

SUMMARY TEST DATA ON PEC-40/25-218-21-12-SFF-TTLVG Rev B

Customer: _____
SO No: _____
Model No: PEC-40/25-218-21-12-SFF-TTLVG Rev B
Serial No: PL45760/2417

Tested By: H. Gonzales
Temperature: -25°C, +25°C, +75°C
Date: 4/26/2024
Drawing No: 27605737 REV: B1

Test Item No.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	QA/QC
1	Frequency Range:	2 – 18 GHz	2 – 18 GHz	PMI QA1
2	Gain @ -25°C: Max. Gain Position Min. Gain Position	+42dB ± 2.0dB Max +27dB ± 2.0dB Max	42.69 dB Max, 40.47 dB Min 26.31 dB Max, 25.26 dB Min	PMI QA1
3	Gain @ +25°C: Max. Gain Position Min. Gain Position	+40dB ± 2.0dB Max +25dB ± 2.0dB Max	41.04 dB Max, 39.42 dB Min 25.68 dB Max, 24.73 dB Min	PMI QA1
4	Gain @ +75°C: Max. Gain Position Min. Gain Position	+37dB ± 2.0dB Max +22dB ± 2.0dB Max	39.52 dB Max, 37.61 dB Min 24.68 dB Max, 23.4 dB Min	> 39 dB > 24 dB
5	Pout @ 1dB Compression @ -25°C: Max. Gain Position Min. Gain Position	+21dBm Min. +20dBm Min.	21.5 dBm Min 21.6 dBm Min	PMI QA1
6	Pout @ 1dB Compression @ +25°C: Max. Gain Position Min. Gain Position	+21dBm Min. +20dBm Min.	21.3 dBm Min 21.3 dBm Min	PMI QA1
7	Pout @ 1dB Compression @ +75°C: Max. Gain Position Min. Gain Position	+20dBm Min. +20dBm Min.	20.9 dBm Min 20.9 dBm Min	PMI QA1
8	Saturated Output Power (Both Gains) Over Operating Temperature Range:	+26dBm. Max.	+28.15dBm.	> 26 dB
9	Noise @ -25°C: Max. Gain Position Min. Gain Position	+3.8 dB Max. +6.0 dB Max.	3.8 dB Max. 4.4 dB Max.	PMI QA1
10	Noise @ +25°C: Max. Gain Position Min. Gain Position	+4.5 dB Max. +7.0 dB Max.	4.1 dB Max. 4.8 dB Max.	PMI QA1
11	Noise @ +75°C: Max. Gain Position Min. Gain Position	+5.0 dB Max. +8.0 dB Max.	4.6 dB Max. 5.5 dB Max.	PMI QA1
12	VSWR In/Out:	2.0:1 Max.	Input 1.67:1dB Output 1.8:1dB Input 1.7:1dB Output 1.75:1dB Input 1.72:1dB Output 1.73:1dB	-25C +25C +75C
13	Input/Output Impedance:	50Ω Nominal	50Ω Nominal	
14	Input Power Without Damage	+20dBm CW Max	+20dBm CW Max	
15	In-Band Harmonics @ or below the 1dB Compression Point	-10dBc Min.	-10dBc	
16	Pulse Rise Time with Input Signals up to -20dBm	<5ns	<5ns By Design	
17	Pulse Overshoot with Input Signals up to -20dBm	<0.5dB	<0.5dB By Design	PMI QA1

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18	Pulse Droop with pulses up to 250u in Duration and Input Signals up to -20dBm	<2.0dB	<2.0dB By Design		PMI QA1
19	Pulse Recovery Time with pulses up to 250u in Duration and Input Signals up to -20dBm	15ns	15ns By Design		
20	Gain Switching Time	<500ns	226ns		
21	Gain Switch Control:	TTL High "1" - Max. Gain TTL Low "0" - Min. Gain	TTL High "1" - Max. Gain TTL Low "0" - Min. Gain		PMI QA1
22	DC Supply:	780mA Max@ +12V ±5% Max Gain Position. 610mA Max@ +12V ± 5% Min Gain Position.	460mA Max Gain	-25C	
			460mA Min Gain		
			457mA Max Gain	+25C	
			457mA Min Gain		
			456mA Max Gain	+75C	
			456mA Min Gain		

QA/QC



PMI
QA1

DATE:

5/1/24

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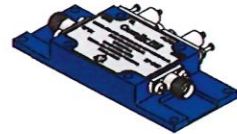
Technical Sheet

DESCRIPTION:

PLANAR MONOLITHICS INDUSTRIES MODEL NUMBER PEC-40/25-218-21-12-SFF-TTLVG IS A DUAL GAIN AMPLIFIER THAT OPERATES BETWEEN THE FREQUENCY RANGE 2 TO 18GHz.

SPECIFICATIONS:

- FREQUENCY RANGE: 2.0 TO 18.0 GHz
- GAIN @ -25°C
 - MAX GAIN POSITION: +42dB ±2dB MAX
 - MIN GAIN POSITION: +27dB ±2dB MAX
- GAIN @ +25°C
 - MAX GAIN POSITION: +40dB ±2dB MAX
 - MIN GAIN POSITION: +25dB ±2dB MAX
- GAIN @ +75°C
 - MAX GAIN POSITION: +37dB ±2dB MAX
 - MIN GAIN POSITION: +22dB ±2dB MAX
- P_{out} @ 1dB COMPRESSION @ -25°C
 - MAX GAIN POSITION: +21dB MIN
 - MIN GAIN POSITION: +20dB MIN
- P_{out} @ 1dB COMPRESSION @ +25°C
 - MAX GAIN POSITION: +21dB MIN
 - MIN GAIN POSITION: +20dB MIN
- P_{out} @ 1dB COMPRESSION @ +75°C
 - MAX GAIN POSITION: +20dB MIN
 - MIN GAIN POSITION: +20dB MIN
- SATURATED OUTPUT POWER (BOTH GAINS) OVER OPERATING TEMP RANGE: +26dBm MAX
- NOISE @ -25°C
 - MAX GAIN POSITION: +3.8dB MAX
 - MIN GAIN POSITION: +6.0dB MAX
- NOISE @ +25°C
 - MAX GAIN POSITION: +4.5dB MAX
 - MIN GAIN POSITION: +7.0dB MAX
- NOISE @ +75°C
 - MAX GAIN POSITION: +5.0dB MAX
 - MIN GAIN POSITION: +8.0dB MAX
- VSWR IN/OUT: 2.0:1 MAX
- INPUT/OUTPUT IMPEADANCE: 50Ω NOMINAL
- INPUT POWER (WITHOUT DAMAGE): +20dBm CW MAX
- IN-BAND HARMONICS @ OR BELOW THE 1dB COMPRESSION POINT: -10dBc MIN
- SPURIOUS OUTPUT SIGNAL @ ANY SIGNAL LEVEL UP TO THE MAX INPUT LEVEL: -60dBc MAX
- PULSE RISE TIME WITH INPUT SIGNALS UP TO 20dBm: <5ns
- PULSE OVERSHOOT WITH INPUT SIGNALS UP TO 20dBm: <0.5dB
- PULSE DROOP WITH THE FOLLOWING PULSES UP TO 250u IN DURATION INPUT SIGNAL UP TO -20dBm: <2.0dB
- PULSE RECOVERY TIME WITH THE FOLLOWING PULSES UP TO 250u IN DURATION INPUT SIGNAL UP TO -20dBm: 15ns
- GAIN SWITCHING TIME: <500ns
- GAIN SWITCHING CONTROL: TTL HIGH "1" - MAX GAIN
TTL HIGH "0" - MIN GAIN
- DC SUPPLY: 780mA MAX @ +12V ±5% MAX GAIN POSITION
610mA MAX @ +12V ±5% MIN GAIN POSITION
- FINISH: PAINTED BLUE (MOUNTING SURFACE FREE OF PAINT, GOLD)



ENVIRONMENTAL RATINGS:

- TEMPERATURE: -55°C TO +85°C (OPERATING)
-65°C TO +125°C (STORAGE)
- HUMIDITY: MIL-STD-202F, METHOD 103B COND. B
- SHOCK: MIL-STD-202F, METHOD 213B COND. B
- VIBRATION: MIL-STD-202F, METHOD 204D COND. B
- ALTITUDE: MIL-STD-202F, METHOD 105C COND. B
- TEMPERATURE CYCLE: MIL-STD-202F, METHOD 107D COND. A

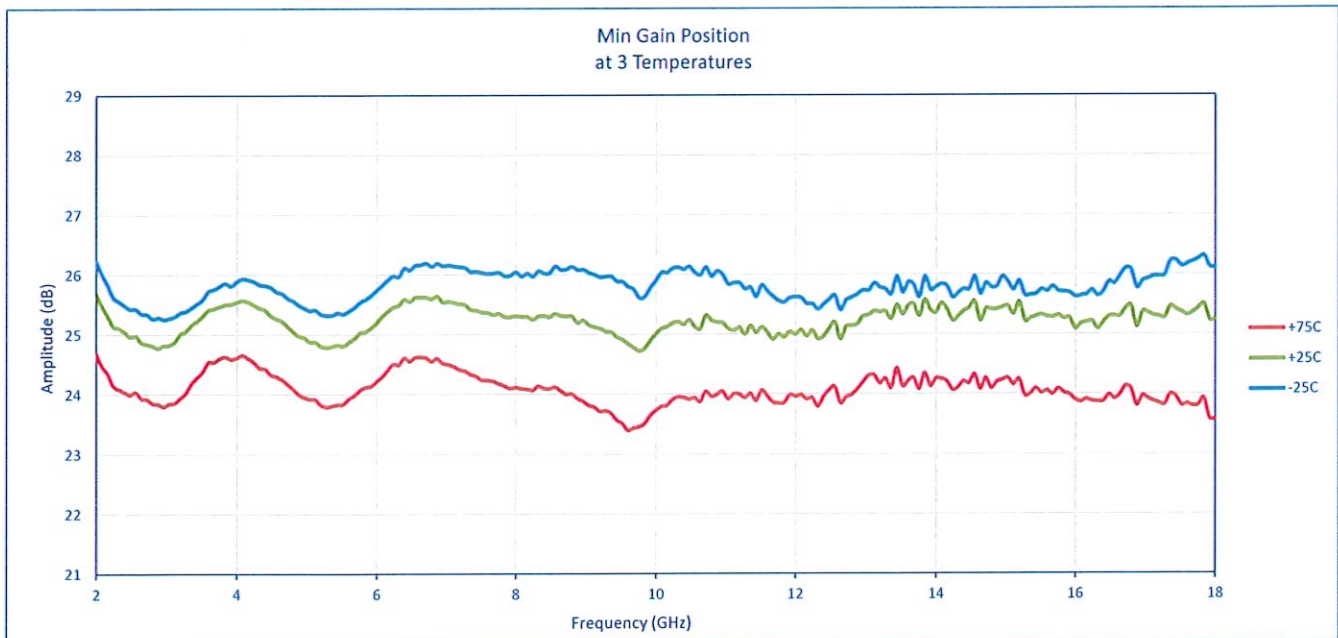
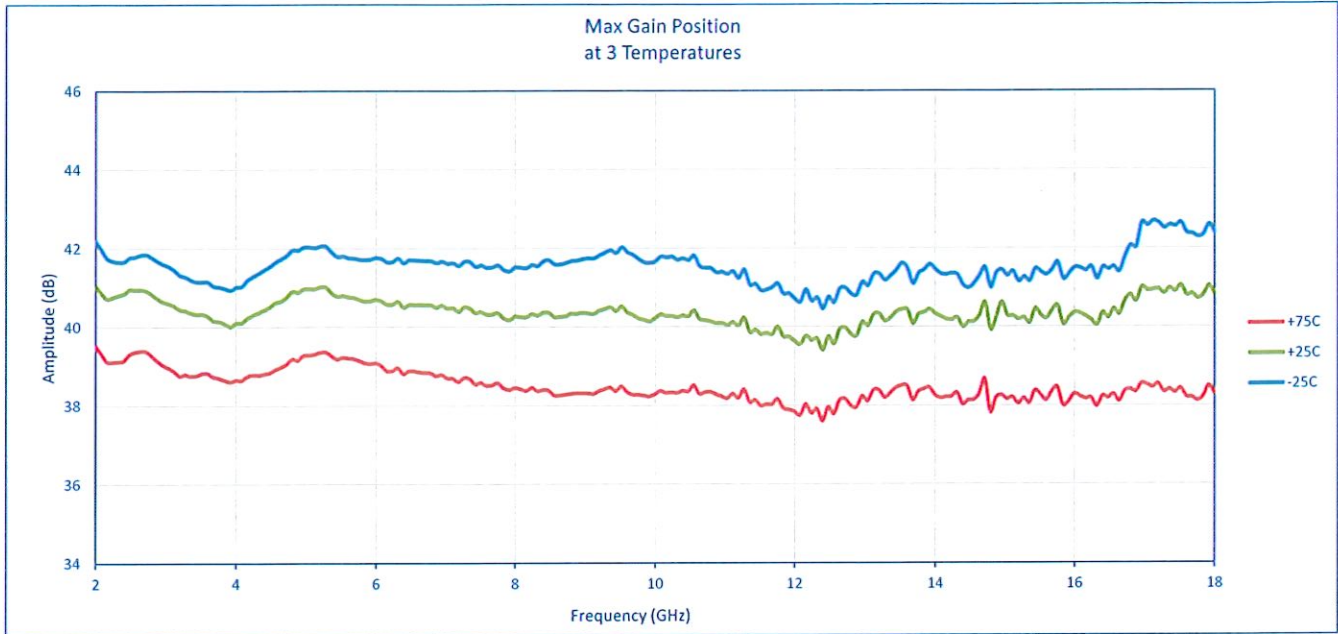
NOTE: SPECIFICATIONS WILL VARY OVER TEMPERATURE

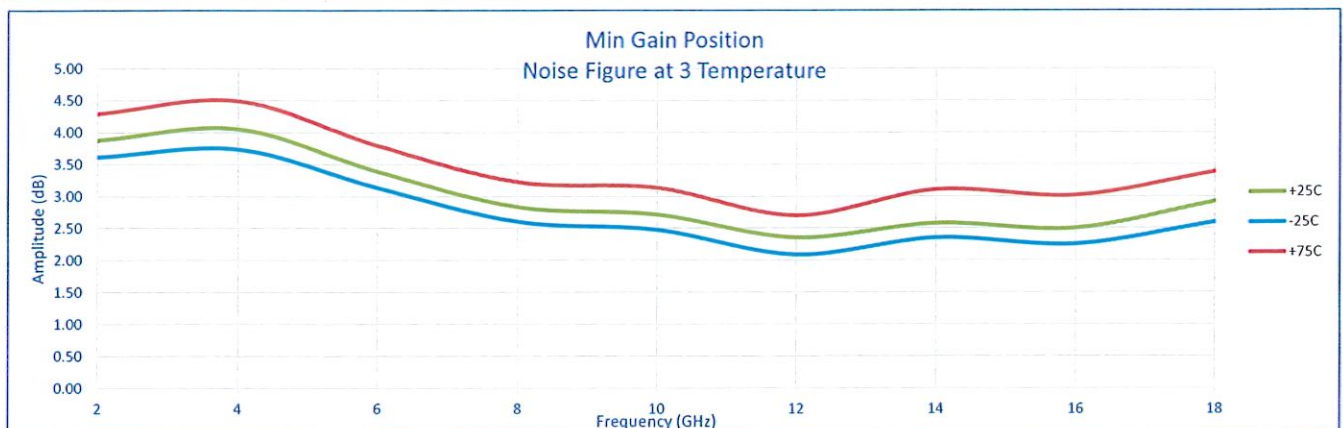
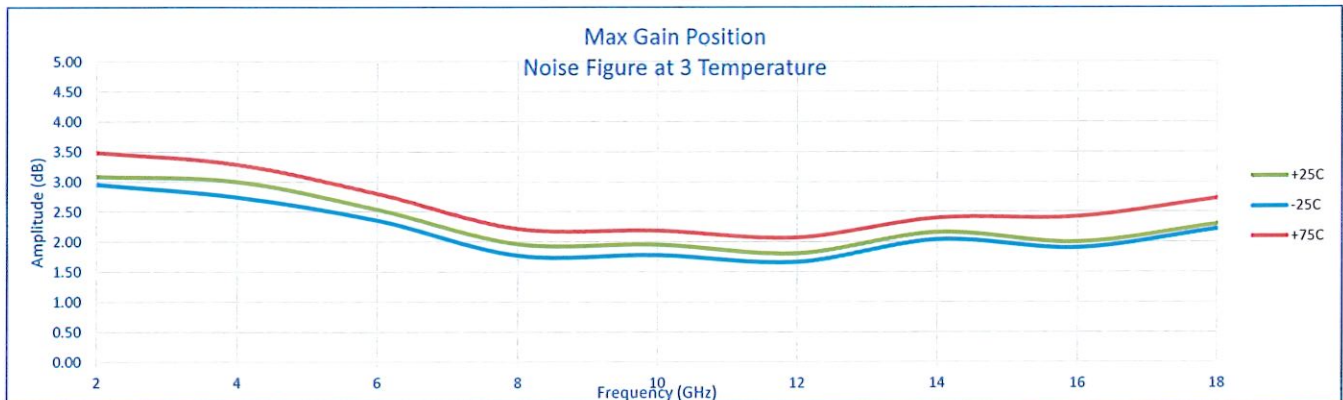
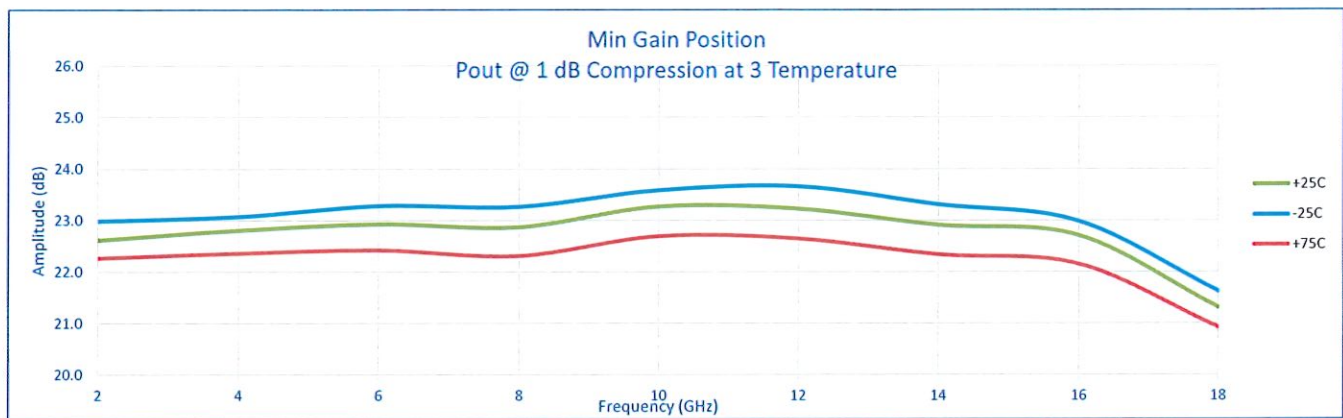
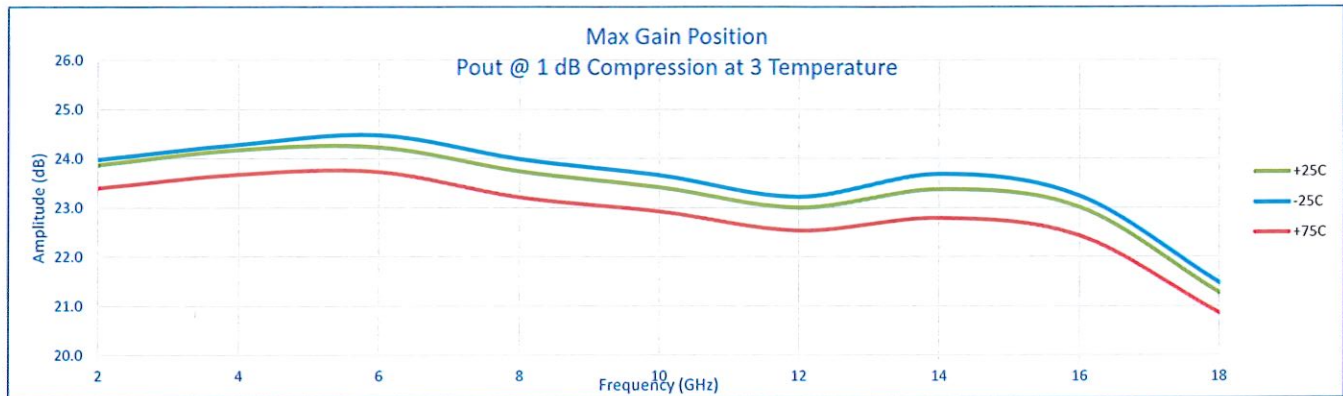
REV	DESCRIPTION	DATE	APPROVED
A1	ORIGINAL RELEASE	6/27/2012	
A6	ECN # 22-0155	6/19/20	
J1	ECN # 22-0155	12/1/2022	

PMI CONFIDENTIAL AND PROPRIETARY			
Quantic PMI PMI 7309-A GROVE ROAD, FREDERICK, MD 21704 USA TEL: 301-662-5019 FAX: 301-662-1731 WWW.QUANTICPMI.COM			
APPROVALS		DATE	
M. HANKEN		6/27/2014	
TITLE		OUTLINE	
PEC-40/25-218-21-12-SFF-TTLVG RevB			
ISSUES			
ISSUE NO.		ISSUE NO.	
DATE		DATE	
BY		BY	
1		21	
SCALE 1:1		SHEET 1 OF 4	

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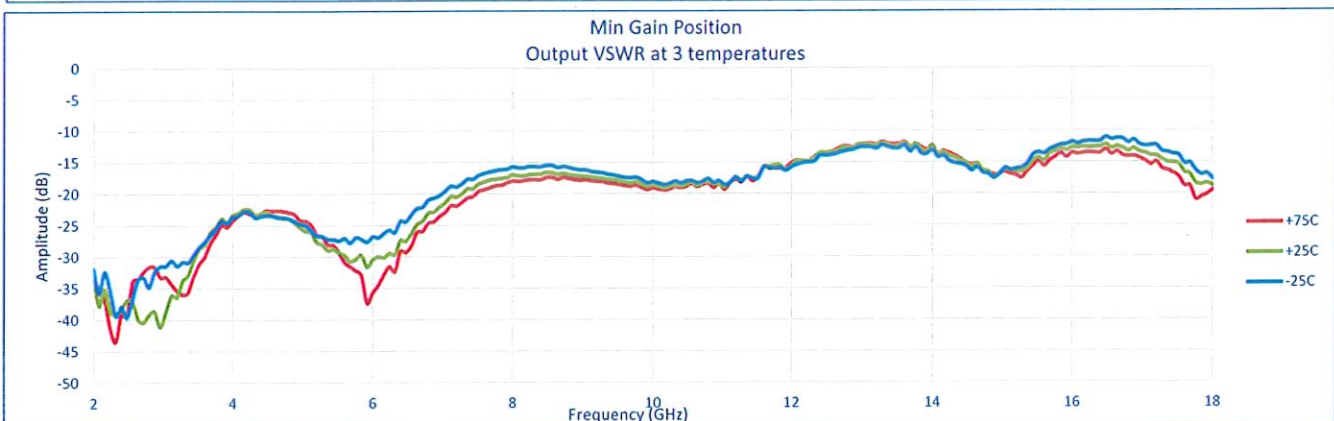
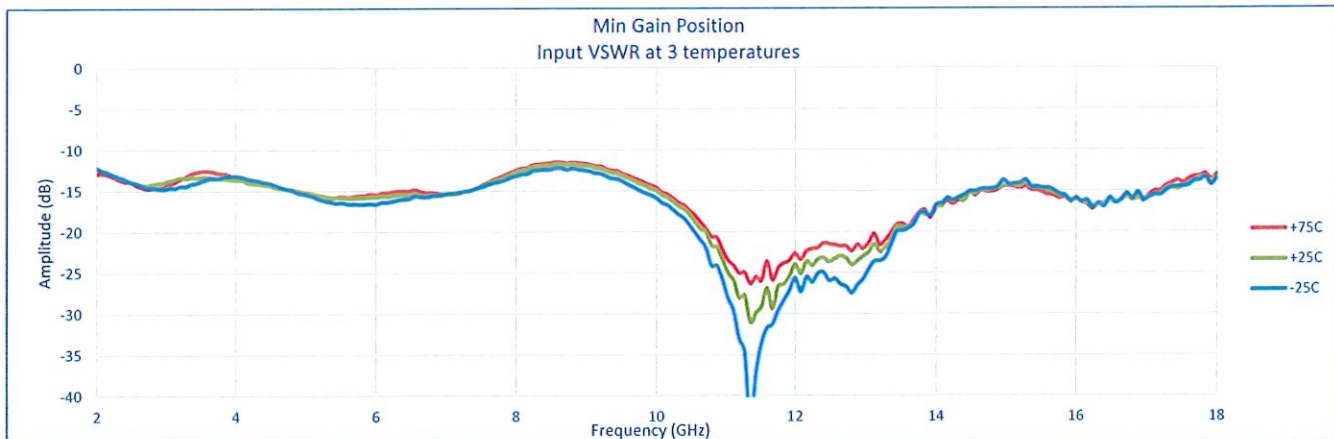
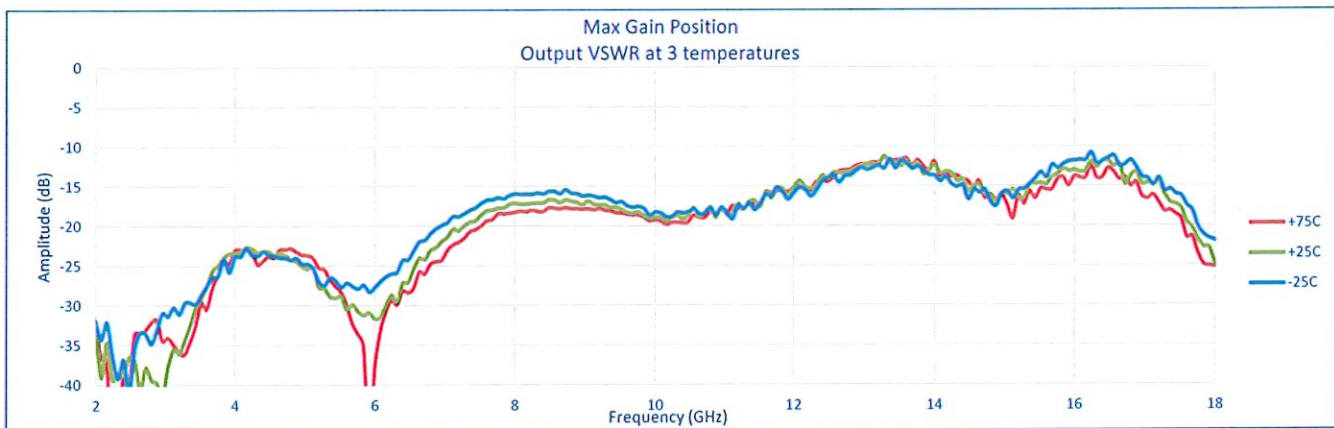
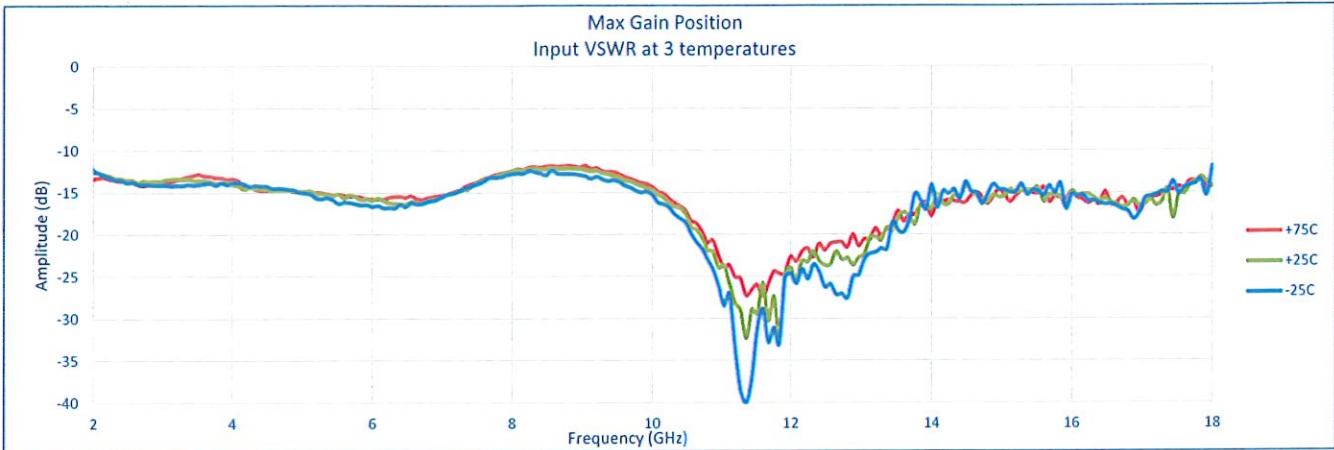
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