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[FW.91.TNC.M](#)

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SPECIFICATION

- Part No. : **FW.91.TNC.M**
- Product Name : Penta-band cellular 2G/3G
GSM/CDMA/UMTS
Flexible Whip Monopole Antenna
850/900/1800/1900/2100 MHz
- Feature : IP67
Robust Inner Steel Core
TNC Male Connector
RoHS Compliant✓





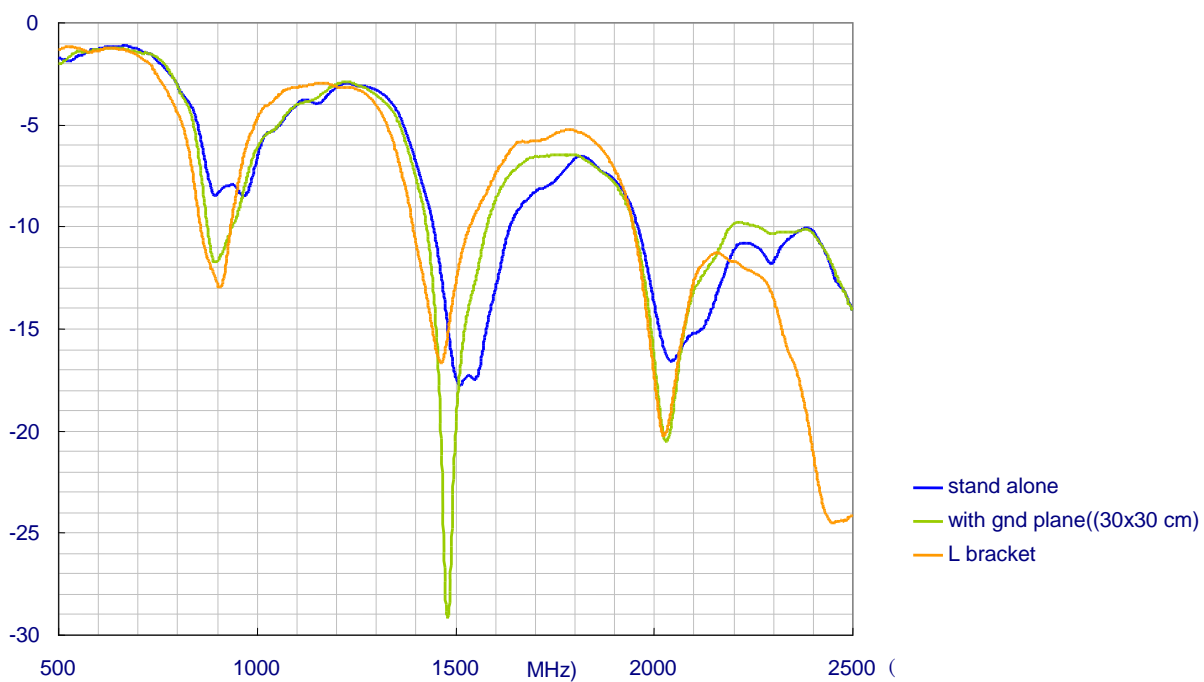
1. Specification

CELLULAR					
Frequency (MHz)	824~896	880~960	1710~1880	1850~1990	1710~2170
Peak Gain (dBi)					
Free Space	-0.7	-0.9	1.7	2.5	2.2
With Ground plane(30x30cm)	2.5	3.0	4.5	4.5	3.5
L - Bracket	3.0	3.0	3.5	4.5	2.5
Average Gain (dBi)					
Free Space	-5.7	-5.3	-2.3	-1.7	-3.9
With Ground plane(30x30cm)	-2.2	-2.6	-2.3	-1.7	-2.2
L - Bracket	-3.0	-2.6	-2.3	-1.7	-3.0
Efficiency					
Free Space	27%	30%	59%	68%	40%
With Ground plane(30x30cm)	60%	55%	59%	68%	60%
L - Bracket	50%	55%	59%	68%	50%
Impedance	50Ω				
Polarization	Linear				
Radiation Pattern	Omni				
Input Power	50 W				
MECHANICAL					
Dimensions	Height 255 ± 5 mm				
Base Diameter	16.05 ± 0.2 mm				
Whip Diameter	4 ± 0.2 mm				
Casing	ABS				
Connector	TNC Male				
ENVIRONMENTAL					
Temperature Range	-40°C to 85°C				
Humidity	Non-condensing 65°C 95% RH				



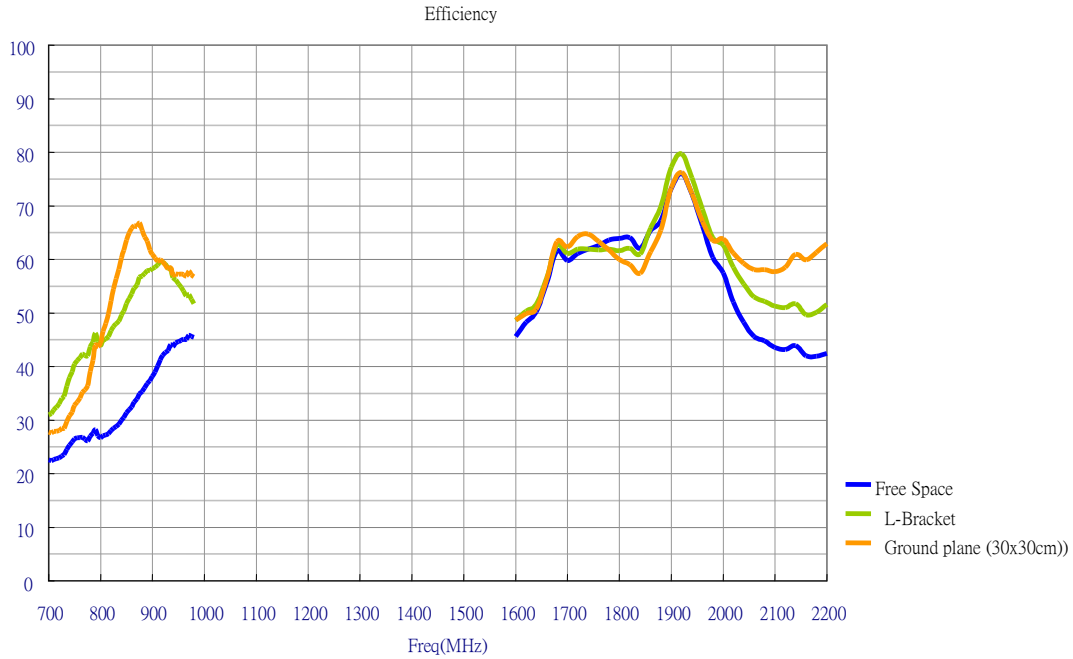
2. Antenna Characteristics

2.1. Return Loss

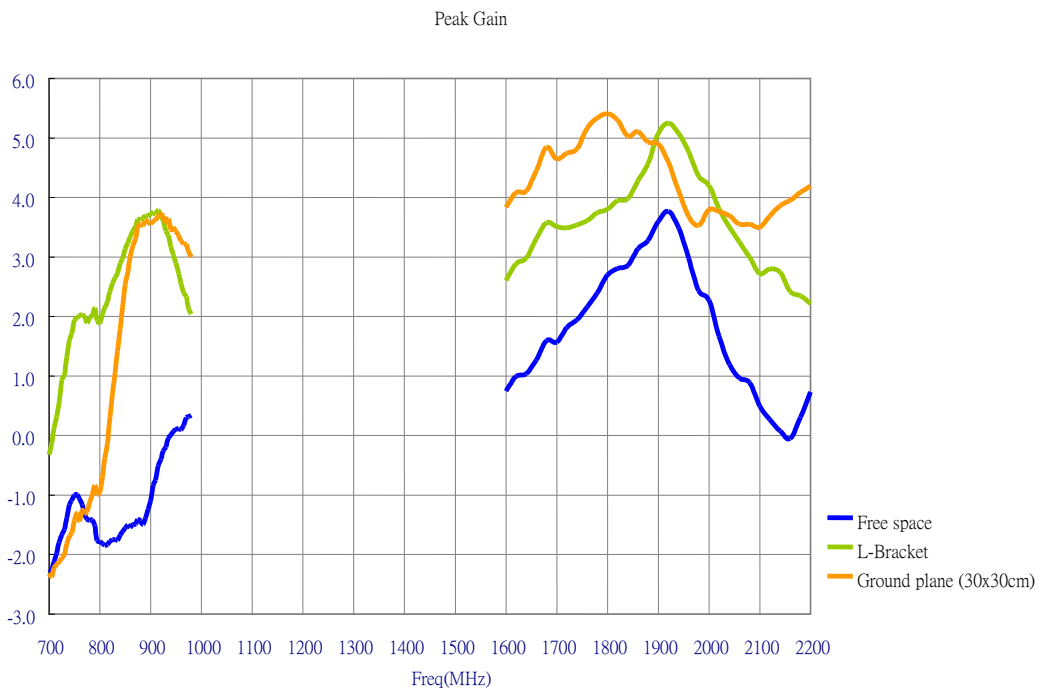




2.2. Antenna Efficiency

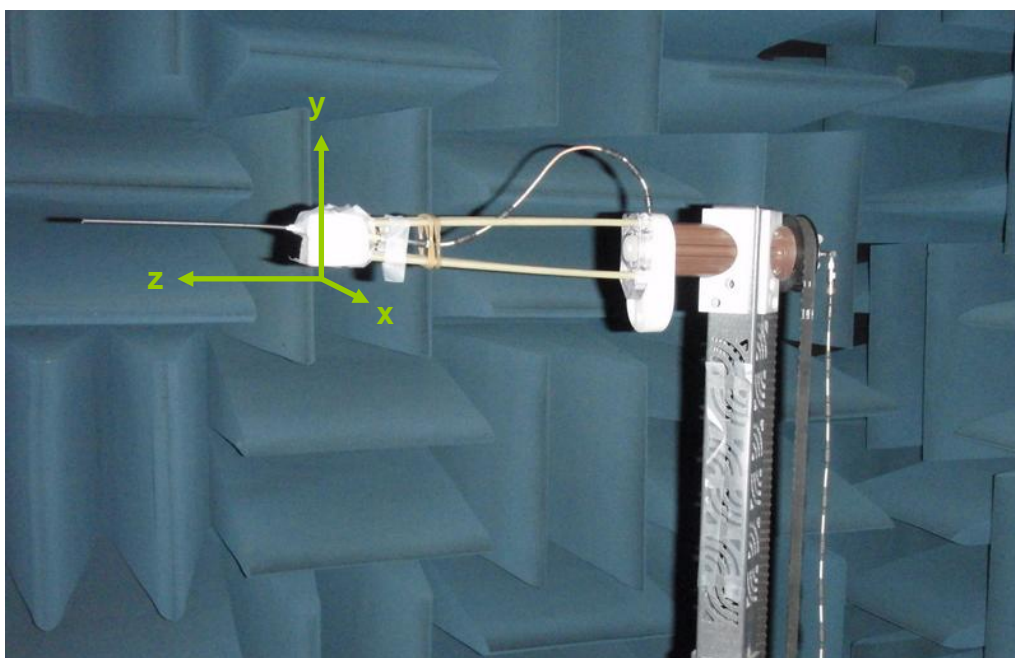


2.3. Peak Gain



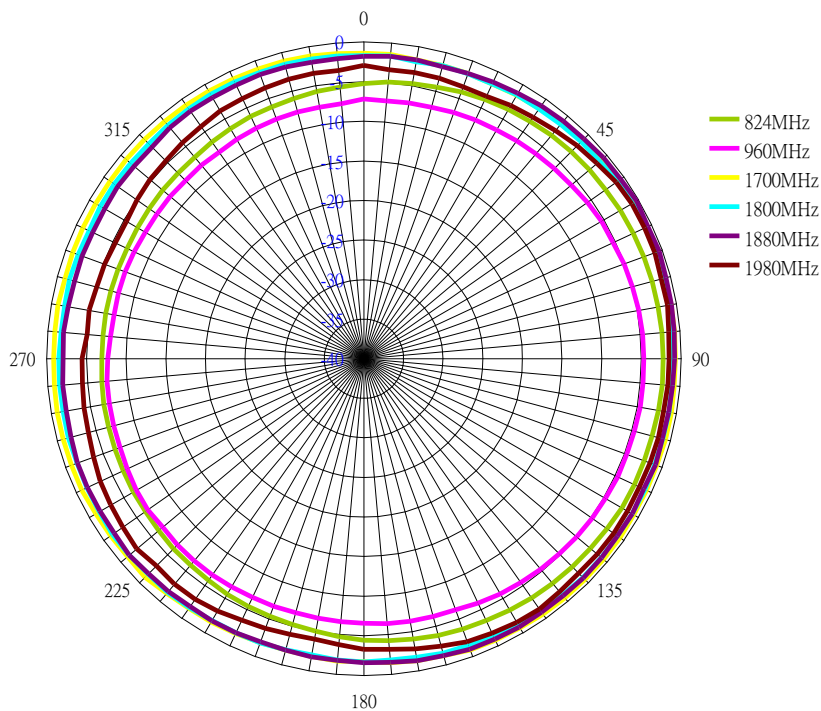
3. Antenna Radiation Pattern

3.1. Antenna Stand Alone

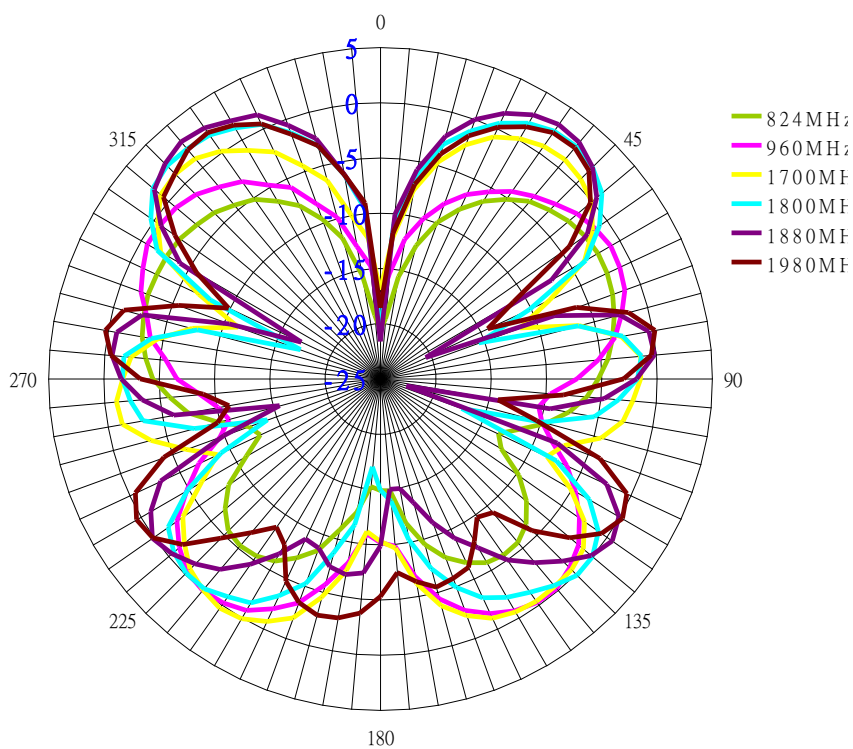




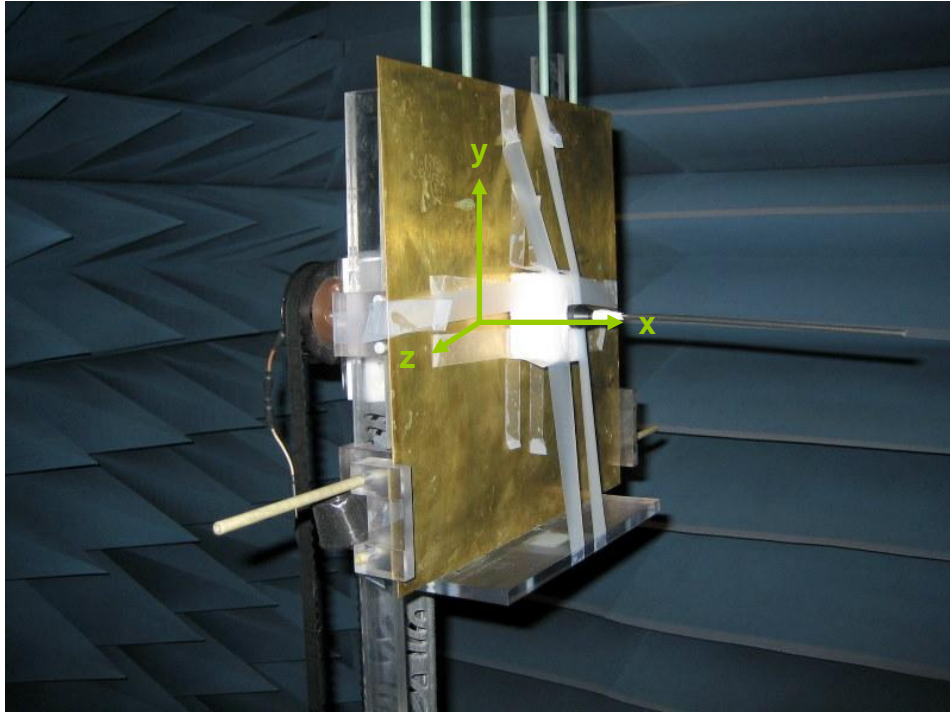
XY-plane



XZ-plane

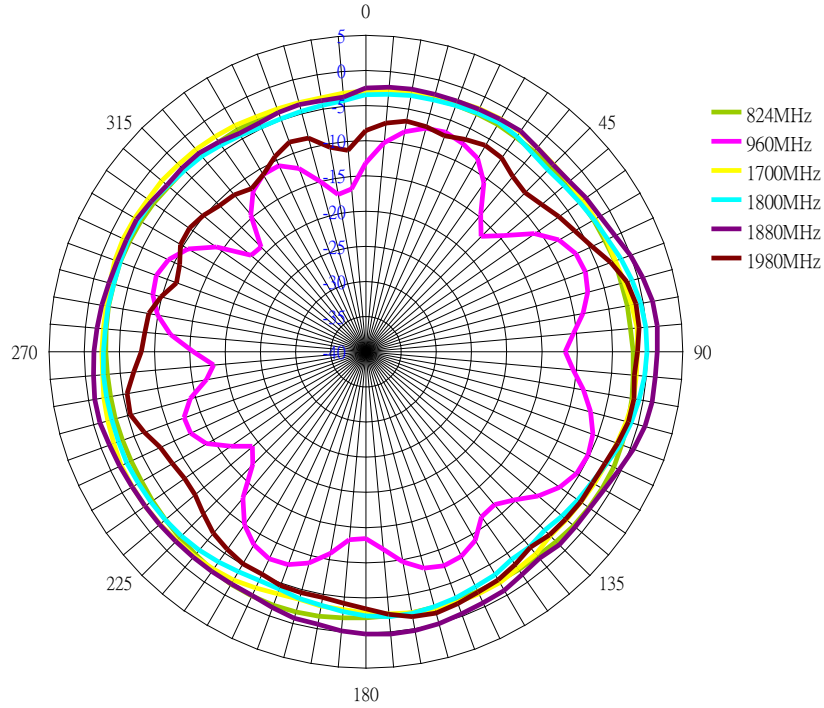


3.2. Antenna with Ground plane (30X30cm)

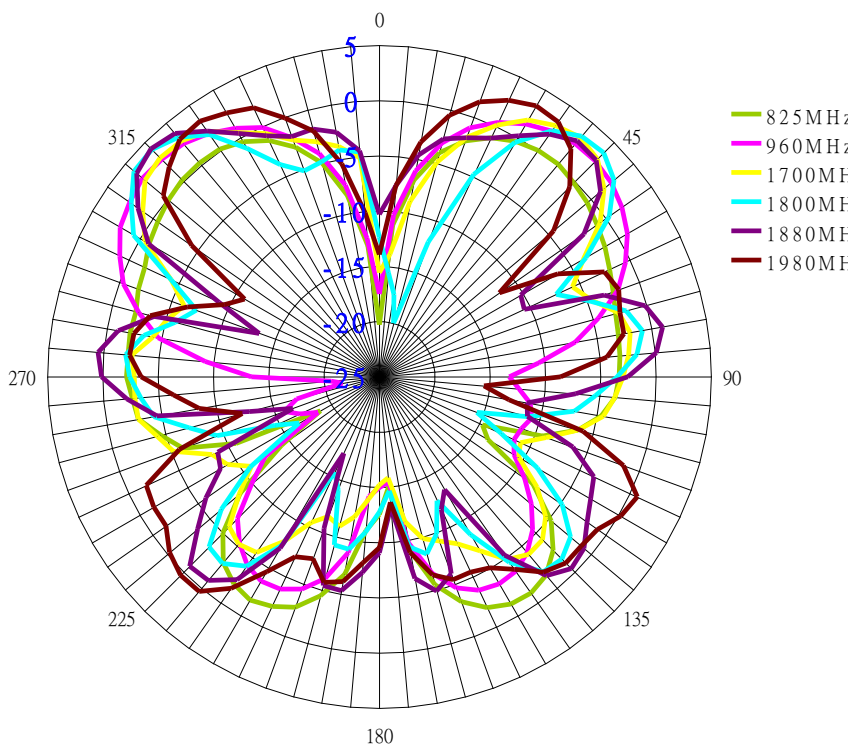




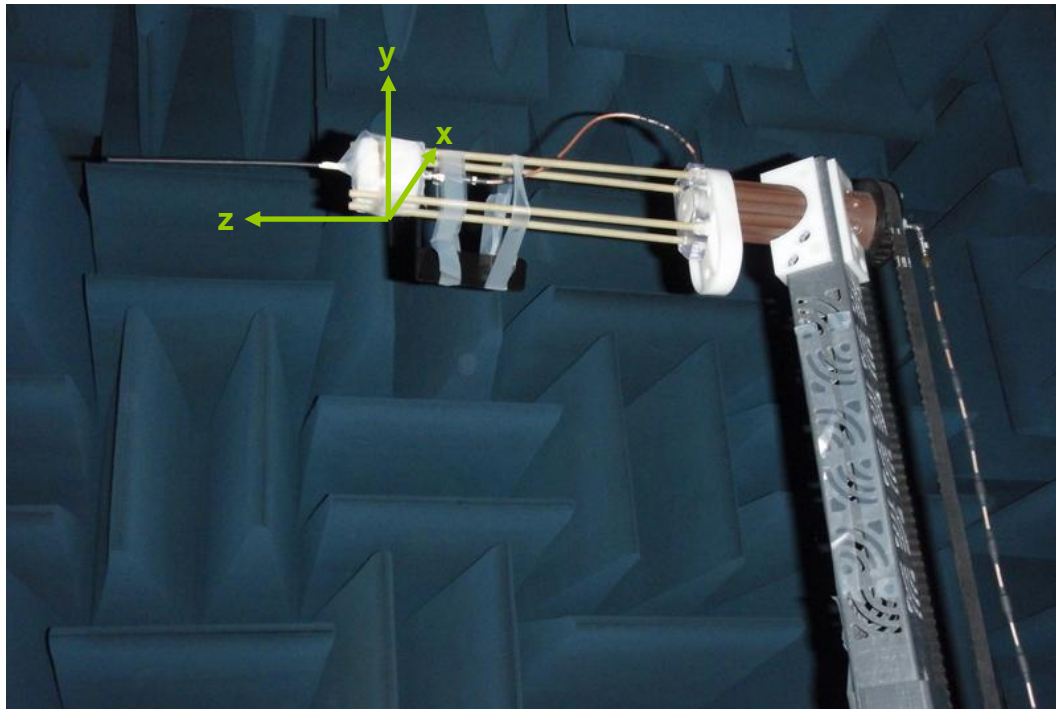
XY-plane



XZ-plane

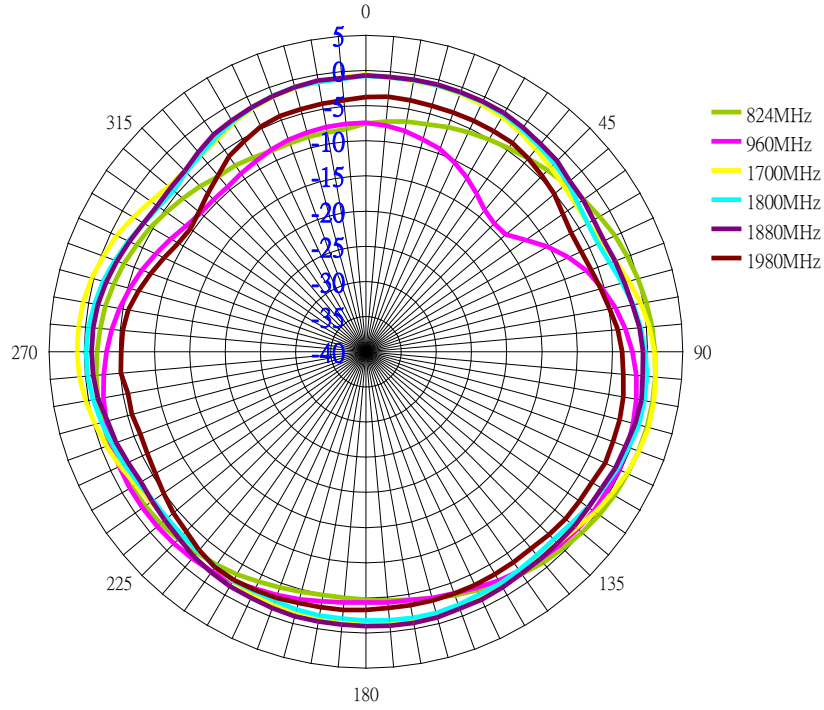


3.3. Antenna with L-Bracket

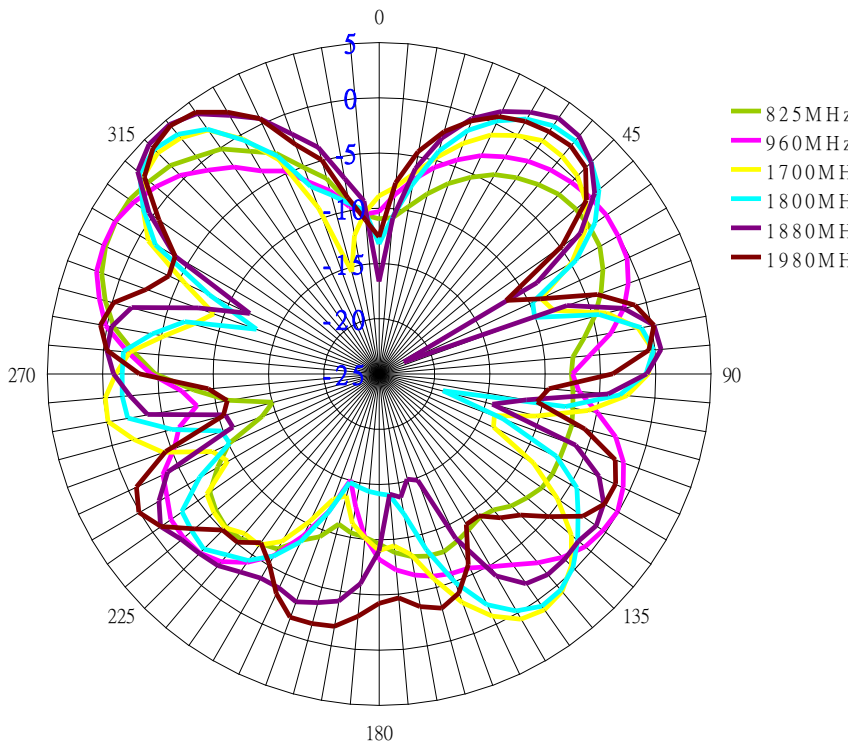




XY-plane



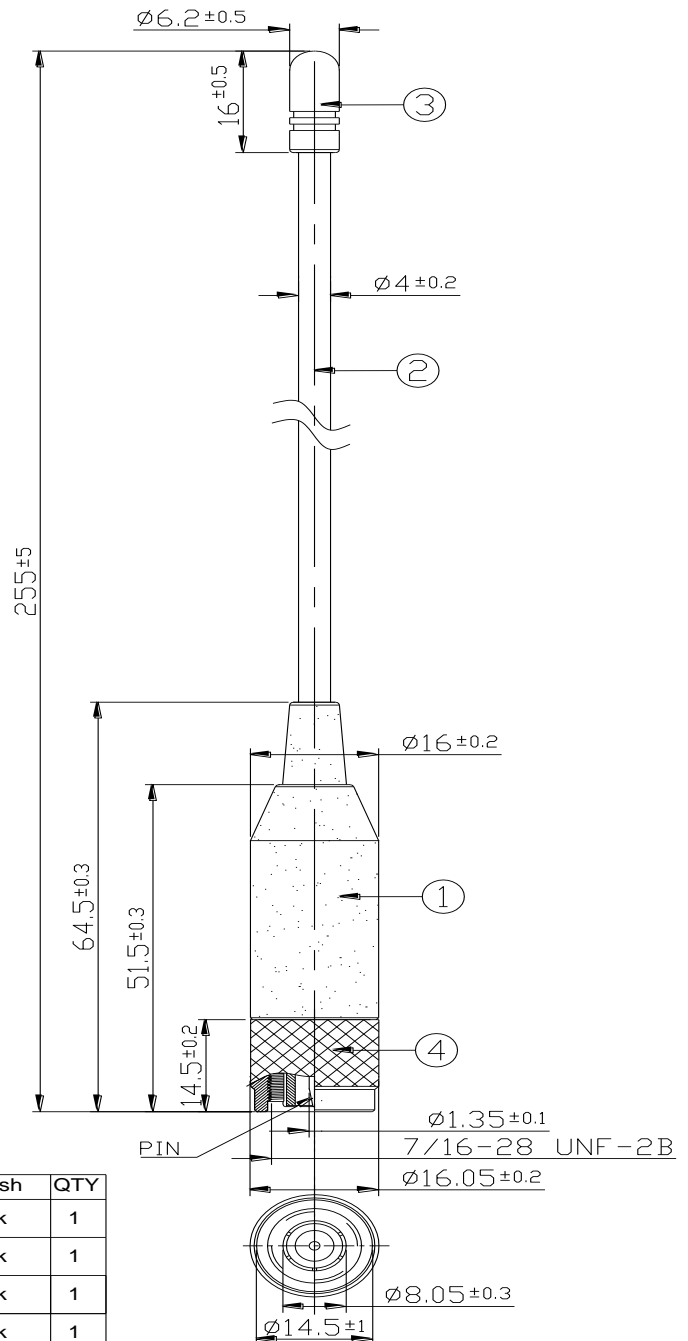
XZ-plane





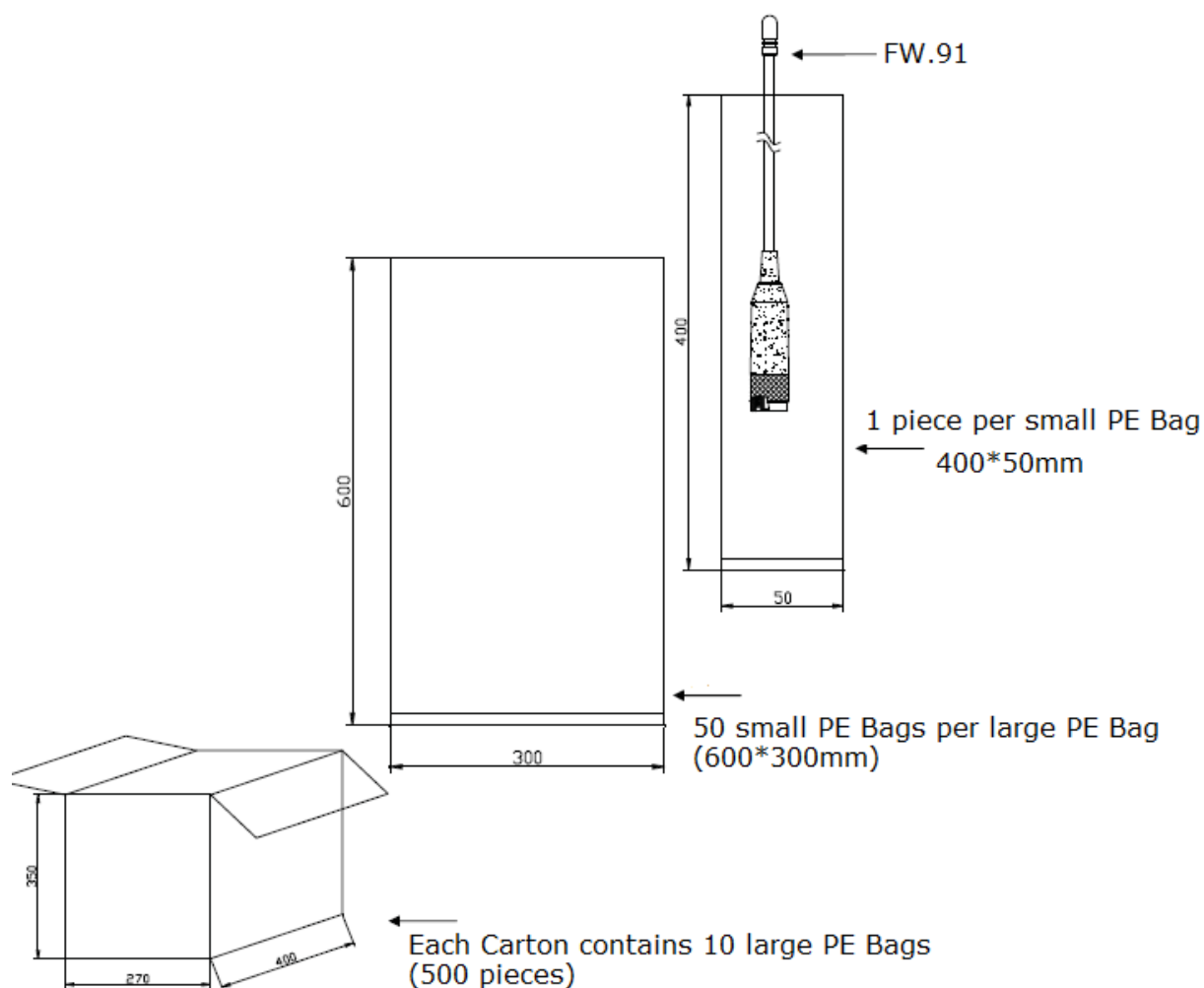
4. Antenna Drawing

Unit : mm



	Name	Material	Finish	QTY
1	Housing	ABS	Black	1
2	Internal Steel Cable	Steel+PE Jacket	Black	1
3	CAP	ABS	Black	1
4	Outer Body TNC (M)	Brass	Black	1

5. Packaging



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