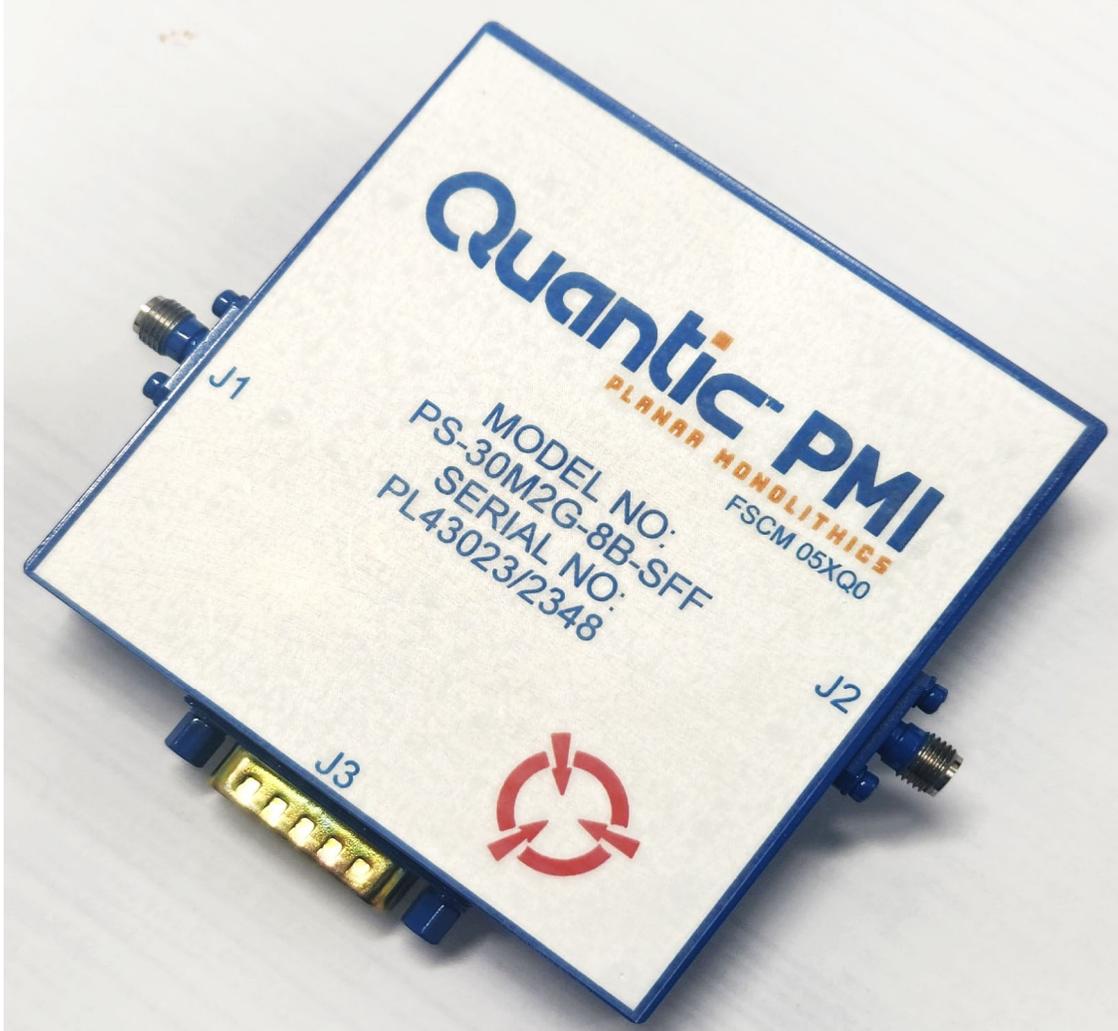


**TYPICAL CHARACTERISTICS  
ON  
PS-30M2G-8B-SFF**

PMI MODEL NUMBER PS-30M2G-8B-SFF IS A 30 MHz TO 2.0 GHz DIGITALLY CONTROLLED ANALOG PHASE SHIFTER WITH CAPABILITY FOR PHASE SHIFTING FROM 0° TO 360°. THE UNIT CONSISTS OF AN ANALOG PHASE SHIFTER AND A DIGITAL-TO-ANALOG CONVERTER. EIGHT LOGIC INPUTS ALLOW 256 DISCRETE VALUES OF PHASE.



**DESIGNED BY:  
PMI ENGINEERING**

**TESTED BY:**

**REPORTED BY:  
ROBERT SIRK**

**DATE**

# TYPICAL CHARACTERISTICS ON PS-30M2G-8B-SFF PRODUCT FEATURE

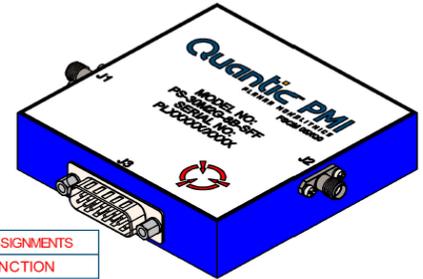
ZONE	REV	DESCRIPTION	DATE	APPROVED
A1		ORIGINAL RELEASE	02/20/03	
B1		ECN # 23-0133	7/17/03	
B2		ECN # 23-0230	11/06/03	

**DESCRIPTION:**

PMI MODEL NUMBER PS-30M2G-8B-SFF IS A 0.03 TO 2.0 GHz DIGITALLY CONTROLLED ANALOG PHASE SHIFTER WITH CAPABILITY FOR PHASE SHIFTING FROM 0° TO 360°. THE UNIT CONSISTS OF AN ANALOG PHASE SHIFTER AND A DIGITAL-TO-ANALOG CONVERTER. EIGHT LOGIC INPUTS ALLOW 256 DISCRETE VALUES OF PHASE

**SPECIFICATIONS:**

- FREQUENCY RANGE:..... 0.03 TO 2.0 GHz
- CONTROL:..... 8 BIT TTL
- INSERTION LOSS:..... 14 dB MAX
- VSWR:..... 2.0:1 MAX
- PHASE SHIFT:..... 360° TYP
- AMPLITUDE ERROR:..... ±1.5 dB MAX
- PHASE SHIFT ERROR:..... ±10° TYP
- SWITCHING SPEED:..... 500 ns MAX
- POWER SUPPLY:..... +15V @ 275 mA MAX
- SIZE:..... 3.25" X 3.25" X 0.84"
- CONNECTORS (RF):..... SMA FEMALE REMOVEABLE
- CONNECTORS (CONTROL):..... 15 PIN SUBMINIATURE D (MALE)
- FINISH:..... PAINTED BLUE



ELECTRICAL CONNECTOR PIN ASSIGNMENTS	
PIN	FUNCTION
1	-VDC
2	+VDC
3	N/C
4	1.4° (LSB)
5	5.6°
6	45°
7	180° (MSB)
8	90°
9	GND
10	N/C
11	22.5°
12	2.8°
13	11.3°
14	N/C
15	N/C

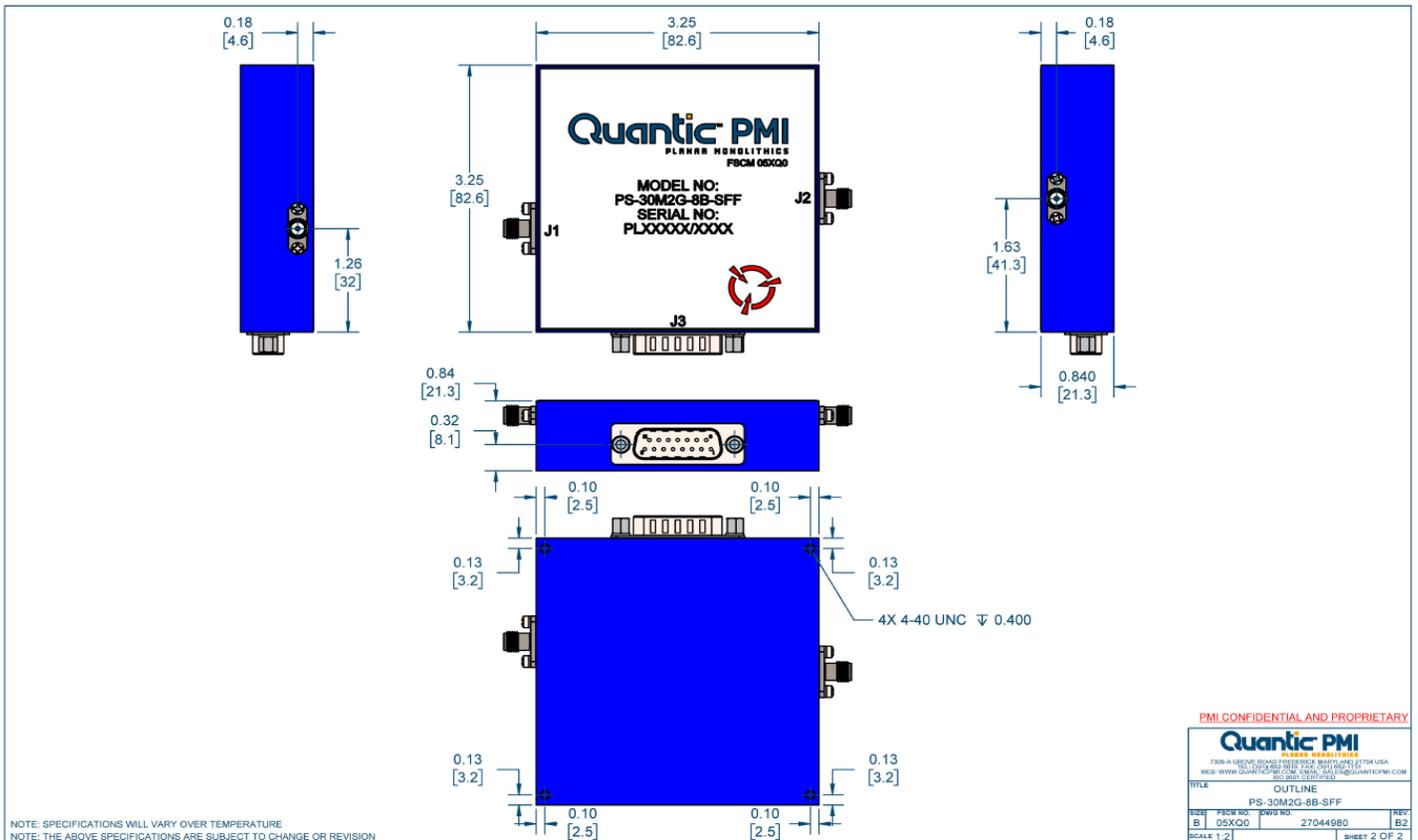
**ENVIRONMENTAL RATINGS:**

- TEMPERATURE:..... 0°C TO +50°C (OPERATING)
- HUMIDITY..... MIL-STD-202, METHOD 103B COND. B
- SHOCK..... MIL-STD-202, METHOD 213B COND. B
- VIBRATION:..... MIL-STD-202, METHOD 204D COND. B
- ALTITUDE:..... MIL-STD-202, METHOD 105C COND. B
- TEMPERATURE CYCLE:..... MIL-STD-202, METHOD 107D COND. A

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

PMI CONFIDENTIAL AND PROPRIETARY

APPROVALS		DATE	TITLE	
DESIGNER	R. SIRK	02/20/03	SCALE	OUTLINE
DESIGNED			FORM NO.	PS-30M2G-8B-SFF
REVISIONS			REV. NO.	B2
			SCALE	1:2
				SHEET 1 OF 2



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

PMI CONFIDENTIAL AND PROPRIETARY

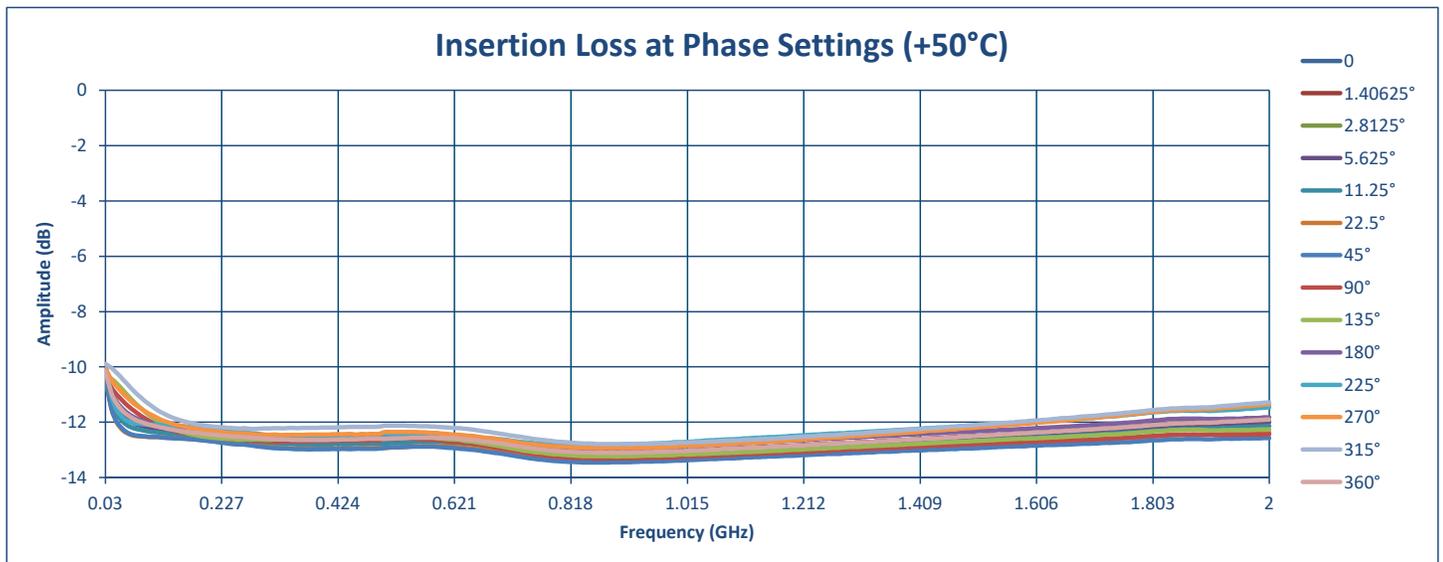
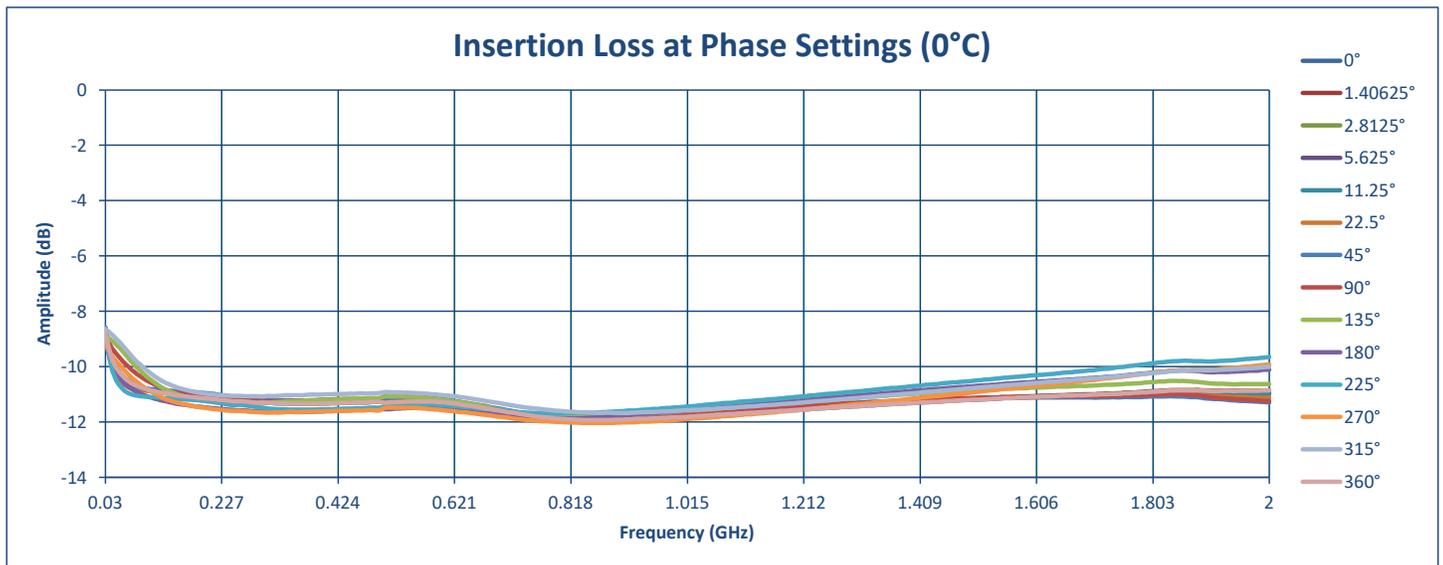
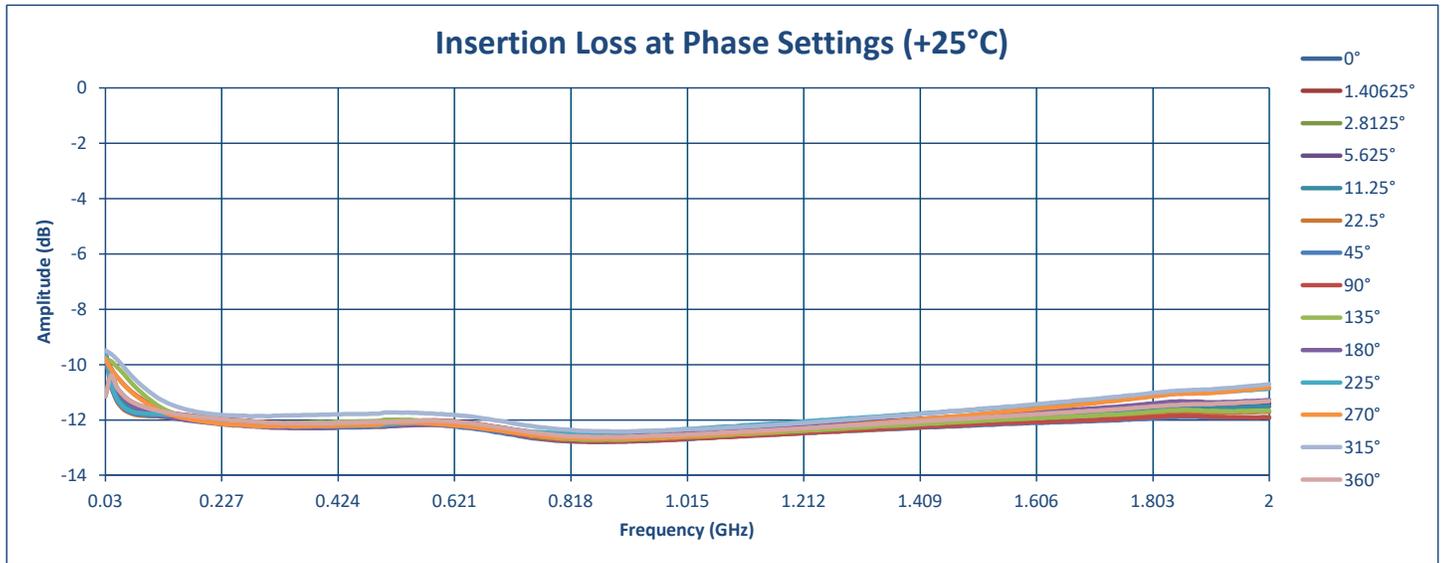
APPROVALS		DATE	TITLE	
DESIGNER	R. SIRK	02/20/03	SCALE	OUTLINE
DESIGNED			FORM NO.	PS-30M2G-8B-SFF
REVISIONS			REV. NO.	B2
			SCALE	1:2
				SHEET 2 OF 2

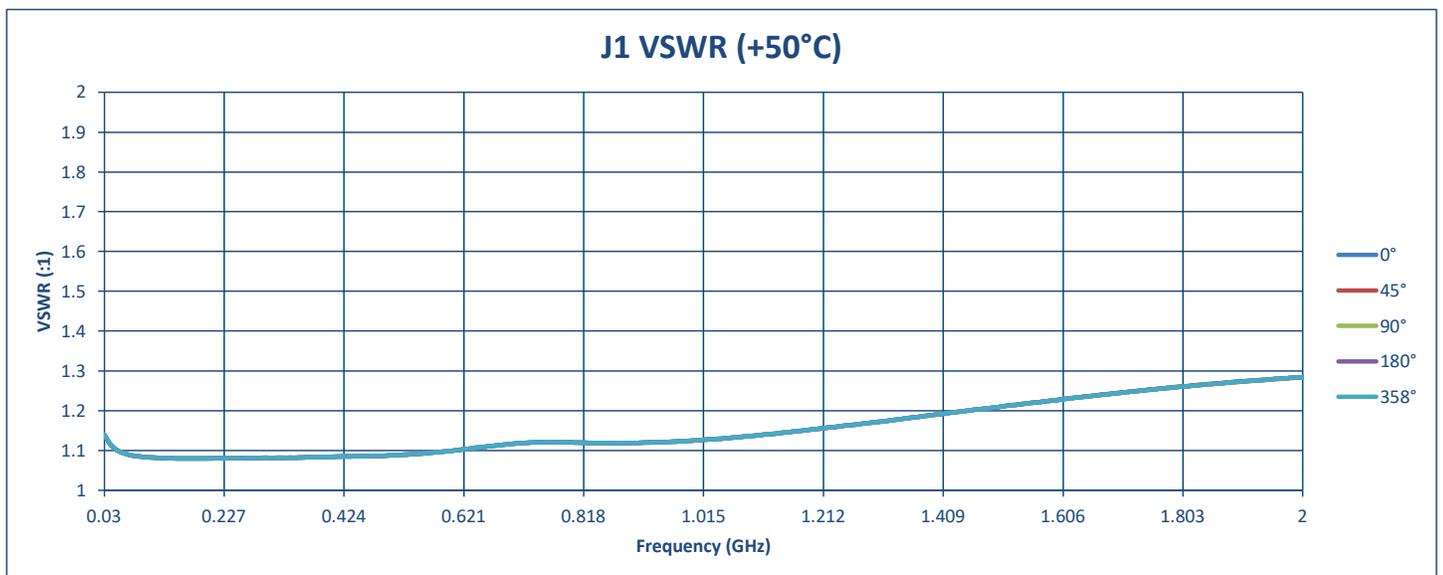
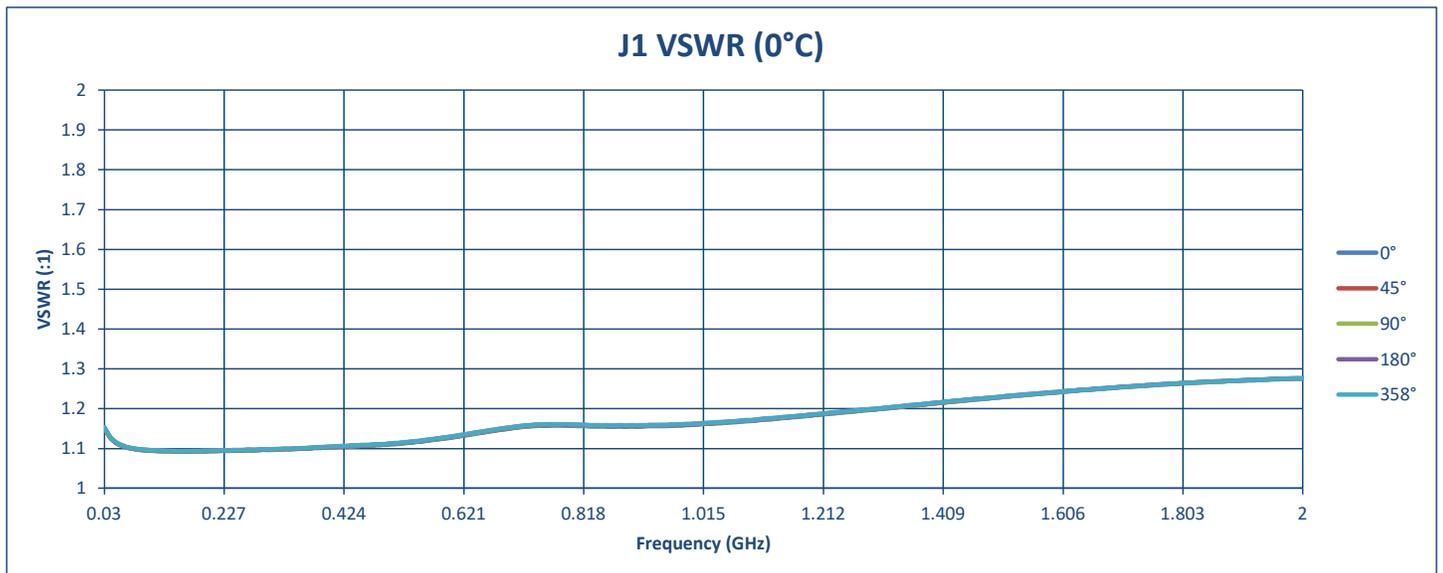
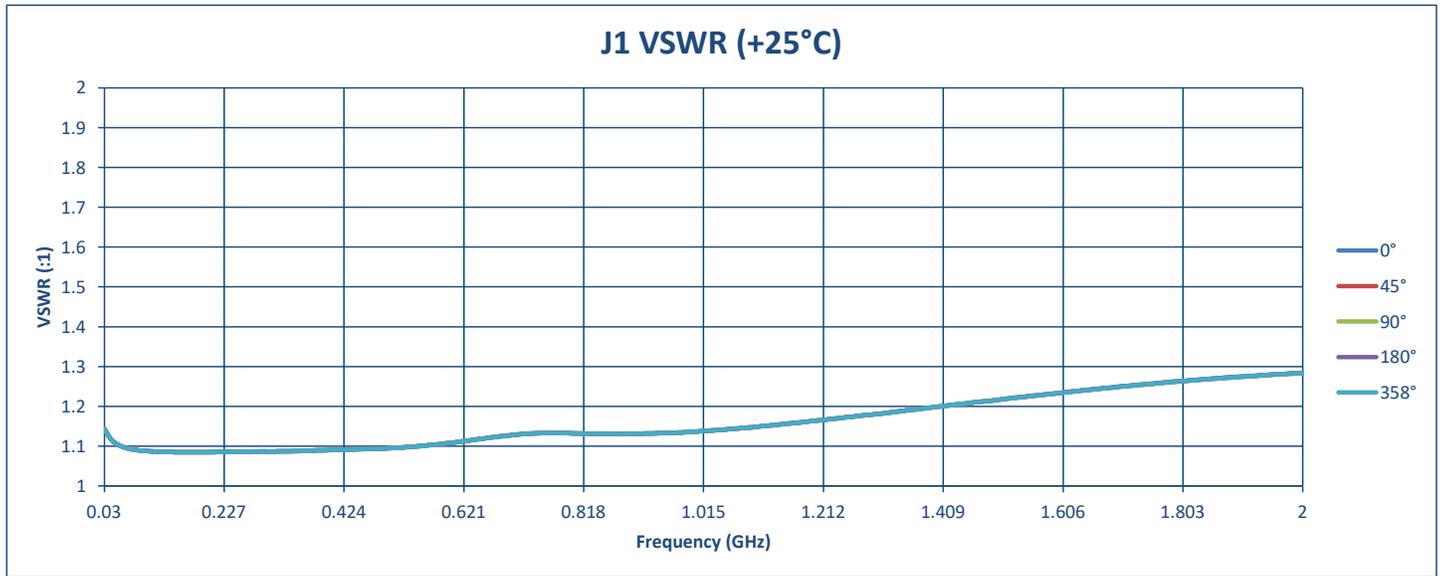
**TEST DATA**

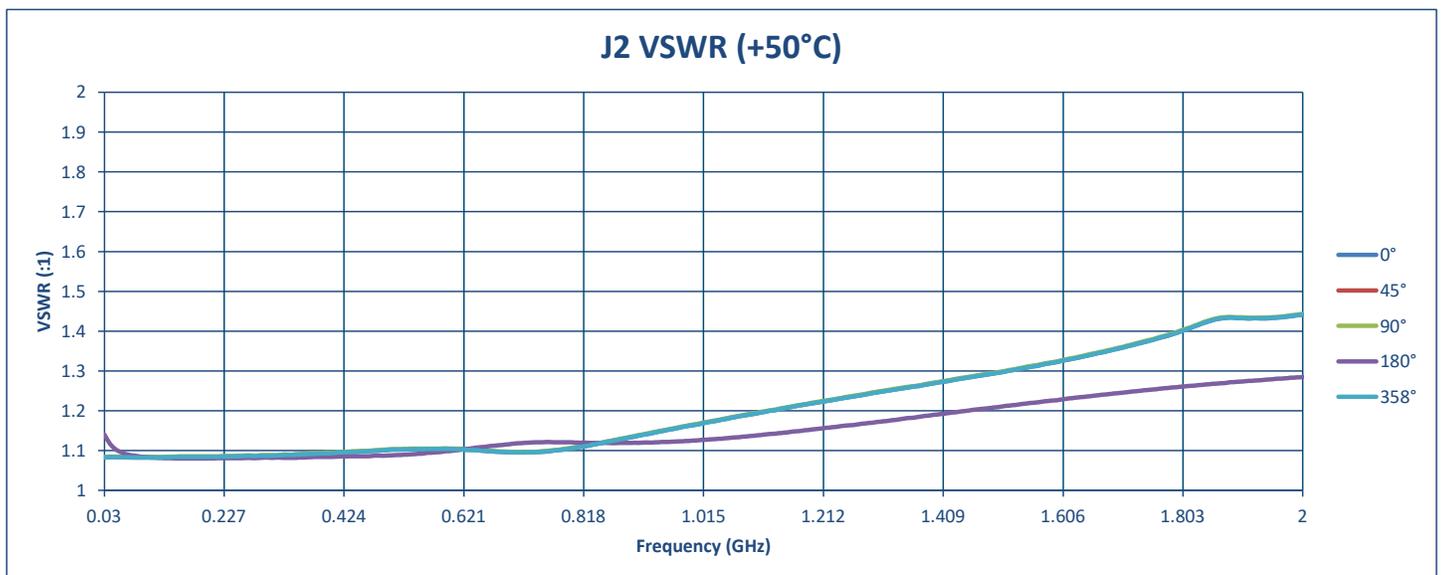
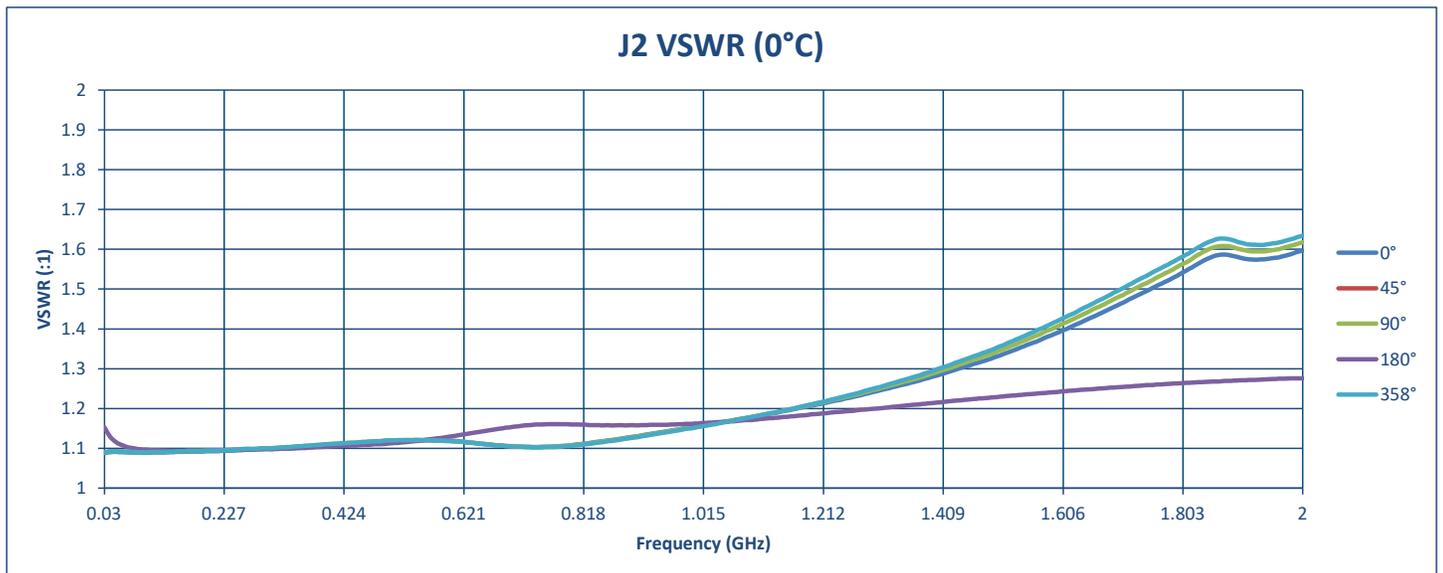
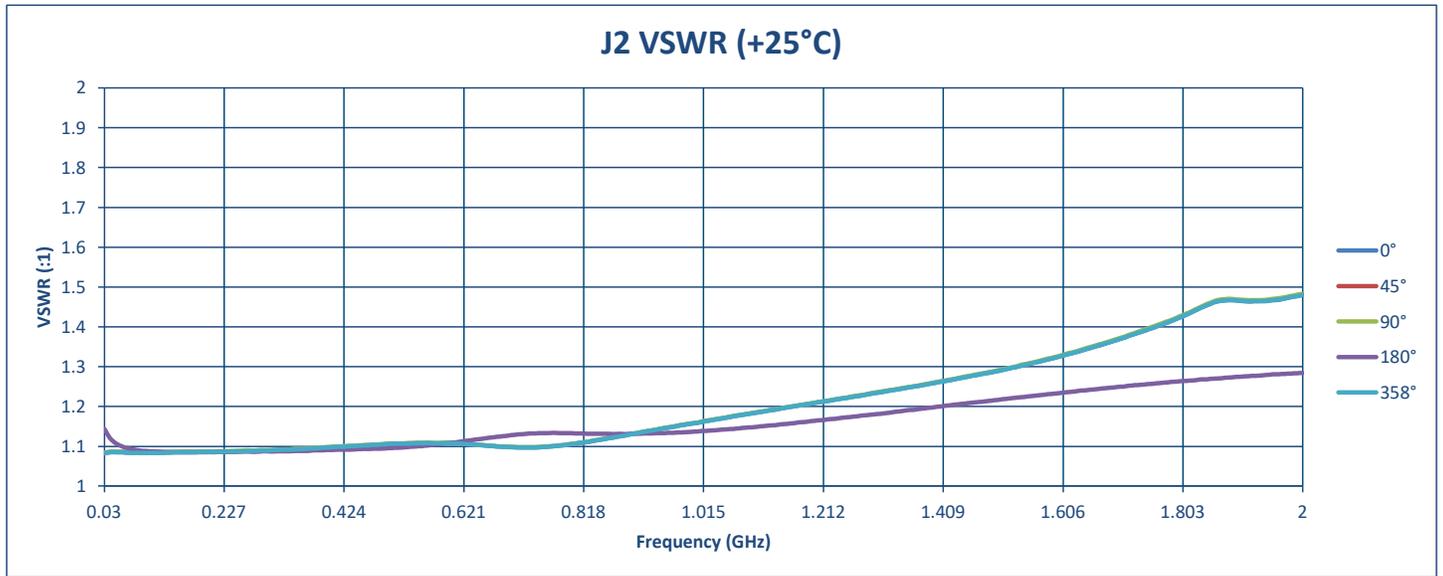
TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	Test Results			QA QC
			0°C	+25°C	+50°C	
1	Frequency Range:	30 MHz to 2.0 GHz				
2	Insertion Loss:	14 dB Max.	-12 dB See Plot	-12.8 dB See Plot	-13.5 dB See Plot	
3	VSWR:	1.75:1 Typ.	1.63:1	1.48:1	1.44:1	
4	Phase Shift:	360° Typ.	360°	360.1°	360°	
5	Amplitude Error:	±1.0 dB Typ.	±0.21 dB See Plot	±0.19 dB See Plot	±0.34 dB See Plot	
6	Phase Shift Error:	±10° Typ.	+0.5° -3.3° See Plot	+0.2° -4.8° See Plot	+0° -6.6° See Plot	
7	Switching Speed:	500 ns Max.	300 ns			
8	Power Supply:	+15V @ 250 mA -15V @ 50 mA	+15V @ 190 mA -15V @ 30 mA	+15V @ 200 mA -15V @ 30 mA	+15V @ 200 mA -15V @ 30 mA	

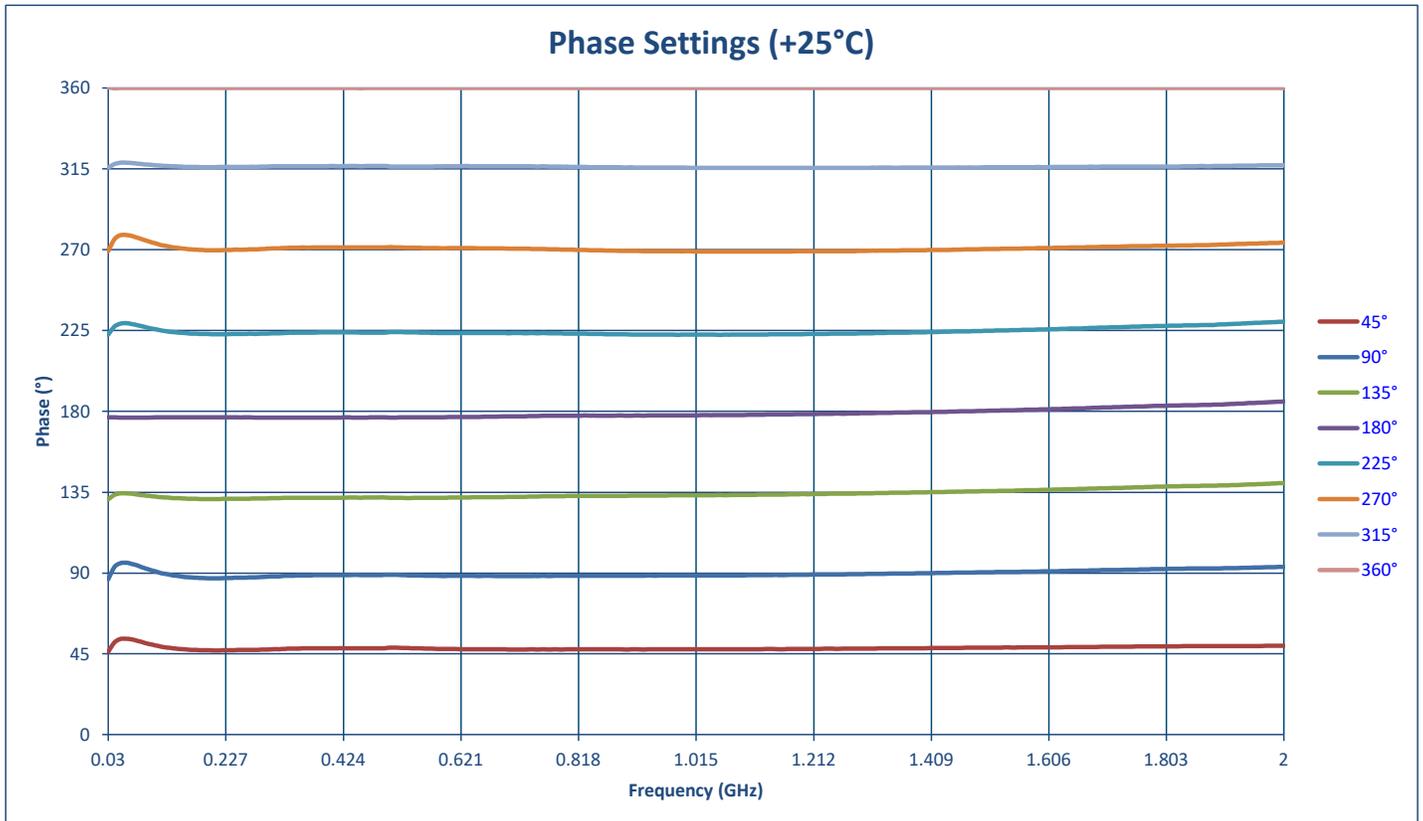
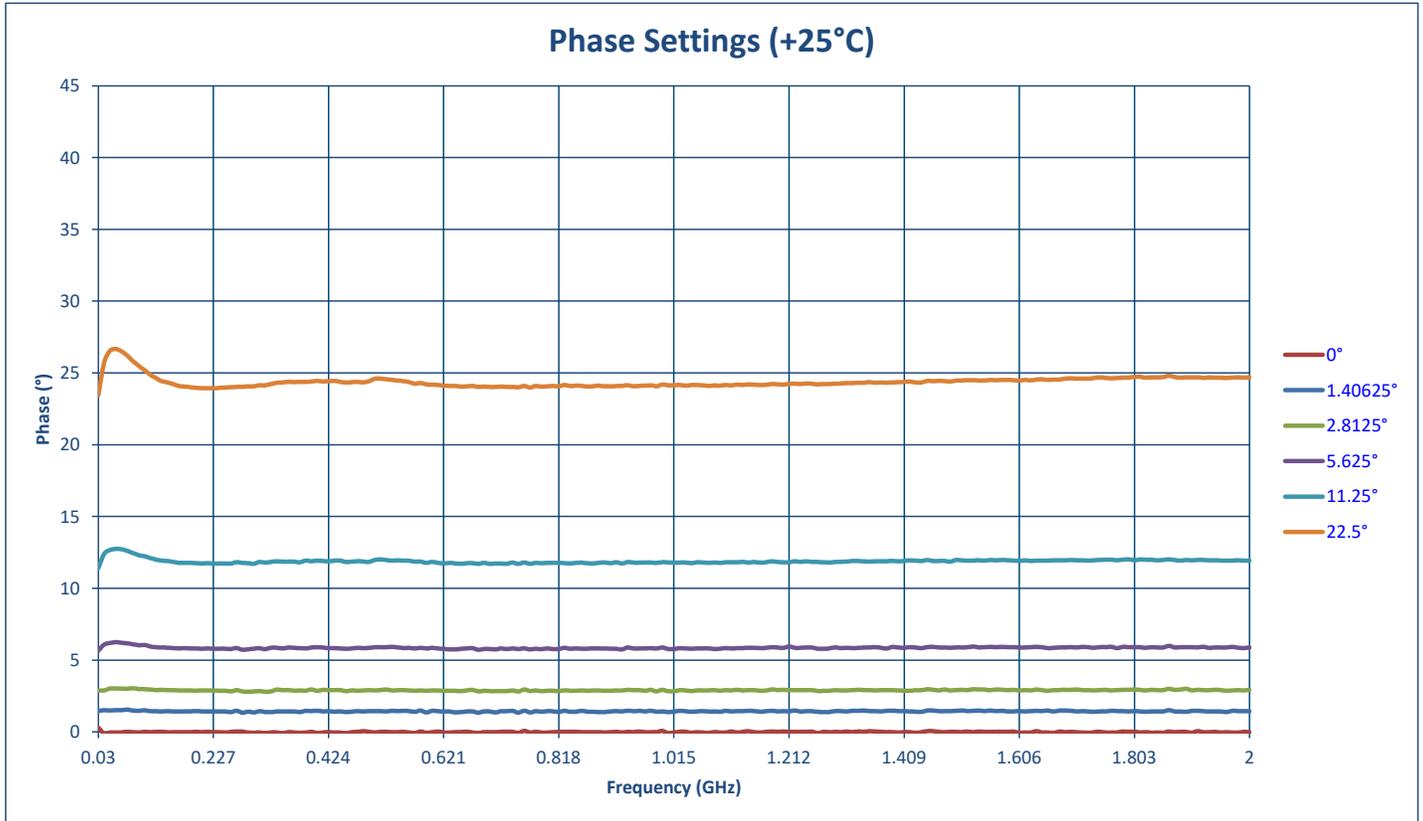
QA/QC Approval: \_\_\_\_\_

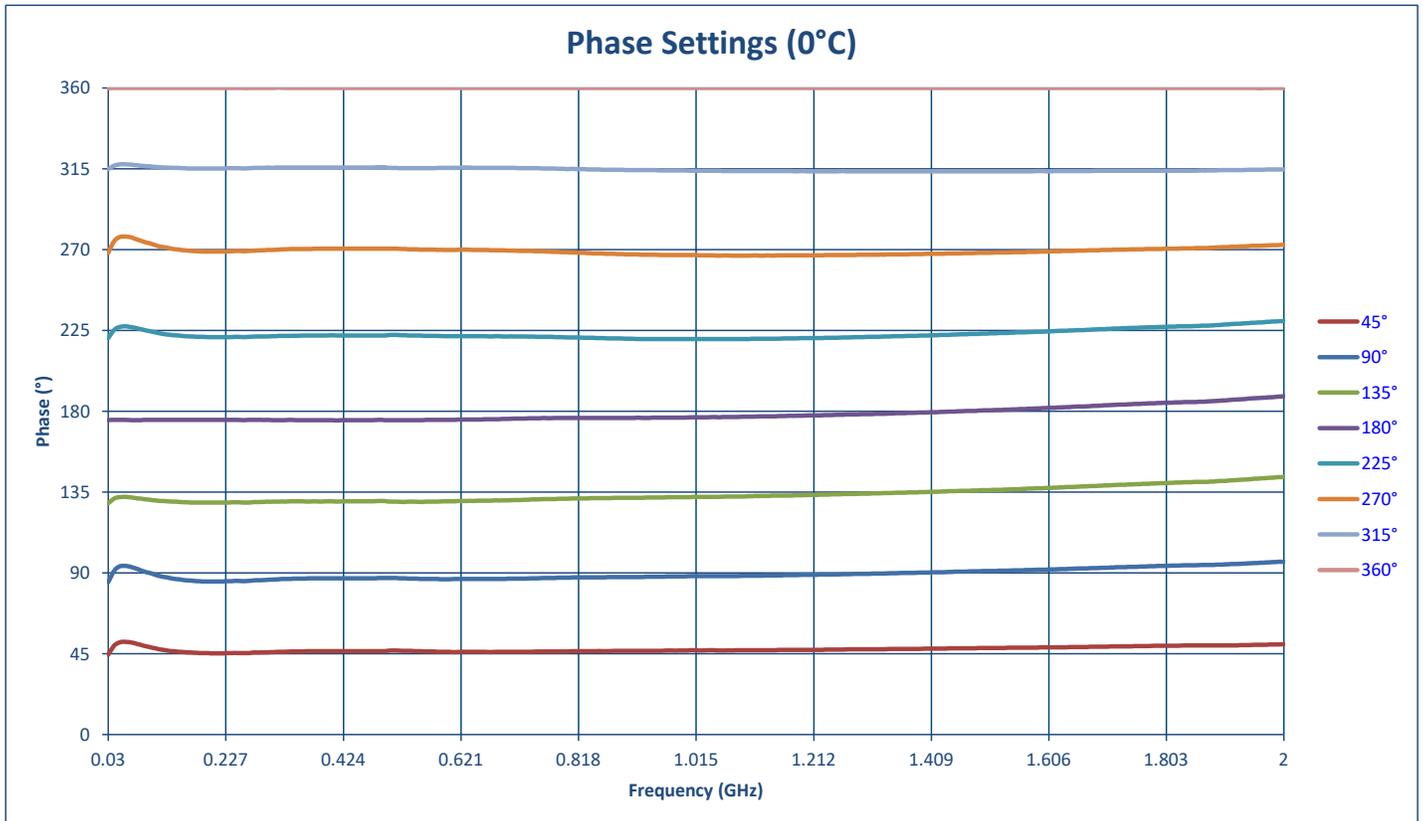
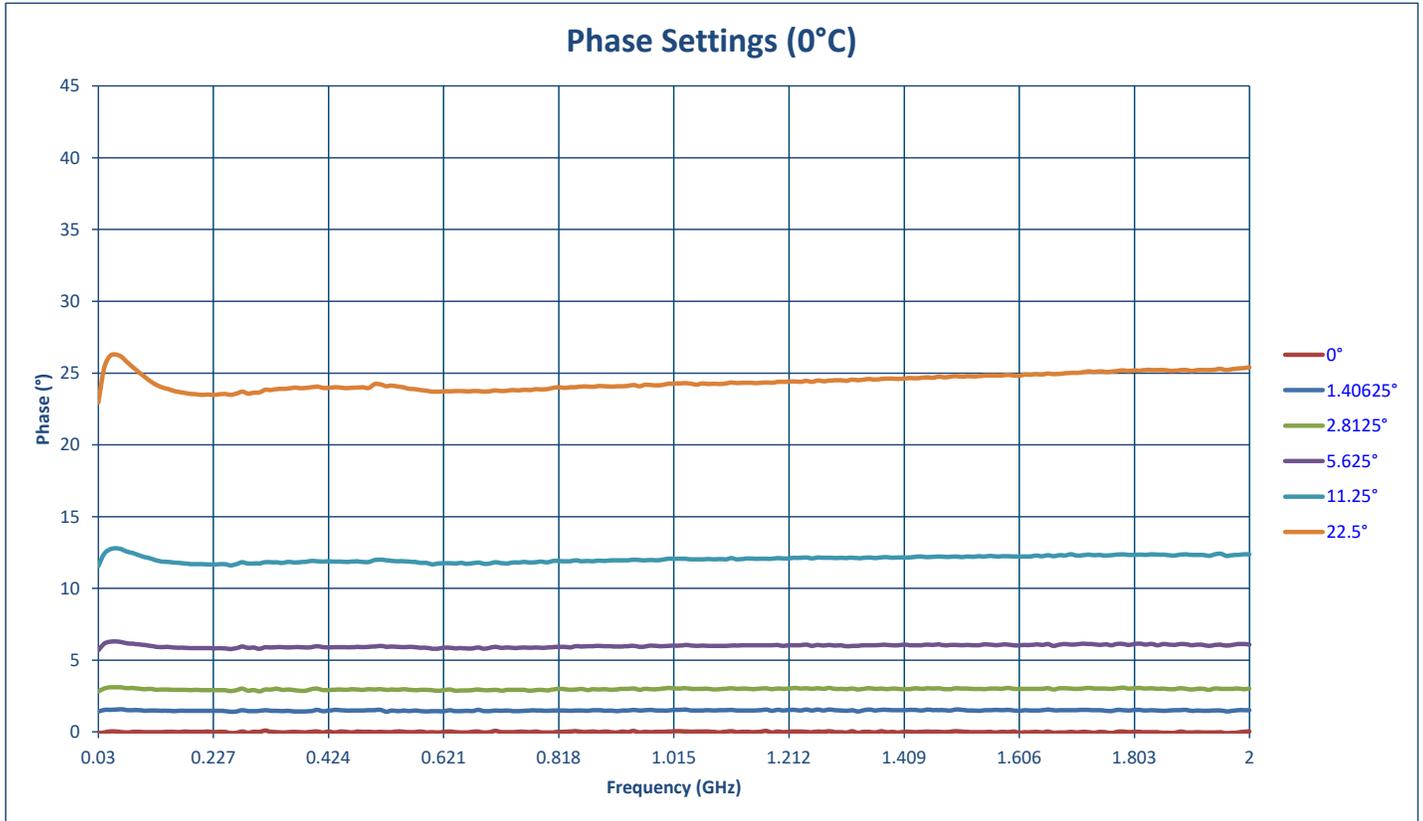
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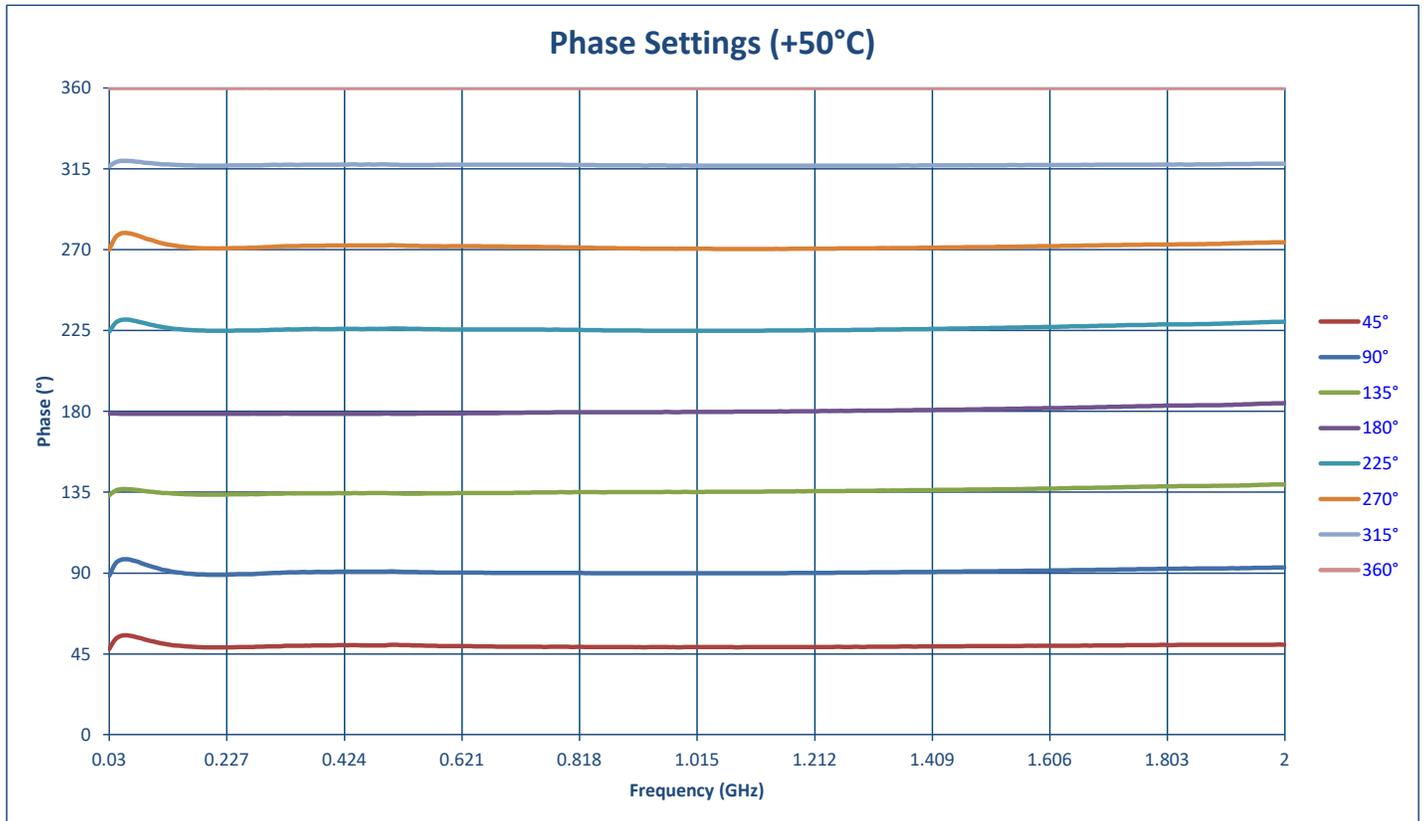
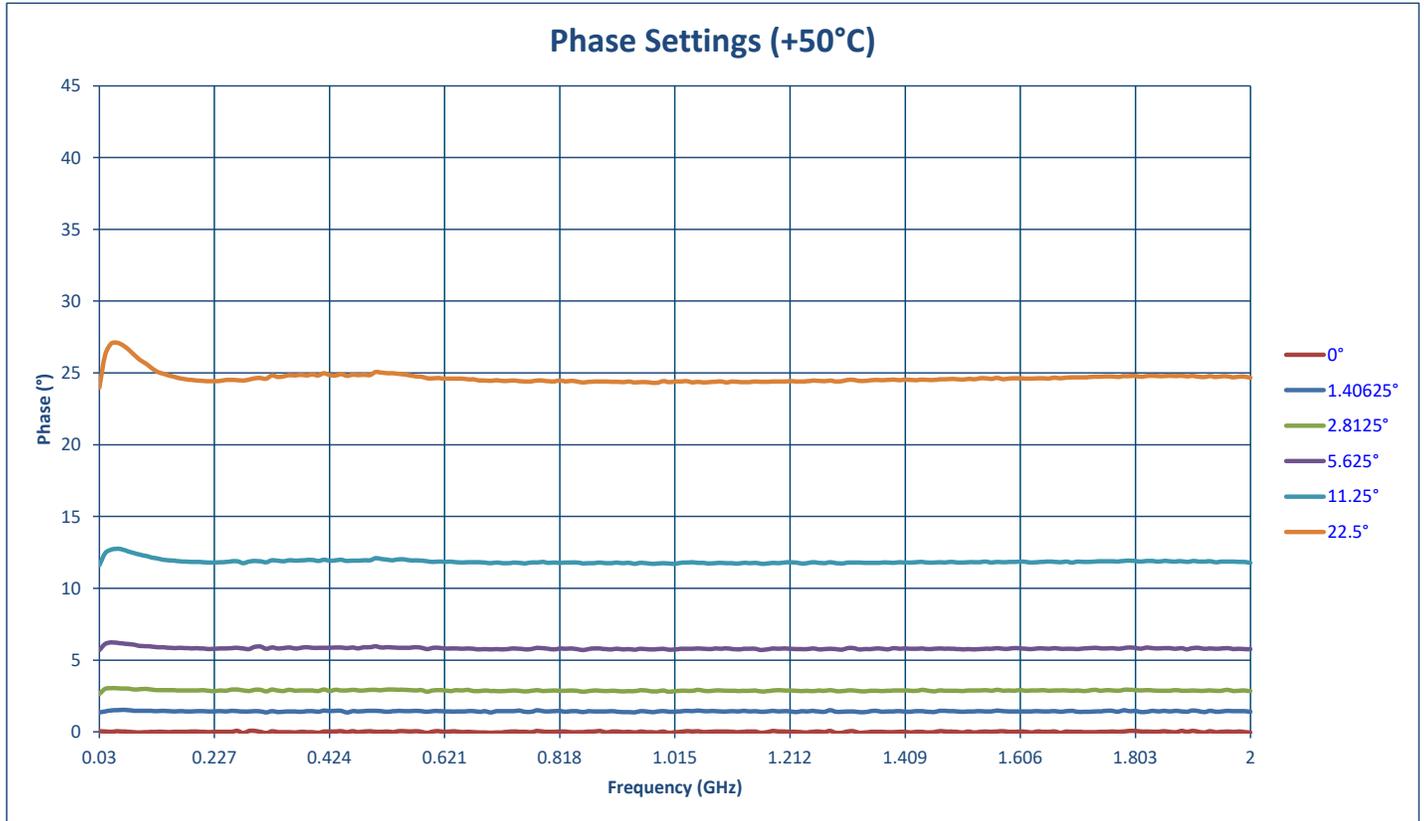


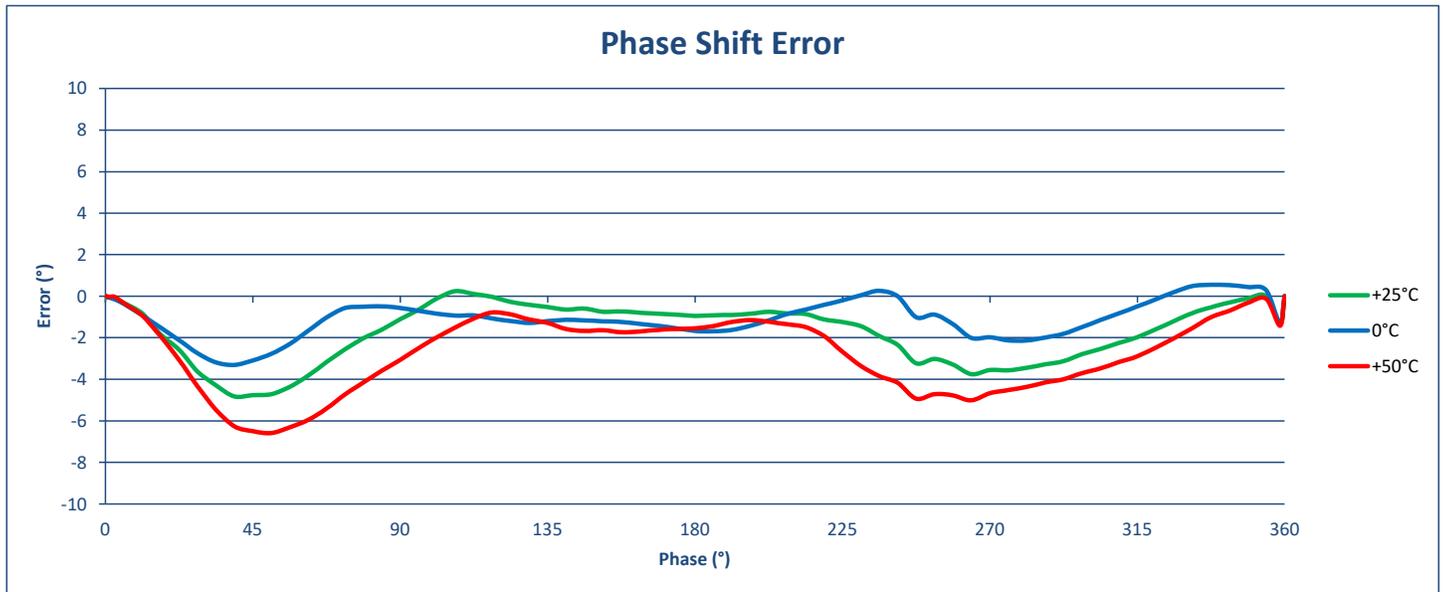
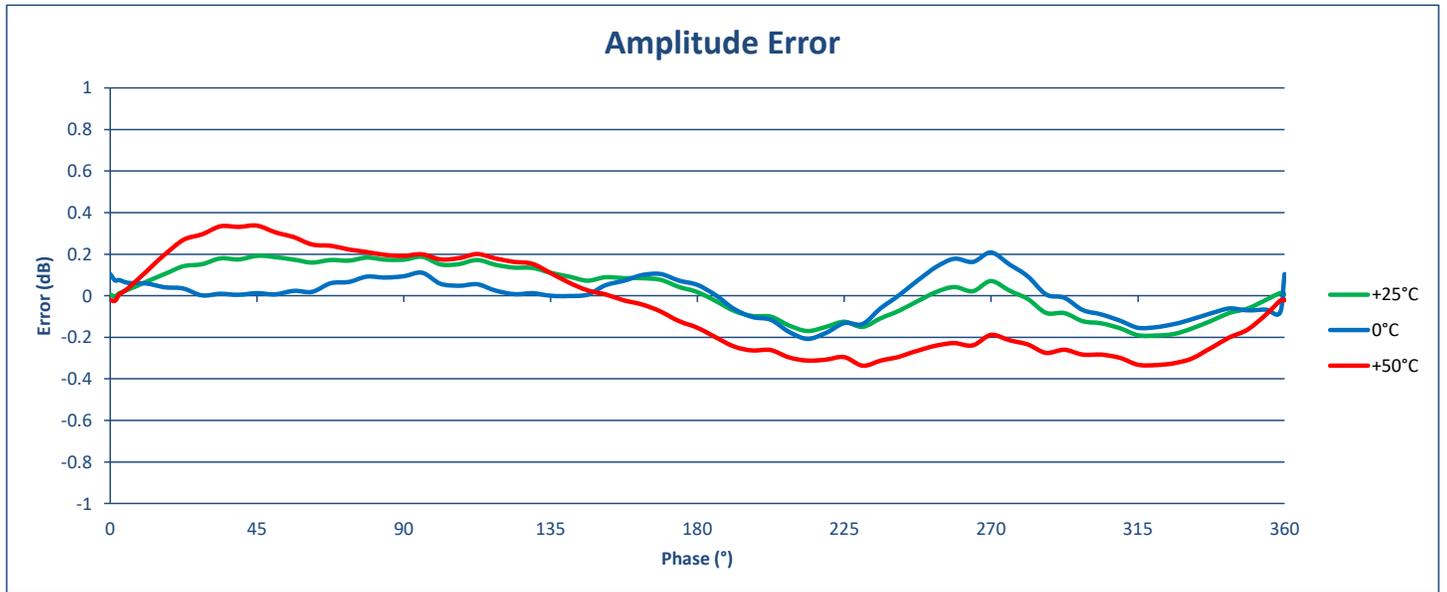












**SWITCHING SPEED**

Rise Time - 0° to 180°  
175 ns



Fall Time - 0° to 180°  
300 ns



Full Puse - 0° to 180°

