

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.
C	C37325	Update AD drawing	2/3/10	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	<b>66801-00-SP</b>	<b>C</b>

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 ± 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

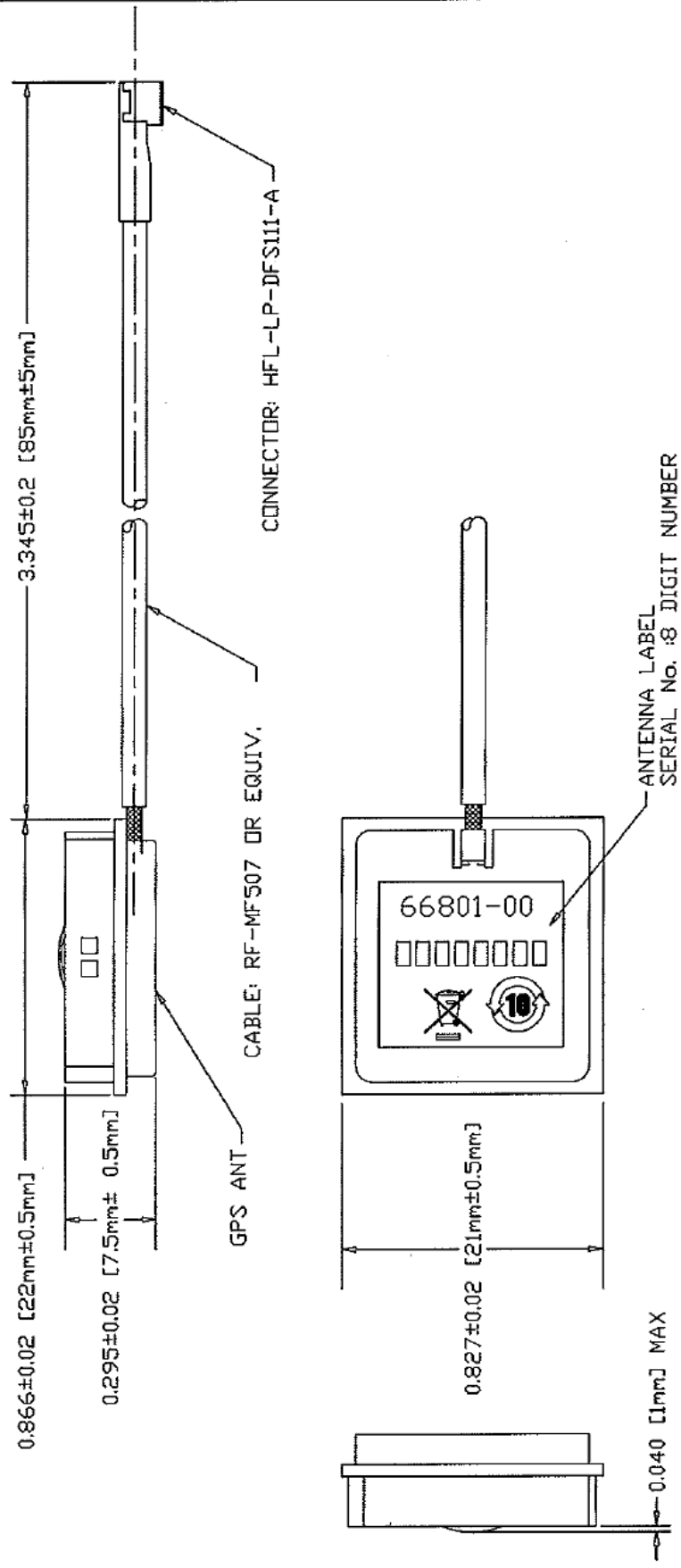
#### 3.3 MECHANICAL SPECIFICATIONS

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=1575MHz) AND POWER CONSUMPTION AT ROOM TEMPERATURE.

REV	NO.	DESCRIPTION	DATE	APPROVED
02742	A	RELEASE TO PRODUCTION	4-16-08	D.C.
02664	B	ERROR ON DRAWING	3-6-09	D.C.
02782	C	REMOVED NOTCHES	2/3/10	D.C.



		UNPACKAGED MINI 3.0 VOLT ANTENNA	
REV	DATE	SCALE	REV
C	6/6/08	1:1	C
PART NO. 66801-00-AD		SHEET 1 OF 1	