

ALLISCOM

Magnetic GNSS Antenna

GPS/GLONASS/BDS/Galileo

Data Sheet



Model No. SG35C

Feature **High Bandwidth – 50MHz**
Low Axial Ratio w/ higher gain
Low Profile

Benefit **GPS + GLONASS+BDS+ Galileo**
Concealable
High Performance

Description **Allis Communications SG35C Module is**
an OEM/ODM solution for customer who
wants to embed an antenna in its box.
It features for GPS, GLONASS, BDS (Compass)
and Galileo frequency.

1. Electrical Specifications

Passive Specification		
Operating Frequency Range	1559MHz ~1615MHz	
Bandwidth	50MHz Min.	
VSWR	2.0 Max	
Power Heading	1W	
Polarization type	Circular clockwise (RHCP)	
Rated resistance	50Ω	
Module specification		
Noise Figure	2.0dB Max.	
Gain (5.5V) / Current	36dB / 28mATyp.	
Gain (5.0V) / Current	36dB / 27mATyp.	
Gain (3.3V) / Current	33dB / 23mATyp.	
Gina (3.0V) / Current	31dB / 22mATyp.	
Gain (2.7V) / Current	27dB / 21mATyp.	
Filtering	Attenuation (Typ.)	0~ 1460MHz -46dB 1460~1505MHz—32dB 1734~2000MHz -30dB 2000~4250MHz -36dB 4250~6000MHz -54dB
Power supply Voltage	2.7V to 5.5V	
Rated resistance	50Ω	
Gain Pattern at 120*120 Ground plane @5V	Test Equipment : NSI Spherical near-field system	
1610MHz@5V Peak Gain / Axial Ration	33dB / 4.5dB	
1600MHz@5V Peak Gain / Axial Ration	33dB / 4.5dB	
1590MHz@5V Peak Gain / Axial Ration	34dB / 2.0dB	
1580MHz@5V Peak Gain / Axial Ration	34dB / 2.5dB	
1575MHz@5V Peak Gain / Axial Ration	34dB / 2.3dB	
1570MHz@5V Peak Gain / Axial Ration	35dB / 2.0dB	

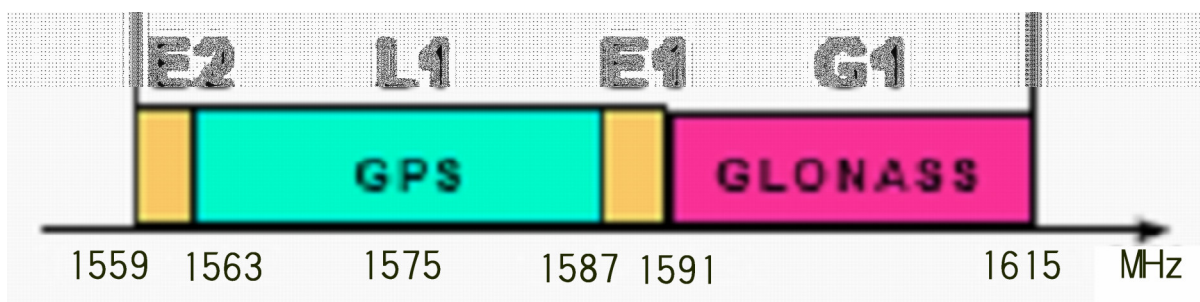
2. Mechanical Specification

2.1 Mechanical

Item	Specification
Weight(without Cable)	42 grams max.
Size	48*40*13mm
Connector	Custom
RF Cable	
Label	
Mounting	Magnetic base
Housing Color	Black or Green
Waterproof	IP56
Without housing	
Weight (Without Cable)	25 grams max.
Size	34.4 *27 * 8 mm Tolerance ± 0.2 mm

2.2 Frequency of GNSS(Global Navigation Satellite System)

GNSS	Modulation	Frequency
GPS-US ^[1]	CDMA	1575.42MHz
GLONASS-Russia ^[2]	FDMA	1601~1615MHz
BDS(Compass)-China ^[3]	CDMA	1559.052MHz – 1591.788MHz
Galileo-Europe	CDMA	1559.052MHz – 1591.788MHz

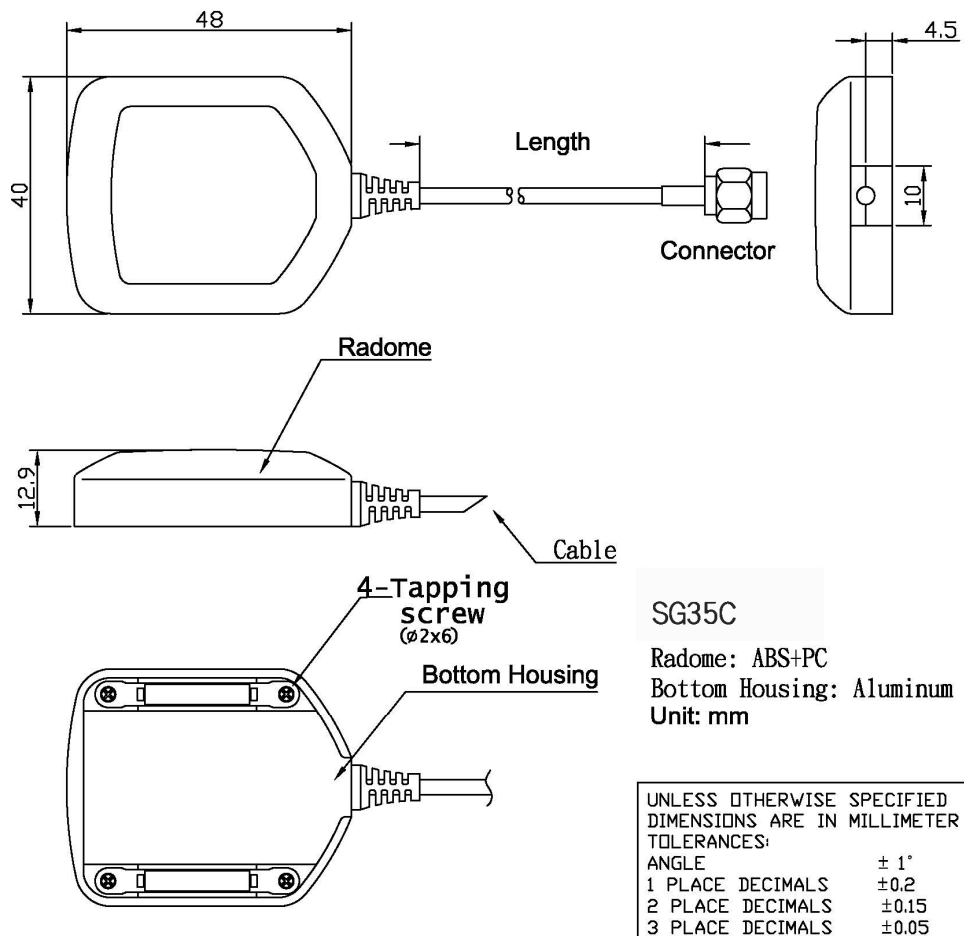


[1] GPS: Global Positioning System

[2] GLONASS: Global Navigation Satellite System

[3] BDS: BeiDou Navigation Satellite System (Compass)

2.3 Dimensions



3. Appendix: Gain Patterns

Test Equipment: NSI Spherical near-field measurement system

● SG35C at 1570MHz

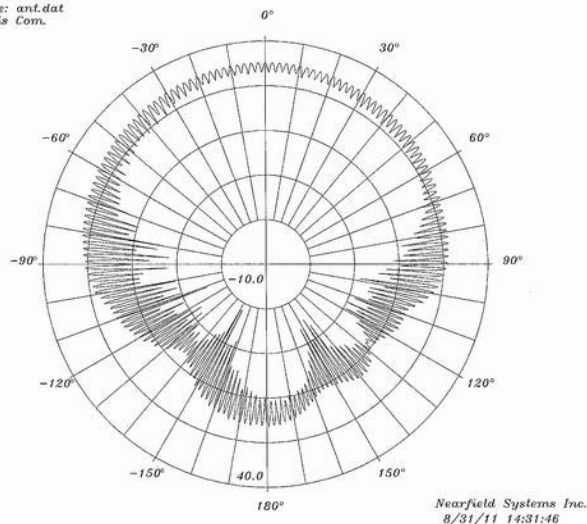
Test Voltage : 5V

Axial Ratio:2.0

Peak Gain: 35dB

Polar plot

File: ant.dat
Allis Com.



● SG35C at 1575MHz

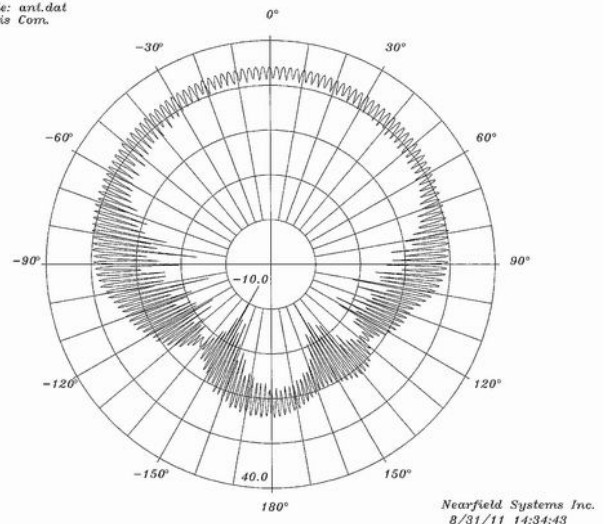
Test Voltage : 5V

Axial Ratio:2.3dB

Peak Gain: 34dB

Polar plot

File: ant.dat
Allis Com.



● SG35C at 1580MHz

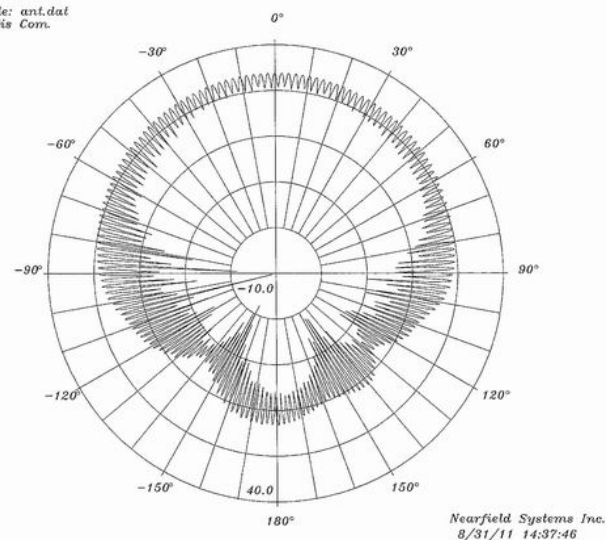
Test Voltage : 5V

Axial Ratio:2.5dB

Peak Gain: 34dB

Polar plot

File: ant.dat
Allis Com.



● SG35C at 1590MHz

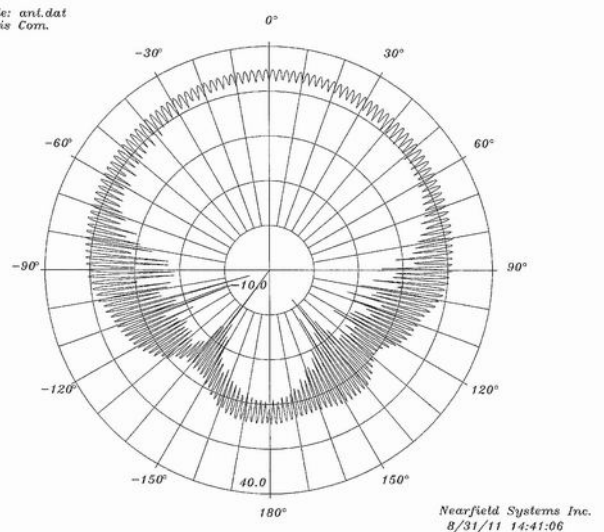
Test Voltage : 5V

Axial Ratio:2dB

Peak Gain: 34dB

Polar plot

File: ant.dat
Allis Com.



● SG35C at 1600MHz

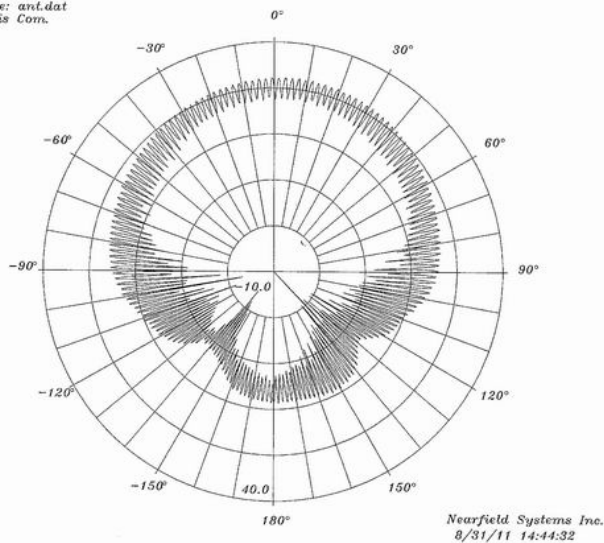
Test Voltage : 5V

Axial Ratio:4.5dB

Peak Gain: 33dB

Polar plot

File: ant.dat
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● SG35C at 1610MHz

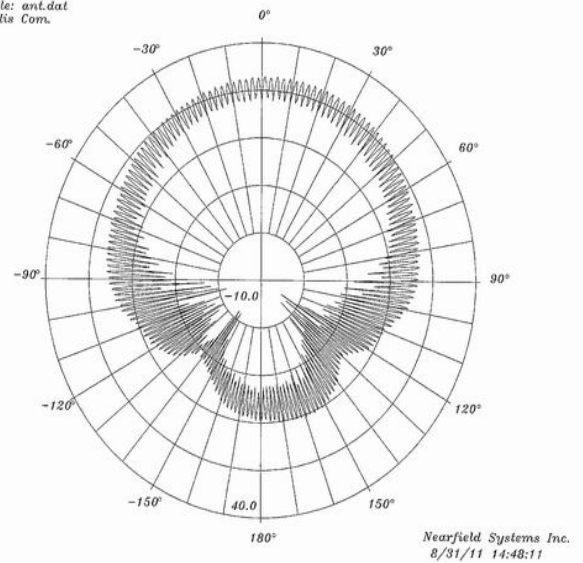
Test Voltage : 5V

Axial Ratio:4.5dB

Peak Gain: 33dB

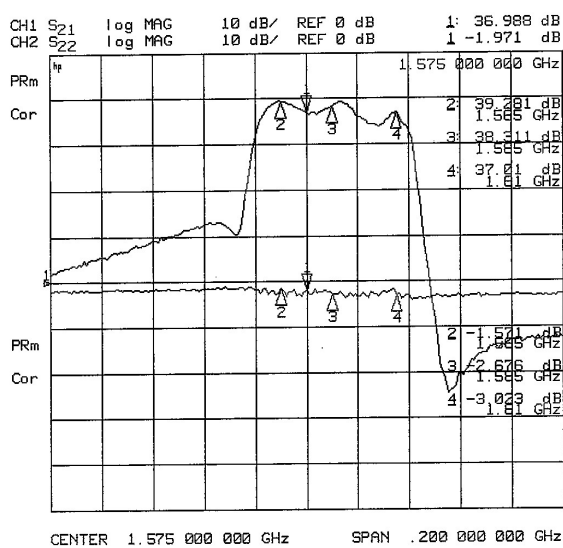
Polar plot

File: ant.dat
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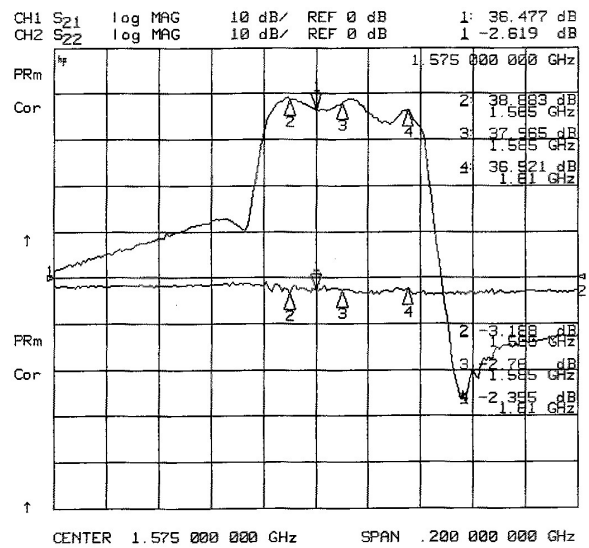
● SG35C Module Gain

Test Voltage : 5.5V 36.9dB at 1575MHz



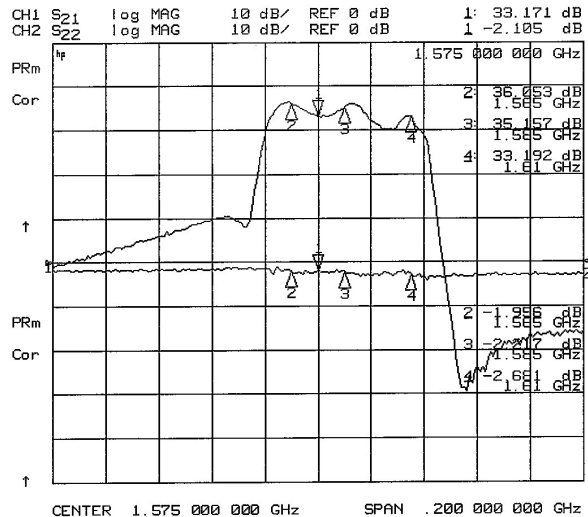
● SG35C Module Gain

Test Voltage : 5V 36.4dB at 1575MHz



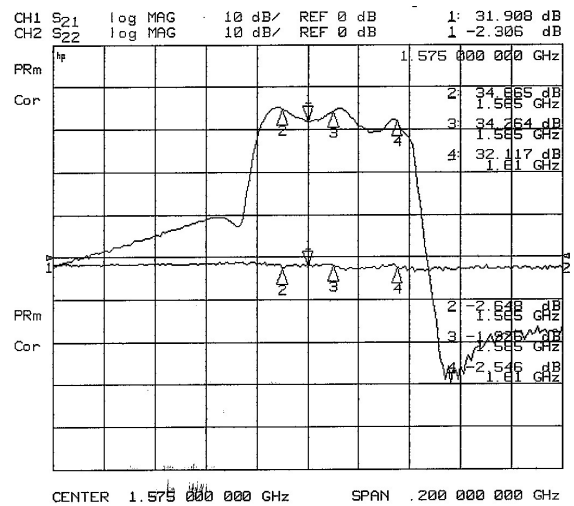
● SG35C Module Gain

Test Voltage : 3.3V 33.1dB at 1575MHz



● SG35C Module Gain

Test Voltage : 3V 31.9dB at 1575MHz



● SG35C Module Gain

Test Voltage : 2.7V 27.9dB at 1575MHz

