

# Antenna Specification

Part No. : **TLS.40.1F11**

Product Name : Shockwave Active GPS Antenna

Feature : GPS 1575MHz Terminal Robust  
N type (M) Connector  
RoHS Compliant

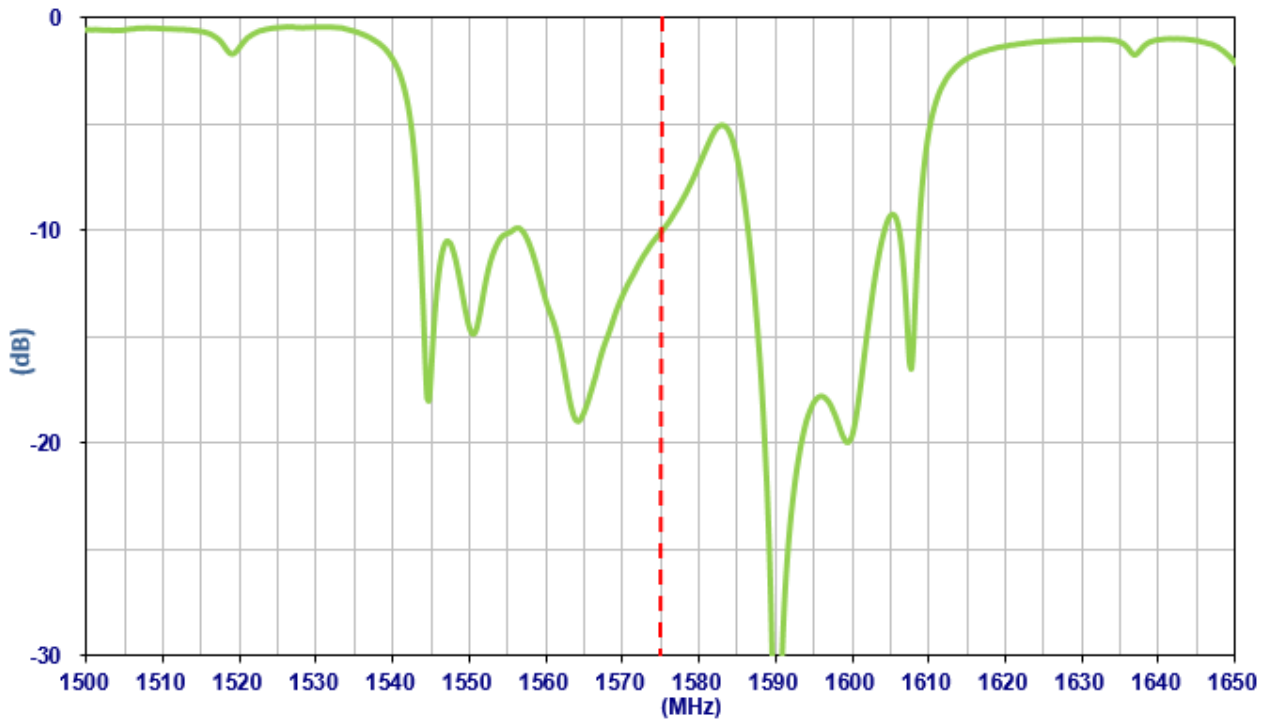


## I. Specification

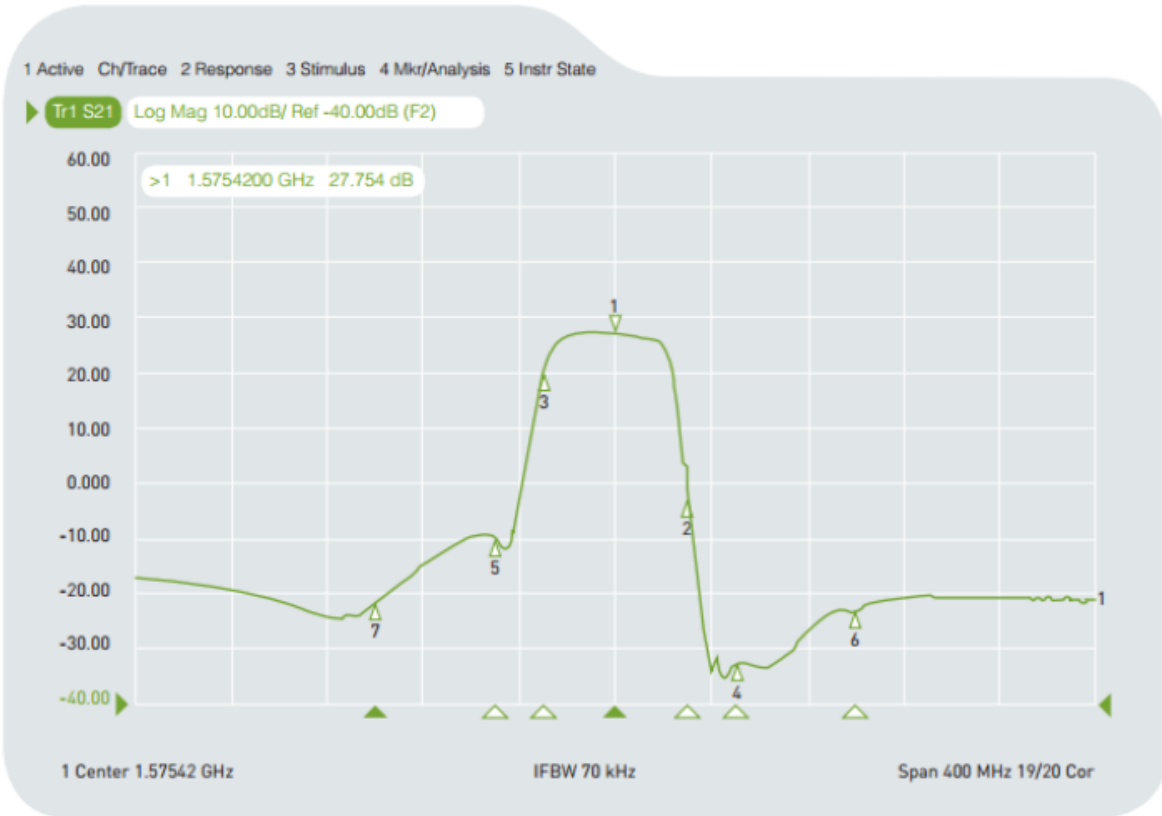
ELECTRICAL			
Frequency	1575.42 ± 1.023 MHz		
Gain	Typ. -10dBic @ Zenith		
Impedance	50Ω		
Polarization	RHCP		
Axial Ratio	Max 4.0dB @ Zenith		
Outer Band Attenuation	F0=1575.42MHz F0±30MHz 5dB min. F0±50MHz 20dB min. F0±100MHz 25dB min.		
Output Impedance	50Ω		
Output VSWR	2.0 Max		
Pout at 1dB Gain	Min. 8dBm		
Compression point	Typ. 11dBm		
LNA Gain, Power consumption and Noise Figure			
	LNA Gain(Typ.)	Power Consumption(mA)Typ	Noise Figure(Typ)
Minimum 1.8V	20dB	5mA	2.7dB
Typical 3.0V	25dB	10mA	2.5dB
Maximum 5.5V	25dB	23mA	2.7dB
Input Voltage	Min. 1.8V	Typ. 3.0V	Max. 5.5V
MECHANICAL			
Casing	ABS		
Connector	N type Male		
ENVIRONMENTAL			
Temperature Range	-40°C to 85°C		
Humidity	Non-condensing 65°C 95% RH		

## II. Antenna Characteristics

### II.1 Antenna Return Loss

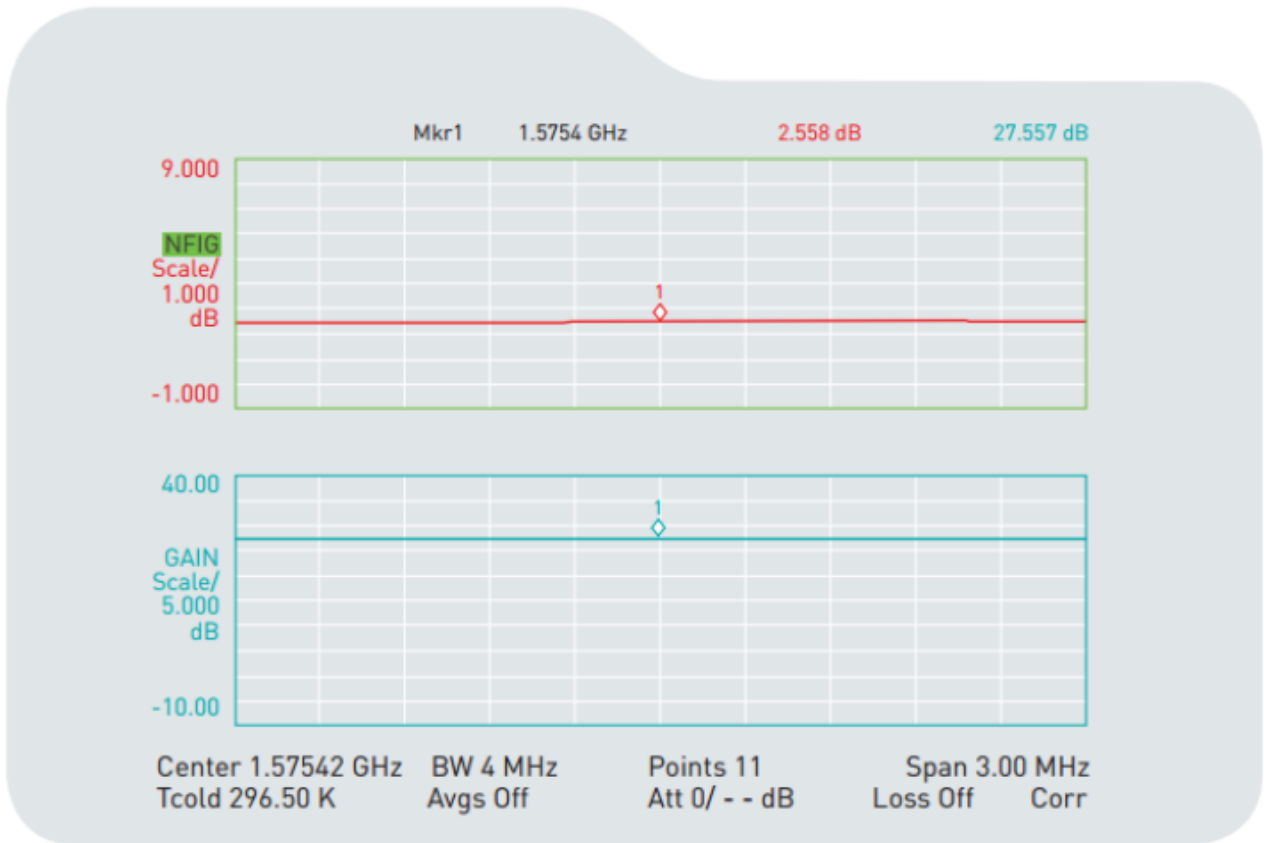


## II.2 LNA Gain and Out Band Rejection @ 3.0V



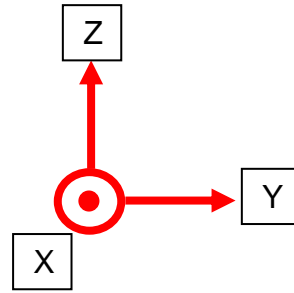
Cg1	Tr1	S21	>1	1.5754200 GHz	27.754 dB
Cg1	Tr1	S21	2	1.6054200 GHz	- 2.2291 dB
Cg1	Tr1	S21	3	1.5454200 GHz	20.458 dB
Cg1	Tr1	S21	4	1.6254200 GHz	- 32.691 dB
Cg1	Tr1	S21	5	1.5254200 GHz	- 10.283 dB
Cg1	Tr1	S21	6	1.6754200 GHz	- 23.132 dB
Cg1	Tr1	S21	7	1.4754200 GHz	- 21.485 dB

### II.3 LNA Noise Figure @3.0V

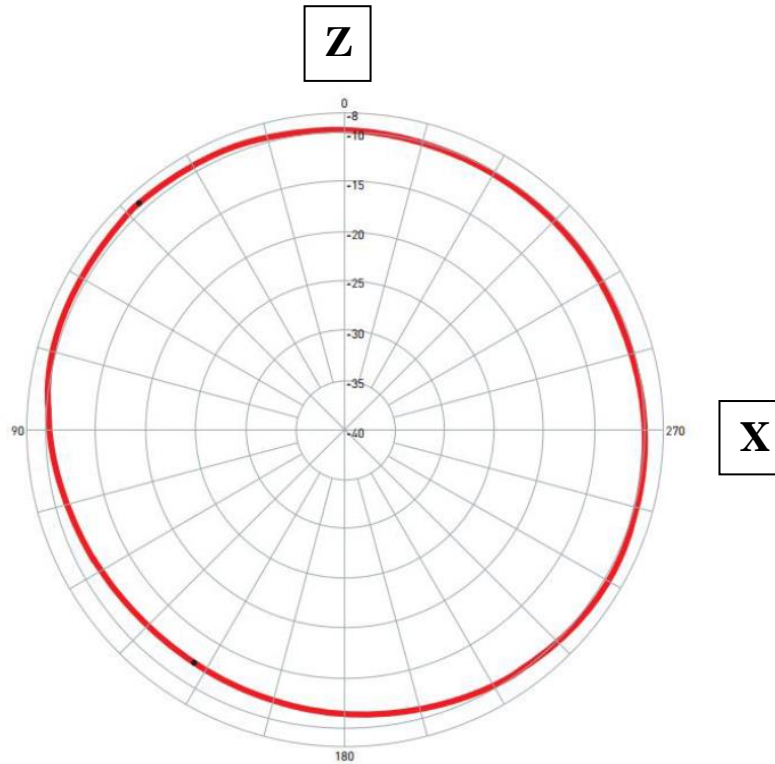


### III. Antenna Radiation Patterns

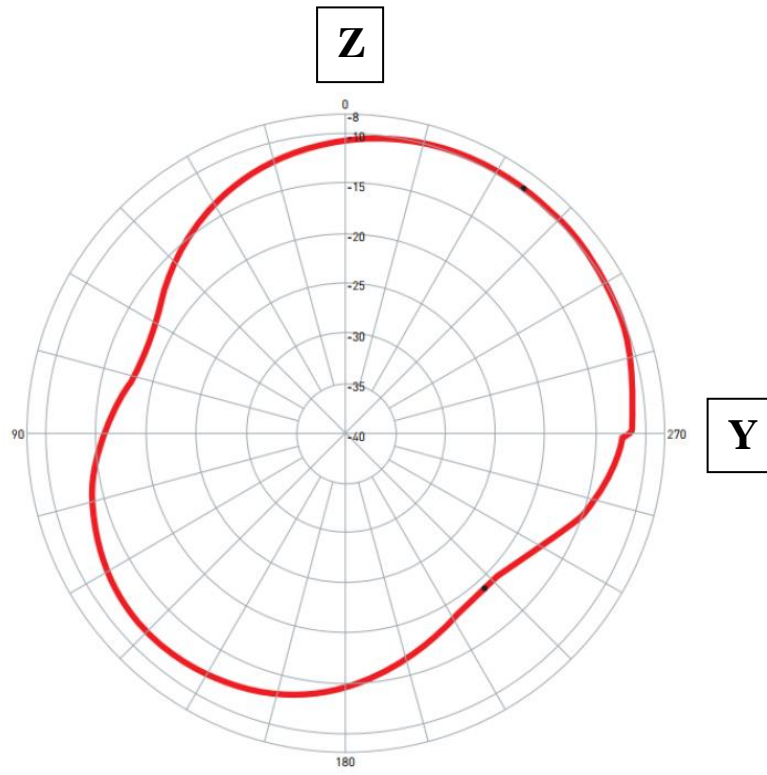
#### Radiation Patterns



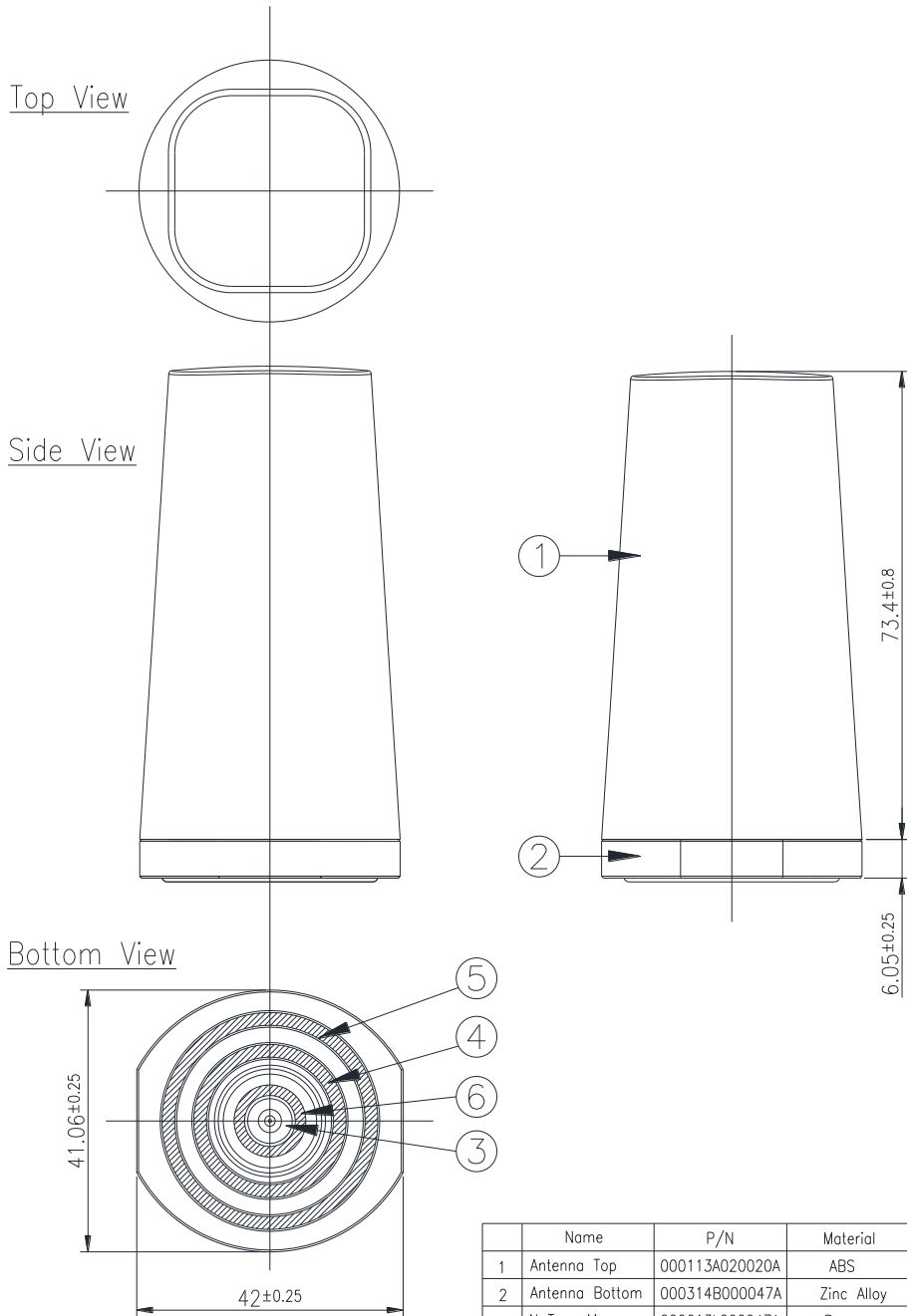
XZ plane



YZ plane



# IV. Drawing

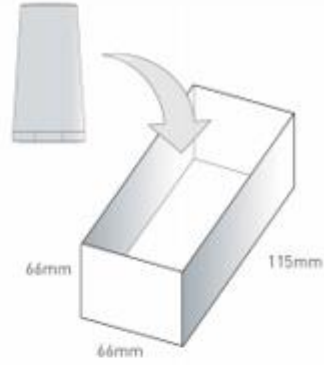


	Name	P/N	Material	Finish	QTY
1	Antenna Top	000113A020020A	ABS	Black	1
2	Antenna Bottom	000314B000047A	Zinc Alloy	Ni Plated	1
3	N Type M	000613L000047A	Brass	Ni Plated	1
4	O-Ring 1	000314B000047A	NBR	Black	1
5	O-Ring 2	000314B000047A	NBR	Black	1
6	O-Ring 3	000314B000047A	NBR	Red	1

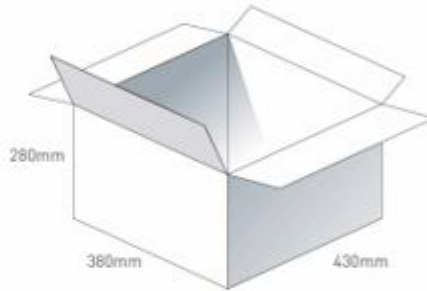


## V. Packaging

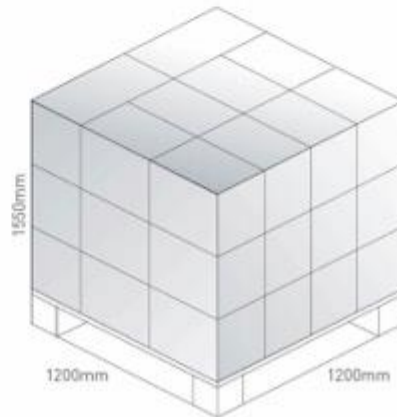
1 No. TLS.40.1F11 per small box  
 Box Dimensions - 66 x 66 x 115mm  
 Weight - 170g



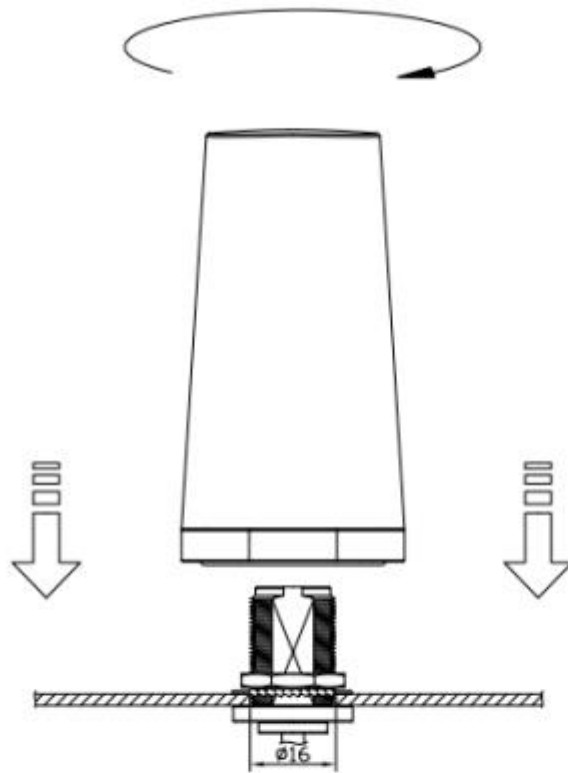
1 Outer Carton  
 Carton Dimensions - 430 x 380 x 280mm  
 60 pcs TLS.01.1F11 per carton  
 Weight - 10.59Kg



Pallet Dimensions 1100\*1100\*1550mm  
 30 Cartons per Pallet  
 10 Cartons per layer  
 3 Layers



## VI. Installation



Recommended torque for mounting is 4.018 N.m or 41 kgf.cm

Maximum torque for mounting is 9.8 N.m or 100 kgf.cm