



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

Customer: \_\_\_\_\_  
 S/O No: \_\_\_\_\_  
 Model No: PEC-40/25-218-21-12-SFF-TTLVG Rev B  
 Serial No: PL24846/1907

Tested By: H. Gonzales  
 Temperature: -25°C, +25°C, +75°C  
 Date: 1/10/2022  
 Drawing No: 27605737 REV: B1

Test Item No.	PARAMETERS	SPECIFIED VALUE	MEASURED VALUE	QA/QC
1	Frequency Range:	2 – 18 GHz	2 – 18 GHz	
2	Gain @ -25°C:			
	Max. Gain Position	+42dB ± 2.0dB Max	44.56 dB Max, 40.8 dB Min	> 44 dB
	Min. Gain Position	+27dB ± 2.0dB Max	28.78 dB Max, 25.5 dB Min	
	Gain @ +25°C:			
3	Max. Gain Position	+40dB ± 2.0dB Max	41.98 dB Max, 38.36 dB Min	PMI QA1
	Min. Gain Position	+25dB ± 2.0dB Max	27 dB Max, 23.24 dB Min	
4	Gain @ +75°C:			
	Max. Gain Position	+37dB ± 2.0dB Max	40.39 dB Max, 36.57 dB Min	> 39 dB
	Min. Gain Position	+22dB ± 2.0dB Max	26.04 dB Max, 21.89 dB Min	> 24 dB
	Pout @ 1dB Compression @ -25°C:			
5	Max. Gain Position	+21dBm Min.	22.23 dBm Min	PMI QA1
	Min. Gain Position	+20dBm Min.	20.52 dBm Min	
6	Pout @ 1dB Compression @ +25°C:			PMI QA1
	Max. Gain Position	+21dBm Min.	22.27 dBm Min	
	Min. Gain Position	+20dBm Min.	21.66 dBm Min	
	Pout @ 1dB Compression @ +75°C:			
7	Max. Gain Position	+20dBm Min.	21.43 dBm Min	<+20 dBm
	Min. Gain Position	+20dBm Min.	19.6 dBm Min	
8	Saturated Output Power (Both Gains) Over Operating Temperature Range:	+26dBm. Max.	+25.6dBm.	PMI QA1
9	Noise @ -25°C:			
	Max. Gain Position	+3.8 dB Max.	4.1 dBm Max	> 3.8 dB
	Min. Gain Position	+6.0 dB Max.	3.6 dBm Max	
	Noise @ +25°C:			
10	Max. Gain Position	+4.5 dB Max.	4.4 dBm Max	PMI QA1
	Min. Gain Position	+7.0 dB Max.	4.1 dBm Max	
11	Noise @ +75°C:			
	Max. Gain Position	+5.0 dB Max.	4.6 dBm Max	
	Min. Gain Position	+8.0 dB Max.	4.7 dBm Max	
	12	VSWR In/Out:	2.0:1 Max.	Input 1.8:1dB Output 1.6:1dB
Input 1.8:1dB Output 1.6:1dB				+25C
Input 1.7:1dB Output 1.6:1dB				+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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ON  
PEC-40/25-218-21-12-SFF-TTLVG Rev B**

PL24846/1907

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	PMI QA1												
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													
22	DC Supply:	780mA Max@ +12V ±5% Max Gain Position. 610mA Max@ +12V ± 5% Min Gain Position.	<table border="1"> <tr> <td>435mA Max Gain</td> <td>-25C</td> </tr> <tr> <td>433mA Min Gain</td> <td></td> </tr> <tr> <td>419mA Max Gain</td> <td>+25C</td> </tr> <tr> <td>418mA Min Gain</td> <td></td> </tr> <tr> <td>412mA Max Gain</td> <td>+75C</td> </tr> <tr> <td>413mA Min Gain</td> <td></td> </tr> </table>	435mA Max Gain	-25C	433mA Min Gain		419mA Max Gain	+25C	418mA Min Gain		412mA Max Gain	+75C	413mA Min Gain		PMI QA1
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QA/QC Approval:  **PMI QA1**

Date: 1/11/22



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PL24846/1907

## Technical Sheet

### DESCRIPTION

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

### SPECIFICATIONS

- FREQUENCY RANGE:..... 2 - 18GHz
- 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
- Pout @ 1dB COMPRESSION @ -25°C
  - MAX GAIN POSITION:..... +21dB Min
  - MIN GAIN POSITION:..... +20dB Min
- Pout @ 1dB COMPRESSION @ +25°C
  - MAX GAIN POSITION:..... +21dB Min
  - MIN GAIN POSITION:..... +20dB Min
- Pout @ 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 IMPEDANCE:..... 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:..... -80dBc 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 250μ IN DURATION
    - INPUT SIGNAL UP TO -20dBm:..... <2.0dB
- PULSE RECOVERY TIME WITH THE FOLLOWING
  - PULSES UP TO 250μ IN DURATION
    - INPUT SIGNAL UP TO -20dBm:..... 15ns
- GAIN SWITCHING TIME:..... <500ns
- GAIN SWITCH CONTROL:..... TTL HIGH "1" - Max GAIN  
TTL LOW "0" - Min GAIN
- DC SUPPLY:..... 780mA Max@ +12V ±5% Max GAIN POSITION  
610mA Max@ +12V ±5% Min GAIN POSITION
- FINISH..... PAINTED GRAY (MOUNTING SURFACE FREE OF PAINT, GOLD)

REVISIONS			
ZONE	REC	DESCRIPTION	DATE
	A1	ORIGINAL RELEASE	05/27/18
	A2	ECN # 13-0177	10/01/18
	A3	ECN # 14-0198	10/01/18
	A4	ECN # 18-0077	3/23/19
	A5	ECN # 20-0096	6/09/20
	A6	ECN # 20-0113	8/22/20

### ENVIRONMENTAL RATINGS

- \* TEMPERATURES:..... -55°C TO + 85°C (OPERATING)  
-65°C TO +125°C (STORAGE)
- \* HUMIDITY:..... MIL-STD-202F, METHOD 1038 COND. B
- \* SHOCK:..... MIL-STD-202F, METHOD 2138 COND. B
- \* VIBRATION:..... MIL-STD-202F, METHOD 2040 COND. B
- \* ALTITUDE:..... MIL-STD-202F, METHOD 1050 COND. B
- \* TEMPERATURE CYCLE:..... MIL-STD-202F, METHOD 1070 COND. A

NOTE: SPECIFICATIONS WILL VARY DEPENDING ON TEMPERATURE  
NOTE: THE ABOVE SPECIFICATIONS ARE SUBJECT TO CHANGE WITHOUT NOTICE

ALL DIMENSIONS ARE IN INCHES  
TOLERANCES:  
X.XX ±0.020  
X.XXXX ±0.010

PMI CONFIDENTIAL AND PROPRIETARY

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ISO 9001 CERTIFIED

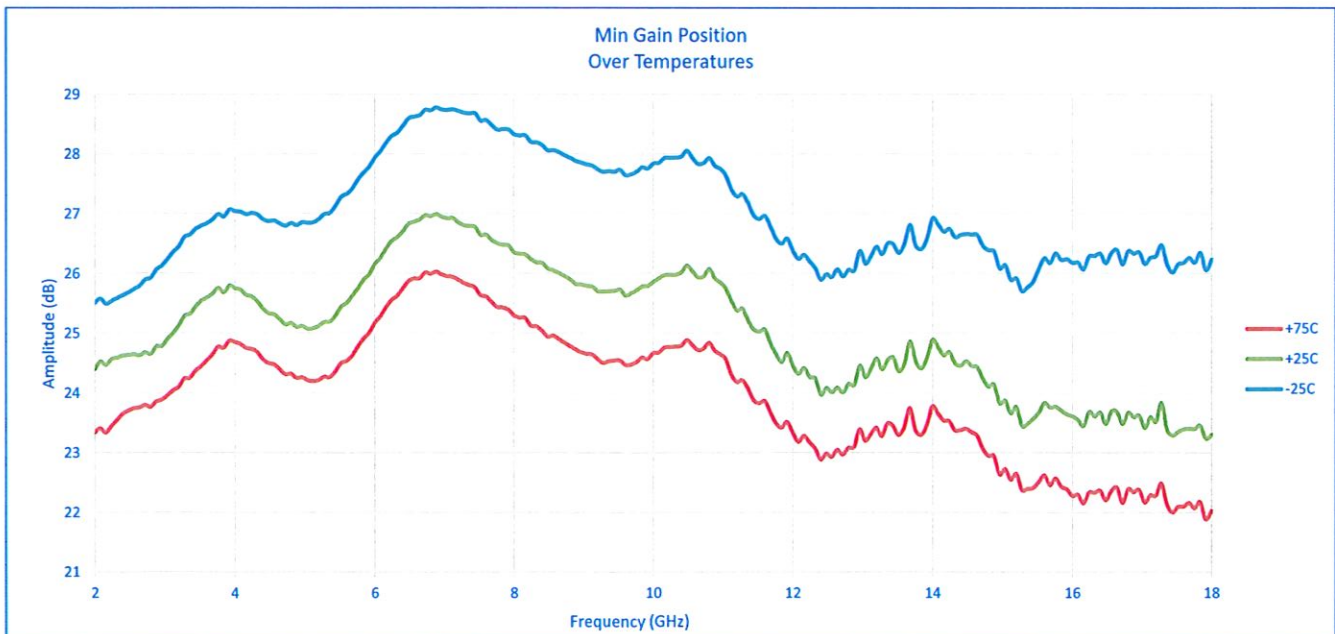
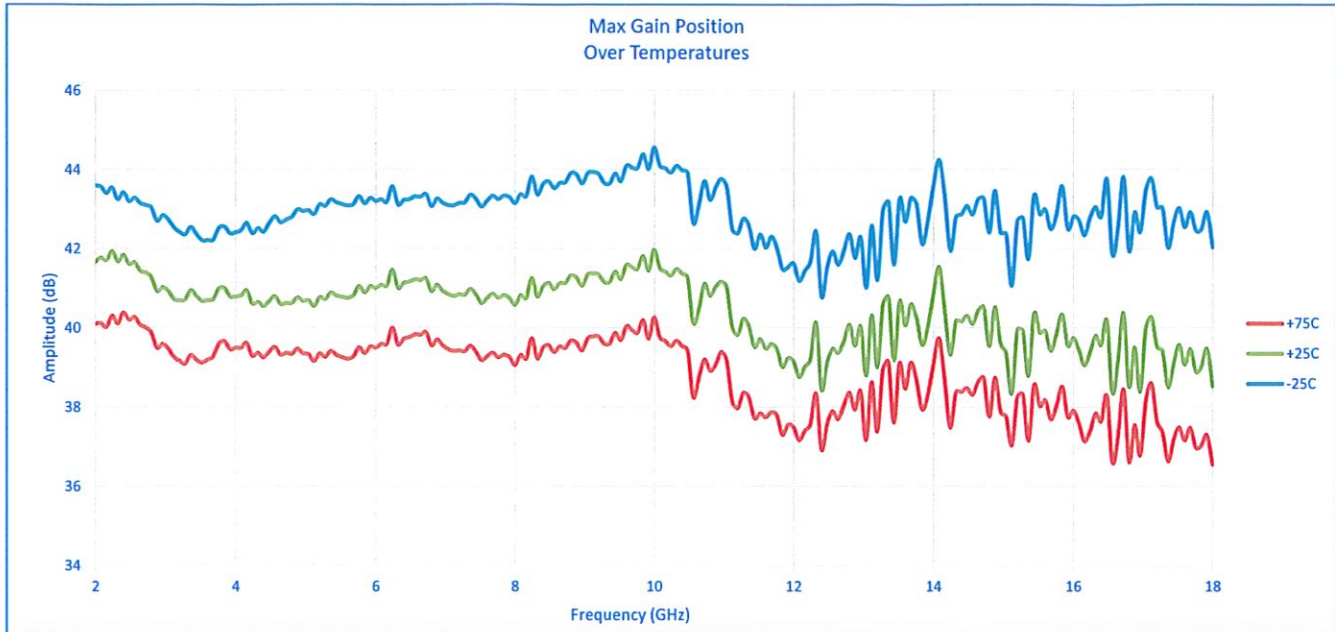


APPROVALS		DATE	TITLE	
DRAWN		08/27/18	PRODUCT FEATURE	
CHECKED			PEC-40/25-218-21-12-SFF-TTLVG	
ISSUED			SIZE	REV
			A	A6
			PICW NO	DWG NO
			05X00	27005731
			SCALE	SHEET
			N:S	1 OF 3



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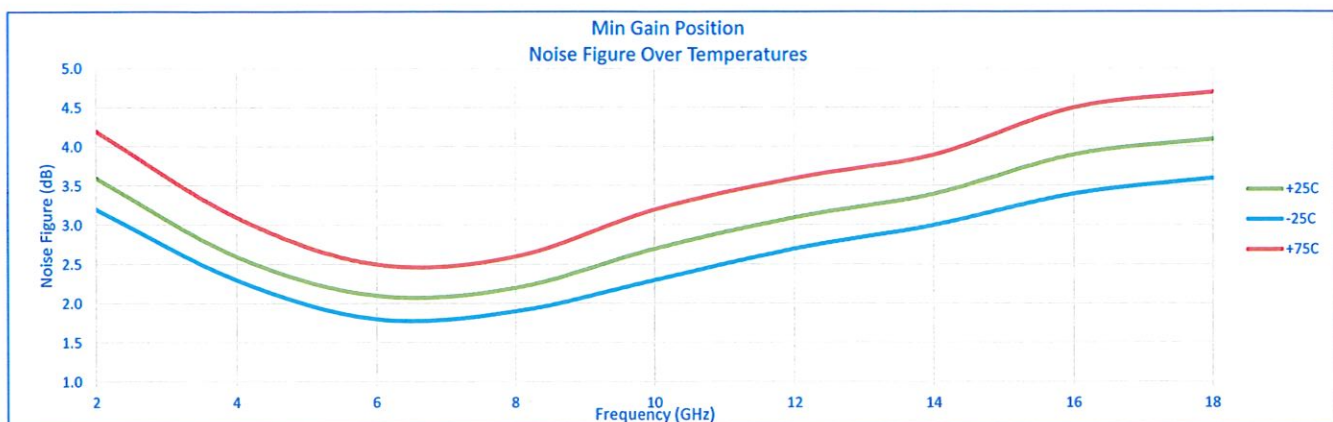
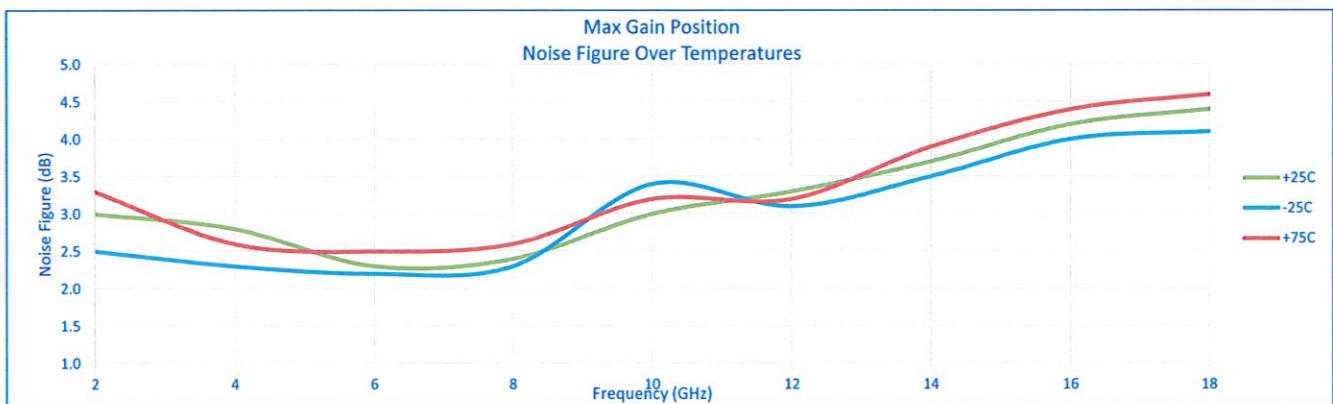
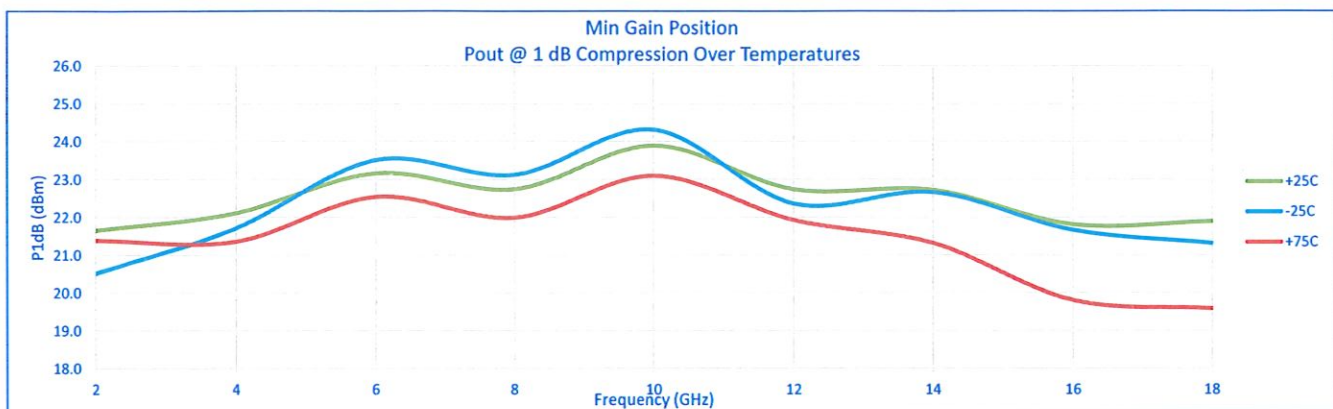
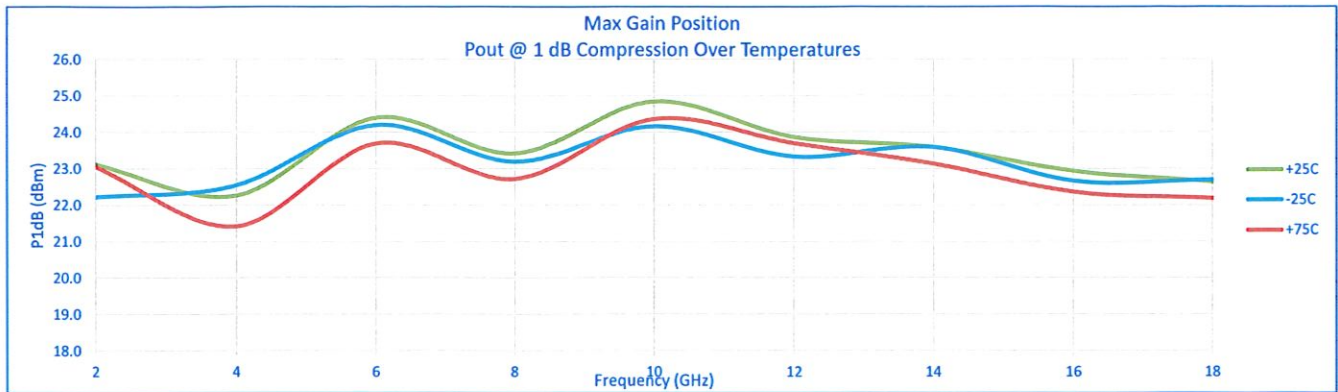
PL24846/1907





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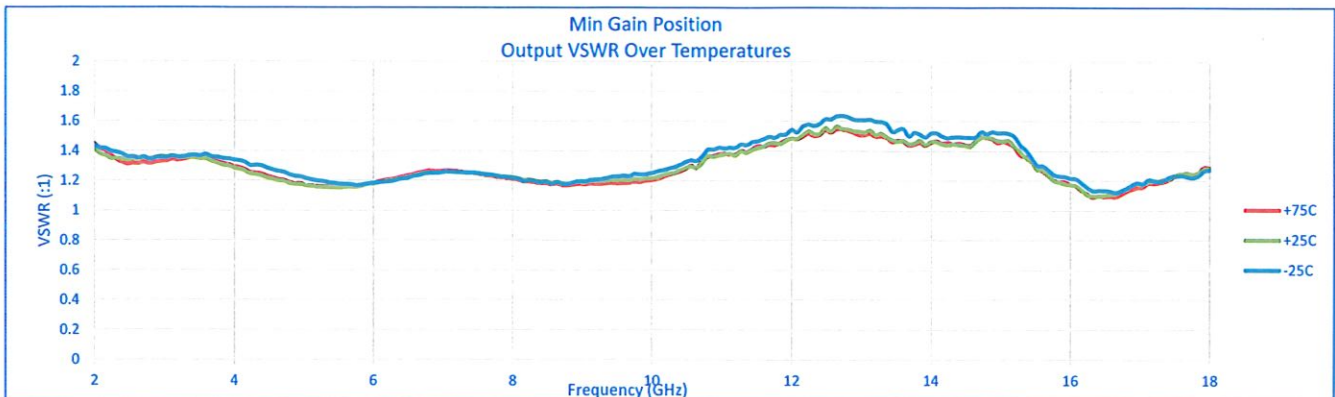
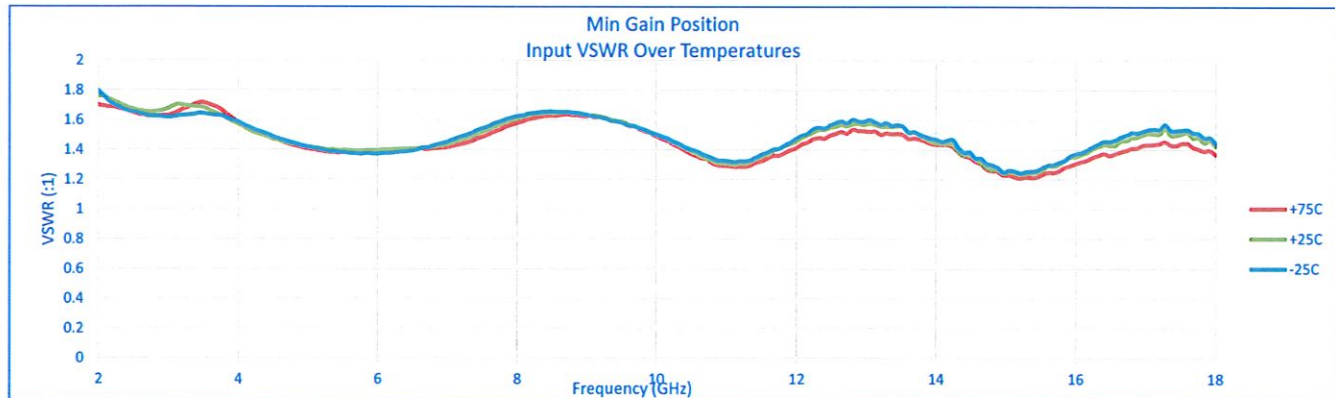
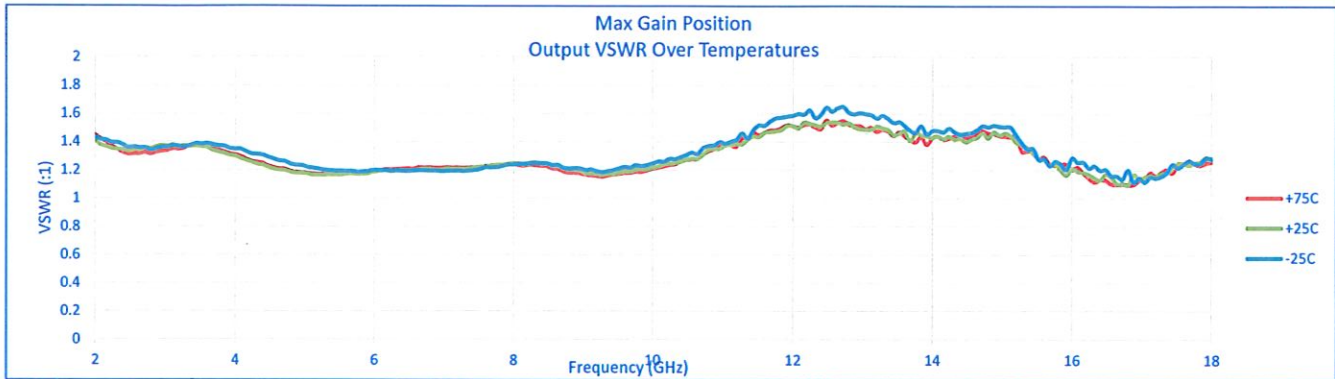
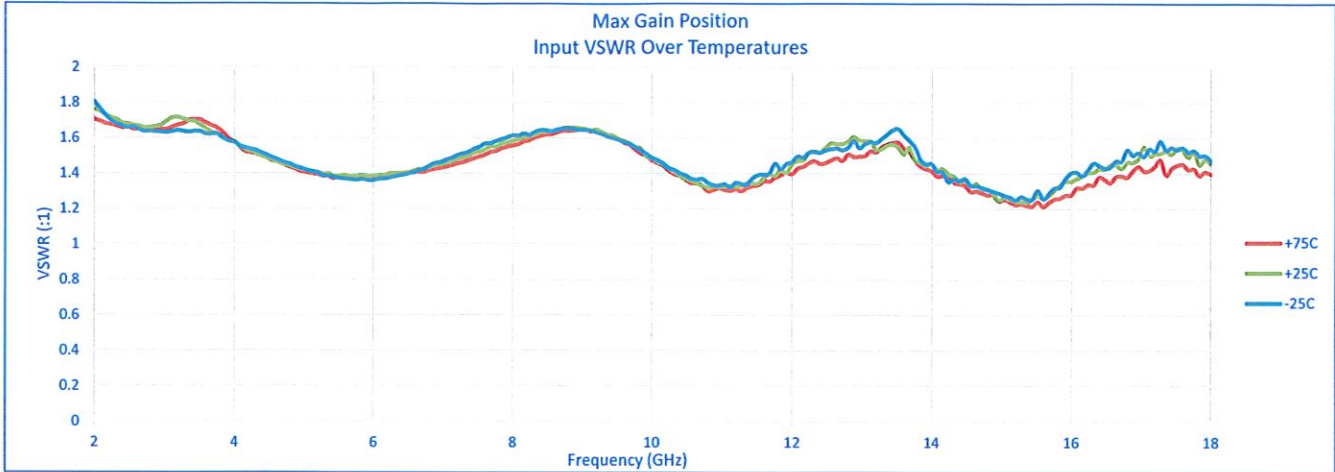
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