

MDL GPS/N 3V0 HRS UFL Φ 1.13 64mm GPS237N-S3-00-A

1. Application:

This application shall apply for antenna unit which shall be used with an engine for an automobile.(for impedance 50 Ω)

2. Appearance:

Antenna Unit (with radome, connector, and cable – refer to an attached drawing)

Dimensions	38.15*29.20*4.90 mm	; Radome	#N
Weight	8g (typ)	; Connector	HRS UFL
Color	black	; Cable	RF Φ 1.13 64 mm
PCB	lead free		

3. Operating Condition:

Temperature -40 to +90 °C

4. Storage Condition:

Temperature -40 to +90 °C

Humidity 65 \pm 20% RH

5. Electrical Specification:

* All value are defined at 25 \pm 15 °C ,65 \pm 20 % RH, power handling 1 u watt,air pressure 960 \pm 100 HPA unless otherwise noted.

* Patch characteristics are measured with test ground plane in an anechoic chamber.

5-1 Patch

Characteristics	Specification
Center Frequency	1575.42 \pm 2.5 MHz (when covered with a radome on LNA ground plane.)
Bandwidth (10dB return loss)	10 MHz min
Gain at Zenith	0 dBic typ
Polarization	R.H.C.P
Axial Ratio	3.0dB typ(forPDA mechanical & ground38.15*29.2mm)

5-2 Filter / LNA

Characteristics	Specification
Center Frequency	1575.42 \pm 1.023 MHz
Gain	31 \pm 2dB (DC=3.0v)
Noise Figure	1.5 dB typ(DC=3.0v)
Output V.S.W.R	2 max(DC=3.0v)
Voltage	3.0 \pm 0.3V
Current(DC= 3.0 \pm 0.01V)	6.5 \pm 1mA

UNLESS OTHER SPECIFIED TOLERANCES ON :

X = \pm X.X = \pm X.XX =

ANGLES = \pm HOLE DIA = \pm



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SCALE :

UNIT : mm

DRAWN BY: 巫冠賢 巫冠賢

CHECKED BY: 楊奇峰 楊奇峰

DESIGNED BY: 莊意堂 Edison

APPROVED BY: 蔡岳霖 蔡岳霖

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TITLE : MDL GPS/N 3V0 HRS UFL Φ 1.13 64mm
GPS237N-S3-00-A

DOCUMENT NO.

ENS000014090

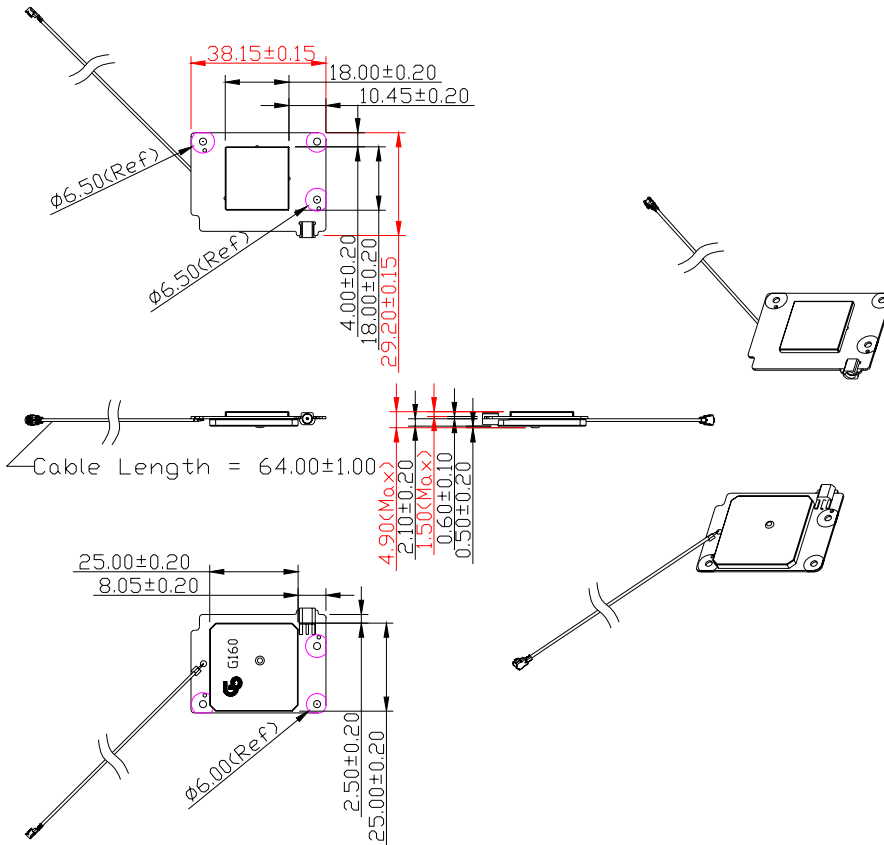
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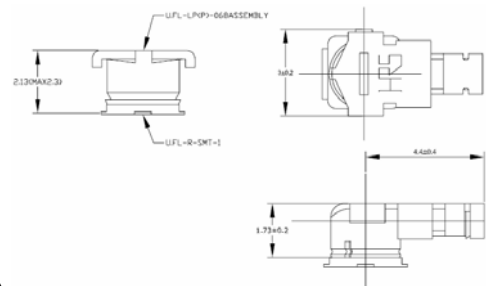
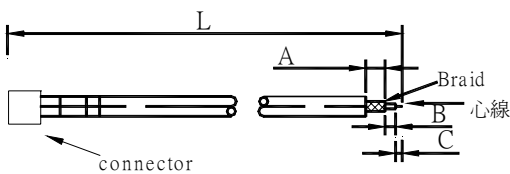
5-3 Overall Specification

Characteristics	Specification
Center Frequency	1575.42±1.023 MHz (when covered with a radome on LNA ground plane.)
Gain at Zenith	31 dBic typ(for ground 38.15*29.2mm)
Output Impedance	50ohm
Output VSWR	2.0 typ
Operation Voltage	3.0 ±0.3V

6. Antenna Dimensions: (unit: mm)



7. Cable length



Connector : HRS U.FL-LP , Cable : RF Cable 1.13(黑色)

L : 64±1mm A : 1.5±0.5mm B : 1.0±0.5mm C : 1.0±0.5mm

connector appearance: HRS U.FL-LP

UNLESS OTHER SPECIFIED TOLERANCES ON :

X = ± X.X = ± X.XX =

ANGLES = ± HOLE DIA = ±



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8. Production specification:

(1.) LNA 測試

1.中心頻率 $f_c=1575.42\pm 1.023\text{MHZ}$

2. Gain :

3.0V	Gain = $31\pm 2\text{dB}$
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3.Voltage (Vcc) :

3.0V	$3.0 \pm 0.01\text{V}$
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4.Current (lin) : $6.5\pm 1\text{mA}$

(2.) 產品組裝完成後測試

1.S21 對打測試

	49cm gain 相對比值	current	S22
GPS237N 成品($3.0\pm 0.01\text{V}$)	$> -4\text{dB}$	$6.5 \pm 1\text{mA}$	$< -5\text{dB}$

**當以上測試值不符規格時，需進行 Open/Short 測試(利用三用電表確認天線頂針和屏蔽蓋是否短路，正常為開路).

2. 外接天線測試

連接測試線,接頭為 MMCX Plug,其電流必須顯示為 $8.74 \pm 0.06 \text{mA}$ (電壓為 3.0V)

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ANGLES = ± HOLE DIA = ±



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