

TYPICAL CHARACTERISTICS ON APD-4-618-30W-SFF-SET

QUANTIC PMI MODEL APD-4-618-30W-SFF IS A FOUR-WAY POWER DIVIDER OPERATING OVER THE 6 TO 18 GHz FREQUENCY RANGE. THIS MODEL HAS A MAXIMUM INSERTION LOSS OF 1.1 dB AND AT LEAST 18 dB OF ISOLATION. THE COMPACT 1.99" X 1.40" X 0.39" HOUSING IS OUTFITTED WITH SMA FEMALE CONNECTORS. THE SET INCLUDES 4 PHASE AND AMPLITUDE MATCHED POWER DIVIDERS.



Reported by: Matt Laulis
Tested By: Kevin Craven
Date: 1/29/25

TYPICAL CHARACTERISTICS ON APD-4-618-30W-SFF-SET

Outline Drawing

DESCRIPTION:

QUANTIC PMI MODEL APD-4-618-30W-SFF IS A FOUR-WAY POWER DIVIDER OPERATING OVER THE 6 TO 18 GHz FREQUENCY RANGE. THIS MODEL HAS A MAXIMUM INSERTION LOSS OF 1.1 dB AND AT LEAST 18 dB OF ISOLATION. THE COMPACT 1.99" X 1.40" X 0.39" HOUSING IS OUTFITTED WITH SMA FEMALE CONNECTORS

SPECIFICATIONS:

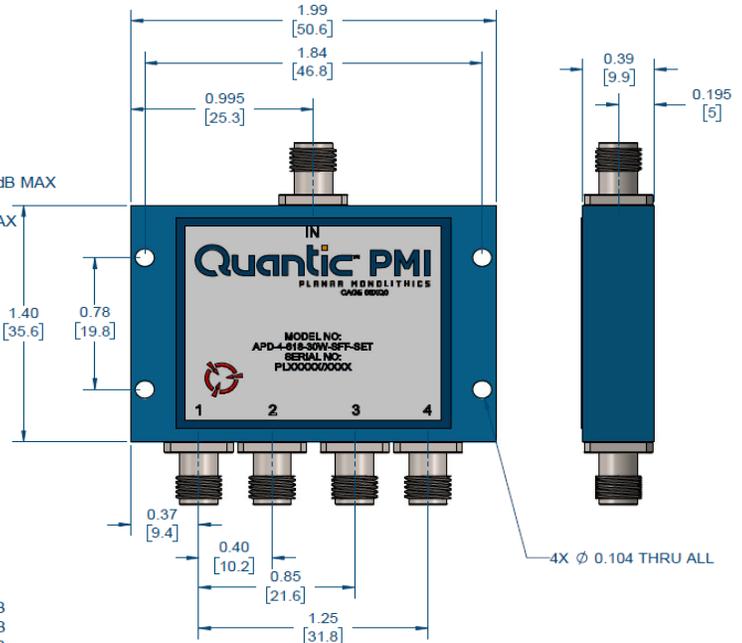
- FREQUENCY RANGE:..... 6.0 TO 18.0 GHz
- ISOLATION:..... 18 dB MIN
- INSERTION LOSS:..... 1.1 dB MAX (ABOVE 6.02 dB SPLIT)
- VSWR (IN/OUT):..... INPUT: 1.5:1 MAX
OUTPUT: 1.4:1 MAX
- AMPLITUDE BALANCE:..... ARM TO ARM: ±0.3 dB MAX
UNIT TO UNIT(PER SET OF 4): ±0.35 dB MAX
- PHASE BALANCE:..... ARM TO ARM: +3° MAX
UNIT TO UNIT(PER SET OF 4): +5° MAX
- POWER HANDLING:..... FORWARD: 30 W MAX
REVERSE: 1 W MAX
- IMPEDANCE:..... 50 OHM
- CONNECTORS:..... SMA FEMALE
- FINISH:..... PAINTED BLUE
- WEIGHT:..... 50 g
- SIZE:..... 1.99" X 1.40" X 0.39"

ENVIRONMENTAL RATINGS:

- TEMPERATURE:..... -55°C TO +85°C (OPERATING)
-65°C TO +125°C (STORAGE)
- HUMIDITY:..... MIL-STD-202, METHOD 103B COND. B
- SHOCK:..... MIL-STD-202, METHOD 213B 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

DATE	REV.	DESCRIPTION	DATE	APPROVED
	A1	ORIGINAL RELEASE	12/19/2014	



PMI CONFIDENTIAL AND PROPRIETARY

APPROVALS		DATE	TITLE	
DRAWN	M. LAULIS	12/17/2014	OUTLINE	
REVISION			APD-4-618-30W-SFF-SET	
ISSUED			SIZE	REV
			B	A1
			FORM NO.	DWG NO.
			05XG0	27050300
			SCALE: 2:1	SHEET 1 OF 1

**TYPICAL CHARACTERISTICS
ON
APD-4-618-30W-SFF-SET**

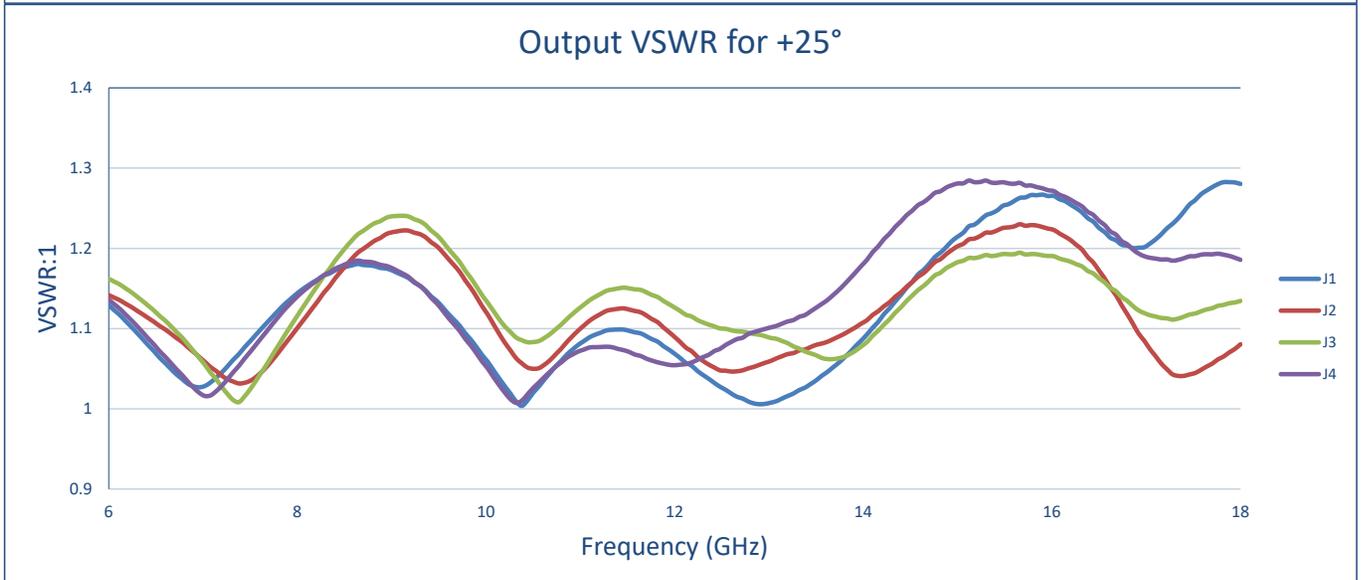
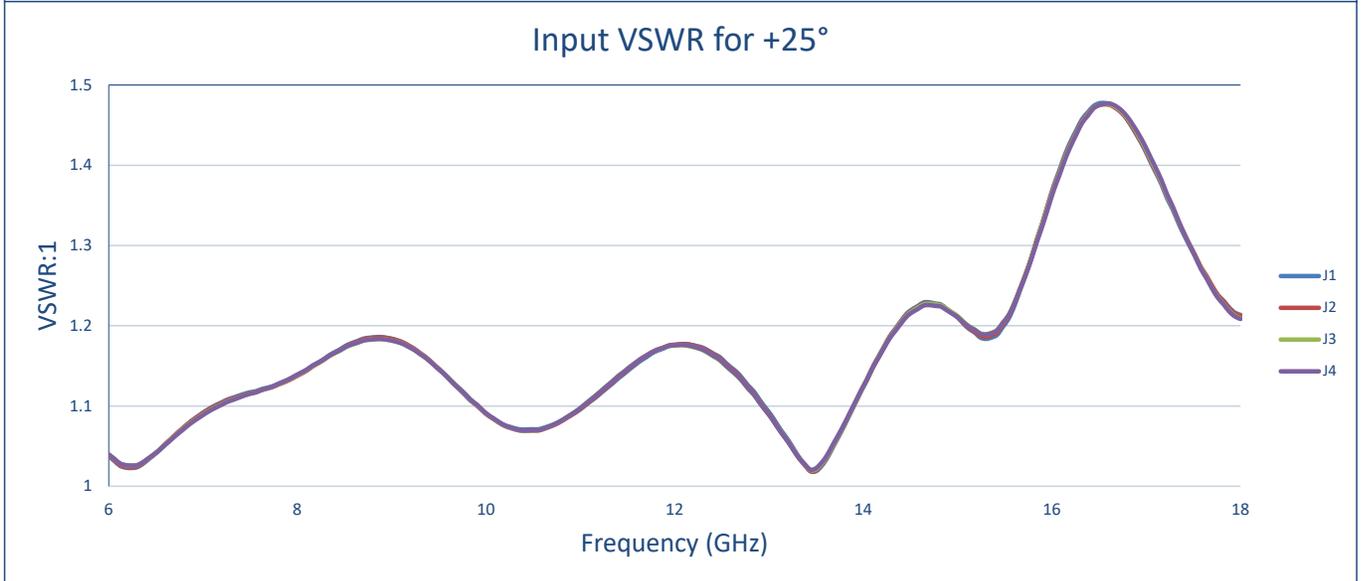
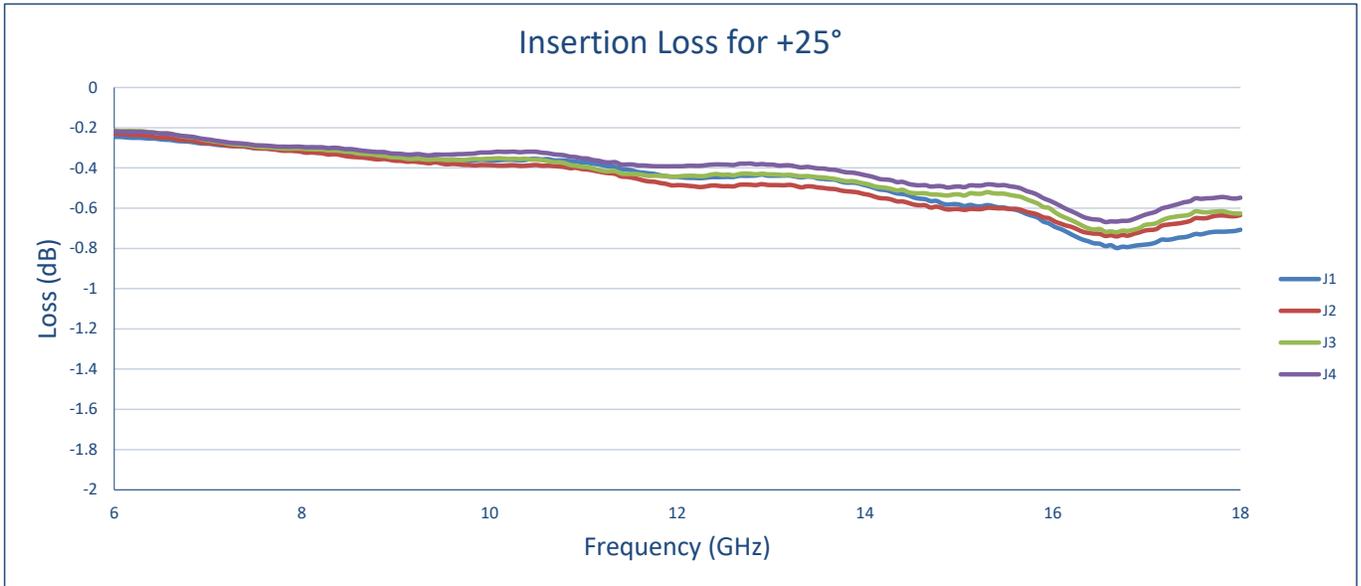
TEST DATA

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	TEST RESULTS FOR +25°			
			1	2	3	4
1	Frequency Range:	6.0 to 18.0 GHz	6.0 to 18.0 GHz	6.0 to 18.0 GHz	6.0 to 18.0 GHz	6.0 to 18.0 GHz
2	Insertion Loss:	1.1 dB Max. (Above 6.02 dB Split)	0.8 dB See Graph	0.77 dB See Graph	0.71 dB See Graph	0.66 dB See Graph
3	VSWR:	Input 1.50:1 Max. Output 1.40:1 Max.	Input 1.48:1 Output 1.28:1 See Graph	Input 1.47:1 Output 1.29:1 See Graph	Input 1.34:1 Output 1.24:1 See Graph	Input 1.34:1 Output 1.2:1 See Graph
4	Isolation:	18 dB Min.	20.7 dB See Graph	20.7 dB See Graph	20.8 dB See Graph	21.1 dB See Graph
5	Amplitude Balance:	±0.3 dB Max.	0.05 dB -0.18 dB See Graph	0.09 dB -0.15 dB See Graph	0.08 dB -0.16 dB See Graph	0.06 dB -0.11 dB See Graph
6	Phase Balance:	±3° Max.	1.89° See Graph	2.77° See Graph	1.84° See Graph	1.52° See Graph
7	Power Handling	Forward: 30 W Max. Reverse: 1 W Max.	Pass			

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	TEST RESULTS			
			A	B	C	D
8	Amplitude Balance Unit to Unit:	± 0.35 dB Max.	0 dB	0.2 dB	0.16 dB	0.2 dB
9	Phase Balance Unit to Unit:	+5° Max.	0°	3.27°	1.79°	1.22°

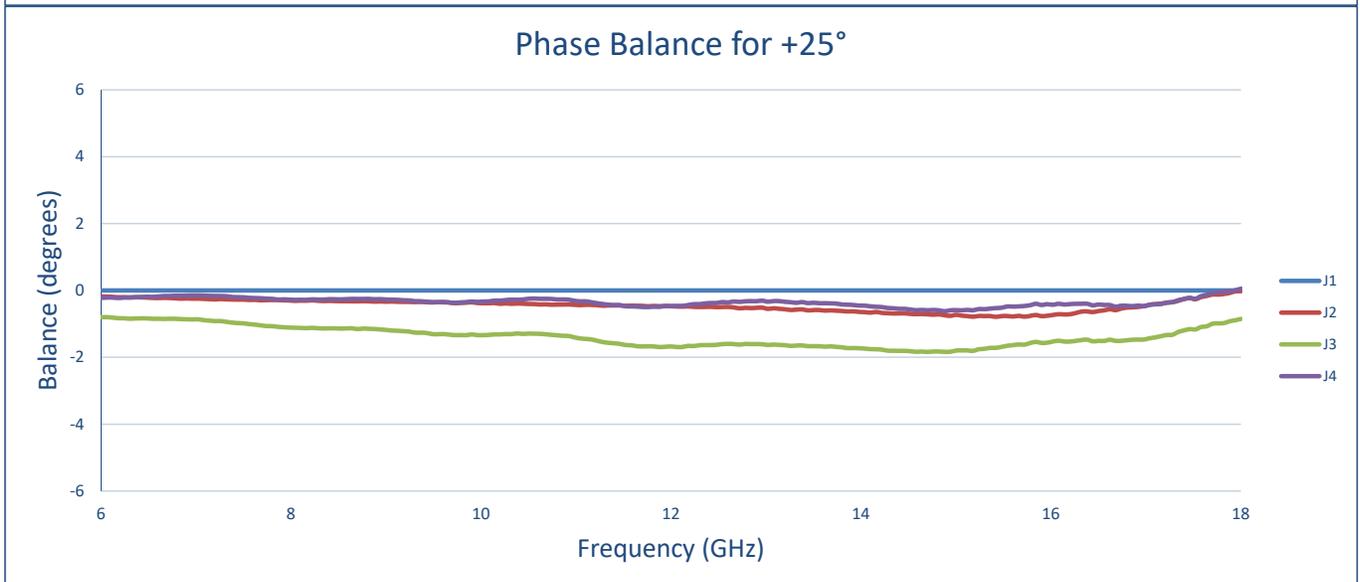
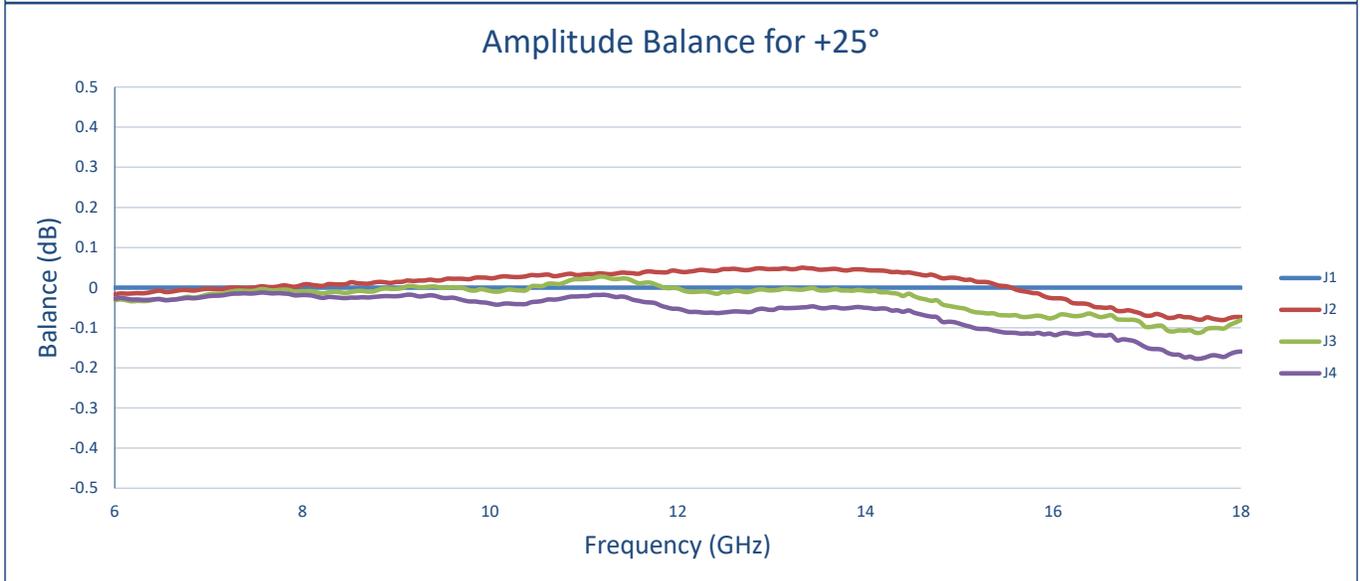
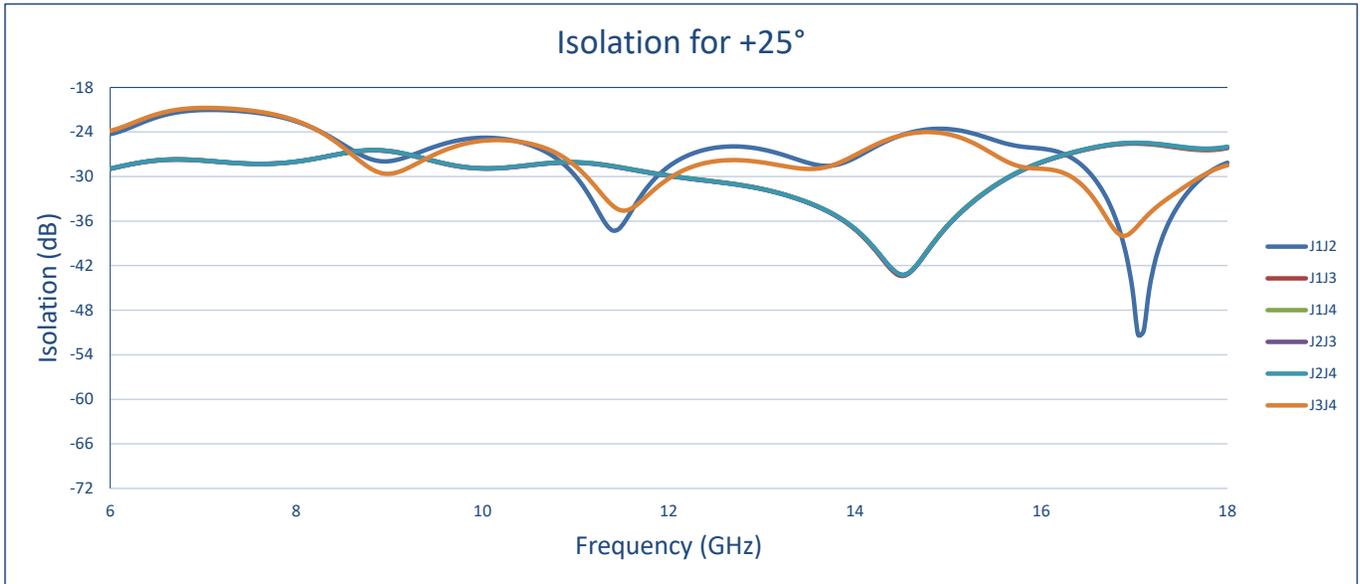
TYPICAL CHARACTERISTICS ON APD-4-618-30W-SFF-SET

UNIT 1



TYPICAL CHARACTERISTICS ON APD-4-618-30W-SFF-SET

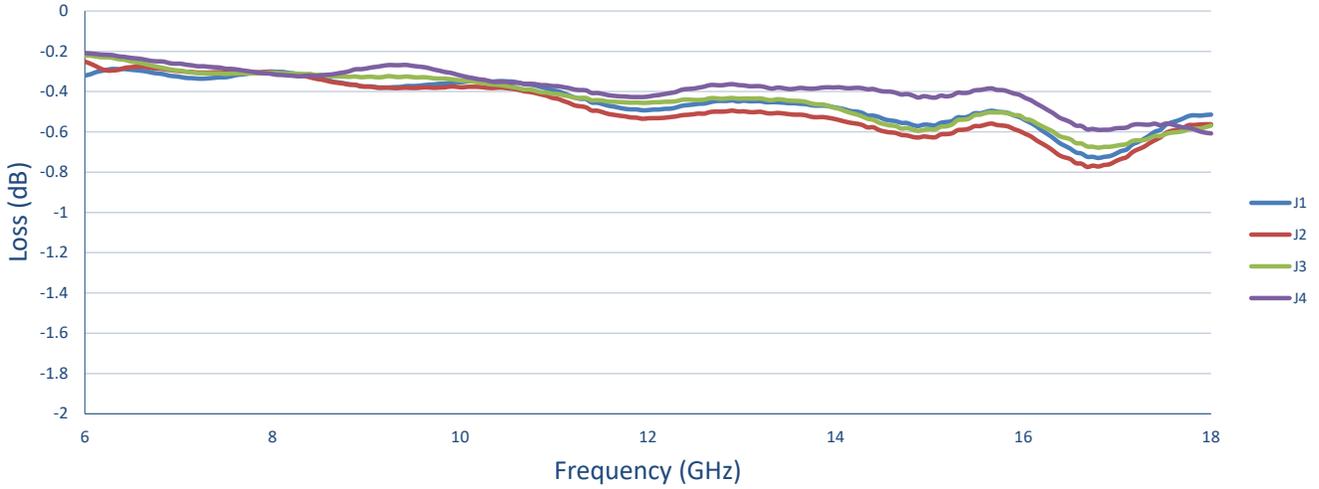
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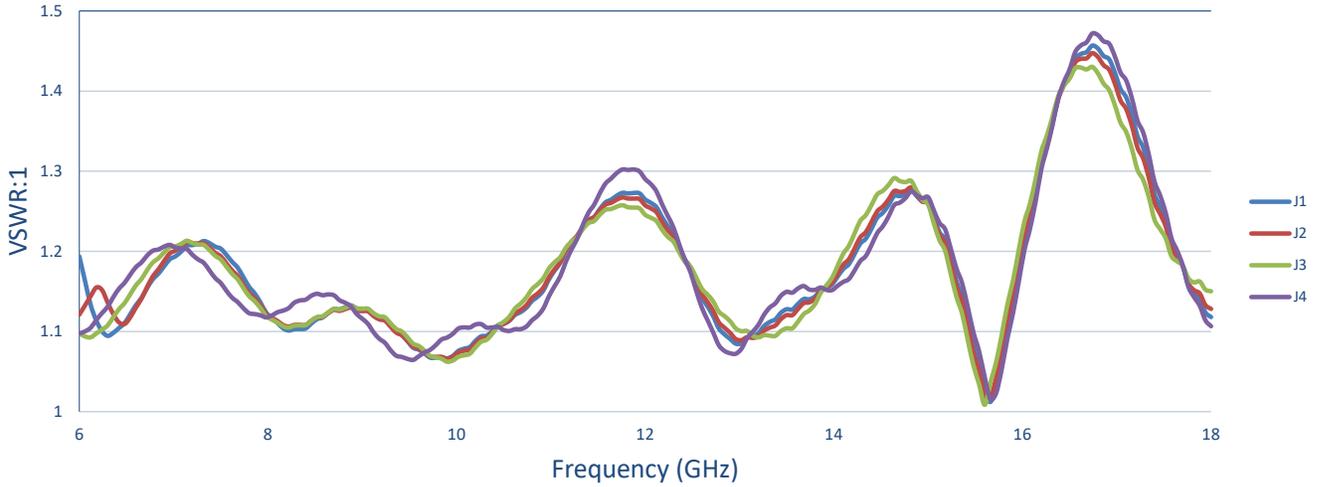
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ON
APD-4-618-30W-SFF-SET**

UNIT 2

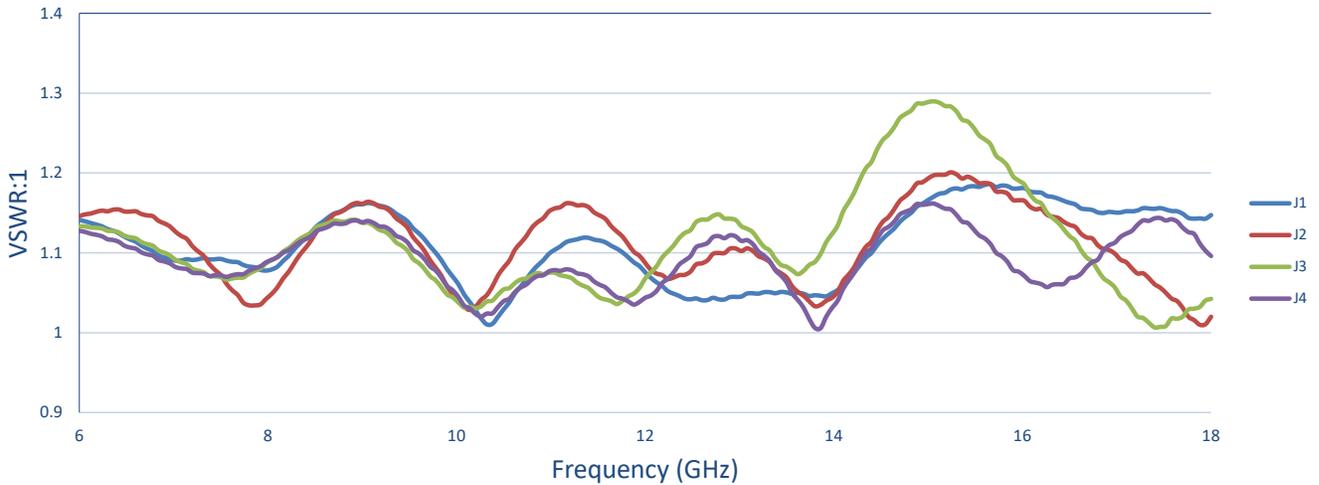
Insertion Loss for +25°



Input VSWR for +25°

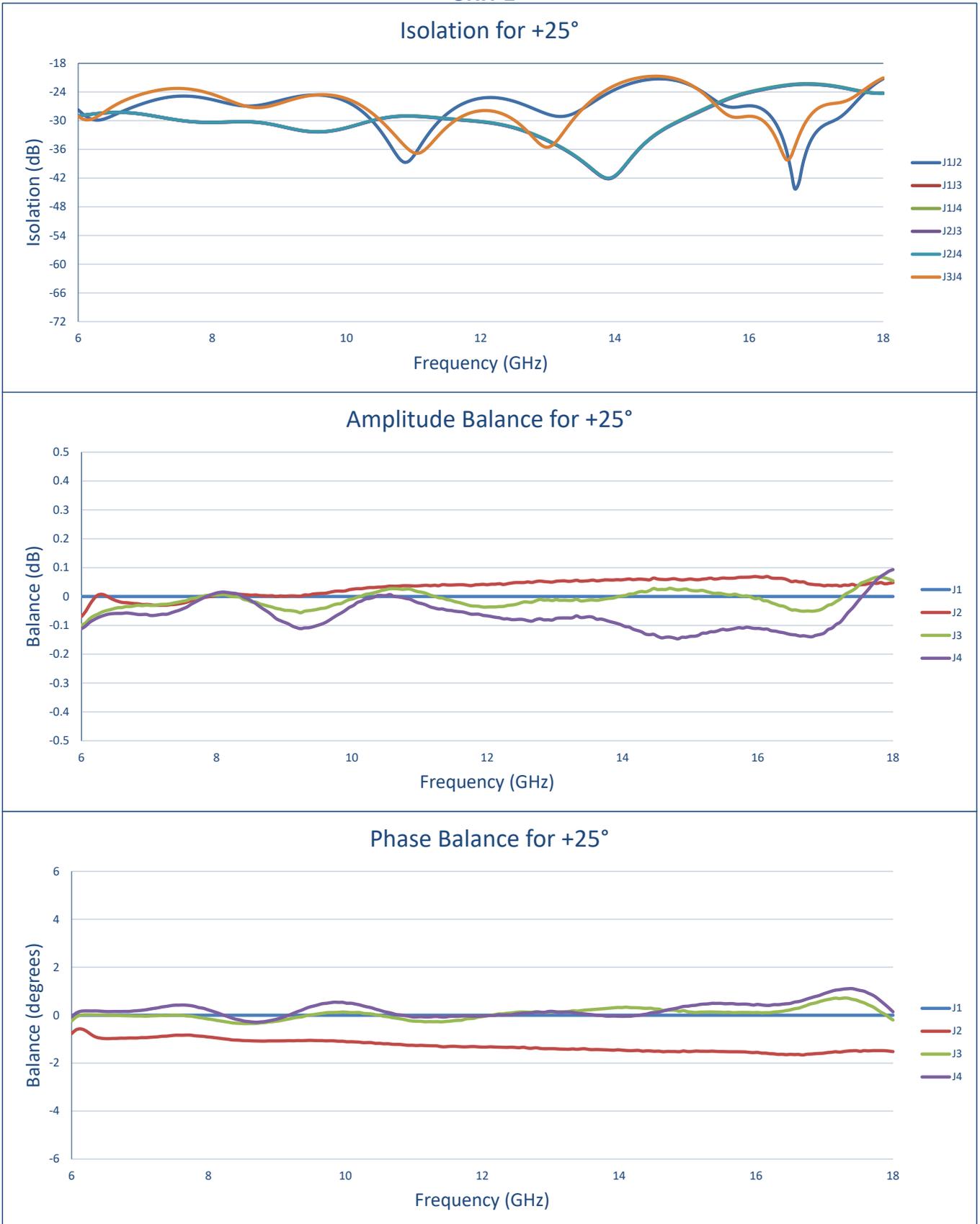


Output VSWR for +25°

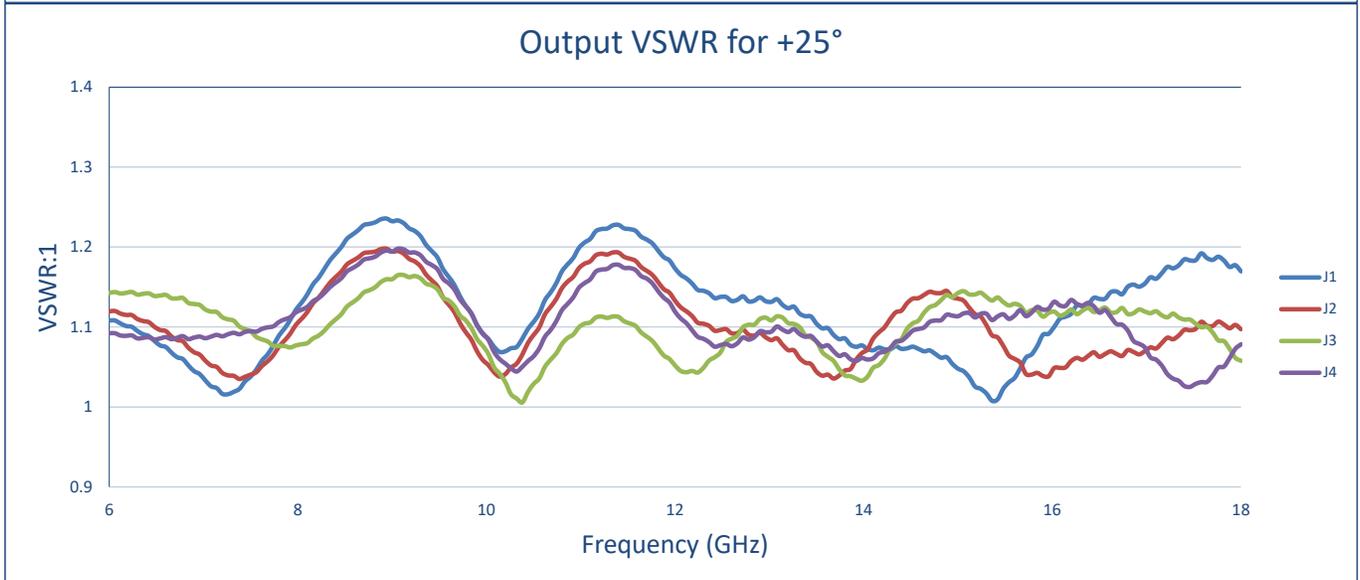
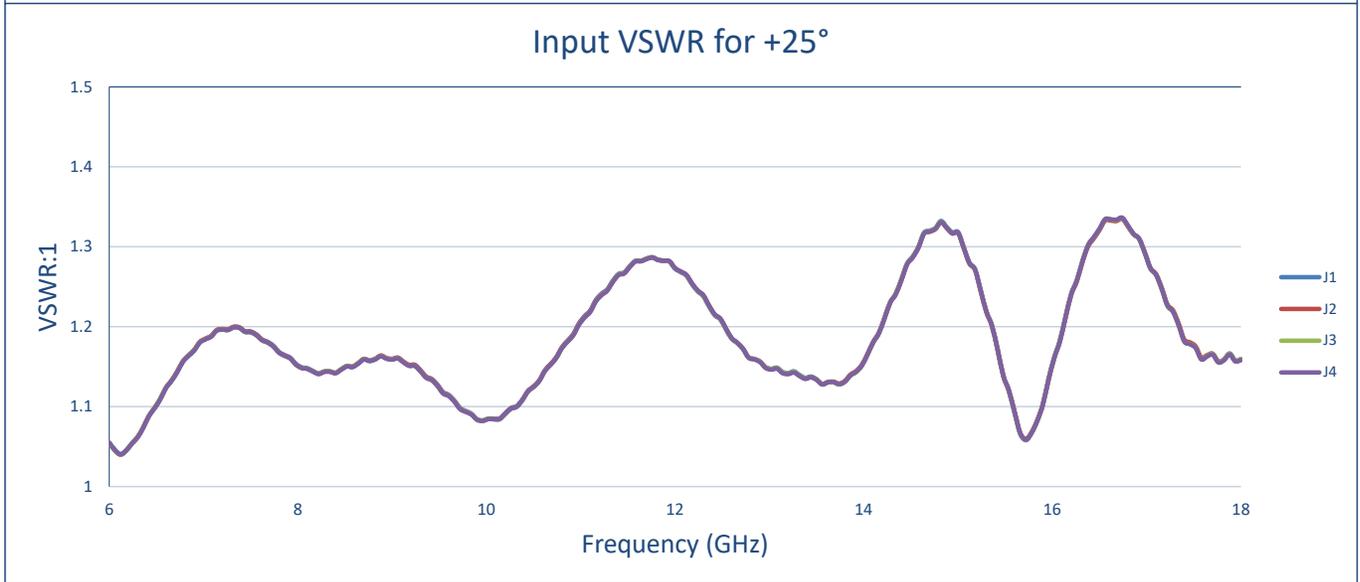
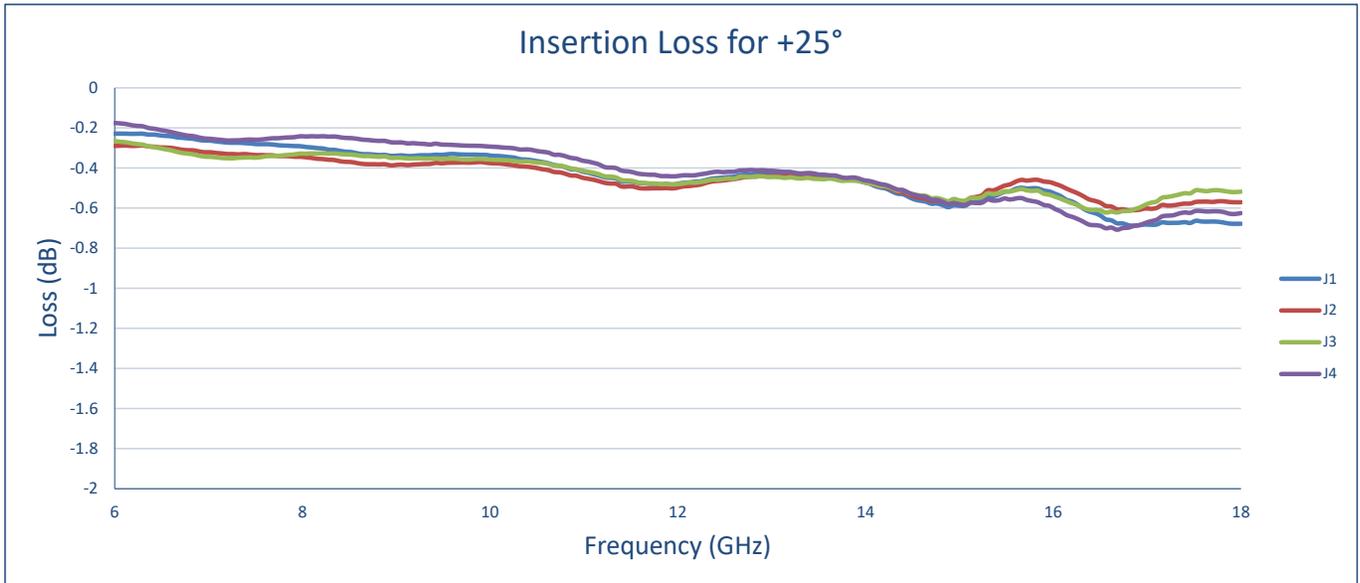


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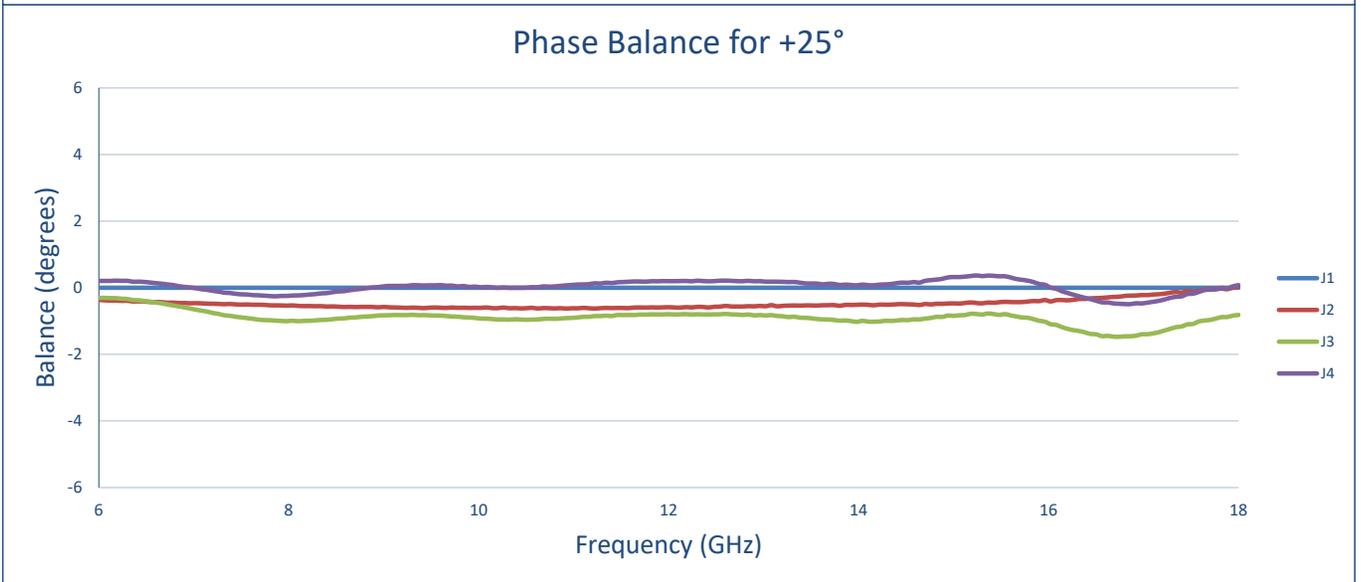
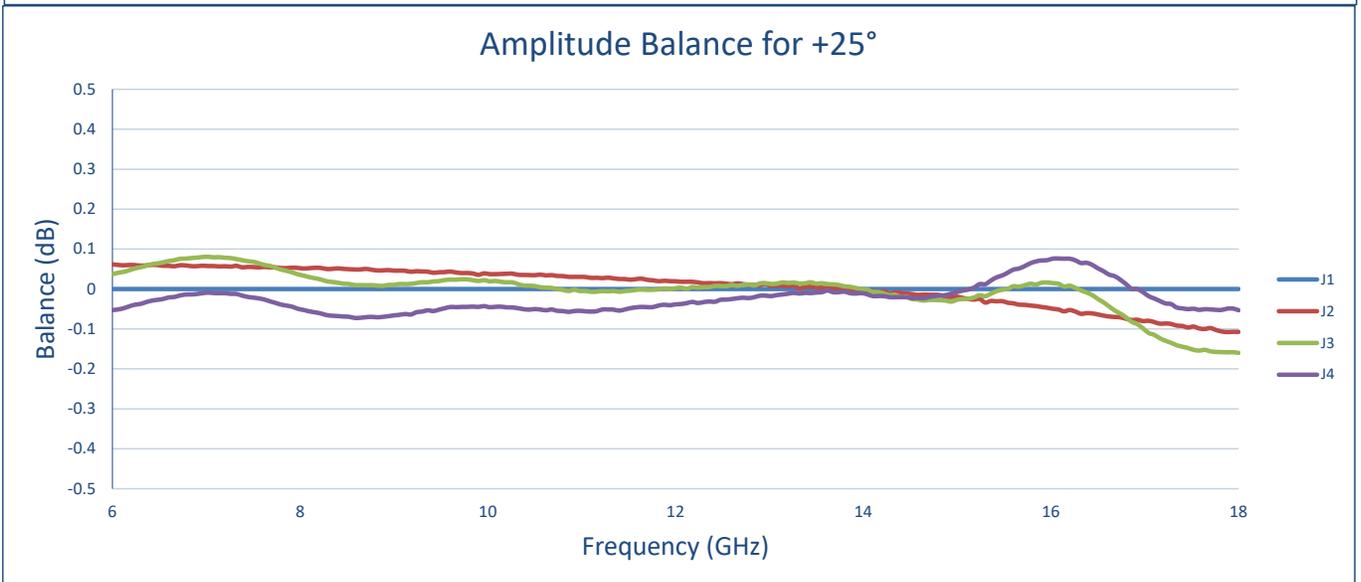
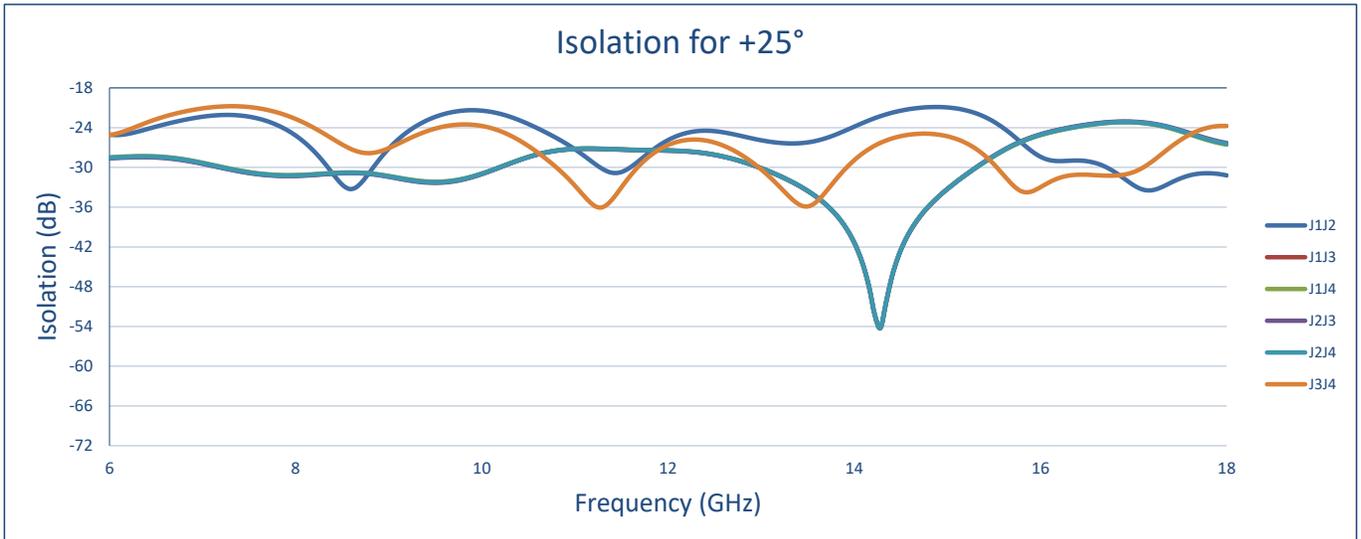
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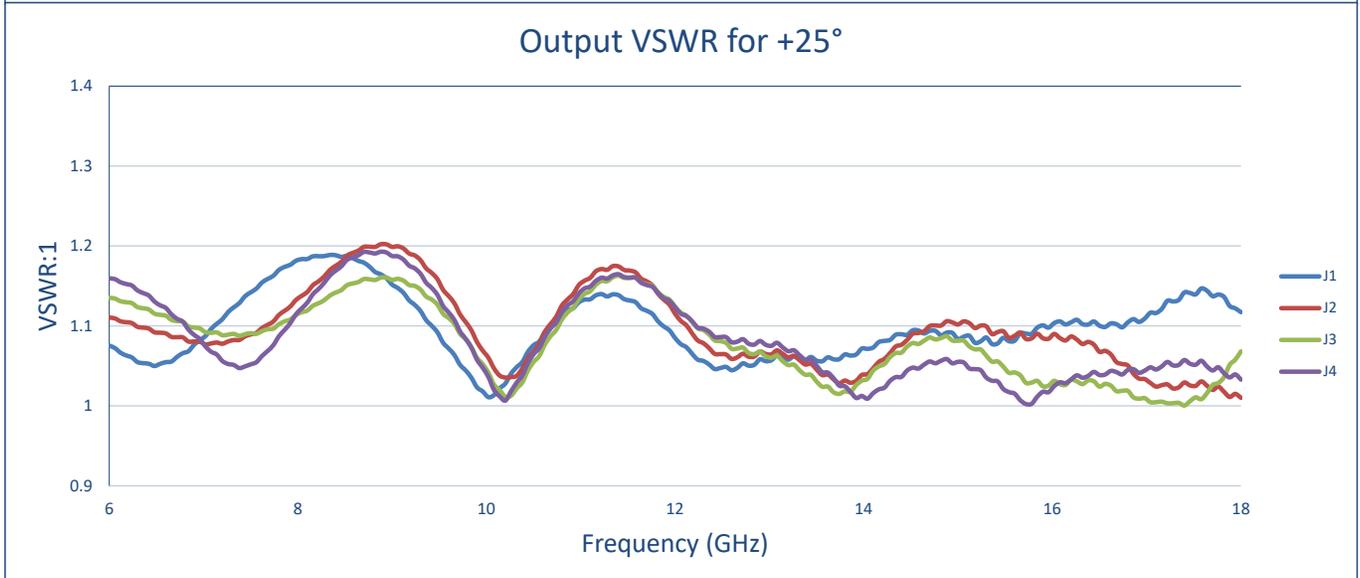
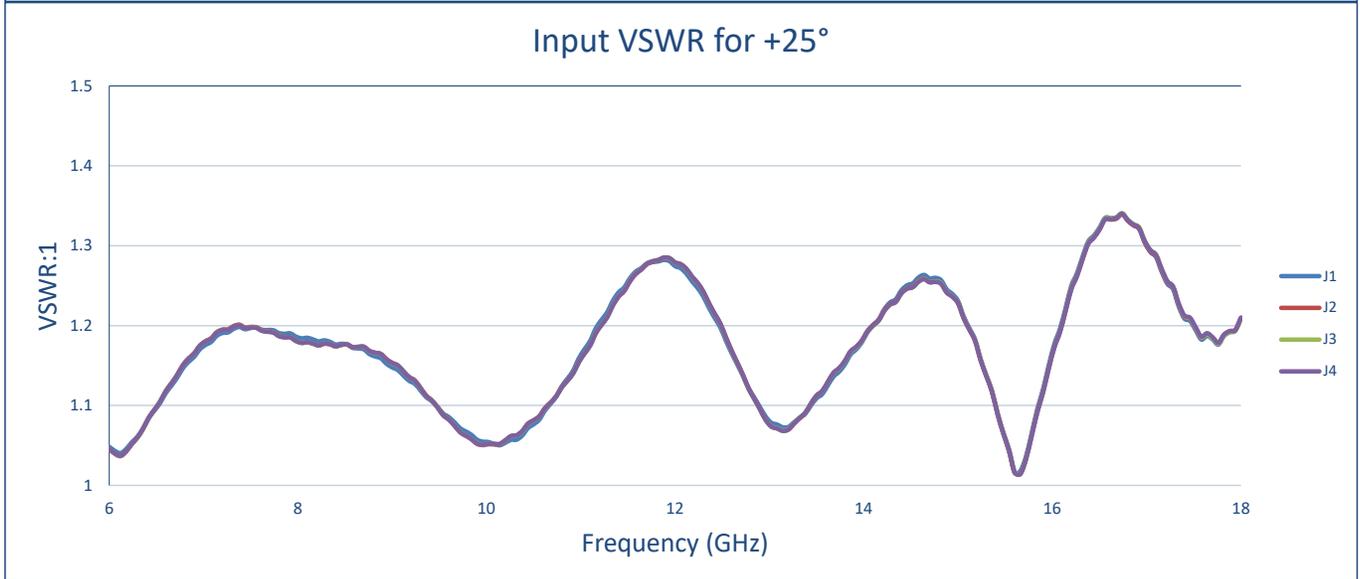
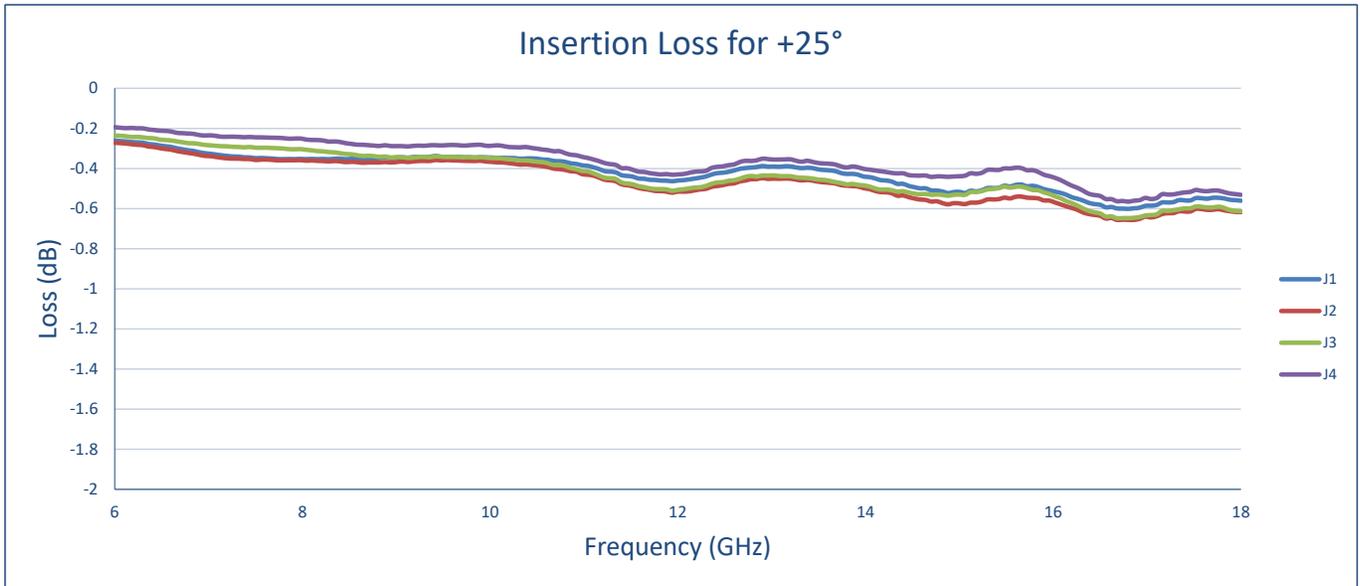
TYPICAL CHARACTERISTICS
ON
APD-4-618-30W-SFF-SET
UNIT 3



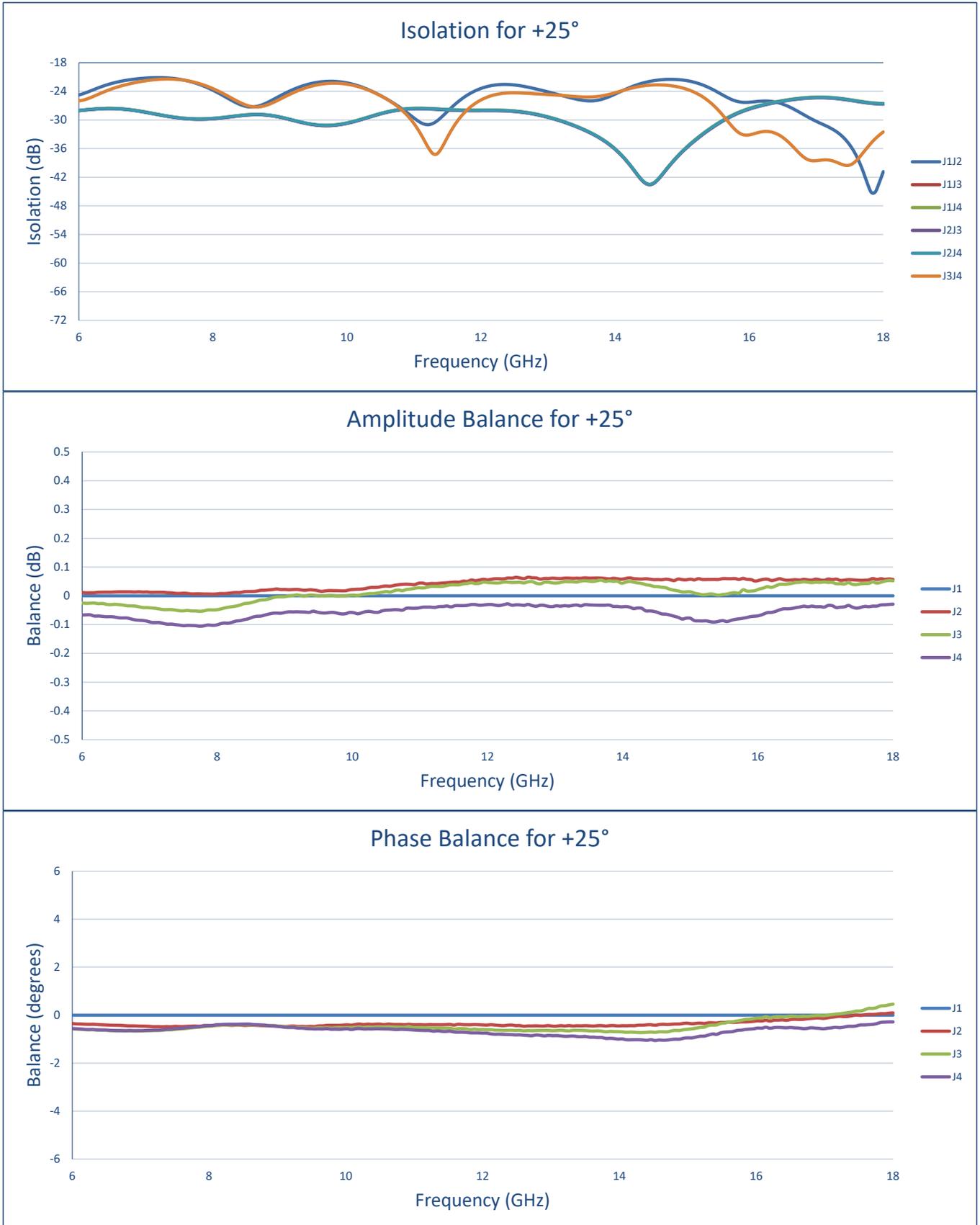
TYPICAL CHARACTERISTICS
ON
APD-4-618-30W-SFF-SET
UNIT 3



TYPICAL CHARACTERISTICS
ON
APD-4-618-30W-SFF-SET
UNIT 4

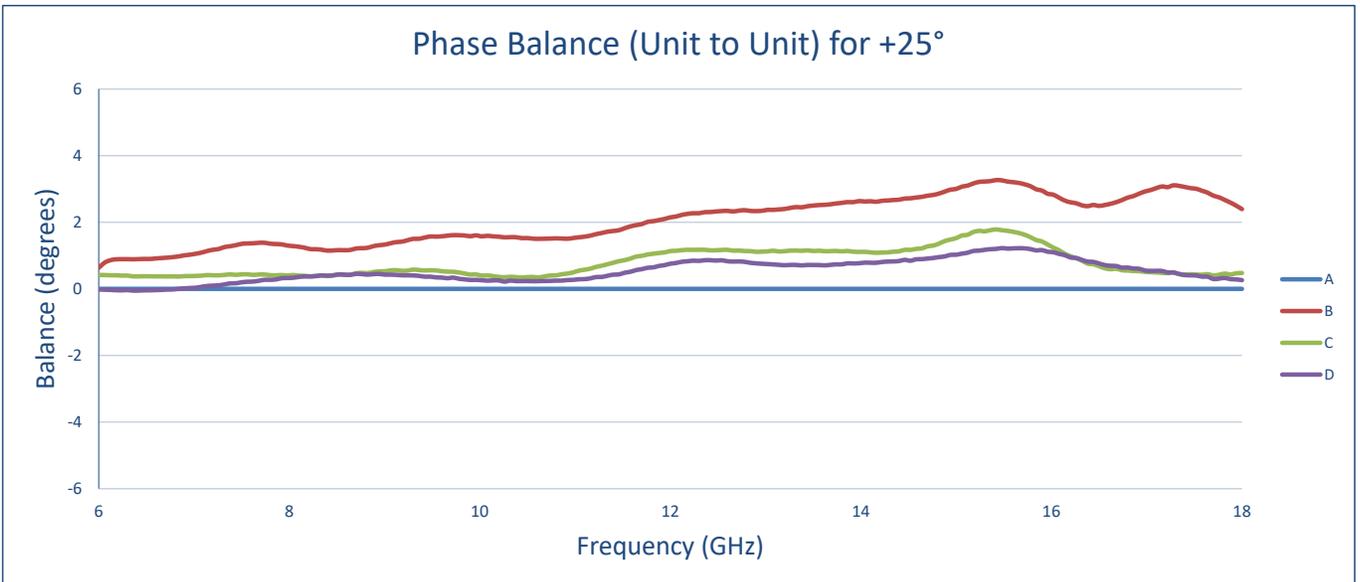
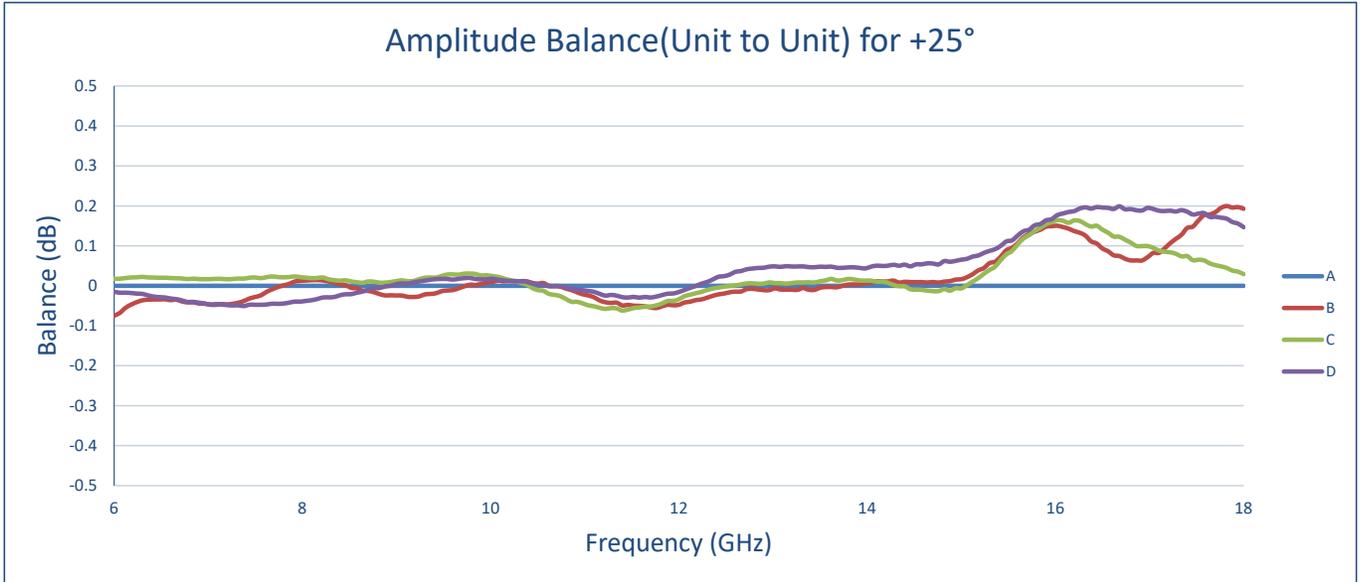


TYPICAL CHARACTERISTICS
ON
APD-4-618-30W-SFF-SET
UNIT 4



TYPICAL CHARACTERISTICS ON APD-4-618-30W-SFF-SET

Unit to Unit Comparison Compared to Unit A



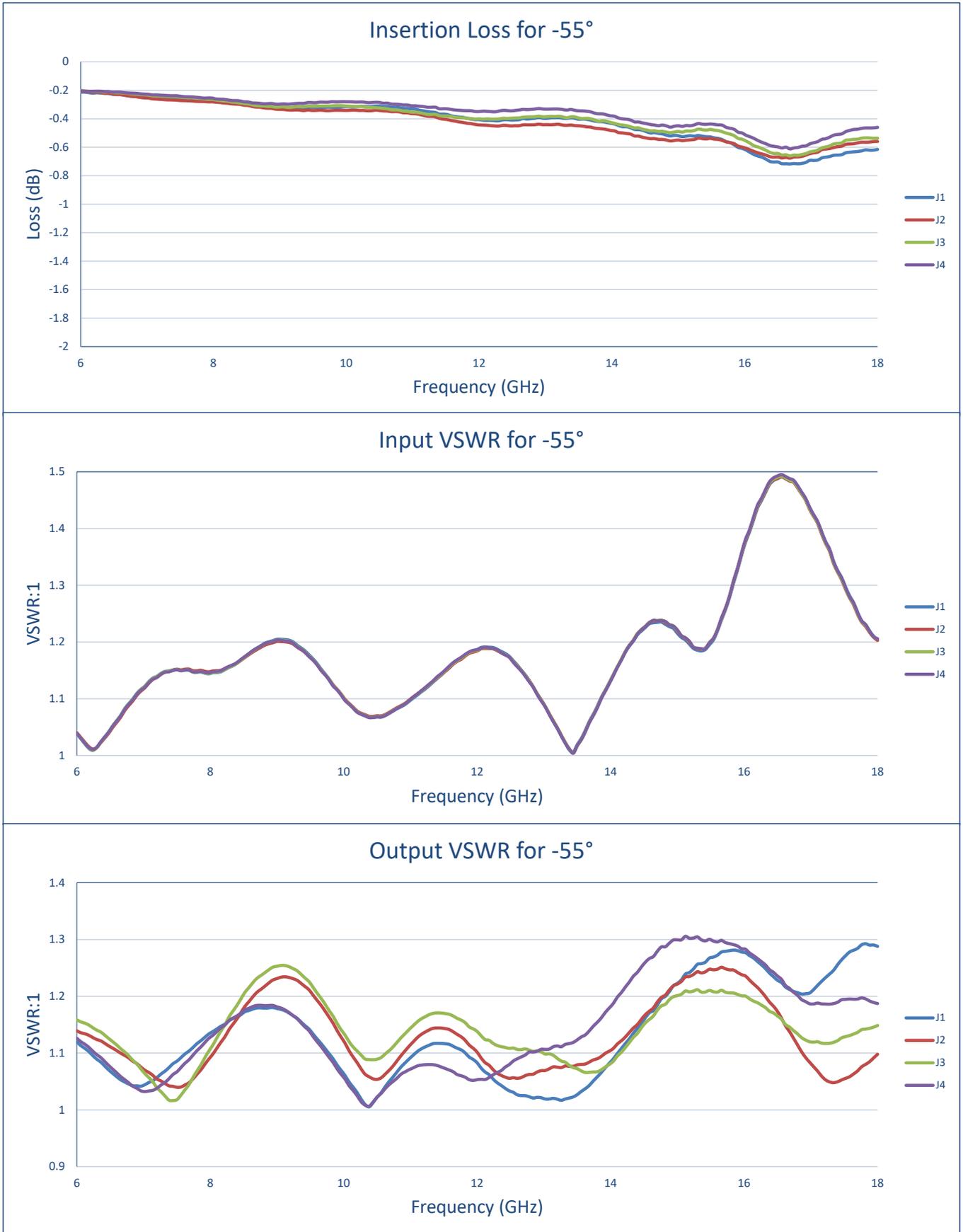
**TYPICAL CHARACTERISTICS
ON
APD-4-618-30W-SFF-SET**

TEST DATA

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	TEST RESULTS FOR -55°			
			1	2	3	4
1	Frequency Range:	6.0 to 18.0 GHz	6.0 to 18.0 GHz	6.0 to 18.0 GHz	6.0 to 18.0 GHz	6.0 to 18.0 GHz
2	Insertion Loss:	1.1 dB Max. (Above 6.02 dB Split)	0.72 dB See Graph	0.72 dB See Graph	0.67 dB See Graph	0.61 dB See Graph
3	VSWR:	Input 1.50:1 Max. Output 1.40:1 Max.	Input 1.5:1 Output 1.31:1 See Graph	Input 1.47:1 Output 1.31:1 See Graph	Input 1.35:1 Output 1.25:1 See Graph	Input 1.36:1 Output 1.21:1 See Graph
4	Isolation:	18 dB Min.	21.1 dB See Graph	20.6 dB See Graph	20.8 dB See Graph	21.3 dB See Graph
5	Amplitude Balance:	±0.3 dB Max.	0.05 dB -0.16 dB See Graph	0.08 dB -0.14 dB See Graph	0.09 dB -0.15 dB See Graph	0.07 dB -0.1 dB See Graph
6	Phase Balance:	±3° Max.	1.88° See Graph	2.54° See Graph	2.2° See Graph	1.44° See Graph
7	Power Handling	Forward: 30 W Max. Reverse: 1 W Max.	Pass			

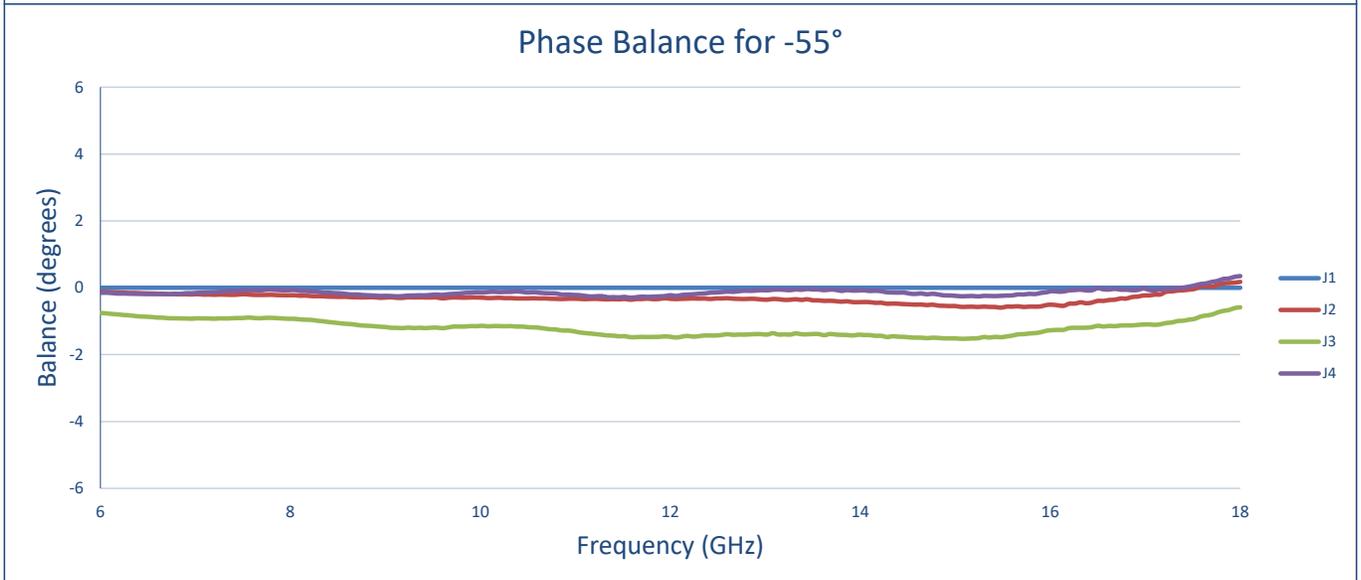
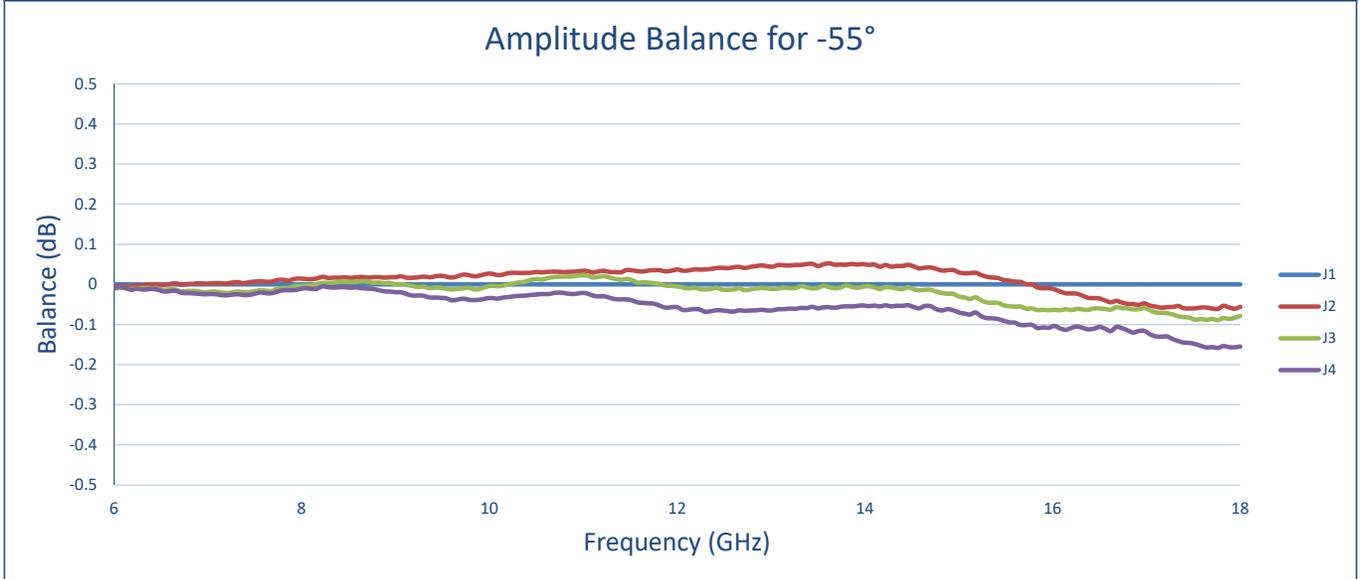
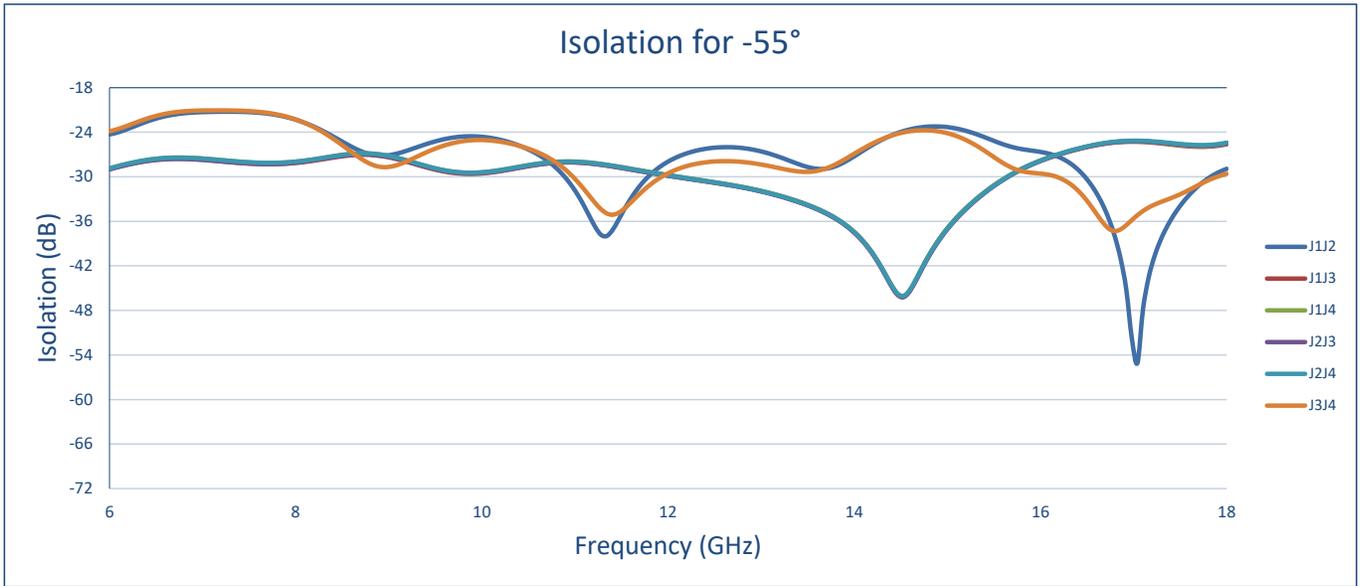
TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	TEST RESULTS			
			A	B	C	D
8	Amplitude Balance Unit to Unit:	± 0.35 dB Max.	0 dB	0.15 dB	0.15 dB	0.19 dB
9	Phase Balance Unit to Unit:	+5° Max.	0°	0.93°	1.76°	2.5°

TYPICAL CHARACTERISTICS
ON
APD-4-618-30W-SFF-SET
UNIT 1

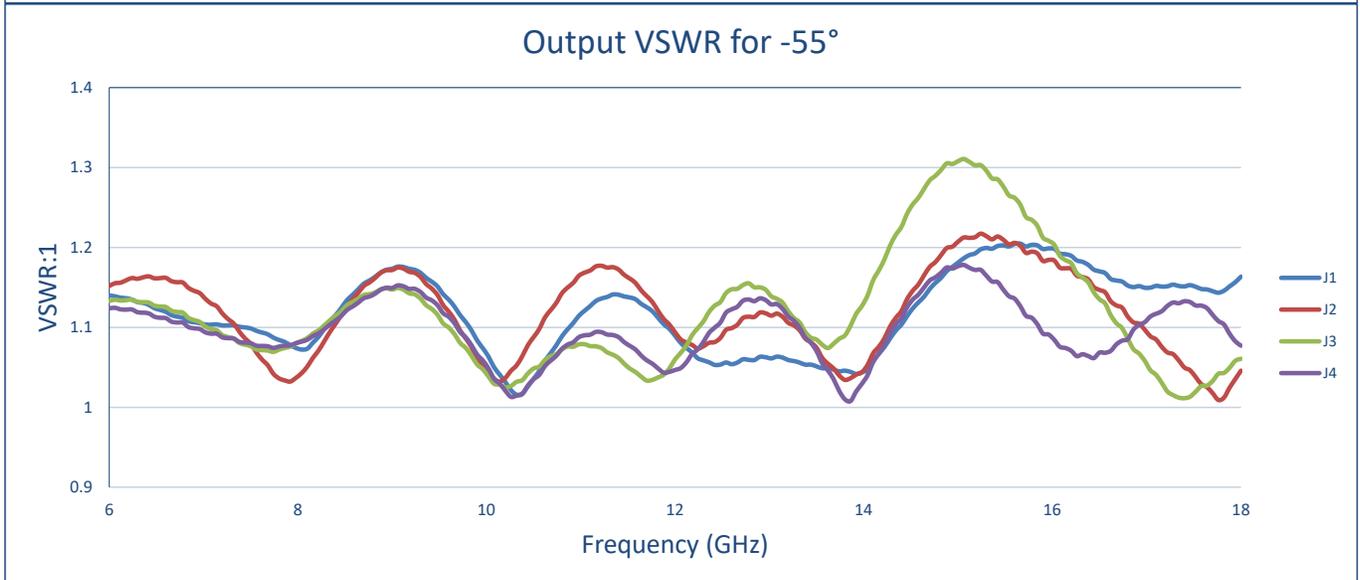
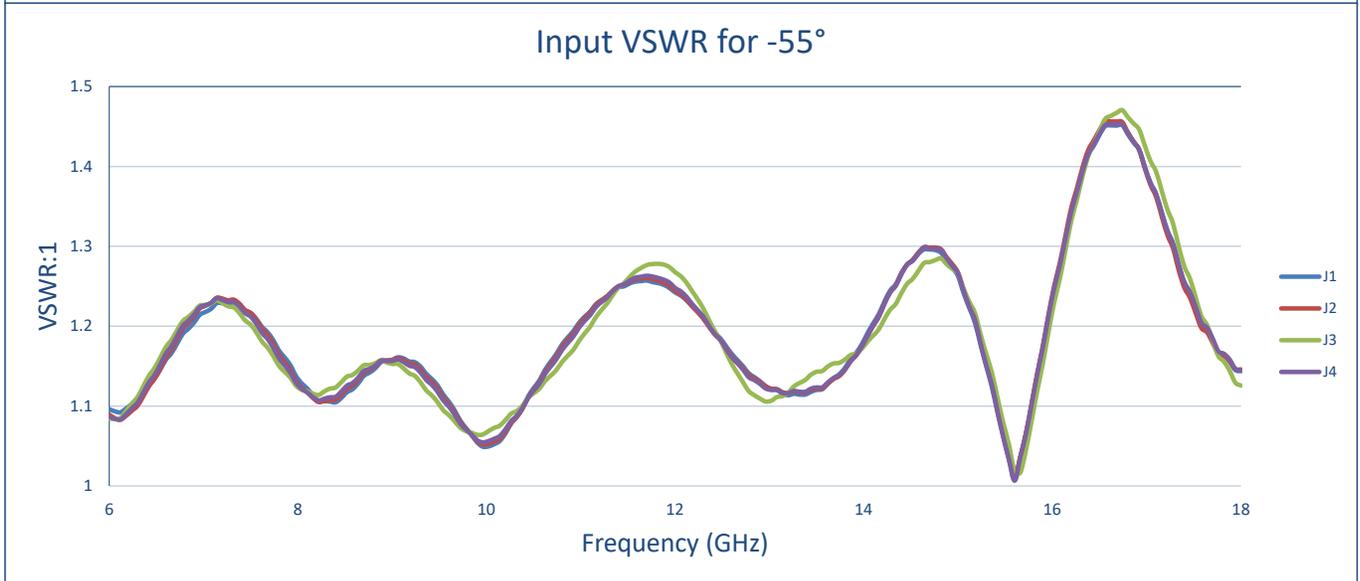
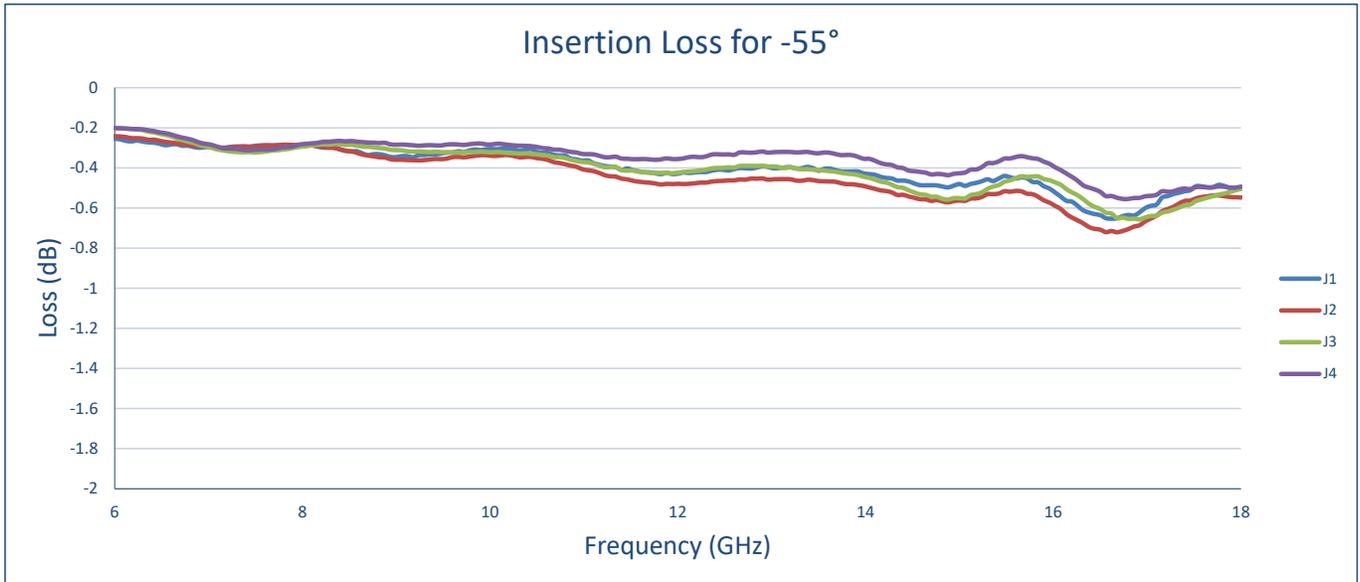


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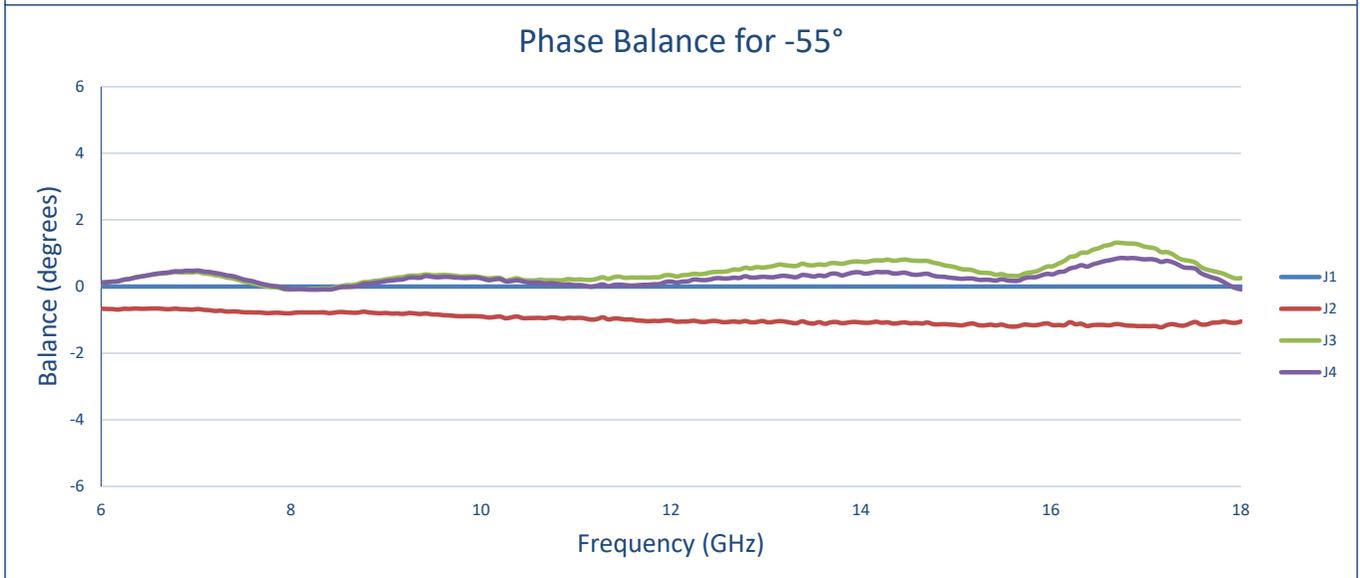
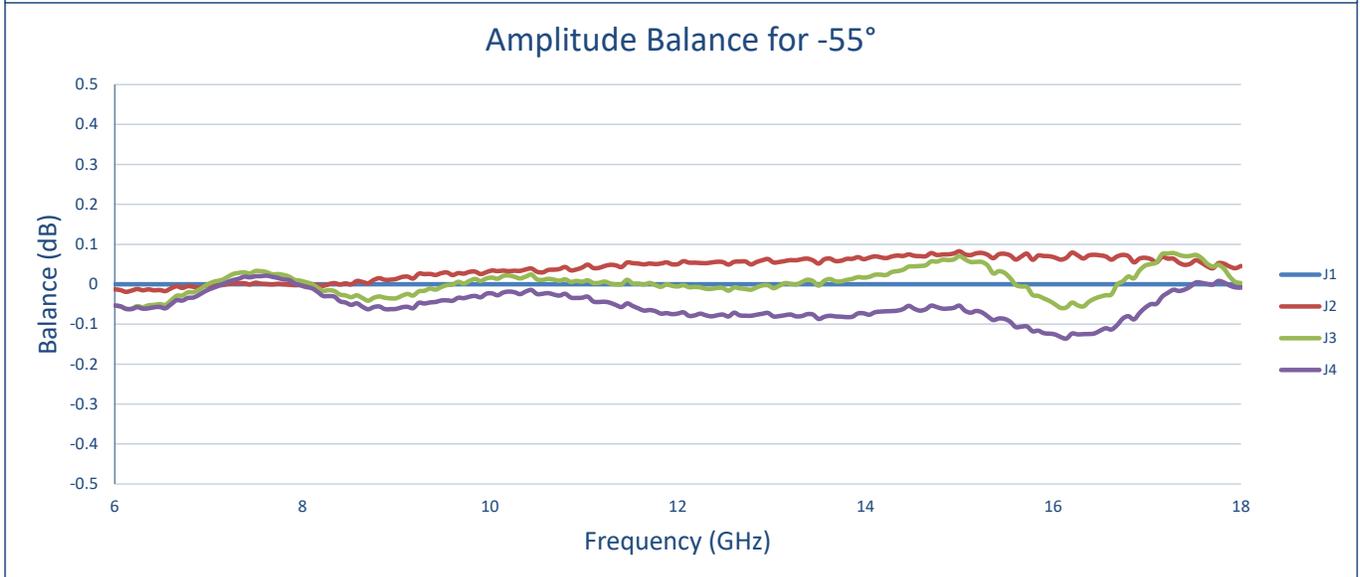
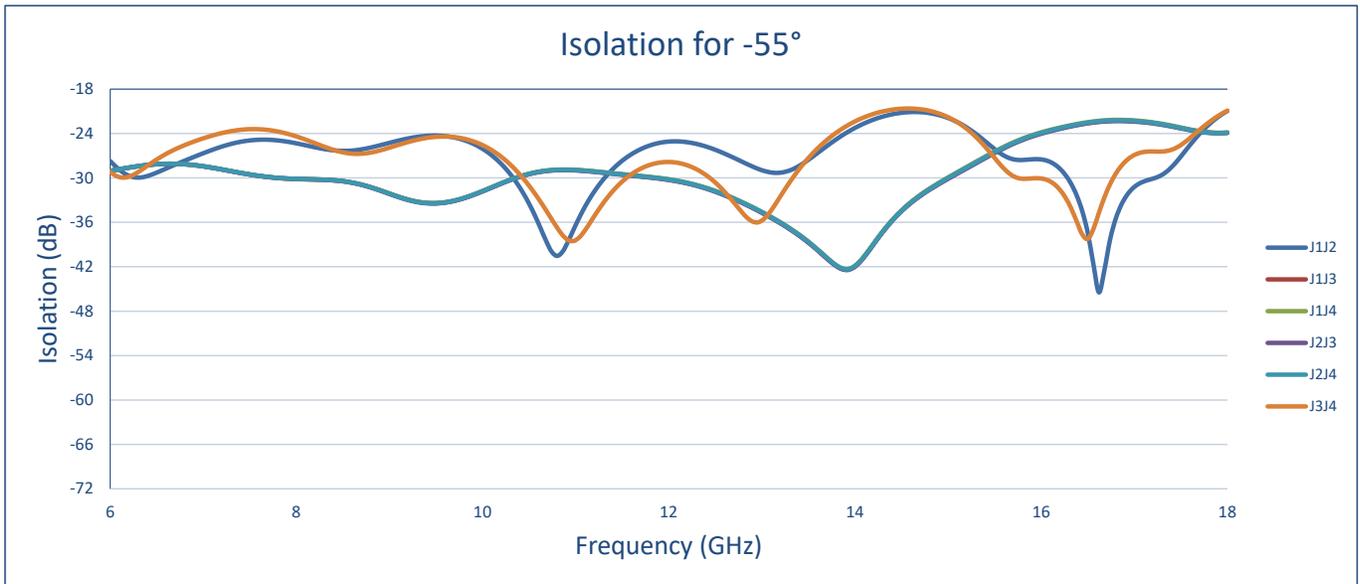
UNIT 1



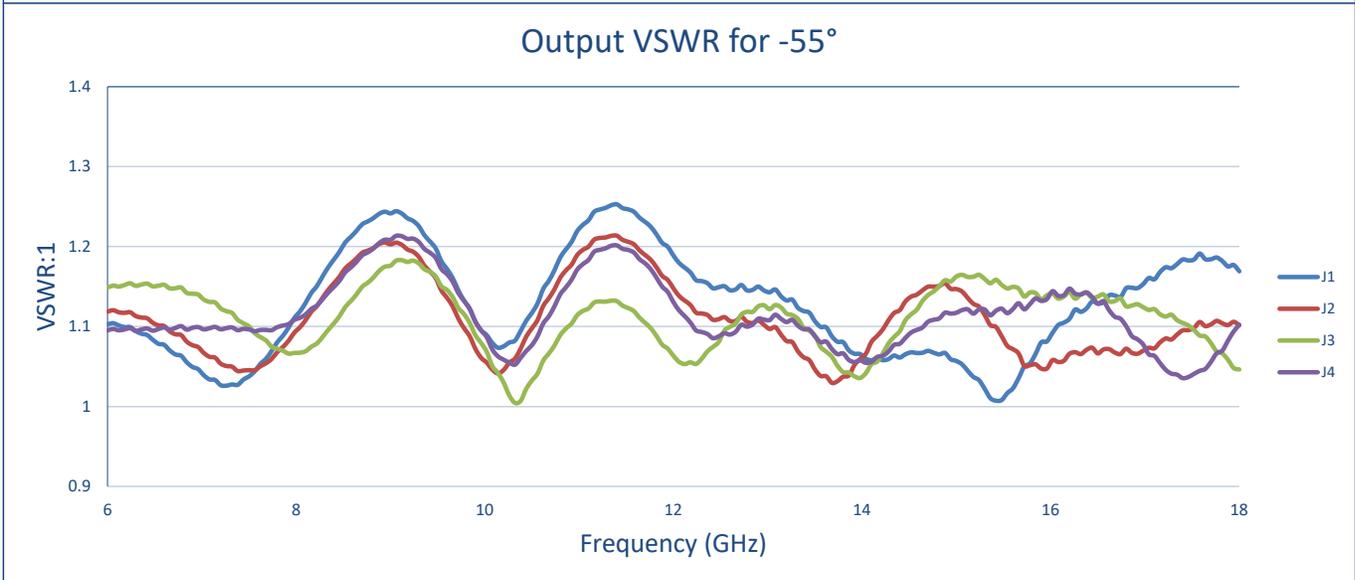
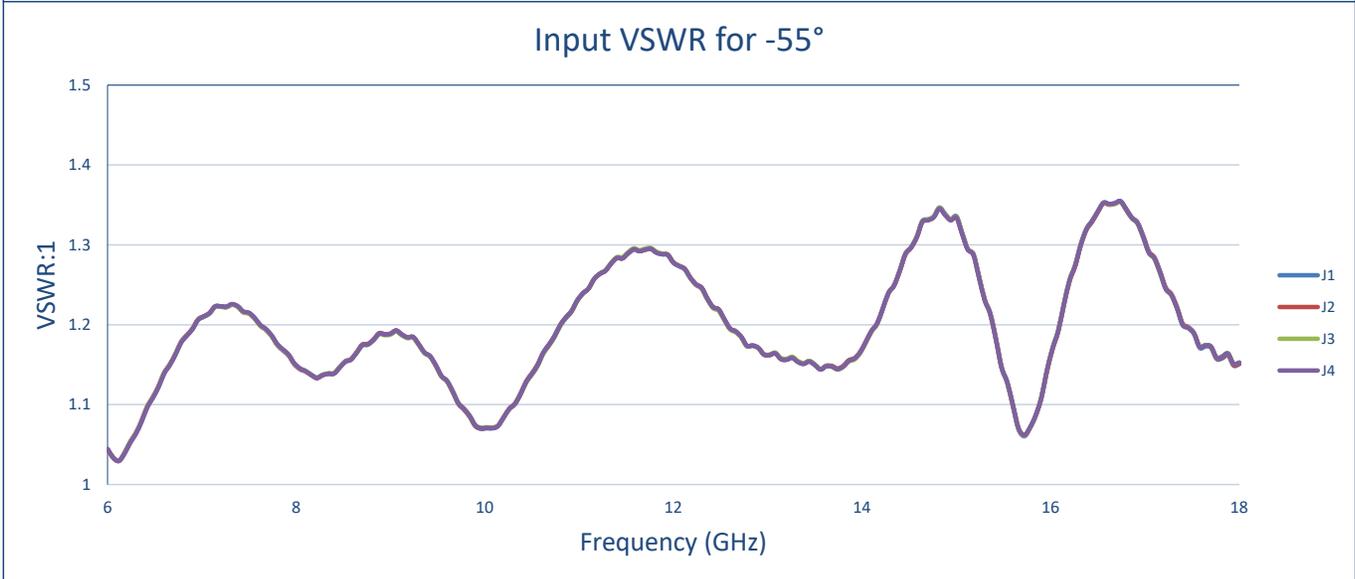
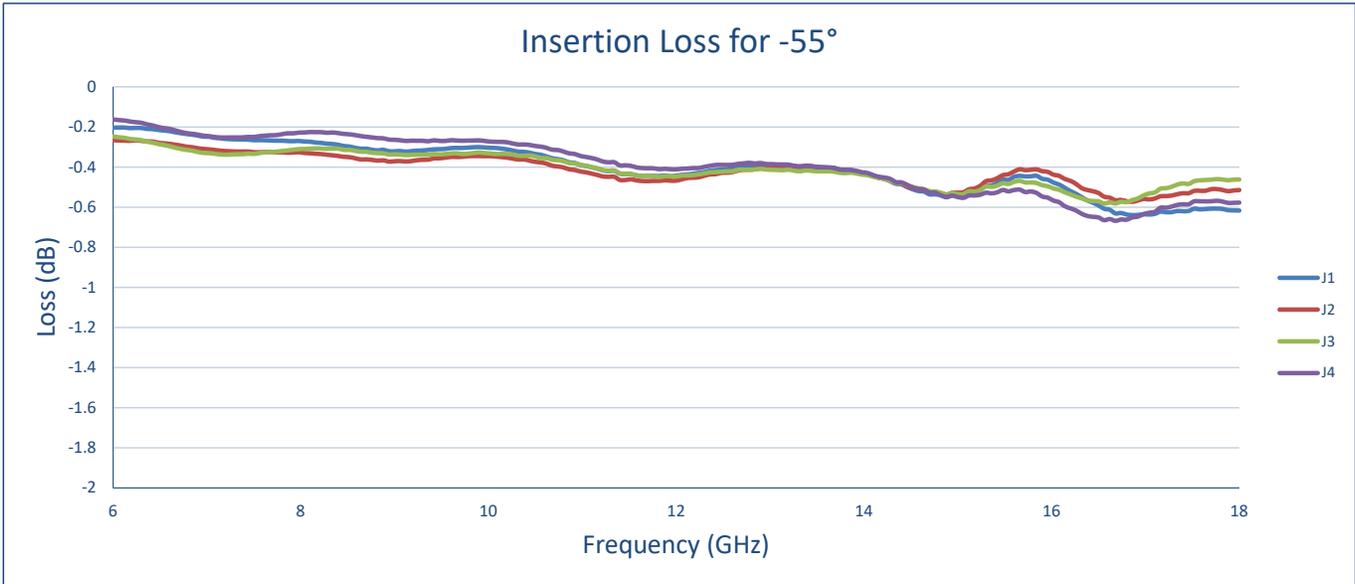
TYPICAL CHARACTERISTICS
ON
APD-4-618-30W-SFF-SET
UNIT 2



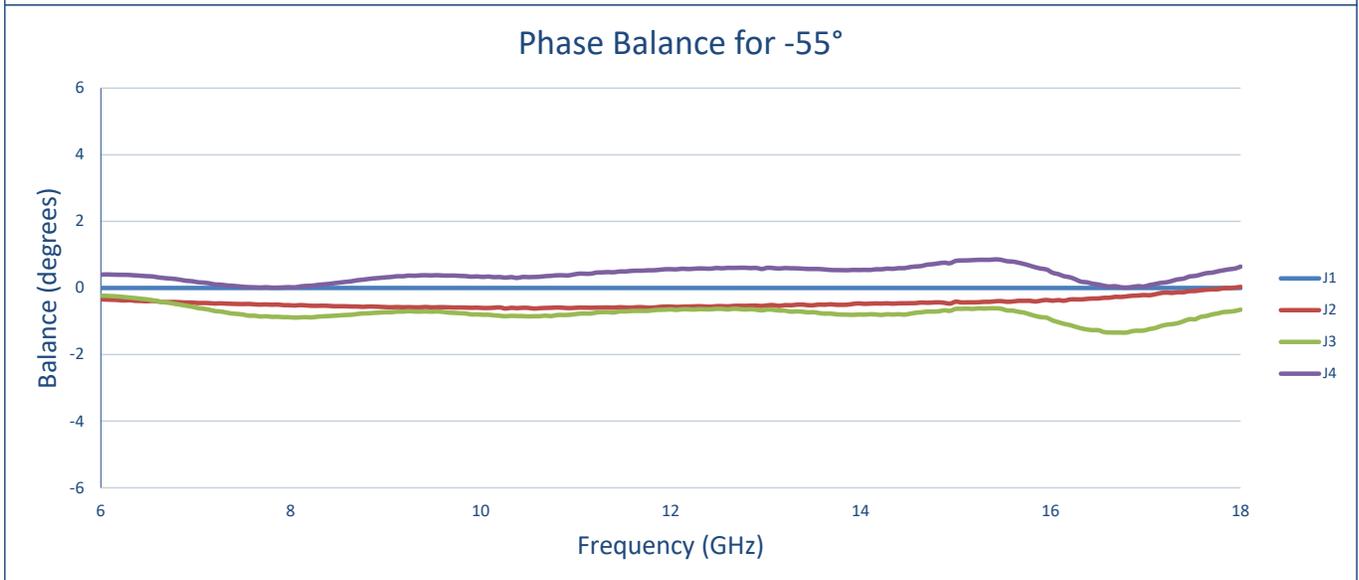
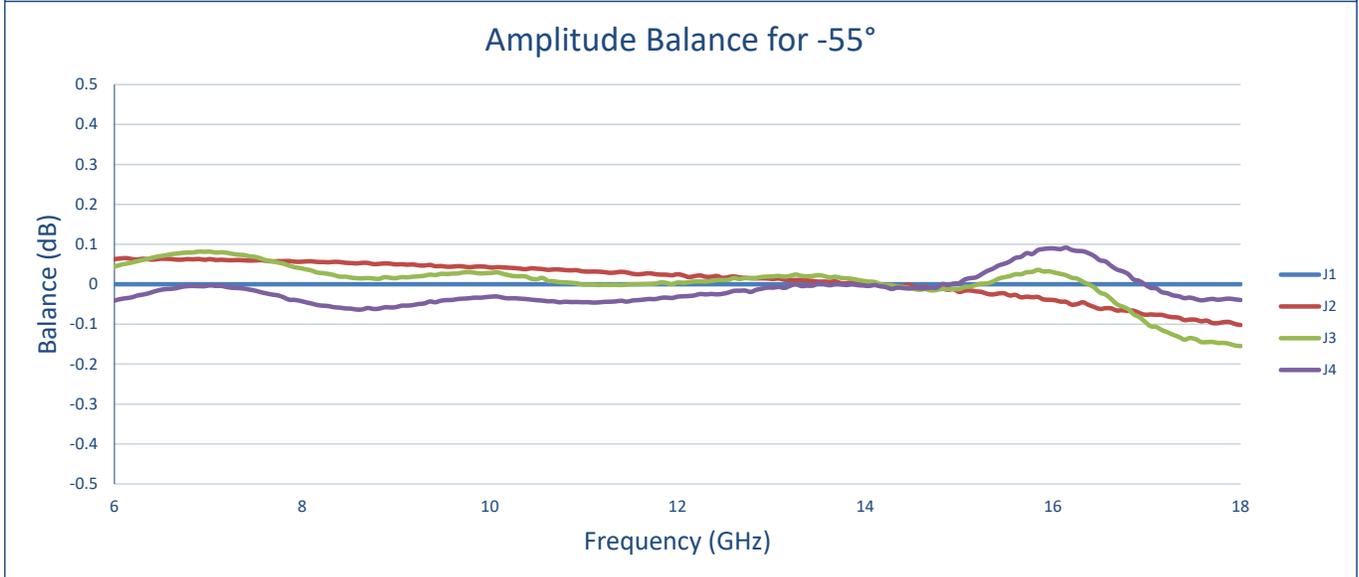
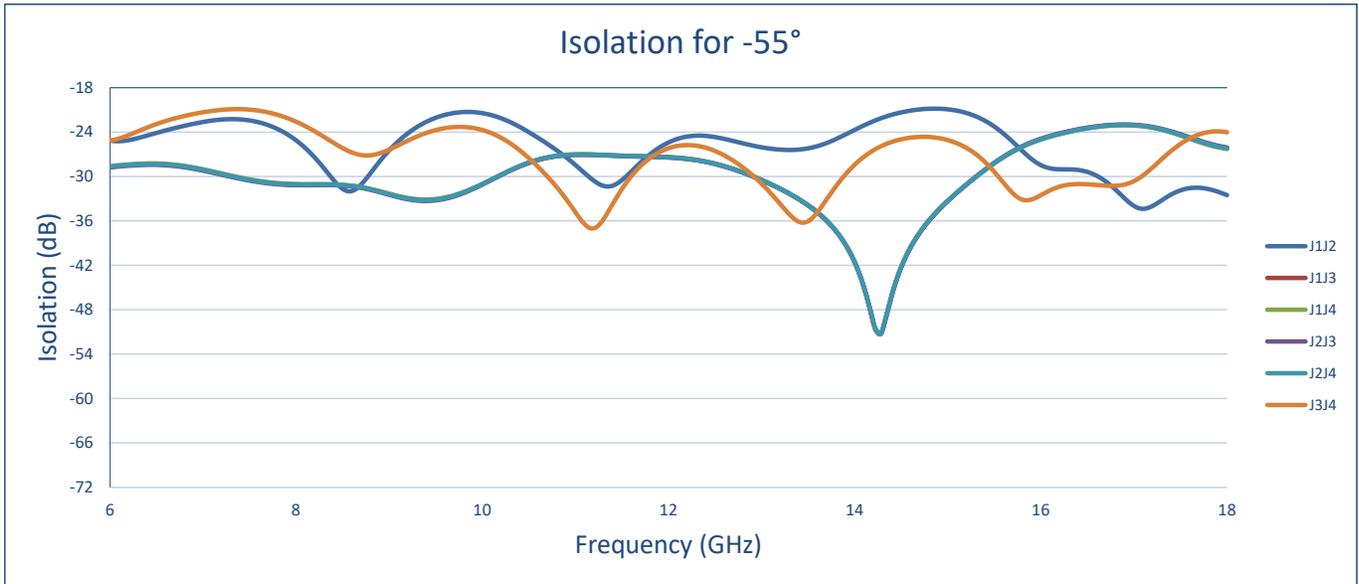
TYPICAL CHARACTERISTICS
ON
APD-4-618-30W-SFF-SET
UNIT 2



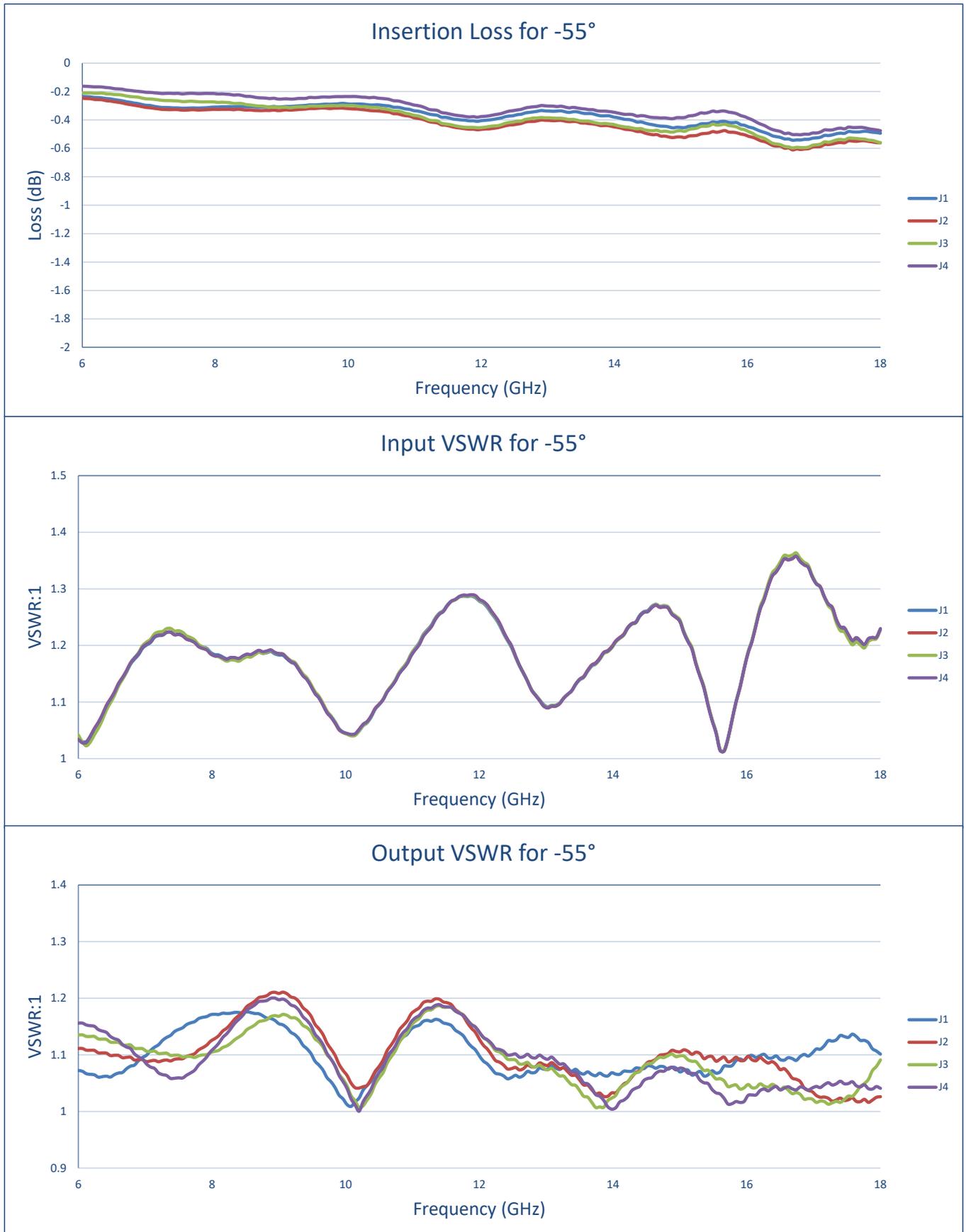
TYPICAL CHARACTERISTICS
ON
APD-4-618-30W-SFF-SET
UNIT 3



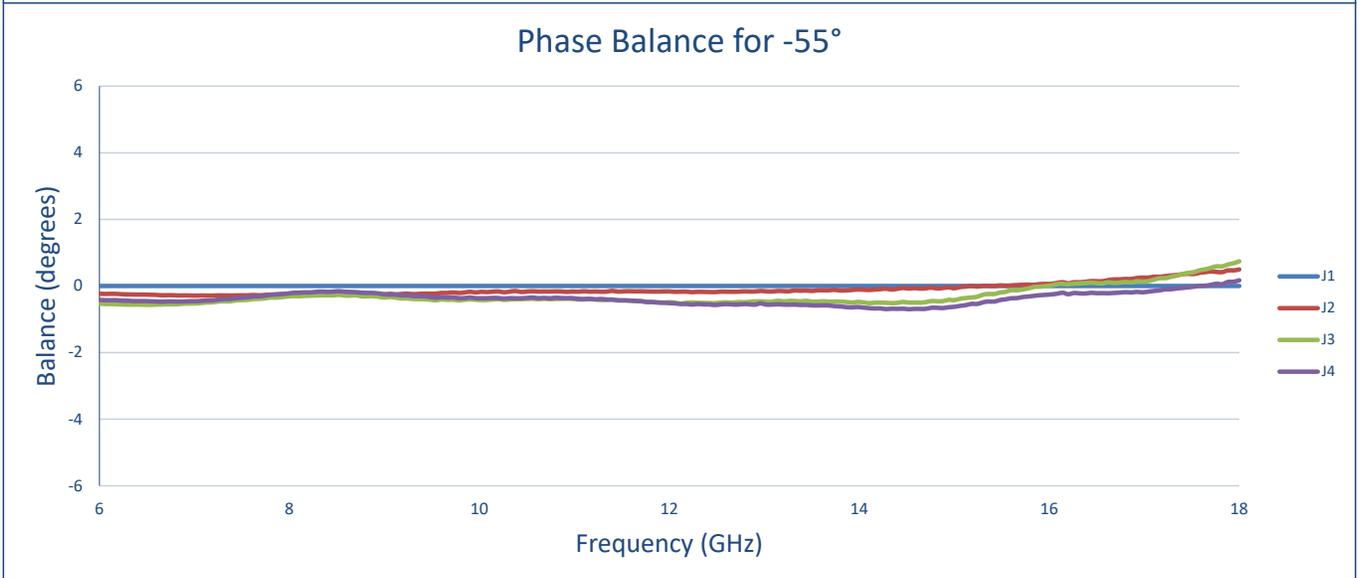
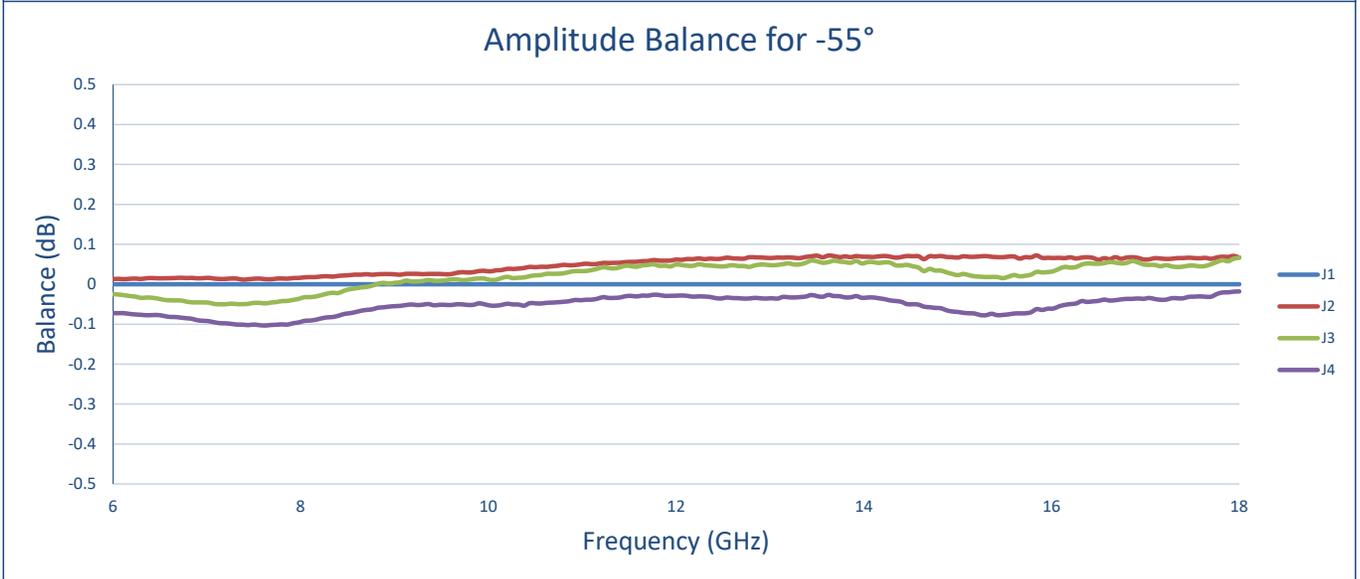
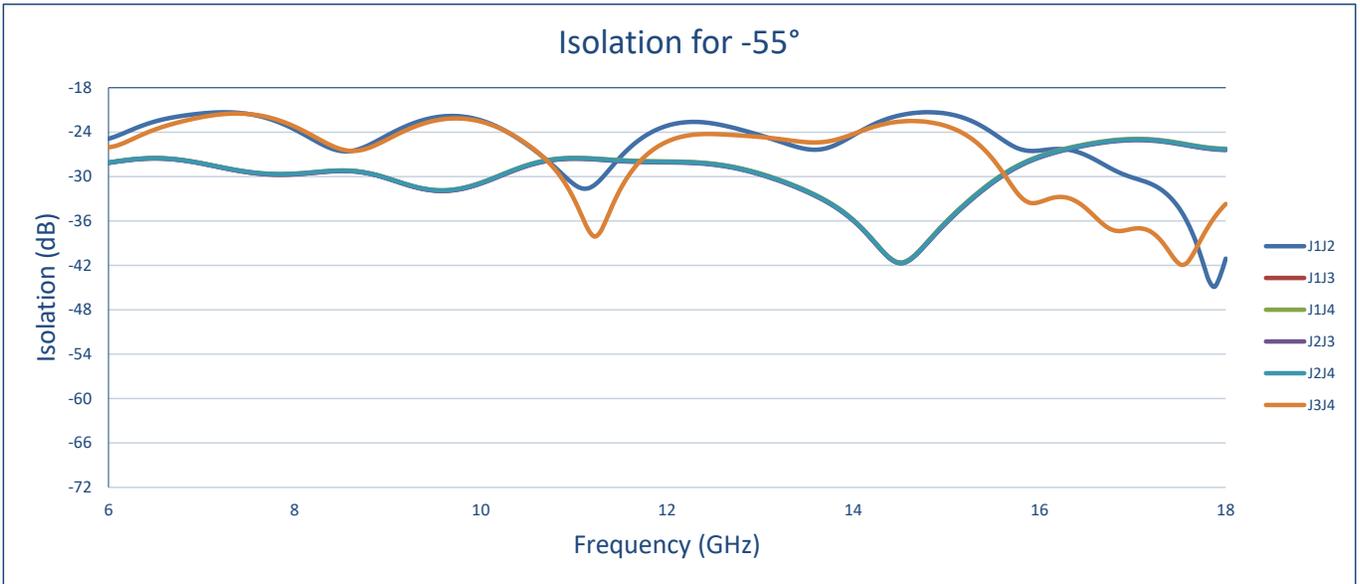
TYPICAL CHARACTERISTICS
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APD-4-618-30W-SFF-SET
UNIT 3



TYPICAL CHARACTERISTICS
ON
APD-4-618-30W-SFF-SET
UNIT 4

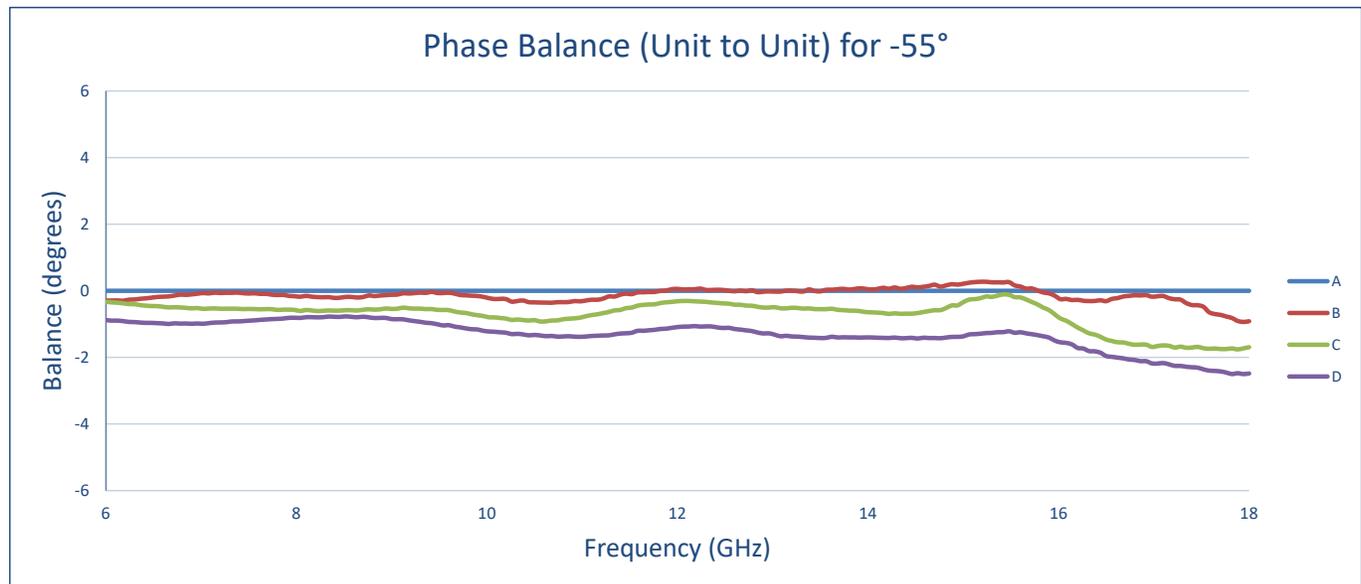
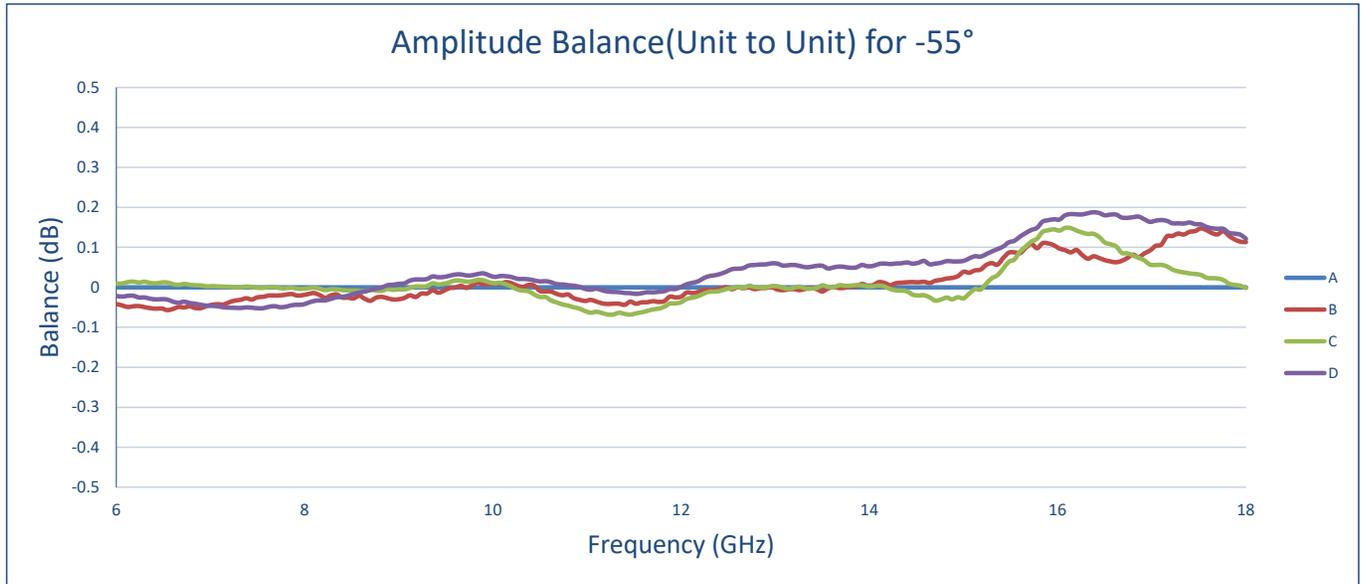


TYPICAL CHARACTERISTICS
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UNIT 4



TYPICAL CHARACTERISTICS ON APD-4-618-30W-SFF-SET

Unit to Unit Comparison Compared to Unit A



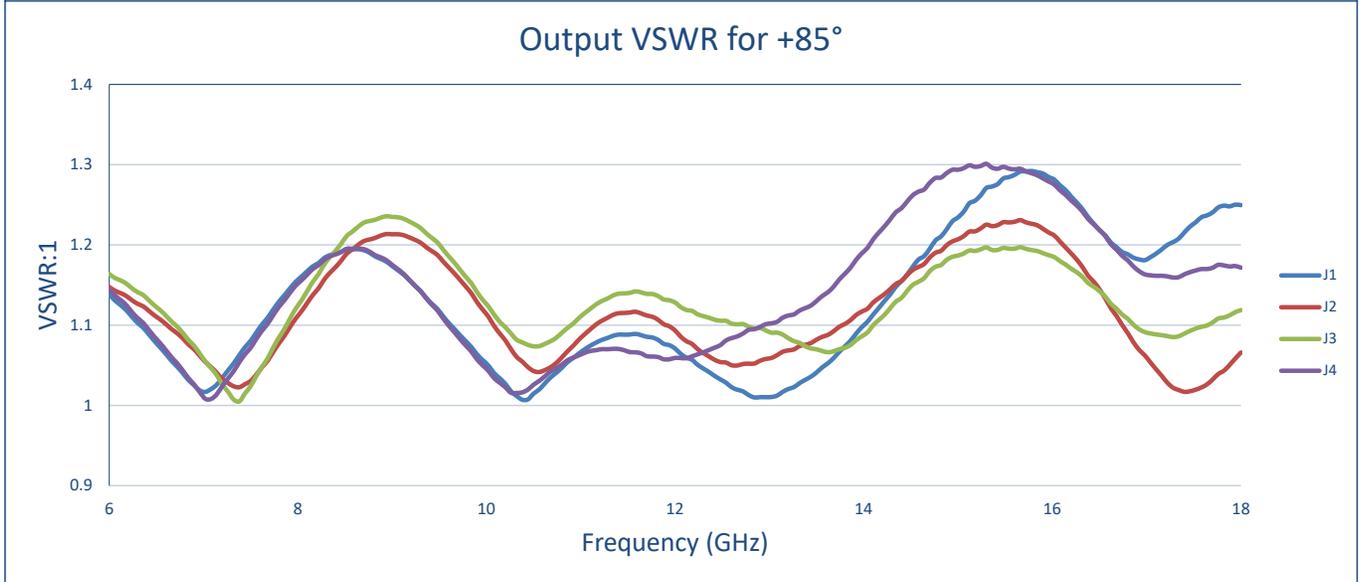
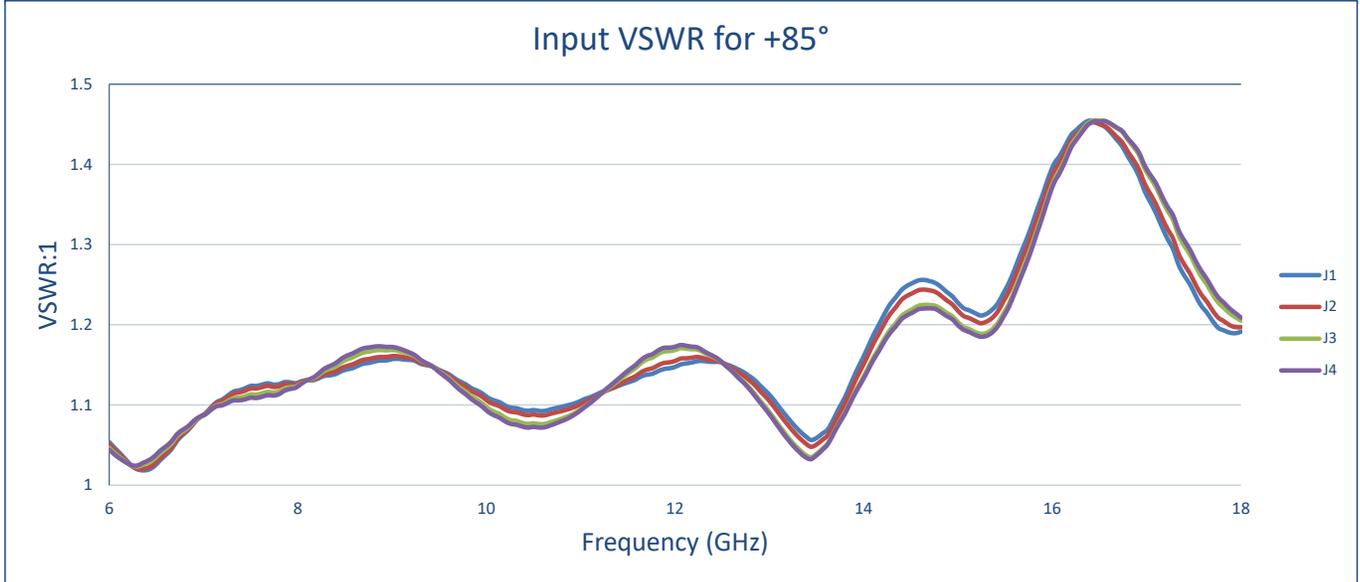
**TYPICAL CHARACTERISTICS
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APD-4-618-30W-SFF-SET**

TEST DATA

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	TEST RESULTS FOR +85°			
			1	2	3	4
1	Frequency Range:	6.0 to 18.0 GHz	6.0 to 18.0 GHz	6.0 to 18.0 GHz	6.0 to 18.0 GHz	6.0 to 18.0 GHz
2	Insertion Loss:	1.1 dB Max. (Above 6.02 dB Split)	0.83 dB See Graph	0.8 dB See Graph	0.75 dB See Graph	0.7 dB See Graph
3	VSWR:	Input 1.50:1 Max. Output 1.40:1 Max.	Input 1.45:1 Output 1.3:1 See Graph	Input 1.4:1 Output 1.31:1 See Graph	Input 1.33:1 Output 1.23:1 See Graph	Input 1.32:1 Output 1.2:1 See Graph
4	Isolation:	18 dB Min.	20.6 dB See Graph	20.8 dB See Graph	20.6 dB See Graph	20.9 dB See Graph
5	Amplitude Balance:	±0.3 dB Max.	0.04 dB -0.18 dB See Graph	0.06 dB -0.14 dB See Graph	0.08 dB -0.18 dB See Graph	0.07 dB -0.1 dB See Graph
6	Phase Balance:	±3° Max.	1.67° See Graph	2.23° See Graph	1.77° See Graph	1.53° See Graph
7	Power Handling	Forward: 30 W Max. Reverse: 1 W Max.	Pass			

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	TEST RESULTS			
			A	B	C	D
8	Amplitude Balance Unit to Unit:	± 0.35 dB Max.	0 dB	0.14 dB	0.15 dB	0.21 dB
9	Phase Balance Unit to Unit:	+5° Max.	0°	0.91°	1.19°	2.1°

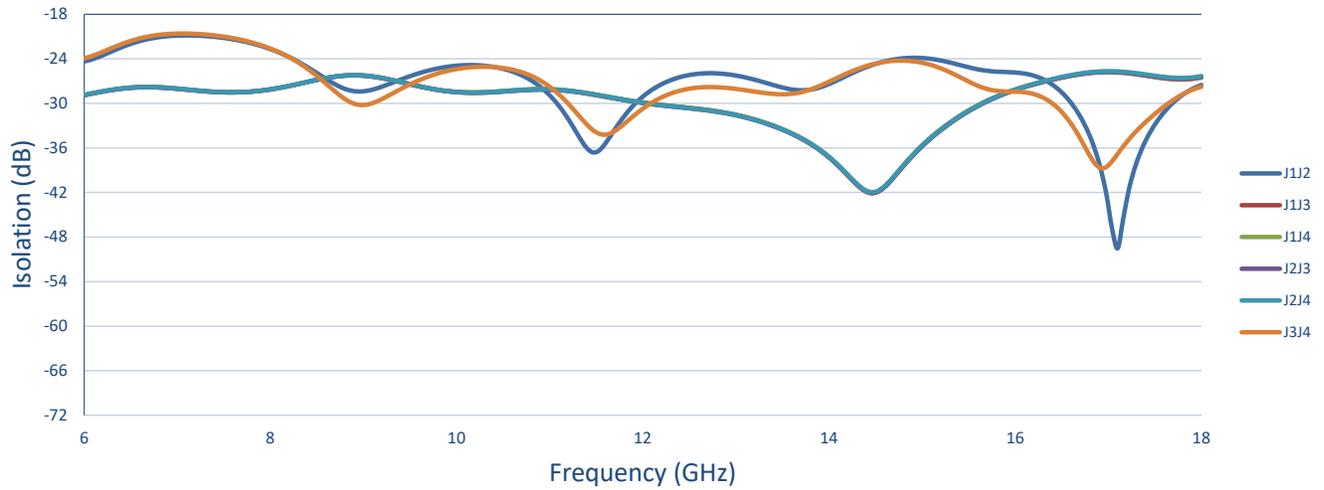
TYPICAL CHARACTERISTICS
ON
APD-4-618-30W-SFF-SET
UNIT 1



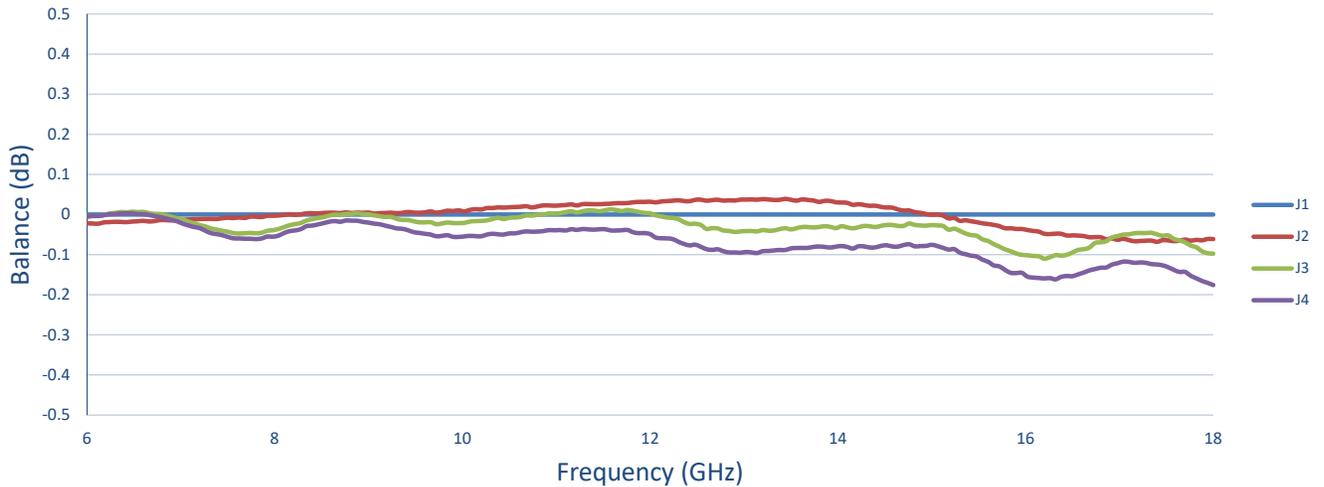
TYPICAL CHARACTERISTICS ON APD-4-618-30W-SFF-SET

UNIT 1

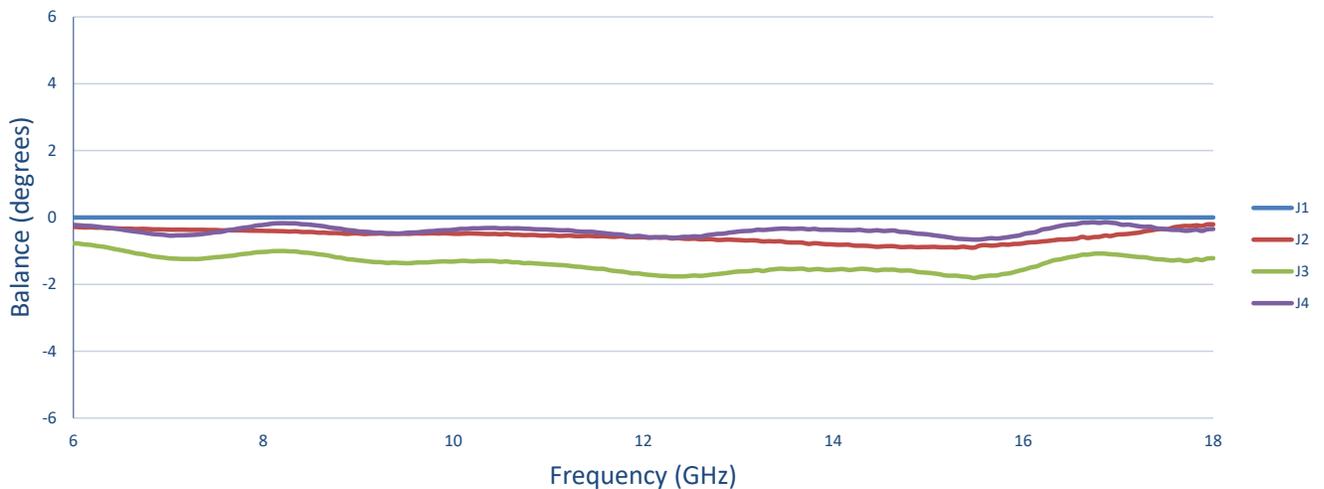
Isolation for +85°



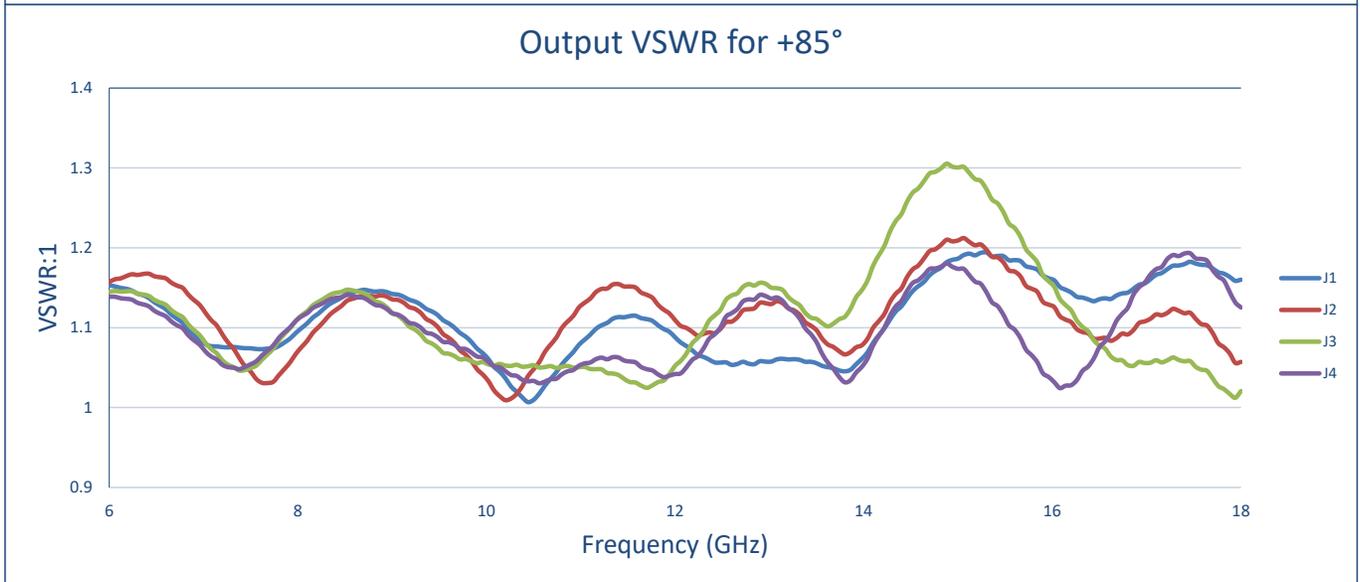
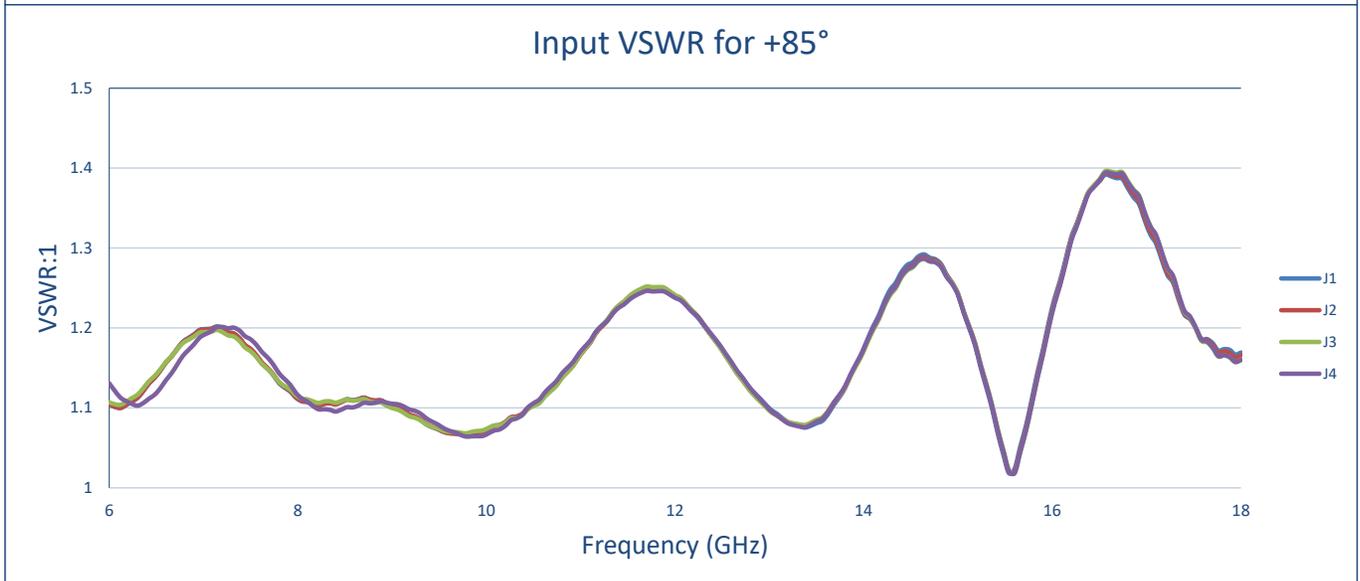
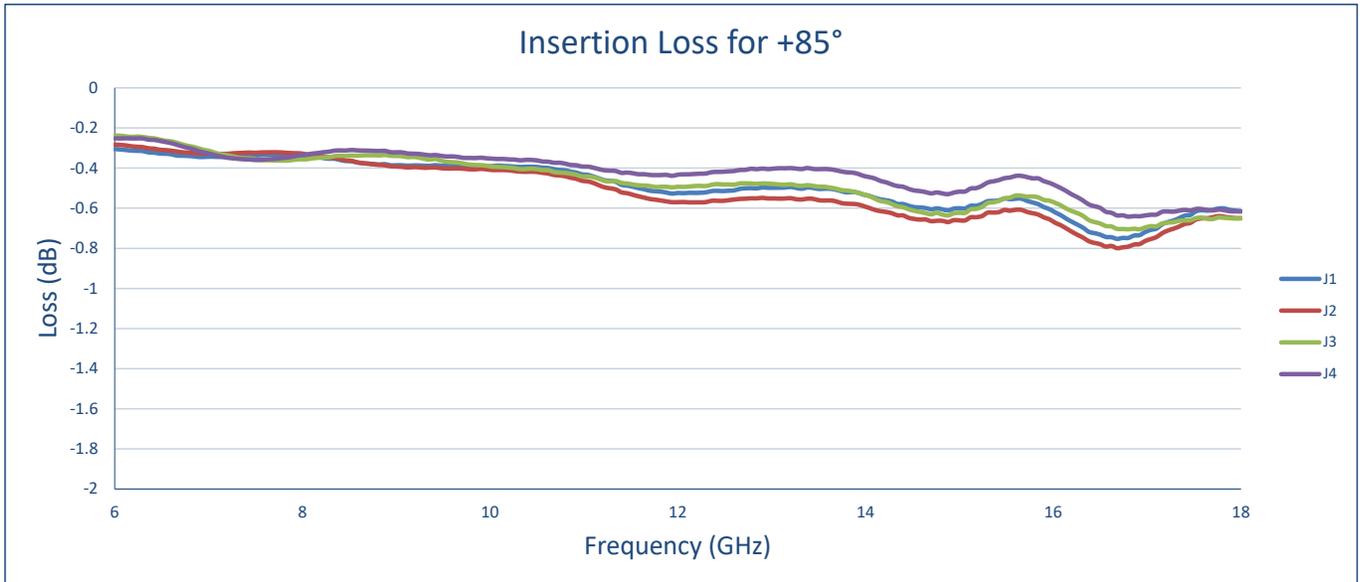
Amplitude Balance for +85°



Phase Balance for +85°

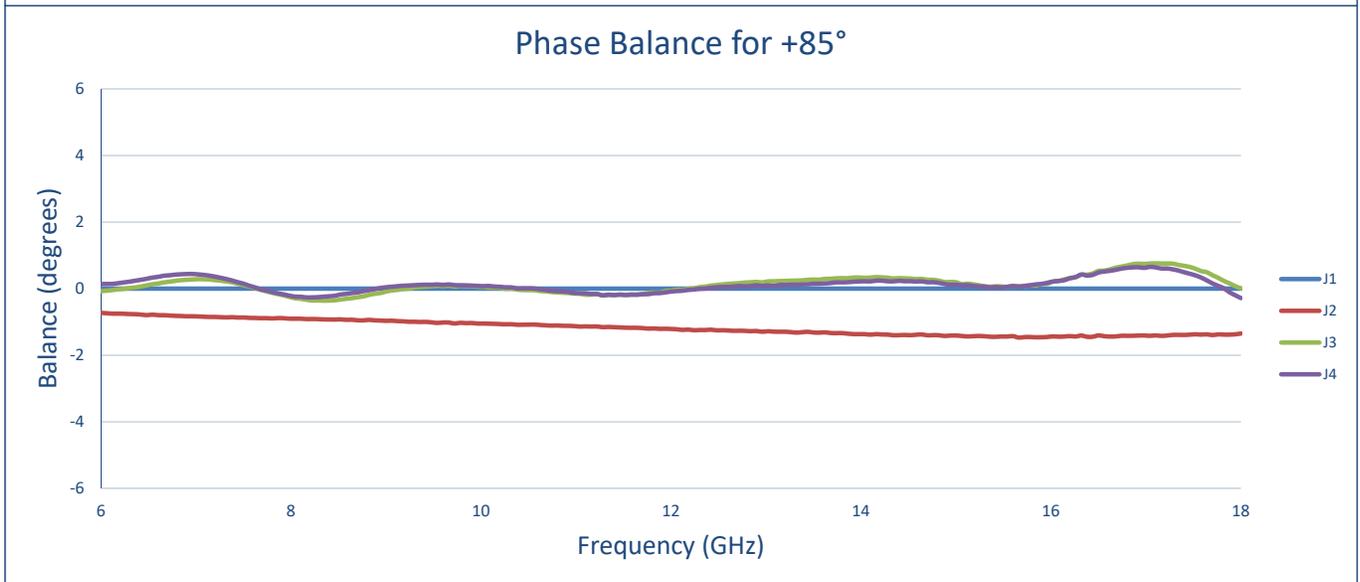
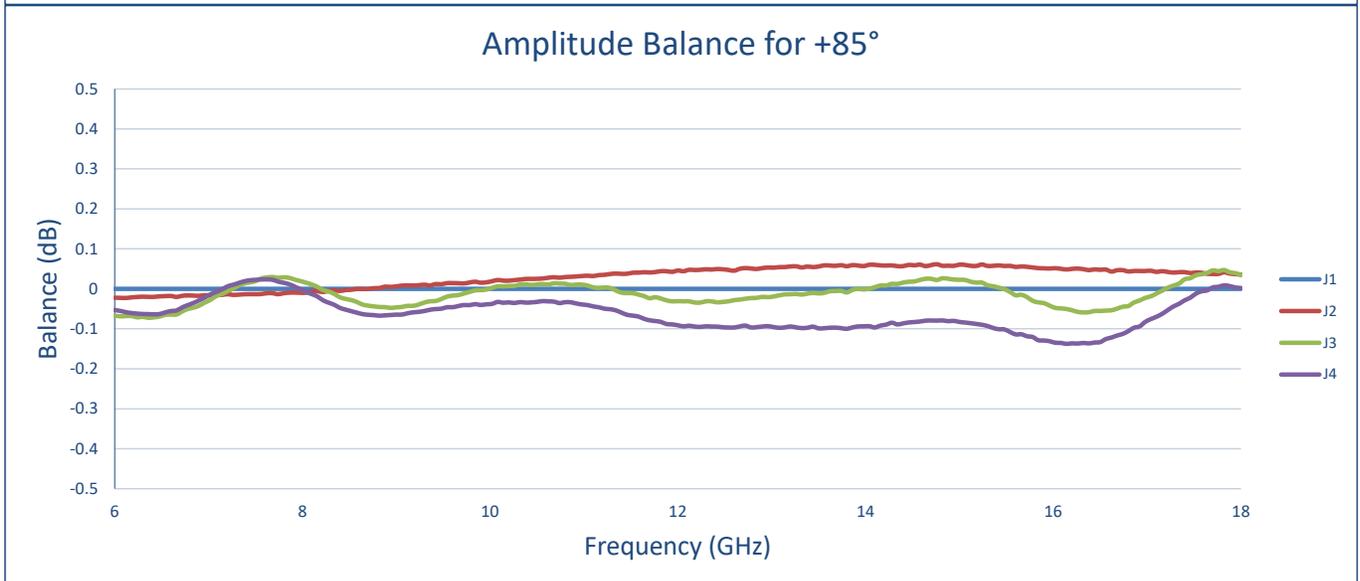
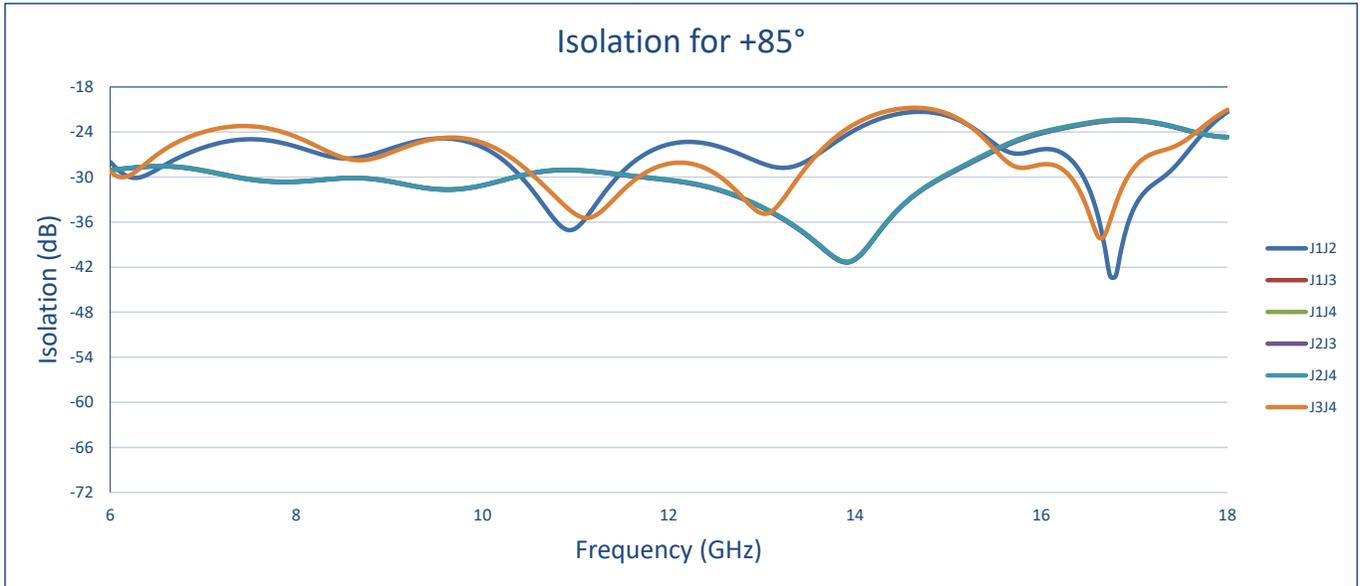


TYPICAL CHARACTERISTICS
ON
APD-4-618-30W-SFF-SET
UNIT 2

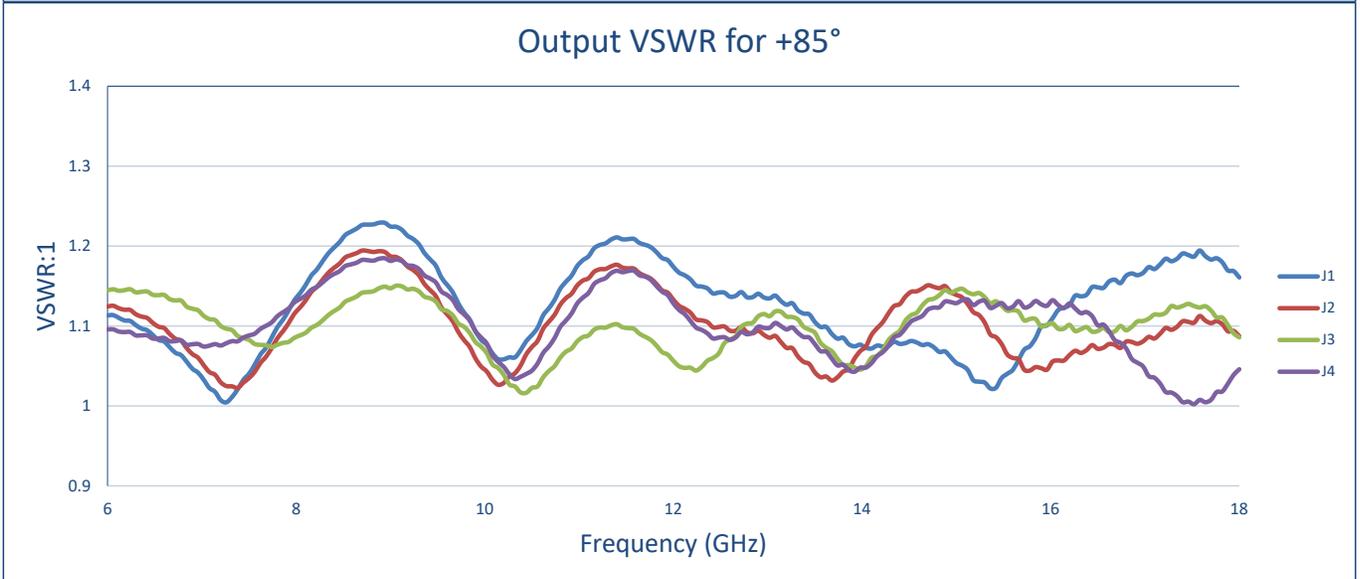
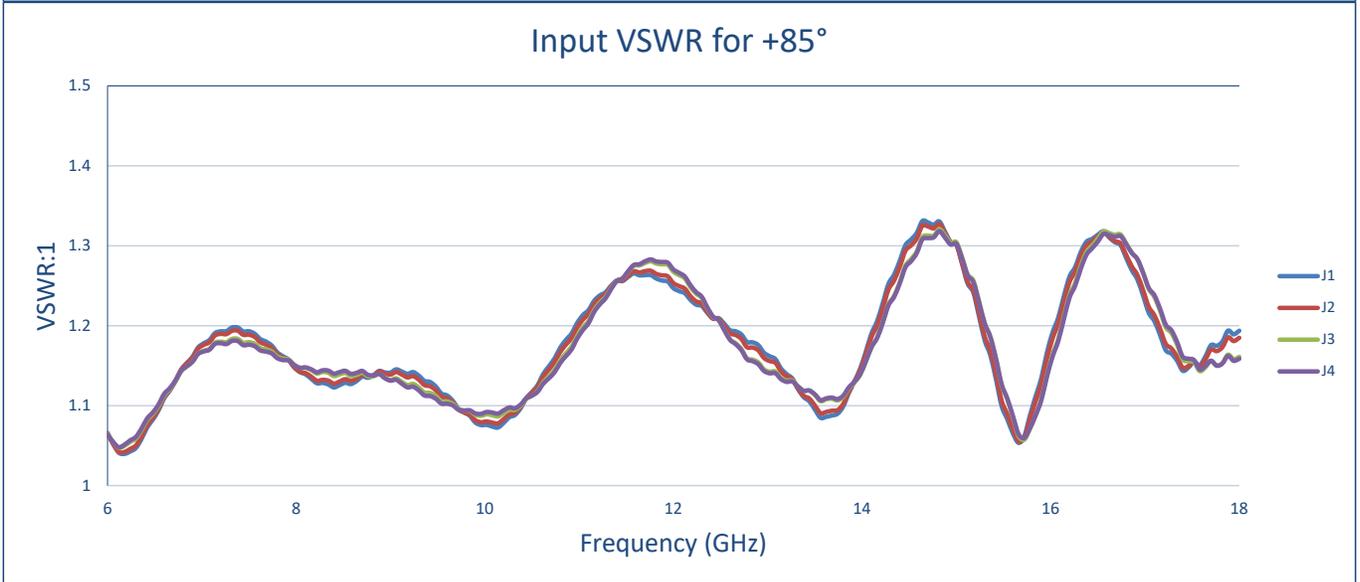
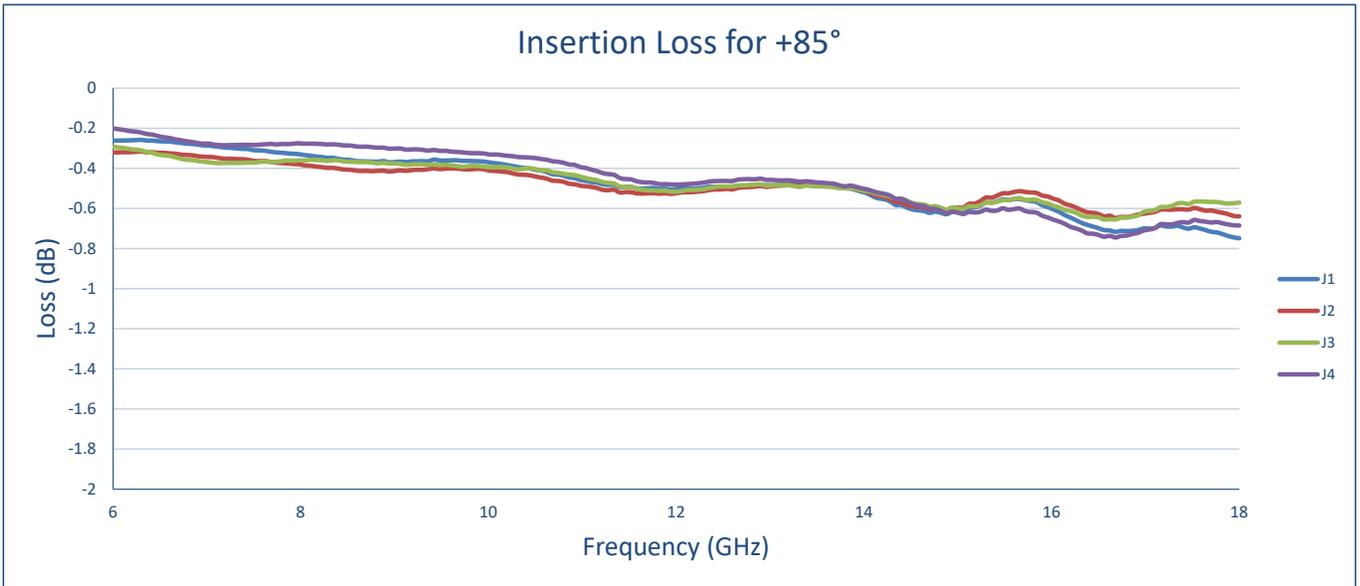


ON
APD-4-618-30W-SFF-SET

UNIT 2



TYPICAL CHARACTERISTICS
ON
APD-4-618-30W-SFF-SET
UNIT 3

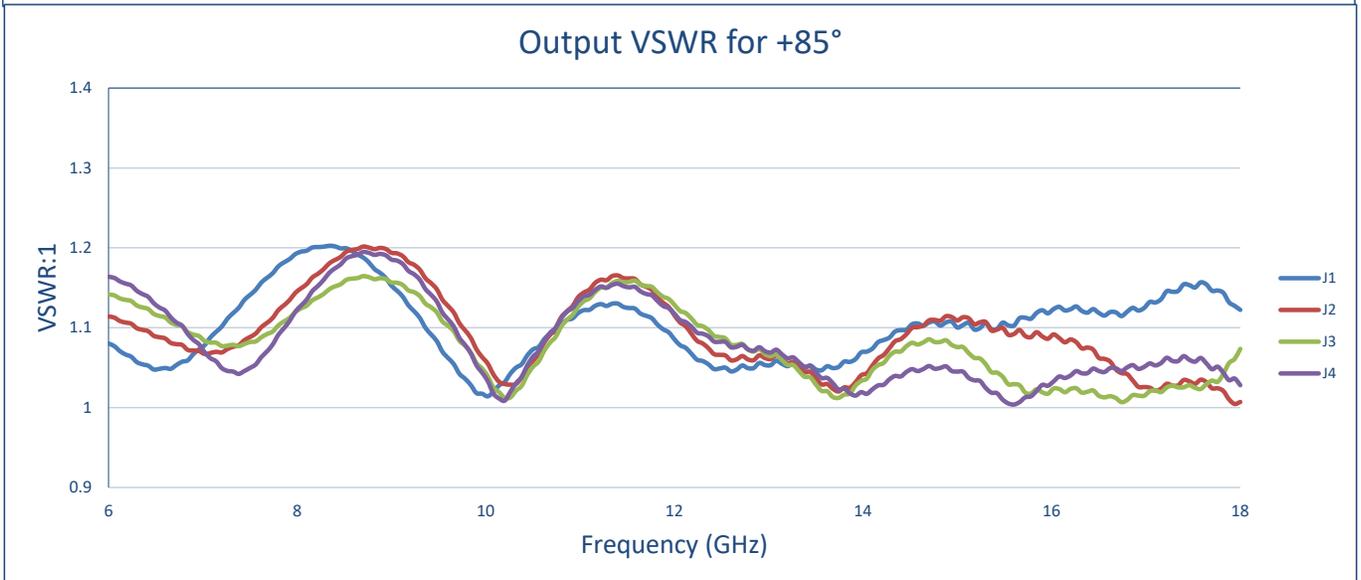
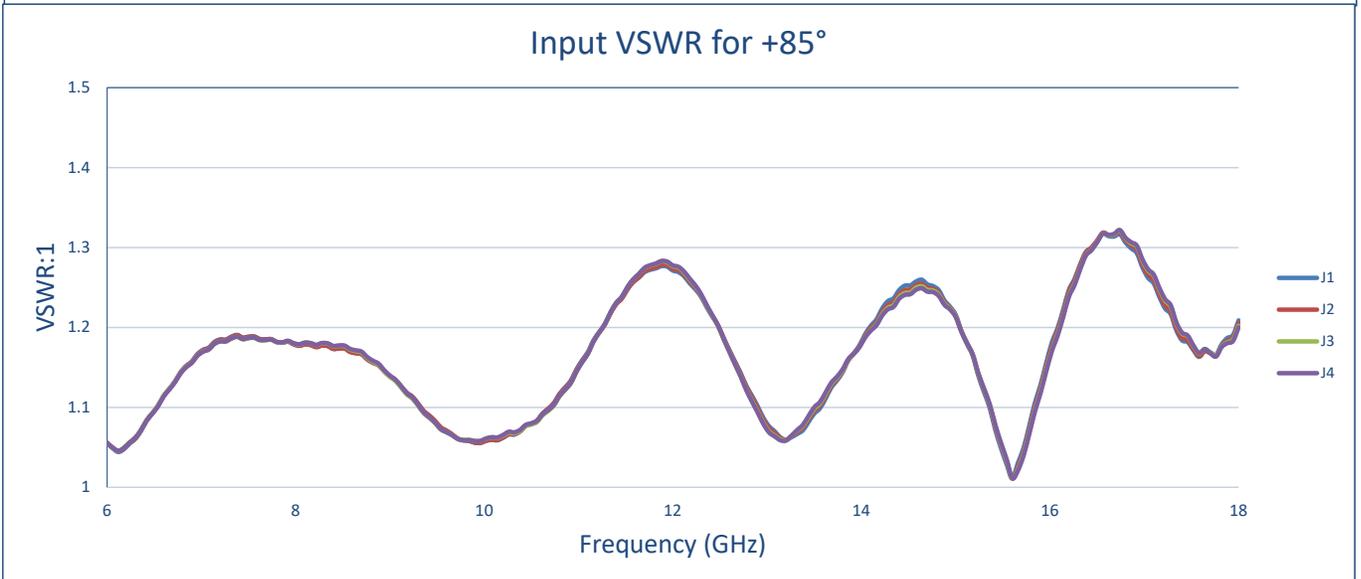
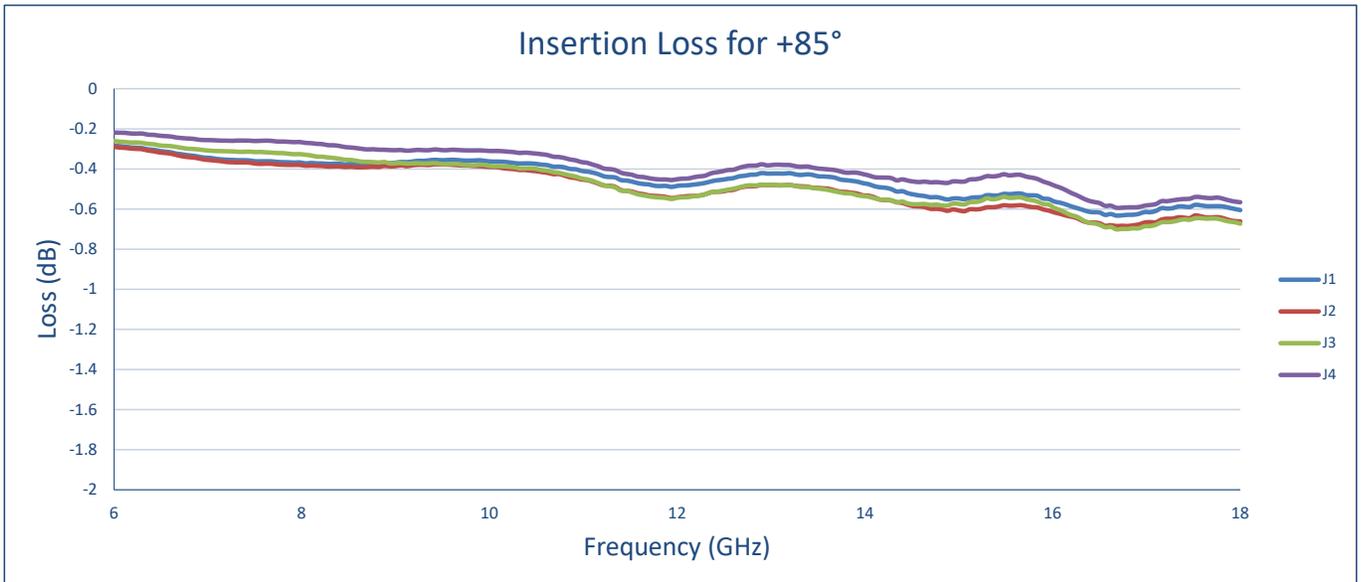


ON
APD-4-618-30W-SFF-SET

UNIT 3

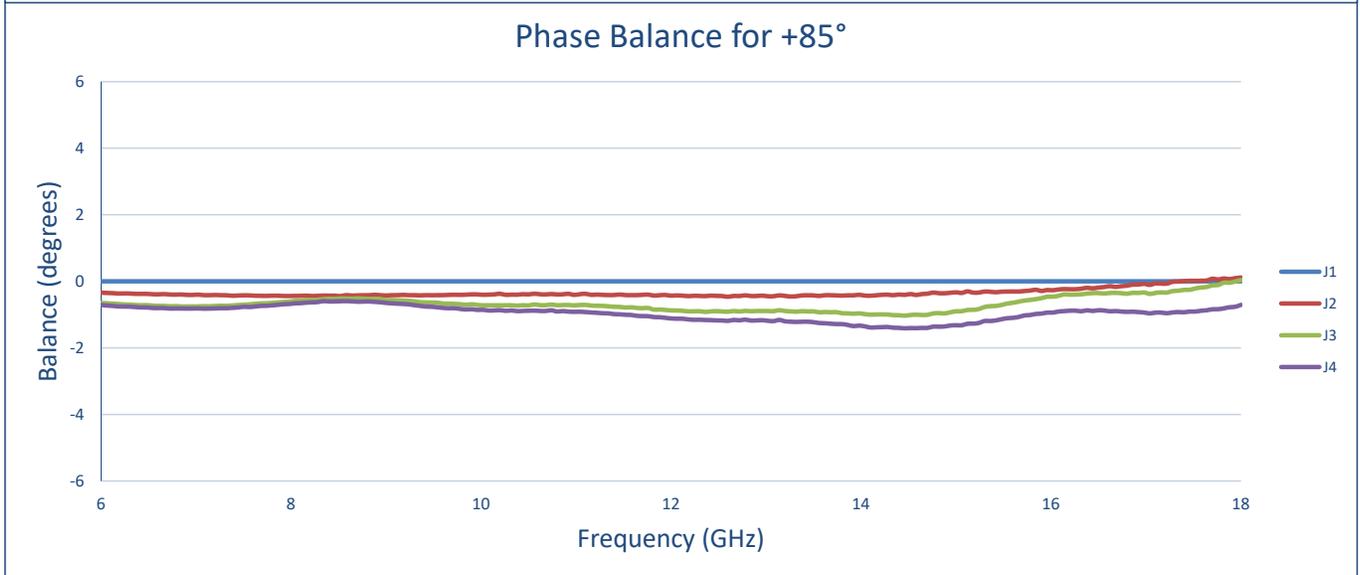
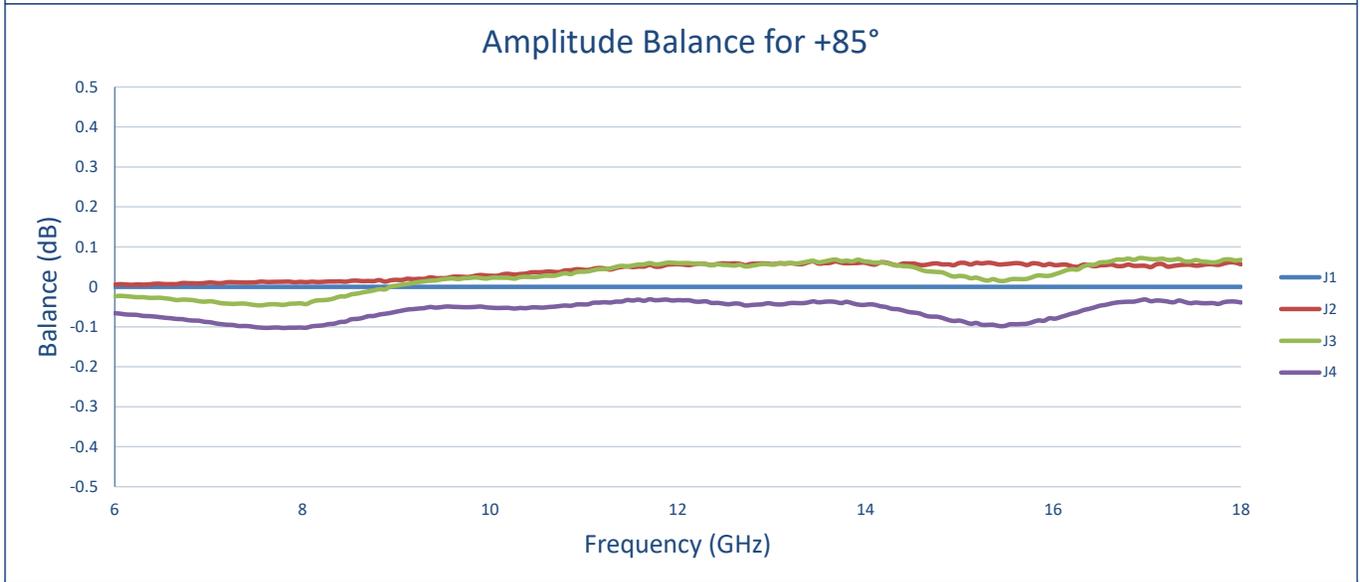
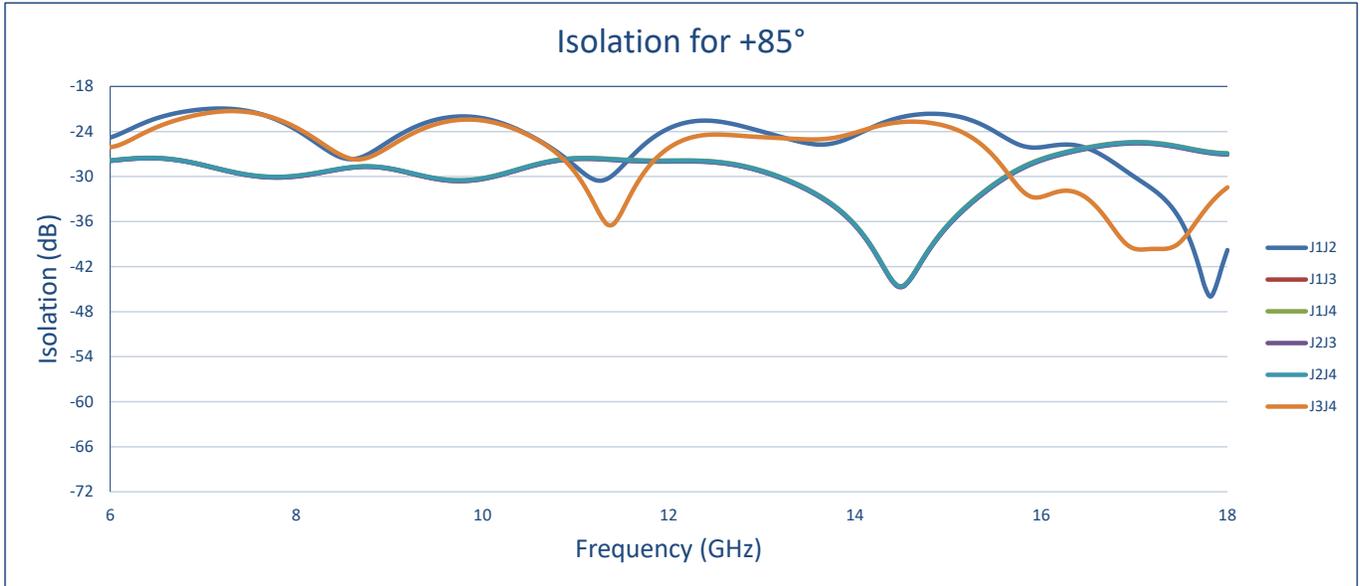


TYPICAL CHARACTERISTICS
ON
APD-4-618-30W-SFF-SET
UNIT 4



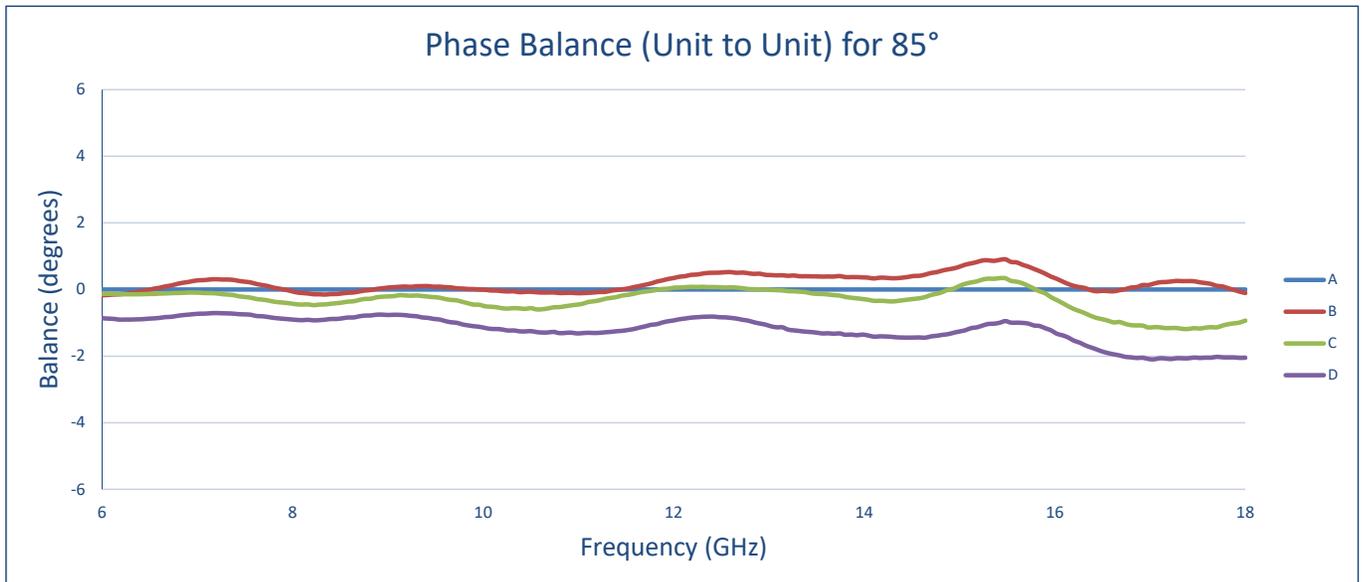
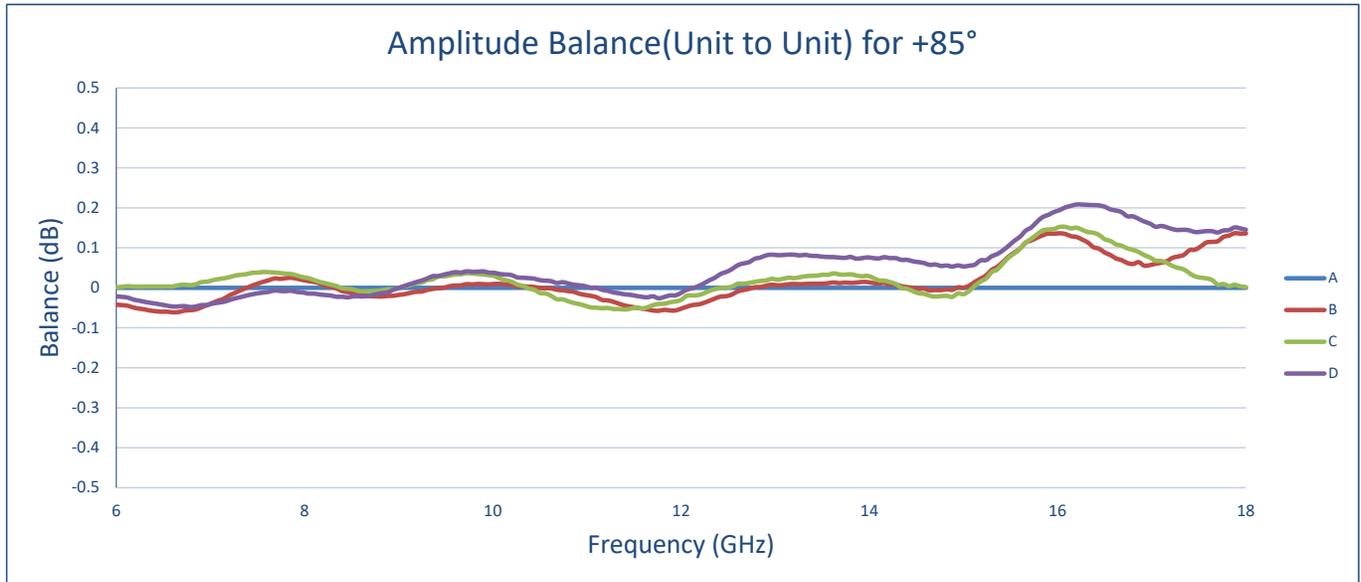
**TYPICAL CHARACTERISTICS
ON
APD-4-618-30W-SFF-SET**

UNIT 4



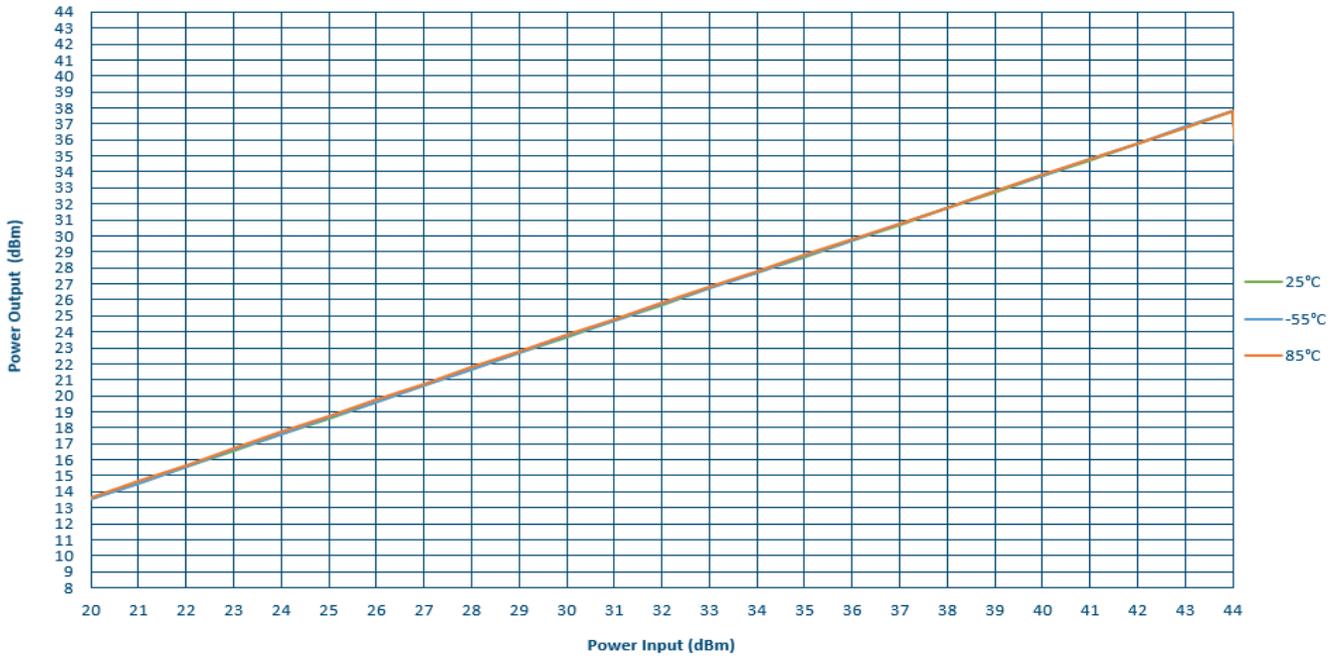
TYPICAL CHARACTERISTICS ON APD-4-618-30W-SFF-SET

Unit to Unit Comparison Compared to Unit A

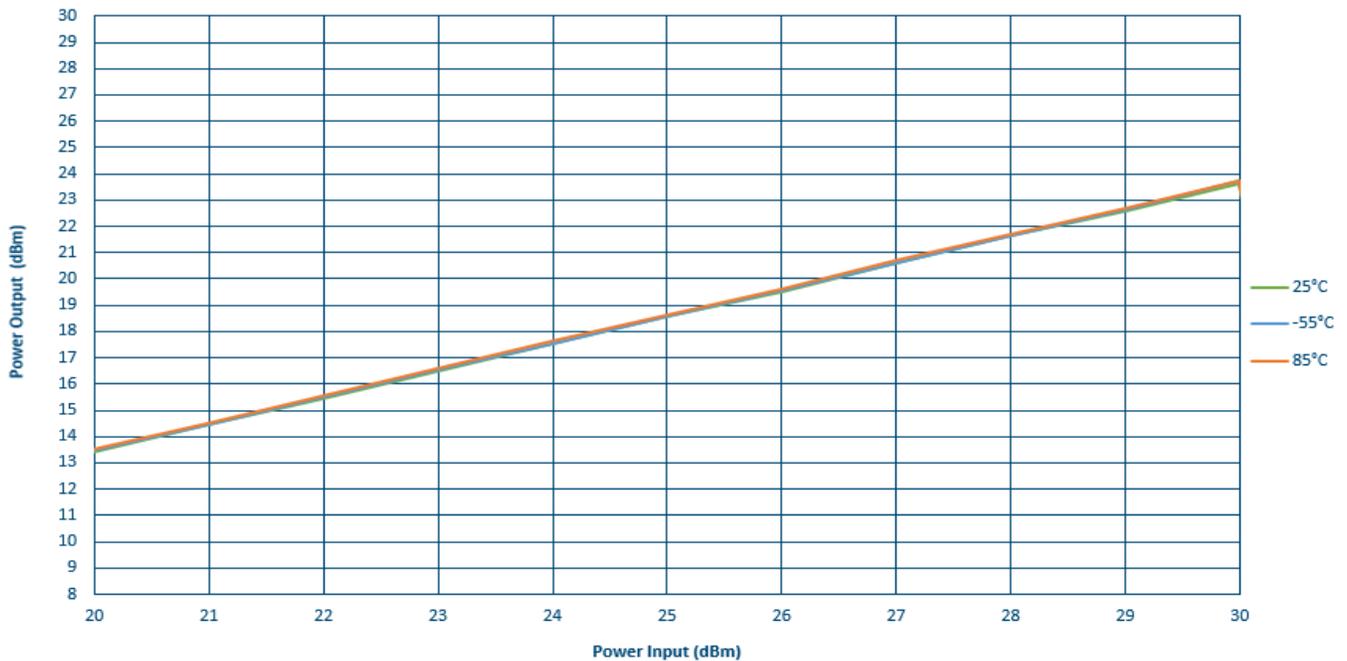


TYPICAL CHARACTERISTICS ON APD-4-618-30W-SFF-SET

High Power Test Graph @ 6 GHz Forward

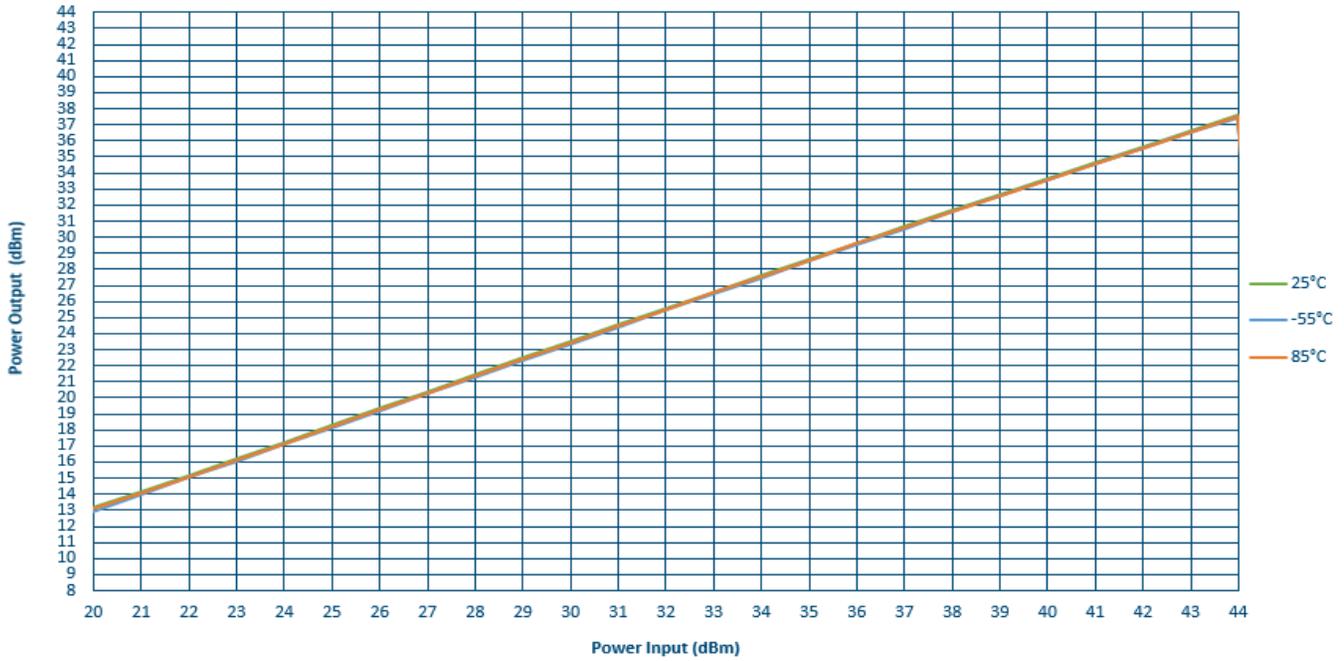


High Power Test Graph @ 6 GHz Reverse

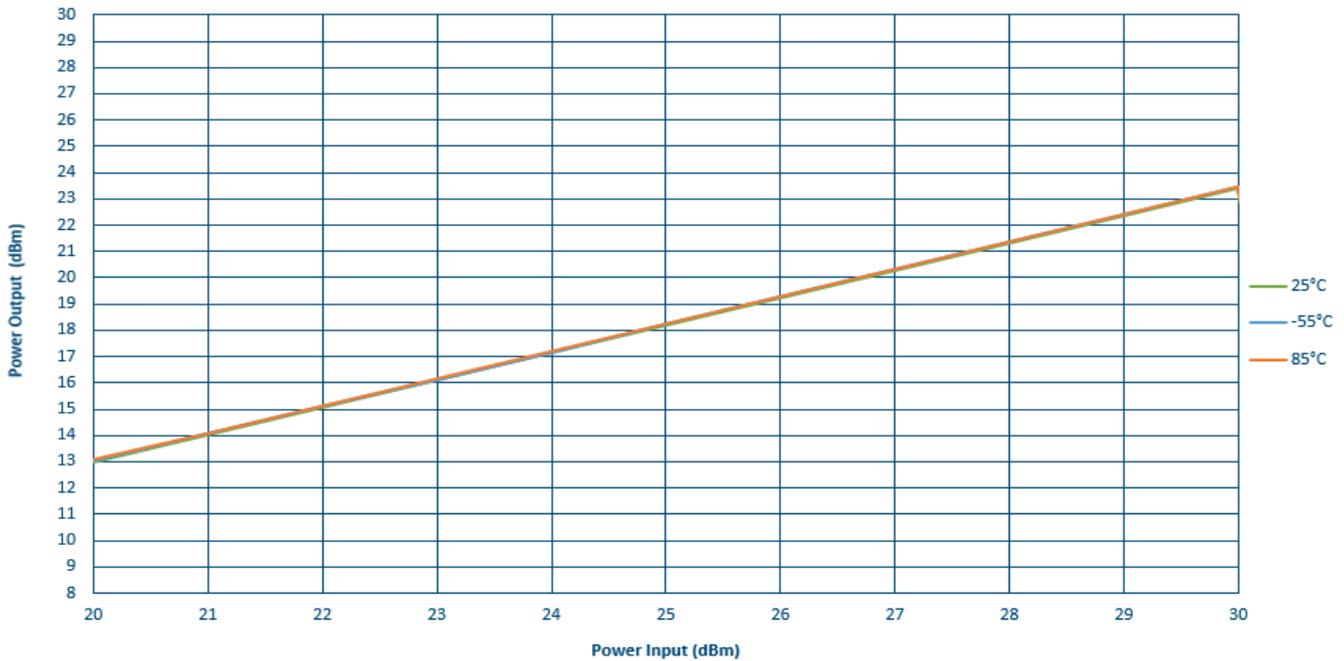


TYPICAL CHARACTERISTICS ON APD-4-618-30W-SFF-SET

High Power Test Graph @ 8 GHz Forward

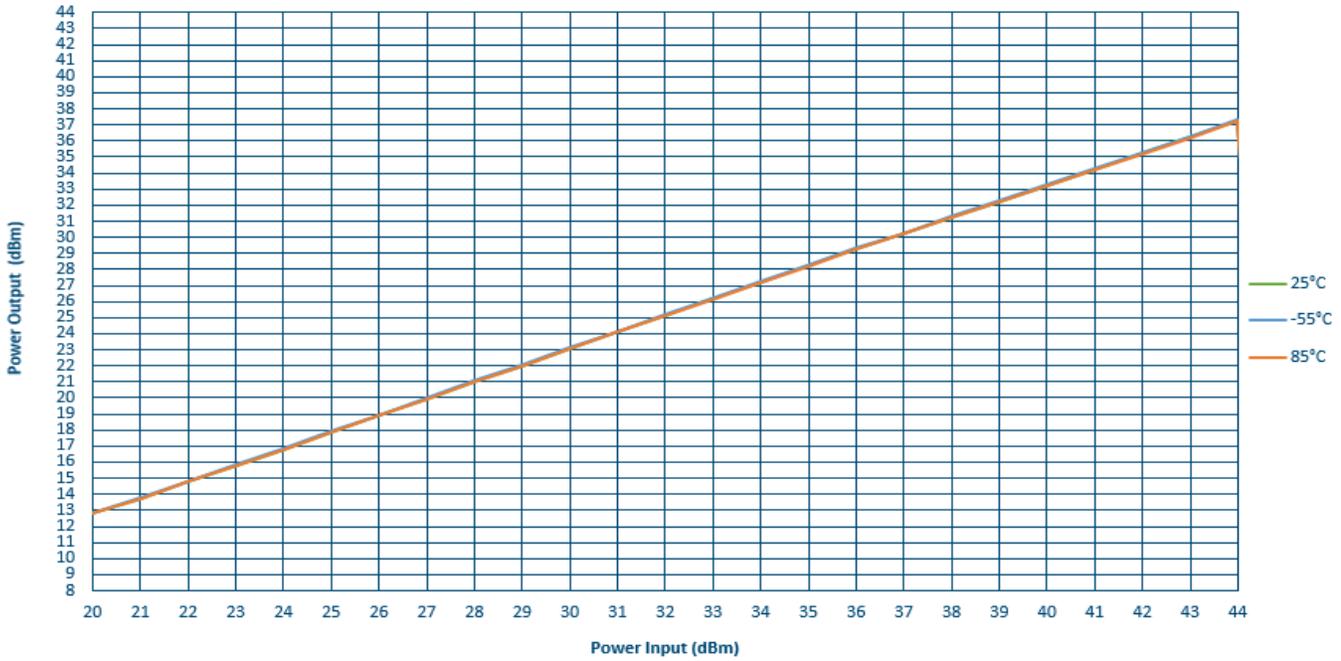


High Power Test Graph @ 8 GHz Reverse



TYPICAL CHARACTERISTICS ON APD-4-618-30W-SFF-SET

High Power Test Graph @ 18 GHz Forward



High Power Test Graph @ 18 GHz Reverse

