MGS12 MGS12i

GPS and GNSS Splitter

RoHS

- **Design For Wireless Infrastructure Applications**
- **MGS12 J1 output port energized**
- **MGS12i Arbitrary Output Port Power Supply**
- **Gain: Typical 0dB, 1dB ~ 21Db, Passive Passive**
- **Frequency Range: 1150MHz~ 1650MHz**
- **Response For: GPS/GLONASS/Beidou/Galileo/IRNSS/QZSS/SBAS/NAVIC**
- **High Isolations**

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Description

The MGS12 and MG12i are two-in-two GNSS splitters whose main purpose is to share a GNSS antenna for use as a normal RF splitter. The MGS12 comes standard with a DC pass-through at J1 to power an active GNSS antenna connected to the input port, a DC isolation at the J2 port, and a 200 Ω DC load to simulate the DC losses of any receivers connected to this port.

The two output ports of MGS12i are simultaneously energized with DC power, and both output ports power the GNSS antenna at the same time. There is no 200 Ω DC load on the output ports in the standard configuration, so if you need this 200 Ω load, you can select this option.

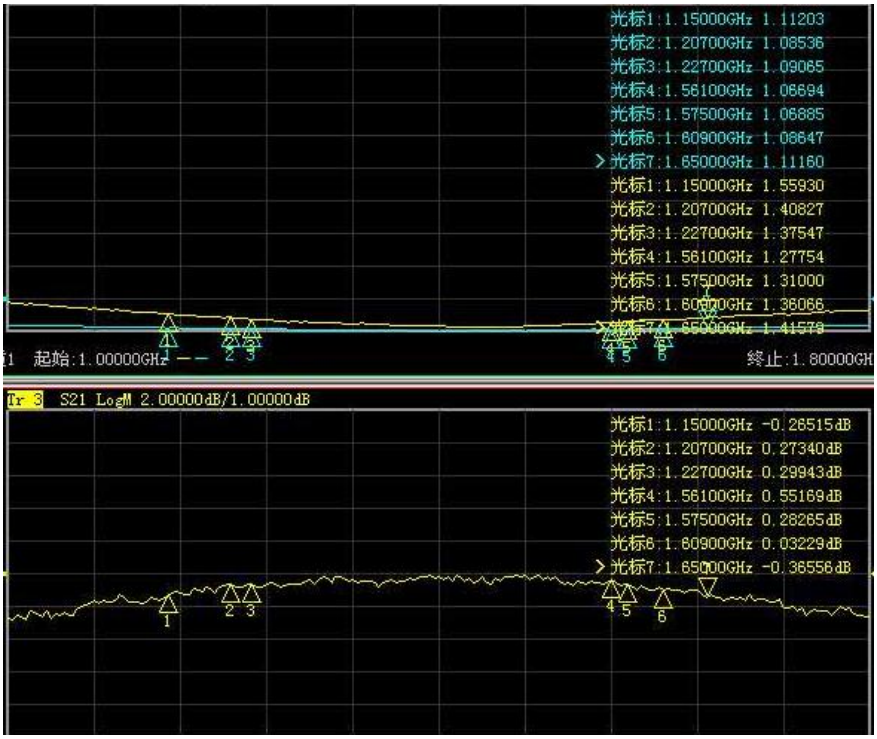
Specifications

Parameter		Conditions	Min	Typ	Max	Units
Freq. Range		Antenna - any port	1150		1650	MHz
In &Out Imped		In, all output ports		50		Ω
Gain	0dB	Input output terminal, unused port -50 Ω	-1	0	1	dB
	zoomed-in		19	21	23	
Attenuation Loss Passive Passive		Input output terminal, used port -50 Ω	3.5	4.5	5.5	dB
Input SWR					2.0:1	-
Output SWR					2.0:1	-
Noise Figure (enlarged)					1.5	dB
Gain Flatness	0~10dB				1	
	10~21dB				2	dB
	passive				1	dB
Current balance					0.5	dB
Phase equilibrium					1.0	deg
Ggroup delay flatness					1	ns
Isolation	passive	All Ports- 50Ω	9			dB
	0~10dB		30			
	10~21dB		11			
DC Input		MGS12i standard equipment	3.3	5	16	VDC
		MGS12i Output port has 200Ω load resistor	3.3	5	9	
		MGS12	3.3	5	16	
		Passive passive	3.3	5	16	
Equipment current		Standard configuartion			16	mA
		Output ports with 200Ω resistance			100	mA
Maximum supply current		Power through DC outputs			250	mA
Operating Temperature			-40		85	℃
Maximum RF Input	Amplified	Maximum lossless RF input			0	dBm
	Passive				30	

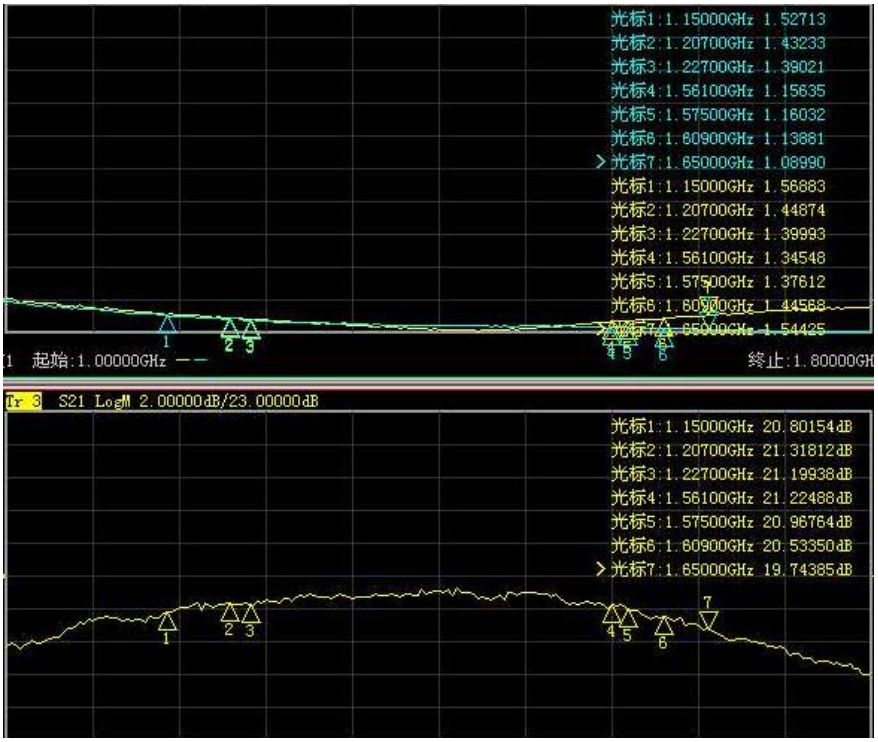
RF Characterization Parameter Table

Frequency MHZ	Gain（dB）						Noise（dB）			incommunicado（dB）			standing wave ratio (physics)								
	0		21		passive		0	5	21	0	21	passive	0			21			passive		
	S-1	S-2	S-1	S-2	S-1	S-2	S	S	S	1-2	1-2	1-2	S	1	2	S	1	2	S	1	2
1150	-0.2	-0.1	20.8	20.8	-4.7	-4.7	4.0	2.0	0.7	30	11	9	1.6	1.1	1.2	1.6	1.5	1.5	1.3	1.5	1.5
1176	-0.1	0.0	20.9	20.8	-4.7	-4.7	3.6	1.8	0.7	30	11	9	1.4	1.1	1.2	1.4	1.4	1.4	1.3	1.4	1.5
1207	0.3	0.4	21.3	21.2	-4.7	-4.7	3.8	1.8	0.7	30	12	9	1.3	1.1	1.1	1.4	1.4	1.4	1.3	1.4	1.5
1227	0.3	0.3	21.2	21.1	-4.7	-4.7	3.8	1.8	0.7	30	12	10	1.3	1.1	1.1	1.4	1.4	1.3	1.3	1.4	1.5
1268	0.3	0.2	21.3	21.2	-4.6	-4.6	3.7	1.9	0.8	31	12	10	1.3	1.1	1.1	1.3	1.3	1.3	1.3	1.4	1.4
1545	0.4	0.3	21.2	21.0	-4.4	-4.4	3.7	2.0	1.0	32	14	12	1.3	1.1	1.1	1.3	1.2	1.2	1.2	1.4	1.4
1561	0.5	0.4	21.2	21.1	-4.4	-4.4	3.8	2.1	1.1	32	14	12	1.3	1.1	1.1	1.3	1.2	1.2	1.2	1.4	1.4
1575	0.3	0.3	20.9	21.0	-4.4	-4.4	3.9	2.1	1.0	32	14	12	1.3	1.1	1.1	1.3	1.2	1.2	1.2	1.4	1.3
1609	0.0	-0.1	20.5	20.5	-4.4	-4.4	3.9	2.2	1.0	32	13	13	1.4	1.1	1.1	1.4	1.1	1.1	1.2	1.4	1.4
1650	-0.3	-0.4	19.7	19.6	-4.6	-4.7	3.9	2.2	1.2	33	13	13	1.4	1.1	1.1	1.5	1.1	1.1	1.2	1.4	1.4

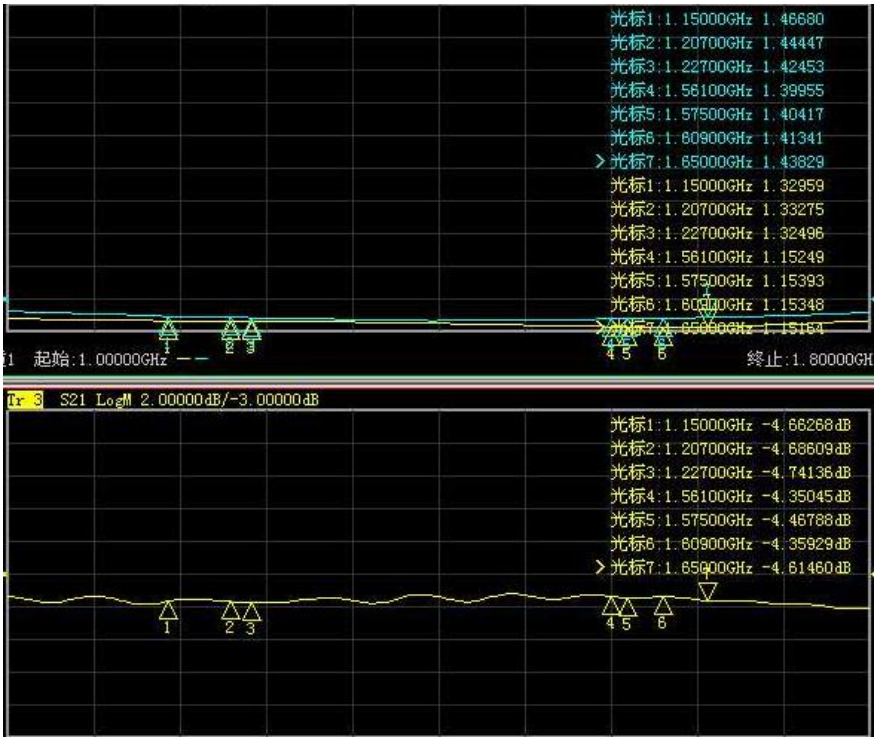
Performance Data



Gain :0dB



Gain :21dB



Passive

Order Informations And Available Options

MGS12-A –NM -NM-BO

Part Number:
Standard:
0dB gain, N Female In&Out,Pass DC IN&J1

Gain Options:
Blank(Standard)-0dB
-Axx xx=01-20,Desired Gain Level
-A Active,21dB gain
-P Passive,

Connector In
Blank(Standard)- N Female
-NF N female -NM N Male
-SF SMA Female -SM SMA Male
-TF TNC Female -TM TNC Male
- BF BNC Female -BM BNC Male

Connectors Output:
Blank(Standard)-N Female
-NF N female -NMN Male
-SF SMA Female -SMSMA Male
-TF TNC Female -TM TNC Male
-BF BNC Female -BM BNC Male

Pass DC or Block DC Options:
Blank(Standard)-Pass DC In &J1
Bl - Pass DC on J1 and Block DC In
BO-Block DC Out and Pass DC In
B- Block DC Out and In

MGS12i - A – L - NM

Part Number

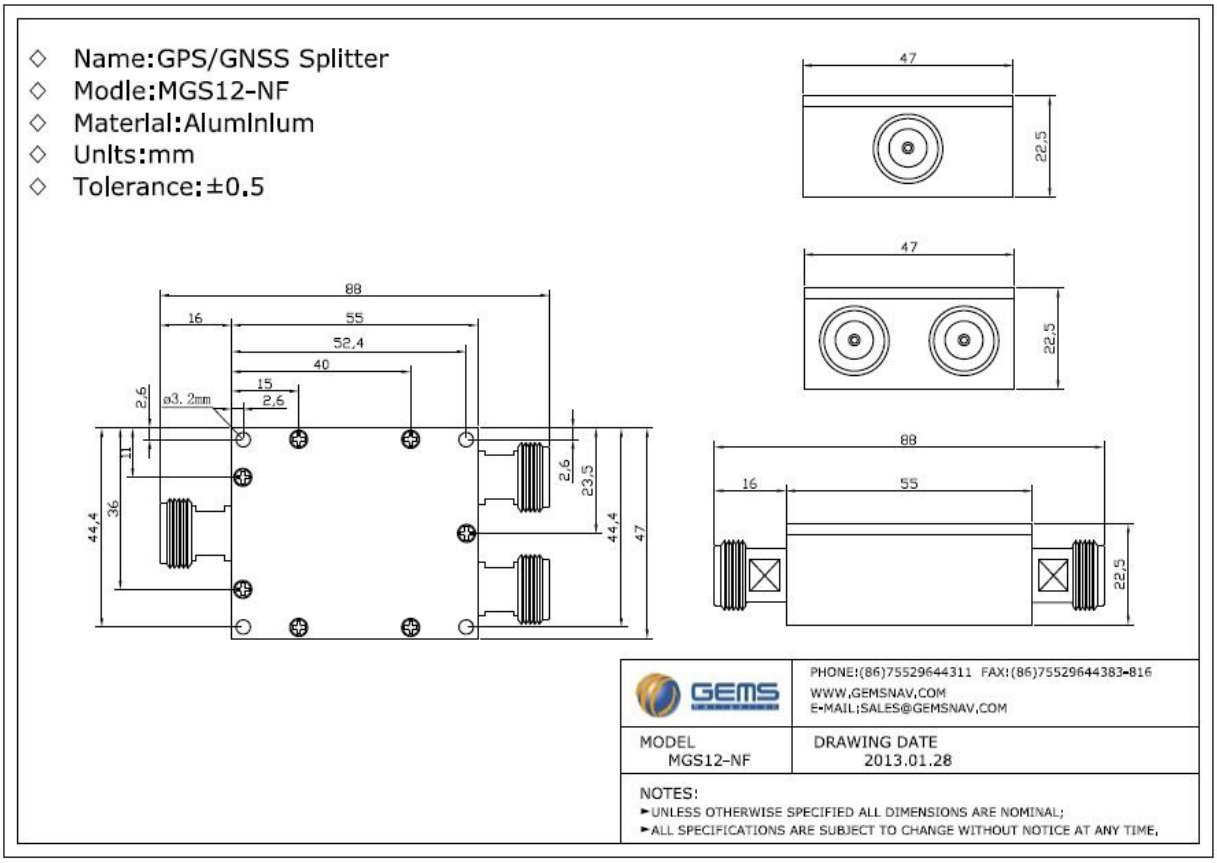
Gain Options:
Blank (Standard)-0dB
-Axx xx=01-21. Desired Gain Level
A-Active, 21dB gain

Load Options:
Blank(Standard): Output ports without 200 Ω load
L:Output ports with 200 Ω load

Connectors Output
Blank (Standard)- N Female
-NF N Female -NM N Male
-SF SMA Female -SM SMA Male
-TF TNC Female -TM TNC Male
-BF BNC Female -BM BNC Male

Please contact us for more configurations and application supports.Email: Sales@gemsnav.com.

Mechanical



Frequency reference table

Global/Compass Navigation Satellite Systems(GNSS/CNSS)	5						2					6/3				6				1								
Frequency (MHz)	1164	1176	1188	1192	1207	1215	1219	1227	1239	1245	1252	1259	1266	1268	1278	1290	1535	1540	1545	1550	1558	1558	1561	1563	1575	1587	1592	1602	1609	1616	2491
GPS(USA) L1,L2,L2C,L5	L5+/-12						L2/L2C+/-12												L6+/-5					L1+/-12						
Glonass(Russia) G1,G2										G2+/-7																		G1+/-7		
Galileo(Europian) L1,E1,E2,E5(E5a,E5b),E6	E5+/-15 E5a+/-12 E5b+/-12												E6+/-12						L6+/-5			E2		L1+/-17			E1			
Compass (Beidou 2,China)				B2+/-10								B3+/-10										B1+/-2								
Beidou 1 (China,Tx(LHCP)/Rx(RHCP)																														L	S
IRNSS (India)			L5+/-15																					L1+/-12						S+/-15
OmniStar																	O+/-14---->														