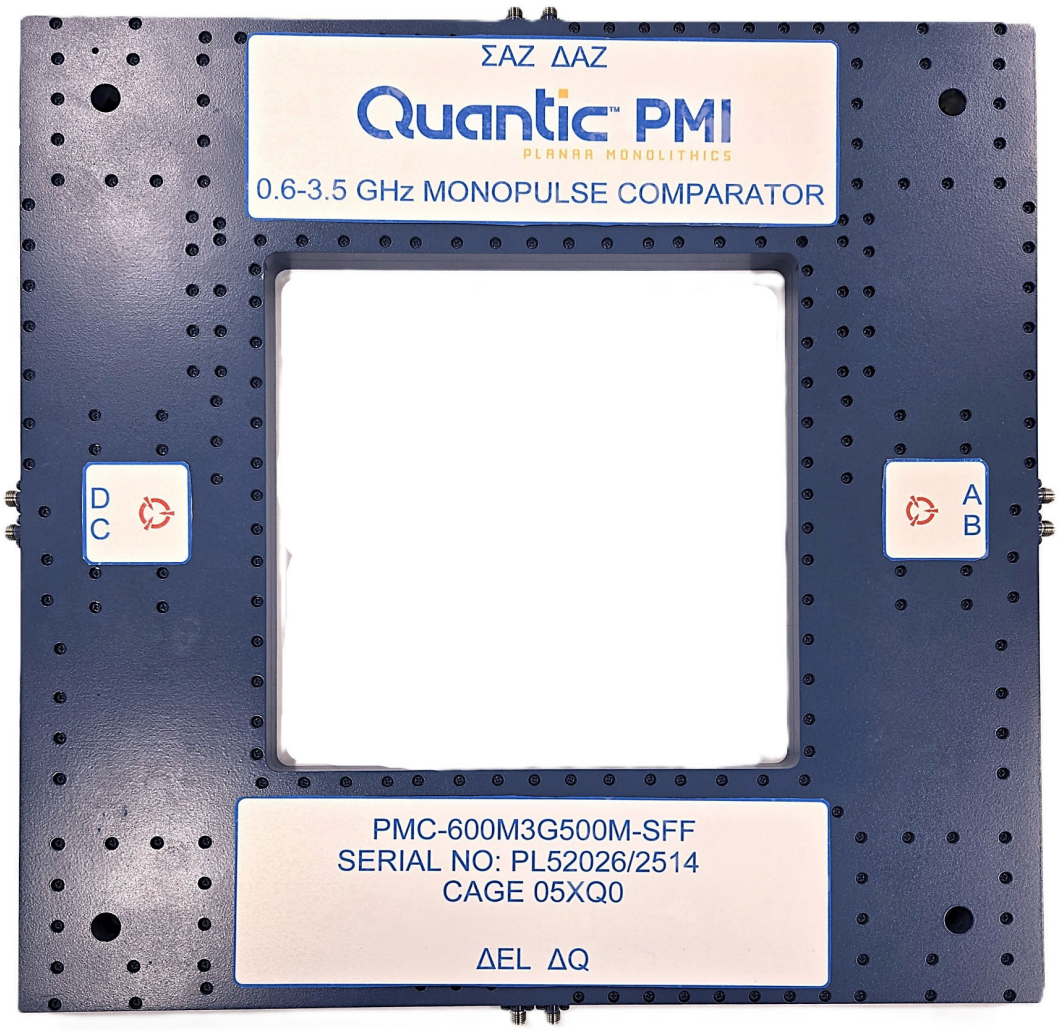
SUMMARY TEST DATA
ON
PMC-600M3G500M-SFF

PLANAR MONOLITHICS INDUSTRIES MODEL NO: PMC-600M3G500M-SFF IS A MONOPULSE COMPARATOR OPERATING OVER THE 0.6 GHz TO 3.5 GHz FREQUENCY RANGE. THIS MODEL OFFERS A MAXIMUM INSERTION LOSS OF 6.5 dB WHILE MAINTAINING A MAXIMUM AMPLITUDE BALANCE OF ±3.2 dB AND A MAXIMUM PHASE BALANCE OF ±15°.



Reported By: Dylan Hoschar
Tested By: Eric Kretz
Date: 3/31/2025

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OUTLINE DRAWING

DESCRIPTION:
PLANAR MONOLITHICS INDUSTRIES MODEL NO: PMC-600M3G500M-SFF IS A MONOPULSE COMPARATOR OPERATING OVER THE 0.6 GHz TO 3.5 GHz FREQUENCY RANGE. THIS MODEL OFFERS A MAXIMUM INSERTION LOSS OF 6.5 dB WHILE MAINTAINING A MAXIMUM AMPLITUDE BALANCE OF ±3.2 dB AND A MAXIMUM PHASE BALANCE OF ±15°.

SPECIFICATIONS:

- FREQUENCY RANGE:..... 0.6 GHz TO 3.5 GHz
- NOMINAL SPLIT..... 6.02 dB
- INSERTION LOSS:..... 6.5 dB MAX.
- AMPLITUDE BALANCE:..... ±3.2 dB MAX.
- PHASE BALANCE:..... ±15° MAX.
- ISOLATION:..... 18 dB MIN.
- VSWR:..... 1.70:1 MAX.
- POWER HANDLING*:..... AVERAGE: 30 W MAX.
  PEAK: 1 kW MAX.
- IMPEDANCE:..... 50 Ω
- CONNECTORS:..... SMA FEMALE
- FINISH:..... BLUE PAINTED

*POWER HANDLING IS GUARANTEED WHEN LOADS VSWR WITHIN 1.50:1

TABLE 1: PHASE OFFSET FOR EACH PORT IN REFERENCE TO NORMALIZED A TO ΣAZ

	ΣAZ	ΔAZ	ΔEL	ΔQ
PHASE OFFSET FOR INPUT A	0	0	180	180
PHASE OFFSET FOR INPUT B	0	0	0	0
PHASE OFFSET FOR INPUT C	0	180	0	180
PHASE OFFSET FOR INPUT D	0	180	180	0

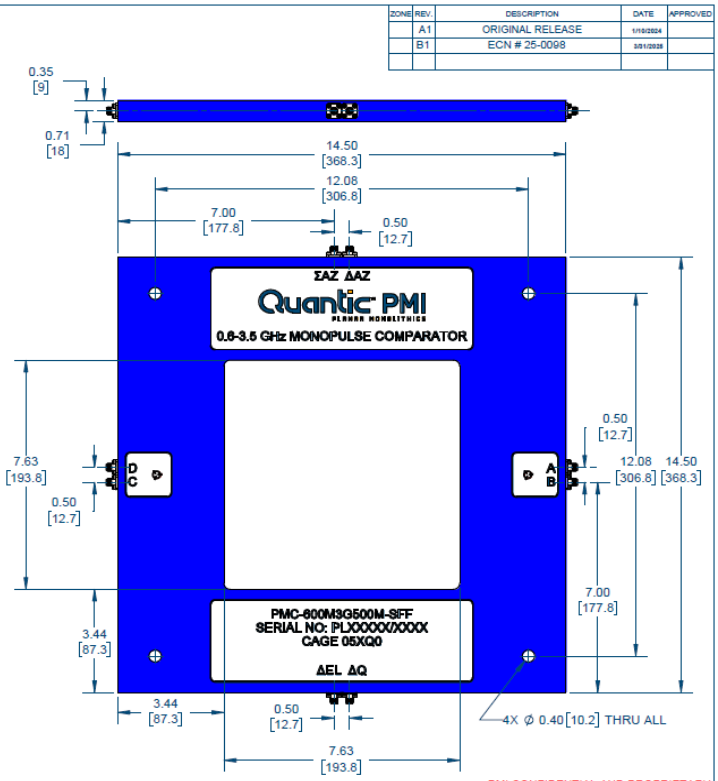
TABLE 2: OUTPUT MAGNITUDE WITH 4 IDENTICAL SIGNALS AT A, B, C AND D

OUTPUT	VALUE (dB)	DESCRIPTION
ΣAZ	≥-6.5	A+B+C+D
ΔAZ	<-18	(A+B) - (C+D)
ΔEL	<-18	(A+D) - (B+C)
ΔQ	<-18	(A+C) - (B+D)

ENVIRONMENTAL RATINGS:

- TEMPERATURE:..... -20°C TO +85°C (OPERATING)
- HUMIDITY:..... 95%, NON-CONDENSING (OPERATING)
- SHOCK:..... MIL-STD-202, METHOD 103B COND. B
- VIBRATION:..... MIL-STD-202, METHOD 204D COND. B
- ALTITUDE:..... MIL-STD-202, METHOD 213B 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



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TEST DATA

TEST ITEM NO.	PARAMETERS	SPECIFIED VALUE	Test Results		
			+25°C	-20°C	+85°C
1	Frequency Range:	0.6 GHz TO 3.5 GHz	**0.6 GHz TO 3.5 GHz**		
2	Insertion Loss:	6.5 dB Max.	**6.05 dB See Graph**	**5.92 dB See Graph**	**6.44 dB See Graph**
3	Nominal Split:	6.02 dB	**6.02 dB**		
4	Amplitude Balance:	±3.2 dB Max.	**±1.97 dB See Graph**	**±1.99 dB See Graph**	**±2.03 dB See Graph**
5	Phase Balance:	±15° Max.	**±4.2° See Graph**	**±4.9° See Graph**	**±5.1° See Graph**
6	Isolation:	18 dB Min.	**22 dB**	**22 dB**	**21 dB**
7	VSWR:	1.70:1 Max	**1.44:1 See Graph**	**1.5:1 See Graph**	**1.53:1 See Graph**
8	Power Handling:	Average: 30 W Max. Peak: 1 kW Max.	**See Graph**		

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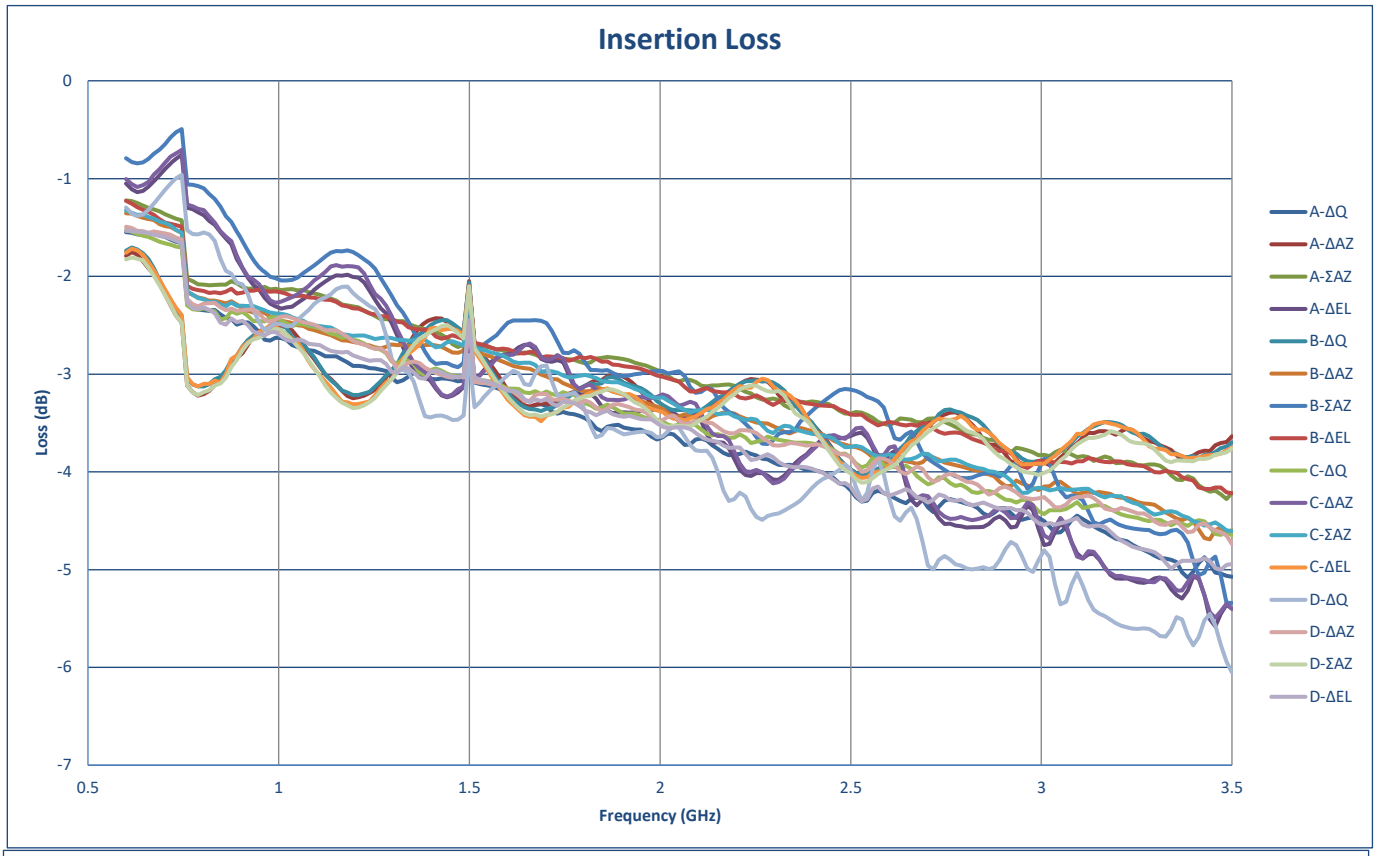
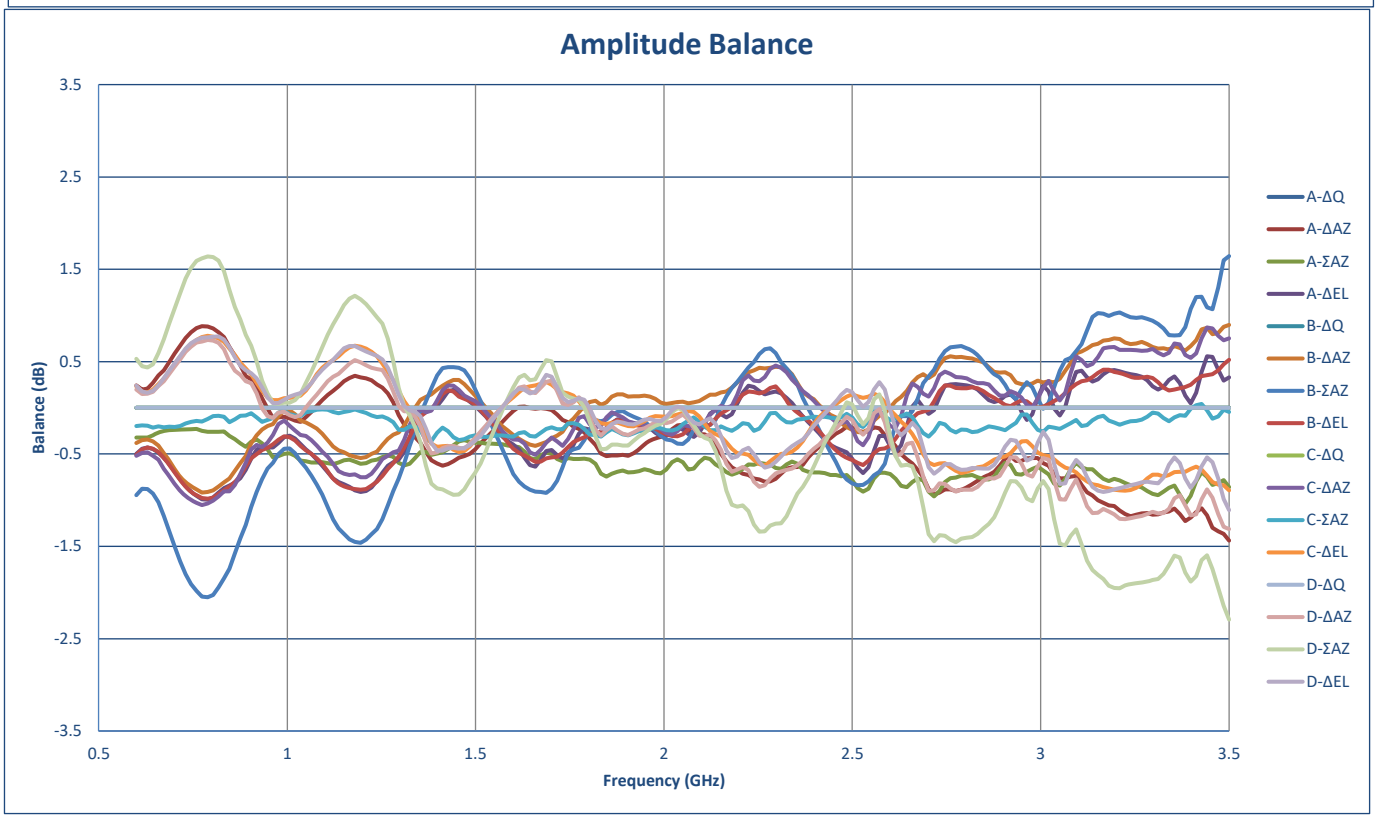
Data @ +25°C





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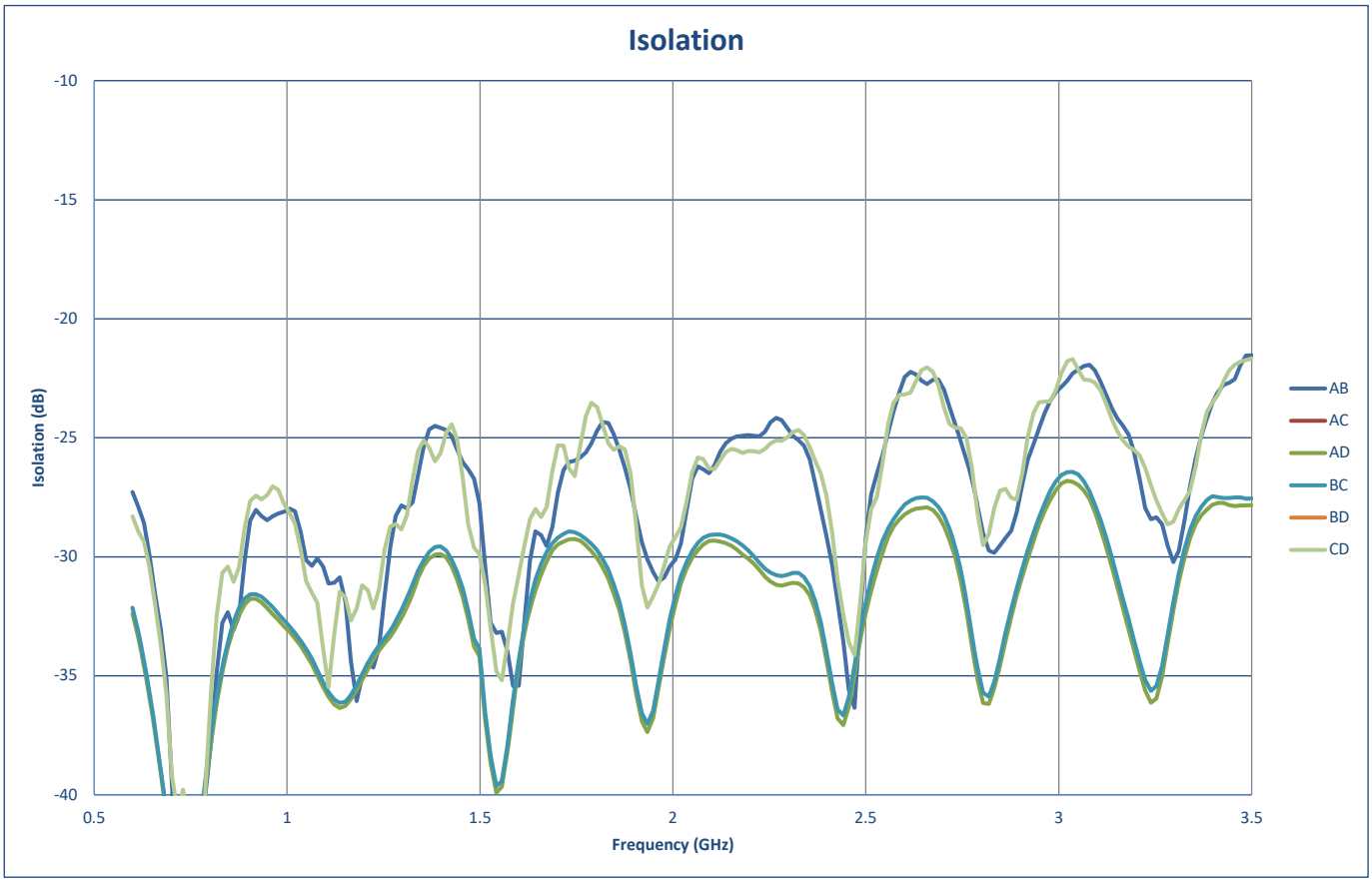

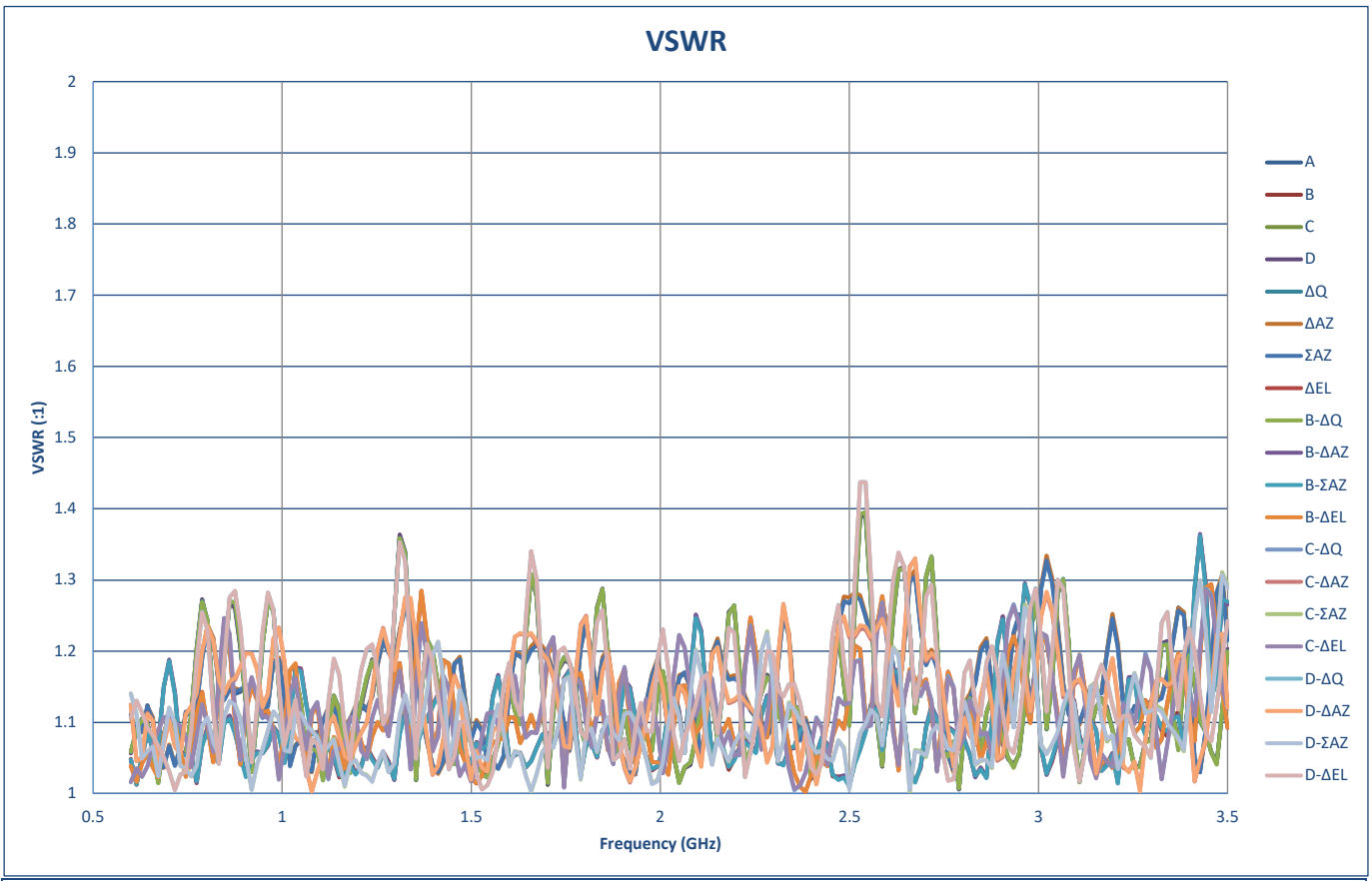

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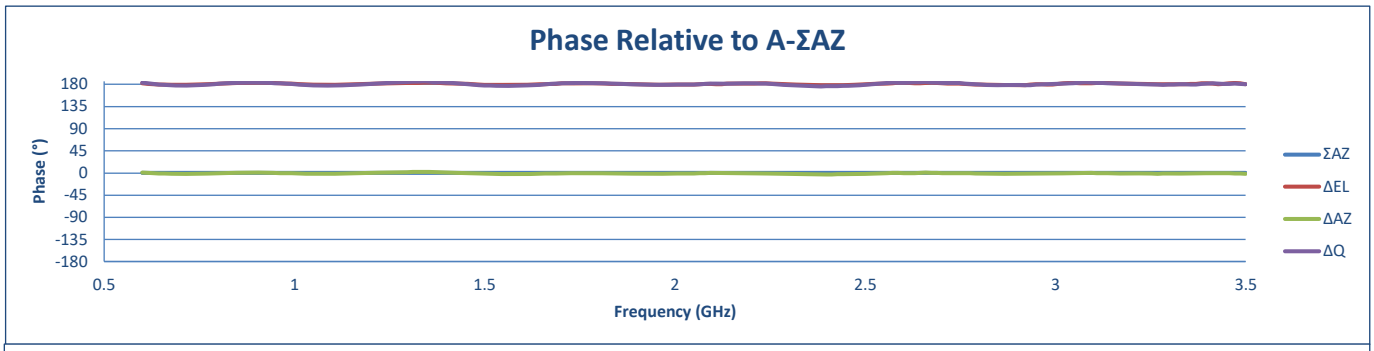

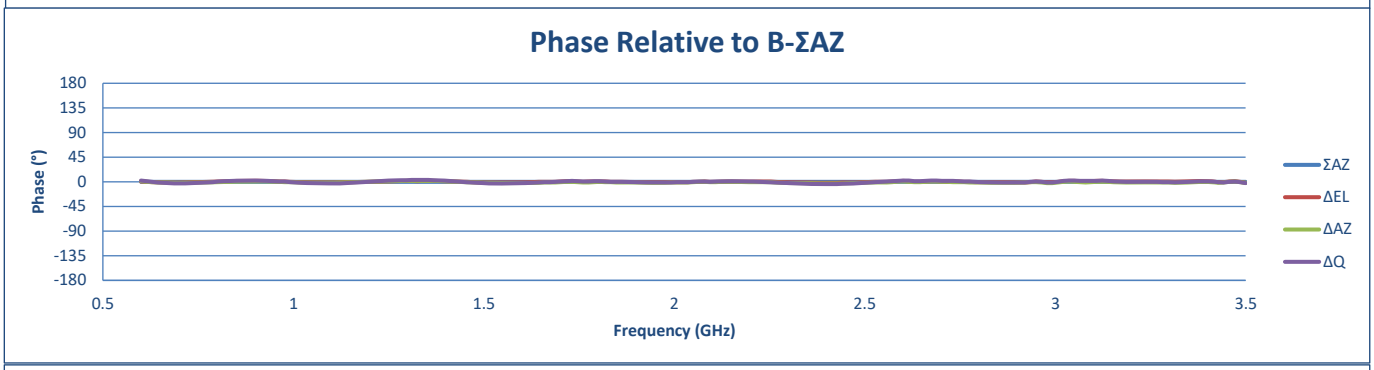

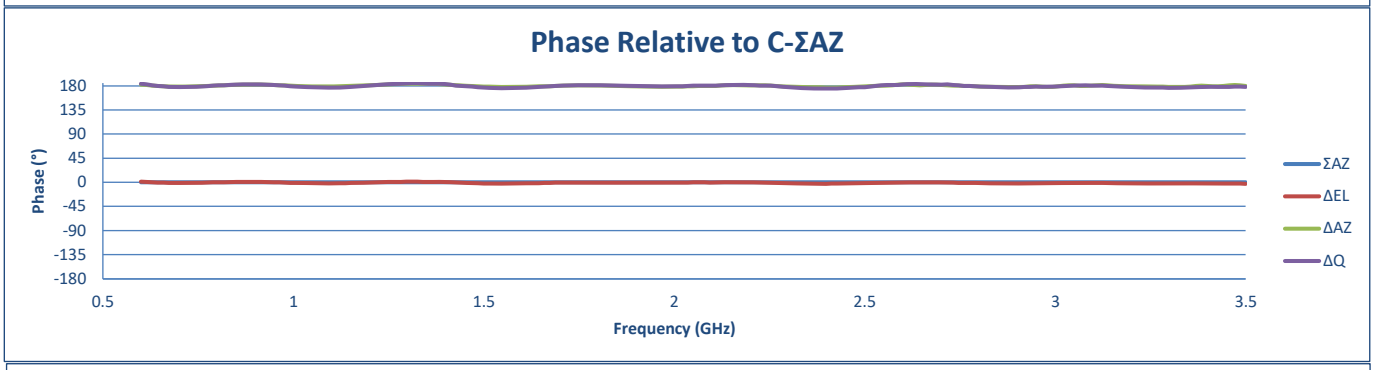

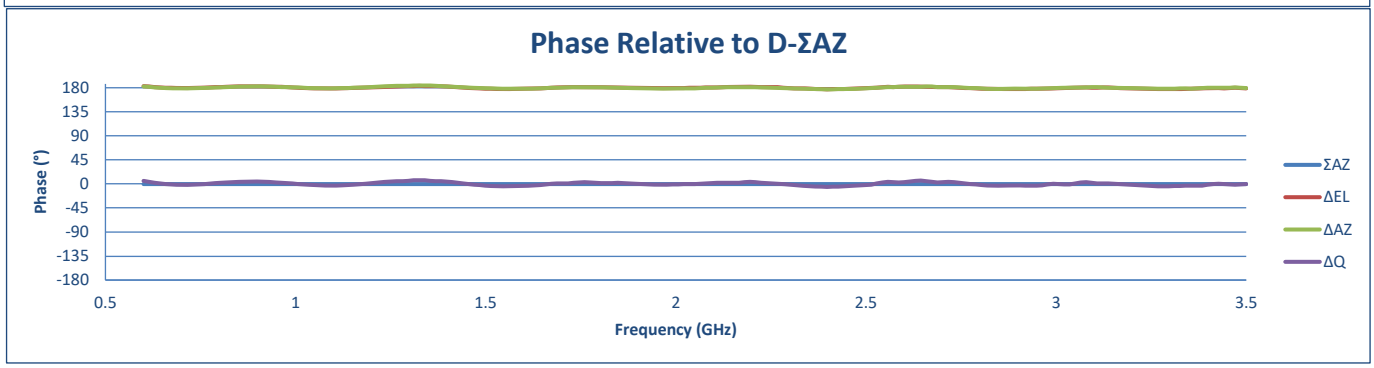

Phase Data Relative to ΣAZ		A	B	C	D	ΣAZ	ΔAZ	ΔEL	ΔQ
	A	-	Isolation	Isolation	Isolation	0°	0°	181°	181°
	B	Isolation	-	Isolation	Isolation	0°	0°	0°	0°
	C	Isolation	Isolation	-	Isolation	0°	180°	-1°	180°
	D	Isolation	Isolation	Isolation	-	0°	180°	180°	1°
	ΣAZ	0°	0°	0°	0°	-	Isolation	Isolation	Isolation
	ΔAZ	0°	0°	180°	180°	Isolation	-	Isolation	Isolation
	ΔEL	181°	0°	-1°	180°	Isolation	Isolation	-	Isolation
	ΔQ	181°	0°	180°	1°	Isolation	Isolation	Isolation	-

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SUMMARY TEST DATA
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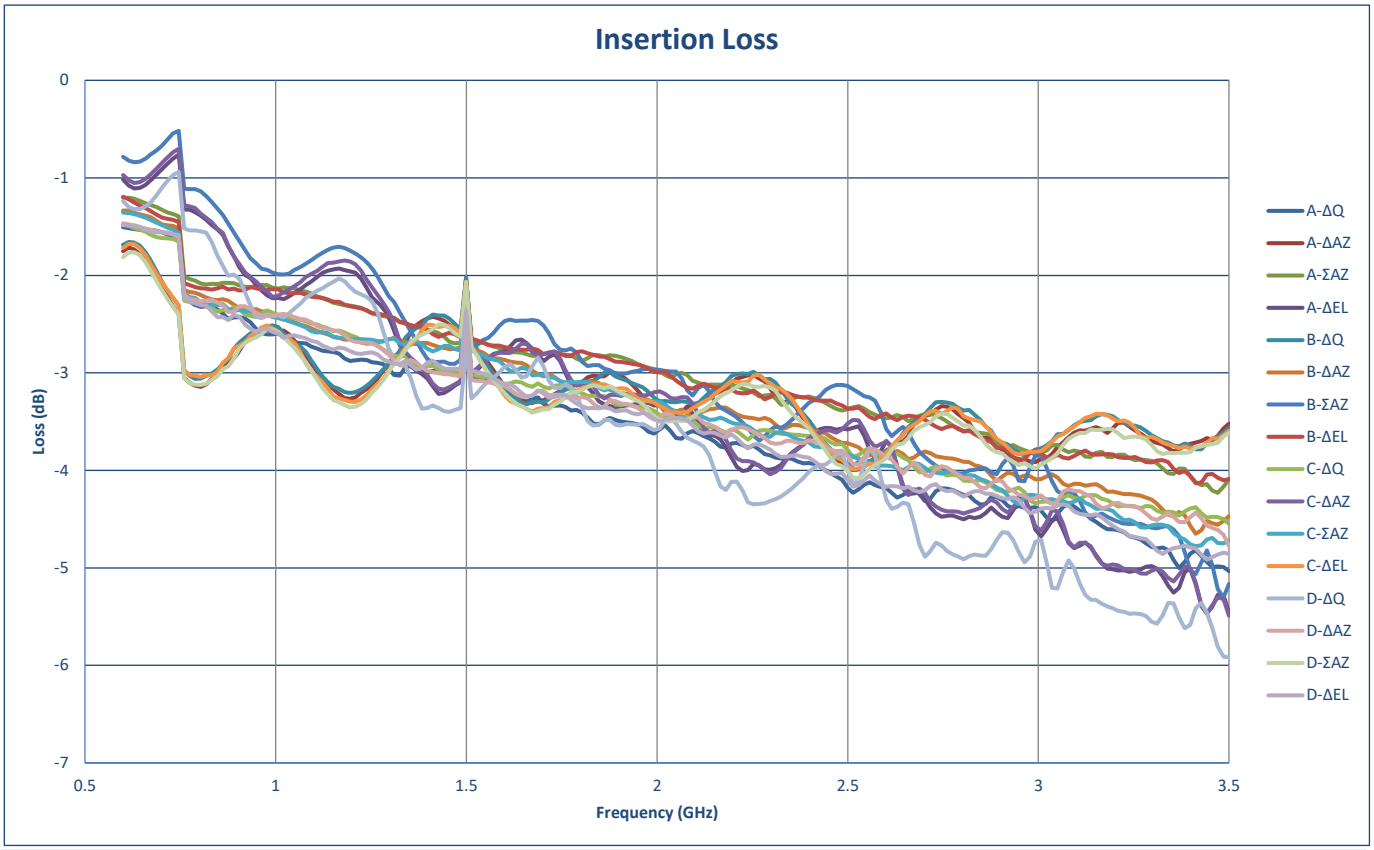
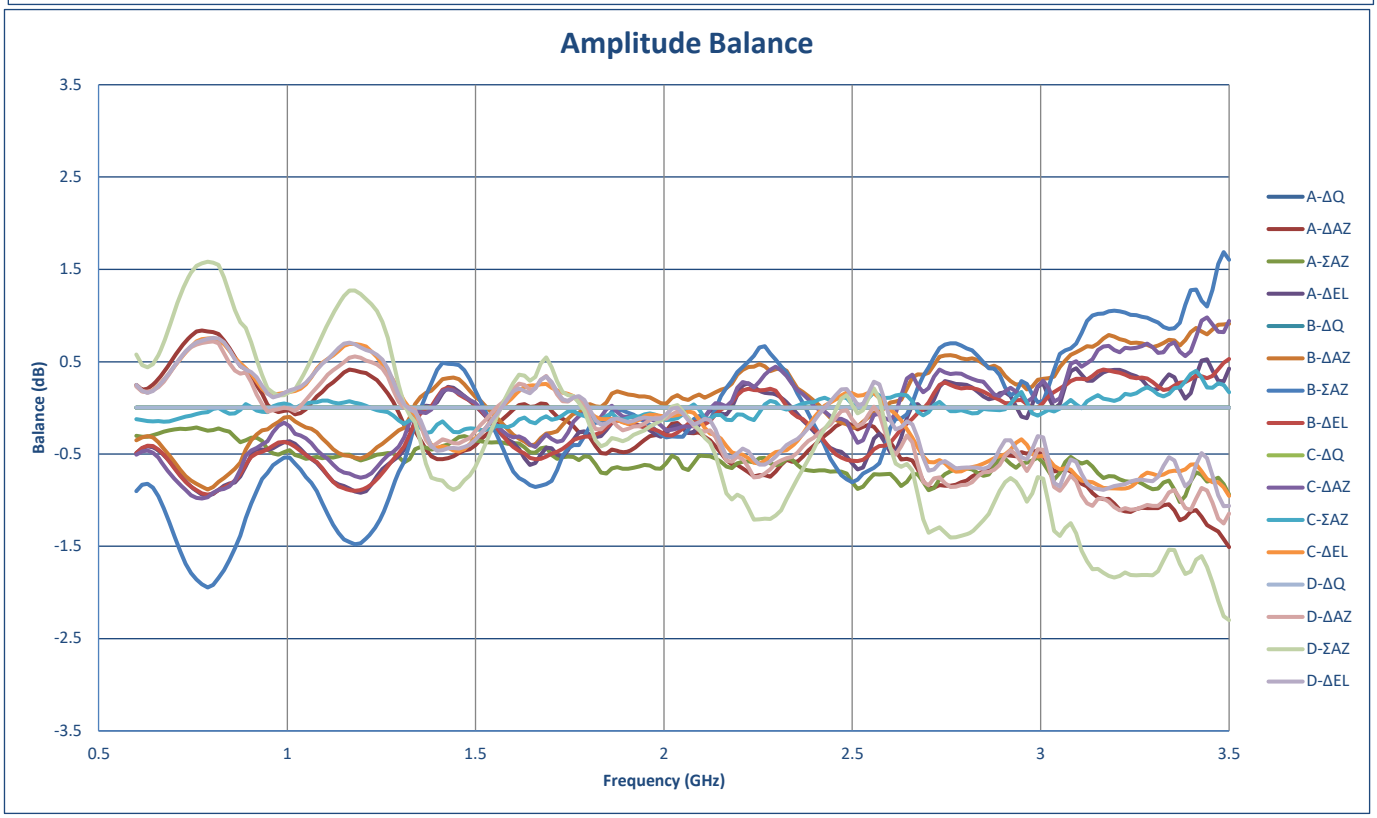
Data @ -20°C





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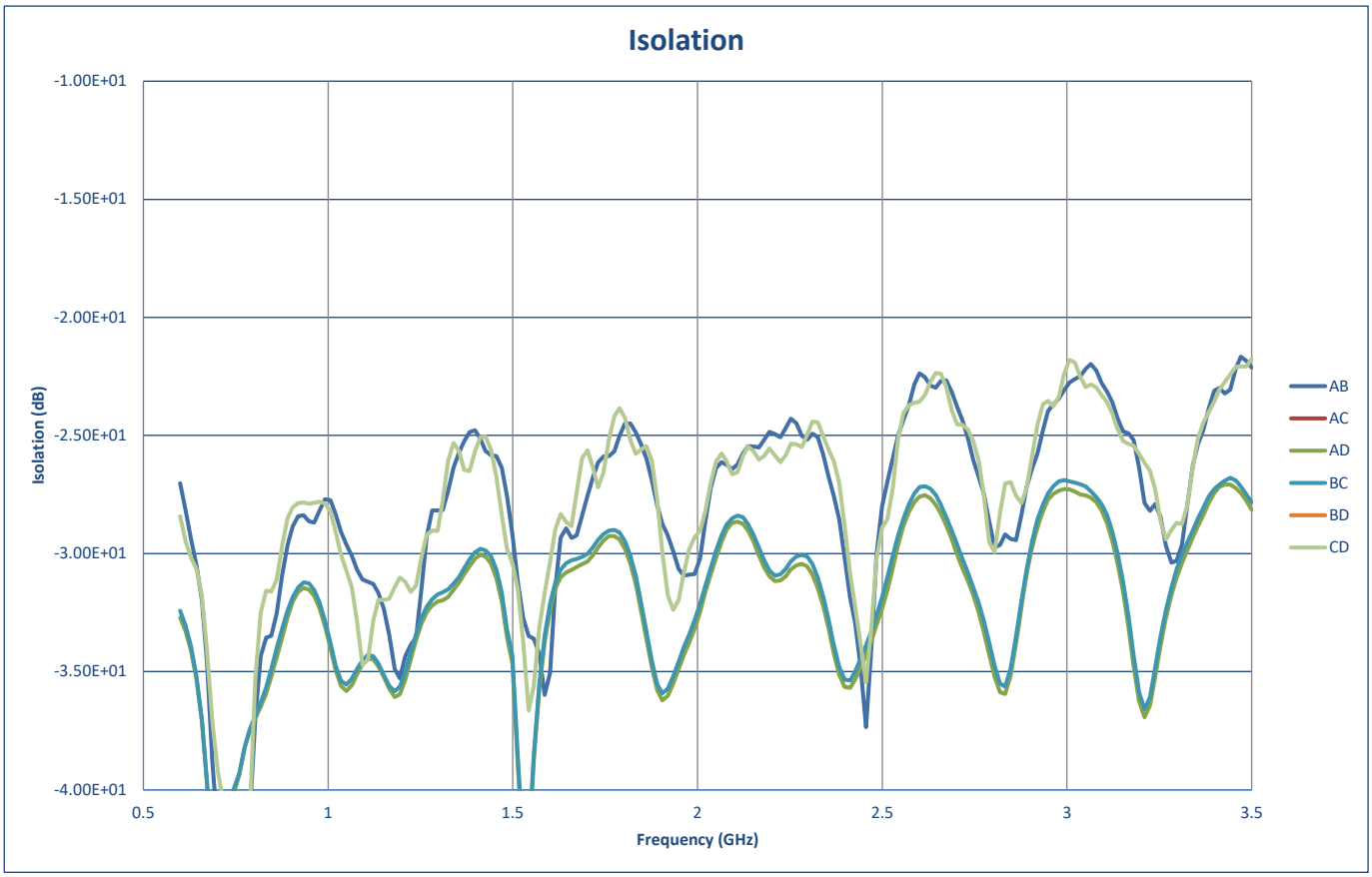

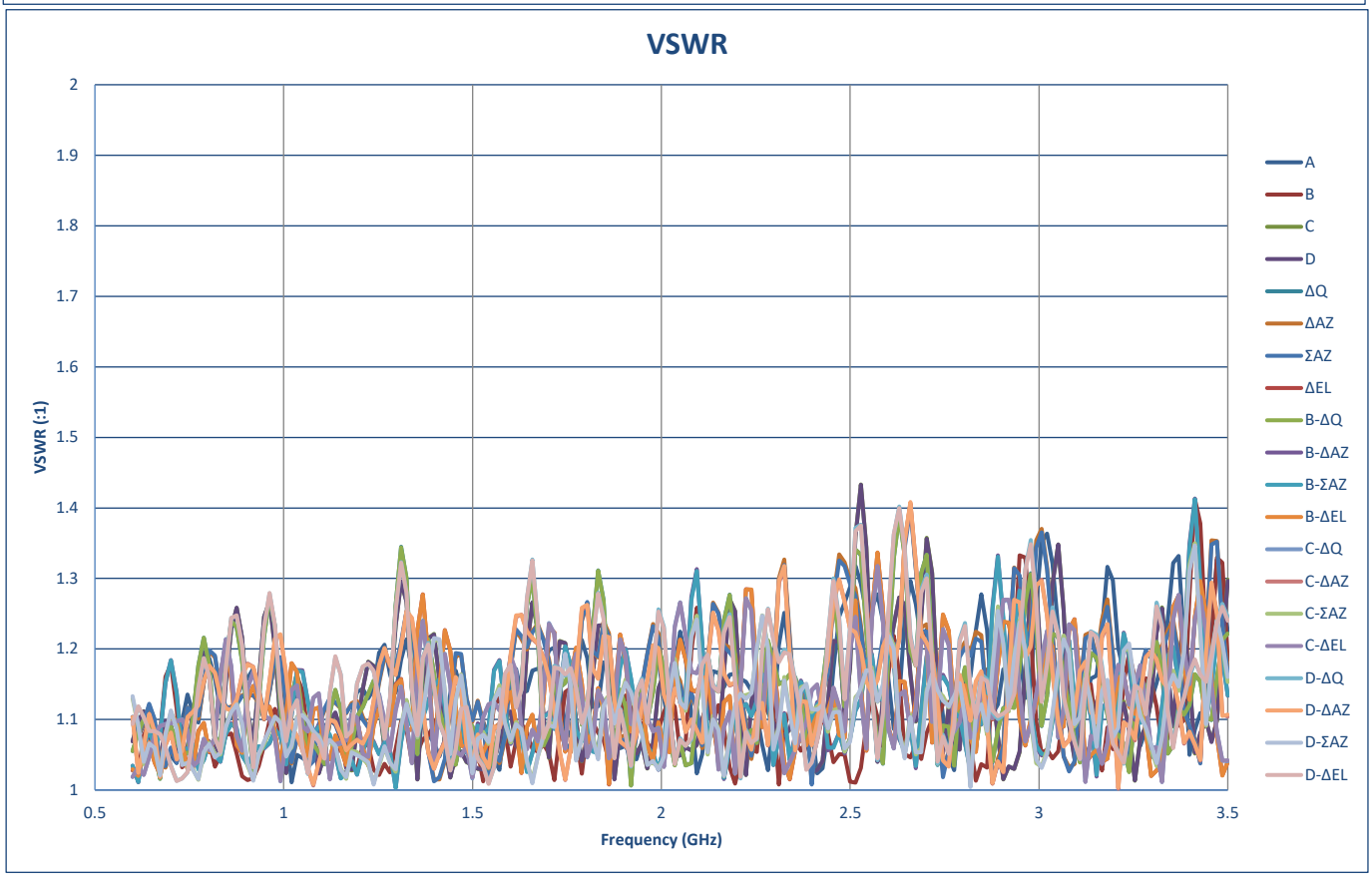

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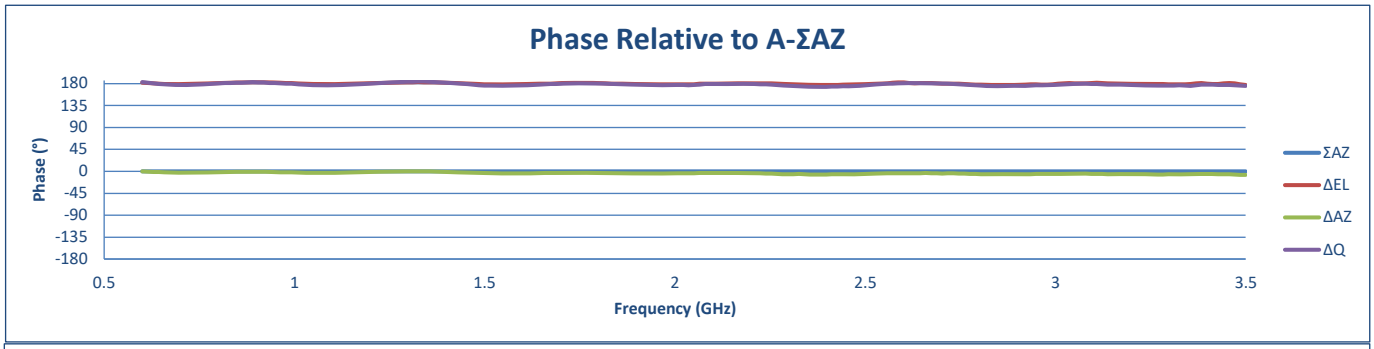

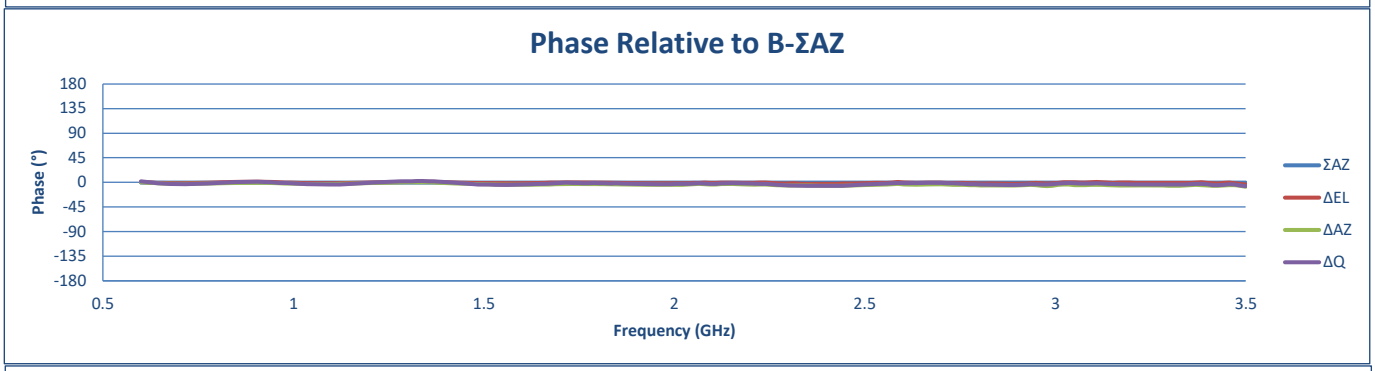

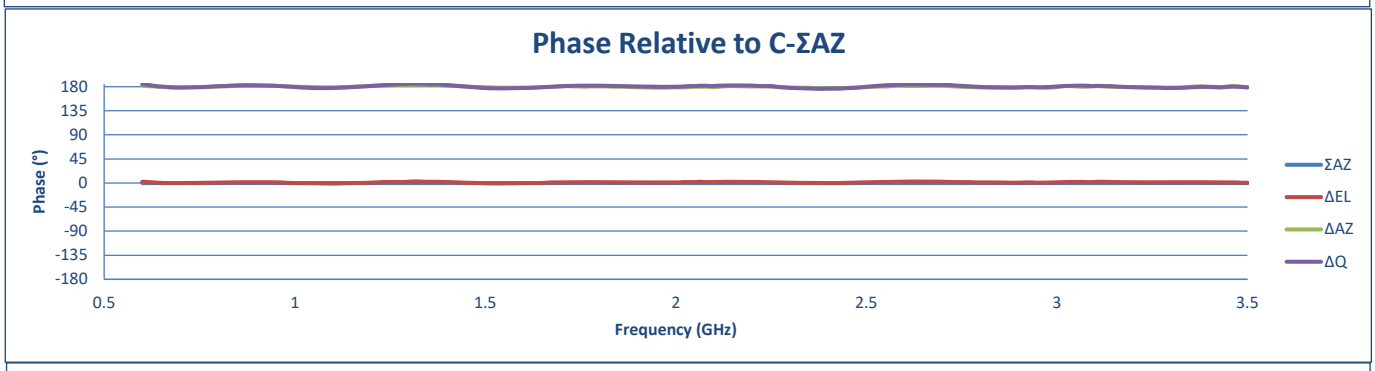

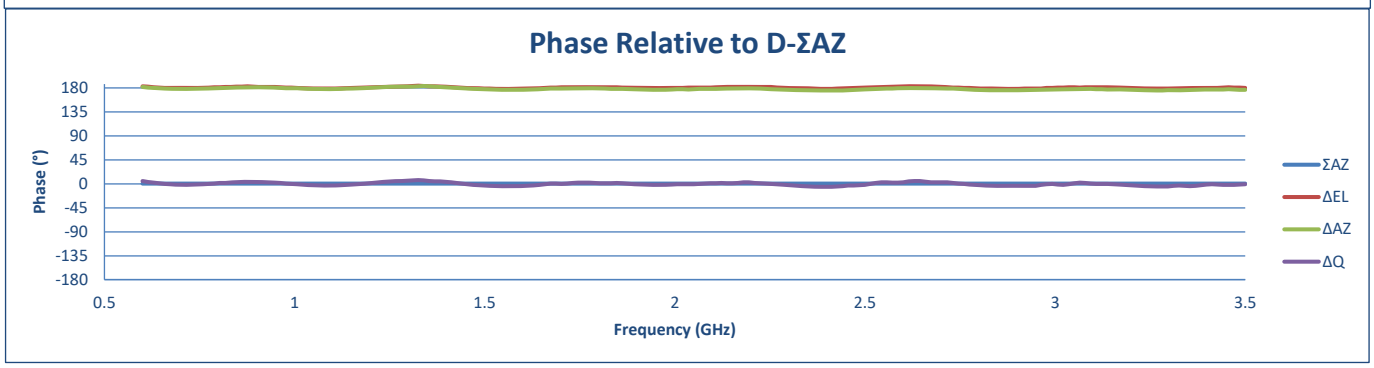

		A	B	C	D	ΣAZ	ΔAZ	ΔEL	ΔQ
Phase Data Relative to ΣAZ	A	-	Isolation	Isolation	Isolation	0°	-3°	180°	179°
	B	Isolation	-	Isolation	Isolation	0°	-4°	-1°	-2°
	C	Isolation	Isolation	-	Isolation	0°	181°	1°	181°
	D	Isolation	Isolation	Isolation	-	0°	179°	181°	1°
	ΣAZ	0°	0°	0°	0°	-	Isolation	Isolation	Isolation
	ΔAZ	-3°	-4°	181°	179°	Isolation	-	Isolation	Isolation
	ΔEL	180°	-1°	1°	181°	Isolation	Isolation	-	Isolation
	ΔQ	179°	-2°	181°	1°	Isolation	Isolation	Isolation	-

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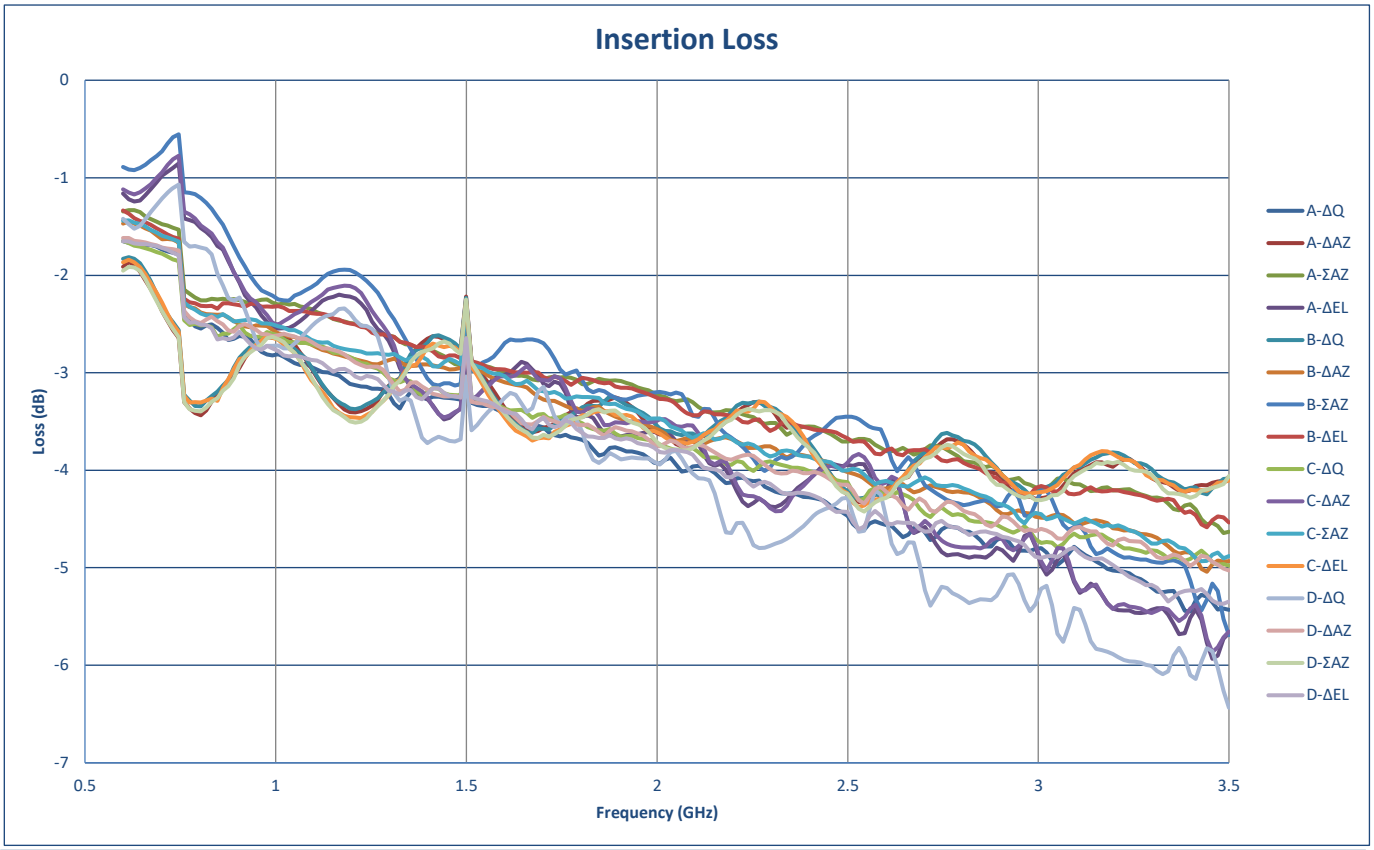
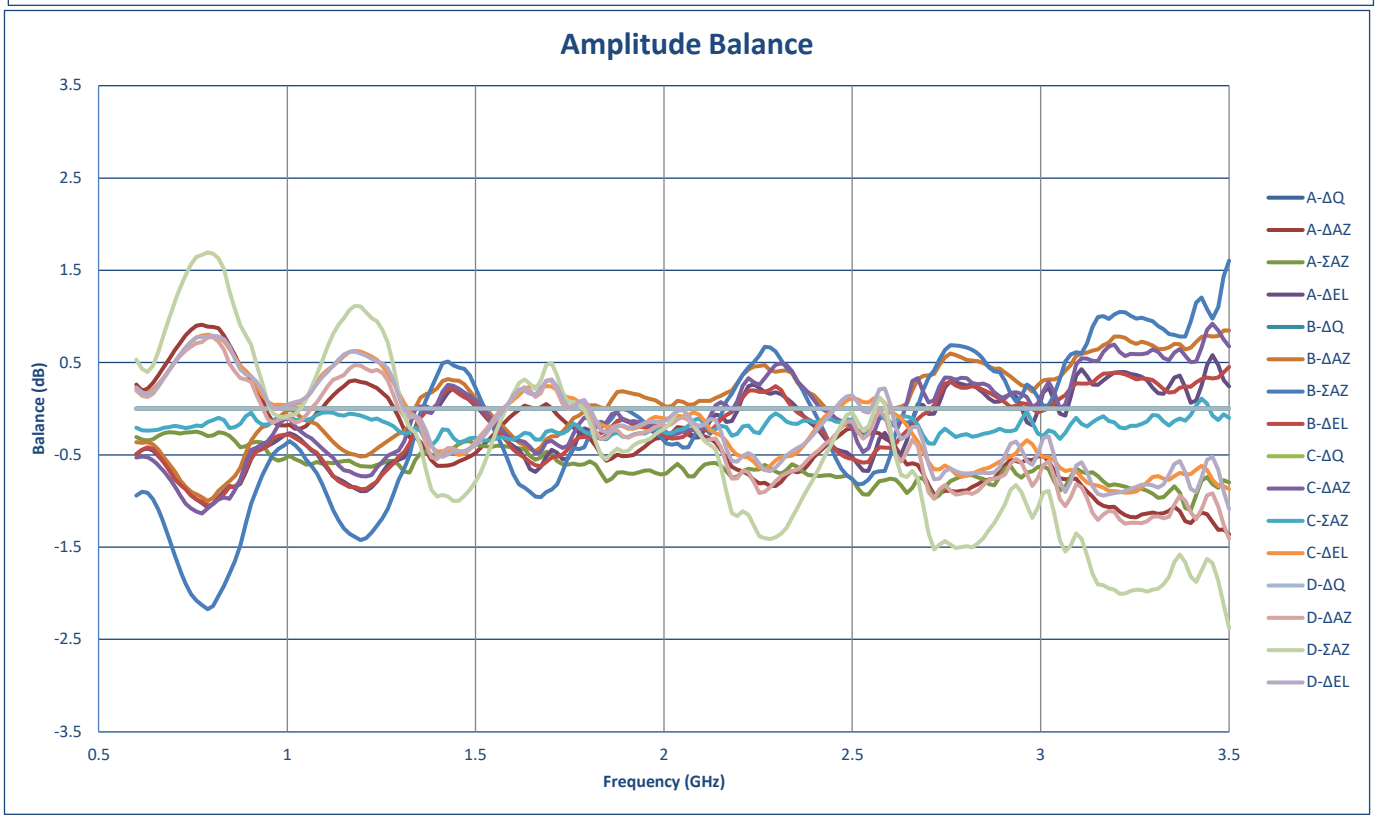
Data @ +85°C





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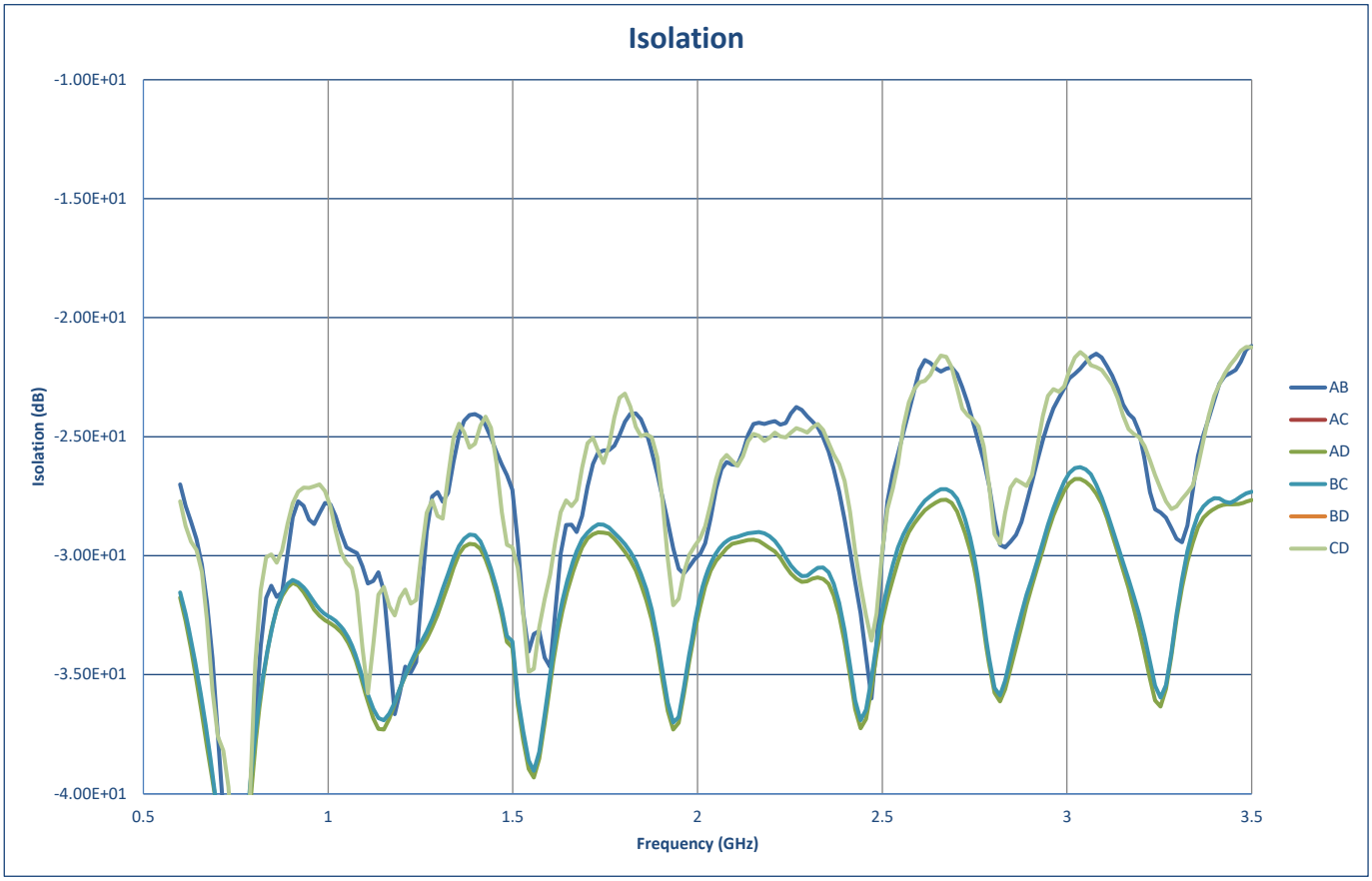

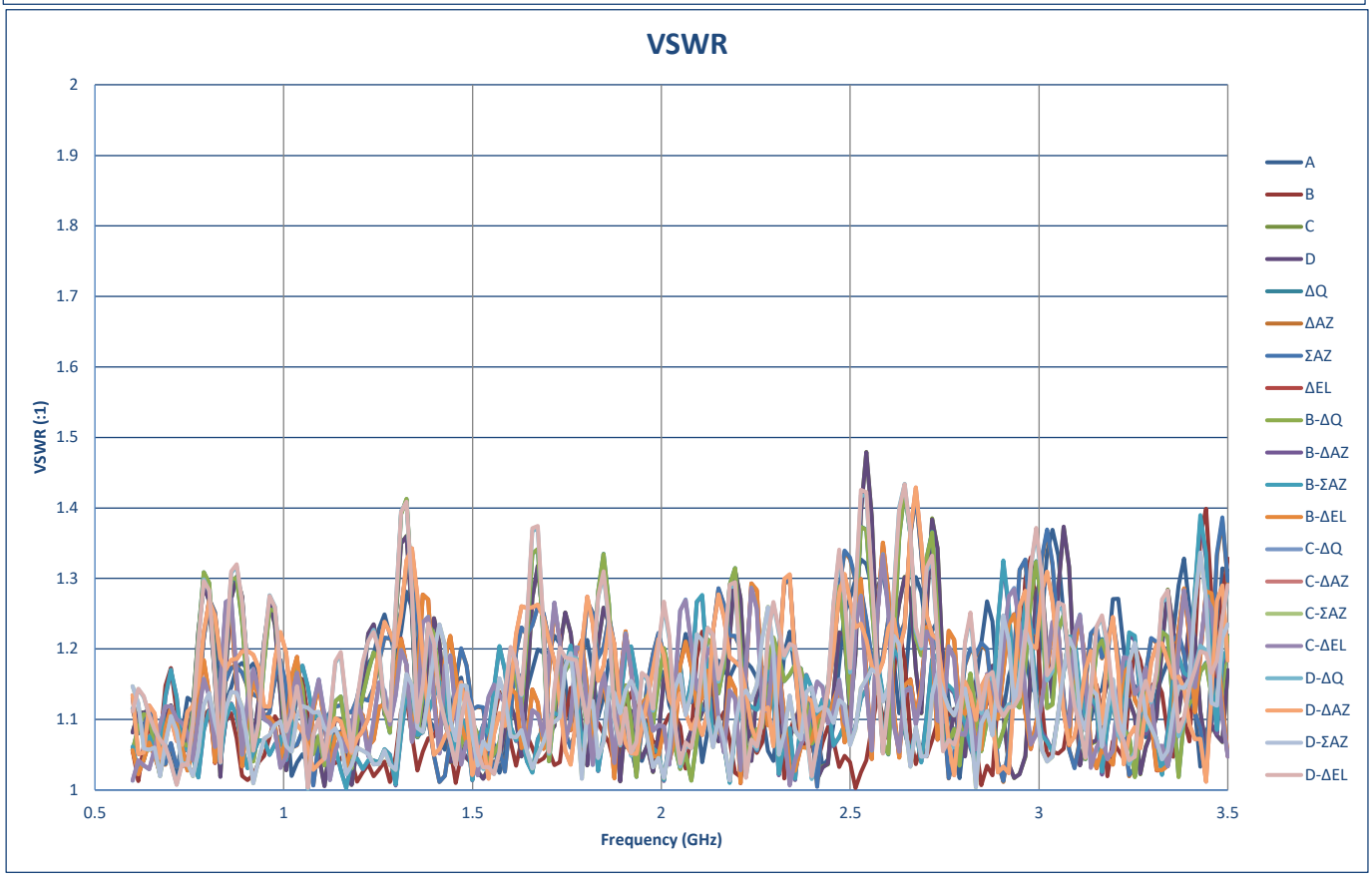

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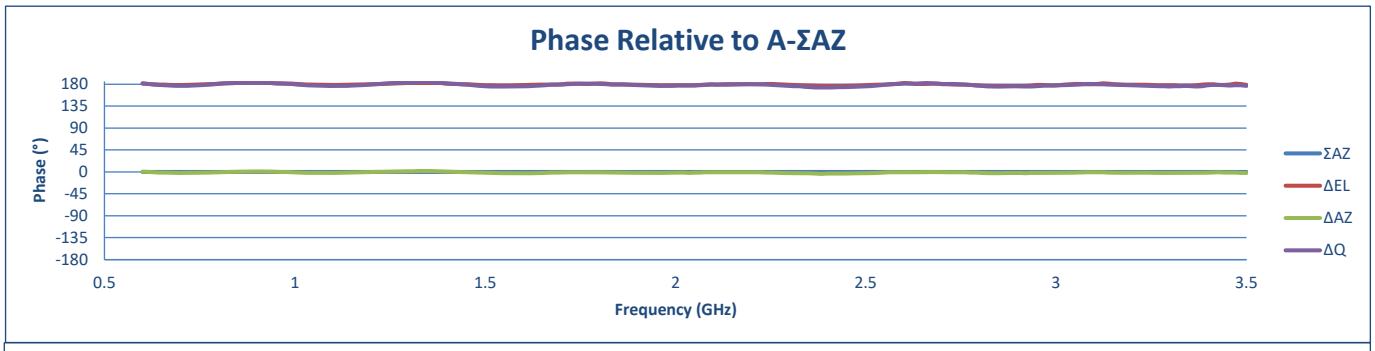

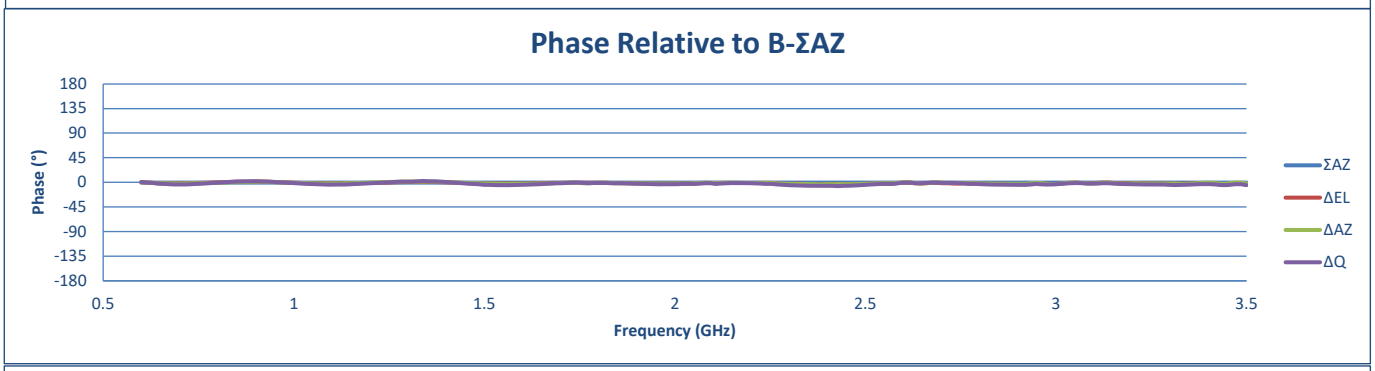

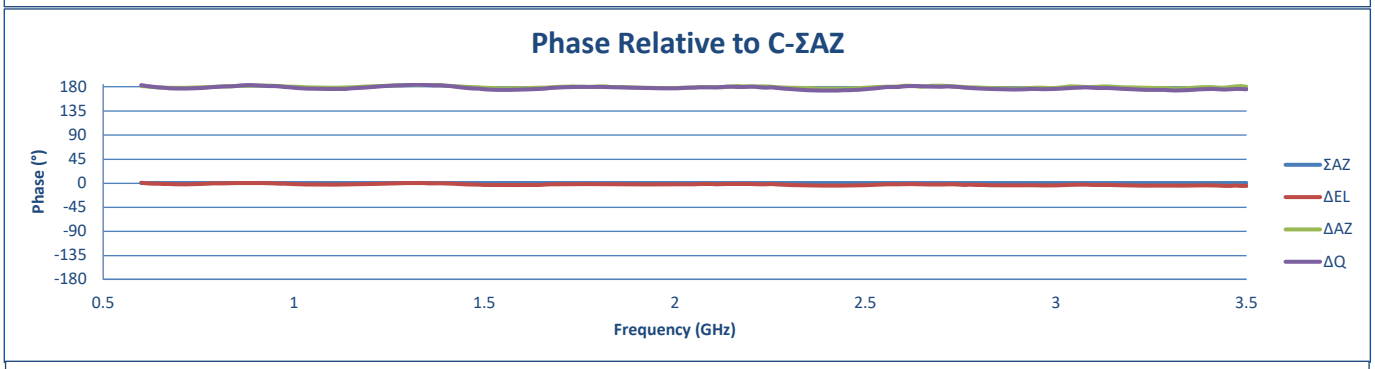

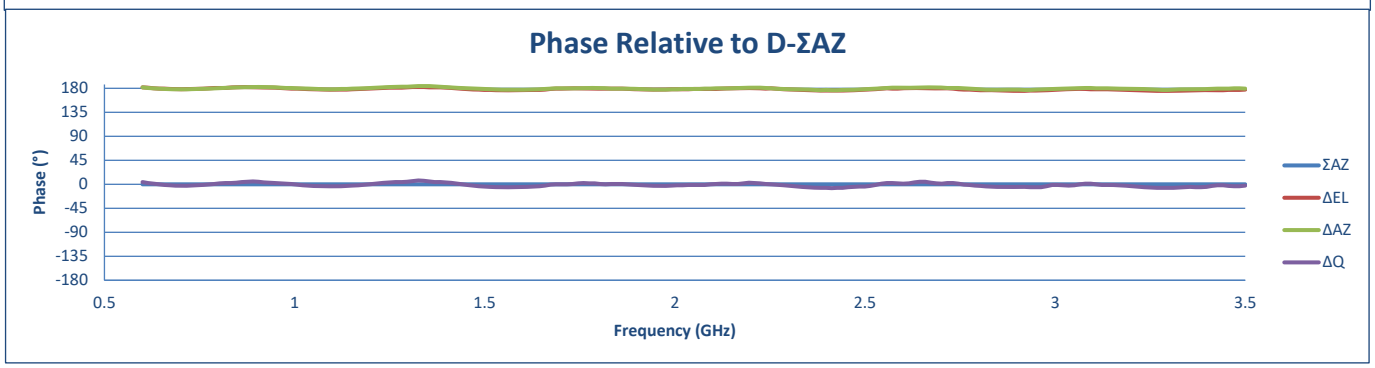

		A	B	C	D	ΣAZ	ΔAZ	ΔEL	ΔQ
Phase Data Relative to ΣAZ	A	-	Isolation	Isolation	Isolation	0°	-1°	180°	179°
	B	Isolation	-	Isolation	Isolation	0°	-1°	-1°	-2°
	C	Isolation	Isolation	-	Isolation	0°	180°	-2°	179°
	D	Isolation	Isolation	Isolation	-	0°	181°	179°	0°
	ΣAZ	0°	0°	0°	0°	-	Isolation	Isolation	Isolation
	ΔAZ	-1°	-1°	180°	181°	Isolation	-	Isolation	Isolation
	ΔEL	180°	-1°	-2°	179°	Isolation	Isolation	-	Isolation
	ΔQ	179°	-2°	179°	0°	Isolation	Isolation	Isolation	-

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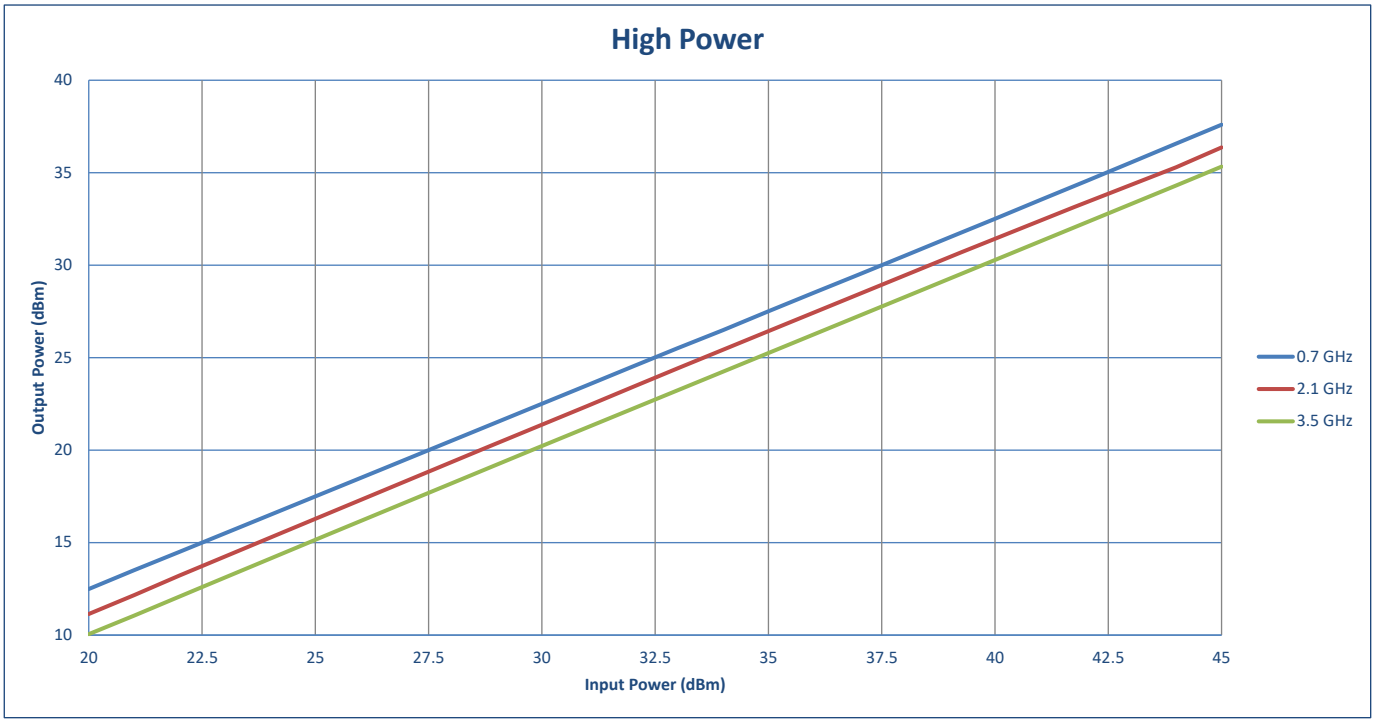

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