



**Product Name: NB26DG Antenna Module**

**Part Number: H2M1W021129900**

**Features:**

- Supporting: (L1+L5) GPS/GLONASS
- Stable and reliable in performances
- Low temperature coefficient of frequency
- RoHS & REACH Compliant
- Pre-filtering

**Applications:**

- Navigation systems or position tracking systems
- Car Navigation
- Security Surveillance

# Antenna Module

## MODEL: NB26DG

Version: Preliminary

### I. Patch antenna Specifications:

Items	Specifications		
<b>Navigation</b>	L1 Band		L5 Band
<b>Center Frequency (MHz)</b>	1575.42	1602	1176.45
<b>Return loss (dB)</b>	<-10 Typ.	<-10 Typ.	<-10 Typ.
<b>Efficiency (%)</b>	23 Typ.	29 Typ.	25 Typ.
<b>Average Gain (dB)</b>	-6.4 Typ.	-5.4 Typ.	-5.9 Typ.
<b>Peak Gain (dBi)</b>	0.6 Typ.	1.3 Typ.	-0.8 Typ.
<b>Polarization</b>	RHCP		
<b>Impedance (<math>\Omega</math>)</b>	50		

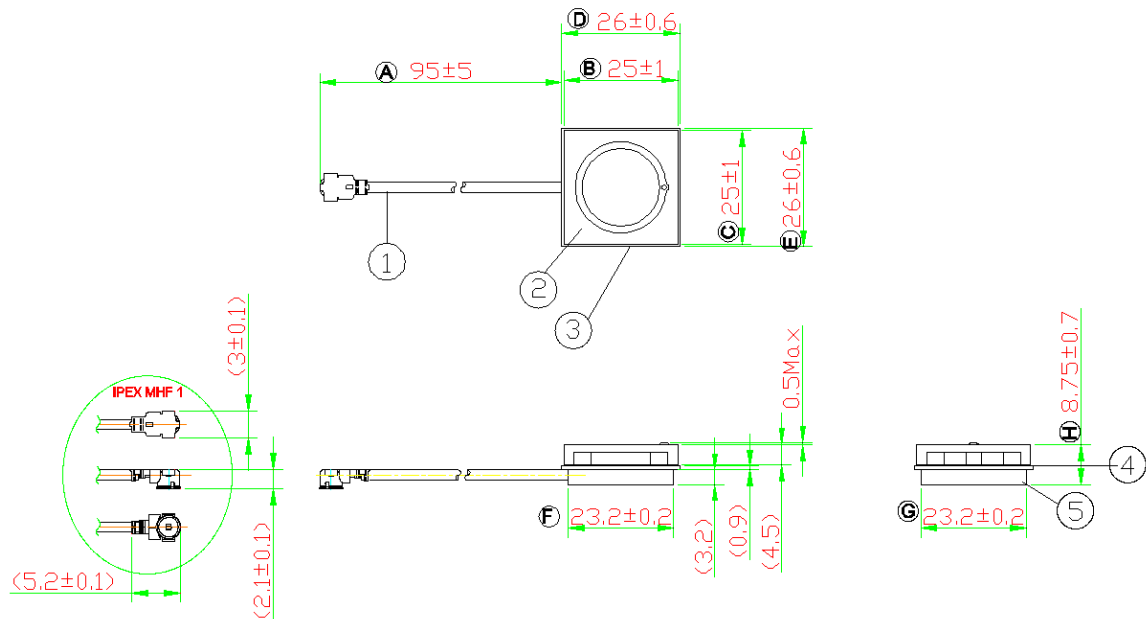
### II. Low noise amplifier Specifications:

Items	Specifications		
<b>Navigation</b>	L1 Band		L5 Band
<b>Center Frequency (MHz)</b>	1575.42	1602	1176.45
<b>Gain (dB)</b>	28 $\pm$ 3 Typ.	28 $\pm$ 3 Typ.	28 $\pm$ 3 Typ.
<b>Noise Figure (dB)</b>	3.0 Typ.	3.0 Typ.	3.0 Typ.
<b>Input Voltage (V)</b>	DC = 3.0 $\pm$ 0.3		
<b>Current (mA)</b>	12.5 Typ. (at DC 3V)		
<b>Impedance (<math>\Omega</math>)</b>	50		

Environmental Conditions	
<b>Operation &amp; Storage Temperature (<math>^{\circ}</math> C)</b>	-40 ~ +85
<b>Storage Temperature (<math>^{\circ}</math> C) (Antenna with packing sealed)</b>	-5 ~ +40
<b>Relative Humidity</b>	10 ~ 70 %

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### III. Antenna Dimensions (unit: mm):



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#### NOTE:

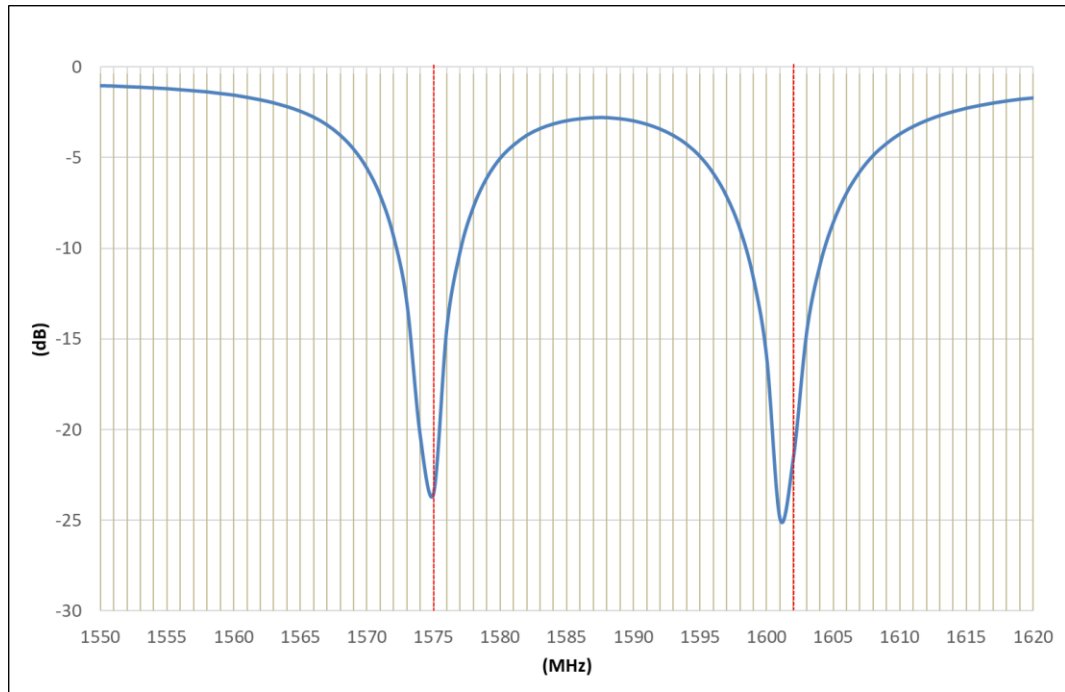
1. All materials are RoHS 2.0 compliant.
2. "A~H" Critical Dimensions.
3. "( )" Reference Dimensions.

Item	Name	Material	Color	Q'ty
1	Connector (IPEX I)+cable( $\phi=1.13\text{mm}$ )	Brass/FEP	Gold/gray	1
2	Patch	Ceramic	-	1
3	LNA Module	FR4	Green	1
4	Adhesive	-	-	1
5	Shielding Case	Tin (SPTE)	-	1

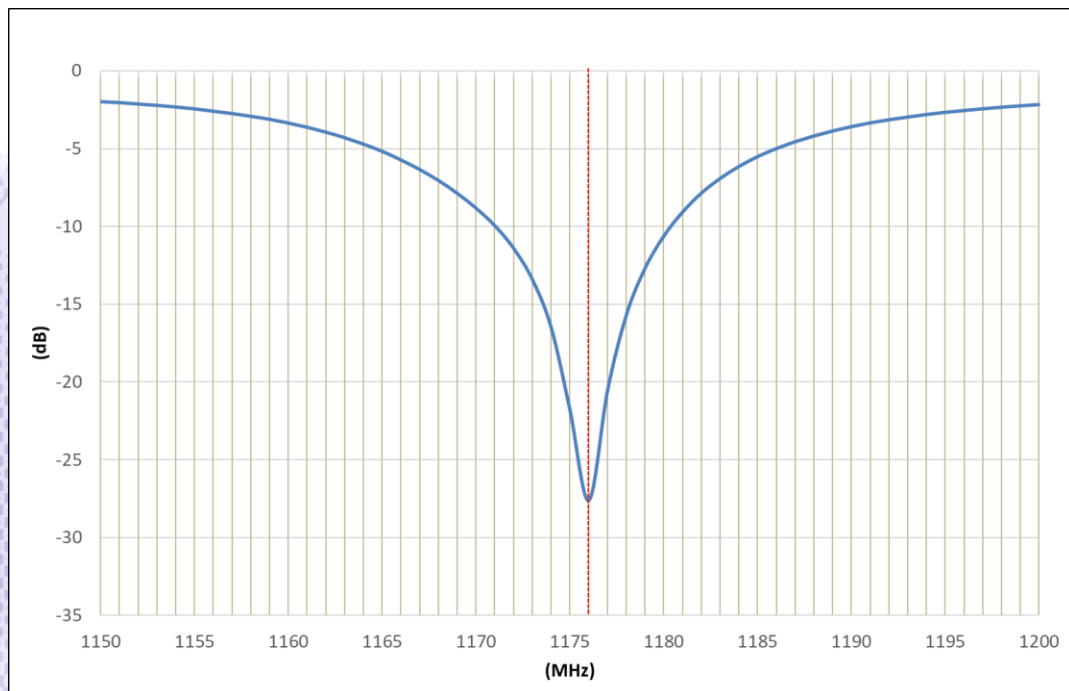
## IV. Properties:

### a) Return loss (dB)

#### L1 Band (1575.42 MHz & 1602 MHz)

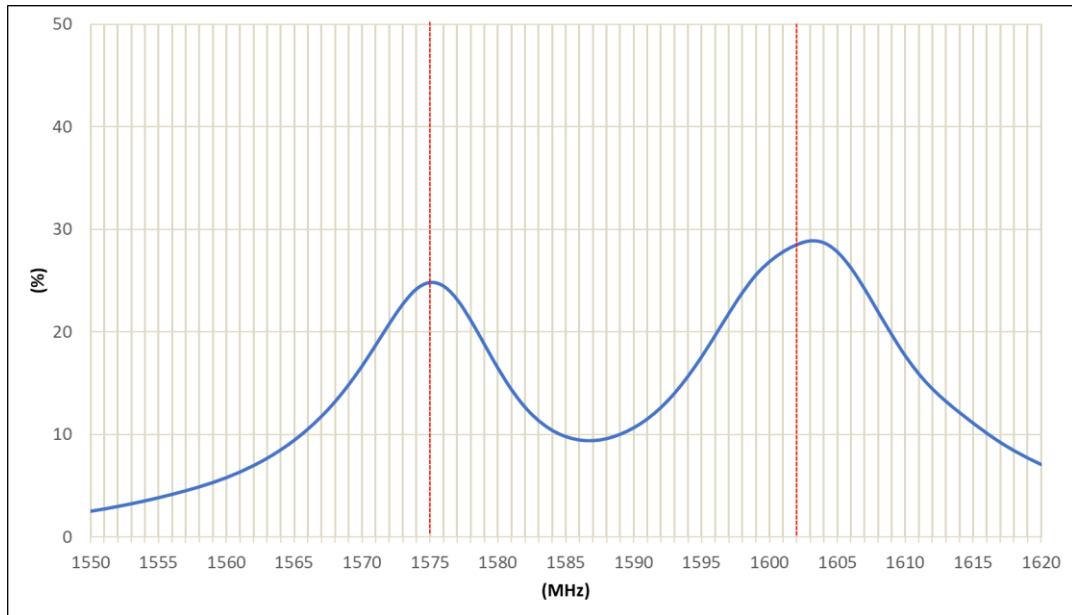


#### L5 Band (1176.45 MHz)

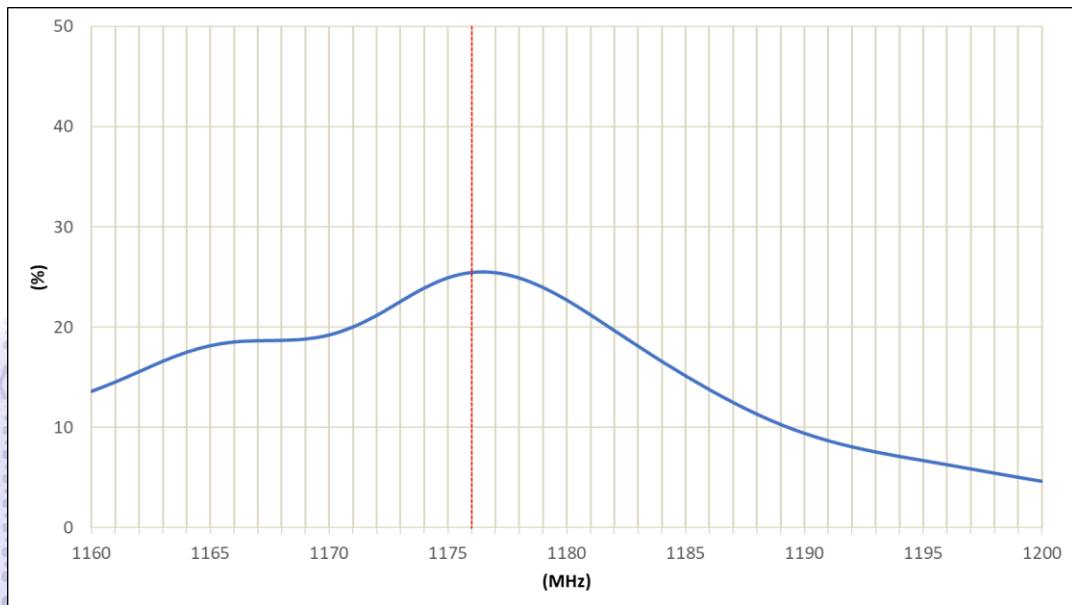


**b) Efficiency (%)**

**L1 Band (1575.42 MHz & 1602 MHz)**



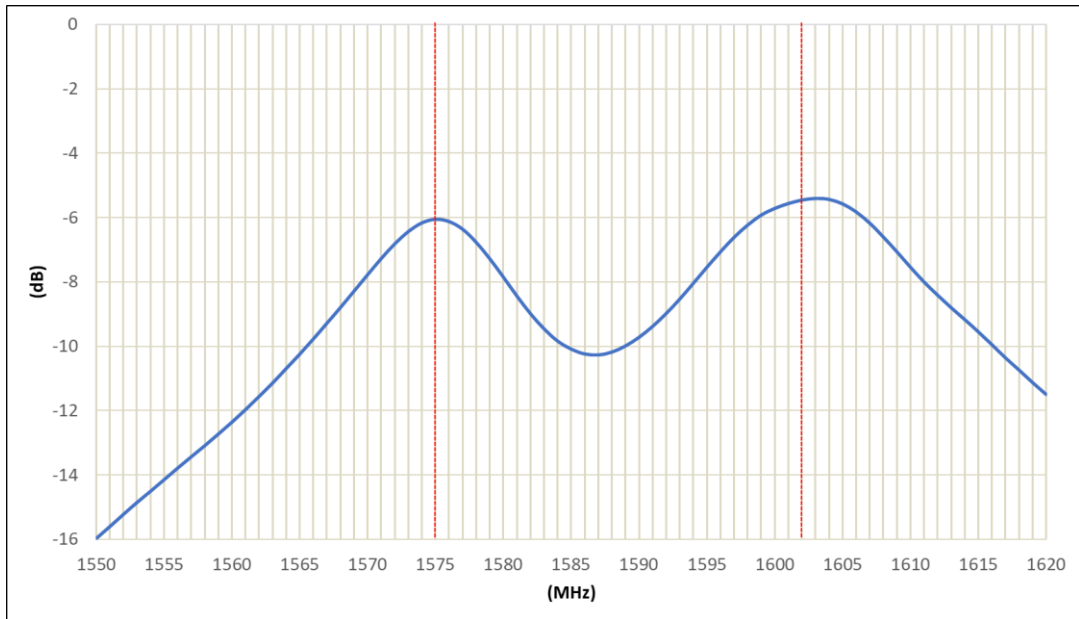
**L5 Band (1176.45 MHz)**



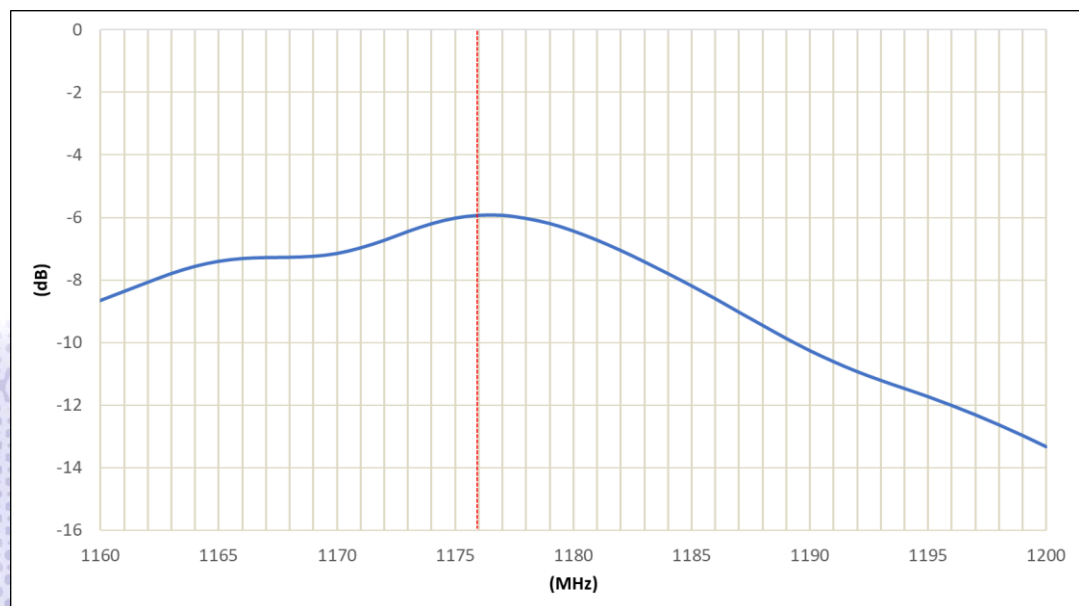
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**c) Average Gain (dB)**

**L1 Band (1575.42 MHz & 1602 MHz)**



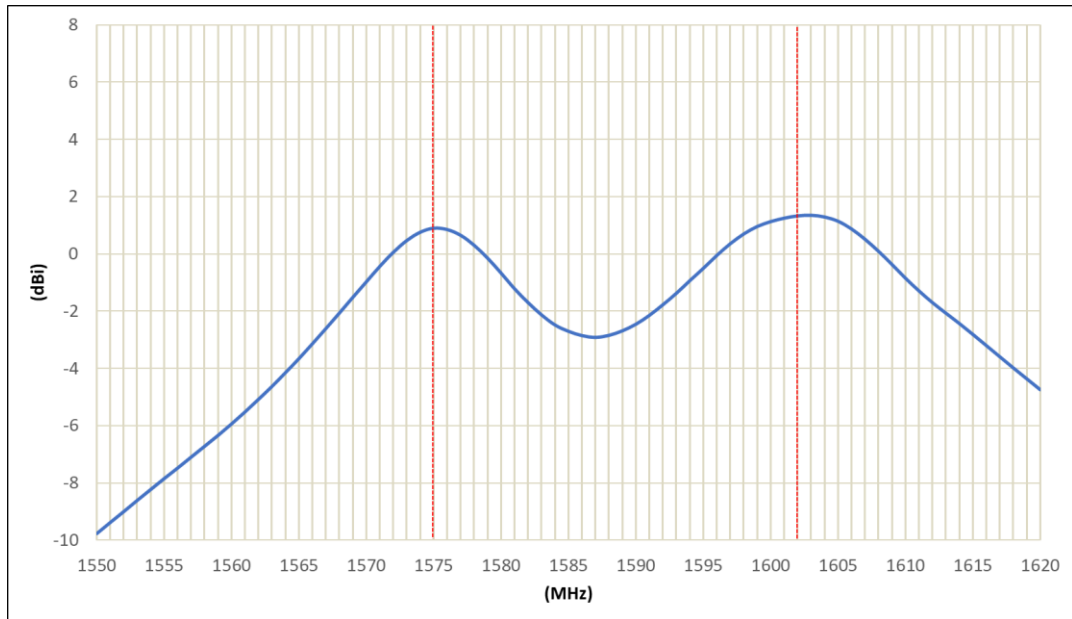
**L5 Band (1176.45 MHz)**



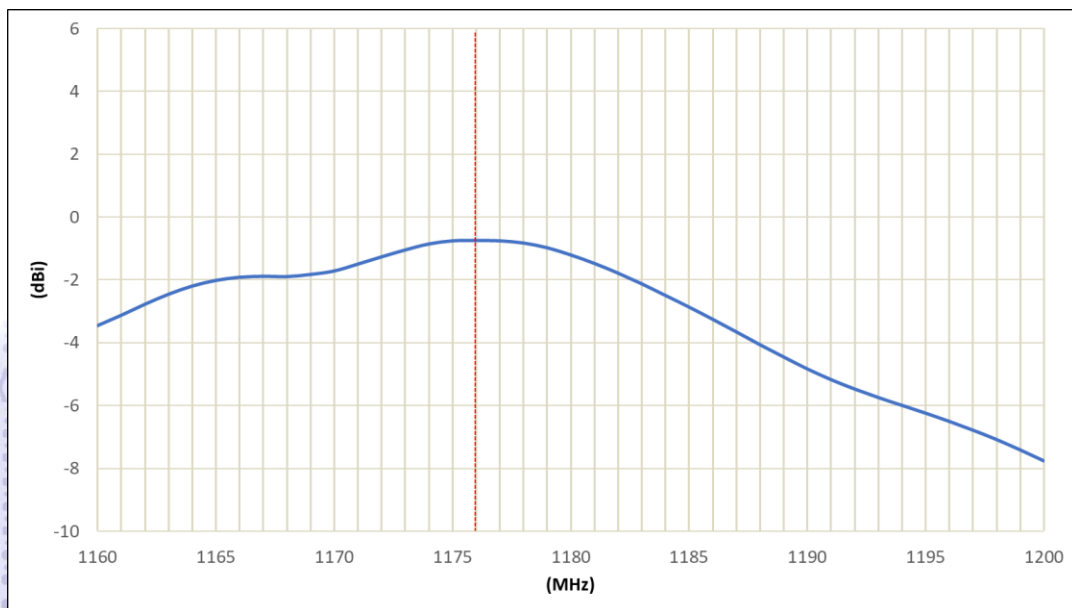
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**d) Peak Gain (dBi)**

**L1 Band (1575.42 MHz & 1602 MHz)**



**L5 Band (1176.45 MHz)**



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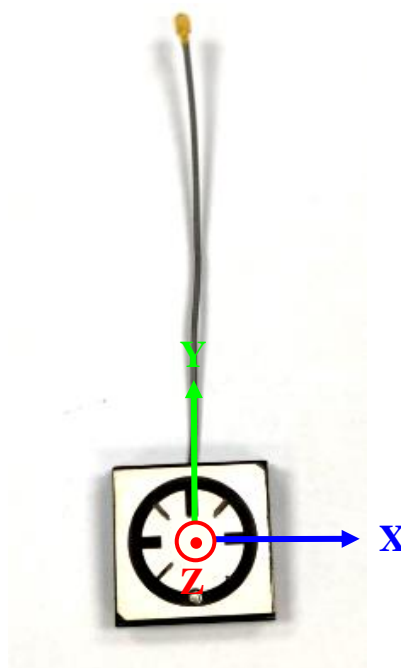
## V. Antenna Radiation Pattern Measurement:

The antenna radiation patterns are measured in Unictron's 3D Anechoic Chamber. The measurement setup is as show below.



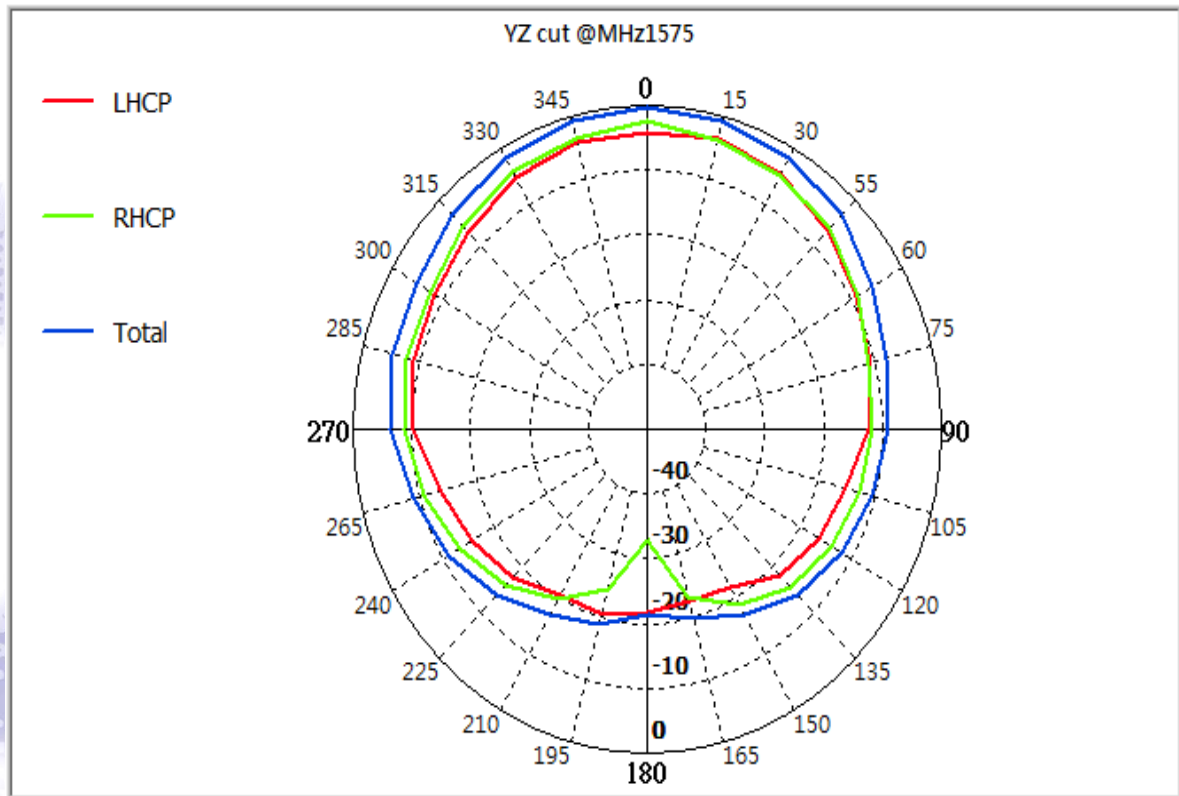
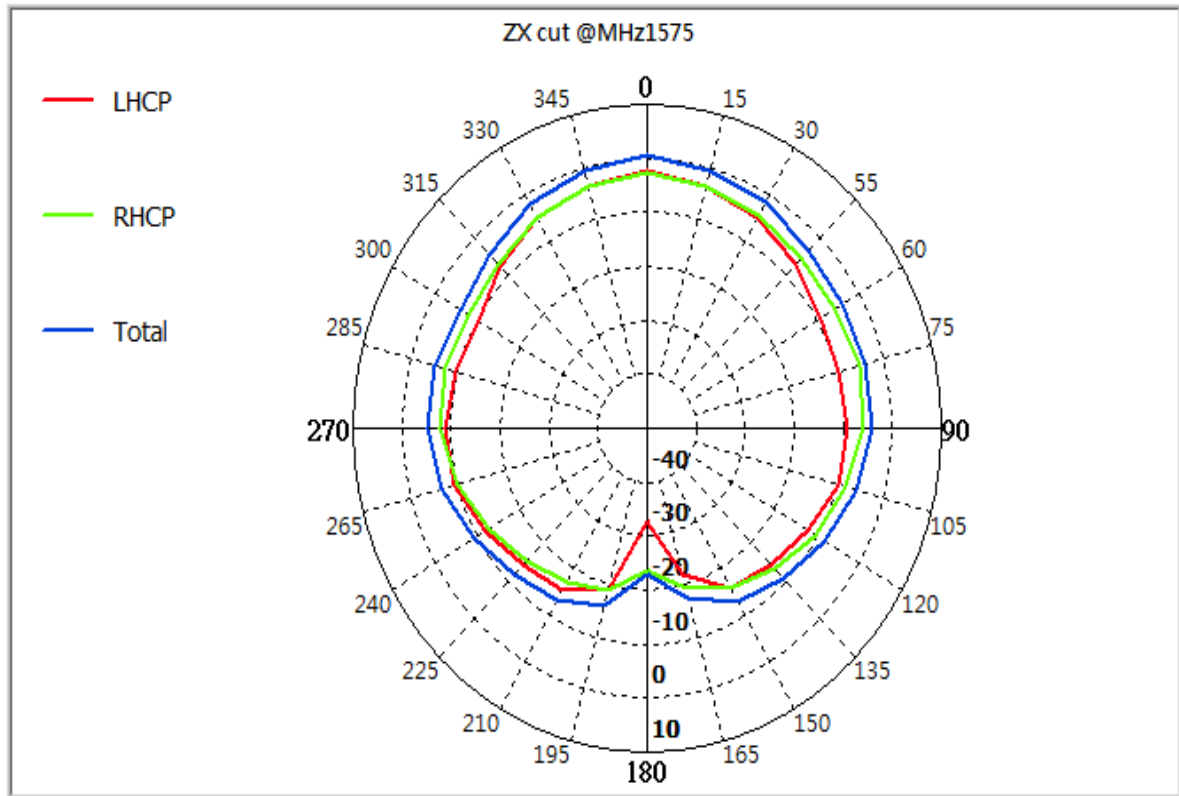
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### 3D Radiation Gain Pattern



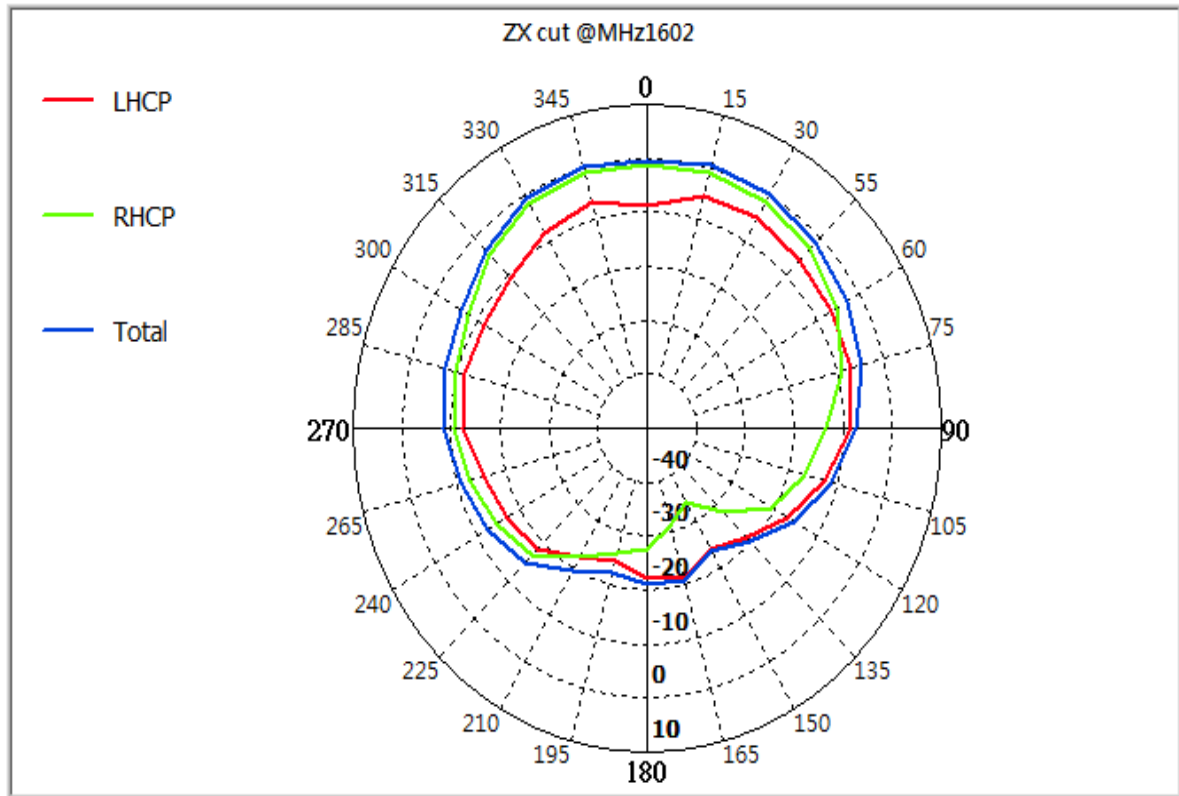


a) 1575.42 MHz (unit: dBi)

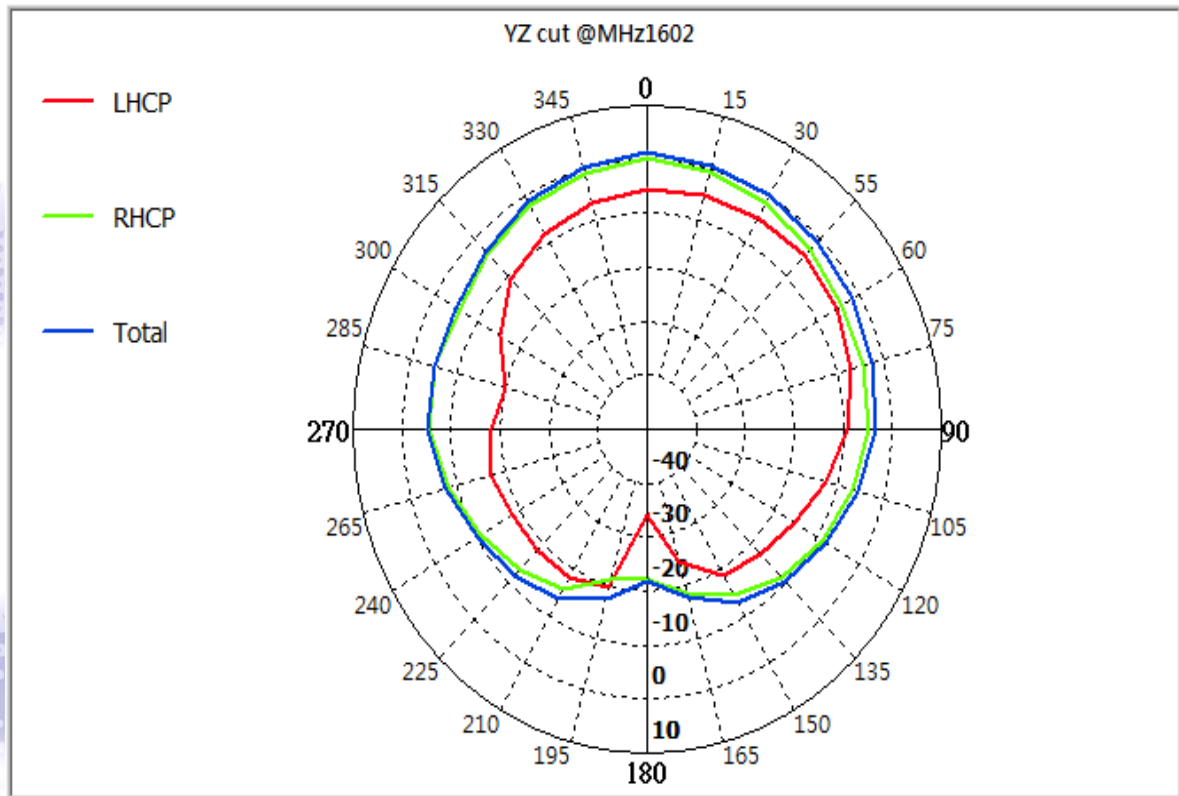


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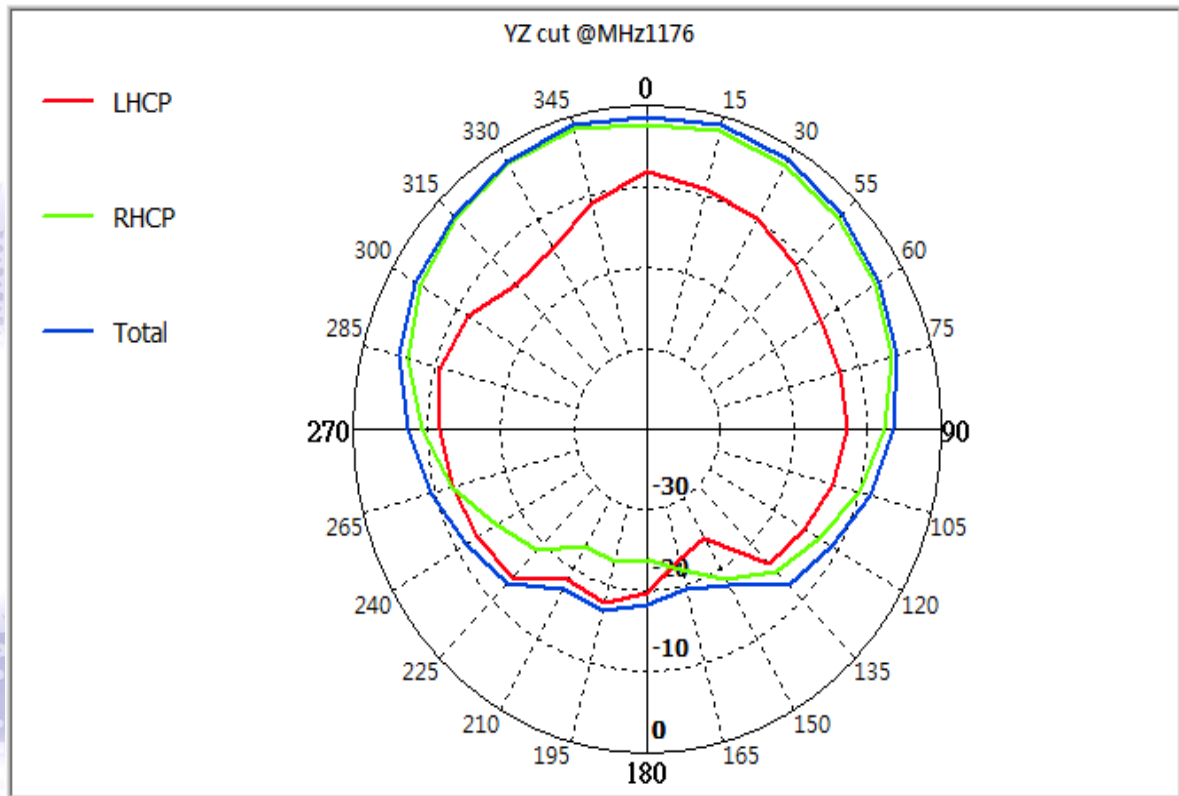
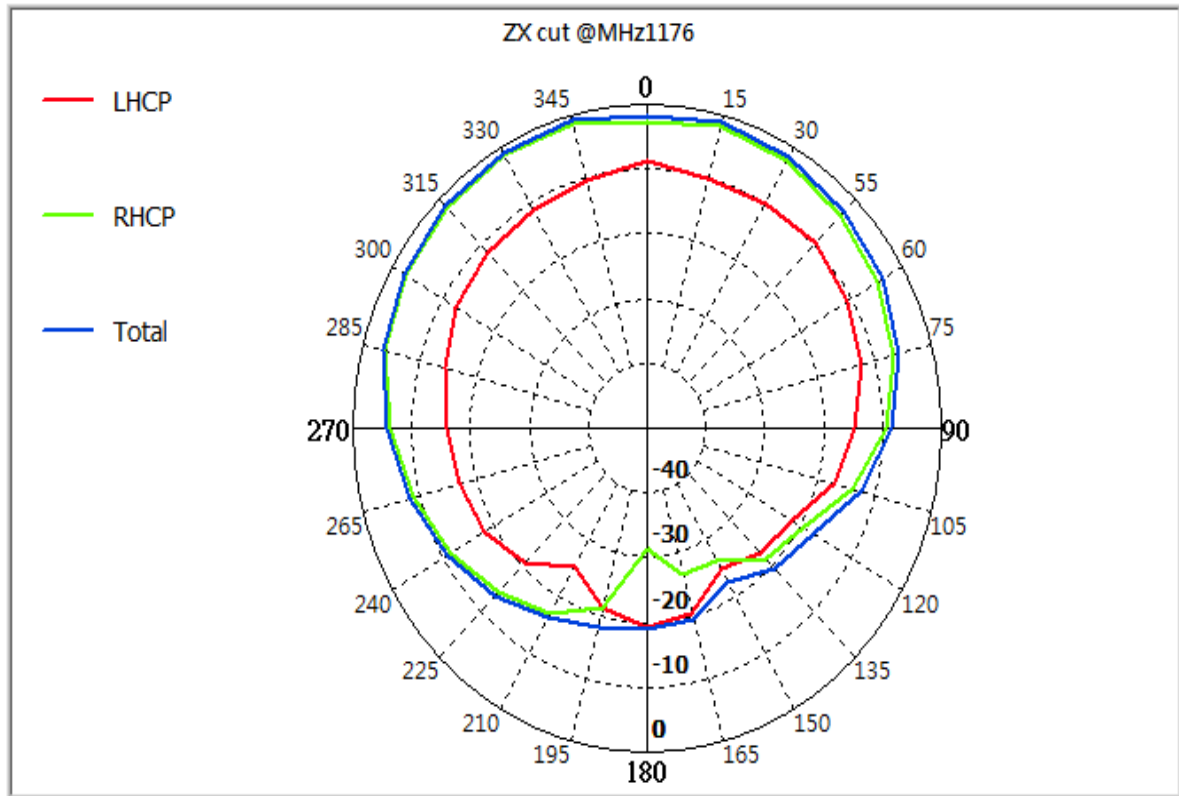
**b) 1602MHz (unit: dBi)**



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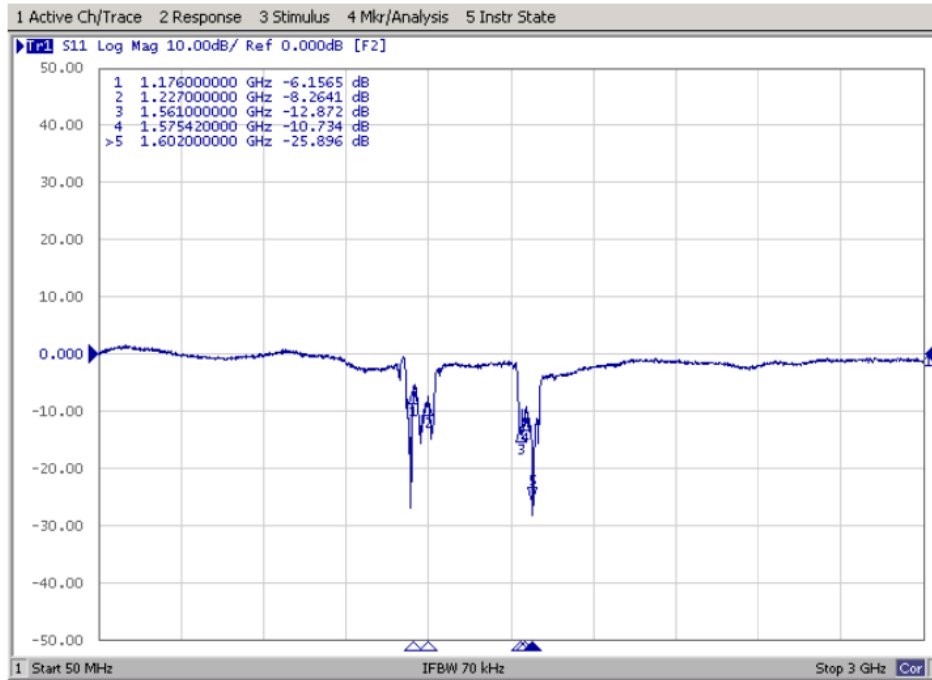
c) 1176.45 MHz (unit: dBi)



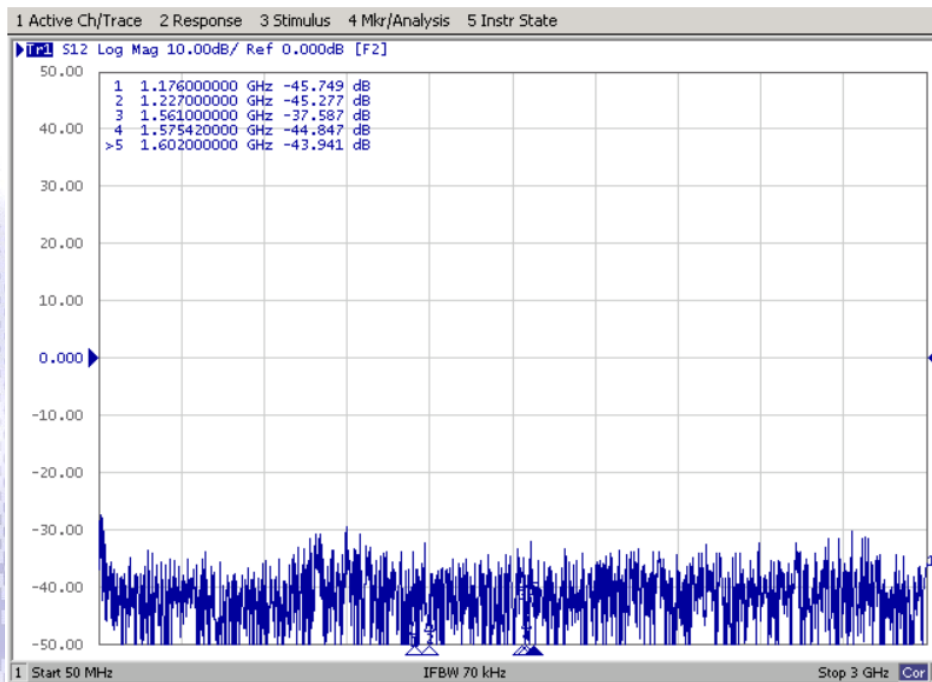
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## VI. Low noise amplifier (LNA):

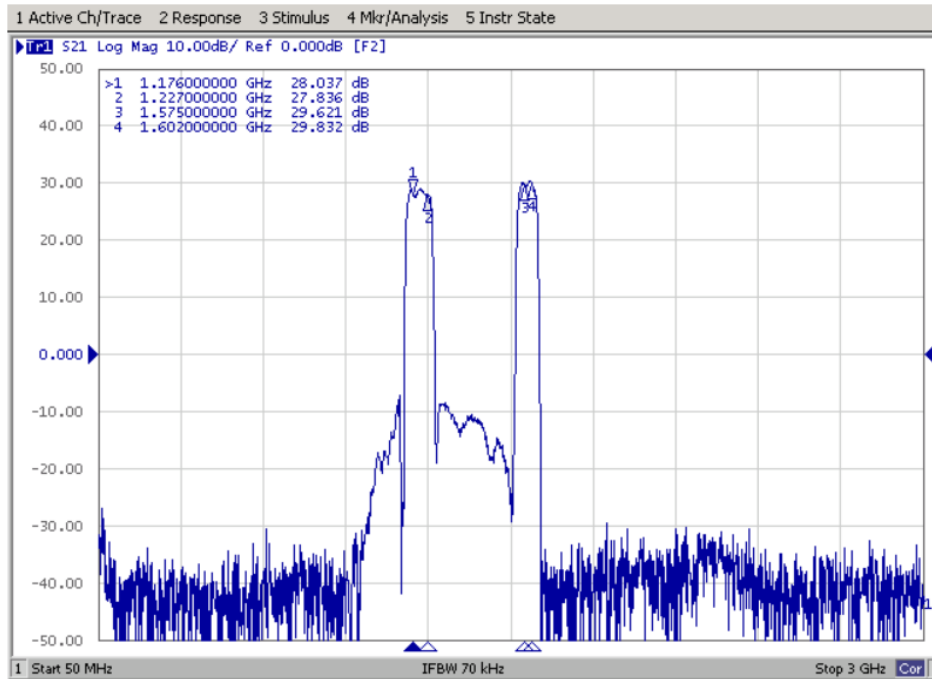
### a) S11: (The input power of network analyzer is -40dBm)



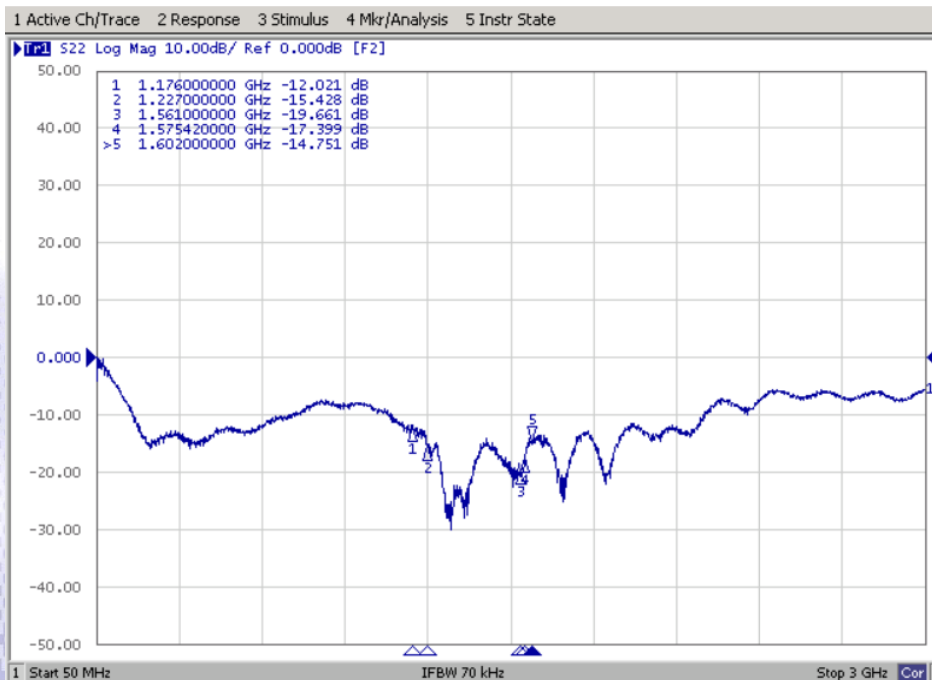
### b) S12: (The input power of network analyzer is -40dBm)



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

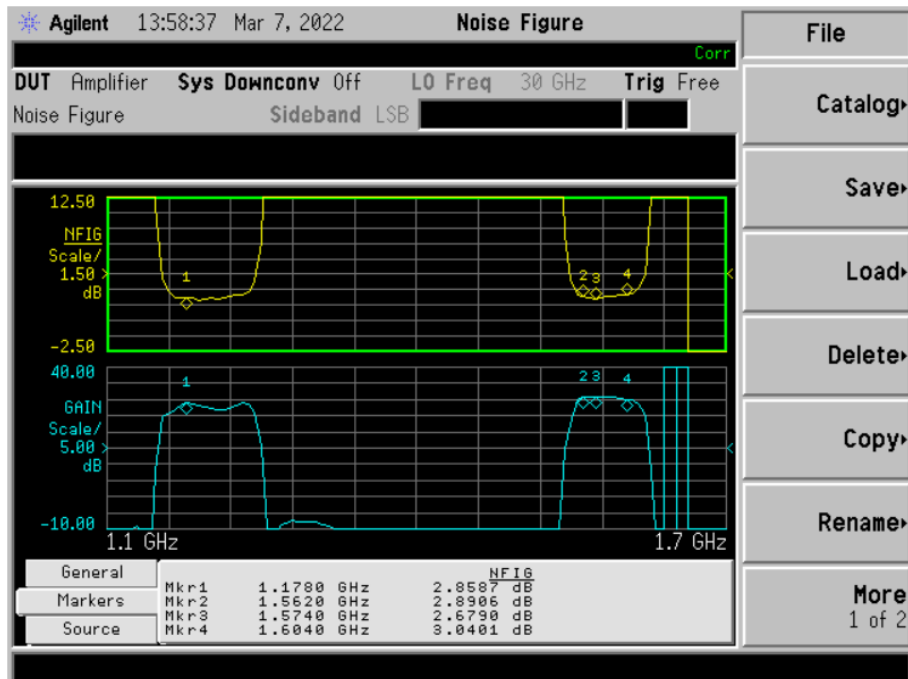


**d) S22: (The input power of network analyzer is -40dBm)**



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### e) N.F(Noise Figure)








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## VII. Package

- a) Weight:  
Unit Weight:  $11 \pm 1$  (g)
- b) Quantity:  
Each PE : 5 pcs  
Each outer carton : 500 pcs

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Step	Pictures	Descriptions
1.		Attach the antenna module to the top right corner of the bubble bag (110x70x5mm).
2.		Stack five antennas facing up.
3.		Put the stack of five antennas into a #7 zipper bag and seal. (make sure to remove the air in the bag before sealing).
4.		Assemble partition cardboards and cartons. Place the packaged antennas into the cardboard partitions.

5		<p>Place the products into the cartons. Place two #7 zipper bags into each partition, 250 products per layer, two layers per carton, total quantity 500 products per carton.</p>
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