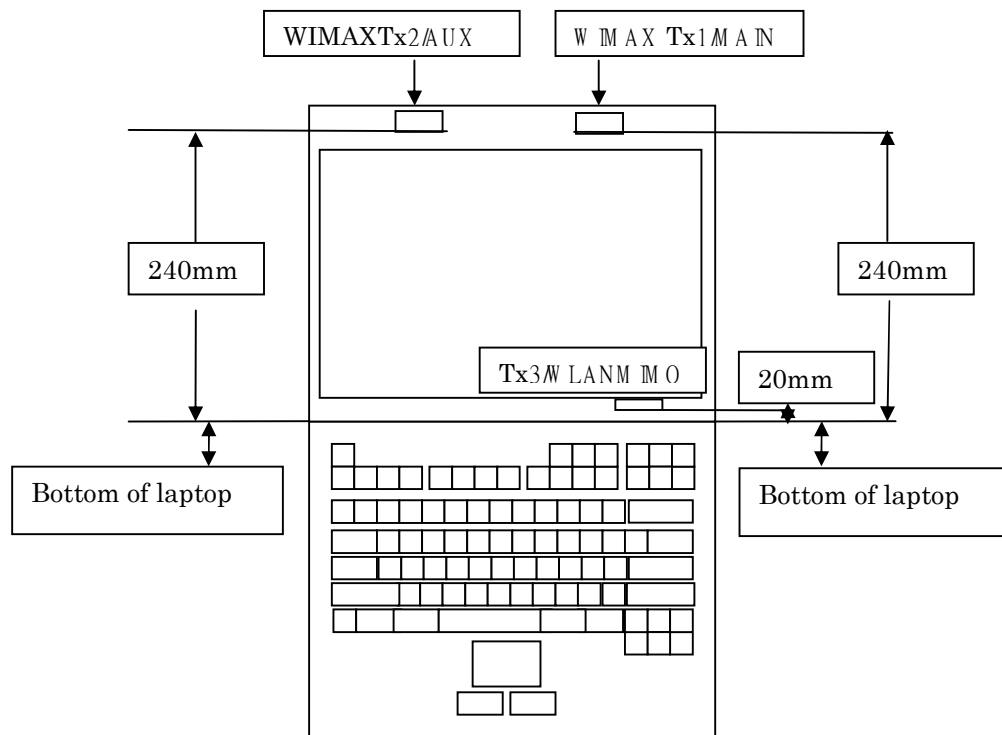
Center Frequency	<b>5850 MHz</b>
Horizontal (dBi) Peak	<b>-1.76</b>
Vertical (dBi) Peak	<b>0.80</b>
H+V (dBi) Average	<b>-2.48</b>

## Section 4. Host Platform Information

OEM / ODM Host platform: Blue Mountain(15.6 inch) platform correlated to antenna data  
Rating Label Photo:

## Section 5. Antenna Host Platform Location Information

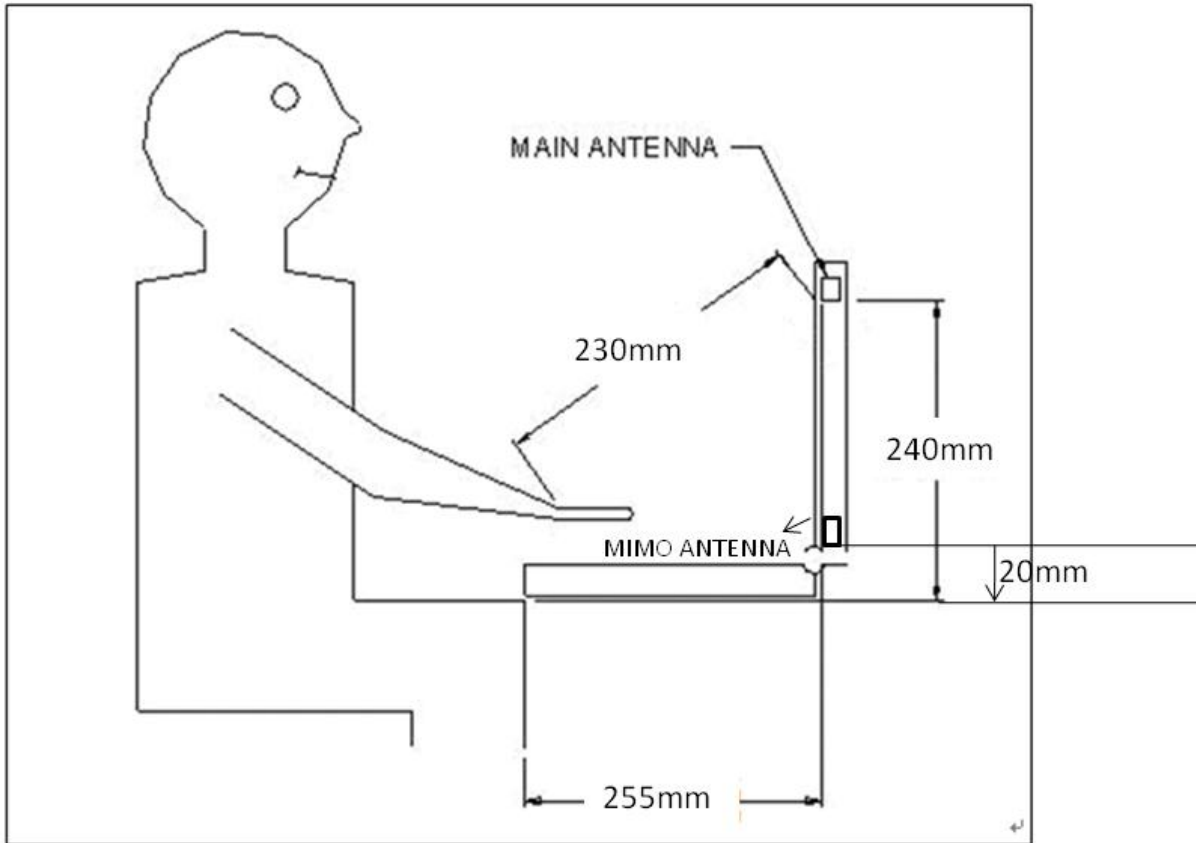
Include a **dimensioned photo or dimensioned drawing** of Tx1, Tx2 and Tx3 antenna placements (measurements are not required for receive-only antenna). Any antenna that transmits must show dimensions to bottom of laptop.





## Section 6. Antenna dimensional information for SAR evaluation

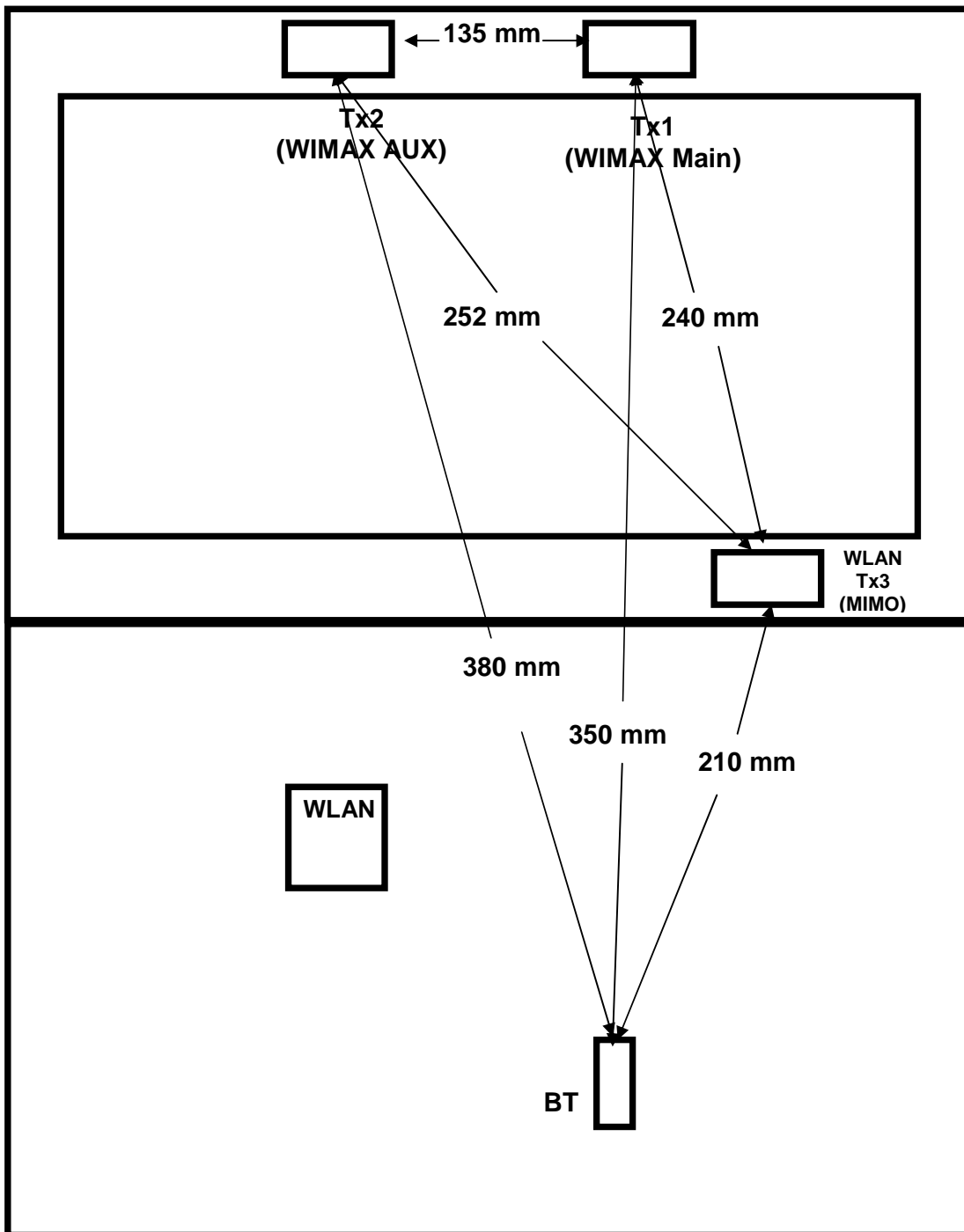
Include a **dimensioned photo or dimensioned drawing** showing the distance (mm) between the transmit antennas and the user (excluding hands, wrist, feet, lap/ thigh, and ankle)



## 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						