

REVISIONS

Rev	ECN	Description	Date	Approved
01	Cxxxxx	Pre-release to production	1/9/13	T. Awan



Approvals	Date	<p align="center">Bullet III GPS/Glonass – 3V-TNC Connector RoHS Compliant Trimble Specification</p>			
DRAWN					
CHECKED		Sheet	Size	Drawing Number	Revision
ISSUED		1 of 6	A	97861-00-SP	A



APPROVALS

Name	Department/Title	Signature	Date (MM/DD/YY)
Tariq Awan	Project Manager	<i>T. Awan</i>	01-29-13
Richard Funderburk	System Architect	<i>Richard Funderburk</i>	2/5/13
Karen Guldan	General Manager	<i>Karen Guldan</i>	2/11/13
Leland Ho	Hardware Engineer	<i>Leland Ho</i>	01/29/13
Haroon Muhammad	Product Marketing	<i>Haroon Muhammad</i>	2/5/13
Julian Dortort	Manager Customer support	Julian out	on vacation
Armando Perez	Mechanical Engineer	<i>Armando Perez</i>	1/29/13

TRIMBLE NAVIGATION LIMITED
BULLET ANTENNA
GPS/GLONASS ANTENNA WITH LOW NOISE AMPLIFIER
RoHS COMPLIANT

Part Number 97861-00

Part Number 97861-00-SP

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Sunnyvale, CA 94085, USA

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SPECIFICATION FOR GPS/GLONASS ANTENNA WITH LOW NOISE AMPLIFIER RoHS COMPLIANT

1.0 APPLICATION

THIS SPECIFICATION DESCRIBES THE ELECTRICAL AND MECHANICAL CONDITIONS OF THE TRIMBLE BULLET ANTENNA, P/N 97861-00.

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 +90°C

3.1.2 STORAGE TEMPERATURE -40°C TO +90°C

3.1.3 RELATIVE HUMIDITY 65 ± 20% RH

3.2 ELECTRICAL SPECIFICATIONS

3.2.1 INPUT VOLTAGE 3.3~5.0V

3.2.2 CURRENT CONSUMPTION 21 ± 3mA (AT 5.0V)

11 ± 3mA (AT 3.3V)

3.2.3 OUTPUT CONNECTOR TNC FEMALE

3.3 MECHANICAL SPECIFICATIONS

3.3.1 MOUNTING NUT MOUNT

3.3.2 WATER PROOF WATER PROOF (IP67) WITH RUBBER CAP ON

3.3.3 SHOCK 50G : VERTICAL AXIS

30G : ALL AXIS

3.3.4 VIBRATION 10 ~ 200Hz. LOG. SWEEP 3.0G

(SWEEP TIME : 15 MIN.), 3 AXIS

3.3.5 ANTI-COROSION BASED ON JIS Z 2371, SPRAY 5% SALT WATER 35°C SHOULD NOT RUST AFTER 96Hrs.

3.3.6 CONFIGURATION AND DIMENSION SEE MECHANICAL DRAWING

3.3.7 WEIGHT 178g ± 10g

3.3.8 CERTIFICATIONS CE, FCC, AND INDUSTRY CANADA(IC)

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SPECIFICATION FOR GPS ANTENNA WITH LOW NOISE AMPLIFIER

4.0	PATCH		
4.1	FREQUENCY RANGE		1,575MHz~1615MHz
4.2	CENTER FREQUENCY		1588 ± 3 MHz
4.3	BANDWIDTH (10dB RETURN LOSS)		50 MHz TYP
4.4		15.75.42 MHz	3.22 dBic MAX.
4.4	ZENITH GAIN	16.02. MHz	3.70 dBic MAX.
4.5	POLARIZATION		R.H.C.P
5.0	LNA		
5.1	FREQUENCY RANGE		1,570MHz~1615MHz
5.2	GAIN	1575.42 MHz	29 ± 3 dB (at 3.3 ± 0.1V)
5.2		1602 MHz	32 ± 3 dB (at 5.0 ± 0.1V)
5.2			29 ± 3 dB (at 3.3 ± 0.1V)
5.2			32 ± 3 dB (at 5.0 ± 0.1V)
5.3	NOISE FIGURE		2.0dB TYP
5.4	FILTER OUTBAND ATTENUATION		30dB TYP fo ± 50MHz
5.4			35dB TYP fo ± 100MHz
5.4			(fo=1575.42MHz~1602MHz)
5.5	OUTPUT V.S.W.R		2.5 MAX
5.6	OPERATION VOLTAGE		3.3~5.0V
5.7	CURRENT	3.3V	11 ± 3 mA
5.7		5.0V	21 ± 3 mA
6.0	OVERALL SPECIFICATIONS (THROUGH ANTENNA, LNA, WITHOUT CABLE LOSS)		
6.1	FREQUENCY RANGE		1,570MHz~1615MHz
6.2	ZENITH GAIN	1575.42 MHz	32.22 ± 3dBic (FOR GROUND 70X70mm AT 3.3 ± 0.1V)
6.2		1602 MHz	35.22 ± 3dBic (FOR GROUND 70X70mm AT 5.0 ± 0.1V)
6.2			32.70 ± 3dBic (FOR GROUND 70X70mm AT 3.3 ± 0.1V)
6.2			35.70 ± 3dBic (FOR GROUND 70X70mm AT 5.0 ± 0.1V)
6.3	OUTPUT IMPEDANCE		50Ω
6.4	OUTPUT VSWR		2.5 TYP.
6.5	OPERATION VOLTAGE		3.3~5.0V
6.6	CURRENT	3.3V	11 ± 3 mA
6.6		5.0V	21 ± 3 mA
7.0	MTBF		GREATER THAN 300K HRS
8.0	RECOMMENDED STORAGE CONDITION AND STORAGE TERM		STORE IN ROOM CONDITION AS LISTED BELOW: TEMPERATURE -20°C~+45°C, HUMIDITY 80% MAX.
9.0	EXTERNAL APPEARANCE		NO STAIN OR FLAW MUST BE FOUND.

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REV.	DATE	DESCRIPTION
1	02/01/11	INITIAL RELEASE
2	02/01/11	A. 119522

40474102007 Cap (SKT 200017) - 0.22mm. #1. 1.00mm. #1. 1.00mm. #1. 1.00mm. #1.

HALF ELLIPSE
 MAJOR DIA. 3.937 [100mm]
 MINOR DIA. 3.032 [77mm]

TNC CONNECTOR

DOMESCREW TORQUE SPEC: 2.5LBF.IN 4 PLCS

REV. #

SPEC: 9LBF.IN 2 PLCS TNC SCREW TORQUE

This Class B digital apparatus complies with Canadian ICES-003. Cet appareil numérique de la classe B est conforme à la norme NMB-003 du Canada.

1 LABEL TO BE 30 MICRON THICK SILVER INK ON POLYESTER FILM WITH PERMANENT ADHESIVE
 2 PRINTING TO BE BLACK POSITIVE, UV PROTECTION, HELI-ETICA BOLD CONDENSED
 3 SERIAL NUMBER TO BE 8 DIGITS ACCORDING TO FOLLOWING DDY Y Z WWWVV
 WHERE: DD - DATE (DAY) OF THE MONTH
 Y - NUMBER OF THE MONTH (4-DIGIT) 01-12
 YY - YEAR (2-DIGIT) 00-99
 WWWV - ORIGINAL NUMBER OF THE UNIT PRODUCED ON THAT DAY
 I - SERIAL PREFIX

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GPS/COMMUNICATIONS DEVICE
 TRIMBLE G31000
 CLASS B

97861-00-AD