

SPECIFICATION

Part No. : AP.10F.07.0039B

Product Name : 2 Stage 25dB 10mm Active GPS/GALILEO

Ceramic Patch Antenna 39mm 0.81 Micro Coax

with IPEX MHFI (U.FL compatible)

with Front End SAW Filter

Feature : Small form factor GPS active patch

10mm*10mm*4mm,

Wide Voltage 1.8V~5.5V

25dB LNA

High performance

Ultra Low Power Consumption

RoHS Compliant





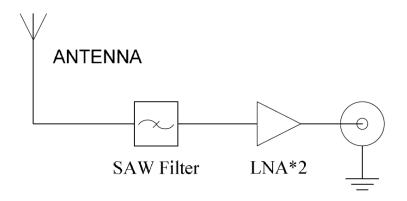
1. Introduction

The AP.10F active GPS patch antenna is the smallest GPS/GALILEO high performance antenna currently available in the world. It uses an extremely sensitive high dielectric constant powder formulation and tight process control and patented circular polarized side stripe design the 10*10*4mm patch antenna. The front end SAW filter reduces the risks where there is a cellular transmitter nearby of interference from out of band frequencies which can cause LNA burn-out, saturation, or radiated spurious emissions.

This product is suited to small form factor mobile devices such as GPS Smartphones, Personal Location, Medical devices, Telematic devices and Automotive navigation and tracking. Custom gain, connector and cable versions are available.

Custom tuning is available for specific customer device environments and is dependent on a minimum order quantity and NRE in some cases. Please contact regional sales office for details.

The AP.10E consists of 2 functional blocks – the LNA and also the patch antenna.



I-PEX +cable



2. Specification

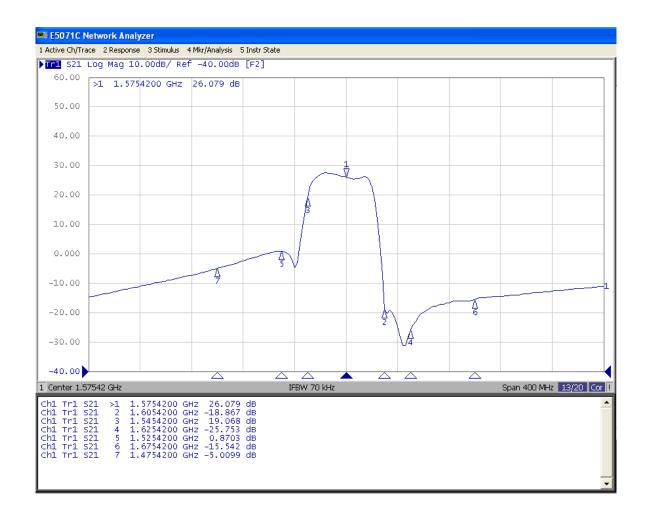
ANTENNA				
Frequency		1575.42 ± 1.023MHz		
Gain @ Zenith		-10dBic Typ. @ Zenith		
Polarization		RHCP		
Axial Ratio		4.0dB max. @Zenith		
Patch Dimension		10*10*4.0mm		
LNA				
		1575.42 ± 1.023MHz		
Frequency	F0=1575.42MHz			
Outer Band		F0±30MHz 5dB min.		
Attenuation		F0±50MHz 20dB min.		
Attenuation		F0±100MHz 25dB min.		
Output Impedance	50Ω			
Output VSWR	2.0 Max			
Pout at 1dB Gain	Typ. 11 dBm			
Compression point	Min. 8 dBm			
LNA Gain, Power Consumption and Noise Figure				
			Noise	
	LNA Gain	Power Consumption(mA)	Figure	
Voltage	(Typ)	Тур	Тур	
Min. 1.8V	20dB	5mA	2.7dB	
Typ. 3.0V	25dB	10mA	2.5dB	
Max. 5.5V	25dB	23mA	2.7dB	



CABLE AND CONNECTOR			
RF Cable	Coaxial Cable $\emptyset 0.81 \pm 0.1$ mm, length 39 ± 2.0 mm		
Connector	IPEX MHFI (U.FL)		
ANTENNA, LNA, CABLE AND CONNECTOR			
Frequency	1575.42 ± 1.023MHz		
Gain	At 3V: 15 ± 4dBic@90°		
Output Impedance	50Ω		
Polarization	RHCP		
Output VSWR	Max 2.0		
Operation			
Temperature	-40°C to + 85°C		
Storage Temperature	-40°C to + 105°C		
Relative Humidity	40% to 95%		
Input Voltage	Min:1.8V Typ. 3.0V Max:5.5V		
Antenna	10*10*4mm		

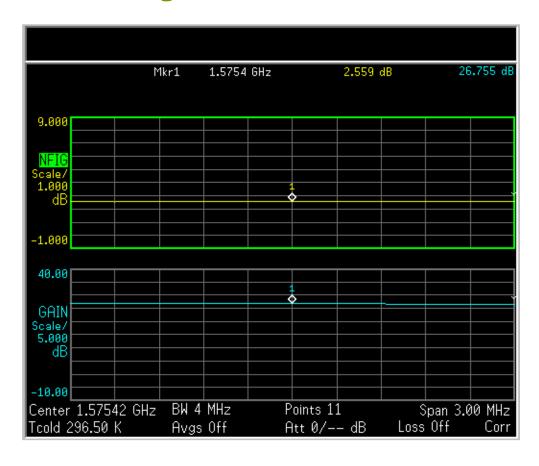


3. LNA Gain and Out Band Rejection @3.0V



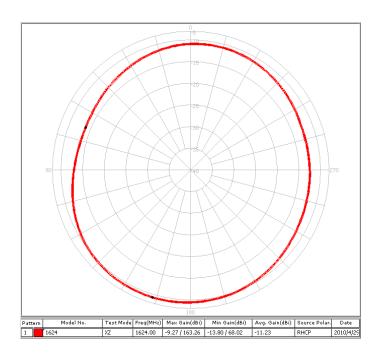


4. LNA Noise Figure @3.0V



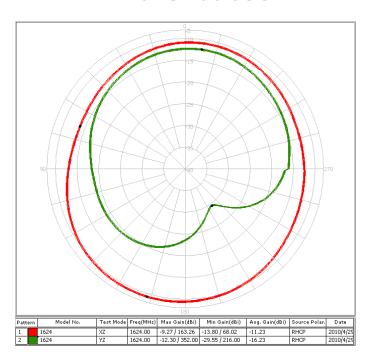


XZ Plane Radiation



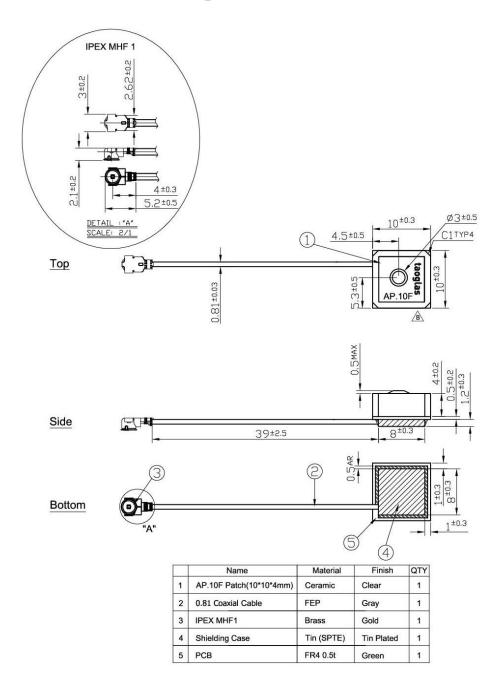
YZ Plane Radiation

XY Plane Radiation





5. Antenna Drawing

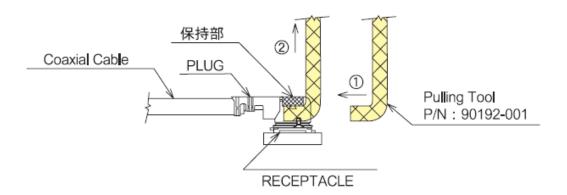




6. Plugs Usage Precautions

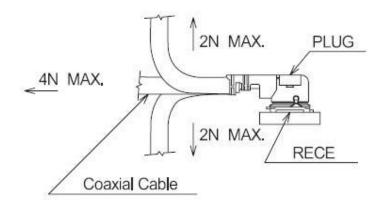
6.1. Mating / unmating

- (1) To disconnect connectors, insert the end portion of I-PEX under the connector flanges and pull off vertically, in the direction of the connector mating axis.
- (2) To mate the connectors, the mating axes of both connectors must be aligned and the connectors can be mated. The "click" will confirm fully mated connection. Do not attempt to insert on an extreme angle.



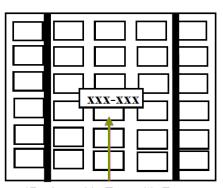
6.2. Pull forces on the cable after connectors are mated

After the connectors are mated, do not apply a load to the cable in excess of the values indicated in the diagram below.





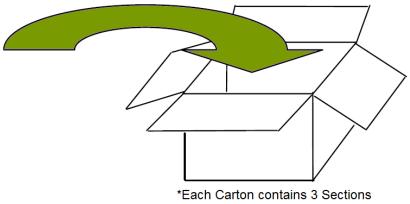
7. Packaging





^{*}One Tray = 60 pieces

^{*6} Trays per Section = 360 pcs



*1080 pieces per Carton

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