

# Regulatory WWAN Antenna Information

Platform information				
Brand	ODM	Platform model name	Platform type (ex: regular NB, convertible PC, AIO...etc)	SAR minimum separation (mm)
HP Inc.	Compal	McLaren (HSN-C11C)	Tablet	1.95mm (to rear side in TB mode)
Antenna information				Peak gain w/ cable loss (dBi)
Vendor	Type	Antenna Part number (TX1/Main)	Antenna Part number (Aux R2)	2500-2570MHz (Choice high peak gain)
INPAQ	PIFA	WA-P-LTE15-02-001 (DC330029D20)	WA-P-LTE15-02-002 (DC330029D30)	0.33
Module information				
Model	Form factor and suffixes ( NGW/ HMW AND AN/ NB/ BN....)			
Pandora	Fibocom lt4210 LTE/HSPA+ w/GPS Intel XMM 7360 LTE-Advanced (M.2)- L850-GL			

## 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

## Antenna Information

## Section 1. Antenna Assembly Specifications

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>Tx1 Antenna</b>  <b>WA-P-LTE15-02-001 (DC330029D20)</b>	INPAQ	PIFA	<b>50 ohm Coaxial.</b> <b>length: 20 mm</b> <b>diameter: 1.13 mm</b> <b>Connector: 20565-001R-13</b>	824-849MHz	824-849MHz	824-849MHz	824-849MHz
				<b>-1.58</b> dBi (peak)	<b>-1.55</b> dBi (peak)	<b>7.00</b> max	<b>0.03</b> dBi (peak)
				880-915MHz	880-915MHz	880-915MHz	880-915MHz
				<b>-1.39</b> dBi (peak)	<b>-1.36</b> dBi (peak)	<b>7.00</b> max	<b>0.03</b> dBi (peak)
				1710-1785MHz	1710-1785MHz	1710-1785MHz	1710-1785MHz
				<b>0.55</b> dBi (peak)	<b>0.60</b> dBi (peak)	<b>5.00</b> max	<b>0.05</b> dBi (peak)
				1850-1910MHz	1850-1910MHz	1850-1910MHz	1850-1910MHz
				<b>-0.73</b> dBi (peak)	<b>-0.68</b> dBi (peak)	<b>5.00</b> max	<b>0.05</b> dBi (peak)
				1920-1980MHz	1920-1980MHz	1920-1980MHz	1920-1980MHz
				<b>0.57</b> dBi (peak)	<b>0.62</b> dBi (peak)	<b>5.00</b> max	<b>0.05</b> dBi (peak)
				704-716MHz	704-716MHz	704-716MHz	704-716MHz
				<b>-2.06</b> dBi (peak)	<b>-2.03</b> dBi (peak)	<b>7.00</b> max	<b>0.03</b> dBi (peak)
				746-756MHz	777-787MHz	777-787MHz	777-787MHz
				<b>-1.17</b> dBi (peak)	<b>-1.14</b> dBi (peak)	<b>7.00</b> max	<b>0.03</b> dBi (peak)
777-787MHz	832-862MHz	832-862MHz	832-862MHz				
<b>-0.67</b> dBi (peak)	<b>-0.64</b> dBi (peak)	<b>7.00</b> max	<b>0.03</b> dBi (peak)				
<b>Rx2(Aux) Antenna</b>  <b>WA-P-LTE15-02-002 (DC330029D30)</b>	INPAQ	PIFA	<b>50 ohm Coaxial.</b> <b>length: 193 mm</b> <b>diameter: 1.13 mm</b> <b>Connector: 20565-001R-13</b>	832-862MHz	1710-1755MHz	1710-1755MHz	1710-1755MHz
				<b>-1.27</b> dBi (peak)	<b>-1.22</b> dBi (peak)	<b>5.00</b> max	<b>0.05</b> dBi (peak)
				1710-1755MHz	2500-2570MHz	2500-2570MHz	2500-2570MHz
				<b>0.55</b> dBi (peak)	<b>0.61</b> dBi (peak)	<b>4.00</b> max	<b>0.06</b> dBi (peak)
				2500-2570MHz	2305-2315MHz	2305-2315MHz	2305-2315MHz
				<b>0.50</b> dBi (peak)	<b>0.56</b> dBi (peak)	<b>4.00</b> max	<b>0.06</b> dBi (peak)
				2570-2620MHz	2570-2620MHz	2570-2620MHz	2570-2620MHz
				<b>-0.05</b> dBi (peak)	<b>0.01</b> dBi (peak)	<b>4.00</b> max	<b>0.06</b> dBi (peak)
				2300-2400MHz	2300-2400MHz	2300-2400MHz	2300-2400MHz
				<b>-0.16</b> dBi (peak)	<b>-0.10</b> dBi (peak)	<b>4.00</b> max	<b>0.06</b> dBi (peak)
				869-894MHz	869-894MHz	869-894MHz	869-894MHz
				<b>-7.25</b> dBi (peak)	<b>-6.92</b> dBi (peak)	<b>6.0</b> max	<b>0.33</b> dBi (peak)
				925-960MHz	925-960MHz	925-960MHz	925-960MHz
				<b>-8.49</b> dBi (peak)	<b>-8.11</b> dBi (peak)	<b>6.0</b> max	<b>0.38</b> dBi (peak)
1805-1880MHz	1805-1880MHz	1805-1880MHz	1805-1880MHz				
<b>-2.63</b> dBi (peak)	<b>-2.13</b> dBi (peak)	<b>5.0</b> max	<b>0.50</b> dBi (peak)				
1930-1990MHz	1930-1990MHz	1930-1990MHz	1930-1990MHz				
<b>-1.15</b> dBi (peak)	<b>-0.62</b> dBi (peak)	<b>5.0</b> max	<b>0.53</b> dBi (peak)				
2110-2170MHz	2110-2170MHz	2110-2170MHz	2110-2170MHz				
<b>-2.02</b> dBi (peak)	<b>-1.47</b> dBi (peak)	<b>5.0</b> max	<b>0.55</b> dBi (peak)				
734-746MHz	734-746MHz	734-746MHz	734-746MHz				
<b>-5.91</b> dBi (peak)	<b>-5.60</b> dBi (peak)	<b>6.0</b> max	<b>0.31</b> dBi (peak)				
746-756MHz	746-756MHz	746-756MHz	746-756MHz				
<b>-5.48</b> dBi (peak)	<b>-5.16</b> dBi (peak)	<b>6.0</b> max	<b>0.32</b> dBi (peak)				
791-821MHz	791-821MHz	791-821MHz	791-821MHz				

				<u>-5.98</u> dBi (peak)	<u>-5.65</u> dBi (peak)	<u>6.0</u> max	<u>0.33</u> dBi (peak)
				2132-2155MHz	2110-2155MHz	2110-2155MHz	2110-2155MHz
				<u>-1.97</u> dBi (peak)	<u>-1.42</u> dBi (peak)	<u>5.0</u> max	<u>0.55</u> dBi (peak)
				2620-2690MHz	2620-2690MHz	2620-2690MHz	2620-2690MHz
				<u>-5.73</u> dBi (peak)	<u>-5.11</u> dBi (peak)	<u>4.0</u> max	<u>0.62</u> dBi (peak)
				2570-2620MHz	2570-2620MHz	2570-2620MHz	2570-2620MHz
				<u>-3.49</u> dBi (peak)	<u>-2.88</u> dBi (peak)	<u>4.0</u> max	<u>0.61</u> dBi (peak)
				2300-2400MHz	2300-2400MHz	2300-2400MHz	2300-2400MHz
				<u>0.73</u> dBi (peak)	<u>1.31</u> dBi (peak)	<u>4.0</u> max	<u>0.58</u> dBi (peak)

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

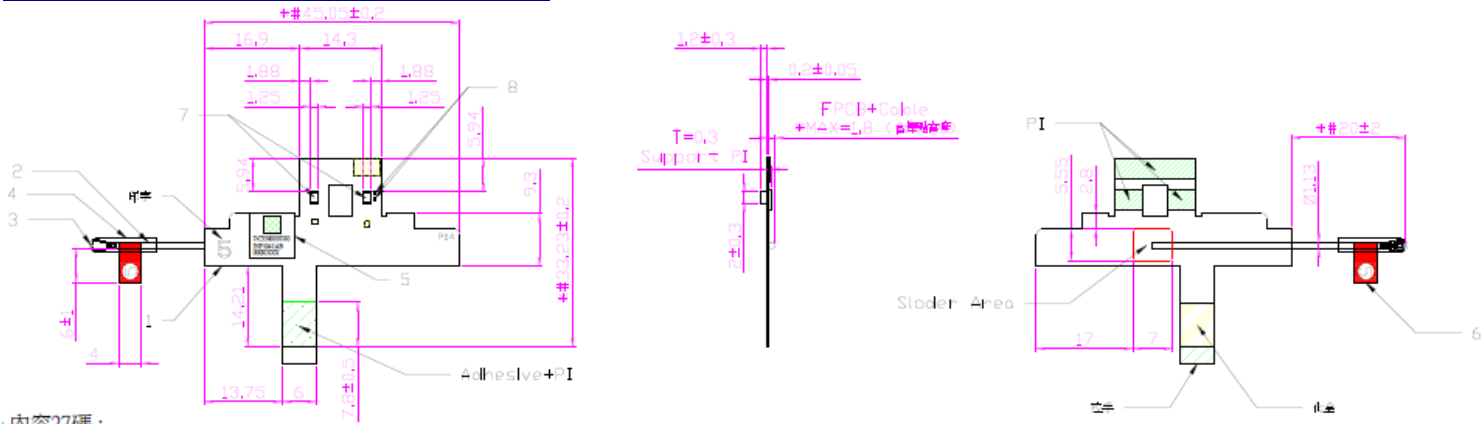
**Antenna Peak Gain Table:**

Main antenna			Aux antenna		
Frequency (MHz)	Horizontal (dBi)	Vertical (dBi)	Frequency (MHz)	Horizontal (dBi)	Vertical (dBi)
824	-3.42	-2.07	869	-7.88	-7.25
836	-3.25	-1.87	880	-8.35	-7.9
849	-2.91	-1.58	894	-8.44	-8.68
880	-3.6	-1.39	925	-8.49	-9.33
894	-4.18	-1.8	940	-8.84	-9.13
915	-5.43	-2.93	960	-9.15	-9.44
1710	-0.29	0.55	1805	-4.44	-2.69
1750	-0.96	0.09	1840	-4.72	-2.85
1785	-3.13	-1.67	1880	-4.69	-2.63
1850	-2.47	-1.27	1930	-4.75	-1.97
1880	-2.99	-1.22	1960	-4.63	-1.15
1910	-3.41	-0.73	1990	-4.57	-1.94
1920	-3.38	-0.38	2110	-2.69	-2.27
1950	-3.02	0.57	2140	-2.02	-2.27
1980	-2.77	0.5	2170	-2.17	-2.77
704	-2.25	-4.69	734	-5.91	-10.18
710	-2.16	-4.17	740	-6.21	-10.13
716	-2.06	-3.71	746	-6.13	-10.28
746	-1.66	-2.04	751	-5.79	-10.42
751	-1.45	-1.72	756	-5.48	-10.37
756	-1.17	-1.39	791	-6.28	-8.04
777	-1.02	-0.67	806	-6.74	-6.93
782	-1.31	-0.74	821	-6.3	-5.98
787	-1.69	-0.92	2132	-2.14	-2.21
832	-3.32	-1.92	2155	-1.97	-2.47
847	-2.99	-1.64	2620	-5.73	-5.98
862	-2.9	-1.27	2655	-7.16	-9.37
1710	-0.29	0.55	2690	-7.55	-9.67
1732	-0.35	0.49	2570	-3.81	-3.49
1755	-1.28	-0.14	2595	-4.46	-4.45
2500	0.5	0.35	2620	-5.73	-5.98
2535	-0.61	-0.31	2300	0.23	0.73
2570	-1.24	-0.58	2350	0.29	0.15
2595	-0.05	-1.64	2400	-2.44	-0.46
2620	-0.61	-0.31			
2300	-1.24	-0.58			
2350	-1.30	-0.60			
2400	-1.50	-0.16			

## Section 2. Dimensioned Photos or Drawings of Antennas

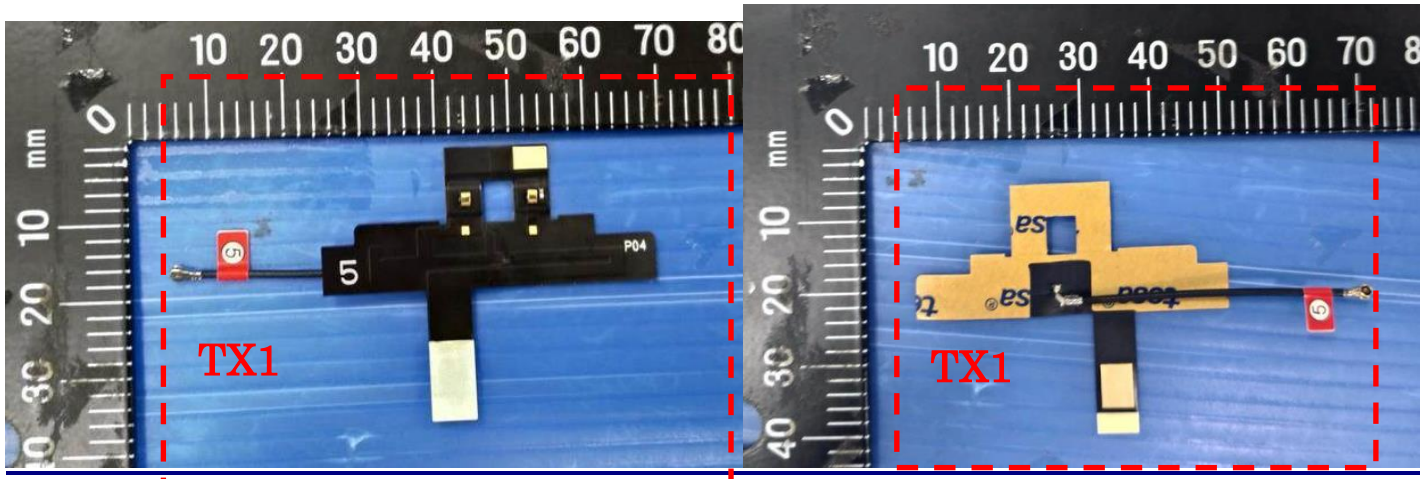
Include a dimensioned photo and dimensioned drawing of Tx1 antenna here.

### Tx1 Antenna Dimensioned Drawing:



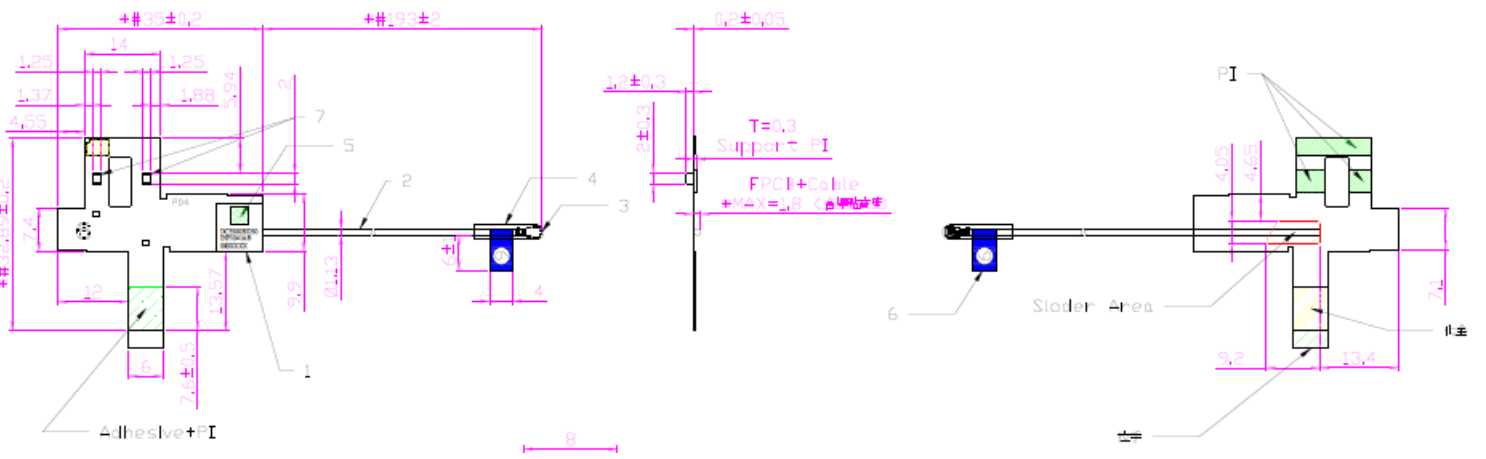
内容27碼:

### Tx1 Antenna Photo:

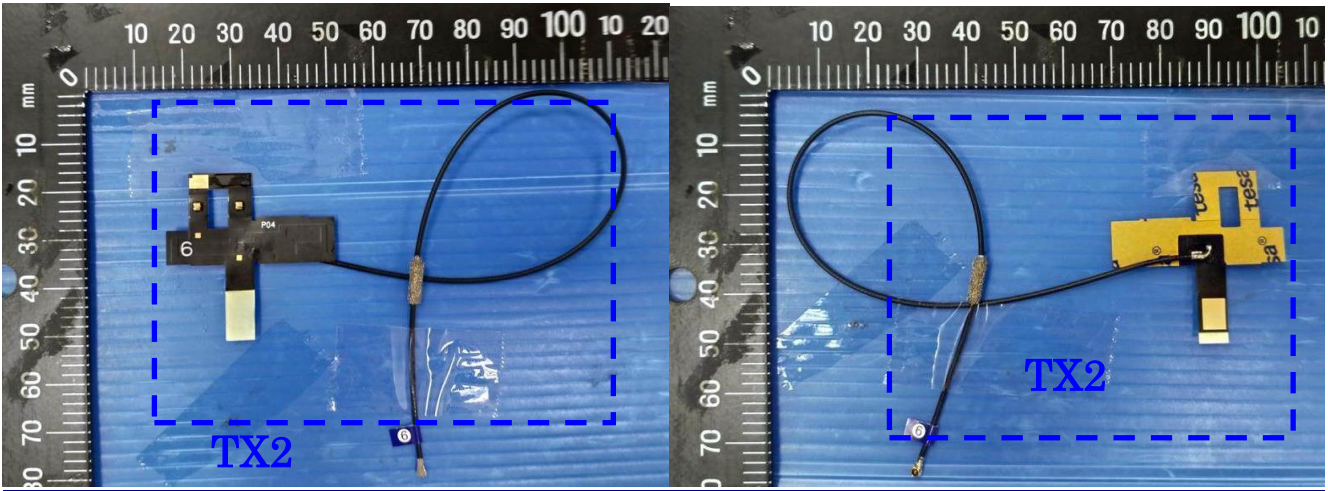


Include a dimensioned photo and dimensioned drawing of Tx2 (or Rx2) antenna here.

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



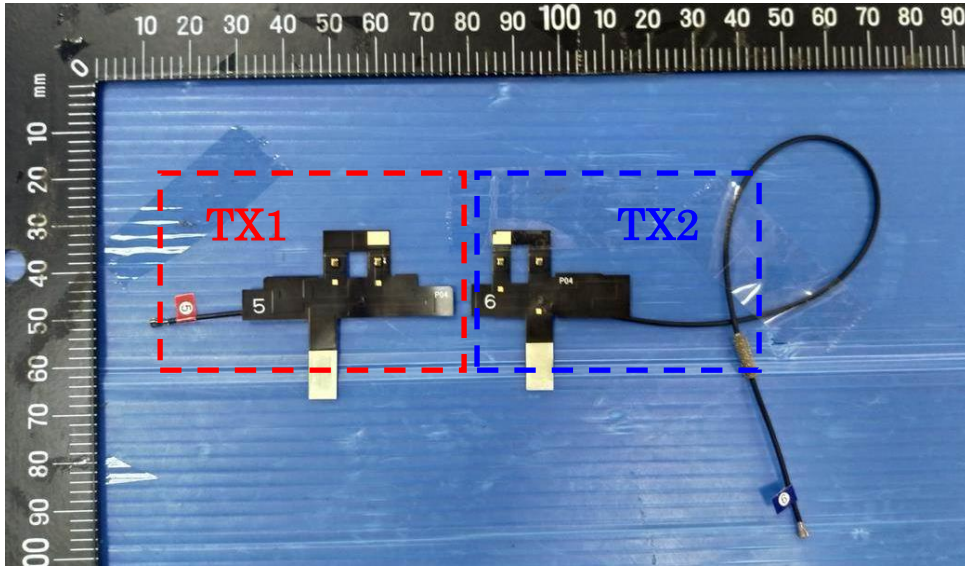
**Tx2 (or Rx2) Antenna Photo:**





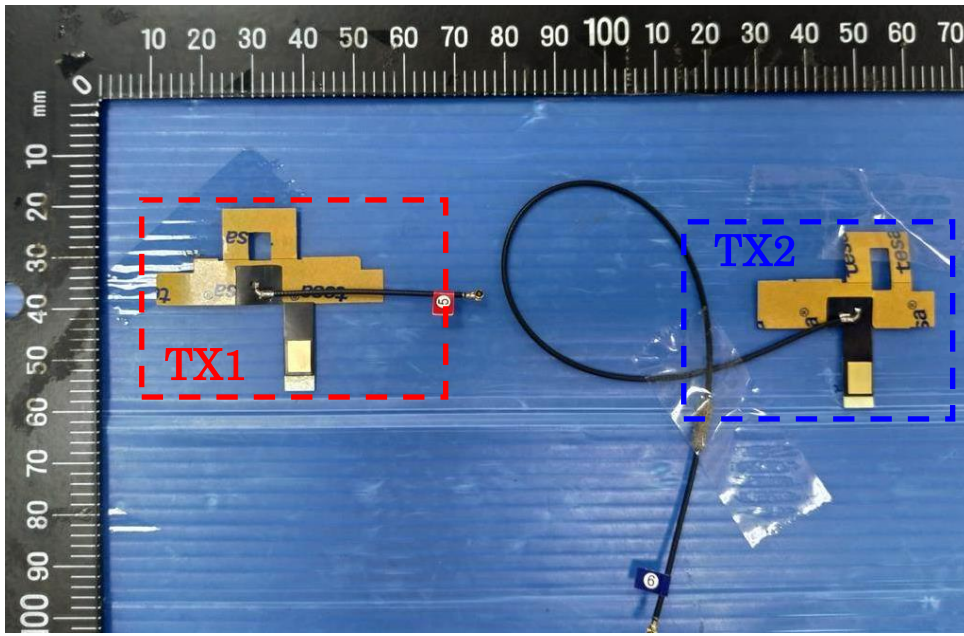
Include front view photo of all 2 antennas here.

Antenna Manufacturer: INPAQ Technology Corporation  
Antenna Part Number: WA-P-LTE15-02-001 (DC330029D20)(Tx1), WA-P-LTE15-02-002 (DC330029D30) (Tx2 or Rx2)



Include back view photo of all 3 antennas here.

Antenna Manufacturer: INPAQ Technology Corporation  
Antenna Part Number: WA-P-LTE15-02-001 (DC330029D20)(Tx1), WA-P-LTE15-02-002 (DC330029D30) (Tx2 or Rx2)

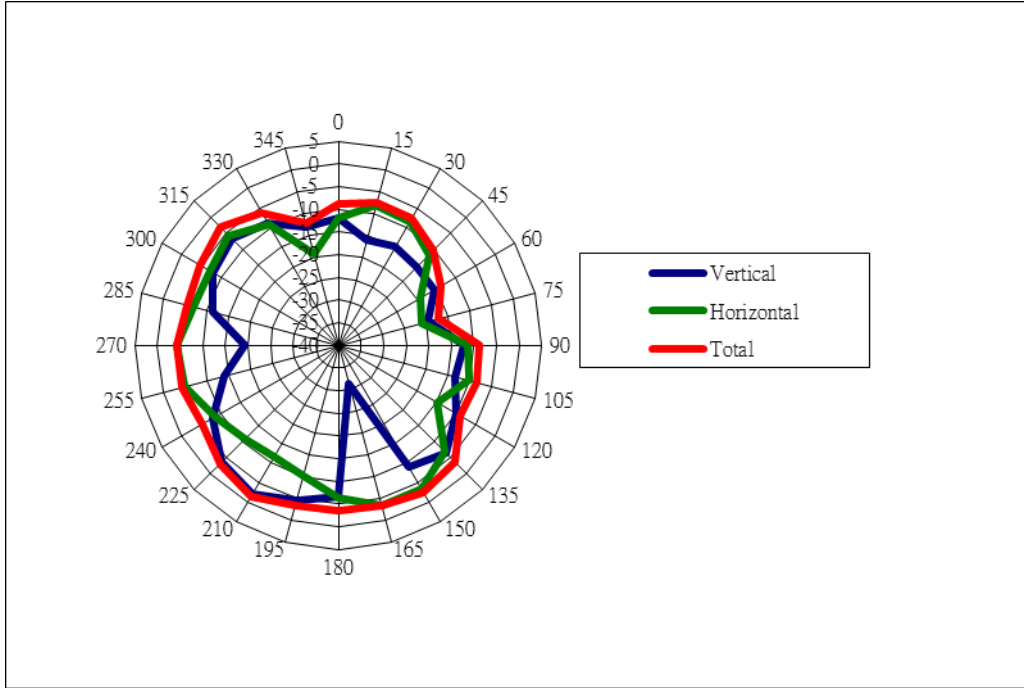




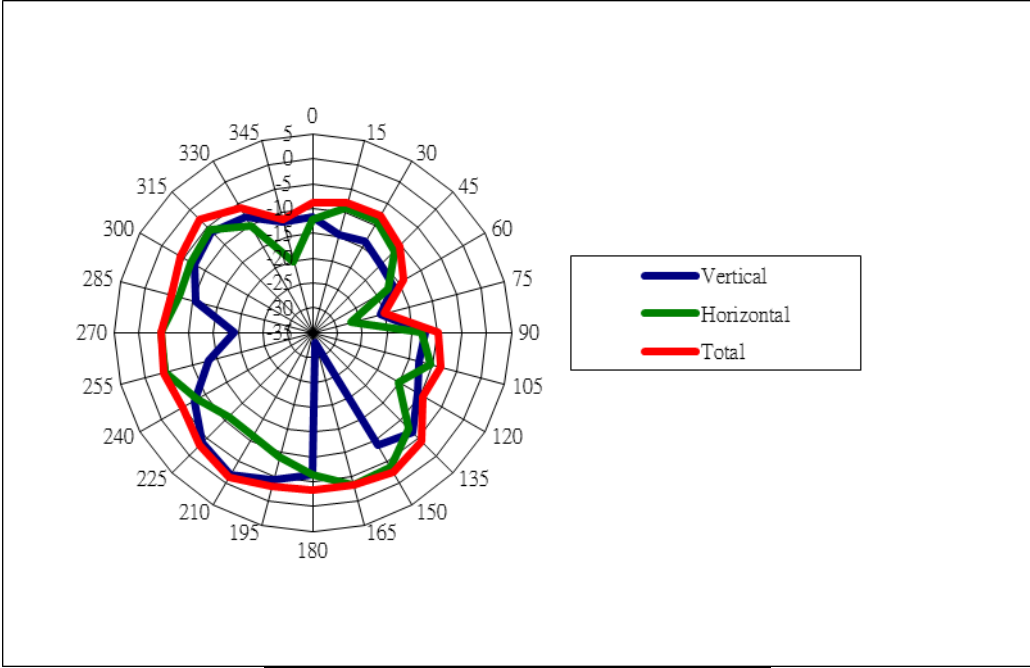
**Section3. Radiation characteristics of antennae Loaded in Host Platform**

824-849MHz radiation characteristic

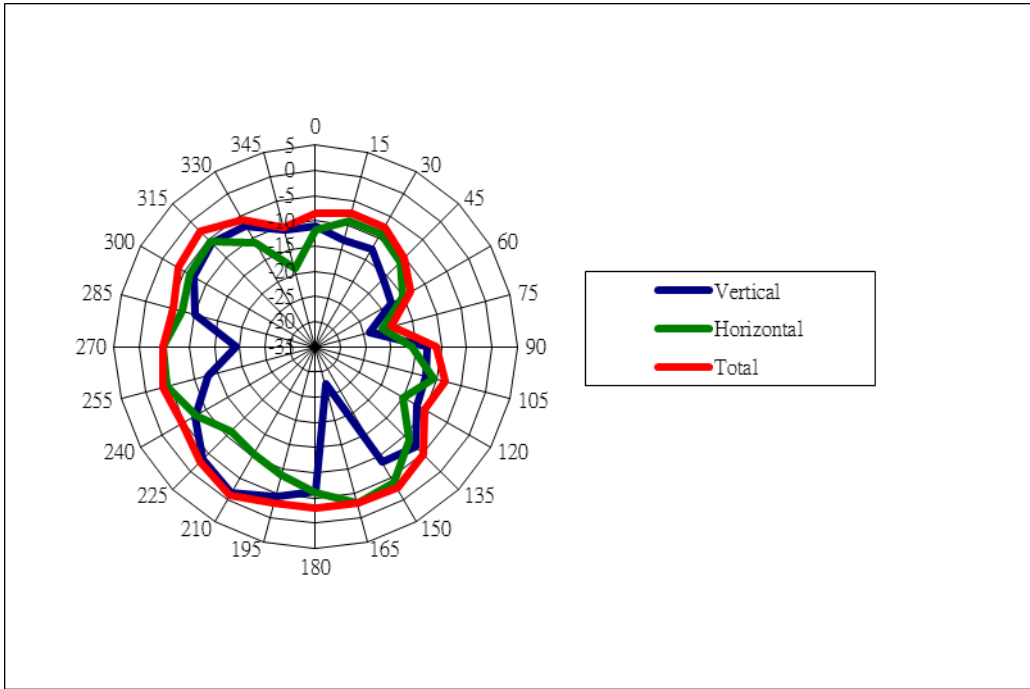
Tx1 antenna: 824 MHz



Center Frequency	<b>824 MHz</b>
Horizontal (dBi) peak	-3.42
Vertical (dBi) peak	-2.07



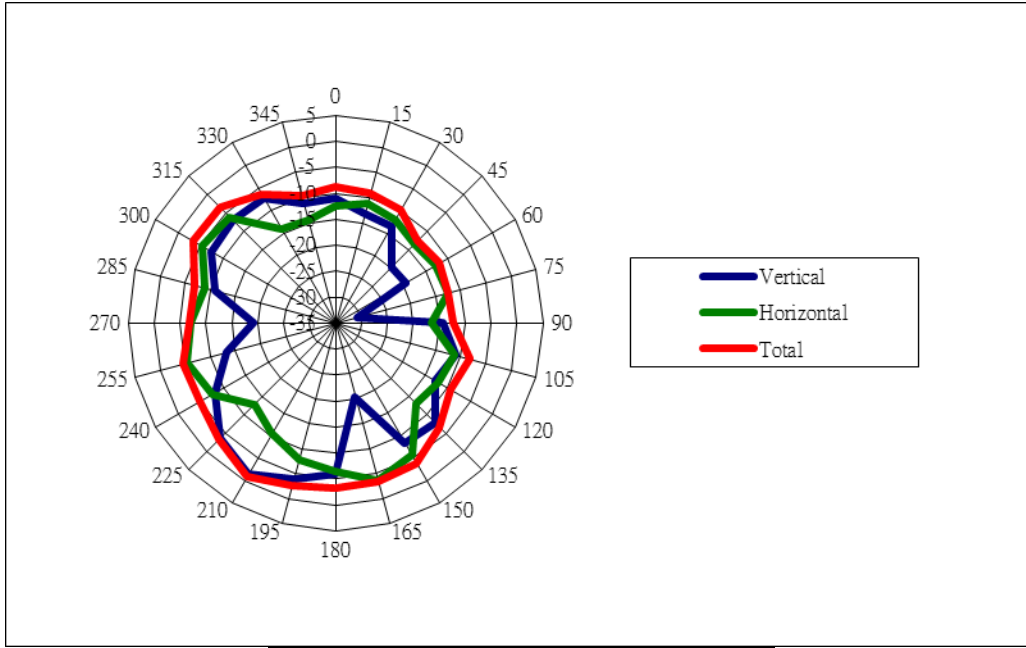
Center Frequency	<b>836 MHz</b>
Horizontal (dBi) peak	-3.25
Vertical (dBi) peak	-1.87



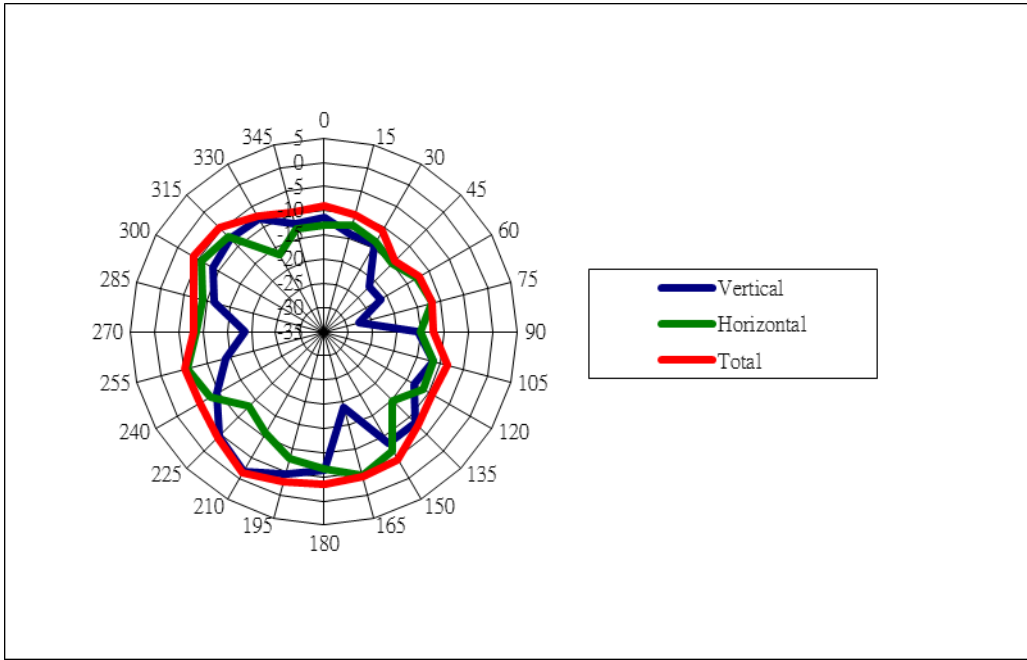
Center Frequency	<b>849 MHz</b>
Horizontal (dBi) peak	-2.91
Vertical (dBi) peak	-1.58

**880-915MHz radiation characteristic**

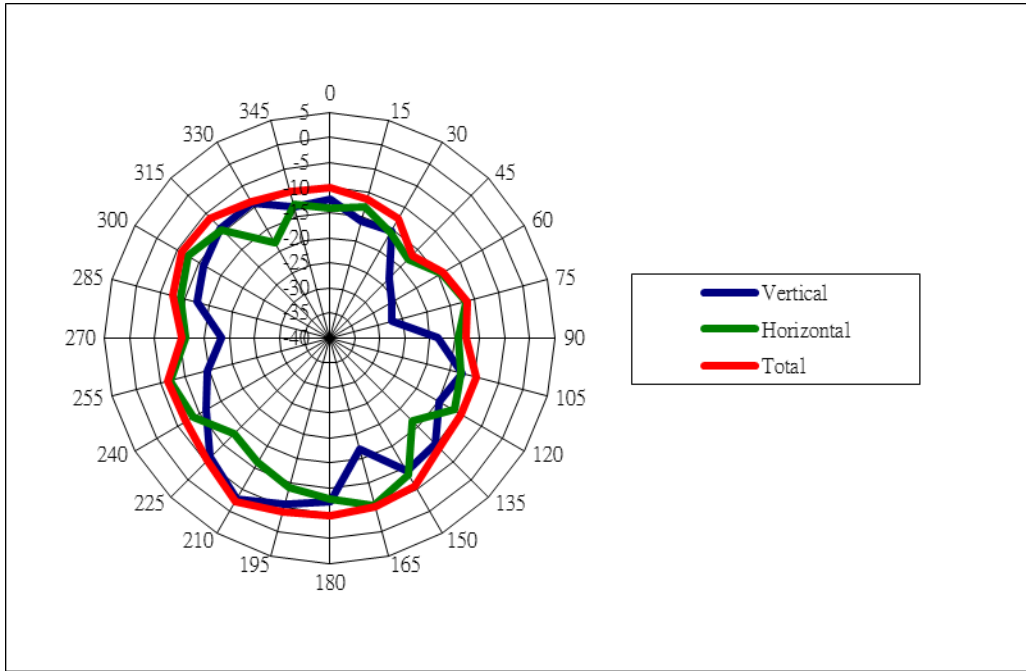
**Tx1 antenna: 880 MHz**



Center Frequency	<b>880 MHz</b>
Horizontal (dBi) peak	-3.60
Vertical (dBi) peak	-1.39



Center Frequency	<b>894 MHz</b>
Horizontal (dBi) peak	-4.18
Vertical (dBi) peak	-1.80

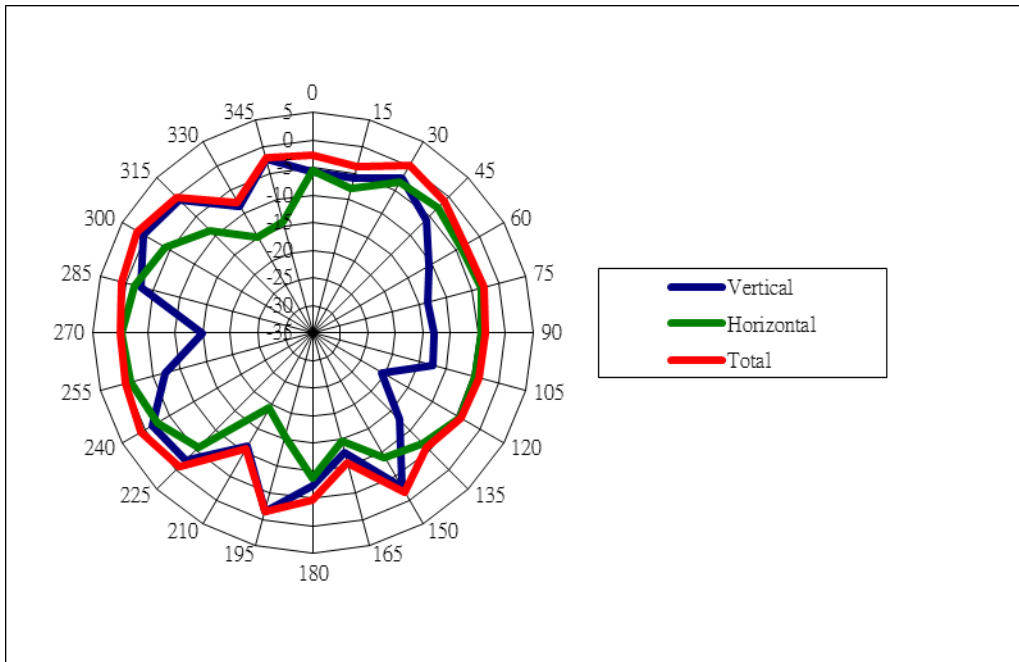


Center Frequency	<b>915 MHz</b>
Horizontal (dBi) peak	-5.43
Vertical (dBi) peak	-2.93



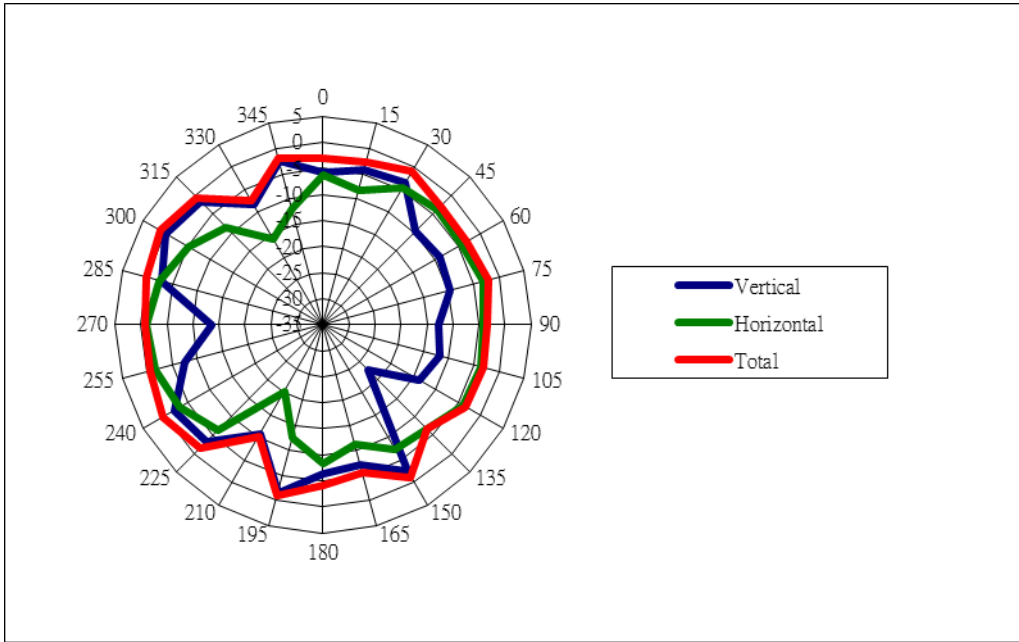
1710-1785MHz radiation characteristic

**Tx1 antenna: 1710 MHz**



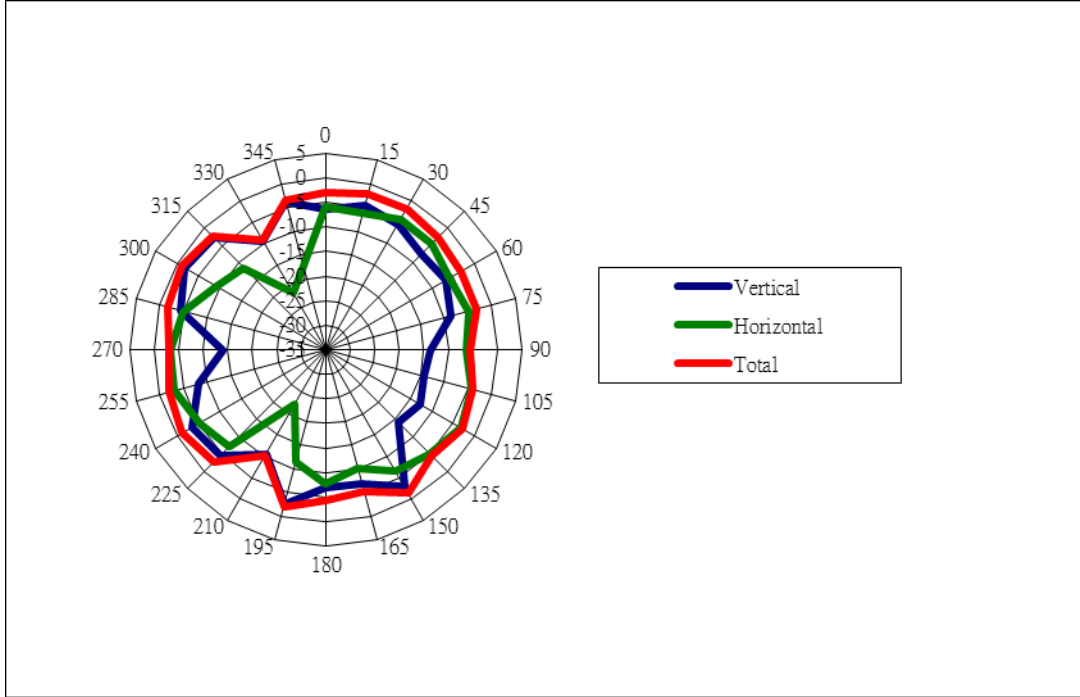
Center Frequency	<b>1710MHz</b>
Horizontal (dBi) peak	-0.29
Vertical (dBi) peak	0.55

**Tx1 antenna: 1750 MHz**



Center Frequency	<b>1750 MHz</b>
Horizontal (dBi) peak	-0.96
Vertical (dBi) peak	0.09

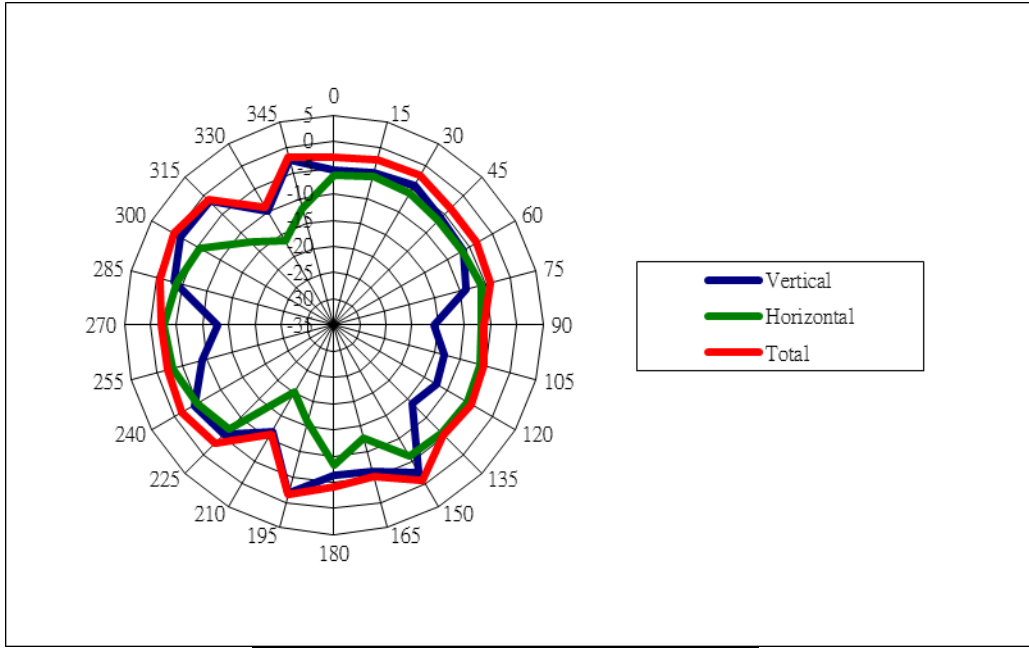
**Tx1 antenna: 1785 MHz**



Center Frequency	<b>1785MHz</b>
Horizontal (dBi) peak	-3.13
Vertical (dBi) peak	-1.67

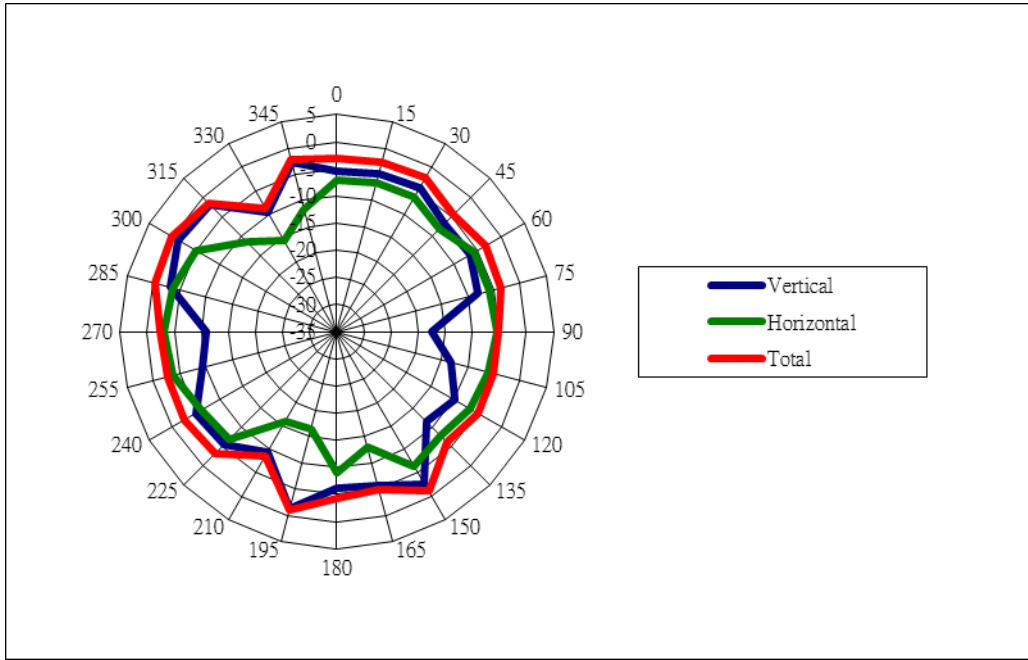
1850-1910MHz radiation characteristic

Tx1 antenna: 1850 MHz



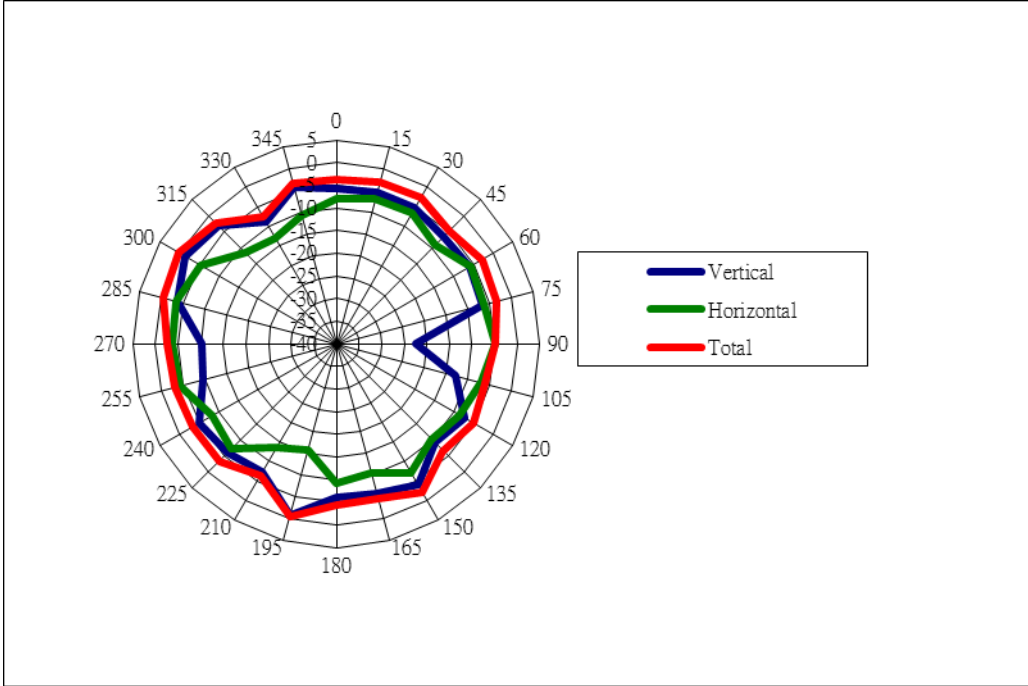
Center Frequency	<b>1850 MHz</b>
Horizontal (dBi) peak	-2.47
Vertical (dBi) peak	-1.27

**Tx1 antenna: 1880 MHz**



Center Frequency	<b>1880 MHz</b>
Horizontal (dBi) peak	-2.99
Vertical (dBi) peak	-1.22

**Tx1 antenna: 1910 MHz**

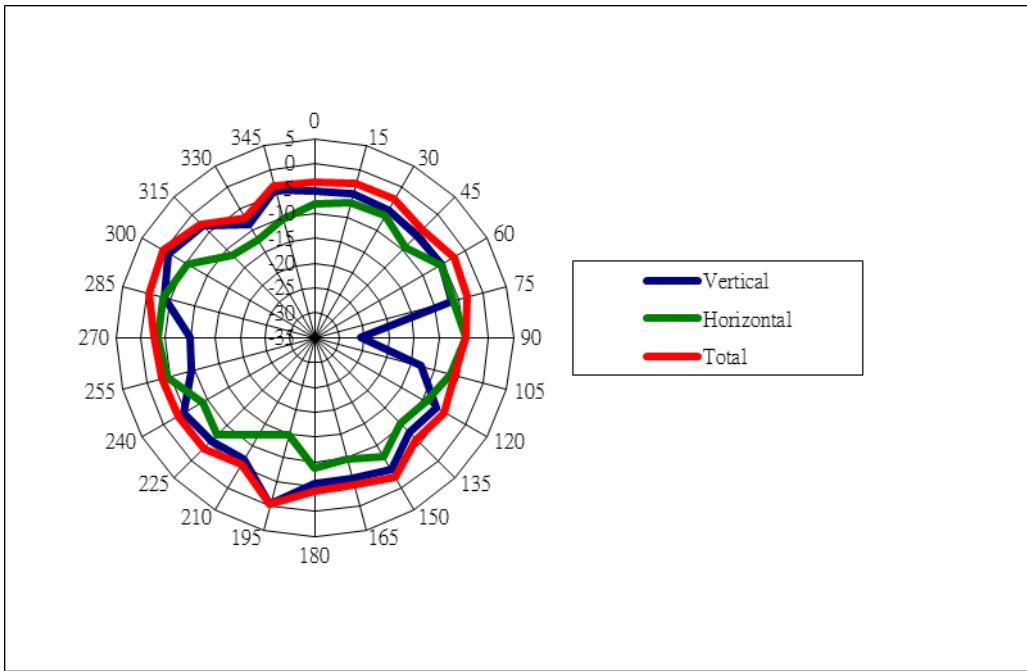


Center Frequency	<b>1910 MHz</b>
Horizontal (dBi) peak	-3.41
Vertical (dBi) peak	-0.73



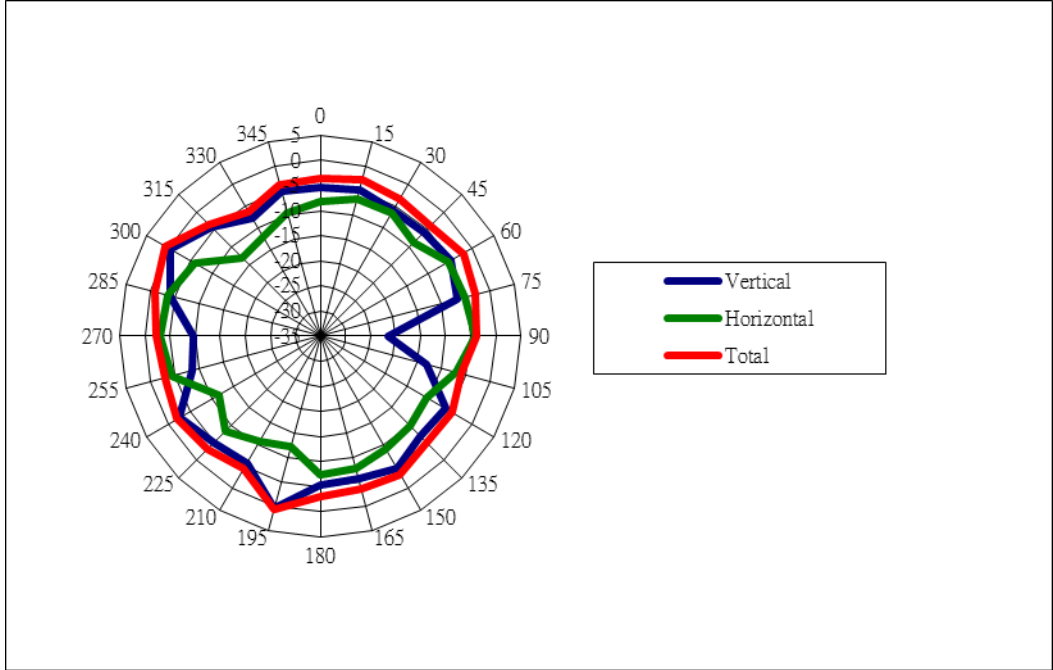
1920-1980MHz radiation characteristic

**Tx1 antenna: 1920 MHz**



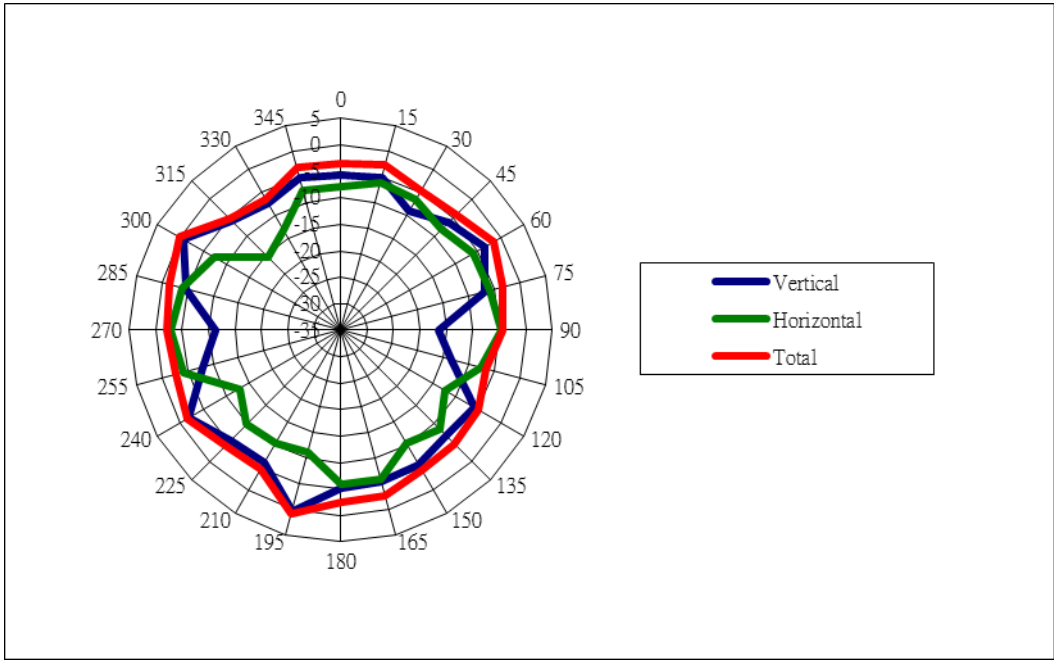
Center Frequency	<b>1920 MHz</b>
Horizontal (dBi) peak	-3.38
Vertical (dBi) peak	-0.38

**Tx1 antenna: 1950 MHz**



Center Frequency	<b>1950 MHz</b>
Horizontal (dBi) peak	-3.02
Vertical (dBi) peak	0.57

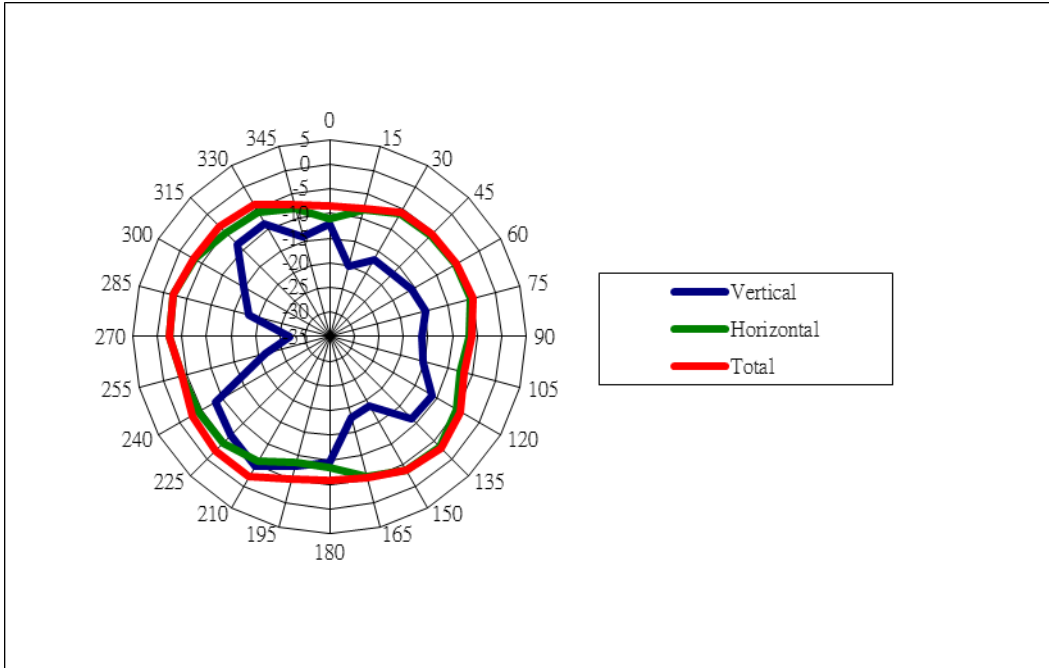
**Tx1 antenna: 1980 MHz**



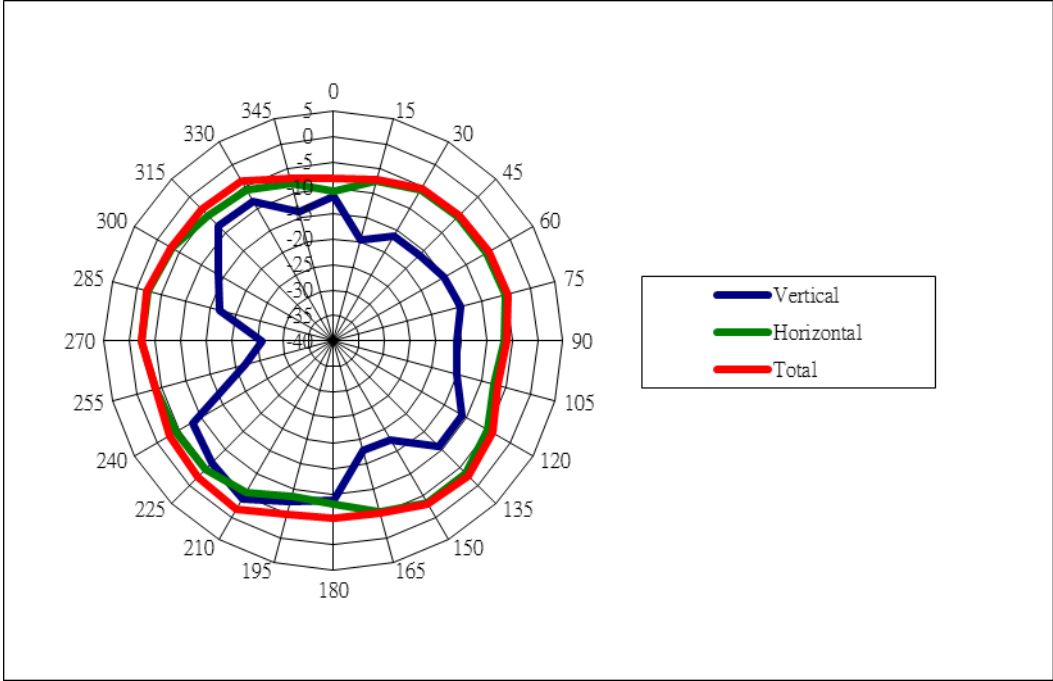
Center Frequency	<b>1980 MHz</b>
Horizontal (dBi) peak	-2.77
Vertical (dBi) peak	0.50

704-716MHz radiation characteristic

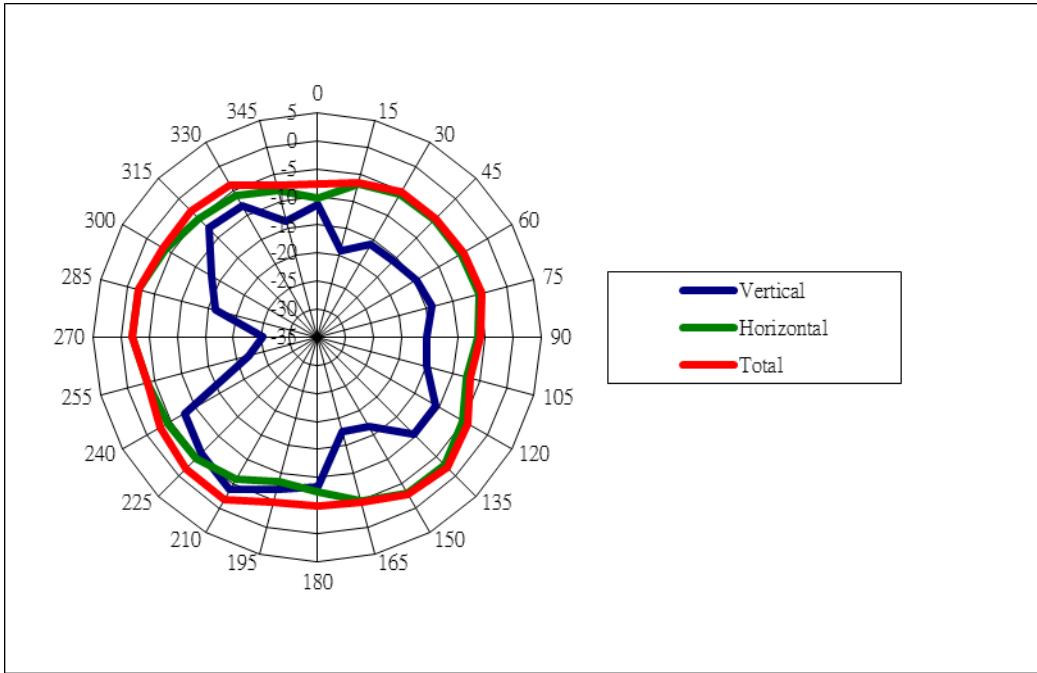
Tx1 antenna: 704 MHz



Center Frequency	<b>704 MHz</b>
Horizontal (dBi) peak	-2.25
Vertical (dBi) peak	-4.69



Center Frequency	<b>710 MHz</b>
Horizontal (dBi) peak	-2.16
Vertical (dBi) peak	-4.17

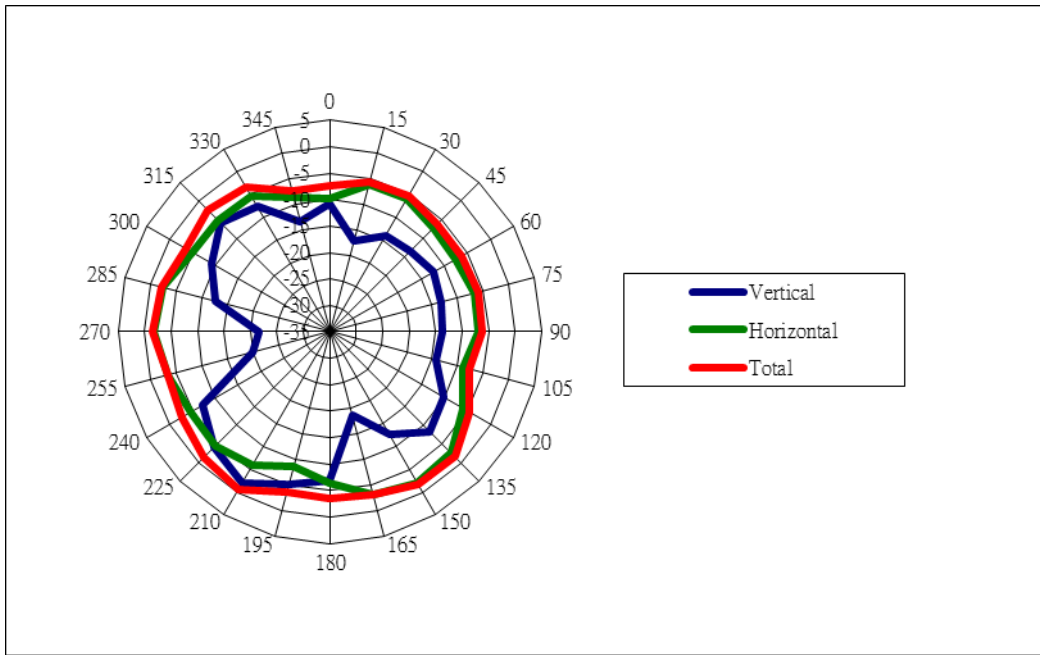


Center Frequency	<b>716 MHz</b>
Horizontal (dBi) peak	-2.06
Vertical (dBi) peak	-3.71

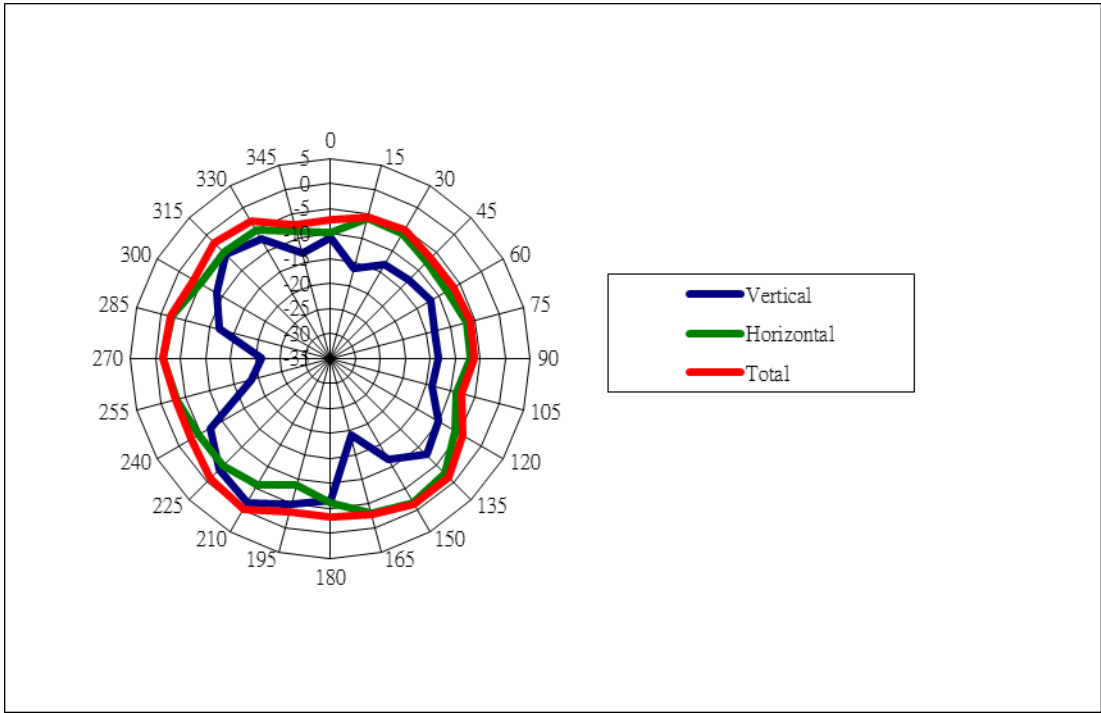


746-756MHz radiation characteristic

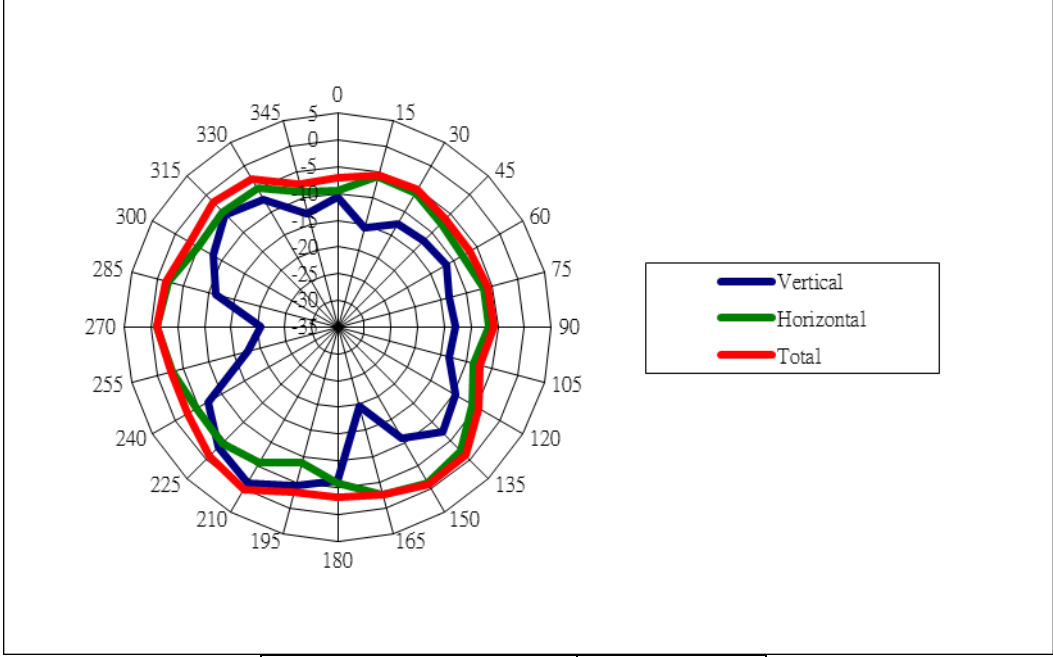
Tx1 antenna: 746 MHz



Center Frequency	<b>746 MHz</b>
Horizontal (dBi) peak	-1.66
Vertical (dBi) peak	-2.04



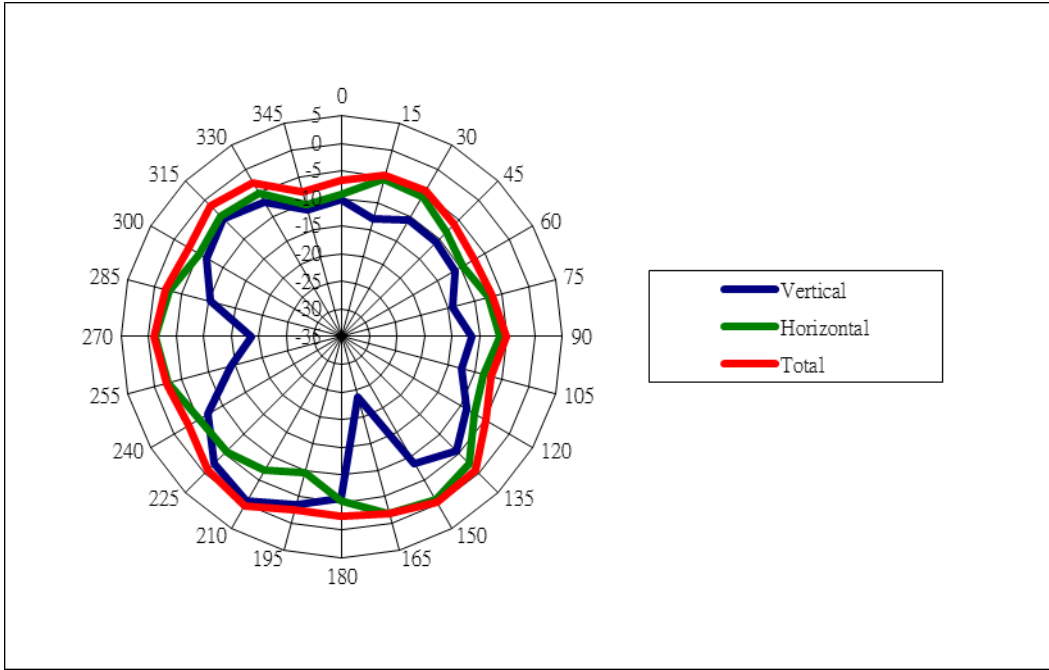
Center Frequency	<b>751 MHz</b>
Horizontal (dBi) peak	-1.45
Vertical (dBi) peak	-1.72



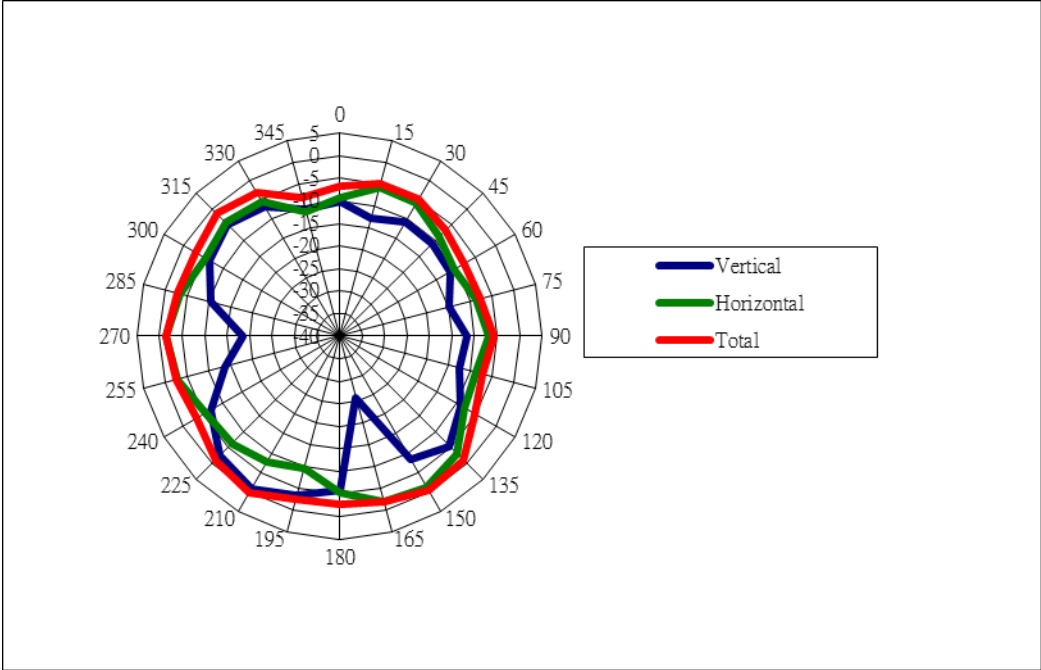
Center Frequency	<b>756 MHz</b>
Horizontal (dBi) peak	-1.17
Vertical (dBi) peak	-1.39

777-787MHz radiation characteristic

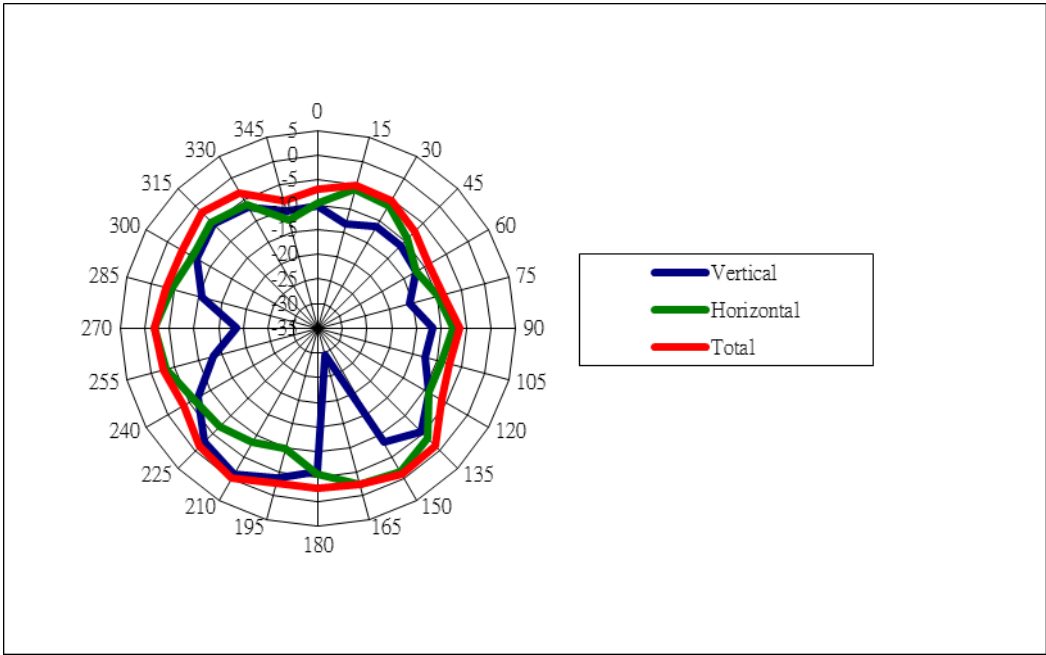
Tx1 antenna: 777 MHz



Center Frequency	<b>777 MHz</b>
Horizontal (dBi) peak	-1.02
Vertical (dBi) peak	-0.67



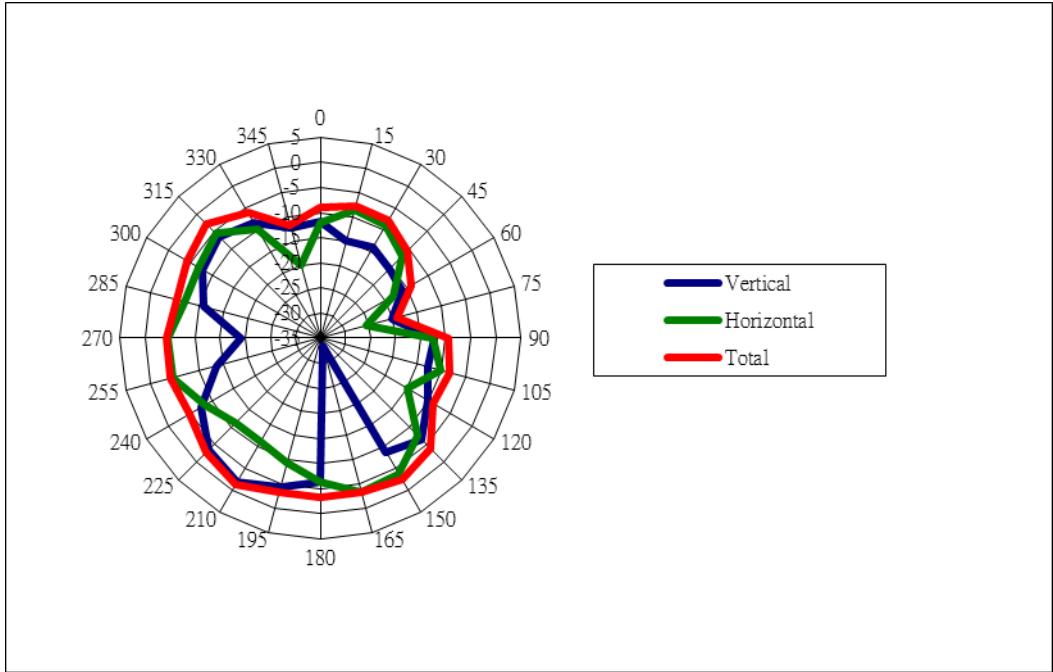
Center Frequency	<b>782 MHz</b>
Horizontal (dBi) peak	-1.31
Vertical (dBi) peak	-0.74



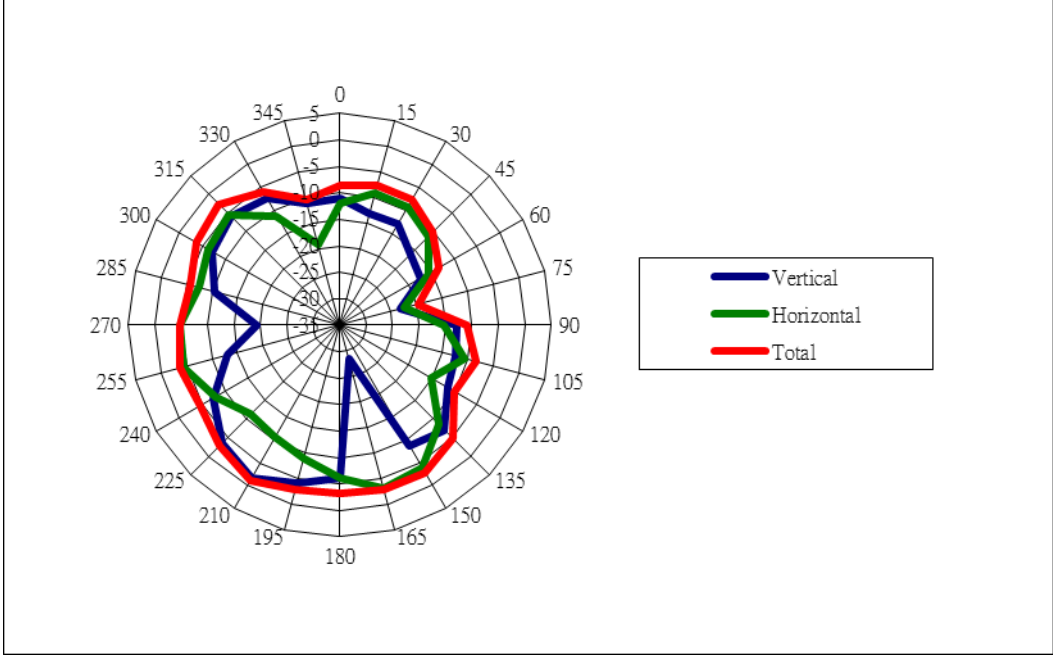
Center Frequency	<b>787 MHz</b>
Horizontal (dBi) peak	-1.69
Vertical (dBi) peak	-0.92

**832-862MHz radiation characteristic**

**Tx1 antenna: 832 MHz**

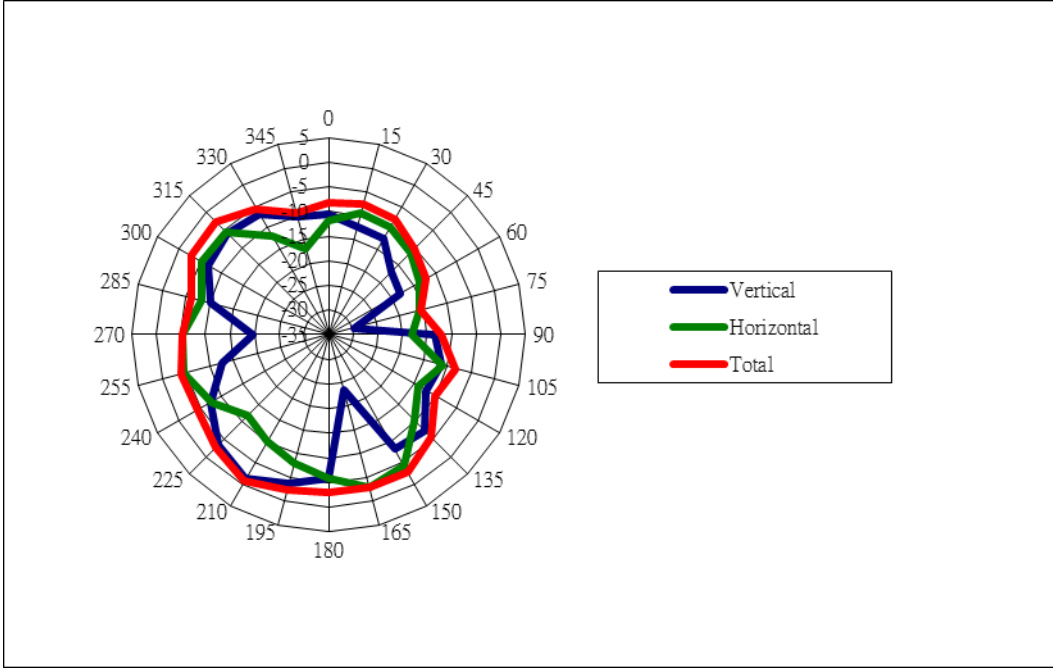


Center Frequency	<b>832 MHz</b>
Horizontal (dBi) peak	-3.32
Vertical (dBi) peak	-1.92



Center Frequency	<b>847 MHz</b>
Horizontal (dBi) peak	-2.99
Vertical (dBi) peak	-1.64

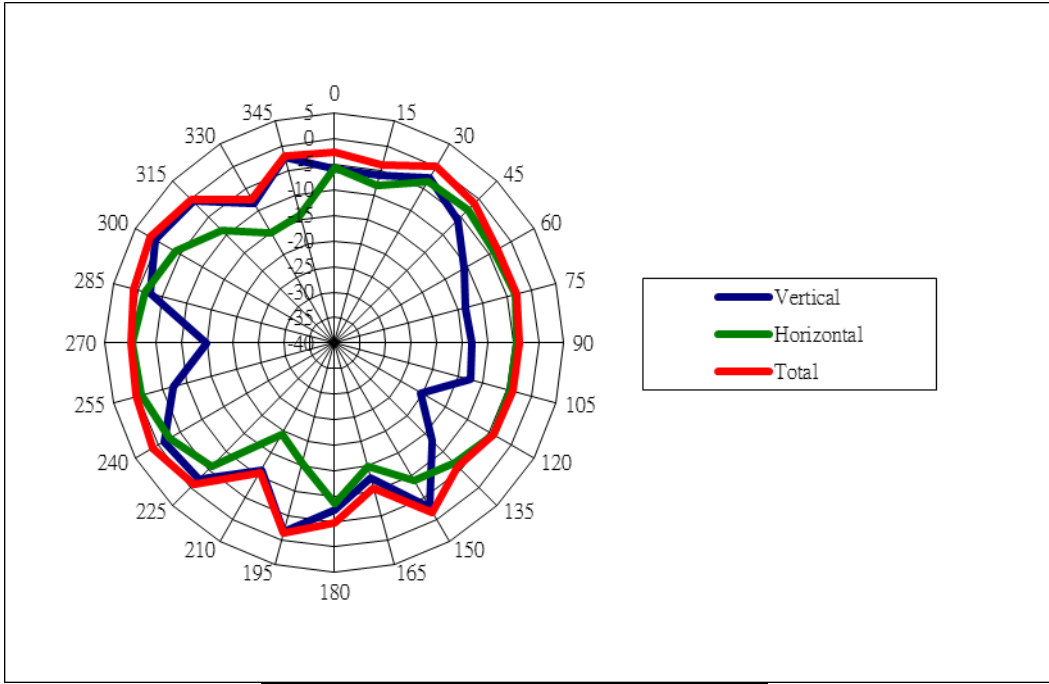




Center Frequency	<b>862 MHz</b>
Horizontal (dBi) peak	-2.90
Vertical (dBi) peak	-1.27

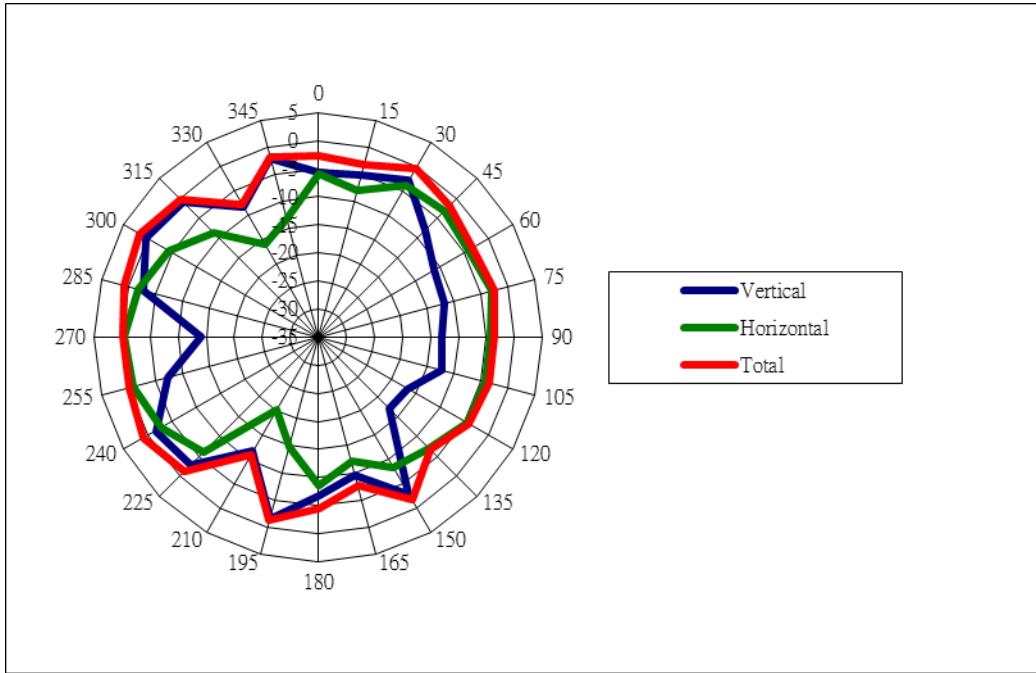
1710-1755MHz radiation characteristic

**Tx1 antenna: 1710 MHz**



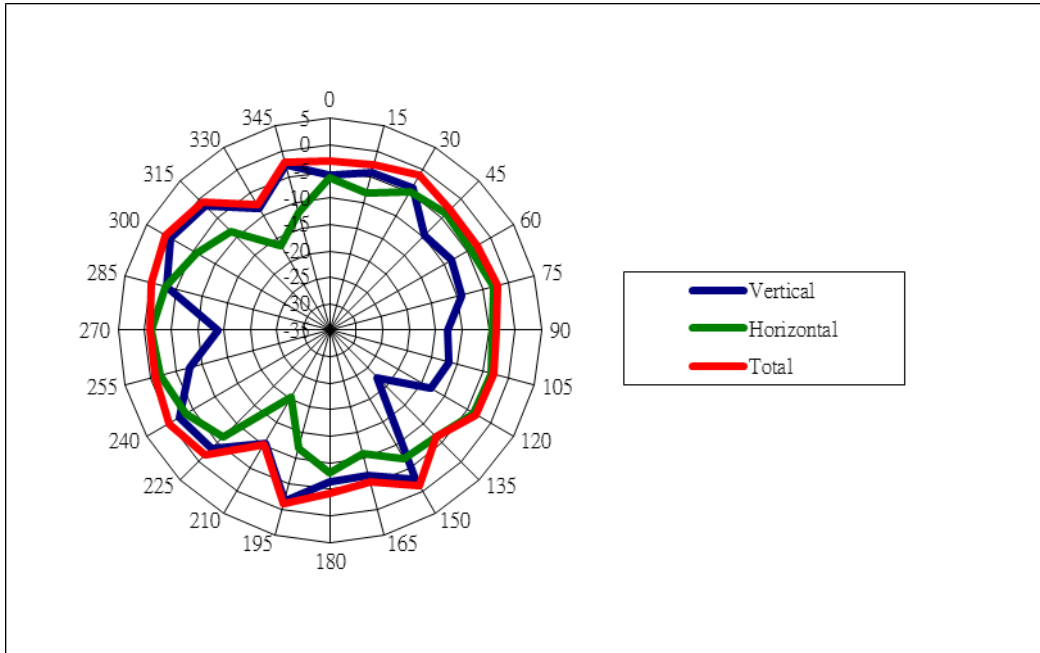
Center Frequency	<b>1710 MHz</b>
Horizontal (dBi) peak	-0.29
Vertical (dBi) peak	0.55

**Tx1 antenna: 1732 MHz**



Center Frequency	<b>1732 MHz</b>
Horizontal (dBi) peak	-0.35
Vertical (dBi) peak	0.49

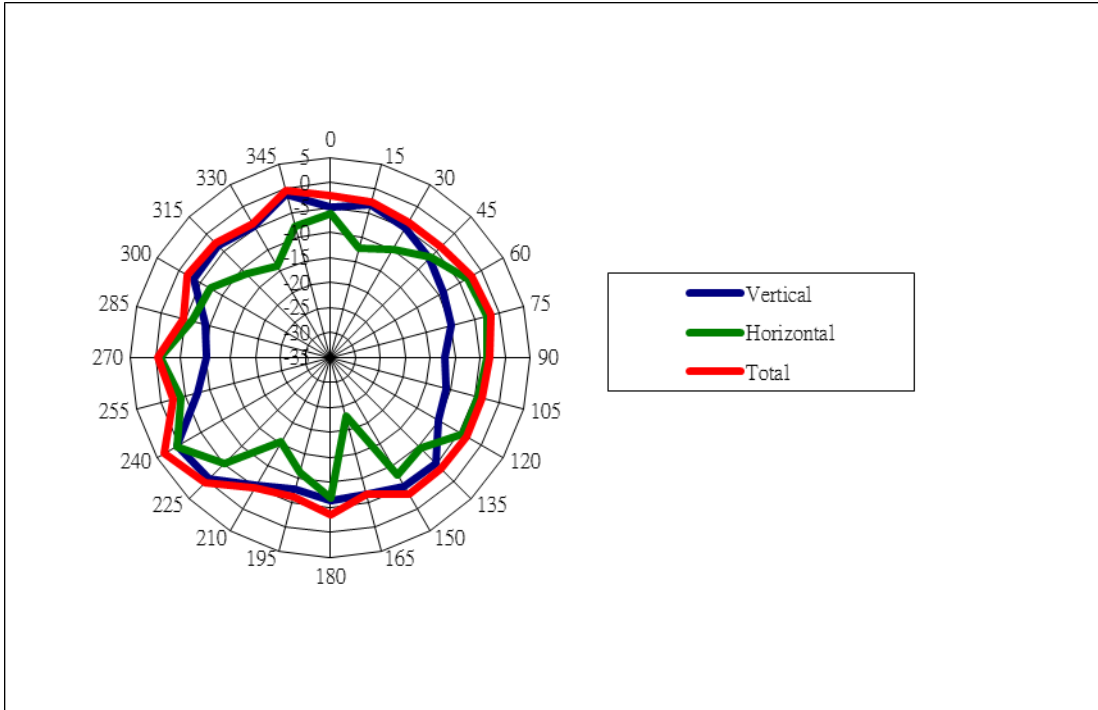
**Tx1 antenna: 1755 MHz**



Center Frequency	<b>1755 MHz</b>
Horizontal (dBi) peak	-1.28
Vertical (dBi) peak	-0.14

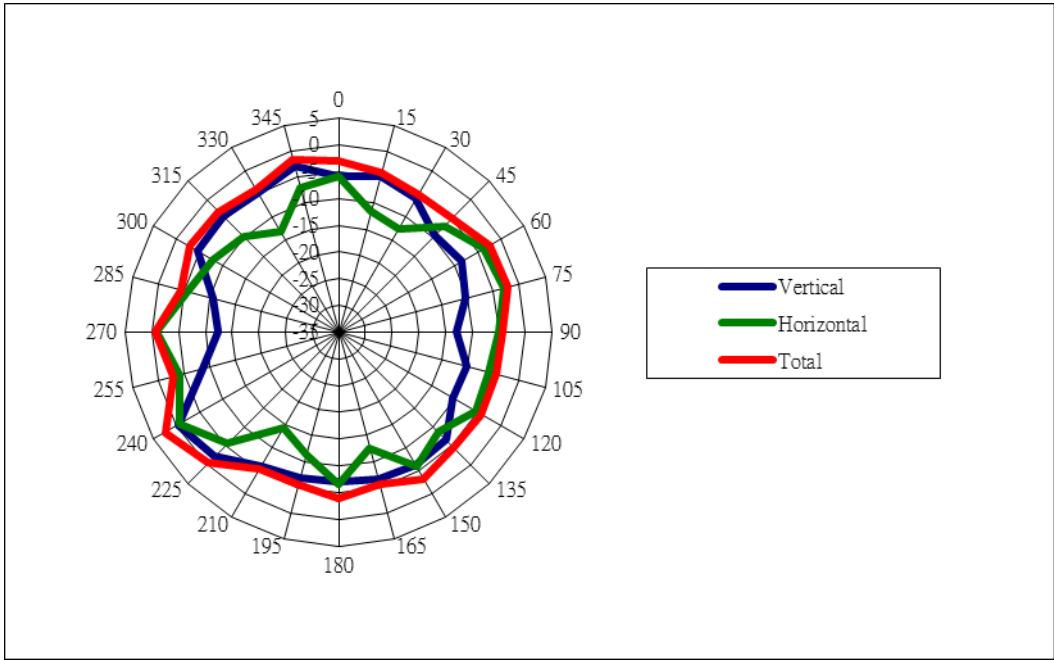
2500-2570MHz radiation characteristic

Tx1 antenna: 2500 MHz



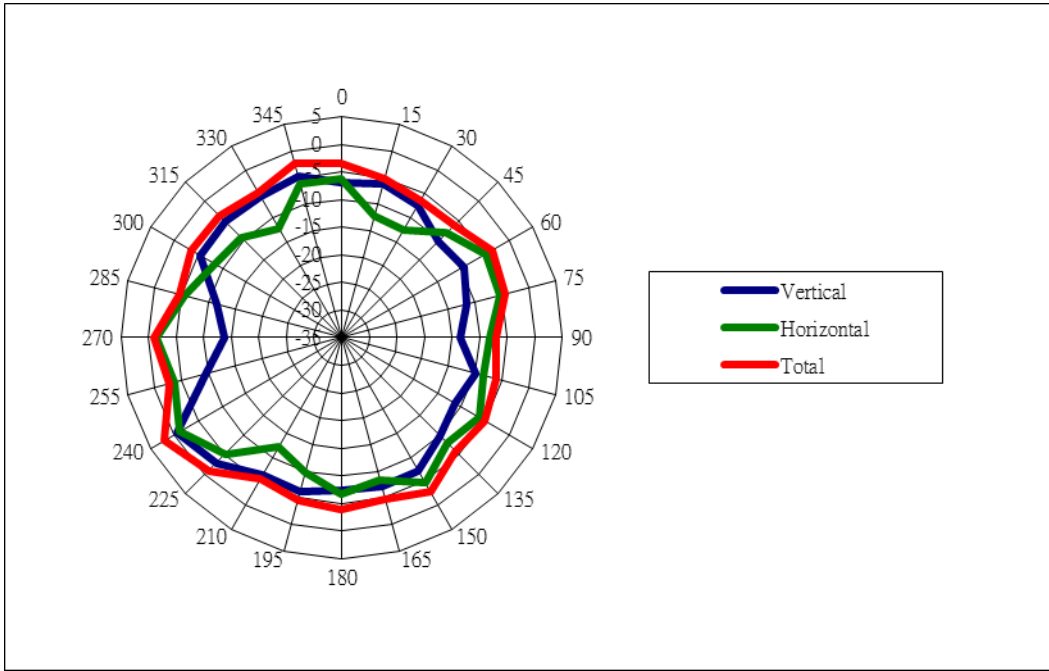
Center Frequency	<b>2500 MHz</b>
Horizontal (dBi) peak	0.50
Vertical (dBi) peak	0.35

**Tx1 antenna: 2535 MHz**



Center Frequency	<b>2535 MHz</b>
Horizontal (dBi) peak	-0.61
Vertical (dBi) peak	-0.31

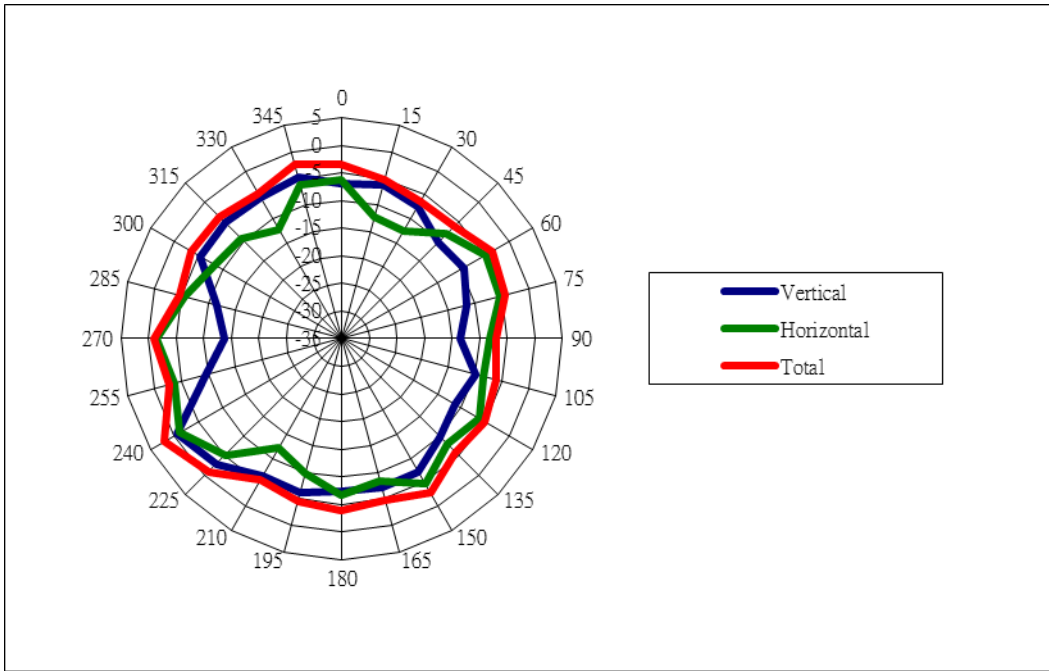
**Tx1 antenna: 2570 MHz**



Center Frequency	<b>2570 MHz</b>
Horizontal (dBi) peak	-1.24
Vertical (dBi) peak	-0.58

**2570-2620 MHz radiation characteristic**

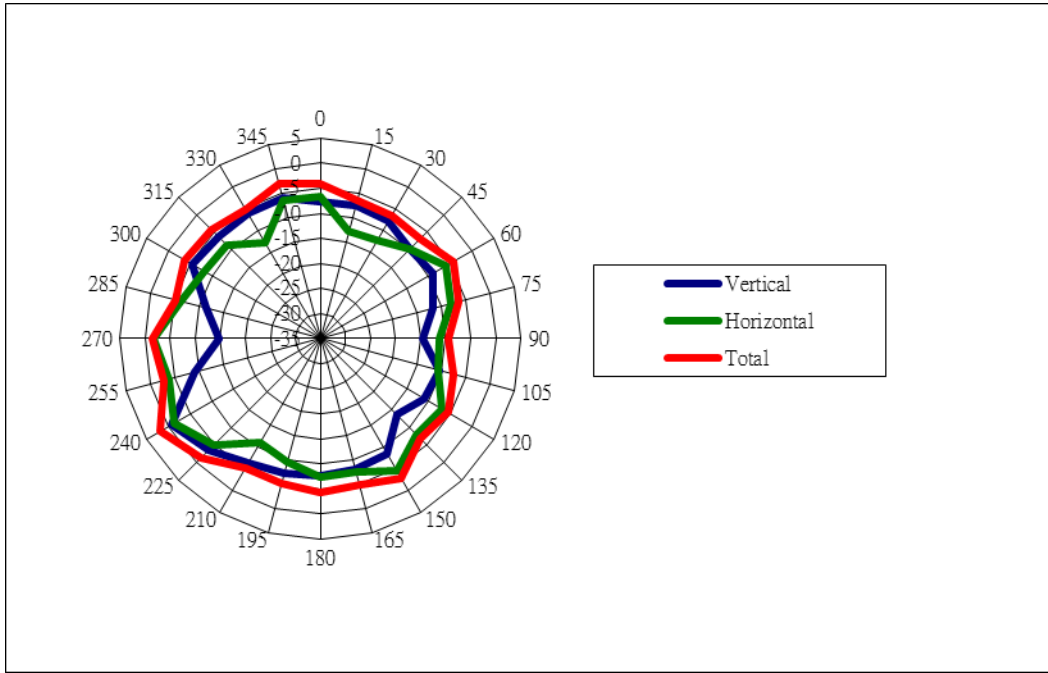
**Tx1 antenna: 2570 MHz**



Center Frequency	<b>2570 MHz</b>
Horizontal (dBi) peak	-1.24
Vertical (dBi) peak	-0.58

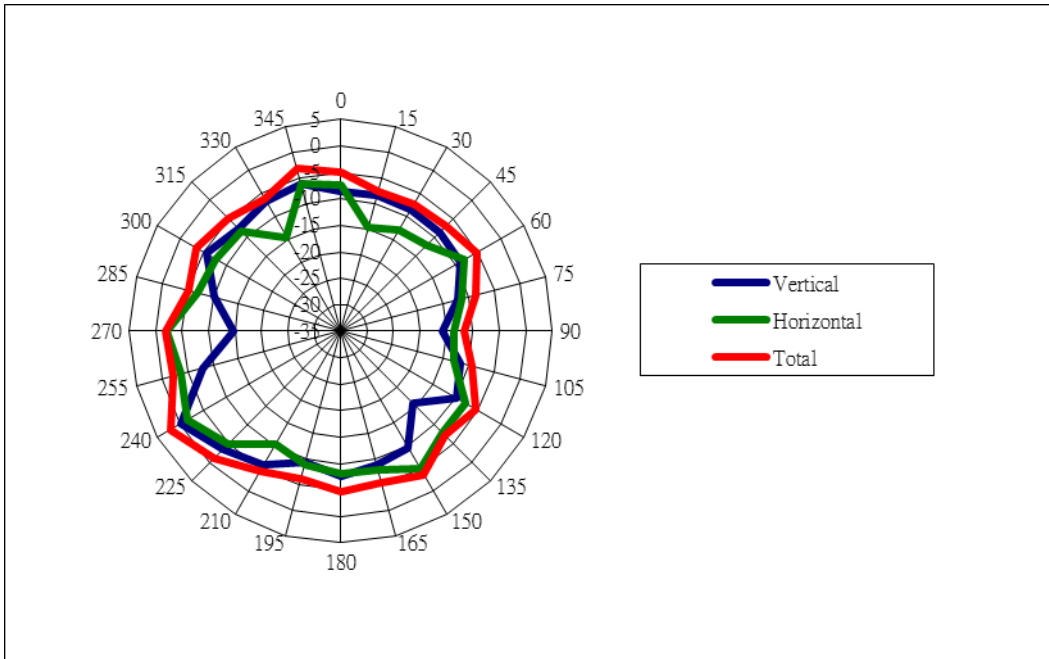


**Tx1 antenna: 2595 MHz**



Center Frequency	<b>2595 MHz</b>
Horizontal (dBi) peak	-0.05
Vertical (dBi) peak	-1.64

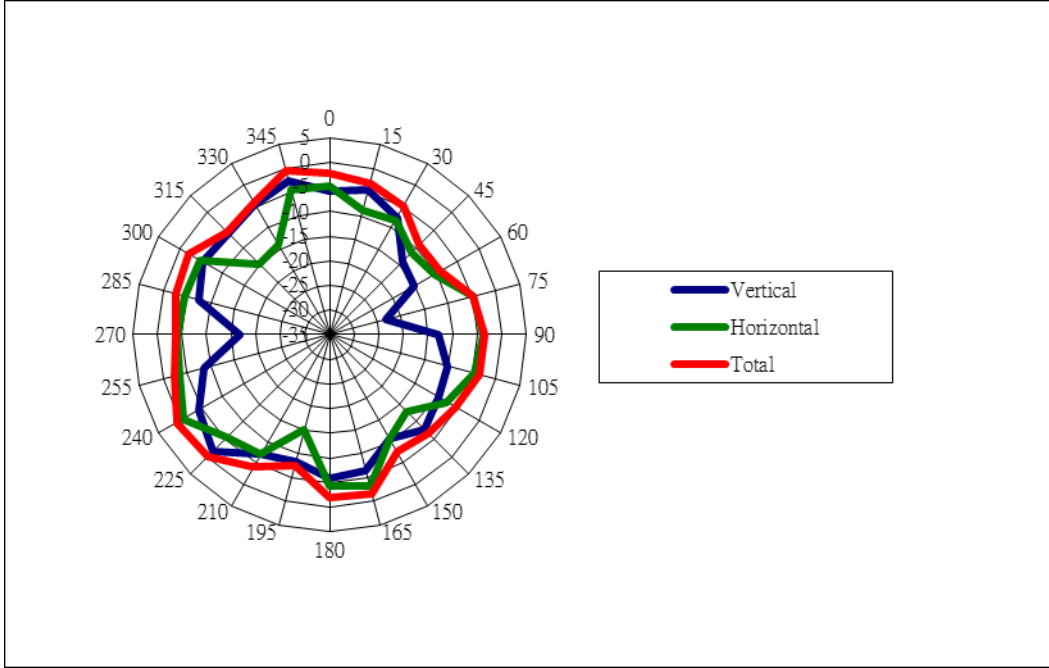
**Tx1 antenna: 2620 MHz**



Center Frequency	<b>2620 MHz</b>
Horizontal (dBi) peak	-0.61
Vertical (dBi) peak	-0.31

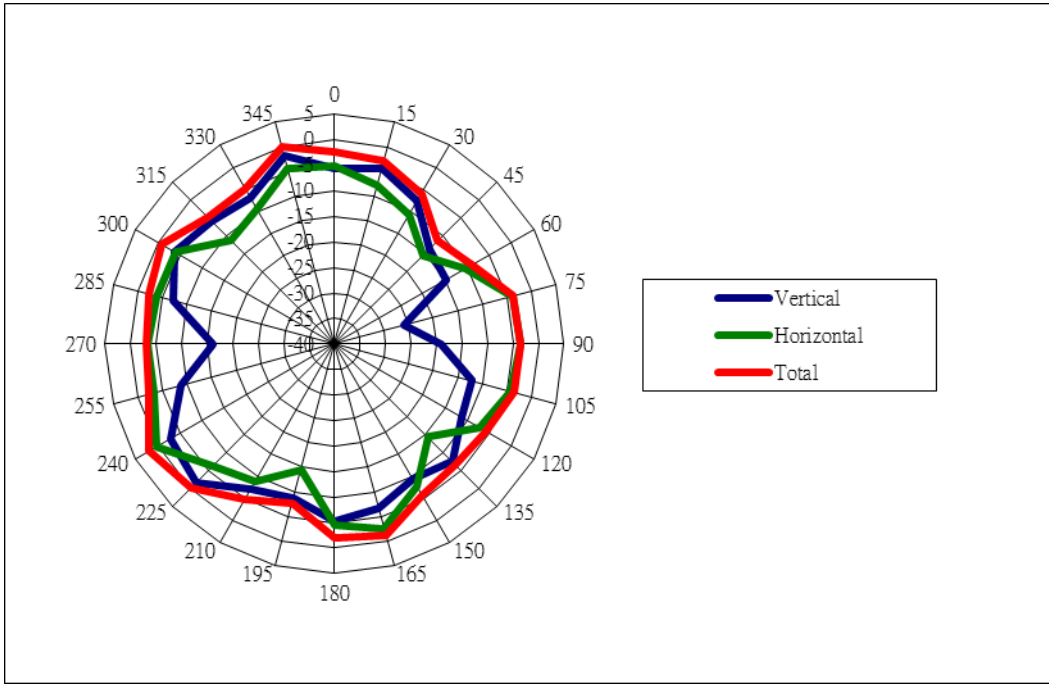
**2300-2400 MHz radiation characteristic**

**Tx1 antenna: 2300 MHz**



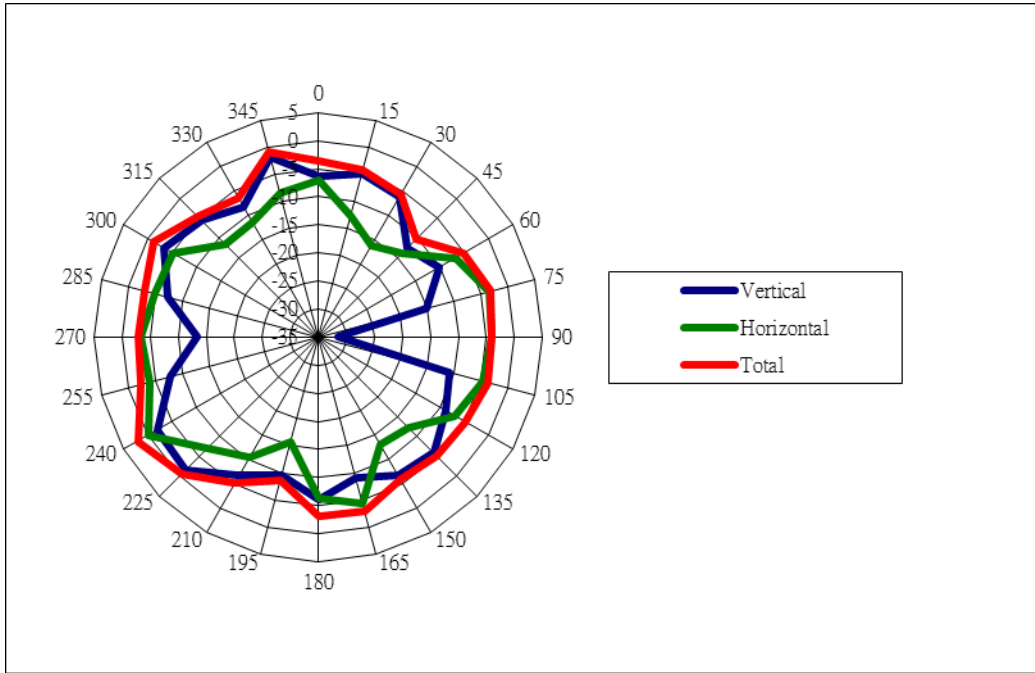
Center Frequency	<b>2300 MHz</b>
Horizontal (dBi) peak	-1.24
Vertical (dBi) peak	-0.58

**Tx1 antenna: 2350 MHz**



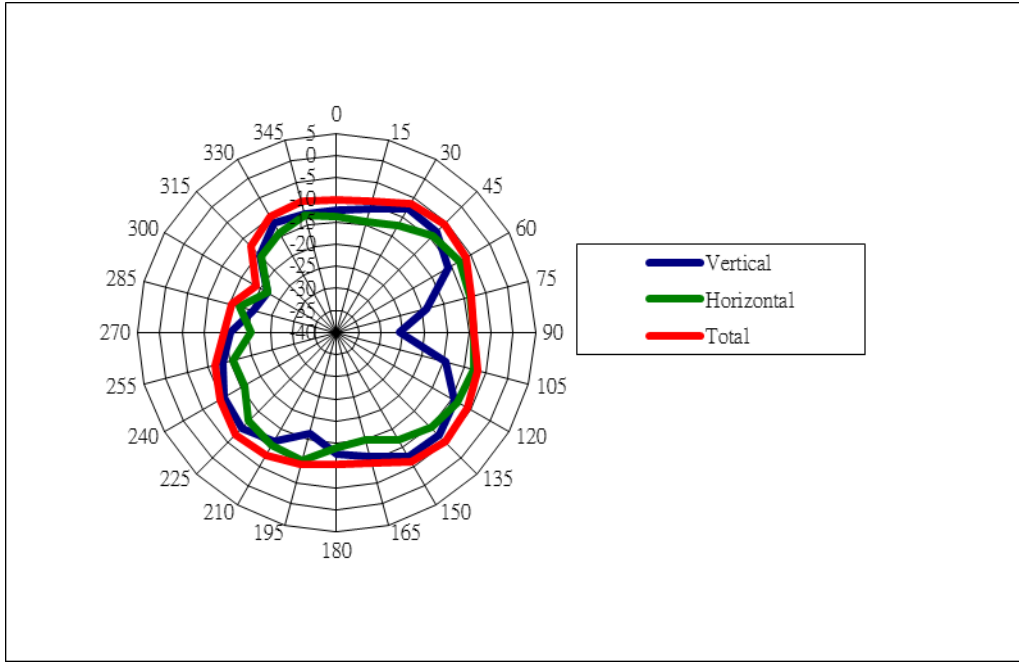
Center Frequency	<b>2350 MHz</b>
Horizontal (dBi) peak	-1.30
Vertical (dBi) peak	-0.60

**Tx1 antenna: 2400 MHz**

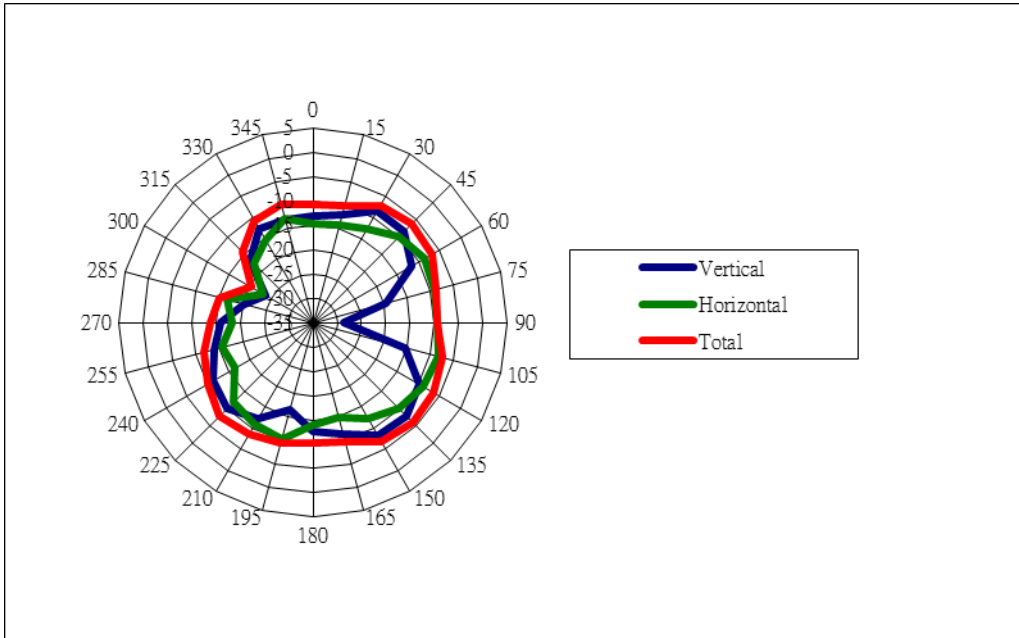


Center Frequency	<b>2400 MHz</b>
Horizontal (dBi) peak	-1.50
Vertical (dBi) peak	-0.16

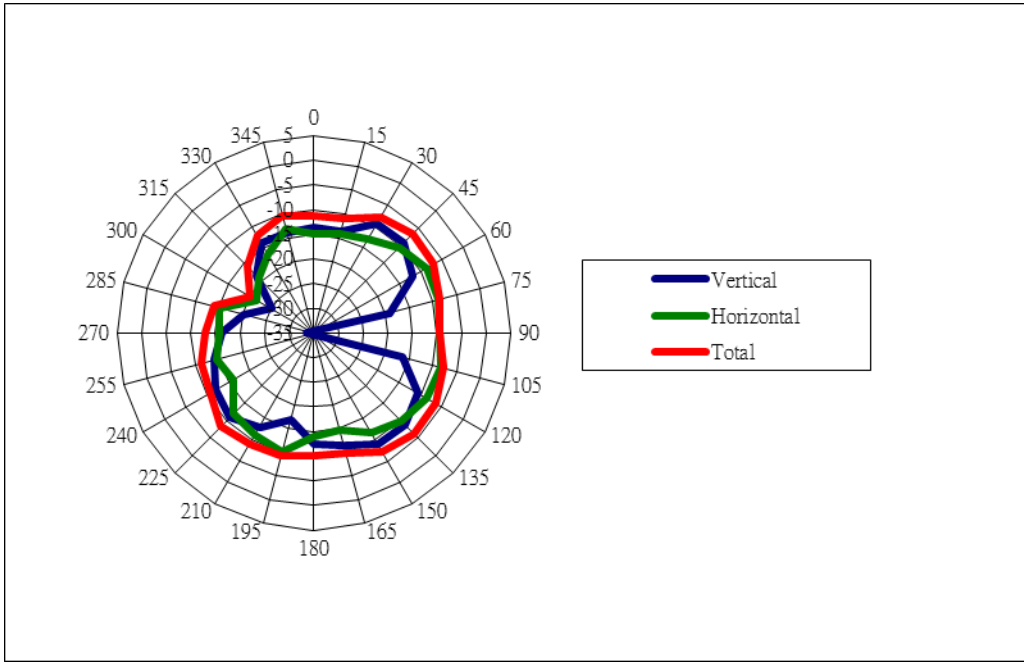
869-894MHz radiation characteristic  
Tx2 antenna: 869 MHz



Center Frequency	<b>869 MHz</b>
Horizontal (dBi) peak	-7.88
Vertical (dBi) peak	-7.25



Center Frequency	<b>880 MHz</b>
Horizontal (dBi) peak	-8.35
Vertical (dBi) peak	-7.90

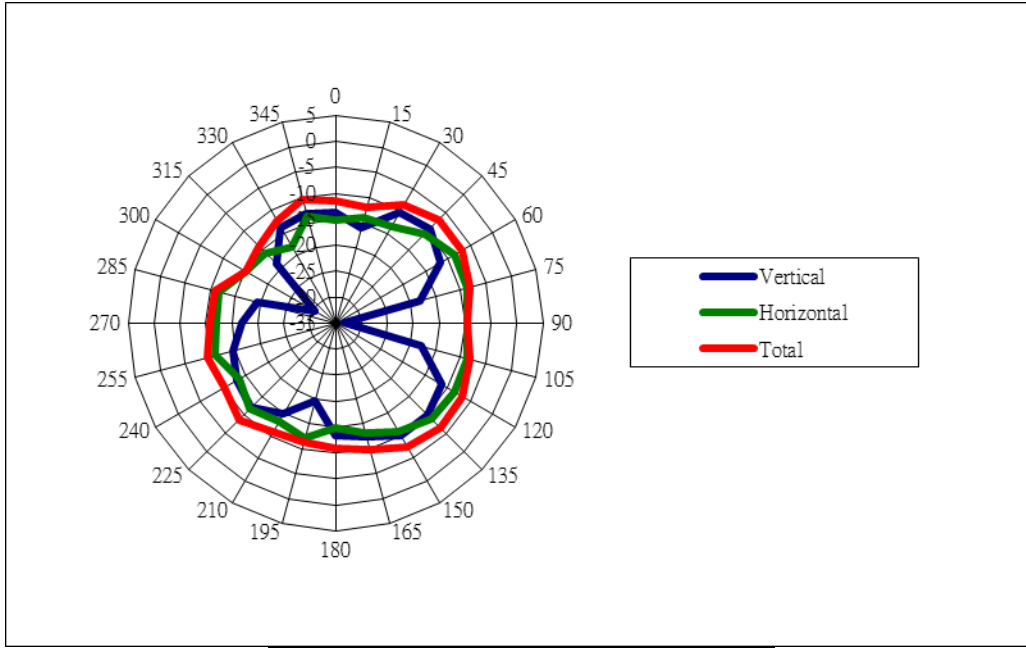


Center Frequency	<b>894 MHz</b>
Horizontal (dBi) peak	-8.44
Vertical (dBi) peak	-8.68

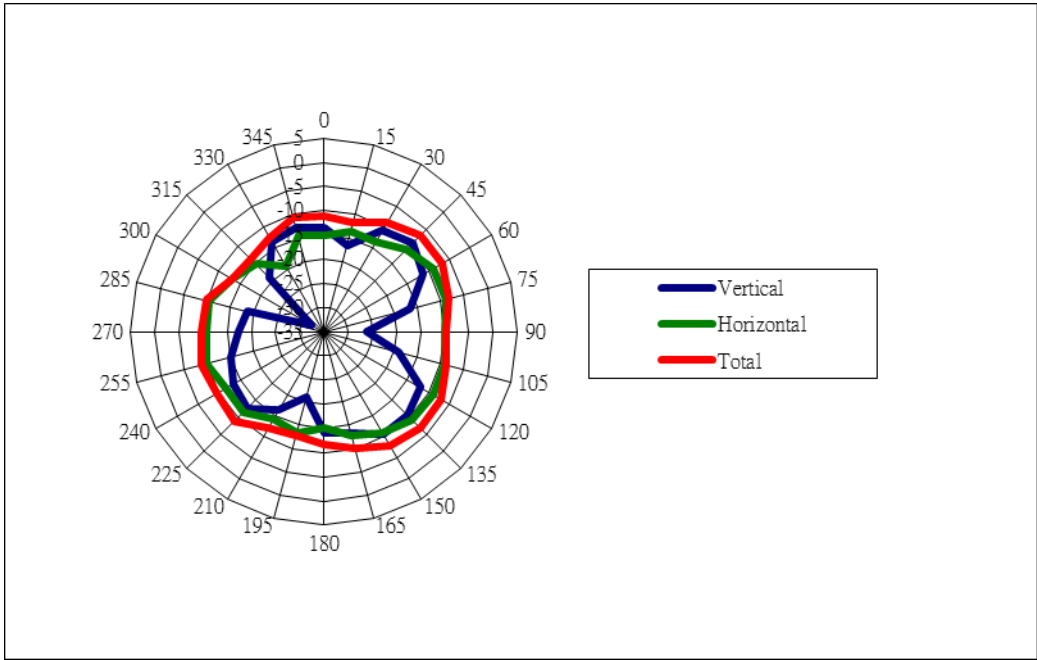


925-960MHz radiation characteristic

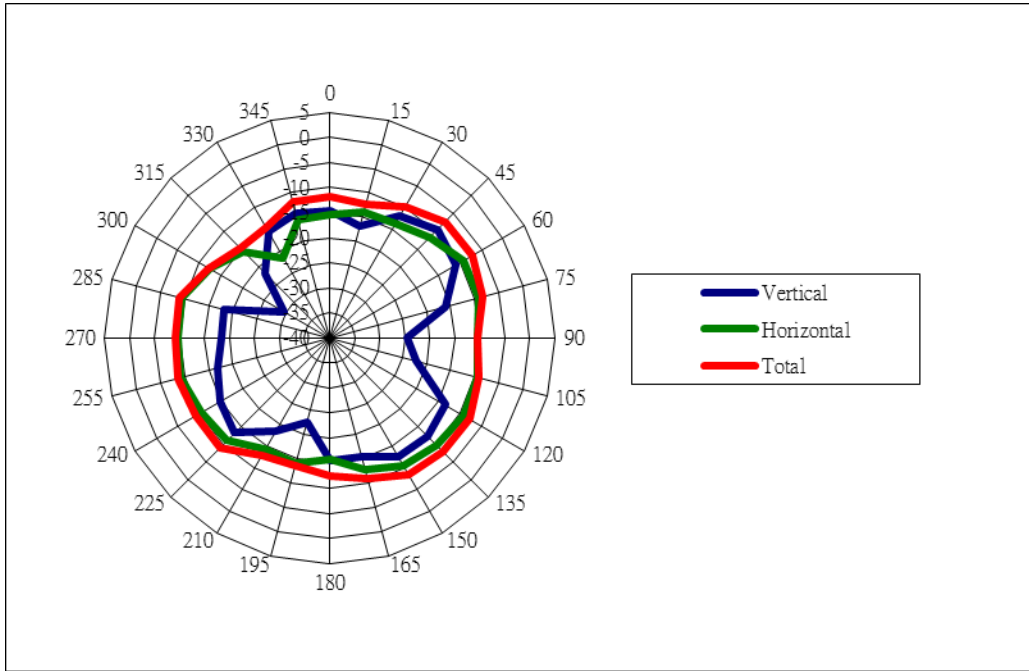
Tx2 antenna: 925 MHz



Center Frequency	<b>925 MHz</b>
Horizontal (dBi) peak	-8.49
Vertical (dBi) peak	-9.33



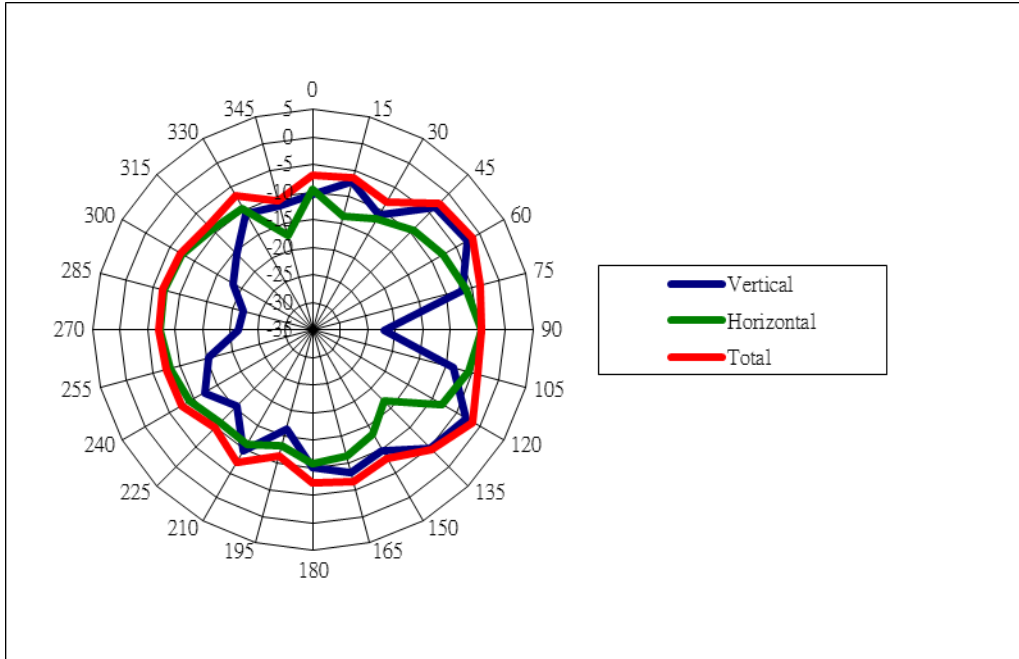
Center Frequency	<b>940 MHz</b>
Horizontal (dBi) peak	-8.84
Vertical (dBi) peak	-9.13



Center Frequency	<b>960 MHz</b>
Horizontal (dBi) peak	-9.15
Vertical (dBi) peak	-9.44

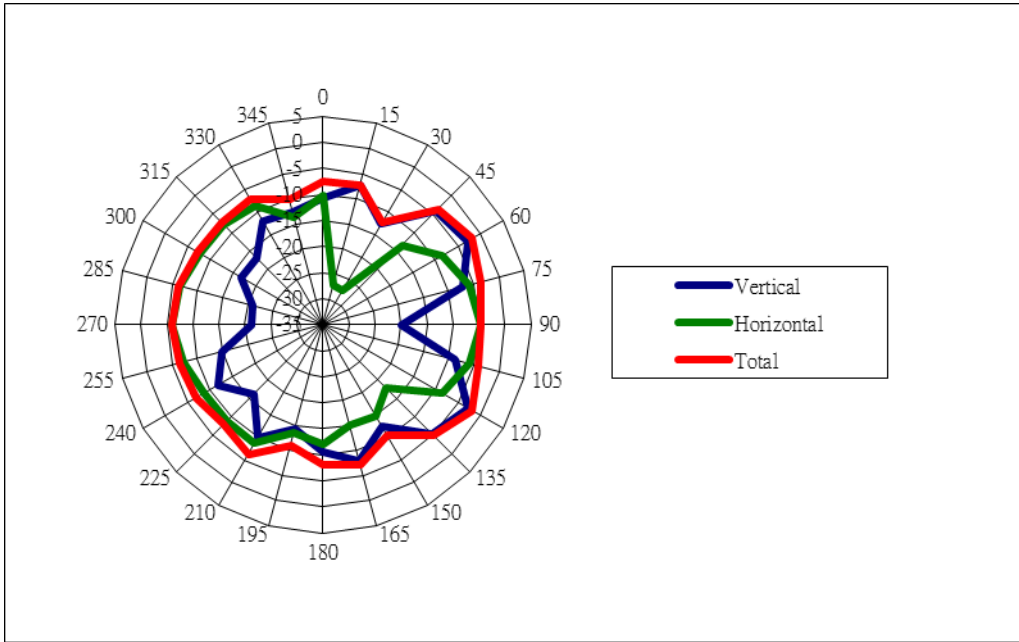
1805-1880MHz radiation characteristic

Tx2 antenna: 1805 MHz



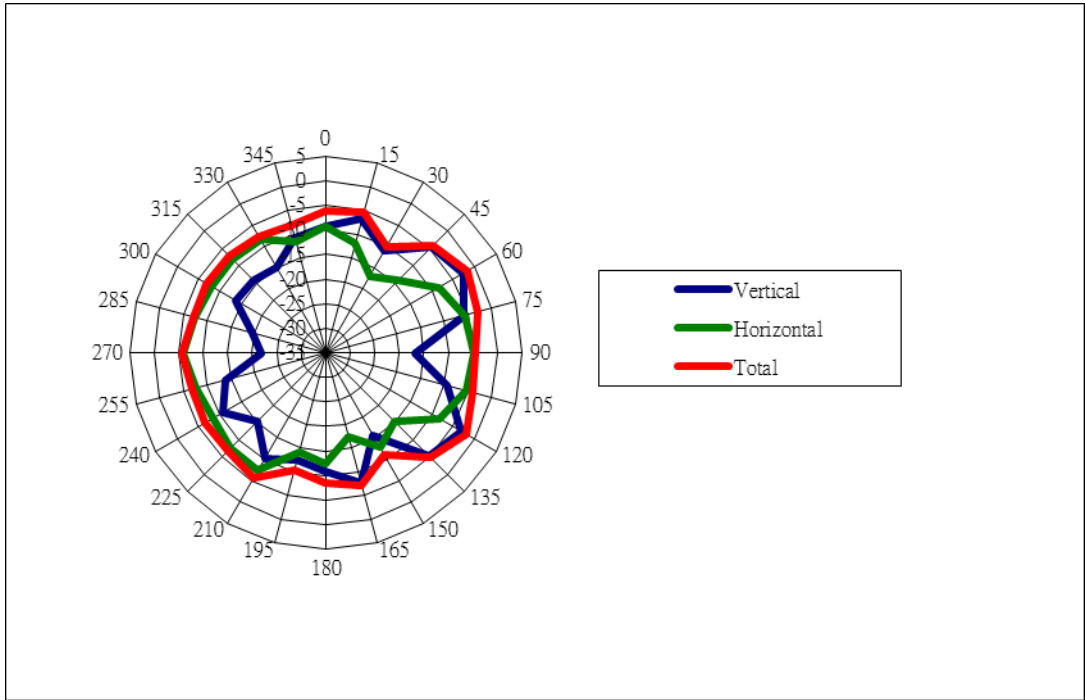
Center Frequency	<b>1805 MHz</b>
Horizontal (dBi) peak	-4.44
Vertical (dBi) peak	-2.69

**Tx2 antenna: 1840 MHz**



Center Frequency	<b>1840 MHz</b>
Horizontal (dBi) peak	-4.72
Vertical (dBi) peak	-2.85

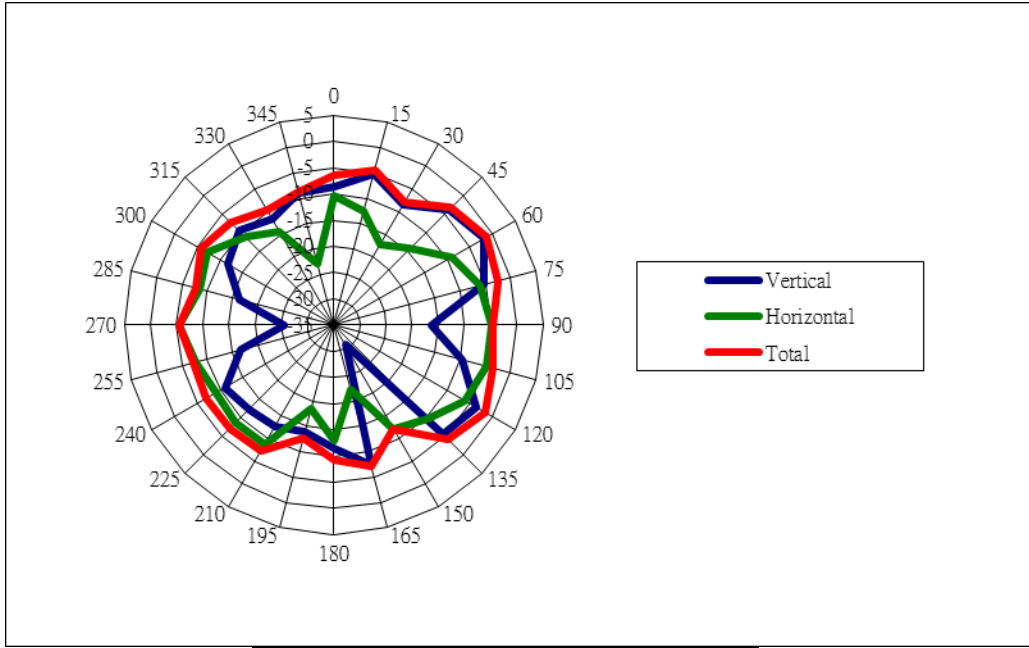
**Tx2 antenna: 1880 MHz**



Center Frequency	<b>1880 MHz</b>
Horizontal (dBi) peak	-4.69
Vertical (dBi) peak	-2.63

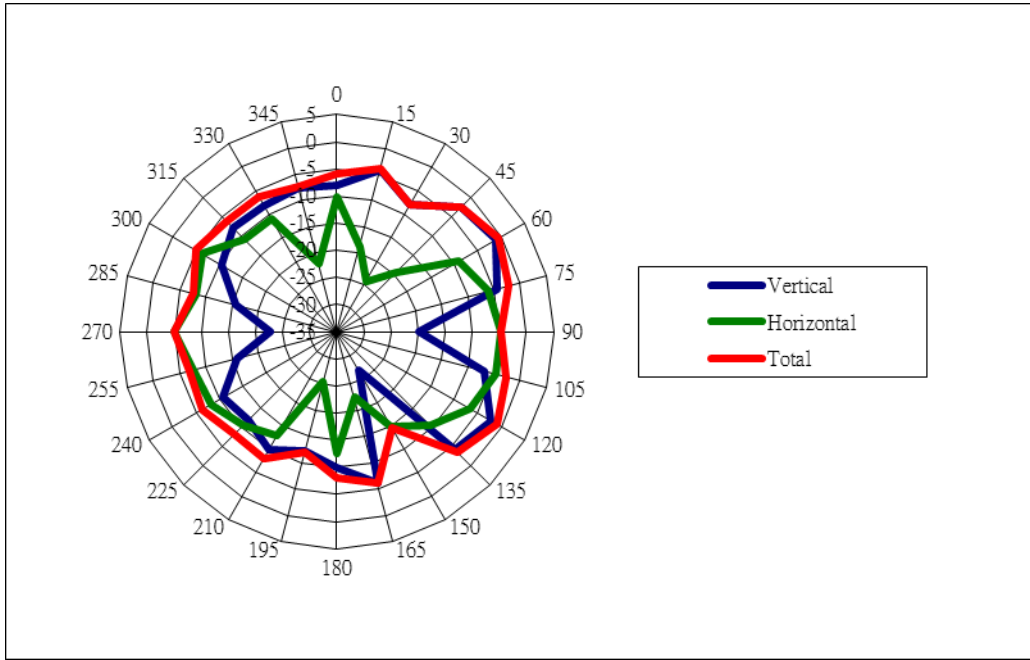
1930-1990MHz radiation characteristic

**Tx2 antenna: 1930 MHz**



Center Frequency	<b>1930 MHz</b>
Horizontal (dBi) peak	-4.75
Vertical (dBi) peak	-1.97

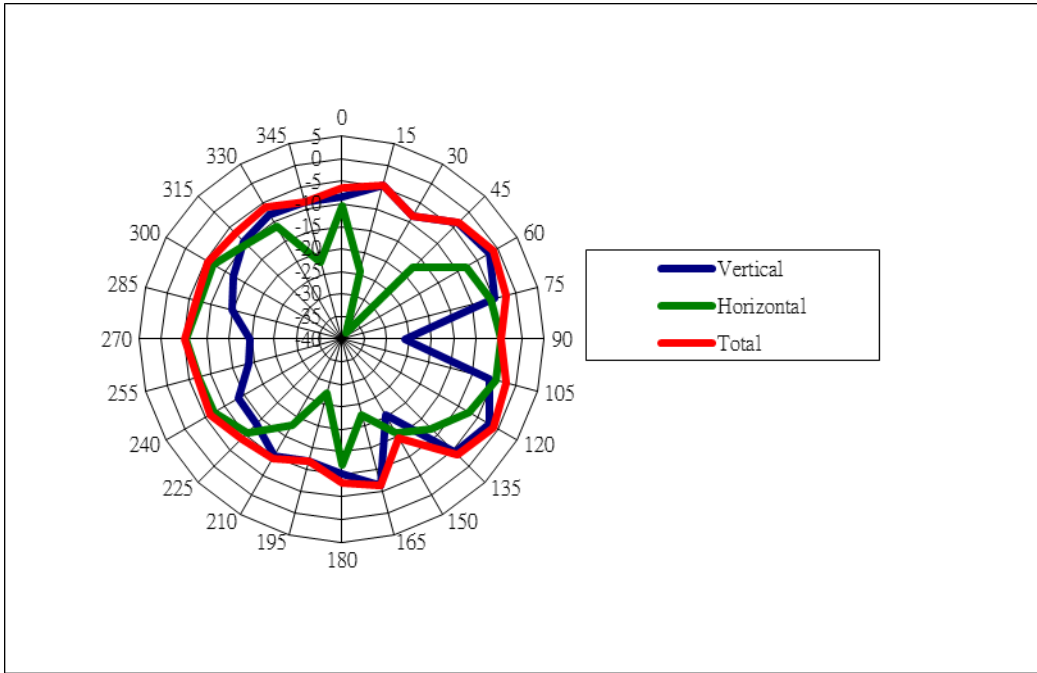
**Tx2 antenna: 1960 MHz**



Center Frequency	<b>1960 MHz</b>
Horizontal (dBi) peak	-4.63
Vertical (dBi) peak	-1.15



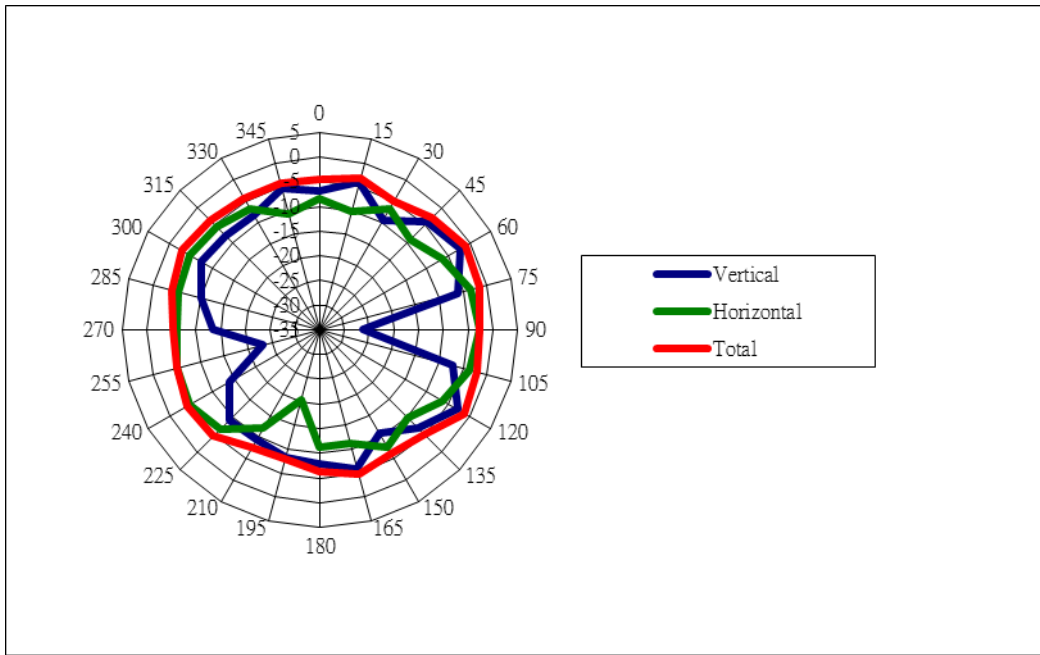
**Tx2 antenna: 1990 MHz**



Center Frequency	<b>1990 MHz</b>
Horizontal (dBi) peak	-4.57
Vertical (dBi) peak	-1.94

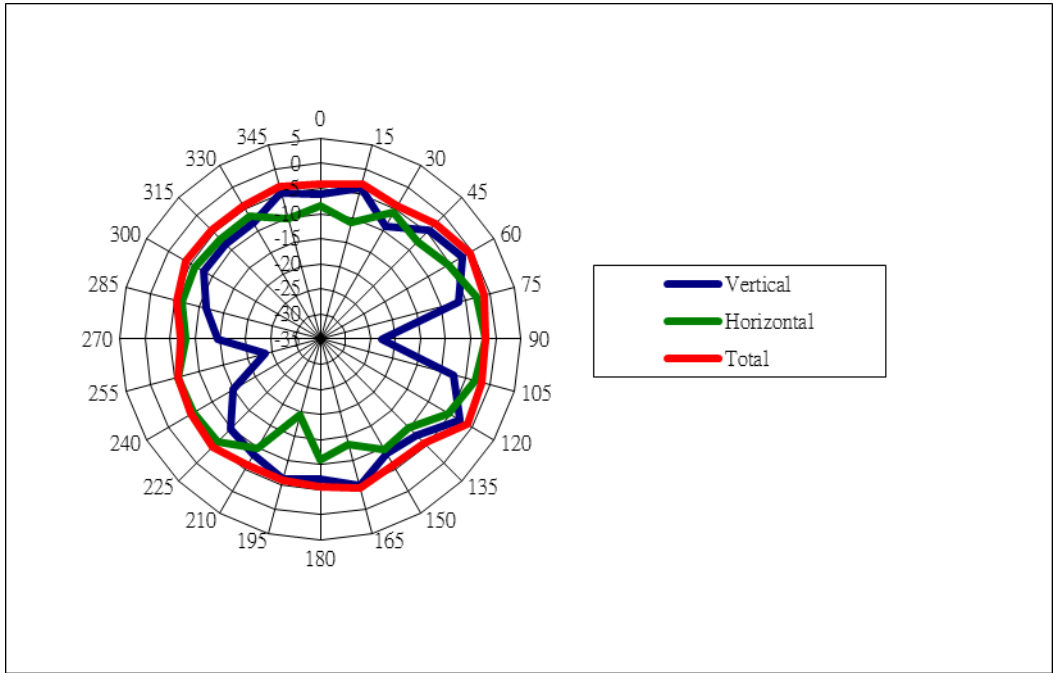
2110-2170MHz radiation characteristic

Tx2 antenna: 2110 MHz



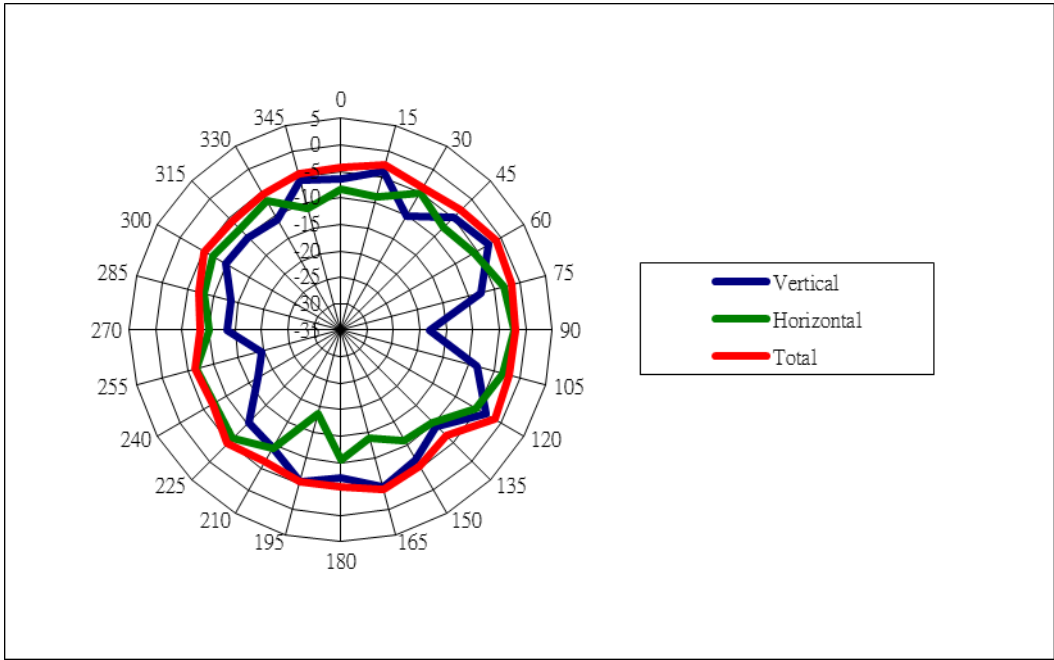
Center Frequency	<b>2110 MHz</b>
Horizontal (dBi) peak	-2.69
Vertical (dBi) peak	-2.27

**Tx2 antenna: 2140 MHz**



Center Frequency	<b>2140 MHz</b>
Horizontal (dBi) peak	-2.02
Vertical (dBi) peak	-2.27

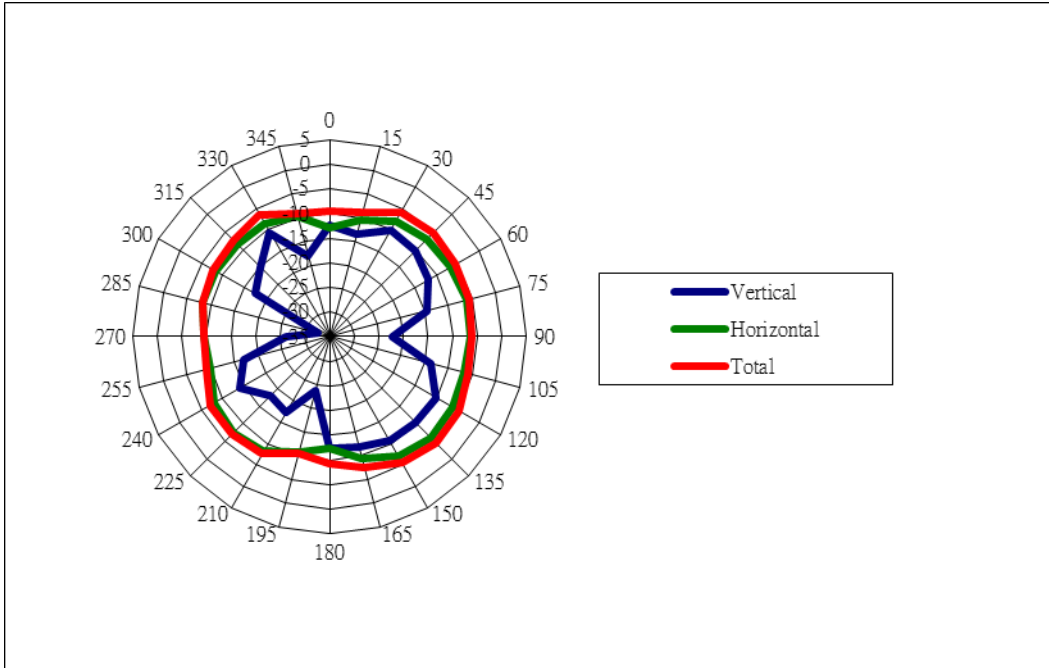
**Tx2 antenna: 2170 MHz**



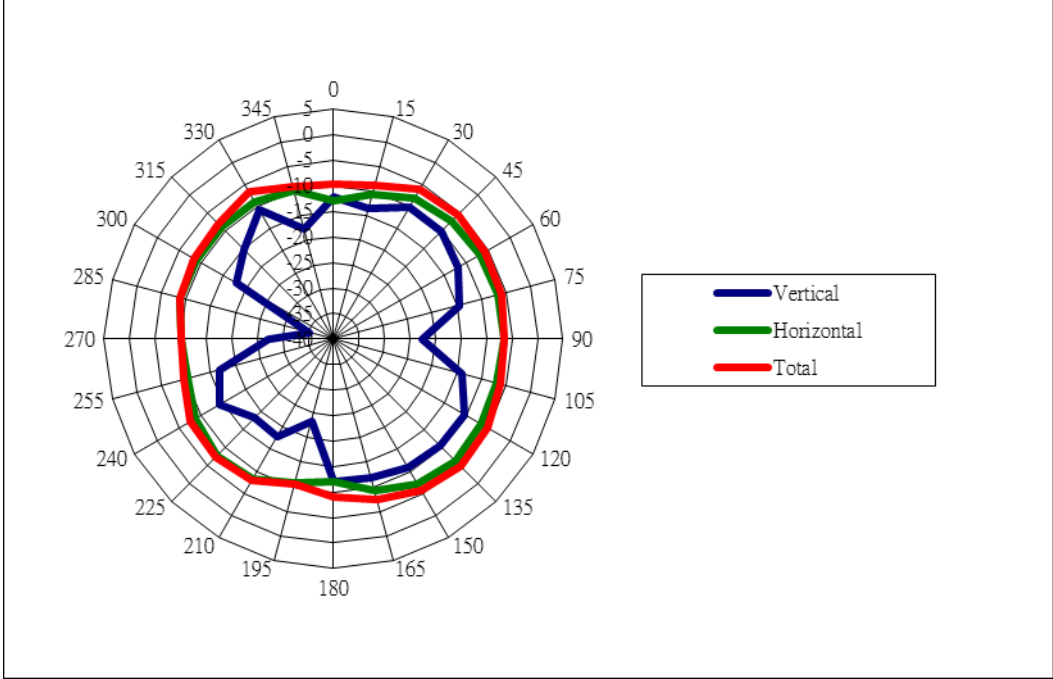
Center Frequency	<b>2170 MHz</b>
Horizontal (dBi) peak	-2.17
Vertical (dBi) peak	-2.77

**734-746MHz radiation characteristic**

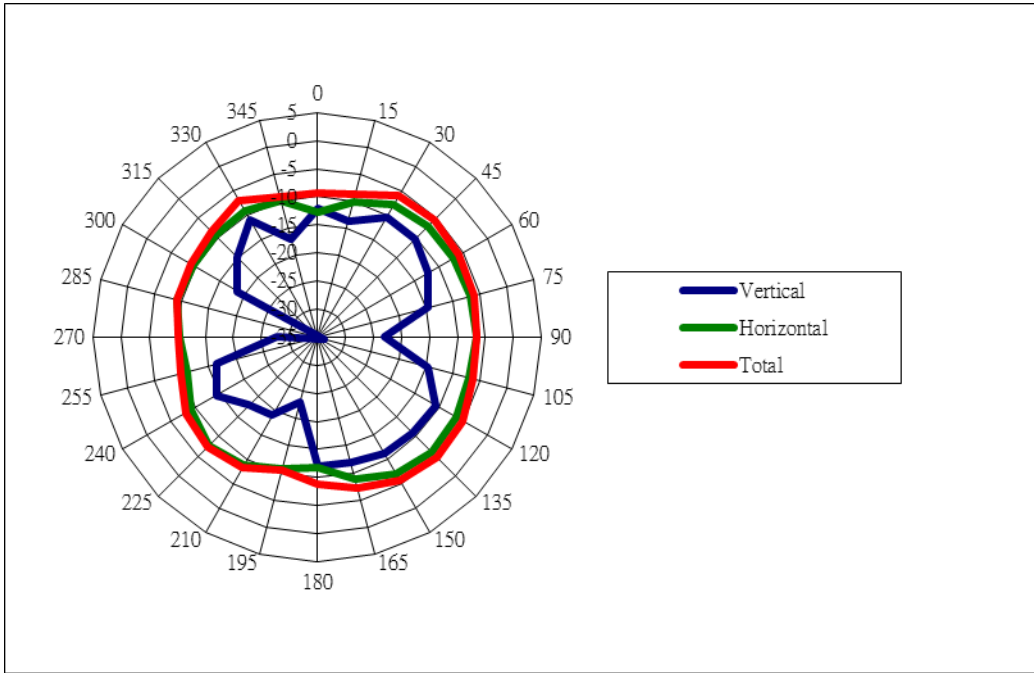
**Tx2 antenna: 734 MHz**



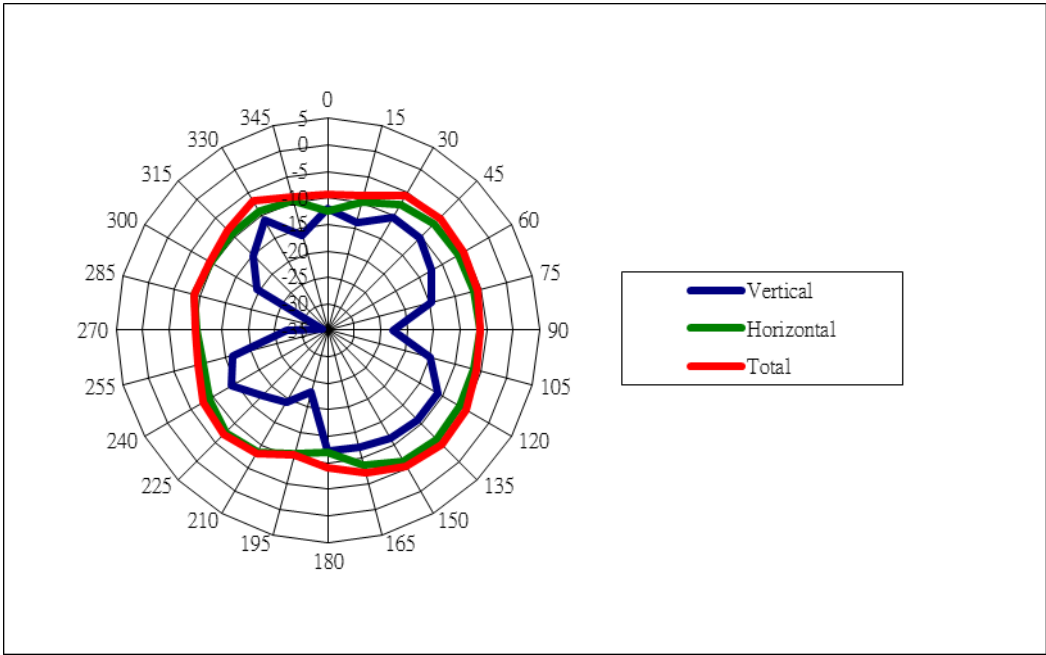
Center Frequency	<b>734 MHz</b>
Horizontal (dBi) peak	-5.91
Vertical (dBi) peak	-10.18



Center Frequency	<b>740 MHz</b>
Horizontal (dBi) peak	-6.21
Vertical (dBi) peak	-10.13

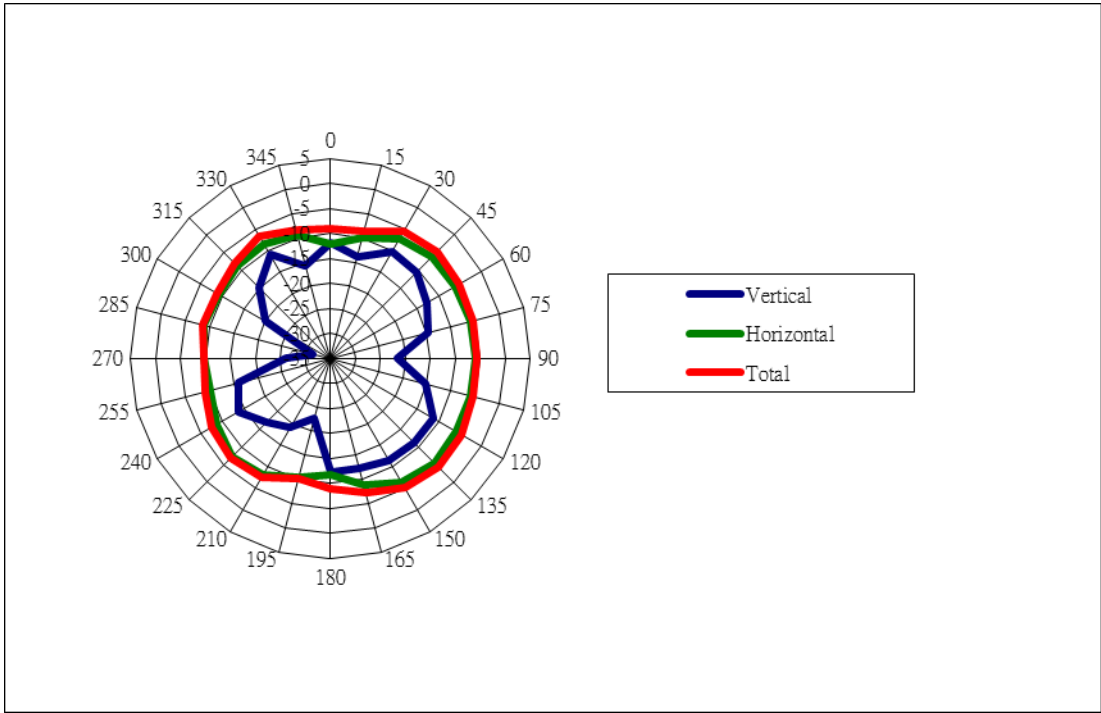


Center Frequency	<b>746 MHz</b>
Horizontal (dBi) peak	-6.13
Vertical (dBi) peak	-10.28



Center Frequency	<b>751 MHz</b>
Horizontal (dBi) peak	-5.79
Vertical (dBi) peak	-10.42

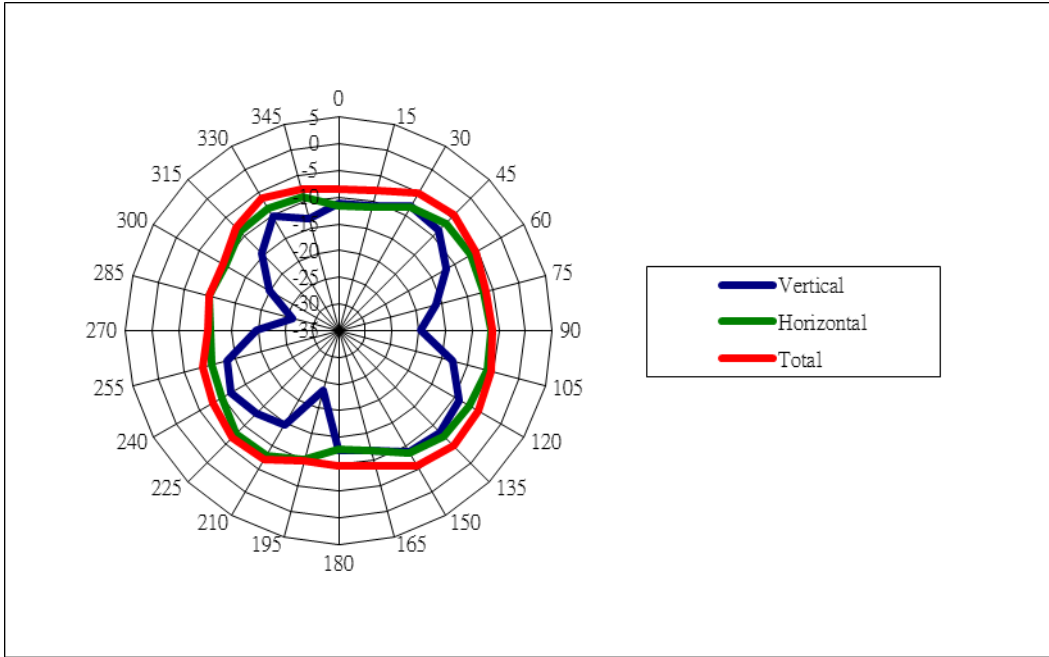




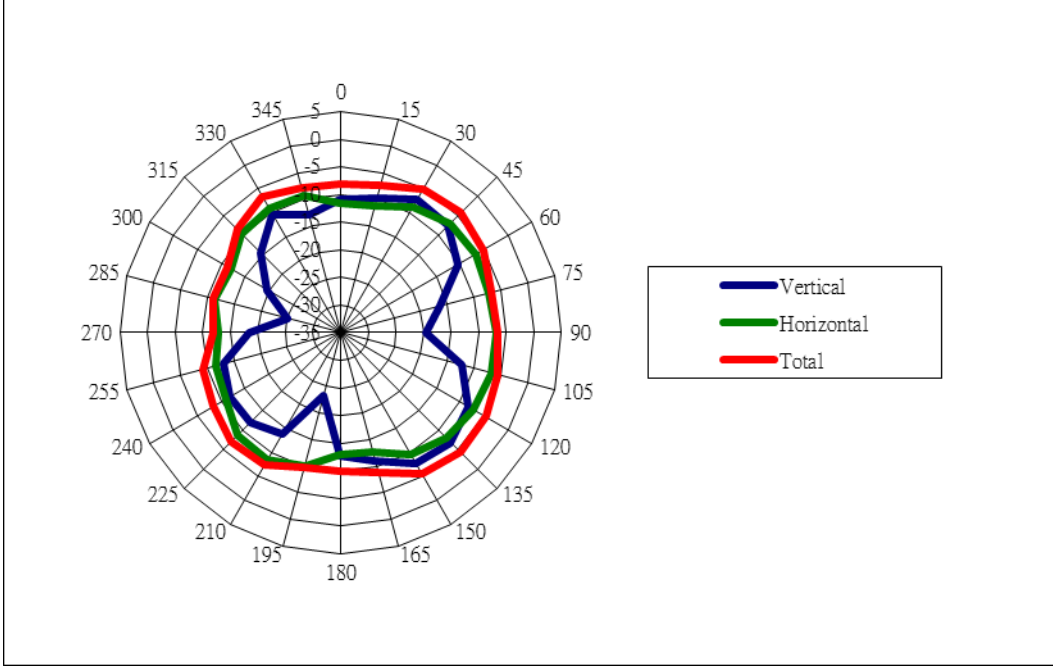
Center Frequency	<b>756 MHz</b>
Horizontal (dBi) peak	-5.48
Vertical (dBi) peak	-10.37

791-821MHz radiation characteristic

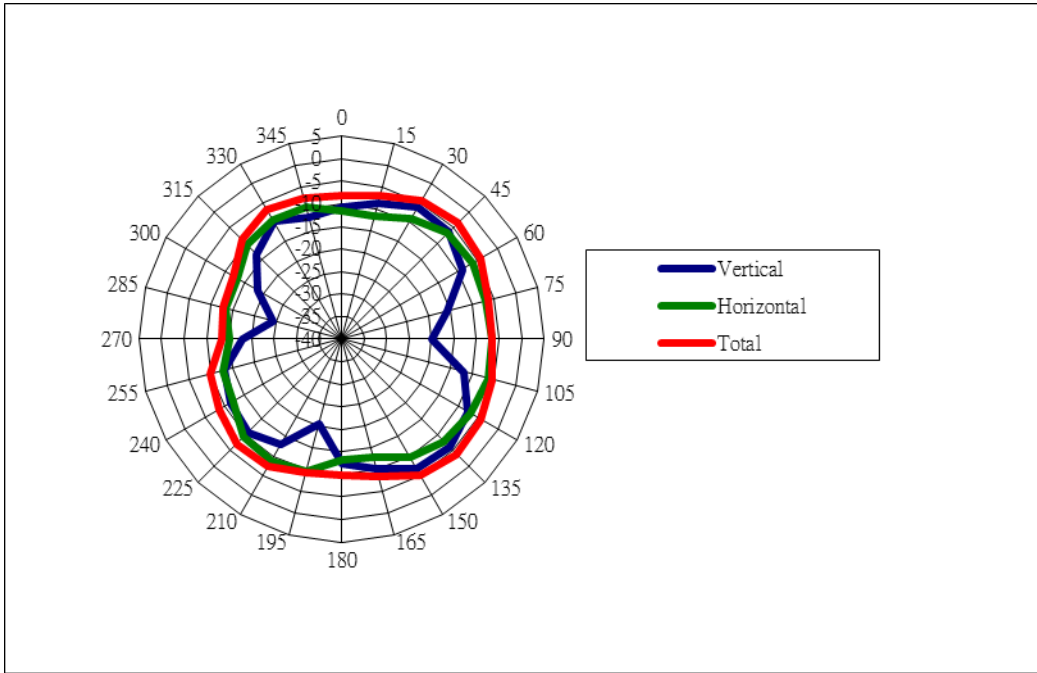
Tx2 antenna: 791MHz



Center Frequency	<b>791 MHz</b>
Horizontal (dBi) peak	-6.28
Vertical (dBi) peak	-8.04



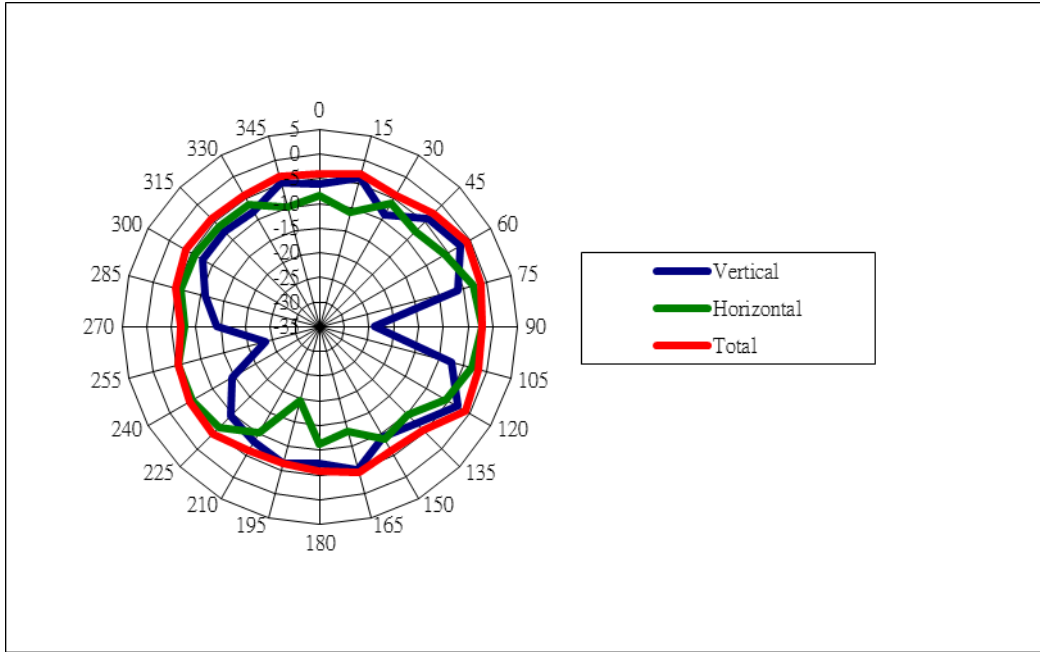
Center Frequency	<b>806 MHz</b>
Horizontal (dBi) peak	-6.74
Vertical (dBi) peak	-6.93



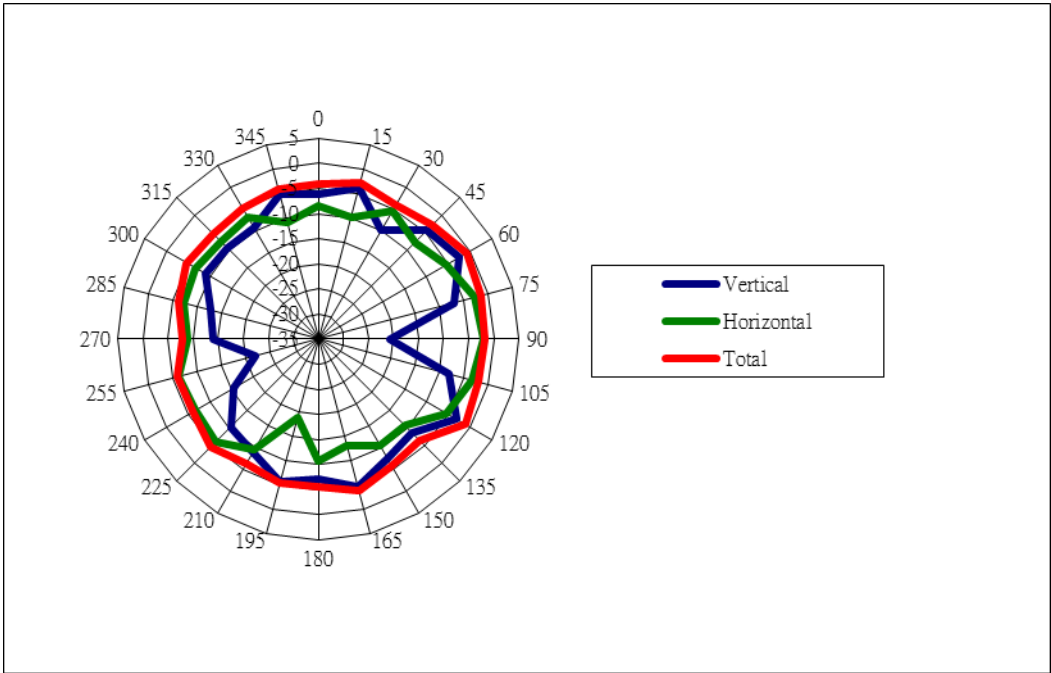
Center Frequency	<b>821 MHz</b>
Horizontal (dBi) peak	-6.30
Vertical (dBi) peak	-5.98

2132-2155MHz radiation characteristic

Tx2 antenna: 2132 MHz



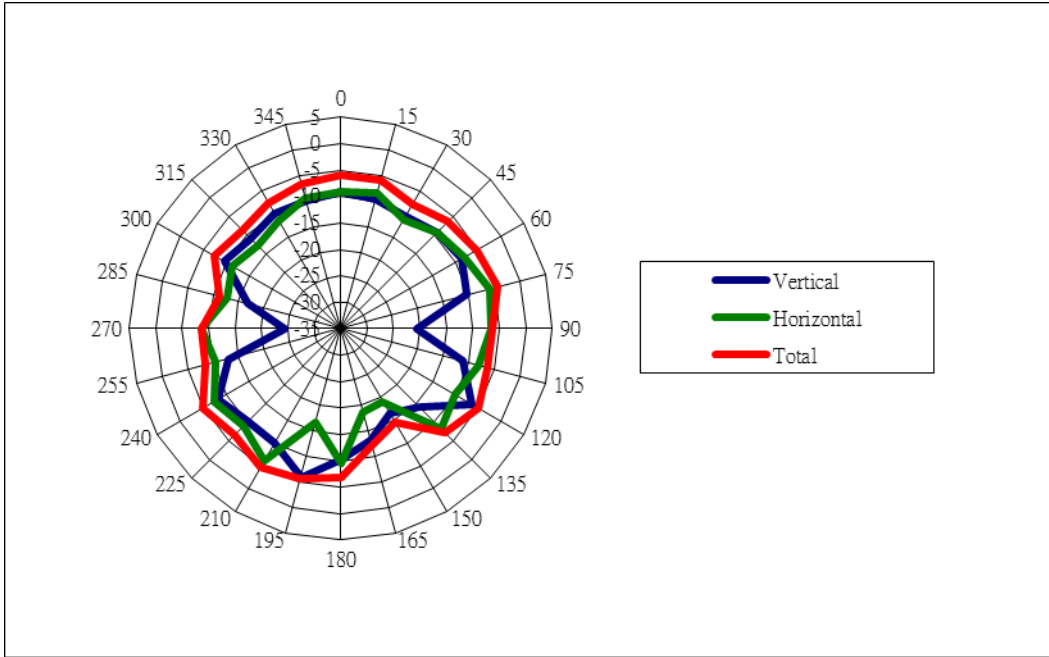
Center Frequency	<b>2132 MHz</b>
Horizontal (dBi) peak	-2.14
Vertical (dBi) peak	-2.21



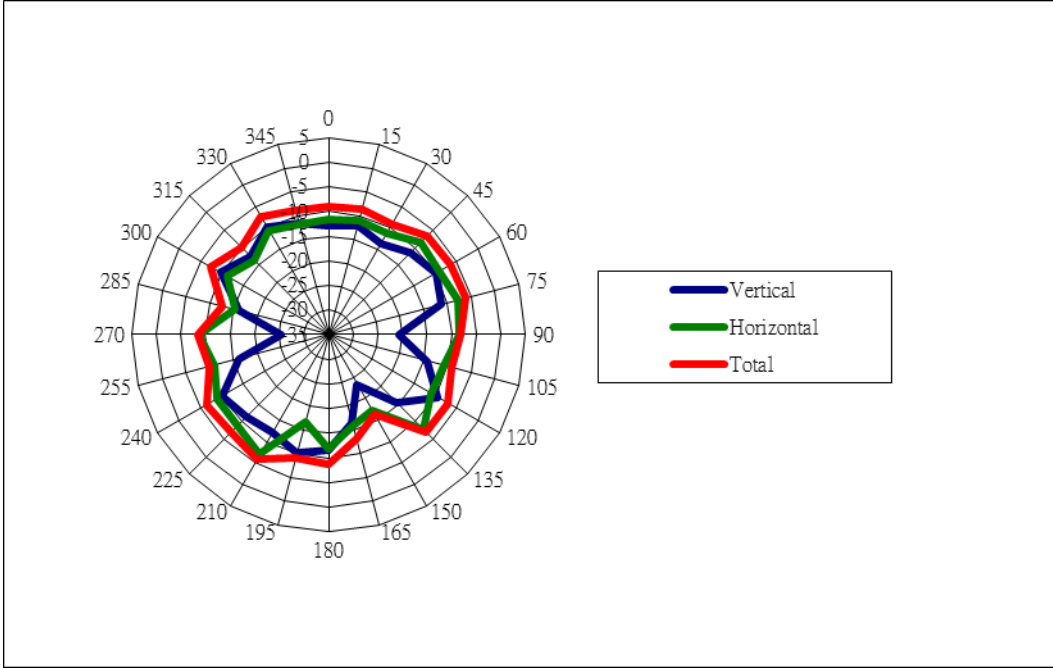
Center Frequency	<b>2155 MHz</b>
Horizontal (dBi) peak	-1.97
Vertical (dBi) peak	-2.47

2620-2690MHz radiation characteristic

Tx2 antenna: 2620MHz



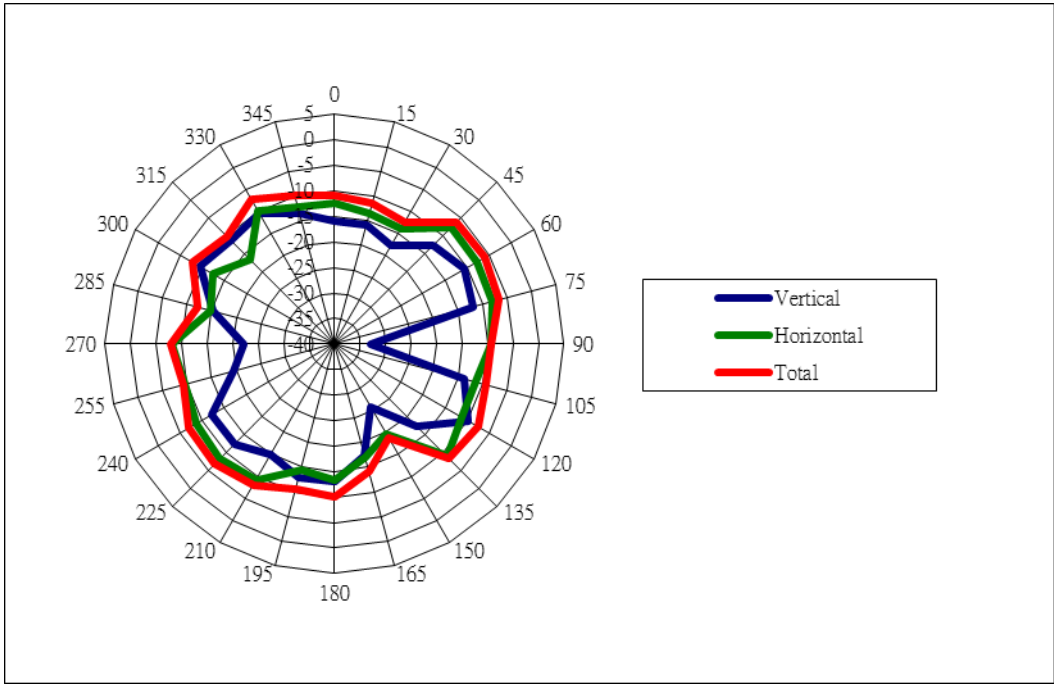
Center Frequency	<b>2620 MHz</b>
Horizontal (dBi) peak	-5.73
Vertical (dBi) peak	-5.98



Center Frequency	<b>2655 MHz</b>
Horizontal (dBi) peak	-7.16
Vertical (dBi) peak	-9.37



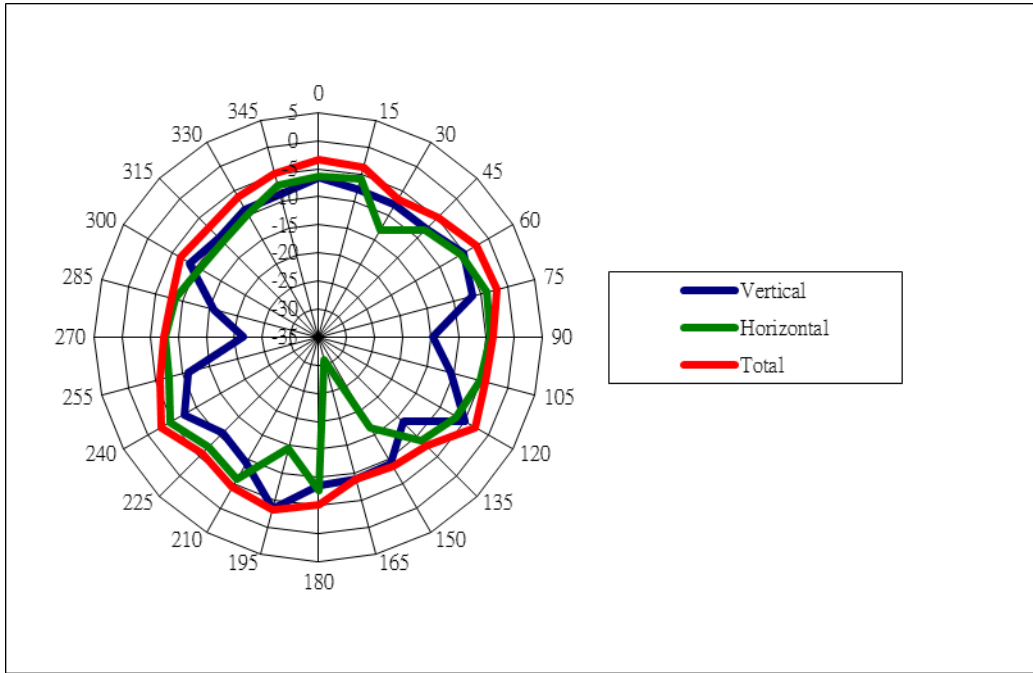
**Tx2 antenna: 2690MHz**



Center Frequency	<b>2690 MHz</b>
Horizontal (dBi) peak	-7.55
Vertical (dBi) peak	-9.67

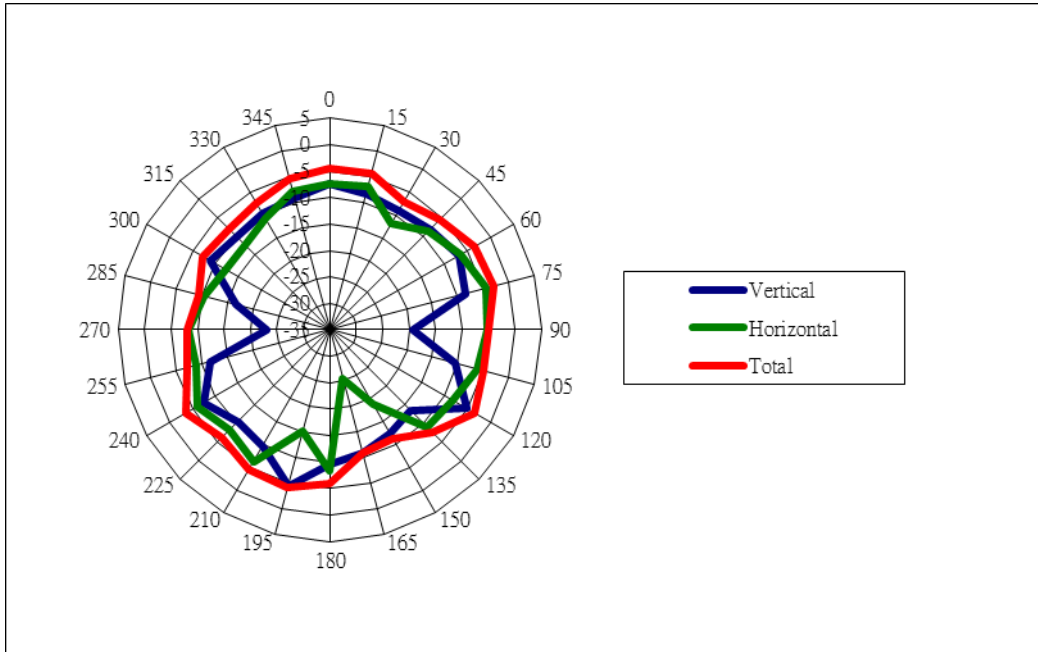
**2570-2620 MHz radiation characteristic**

**Tx2 antenna: 2570 MHz**



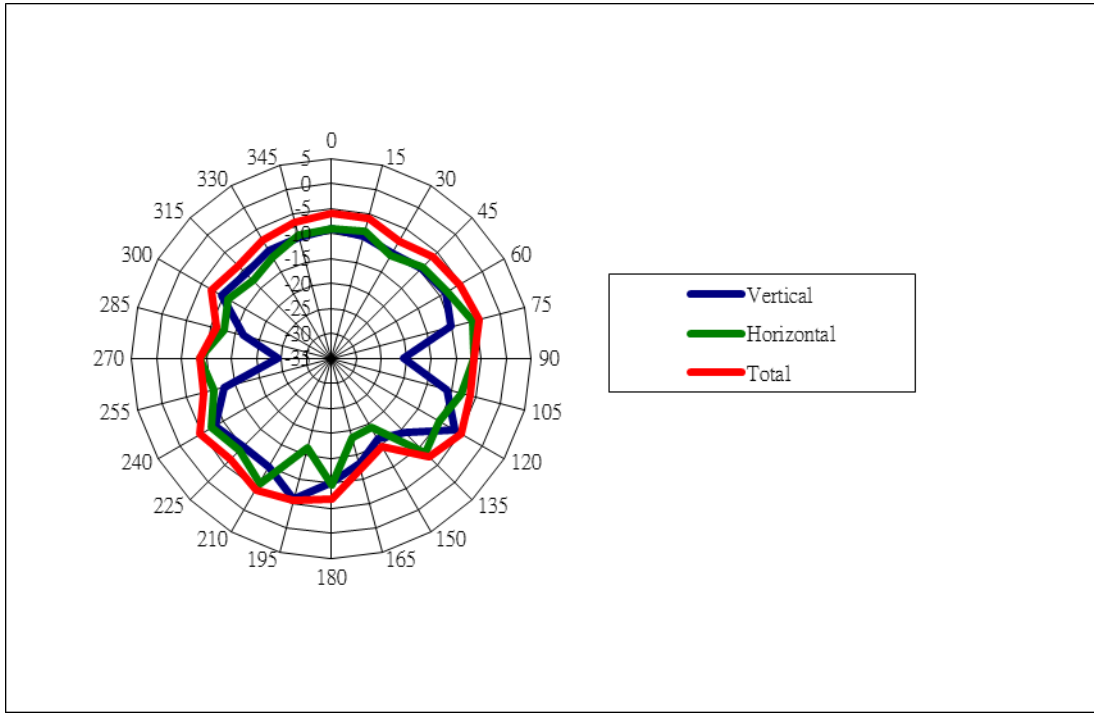
Center Frequency	<b>2570 MHz</b>
Horizontal (dBi) peak	-3.81
Vertical (dBi) peak	-3.49

**Tx2 antenna: 2595 MHz**



Center Frequency	<b>2595 MHz</b>
Horizontal (dBi) peak	-4.46
Vertical (dBi) peak	-4.45

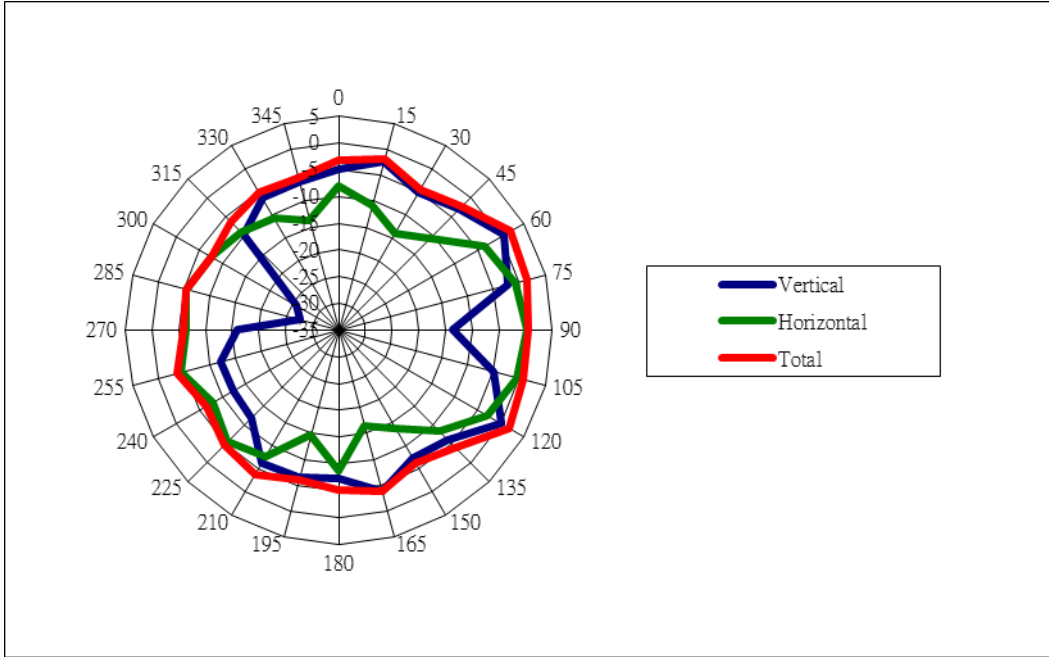
**Tx2 antenna: 2620 MHz**



Center Frequency	<b>2620MHz</b>
Horizontal (dBi) peak	-5.73
Vertical (dBi) peak	-5.98

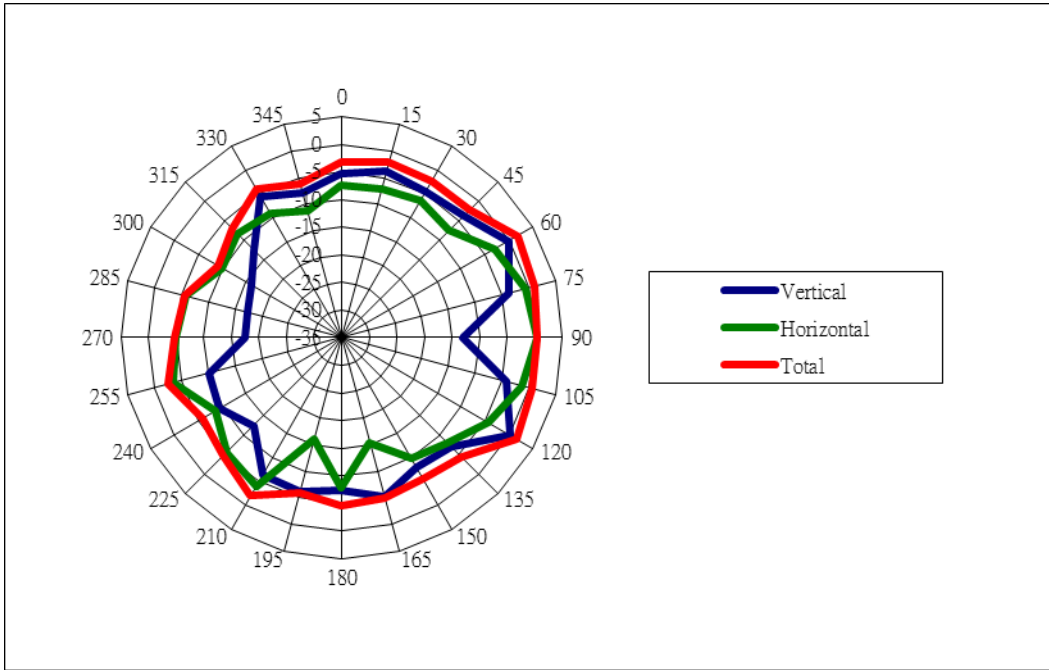
**2300-2400 MHz radiation characteristic**

**Tx2 antenna: 2300 MHz**



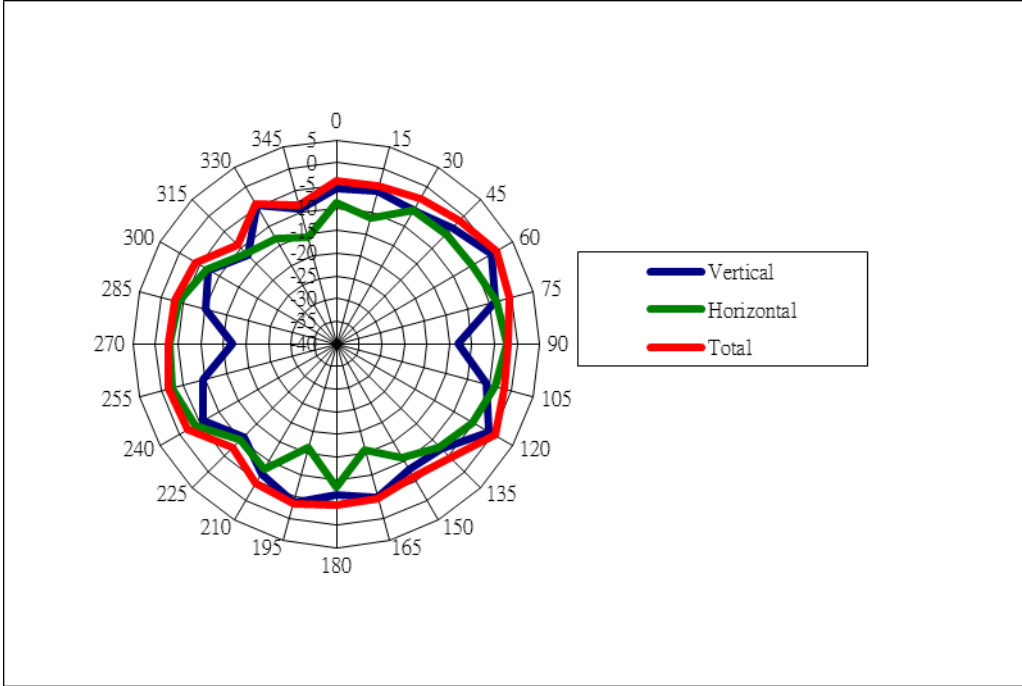
Center Frequency	<b>2300 MHz</b>
Horizontal (dBi) peak	0.23
Vertical (dBi) peak	0.73

**Tx2 antenna: 2350 MHz**



Center Frequency	<b>2350 MHz</b>
Horizontal (dBi) peak	0.29
Vertical (dBi) peak	0.15

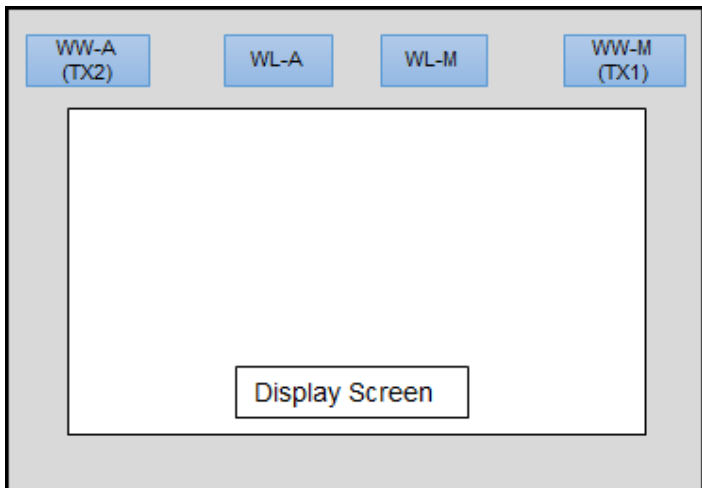
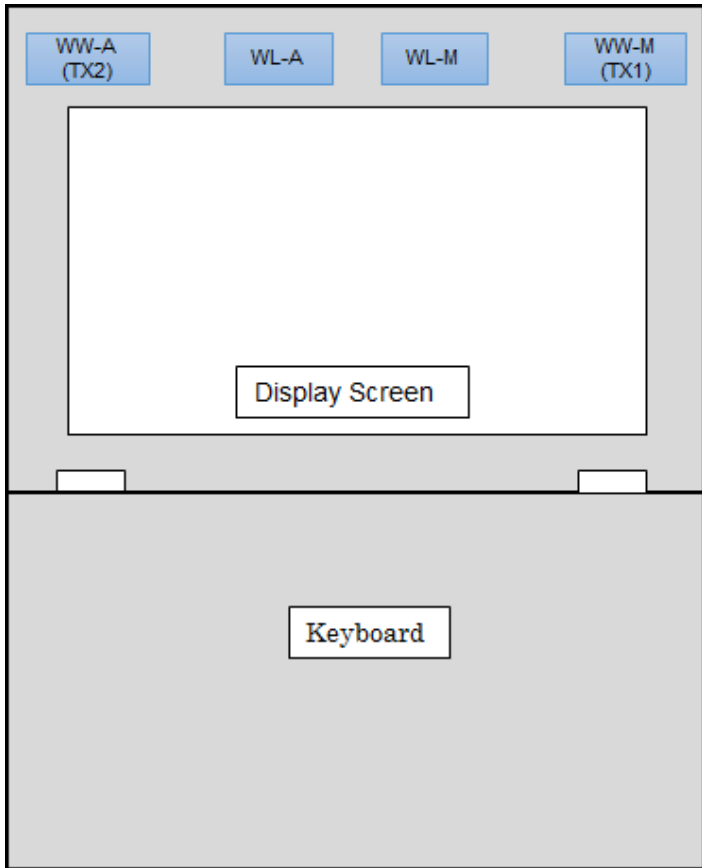
**Tx2 antenna: 2400 MHz**



Center Frequency	<b>2400 MHz</b>
Horizontal (dBi) peak	-2.44
Vertical (dBi) peak	-0.46

## Section 4. Host Platform Information

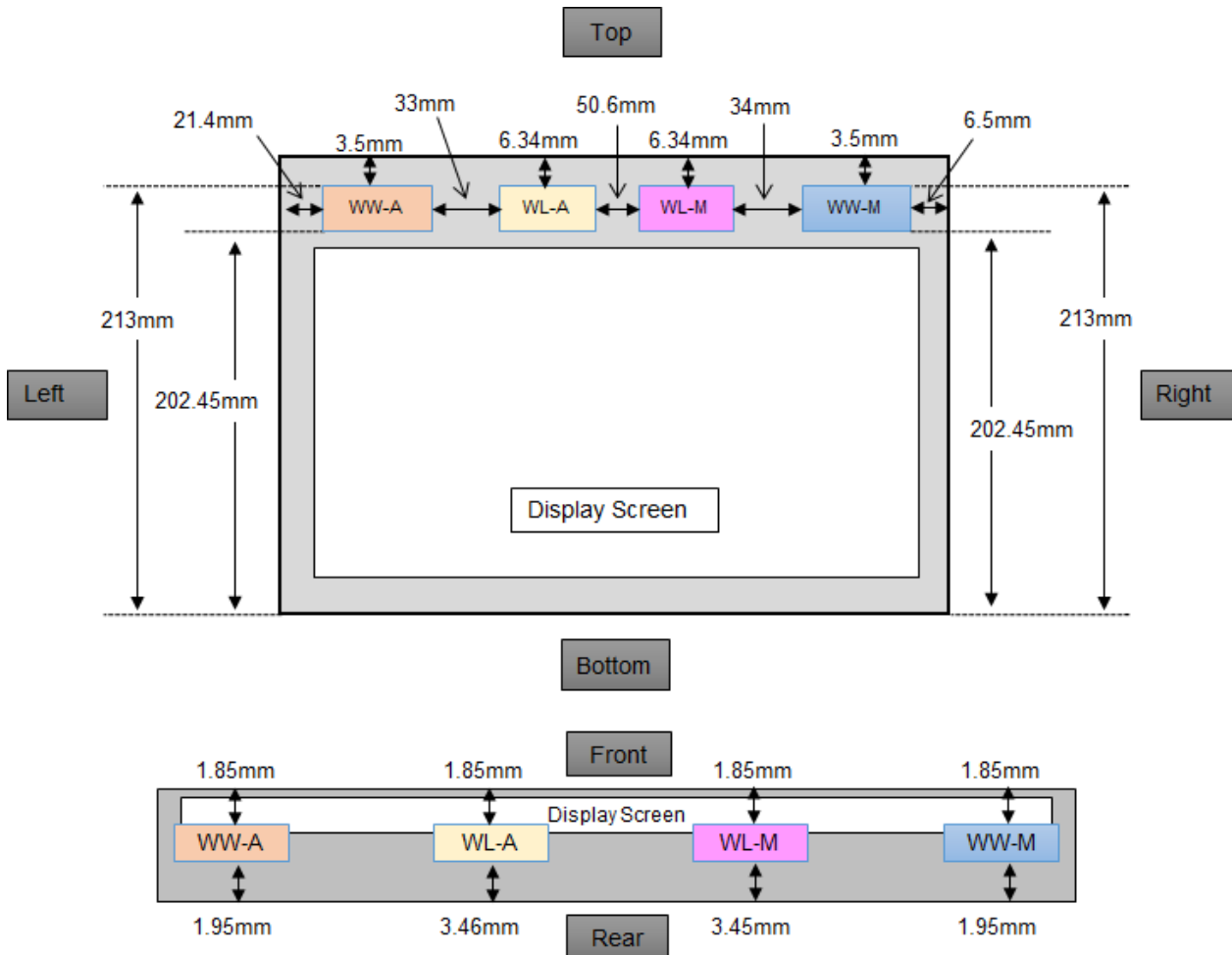
OEM / ODM Host platform: (Compal/Miramar) platform correlated to antenna data  
**Rating Label Photo:**





## Section 5. Antenna Host Platform Location Information

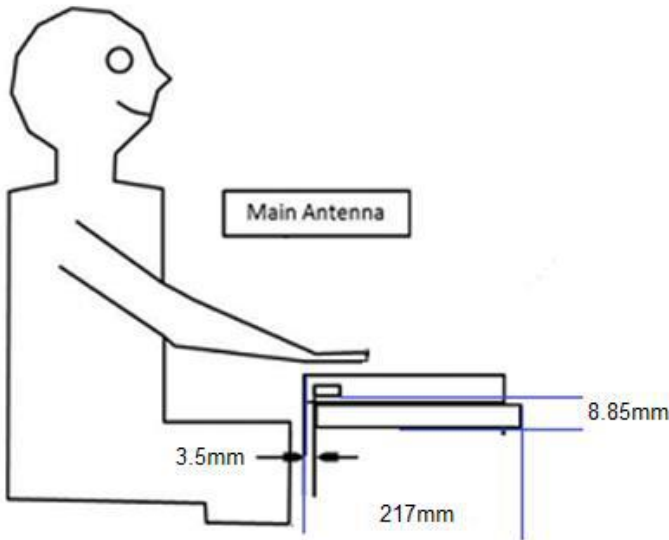
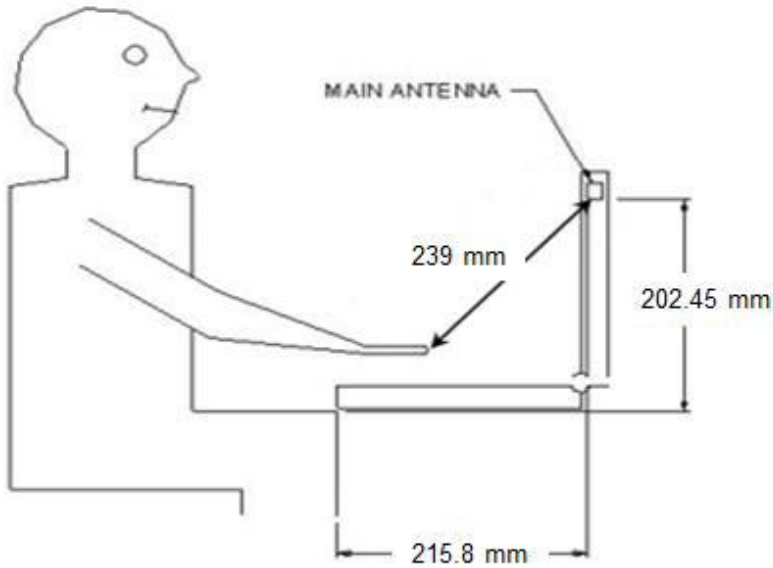
Include a **dimensioned photo(s) or dimensioned drawing(s)** of Tx1, Tx2 and Tx3 antenna placements (measurements are not required for receive-only antenna). Any antenna that transmits must show dimensions to bottom of laptop. Provide a description of the materials that are used for supporting or surrounding transmit antennas; for example, non-conductive plastics vs. conductive coated plastic or metallic materials.



(mm)	WWAN Aux	WLAN Aux	WLAN Main	WWAN Main
<b>Top</b>	3.5	6.34	6.34	3.5
<b>Right</b>	232.9	167.7	85.1	6.5
<b>Left</b>	21.4	89.6	172.2	237.75
<b>Front (TB mode)</b>	1.85	1.85	1.85	1.85
<b>Rear (TB mode)</b>	1.95	3.46	3.45	1.95

## Section 6. Antenna dimensional information for SAR evaluation

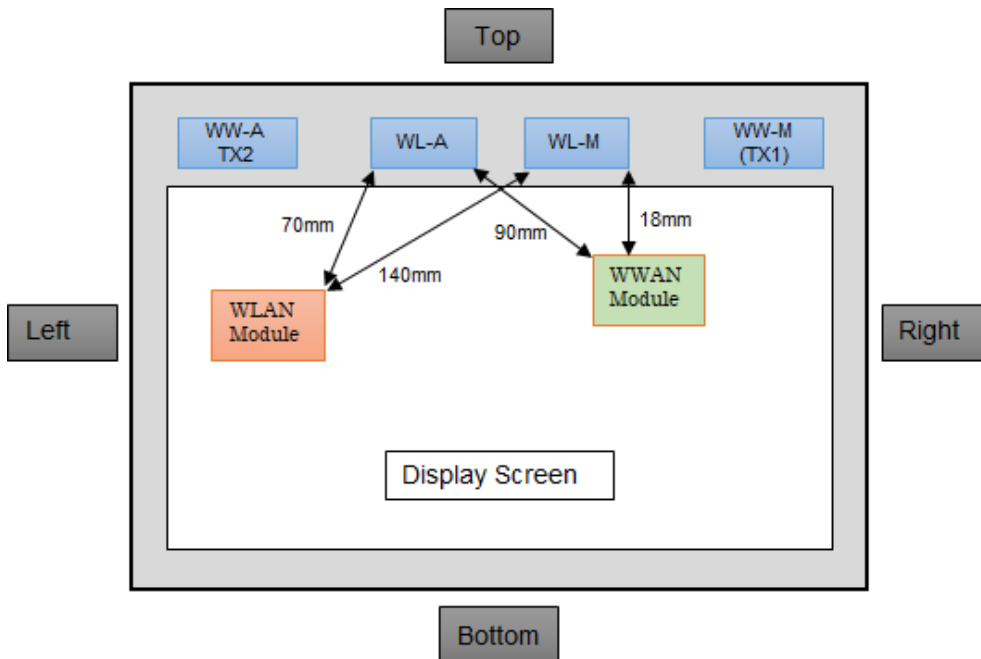
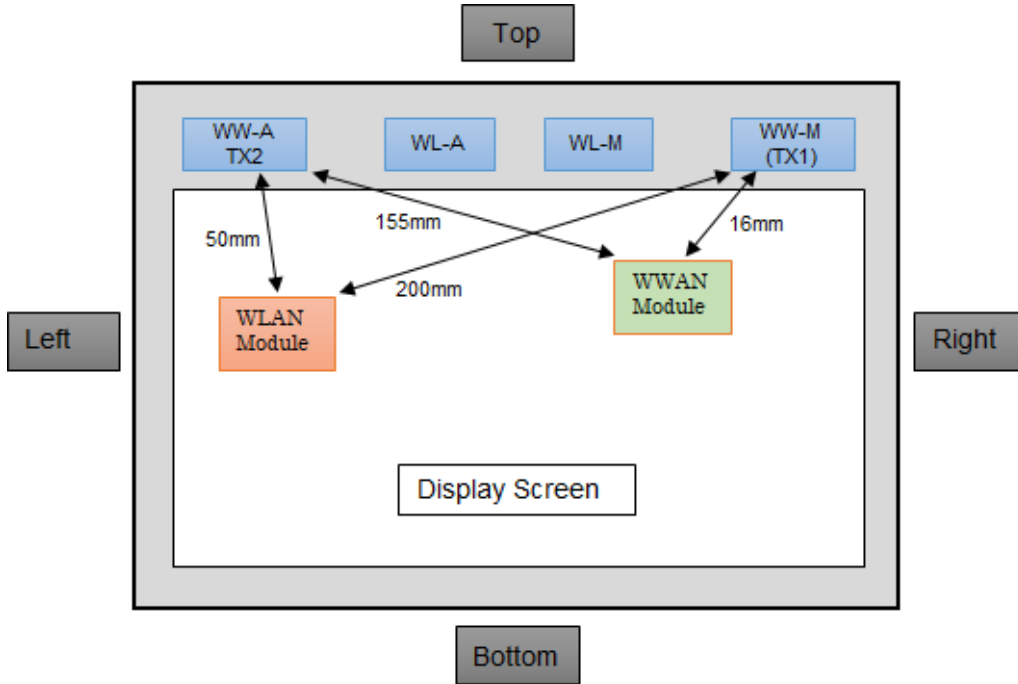
Include a **dimensioned photo(s) or dimensioned drawing(s)** showing the distance (mm) between the transmit antennas and the user (excluding hands, wrist, feet, and ankle). For notebook/laptop hosts show lapheld position (example below). For tablet hosts show all orientations including lapheld, primary & secondary portrait, primary & secondary landscape positions. Include a description of any proximity sensors or power throttling implementations that limit or exclude use of any host orientation.



## Section 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						
Azerbaijan						
Cambodia						
Indonesia						
Israel						
Malaysia						
Philippines						
Singapore						Telecommunication Equipment Dealer License Required
South Africa						
USA, Canada						
Vietnam						