

**GNSS L1+L2 Ceramic Antenna
ATIGGBL22580-100**

1. Product Information

1.1 Product Description

This product can be used as various L1+L2 GPS/Beidou/Galileo/GLONASS navigation, clock, positioning.

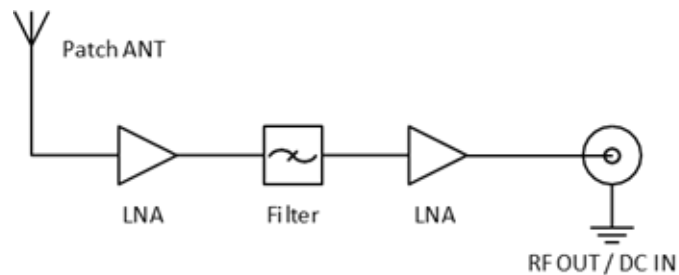
2. Part NO. : ATIGGBL22580-100

3. Electrical Characteristics

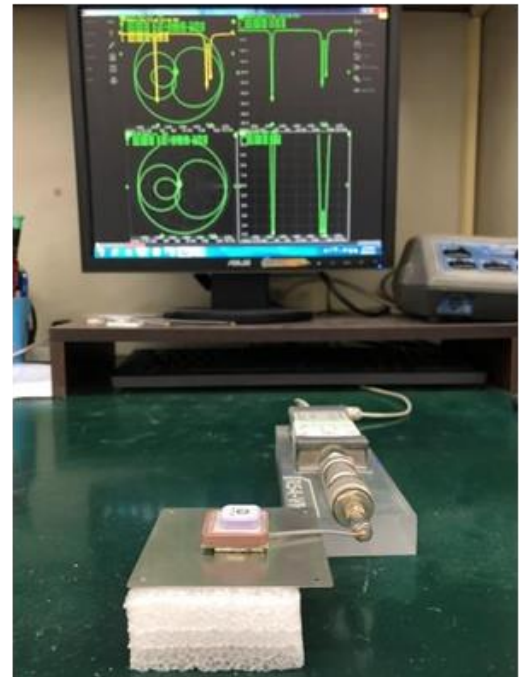
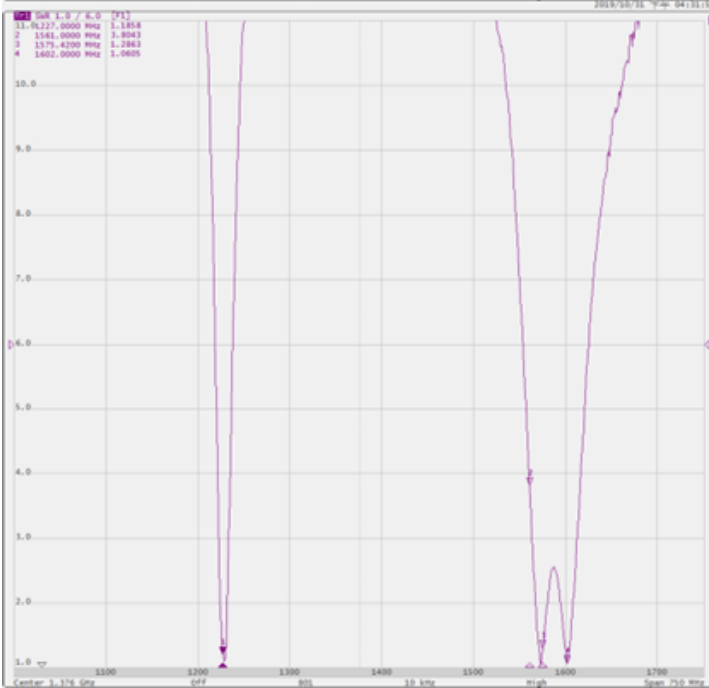
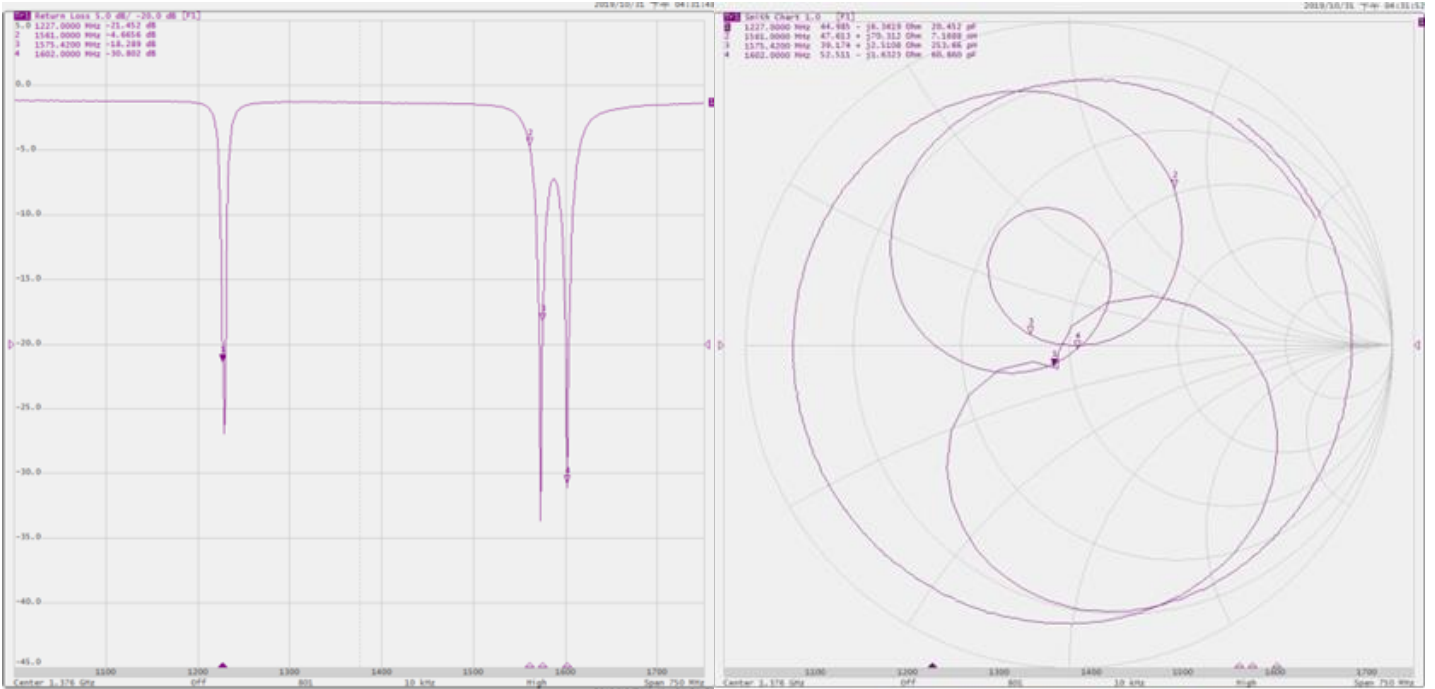
Characteristics	SPEC
Center Frequency	L1: 1561±2.046 MHz for Beidou L1: 1575±1.023 MHz for GPS/Galileo L1: 1602±8 MHz for GLONASS L2: 1227.6 ±10 MHz
Voltage	Min: 2.7 V Typ.: 3.3 V Max: 5.0V
Current	Typ: 10mA Max: 15mA
Gain	1561 MHz: -1 dBi Typ. @zenith 1575.42 MHz: 0 dBi Typ. @zenith 1602 MHz: 2.5 dBi Typ. @zenith 1227.6 MHz: 1.5 dBi Typ. @zenith
Output VSWR	2.0 max
Output Impedance	50ohm
Dimensions	25mm(L)×25mm(W)×4mm(H) & 15mm(L)×15mm(W)×4mm(H)
Cable	RF Coaxial Cable, $\psi 1.13 \pm 0.1\text{mm}$, L = 100mm ± 5mm
Connector	I-PEX (F)
Polarization	RHCP

3.1 Circuit Diagram

This antenna system consists of two functional blocks, the LNA portion and the patch antenna.



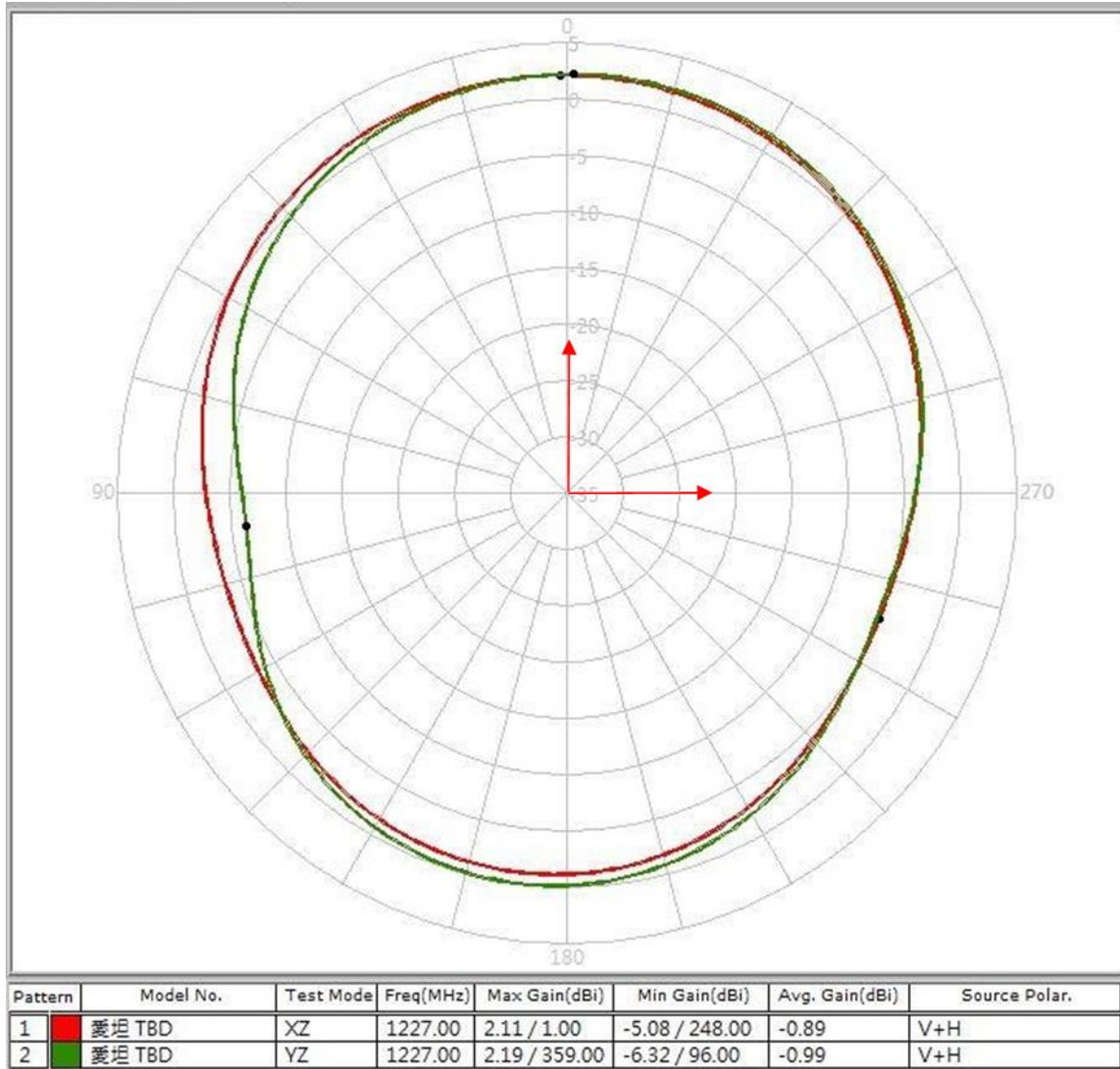
4. DA25 in L1+L2 Module Housing S11 Return Loss & Smith Chart Measure



MTK-GLA	Return Loss(dB)	Impedance(Ohm)	VSWR
1227MHz	-21.45	44.98-j6.34	1.18
1561MHz	-4.66	47.61+j70.31	3.80
1575.42MHz	-18.28	39.17+j2.51	1.28
1602MHz	-30.80	52.51-j1.63	1.06

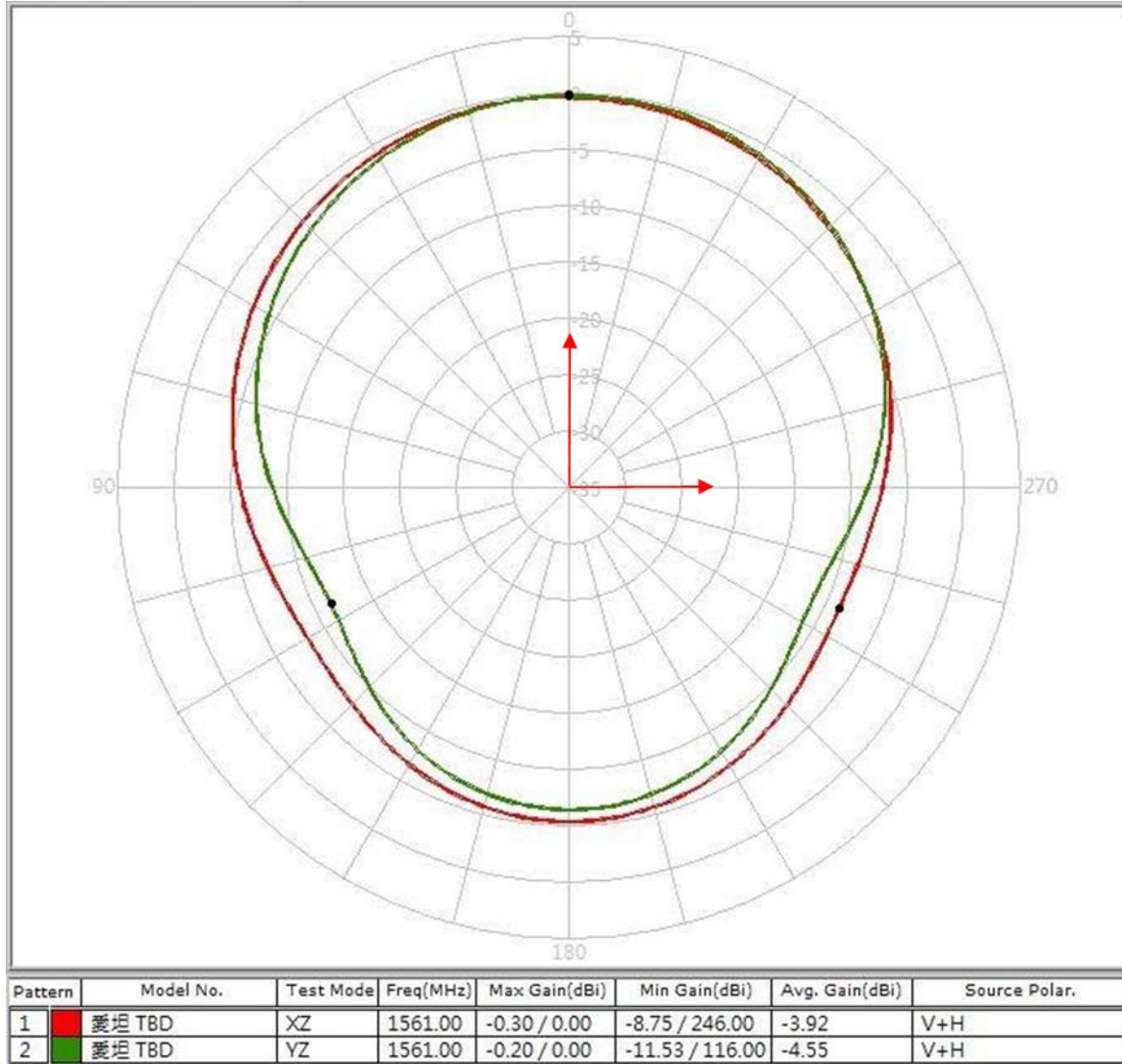
5. Gain Pattern Value

5.1 (1227MHz)



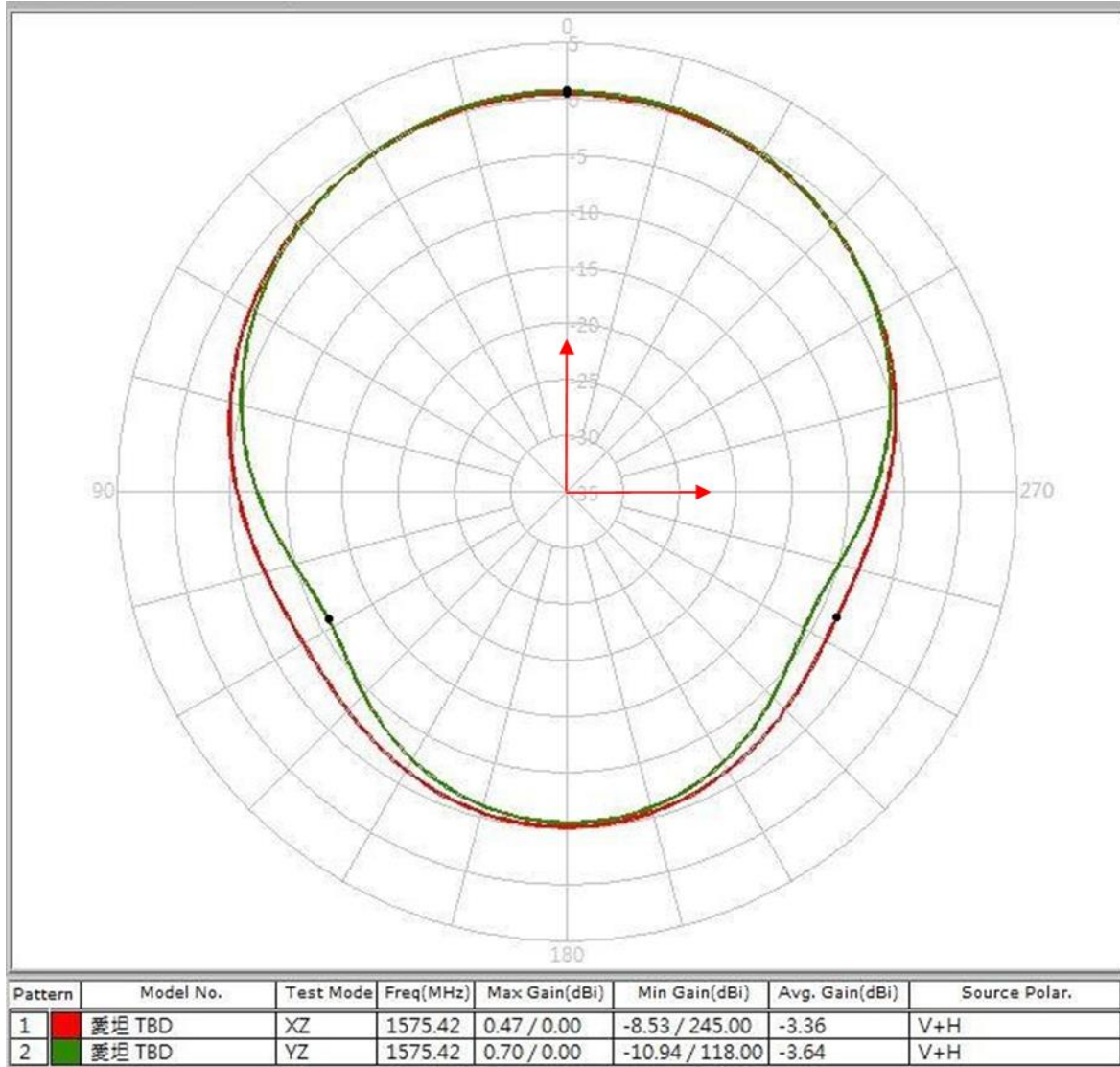
1227 MHz	Peak Gain	Zenith Gain
XZ	2.11	2.11
YZ	2.19	2.15

5.2 (1561 MHz)



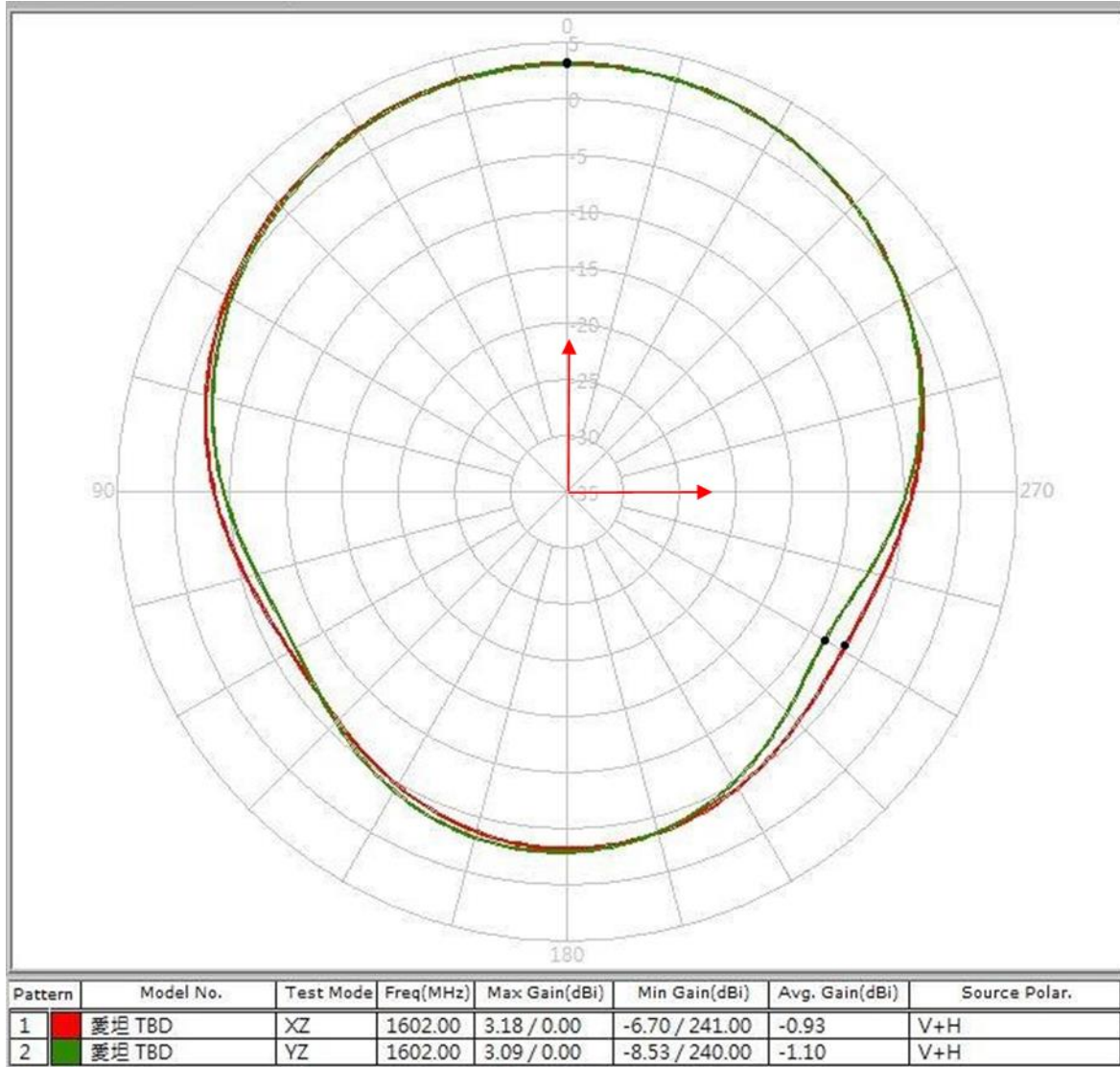
1561 MHz	Peak Gain	Zenith Gain
XZ	-0.30	-0.25
YZ	-0.20	-0.20

5.3 (1575.42MHz)



1575.42MHz	Peak Gain	Zenith Gain
XZ	0.47	0.47
YZ	0.70	0.60

5.4 (1602MHz)

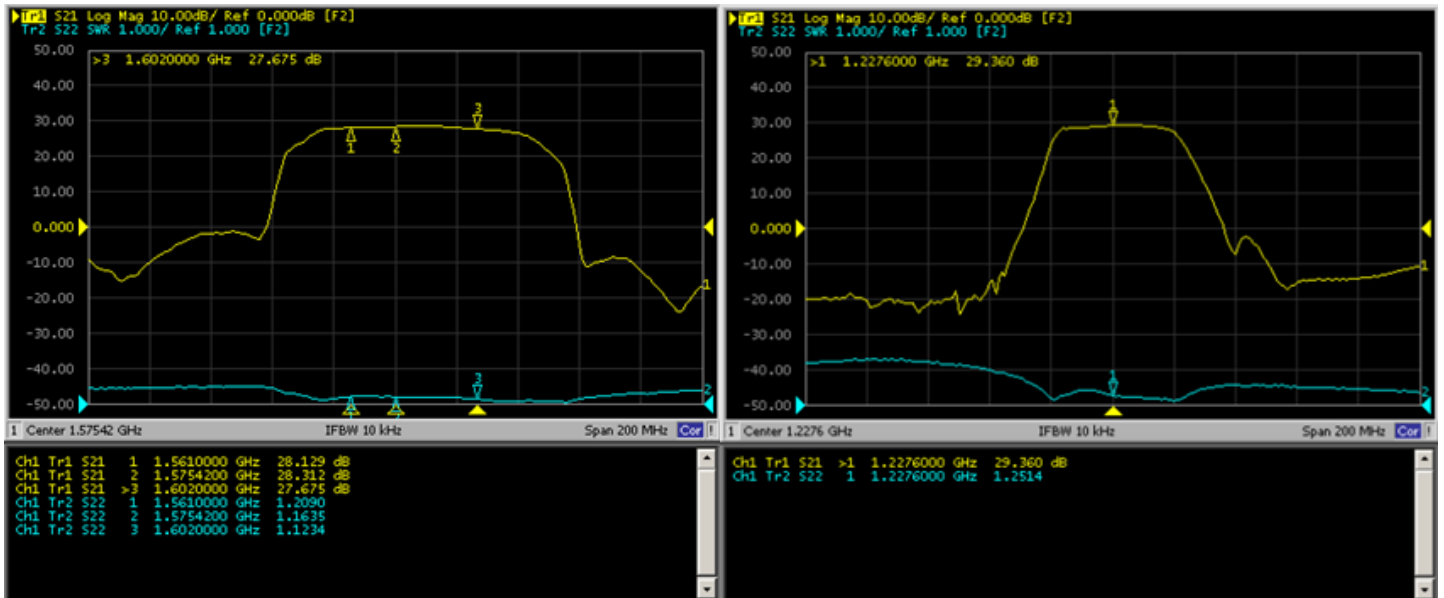


1602MHz	Peak Gain	Zenith Gain
XZ	3.18	3.10
YZ	3.09	3.09

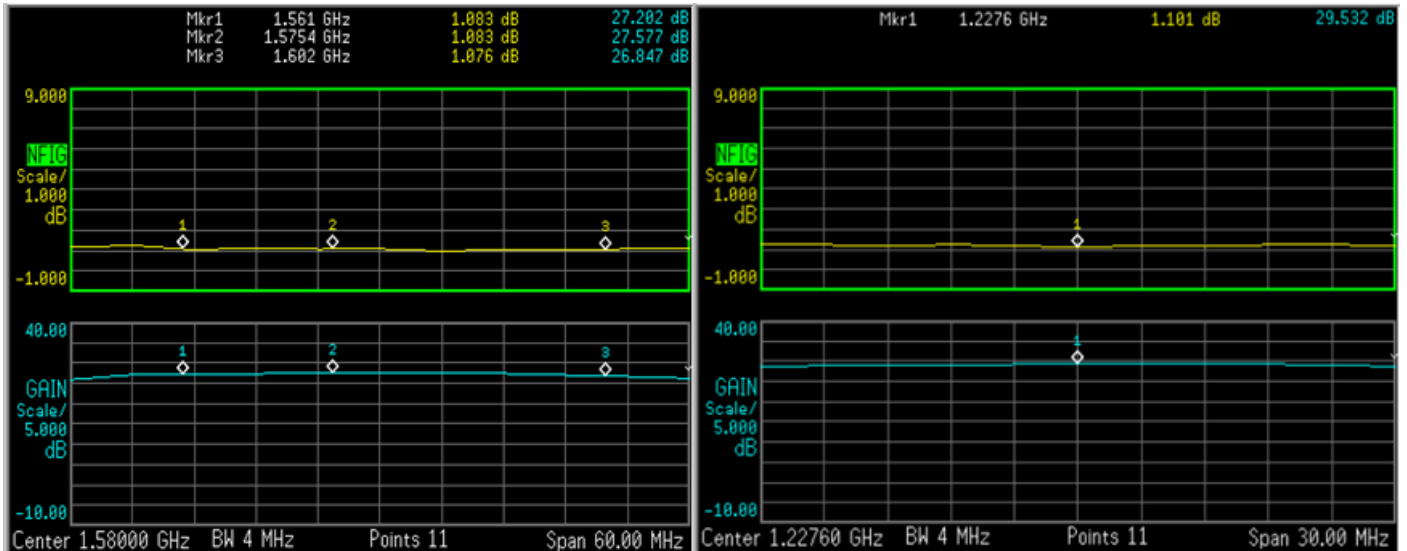
6. LNA

Characteristics	SPEC
Frequency Range	L1: 1561±2.046 MHz for Beidou L1: 1575.42±1.023 MHz for GPS/Galileo L1: 1602±8 MHz for GLONASS L2: 1227.6 ±10 MHz
Gain	1561 MHz: 28±3 dB Typ. (+ 25 °C ± 5°C) 1575.42 MHz: 28±3 dB Typ. (+ 25 °C ± 5°C) 1602 MHz: 27±3 dB Typ. (+ 25 °C ± 5°C) 1227.6 MHz: 29±3 dB Typ. (+ 25 °C ± 5°C)
Noise Figure	1561 MHz: 1 dB Typ. (+ 25 °C ± 5°C) 1575.42 MHz: 1 dB Typ. (+ 25 °C ± 5°C) 1602 MHz: 1.1 dB Typ. (+ 25 °C ± 5°C) 1227.6 MHz: 1.1 dB Typ. (+ 25 °C ± 5°C)
Output Impedance	50 Ω
Output VSWR	2.0 Max

LNA Gain @3.3V



LNA Noise Figure @3.3V



7. Total Specifications

Characteristics	SPEC
Frequency Range	L1: 1561±2.046 MHz for Beidou L1: 1575.42±1.023 MHz for GPS/Galileo L1: 1602±8 MHz for GLONASS L2: 1227.6 ±10 MHz
Gain@3.3V	At 90° L1: 1561 MHz: 27 dBi @Zenith – Cable Loss(Note:1) L1: 1575.42 MHz: 28 dBi @Zenith – Cable Loss(Note:1) L1: 1602 MHz: 29.5 dBi @Zenith – Cable Loss(Note:1) L2: 1227.6 MHz: 30.5 dBi @Zenith – Cable Loss(Note:1)
Output Impedance	50 Ω

Note: 1 Cable Loss = Max. (-1.4dB/meter)

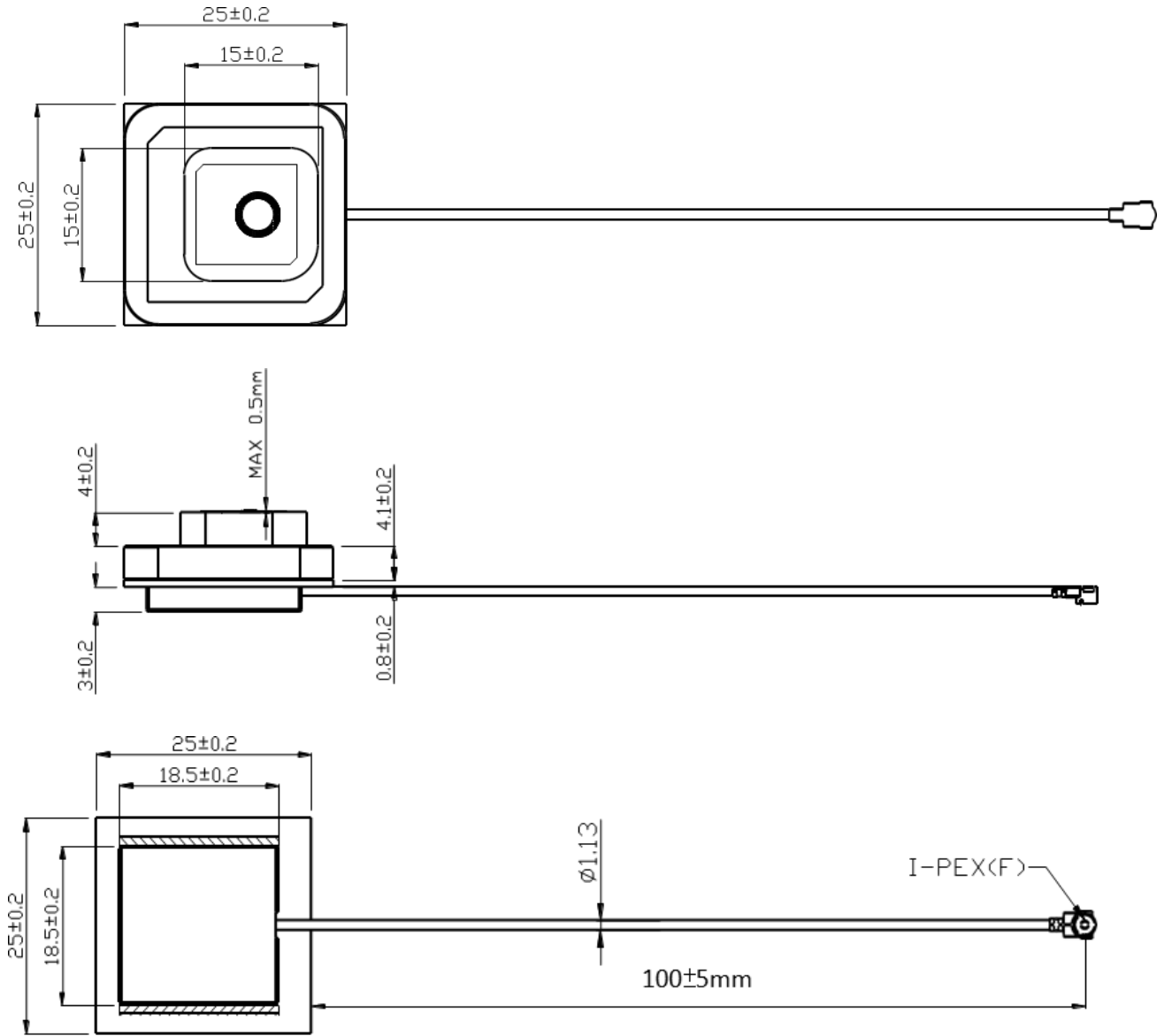
8. Operating Condition

Temperature	-40°C to +85°C
Humidity	10% to 95% RH

9. Storage Condition

Temperature	-40°C to +85°C
Humidity	10% to 95% RH

10. Outline



11. Note

1. This product specification guarantees the quality of our product as a single unit. Please make sure that your product is evaluated and confirmed against your specifications when our product is mounted to your product.
2. We cannot warrant against failure caused by any use of our product that deviates from the intended use as described in this product specification.
3. Electrostatic sensitive device Observe precautions for handling.