

Antenna spec

1.Antenna Description:

Antenna type	PCB Antenna
Model	AN022
Frequency range	2400MHz~2500MHz
Manufacturer	Hangzhou Tuya Information Technology Co.,Ltd
Address	Room 701,Building 3,More Center,No.87 GuDun Road.Hangzhou, Zhejiang,China

2. Antenna Photo:

Unit:mm

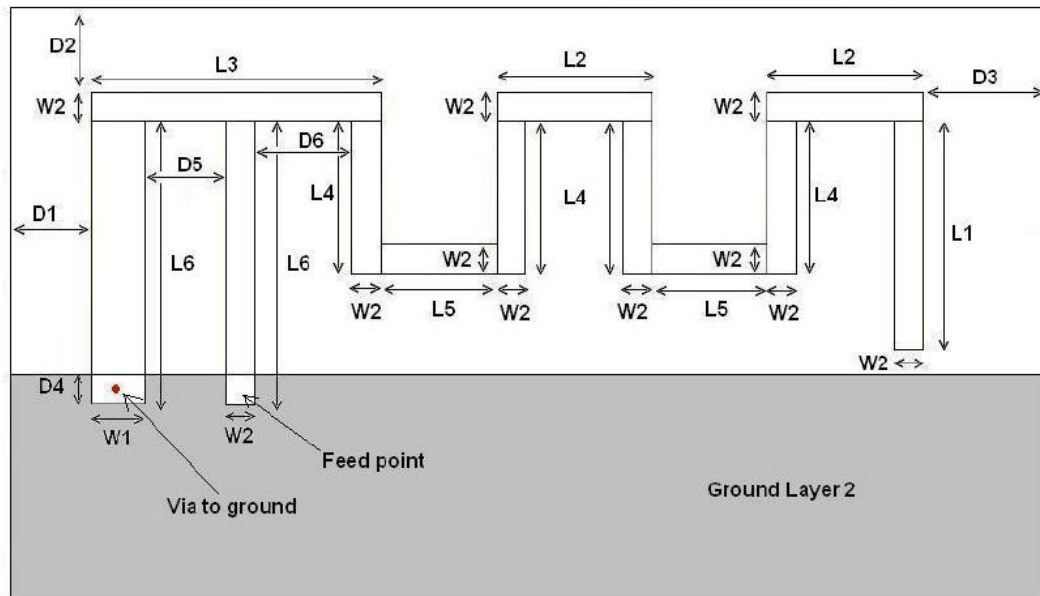


Figure 3: Antenna Dimensions

L1	3.94 mm
L2	2.70 mm
L3	5.00 mm
L4	2.64 mm
L5	2.00 mm
L6	4.90 mm
W1	0.90 mm
W2	0.50 mm
D1	0.50 mm
D2	0.30 mm
D3	0.30 mm
D4	0.50 mm
D5	1.40mm
D6	1.70 mm

Table 1: Antenna Dimensions

3. Antenna Efficiency and Gain:

Frequency(MHz)	Efficiency (dBi)	Gain (dBi)	Efficiency (%)
2400	-3.84	2.31	32.80%
2410	-3.51	2.15	39.52%
2420	-3.87	1.03	57.29%
2430	-3.61	3.35	38.00%
2440	-3.80	4.14	38.94%
2450	-4.06	2.88	32.84%
2460	-3.68	1.16	44.36%
2470	-4.01	5.30	34.22%
2480	-3.88	1.47	59.89%
2490	-3.83	2.81	42.97%
2500	-3.99	4.21	50.04%

Radiation Pattern

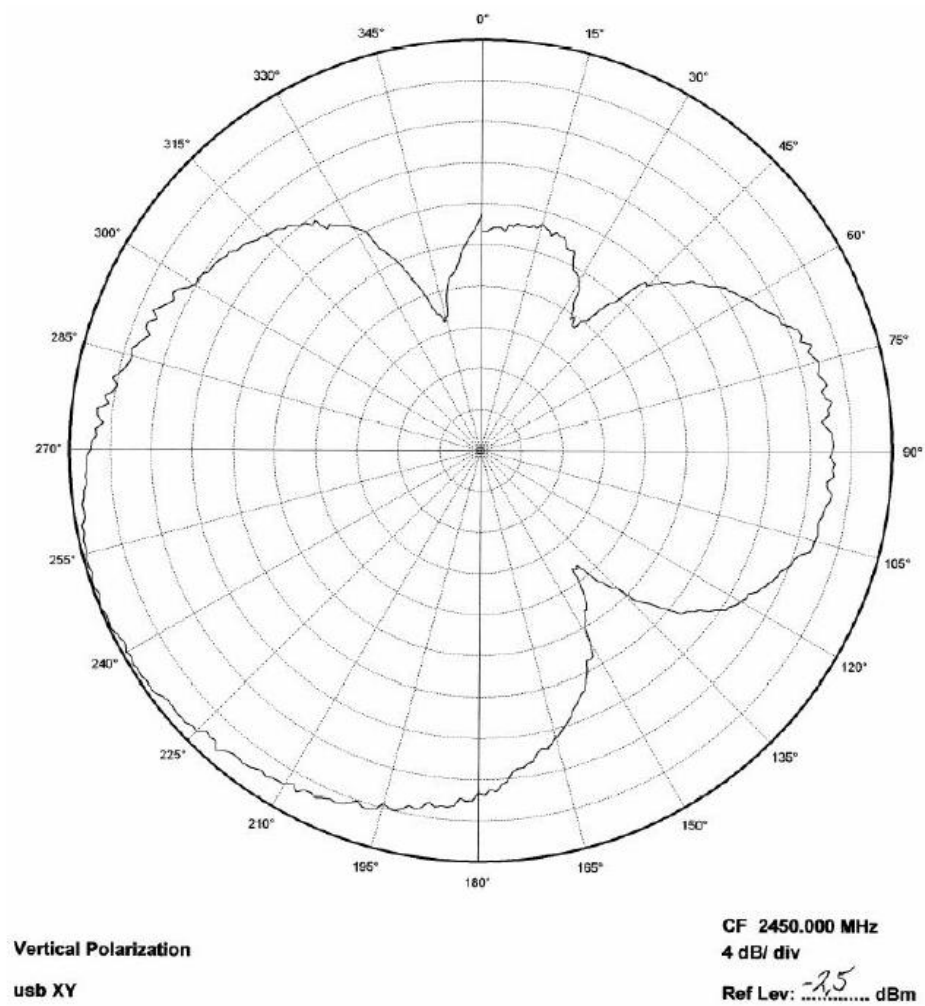
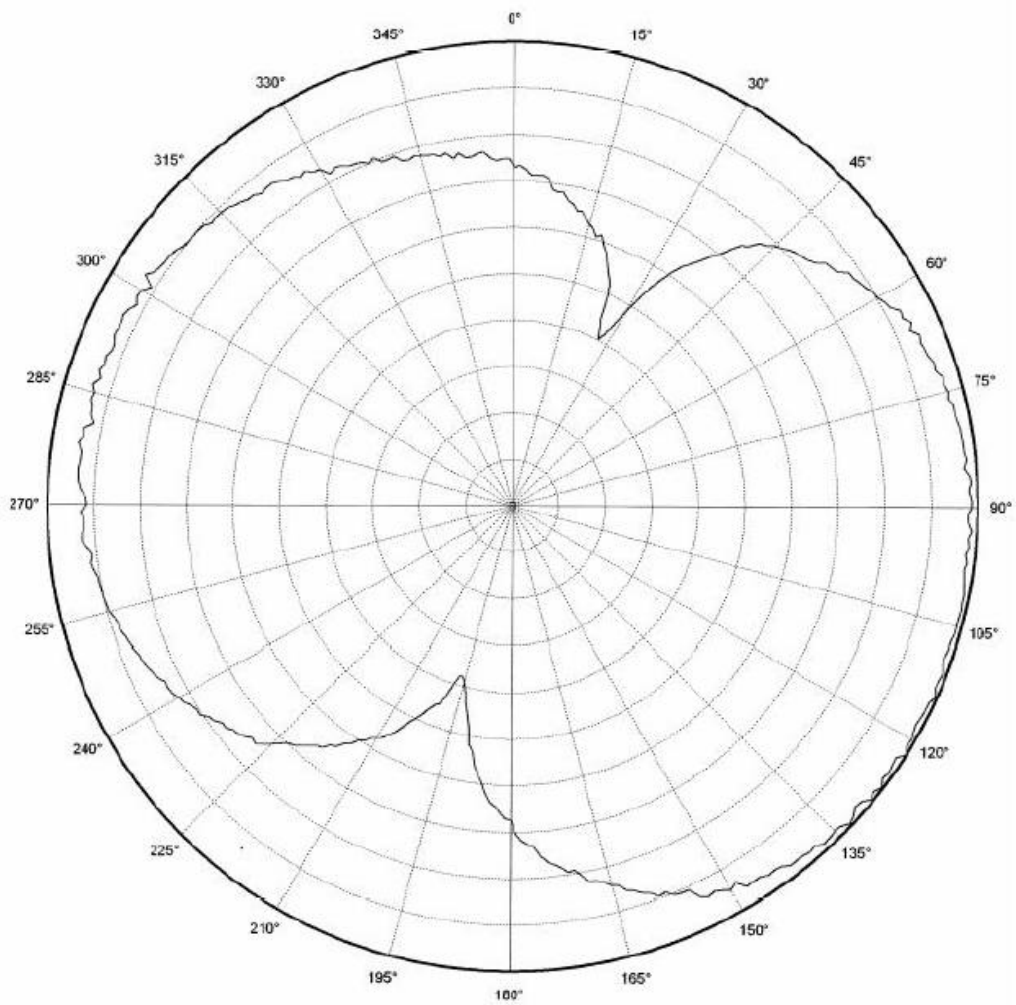


Figure 7: USB Dongle XY Plane



Horizontal Polarization
usb XY

CF 2450.000 MHz
5 dB/div
Ref Lev: 45 dBm

Figure 8: USB Dongle XY Plane

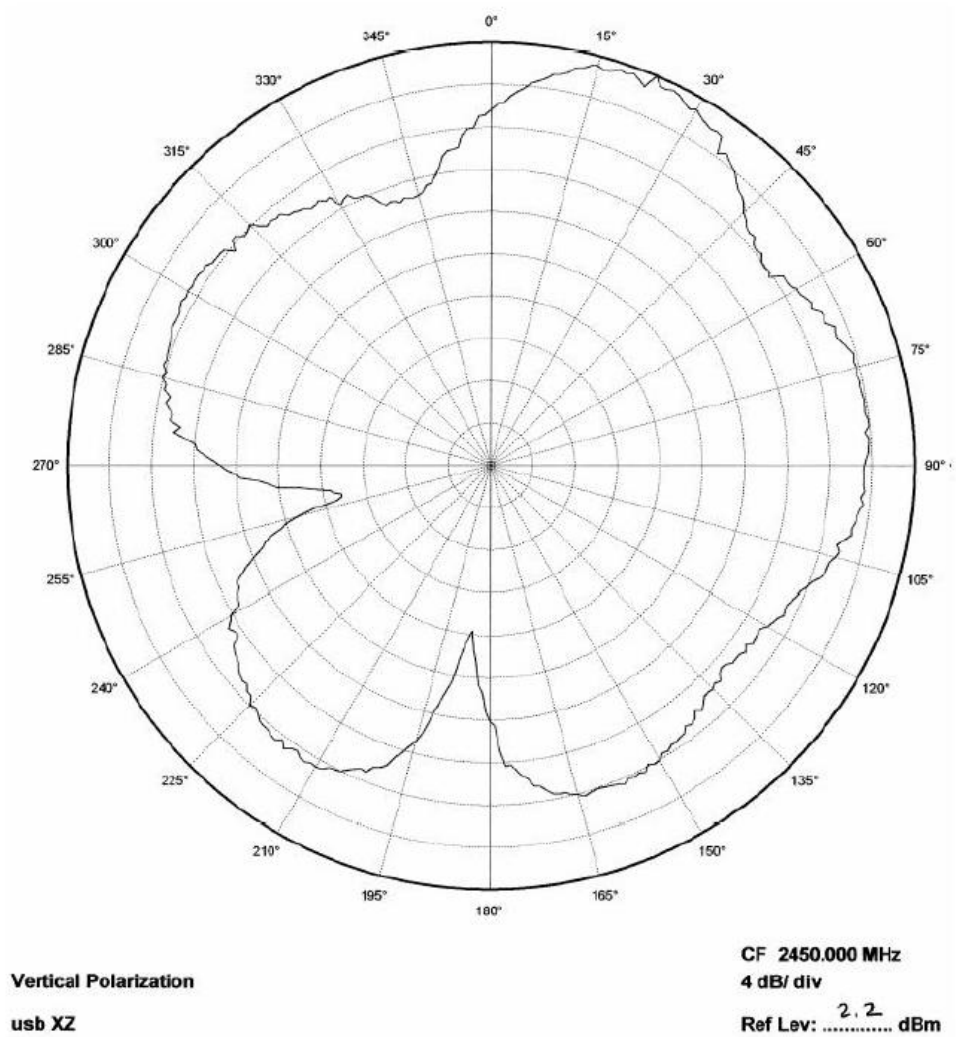


Figure 9: USB Dongle XZ Plane

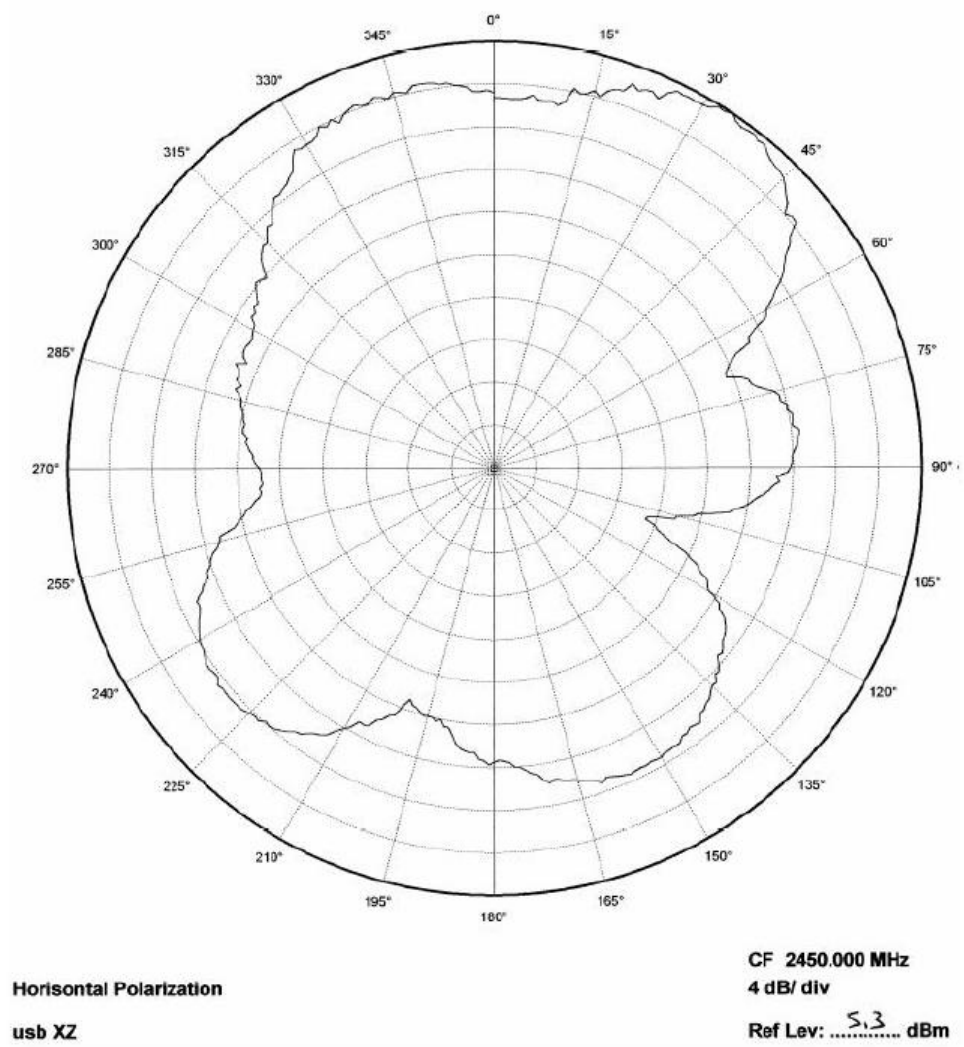
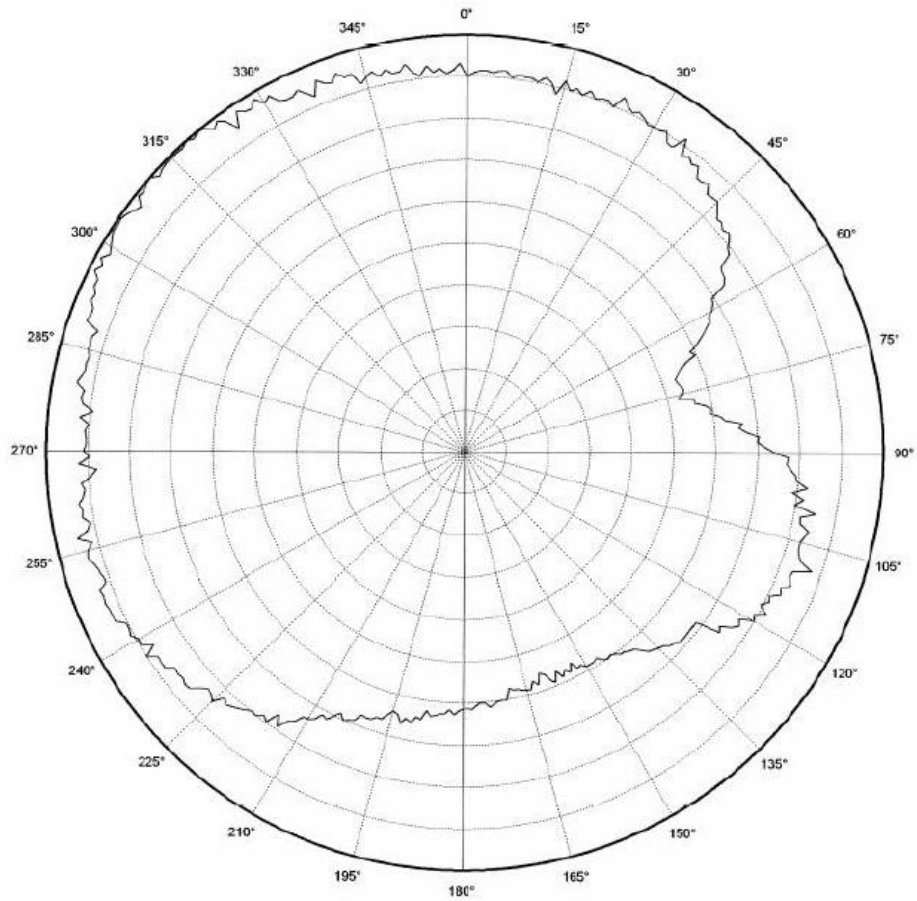


Figure 10: USB Dongle XZ Plane



Vertical Polarization
usb YZ

CF 2450.000 MHz
2 dB/ div
Ref Lev: +5.3 dBm

Figure 11: USB Dongle YZ Plane

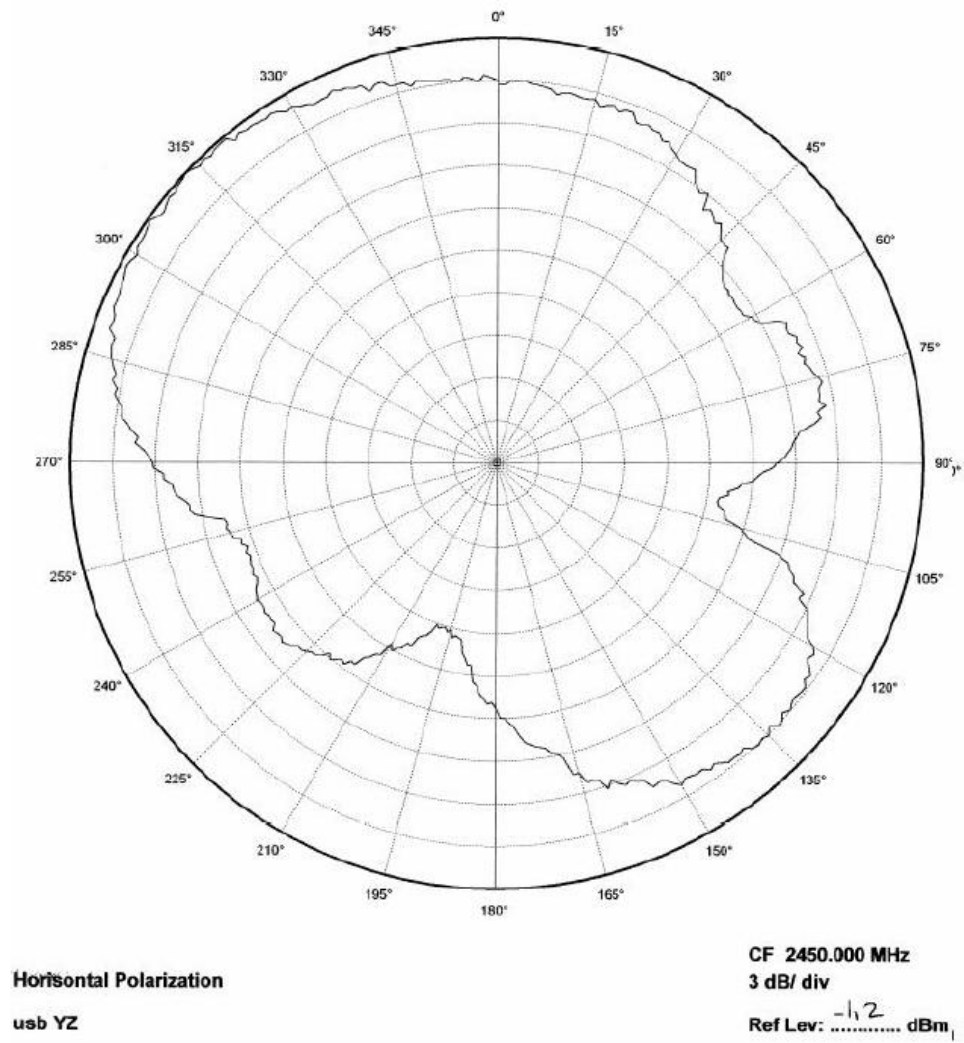
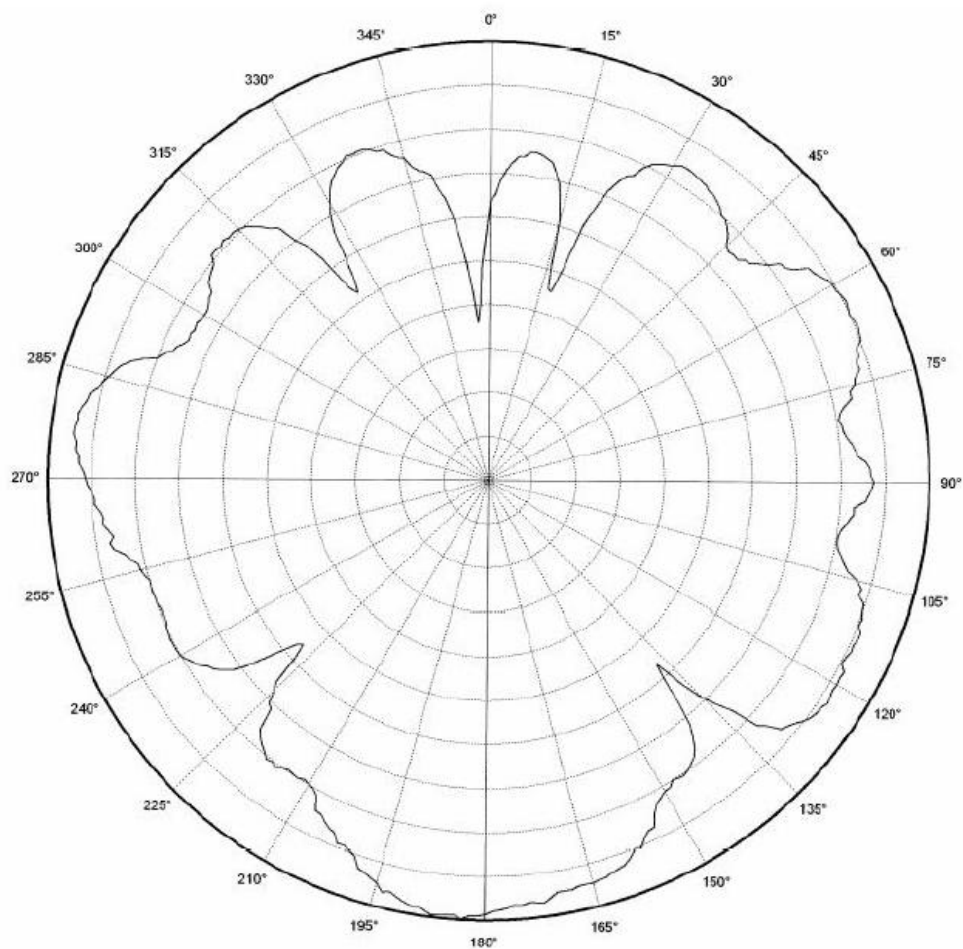


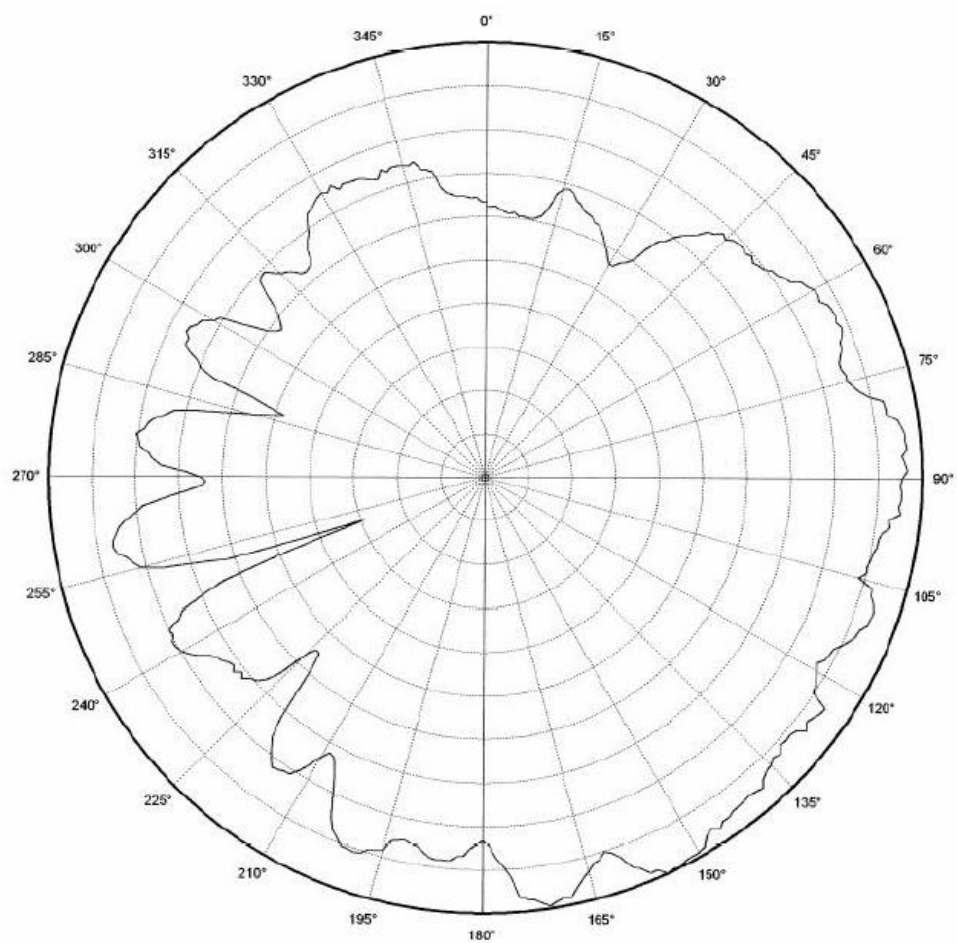
Figure 12: USB Dongle YZ Plane



Vertical Polarization
Laptop USB XY

CF 2450.000 MHz
5 dB/ div
Ref Lev: ⁻²⁰..... dBm

Figure 13: USB Dongle in Laptop XY Plane



Horizontal Polarization
Laptop USB XY

CF 2450.000 MHz
4 dB/ div
Ref Lev: 3.3 dBm

Figure 14: USB Dongle in Laptop XY Plane