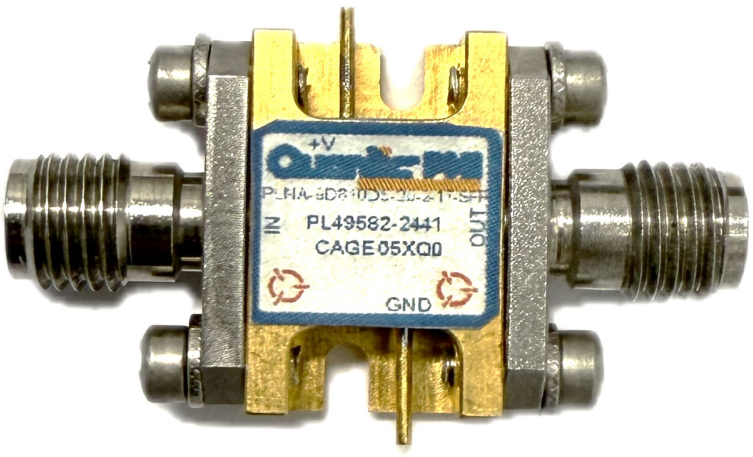
# TYPICAL CHARACTERISTICS ON PLNA-9D810D6-20-2-17-SFF

**PLANAR MONOLITHICS INDUSTRIES MODEL NUMBER PLNA-9D810D6-20-2-17-SFF IS A LOW NOISE AMPLIFIER OPERATING OVER THE FREQUENCY RANGE OF 9.8 TO 10.6 GHz. IT HAS A MINIMUM GAIN OF 20 dB, A P1dB OF +17 dBm MIN, WITH AN OUTPUT NOISE FIGURE OF 2 dB MAX. THIS PRODUCT COMES IN A MINIATURE HOUSING WITH SMA FEMALE CONNECTORS.**




**REPORTED BY** S AZHAR
**AUTHOR** S AZHAR
**DATE** OCT 10th 2024

7309-A Grove Road Frederick, MD 21704 USA Phone: (301)662-5019 Fax: (301)662-1731
Email: sales@quanticpmi.com

# TYPICAL CHARACTERISTICS ON PLNA-9D810D6-20-2-17-SFF

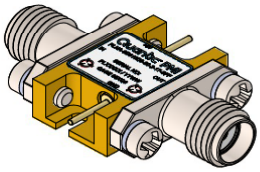
## PRODUCT FEATURE

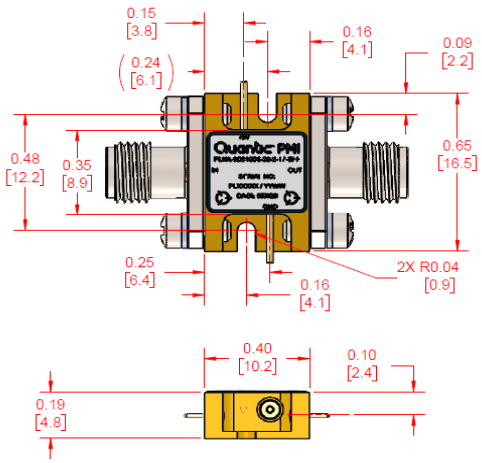
| ZONE | REV. | DESCRIPTION | DATE | APPROVED |
|---|---|---|---|---|
| | A1 | ORIGINAL RELEASE | 11/28/2023 | |
| | | | | |
| | | | | |

DESCRIPTION:
PLANAR MONOLITHICS INDUSTRIES MODEL NUMBER PLNA-9D810D6-20-2-17-SFF IS A LOW NOISE AMPLIFIER OPERATING OVER THE FREQUENCY RANGE OF 9.8 TO 10.6 GHz. IT HAS A MINIMUM GAIN OF 20 dB, A P1dB OF +17 dBm MIN, WITH AN OUTPUT NOISE FIGURE OF 2 dB MAX. THIS PRODUCT COMES IN A MINIATURE HOUSING WITH SMA FEMALE CONNECTORS.

SPECIFICATIONS:

- FREQUENCY RANGE:..... 9.8 TO 10.6 GHz
- SMALL SIGNAL GAIN:..... 20 dB MIN
- GAIN FLATNESS:..... ± 0.5 dB MAX
- OUTPUT P1dB:..... +17 dBm MIN
- NOISE FIGURE:..... 2.0 dB MAX
- VSWR:..... 2.0:1 IN/OUT
- MAXIMUM INPUT POWER:..... +10 dBm
- SUPPLY VOLTAGE :..... +5V @ 150 mA MAX
- CONNECTORS:..... SMA FEMALE (FIELD REPLACEABLE)
- FINISH:..... GOLD PLATED






ENVIRONMENTAL RATINGS:

- TEMPERATURE:..... -54°C TO +85°C (OPERATING)
  -60°C TO +125°C (STORAGE)
- HUMIDITY:..... MIL-STD-202, METHOD 103B COND. B
- MECHANICAL 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 105C COND. B

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

PMI CONFIDENTIAL AND PROPRIETARY

| APPROVALS | DATE |
|---|---|
| DRAWN: S AZHAR | 11/28/2023 |
| REDRAWN | |
| ISSUED | |

Quantic PMI PLANAR MONOLITHICS
7309-A GROVE ROAD FREDERICK, MARYLAND 21704 USA
TEL: (301) 662-5019 FAX: (301) 662-1731
WEB: WWW.QUANTICPMI.COM EMAIL: SALES@QUANTICPMI.COM
ISO 9001 CERTIFIED

TITLE: OUTLINE
PLNA-9D810D6-20-2-17-SFF

| SIZE | FSCM NO. | DWG NO. | REV. |
|---|---|---|---|
| B | 05XQ0 | 27047440 | A1 |

SCALE 3:1 SHEET 1 OF 1

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES
TOLERANCES ARE:
FRACTIONS DECIMALS ANGLES
± .XX ± 0.03 ±
.XXX ± 0.01

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# TYPICAL CHARACTERISTICS ON PLNA-9D810D6-20-2-17-SFF

## TEST DATA

| TEST ITEM NO. | PARAMETERS | SPECIFIED VALUE | Test Results | | | QA QC |
|---|---|---|---|---|---|---|
| | | | -54°C | +25°C | +85°C | |
| 1 | Frequency Range: | 9.8-10.6 GHz | **9.8-10.6 GHz** | **9.8-10.6 GHz** | **9.8-10.6 GHz** | |
| 2 | Gain: | 20 dB Min. | **+28.6 dB Max. +28 dB Min. See Plot** | **+28 dB Max. +27.4 dB Min. See Plot** | **+27.3 dB Max. +26.7 dB Min. See Plot** | |
| 3 | Gain Flatness: | ±0.5 dB Max. | **±0.27 dB See Plot** | **±0.28 dB See Plot** | **±0.28 dB See Plot** | |
| 4 | Noise Figure: | 2.0 dB Max. | **1.22 dB See Plot** | **1.44 dB See Plot** | **1.66 dB See Plot** | |
| 5 | OP1dB: | +17 dBm Min. | **+18.7 dBm See Plot** | **+18.7 dBm See Plot** | **+18.7 dBm See Plot** | |
| 6 | VSWR: (In/Out) | 2.0:1 Max. | **1.32:1 In 1.54:1 Out See Plot** | **1.29:1 In 1.59:1 Out See Plot** | **1.27:1 In 1.61:1 Out See Plot** | |
| 7 | INPUT POWER: | +10 dBm Max. | **+10 dBm See Plot** | **+10 dBm See Plot** | **+10 dBm See Plot** | |
| 8 | DC Supply: | +5 V @ 150 mA Max. | **143 mA** | **144 mA** | **147 mA** | |

**QA/QC Approval:** _____ **Date:** _____

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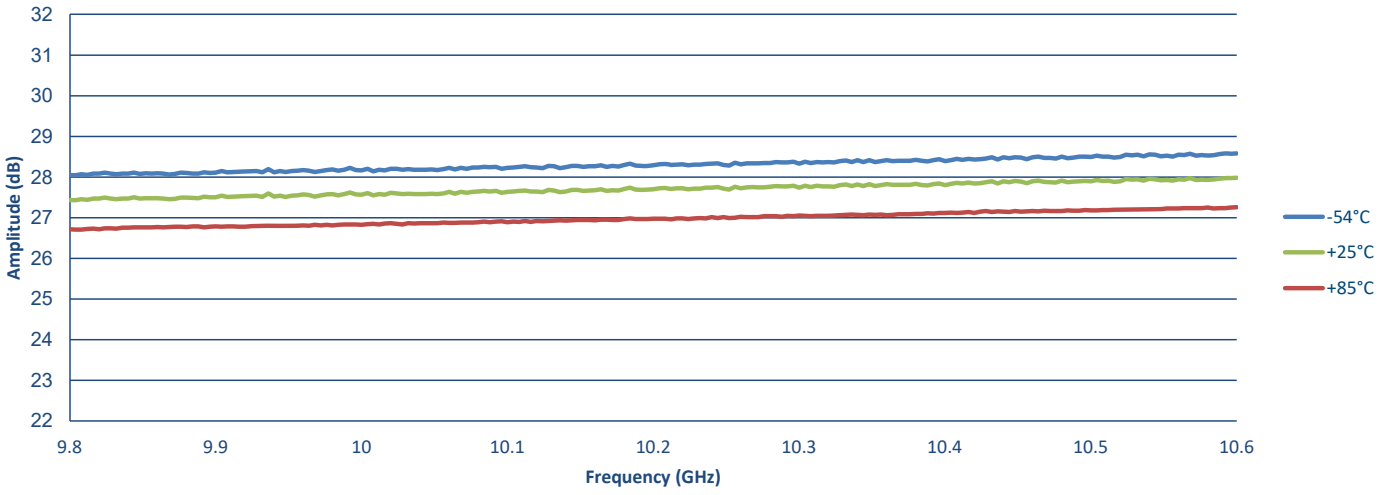
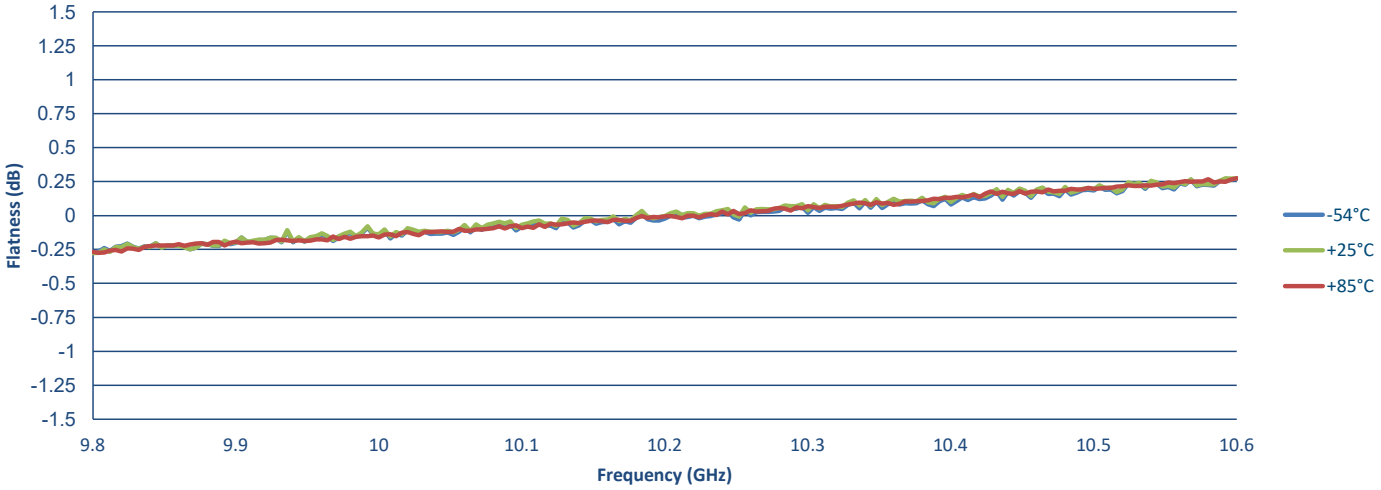
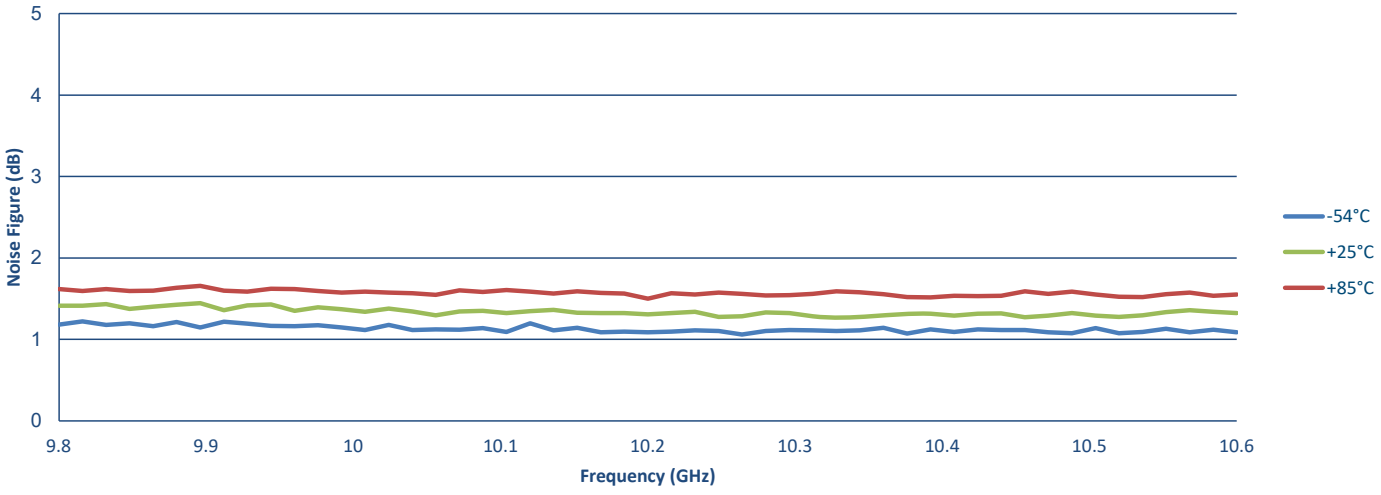
## Gain




## Gain Flatness




## Noise Figure

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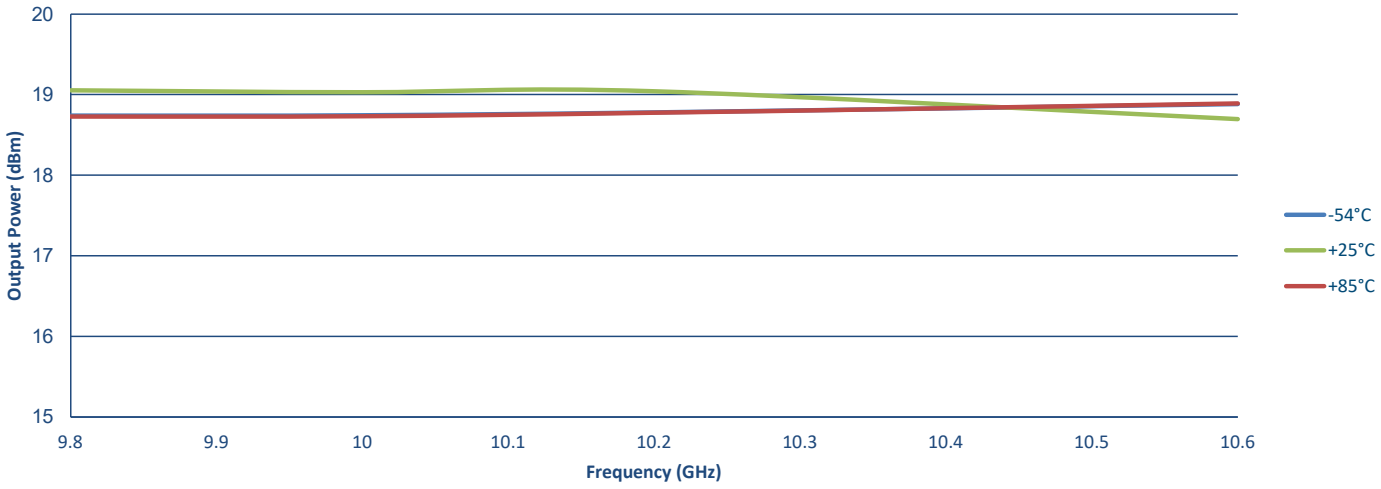
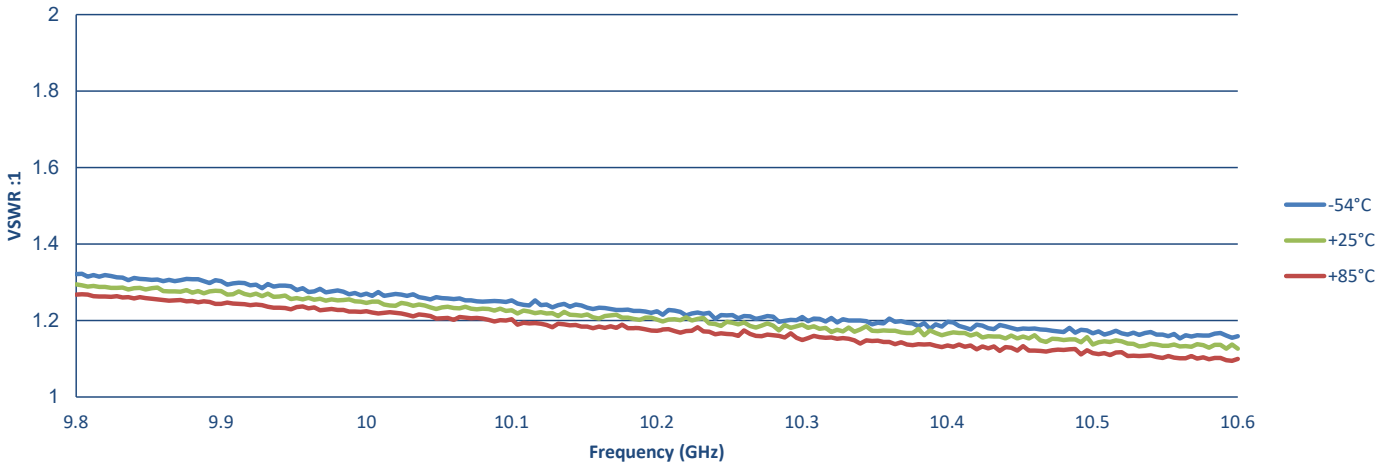
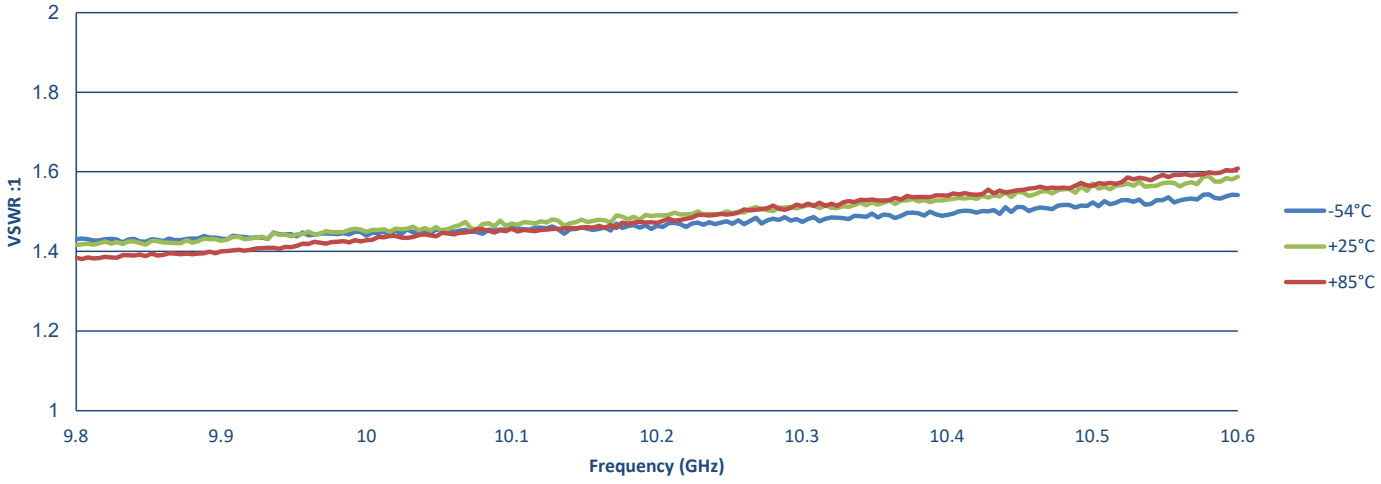
## OP1dB




## VSWR (IN)




## VSWR (OUT)

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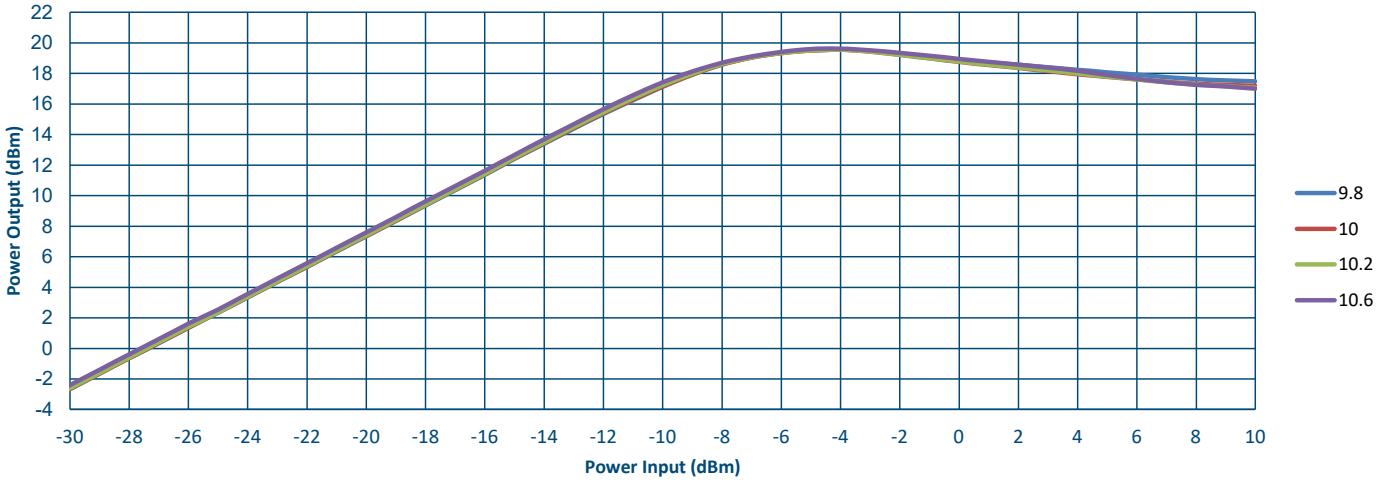
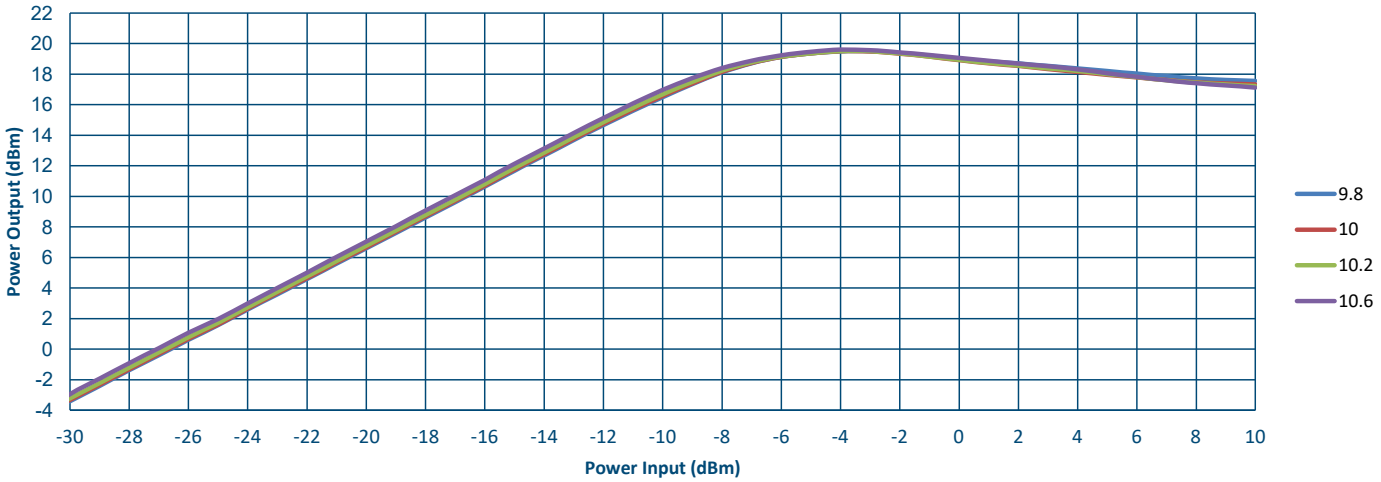
# TYPICAL CHARACTERISTICS ON PLNA-9D810D6-20-2-17-SFF

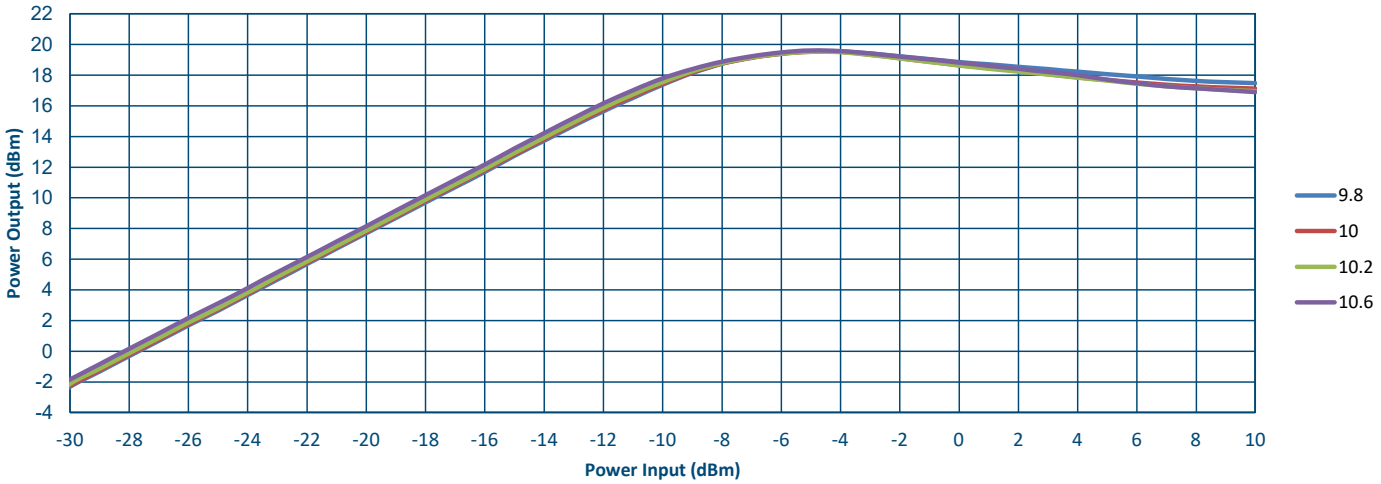
## Power Input Vs Power Output (+25°C)




## Power Input Vs Power Output (+85°C)




## Power Input Vs Power Output (-55°C)





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