

# Datasheet



**TAOGLAS.**<sup>®</sup>

## AGGBP.SLS.35A Active GNSS Patch

**Part No:**  
**AGGBP.SLS.35A.07.0060A**

### Description:

35x35mm Single Stage GPS-GLONASS-GALILEO-BeiDou Embedded Active Patch Antenna Module with Front-End and Back-End SAW Filters

### Features:

- Full GPS-GLONASS-GALILEO-BeiDou Coverage
- 13.0 dB One-Stage LNA
- Ceramic Patch Element
- Front-End and Back-End SAW Filters to Reduce Out of Band Interference
- Wide Input voltage +1.8V to +5V
- Cable: 60mm ø1.13
- Connector: IPEX MHFI (U.FL)
- RoHS & REACH Compliant

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QUALITY MANAGEMENT SYSTEM  
IATF16949

## 1. Introduction



The Taoglas AGGBP.SLS.35A.07.0060A is an internal GPS/GLONASS/GALILEO/BeiDou active patch antenna with 13.0 dB LNA gain and excellent out-of-band rejection. These characteristics make the AGGBP.SLS.35A ideal for applications where the antenna will be placed near transmitters, such as cellular, Wi-Fi, Bluetooth, etc. within your enclosure.

Typical Applications Include:

- Asset Tracking
- Navigation
- Transportation

The front-end and back-end SAW filters feature very good rejection across all non-GNSS frequencies to prevent overdriving or damaging your GPS receiver from nearby transmitters. At the commonly used LTE frequencies between 700MHz-850MHz, the AGGBP.SLS.35A features greater than 60 dB of rejection. Between 1700MHz-1910MHz, the AGGBP.SLS.35A features greater than 45 dB of rejection.

Even with the excellent out of band rejection, the AGGBP.SLS.35A maintains a very low noise figure of 2.0 dB at 1575.42MHz. This low noise figure minimizes the overall signal degradation typically caused by losses in transmission lines.

For further optimization to customer specific device environments, custom tuned patch antennas can be supplied for a MOQ. For more details please contact your regional Taoglas sales office.

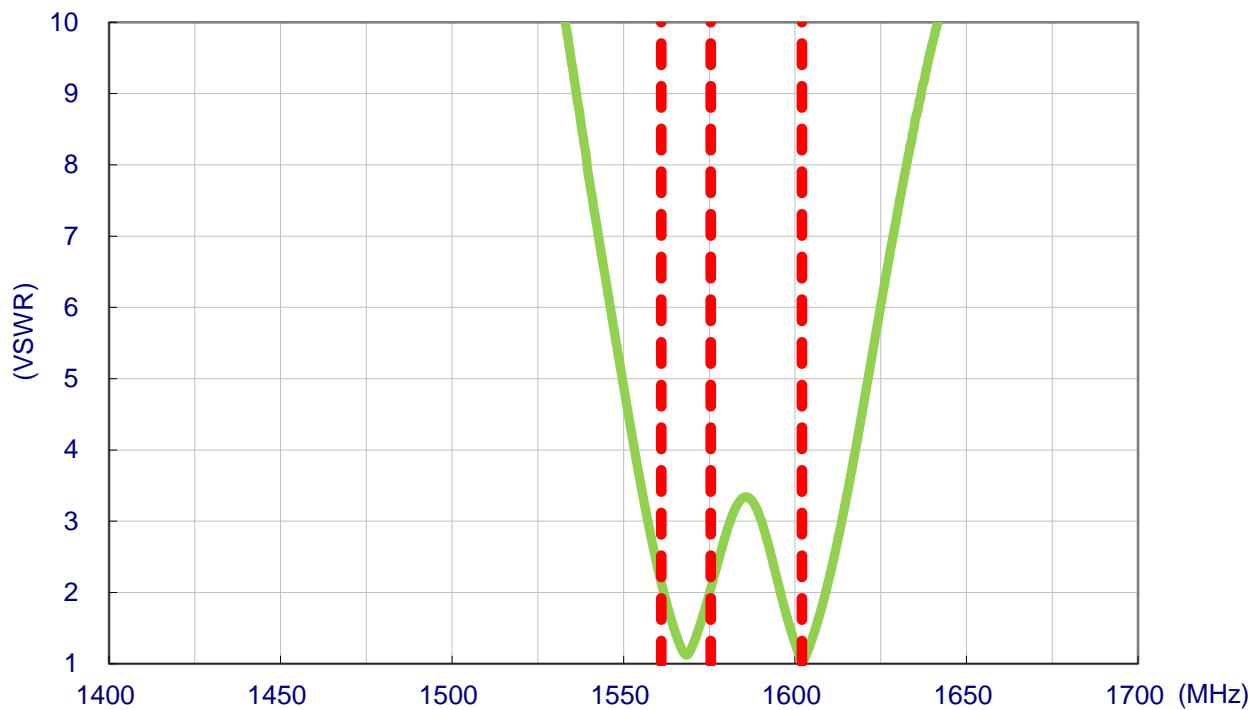
## 2. Specifications

GNSS Frequency Band							
GPS/QZSS	L1 1575.42MHz	L2 1227.6MHz	L5 1176.45MHz	L6 1278.75MHz			
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>			
GLONASS	L5R 1176.45MHz	L3PT 1201.5MHz	L2PT 1246MHz	L1CR 1575.42MHz	L1PT 1602MHz		
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		
Galileo	E5a 1176.45MHz	E5b 1201.5MHz	E4 1215MHz	E3 1256MHz	E6 1278.75MHz	E2 1561MHz	E1 1575.42MHz
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
BeiDou	B1 1561MHz	B2 1207.14MHz	B3 1268.52MHz				
	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>				
Compass	E5B(B2)/ E6(B3) 1268.56MHz	E2(B1) 1561MHz					
	<input type="checkbox"/>	<input checked="" type="checkbox"/>					
SBAS	Omnistar 1542.5MHz	WAAS/EGN OS 1575.42MHz					
	<input type="checkbox"/>	<input checked="" type="checkbox"/>					

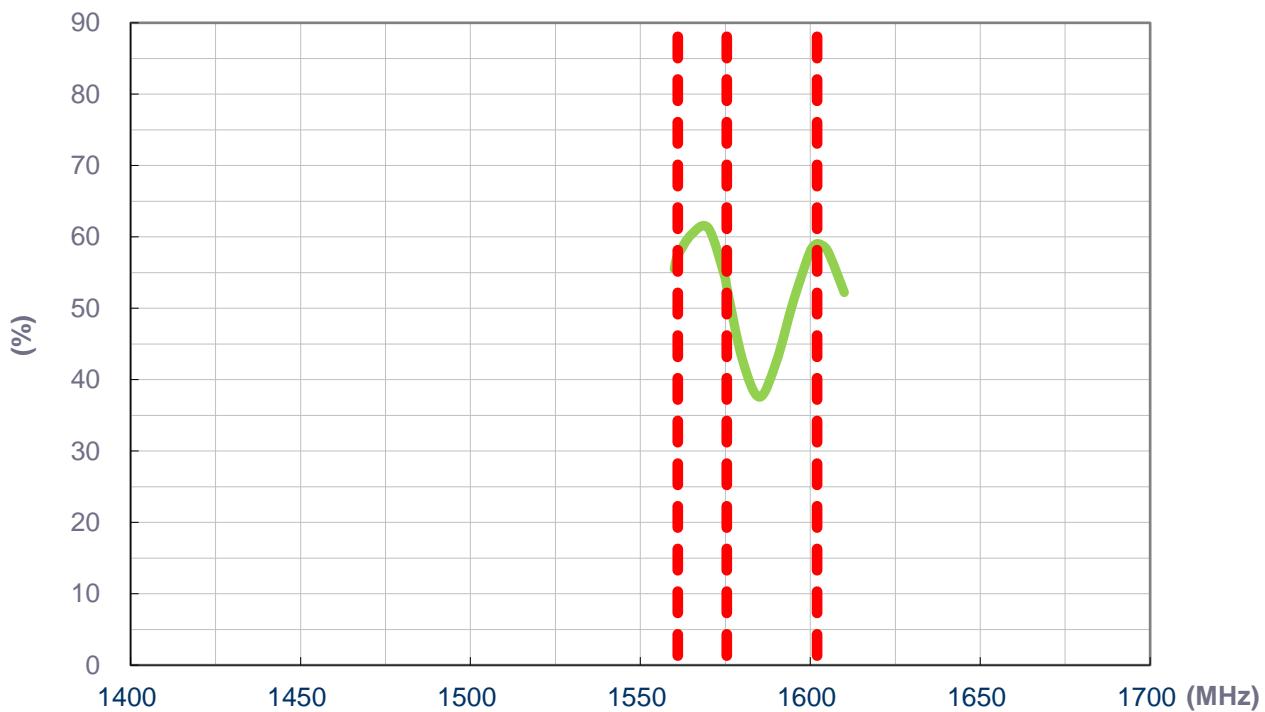
Electrical					
Frequency	BeiDou	GPS/GALILEO	GLONASS		
	1561MHz	1575.42MHz	1602MHz		
Efficiency (%)	57.4	53.0	59.1		
Average Gain (dBi)	-2.41	-2.75	-2.29		
Peak Gain (dBi)	2.79	2.23	1.32		
Impedance		50Ω			
Polarization		RHCP			
LNA Specification					
Gain (dB)	13.1 ± 1	13.8 ± 1	13.7 ± 1		
NF (dB)	2.5 ± 0.2	2.0 ± 0.2	2.3 ± 0.2		
Input Voltage	+1.8 to +5 VDC				
Power Consumption	3 to 24.5 mA typical				
Out-Of-Band Attenuation (dB)	10-840MHz	> 60			
	840-1500MHz	> 50			
	1700-2000MHz	> 45			
	2000-3250MHz	> 40			
	3250-5000MHz	> 45			
	5000-6000MHz	> 30			
Mechanical					
Ceramic Dimension	35 x 35 x 3.5mm				
Total Dimension (Including Shielding Case)	35 x 35 x 8.6mm				
Connector	IPEX MHFI (U.FL)				
Cable	Coaxial Cable Ø1.13, length 60mm				
Weight	21g				
Environmental					
Operation Temperature	-40°C to 85°C				
Storage Temperature	-40°C to 85°C				
Humidity	Non-condensing 65°C 95% RH				

### 3. Antenna Characteristics

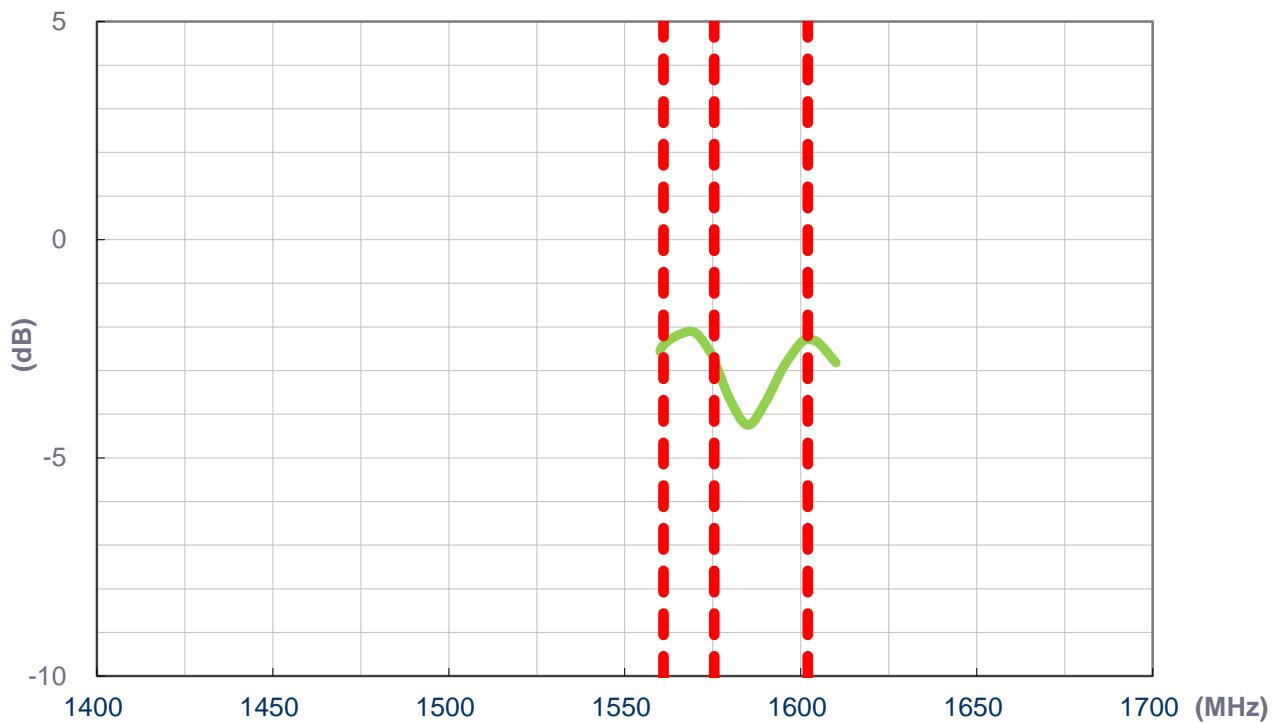
#### 3.1 VSWR



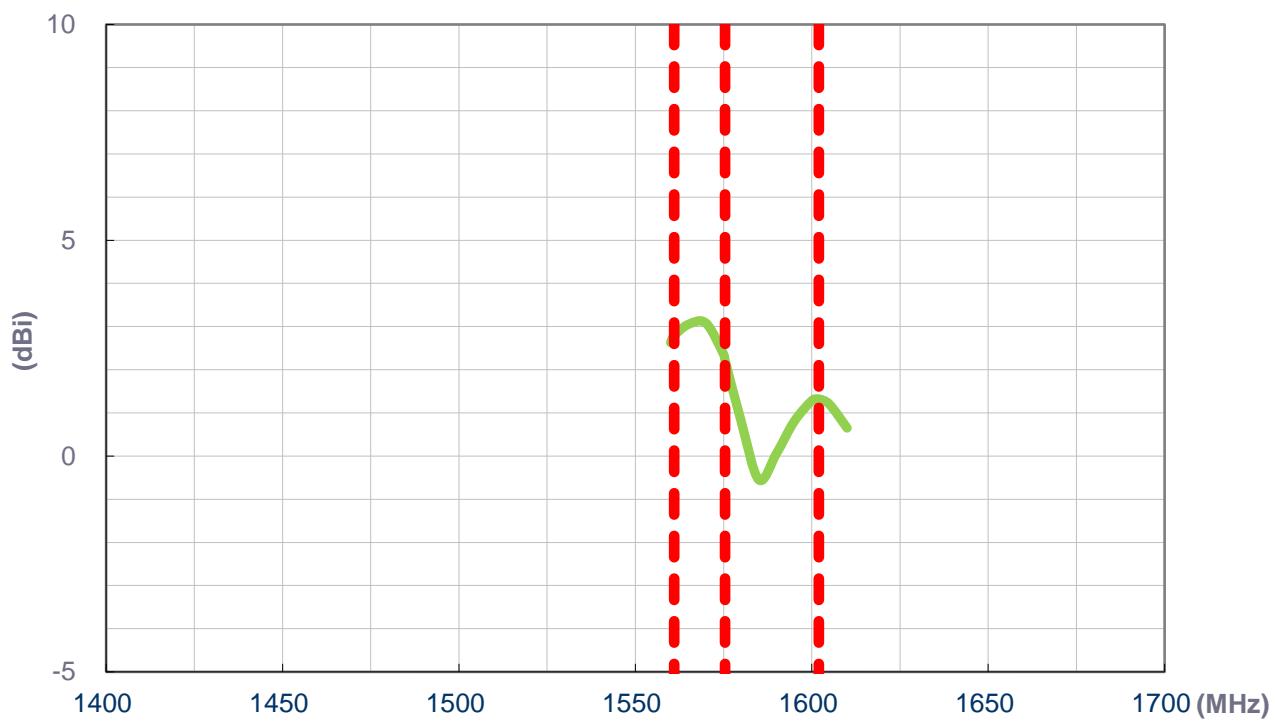
#### 3.2 Efficiency



### 3.3 Average Gain

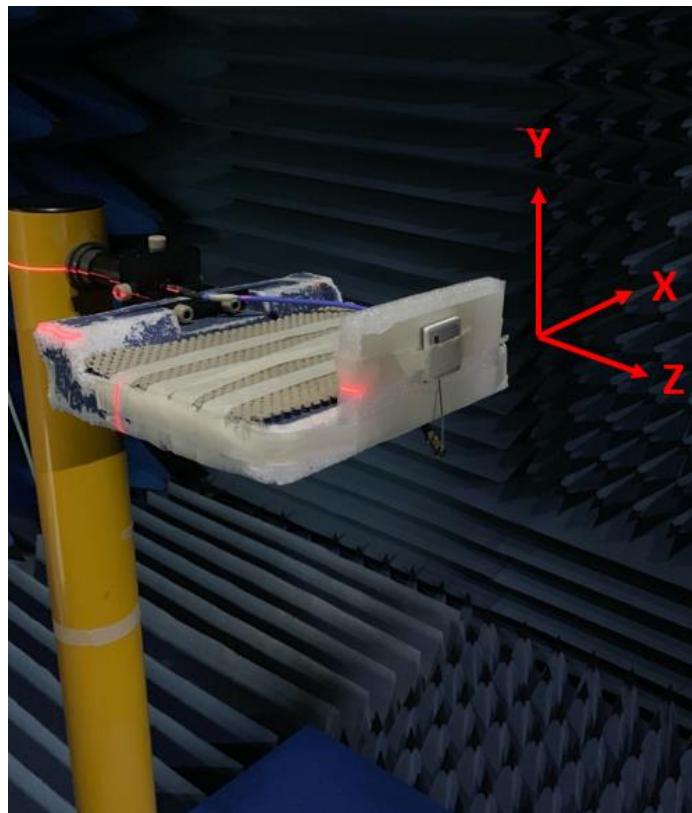


### 3.4 Peak Gain

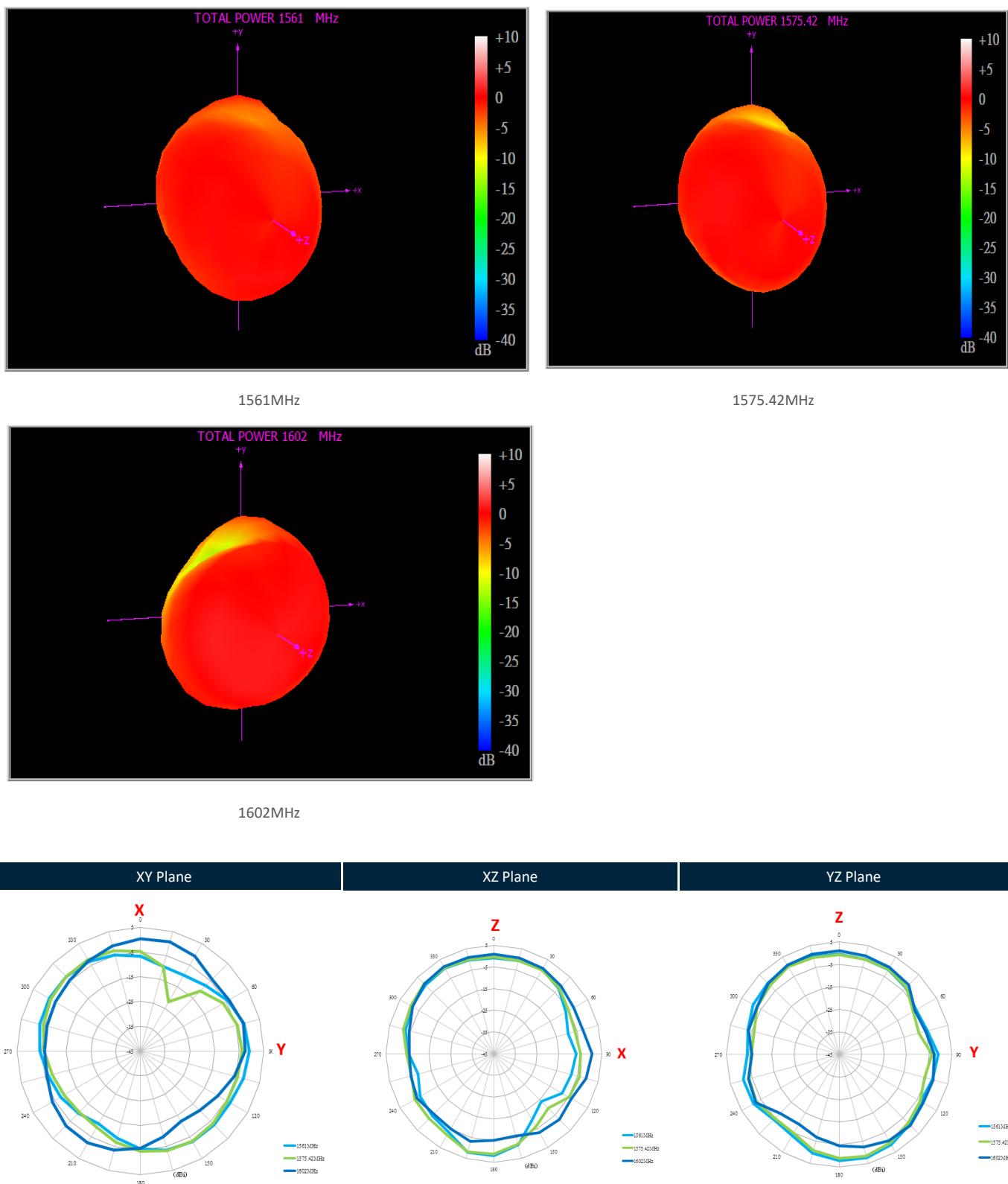


## 4. Antenna Radiation Patterns

### 4.1 Test Setup

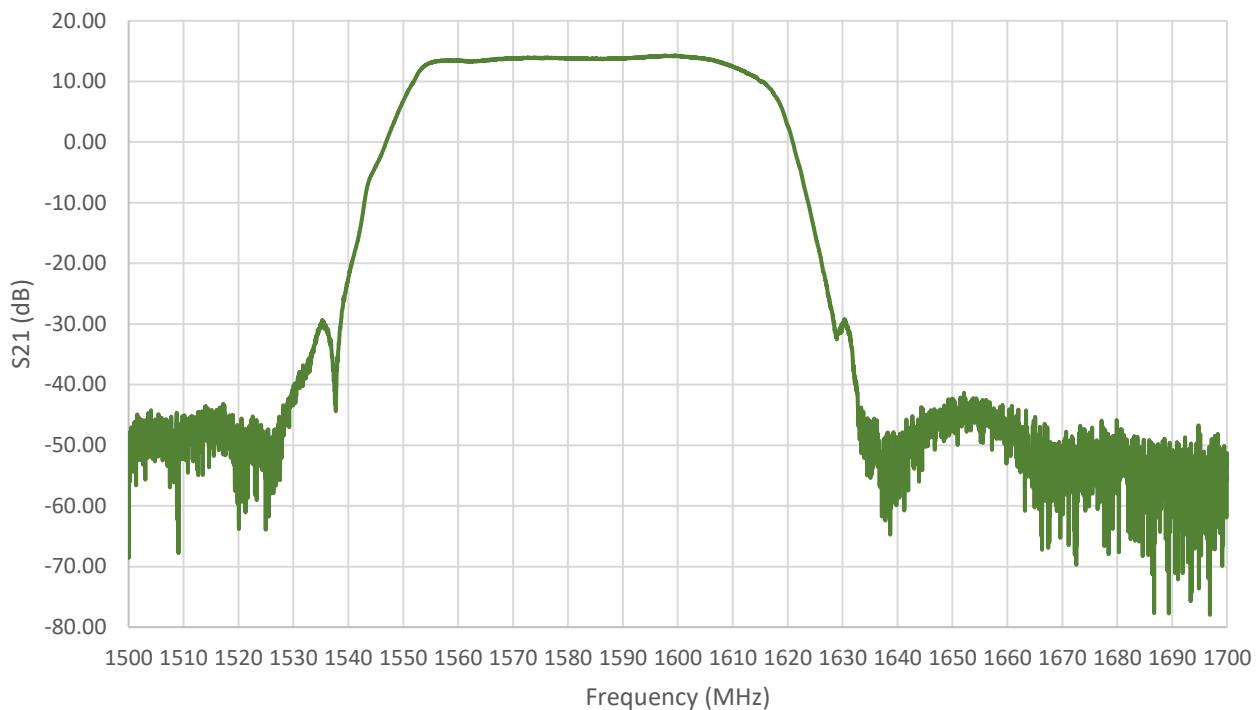


## 4.2 2D & 3D Radiation Patterns

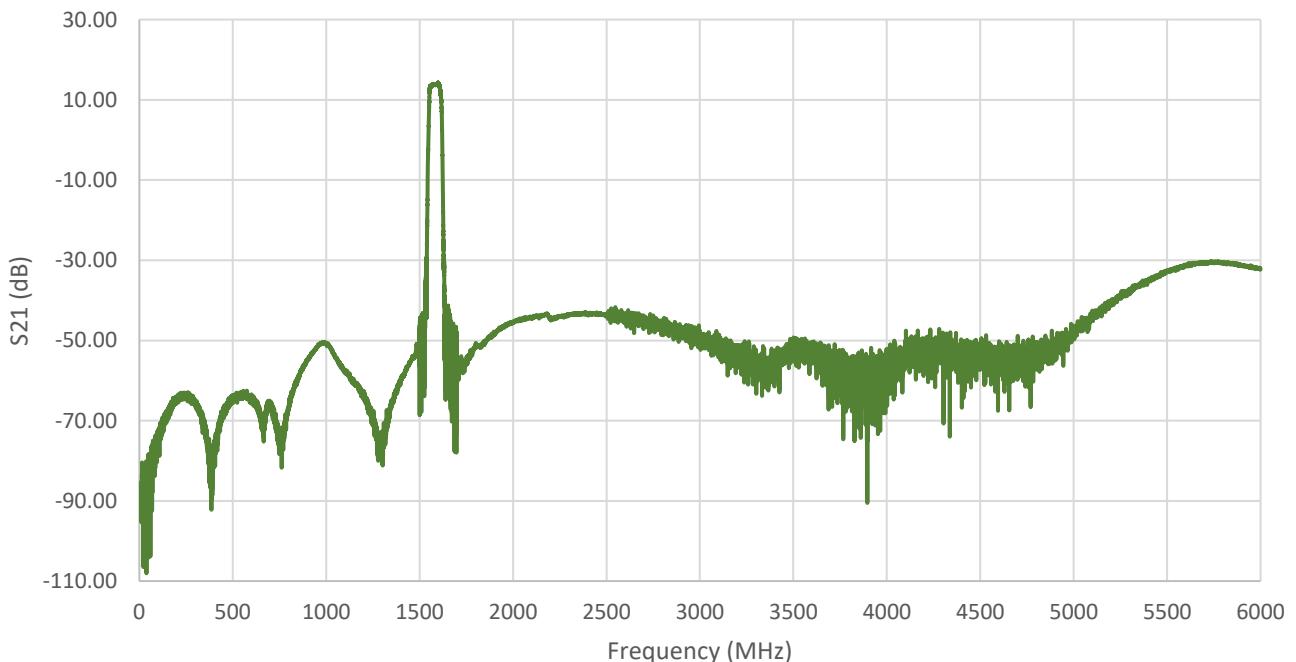


## 5. LNA Characteristics

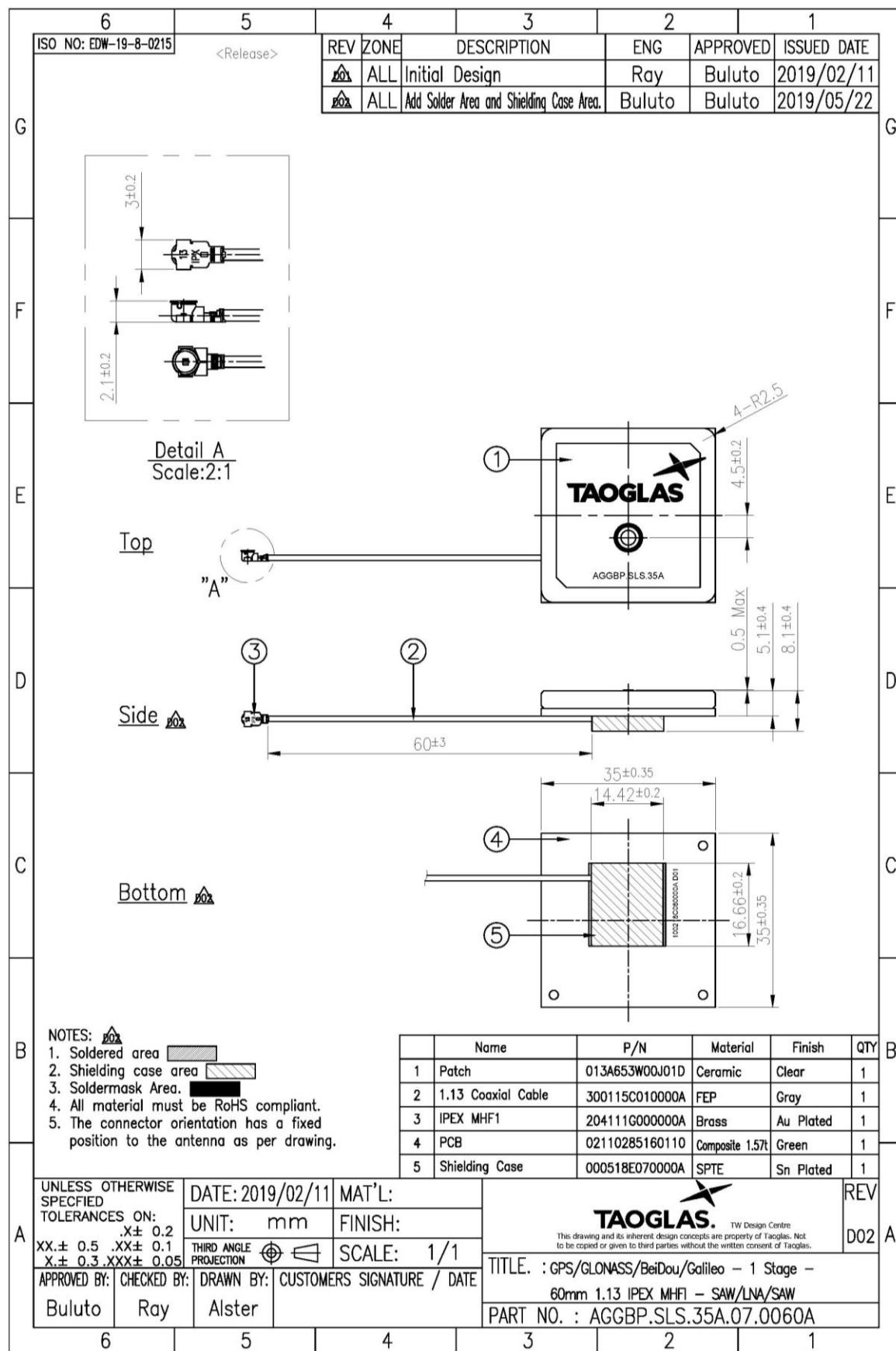
### 5.1 LNA In-Band S21



### 5.2 LNA Wideband S21

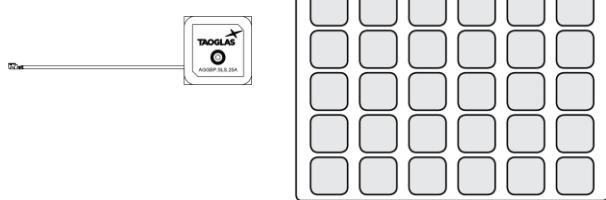


## 6. Mechanical Drawing (Units: mm)



## 7. Packaging

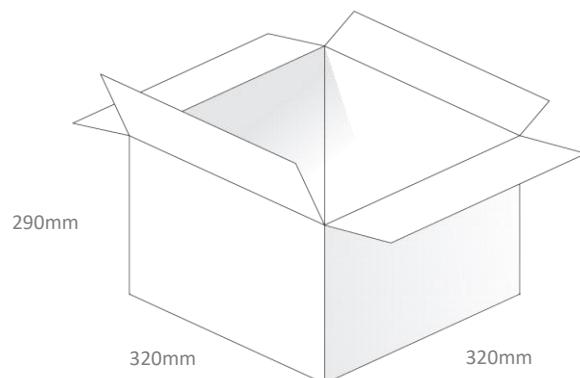
30pcs AGGBP.SLS.35A.07.0060A per Tray  
Weight: 870g



180pcs AGGBP.SLS.35A.07.0060A per PE Bag  
Bag Dimensions: 365\*300\*25 mm  
Weight: 5.22Kg



540pcs AGGBP.SLS.35A.07.0060A per carton  
Dimensions: 390\*320\*290mm  
Weight: 15.66Kg



**Changelog for the datasheet****SPE-19-8-079 – AGGBP.SLS.35A.07.0060A****Revision: B (Current Version)**

Date: 2022-05-13

Notes: Updated power consumption in LNA spec table

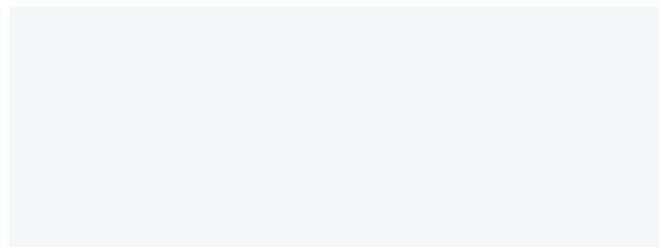
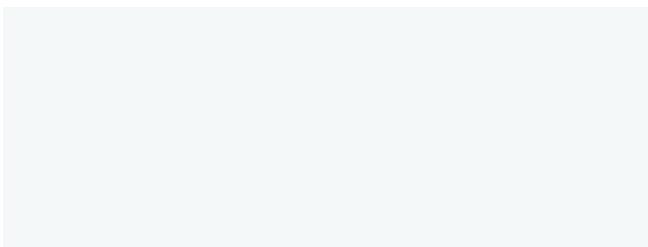
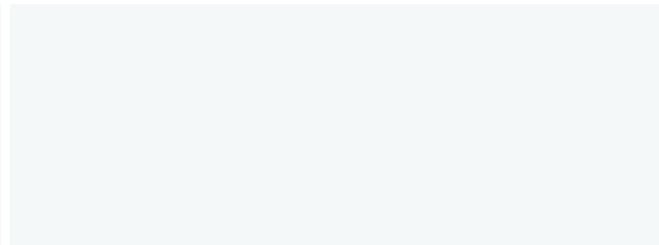
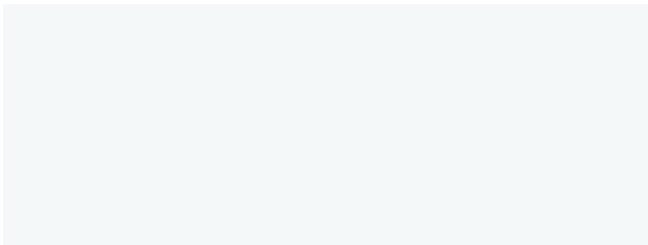
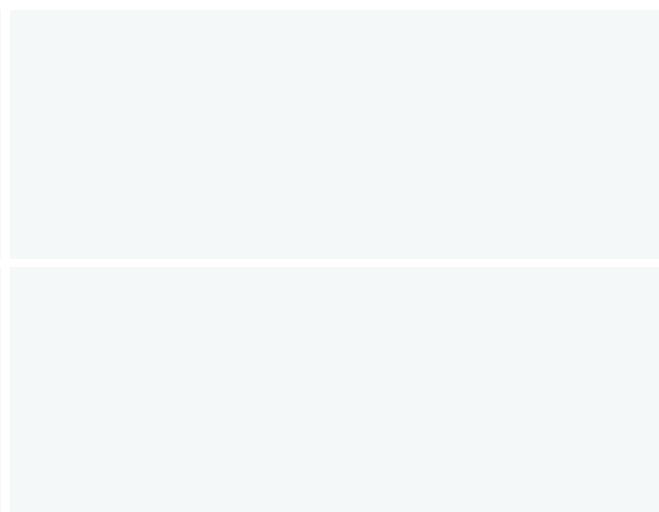
Author: Gary West

**Previous Revisions****Revision: A (Original First Release)**

Date: 2019-06-20

Notes:

Author: Jack Conroy





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