

**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**

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

## Outline Drawing

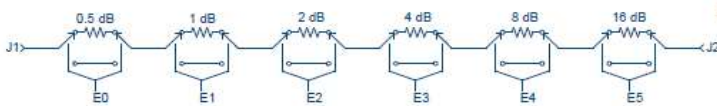
**DESCRIPTION:**

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.

**SPECIFICATIONS:**

- FREQUENCY RANGE: 0.1 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  
\*1=INSERTION LOSS\*  
\*0=ATTENUATION\*
- RF CONNECTORS: SMA (F) REMOVABLE
- SIZE: 1.15" X 0.85" X 0.5"
- FINISH: PAINTED BLUE

**BLOCK DIAGRAM**

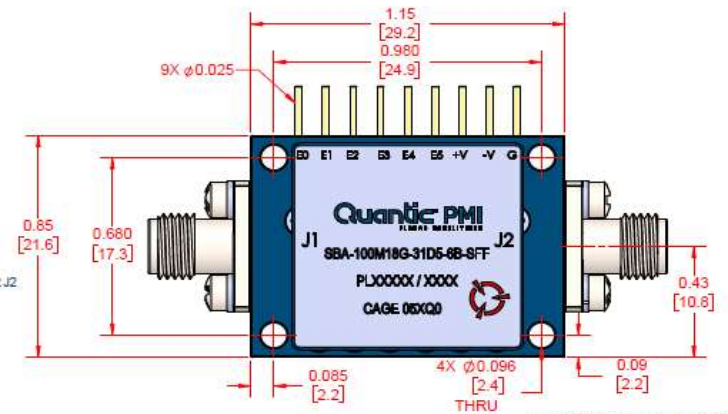
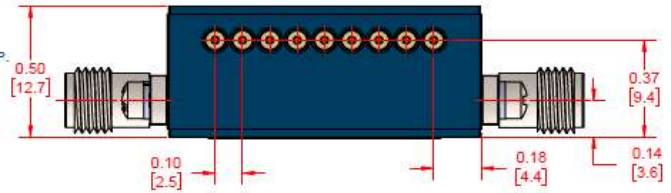


**ENVIRONMENTAL RATINGS:**

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

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

ZONE	REV	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE		
	A2	ECN #23-0182		



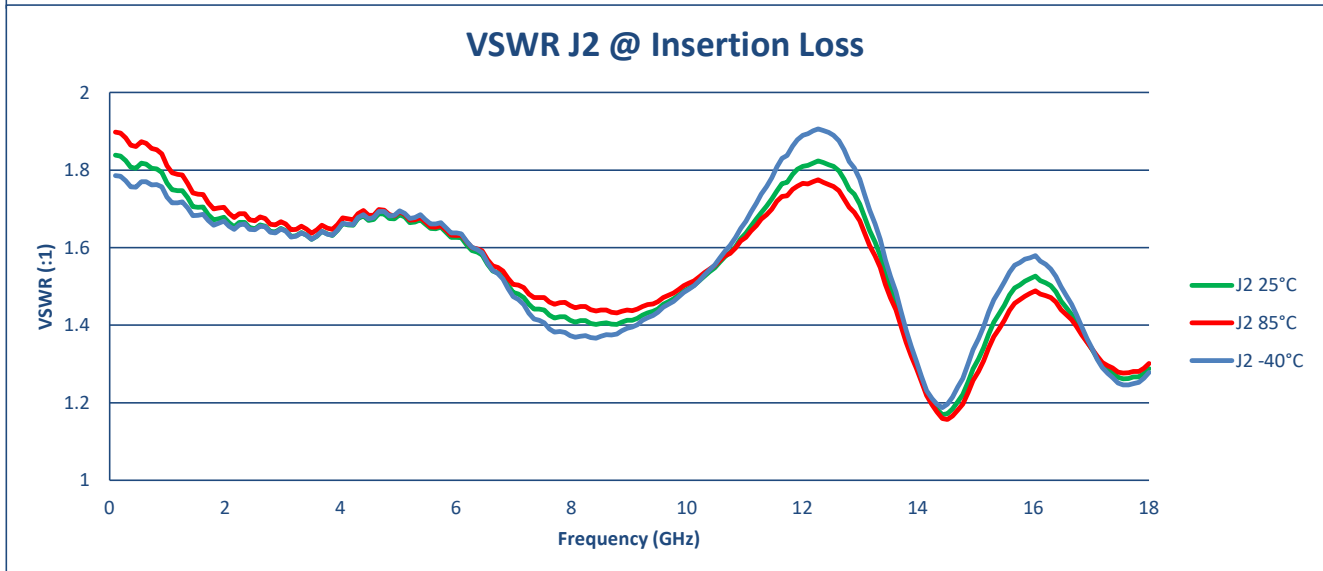
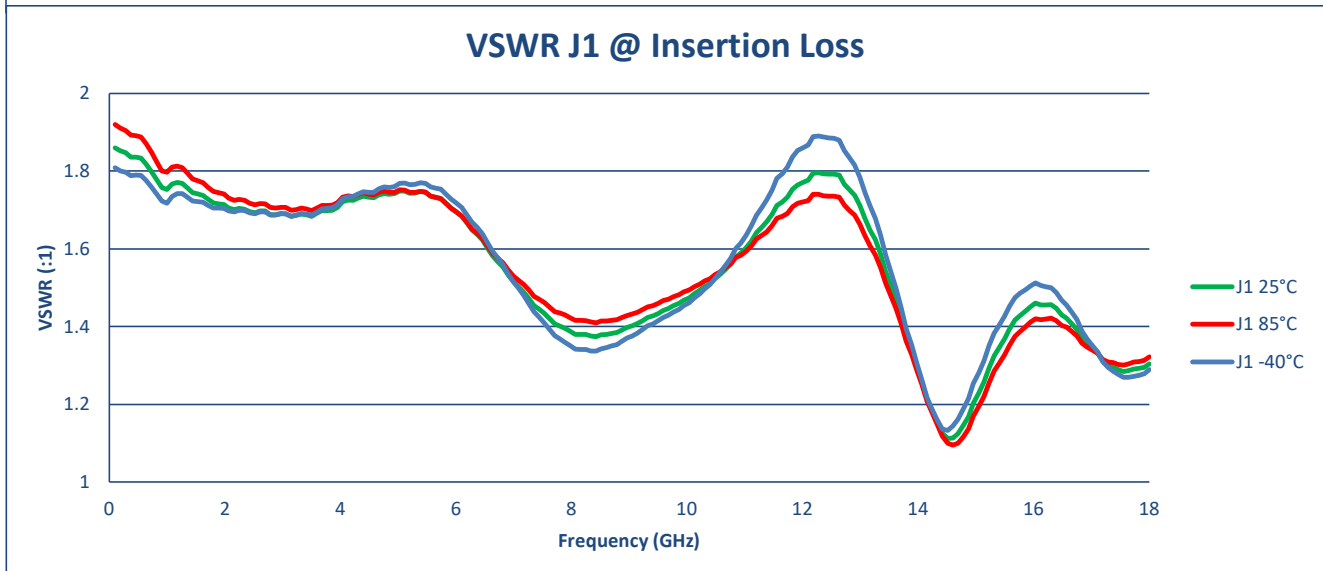
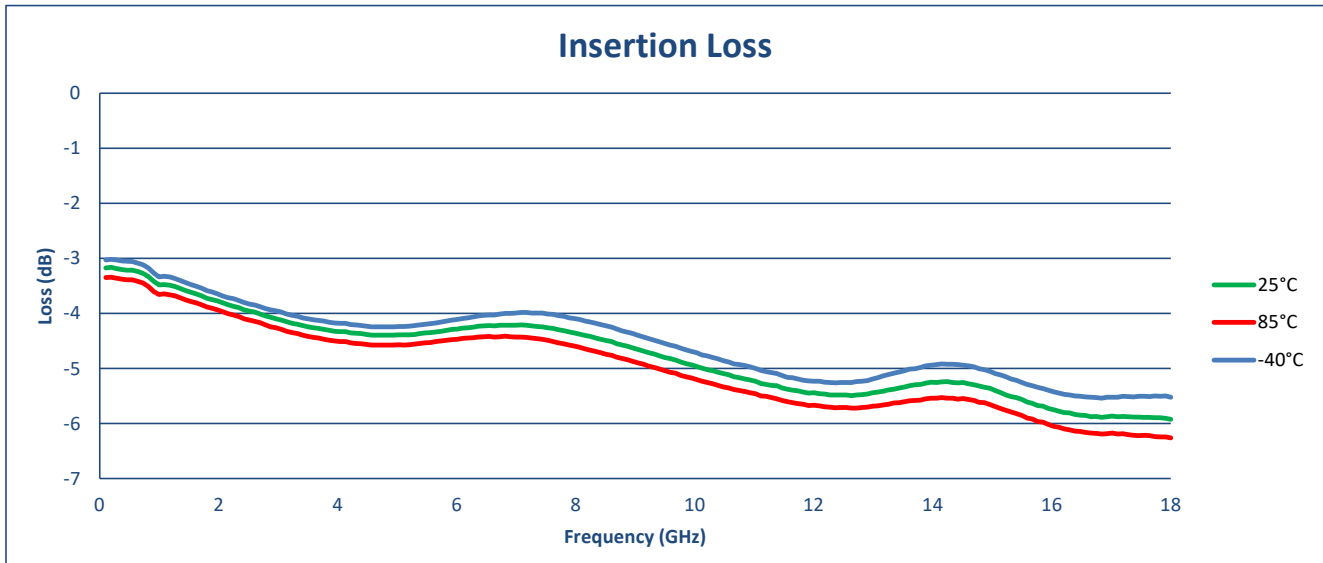
PMI CONFIDENTIAL AND PROPRIETARY

APPROVALS		DATE	TITLE	
DESIGNED BY	S AZHAR		OUTLINE	
DESIGNED BY			SBA-100M18G-31D5-6B-SFF	
REV	B	05XQ0	ISSUE NO.	27046730
			REV	A2
SCALE 3:1			SHEET 1 OF 1	

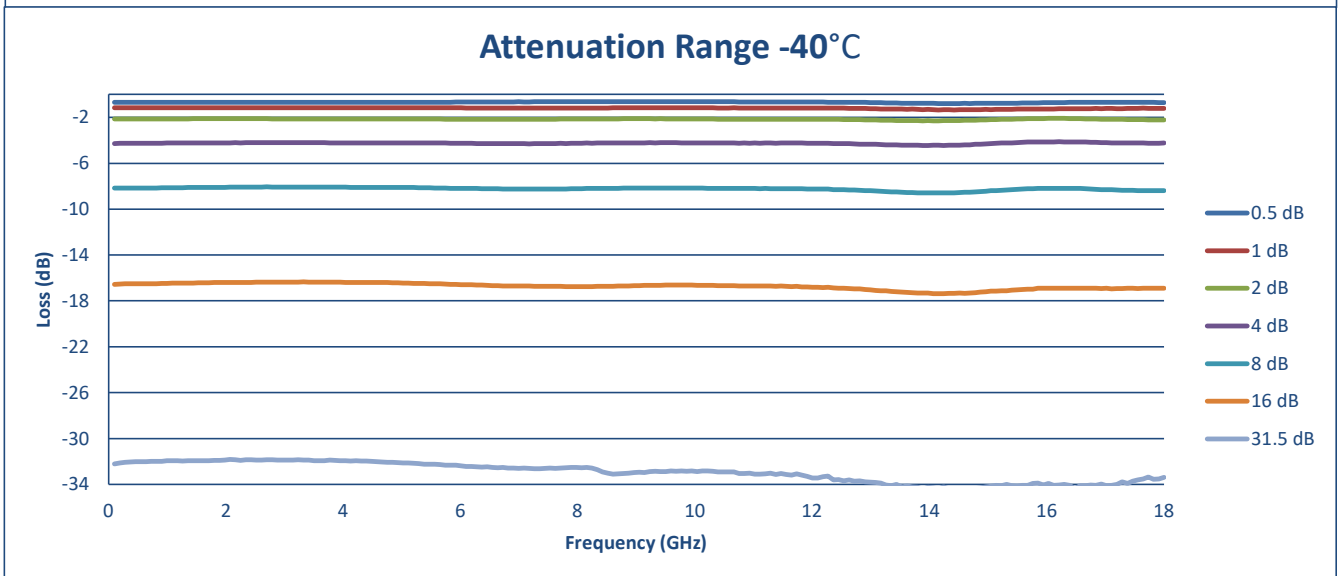
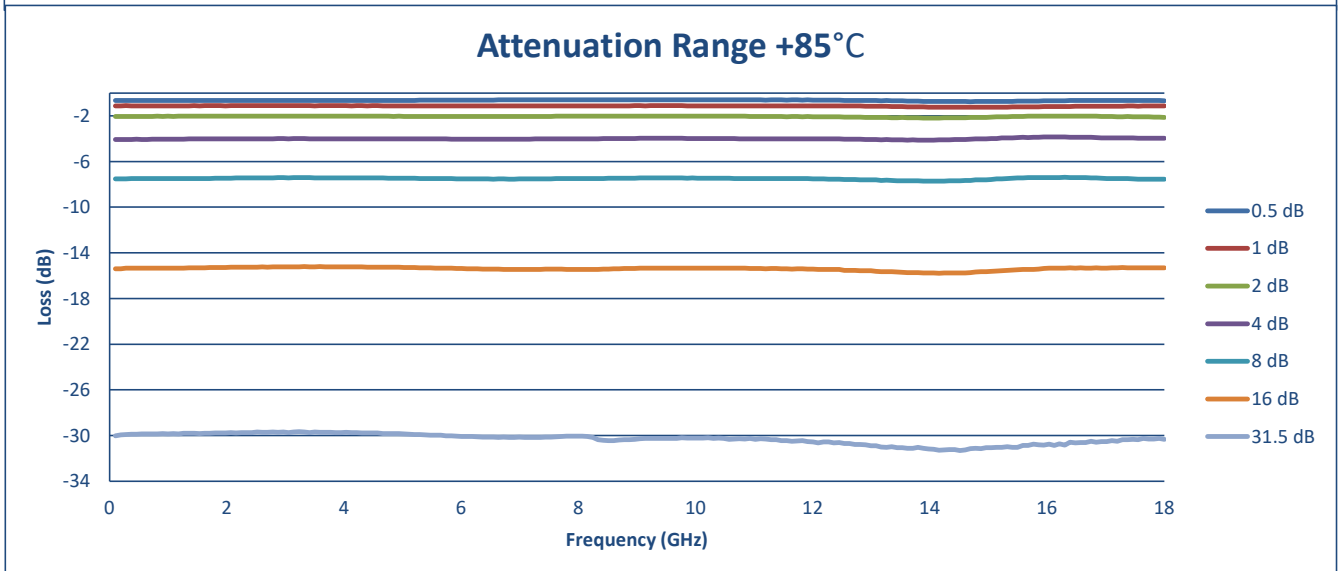
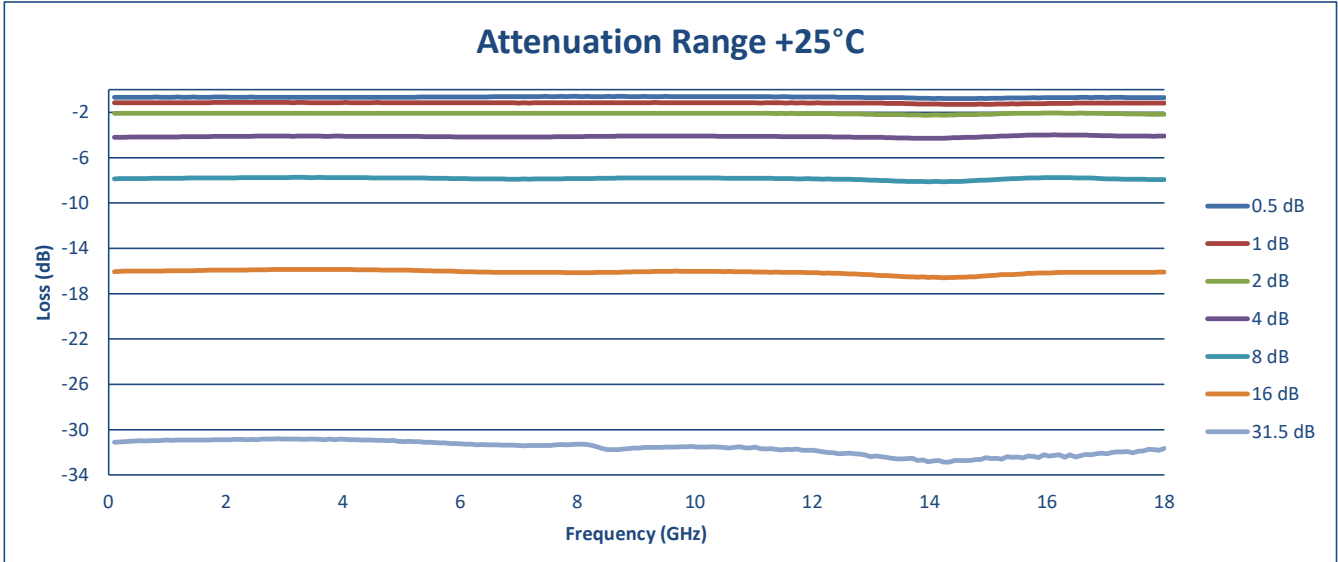
**Technical Specifications**

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

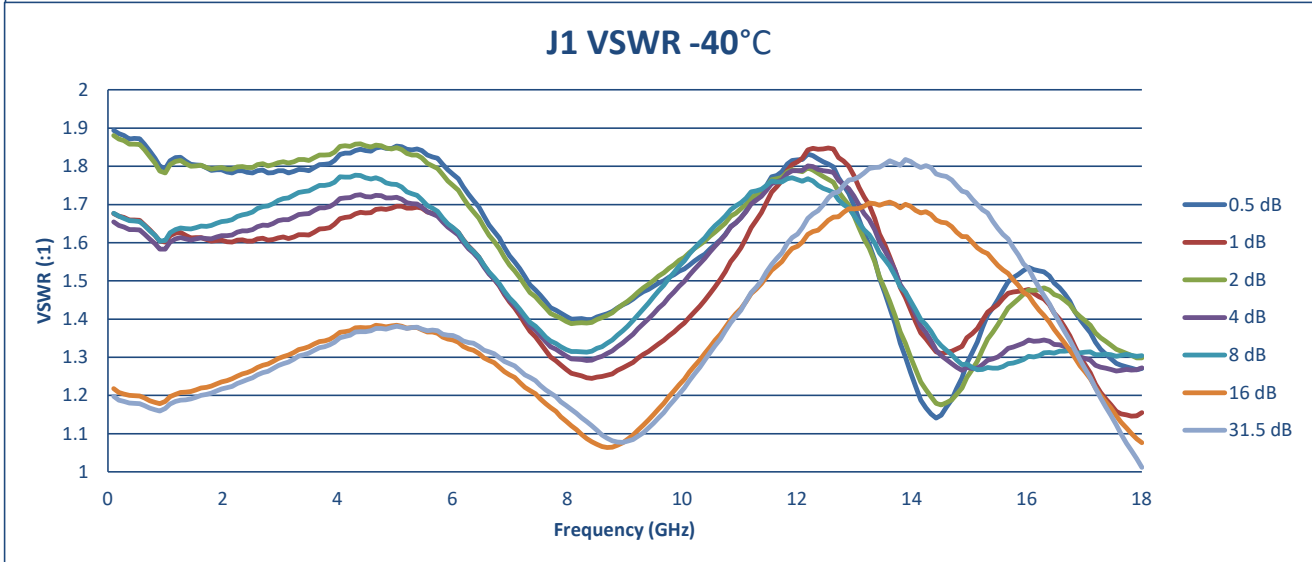
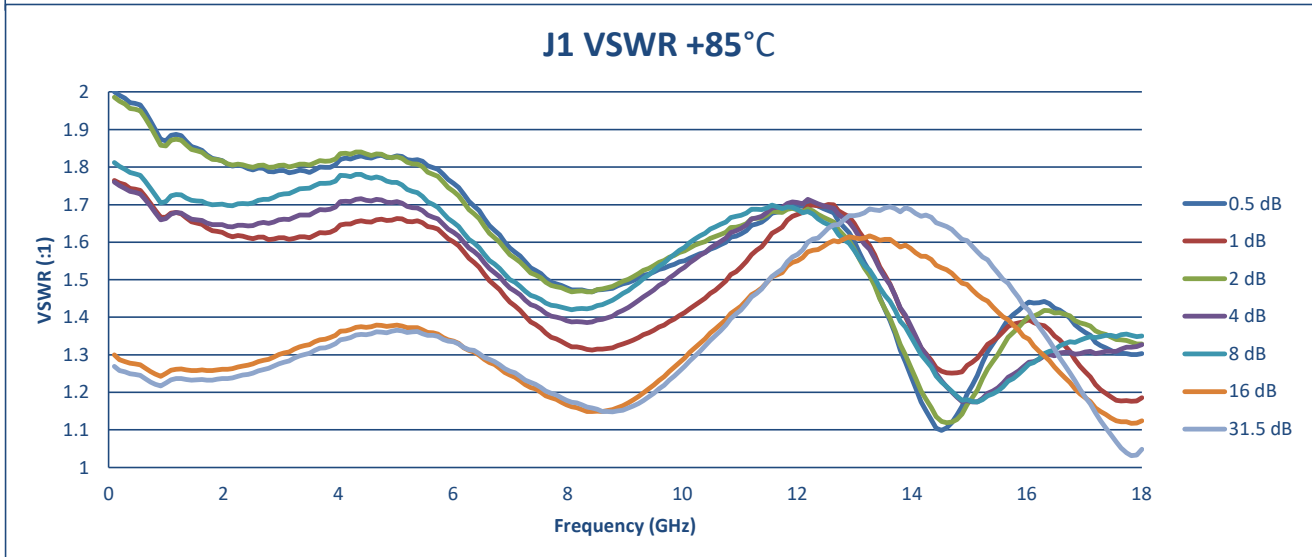
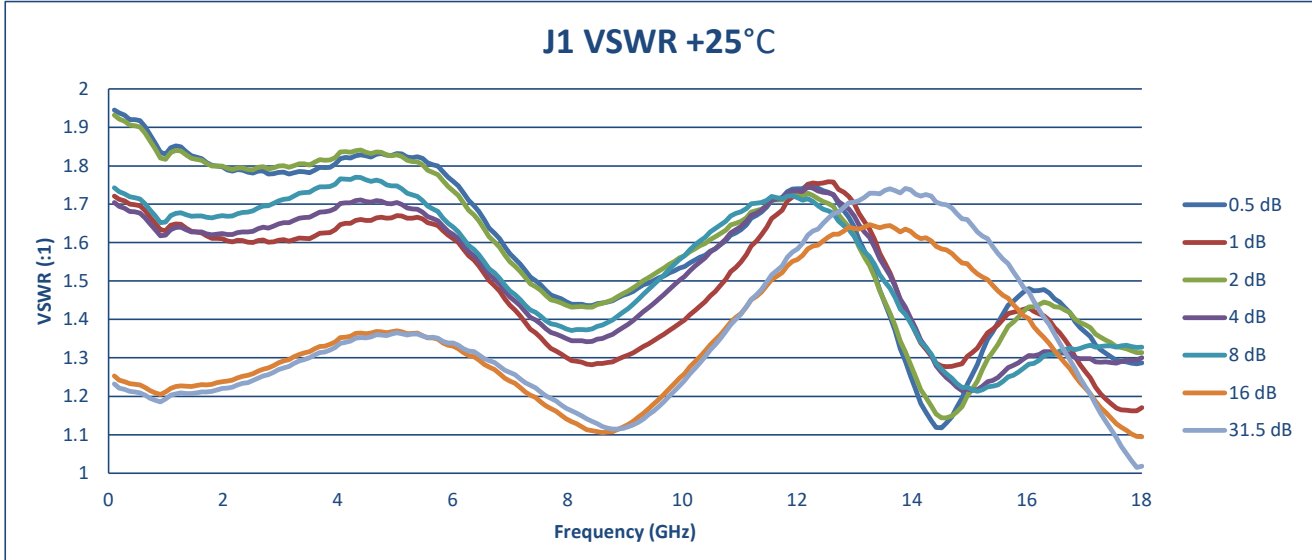
## Summary Test Data On SBA-100M18G-31D5-6B-SFF



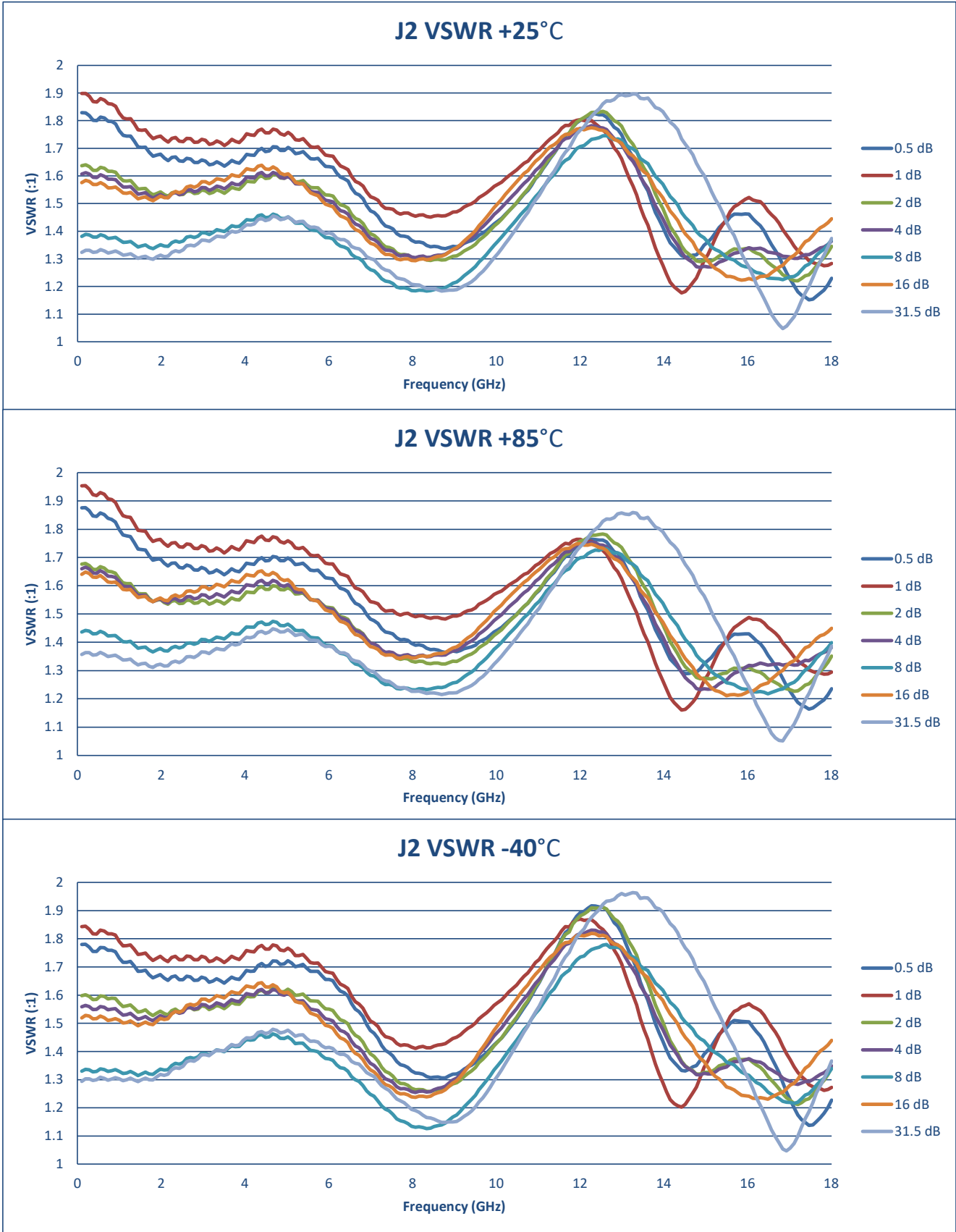
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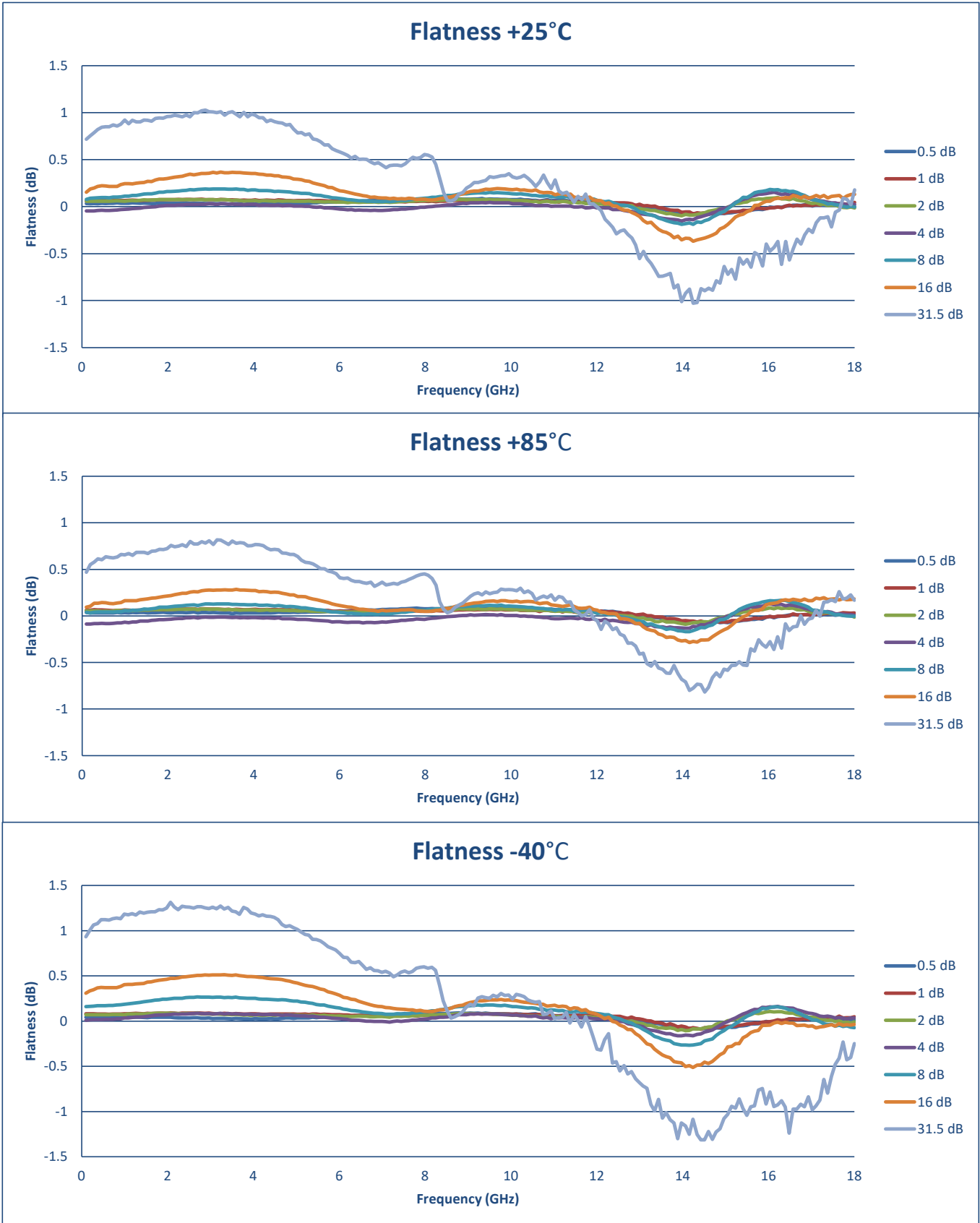
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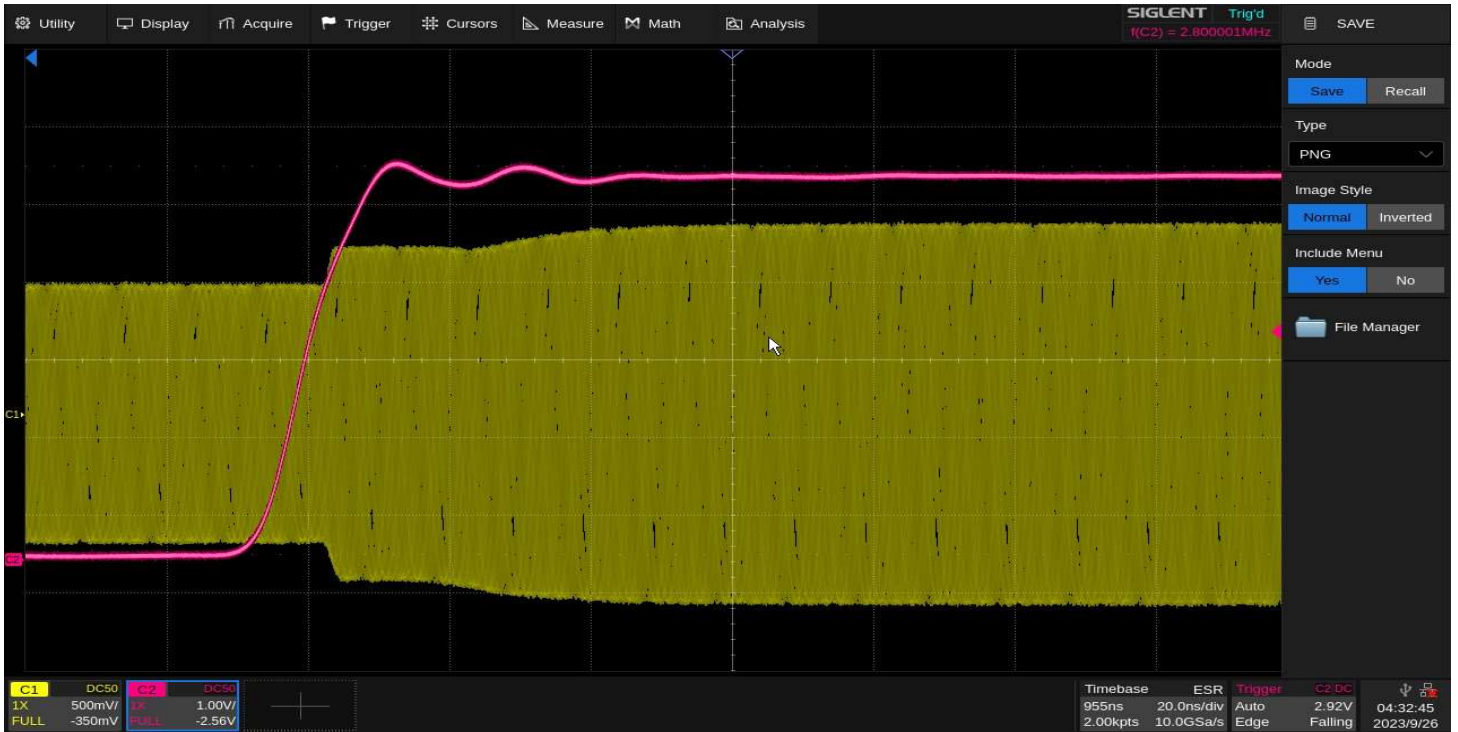


# Summary Test Data On SBA-100M18G-31D5-6B-SFF

## SWITCHING SPEED OFF



## SWITCHING SPEED ON



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

