



When precision matters...

TW3970E Triple Band GNSS Antenna + L-band Correction Services

Specifications (Measured a Vcc = 3V, and Temperature=25°C)

Antenna

Patch Architecture	Circular, Dual Feed, Dual Stacked Patch		
E5a/L5 Gain (100mm ground plane)	-1.5dBic Min at Zenith		
E5b/G3 Gain (100mm ground plane)	3.0 dBic Min at Zenith		
L2 Gain (100mm ground plane)	4.3 dBic Min at Zenith		
G2 Gain (100mm ground plane)	2.5 dBic Min at Zenith		
E1 Gain (100mm ground plane)	4.6 dBic Min at Zenith		
L1 Gain (100mm ground plane)	4.4 dBic Min at Zenith		
G1 Gain (100mm ground plane)	3.0 dBic Min at Zenith		
Axial Ratio @ zenith			
L5/E5ab	<1.5dB	L2/B2	<1dB
G2/E6/B3	<1.5dB	L-Band/L6/L1	<1dB
L1/E1	<1dB	G1	<1.5dB
1dB Bandwidth,		L5/L2: 1164MHz-1254MHz	L-Band/L1: 1525MHz-1606MHz

Electrical

Bandwidth	L2/L5: 1164MHz-1254MHz (Filter bandwidth)		L-band/L1: 1525 MHz-1606MHz (Filter bandwidth)	
Overall LNA Gain	35dB typ, 32 dB min,			
Gain Variation with Temperature.	3dB max over operational temperature range			
LNA Noise Figure	2.5dB max at 25°C			
VSWR (at LNA output)	<1.5:1			
Supply Voltage Range	+2.5 to 16VDC nominal, up to 50mV p-p ripple			
EMI Immunity	50V/Meter, excepting L1 +/-100MHz and L2 +/- 100MHz			
Supply Current	20 mA typ. at 25°C, 25mA max at 75°C.			
ESD Circuit protection	15 KV air discharge.			
Out-of-Band Rejection	L5/E5/L2/G2		L1/E1/B1/G1	
	<1050 MHz	>45 dB	<1450 MHz	>30dB
	<1125 MHz	>30 dB	>1690 MHz	> 30dB
	>1350 MHz	>35 dB	>1730 MHz	> 40dB

Mechanicals & Environmental

Mechanical Size, Ground Plane	60mm diameter, 0.75mm thick, see mechanical drawing
Operating Temperature Range	-40°C to +85°C
Weight	75 g
Attachment Method	Plated screw holes
Environmental	RoHS and REACH compliant
Shock	Vertical axis: 50 G, other axes: 30 G
Vibration	3 axis, sweep = 15 min, 10 to 200 Hz sweep: 3 G

Ordering Information

TW3970E – Triple Band GNSS antenna with L-Band Correction

33-3970E-xx-yyyy

Where xx = connector type, yyyy = cable length in mm

Please refer to the Ordering Guide (<http://www.tallysman.com/index.php/gnss/ordering-guide/>) for the current and complete list of available connectors.

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