

An abstract graphic of a circuit board with glowing blue and purple lines on a dark blue background.

SIGLENT TECHNOLOGIES

Every Bench. Every Engineer. Every Day.





Advance Your Bandwidth

SNA5000A

Vector Network Analyzer

Now it comes with 26.5 GHz

SNA5000A 2/4 ports, 4.5/8.5/13.5/26.5 GHz Vector Network Analyzer



Contents

-  **Features and Benefits**
-  Key Applications
-  Calibration
-  Competitive Analysis
-  Additional Measurements

SNA5000A 2/4 ports, 4.5/8.5/13.5/26.5 GHz Vector Network Analyzer



Highlights

-  **2 & 4 Port VNAs**
-  **2 Port up to 26.5 GHz**
-  **12.1" Touch Display**
-  **125 dB Dynamic Range**
-  **Compact Design with Touch UI**
-  **Integrated Bias-Tees**
-  **Device Verification & Analysis Tools**
-  **Advanced Calibration Support**
-  **Application Package Options**

SNA5000A main parameters

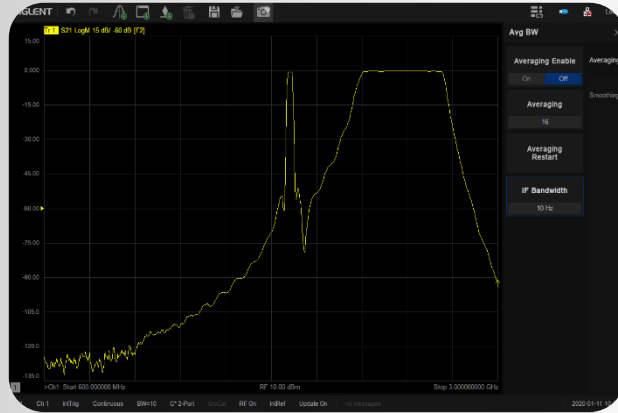


Model	SNA5002A SNA5004A	SNA5012A SNA5014A	SNA5022A	SNA5032A
Frequency range	9 kHz ~ 4.5 GHz	9 kHz ~ 8.5 GHz	100kHz-13.5 GHz	100kHz-26.5 GHz
Ports	2/4	2/4	2	2
Frequency resolution	1 Hz			
Level resolution	0.05 dB			
Range of IFBW	10 Hz ~ 3 MHz			
Setting range of output level	-55 dBm ~ +10 dBm			
Dynamic range	125 dB			
Bias-Tees	Standard			
Interface	LAN, USB Device, USB Host(USB-GPIB)			
Remote control	SCPI/Labview/IVI based on USB-TMC/VXI-11/Socket/Telnet/WebServer			
Display	12.1-inch touch screen			
Video output	HDMI			
Types of calibration	Response calibration, Enhanced Response calibration, Full-one port calibration, Full-two port calibration, Full-three port calibration, Full-four port calibration, TRL calibration			
Types of measurement	Scattering-parameter measurement, differential-parameter measurement, receiver measurement, time-domain parameter analysis, limit test, ripple test, impedance conversion, fixture simulation, adapter removal / insertion, enhanced time-domain parameter analysis(TDR), spectrum analysis, frequency offset, scalar mixer measurement			

SNA5000A Highlights

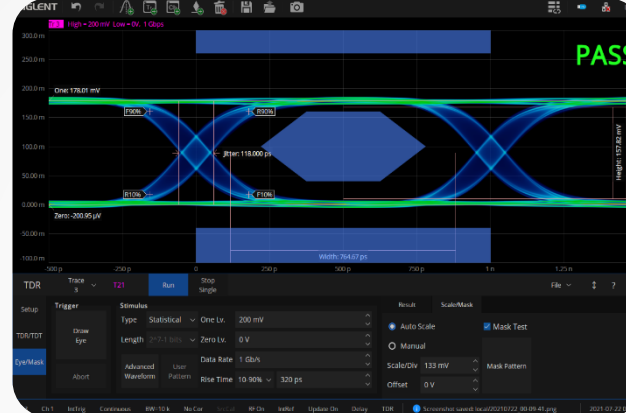


Excellent RF performance



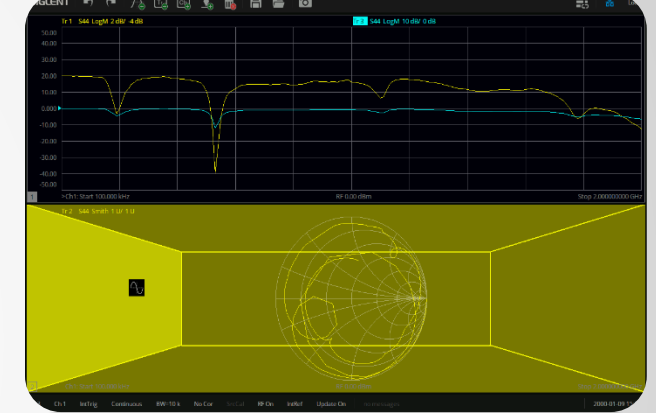
- Wide dynamic range
- Wide range of output level
- Low trace noise
- Up to 26.5 GHz bandwidth

Applications



- Advanced time domain analysis
- Mixer measurement
- Spectrum analysis
- Fixture tests
- Frequency offset mode

Modern design



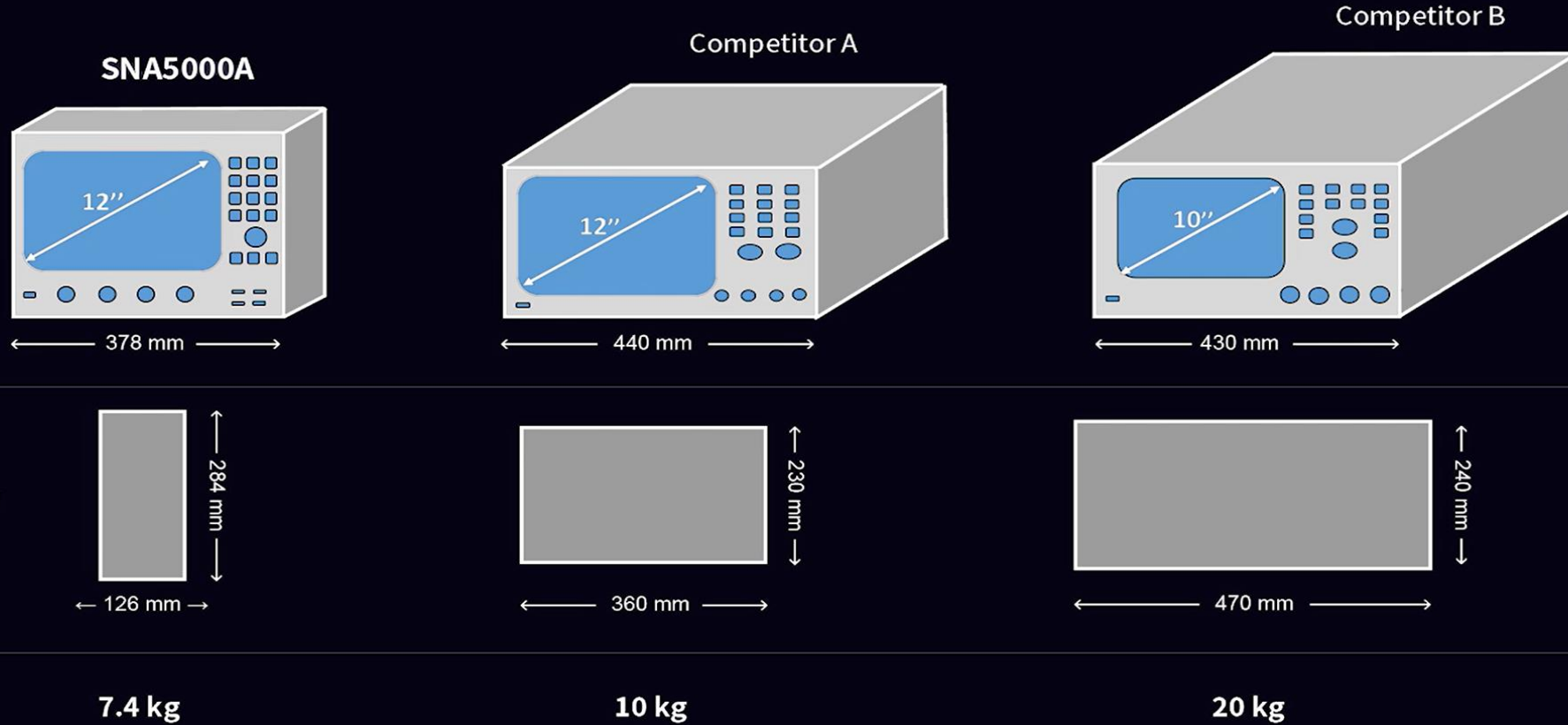
- Intuitive user interface
- Compact and light weight
- Drag & Drop Measurement Windows
- Latest Interfaces

SNA5000A Features and benefits



Features	Benefits
Compact and light weight	Desk space saver and extremely portable
12.1" touch screen and shortcuts menu	Focus on measurement, save test time
Two internal LOs	Faster mixer measurements
Integrated, synthesized sources	Providing excellent frequency resolution and stability
Standard Bias-tee connections	Convenient amplifier measurements
Up to 8 receivers with identical architecture (reference and measurement receivers)	Multipath DUTs, antenna arrays
Frequency offset mode	Realize the measurement of nonlinear characteristics of the device
Wide range of output level	Characterize most DUTs without need of external amplifiers or attenuators
Versatile display and MATH functions	Indicate multiple info like phase, S parameters, group delay and impedance at the same time
256 Channel and Trace Display	Compare DUTs and data quickly and easily
Data Comparison Tools	Intuitive display of components verification, limits, and failure analysis

Compact & light weight



 $L \times W \times D = 378 \times 284 \times 126 \text{ mm}$

 2-port: 12.2 lbs

 4-port or SNA5032A/SNA5022A :16.4 lbs

User Friendly Interface



Useful short cuts operations: Undo, Redo, Add Trace, Add Trace+Window, Add Channel+Window, Add Marker, Delete, Save, Open, Screenshot



Up to 256 Channels, and 256 traces



Response



Utility



Stimulus



Navigation



Knob



Numeric

4 USB host ports



Type-N, female, 50 Ω (SNA5002A/SNA5012A/SNA5004A/SNA5014A)

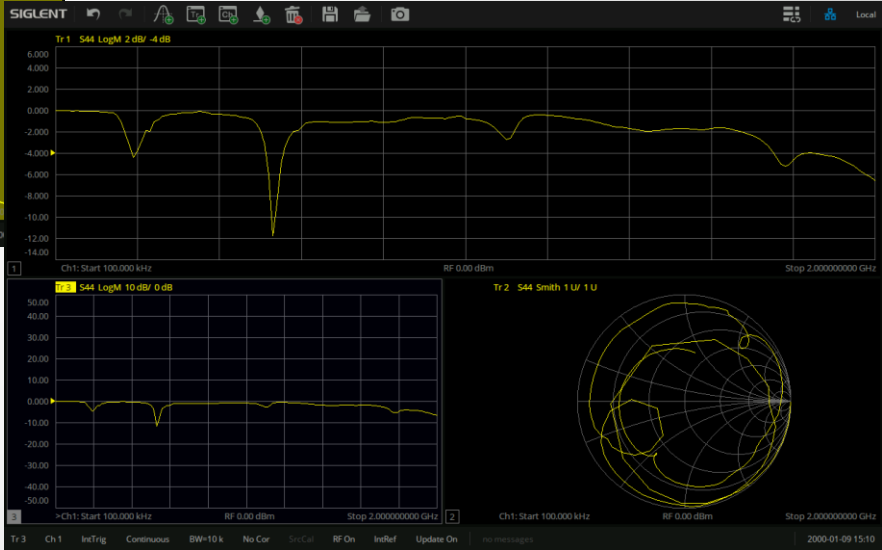
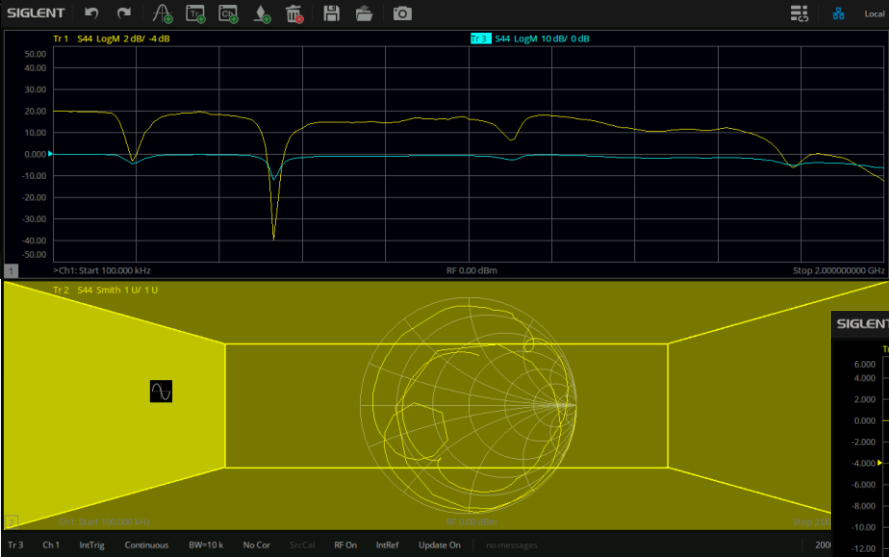
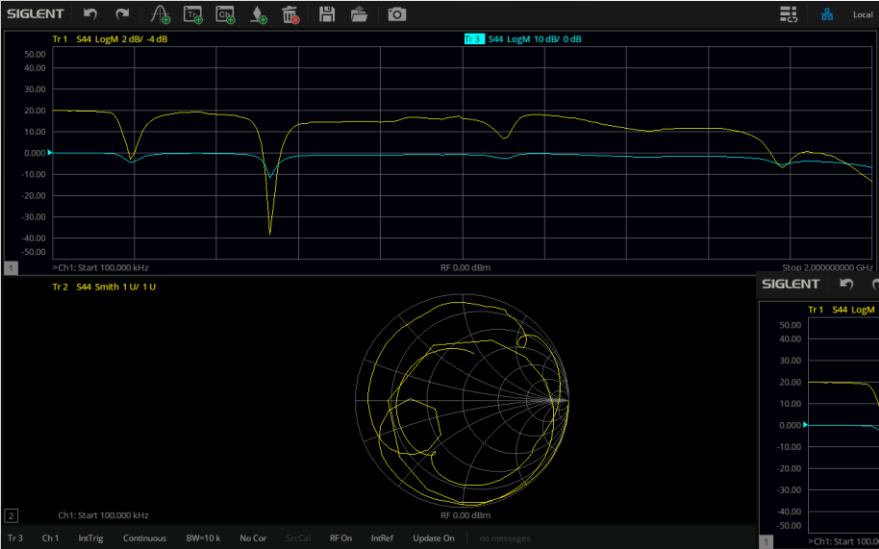


3.5mm NMD (male) , 50 Ω (SNA5032A/SNA5022A)

Drag & Drop Windowing



 Simply drag a trace to create a new channel around existing one



Test Interface Capabilities



- 4 USB Host ports on the front panel
- LAN, USB Device, HDMI in the back panel
- Standard Bias Tee, with BIAS INPUT ports
- 10 MHz IN, 10 MHz OUT, TRIG OUT, TRIG IN
- Field Upgradable SNA5000-HPR high performance reference clock option
- Web Server enables complete LAN control

SIGLENT®

Home
LAN Configuration
Instrument Control
SCPI

Instrument Information

Instrument Model	SNA5084X
Manufacturer	Siglent Technologies
Serial Number	0123456789
LXI Extended Functions	Null
LXI Version	1.5 LXI Core 2017
MAC Address	74:5b:c5:20:00:ea
TCP/IP Address	10.11.21.59
Software Version	V1.0.0.2.7.R1
Instrument Address String	TCPIP::10.11.21.59::INSTR

3 >Ch1: Start 100.000 kHz RF 0.00 dBm Stop 2.000000000 GHz 2

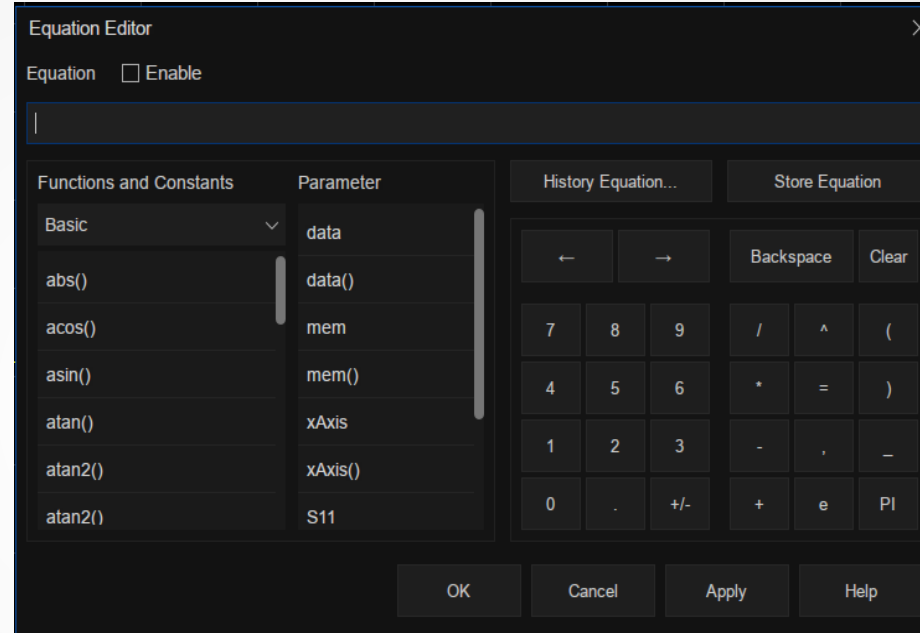
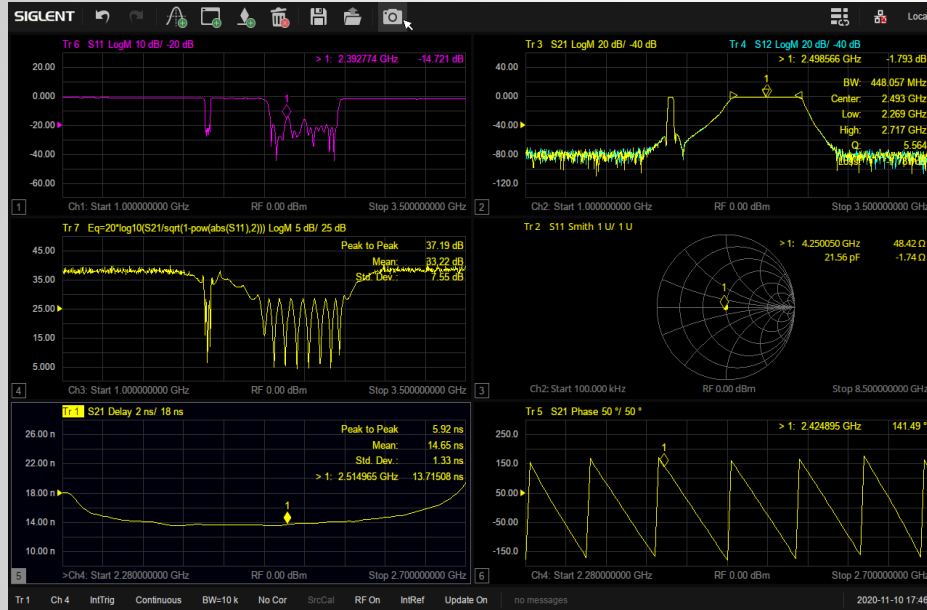
Tr 3 Ch 1 IntTrig Continuous BW=10 k No Cor SrcCal RF On IntRef Update On

ScreenShot FirmWareUpdate



Versatile Display and MATH functions

- Multi-window display and multiple traces for complete analysis
- Customizable Equation Editor



- Multi-format display enables complete DUT characterization from a single screen
 - Log Mag, Lin Mag, Phase, Delay, Smith, Polar, SWR

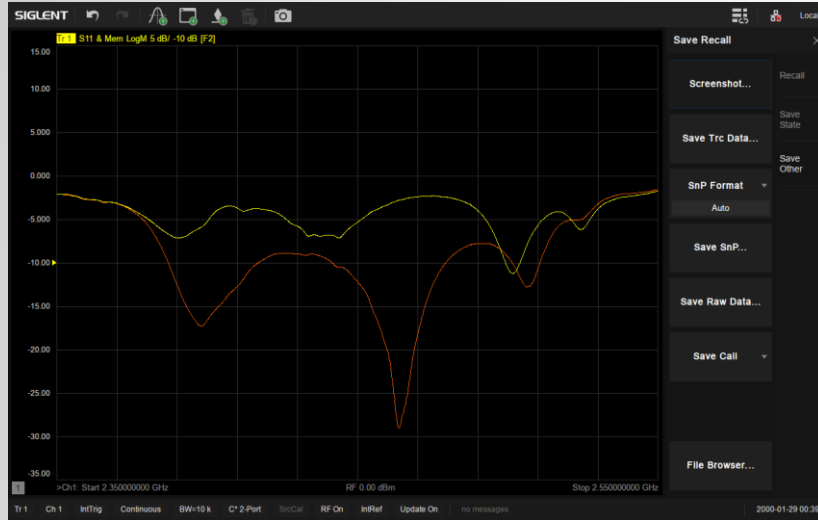
- Trace statistics

Peak to Peak	112.98 dB
Mean:	-43.32 dB
Std. Dev.:	35.7 dB

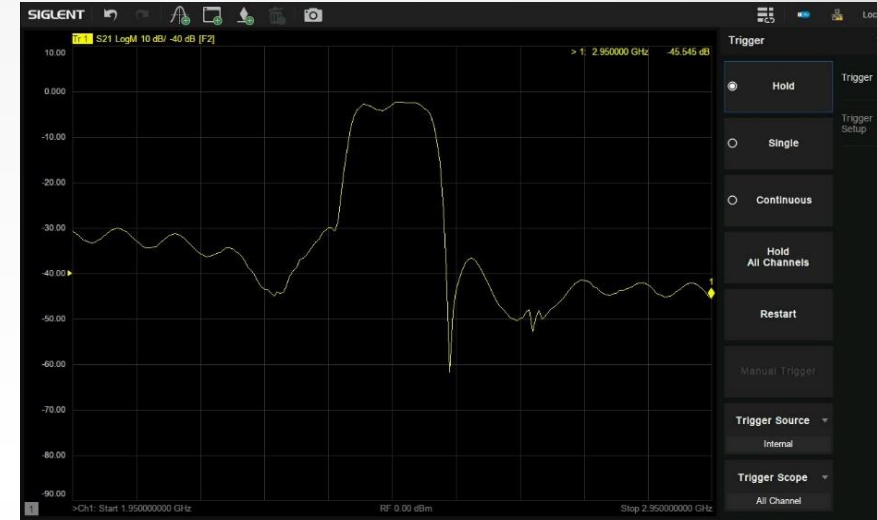
Data Comparison Tools



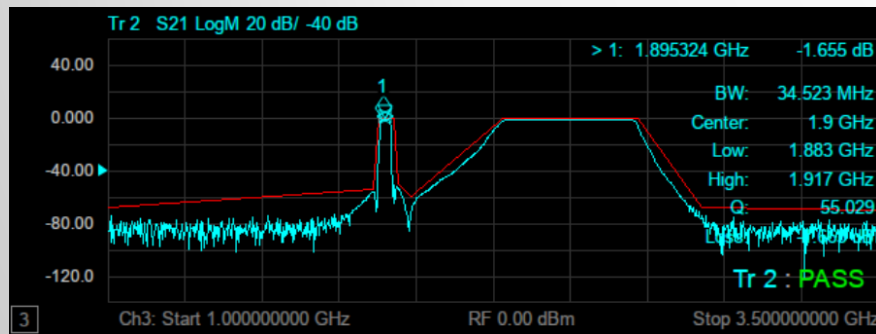
Display and compare memory with current



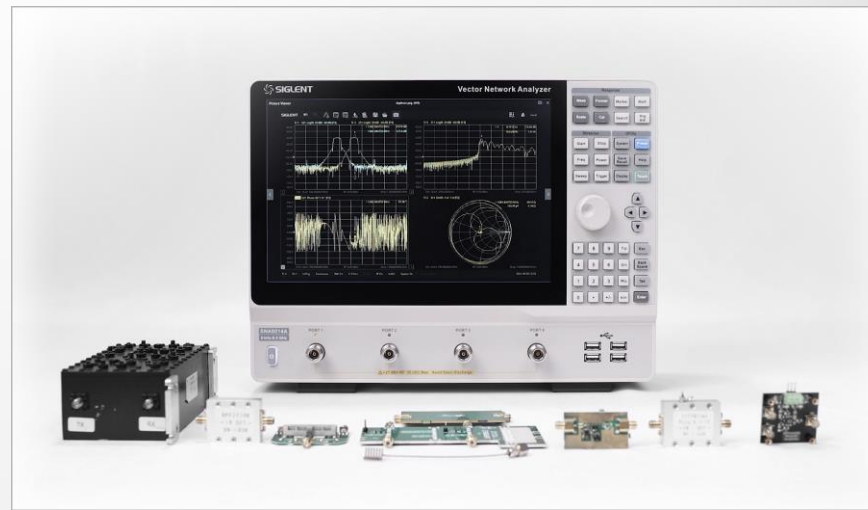
Display data hold



Limit test



Complete test tool for verification and failure analysis



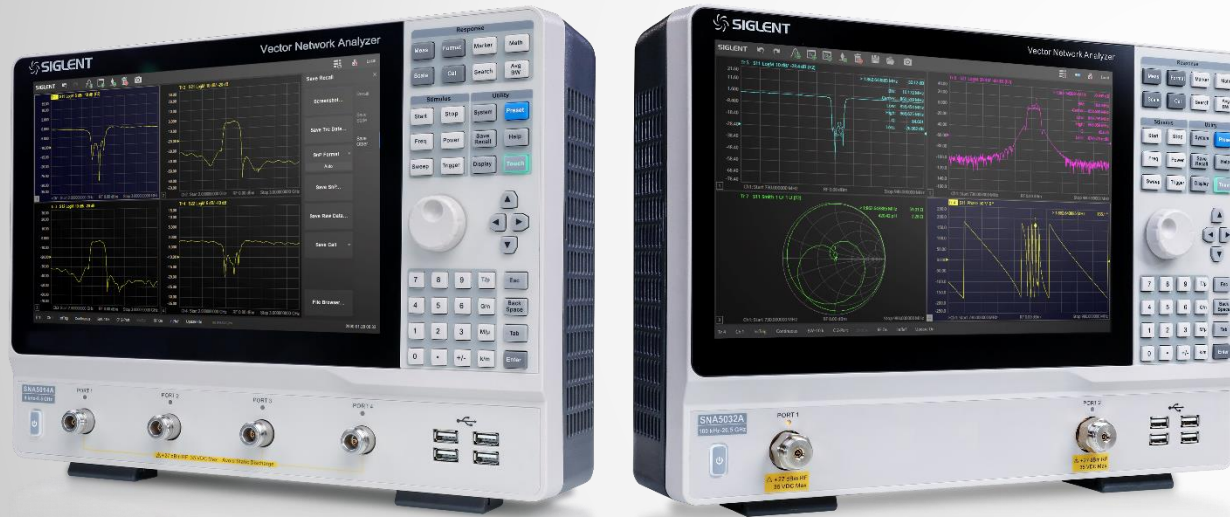
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Key Applications



Measurement Configurations

-  **Advanced Vector Network Measurements**
-  **Time Domain Analysis**
-  **Time Domain Reflectometry**
-  **Scalar Mixer Measurements**
-  **Spectrum Analyzer Mode**

Frequency Offset Mode



Advantages

- Enable the SNA internal RF signal source and SNA port receiver to operate at different frequencies.
- Realize the measurement of nonlinear characteristics of the device.
- Enable phase consistency measurements of complex inverter components
- Features such as one-time display of multiple groups of data under multiple channels

Frequency Offset

☐ Freq Offset Enable

	Mode	Sweep Type	Settings
Primary		Linear Freq	Start:100.000 kHz; Stop:26.500000000 GHz; Point:201
Source	Coupled	Linear Freq	Start:100.000 kHz; Stop:26.500000000 GHz
Receivers	Coupled	Linear Freq	Start:100.000 kHz; Stop:26.500000000 GHz

X-Axis Display

Annotation

Source

▼

☐ X-Axis Point Spacing

Defaults

OK

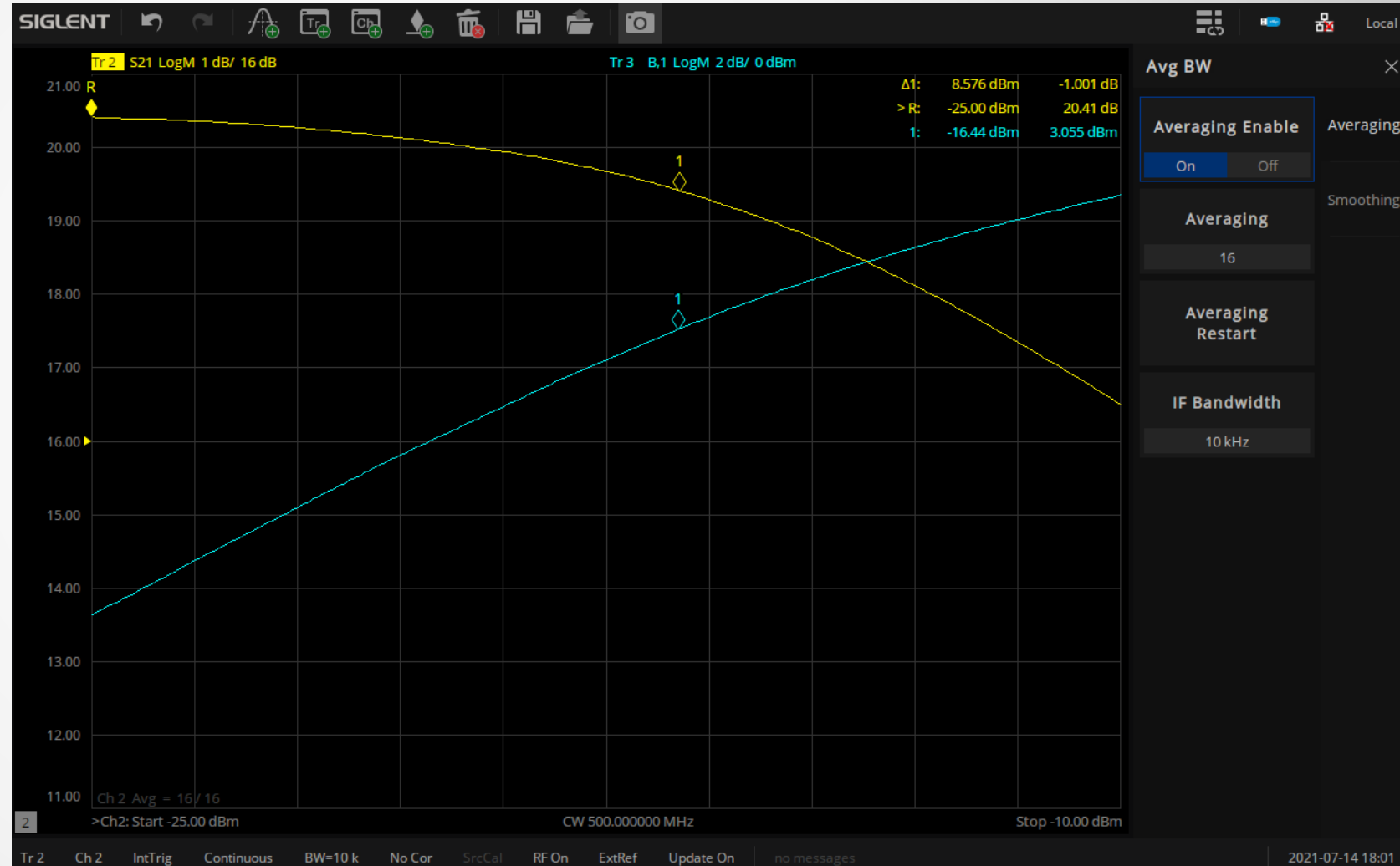
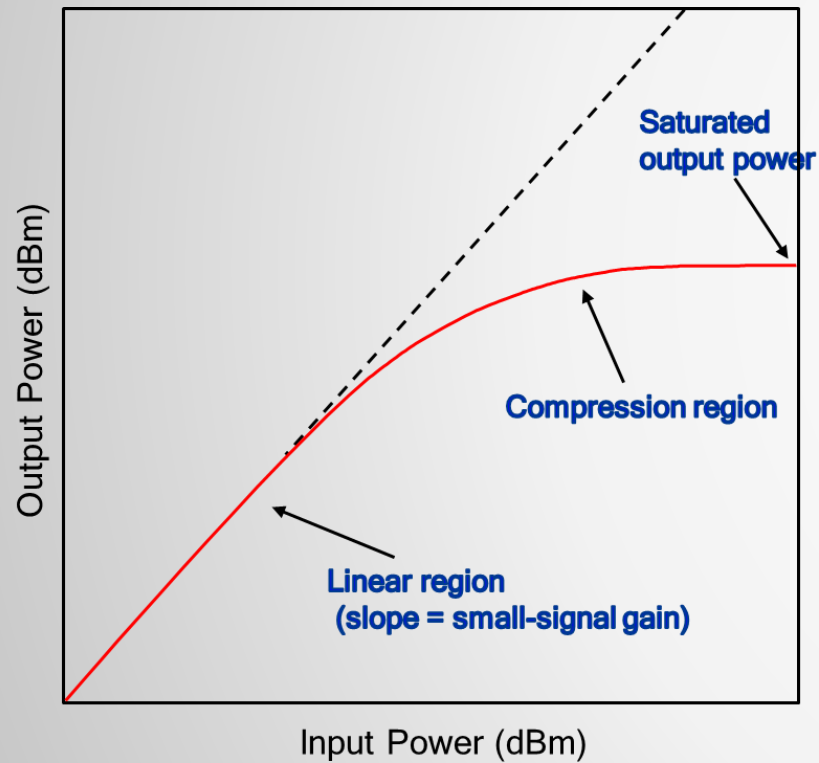
Cancel

Apply

Help

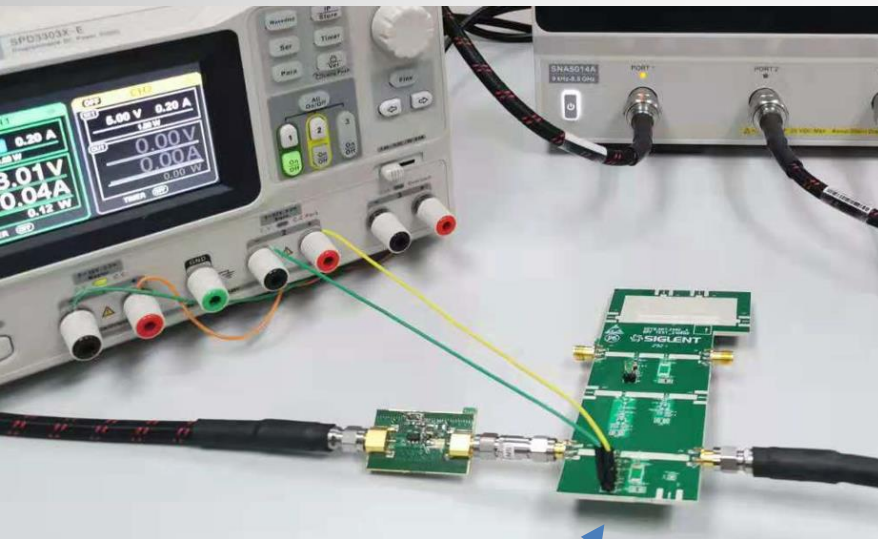
Amplifier test

- Power Sweeps – Compression
- 1 dB compression point
- AM to PM conversion

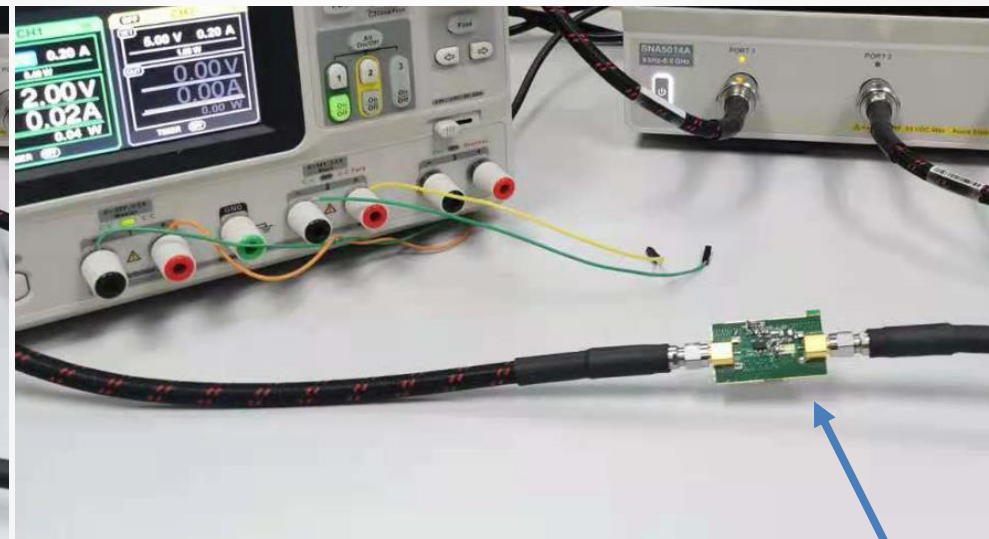


DC bias tee advantages

- ⚡ No external bias circuit needed
- ⚡ Reduce the influence of environment
- ⚡ Save R&D cost



Measure PA with external bias circuit



Measure PA with DC bias-tee



Optimize Filter Measurements with Segment Sweep



Independent Settings Per Segment: Power Level, Sweep Time, IF Bandwidth, Delay, IF Bandwidth Per Port

+	State	Start	Stop	Points	Power Level	Sweep Time	Delay	IF Bandwidth
1	On	9.000 kHz	1.000000000 GHz	201	0 dBm	182.30700 ms	0.00000 s	1.000 kHz
> 2	Off	1.000000000 GHz	4.500000000 GHz	801	5 dBm	71.08475 s	0.00000 s	10 Hz

With Segment sweep, the sweep can be optimized for speed and dynamic range.

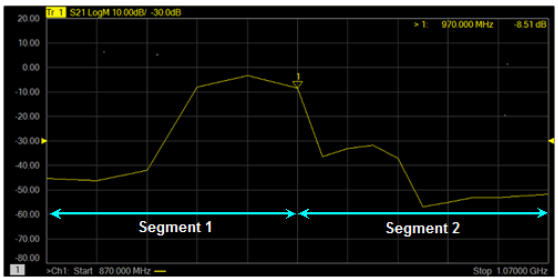
- More data points for higher data resolution
- Lower IF bandwidth for high dynamic range(for example in filter stopbands), but it increases sweep time
- The power level can be decreased in the passband and increased in the stopband for DUTs that contain a filter followed by an amplifier

X-Axis Points Spacing

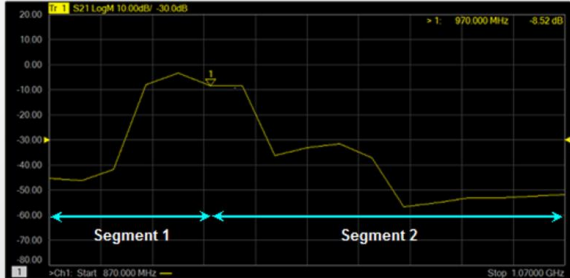
- Without it, many data points can be huddled in a small frequency span
- With it, data points evenly distributed along the X-Axis

+	State	Start	Stop	Points
> 1	On	870.000000 MHz	970.000000 MHz	201
2	On	970.000000 MHz	1.070000000 GHz	801

Two same frequency span with different points

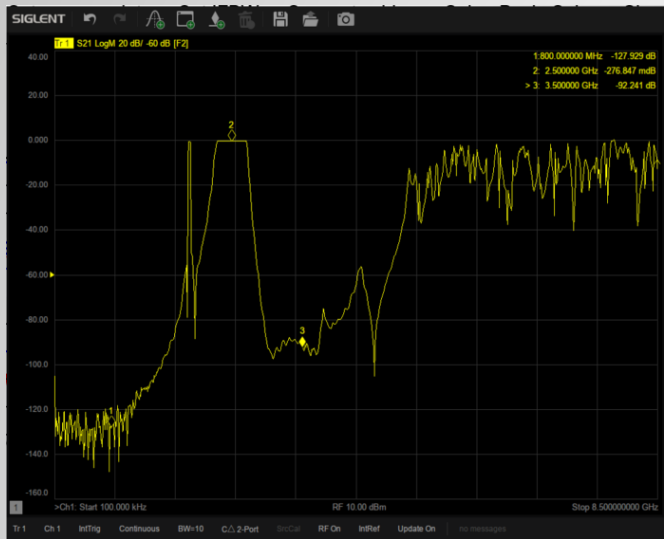


Without X-Axis Point Spacing

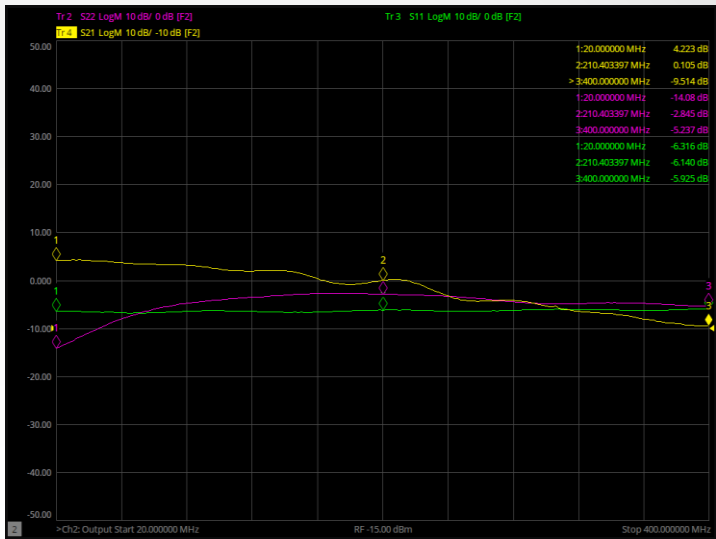


With X-Axis Point Spacing

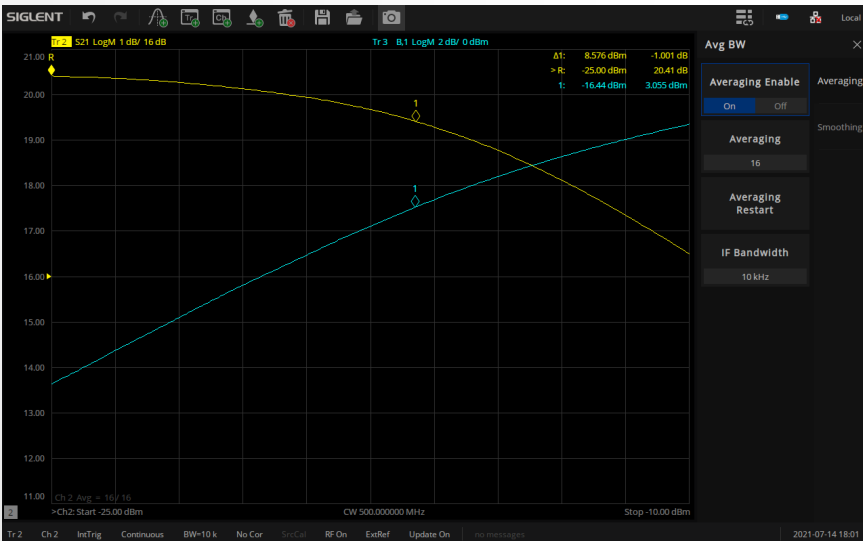
RF Component Characterization



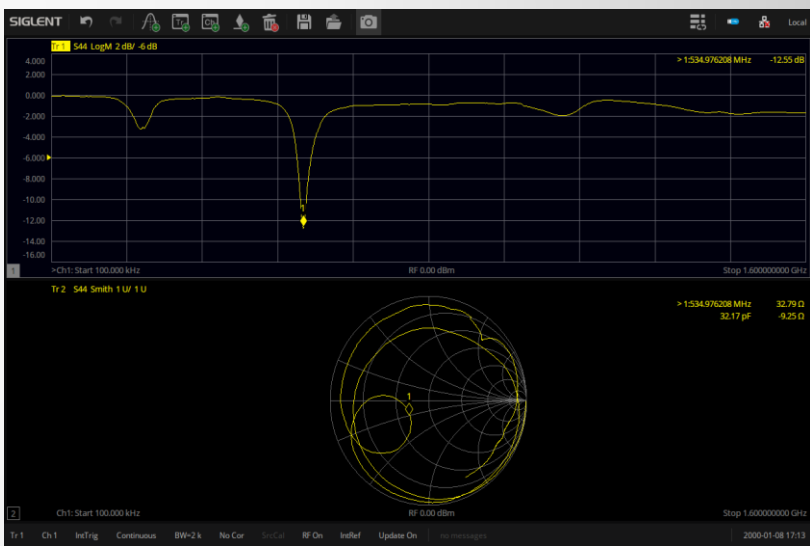
Filters



Mixers



Amplifiers



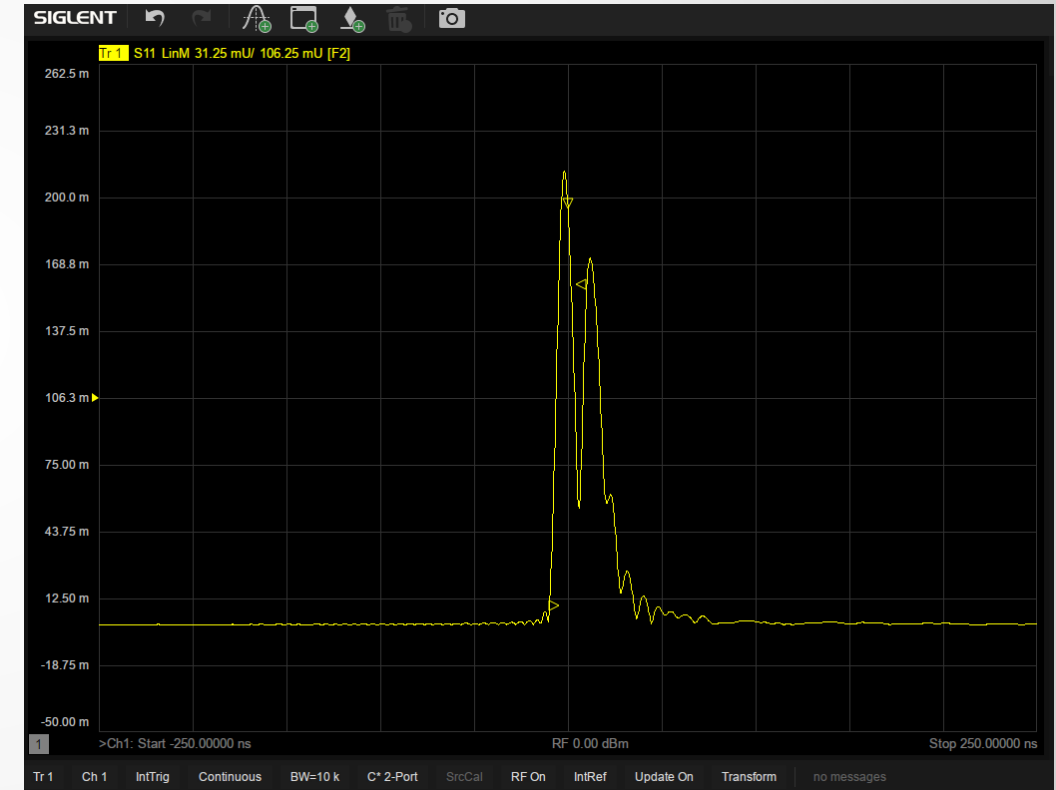
Antennas

VNA Measurements Primer coming soon

Time Domain analysis (Option SNA5000-TDA)

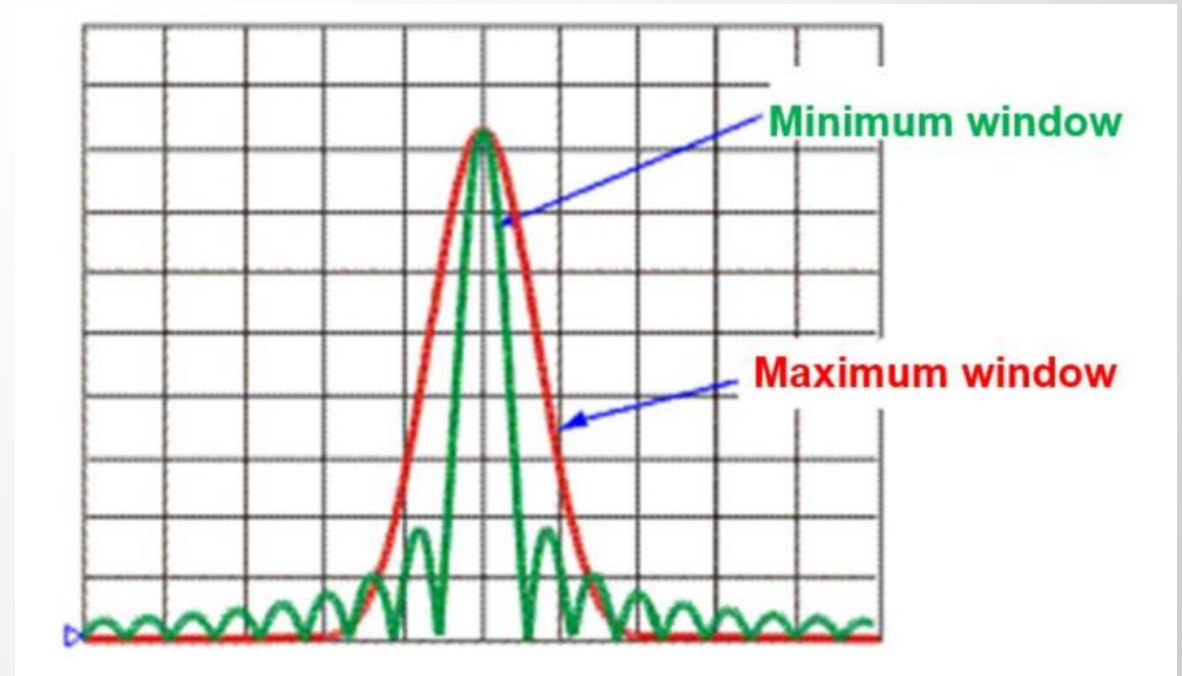
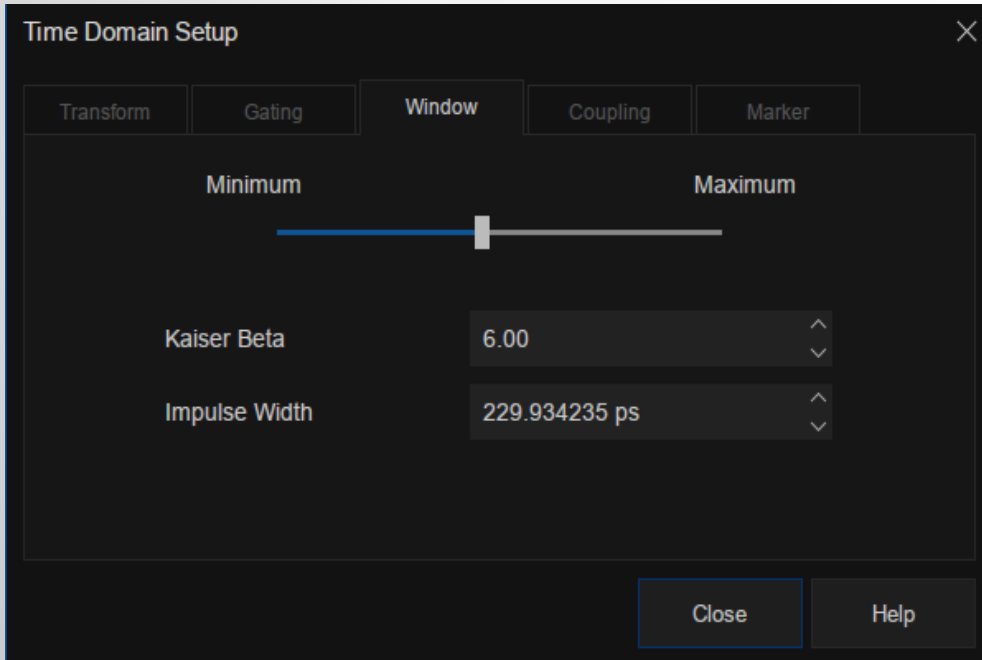


- Get time domain info via inverse Fourier transform
- Enable VNA analyze DUT in both frequency and time domain
- Time Gating**
 - Possibly the most useful function in VNA time domain transform functions
 - Exclude some time domain responses, only keep what is interested in
- Window**
 - Flexible measurement capability reduces overshoot and ringing



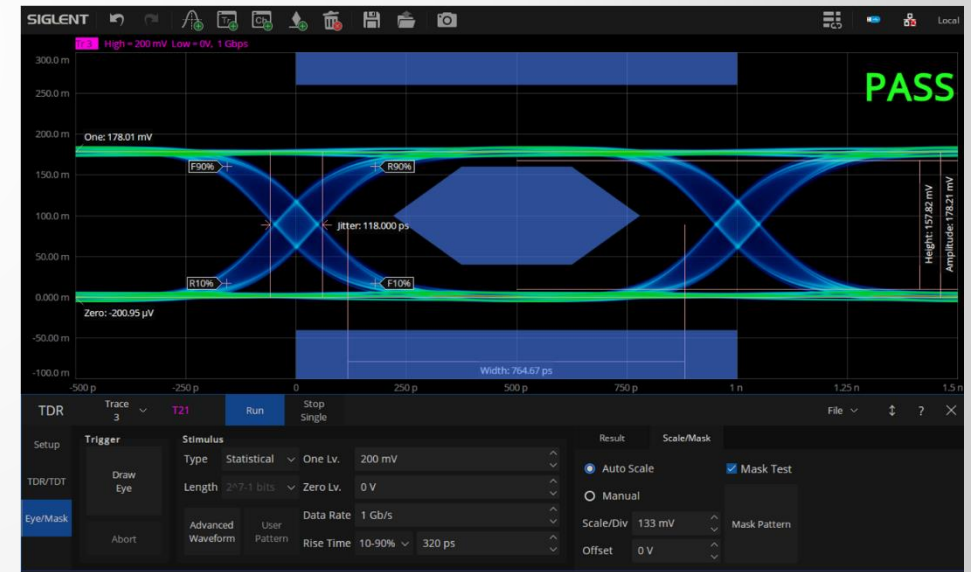
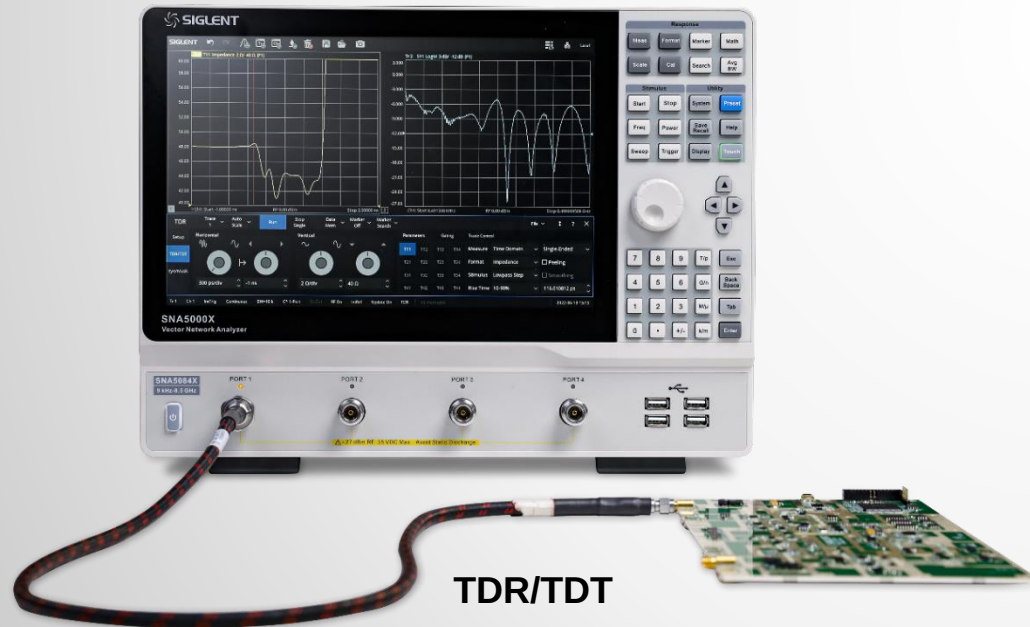
Window (Option SNA5000-TDA)

- Reduce the overshoot and ringing in the process of frequency domain and time domain conversion
- The size of the window should be balanced between response resolution and dynamic range.
 - Set the minimum window can get the best response resolution
 - Set the maximum window can get the maximum dynamic range
- Three methods of setting window size
 - Minimum-maximum
 - Kaiser Beta
 - Impulse width



Enhanced Time-Domain analysis (Option SNA5000-TDR)

- VNA TDR use frequency domain information to calculate the inverse Fourier transform for time domain results.
 - **TDR/TDT** (Time Domain Reflection / Transmission)
 - **Eye/Mask**
- Advantages over traditional Time Domain Reflector
 - Utilizing a narrowband receiver, has higher SNR and superior dynamic range.



Eye/Mask

USB Cable Test Demo

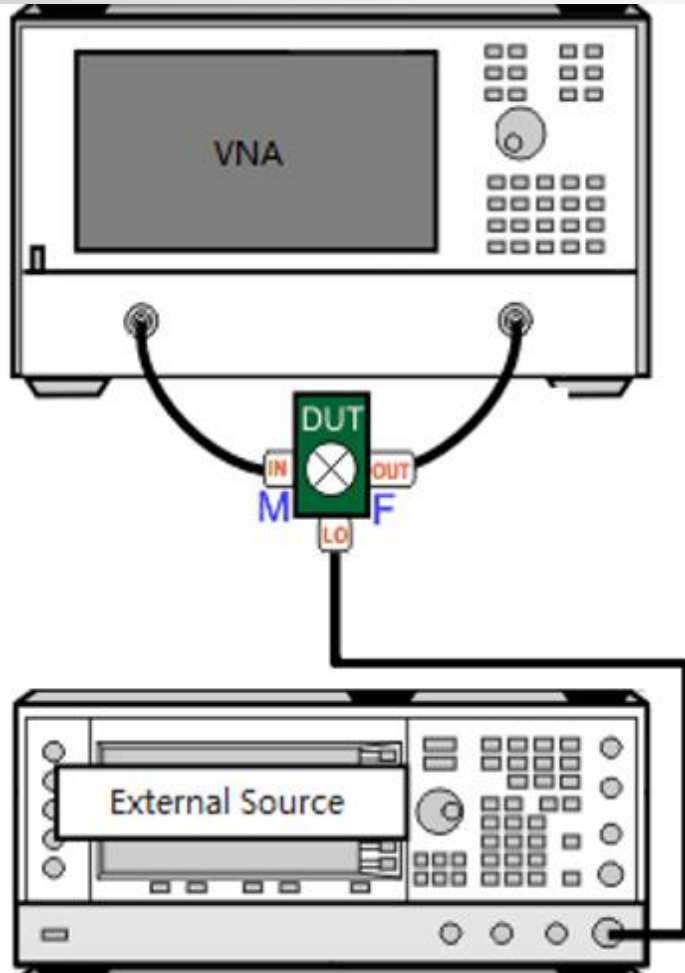
Scalar Mixer Measurements (Option SNA5000- SMM)



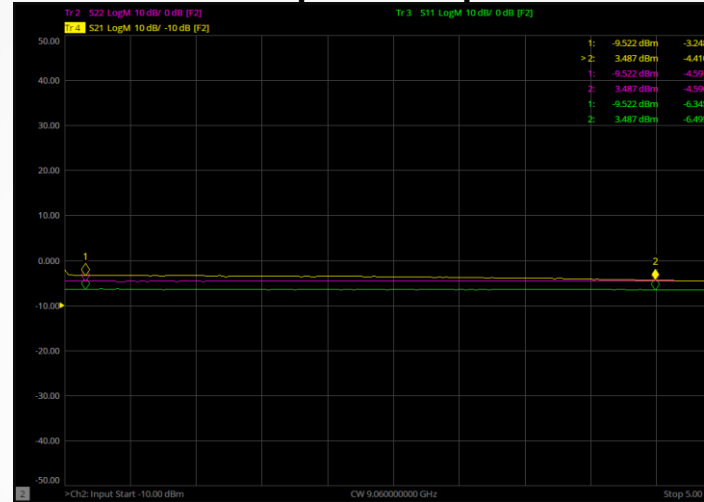
FW version (> V1.0.0.2.10.R9)

Measurement Setup

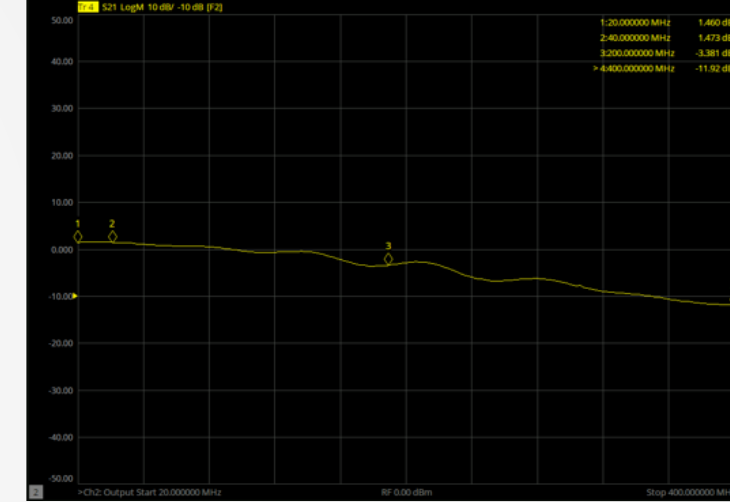
- All Siglent SDG,SSG signal generators are supported
- 4 port models do not need external source



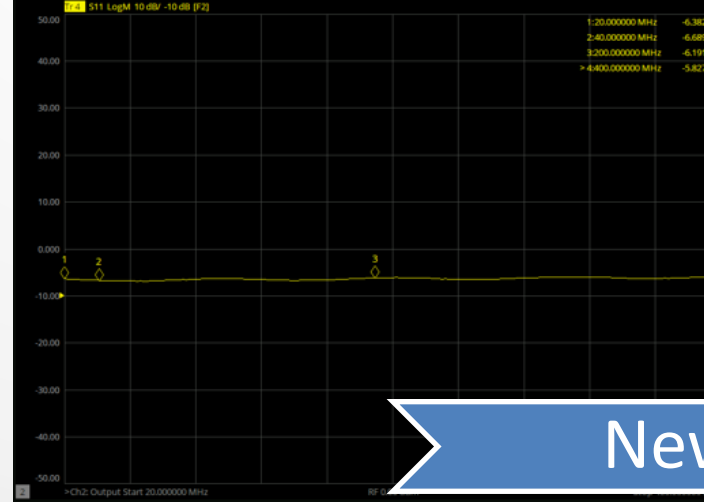
1 dB compression point



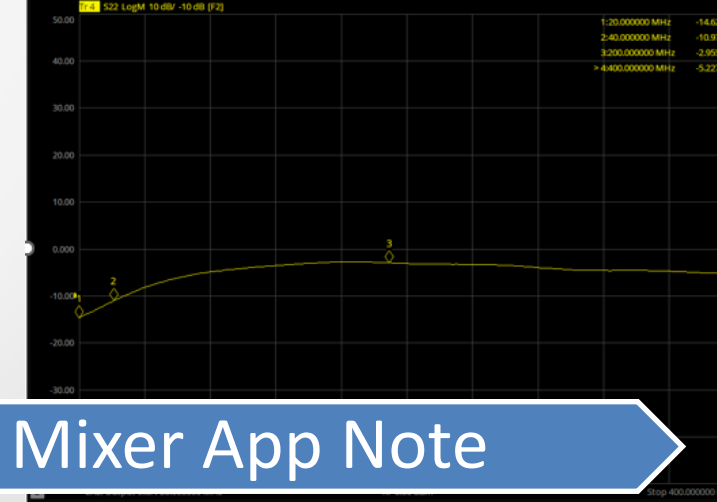
Conversion loss



S11



S22



New Mixer App Note

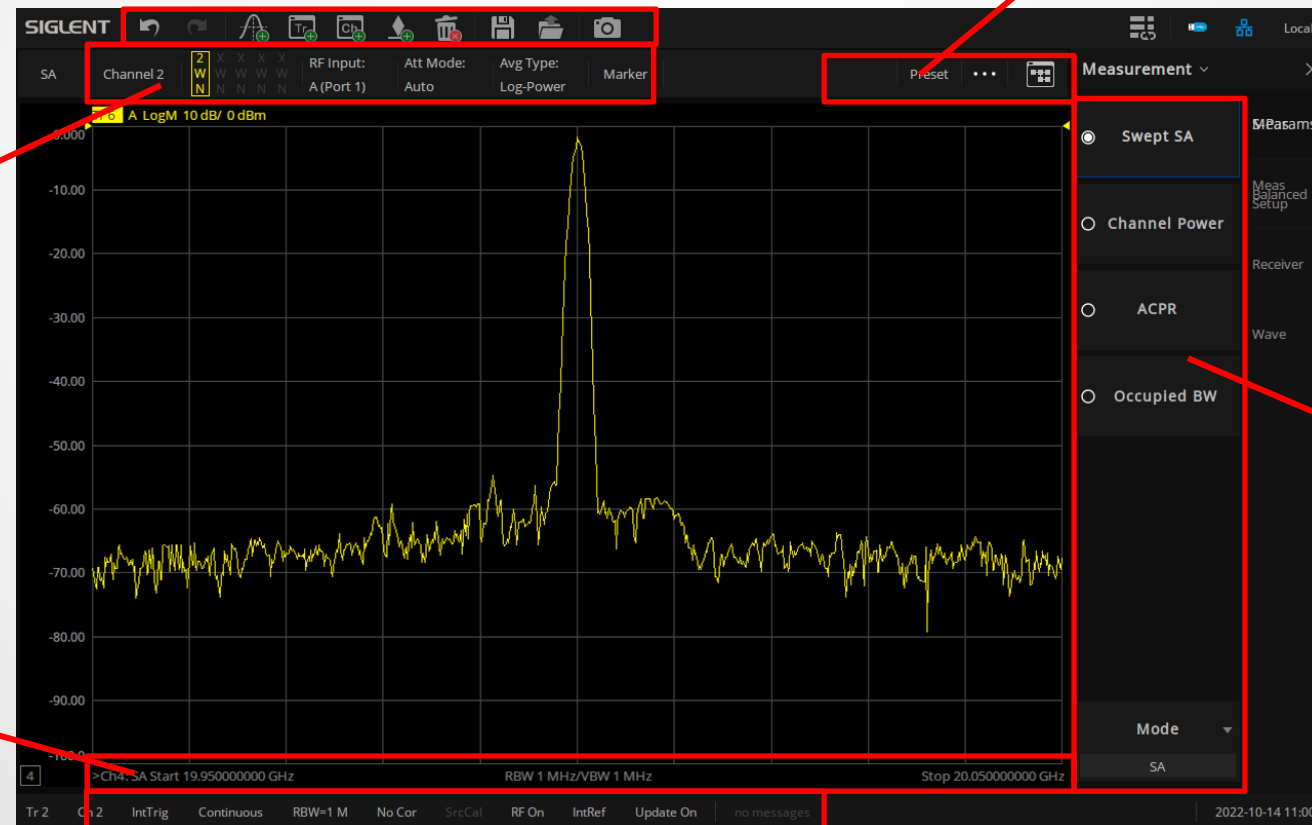
Spectrum Analysis function (Option SNA5000-SA)



- Adjust the local oscillator signal and mirror suppression algorithm processing to obtain the signal spectrum
- Spurious research or power measurements without reconnecting the DUT to a SA**
- For 4 port models, four SA windows can be opened at the same time to observe 4 different frequencies.**

- Display the SA setting dialog box, SA parameter reset, SA processing flow chart

- Indicate the main working state of state, the port of RF input , Attenuation mode , Average Type, Current Marker operation.



- SA Measurement items.

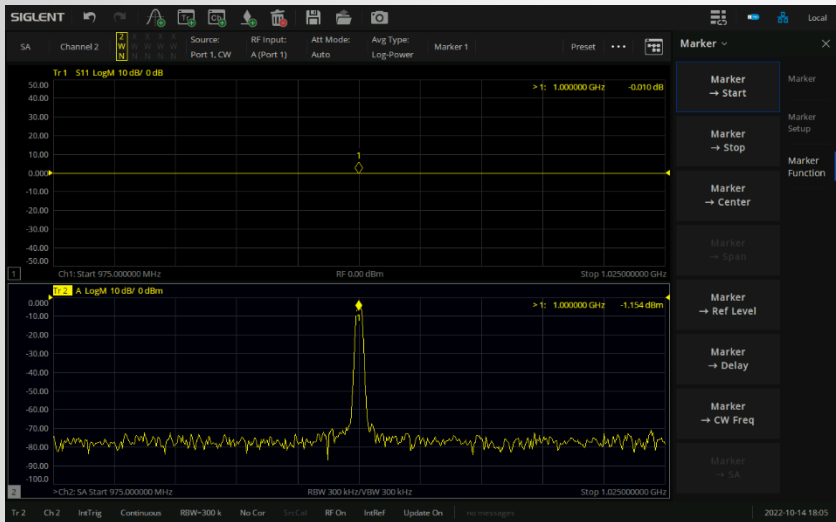
- Indicate and control the main sweep parameters, such as frequency, resolution.

Status bar.

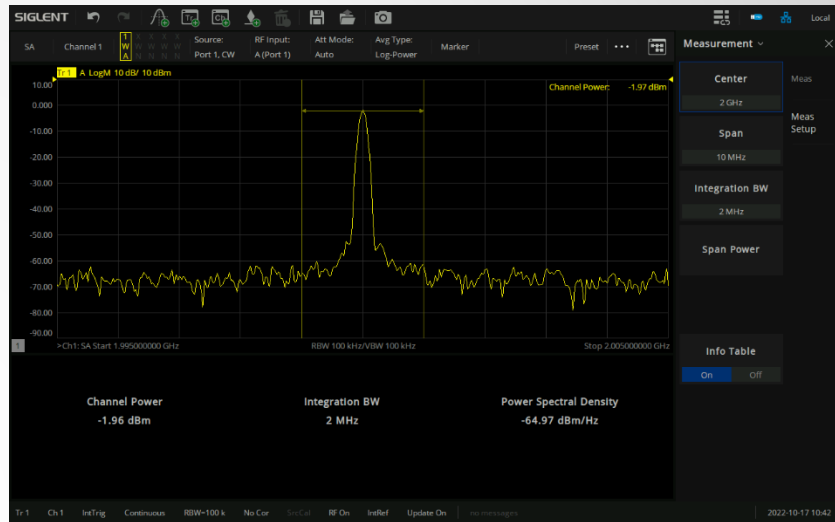
Spectrum Analysis Measurement (Option SNA5000-SA)



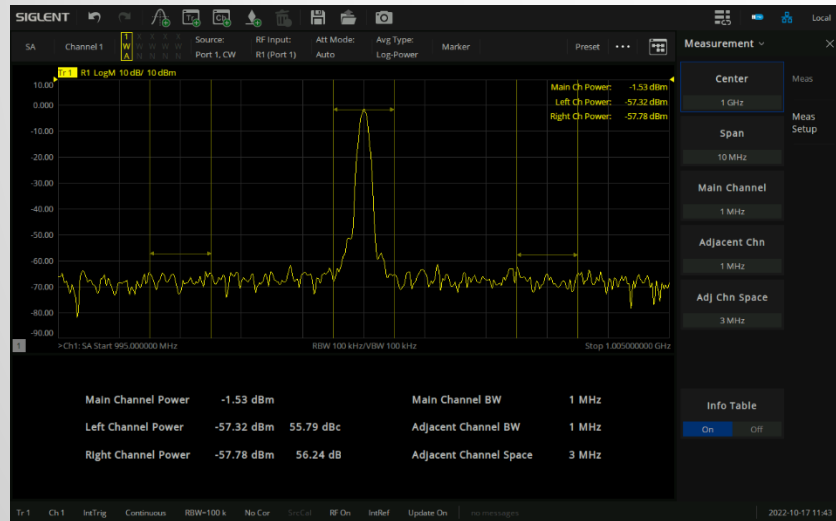
Marker->



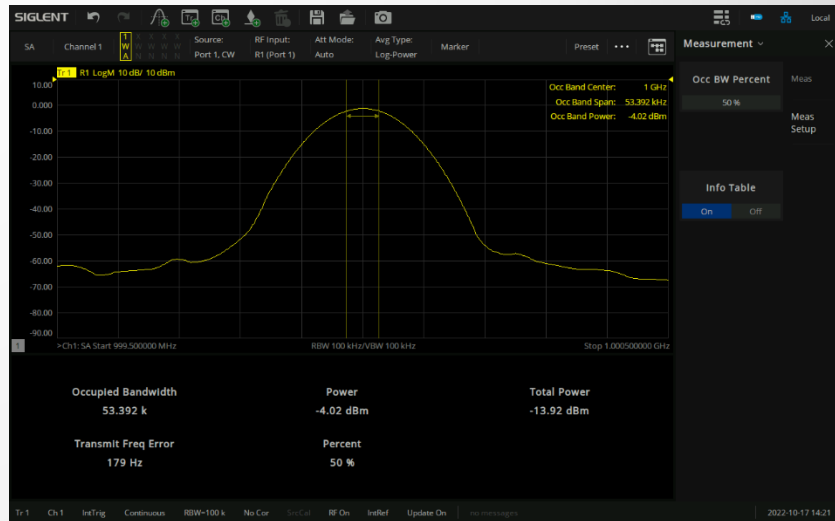
Channel Power



ACPR



Occupied BW



Noise Figure App Note coming soon

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Advanced Calibration Techniques for easier setup and improved accuracy



Calibration Techniques

-  **Port Extension**
-  **Port Matching**
-  **Adaptor Removing**
-  **De-Embedding**
-  **Custom Cal Kits**
-  **Calibration data archival**
-  **Variety of kits, connectorization, and integration for calibration requirements**

Measurement error modeling

Systematic errors

-  Imperfections in the analyzer and test setup
-  Time invariant
-  Eliminated via calibration



Calibration

Drift errors

-  System performance changing after calibration
-  Temperature variation
-  Eliminated by Re-calibration



Re-Calibration

Random errors

-  Unpredictable
-  Like instrument noise, switch and connector repeatability
-  Can not be eliminated via calibration



Capabilities that improve Calibration



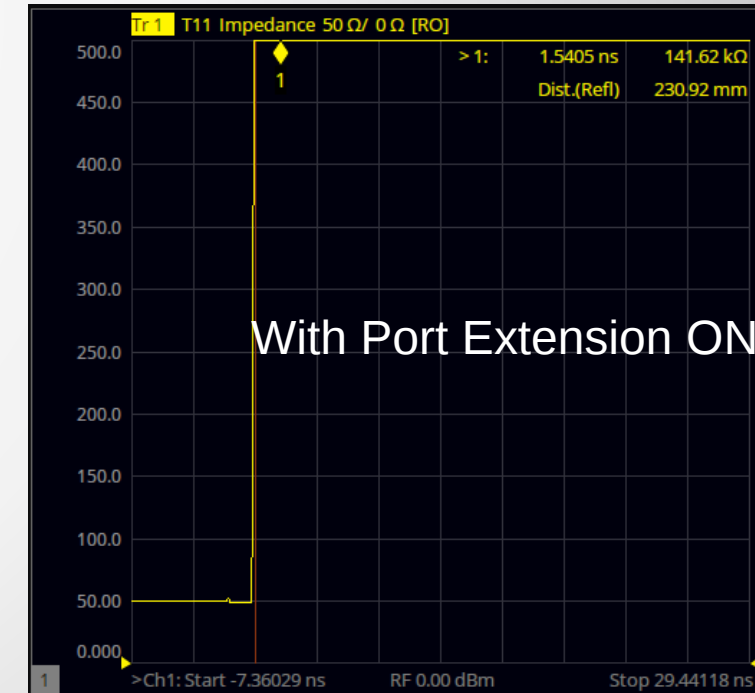
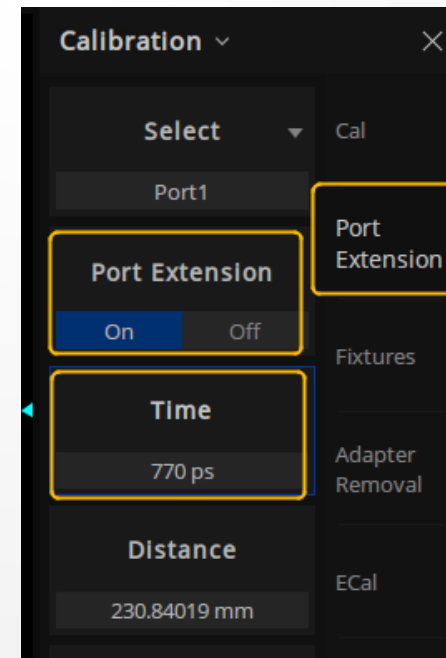
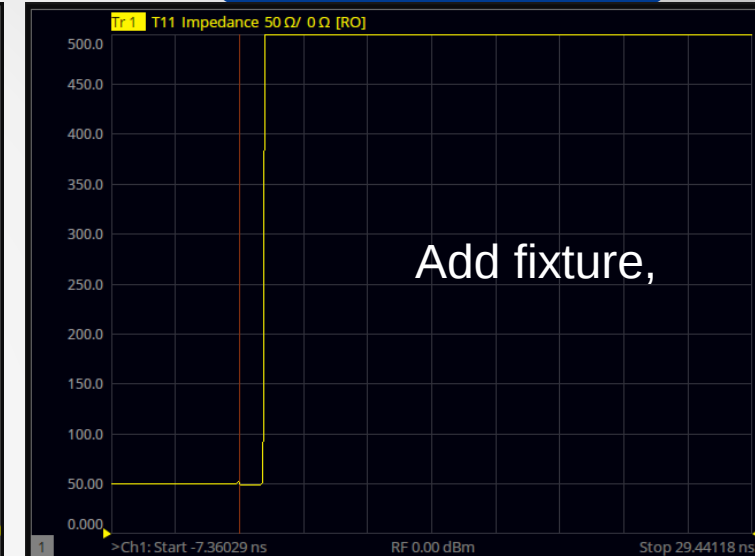
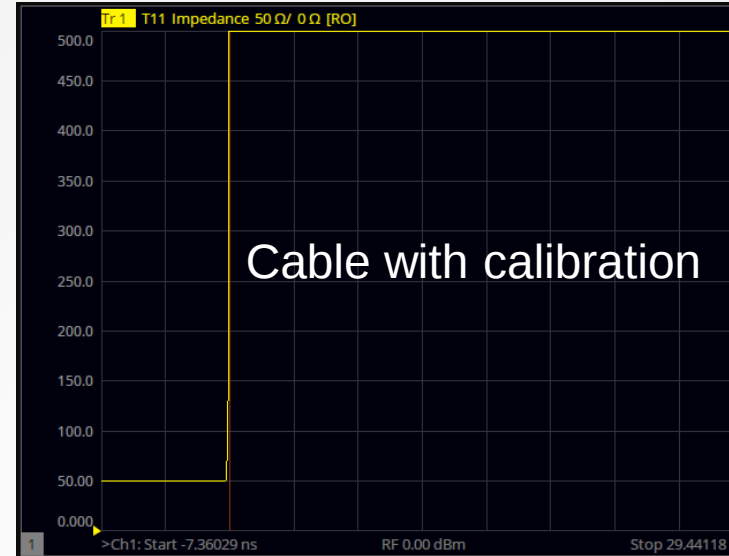
Port Extensions: a useful way to eliminate fixture errors. Electrically move the measurement reference plane after calibration.



S parameters calibration is often performed between RF cable and fixture port plane. DUT is inside fixture, and connected to fixture via microstrip line, which results in errors.



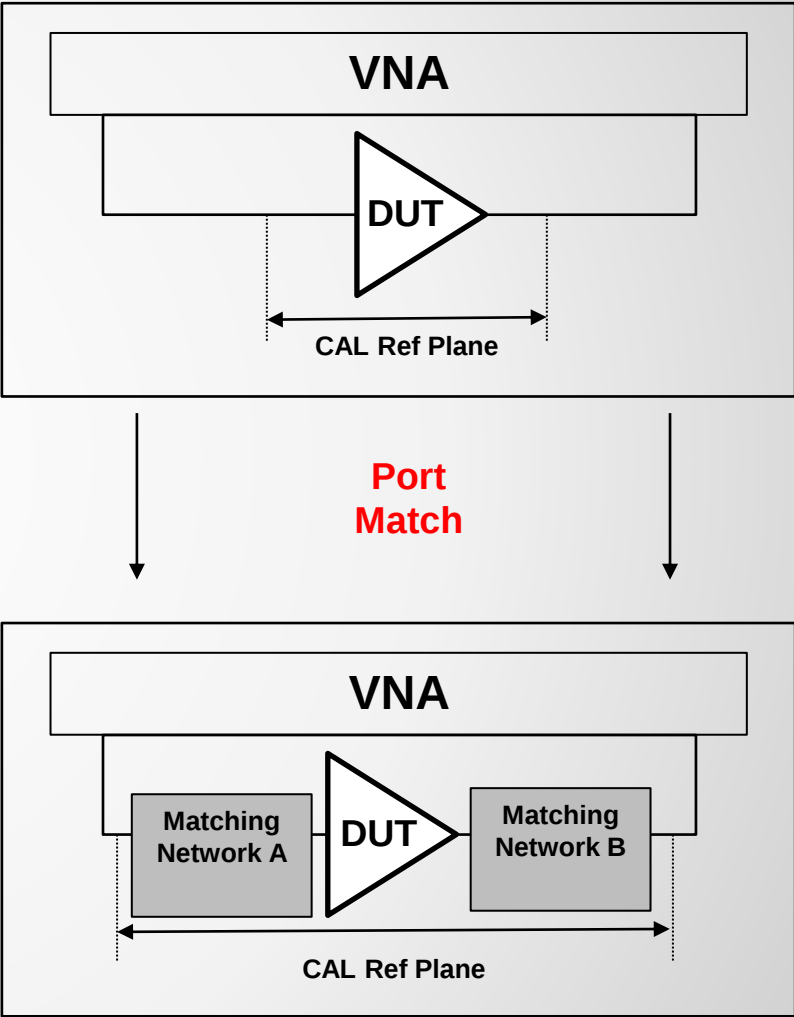
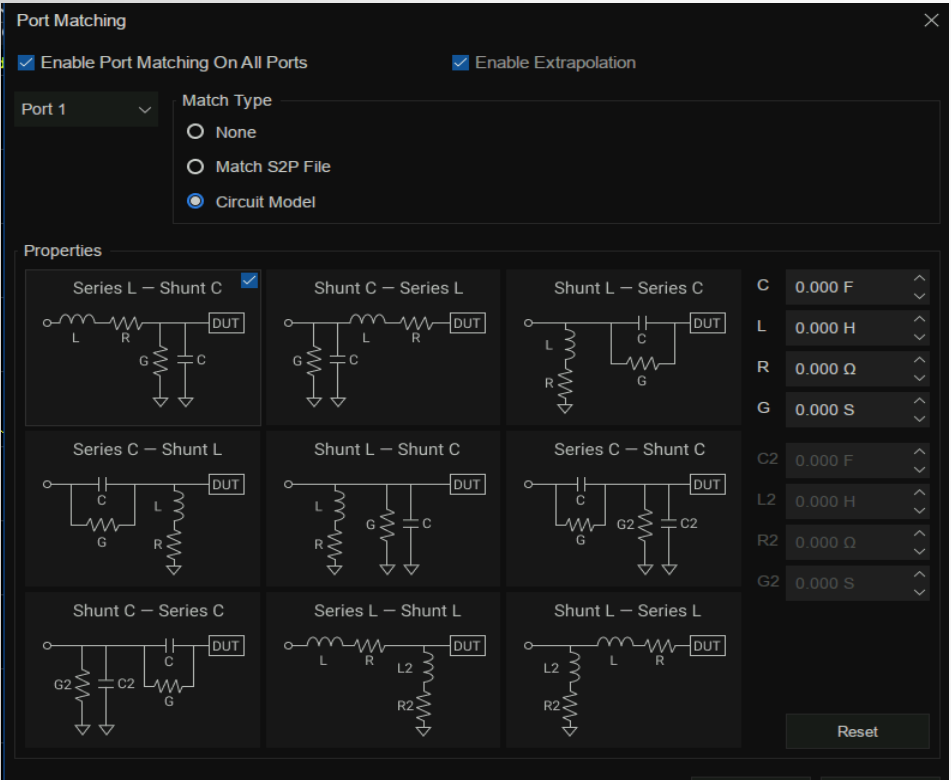
It can be eliminated by simply entering microstrip line Length, Velocity Factor, Loss parameters.



Capabilities that improve Calibration

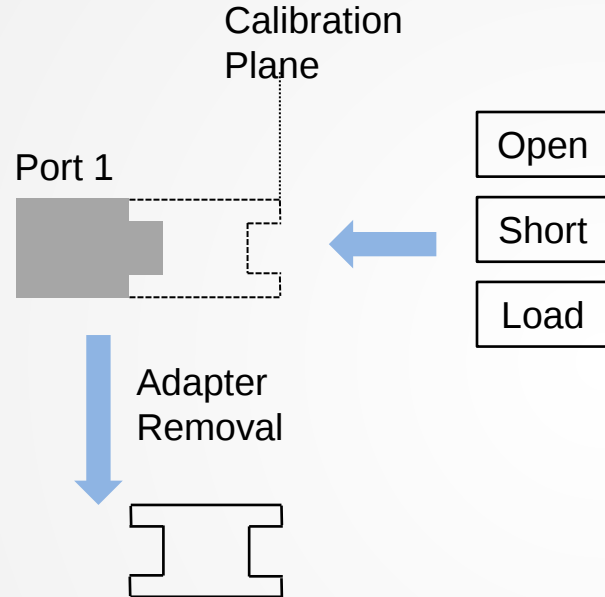
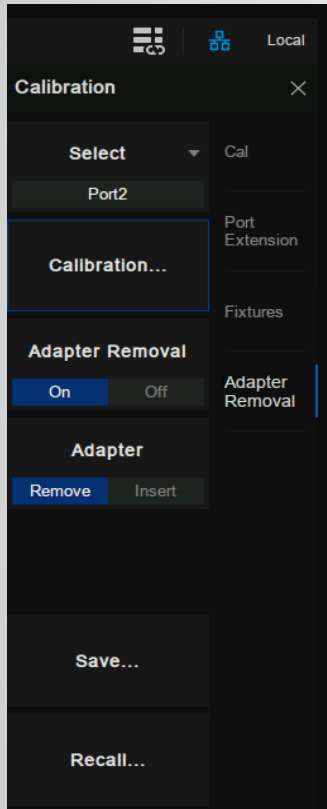
Port Match

- Match S2P file
- 9 kinds of circuit models made with L, R, G, C

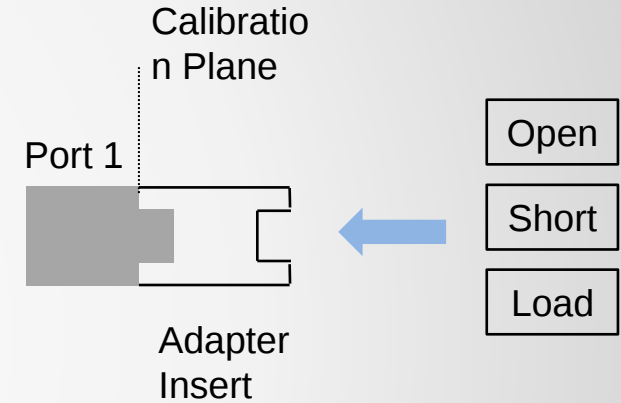


Capabilities that improve Calibration

Adapter Remove / Insert



-  Perform calibration with adapter
-  Remove adapter and measure Open, Short, Load values to determine adapter's characteristics
-  Remove the adapter characteristics from the error coefficients in a de-embedding fashion



-  Perform calibration without adapter
-  Insert adapter and measure Open, Short, Load values to determine adapter's characteristics
-  Insert the adapter characteristics from the error coefficients in an embedding fashion

Capabilities that improve Calibration

2-Port and N-Port De-Embedding

2 Port De-embedding

☐ Enable De-Embedding On All Ports

Port 1 ▼ De-Embedding Type

☒ None

☐ User Defined (S2P File)

Select De-Embedding

<None Selected>

User S2P File... ☐ Reverse Adapter Ports

VNA Network DUT

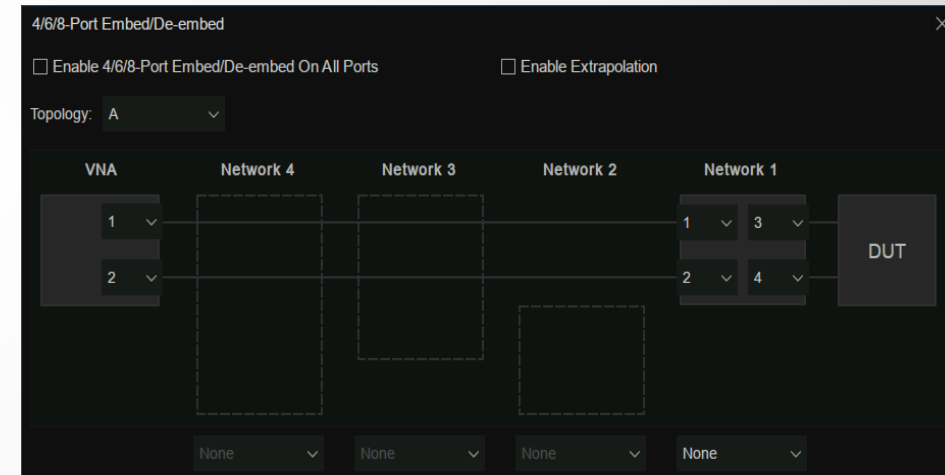
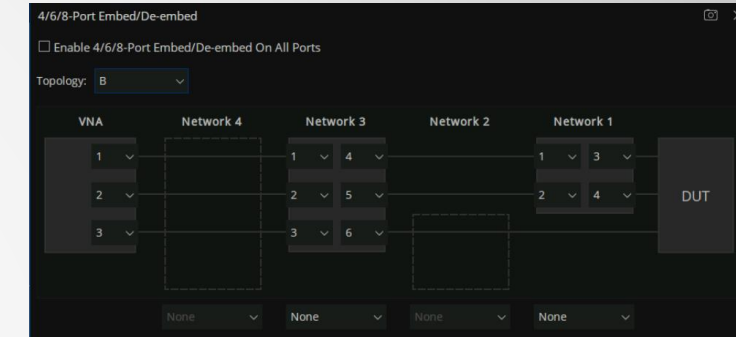
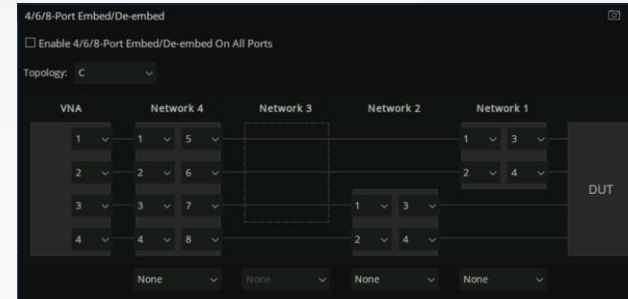
1 1 2

Min Frequency Max Frequency

Port Range 100 kHz 8.5 GHz

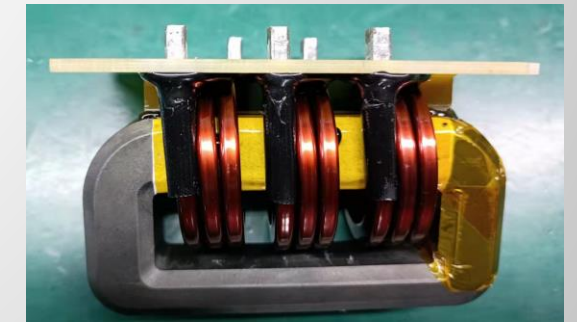
S2P Range not available not available

Close Help



De-Embedding can remove the characteristics of the cable, test fixtures, etc.

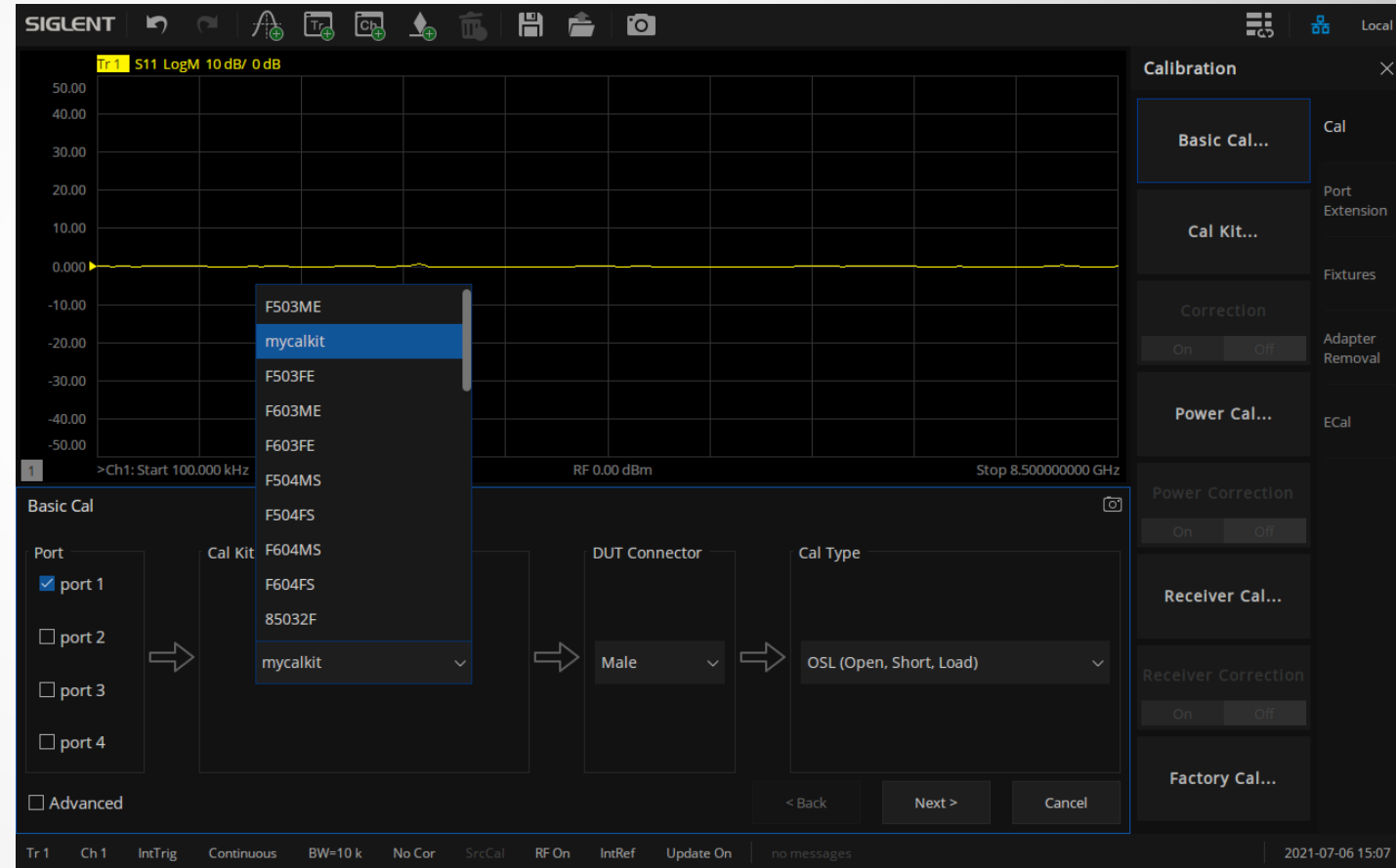
N-Port De-Embedding has 3 kinds of topology.



Adding your own Cal. Kit - Summary

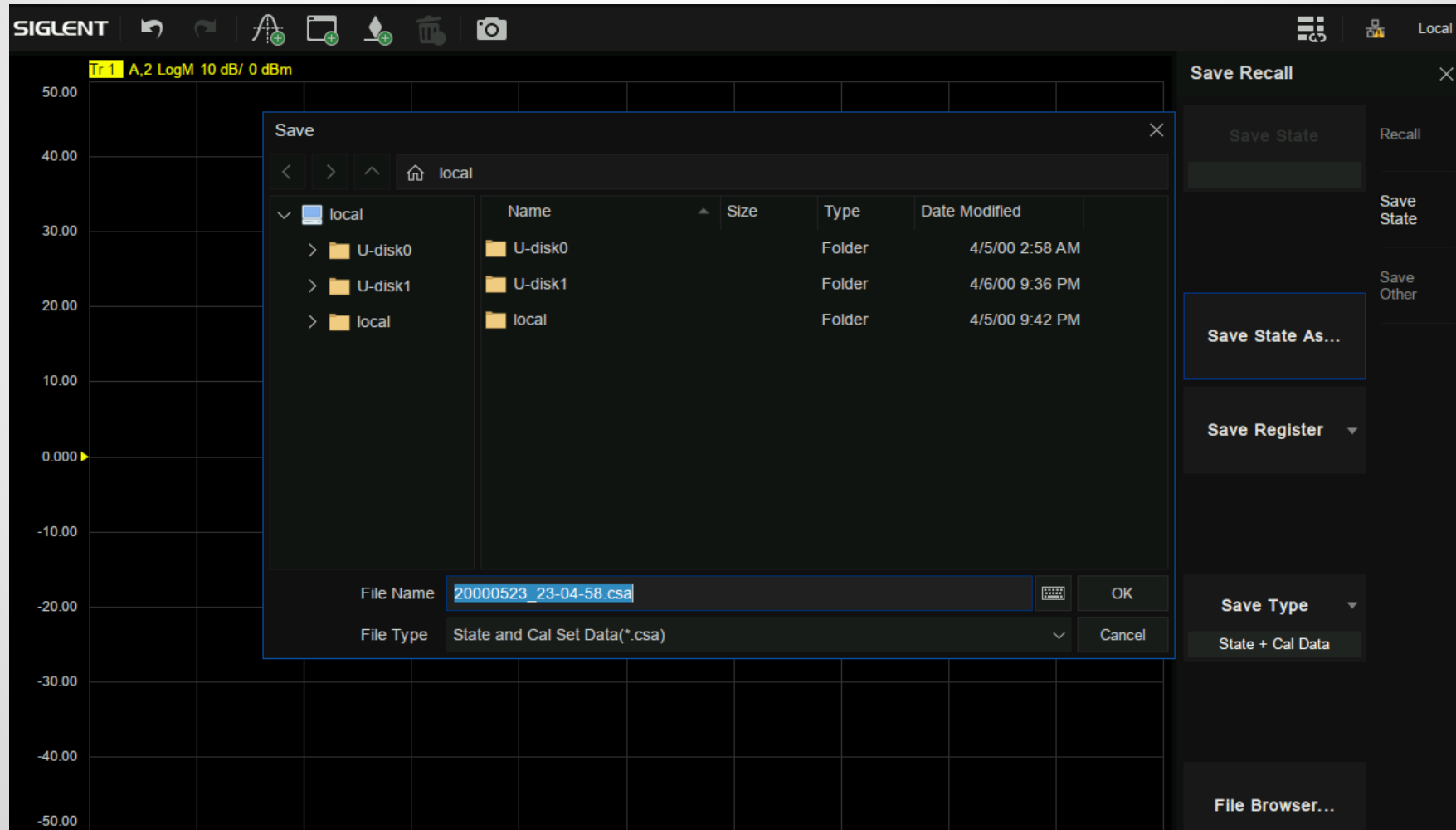


- Easily add self defined Cal. Kit with import/export function
- Export single Cal. Kit with Save
- Add single Cal. Kit with Import
- Export all Cal. Kits with Save Workspace
- Import all Cal. Kits with Recall Workspace
- Recover all factory Cal. Kits with Restore Defaults
- It is more convenient to edit part of parameters of original Cal. Kits than add a new Cal. Kit



Saving calibration data

- Save/Recall -> Save State -> Save Type -> State + Cal Data -> Save State As...
- Recall calibration data and state quickly
- No connection setup should be changed



Mechanical Calibration Kit Options

Manage Cal Kits		
Standard Cal Kits		
ID	Kit Name	Description
1	F503ME	TypeN (50) Calibration Kit
2	F503FE	TypeN (50) Calibration Kit
3	F603ME	3.5 mm Calibration Kit
4	F603FE	3.5 mm Calibration Kit
5	F504MS	TypeN (50) Calibration Kit
6	F504FS	TypeN (50) Calibration Kit
7	F604MS	3.5 mm Calibration Kit
8	F604FS	3.5 mm Calibration Kit
9	85032F	TypeN (50) Calibration Kit
10	85032B/E	TypeN (50) Calibration Kit
11	85054B	TypeN (50) with sliding load
12	85054D	TypeN (50) Calibration Kit
13	85036B/E	TypeN (75) Calibration Kit
14	85039B	Type-F (75) Calibration Kit
15	85052D	3.5 mm Calibration Kit
16	85052B	3.5 mm with sliding load
17	85033D/E	3.5 mm Calibration Kit
18	85052C	3.5 mm SOLT/TRL Calibration Kit
19	85056A	2.4 mm with sliding load
20	85056D	2.4 mm Calibration Kit
21	85050B	APC 7 with sliding load
22	85050C	APC 7 TRL Calibration Kit
23	85050D	APC 7 Calibration Kit
24	85031B	APC 7 Calibration Kit
25	Example Kit A	Example Cal Kit with male and female connectors
26	Example Kit B	Example Cal Kit with unsexed connectors



Calibration

types
Response (Thru) 1→2
Response (Thru) 2→1
Enhanced Response 1→2
Enhanced Response 2→1
SOLT
SOLR
TRL
SOLT

New Mechanical Calibration Kits

-  **F604TY**: Mechanical Calibration Kit: OSLT, DC - 27 GHz, 3.5mm-Male and Female connector
-  **Y504MS**: Integrated Mechanical Calibration Kit: OSLT, DC - 9 GHz, N-Male
-  **Y504FS**: Integrated Mechanical Calibration Kit: OSLT, DC - 9 GHz, N-Female



New high stability cables

- **V26-N35MN35F-25IN**: NMD 3.5 mm male - NMD 3.5 mm female; 26.5 GHz; length 25"/635mm
- **V26-N35FA35F-25IN**: NMD 3.5 mm female - APC 3.5 mm female; 26.5 GHz; length 25"/635mm
- Mechanical phase stability: $\pm 2.7^\circ$
- Mechanical amplitude stability: ± 0.08 dB



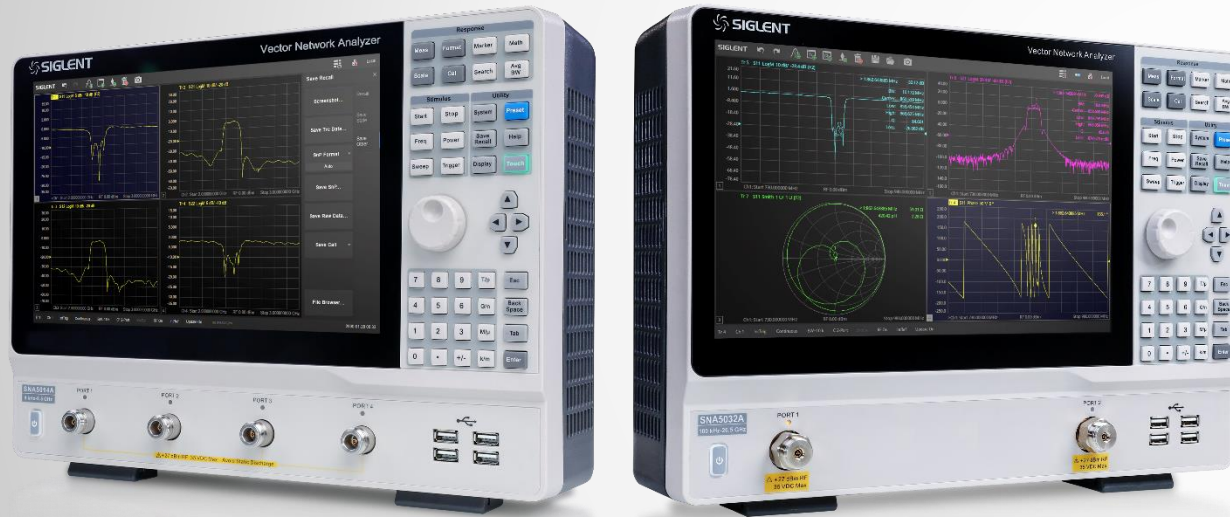
Advanced Calibration Techniques for easier setup and improved accuracy



Calibration Techniques

-  **Port Extension**
-  **Port Matching**
-  **Adaptor Removing**
-  **De-Embedding**
-  **Custom Cal Kits**
-  **Calibration data archival**
-  **Variety of kits, connectorization, and integration for calibration requirements**

SNA5000A 2/4 ports, 4.5/8.5/13.5/26.5 GHz Vector Network Analyzer

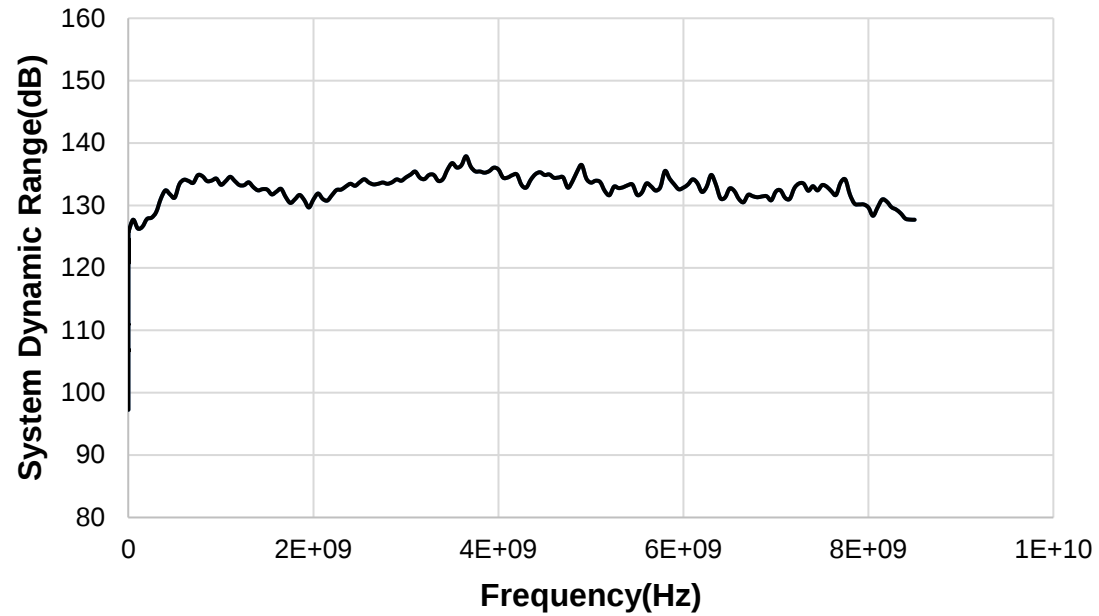


Contents

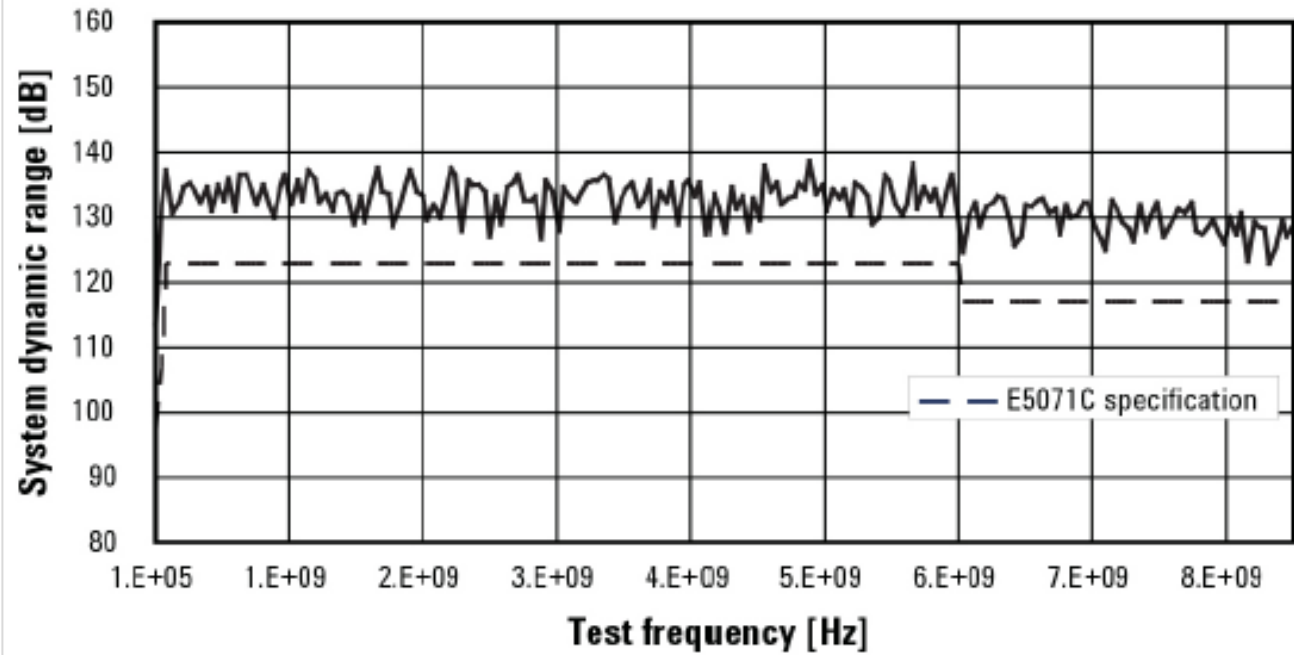
-  Features and Benefits
-  Key Applications
-  Calibration
-  Competitive Analysis
-  Additional Measurements

Dynamic Range

Typical @IFBW=10Hz



SNA5000A

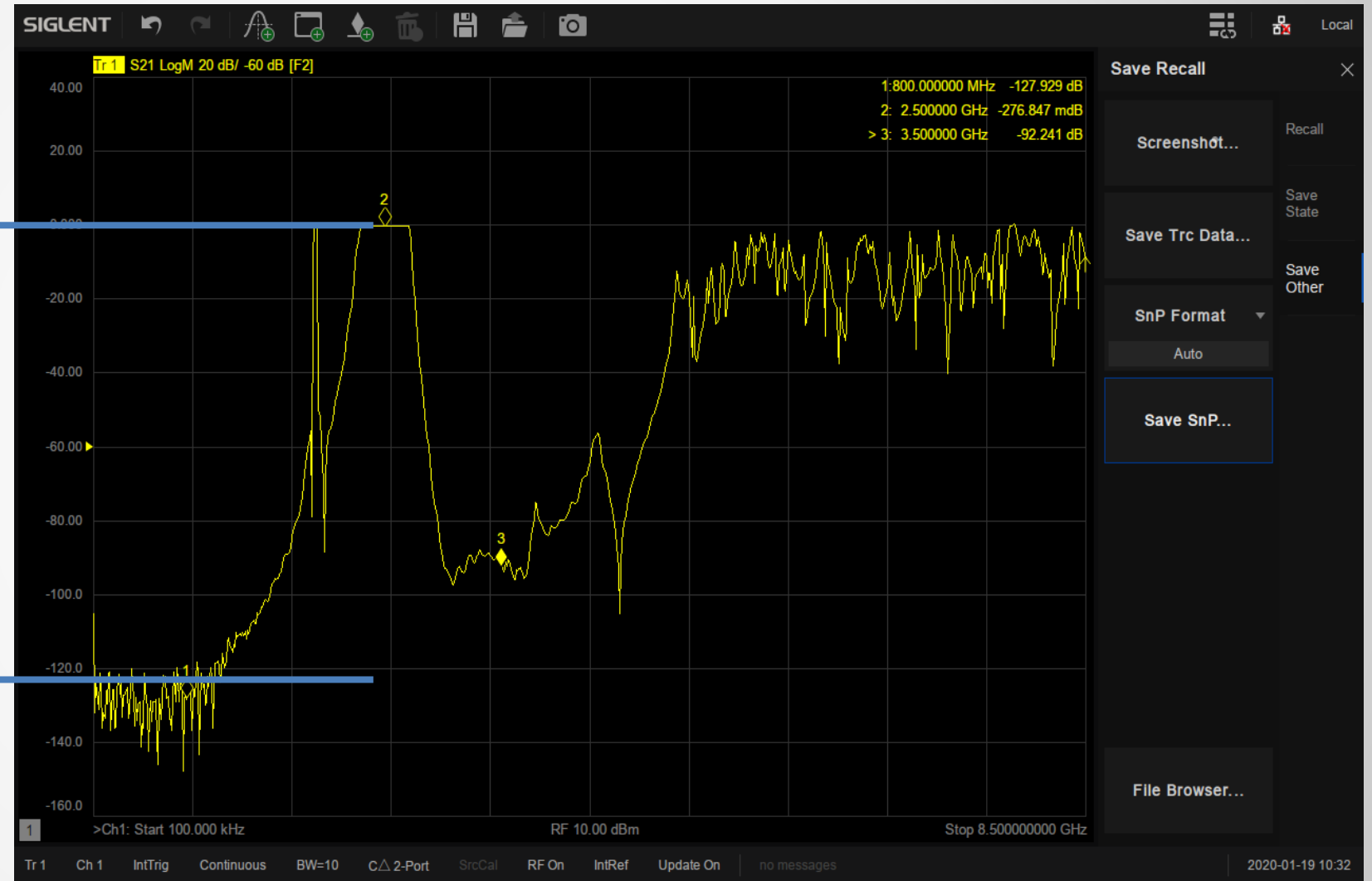


E5071C

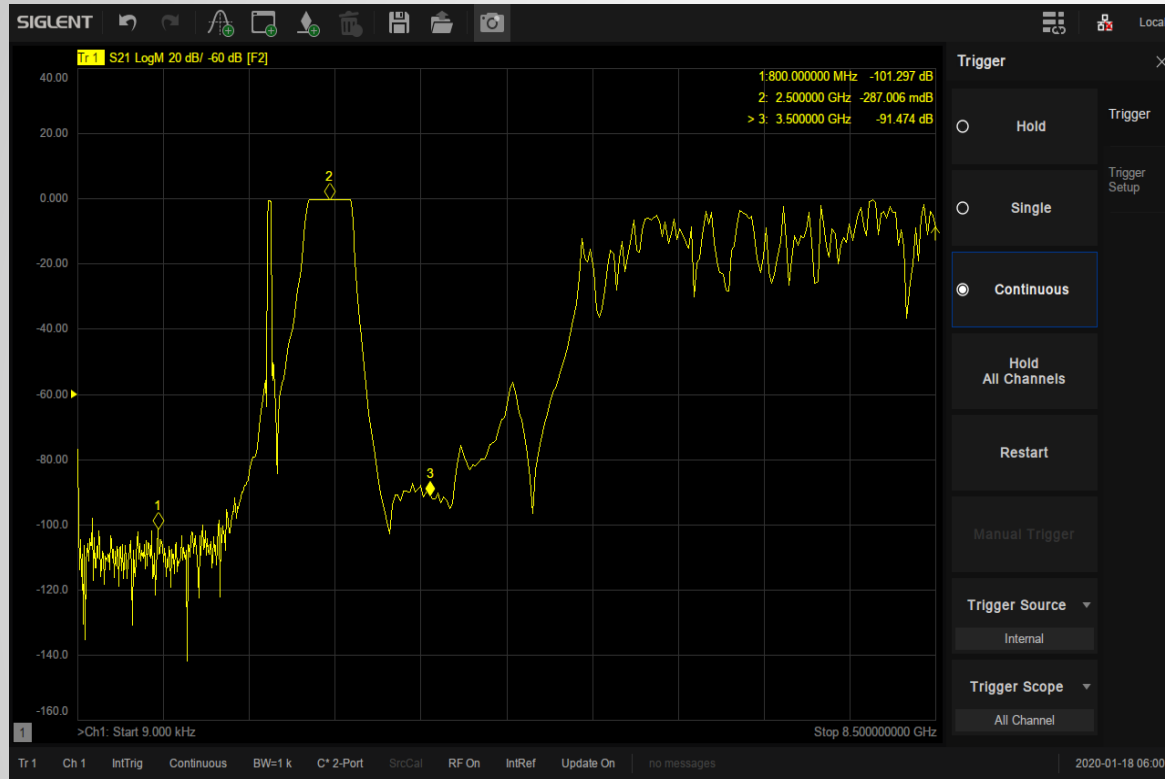
Dynamic Range



Measuring high out-of-band rejection
cavity filter, dynamic range ≥ 125 dB

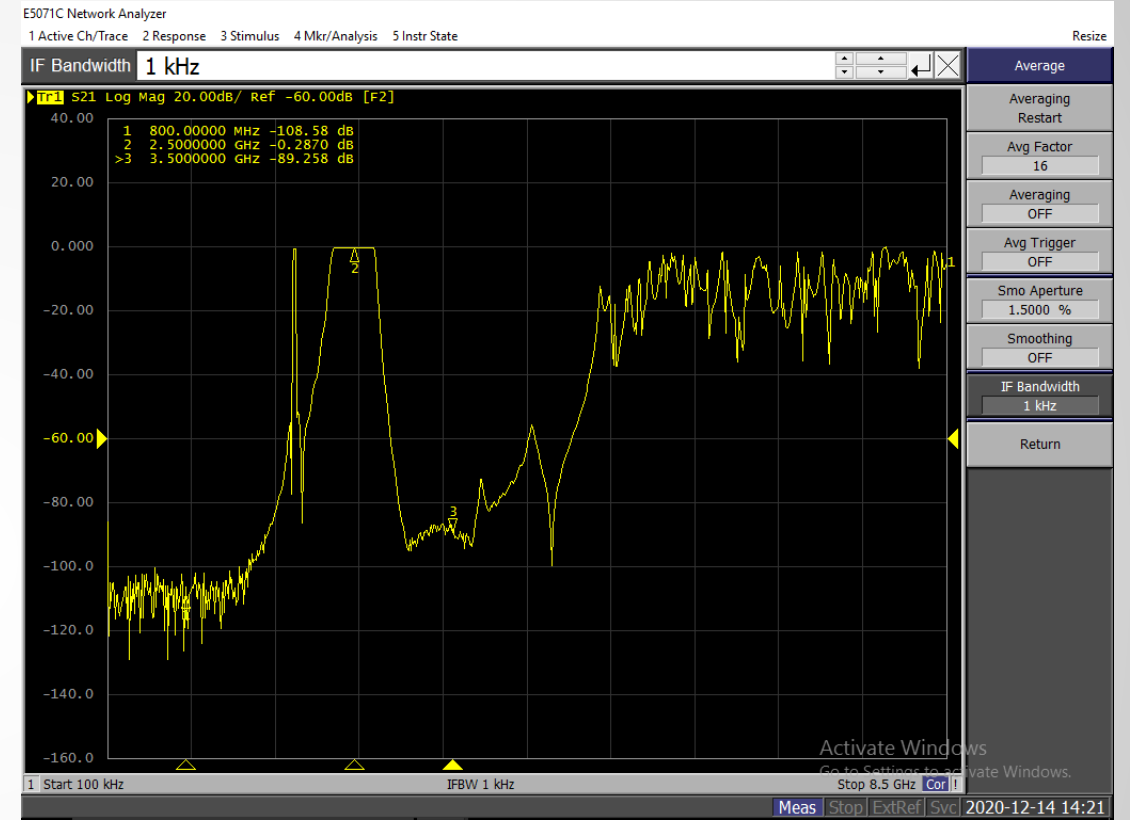


Filter measurement comparison



SNA5000A

In band @2.5GHz S21 Insertion Loss

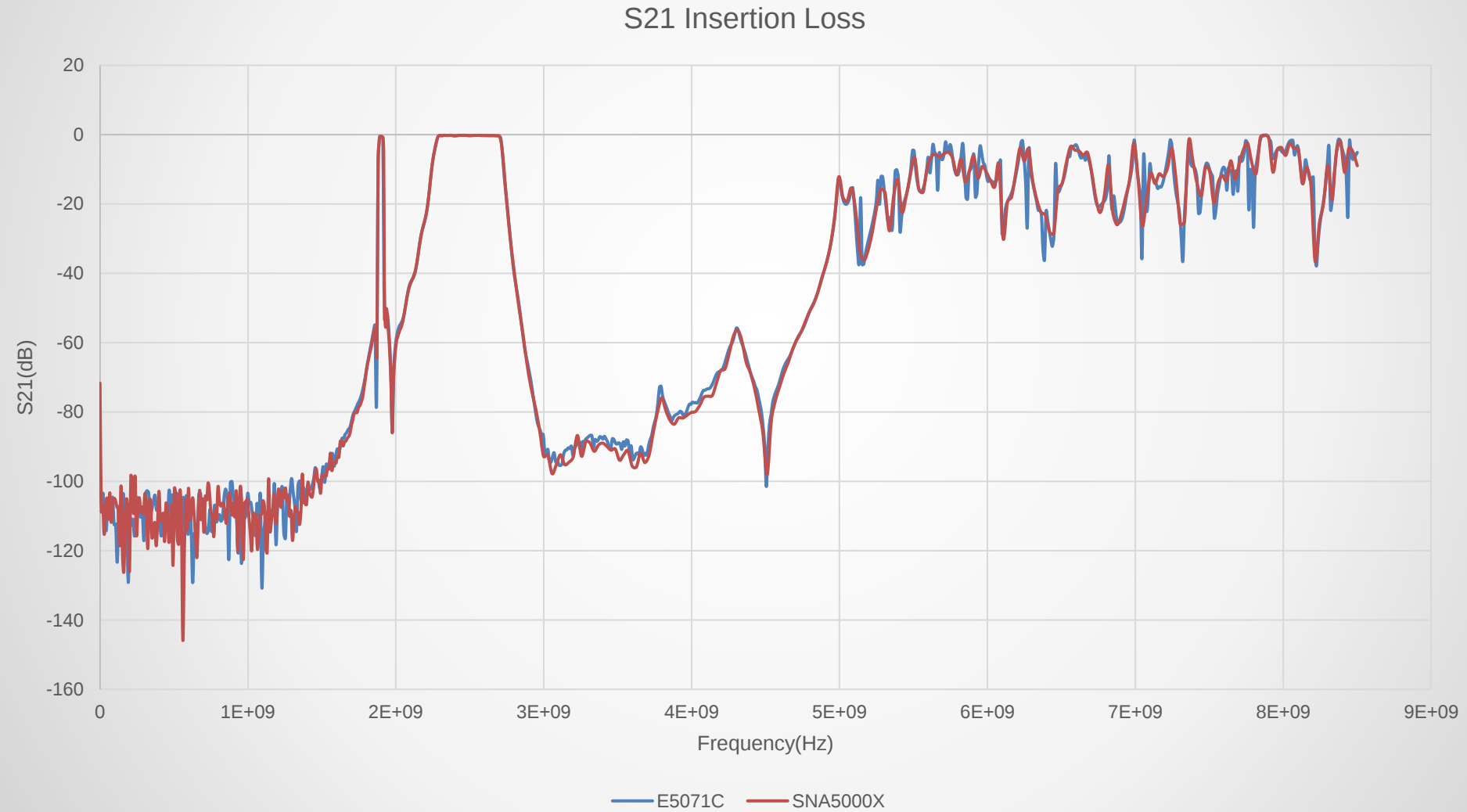


E5071C

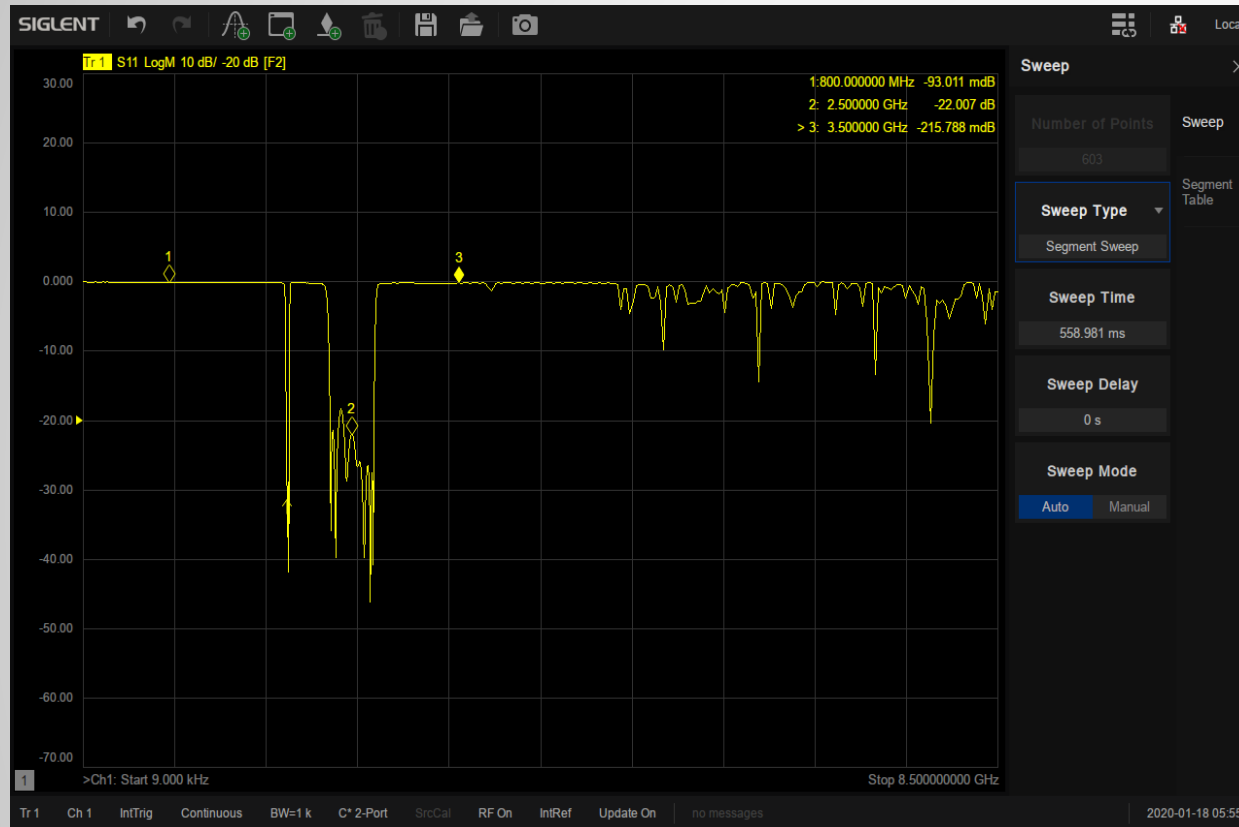
SNA5000A: IL=-0.287006dB

E5071C: IL=-0.287dB

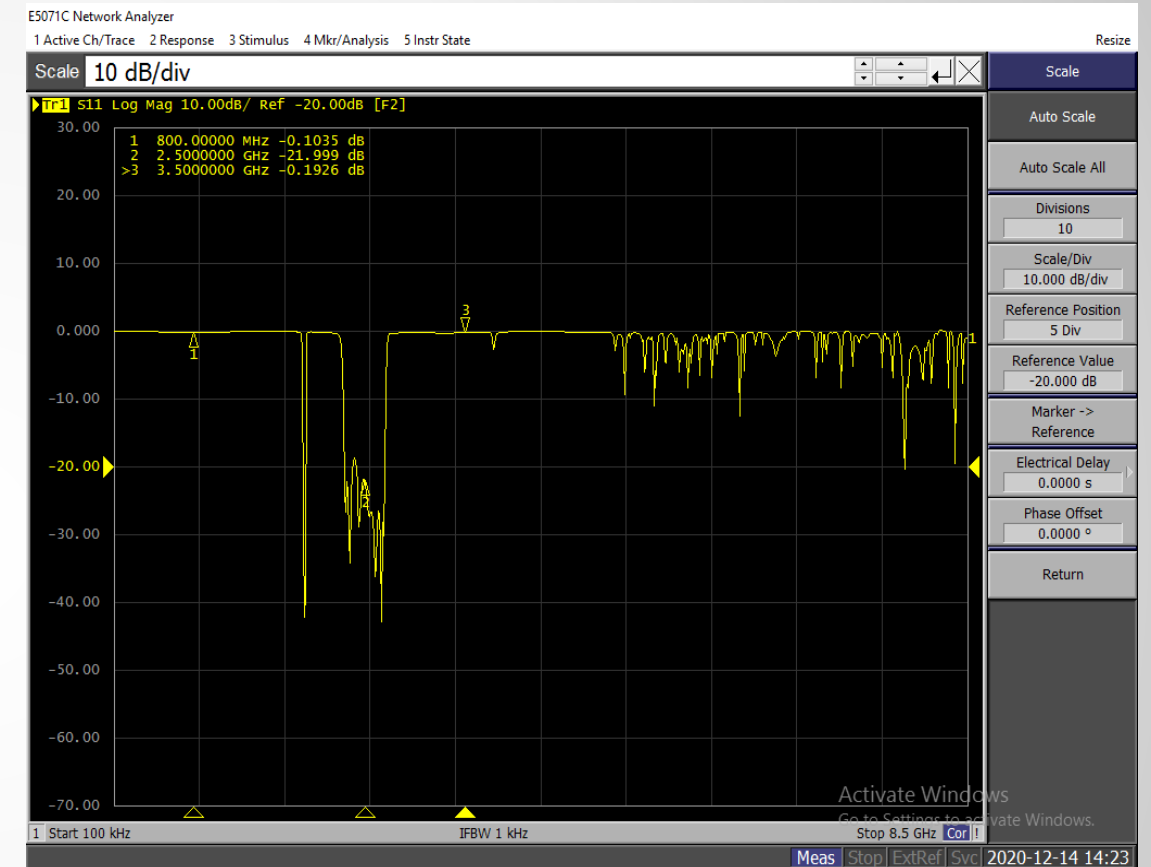
Filter measurement comparison



Filter measurement comparison



SNA5000A

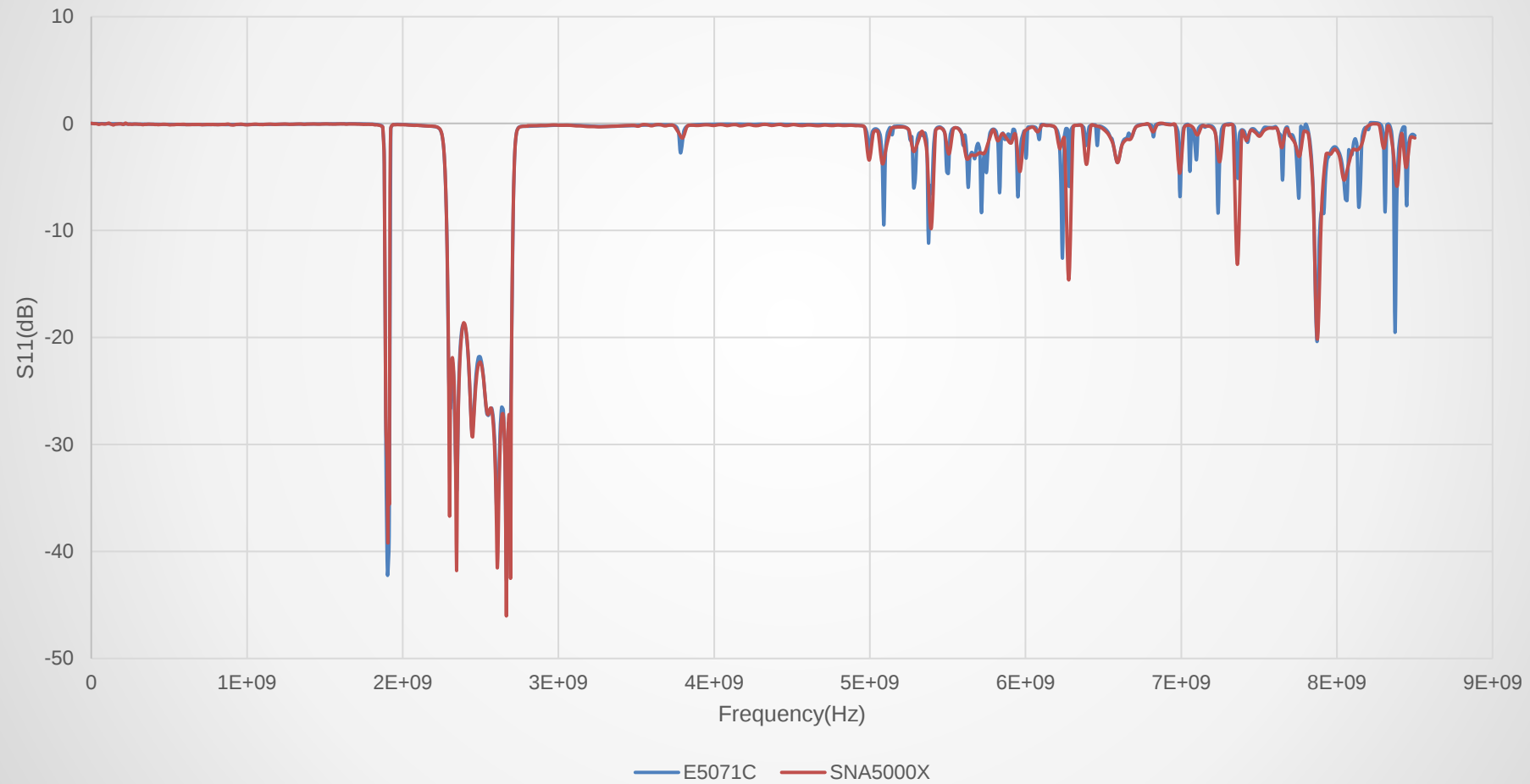


E5071C

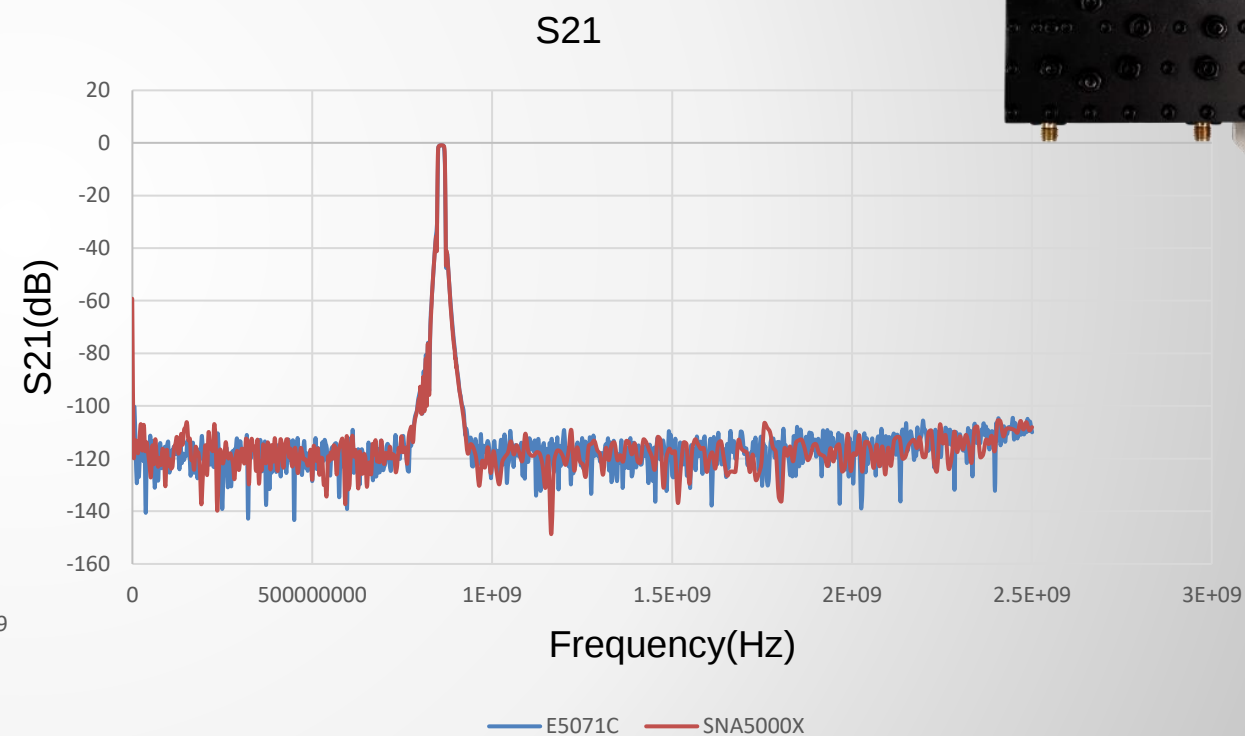
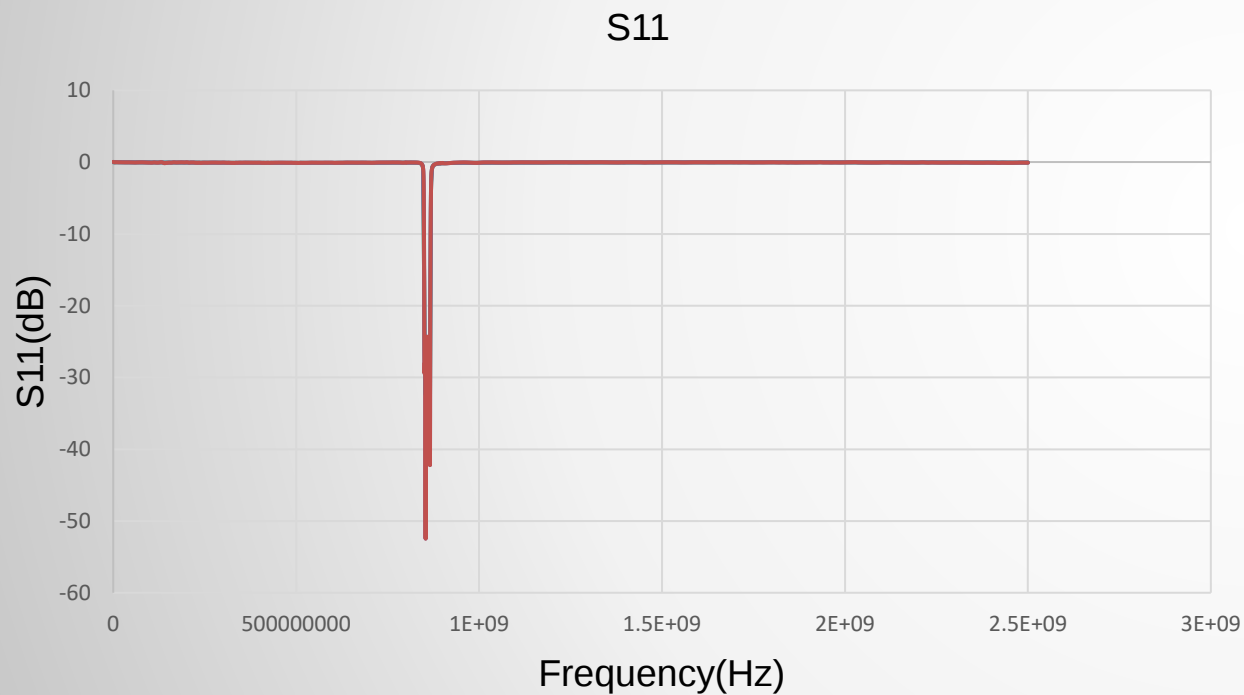
S11 Return Loss Measurement

Filter measurement comparison

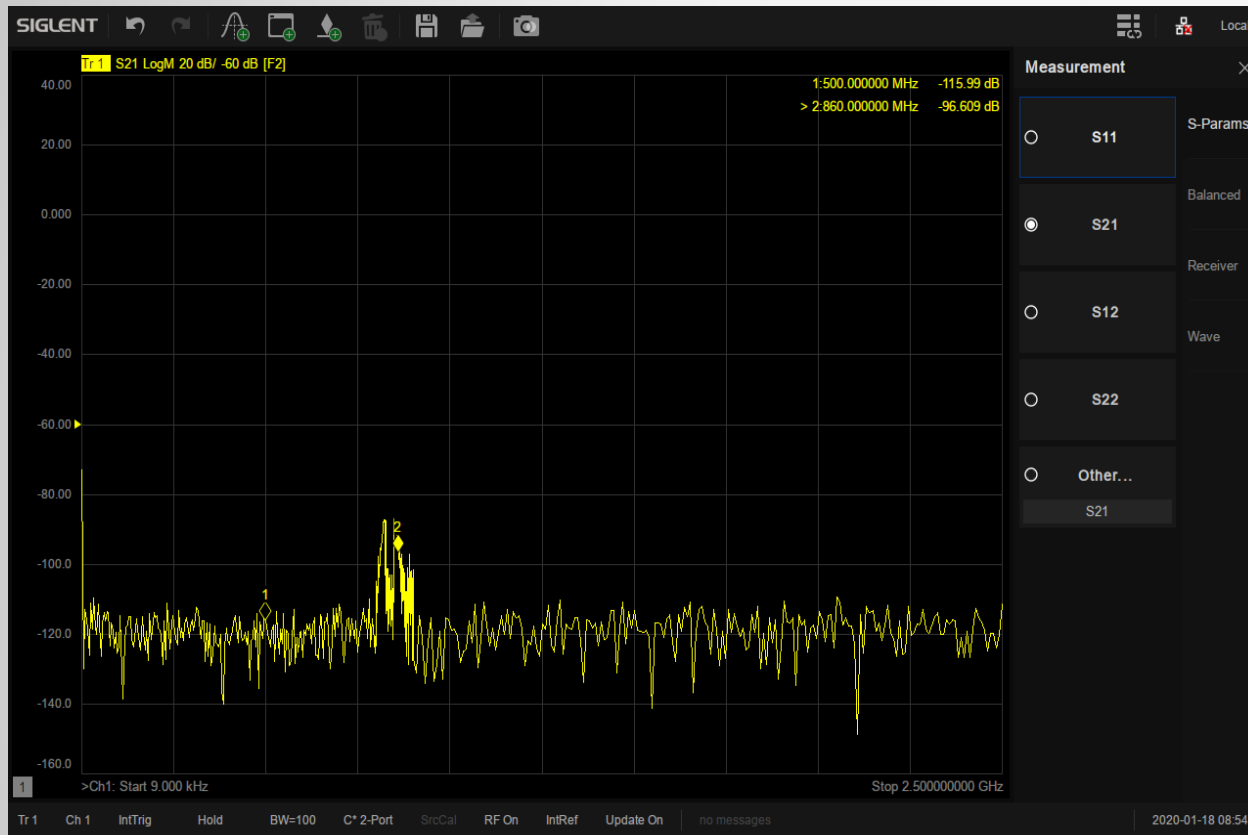
S11 Return Loss Measurement



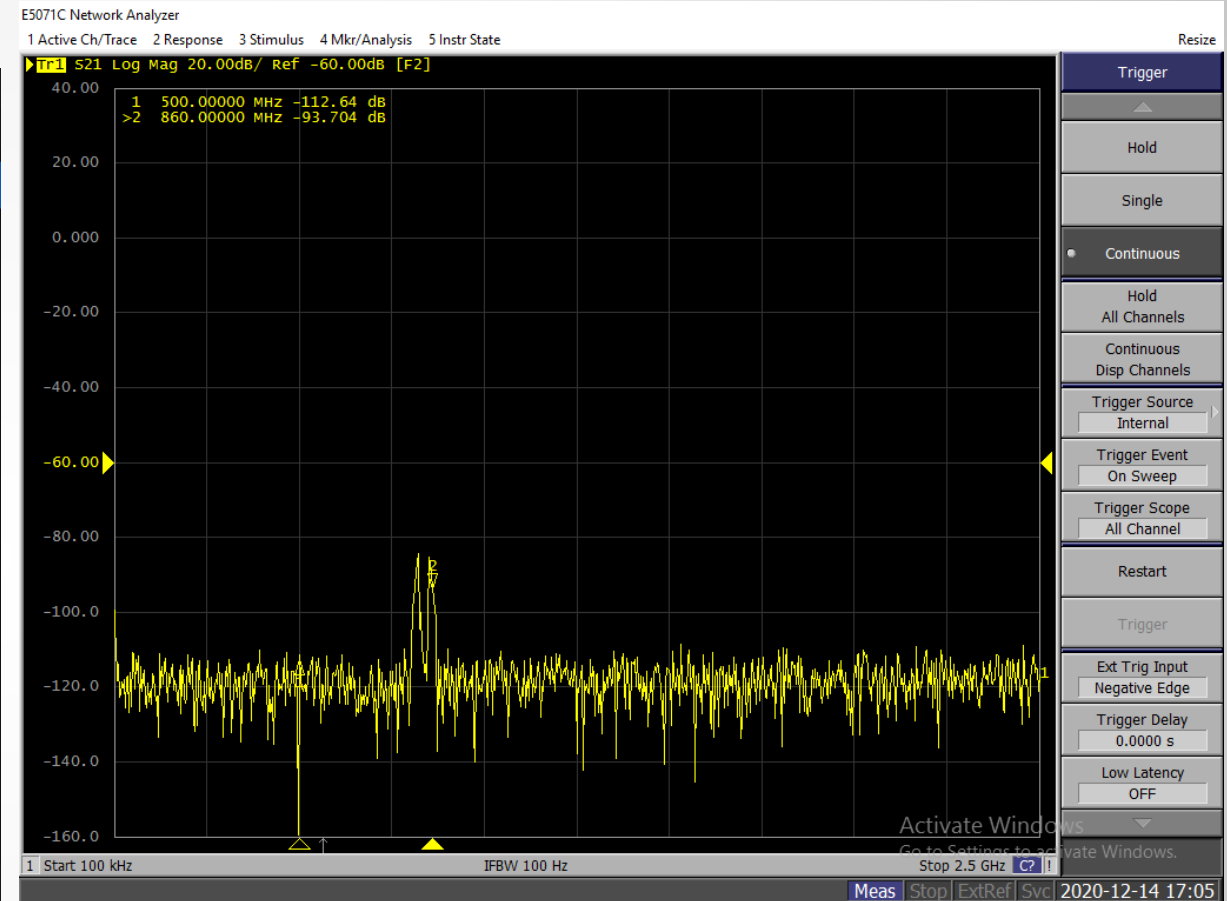
Diplexer measurement comparison



Diplexer measurement comparison



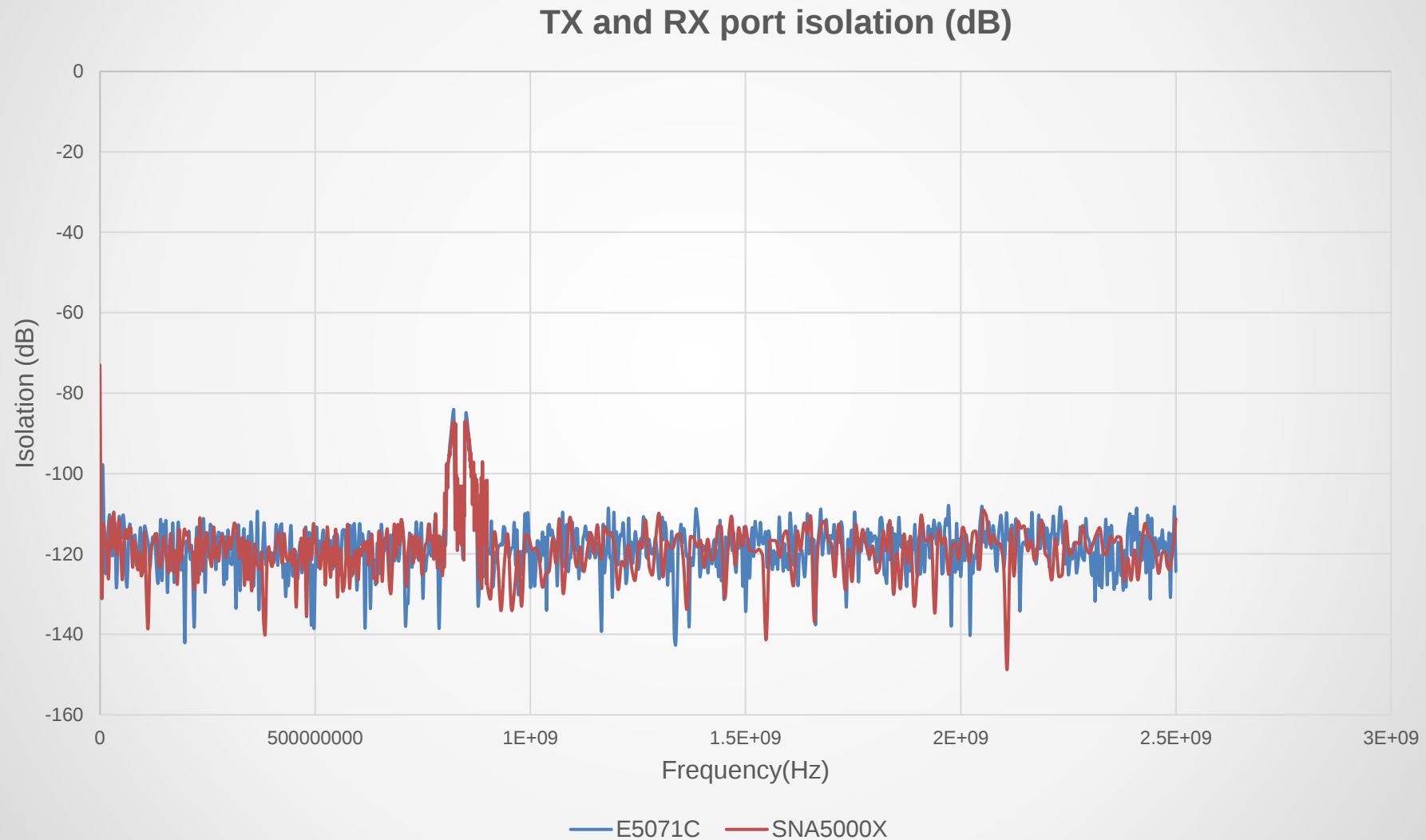
SNA5000A



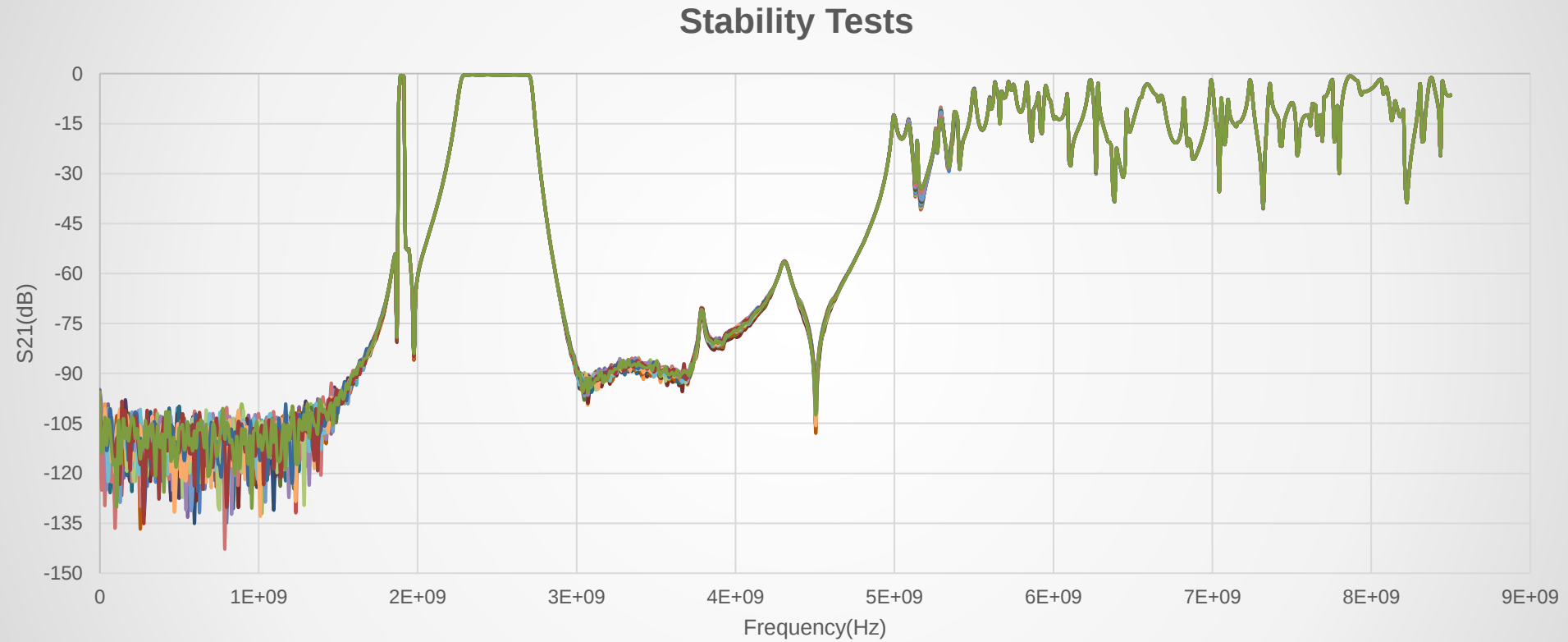
E5071C

TX and RX port isolation

Diplexer measurement comparison

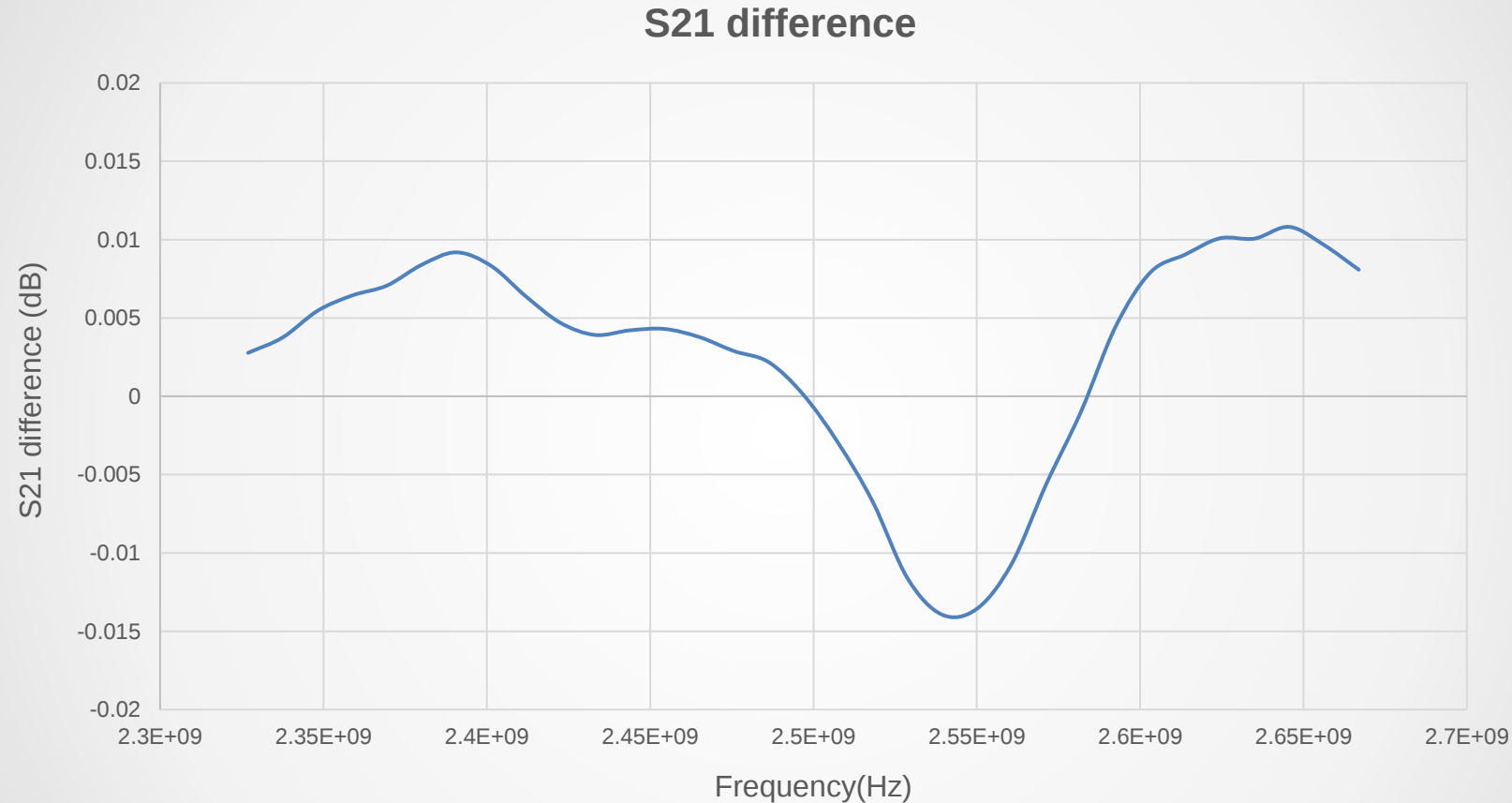


Stability Tests (12 hours)



Repeat tests in 12 hours – Full frequency range

Conformance Tests (12 hours)



Calibration – Running for 24 hours – Turn off – Turn it on again after one hour – Recall calibration data after 30 minutes warm up – Perform measurement again – Measured S21 values differences are within 0.015 dB

Appearance	 SIGLENT SNA5000A	 Keysight E5071C	 R&S ZNL
Frequency Range	9 kHz~4.5GHz/8.5 GHz; 100 kHz~13.5GHz/26.5 GHz	9 kHz~3/4.5/6.5/8.5 GHz ; 100 kHz~3/4.5/6.5/8.5 GHz ; 300 kHz~14/20 GHz	5 kHz~3/4.5/6/14/20 GHz
Ports	2/4	2/4	2
System Dynamic Range (IFBW 10Hz)	SNA5002A/SNA5012A/SNA5004A/SNA5014A 89dB @9 kHz~18 kHz; 92dB @18 kHz~30 kHz; 95dB @30 kHz~100 kHz; 105dB @100 kHz~300 kHz; 120dB @300 kHz~500 kHz; 125dB @500 kHz~5 GHz; 123dB @5 GHz~6.8 GHz; 120dB @6.8 GHz~7.7 GHz; 119dB @7.7 GHz~8 GHz; 117dB @8 GHz~8.5 GHz; SNA5022A/SNA5032A 115dB @100 kHz~10 MHz; 125dB @10 MHz~9 GHz; 118dB @9 GHz~13.5 GHz; 115dB @13.5 GHz~20 GHz; 105dB @20 GHz~26.5 GHz	Option 280/480 97dB @9 kHz~300 kHz; 107dB @300 kHz~10 MHz; 123dB @10 MHz~6 GHz; 117dB @6 GHz~8.5 GHz; Option 2K5/4K5 95dB @300 kHz~1 MHz; 107dB @1 MHz~10 MHz; 120dB @10 MHz~100 MHz; 123dB @100 MHz~6 GHz; 117dB @6 GHz~8.5 GHz; 105dB @8.5 GHz~10.5 GHz; 100dB @10.5 GHz~15 GHz; 96 dB @15 GHz~20 GHz	ZNL3/ZNL4/ZNL6 >85 dB @5 kHz~100 kHz; >100 dB @100 kHz~10 MHz; >110 dB @10 MHz~50 MHz; >120 dB @50 MHz~4.5 GHz; >115 dB @4.5 GHz~6 GHz; ZNL14/ZNL20 >85 dB @5 kHz~100 kHz; >100 dB @100 kHz~10 MHz; >110 dB @10 MHz~14 GHz; >105 dB @14 GHz~16 GHz; >100 dB @16 GHz~20 GHz
Range of IFBW	10 Hz~3 MHz	10 Hz~1.5 MHz	1 Hz~500 kHz
Setting range of output level	-55dBm ~ +10dBm	-55dBm ~ 10dBm	-10dBm ~ -3dBm @5 kHz~50 kHz; -10dBm ~ 0dBm @50 kHz~20 GHz; Option R&S®ZNL-B22 -40dBm ~ -3dBm @5 kHz~50 kHz; -40dBm ~ 0dBm @50 kHz~20 GHz
Level linearity	±0.5 dB	±0.75 dB	≤1 dB @100 kHz~6 GHz; ≤1.5 dB @6 GHz~20 GHz
Noise Floor	SNA5002A/SNA5012A/SNA5004A/SNA5014A -100 dBm/Hz @9 kHz~100 kHz; -110 dBm/Hz @100 kHz~300 kHz; -120 dBm/Hz @300 kHz~500 kHz; -125 dBm/Hz @500 kHz~8.5 GHz; SNA5022A/SNA5032A -115 dBm/Hz @100 kHz~10 MHz; -125 dBm/Hz @10 MHz~20 GHz; -120 dBm/Hz @20 GHz~26.5 GHz	Option 280/480 -97 dBm/Hz @9 kHz~300 kHz; -107 dBm/Hz@300 kHz~10 MHz; -123 dBm/Hz@10 MHz~5 GHz; -124 dBm/Hz@5 GHz~ 6 GHz; -119 dBm/Hz@6 GHz~7 GHz; -120 dBm/Hz@7 GHz~8.5 GHz; Option 2K5/4K5 -97 dBm/Hz @300 kHz~1 MHz; -107 dBm/Hz@1 MHz~10 MHz; -120 dBm/Hz@10 MHz~100 MHz; -123 dBm/Hz@100 MHz~6 GHz; -118 dBm/Hz@6 GHz~8 GHz; -120 dBm/Hz@8 GHz~8.5 GHz; -108 dBm/Hz@8.5 GHz~10.5 GHz; -107 dBm/Hz@10.5 GHz~15 GHz; -106 dBm/Hz@15 GHz~20 GHz	ZNL3/ZNL4/ZNL6 <-95 dBm @5 kHz~100 kHz; <-120 dBm @100 kHz~50 MHz; <-130 dBm @50 MHz~4.5 GHz; <-125 dBm @4.5 GHz~6 GHz; ZNL14/ZNL20 <-95 dBm @5 kHz~100 kHz; <-120 dBm @100 kHz~50 MHz; <-125 dBm @50 MHz~6 GHz; <-120 dBm @6 GHz~16 GHz; <-115 dBm @16 GHz~20 GHz
Display	12.1-inch,1280*800,touch screen	10.4-inch,1024*768,touch screen	10.1-inch,1280*800,touch screen
Size	W×H×D=378×284×126 mm	W×H×D=426×222×472 mm	W×H×D=408×186×235 mm
Weight	2-port:5.5 kg; 4-port or SNA5032A/SNA5022A:7.4 kg	Option 230/240/260/280 (2-port):18.8 kg; Option 430/480/440/460 (4-port):20.5 kg; Option 2D5/2K5 (2-port):20.4 kg; Option 4D5/4K5 (4-port):22.4 kg	without options:6 kg; with internal battery:7.3 kg

Ordering Information



New Models	Description	Price	Availability
SNA5022A	100kHz-13.5GHz 2 port Vector Network Analyzer	\$30,860	4-6 weeks
SNA5032A	100kHz-26.5GHz 2 port Vector Network Analyzer	\$36,460	4-6 weeks
New Accessories			
V26-N35MN35F-25IN	25" NMD 3.5 mm male - NMD 3.5 mm female; 26 GHz	\$1,440	4-6 weeks
V26-N35FA35F-25IN	25" NMD 3.5 mm female - APC 3.5 mm female; 26.5 GHz	\$1,440	4-6 weeks
F604TY	27 GHz 3.5mm Calibration Kit	\$4,770	4-6 weeks
Y504MS	Integrated 9 GHz OSLT Cal Kit, N-Male	\$2,360	4-6 week
Y504FS	Integrated 9 GHz OSLT Cal Kit, N-Female	\$2,360	4-6 weeks
N-SMA-18L	N(M)-SMA(M) RF Cable DC~18 GHz,1000 mm	\$295	Stock
N-N-18L	N(M)-N(M) RF Cable DC~18 GHz,1000 mm	\$295	Stock
SMA-SMA-18L	SMA(M)-SMA(M) RF Cable DC~18 GHz,1000 mm	\$295	4-6 weeks
SMA-SMA-26L	SMA(M)-SMA(M) RF Cable DC~26.5 GHz,1000 mm	\$450	4-6 weeks
SMAF-SMA-26L	SMA(F)-SMA(M) RF Cable DC~26.5 GHz,1000 mm	\$450	4-6 weeks
New Options			
SNA5000-SA	Spectrum Analyzer Option	\$1,790	Stock
SNA5000-SMM	Scalar Mixer Measurement Option	\$2,360	Stock

Thank You

The Best Value in Electronic Test & Measurement

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