

NGPMA1818BU1R176G3F

L1 & L5 GPS Active High Precision Patch Antenna



Description

NGPMA1818BU1R176G3F is a Patch Antenna designed for GNSS L1, L5 applications. It operates within the frequency of 1575.42 MHz and 1176 MHz making it perfect for use in Navigation systems or position tracking systems, Hand-held devices when GPS/GLONASS function is needed, and PDA, Smart phone, PND.

Features

- Supporting: L1+L5 GNSS
- Stable and reliable in performances
- Low temperature coefficient of frequency
- RoHS & HF Compliant



Part Number Breakdown

NGPM	A	1818	B	U	1R176G	3	X	xxx	A	F
Series	Active Antenna	Size (in mm)	Mount Type A = Adhesive	Production Code	Center Frequency	Number of Bands	Connector Type Code X =IPEX 1 Connector	Cable Length Length code in mm (100 = 100 mm). For lengths > 1000mm: First two digits are significant, and third digit is multiplier (102 = 1,000 mm)	Cable Type A = RF1.13 Cable	RoHS Compliance F = RoHS Compliant



Standard Part Number Listing

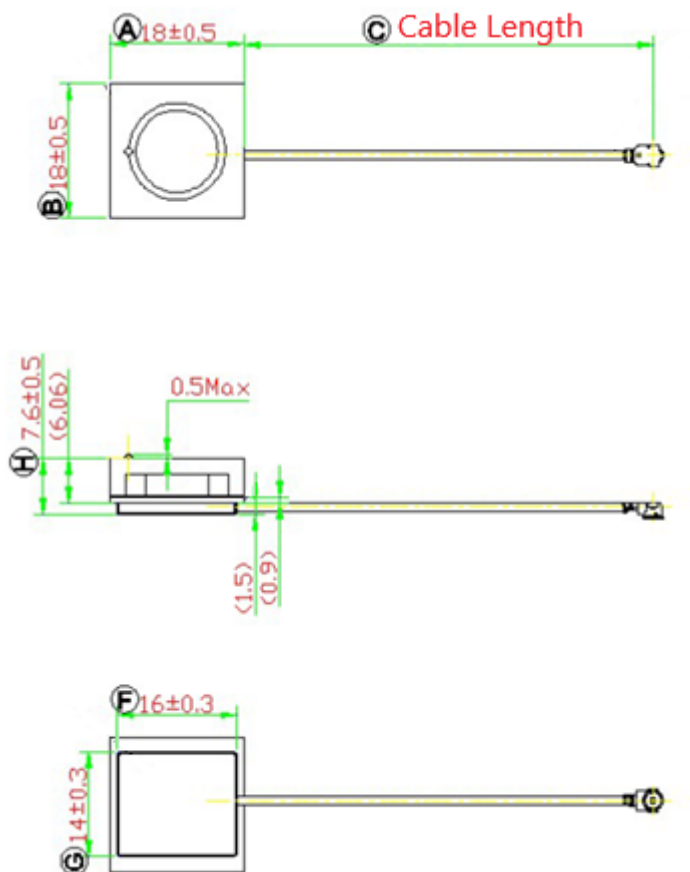
Part Number	Protocol	Connector	Cable Type	Cable Length
NGPMA1818BU1R176G3X50AF	GNSS L1 & L5	IPEX I (X)	RF1.13 (A)	50 mm
NGPMA1818BU1R176G3X100AF	GNSS L1 & L5	IPEX I (X)	RF1.13 (A)	100 mm

The table represents assembled part numbers available on www.niccomp.com. For options not listed above please contact NIC

Specifications

Electrical			
Frequency Bands	L1 Band		L5 Band
Center Frequency	1575.42 MHz	1602 MHz	1176.45 MHz
Peak Gain (typ.)	0.8 dBi	0.6 dBi	-7.9 dBi
Average Gain (typ.)	-4.9 dB	-5.3 dB	-12.1 dB
Efficiency (typ.)	31.9%	29.3%	6%
Return Loss (typ.)	< -10 dB		
Polarization	RHCP		
Impedance	50Ω		
LNA			
Frequency Bands	L1 Band		L5 Band
Center Frequency	1575.42 MHz	1602 MHz	1176.45 MHz
Gain (typ.)	24 dB	24 dB	25 dB
Noise Figure (typ.)	2.7 dB	3.0 dB	2.5 dB
Output VSWR	2.5 (typ.)		
Input Voltage	DC = 3.0 ± 0.3		
Current Consumption	12.5 typ. (at DC 3V)		
Output Impedance	50 Ω		
Environmental			
Operating Temperature	-40°C~+85°C		
Storage Temperature	-5°C~+40°C		
Relative Humidity	10 ~70%		
Patch Material (2)	Ceramic		
Shielding Case	16x14 mm		
RoHS Compliant	Yes		

Dimension Drawing



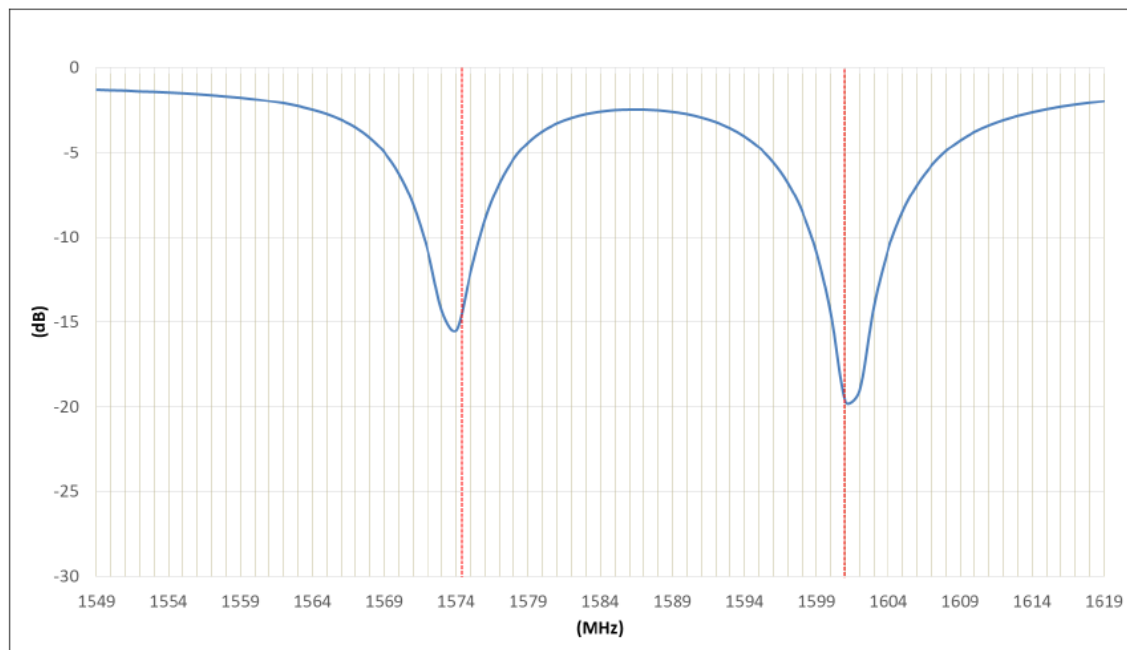
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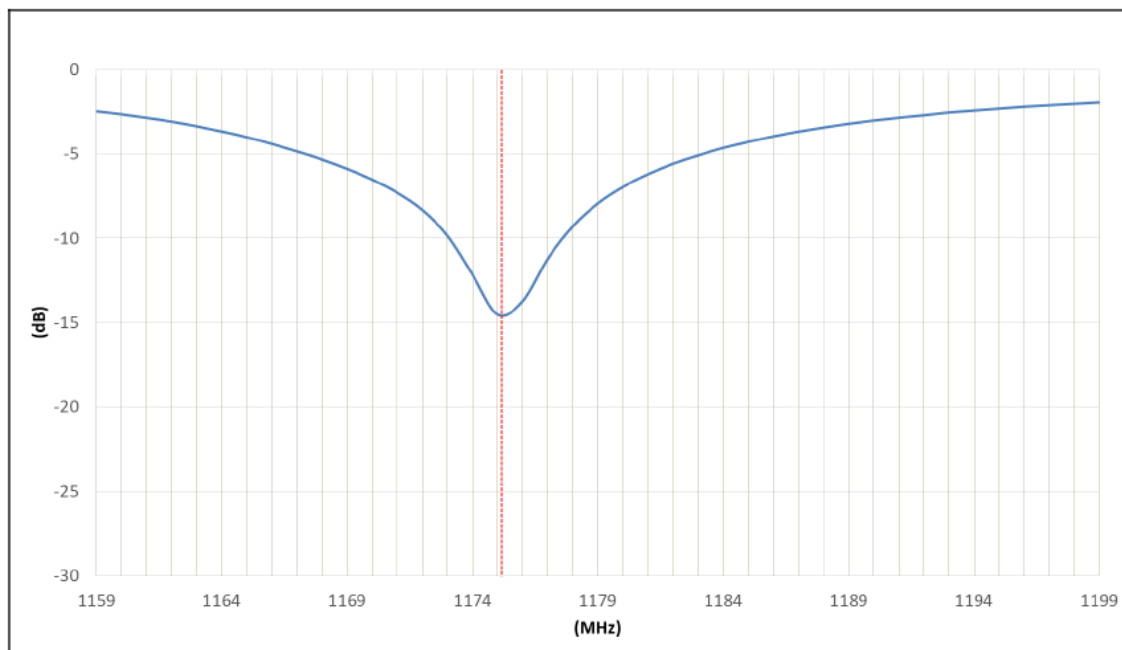


Return loss (dB)

L1 Band



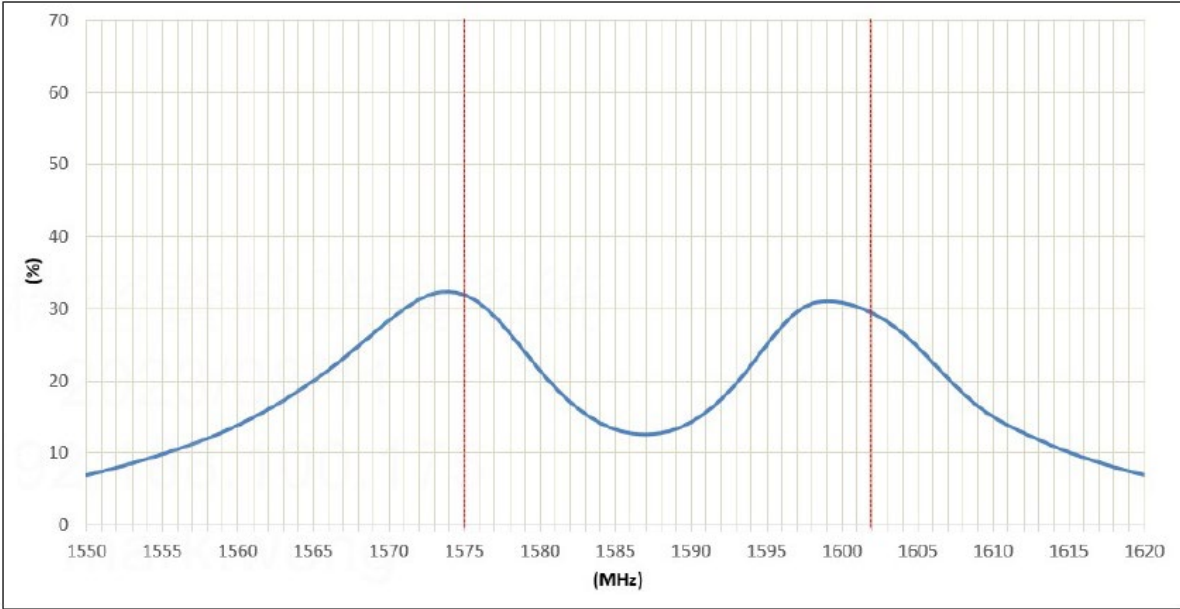
L5 Band



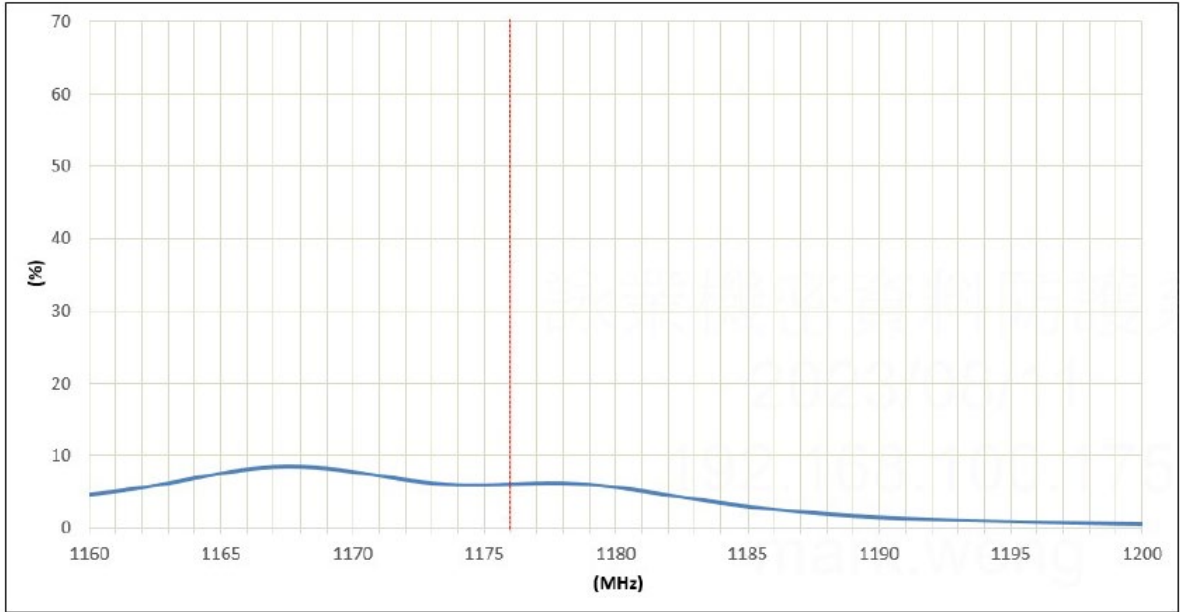


Efficiency (%)

L1 Band



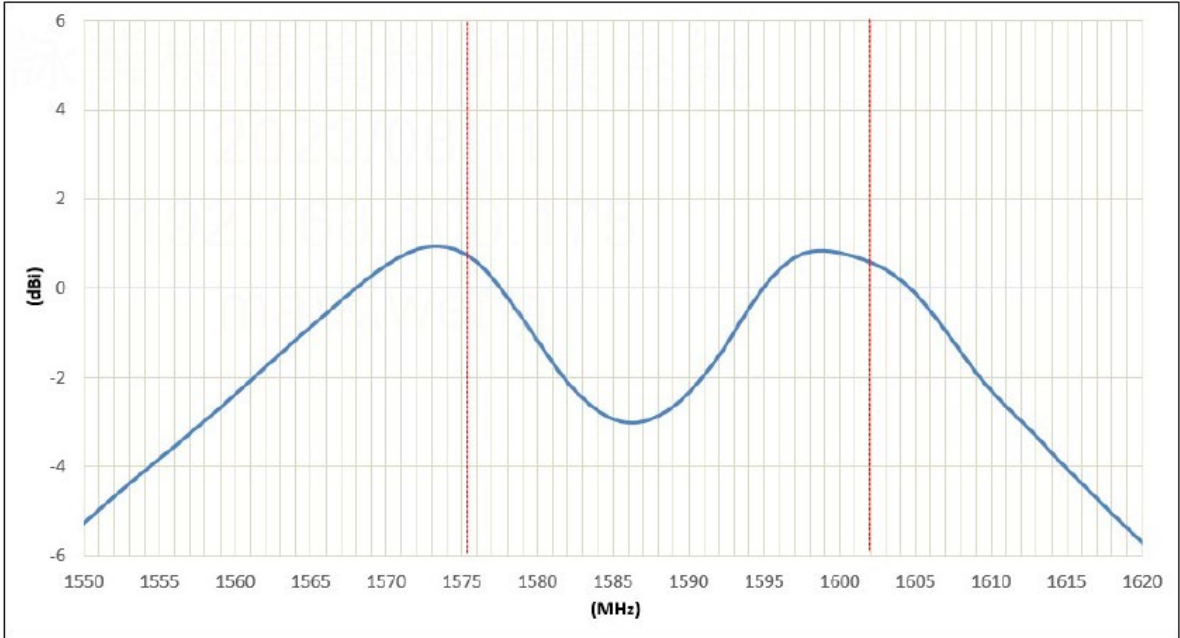
L5 Band



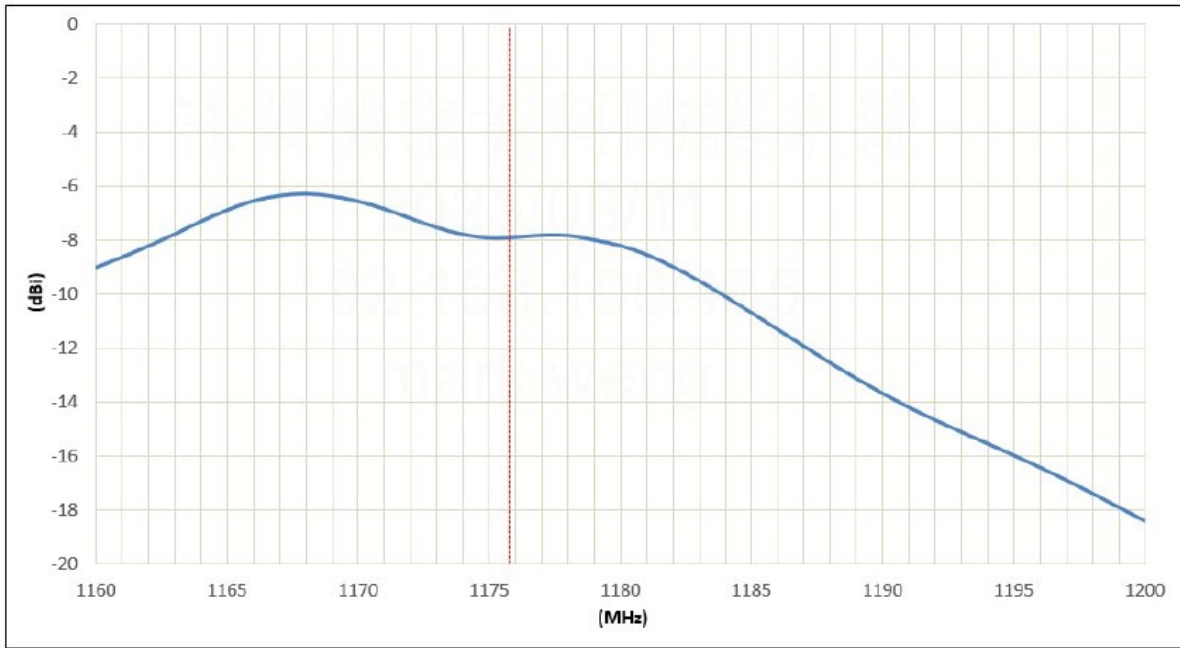


Peak Gain(dBi)

L1 Band



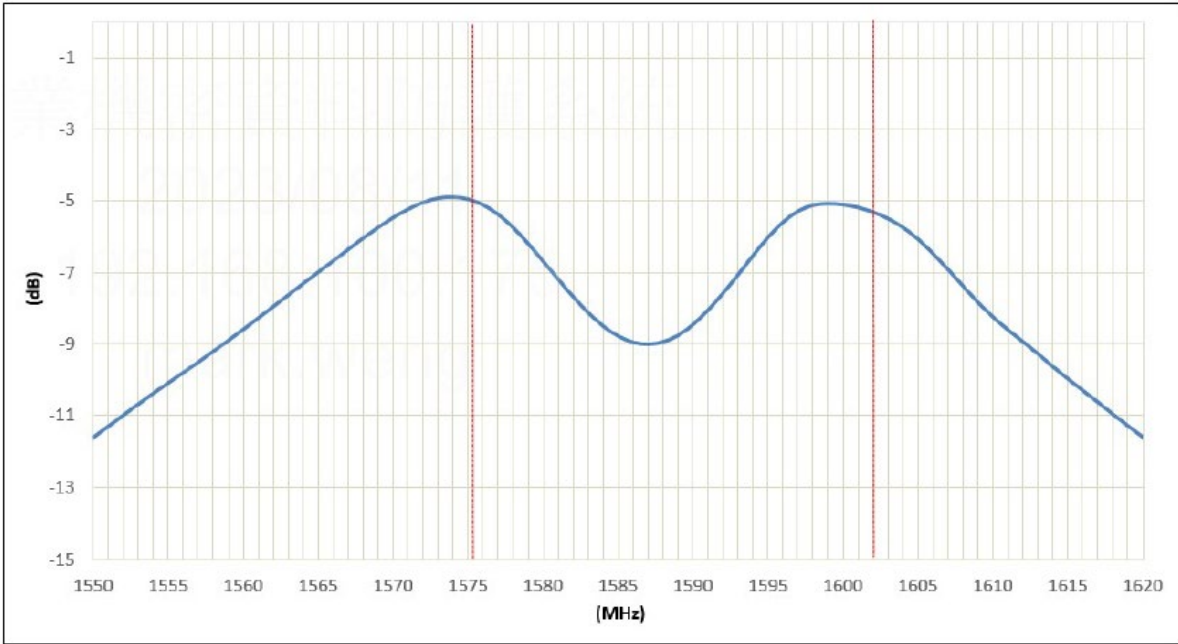
L5 Band



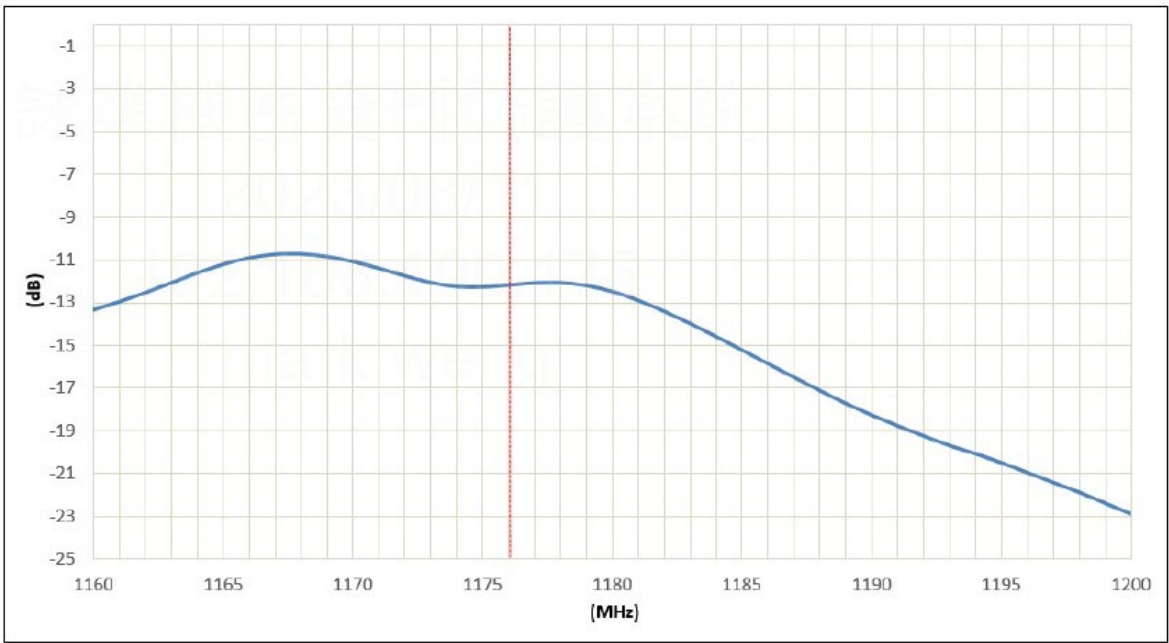


Average Gain (dB)

L1 Band



L5 Band



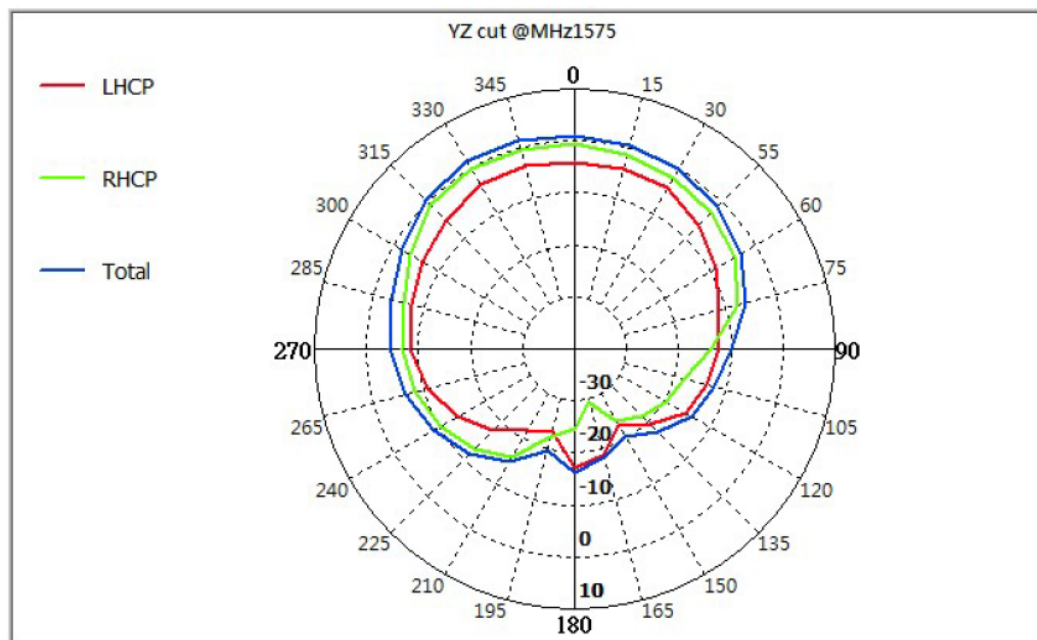
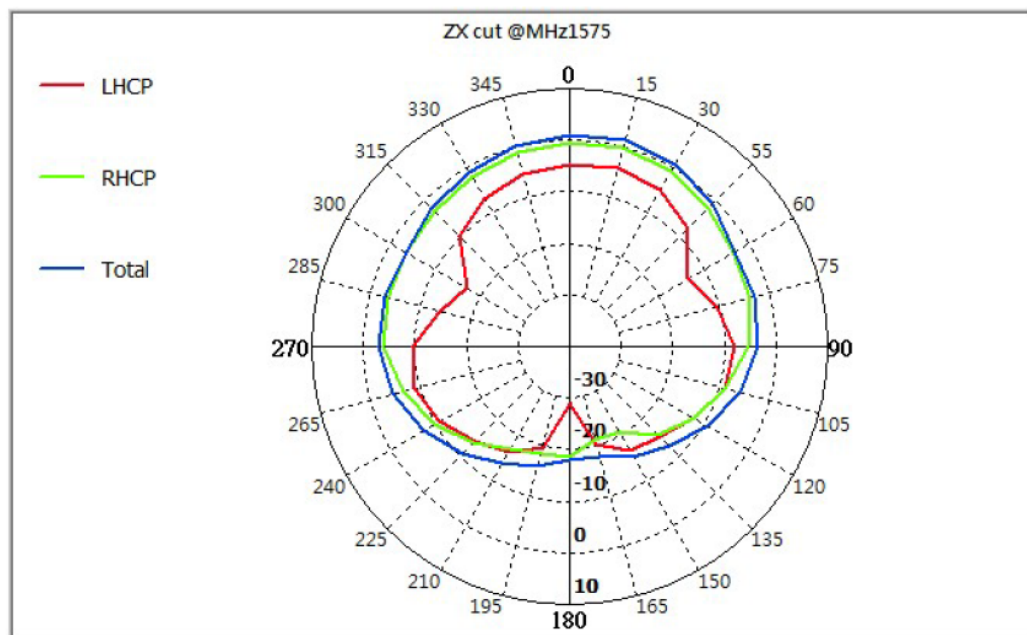
Antenna Radiation Pattern Measurement:

The antenna radiation patterns are measured in a 3D Anechoic Chamber.

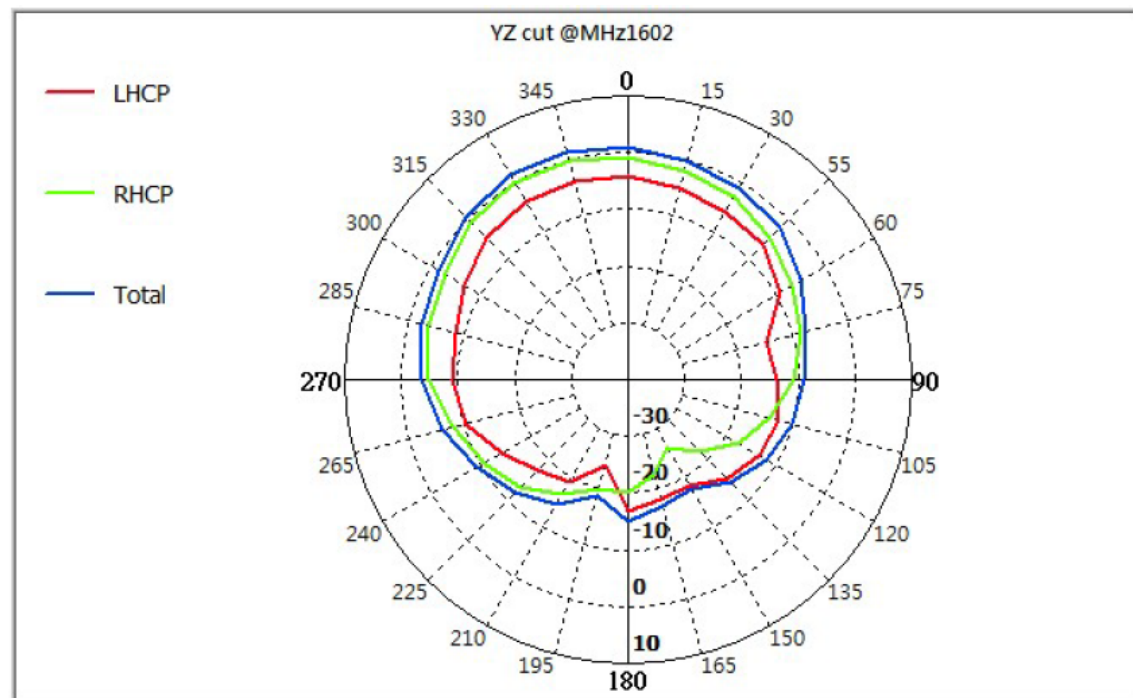
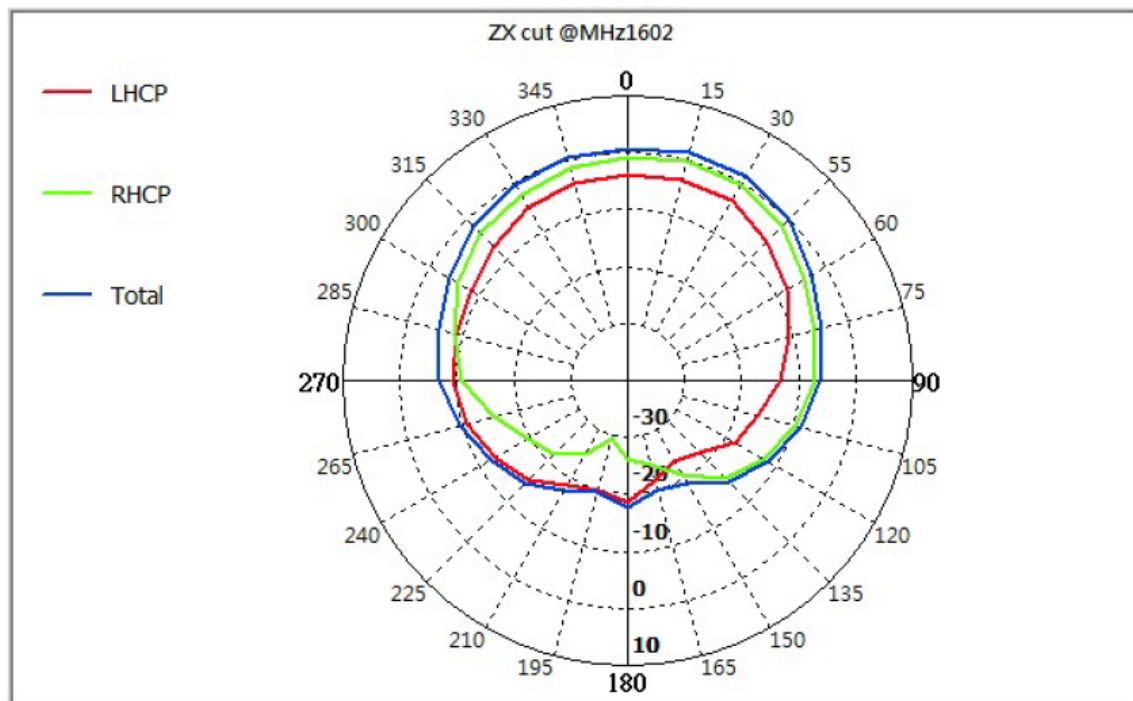


2D Radiation Patterns

1575.42 MHz (unit: dBi)



1602 MHz (unit: dBi)

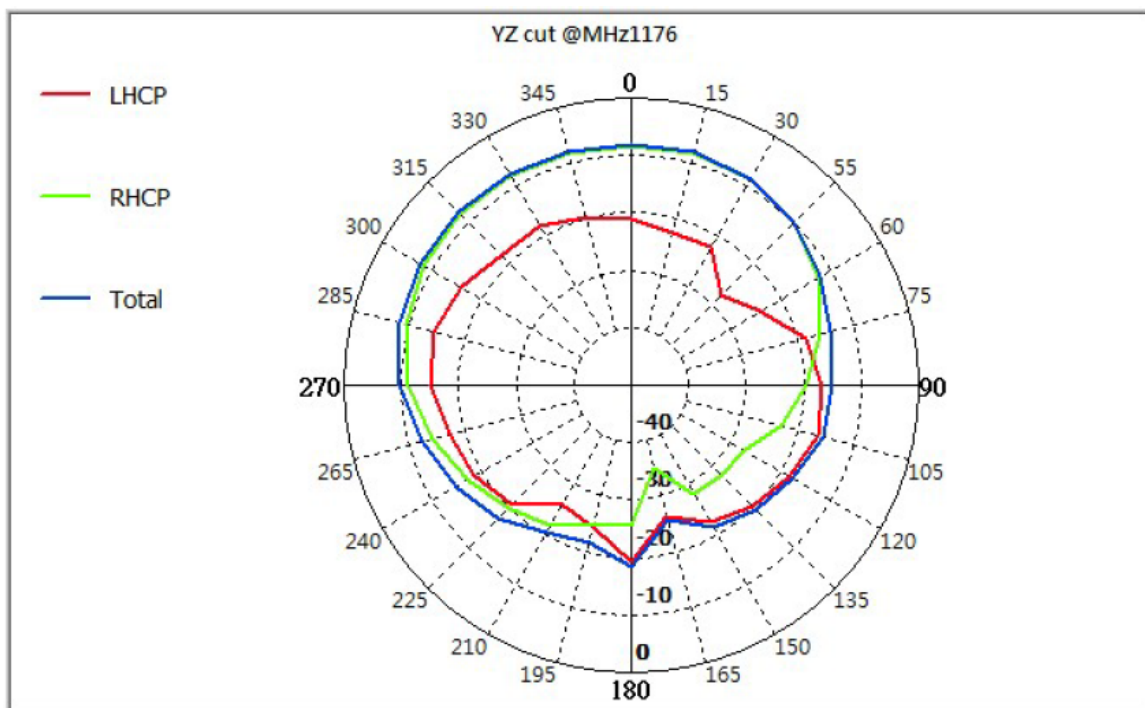
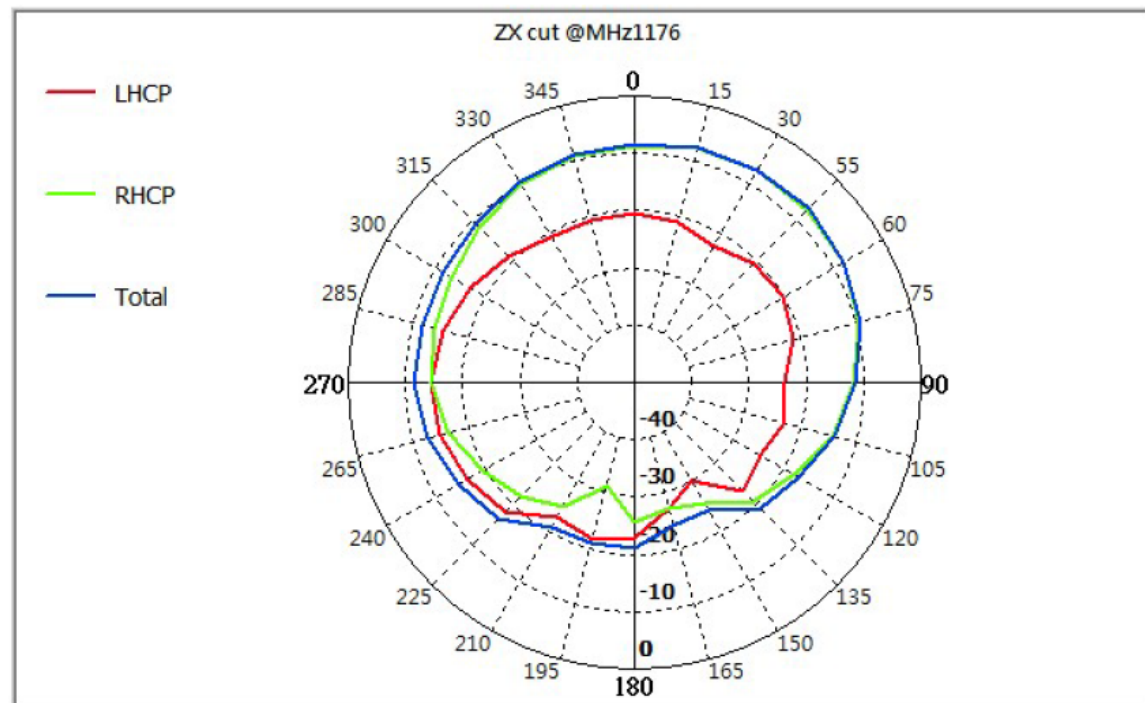


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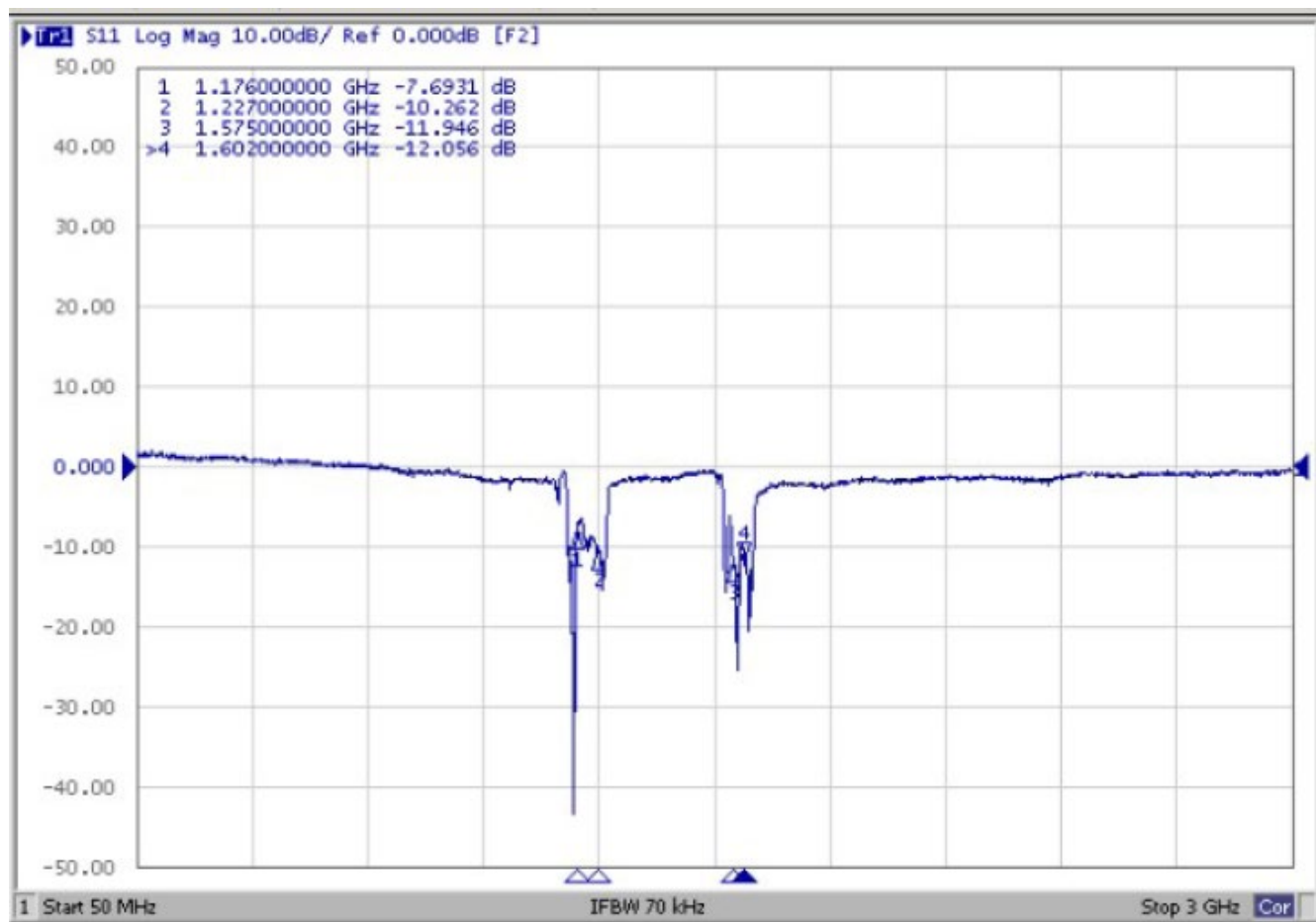


1176.45 MHz (unit: dBi)



Low Noise Amplifier (LNA)

S11: (The input power of network analyzer is -40dBm)

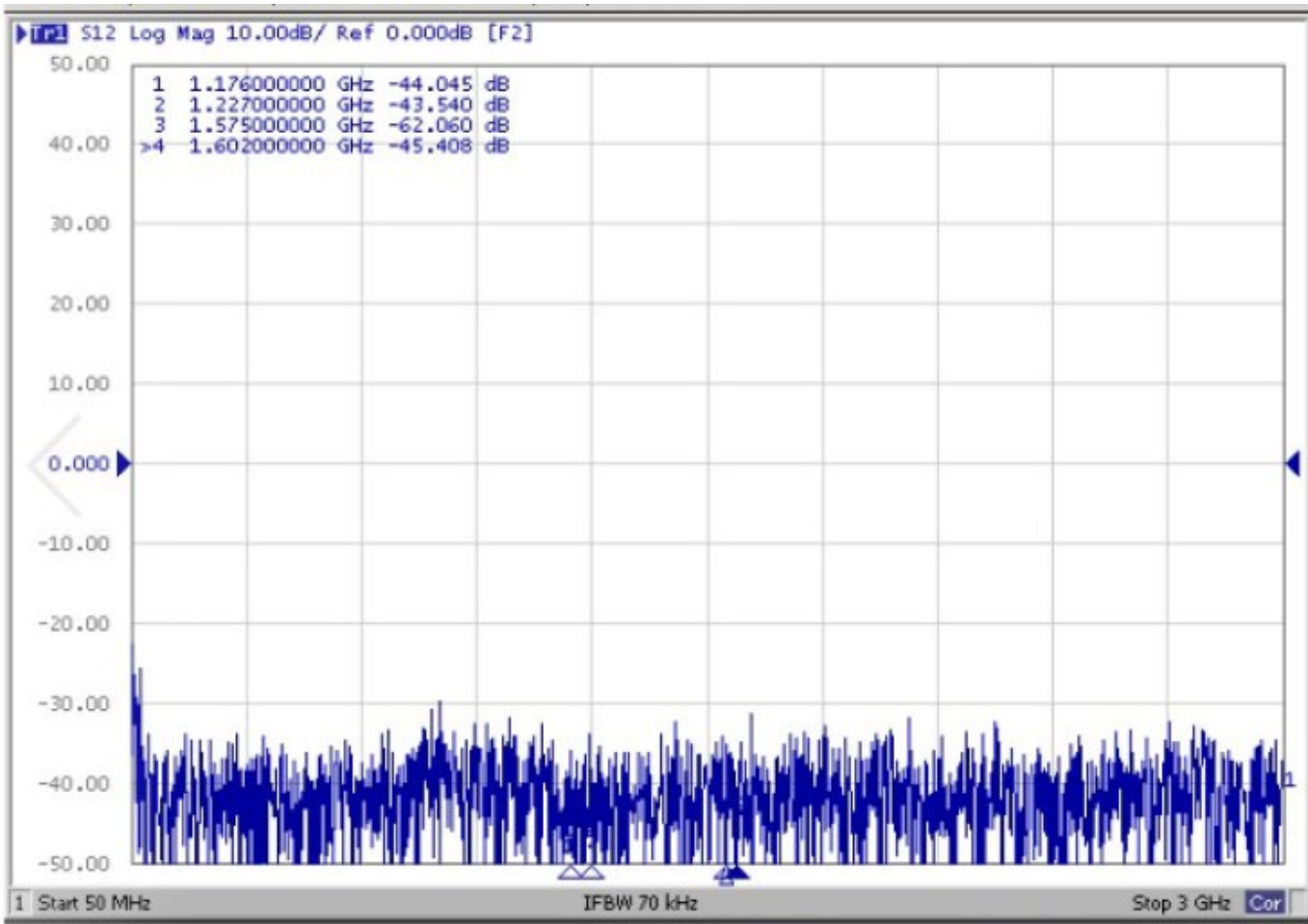


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S12: (The input power of network analyzer is -40dBm)

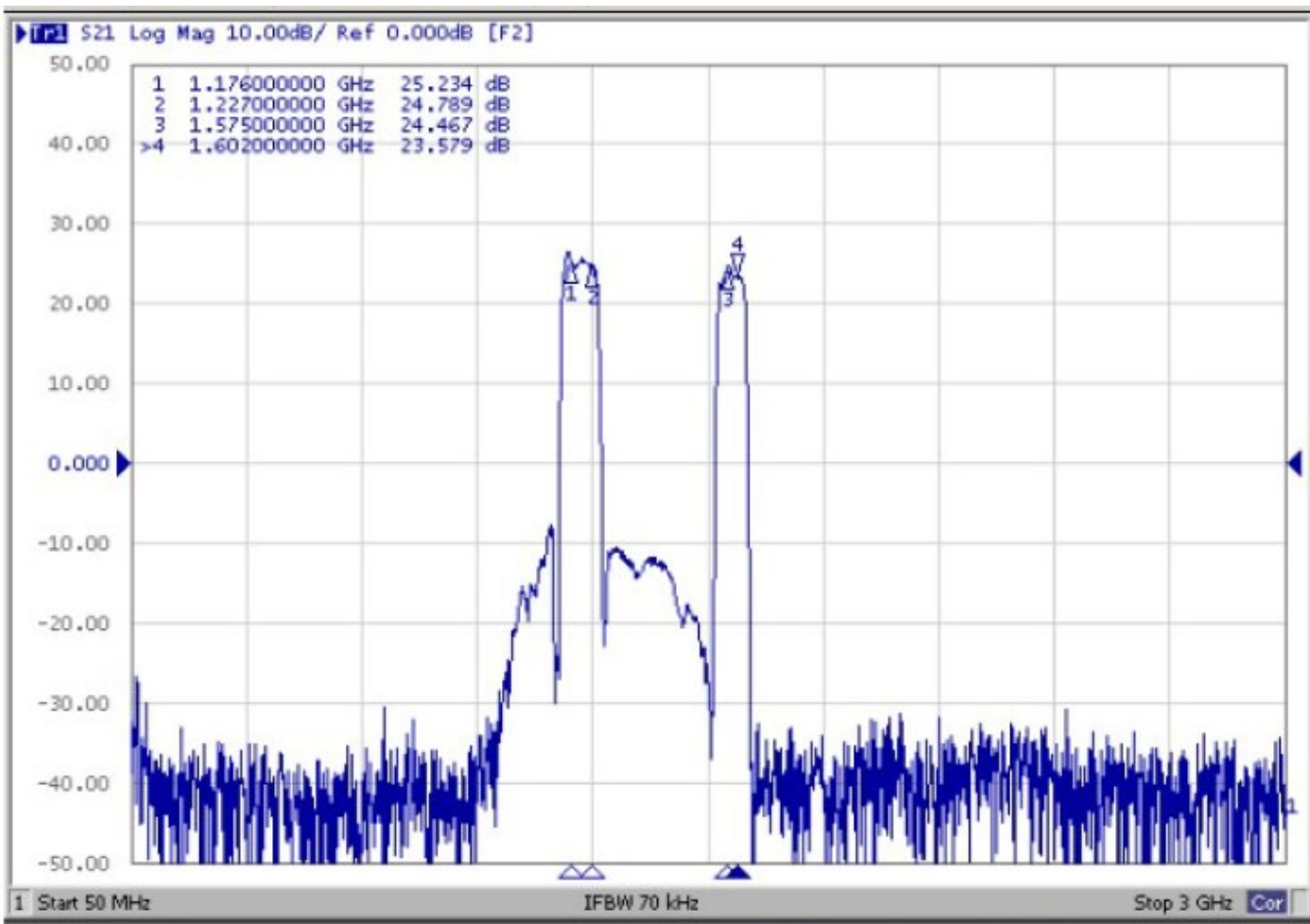


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S21 Gain: (The input power of network analyzer is -40dBm)

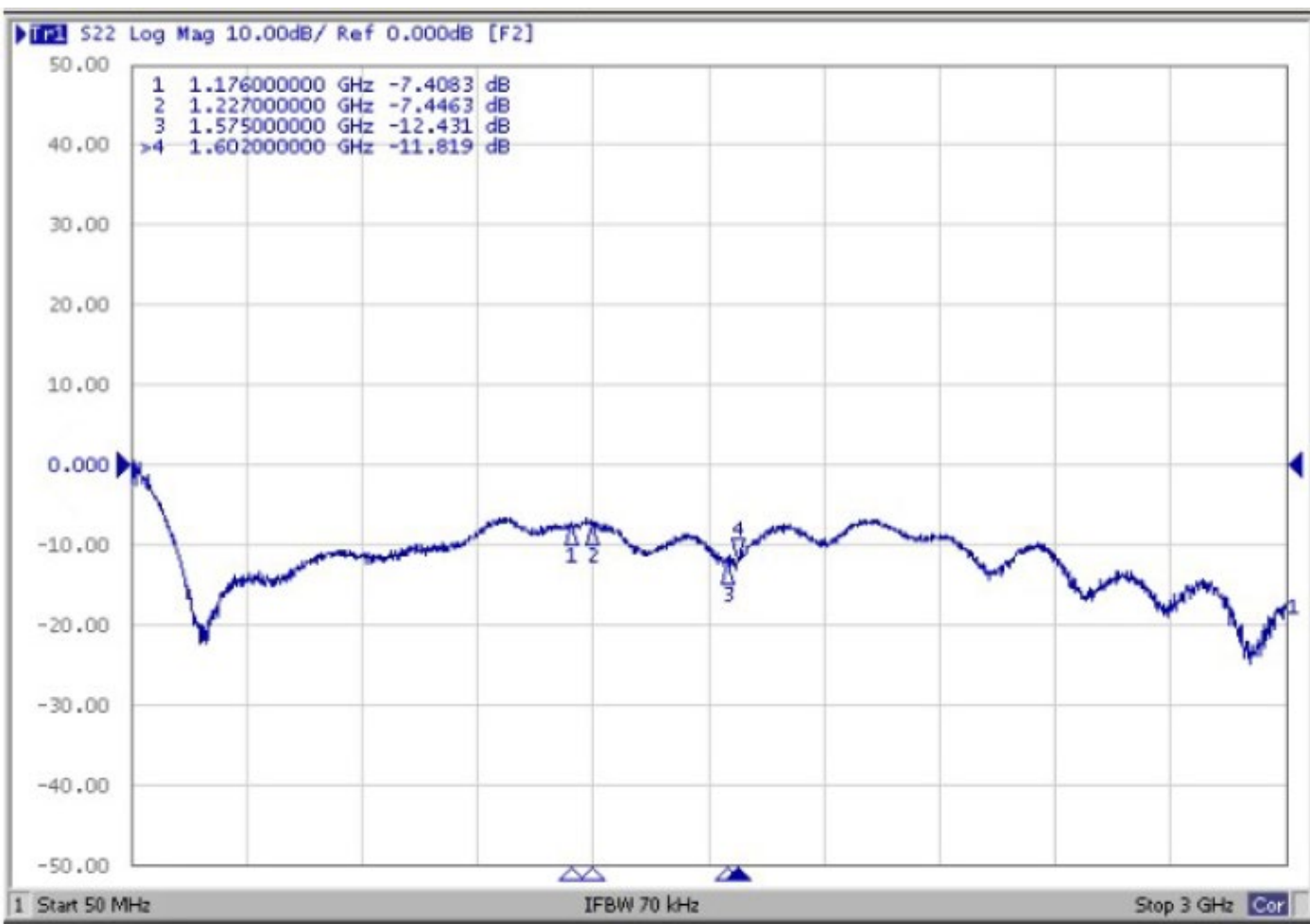


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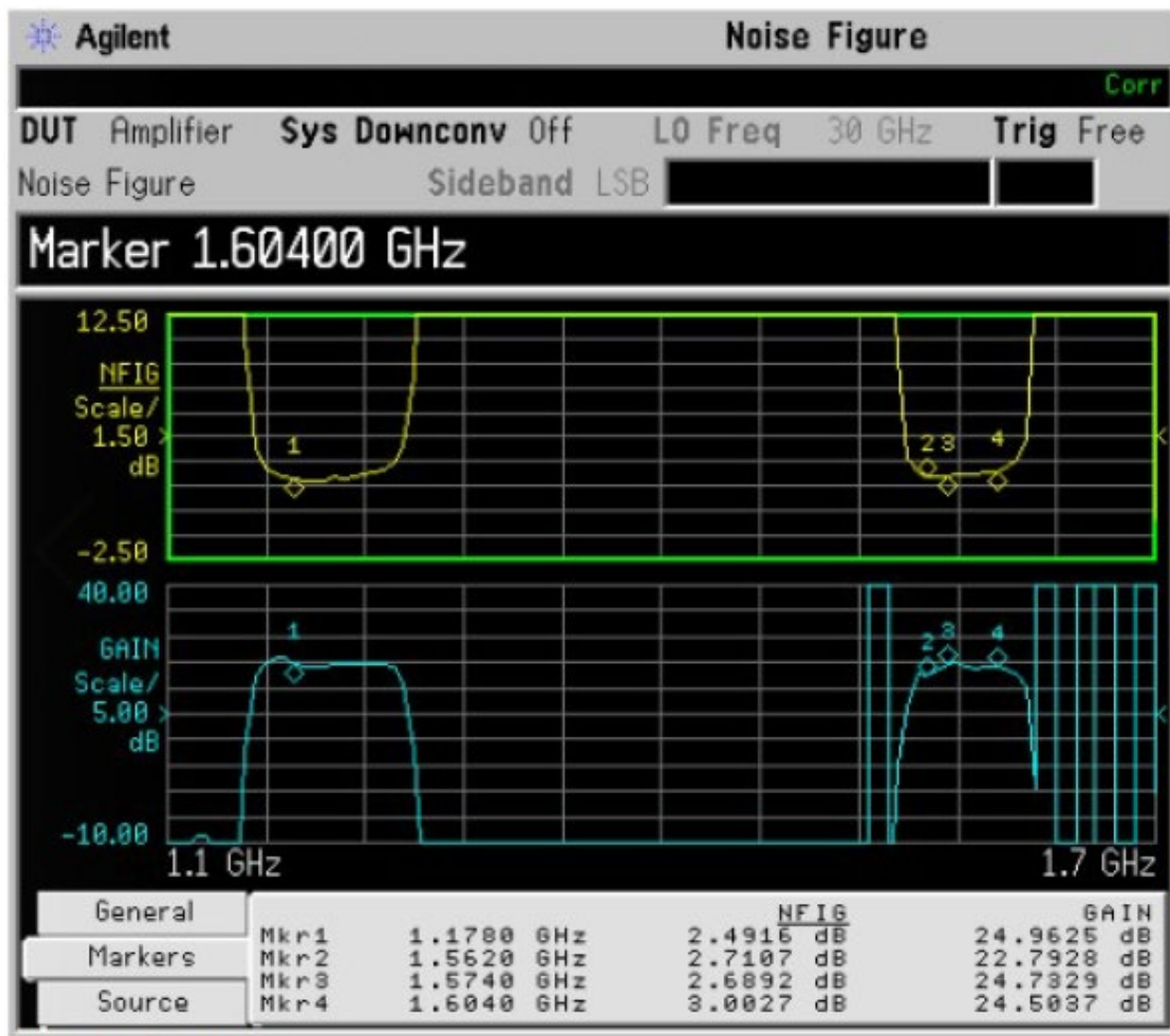
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S22: (The input power of network analyzer is -40dBm)



Noise Figure



Packing

- (1) Unit Weight: 18 ± 1 (g)
- (2) Quantity: Each PE = 5 pcs
Each Outer Carton = 500 pcs

