

REVISIONS				
Rev	ECN	Description	Date	Approved
A	C25742	Release to production	4-16-08	D.C.
B	C30664	Update AD drawing	3/5/09	D.C.



Approvals	Date	Trimble Miniature Antenna Specification			
DRAWN: Armando Perez	4-16-08				
CHECKED		Sheet	Size	Drawing Number	Revision
ISSUED		1 of 5	A	66801-00-SP	A

TRIMBLE NAVIGATION
MINIATURE ANTENNA
GPS ANTENNA WITH LOW NOISE AMPLIFIER

Part Number 66801-00

Document Number 66801-00-SP

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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 66801-00.

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 $3.0V \pm 0.3V$

3.2.2 POWER CONSUMPTION 5~13mA (-40°C~+85°C)

3.2.3 OUTPUT CONNECTOR HFL

3.2.4 CABLE 0.8D 85mm: BLACK

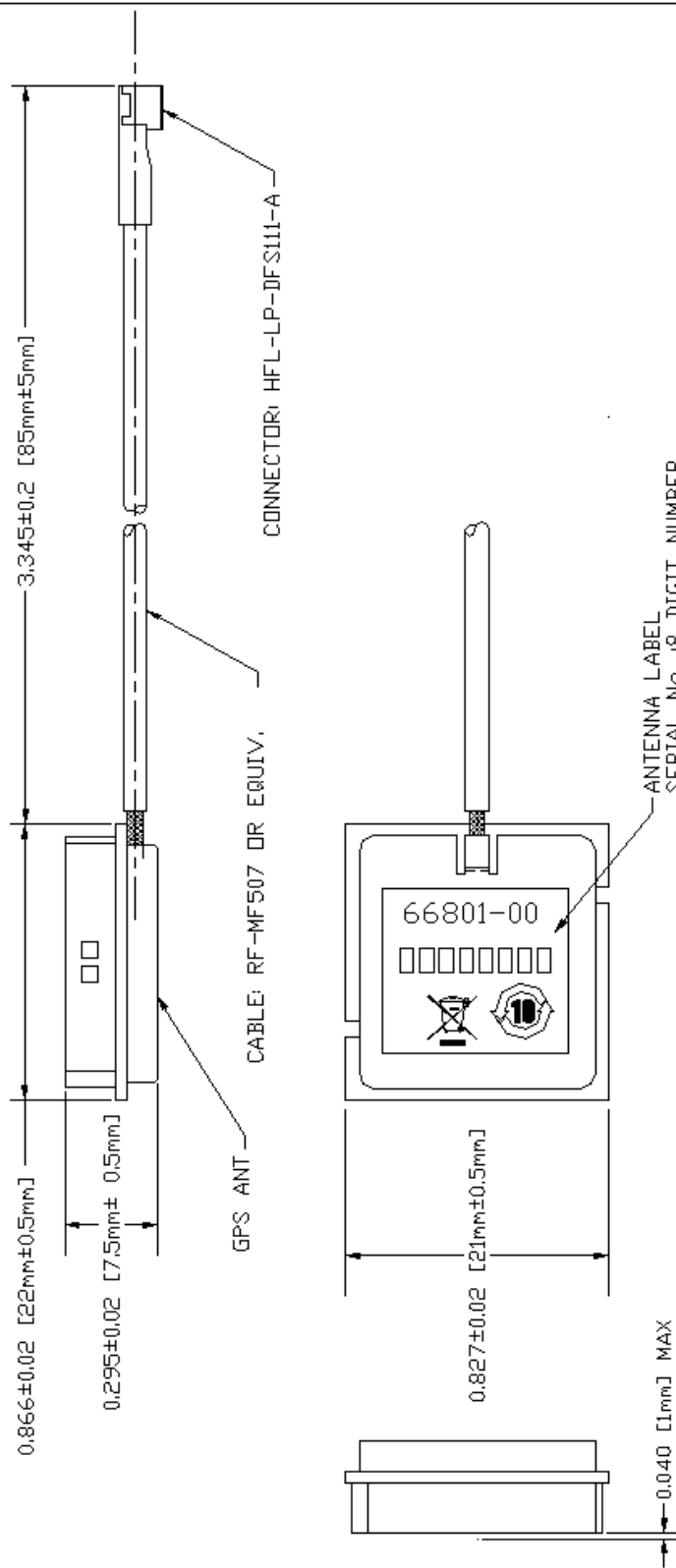
3.3 MECHANICAL SPECIFICATIONS

3.3.1 CONFIGURATION AND DIMENSION SEE ATTACHED FIGURE

3.3.2 WEIGHT 20g TYP

SPECIFICATION FOR GPS ANTENNA WITH LOW NOISE AMPLIFIER		
4.0	ANTENNA	
4.1	FREQUENCY RANGE	1,575.42±1.023MHz
4.2	GAIN	90° : 3.0dBi MIN. 10° : -5.0dBi 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 (-40°C~+85°C)
5.3	NOISE FIGURE	1.5dB MAX. (+25°C ± 5°C) 2.2dB MAX. (+85°C)
5.4	OUT OF BAND REJECTION	$f_o=1,575.42\text{MHz}$ $f_o\pm 20\text{MHz}$ 7dB MIN. $f_o\pm 30\text{MHz}$ 12dB MIN. $f_o\pm 50\text{MHz}$ 20dB MIN. $f_o\pm 100\text{MHz}$ 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~+85°C) (MOUNTED ON THE 60mm x 60mm SQUARE GROUND PLANE)
6.3	OUTPUT IMPEDANCE	50Ω
6.4	VSWR	2.0MAX.
7.0	MTBF	5.0E+6Hr.
8.0	RECOMMENDED STORAGE CONDITION	STORE IN ROOM CONDITION AS LISTED BELOW: TEMPERATURE -20°C~+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 ± 0.2V $f=1575\text{MHz}$) AND POWER CONSUMPTION AT ROOM TEMPERATURE.

REVISED			
REV.	NO.	DATE	REVISION
080748	A	4-16-08	D.C.
080654	B	3-6-09	D.C.



Trimble		UNPACKAGED MINI 3.0 VOLT ANTENNA	
DATE	4-16-08	DATE	6-6-09
DESIGNER	D.C.	DESIGNER	D.C.
CHECKER		CHECKER	
SCALE	NONE	SCALE	NONE
SHEET NO.	1	SHEET NO.	1