



**Typical Characteristics
On
P32T-0R5G18G-60-T-SFF**

PL15126/1419

PMI MODEL P32T-0R5G18G-60-T-SFF IS AN ABSORPTIVE, SINGLE POLE THIRTY TWO WAY, HIGH SPEED SOLID STATE SWITCH. THIS MODEL OFFERS LOW LOSS AND HIGH ISOLATION, AND IS SUPPLIED IN A COMPACT HOUSING MEASURING ONLY 8.0" X 3.5" X 1.0"



July 7, 2014

**Designed By:
Simon Kuhn / PMI Engineering**

**Tested & Reported By:
Hugo Gonzales / Paul Kuhn / Sebastian Palacio**



Typical Characteristics On P32T-0R5G18G-60-T-SFF

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DESCRIPTION
 PMI MODEL P32T-0R5G18G-60-T-SFF IS AN ABSORPTIVE, SINGLE POLE THIRTY TWO WAY, HIGH SPEED SOLID STATE SWITCH. THIS MODEL OFFERS LOSS LOSS AND HIGH ISOLATION, AND IS SUPPLIED IN A COMPACT HOUSING MEASURING ONLY 8.0" X 3.5" X 1.0"

SPECIFICATIONS

- FREQUENCY RANGE: 0.5 TO 18.0 GHz
- INSERTION LOSS: 9.5dB MAX
- ISOLATION: 0.5 GHz TO 2.0 GHz : 60dB MIN
2.0 GHz TO 18.0 GHz : 70dB MIN
- VSWR (IN/OUT): 2.0:1 MAX
- SWITCHING SPEED: 100ns MAX
- INPUT POWER: 20dBm CW MAX (OPERATING)
- SURVIVAL POWER: 1 WATT CW, 10 WATTS PEAK, 1 us
- CONTROL: DECODED (SEE LOGIC TABLE)
- CONNECTORS:
 - PORTS: SMA (F) REMOVABLE
 - CONTROL & POWER: 9 PIN SUB D MALE (MATING CONNECTOR SUPPLIED WITH UNIT)
- DC SUPPLY: +5VDC @ 1600mA
-5VDC @ 200mA
- SIZE: (L) 8.0" X (W) 3.5" X (H) 1.0"
- FINISH: GRAY EPOXY POLYIMIDE COATING ANY PREFERRED FINISH OVER EPOXY POLYIMIDE COATING MIL-PR-23377, TYPE I, CLASS 1 OR 3.

ENVIRONMENTAL RATINGS

- TEMPERATURE: -55C TO +85C (OPERATING)
-65C TO +125C (STORAGE)
 - HUMIDITY: MIL-STD-202F, METHOD 103B COND. B
 - SHOCK: MIL-STD-202F, METHOD 213B COND. B
 - VIBRATION: MIL-STD-202F, METHOD 2040 COND. B
 - ALTITUDE: MIL-STD-202F, METHOD 1095 COND. B
 - TEMPERATURE CYCLE: MIL-STD-202F, METHOD 1070 COND. A
- ALL SPECIFICATIONS ARE BASED ON OPERATING TEMPERATURE UNLESS OTHERWISE SPECIFIED.
 SEE THE DATA SPECIFICATIONS FOR SELECTED SIGNALS IN SECTION 3.

SPECIFICATIONS & PRODUCT INFO

REV	DATE	DESCRIPTION	BY	CHKD
1		ORIGINAL RELEASE		

PORT	LOGIC TABLE				
	E1	E2	E3	E4	E5
J1	0	0	0	0	0
J2	1	0	0	0	0
J3	0	1	0	0	0
J4	1	1	0	0	0
J5	0	0	1	0	0
J6	1	0	1	0	0
J7	0	1	1	0	0
J8	1	1	1	0	0
J9	0	0	0	1	0
J10	1	0	0	1	0
J11	0	1	0	1	0
J12	1	1	0	1	0
J13	0	0	1	1	0
J14	1	0	1	1	0
J15	0	1	1	1	0
J16	1	1	1	1	0
J17	0	0	0	0	1
J18	1	0	0	0	1
J19	0	1	0	0	1
J20	1	1	0	0	1
J21	0	0	1	0	1
J22	1	0	1	0	1
J23	0	1	1	0	1
J24	1	1	1	0	1
J25	0	0	0	1	1
J26	1	0	0	1	1
J27	0	1	0	1	1
J28	1	1	0	1	1
J29	0	0	1	1	1
J30	1	0	1	1	1
J31	0	1	1	1	1
J32	1	1	1	1	1

PINOUT TABLE	
PIN NO:	FUNCTION
1	E1
2	E2
3	E3
4	E4
5	E5
6	N/C
7	+V
8	-V
9	GND

ALL DIMENSIONS ARE IN MILLIMETERS
 UNLESS OTHERWISE SPECIFIED
 TOLERANCES:
 DIMENSIONS 0.000 - 0.250 ±0.005
 DIMENSIONS 0.250 - 1.250 ±0.010
 DIMENSIONS 1.250 - 25.400 ±0.020

PLANAR MONOLITHICS INDUSTRIES, INC.
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 WWW.PMI-IND.COM
 E-MAIL: SALES@PMI-RF.COM
 ISO 9001 CERTIFIED

PMI CONFIDENTIAL AND PROPRIETARY

PRODUCT FEATURE
 P32T-0R5G18G-60-T-SFF

REV. NO. 27022030

REV. 1 OF 2



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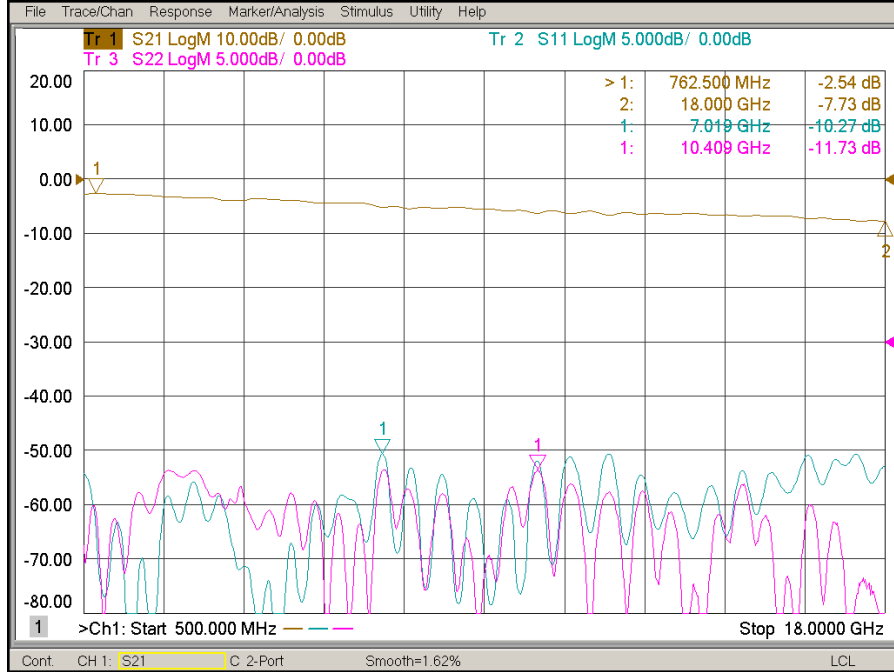
TEST. ITEM NO	PARAMETERS	SPECIFIED VALUE	TEST RESULTS	QA QC
1	Frequency Range:	0.5 to 18.0 GHz	0.5 to 18.0 GHz (See Plots)	
2	Insertion Loss:	9.5 dB Max	8.66dB (See Plots)	
3	Isolation:	0.5 GHz to 2.0 GHz : 60dB Min 2.0 GHz to 18.0 GHz : 70dB Min	77.39dB (See Plots)	
4	VSWR (In/Out):	2.0:1 Max	1.99:1 (See Plots)	
5	Switching Speed:	100ns Max	85ns (See Plots)	
6	Input Power:	20dBm CW Max (Operating)	20dBm CW Max (Operating)	
7	Survival Power:	1 Watt CW, 10 Watts Peak, 1 us	1 Watt CW, 10 Watts Peak, 1 us	
8	Control:	Decoded (See Logic Table)	Pass	
9	Video Transients:	Not Specified	450mV P-P Typical (See Plots)	
10	DC Supply	+5VDC @ 1600mA -5VDC @ 200mA	1470mA 100mA	



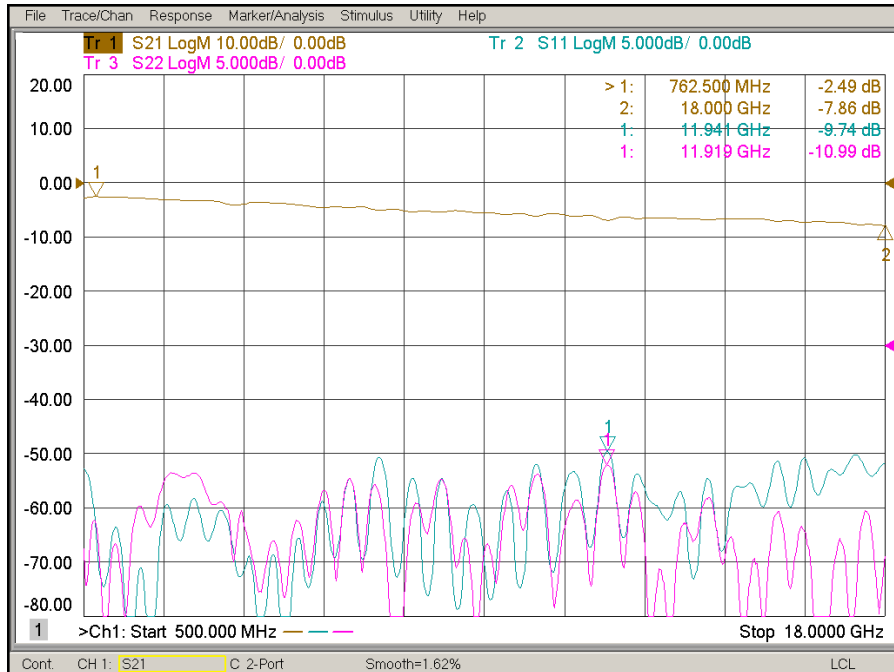
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(J33-J1) Insertion Loss and Return Loss



(J33-J2) Insertion Loss and Return Loss

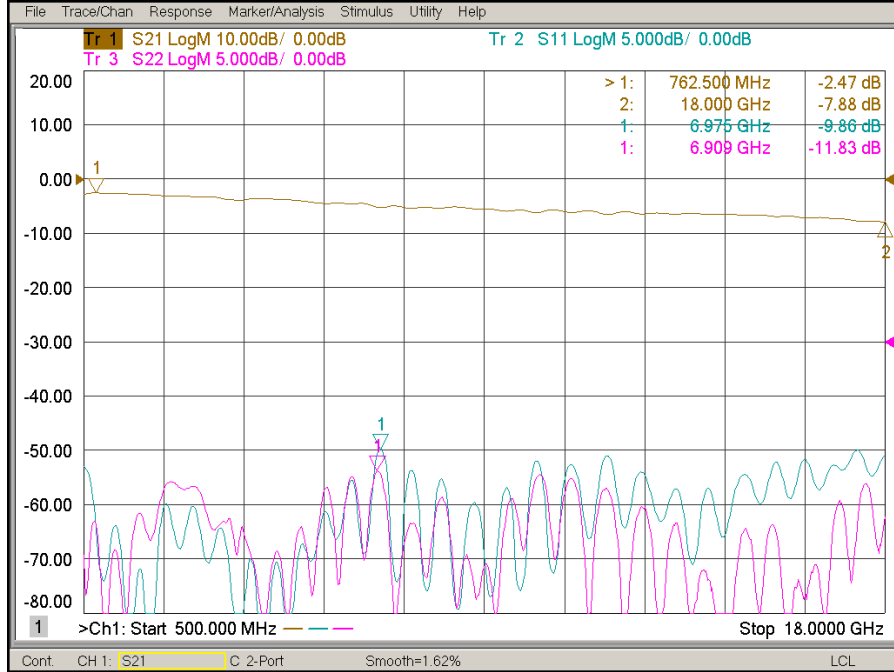




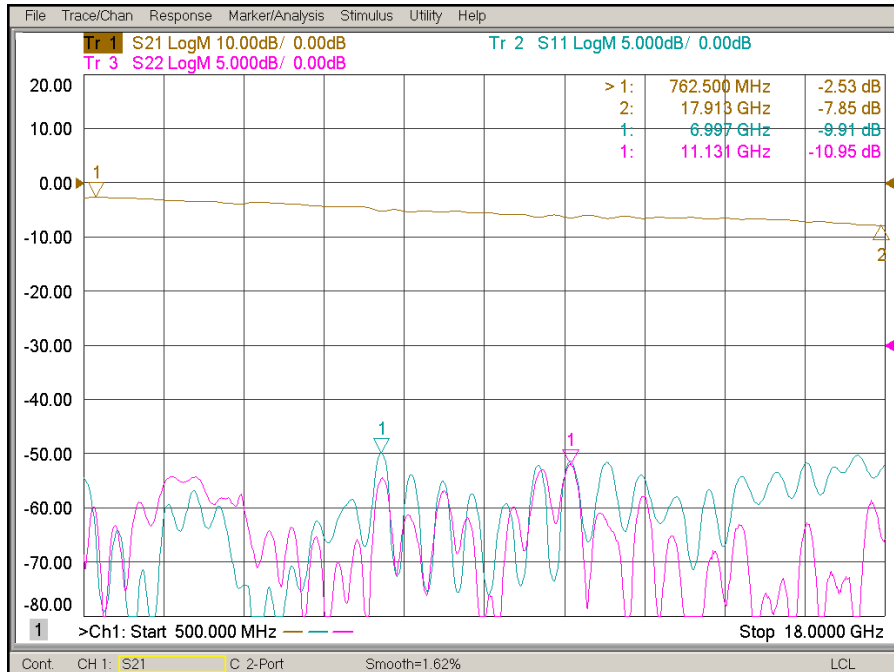
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(J33-J3) Insertion Loss and Return Loss



(J33J4) Insertion Loss and Return Loss

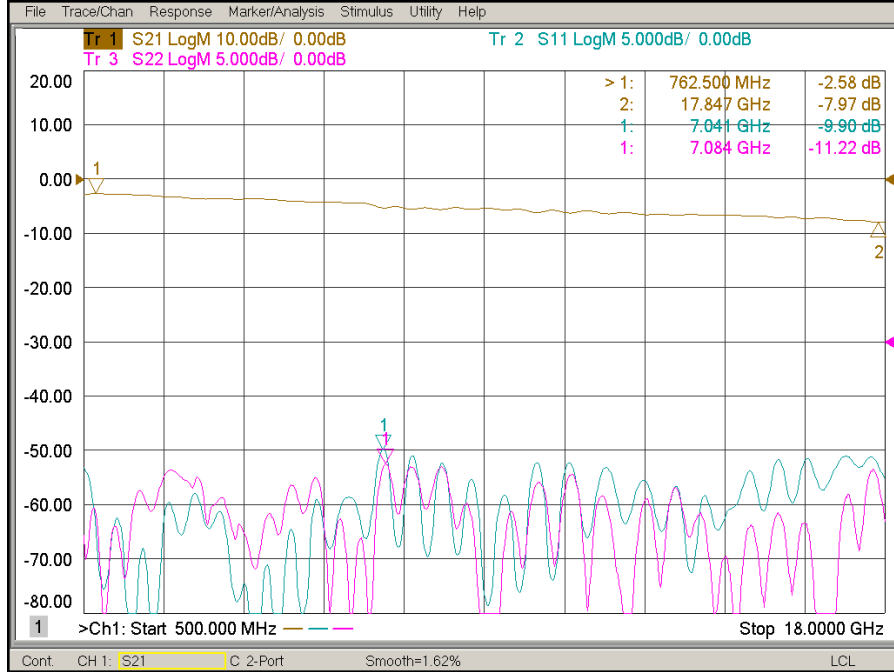




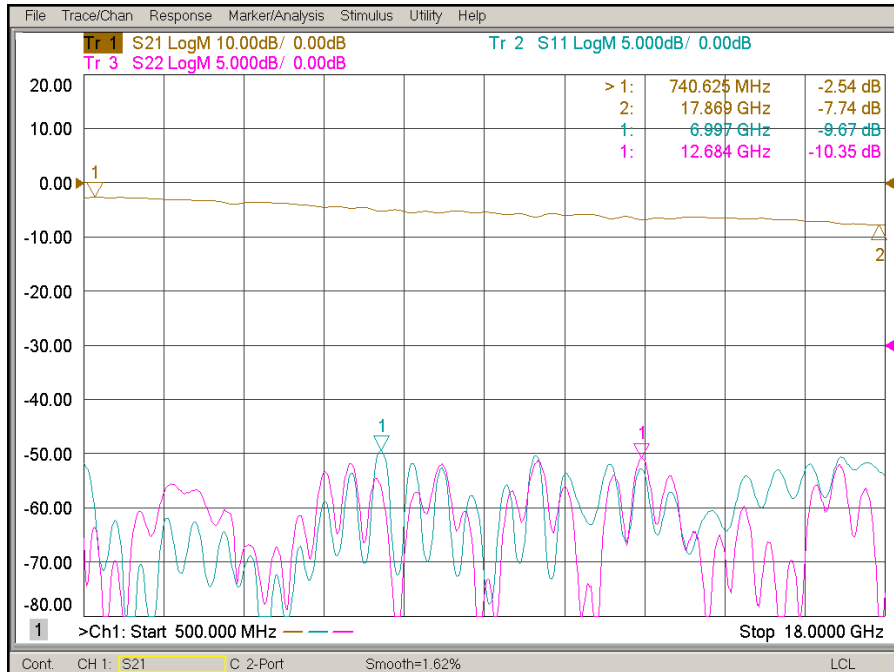
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(J33-J5) Insertion Loss and Return Loss



(J33-J6) Insertion Loss and Return Loss

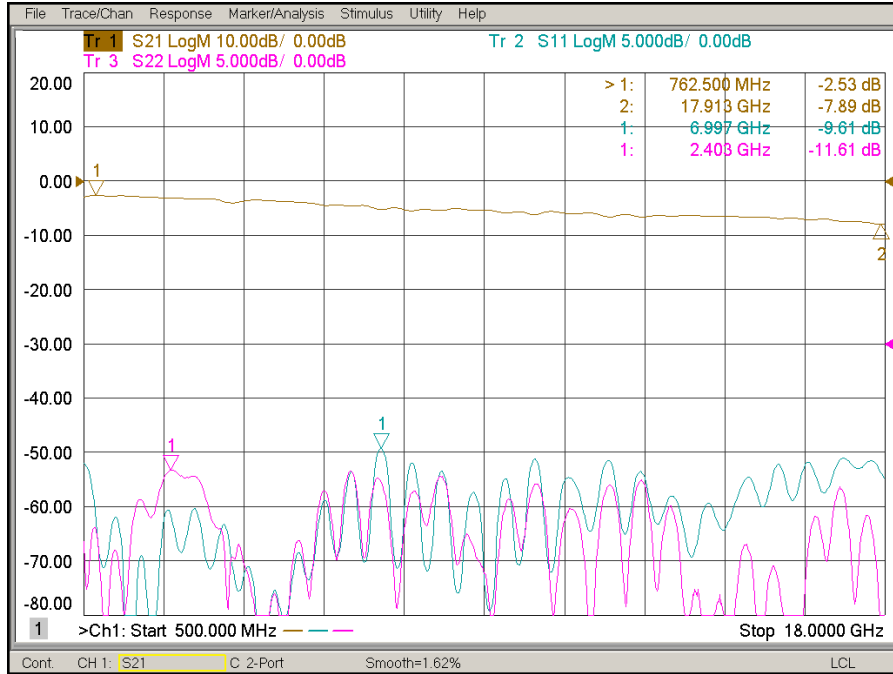




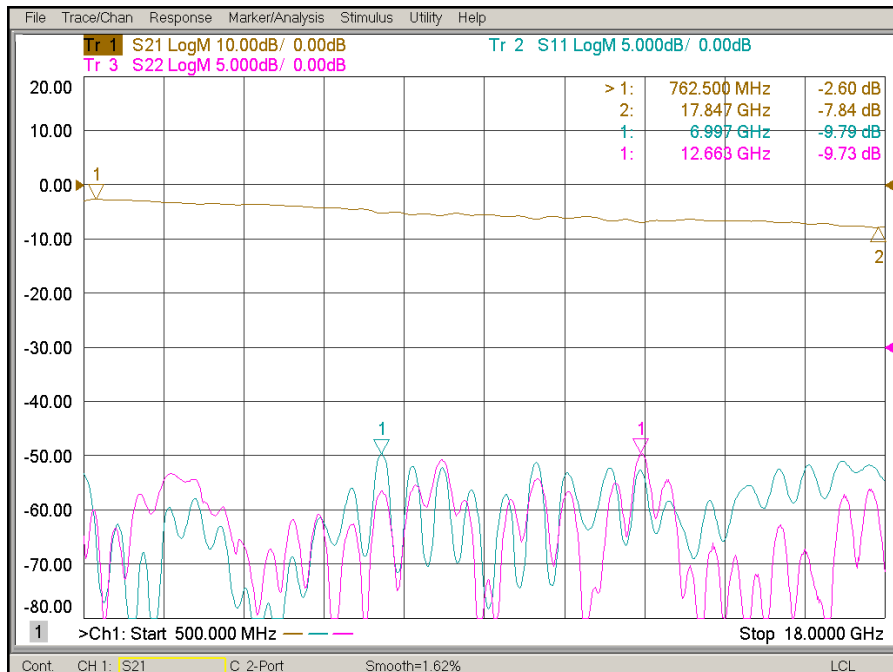
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(J33-J7) Insertion Loss and Return Loss



(J33-J8) Insertion Loss and Return Loss

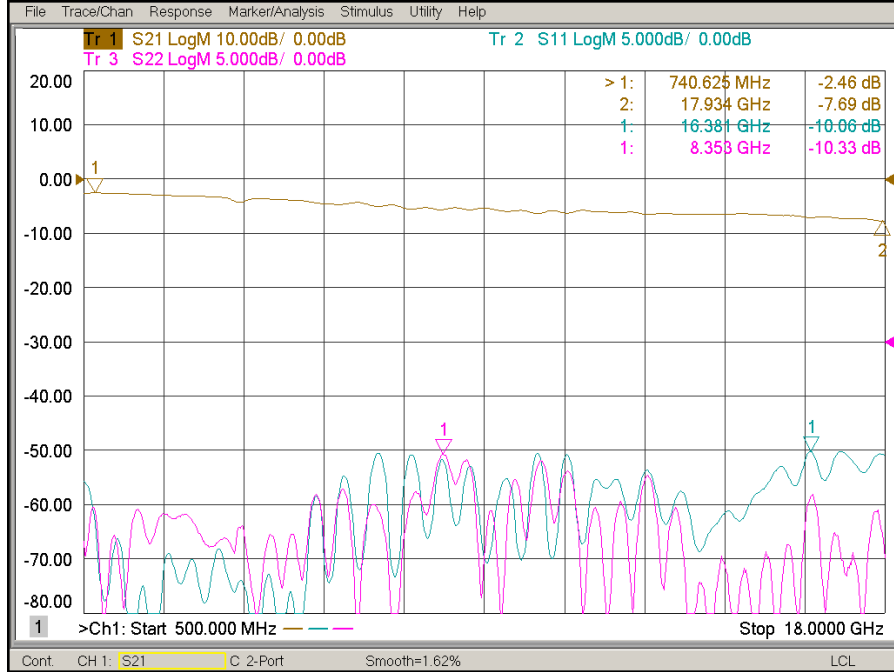




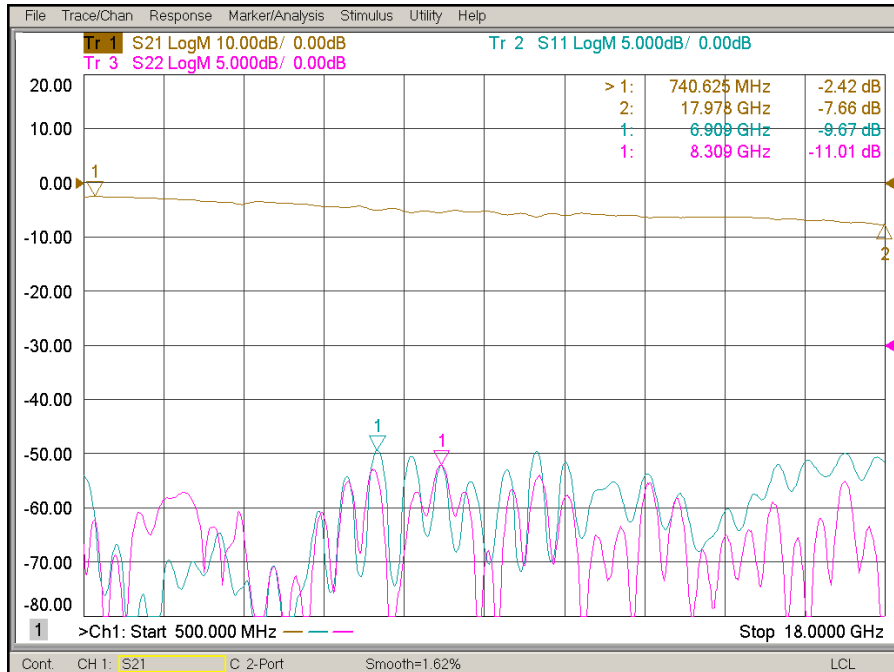
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(J33-J9) Insertion Loss and Return Loss



(J33-J10) Insertion Loss and Return Loss

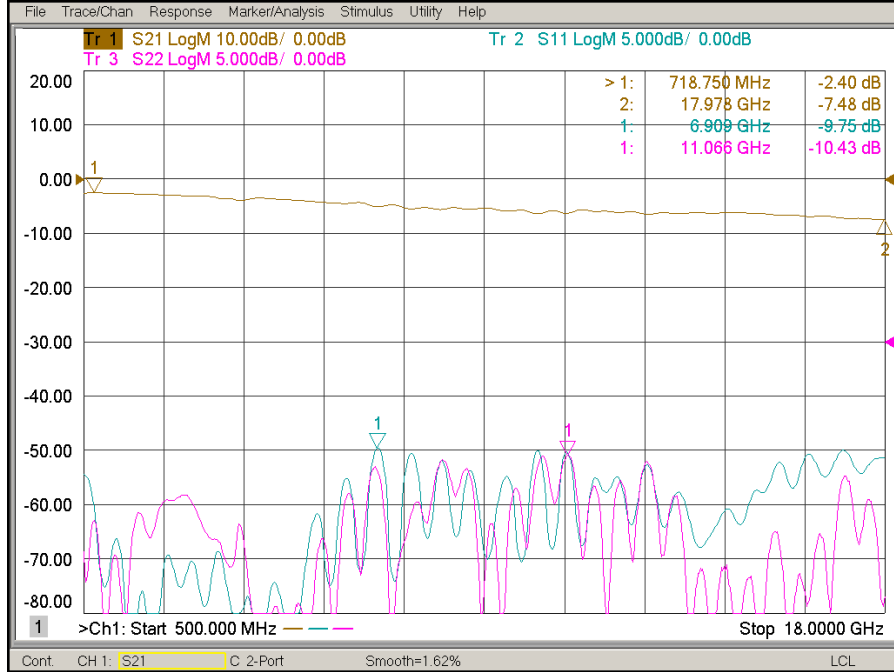




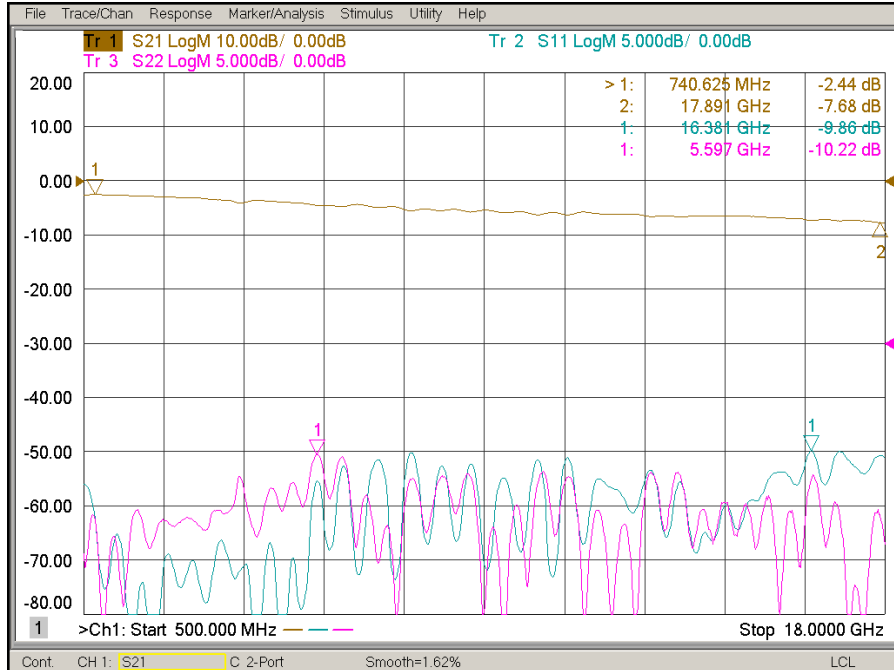
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(J33-J11) Insertion Loss and Return Loss



(J33-J12) Insertion Loss and Return Loss

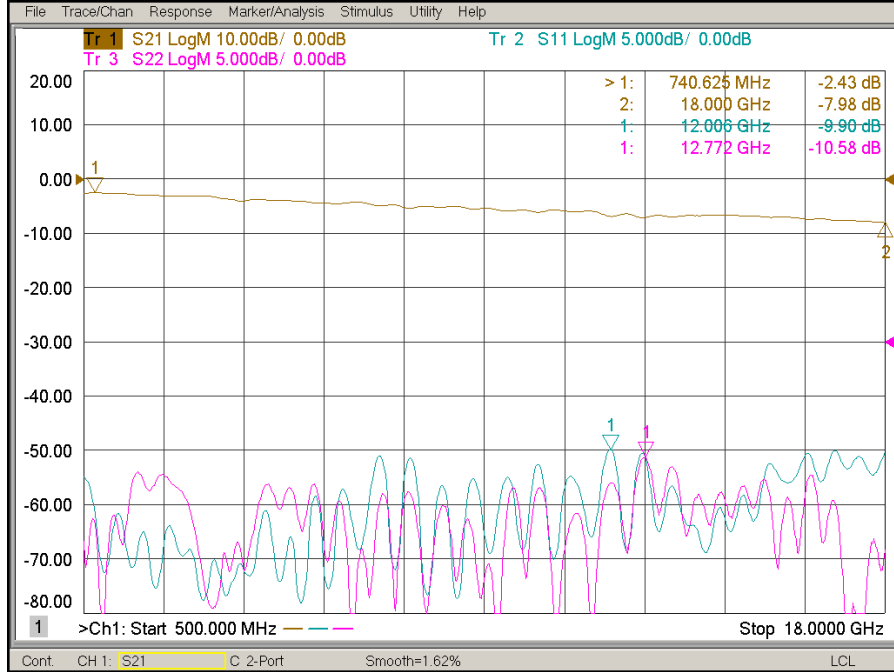




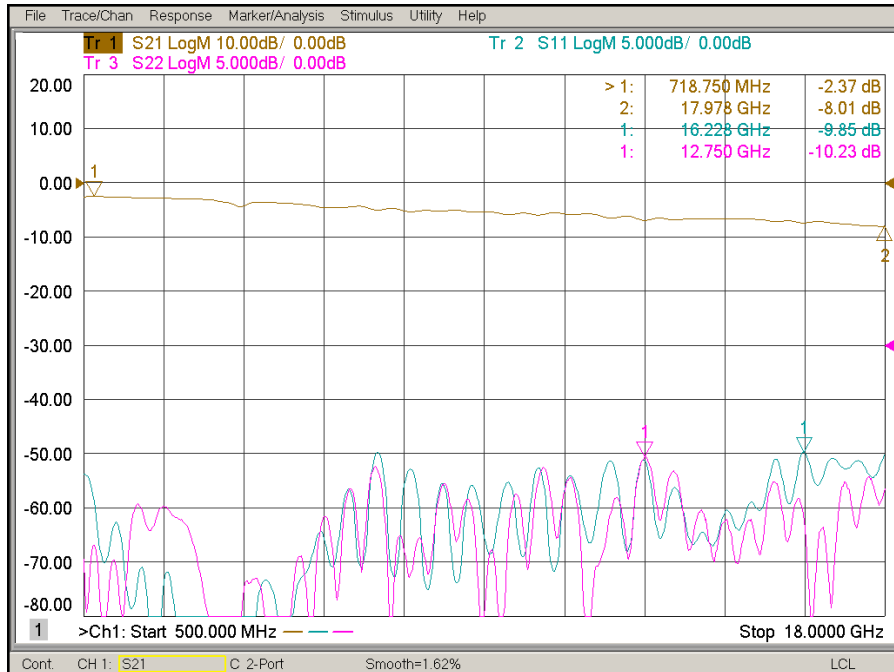
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(J33-J13) Insertion Loss and Return Loss



(J33-J14) Insertion Loss and Return Loss

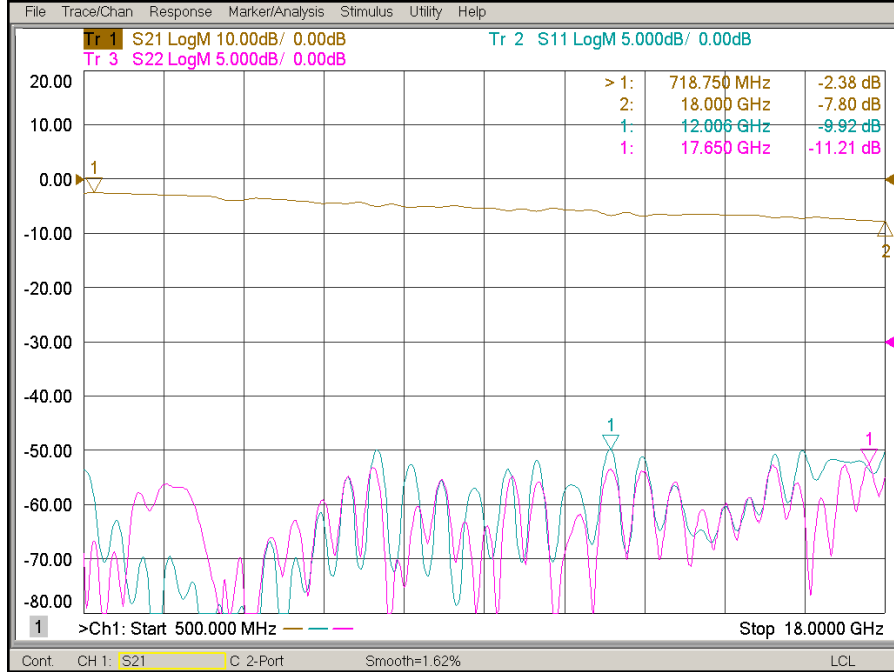




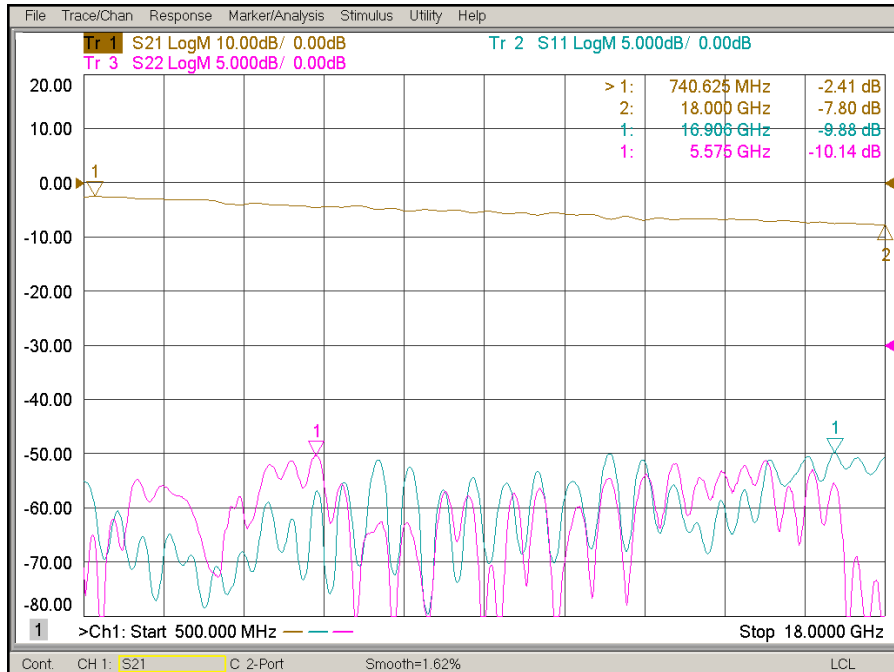
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(J33-J15) Insertion Loss and Return Loss



(J33-J16) Insertion Loss and Return Loss

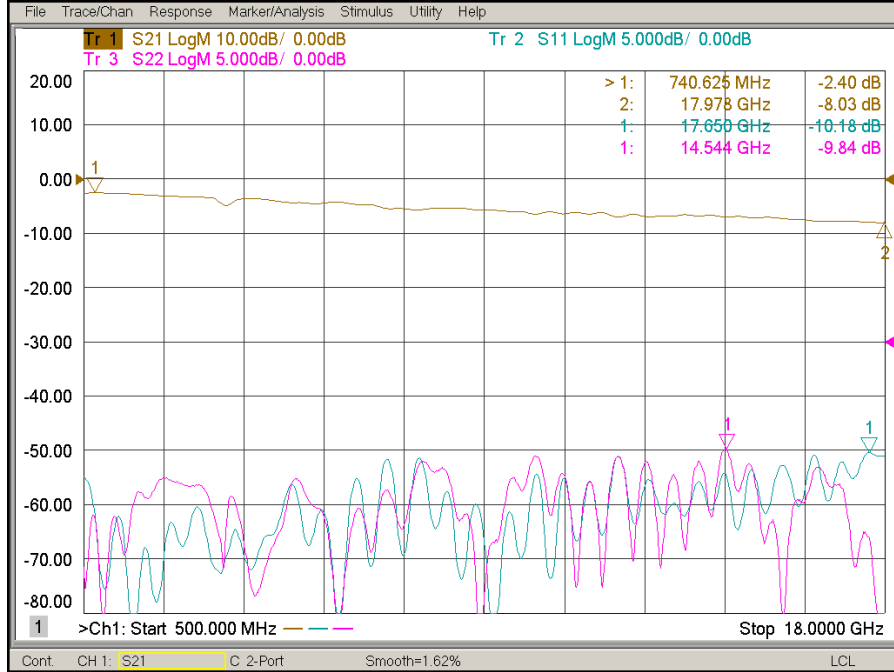




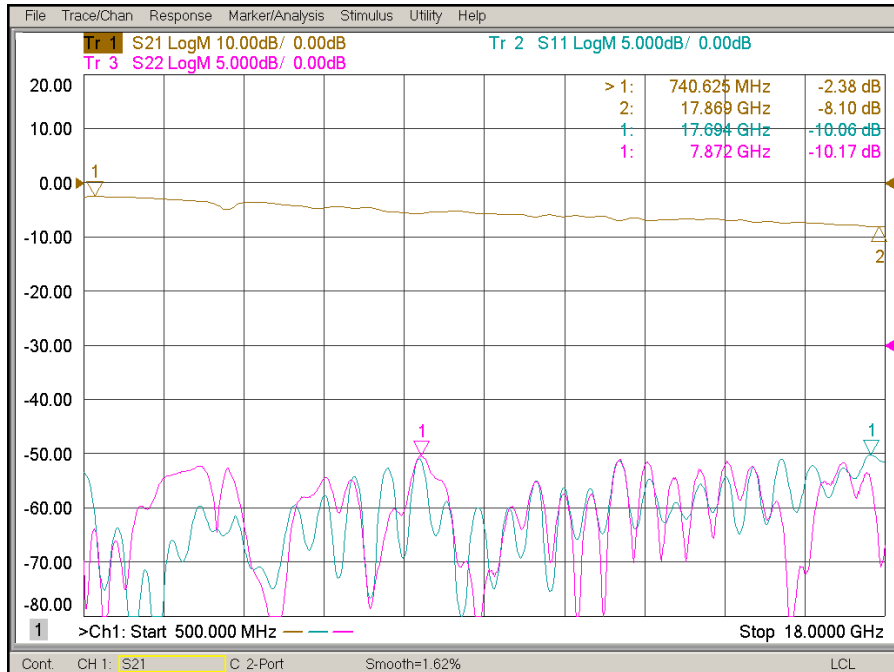
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(J33-J17) Insertion Loss and Return Loss



(J33-J18) Insertion Loss and Return Loss

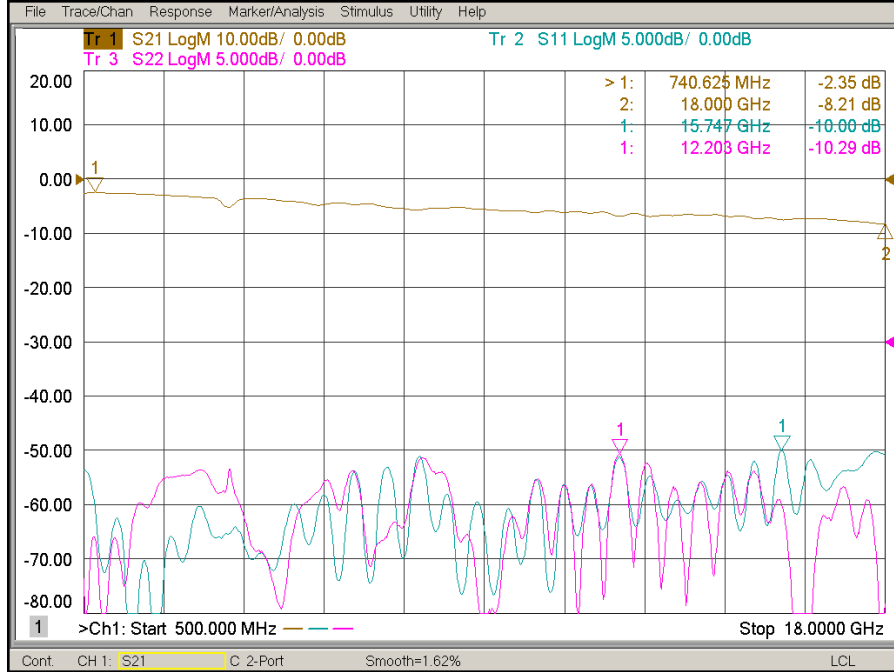




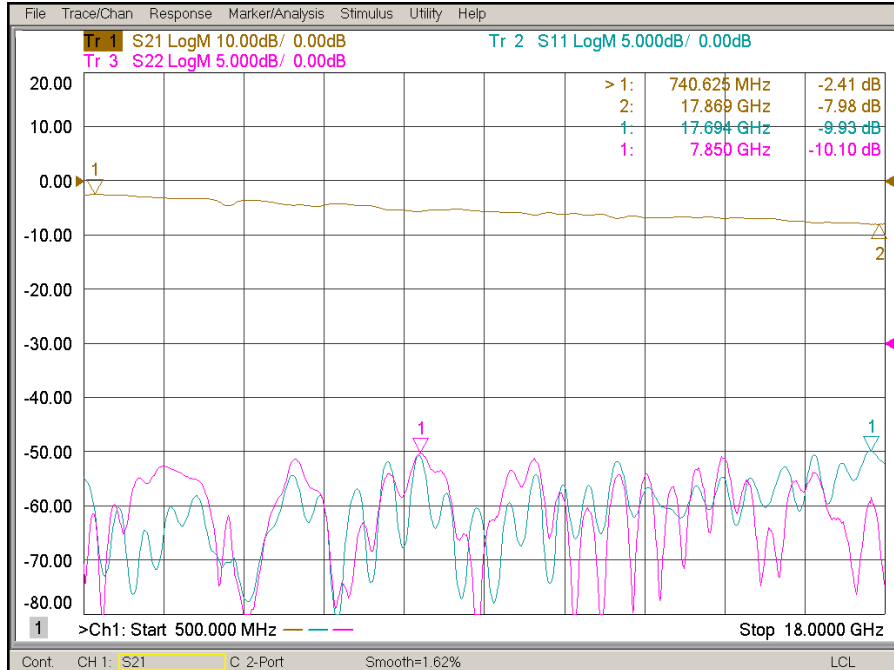
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(J33-J19) Insertion Loss and Return Loss



(J33-J20) Insertion Loss and Return Loss

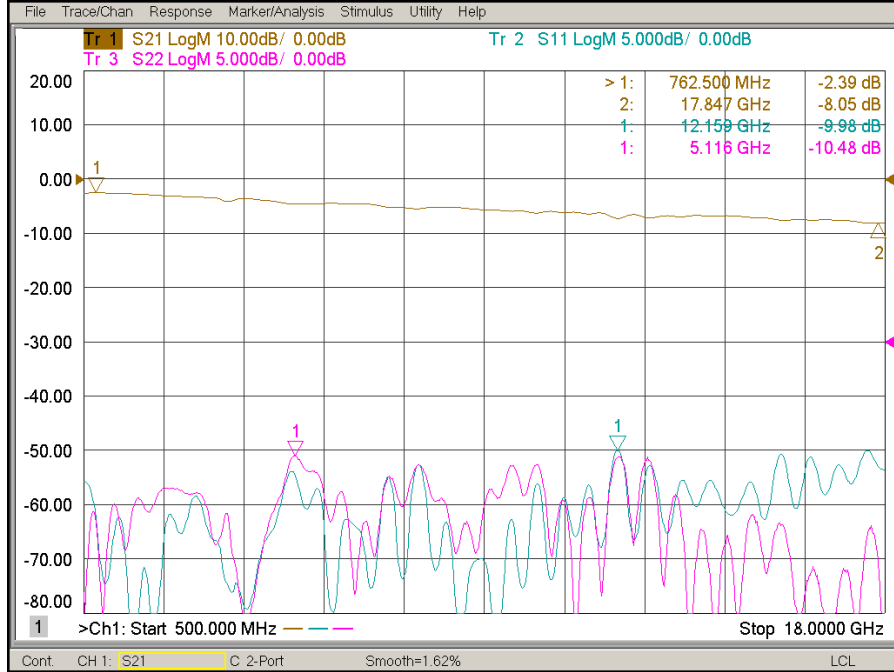




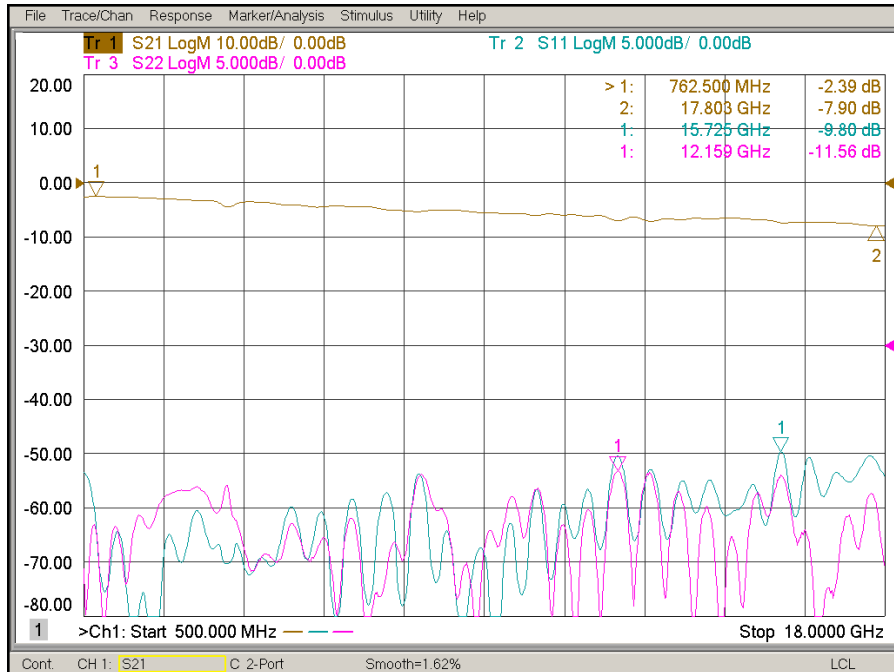
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(J33-J21) Insertion Loss and Return Loss



(J33-J22) Insertion Loss and Return Loss

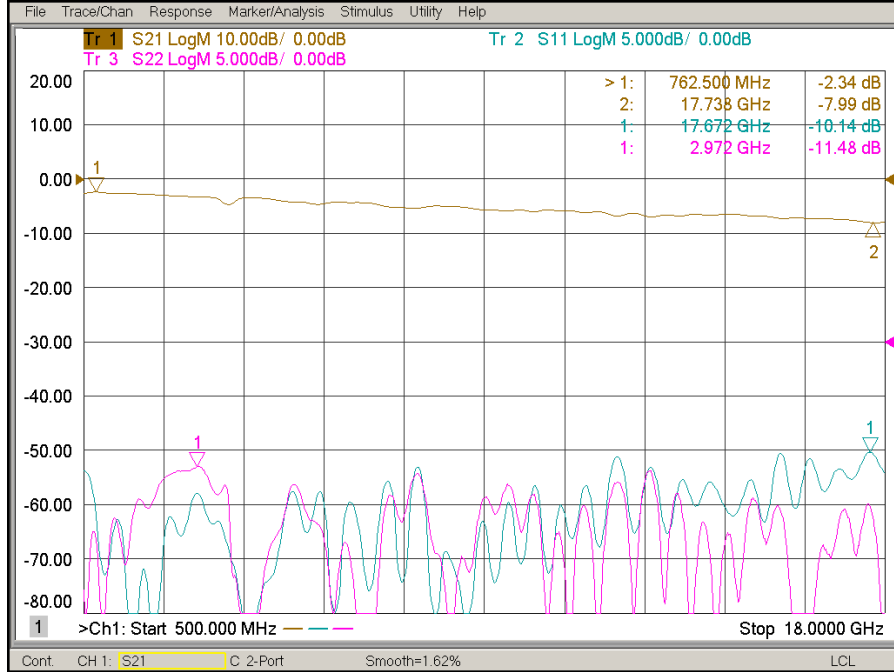




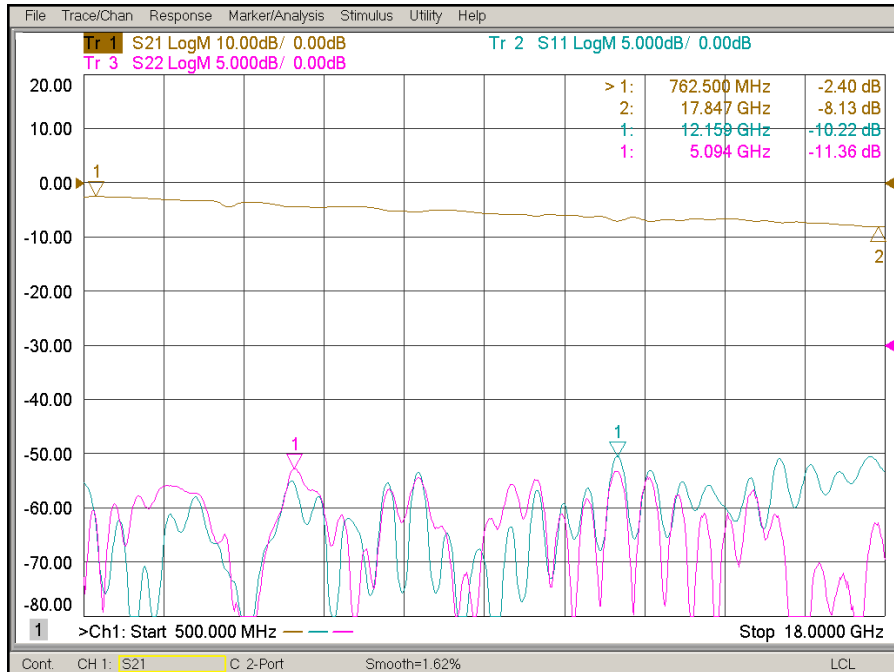
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(J33-J23) Insertion Loss and Return Loss



(J33-J24) Insertion Loss and Return Loss

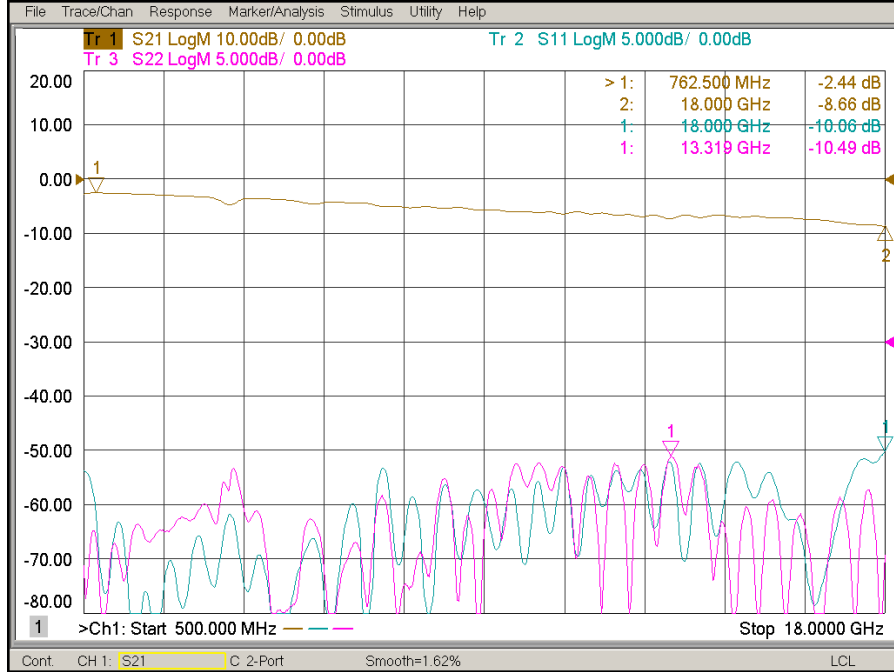




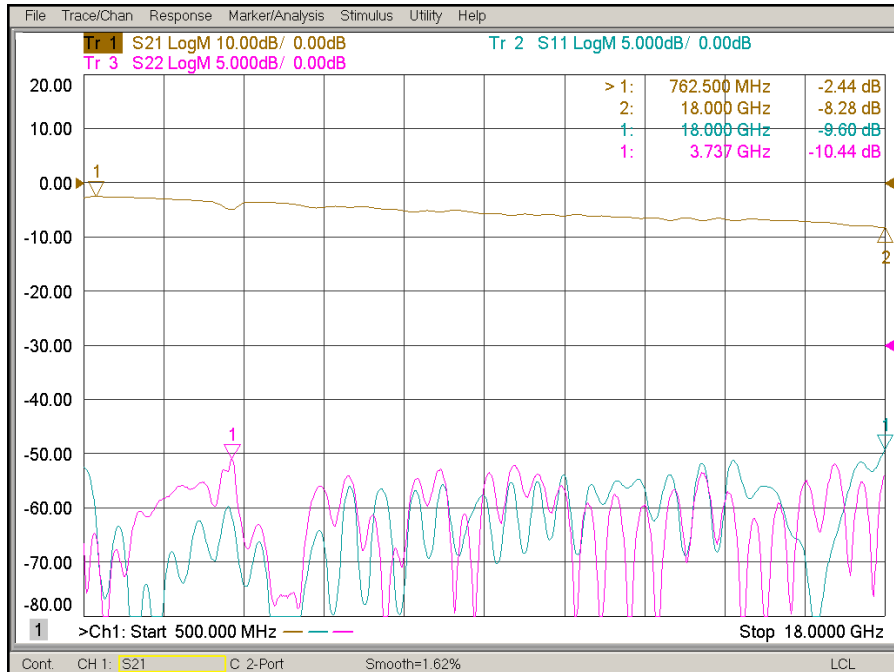
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(J33-J25) Insertion Loss and Return Loss



(J33-J26) Insertion Loss and Return Loss

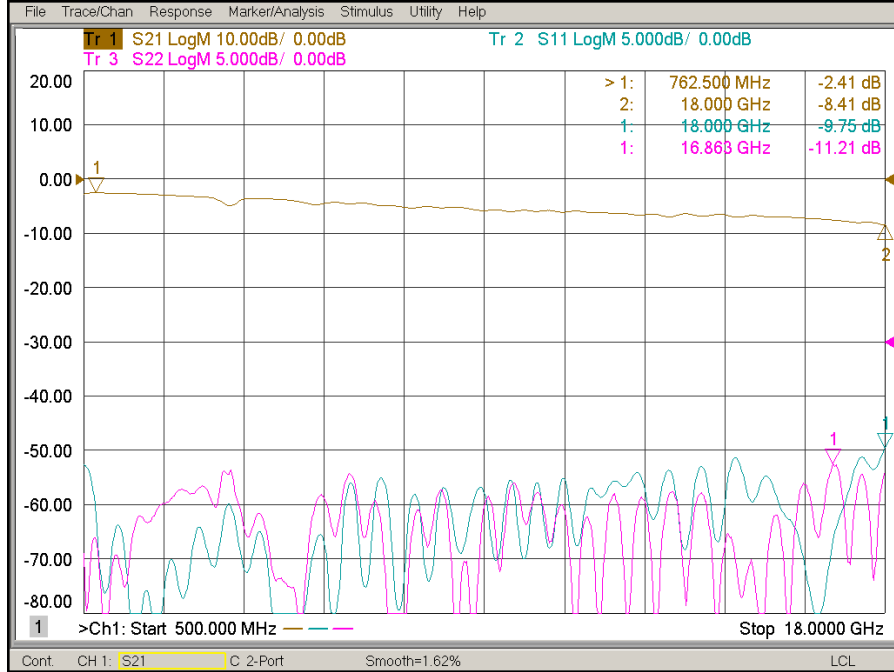




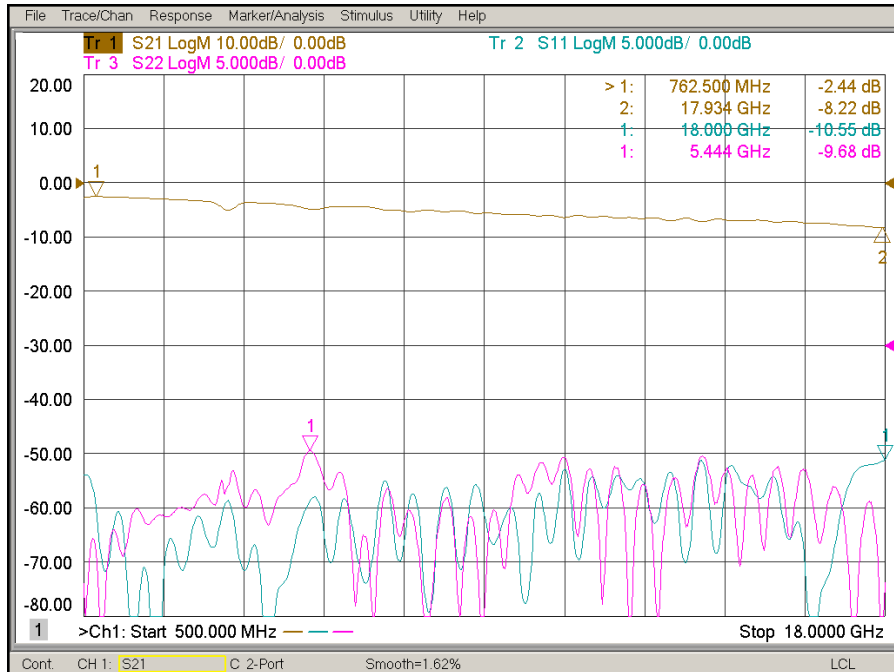
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(J33-J27) Insertion Loss and Return Loss



(J33-J28) Insertion Loss and Return Loss

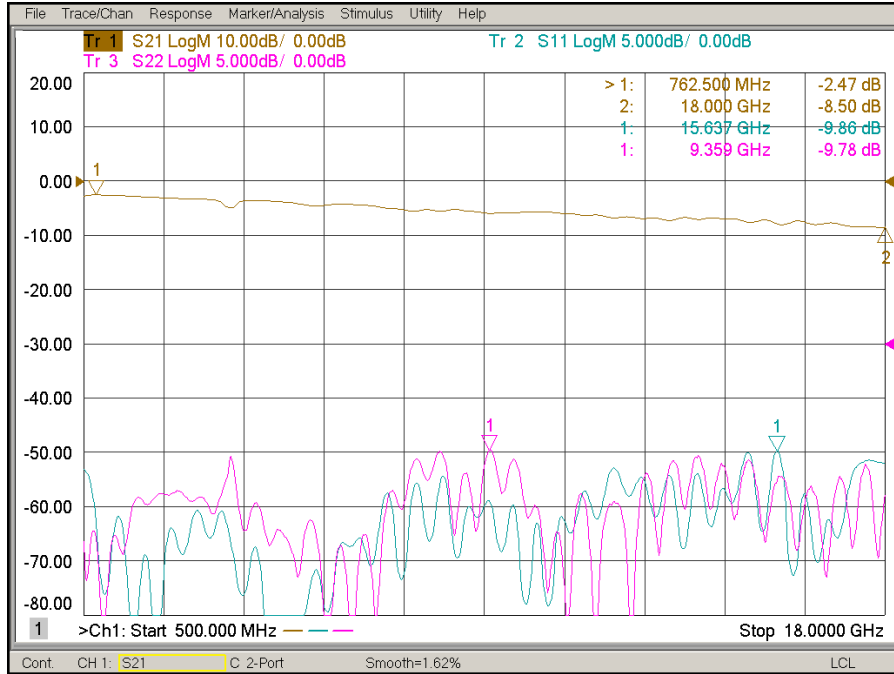




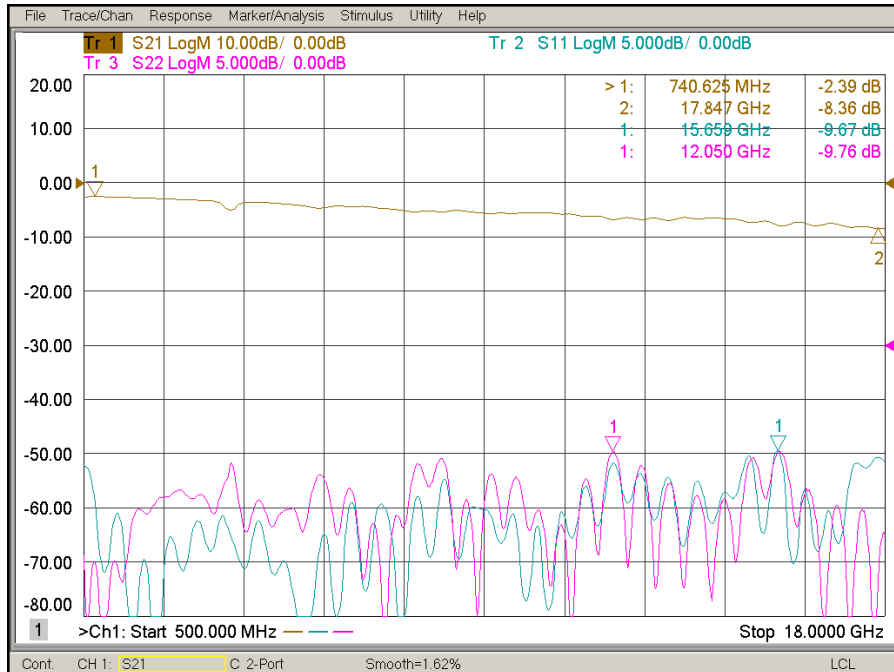
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(J33-J29) Insertion Loss and Return Loss



(J33-J30) Insertion Loss and Return Loss

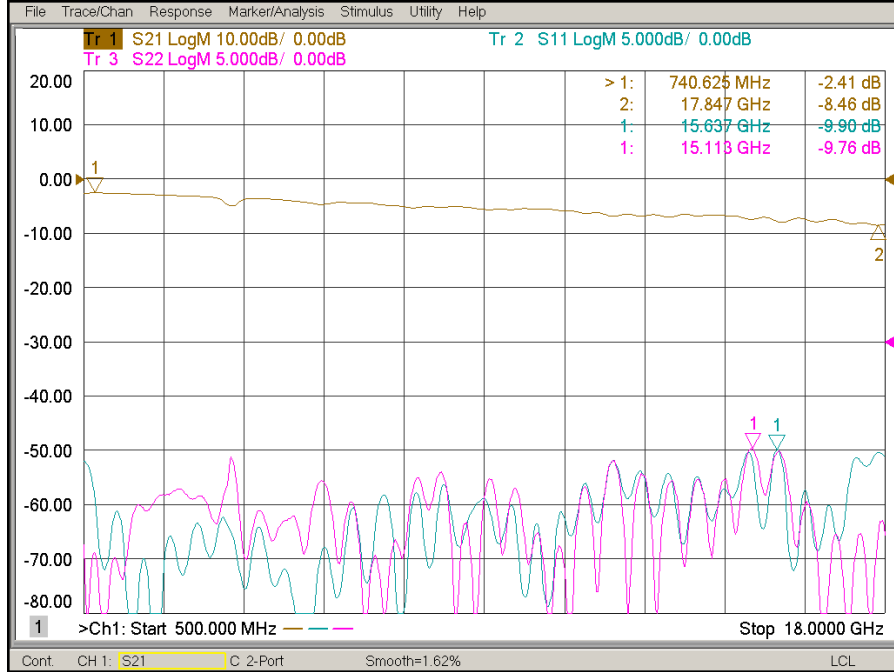




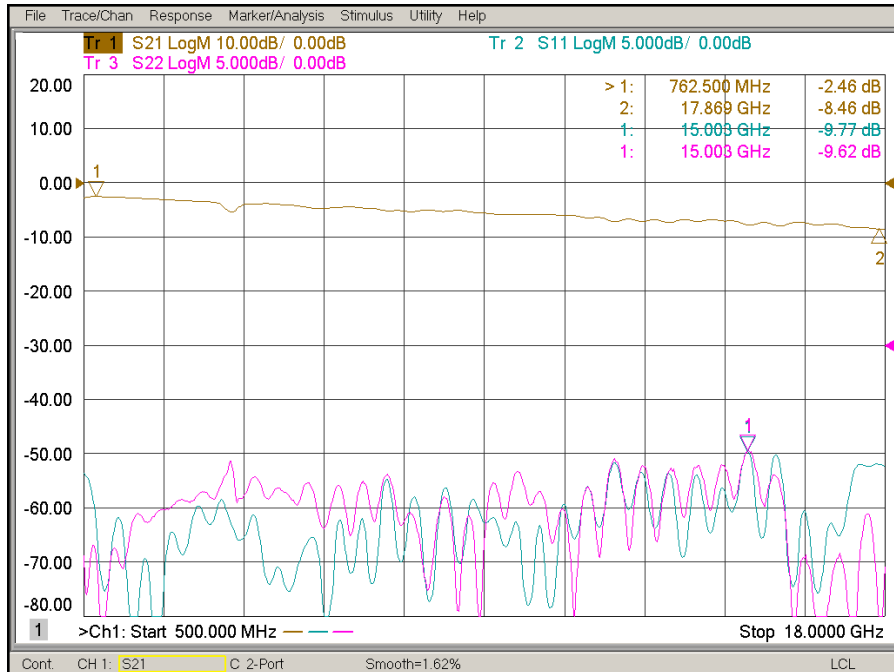
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(J33-J31) Insertion Loss and Return Loss



(J33-J32) Insertion Loss and Return Loss

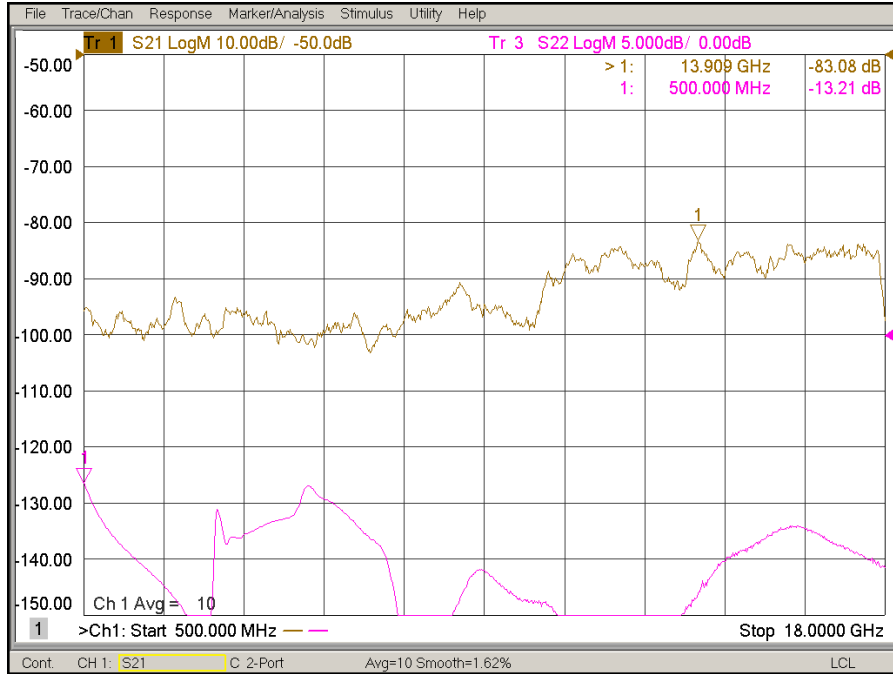




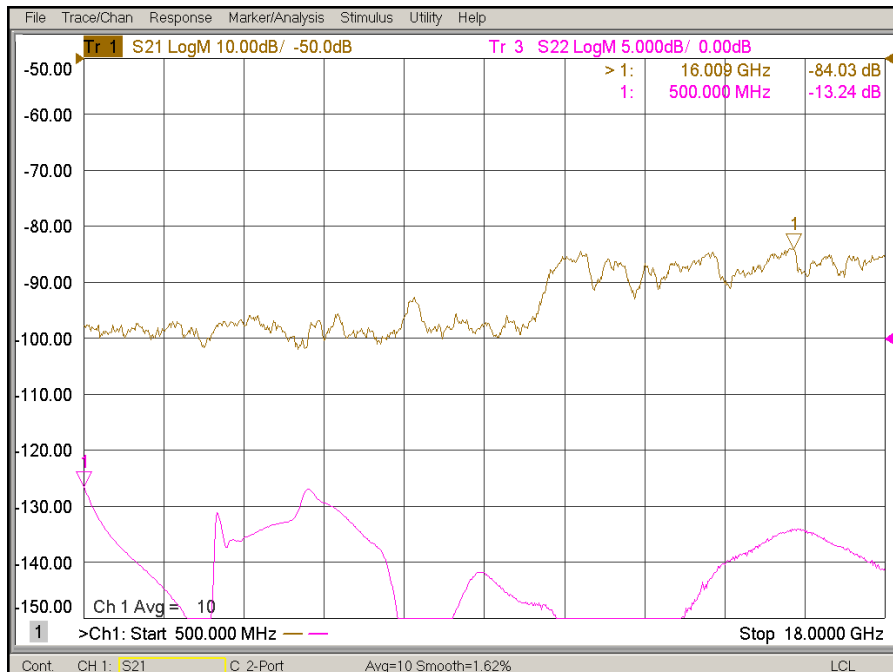
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(J33-J1) Isolation and Termination Return Loss



(J33-J2) Isolation and Termination Return Loss

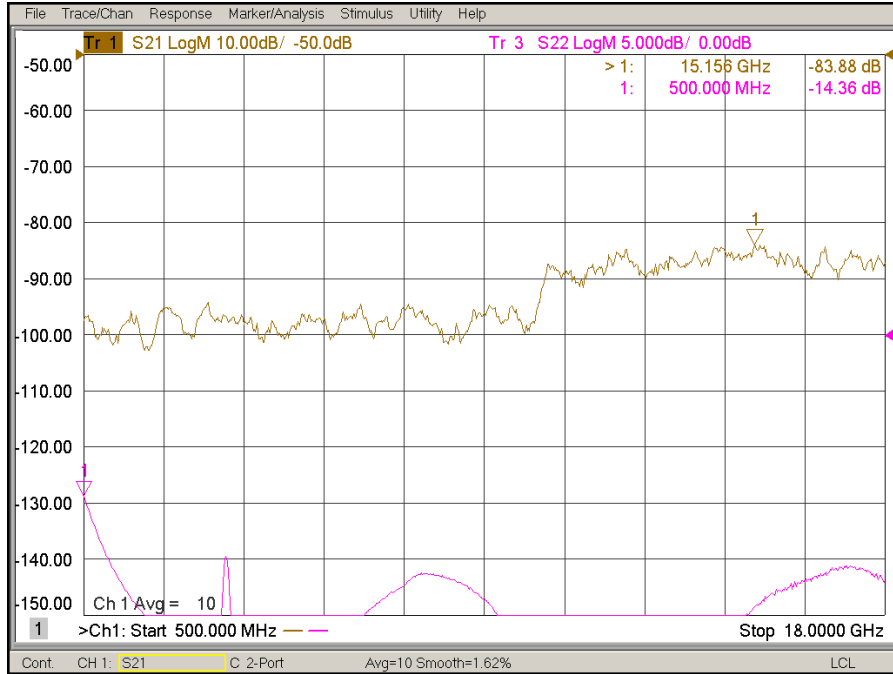




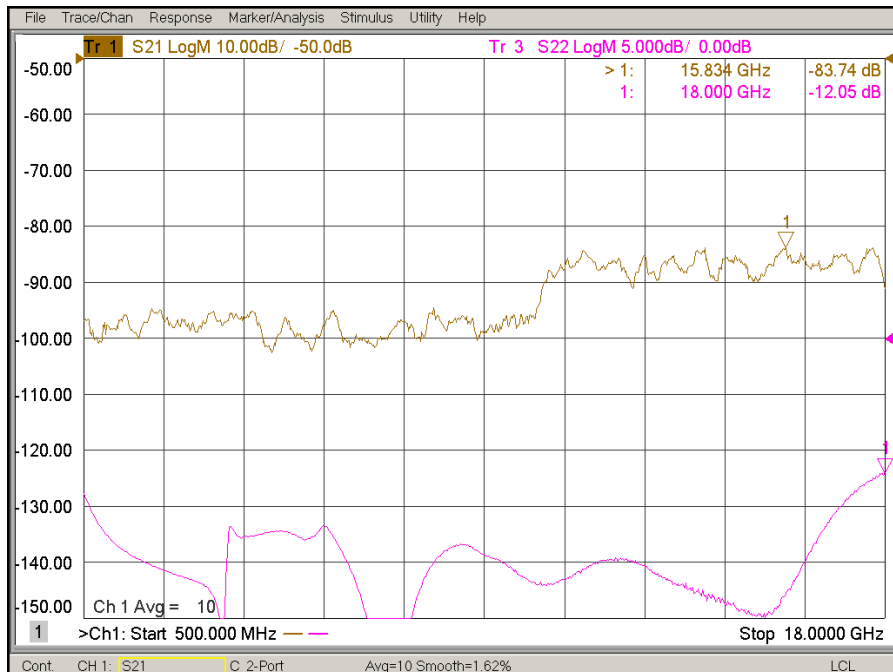
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(J33-J3) Isolation and Termination Return Loss



(J33-J4) Isolation and Termination Return Loss

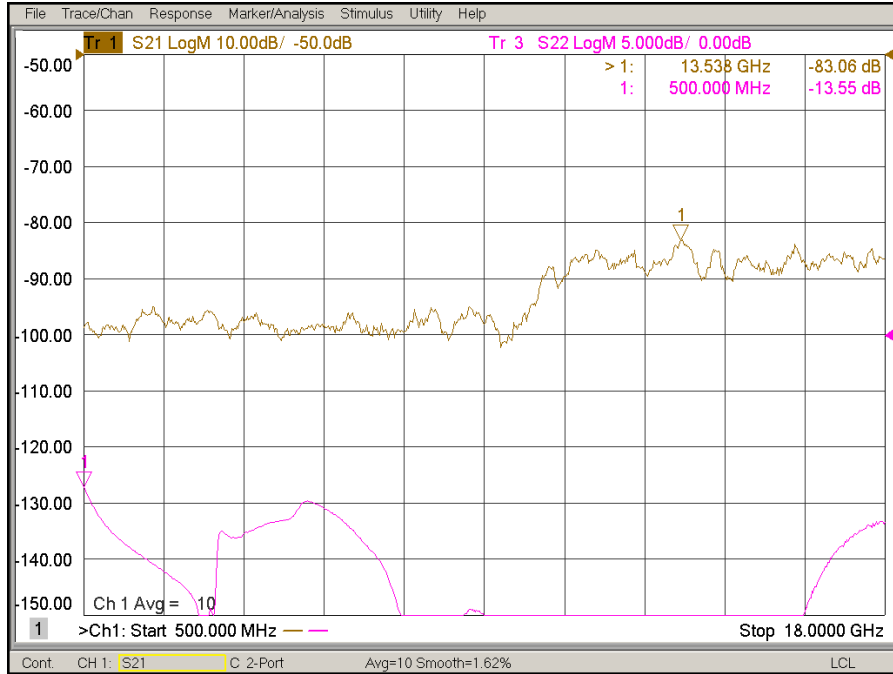




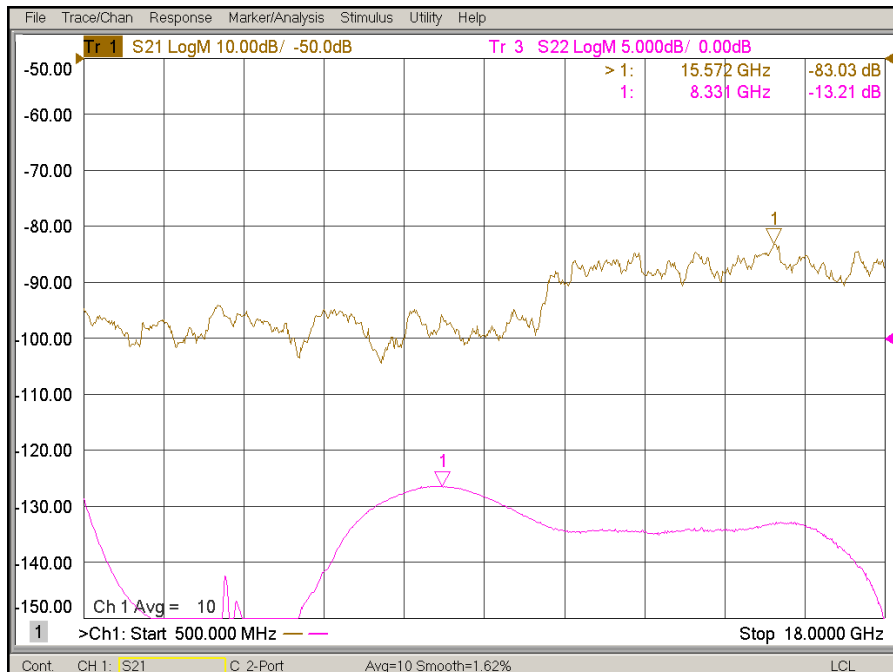
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(J33-J5) Isolation and Termination Return Loss



(J33-J6) Isolation and Termination Return Loss

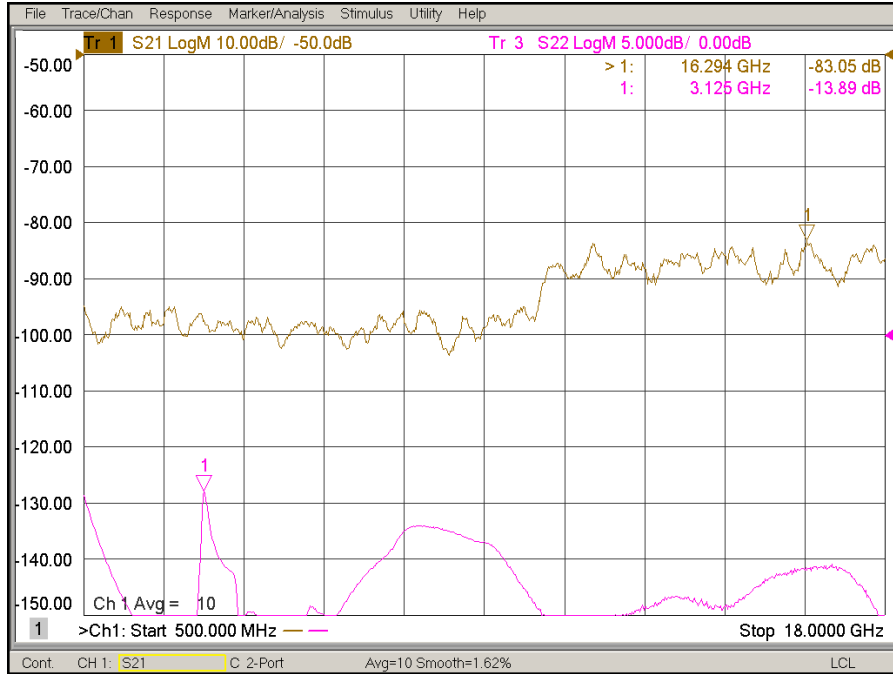




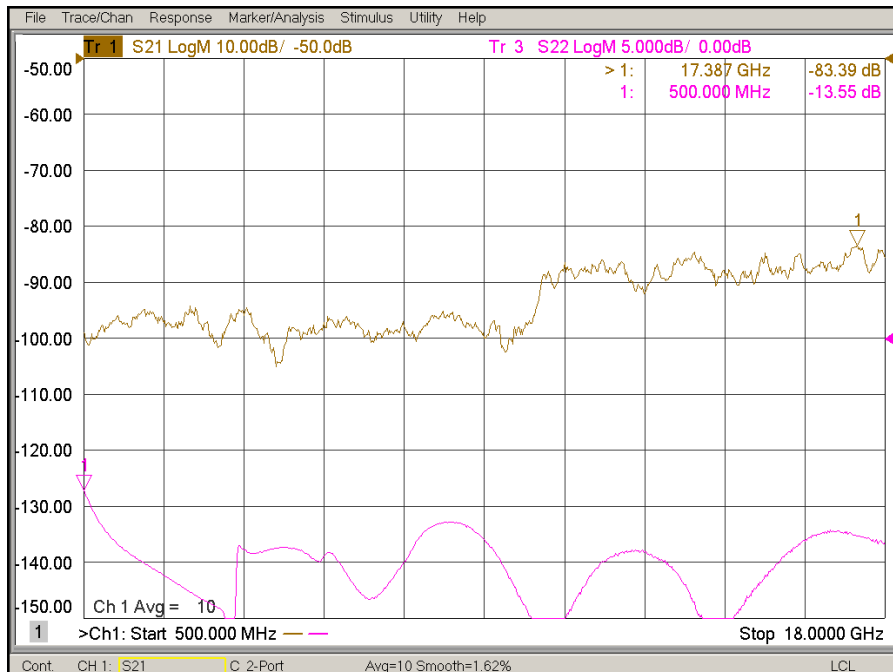
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(J33-J7) Isolation and Termination Return Loss



(J33-J8) Isolation and Termination Return Loss

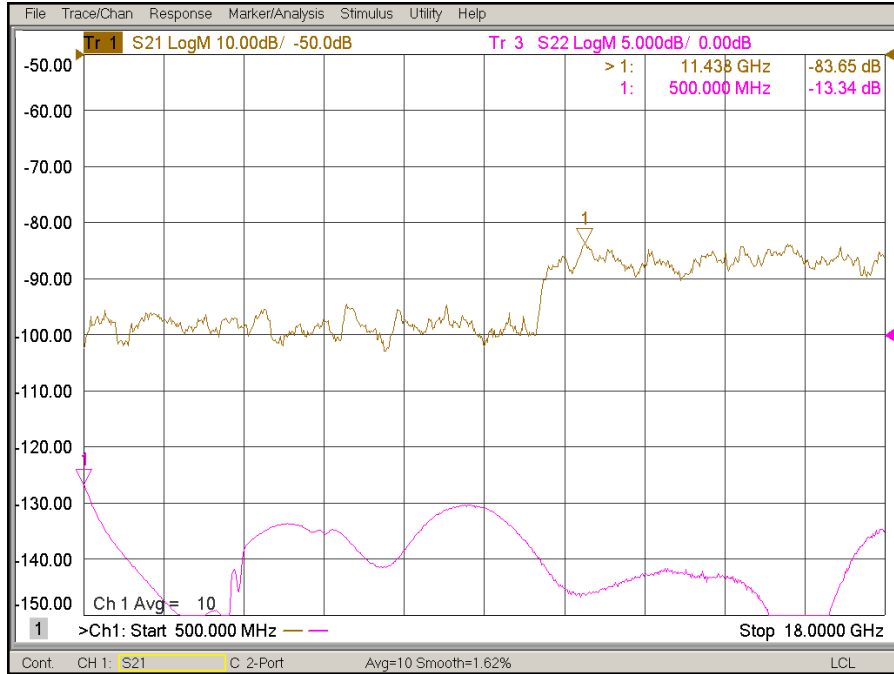




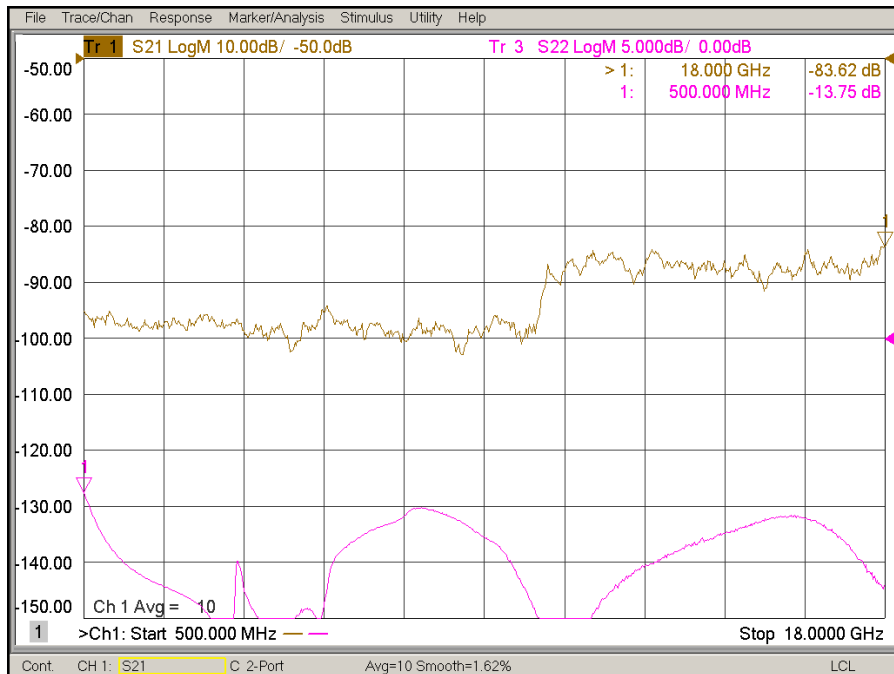
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(J33-J9) Isolation and Termination Return Loss



(J33-J10) Isolation and Termination Return Loss

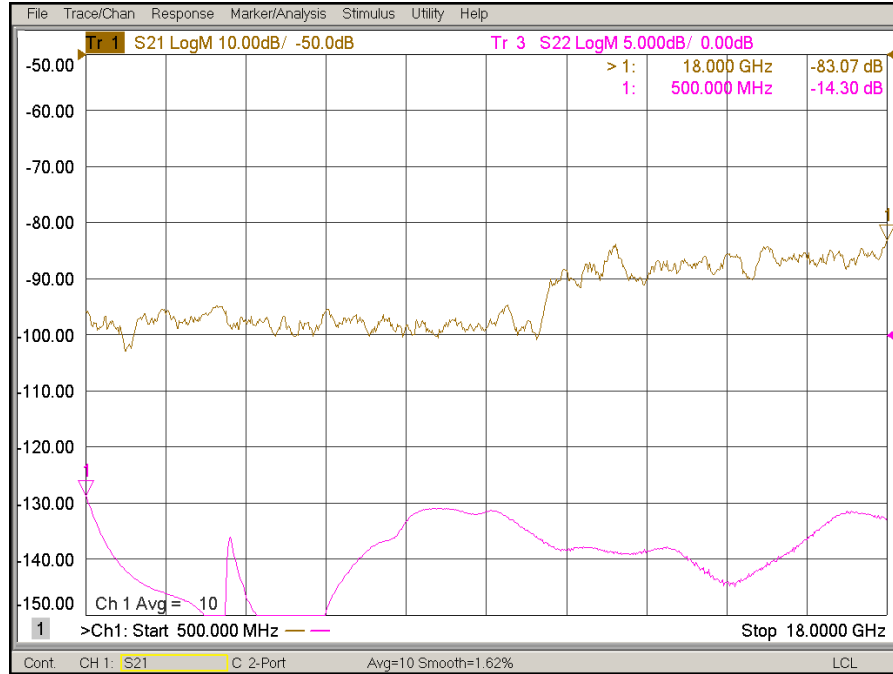




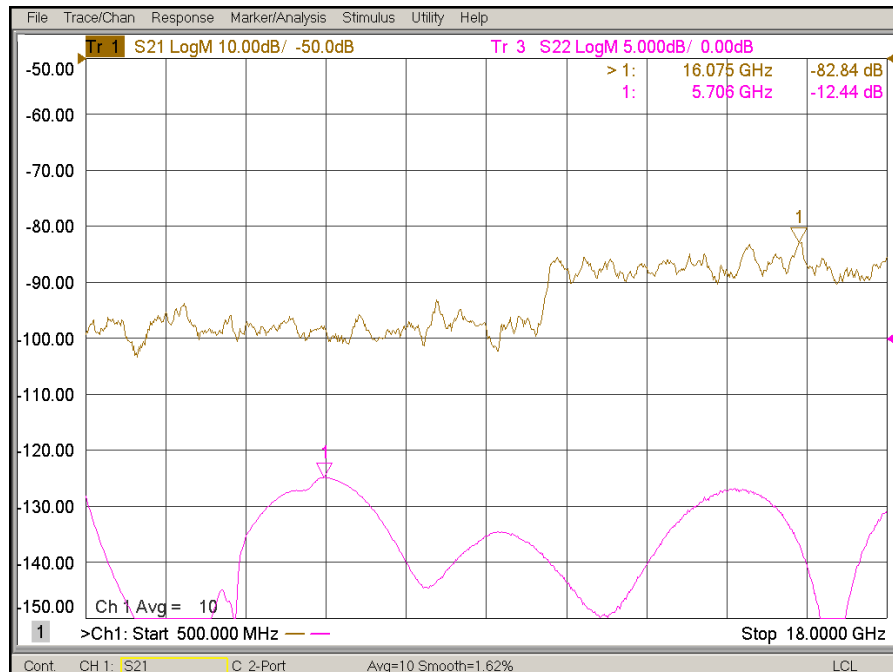
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(J33-J11) Isolation and Termination Return Loss



(J33-J12) Isolation and Termination Return Loss

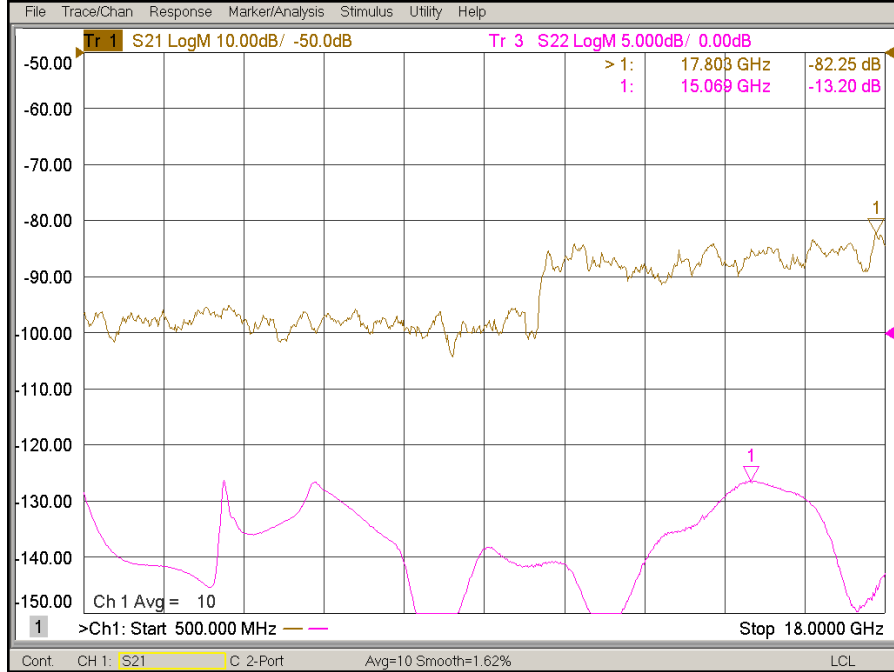




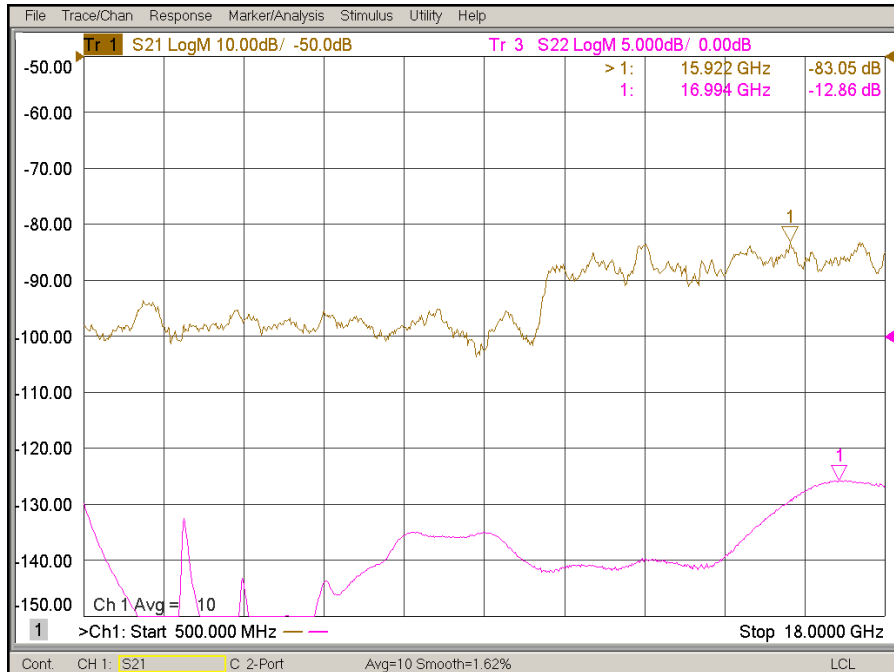
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(J33-J13) Isolation and Termination Return Loss



(J33-J14) Isolation and Termination Return Loss

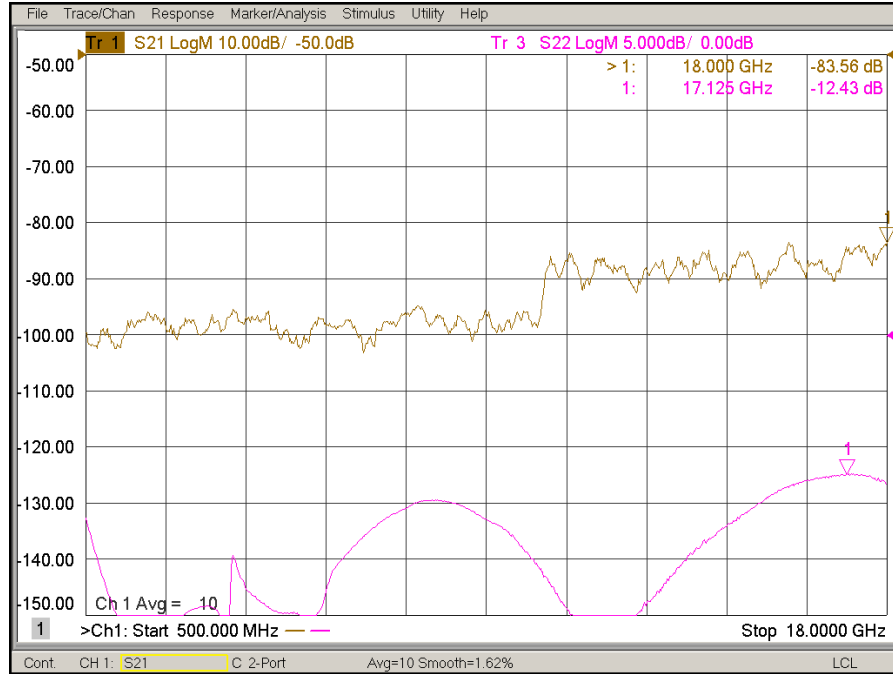




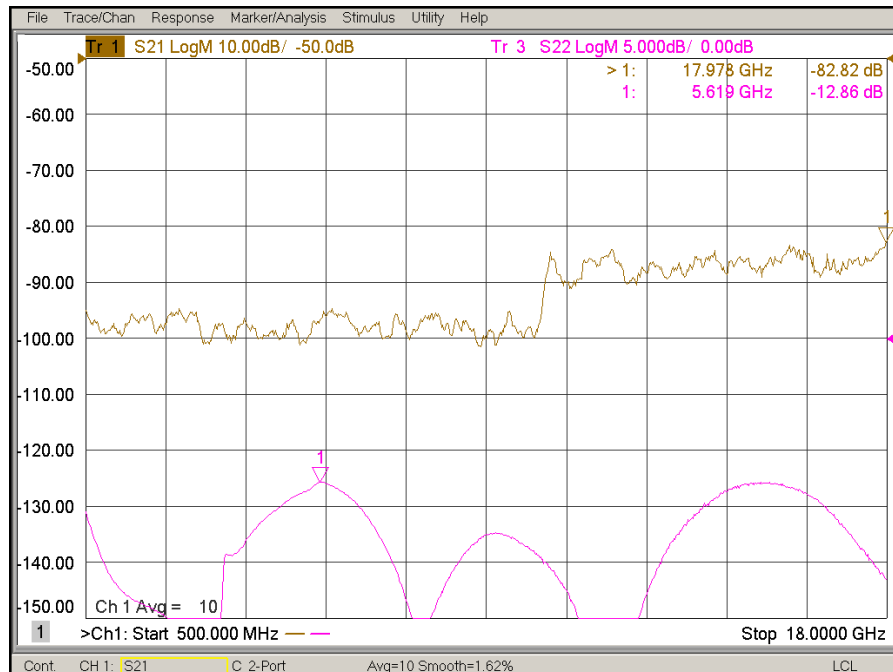
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(J33-J15) Isolation and Termination Return Loss



(J33-J16) Isolation and Termination Return Loss

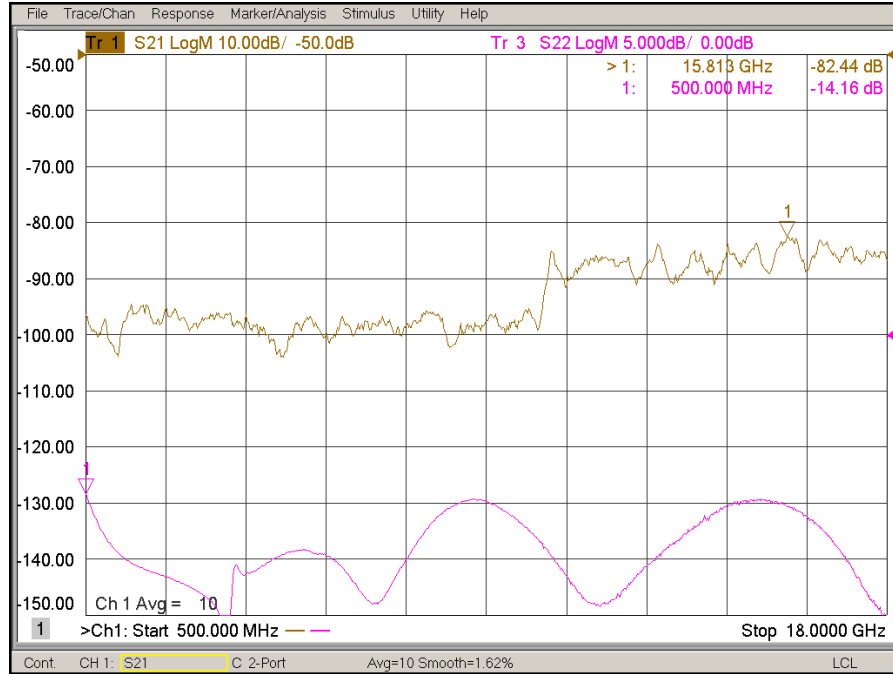




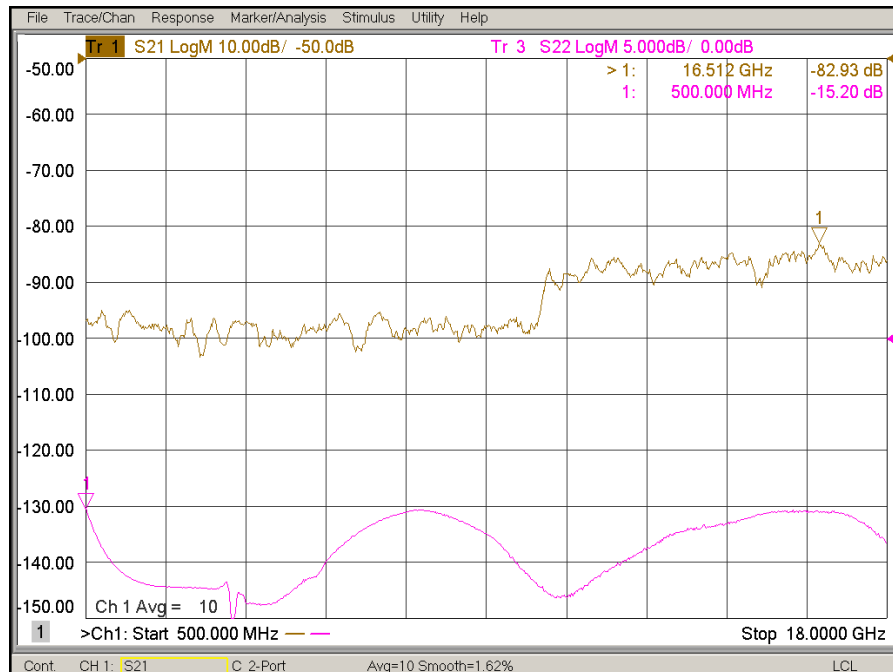
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(J33-J17) Isolation and Termination Return Loss



(J33-J18) Isolation and Termination Return Loss

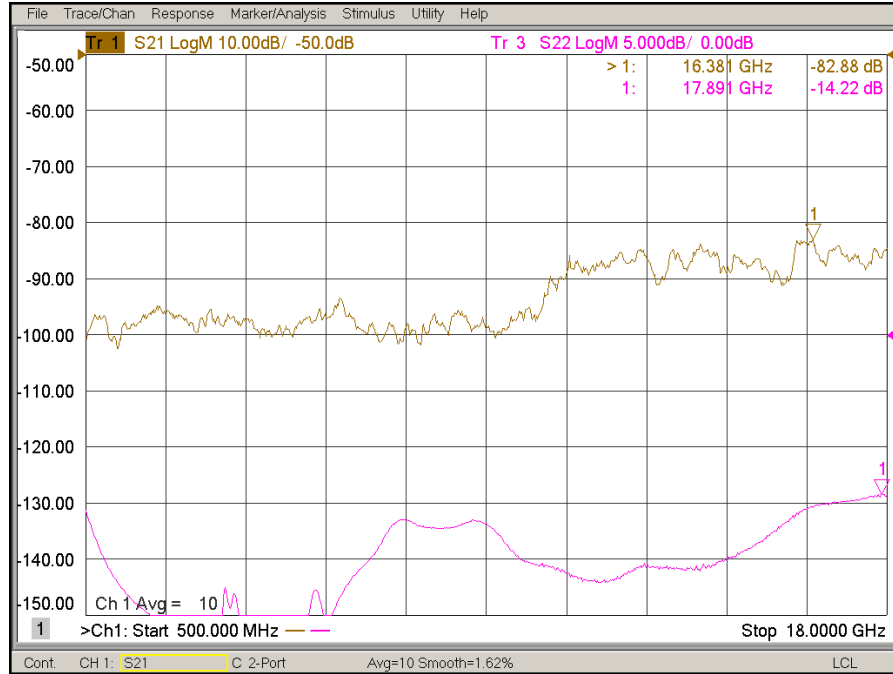




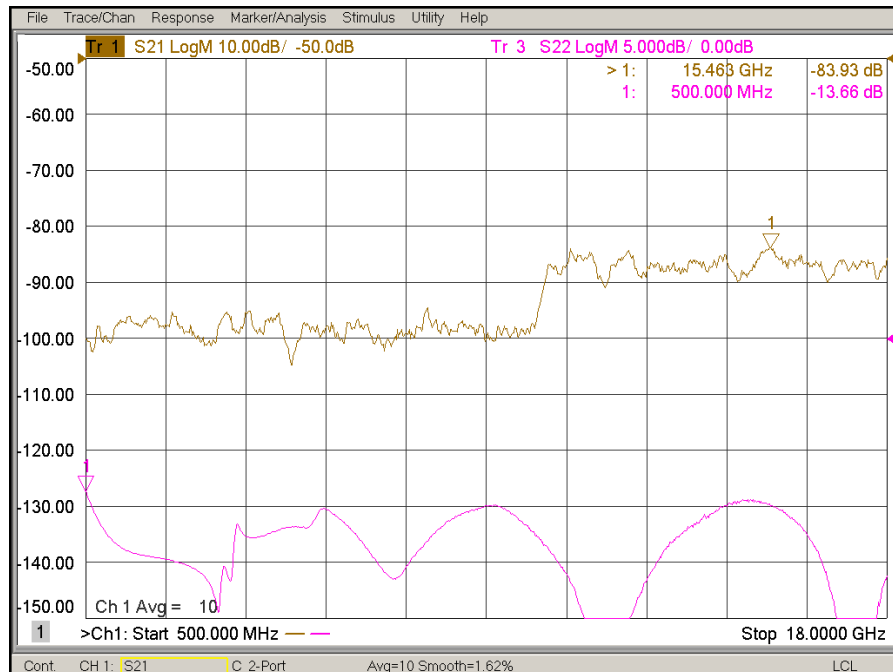
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(J33-J19) Isolation and Termination Return Loss



(J33-J20) Isolation and Termination Return Loss

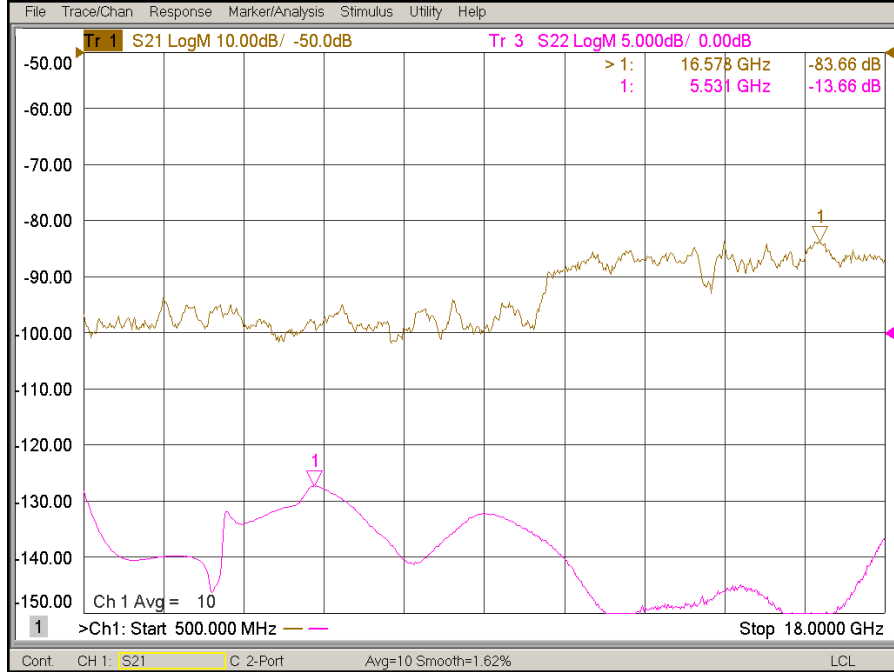




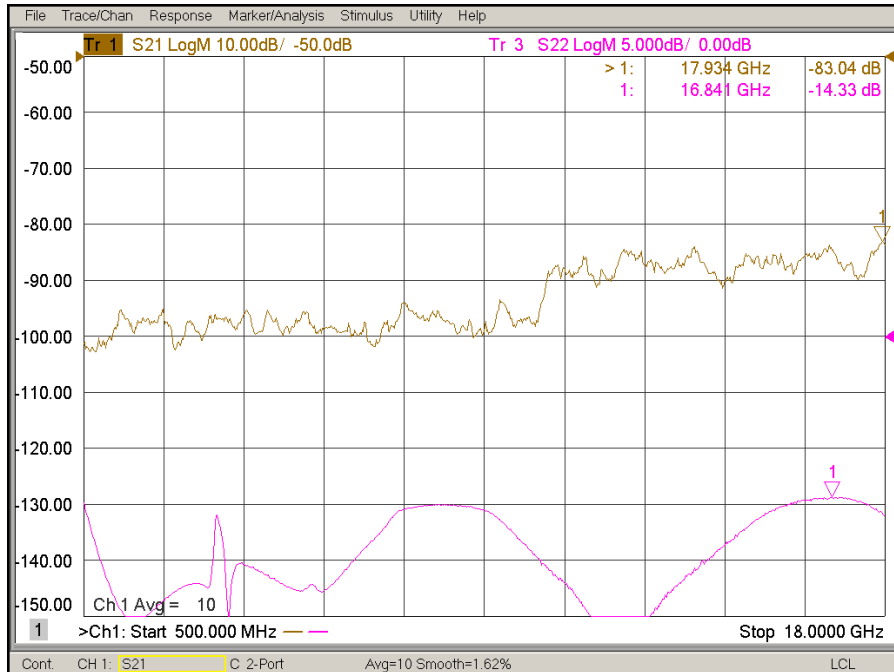
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(J33-J21) Isolation and Termination Return Loss



(J33-J22) Isolation and Termination Return Loss

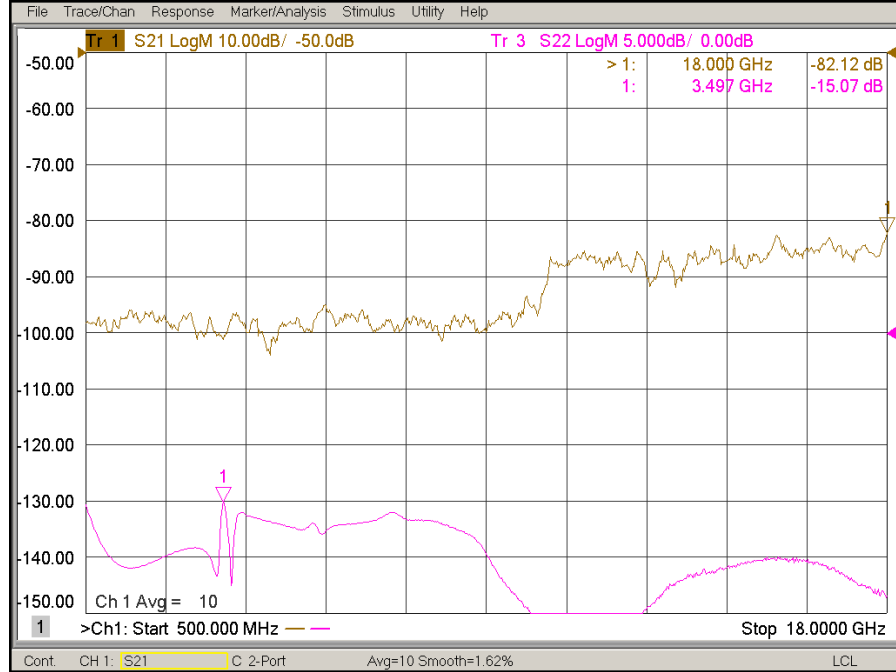




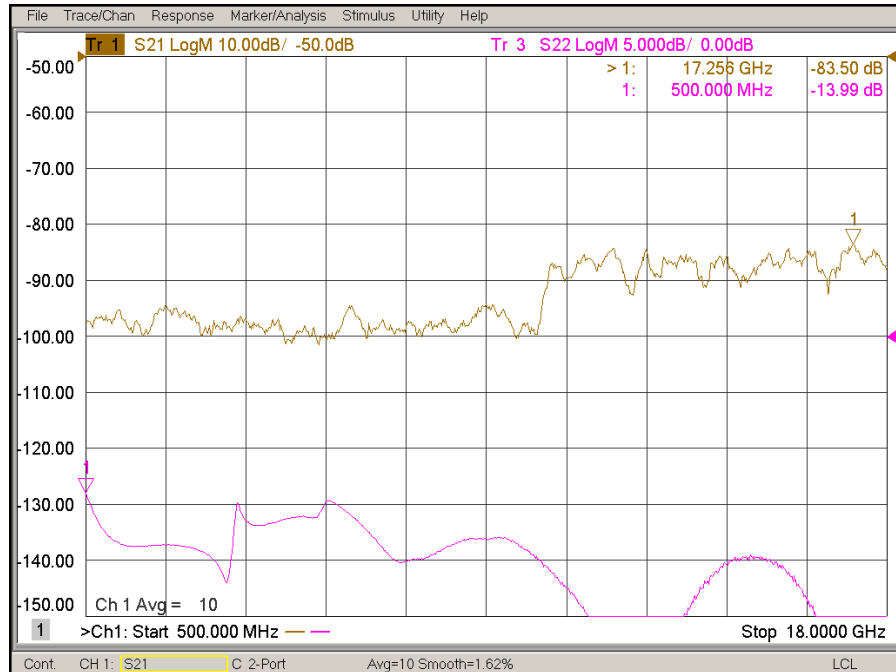
Typical Characteristics On P32T-0R5G18G-60-T-SFF

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(J33-J23) Isolation and Termination Return Loss



(J33-J24) Isolation and Termination Return Loss

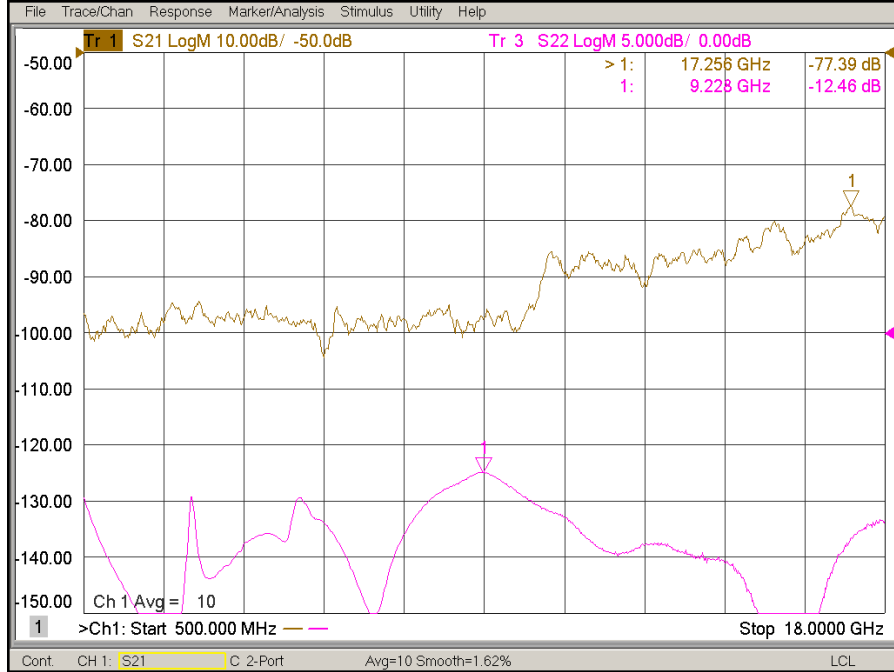




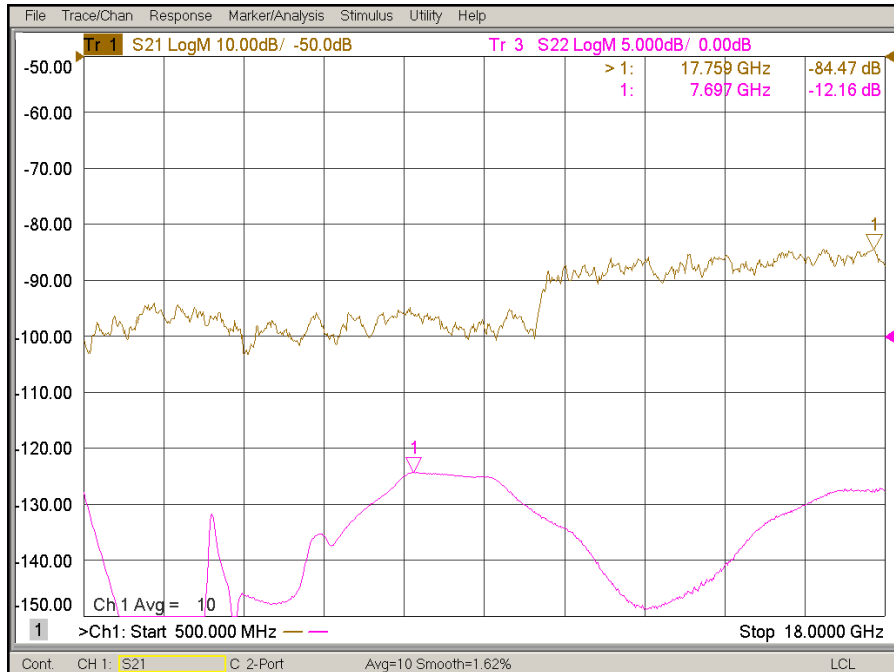
Typical Characteristics On P32T-0R5G18G-60-T-SFF

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(J33-J25) Isolation and Termination Return Loss



(J33-J26) Isolation and Termination Return Loss

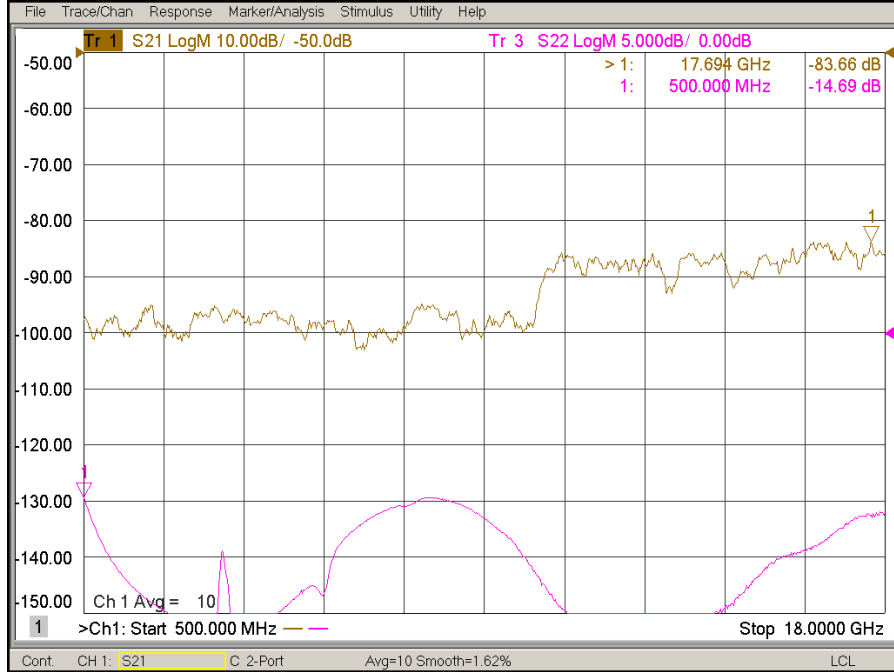




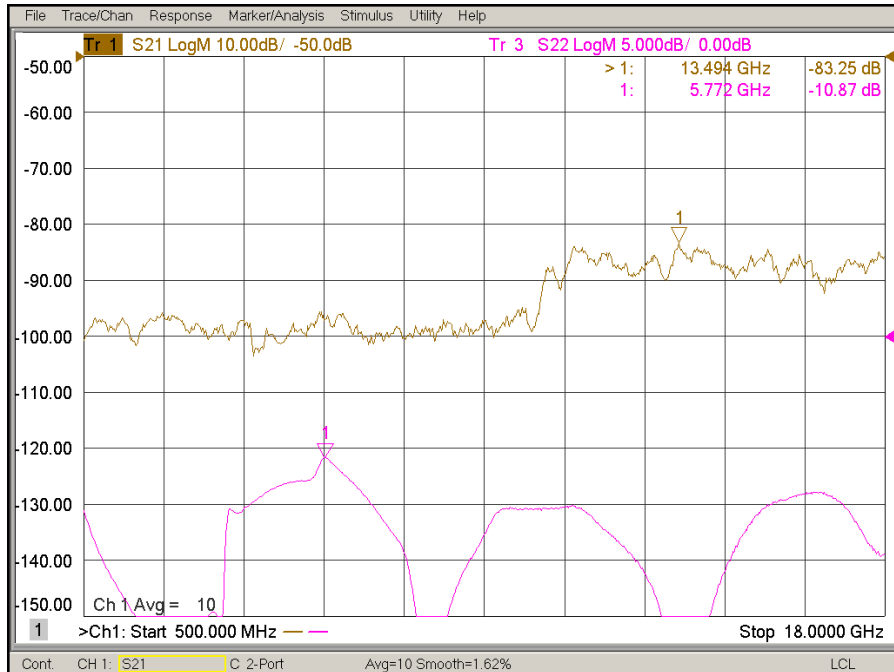
Typical Characteristics On P32T-0R5G18G-60-T-SFF

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(J33-J27) Isolation and Termination Return Loss



(J33-J28) Isolation and Termination Return Loss

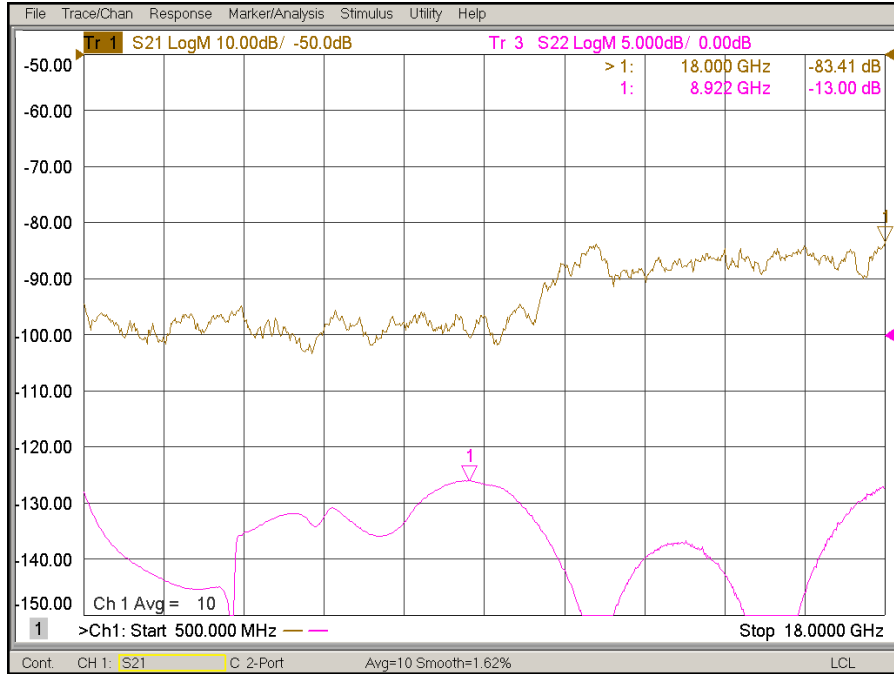




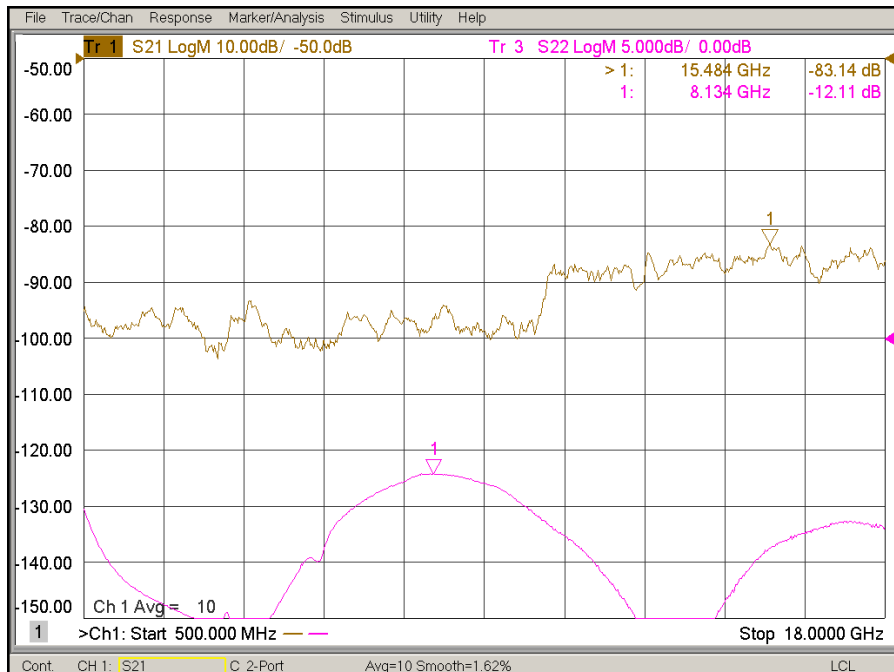
Typical Characteristics On P32T-0R5G18G-60-T-SFF

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(J33-J29) Isolation and Termination Return Loss



(J33-J30) Isolation and Termination Return Loss

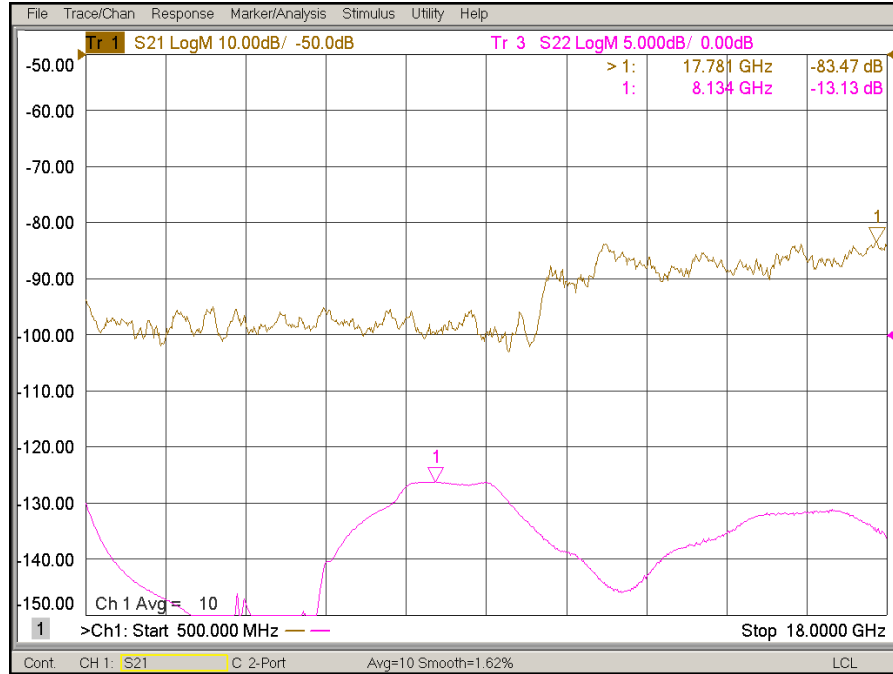




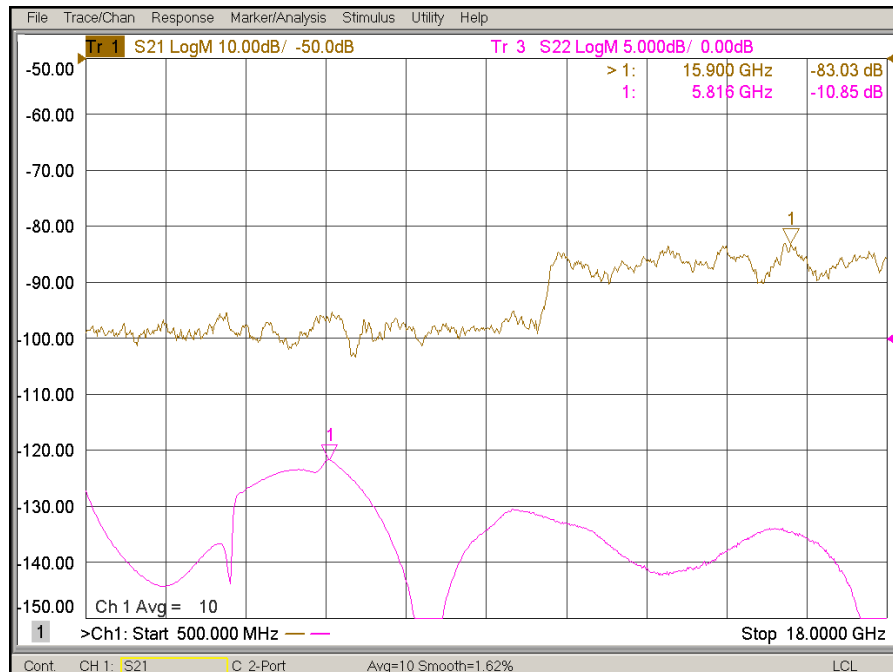
Typical Characteristics On P32T-0R5G18G-60-T-SFF

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(J33-J31) Isolation and Termination Return Loss



(J33-J32) Isolation and Termination Return Loss



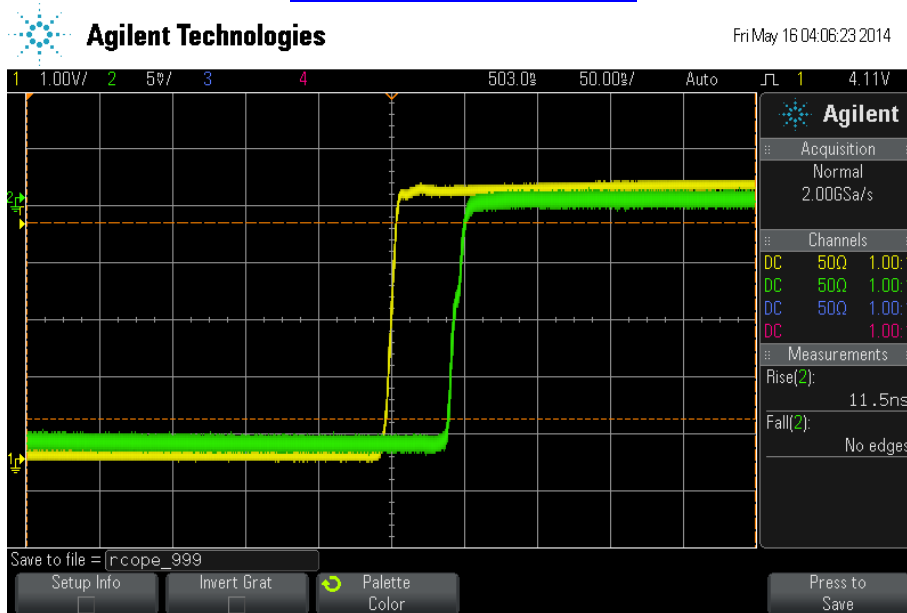


Typical Characteristics On P32T-0R5G18G-60-T-SFF

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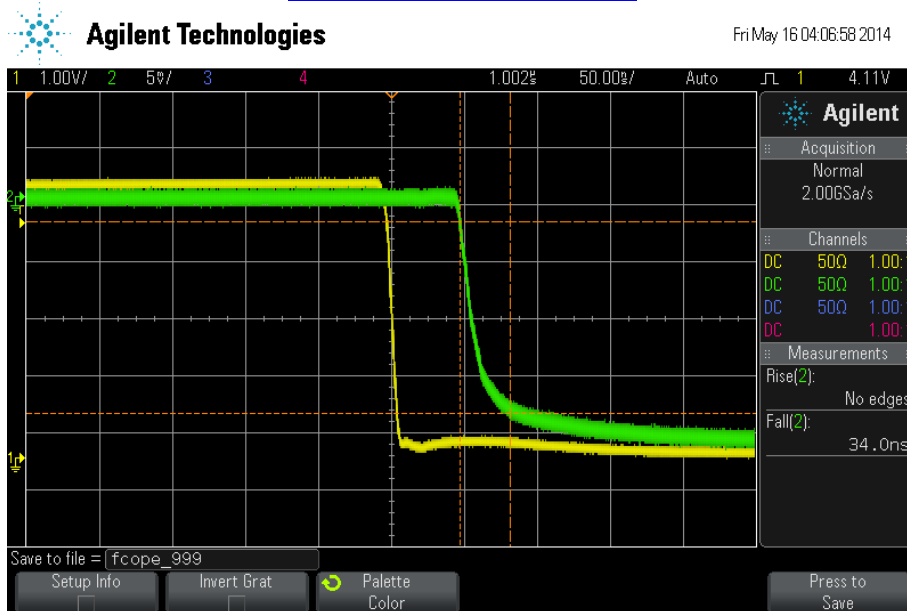
Switching Speed

On Delay 50ns per Div.



Channel 1 (Green): RF Signal
Channel 2 (Yellow): TTL Signal

Off Delay 50ns per Div.



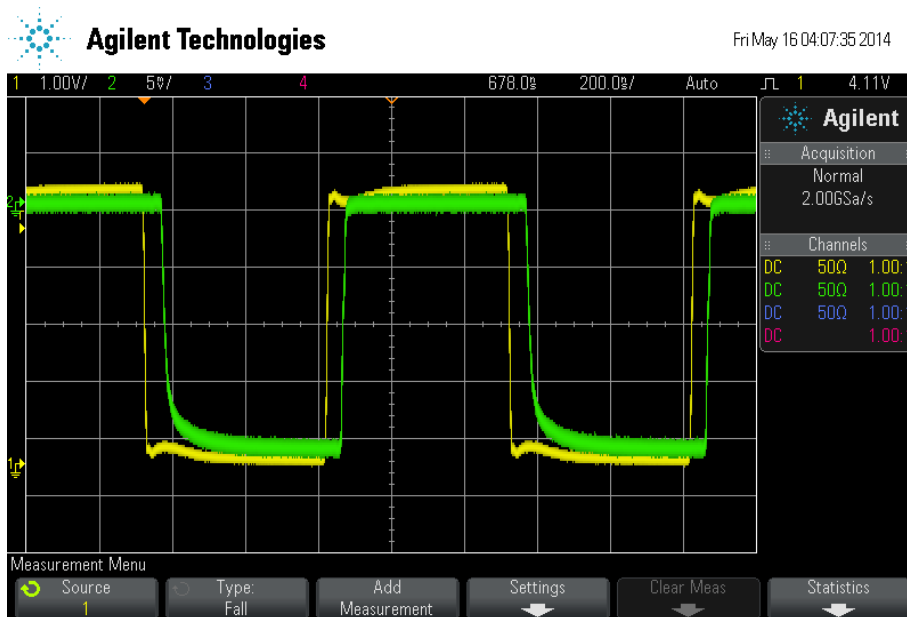
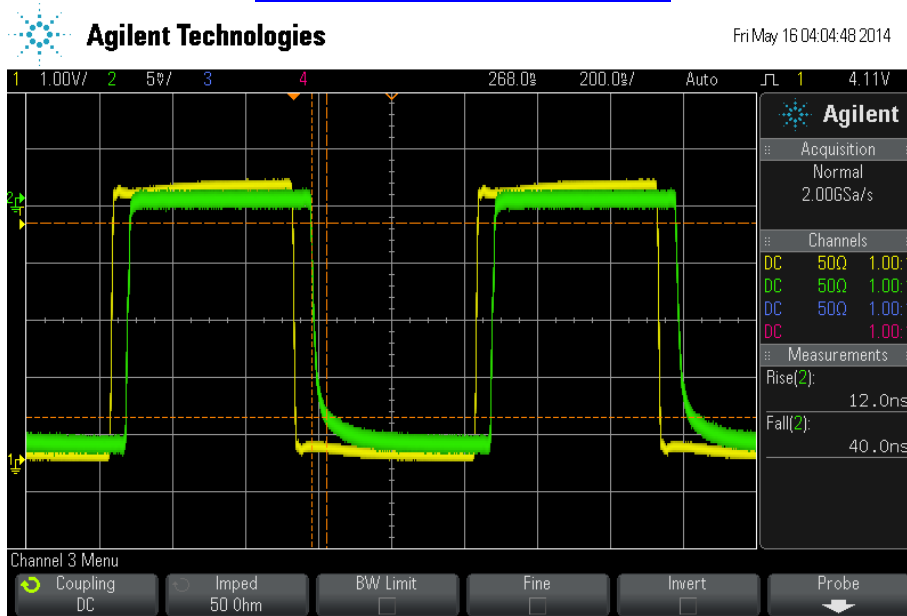
Channel 1 (Green): RF Signal
Channel 2 (Yellow): TTL Signal



Typical Characteristics On P32T-0R5G18G-60-T-SFF

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Switching Speed Full Pulse



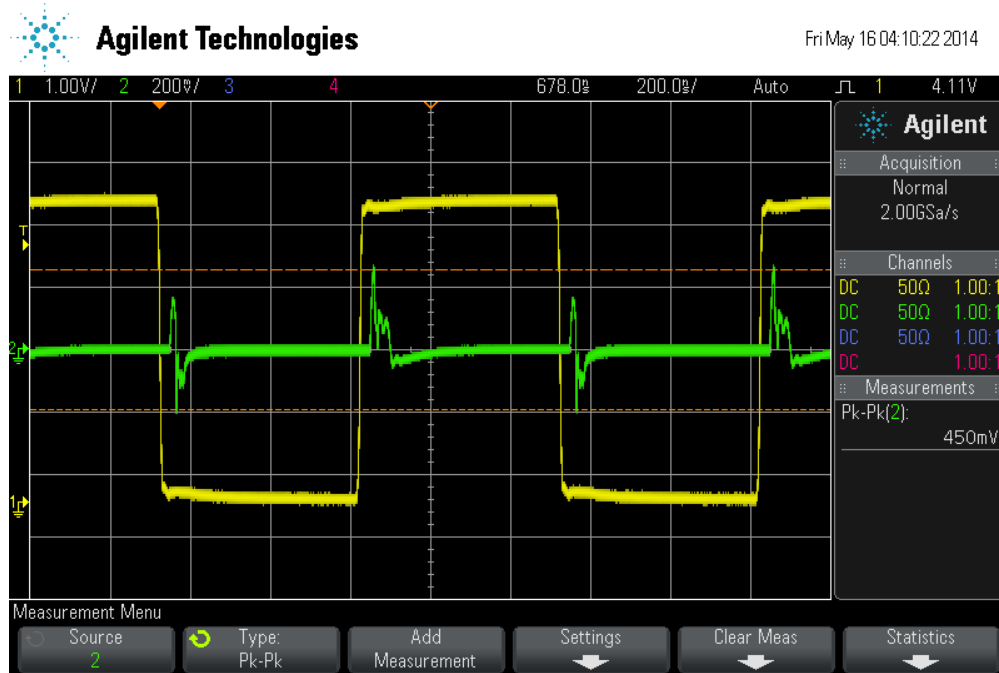
Channel 1 (Green): RF Signal
Channel 2 (Yellow): TTL Signal



Typical Characteristics On P32T-0R5G18G-60-T-SFF

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Video Transients 200ns per Div.



YELLOW TRACE: TTL SIGNAL
GREEN TRACE: VIDEO TRANSIENTS

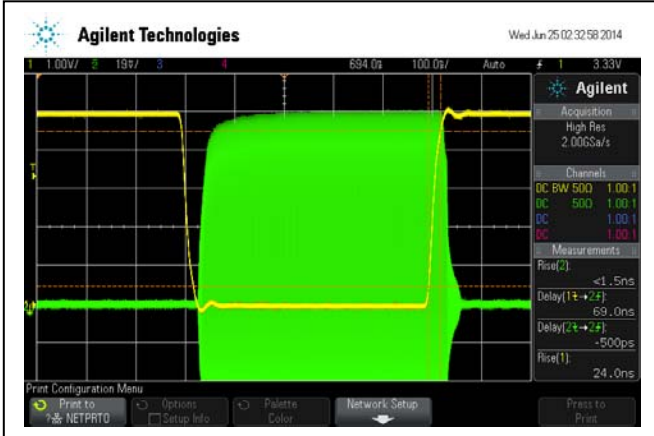


Typical Characteristics On P32T-0R5G18G-60-T-SFF

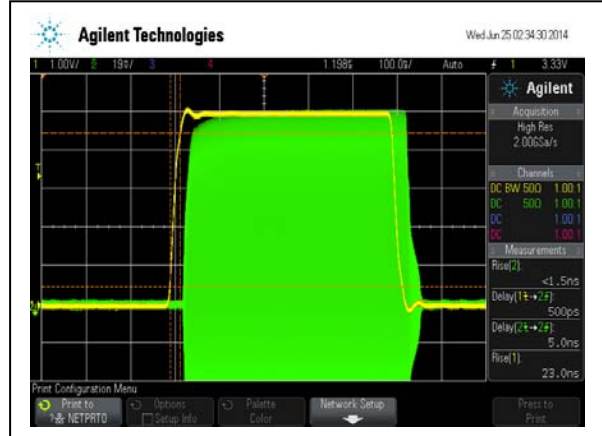
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Switching Speed Plots

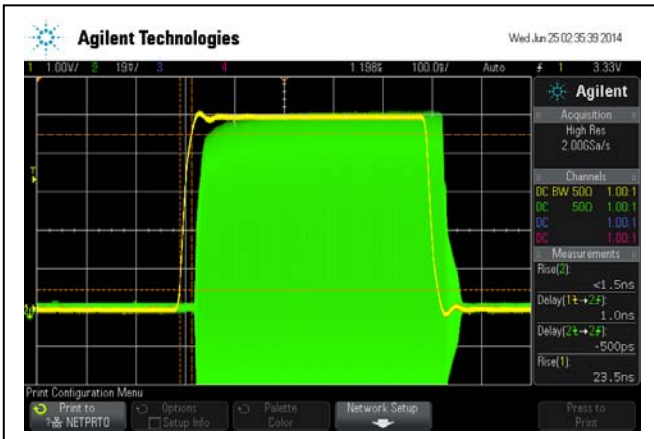
J1



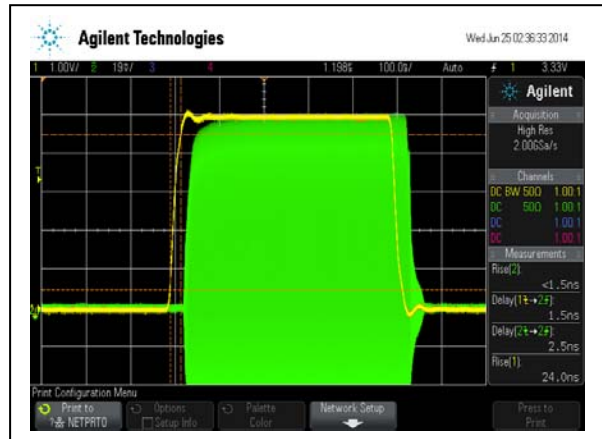
J2



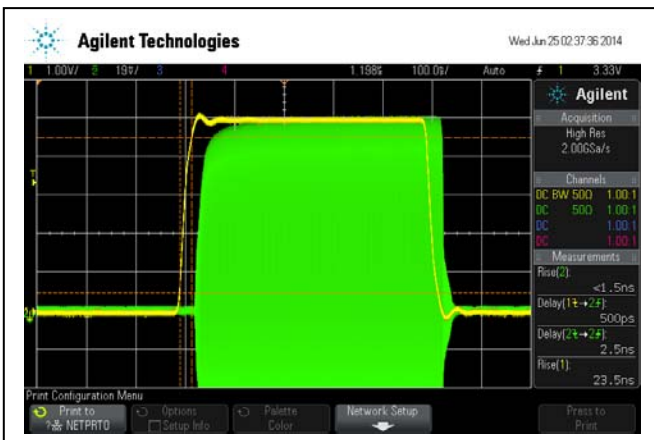
J3



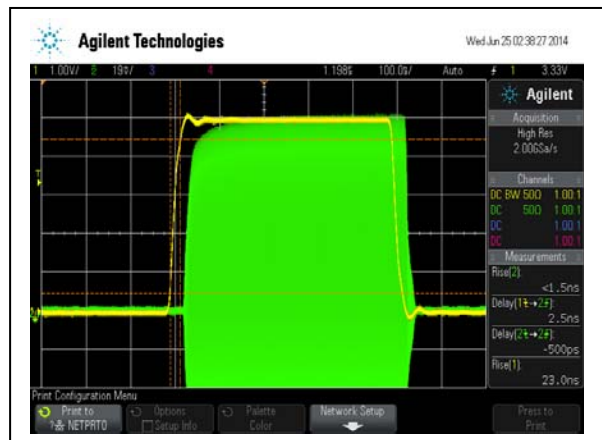
J4



J5



J6

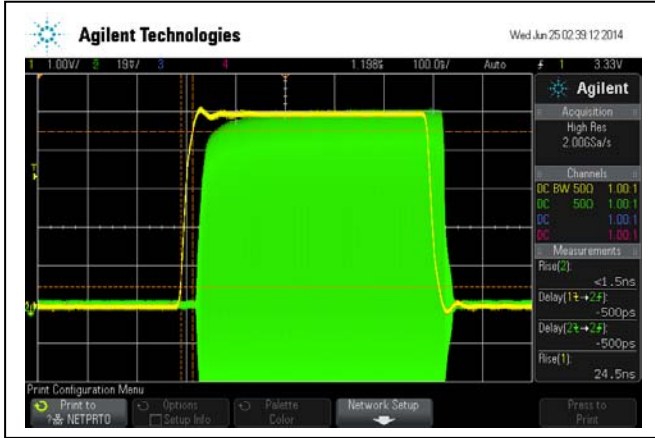




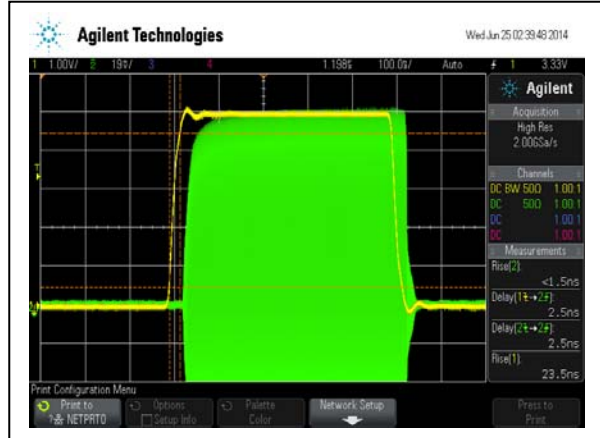
Typical Characteristics On P32T-0R5G18G-60-T-SFF

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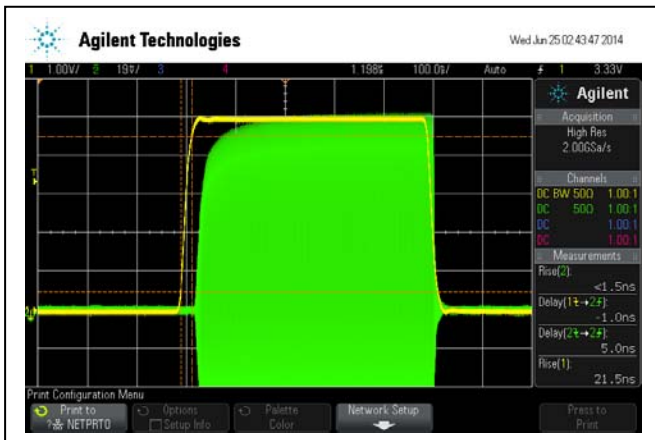
J7



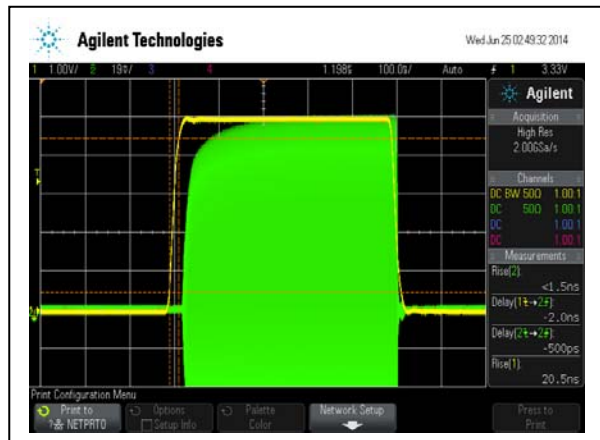
J8



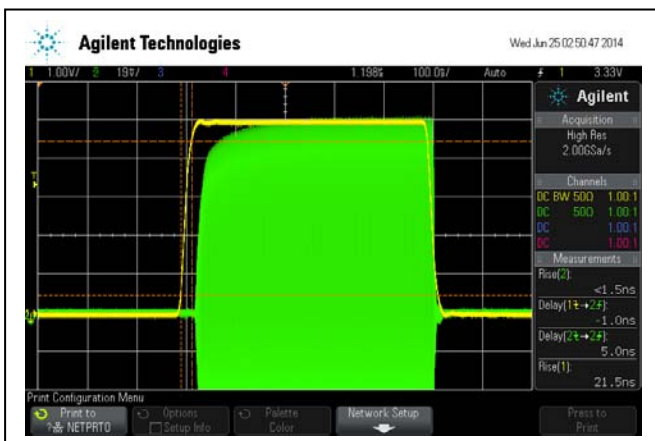
J9



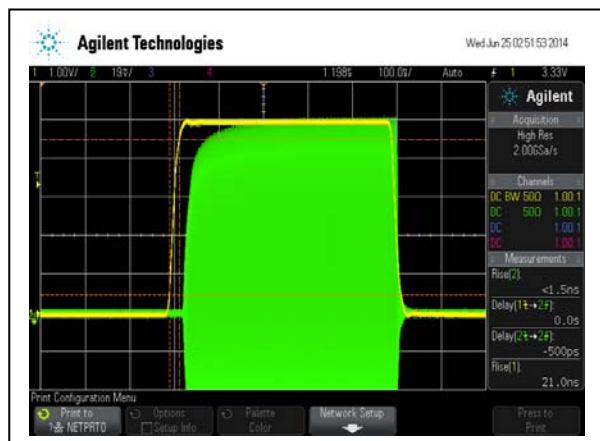
J10



J11



J12



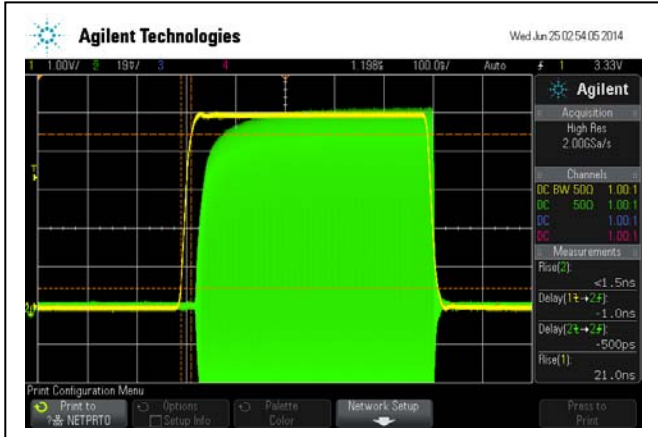
YELLOW = TTL SIGNAL
GREEN = RF SIGNAL



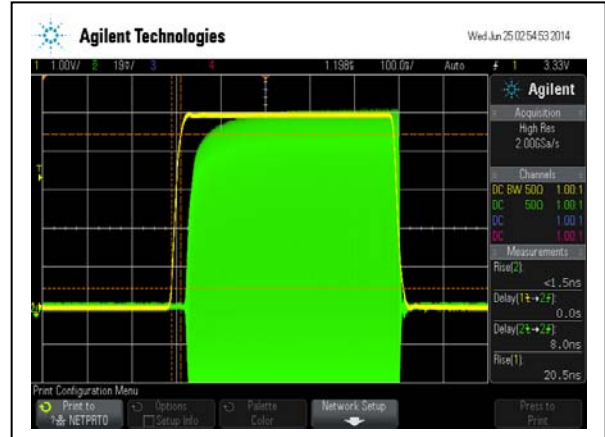
Typical Characteristics On P32T-0R5G18G-60-T-SFF

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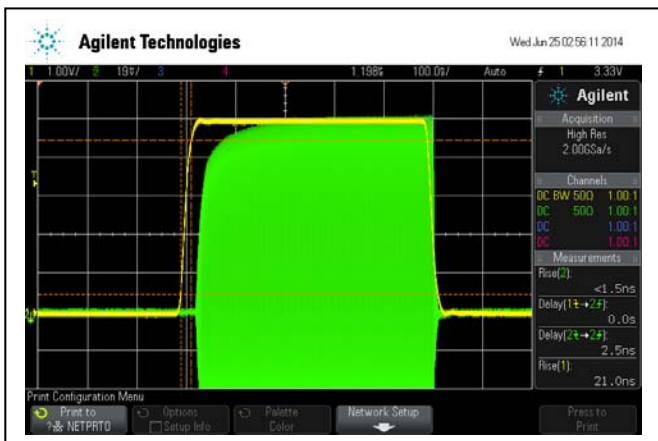
J13



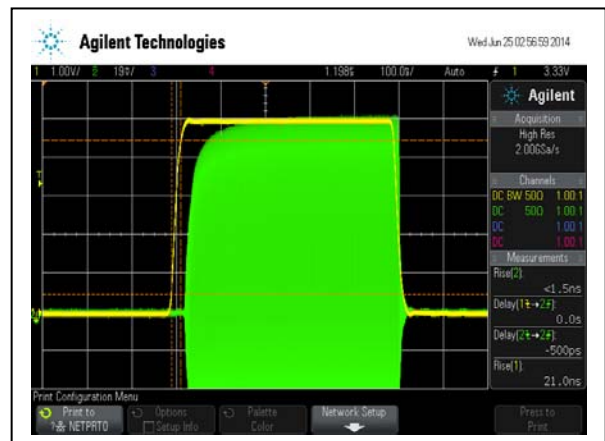
J14



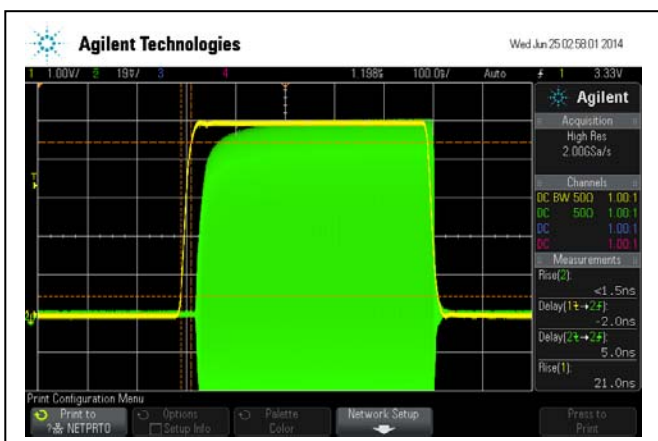
J15



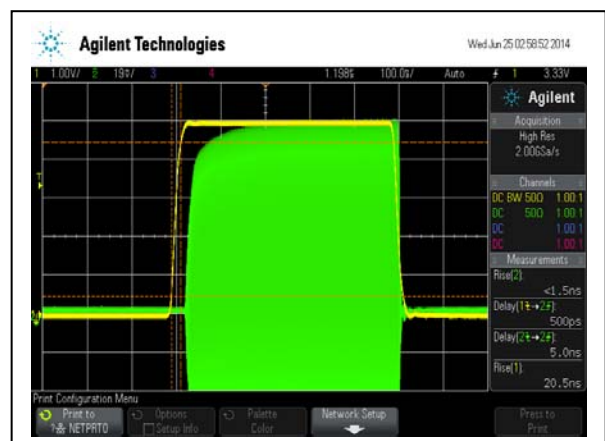
J16



J17



J18



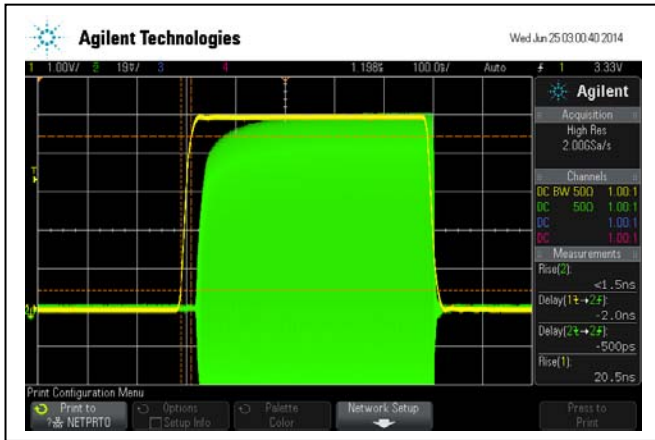
YELLOW = TTL SIGNAL
GREEN = RF SIGNAL



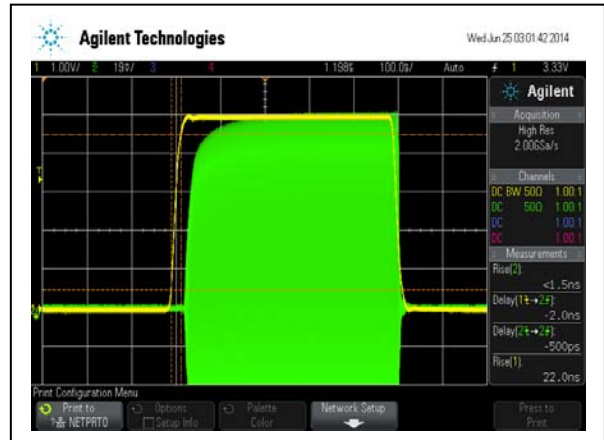
Typical Characteristics On P32T-0R5G18G-60-T-SFF

PL15126/1419

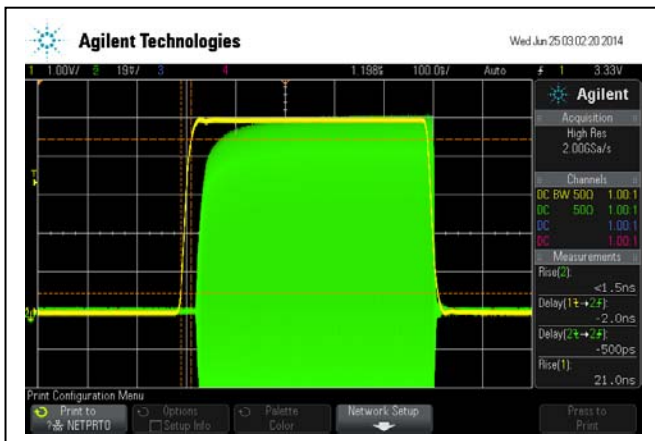
J19



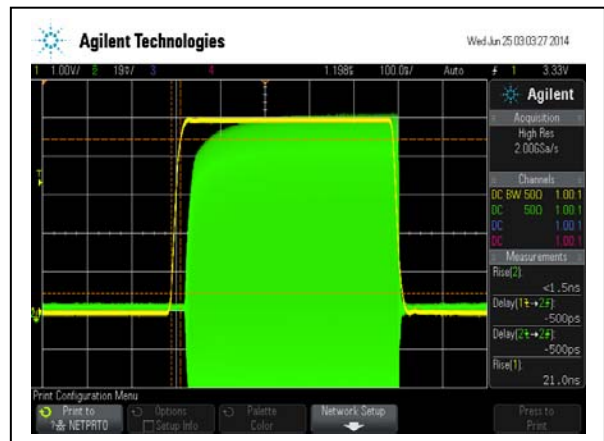
J20



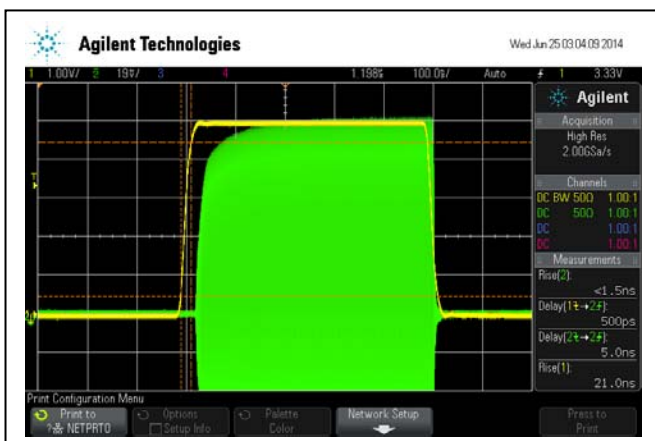
J21



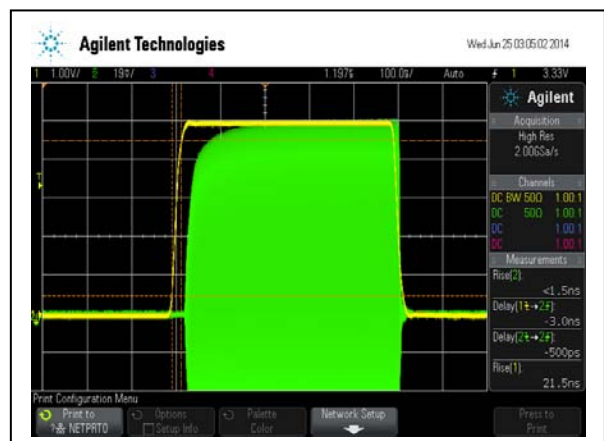
J22



J23



J24



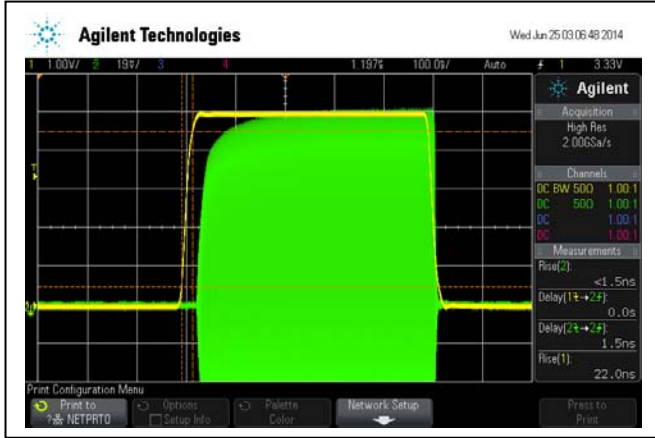
YELLOW = TTL SIGNAL
GREEN = RF SIGNAL



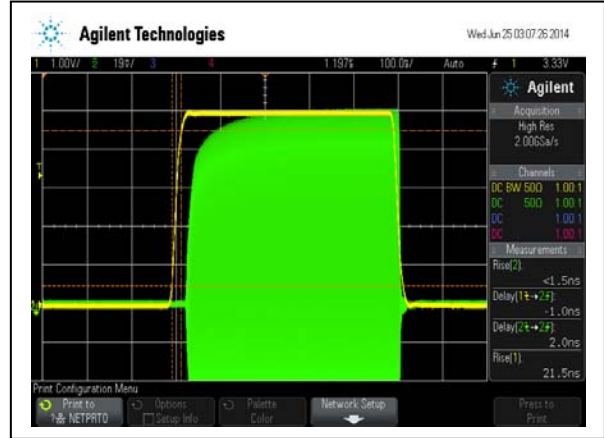
Typical Characteristics On P32T-0R5G18G-60-T-SFF

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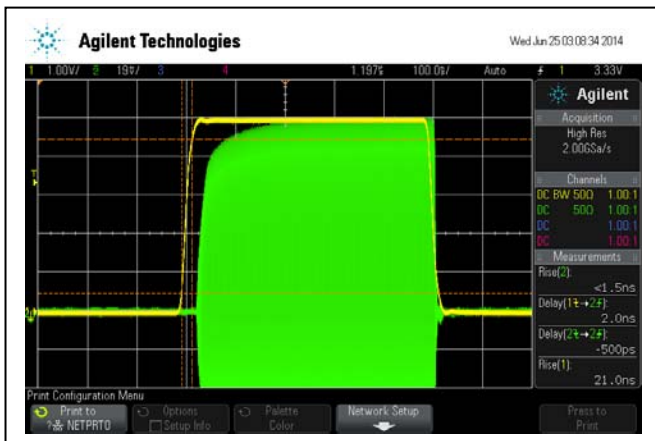
J25



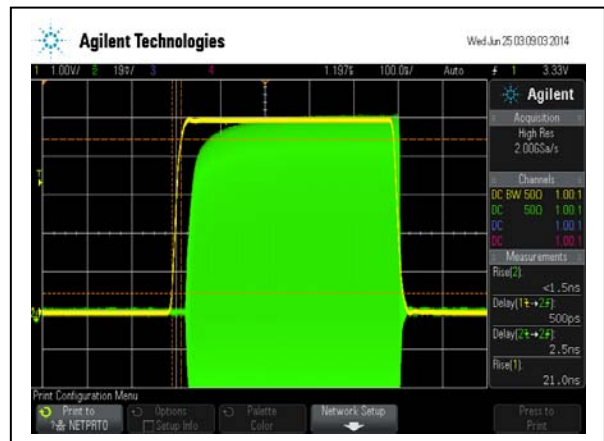
J26



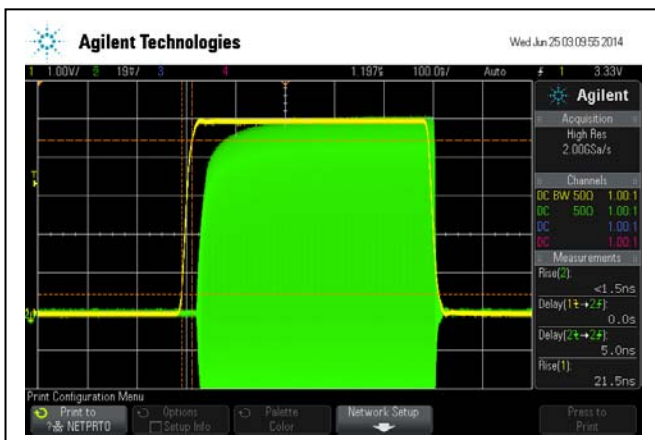
J27



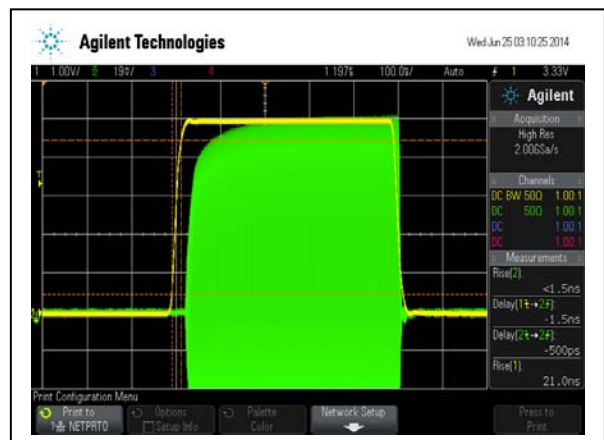
J28



J29



J30



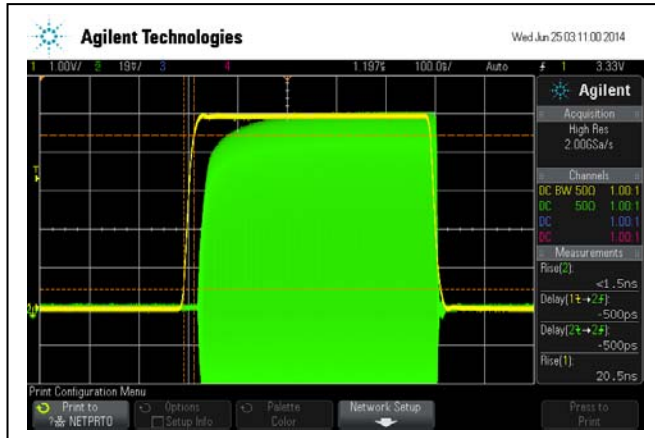
YELLOW = TTL SIGNAL
GREEN = RF SIGNAL



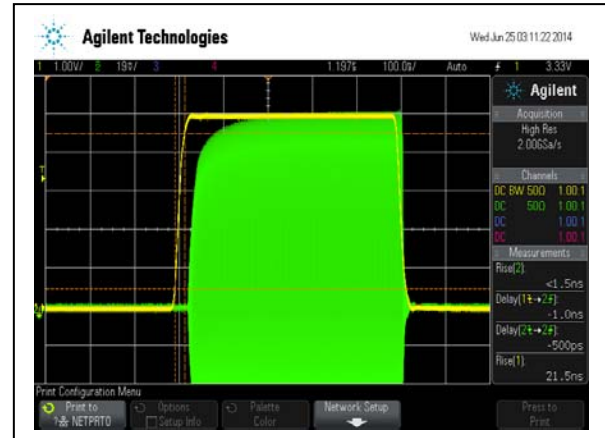
Typical Characteristics On P32T-0R5G18G-60-T-SFF

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J31



J32



YELLOW = TTL SIGNAL
GREEN = RF SIGNAL