

GEMINI-3 GPS/BT SMD Antenna

Part No. GA187016BGL03



Product Specification



Dimension: 18mmx7mmx1.6mm

➤ Applications

- Smart phone
- Tablets
- Tracking Devices
- GPS modules
- Wireless Dongles
- Wireless Modules
- Automotive

➤ Features

- Designed for GPS and 2.4GHz applications
- High efficiency
- Linear Polarization
- Omni- Directional (*PCB dimension dependent*)
- Minimum PCB clearance
- Flexible placement on PCB edge
- SMD mounting
- Low Profile, miniature and light weight
- Tape and reel packaging
- RoHS Compliance

➤ Customer Services (Optional)

- EM Antenna Simulation for optimum placement of antenna on PCB.
- Lump Elements Matching for optimum antenna performance.
- Anechoic Chamber Measurement for antenna performance validation.

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➤ Specification

ELECTRICAL		
Frequency	1570MHz ~ 1580MHz	2400MHz ~ 2500MHz
S11	< -15dB	< -15dB
VSWR	< 1.5:1	< 1.5:1
Peak Gain	3.01 dBi	3.59 dBi
Polarization	Linear	Linear
Impedance	50 Ohms	50 Ohms
Efficiency	75%	60%
Radiation Pattern	Omni	Omni
MECHANICAL		
Dimension	18mm x 7mm x 1.6 mm	
Weight	0.4g	
ENVIROMENTAL		
Temperature Range	-25°C to +80°C	
Humidity	65°C 95% RH	

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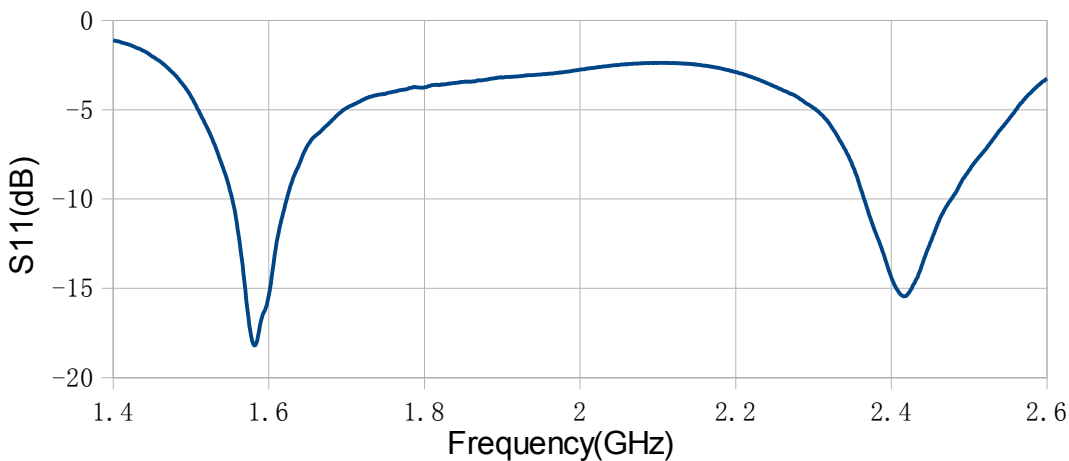
Part No. GA187016BGL03



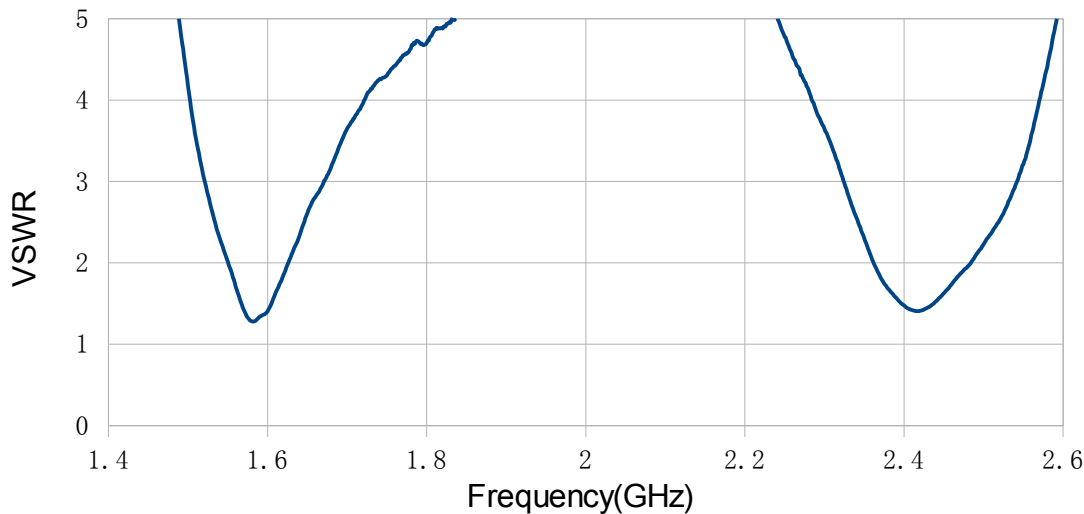
➤ Antenna Performance with GEMINI_RB6020T1 Reference Board

Frequency	Performance		Conditions
	1570MHz ~ 1580MHz	2400MHz ~ 2500MHz	
Peak Gain	3.01 dBi	3.59 dBi	All results measured from frequency range 1570MHz to 1580MHz and 2400MHz to 2500MHz on 60 x 20mm reference board, Part NO.: GEMINI_RB6020T1 *antenna efficiency without loss of transmission line
Average 3D Gain	-1.25 dBi	-2.22 dBi	
*Average Efficiency	75%	60%	
S11	< -15dB	< -10dB	
VSWR	< 1.5:1	< 1.9:1	

● Return Loss with GEMINI_RB6020T1 Reference Board



● VSWR with GEMINI_RB6020T1 Reference Board



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- Performance with reference board (GEMINI_RB6020T1)

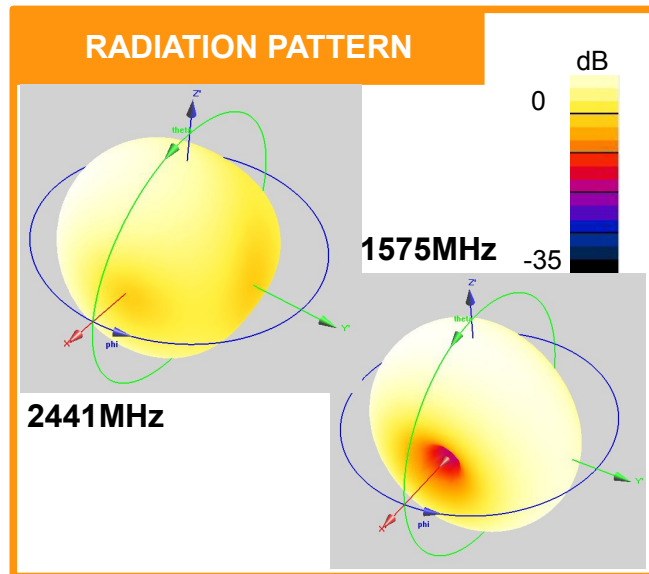
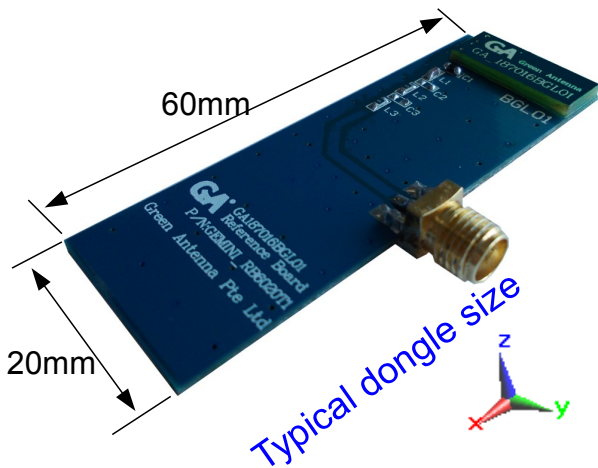
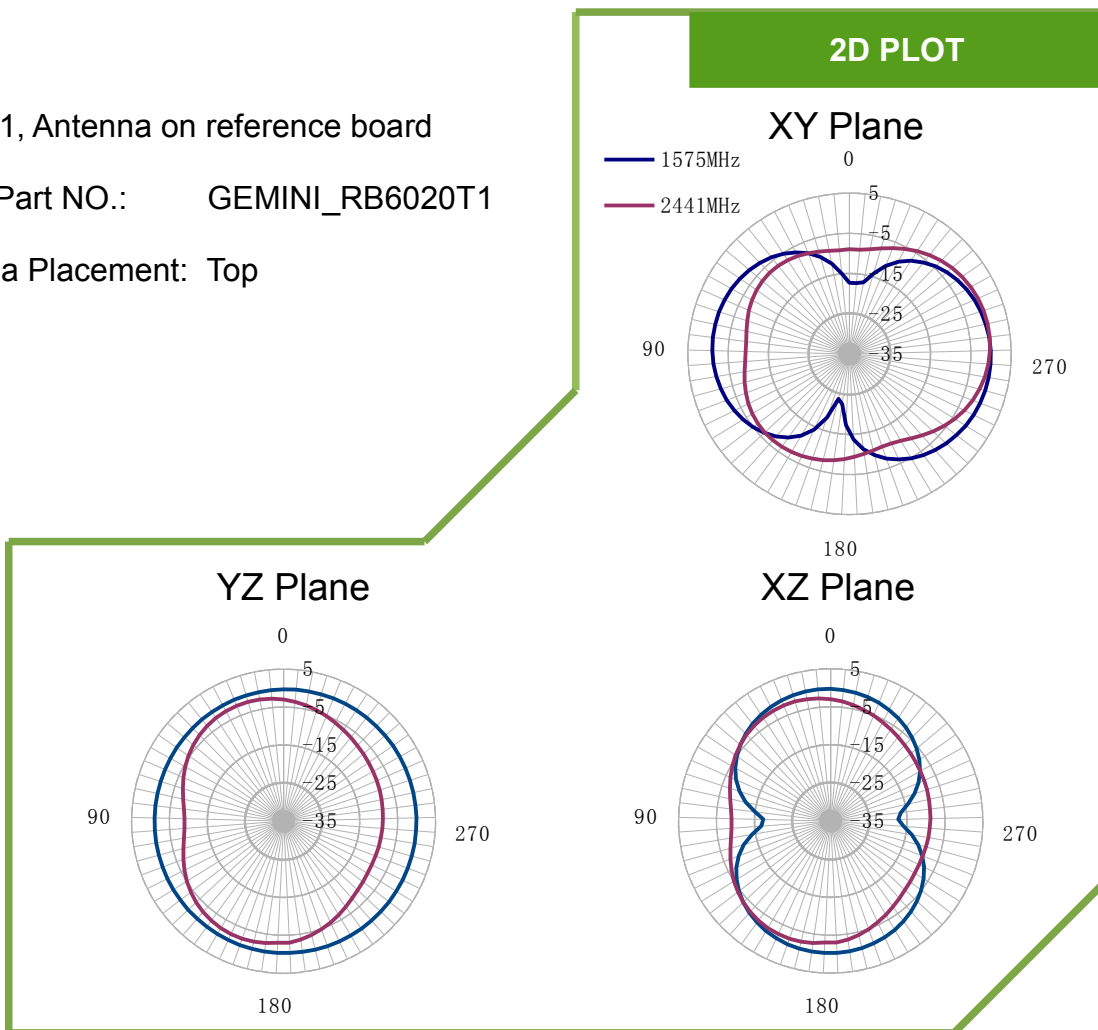


Figure 1, Antenna on reference board

Board Part NO.: GEMINI_RB6020T1

Antenna Placement: Top



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➤ Antenna Dimension

● Overview



L	W	H
18	7	1.6

Unit : mm
Tolerance: +/- 0.2mm

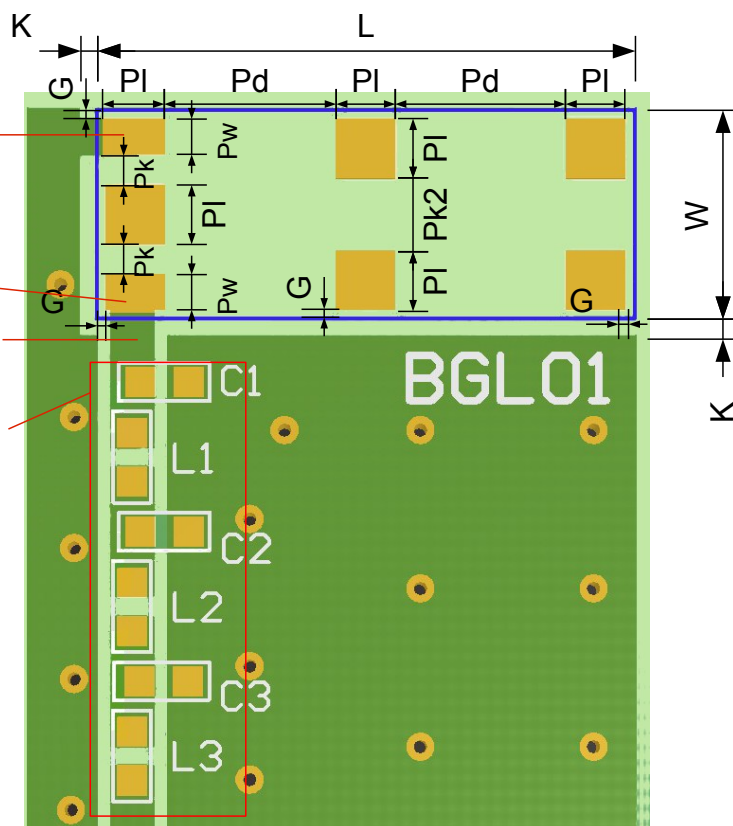
● Layout with side feeding

- : PCB copper
- : PCB dielectric
- : Pads
- : Antenna Area

Ground point
Feed point
50 Ohm trace line
Matching components

L	W	K	G	PI
18	7	0.5	0.3	2
Pd	Pw	Pk	Pk2	
5.7	1.2	1	2.4	

Unit : mm
Tolerance: +/- 0.1mm



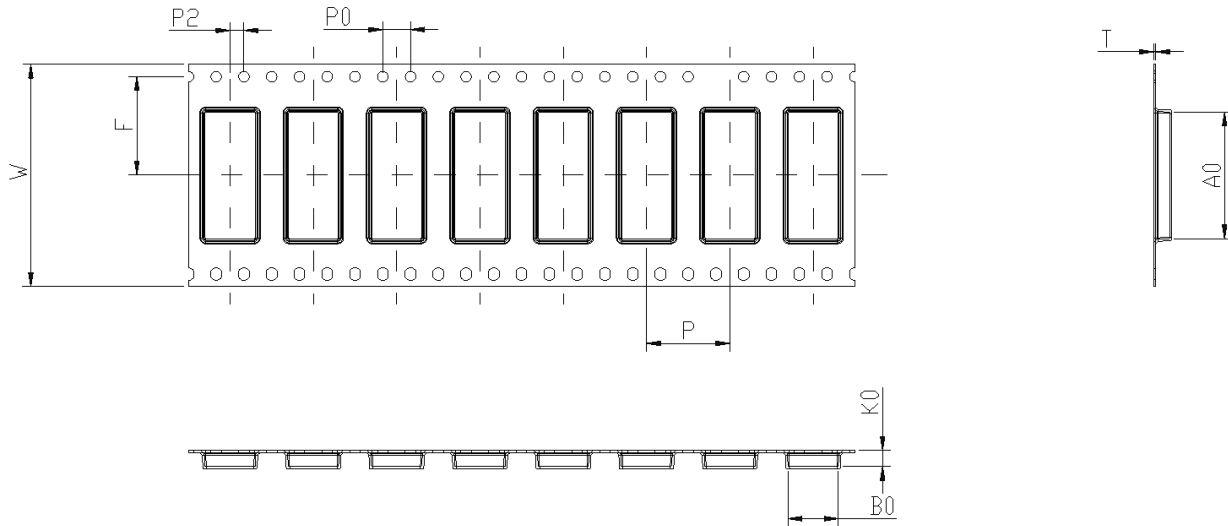
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➤ Tape Characteristics



W	F	P	P0	P2	T	A0	B0	K0
32.0±0.3	14.2±0.1	12.0±0.1	4.0±0.1	2.0±0.1	0.3±0.05	18.2±0.1	7.23±0.1	2.3±0.1

Unit : mm

Quantity	2000 pcs/reel
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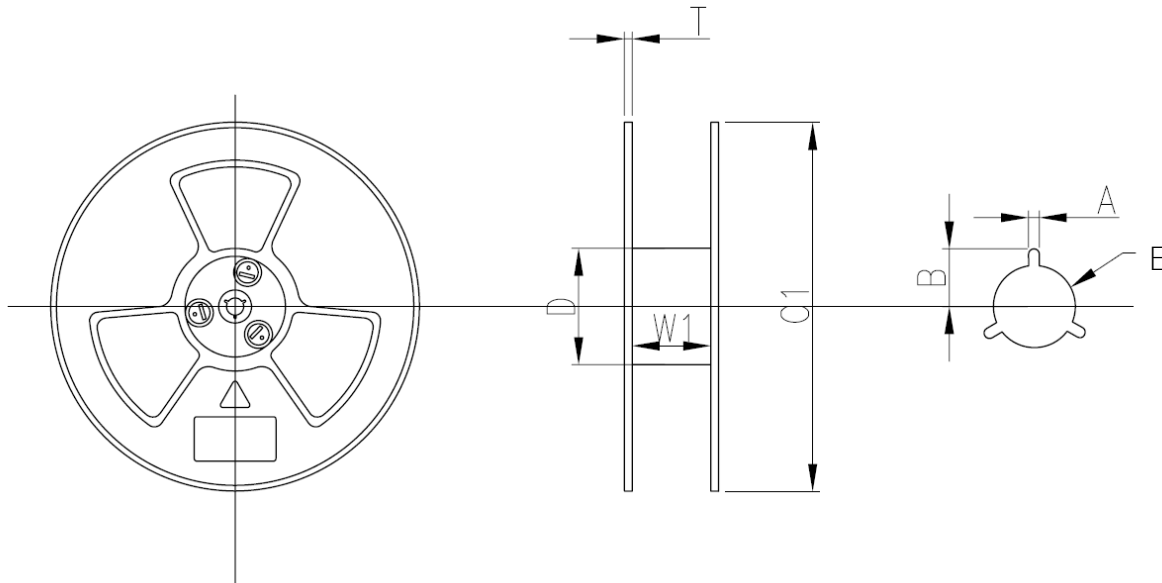
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Reel Dimensions



W1	D	T	C1	A	B	E
32.4±2.0	99.5±2.0	2.2±0.3	330±1.0	2.3±0.3	10.75±0.3	13.0±0.5

Unit : mm

Reel Label



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Description: Gemini-3
Part Number: GA187016BGL03
Qty: 2000 pcs
Date Code:
Manufacturers code number:

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