LTE Full Band & GNSS External Antenna (HB70D)

Engineering Specification

1. Product Number

H	2	M	A	0	0	0	D	1	0	0	1	0	0

2. Features

*GPS-GLONASS-GALILLEO High gain LNA up to 19 dB
*Covering cellular LTE 698 to 960 & 1710 to 2700
*DC power input 3.3V
*RoHS2.0 compliant.

3. Applications

* Automotive telematics
* Fleet management.
* Teleportation.

4. Description

The HB70D External antenna combines high performance cellular LTE antenna and GNSS navigation antenna, covering LTE full band 698 to 2700MHz and GPS-GLONASS-GALILLEO-Beidou navigations.
The HB70D is ideal for use on non-metal surface.

Unictron Technologies Corp.
詠業科技股份有限公司
Unictron Technologies Corporation
Website:www.unictron.com

Prepared by : wen	Designed by : Sam	Checked by : Mike	Approved by : Herbert

TITLE : LTE & GNSS External antenna (HB70D) Engineering Specification	DOCUMENT NO.	H2MA000D100100	REV. A

5. Electrical Specifications

CELLULAR/4G LTE ANTENNA				
Frequency (MHz)	698~960	1710~2170	2300~2400	2500~2700
Efficiency (%)	52.8	59.2	65.1	55.8
Average Gain(dB)	-2.8	-2.2	-1.8	-2.5
Peak Gain(dBi)	2.7	2.7	2.6	2.5
Impedance(Ω)	50			
Polarization	Linear			
VSWR	<3.5			
Cable	2M LMR 200 low loss cable			
Connector	SMA(M) ST			

GNSS NAVIGATION ANTENNA		
Navigation	GPS	GLONASS
Center Frequency(MHz)	1575.42	1602
Gain(dBiC)	4 Typ.	
VSWR	< 2.0 Typ	
Impedance(Ω)	50	
Polarization	RHCP	

LNA ELECTRICAL PROPERTIES		
Center Frequency(MHz)	1575.42	1602
Gain(dB)	19 Typ.	16 Typ.
Noise Figure(dB)	2.5 Typ.	
Output VSWR	< 2.5	
DC Input Voltage(V)	3.3	
Current Consumption	10 mA Typ. @ 3.3V	

*Exclude cable loss

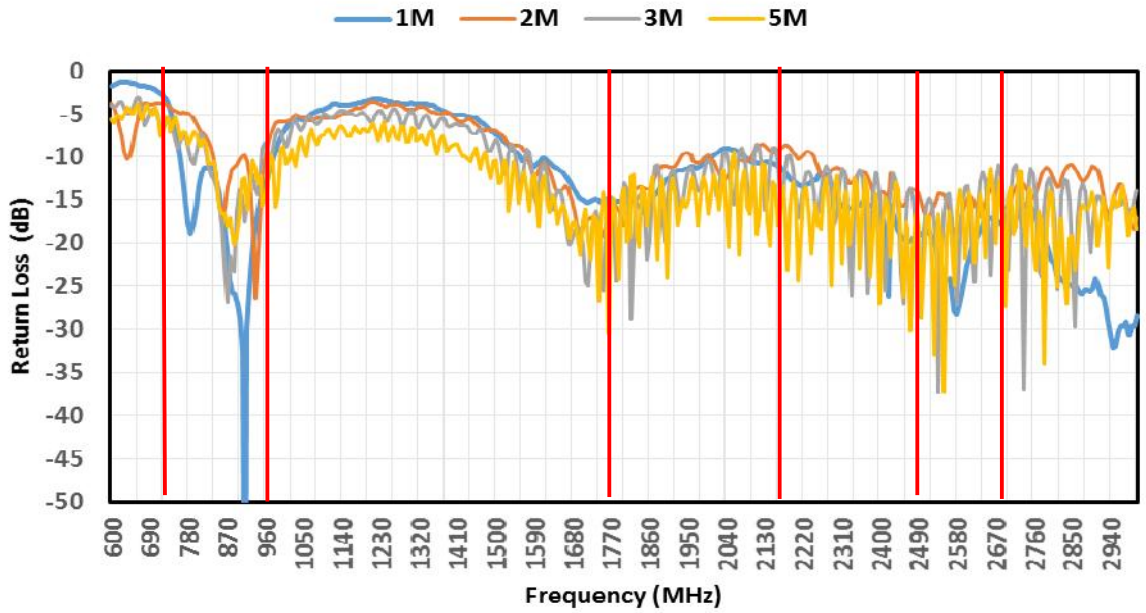
MECHANICAL	
Antenna Dimensions	70 * 70 * 17 mm
Cable type*	LTE : LMR-200 GPS &GLONASS NAVIGATION : RG-174
Cable Length*	2M
Connector*	SMA(M) ST
Mounting Type	Adhesive mount

*The connector, cable length, and cable type can be tailor made upon request.

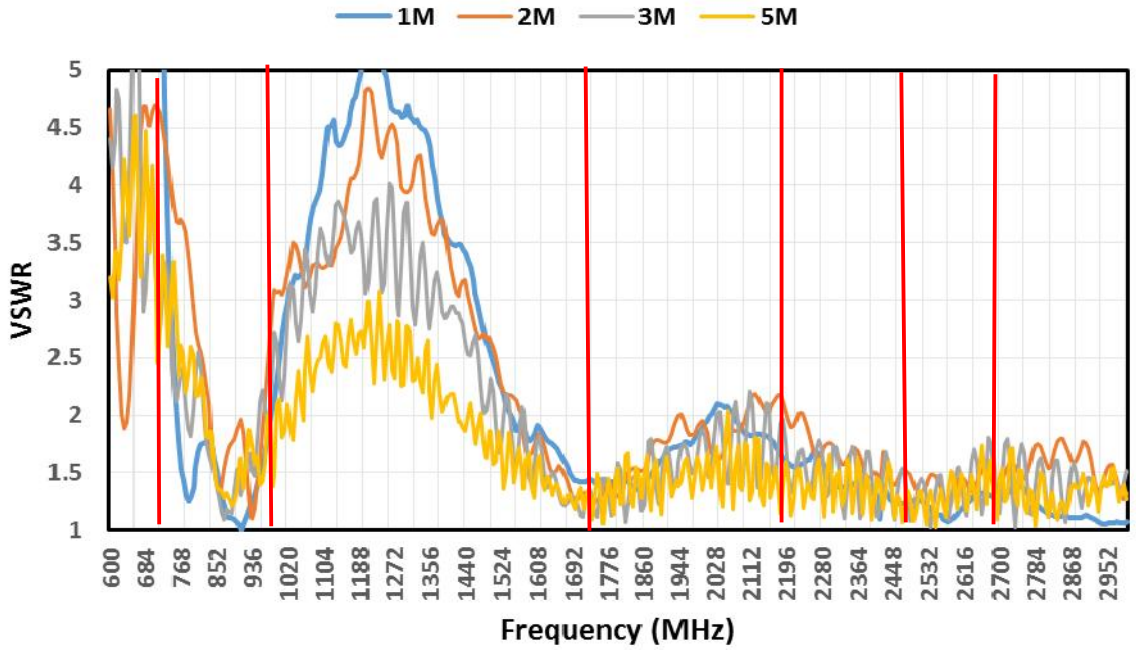
ENVIRONMENTAL	
Operation Temperature	-40~+105 ℃
Storage Temperature	-40~+105 ℃

6. Cellular/LTE Antenna Characteristics

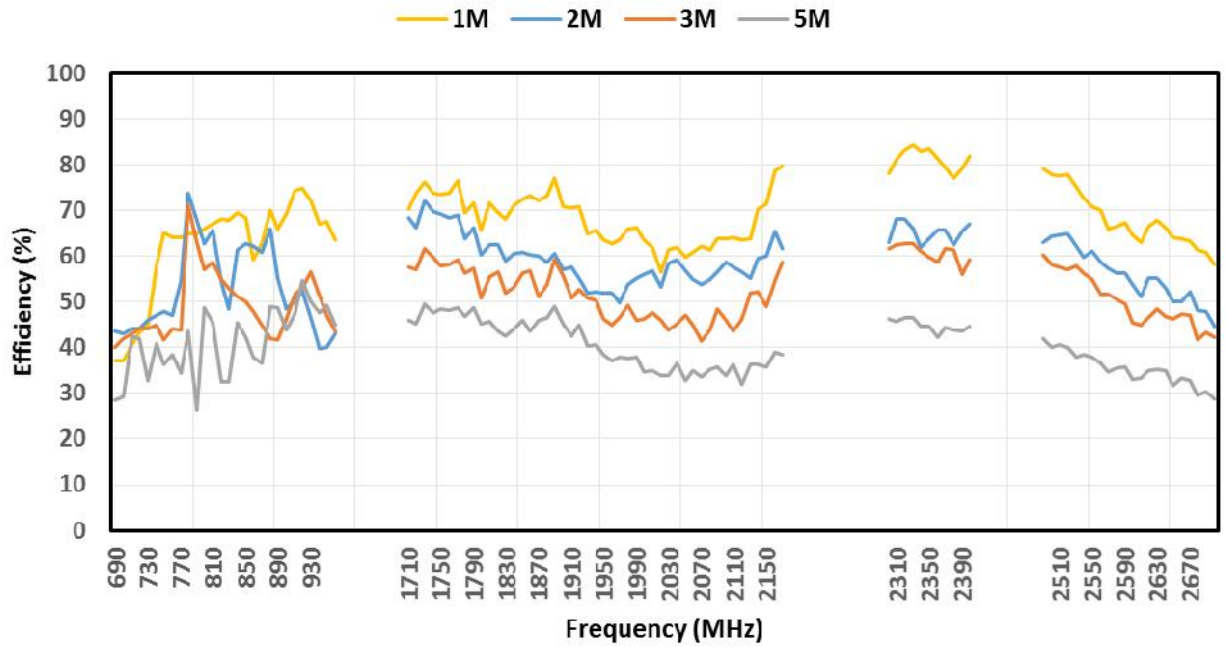
6.1 Return Loss



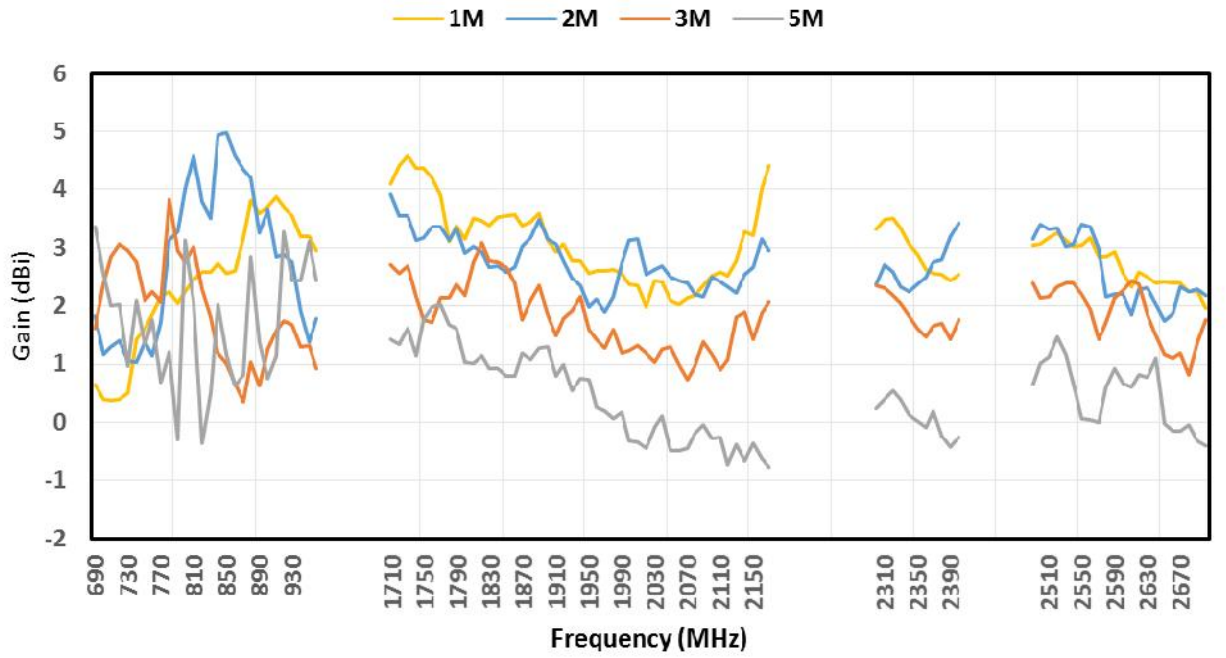
6.2 VSWR



6.3 Efficiency

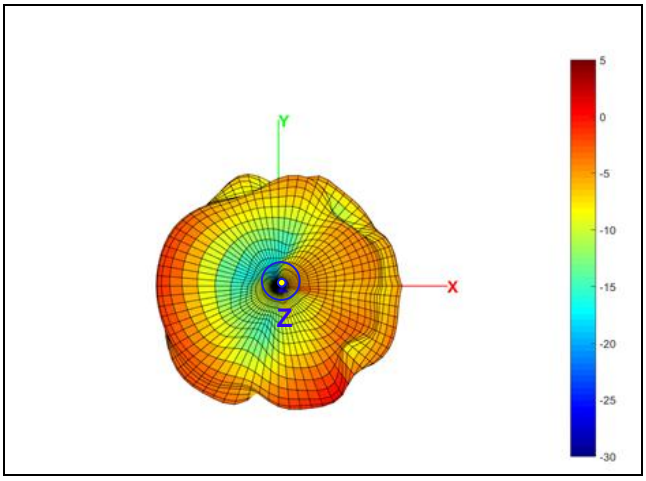


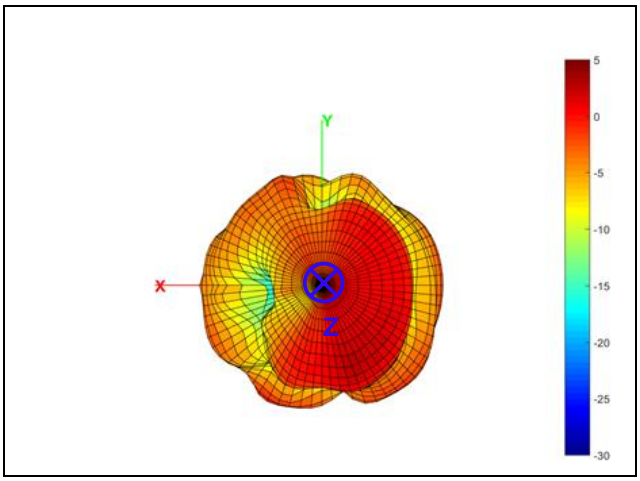
6.4 Peak Gain

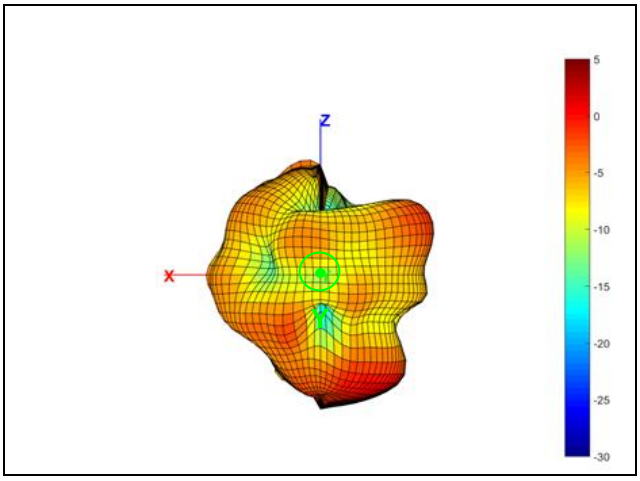


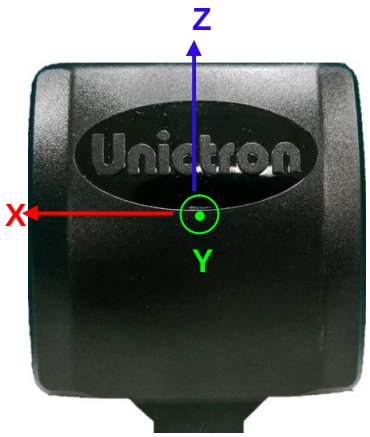
6.6 Radiation Gain Pattern

6.6.1. 3D Radiation Gain Pattern @ 830 MHz (Unit: dBi)

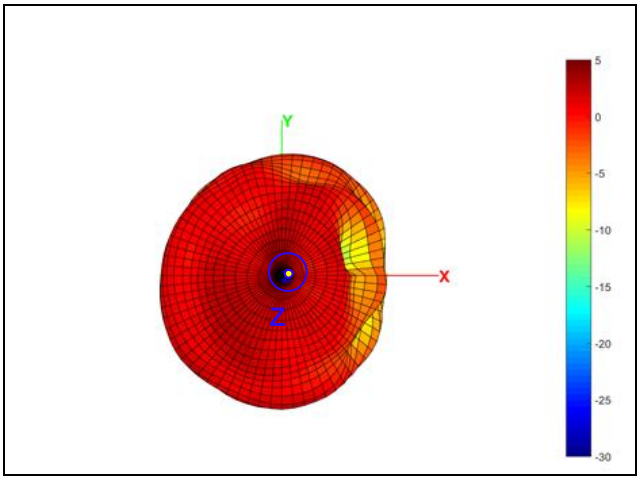


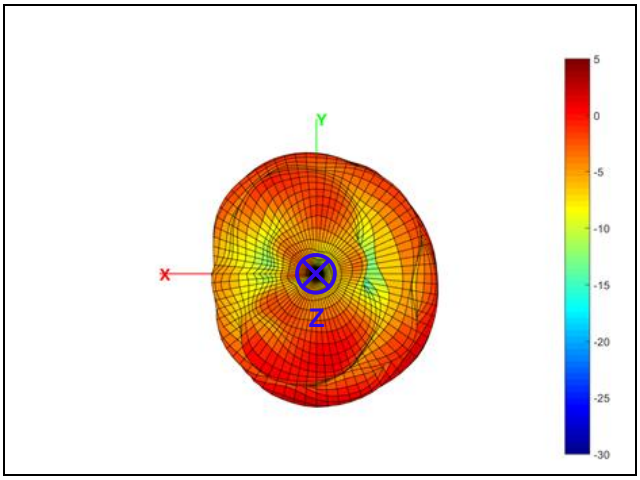


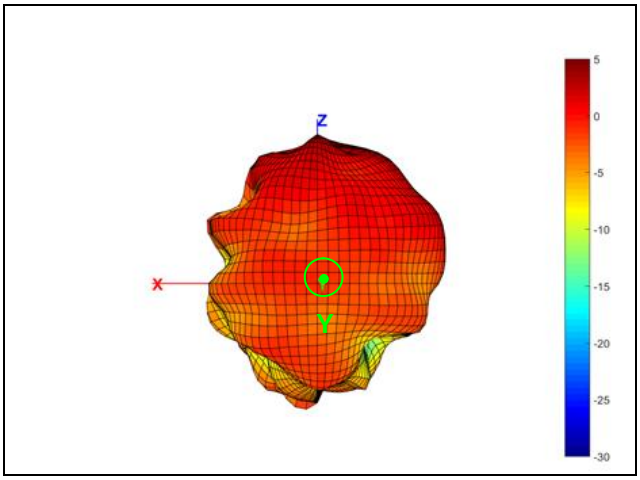


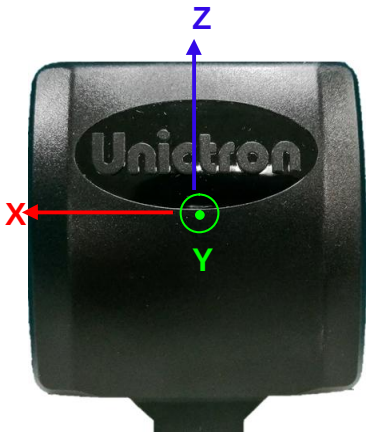


6.6.2. 3D Radiation Gain Pattern @ 1940 MHz (Unit: dBi)

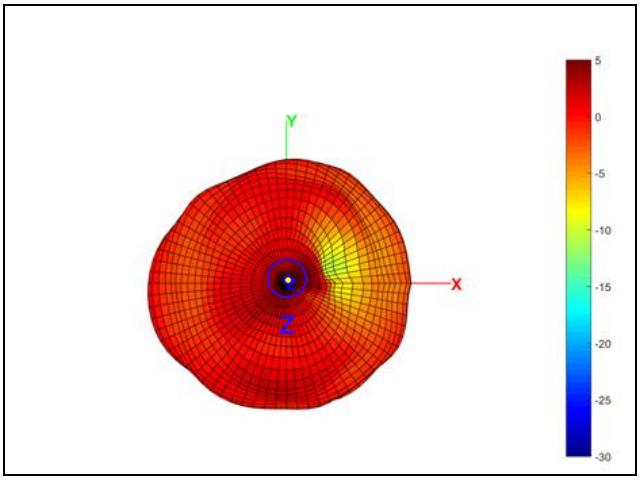


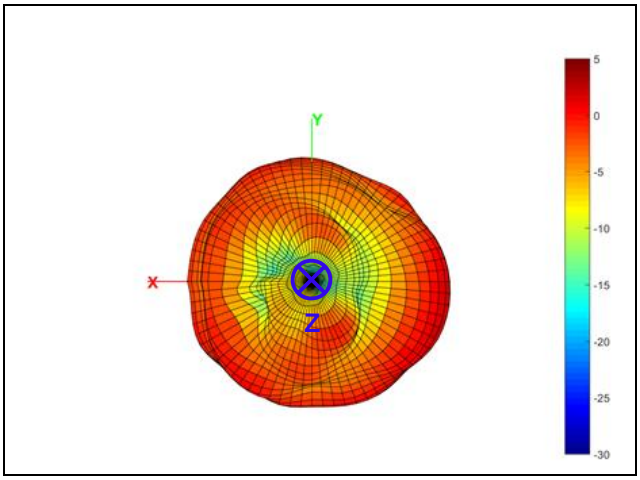


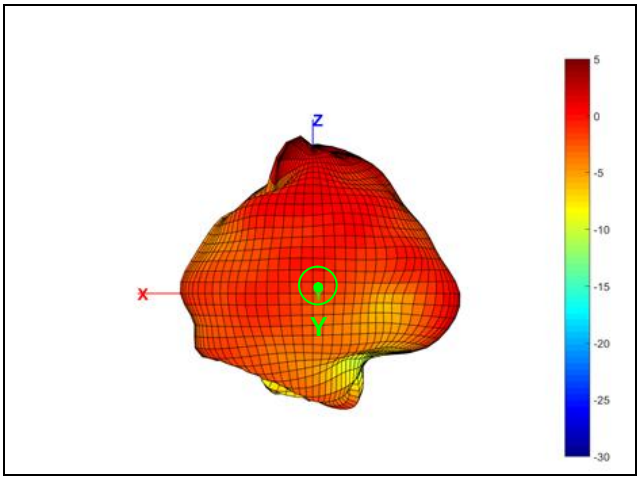


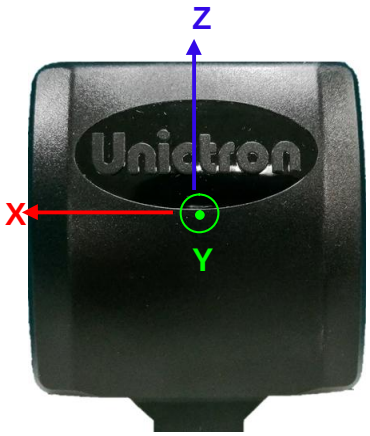


6.6.3. 3D Radiation Gain Pattern @ 2350 MHz (Unit: dBi)

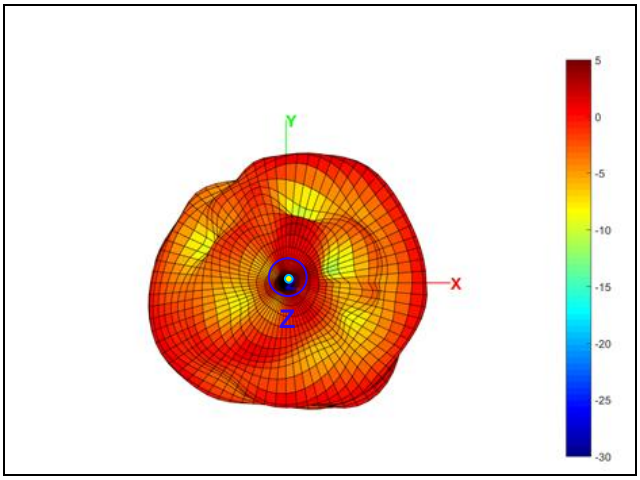


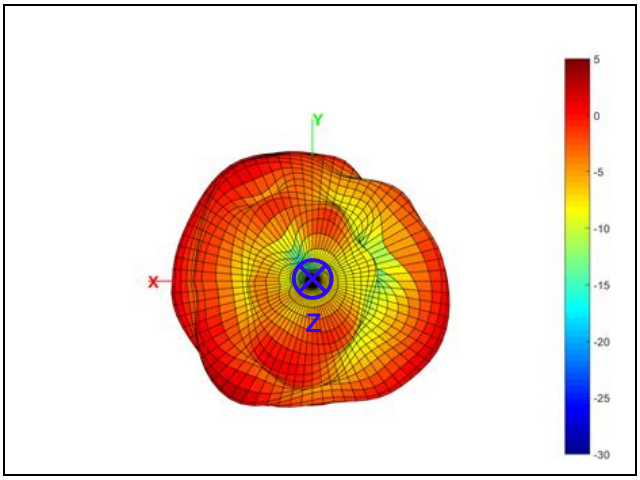


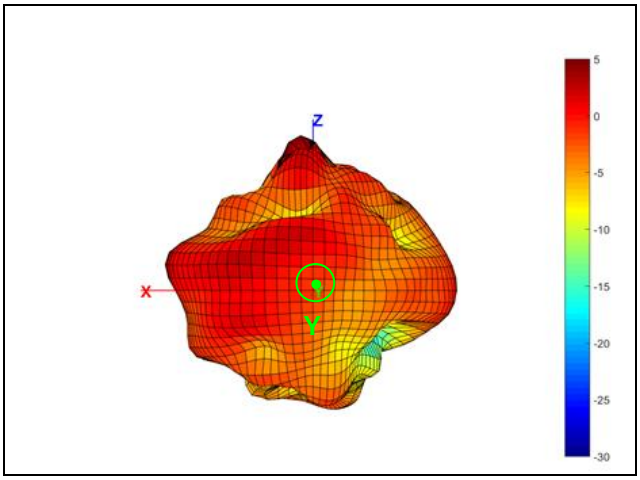


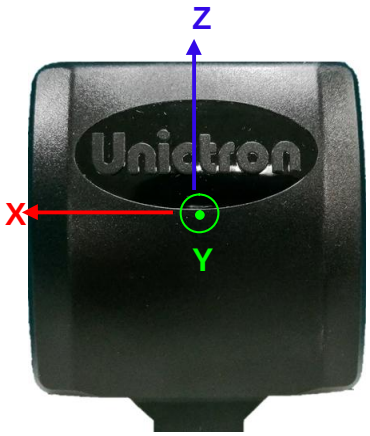


6.6.4. 3D Radiation Gain Pattern @ 2590 MHz (Unit: dBi)



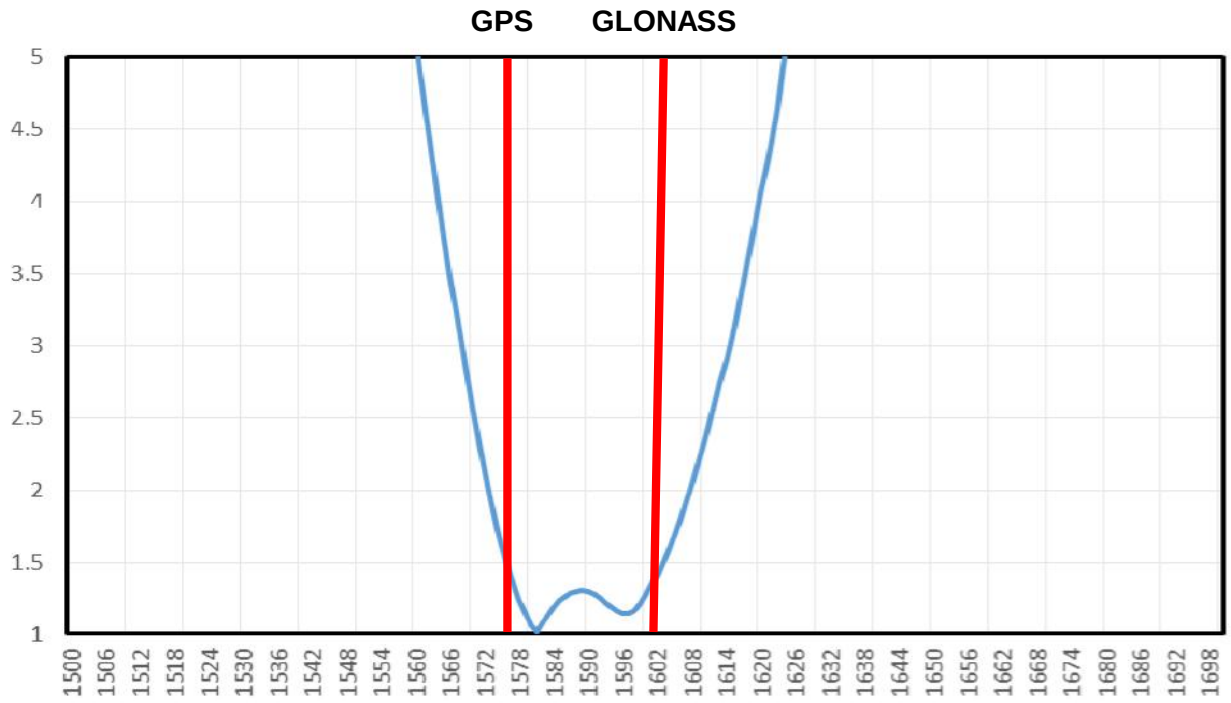






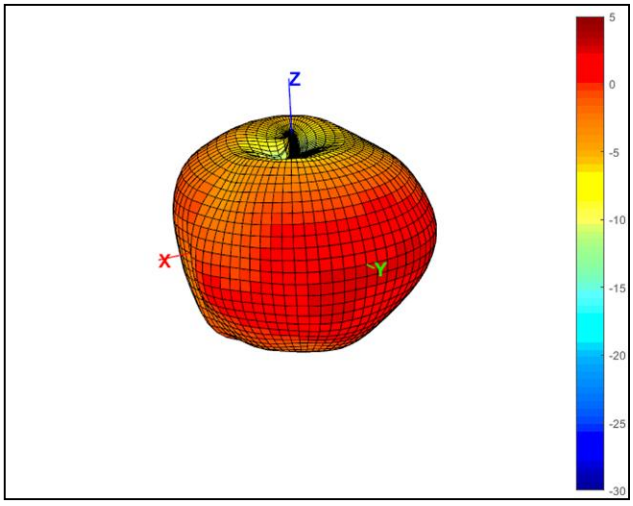
7. GNSS Navigation Antenna Characteristics

7.1 Return loss

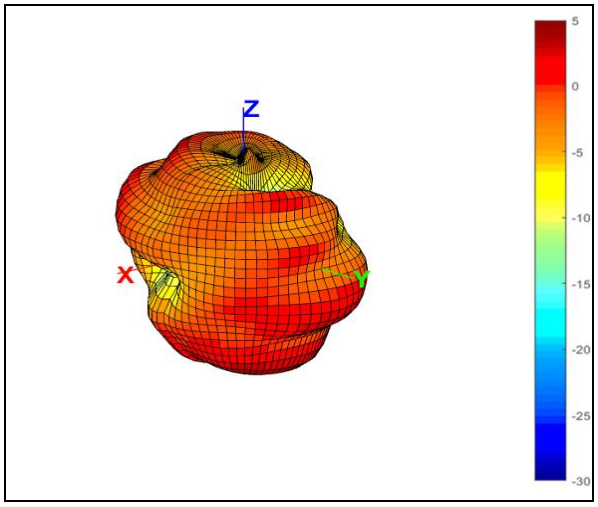


7.2 Radiation Gain Pattern (Unit: dBi)

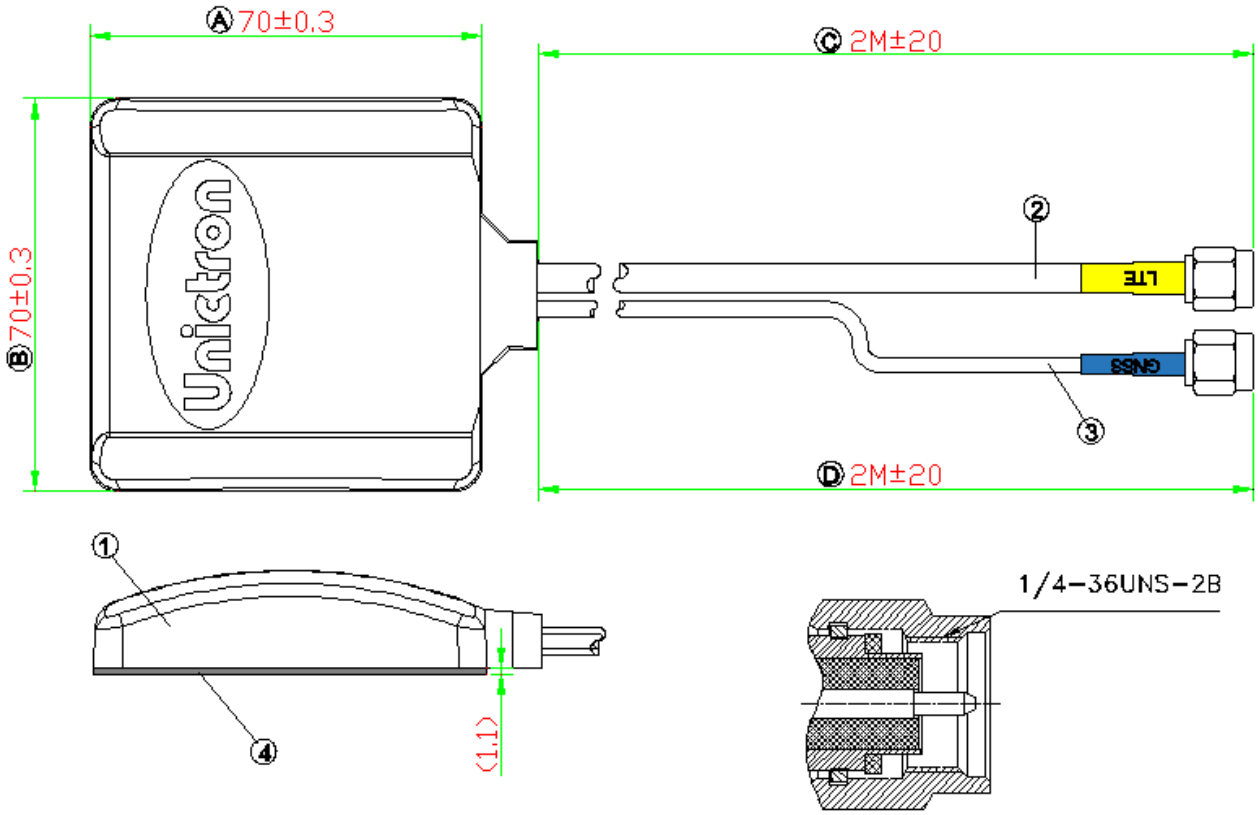
1575MHz



1602MHz



8. Antenna Dimensions(Unit: mm)



NOTE:
1.All materials are RoHS 2.0 compliant.
2."Ⓐ~Ⓓ" Critical Dimensions.
3."( )" Reference Dimensions.

Item	Name	Material	Color	Q'ty
1	Plastic cover	PC	Black	1
2	Connector cable ⌀ 5mm	PVC	Black	1
3	Connector cable ⌀ 2.7mm	PVC	Black	1
4	Adhesive tape(3M_GPH-110_t:1.1mm)	-	Gray	1

Unictron Technologies Corp.
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