MDL 3.0~5.0/12V TE2298721 RG174/2300mm 9

GPSFMLTEWIFIS15N-S3-01

1. Application：

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

2. Appearance：

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

Characteristics	Specification
Dimensions	160*60*68mm
Radome	S15N
Weight	489g typ.
Connector	TE2298721-1
Cable	RG174 Black
IP Rating	IPx5

3. Operating Condition：

Temperature	-40～+80°C
Humidity	20～95％RH

4. Storage Condition：

Temperature	-40～+80°C
Humidity	20～95％RH
Recommended Storage condition	Store in the indoor condition as listed below: Temperature -20℃~+45℃, Humidity 80% Max.

5. Electrical Specification：

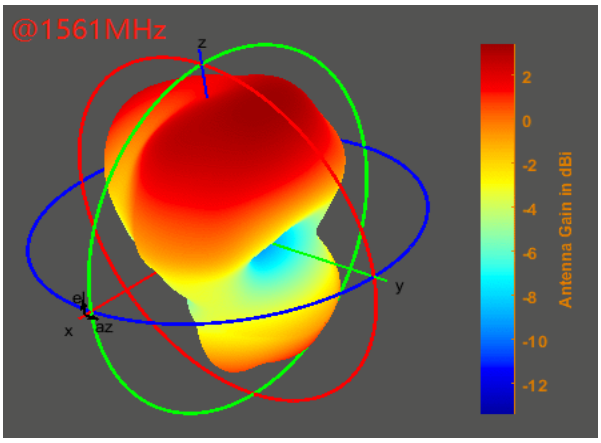
※All value are defined at 25±15°C, 65±20%RH, power handling 1μ watt, air pressure 960±100 HPA unless otherwise noted.

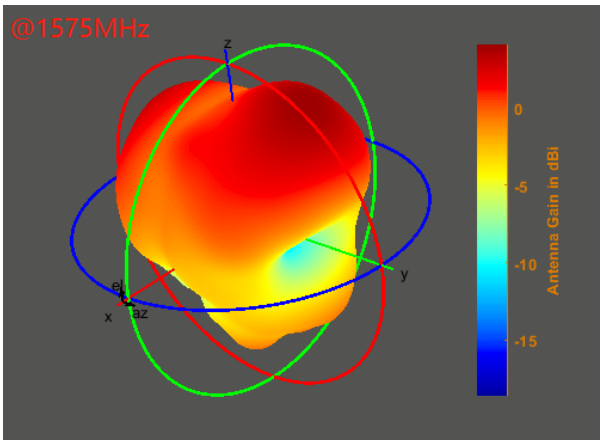
※GPS patch antenna characteristics are measured with test housing in an anechoic chamber.

5-1 GNSS Patch Antenna Specification.

Characteristics	Specification
Center Frequency	1560~1580 MHz
Gain at Zenith (90°)	3 dBic typ.
Polarization	R.H.C.P

3D Radiation pattern（without cable loss）





5-2 GNSS LNA Specification.

Characteristics		Specification
Frequency Range		1560~1580MHz
Gain	1561MHz	27±3dB (3.0±0.1V)
	1575.42MHz	28±3dB (3.0±0.1V)
Noise Figure		2.0dB Max
Output V.S.W.R		2.0 typ.
Operation Voltage		DC=3.0V
Current		DC=9.5±3mA (3.0±0.1V)

5-3 GNSS Antenna Overall Specification. (Through Antenna, LNA, without cable loss)

Characteristics		Specification
Frequency Range		1560~1580 MHz (In the shark fin)
Zenith Gain	1561MHz	30±3dBic (3.0±0.1V)
	1575.42MHz	31±3dBic (3.0±0.1V)
Output Impedance		50Ω
Output V.S.W.R		MAX 3.0 typ.
Operation Voltage		DC= 3.0V
Current		DC=9.5±3mA (3.0±0.1V)

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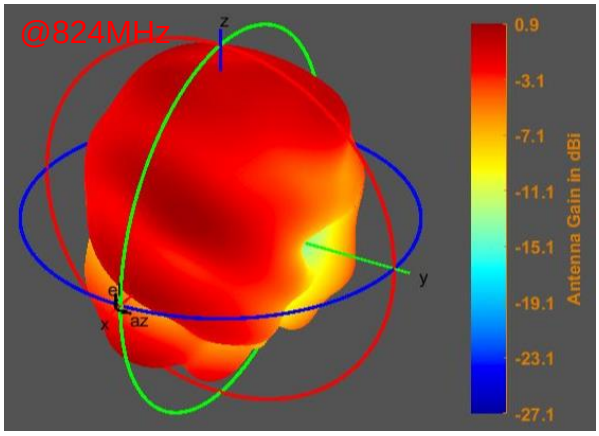
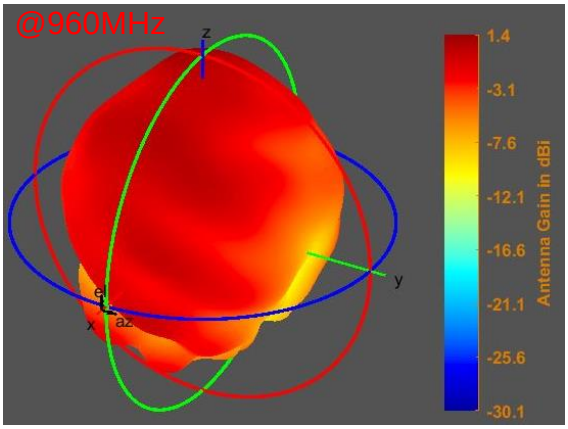
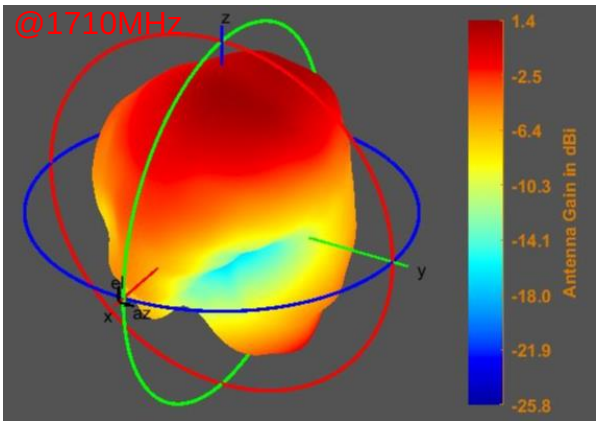
5-4 LTE Antenna Electrical Specifications

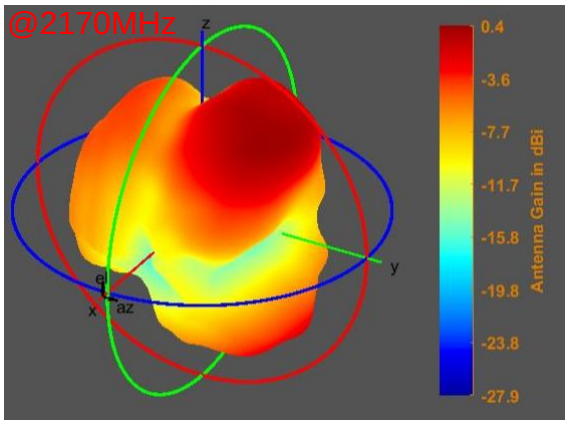
Characteristics	Specification
Frequency	824-960 MHz，1710-2690 MHz
Polarization	Linear
Peak Gain	1.5 dBi typ.（824~960MHz） 2.0 dBi typ.（1710~2690MHz）
Average Gain	-0.42 to -1.58 dBi（824~960MHz） -0.27 to -3.09 dBi（1710~2690MHz）
Output V.S.W.R	MAX 4.0
Testing Condition	In the shark fin

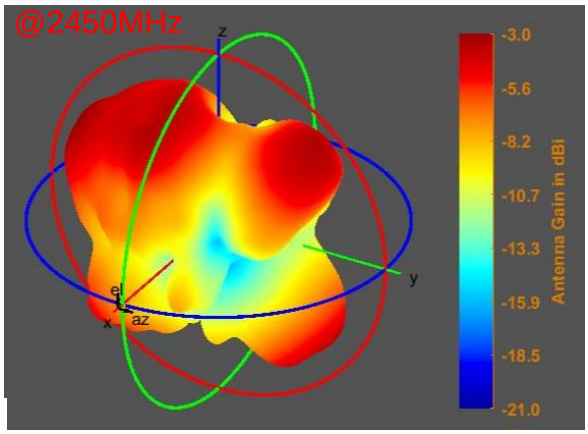
3D Radiation pattern（with cable loss）

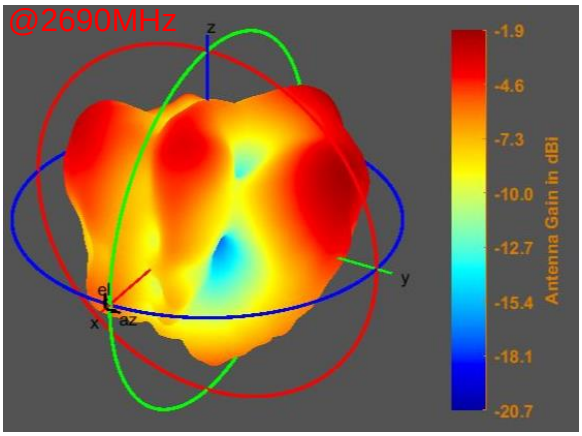








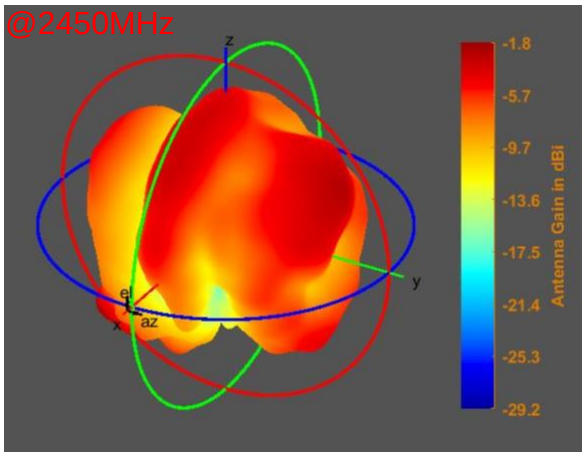


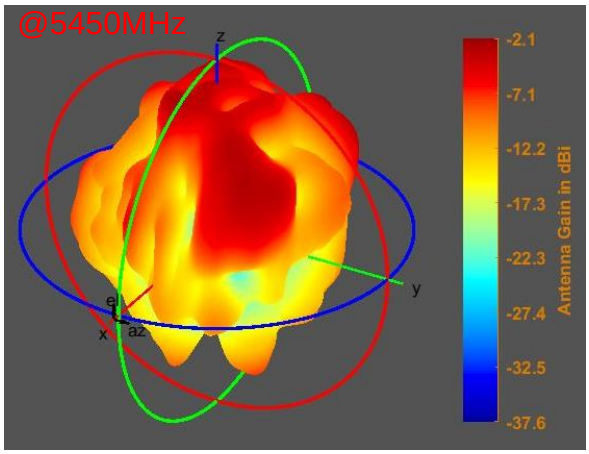


5-5 WIFI Antenna Electrical Specifications

Characteristics	Specification
Frequency	2.4~2.5 GHz，5.15~5.85GHz
Polarization	Linear
Peak Gain	2.5 dBi typ.（2400~2500MHz） 3.5 dBi typ.（5150~5850MHz）
Average Gain	-1.82 to -1.58 dBi（2400~2500MHz） -1.65 to -0.72 dBi（5150~5850MHz）
Output V.S.W.R	MAX 2.5
Testing Condition	In the shark fin

3D Radiation pattern（with cable loss）





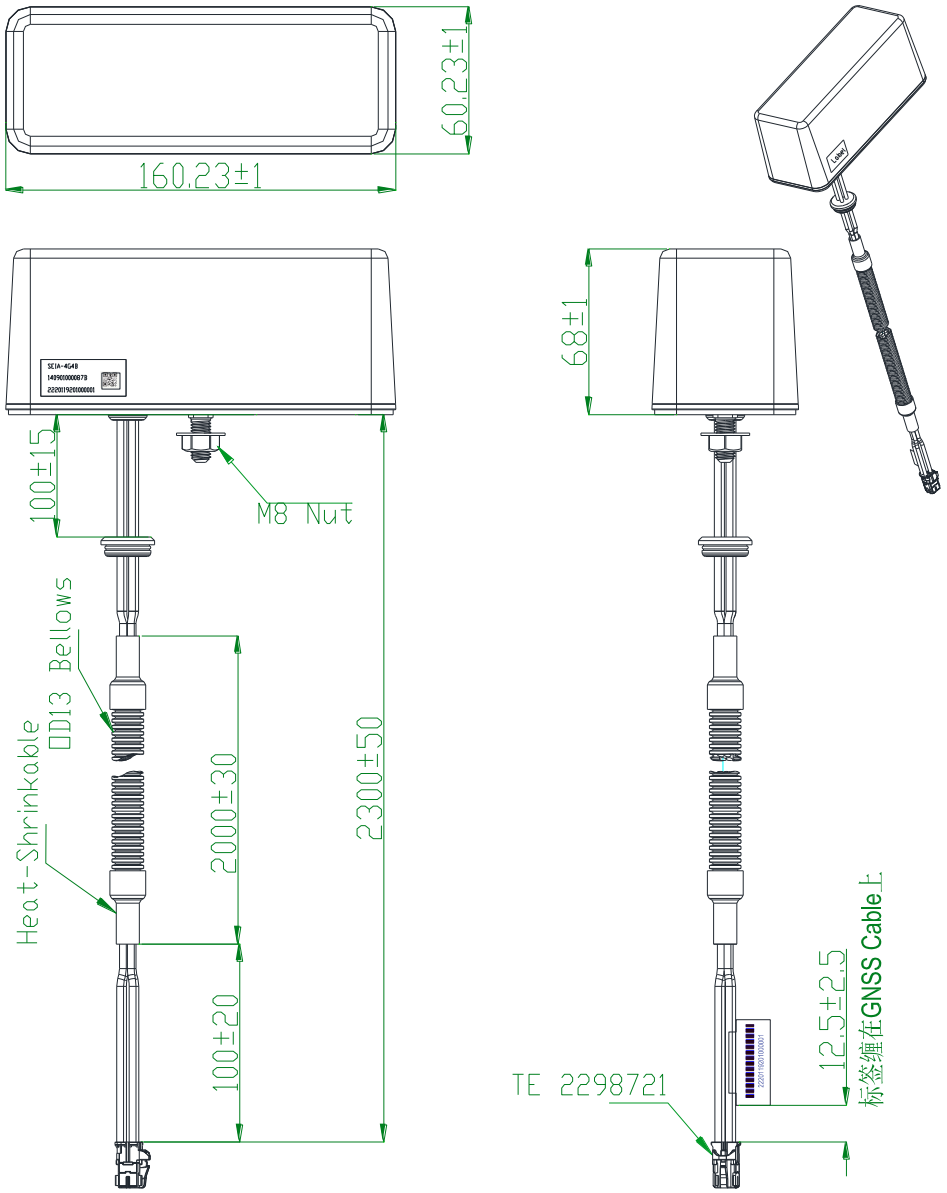
5-6 FM Antenna Electrical Specifications

Characteristics	Specification
Frequency Range	87~108 MHz (In the shark fin)
LNA Gain	14±3dB (12.0±0.1V)

Output Impedance	50Ω
Output V.S.W.R	2.0 typ.
Operation Voltage	DC= 12.0V
Current	DC=5±2mA (12.0V)
Noise Figure	2.5dB Max

6. Machine drawing

6-1 Antenna Dimensions



6-2 Connector Pin Definition

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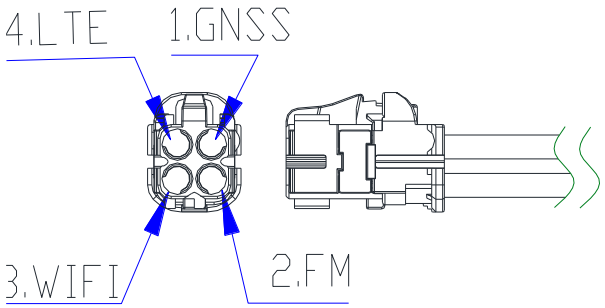
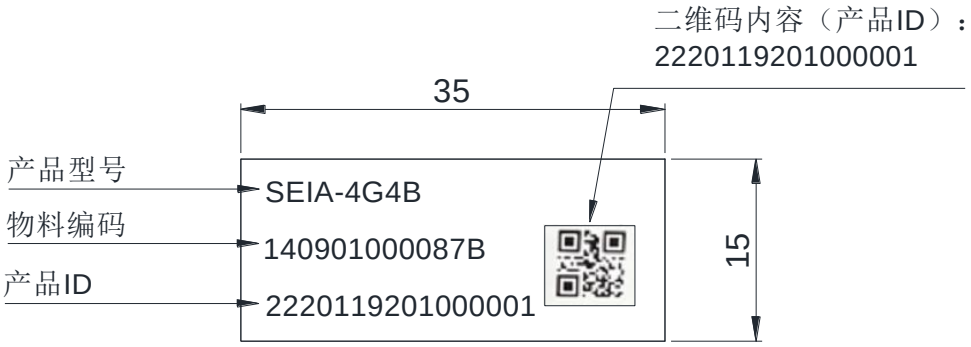
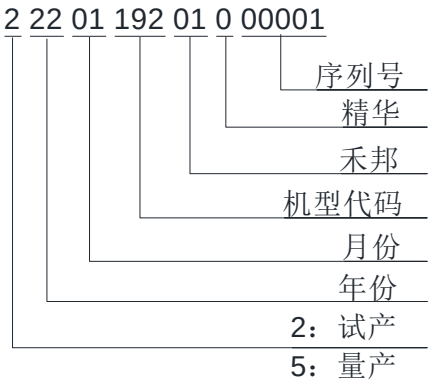
DESIGNED BY: 刘硕/吕巧云	APPROVED BY: 杨开月	
TITLE：GPSFMLTEWIFIS15N-S3-01	DOCUMENT NO. ENS000160470	SPEC REV. A0

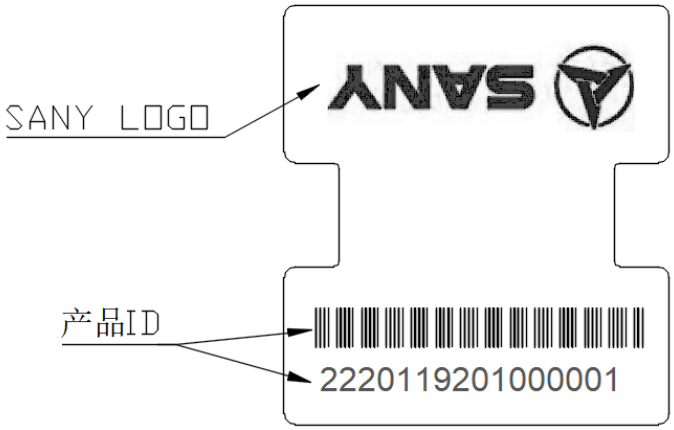


6-3 Body Label Definition





6-4 Cable Label Definition



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