

**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: PL44457/2406

Tested By: H. Gonzales  
 Temperature: -25°C, +25C, +75C  
 Date: 2/9/2024  
 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:			PMI QA1
	Max. Gain Position	+42dB ± 2.0dB Max	43.27 dB Max, 40.92 dB Min	
3	Min. Gain Position	+27dB ± 2.0dB Max	27.25 dB Max, 25.26 dB Min	PMI QA1
	Gain @ +25°C:			
4	Max. Gain Position	+40dB ± 2.0dB Max	41.48 dB Max, 39.77 dB Min	> 39 dB > 24 dB
	Min. Gain Position	+25dB ± 2.0dB Max	26.4 dB Max, 24.71 dB Min	
5	Gain @ +75°C:			PMI QA1
	Max. Gain Position	+37dB ± 2.0dB Max	39.92 dB Max, 37.69 dB Min	
6	Min. Gain Position	+22dB ± 2.0dB Max	24.92 dB Max, 23.11 dB Min	PMI QA1
	Pout @ 1dB Compression @ -25°C:			
7	Max. Gain Position	+21dBm Min.	22.1 dBm Min	PMI QA1
	Min. Gain Position	+20dBm Min.	21.9 dBm Min	
8	Pout @ 1dB Compression @ +25°C:			PMI QA1
	Max. Gain Position	+21dBm Min.	21.7 dBm Min	
9	Min. Gain Position	+20dBm Min.	21.4 dBm Min	PMI QA1
	Pout @ 1dB Compression @ +75°C:			
10	Max. Gain Position	+20dBm Min.	21.2 dBm Min	PMI QA1
	Min. Gain Position	+20dBm Min.	21.0 dBm Min	
11	Saturated Output Power (Both Gains) Over Operating Temperature Range:	+26dBm. Max.	+27.7dBm.	> 26 dB
12	Noise @ -25°C:			PMI QA1
	Max. Gain Position	+3.8 dB Max.	3.5 dB Max.	
13	Min. Gain Position	+6.0 dB Max.	4.0 dB Max.	PMI QA1
	Noise @ +25°C:			
14	Max. Gain Position	+4.5 dB Max.	3.8 dB Max.	PMI QA1
	Min. Gain Position	+7.0 dB Max.	4.5 dB Max.	
15	Noise @ +75°C:			PMI QA1
	Max. Gain Position	+5.0 dB Max.	4.5 dB Max.	
16	Min. Gain Position	+8.0 dB Max.	5.2 dB Max.	PMI QA1
	VSWR In/Out:	2.0:1 Max.	Input 1.85:1dB Output 1.91:1dB -25C Input 1.76:1dB Output 1.86:1dB +25C Input 1.77:1dB Output 1.79:1dB +75C	
17	Input/Output Impedance:	50Ω Nominal	50Ω Nominal	
18	Input Power Without Damage	+20dBm CW Max	+20dBm CW Max	
19	In-Band Harmonics @ or below the 1dB Compression Point	-10dBc Min.	-10dBc	
20	Pulse Rise Time with Input Signals up to -20dBm	<5ns	<5ns By Design	
21	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	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>464mA Max Gain</td> <td>-25C</td> </tr> <tr> <td>460mA Min Gain</td> <td></td> </tr> <tr> <td>460mA Max Gain</td> <td>+25C</td> </tr> <tr> <td>460mA Min Gain</td> <td></td> </tr> <tr> <td>459mA Max Gain</td> <td>+75C</td> </tr> <tr> <td>459mA Min Gain</td> <td></td> </tr> </table>	464mA Max Gain	-25C	460mA Min Gain		460mA Max Gain	+25C	460mA Min Gain		459mA Max Gain	+75C	459mA Min Gain		PMI QA1
464mA Max Gain	-25C															
460mA Min Gain																
460mA Max Gain	+25C															
460mA Min Gain																
459mA Max Gain	+75C															
459mA Min Gain																

QA/QC  PMI QA1

DATE: 2/12/24

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PL44457/2406

## Technical Sheet

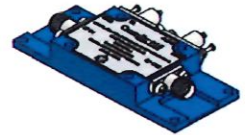
**DESCRIPTION:**

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
- 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..... +8.0dB 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 250μs IN DURATION INPUT SIGNAL UP TO -20dBm..... <2.0dB
- PULSE RECOVERY TIME WITH THE FOLLOWING PULSES UP TO 250μs 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 O<sup>2</sup> PAINT, GOLD)

REV	DESCRIPTION	DATE	APPROVED
A1	ORIGINAL RELEASE	4/20/93	
A5	ECN # 22-2155	8/14/01	
Z1	ECN # 22-2155	10/18/02	



**ENVIRONMENTAL RATINGS:**

- TEMPERATURE:..... -55°C TO +85°C (OPERATING)  
-55°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 106C COND. B
- TEMPERATURE CYCLE..... MIL-STD-202F, METHOD 107D COND. A

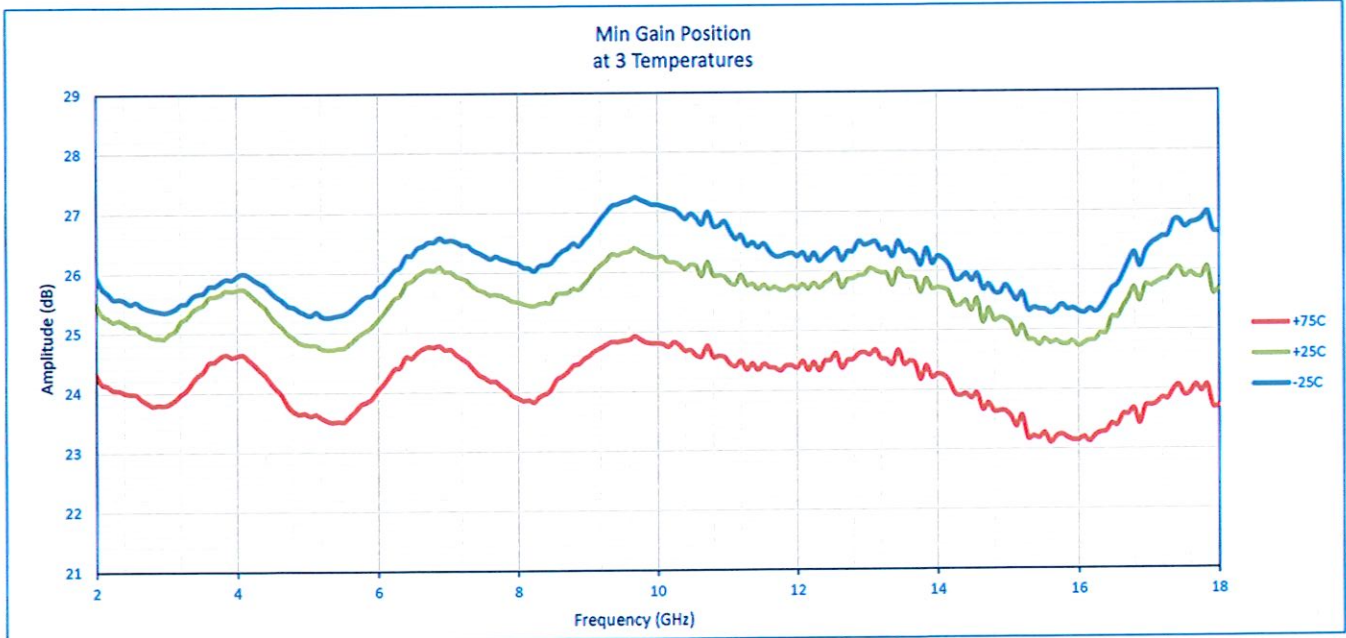
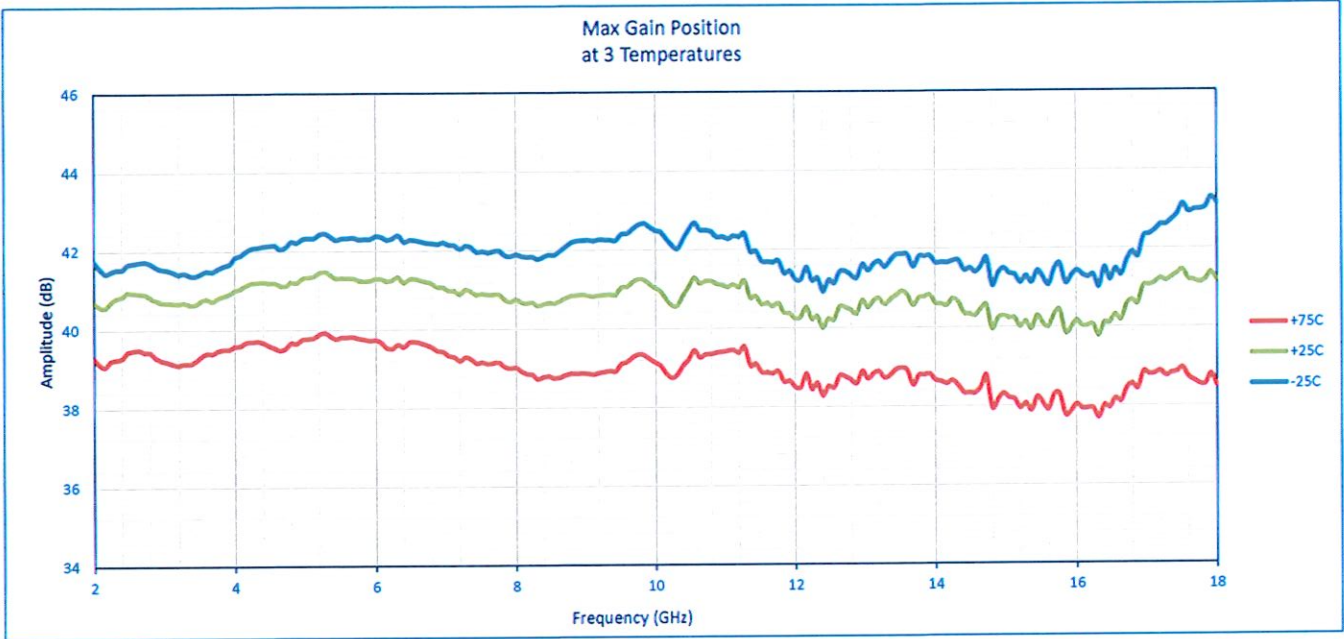
NOTE: SPECIFICATIONS WILL VARY OVER TEMPERATURE

APPROVALS		DATE	TITLE	
M. HANKEN		6/23/04	OUTLINE	
DESIGNED			PEC-40/25-218-21-12-SFF-TTLVG RevB	
CHECKED			REV	DATE
B OSKOO			27005731	J1
SCALE 1:1			SHEET 1 OF 2	

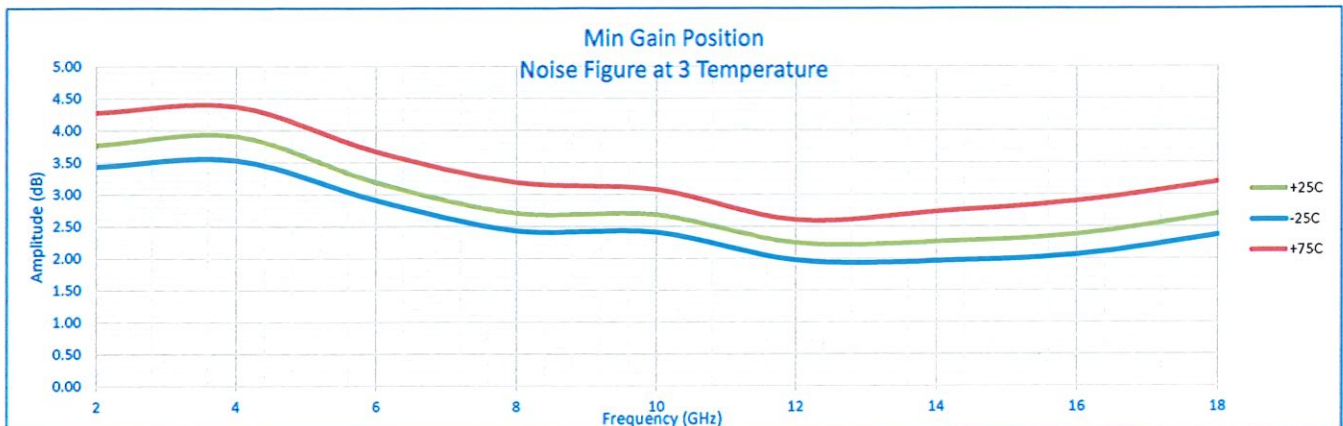
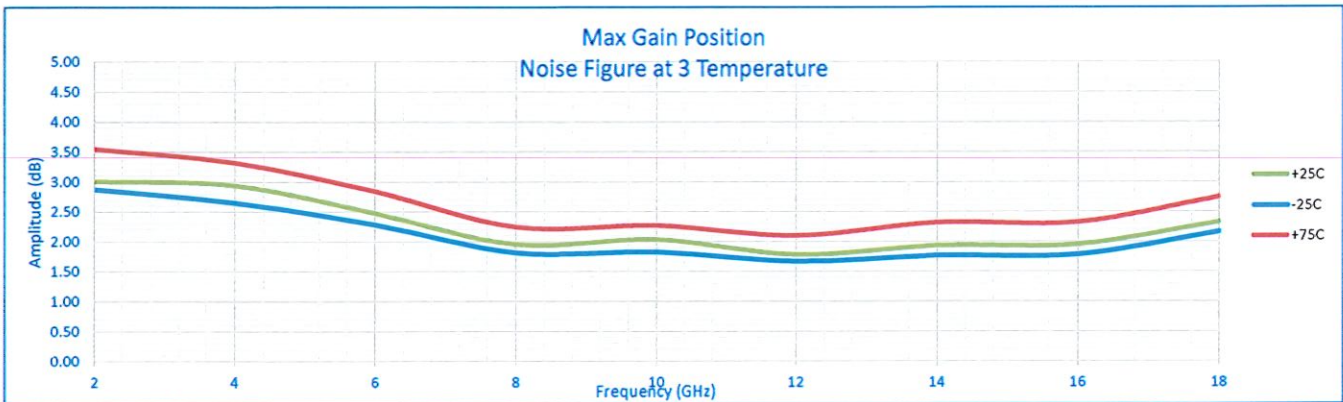
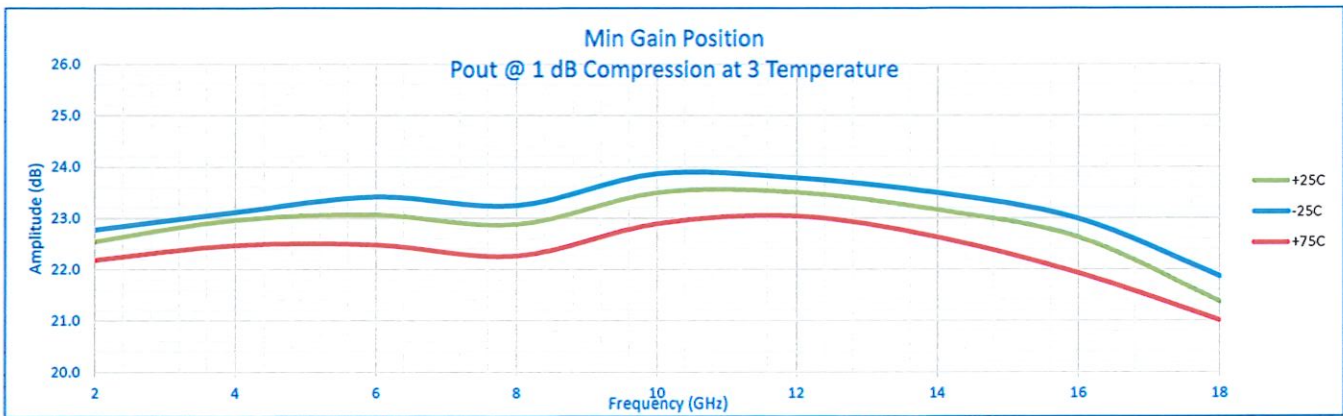
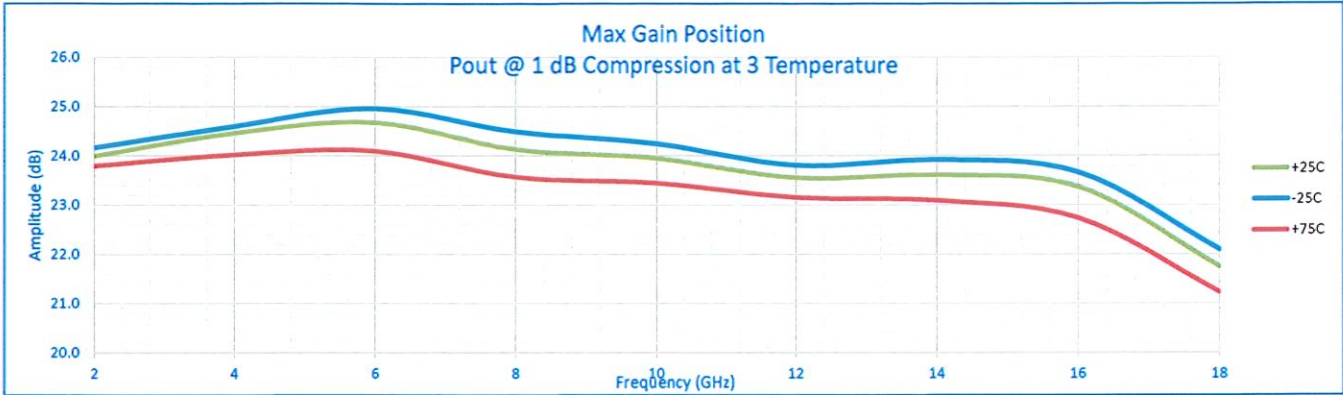
PML CONFIDENTIAL AND PROPRIETARY



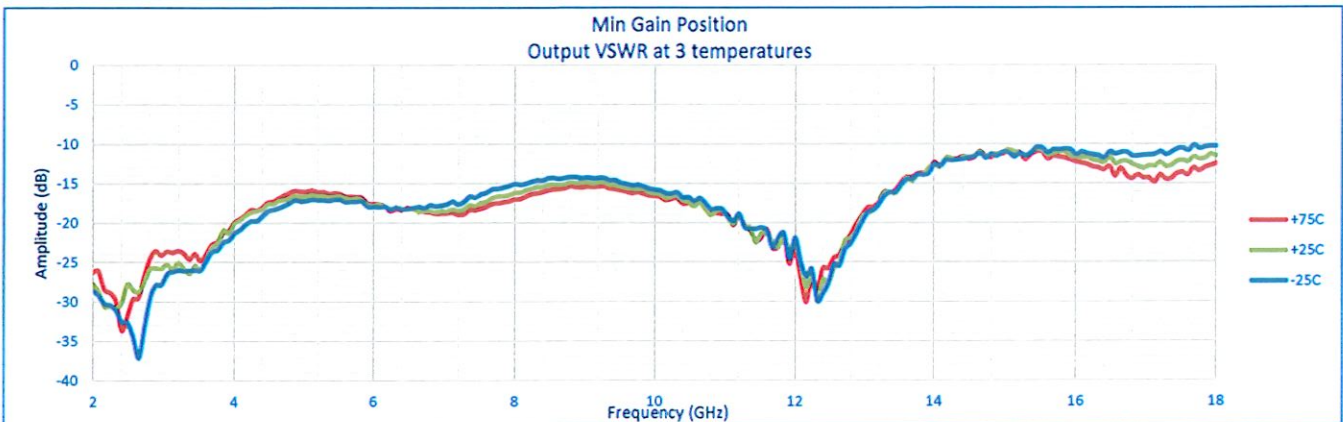
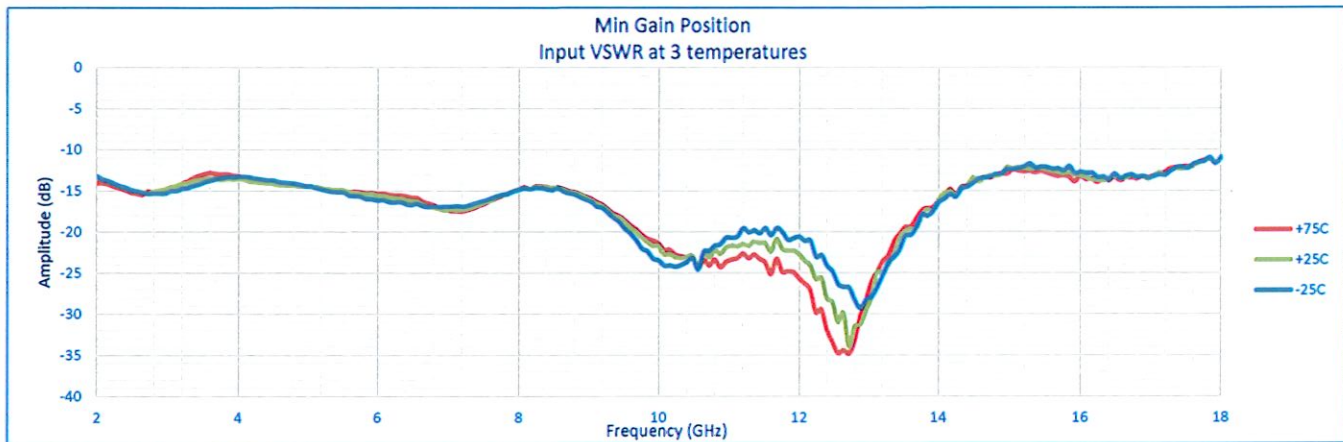
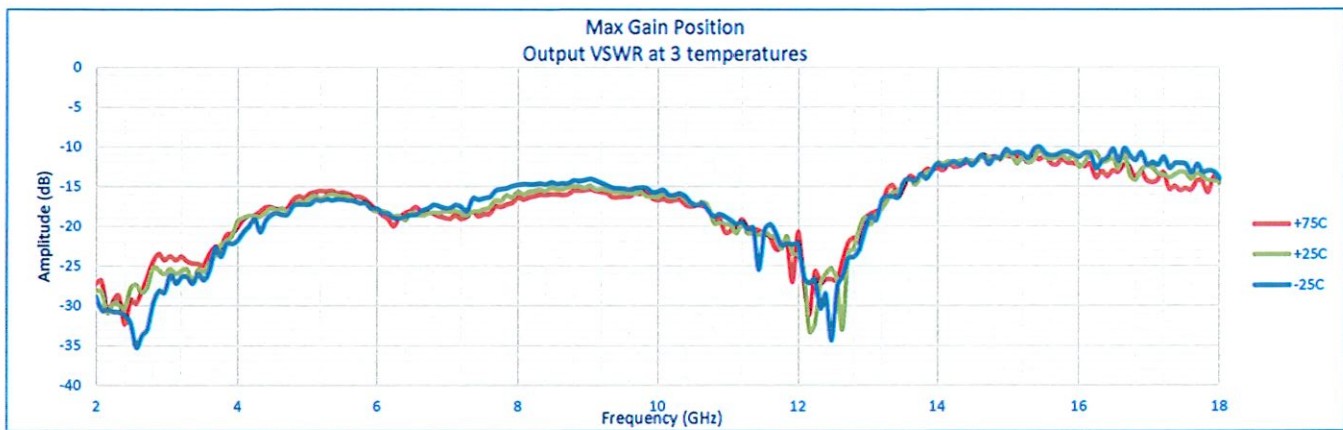
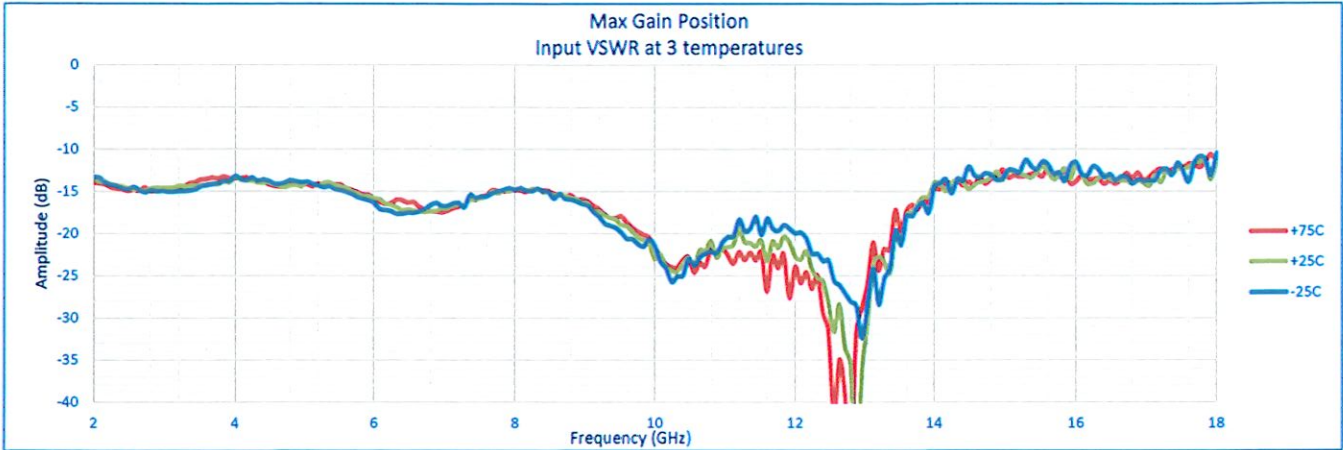
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