

REVISIONS				
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Approvals	Date	Trimble Miniature Antenna Specification		
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TRIMBLE NAVIGATION
MINIATURE ANTENNA
GPS ANTENNA WITH LOW NOISE AMPLIFIER

Part Number 45336-00

Document Number 45336-00-SP

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645 North Mary Avenue
Sunnyvale, CA 94088

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SPECIFICATION FOR GPS ANTENNA WITH LOW NOISE AMPLIFIER

1.0 APPLICATION

THIS SPECIFICATION DESCRIBES THE ELECTRICAL AND MECHANICAL CONDITIONS OF THE TRIMBLE MINIATURE ANTENNA, P/N 45336-00.

2.0 SYSTEM

THIS ANTENNA SYSTEM CONSISTS OF TWO FUNCTIONAL BLOCKS LISTED BELOW.

2.1 ANTENNA ELEMENT

2.2 LNA

3.0 GENERAL

3.1 ENVIRONMENTAL CONDITIONS

3.1.1	OPERATING TEMPERATURE	-40°C TO +85°C
3.1.2	STORAGE TEMPERATURE	-40°C TO +100°C
3.1.3	RELATIVE HUMIDITY	20% TO 95%

3.2 ELECTRICAL SPECIFICATIONS

3.2.1	INPUT VOLTAGE	3.0V ± 0.3V
3.2.2	POWER CONSUMPTION	5-13mA
3.2.3	OUTPUT CONNECTOR	HFL
3.2.4	CABLE	0.8D 85mm: BLACK

3.3 MECHANICAL SPECIFICATIONS

3.3.1	CONFIGURATION AND DIMENSION	SEE ATTACHED FIGURE
3.3.2	WEIGHT	20g TYP

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4.0	ANTENNA	
4.1	FREQUENCY RANGE	1,575.42+/-1.023MHz
4.2	GAIN	90° : 3.0dBi MIN. 20° : -4.0dBi MIN. (MOUNTED ON THE 60mm X 60mm SQUARE GROUND PLANE)
4.3	POLARIZATION	RHCP
4.4	AXIAL RATIO	90° : 4.0dB MAX. 10° : 6.0dB MAX. (MOUNTED ON THE 60mm X 60mm SQUARE GROUND PLANE)
5.0	LNA	
5.1	FREQUENCY RANGE	1,575.42+/-1.023MHz
5.2	GAIN	24 +/- 3 dB (+25°C ± 5 °C) 24 +/-4 dB (-40°C TO 85°C)
5.3	NOISE FIGURE	1.5dB MAX. (+25°C ± 5°C) 2.0dB MAX. (+85°C)
5.4	OUT OF BAND REJECTION	$f_0=1,575.42\text{MHz}$ $f_0\pm 20\text{MHz}$ 7dB MIN. $f_0\pm 30\text{MHz}$ 12dB MIN. $f_0\pm 50\text{MHz}$ 20dB MIN. $f_0\pm 100\text{MHz}$ 30dB MIN.
5.5	OUTPUT IMPEDANCE	50Ω
5.6	OUTPUT VSWR	2.0MAX.
6.0	OVERALL SPECIFICATIONS (THROUGH ANTENNA, LNA, CABLE AND CONNECTOR)	
6.1	FREQUENCY RANGE	1,575.42+/-1.023MHz
6.2	GAIN	27 ± 3dBi (+25°C ± 5 °C) 27 ± 4dBi (-40°C TO 85°C) (MOUNTED ON THE 60mm x 60mm SQUARE GROUND PLANE)
6.3	OUTPUT IMPEDANCE	50Ω
6.4	VSWR	2.0MAX.
7.0	MTBF	5.13E+6Hr.
8.0	RECOMMENDED STORAGE CONDITION	STORE IN ROOM CONDITION AS LISTED BELOW: TEMPERATURE -20°C TO 45°C, HUMIDITY 80% MAX.
9.0	RELIABILITY TEST	TBD
10.0	EXTERNAL APPEARANCE	NO STAIN OR FLAW MUST BE FOUND.
11.0	DATA	GAIN (AT 3.0V +/- 0.3V f=1575MHz) AND POWER CONSUMPTION AT ROOM TEMPERATURE.

