

**TYPICAL CHARACTERISTICS
ON
SBA-100M18G-31D5-6B-RL-SFF**

PMI MODEL NUMBER SBA-100M18G-31D5-6B-RL-SFF IS A SWITCHED BIT ATTENUATOR OPERATING FROM 0.1 TO 18 GHz DESIGNED TO BE SWITCHED BETWEEN A LOW LOSS STATE AND 31.5 dB IN 0.5 dB STEPS. THE SETTINGS ARE SELECTED BY 6 INDEPENDENT BIT CONTROLS.



January 30, 2025

Reported By: Samantha Lange

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Outline Drawing

DESCRIPTION:

PMI MODEL NUMBER SBA-100M18G-31D5-6B-RL-SFF IS A SWITCHED BIT ATTENUATOR OPERATING FROM 0.1 GHz TO 18 GHz DESIGNED TO BE SWITCHED BETWEEN A LOW LOSS STATE AND 31.5 dB IN 0.5 dB STEPS. THE SETTINGS ARE SELECTED BY 6 INDEPENDENT BIT CONTROLS.

ZONE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	10/23/2024	

SPECIFICATIONS:

- FREQUENCY RANGE:..... 0.1 GHz TO 18 GHz
- INSERTION LOSS:..... 6.0 dB MAX @ 25°C, 6.5 dB MAX OVER TEMP.
- ATTENUATION RANGE (OVER IL):..... 0 TO 31.5 dB
- STEP SIZE:..... 0.5 dB
- SWITCHING SPEED:..... 100 ns MAX
- VSWR (IN/OUT):..... 2.0:1 MAX
- MAX RF INPUT POWER:..... +20 dBm CW (OPERATING)
+27 dBm CW (SURVIVAL)
- DC VOLTAGE:..... +5 VDC ±5% @ 100 mA MAX
-5 VDC ±5% @ 100 mA MAX
- TTL CONTROL:..... 6 BITS
"0"=INSERTION LOSS"
"1"=ATTENUATION"
- RF CONNECTORS:..... SMA (F) REMOVABLE
- SIZE:..... 1.15" X 0.85" X 0.5"
- FINISH:..... PAINTED BLUE

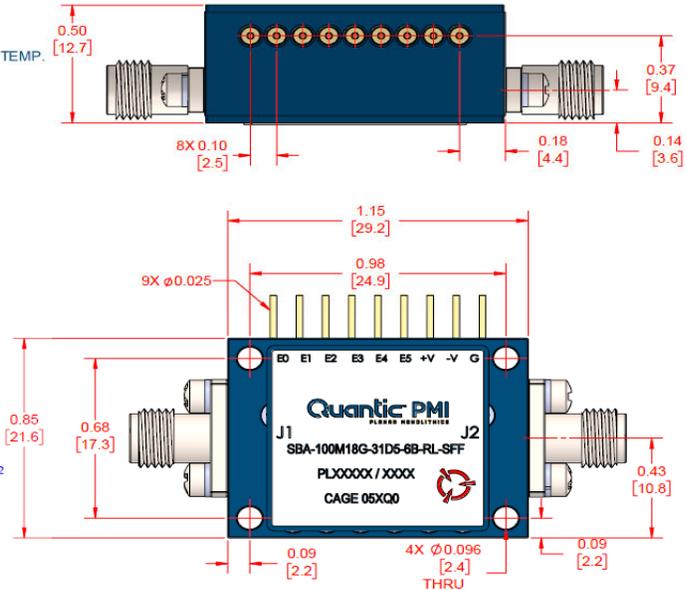
BLOCK DIAGRAM



ENVIRONMENTAL RATINGS:

- TEMPERATURE:..... -40°C TO +85°C (OPERATING)
-55°C TO +125°C (STORAGE)

NOTE: SPECIFICATIONS WILL VARY OVER TEMPERATURE
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE OR REVISION



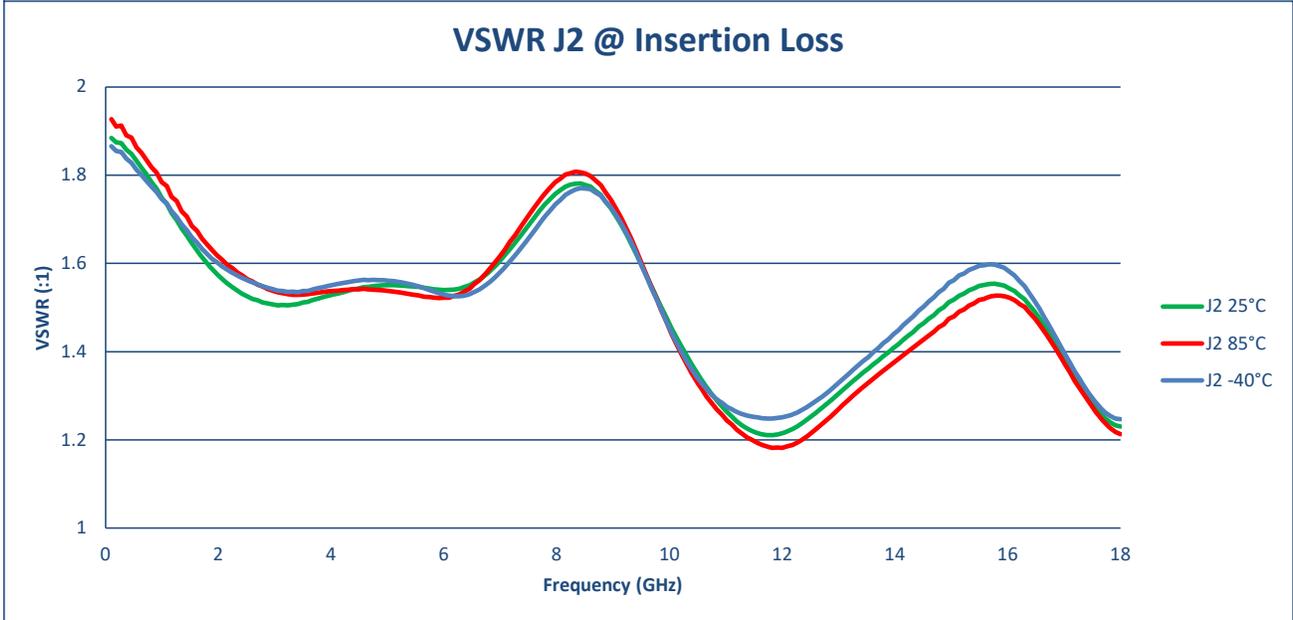
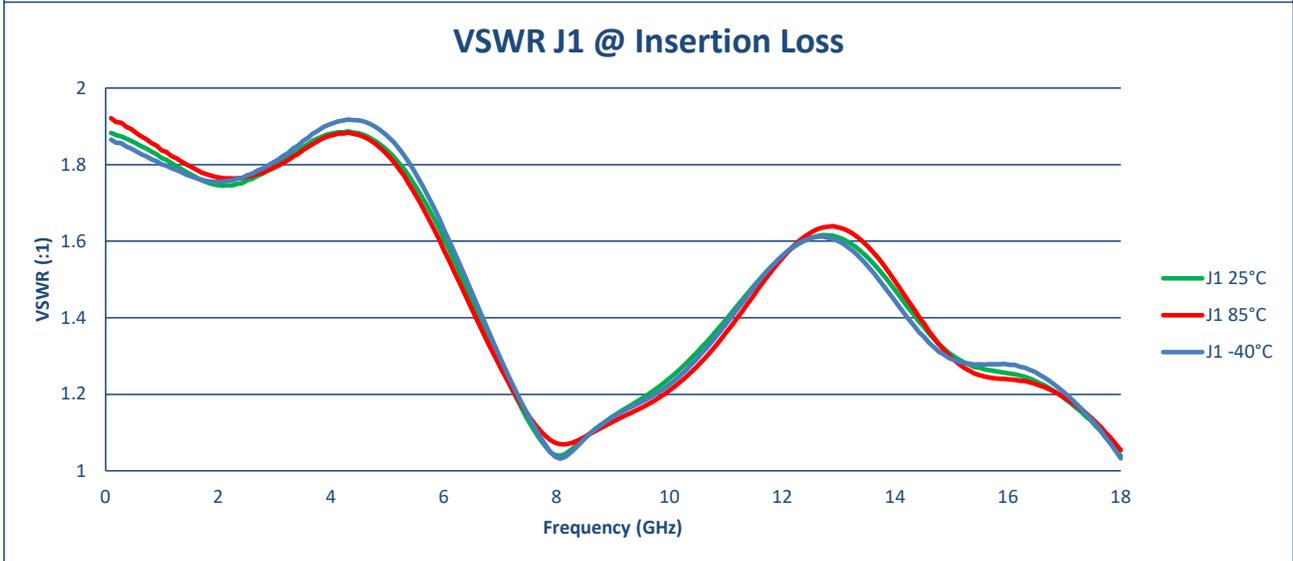
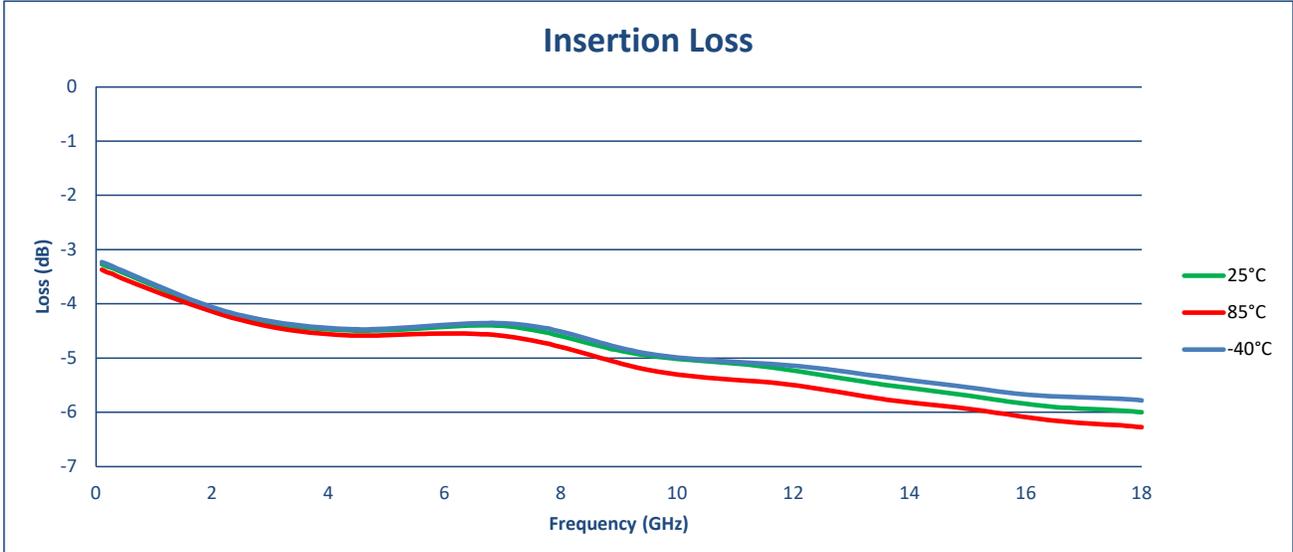
APPROVALS		DATE	7309-A GROVE ROAD FREDERICK, MD 21704 USA 7309-A GROVE ROAD FREDERICK, MD 21704 USA WWW.QUANTICPMI.COM	
DESIGNED BY	S LANGE	10/23/2024	TITLE	OUTLINE
DRAWN BY			SIZE	FORM NO.
ISSUED BY			B	05XG0
DATE			QWS NO.	27050020
			SCALE	3:1
				SHEET 1 OF 1

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Technical Specifications

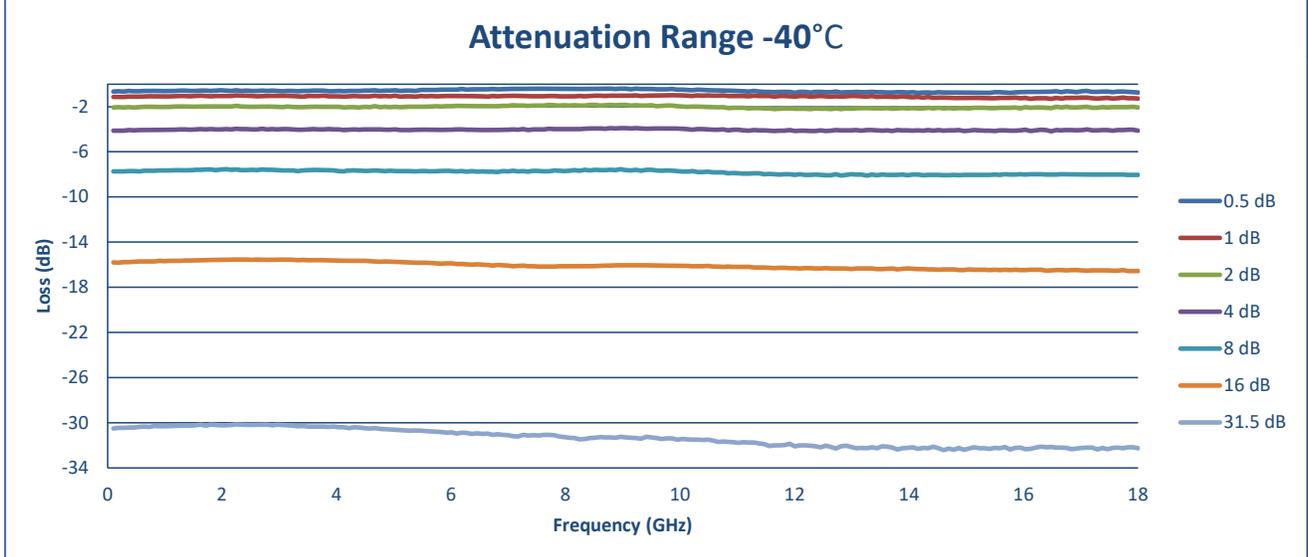
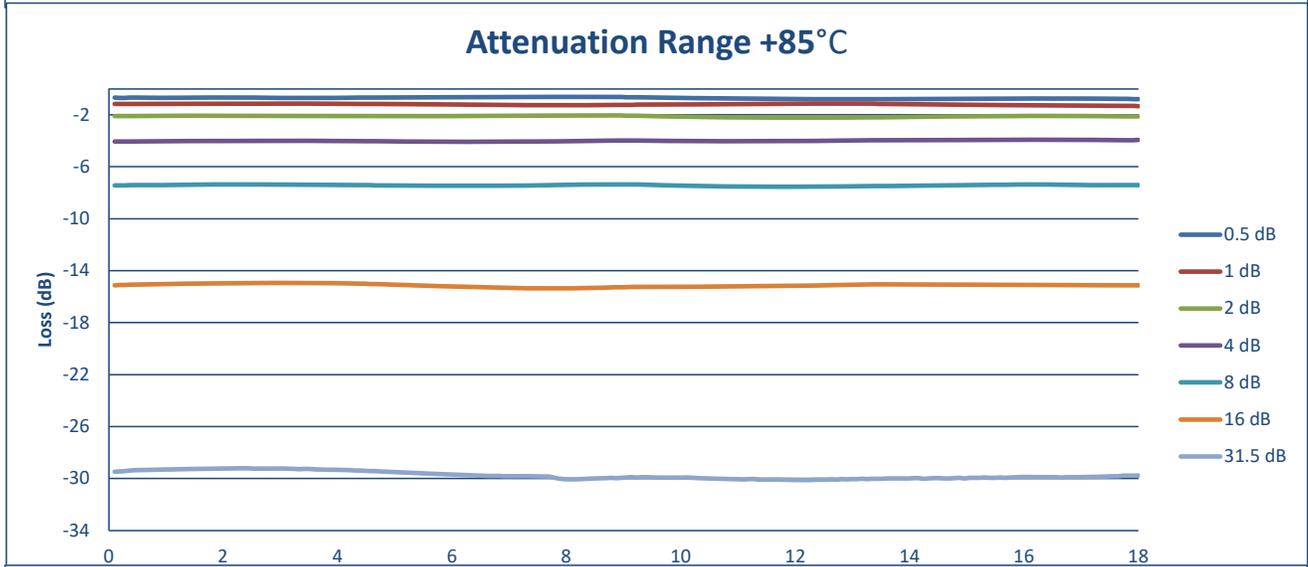
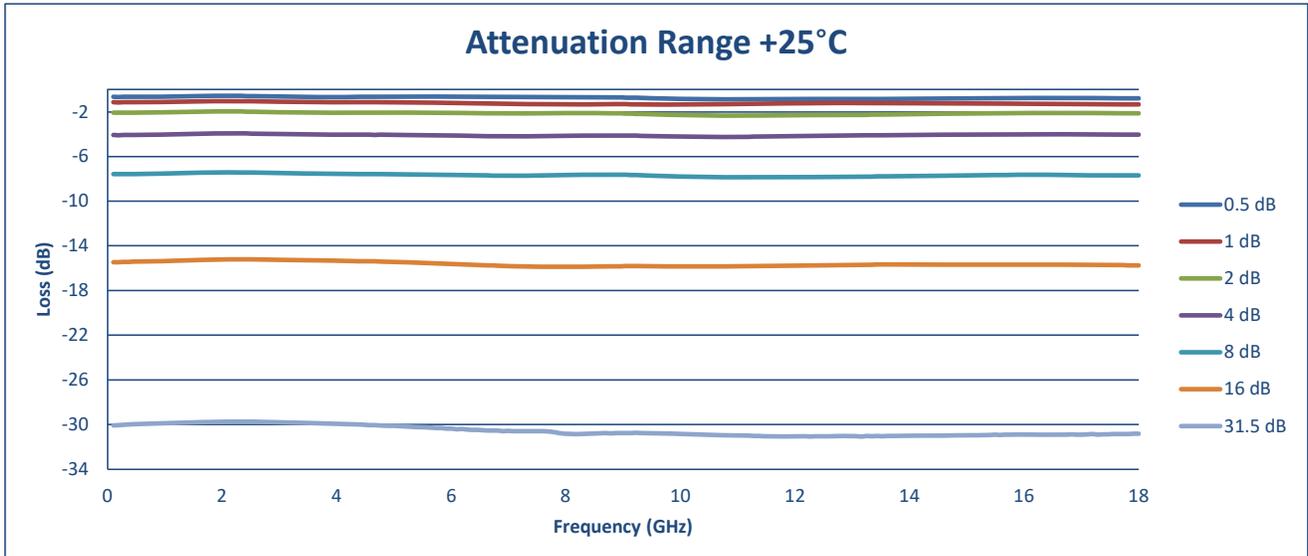
TEST ITEM	PARAMETERS	SPECIFIED VALUE	TEST RESULTS		
			25°C	-40°C	85°C
1	Frequency Range:	0.1 to 18 GHz			
2	Insertion Loss:	6.0 dB MAX @25°C, 6.5 dB MAX OVER TEMP	6 dB See Plot	5.78 dB See Plot	6.28 dB See Plot
3	Attenuation Range:	0 to 31.5 dB	30.4 dB See Plot	31.28 dB See Plot	29.66 dB See Plot
4	Step Size:	0.5 dB	0.72 dB	0.59 dB	0.71 dB
5	Switching Speed:	100 ns MAX	50 ns		
6	VSWR:(In/Out)	2.0:1 MAX	IN: 2.0:1 OUT: 2.0:1 See Plot	IN: 2.0:1 OUT: 2.0:1 See Plot	IN: 2.0:1 OUT: 2.0:1 See Plot
7	Max. RF Input Power:	+20 dBm CW (Operating) +27 dBm CW (Survival)	+27 dBm CW	+27 dBm CW	+27 dBm CW
8	DC Voltage:	+5 VDC @ 100 mA MAX -5 VDC @ 100 mA MAX	0 mA @ +5 VDC 3 mA @ -5 VDC	0 mA @ +5 VDC 3 mA @ -5 VDC	0 mA @ +5 VDC 3 mA @ -5 VDC
9	TTL Control:	"0=Insertion Loss" "1=Attenuation"	PASS	PASS	PASS

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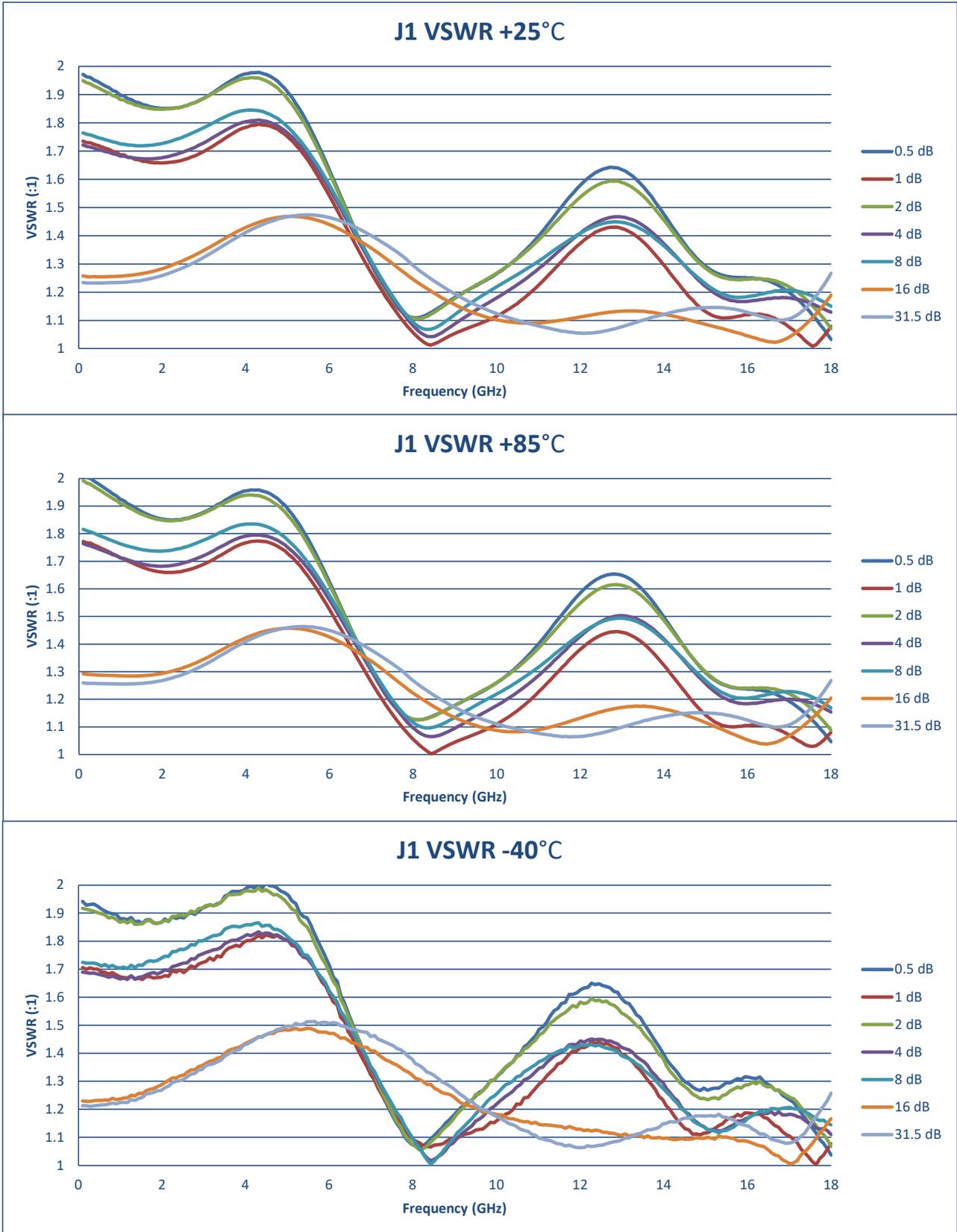


On

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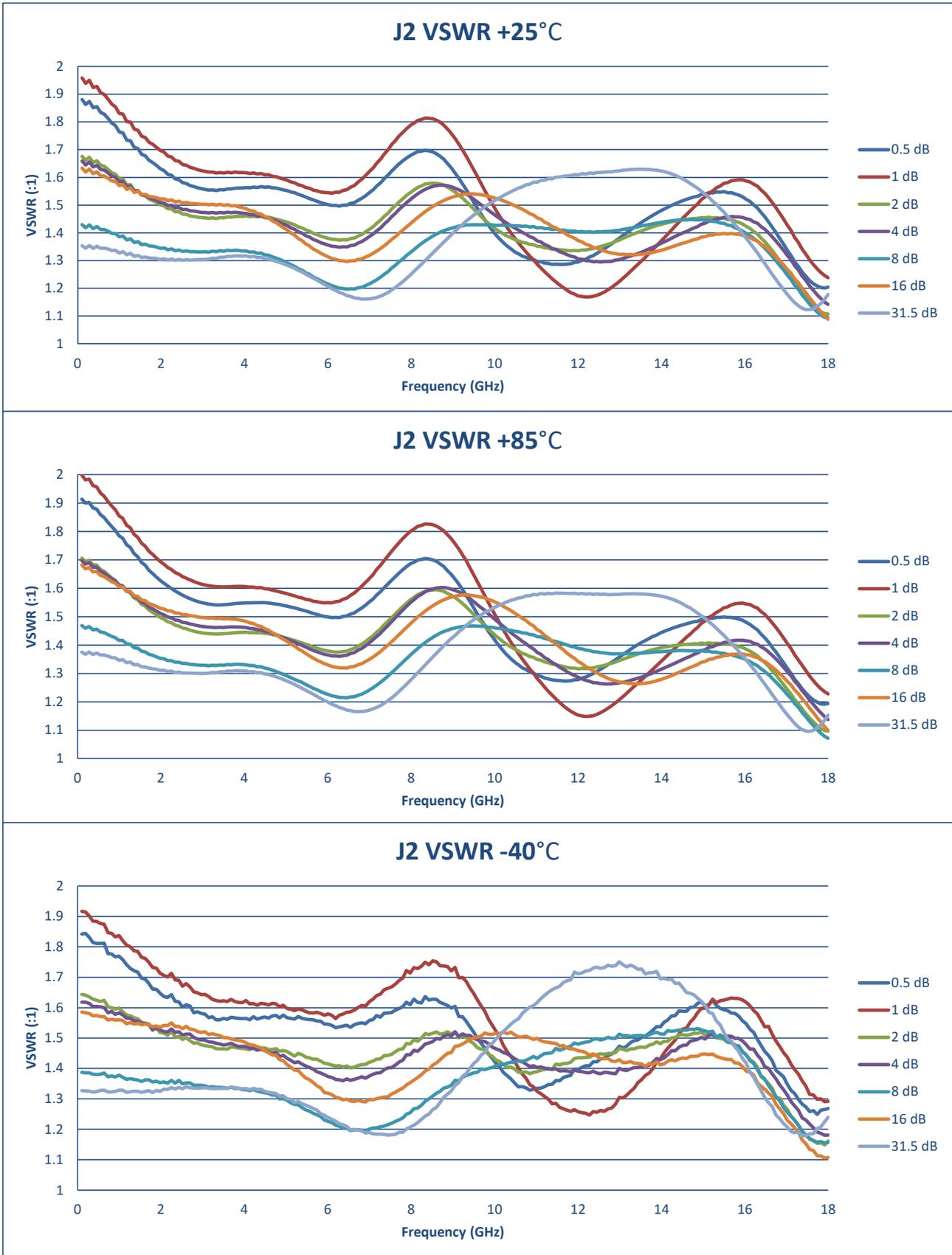


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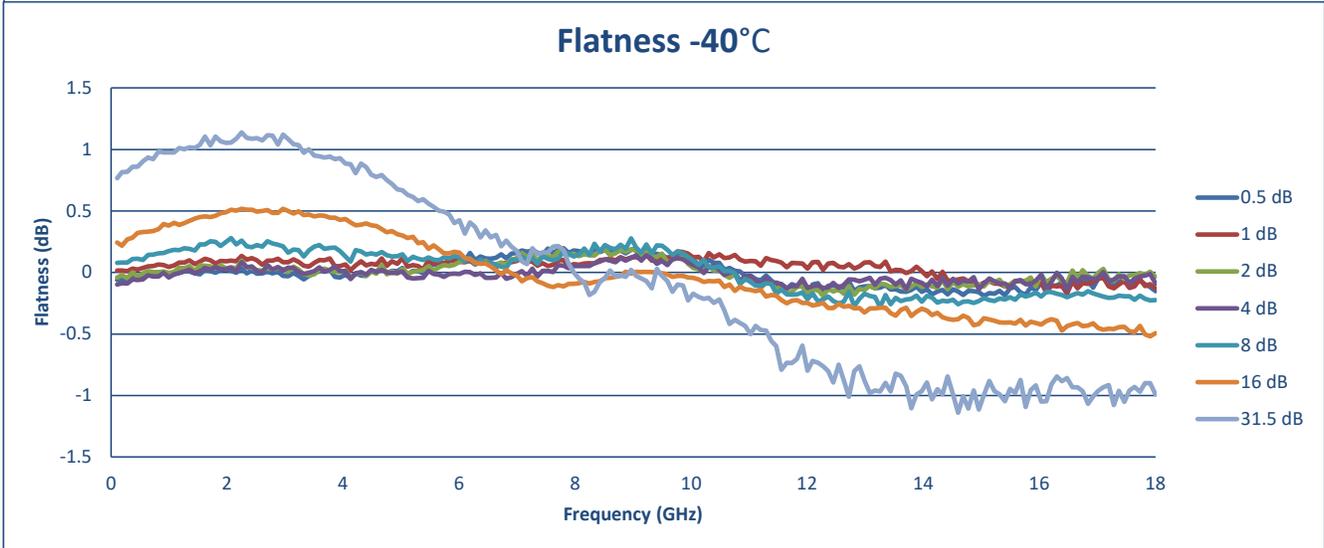
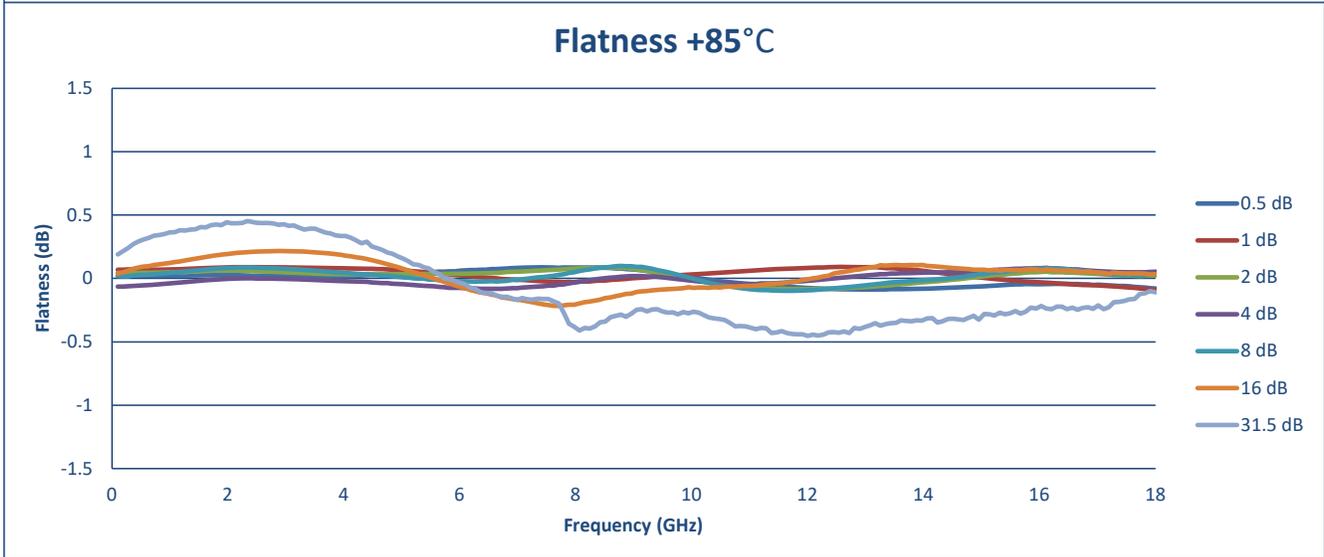
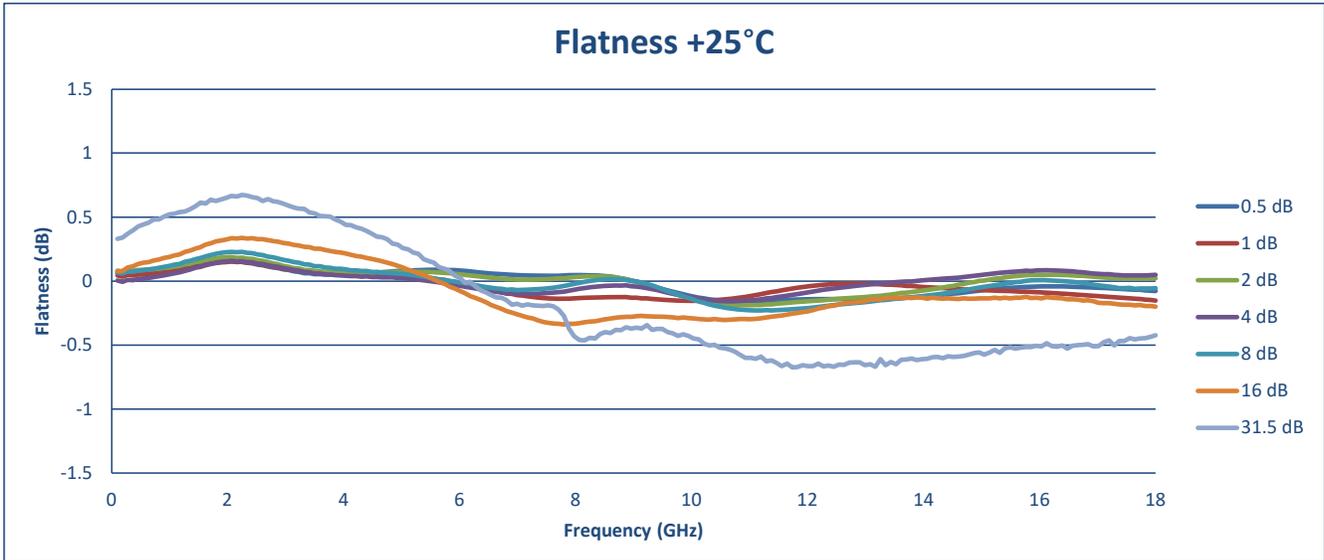


On

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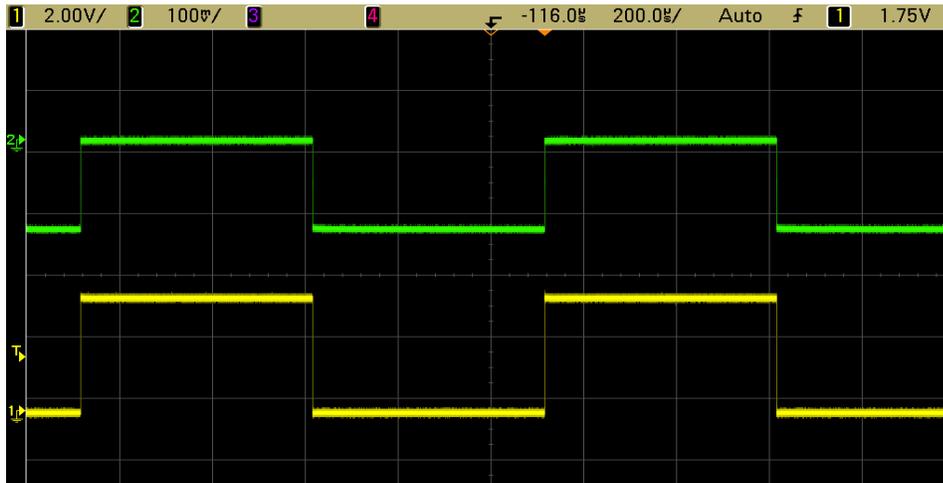
On
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On

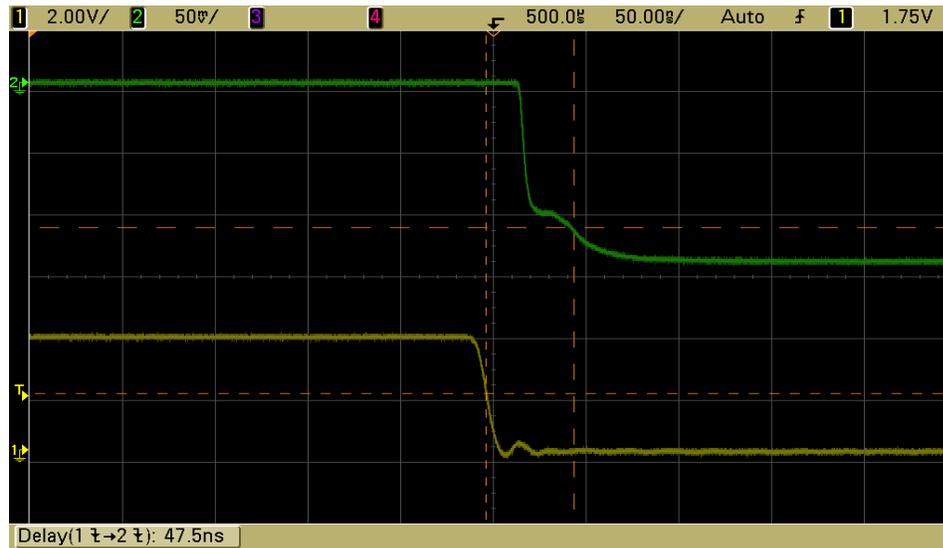
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Switching Speed



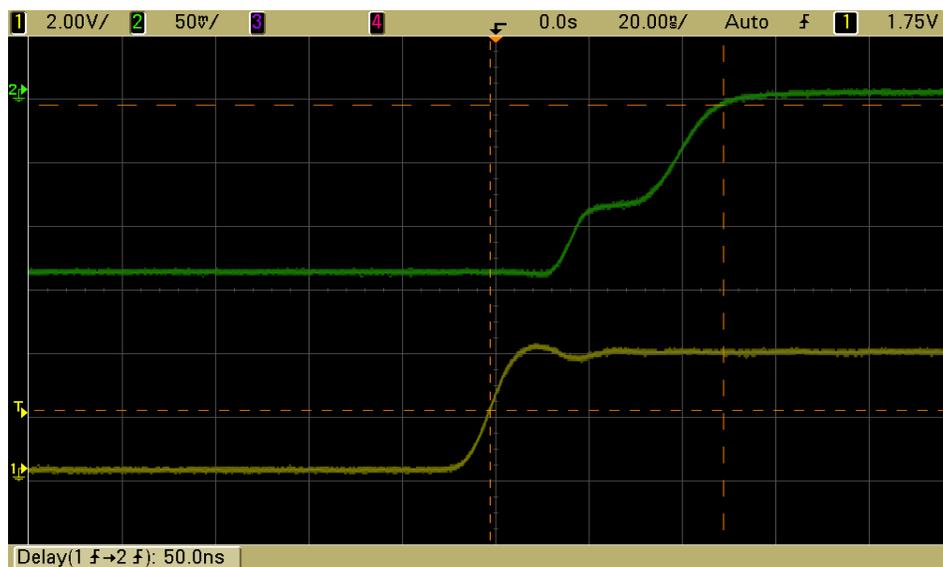
Full Pulse

Yellow: TTL
Green: RF



Attenuation Off

Delay: 47.5 ns



Attenuation On

Delay: 50.0 ns

On

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