

**Typical Characteristics
ON
SBA-100M18G-31D5-6B-SFF**

PMI MODEL NUMBER SBA-100M18G-31D5-6B-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.



**September 21, 2023
Drafted By: NOOR AZHAR**

Tested and Reported By: KEVIN MANSFIELD

SBA-100M18G-31D5-6B-SFF

Outline Drawing

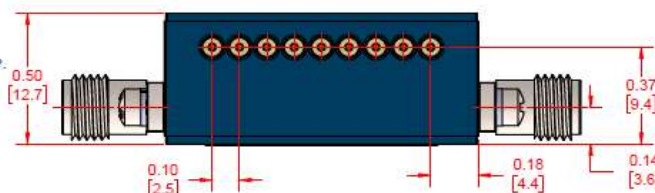
DESCRIPTION:

PMI MODEL NUMBER SBA-100M18G-31D5-6B-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.

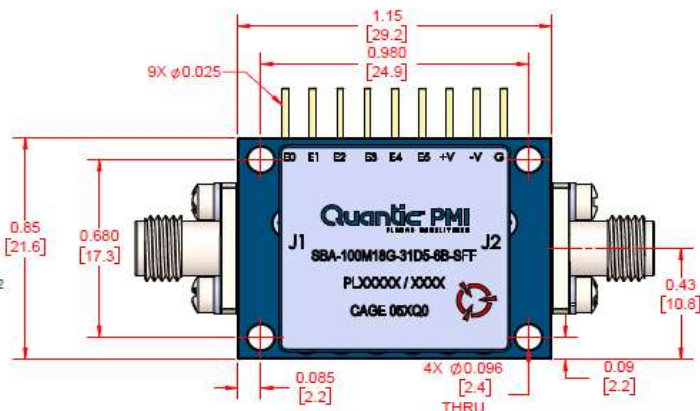
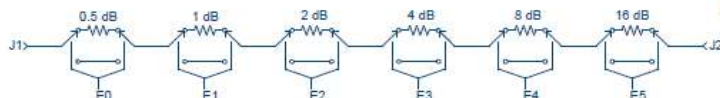
ZONE	REV.	DESCRIPTION	DATE	APPROV
	A1	ORIGINAL RELEASE	9/1/2023	
	A2	ECN #23-0182	9/28/23	

SPECIFICATIONS:

- | | |
|--------------------------------|--|
| ● FREQUENCY RANGE: | 0.1 TO 18 GHz |
| ● INSERTION LOSS: | 8.0 dB MAX @ 25°C, 0.5 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: | 8 BITS |
| | "1"=INSERTION LOSS*
"0"=ATTENUATION" |
| ● RF CONNECTORS: | SMA (F) REMOVABLE |
| ● SIZE: | 1.15" X 0.85" X 0.5" |
| ● FINISH: | PAINTED BLUE |



BLOCK DIAGRAM



ENVIROMENTAL RATINGS:

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

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

PMI CONFIDENTIAL AND PROPRIETARY

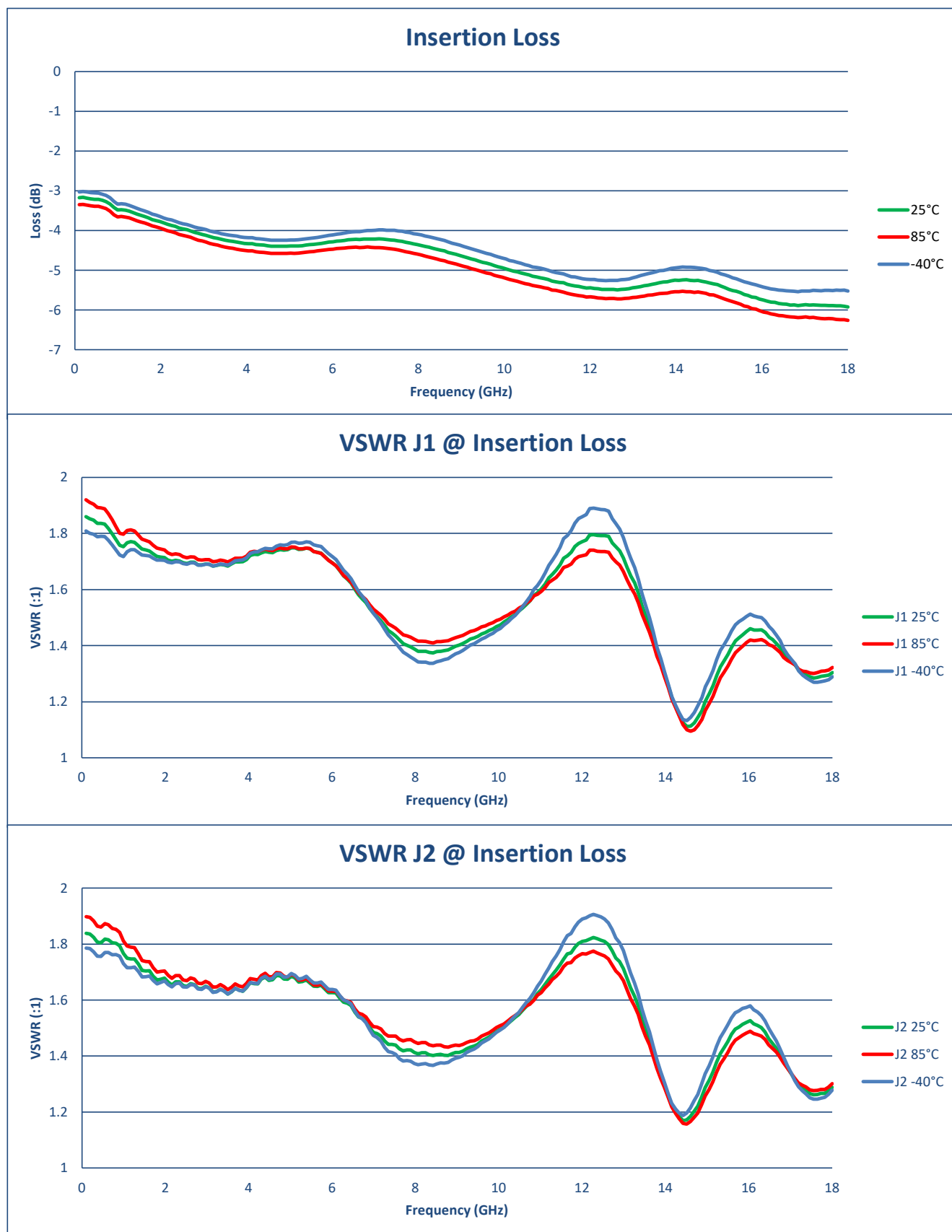
 Quantum PMI 12000 A. GREENLEAF ROAD, SUITE 200, KANSAS CITY, MISSOURI 64133 USA PHONE: 816.481.2000 FAX: 816.481.2001 WWW.QUANTUMPMI.COM		APPROVALS	DATE	FILE
		APPROVED BY A. AZHAR	APPROVED DATE 01/01/2010	
PROJECT NO. SBA-100M18G-31D5-SB-SFF		ISSUE NO.	ISSUE DATE	PROJECT NO. 27046720
REVISION 01		REVISION NO.	REVISION DATE	REVISION NO. 1
PROJECT NAME Quantum PMI		PROJECT NAME	PROJECT NAME	PROJECT NAME Quantum PMI

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Technical Specifications

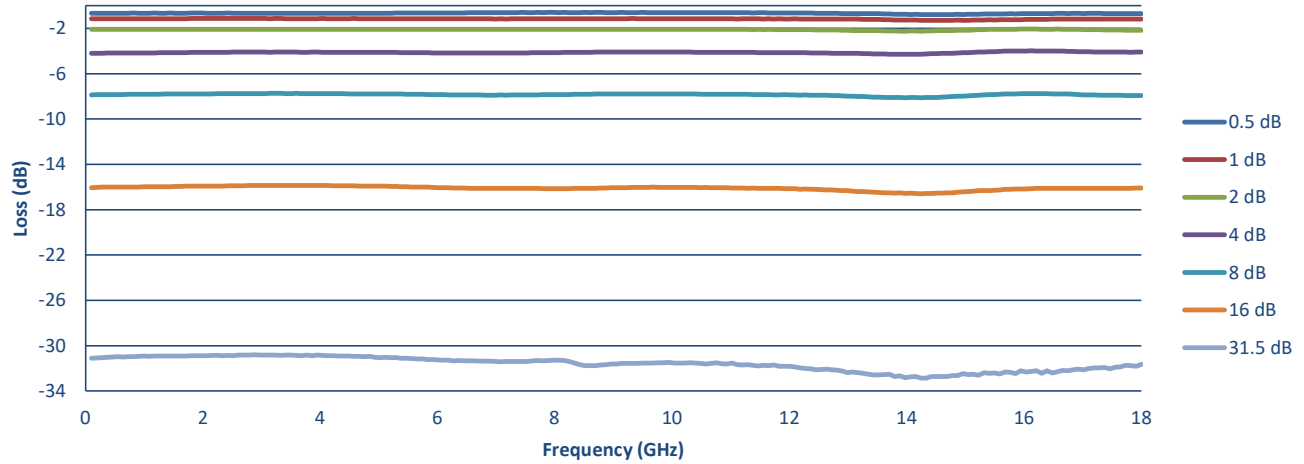
TEST ITEM	PARAMETERS	SPECIFIED VALUE	TEST RESULTS		
			25°C	-40°C	85°C
1	Frequency Range:	0.1 to 18 GHz			
2	Insertion Loss:	6.0 dB MAX @25°C, 6.5 dB MAX OVER TEMP	5.92 dB See Plot	5.54 dB See Plot	6.26 dB See Plot
3	Attenuation Range:	0 to 31.5 dB	31.84 dB See Plot	33.13 dB See Plot	30.49 dB See Plot
4	Step Size:	0.5 dB	0.71 dB	0.71 dB	0.67 dB
5	Switching Speed:	100 ns MAX.	45 ns		
6	VSWR:(In/Out)	2.0:1 MAX	IN: 1.95:1 OUT: 1.9:1 See Plot	IN: 1.89:1 OUT: 1.9:1 See Plot	IN: 2:1 OUT: 1.9:1 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:	"1=Insertion Loss" "0=Attenuation"	PASS	PASS	PASS

Summary Test Data On SBA-100M18G-31D5-6B-SFF

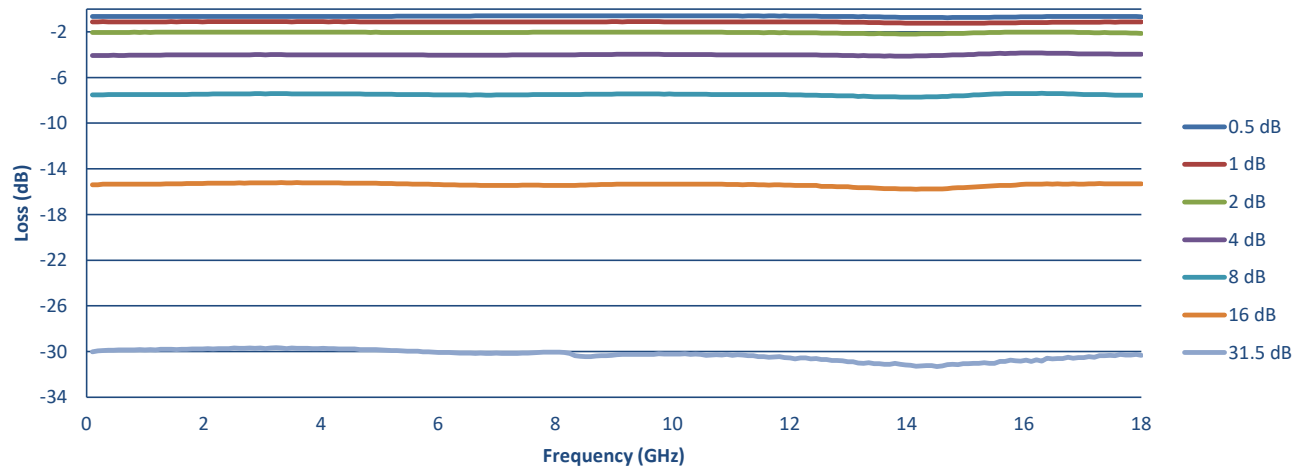


Summary Test Data On SBA-100M18G-31D5-6B-SFF

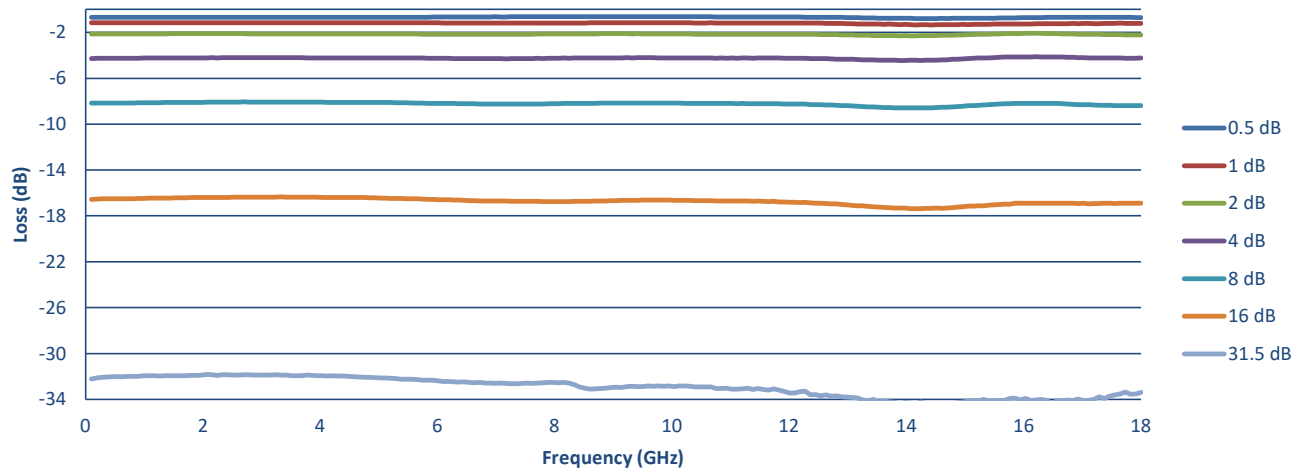
Attenuation Range +25°C



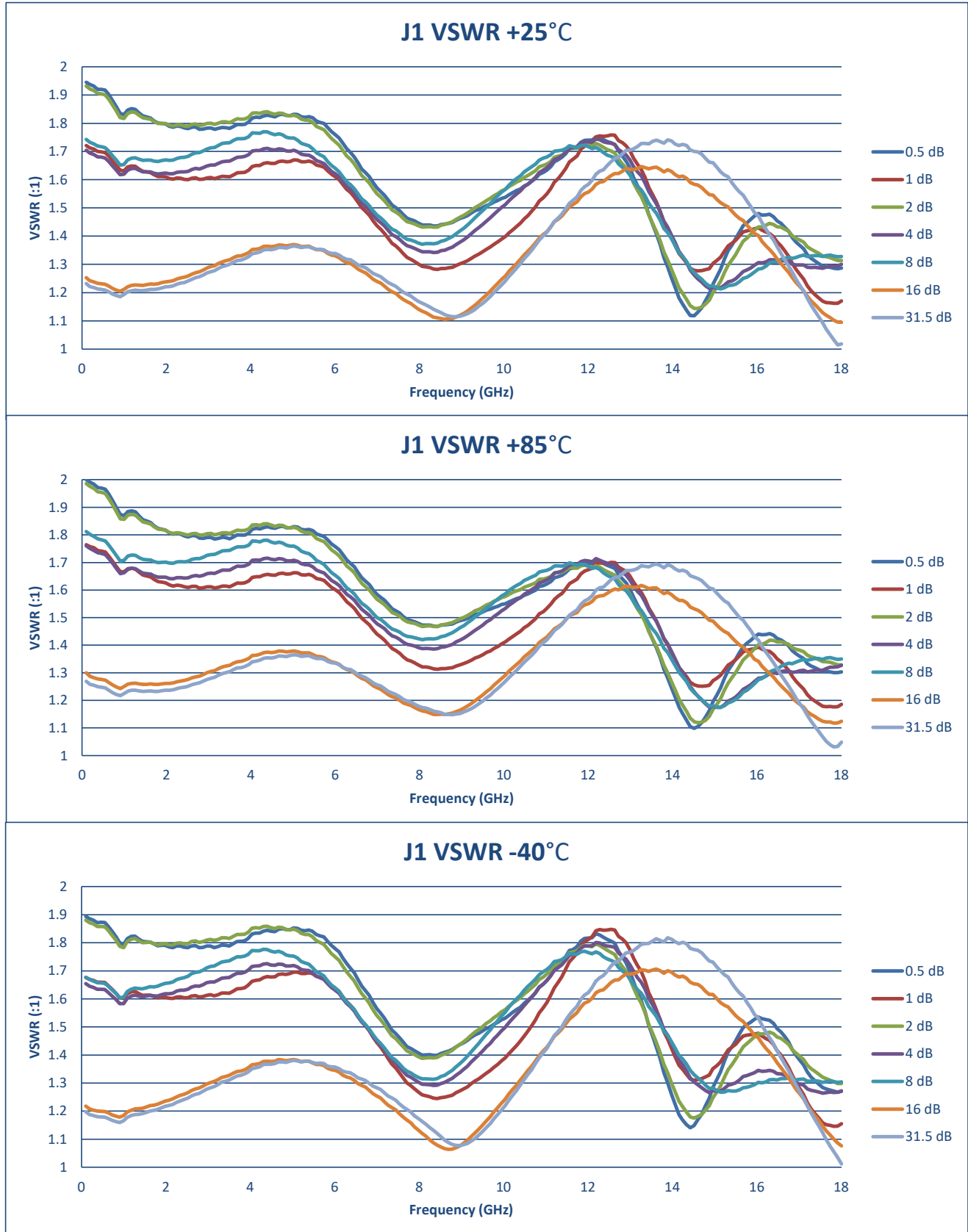
Attenuation Range +85°C



Attenuation Range -40°C

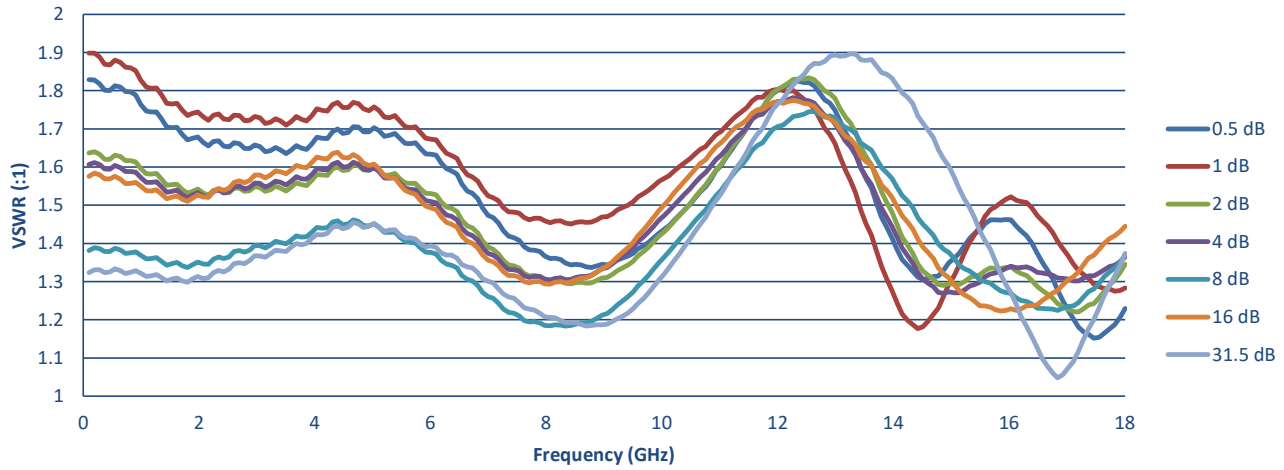


Summary Test Data On SBA-100M18G-31D5-6B-SFF

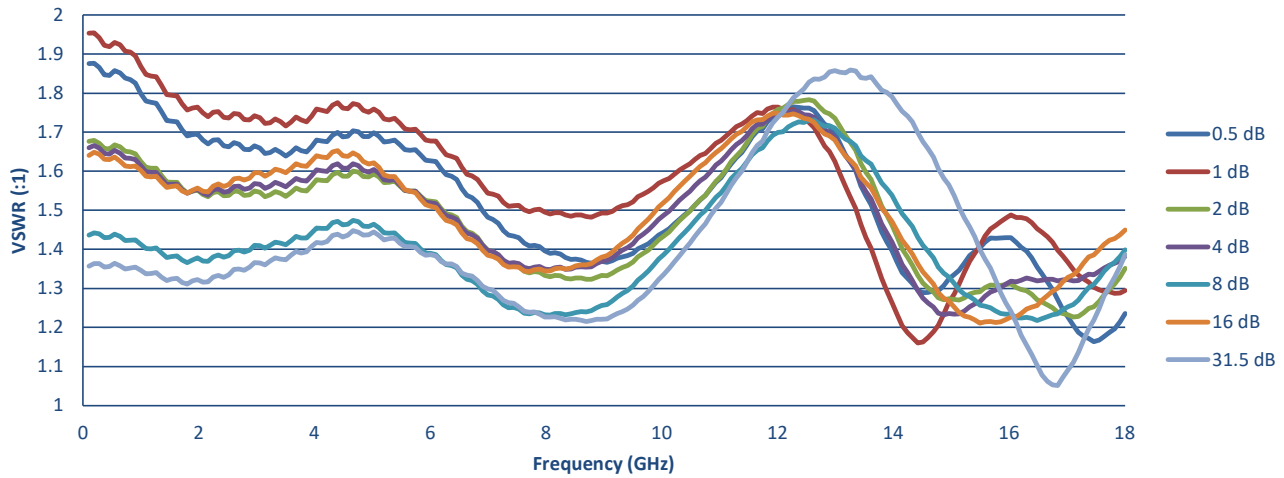


Summary Test Data On SBA-100M18G-31D5-6B-SFF

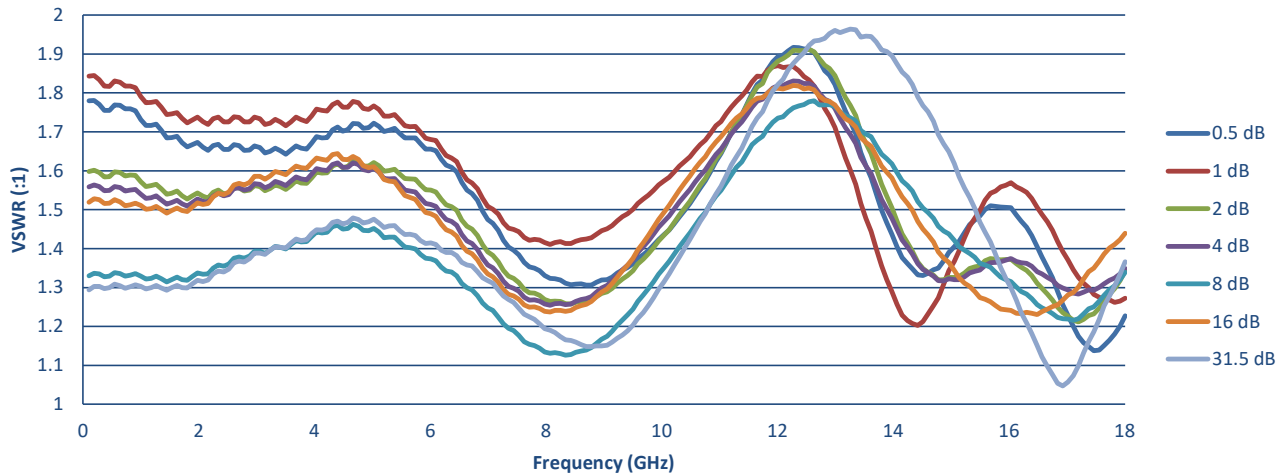
J2 VSWR +25°C



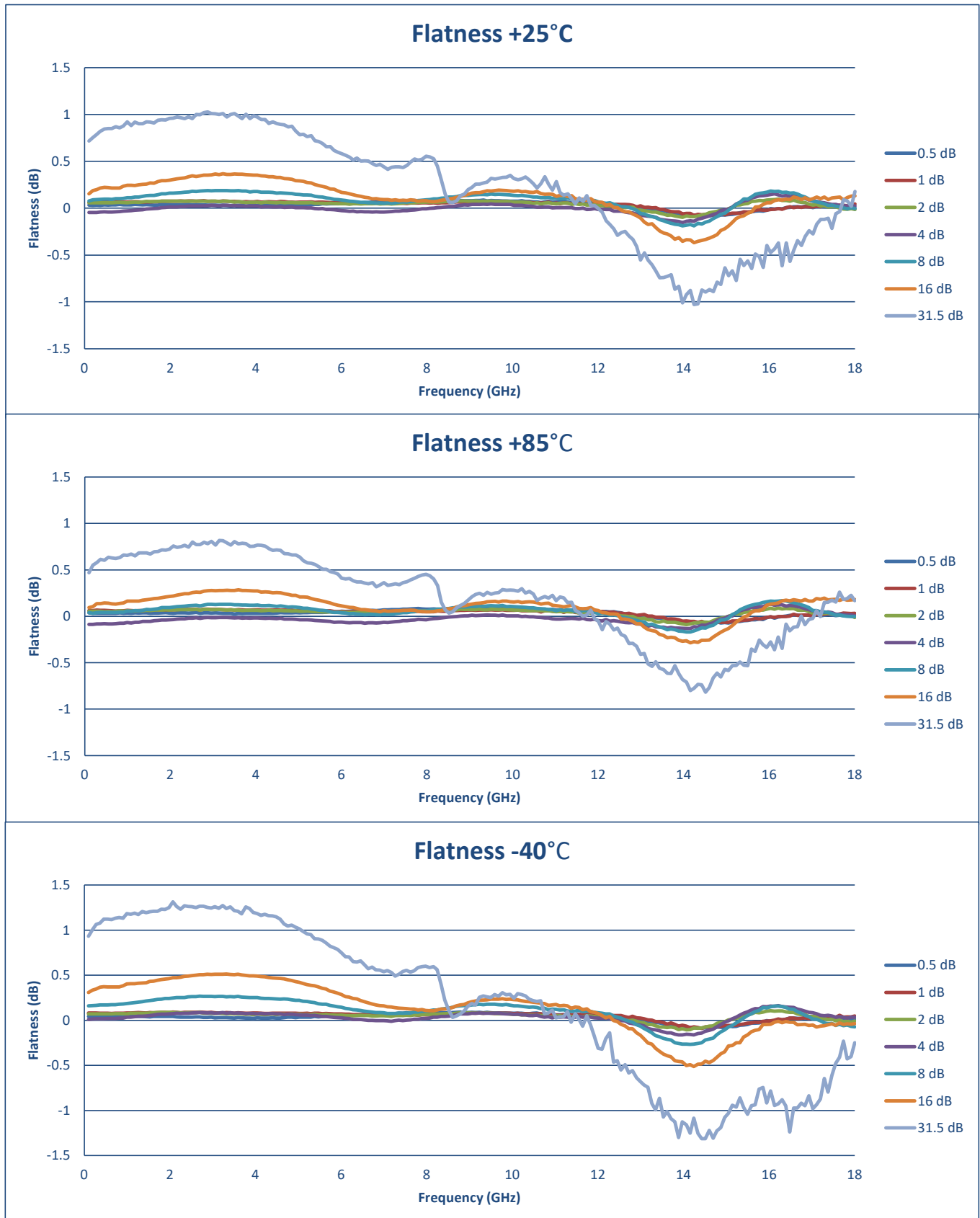
J2 VSWR +85°C



J2 VSWR -40°C



Summary Test Data On SBA-100M18G-31D5-6B-SFF

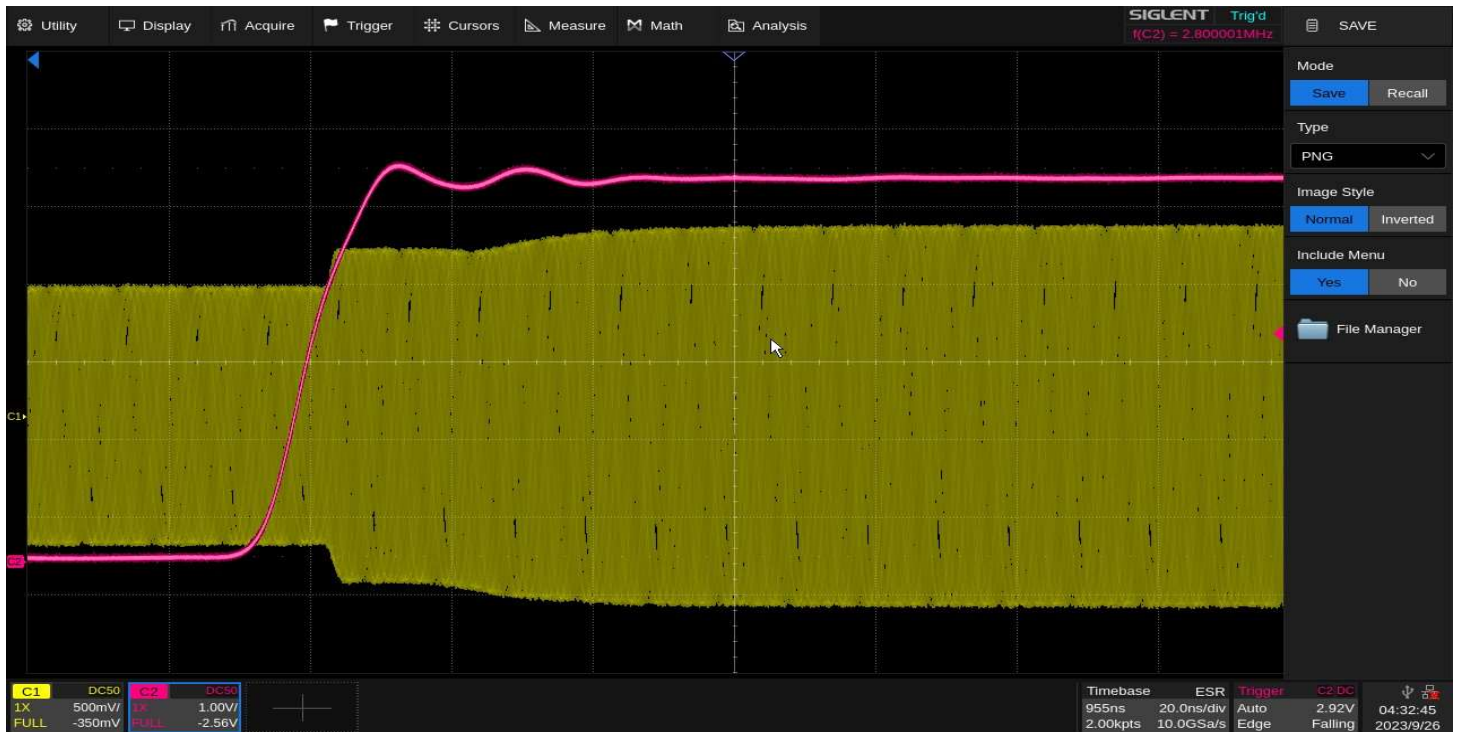


Summary Test Data On SBA-100M18G-31D5-6B-SFF

SWITCHING SPEED OFF

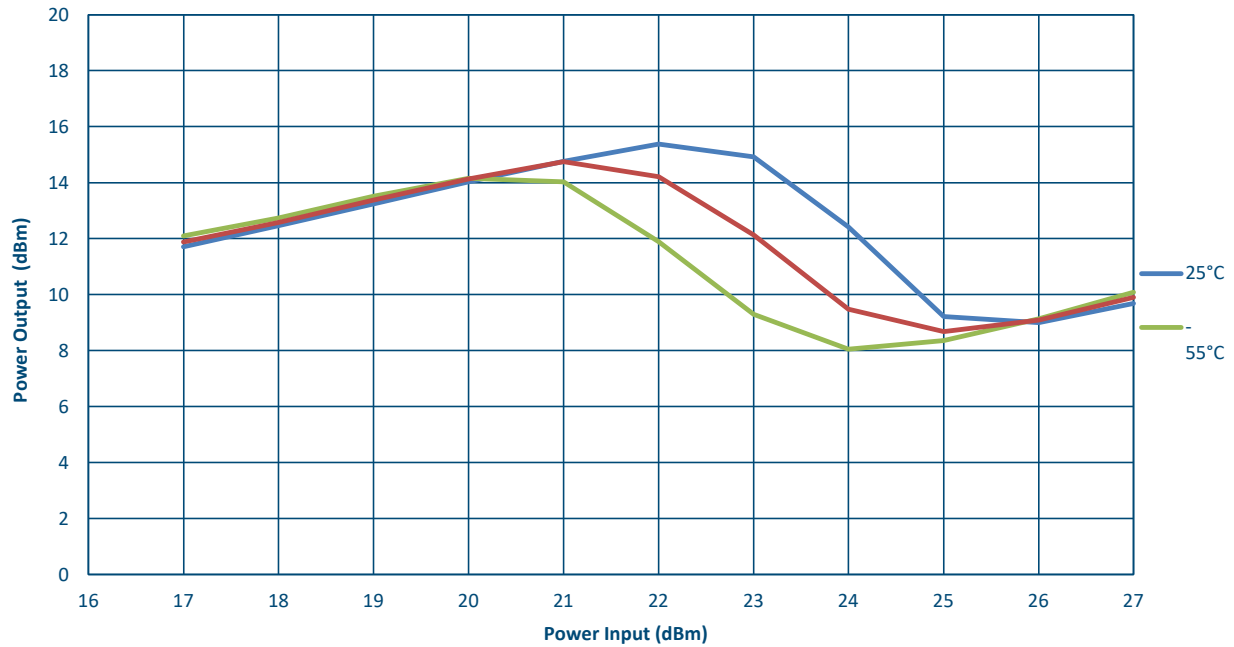


SWITCHING SPEED ON



Summary Test Data On SBA-100M18G-31D5-6B-SFF

High Power Test Graph @ 18 GHz



High Power Test Graph @ 5 GHz

