

Antenna Regulatory Information

• Product type	• WWAN antenna
• Model number	• Mini Cooper
• Revision	• Rev. 1
• Manufacturer Part No. : Main / Aux	• 2023988-1/2023989-1
• Dell Part No. : Main / Aux	•



Template Revision 031408

1. Specifications

Antenna Specifications

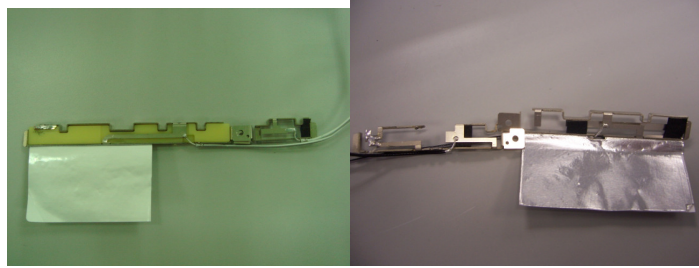
Remark: Peak Gains include all system losses (connector, cable, etc)

Antenna Type (Material, Technology)	PIFA
Antenna Model Number	MINICOOPER
Operating Frequency Range(s)	824MHz ~ 960MHz and 1710MHz ~ 2170MHz
Peak Gain (Low Band) (dBi)	Main 0.6 / Aux -1.68
Peak Gain (High Band) (dBi)	Main 0.91 / Aux-1.76
Radio Connector Type	IPEX 20278-111R-13 / IPEX 20531-111R-37
Mid-Line Connector Type (If Applicable)	N/A

Cable Specifications

Cable Parameters	Main			Aux		
	LCD Side	Base Side	Total	LCD Side	Base Side	Total
Length (mm)	N/A	N/A	320	N/A	N/A	561
Loss (Including Connectors) (dB, 0.9GHz / 2GHz)			0.56 / 0.63			0.8 / 1.11
Description (Color, Diameter, Manufacturer)	Color: White with a gray stripe OD: 1.13 mm(low loss) Vendor: Kurabe/GBE/Sumitomo/HL			Color: Black with a gray stripe OD: 1.13 mm (low loss) Vendor: Kurabe/GBE/Sumitomo/HL		

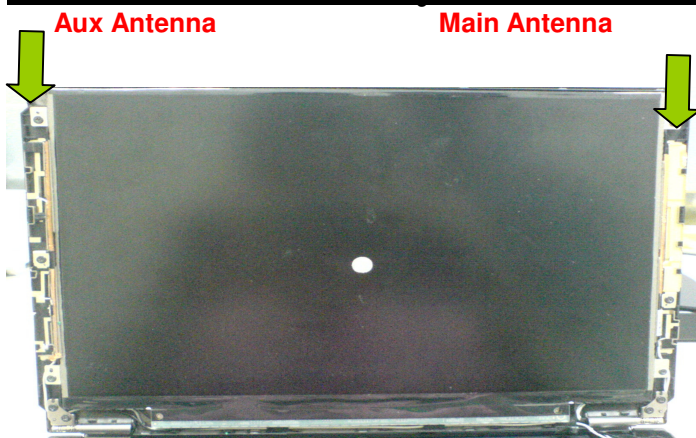
2. Antenna Assembly



Main Antenna

Aux Antenna

3. Antenna Assembly Installed in The Notebook

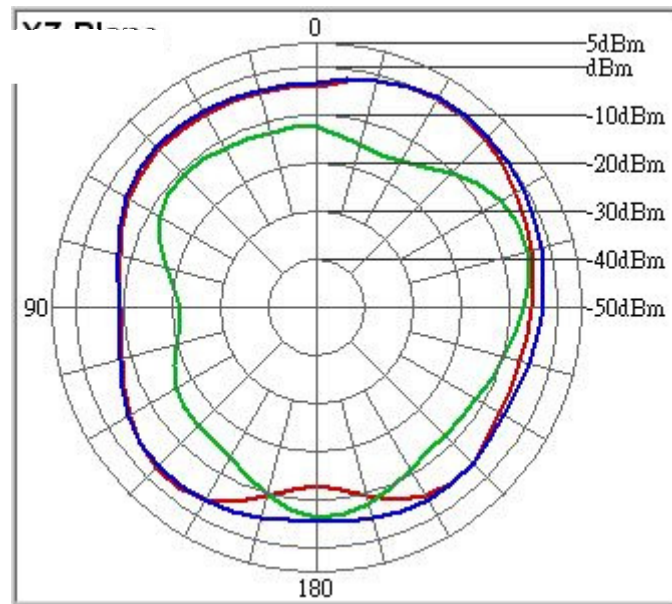


4. Mechanical Drawing of Antennas



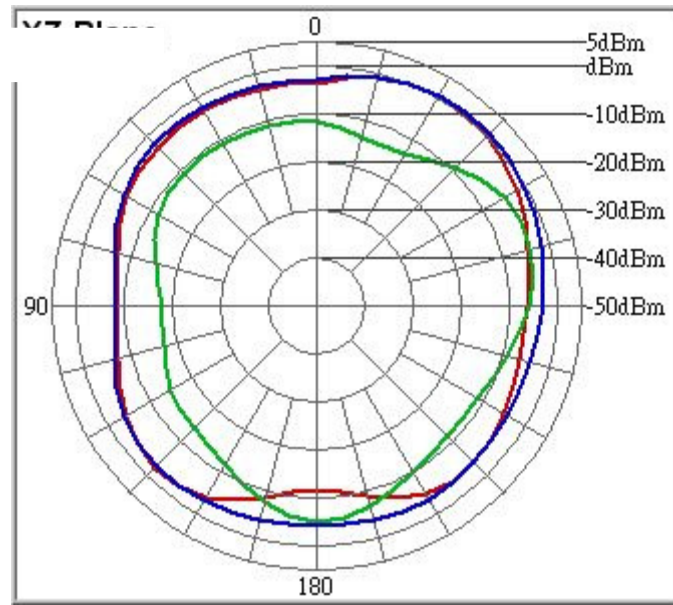
5. Gain Patterns

- Main Antenna
824 MHz



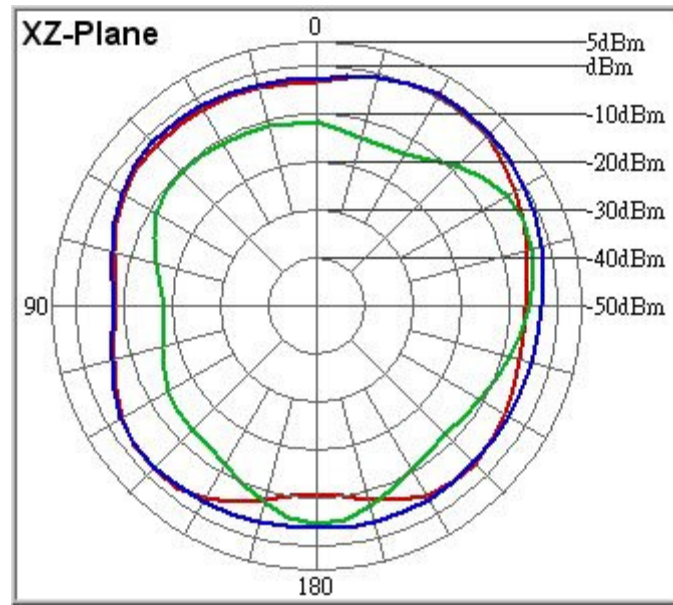
Center Frequency	824 MHz
Horizontal (dBi) peak	0.24
Vertical (dBi) peak	-2.77

836 MHz



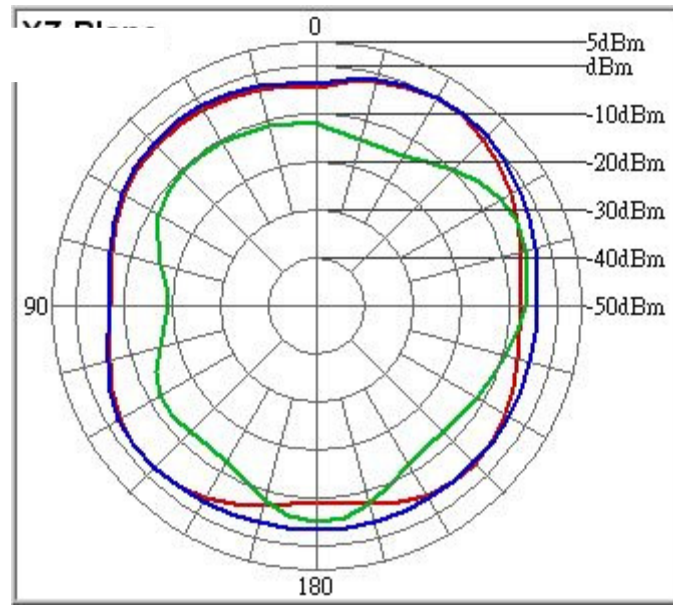
Center Frequency	836 MHz
Horizontal (dBi) peak	0.57
Vertical (dBi) peak	-2.94

849 MHz



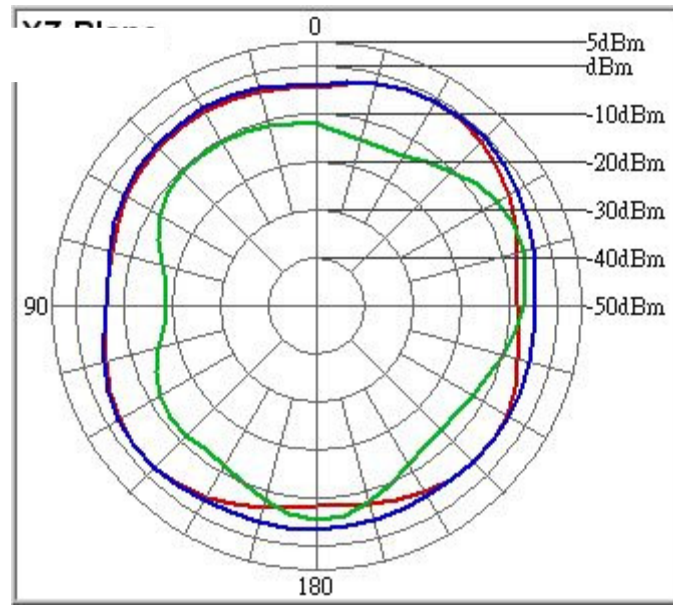
Center Frequency	849 MHz
Horizontal (dBi) peak	0.6
Vertical (dBi) peak	-3.27

869 MHz



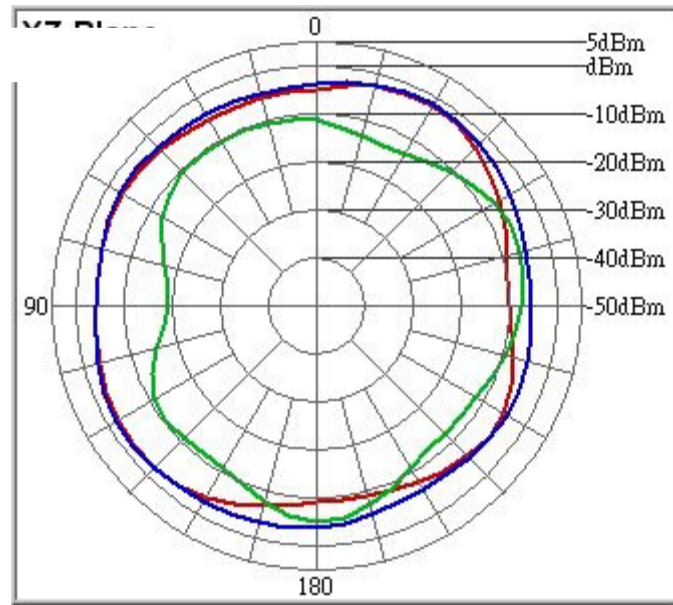
Center Frequency	869 MHz
Horizontal (dBi) peak	0.12
Vertical (dBi) peak	-4.13

880 MHz



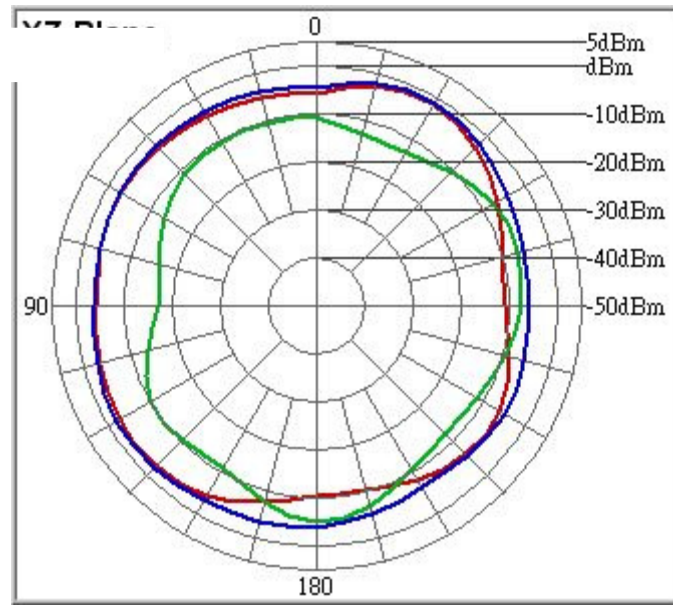
Center Frequency	880 MHz
Horizontal (dBi) peak	-0.9
Vertical (dBi) peak	-4.6

894 MHz



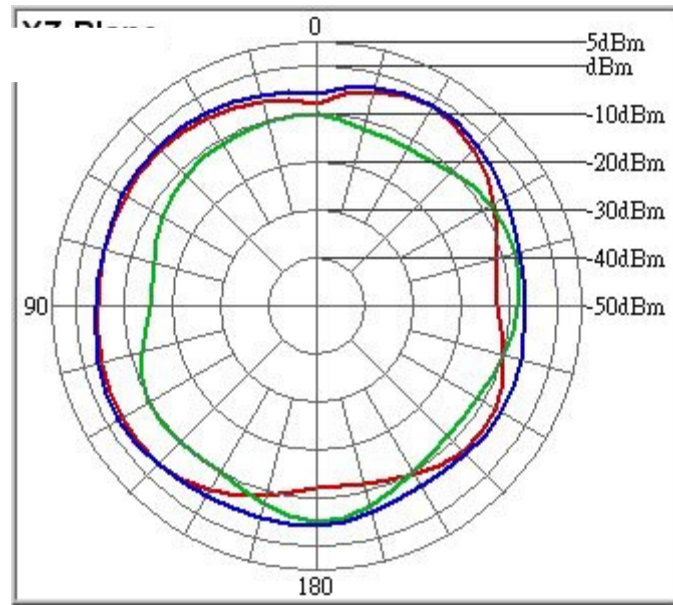
Center Frequency	894 MHz
Horizontal (dBi) peak	-1.93
Vertical (dBi) peak	-4.82

900 MHz



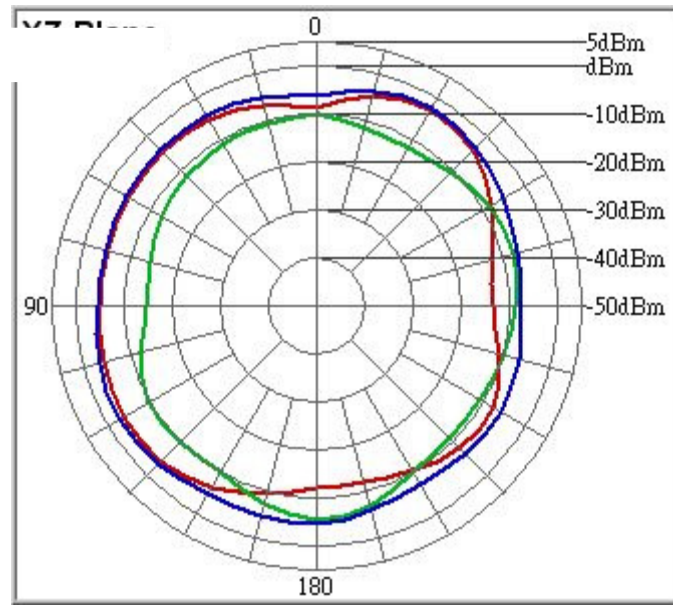
Center Frequency	900 MHz
Horizontal (dBi) peak	-1.51
Vertical (dBi) peak	-4.95

915 MHz



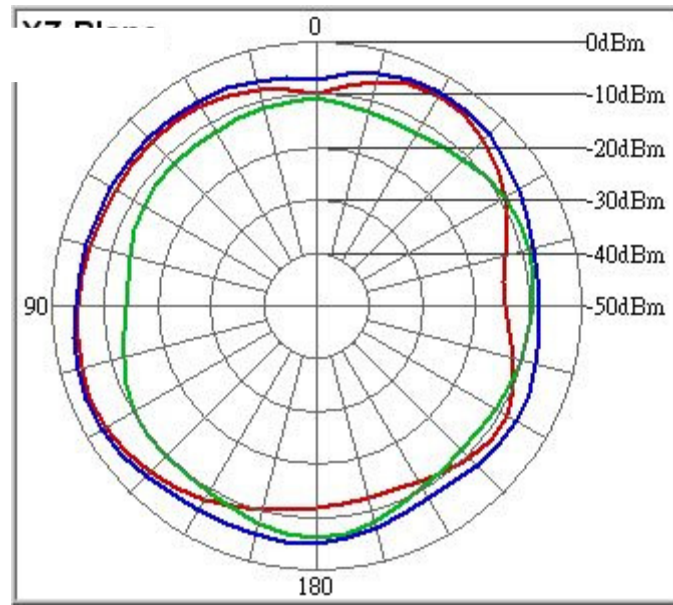
Center Frequency	915 MHz
Horizontal (dBi) peak	-2.07
Vertical (dBi) peak	-5.13

925 MHz



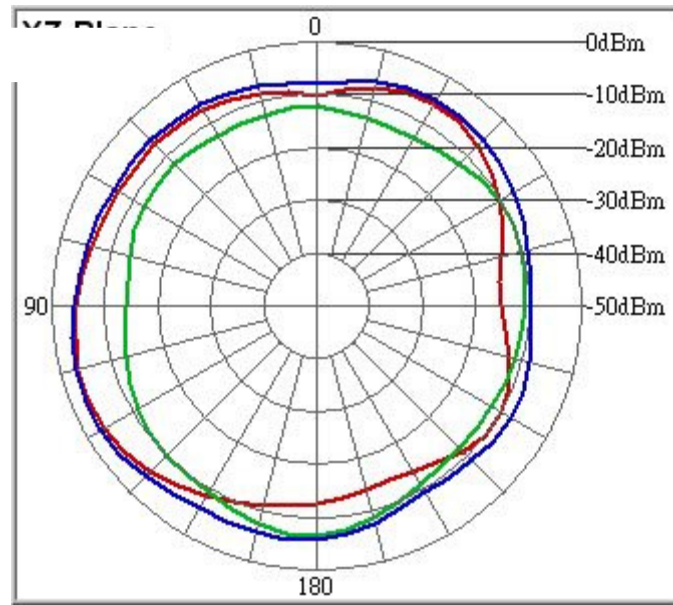
Center Frequency	925 MHz
Horizontal (dBi) peak	-2.77
Vertical (dBi) peak	-5.44

940 MHz



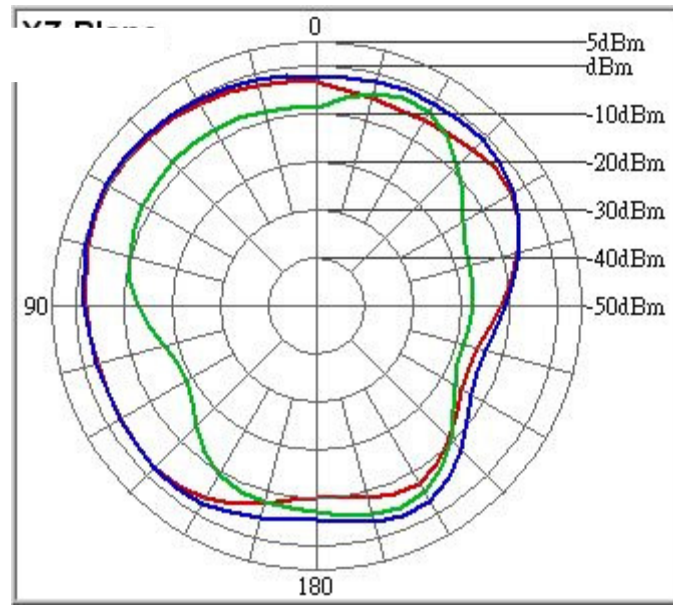
Center Frequency	940 MHz
Horizontal (dBi) peak	-3.97
Vertical (dBi) peak	-5.98

960 MHz



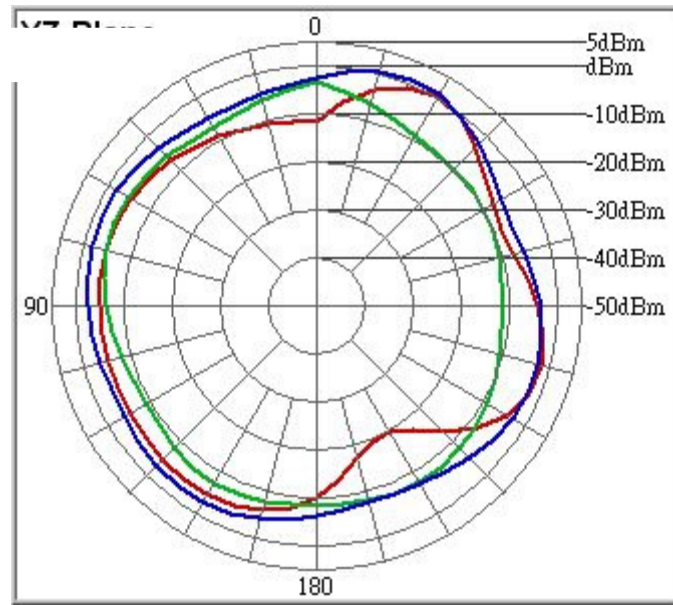
Center Frequency	960 MHz
Horizontal (dBi) peak	-3.53
Vertical (dBi) peak	-6.46

1710 MHz



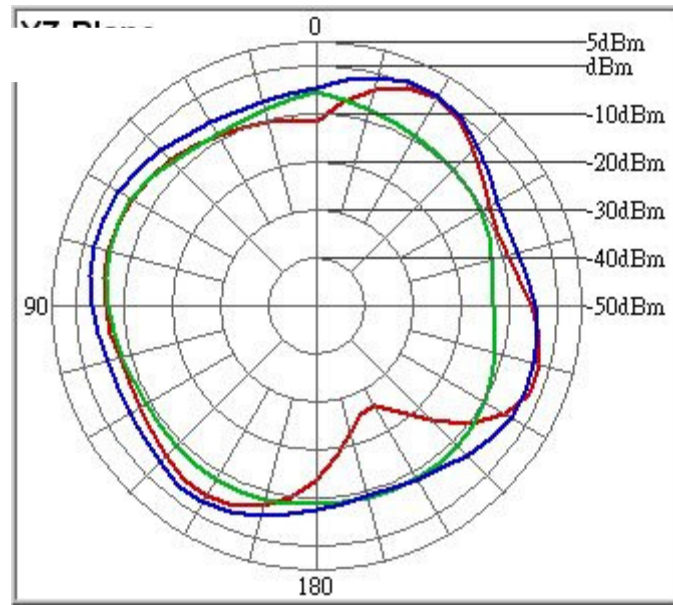
Center Frequency	1710 MHz
Horizontal (dBi) peak	-0.12
Vertical (dBi) peak	-3.34

1750 MHz



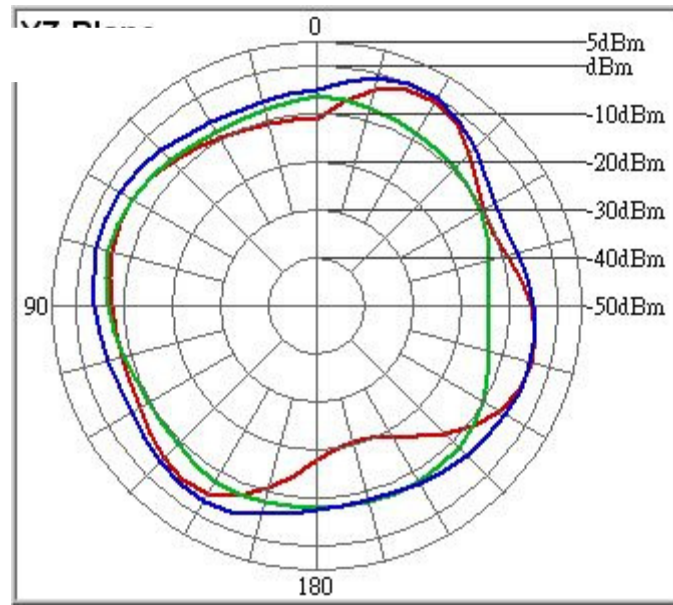
Center Frequency	1750 MHz
Horizontal (dBi) peak	0.37
Vertical (dBi) peak	-3.17

1785 MHz



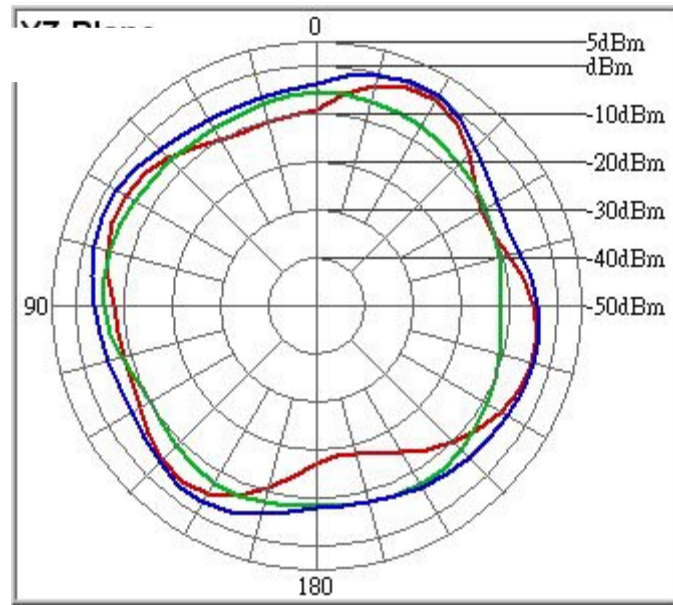
Center Frequency	1785 MHz
Horizontal (dBi) peak	-0.11
Vertical (dBi) peak	-0.48

1805 MHz



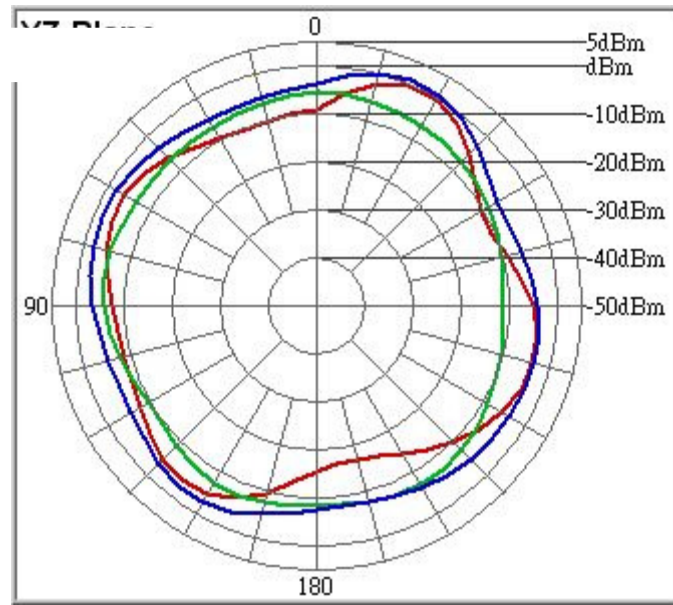
Center Frequency	1805 MHz
Horizontal (dBi) peak	-0.72
Vertical (dBi) peak	-5.55

1840 **MHz**



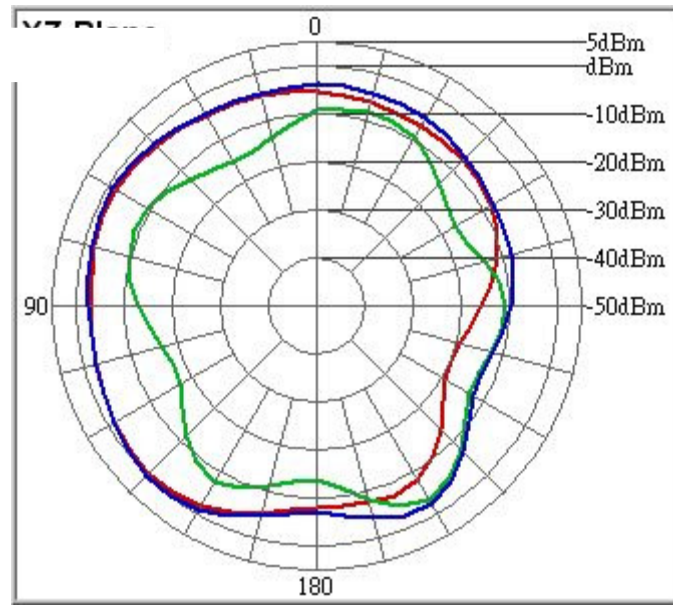
Center Frequency	1840 MHz
Horizontal (dBi) peak	-0.49
Vertical (dBi) peak	-4.77

1850 MHz



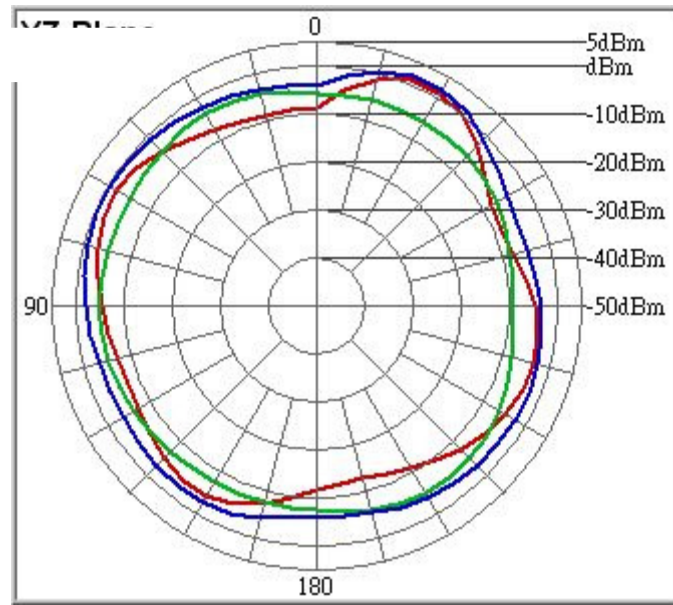
Center Frequency	1850 MHz
Horizontal (dBi) peak	-0.31
Vertical (dBi) peak	-4.47

1880 MHz



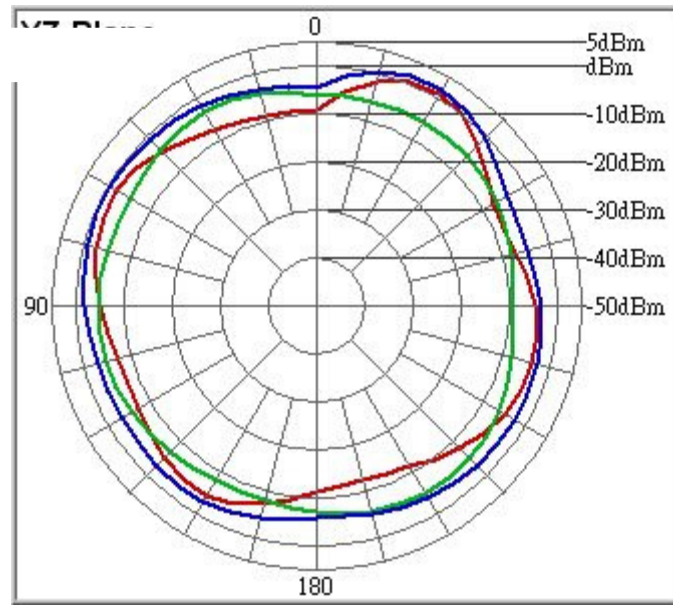
Center Frequency	1880 MHz
Horizontal (dBi) peak	-0.01
Vertical (dBi) peak	-3.5

1910 MHz



Center Frequency	1910 MHz
Horizontal (dBi) peak	1.23
Vertical (dBi) peak	-1.61

1920 MHz



Center Frequency	1920 MHz
Horizontal (dBi) peak	1.22
Vertical (dBi) peak	-1.44