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PROGRAMMABLE ATTENUATOR

MVE2P16-110

0.1 to 8GHz

8 IN / 8 OUT

0.25-70dB(0.1-8GHz) / 70.25dB-100dB(0.1-6GHz)

Features

- ✓ High Attenuation levels up to 100dB
- ✓ Step Resolution of 0.25/0.5/1dB (Option)
- ✓ Small Size

Specifications

PART NUMBER	FREQUENCY	ATTENUATION RANGE	STEP	VSWR	CONTROL	SWITCHING SPEED
MVE2P16-110	0.1-8GHz	70.25-100dB/0.1-6GHz 0.25-70dB/0.1-8GHz	0.25dB	2.5:1 MAX. 1.6:1 TYP.	LAN、 USB (TYPE-C)	2us

ATTENUATION ACCURACY

Frequency	dB	MAX
0.1-8GHz	0.25-60	± (0.5+6.5%of Atten.)
	60.25-70	± (0.5+7%of Atten.)
0.1-6GHz	70.25-90	± (0.5+7%of Atten.)
	90.25-100	± (1.0+9%of Atten.)

RF Input Power

30dBm MAX.

POWER SUPPLY

+5V

CONNECTOR TYPE

SMA Female

Tolerance: X= ±5%

IMPEDANCE

50ohm

INSERTION LOSS

19 dB @ 0.1-8GHz MAX.

ENVIRONMENTAL

OPERATING TEMPERATURE: -20°C to +70°C

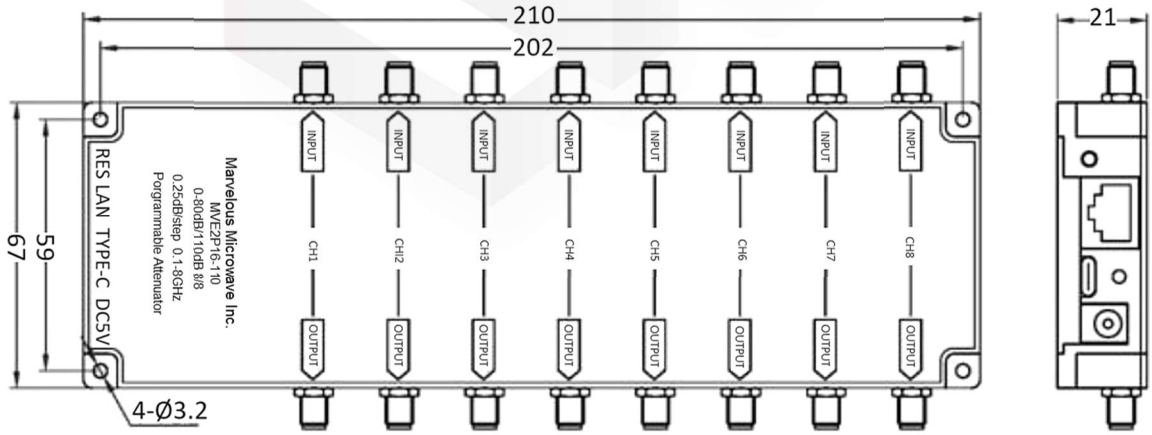
MATERIALS

CONNECTOR: BRASS, NICKLE OR GOLD PLATED

CENCTOR CONDUCTOR:BERYLLIUM BRONZE,GOLD PLATED

BODY: ALUMINUM(Aluminum scratches more easily than more durable materials.), SAND BLASTING

Outline Drawing (Unit: mm)



NOTES:
1. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE AT ANY TIME
2. CUSTOMER OUTLINE DRAWING FOR REFERENCE ONLY

RoHS

Transmission Control Protocol:

Configuration Environment

All commands should be typed in halfwidth and should be ended by \r\n

<CR>= Carriage return <LF>= Line feed

Telnet connecting Hardware	Network Cable
TCP port	23
IP Address	Default IP: 192.168.0.7 Netmask :255.255.255.0 broadcast :192.168.0.1

USB connecting Hardware	TYPE-C
Baud Rate	9600
Data Bit	8 bit
Parity Bit	NO
Stop Bit	1

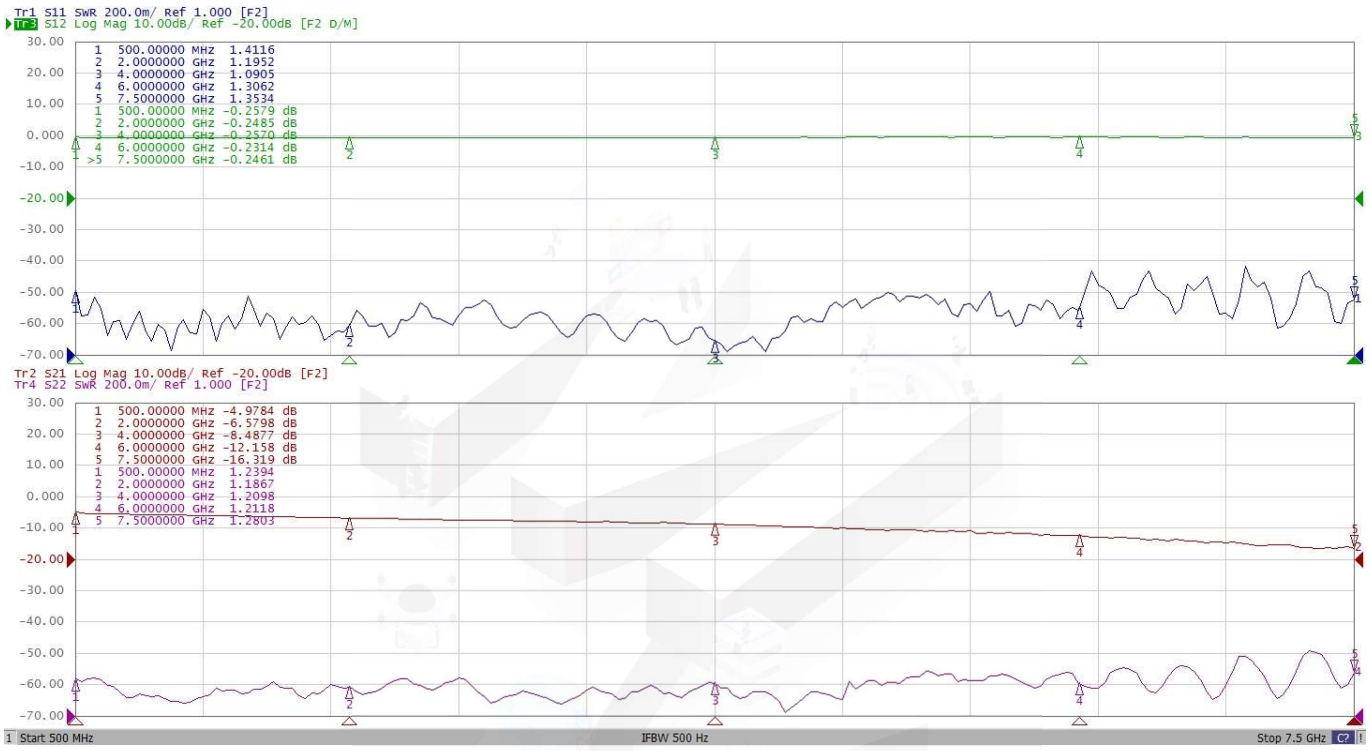
Format

IP SETTING	
Format	SetNETWORK <1>-<2>-<3>-<4>
Description	<1>: IP address <2>: broadcast <3>: netmask <4>: port
Response	SetNETWORK Success
Fail Response	SetNETWORK Fail
Example	SetNETWORK 192.168.1.200-192.168.1.1-255.255.0.0-4001 Response: >>SetNETWORK Success
IP SEARCHING	
Format	LstNETWORK
Response	IP, NETGATE and NETMASK
Fail Response	None
Example	LstNETWORK Response: >>IP:192.168.1.200-NETGATE:192.168.1.1-NETMASK:255.255.0.0-PORT:4001
ATTENIATION SETTING	
Format	SA n m
Description	n: number of attenuation m: attenuation value
Response	>> A1:2;<CR><LF>
Fail Response	>>A1:err;<CR><LF>
Example	SA<space>1<space> 2<CR><LF> Response: >>A1:2;
SITUATION OF CURRENT ATTENUATION	
Format	RA n
Description	n: number of attenuation
Response	>> RA1:2;<CR><LF>
Fail Response	>>RA1:err;<CR><LF>
Example	RA<space>1<CR><LF> Response: >>RA1:10;

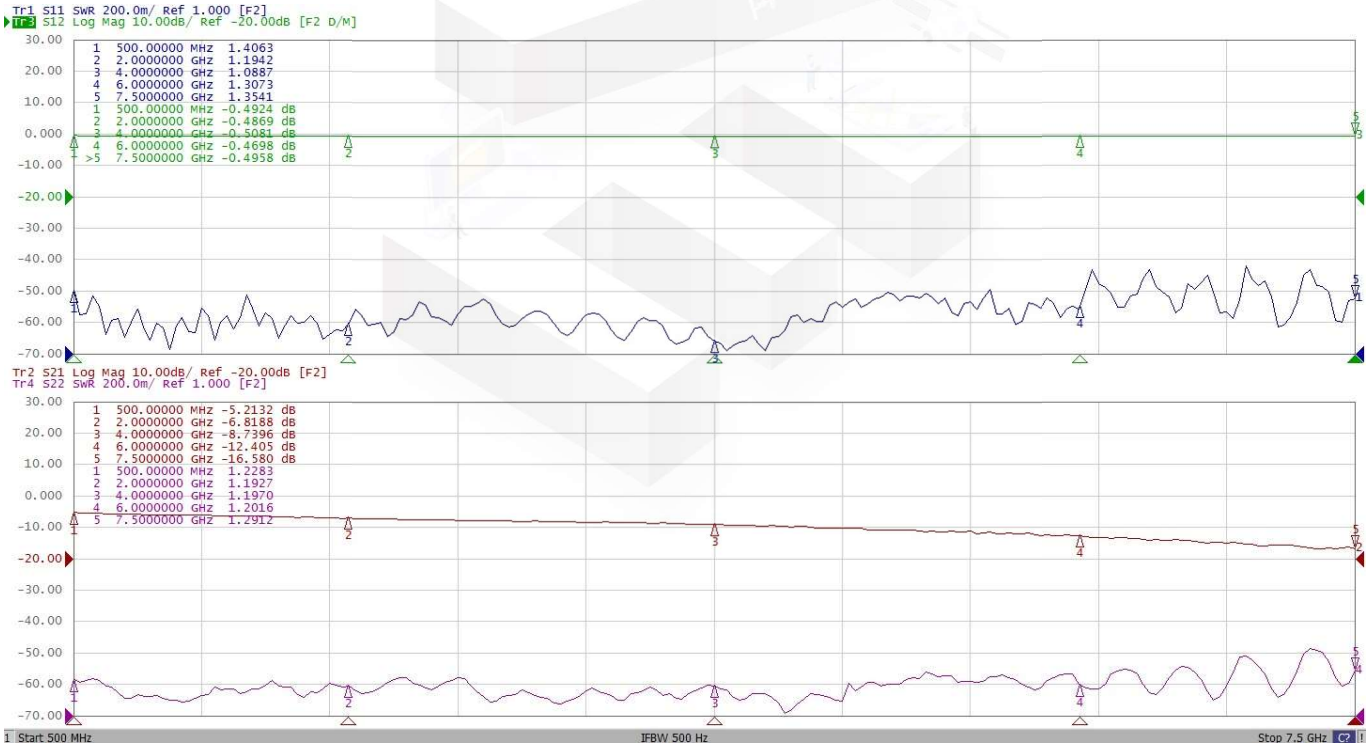
Programmable Attenuators System (For reference only)

Typical Test Result

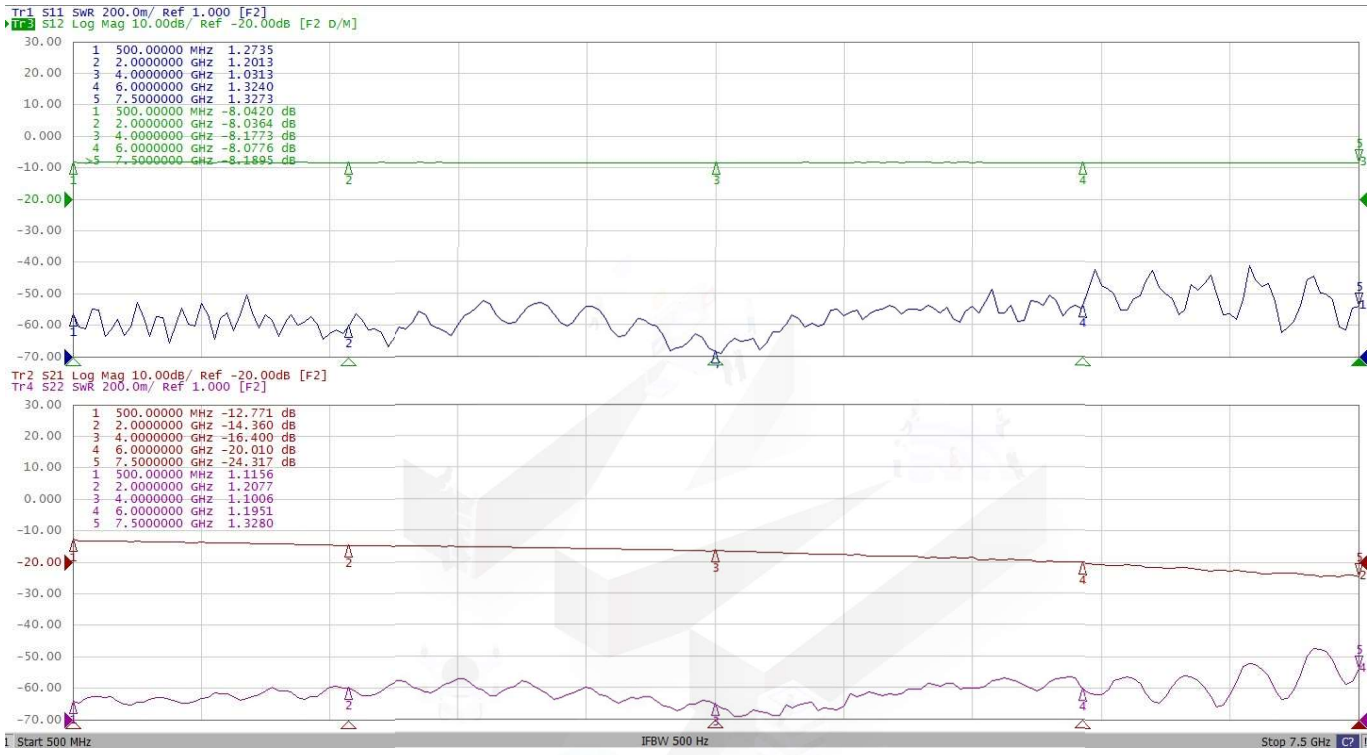
0.25dB



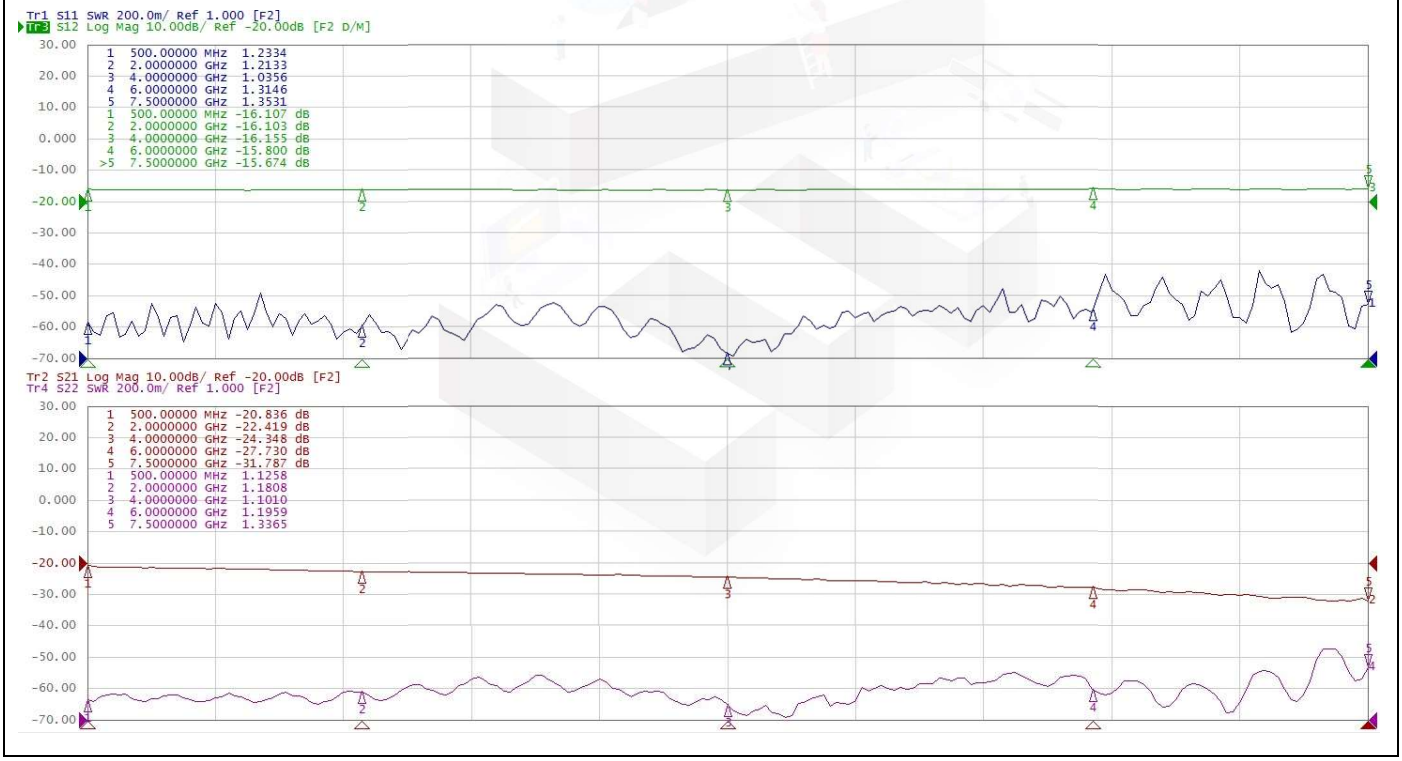
0.5dB



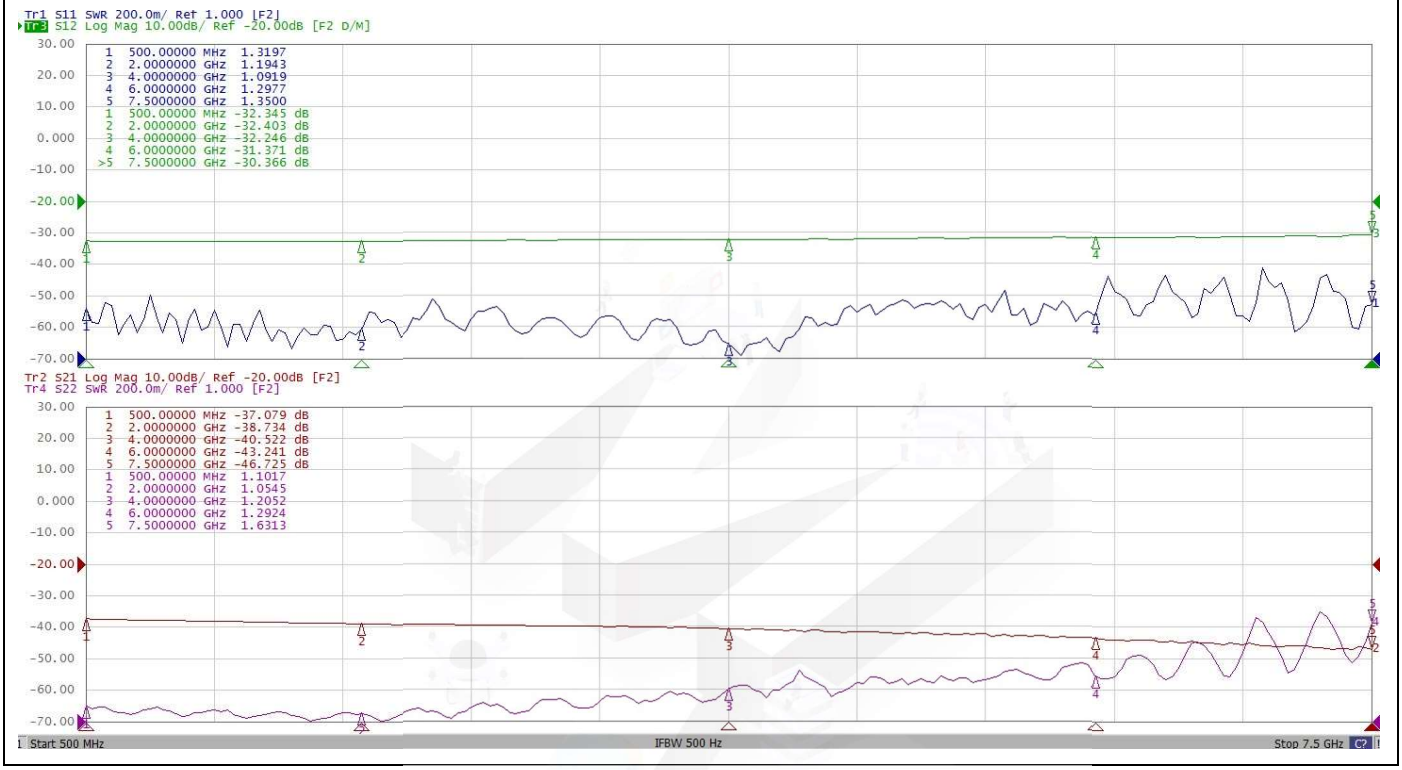
8dB


Tr1 S11 SWR 200.0m/ Ref 1.000 [F2]
Tr3 S12 Log Mag 10.00dB/ Ref -20.00dB [F2 D/M]
1 500.00000 MHz 1.2735
2 2.0000000 GHz 1.2013
3 4.0000000 GHz 1.0313
4 6.0000000 GHz 1.3240
5 7.5000000 GHz 1.3273
1 500.00000 MHz -8.0420 dB
2 2.0000000 GHz -8.0364 dB
3 4.0000000 GHz -8.1773 dB
4 6.0000000 GHz -8.0776 dB
>5 7.5000000 GHz -8.1895 dB
Tr2 S21 Log Mag 10.00dB/ Ref -20.00dB [F2]
Tr4 S22 SWR 200.0m/ Ref 1.000 [F2]
1 500.00000 MHz -12.771 dB
2 2.0000000 GHz -14.360 dB
3 4.0000000 GHz -16.400 dB
4 6.0000000 GHz -20.010 dB
5 7.5000000 GHz -24.317 dB
1 500.00000 MHz 1.1156
2 2.0000000 GHz 1.2077
3 4.0000000 GHz 1.1006
4 6.0000000 GHz 1.1951
5 7.5000000 GHz 1.3280
Start 500 MHz
IFBW 500 Hz
Stop 7.5 GHz

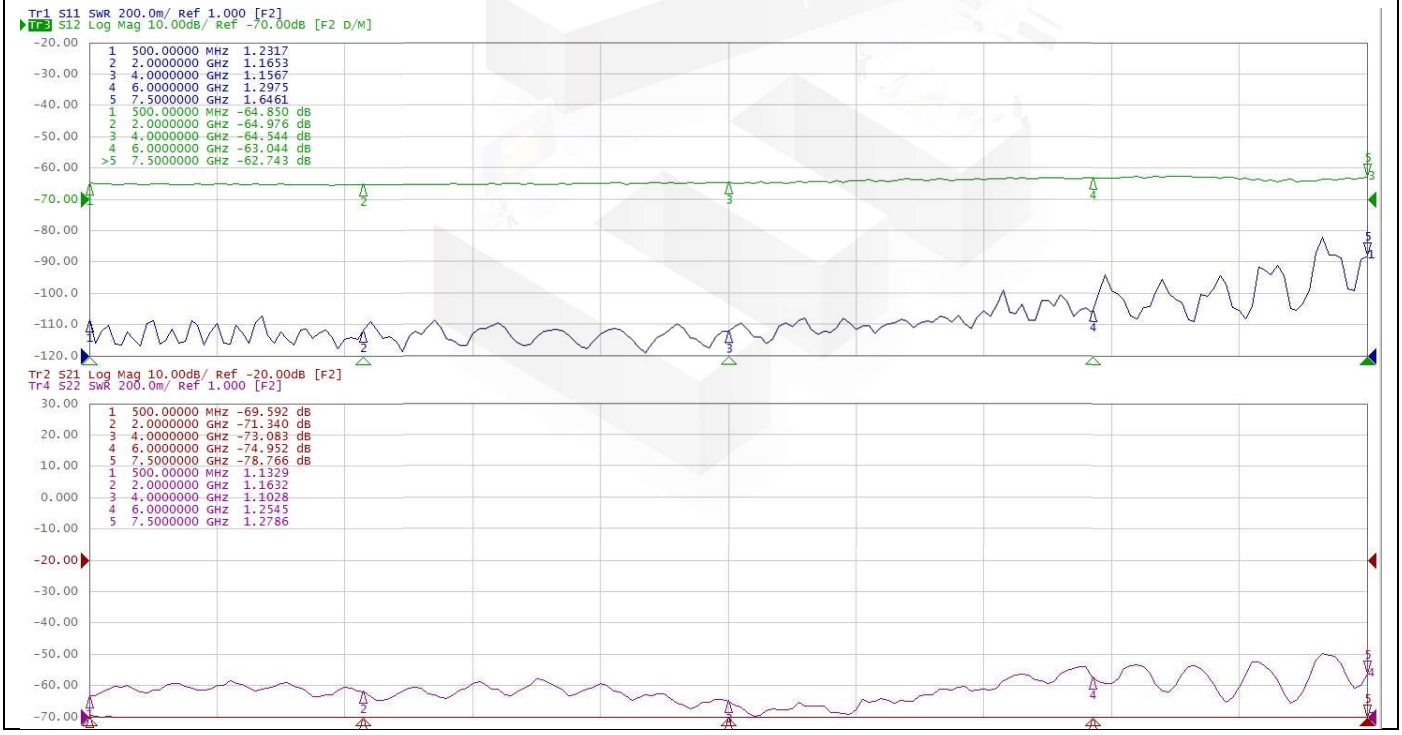
16 dB


Tr1 S11 SWR 200.0m/ Ref 1.000 [F2]
Tr3 S12 Log Mag 10.00dB/ Ref -20.00dB [F2 D/M]
1 500.00000 MHz 1.2334
2 2.0000000 GHz 1.2133
3 4.0000000 GHz 1.0356
4 6.0000000 GHz 1.3146
5 7.5000000 GHz 1.3531
1 500.00000 MHz -16.107 dB
2 2.0000000 GHz -16.103 dB
3 4.0000000 GHz -16.155 dB
4 6.0000000 GHz -15.800 dB
>5 7.5000000 GHz -15.674 dB
Tr2 S21 Log Mag 10.00dB/ Ref -20.00dB [F2]
Tr4 S22 SWR 200.0m/ Ref 1.000 [F2]
1 500.00000 MHz -20.836 dB
2 2.0000000 GHz -22.419 dB
3 4.0000000 GHz -24.348 dB
4 6.0000000 GHz -27.730 dB
5 7.5000000 GHz -31.787 dB
1 500.00000 MHz 1.1258
2 2.0000000 GHz 1.1808
3 4.0000000 GHz 1.1010
4 6.0000000 GHz 1.1959
5 7.5000000 GHz 1.3365

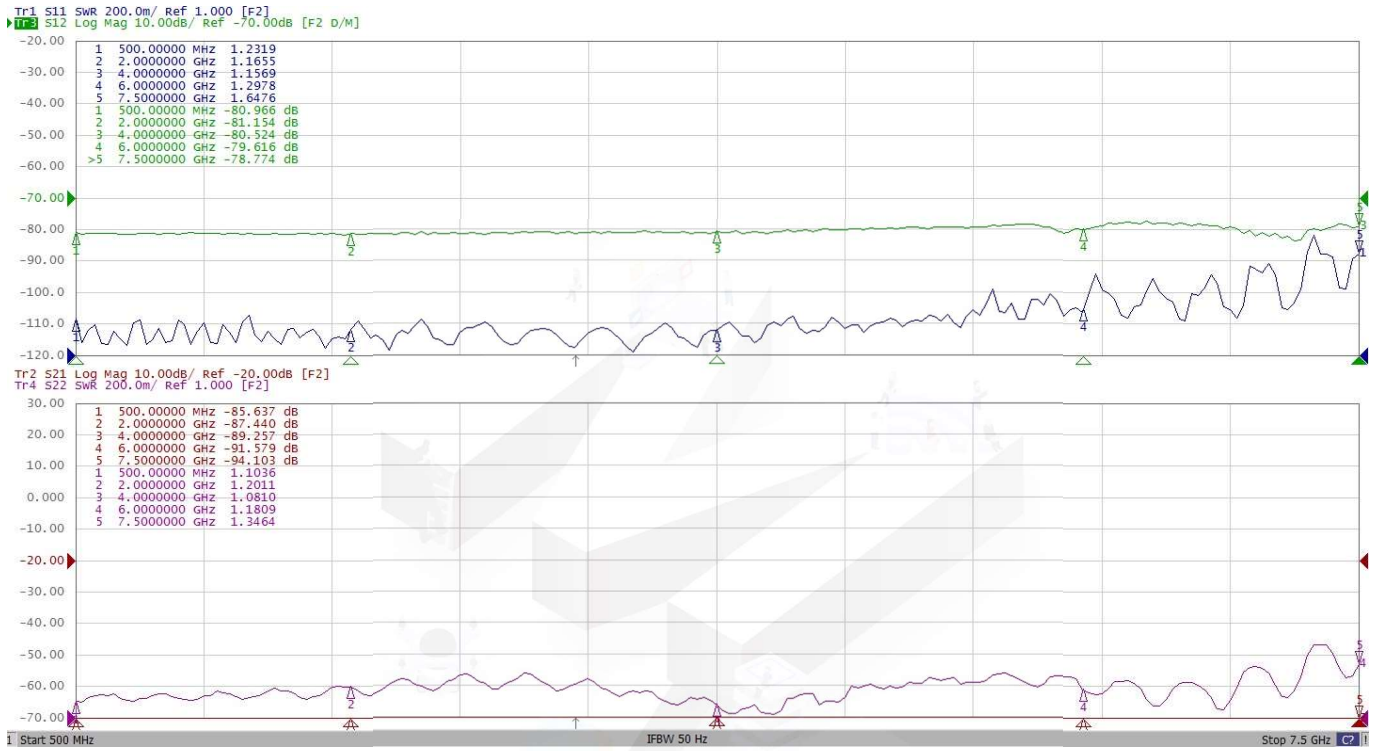
32dB


Tr1 S11 SWR 200.0m/ Ref 1.000 [F2]
Tr3 S12 Log Mag 10.00dB/ Ref -20.00dB [F2 D/M]
1 500.00000 MHz 1.3197
2 2.0000000 GHz 1.1943
3 4.0000000 GHz 1.0919
4 6.0000000 GHz 1.2977
5 7.5000000 GHz 1.3500
1 500.00000 MHz -32.345 dB
2 2.0000000 GHz -32.403 dB
3 4.0000000 GHz -32.246 dB
4 6.0000000 GHz -31.371 dB
>5 7.5000000 GHz -30.366 dB
Tr2 S21 Log Mag 10.00dB/ Ref -20.00dB [F2]
Tr4 S22 SWR 200.0m/ Ref 1.000 [F2]
1 500.00000 MHz -37.079 dB
2 2.0000000 GHz -38.734 dB
3 4.0000000 GHz -40.522 dB
4 6.0000000 GHz -43.241 dB
5 7.5000000 GHz -46.725 dB
1 500.00000 MHz 1.1017
2 2.0000000 GHz 1.0545
3 4.0000000 GHz 1.2052
4 6.0000000 GHz 1.2924
5 7.5000000 GHz 1.6313
Start 500 MHz
IFBW 500 Hz
Stop 7.5 GHz

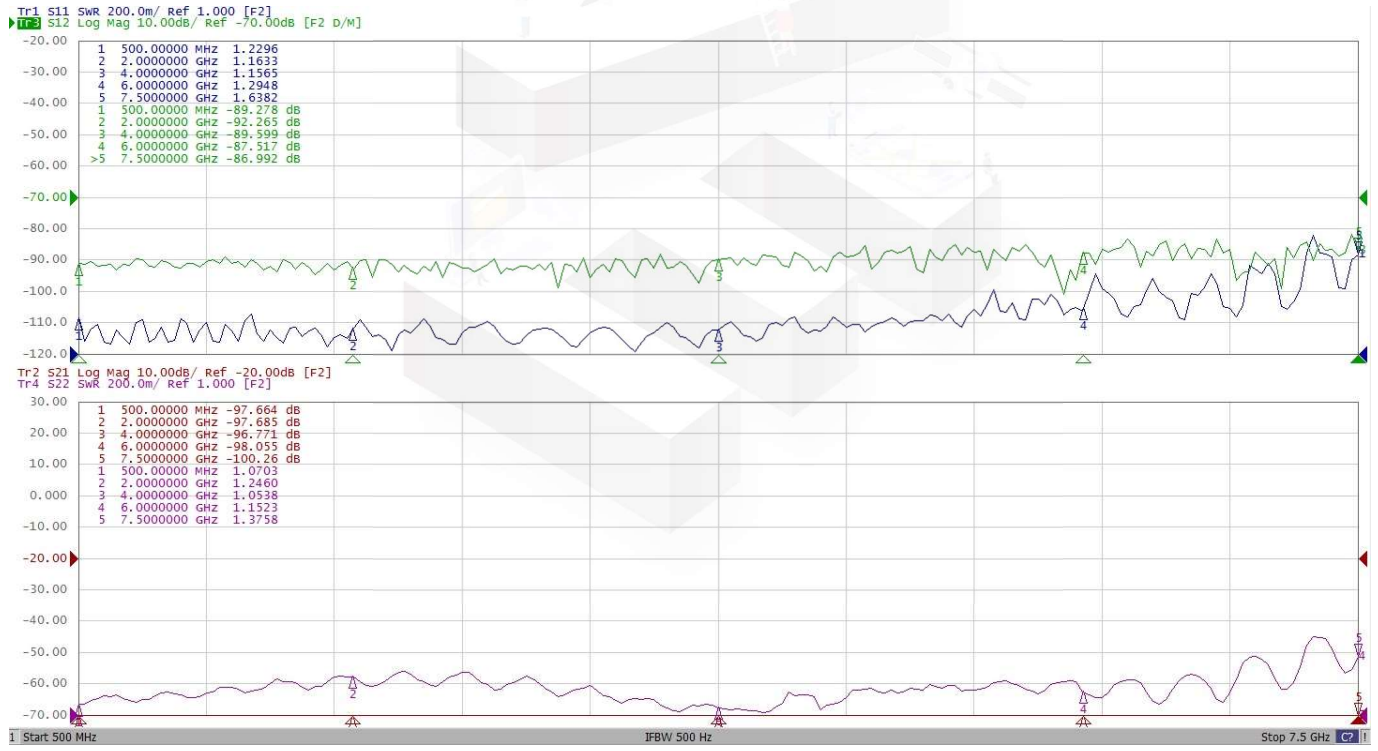
64dB


Tr1 S11 SWR 200.0m/ Ref 1.000 [F2]
Tr3 S12 Log Mag 10.00dB/ Ref -70.00dB [F2 D/M]
1 500.00000 MHz 1.2317
2 2.0000000 GHz 1.1653
3 4.0000000 GHz 1.1567
4 6.0000000 GHz 1.2975
5 7.5000000 GHz 1.6461
1 500.00000 MHz -64.850 dB
2 2.0000000 GHz -64.976 dB
3 4.0000000 GHz -64.544 dB
4 6.0000000 GHz -63.044 dB
>5 7.5000000 GHz -62.743 dB
Tr2 S21 Log Mag 10.00dB/ Ref -20.00dB [F2]
Tr4 S22 SWR 200.0m/ Ref 1.000 [F2]
1 500.00000 MHz -69.592 dB
2 2.0000000 GHz -71.340 dB
3 4.0000000 GHz -73.083 dB
4 6.0000000 GHz -74.952 dB
5 7.5000000 GHz -78.766 dB
1 500.00000 MHz 1.1329
2 2.0000000 GHz 1.1632
3 4.0000000 GHz 1.1028
4 6.0000000 GHz 1.2545
5 7.5000000 GHz 1.2786

80dB


Tr1 S11 SWR 200.0m/ Ref 1.000 [F2]
Tr3 S12 Log Mag 10.00dB/ Ref -70.00dB [F2 D/M]
1 500.00000 MHz 1.2319
2 2.0000000 GHz 1.1655
3 4.0000000 GHz 1.1569
4 6.0000000 GHz 1.2978
5 7.5000000 GHz 1.6476
1 500.00000 MHz -80.966 dB
2 2.0000000 GHz -81.154 dB
3 4.0000000 GHz -80.524 dB
4 6.0000000 GHz -79.616 dB
>5 7.5000000 GHz -78.774 dB
Tr2 S21 Log Mag 10.00dB/ Ref -20.00dB [F2]
Tr4 S22 SWR 200.0m/ Ref 1.000 [F2]
1 500.00000 MHz -85.637 dB
2 2.0000000 GHz -87.440 dB
3 4.0000000 GHz -89.257 dB
4 6.0000000 GHz -91.579 dB
5 7.5000000 GHz -94.103 dB
1 500.00000 MHz 1.1036
2 2.0000000 GHz 1.2011
3 4.0000000 GHz 1.0810
4 6.0000000 GHz 1.1809
5 7.5000000 GHz 1.3464
1 Start 500 MHz
IFBW 50 Hz
Stop 7.5 GHz

90dB


Tr1 S11 SWR 200.0m/ Ref 1.000 [F2]
Tr3 S12 Log Mag 10.00dB/ Ref -70.00dB [F2 D/M]
1 500.00000 MHz 1.2296
2 2.0000000 GHz 1.1633
3 4.0000000 GHz 1.1565
4 6.0000000 GHz 1.2948
5 7.5000000 GHz 1.6382
1 500.00000 MHz -89.278 dB
2 2.0000000 GHz -92.265 dB
3 4.0000000 GHz -89.599 dB
4 6.0000000 GHz -87.517 dB
>5 7.5000000 GHz -86.992 dB
Tr2 S21 Log Mag 10.00dB/ Ref -20.00dB [F2]
Tr4 S22 SWR 200.0m/ Ref 1.000 [F2]
1 500.00000 MHz -97.664 dB
2 2.0000000 GHz -97.685 dB
3 4.0000000 GHz -96.771 dB
4 6.0000000 GHz -98.055 dB
5 7.5000000 GHz -100.26 dB
1 500.00000 MHz 1.0703
2 2.0000000 GHz 1.2460
3 4.0000000 GHz 1.0538
4 6.0000000 GHz 1.1523
5 7.5000000 GHz 1.3758
1 Start 500 MHz
IFBW 500 Hz
Stop 7.5 GHz