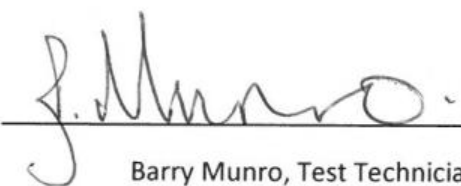
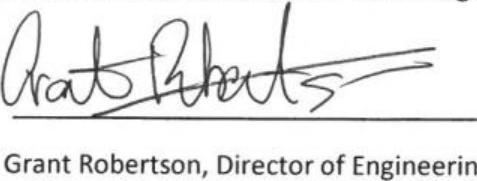


Smiths Interconnect Qualification Test Report
Report No: TML_QUAL_111
Revision A

ISO-SPLITTER (1:2)

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Rev	A								
Date	09.01.20								
ECN									

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3. Scope

This document describes the Test Qualification of product XPD303 Iso-Splitter (1:2). An internal platform qualification for Smiths Interconnect.

4. Order of Precedence

In case of a conflict between the text of this document and the applicable referenced documents, the text of this document shall take precedence.

5. Product Description

Product Part Number	Product description
XPD303	ISO-SPLITTER (1:2)
B108752	OUTLINE DRAWING
C108753	ASSEMBLY DRAWING

Table 1: Product description

6. Standard Atmospheric Test Conditions

All tests and examinations specified by this qualification test procedure will be continued under any combination of conditions within the ranges stated in this paragraph, unless specified otherwise.

Temperature: 23°C +/- 3°C

Relative Humidity: up to 60%

Barometric Pressure: 1 x 10⁻¹⁰ BarG – sea level 1023mBar

7. References

Document	Description	Source
TRAK_SPN_132	Specification for Ku Band Iso-splitter	Internal
25/108753/QUAL	Route Card	Internal
WIS-008	Work Instruction - Inspection Hi-Rel components	Internal

Product Part Number	QTY
XPD303	1

Table 2: References

8. Detailed Test Conditions; Key Specifications

Key Specification Parameters	
FREQUENCY	10.7 - 12.8 GHz
RETURN LOSS (50ohms) TYPE 2	18db min
INSERTION LOSS TYPE 2	1.4dB max
COUPLING LOSS TYPE 2	3.0dB max
OUTPUT AMPLITUDE BALANCE	0.5db max
PHASE BALANCE	± 10 DEGREES max
PHASE STABILITY vs TEMPERATURE	<4° phase/15°C
GROUP DELAY VARIATION	5.0 ns
ISOLATION	20db min
ELECTROMAGNETIC COMPATABILITY (EMC)	-80dBi max
POWER HANDLING	1 WATT
OPERATING TEMPERATURE	-25°C to +80°C
STORAGE TEMPERATURE	-40°C to +85°C

Table 3: Key specifications

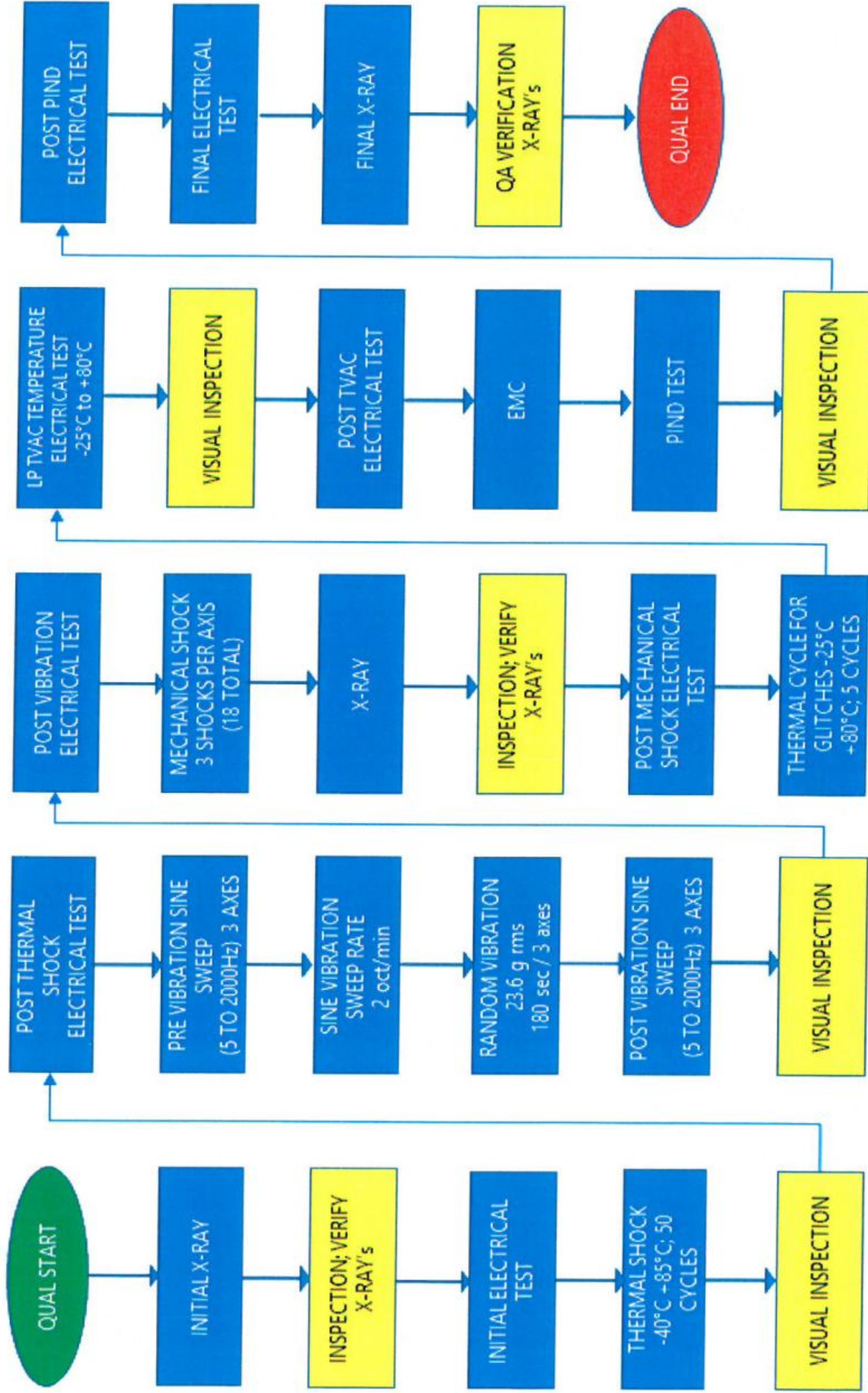


Figure 1: Qualification flow

9. Test Equipment

The Qualification Test Equipment used, including Calibration status.

Test Equipment Description	Type/Manufacturer	Serial No.	Calibration Due date
Vector Network Analyser	R&S ZVA50	1145.1110.50	21/02/2020
Thermal Shock Chamber	DSC	60016519254	16/04/2020
VibPilot Accelerometer	m+p International	B170194	06/08/2020
Vibration Test Equipment	V-TEQ	005-07	13/12/2020
VibPilot Accelerometer	m+p International	A13002	06/08/2020
K Calibration Kit	Anritsu	3652	28/08/2020
X-ray Equipment	X-TEK HARRIER 160Xi	T813	31/01/2020
Thermal Chamber	Theratron	34429	04/03/2020
Signal Generator	Anritsu MG3692B	64003	19/10/2020

Table 4: Test equipment and calibration details

10. Test Equipment Images

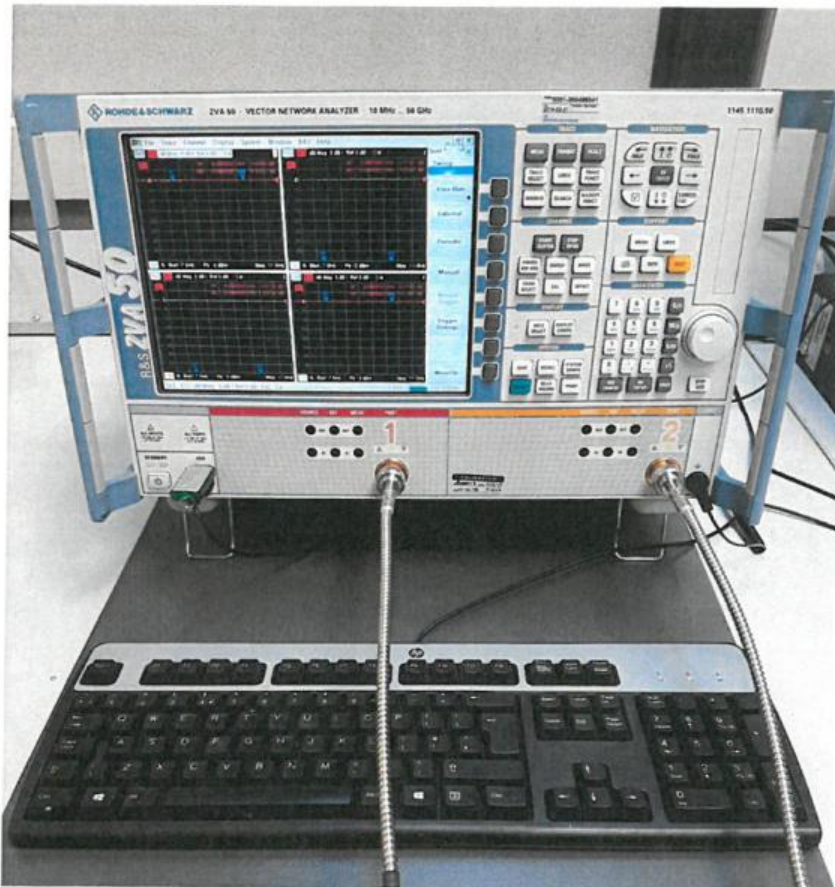


Figure 2: ZVA50 Vector Network Analyser



Figure 3: Anritsu K Calibration Kit



Figure 4: DSC Thermal Shock Chamber



Figure 5: m+p Accelerometer, used for Vibration



Figure 6: V-TEQ Vibration

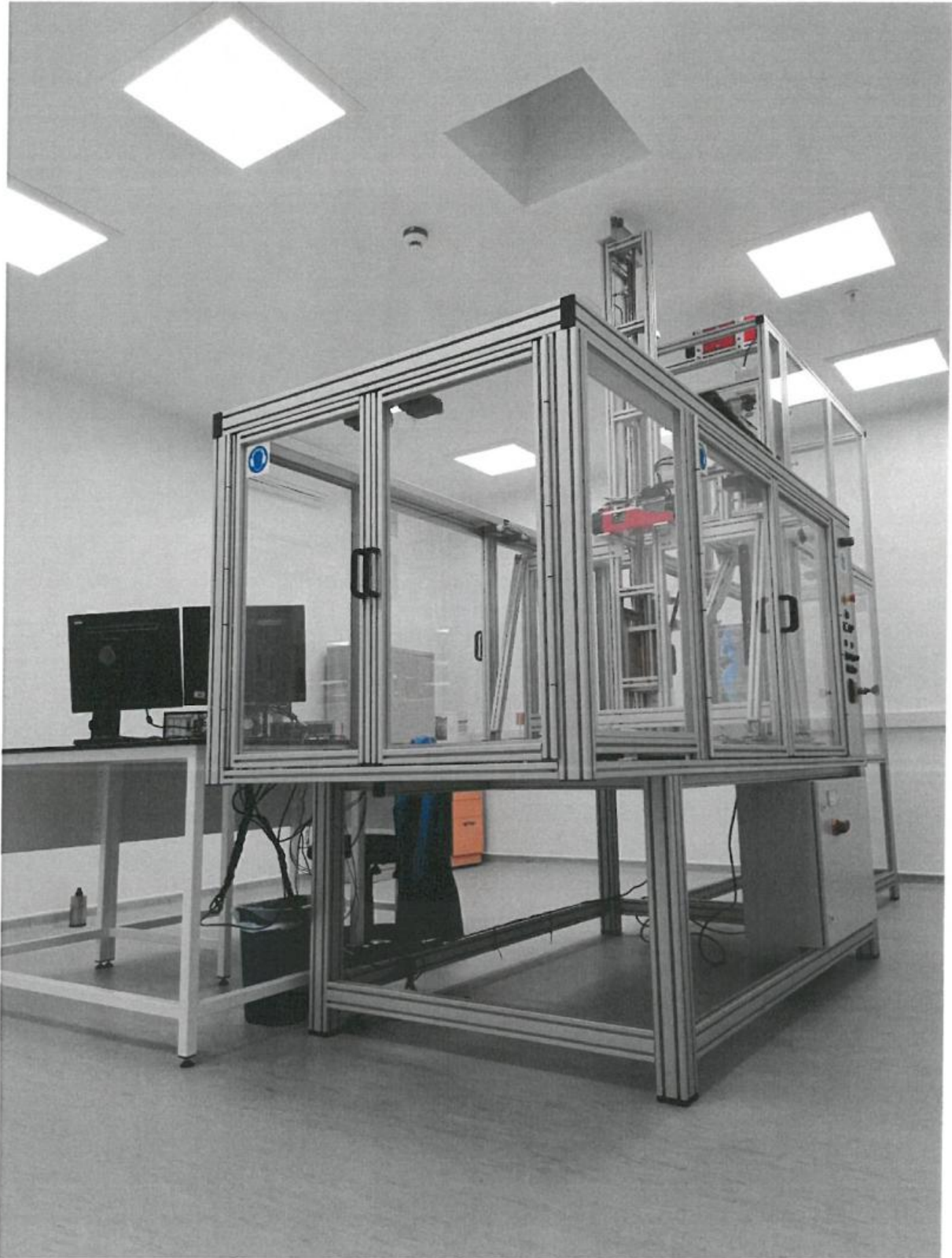


Figure 7: SPTechnologies SRS Shock machine

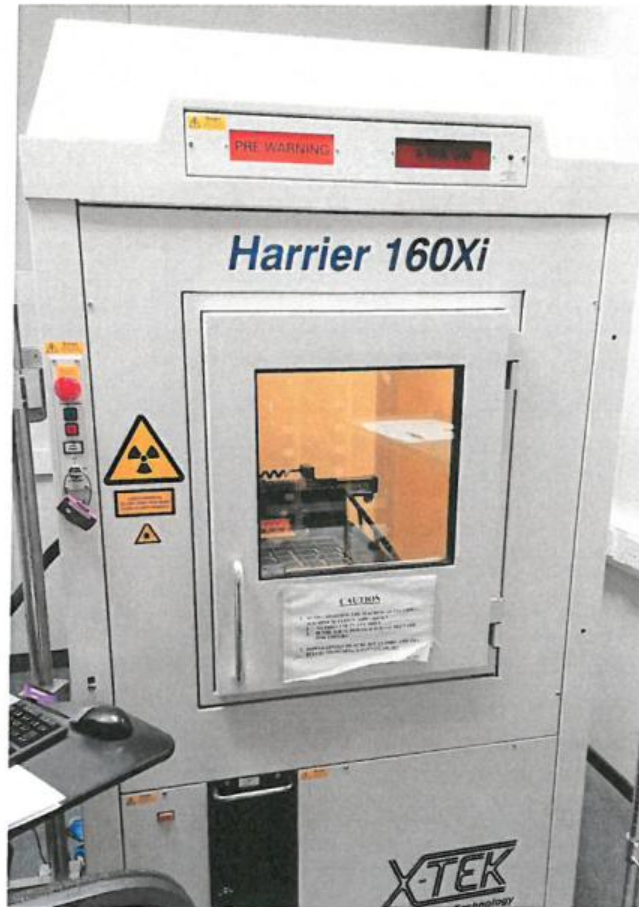


Figure 8: X-TEK HARRIER 160Xi X-ray machine



Figure 9: Thermal Glitch setup

11. Test Results Summary

The Qualification test summary is shown in figure 10. All tests passed successfully.

Test Description/Procedure	Critical Conditions	Result	Pass/Fail/Criteria
Initial X-ray	Visual	Pass	Compliant to WIS 008
Initial Electrical Test at 23°C	23°C± 3°C	Pass	Compliant to Table 3 params
Thermal Shock: Transfer 5min max	-40°C TO +85°C; 50 cycles, 30 min Dwells at each extreme	Pass	Stress profile within bounds
Inspection	Visual	Pass	Compliant to WIS 008
Post Thermal Shock Electrical Test at Ambient	23°C± 3°C	Pass	Compliant to Table 3 params
Pre Vibration (Sine) Sweep	(5 to 2000Hz) 3 axes	Pass	Stress profile within bounds
Sine Vibration Sweep	5-22.6Hz 0.25 ins (0-peak) 22.6-50Hz 13.0g 50-100Hz 10.0g 2 oct/min	Pass	Stress profile within bounds
Random Vibration	23.6g rms 180 sec / 3 axes	Pass	Stress profile within bounds
Post Vibration (Sine) Sweep	(5 to 2000Hz) 3 axes	Pass	Stress profile within bounds
Inspection	Visual	Pass	Compliant to WIS 008
Post Vibration Electrical Test at Ambient	23°C± 3°C	Pass	Compliant to Table 3 params
Mechanical shock - All axis - 2 Directions	3 shocks per axis (18 total)	Pass	Stress profile within bounds
X-ray	Visual	Pass	Compliant to WIS 008
Post Mechanical Shock Electrical Test at Ambient	23°C± 3°C	Pass	Compliant to Table 3 params
Thermal cycle for glitches	-25°C to +80°C ± 3°C; 5 cycles	Pass	Stress profile within bounds
TVAC Temperature Test 1x 10 ⁻⁶	-25°C to +80°C ± 3°C; 60 min dwells	Pass	Compliant to Table 3 params
Inspection	Visual	Pass	Compliant to WIS 008
Post TVAC Electrical Test at Ambient	23°C± 3°C	Pass	Compliant to Table 3 params
EMC	-80dBi min	Pass	Compliant to Table 3 params
PIND Test	20g peak 40Hz	Pass	No noise detected
Post PIND Electrical Test at Ambient	23°C± 3°C	Pass	Compliant to Table 3 params
Final Electrical Test at 23°C	23°C± 3°C	Pass	Compliant to Table 3 params
Final X-ray	Visual	Pass	Compliant to WIS 008

Figure 10: Qualification Test Result Summary

ISO-SPLITTER (1:2) XPD303	SPECIFICATION	INITIAL ELECTRICAL		POST THERMAL SHOCK		POST VIBRATION		POST MECHANICAL SHOCK		POST TVAC		POST PIND		FINAL ELECTRICAL	
		10.7GHz - 12.86GHz	10.7GHz	12.86GHz	10.7GHz	12.86GHz	10.7GHz	12.86GHz	10.7GHz	12.86GHz	10.7GHz	12.86GHz	10.7GHz	12.86GHz	10.7GHz
MEASUREMENT															
PORT1 (dB)	18dB (min)	22.9	21.4	21.2	22.5	23.0	21.0	20.7	23.2	22.0	20.9	21.7	21.5	21.9	21.0
PORT2 (dB)	18dB (min)	29.4	26.6	26.6	29.2	29.3	27.2	27.0	29.1	28.3	26.5	28.5	26.6	28.7	2.5
PORT3 (dB)	18dB (min)	25.0	33.8	32.6	25.7	26.2	35.2	35.4	25.7	25.8	34.0	25.9	34.2	25.8	35.1
GROUP DELAY P1-P2 (ns)	5.0 ns	3.6	3.5	3.5	3.6	3.6	3.5	3.5	3.6	3.6	3.5	3.6	3.6	3.6	3.6
GROUP DELAY P1-P3 (ns)	5.0 ns	3.6	3.5	3.5	3.6	3.6	3.5	3.5	3.6	3.5	3.6	3.6	3.6	3.6	3.6
INSERTION PHASE P1-P2 (°)	± 10°C (max)	170.7	170.9	171.2	171.0	170.3	170.4	170.2	170.1	170.2	170.3	171.0	171.2	171.1	171.0
INSERTION PHASE P1-P3 (°)	± 10°C (max)	171.9	171.4	171.8	172.2	171.5	171.0	170.9	171.4	171.5	171.0	172.0	171.5	171.6	171.2
ISOLATION P2-P1 (dB)	20 dB (min)	23.8	21.7	21.8	23.9	24.0	21.8	21.8	24.0	24.0	21.8	23.8	21.8	23.9	23.8
ISOLATION P3-P1 (dB)	20 dB (min)	22.4	21.3	21.4	22.5	22.7	21.5	21.5	22.7	22.6	21.4	22.8	21.3	22.8	21.4
ISOLATION P2-P3 (dB)	20 dB (min)	42.7	38.3	38.3	42.7	43.0	38.2	38.3	42.8	43.1	38.1	43.2	38.1	43.1	38.2
OUTPUT AMPLITUDE BALANCE (dB)	0.5 dB (max)	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
INSERTION LOSS P1-P2 (dB)	1.4 dB (max)	0.9	1.1	1.1	0.9	0.9	1.1	1.1	0.9	0.9	1.1	0.9	1.1	0.9	1.1
INSERTION LOSS P1-P3 (dB)	1.4 dB (max)	1.0	1.2	1.2	1.0	1.0	1.2	1.2	1.0	1.0	1.2	1.0	1.2	1.0	1.2

Figure 11: Tabulated Test Data

The above table concludes no significant electrical performance degradation or drift throughout the whole qualification. Correlation between initial and final electrical performance is very stable.

12. Initial X-ray Images

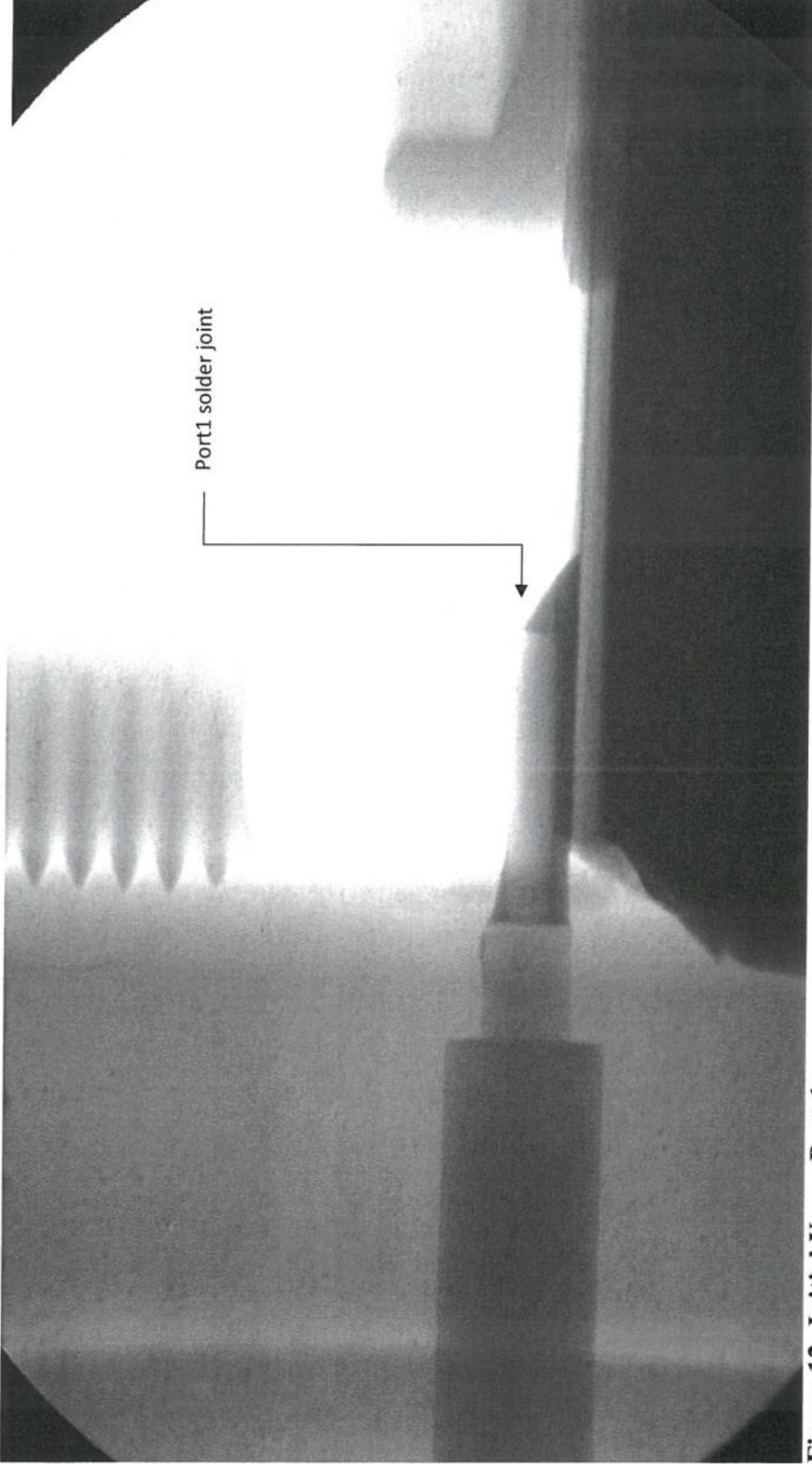


Figure 12: Initial X-ray Port 1

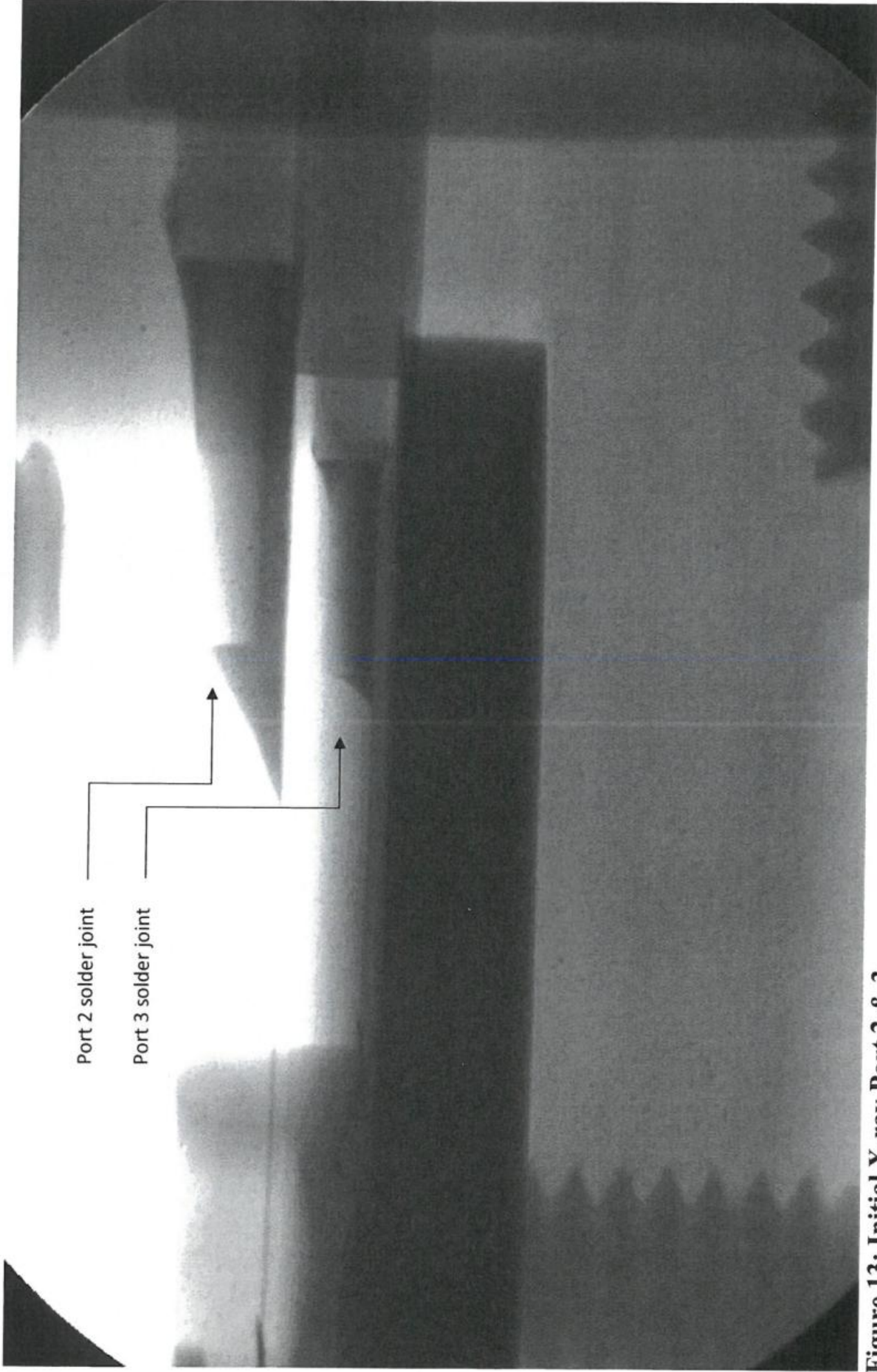


Figure 13: Initial X-ray Port 2 & 3

13. Initial Electrical Test

XPDP303 Rev B QUAL - Initial Electrical Test - P1 RETURN LOSS

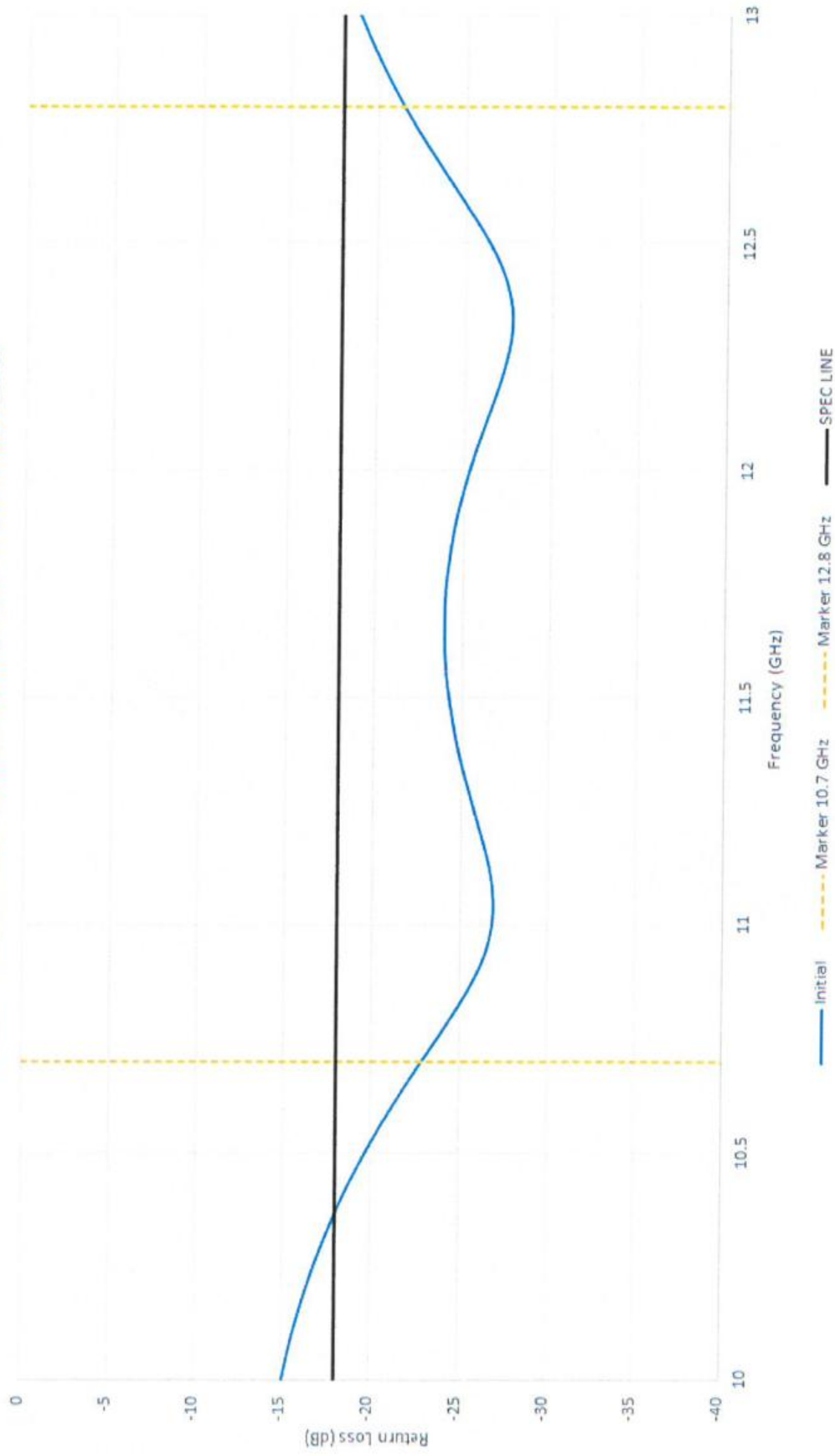


Figure 14: Port 1 Return loss

XPD303 Rev B QUAL - Initial Electrical Test - P2 RETURN LOSS

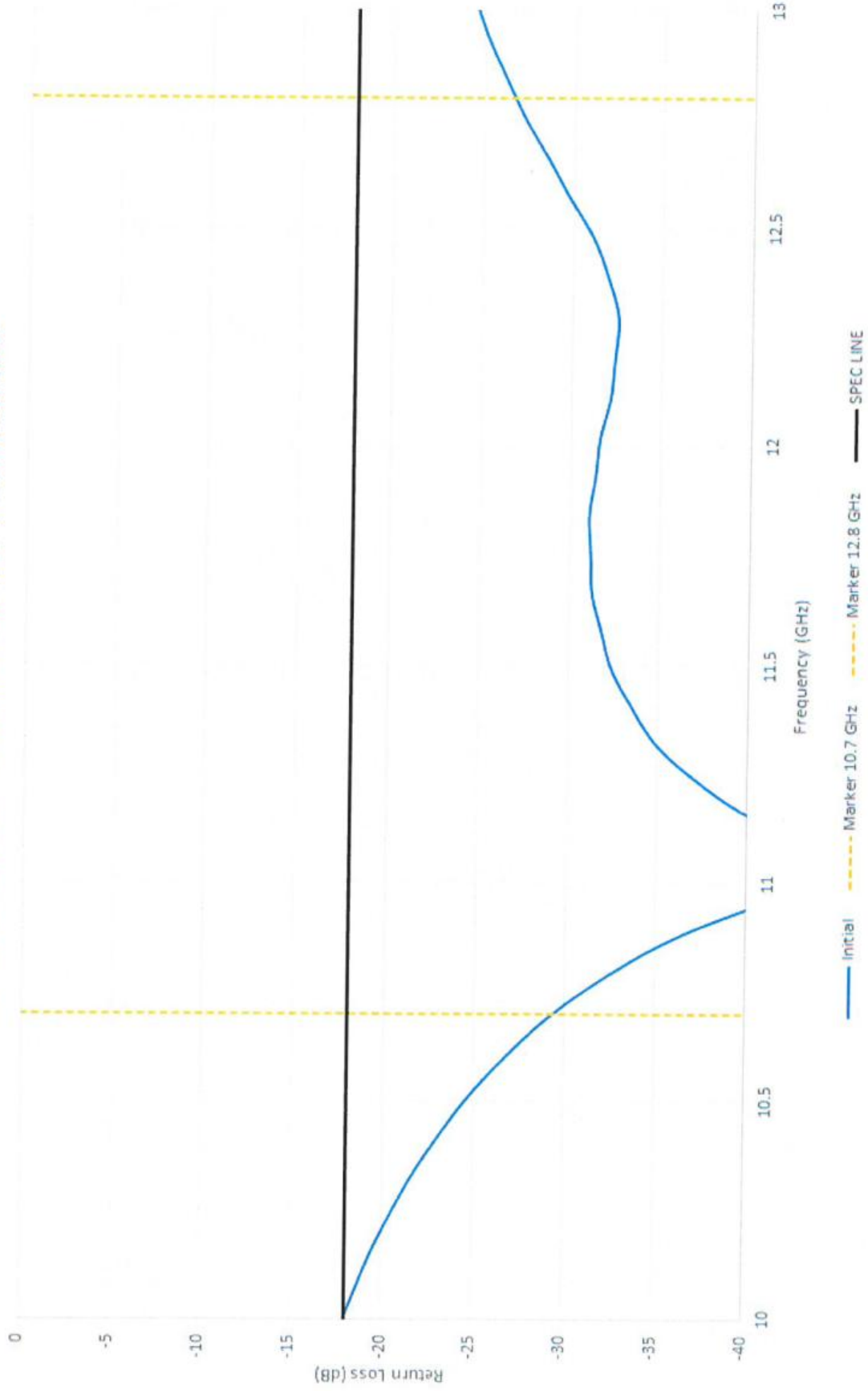


Figure 15: Port 2 Return loss

XPD303 Rev B QUAL - Initial Electrical Test - P3 RETURN LOSS

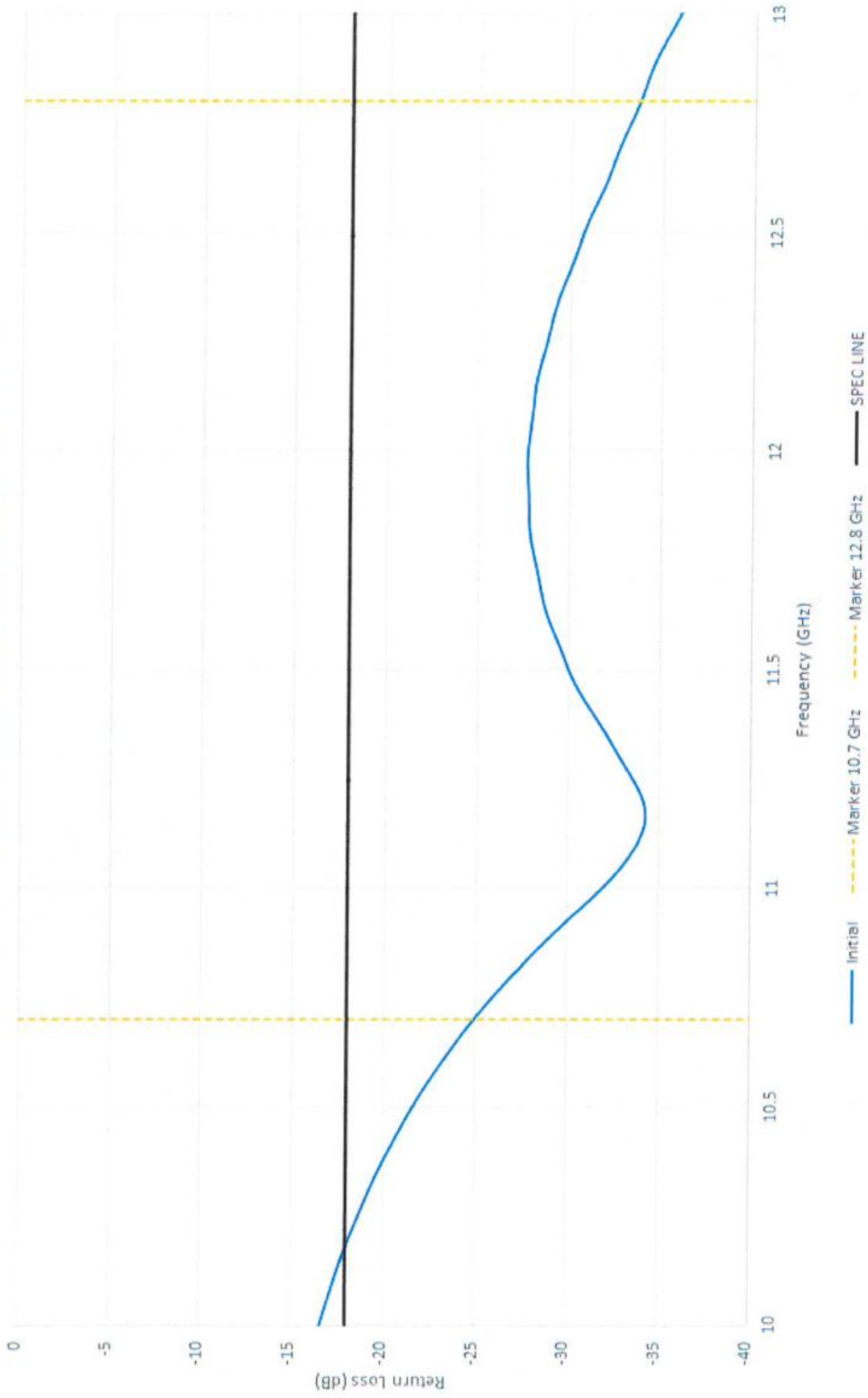


Figure 16: Port 3 Return loss

XPD303 Rev B QUAL - Initial Electrical Test - P1-P2 / P1-P3 GROUP DELAY VARIATION

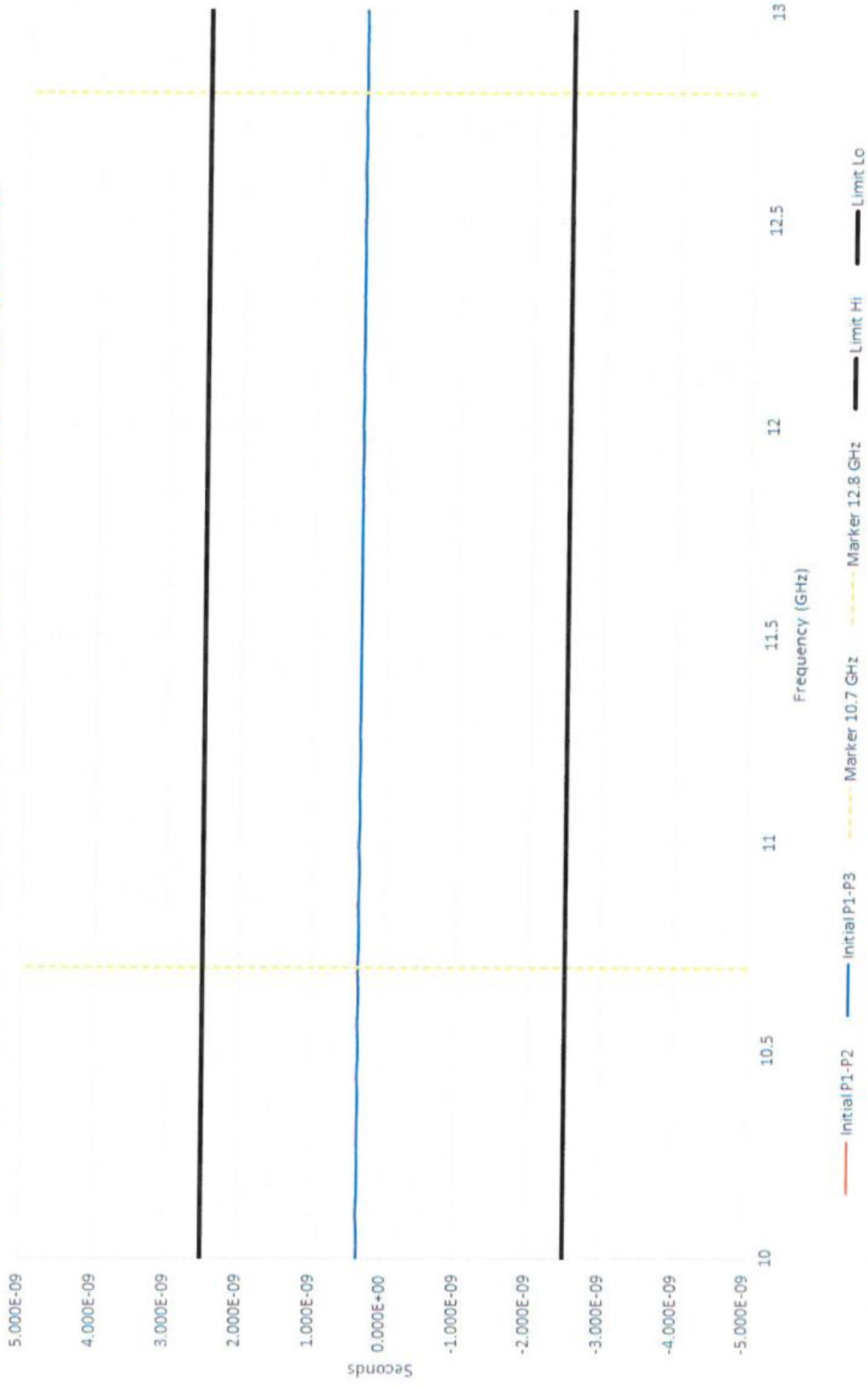


Figure 17: Group delay variation P1-P2 / P1-P3

XPD303 Rev B QUAL - Initial Electrical Test - P1-P2/P3 INSERTION PHASE BALANCE

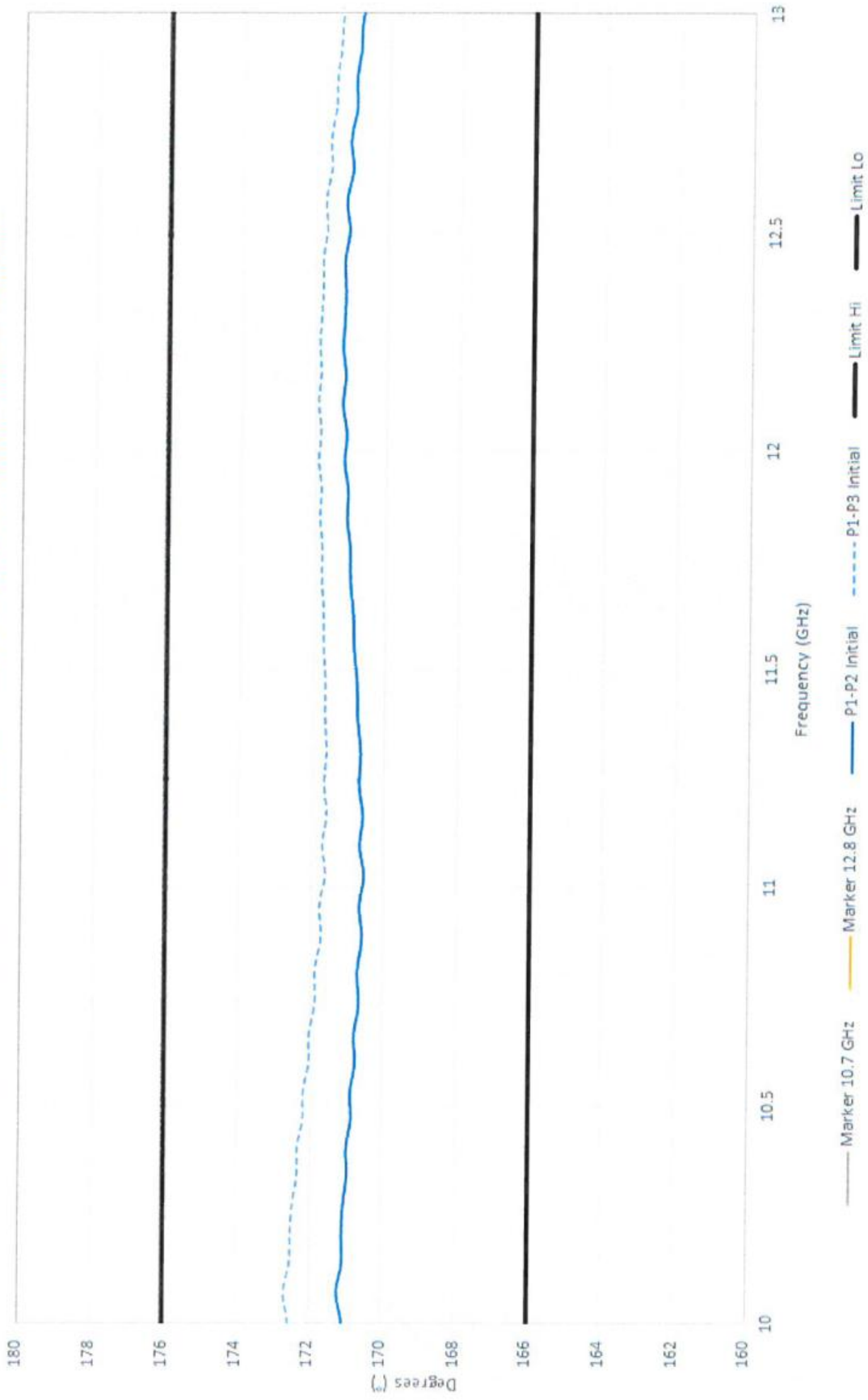


Figure 18: Insertion phase balance P1-P2 / P1-P3

XPD303 Rev B QUAL - Initial Electrical Test - P2-P1 ISOLATION

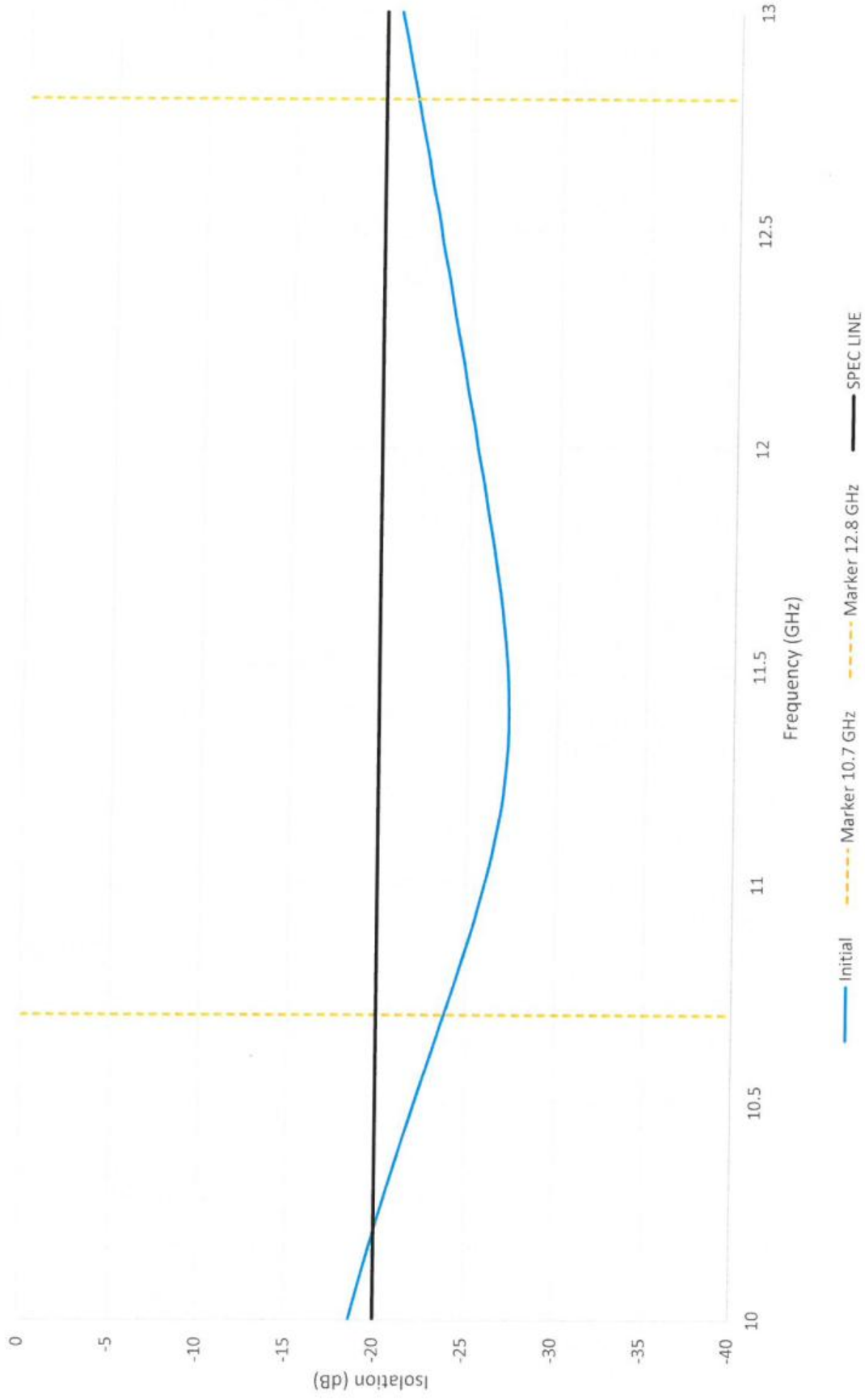


Figure 19: Isolation P2-P1

XPD303 Rev B QUAL - Initial Electrical Test - P3-P1 ISOLATION

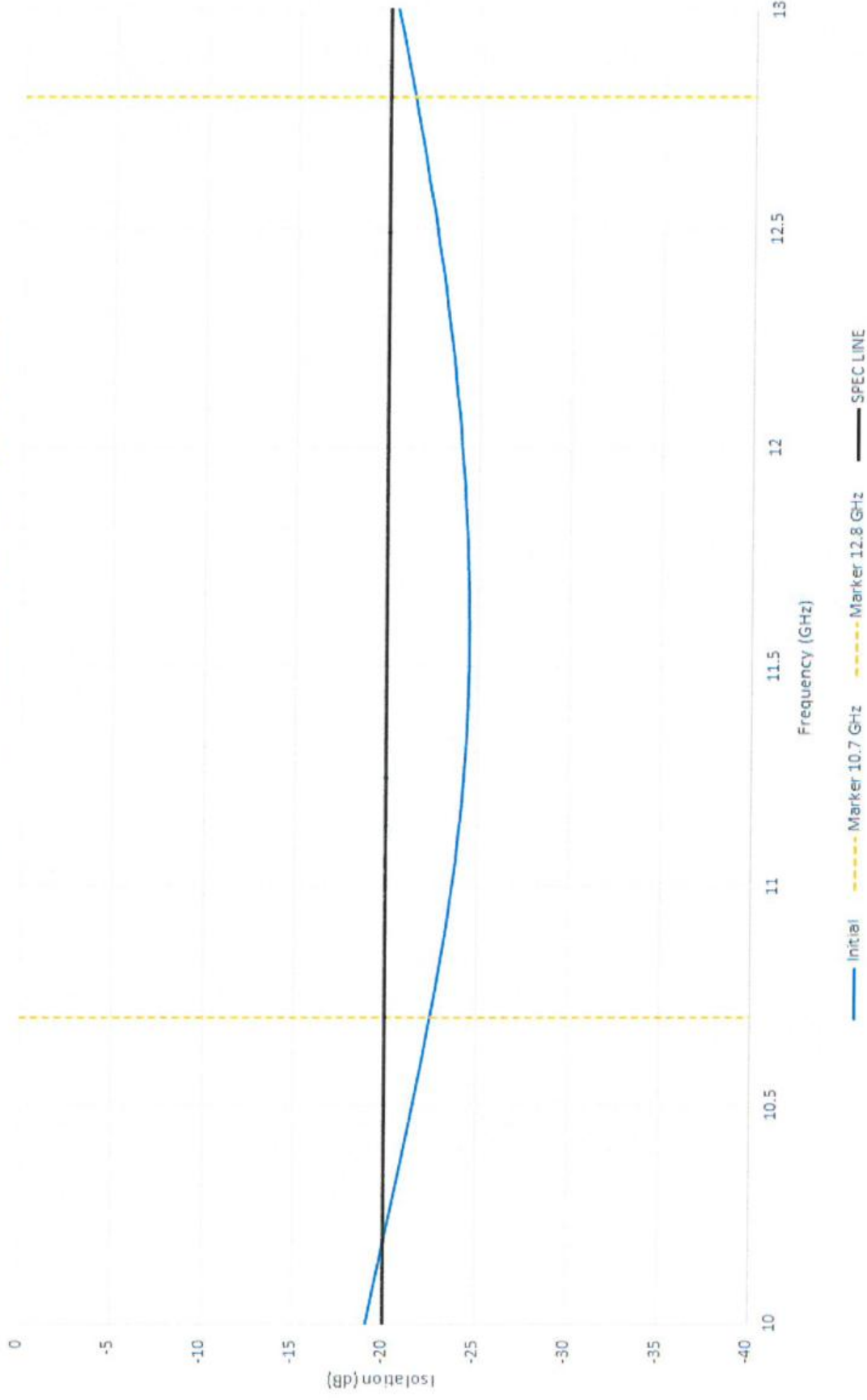


Figure 20: Isolation P3-P1

XPD303 Rev B QUAL - Initial Electrical Test - P2-P3 ISOLATION

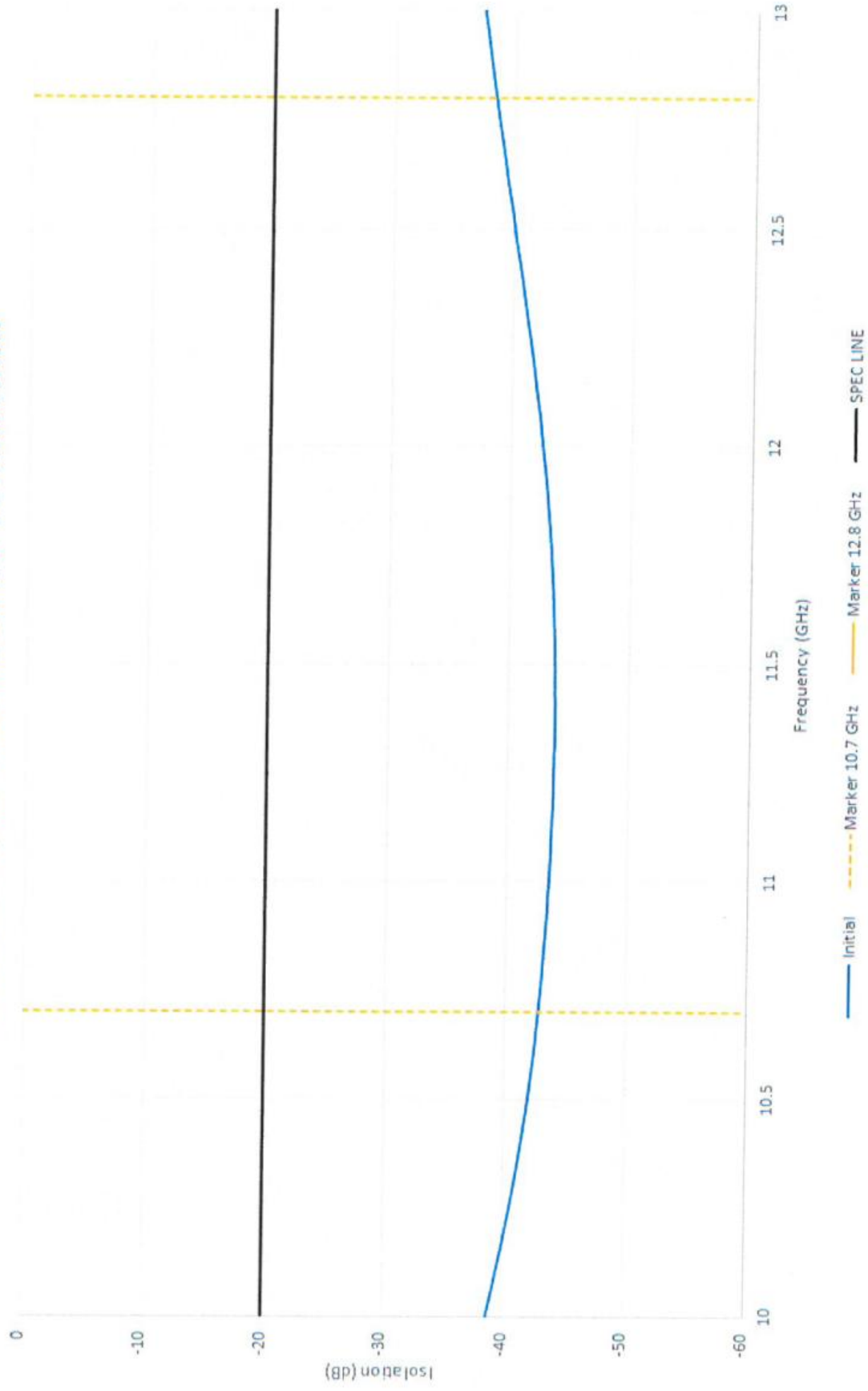


Figure 21: Isolation P2-P3

XPD303 Rev B QUAL - Initial Electrical Test - OUTPUT AMPLITUDE BALANCE P1-P2 - P1-P3

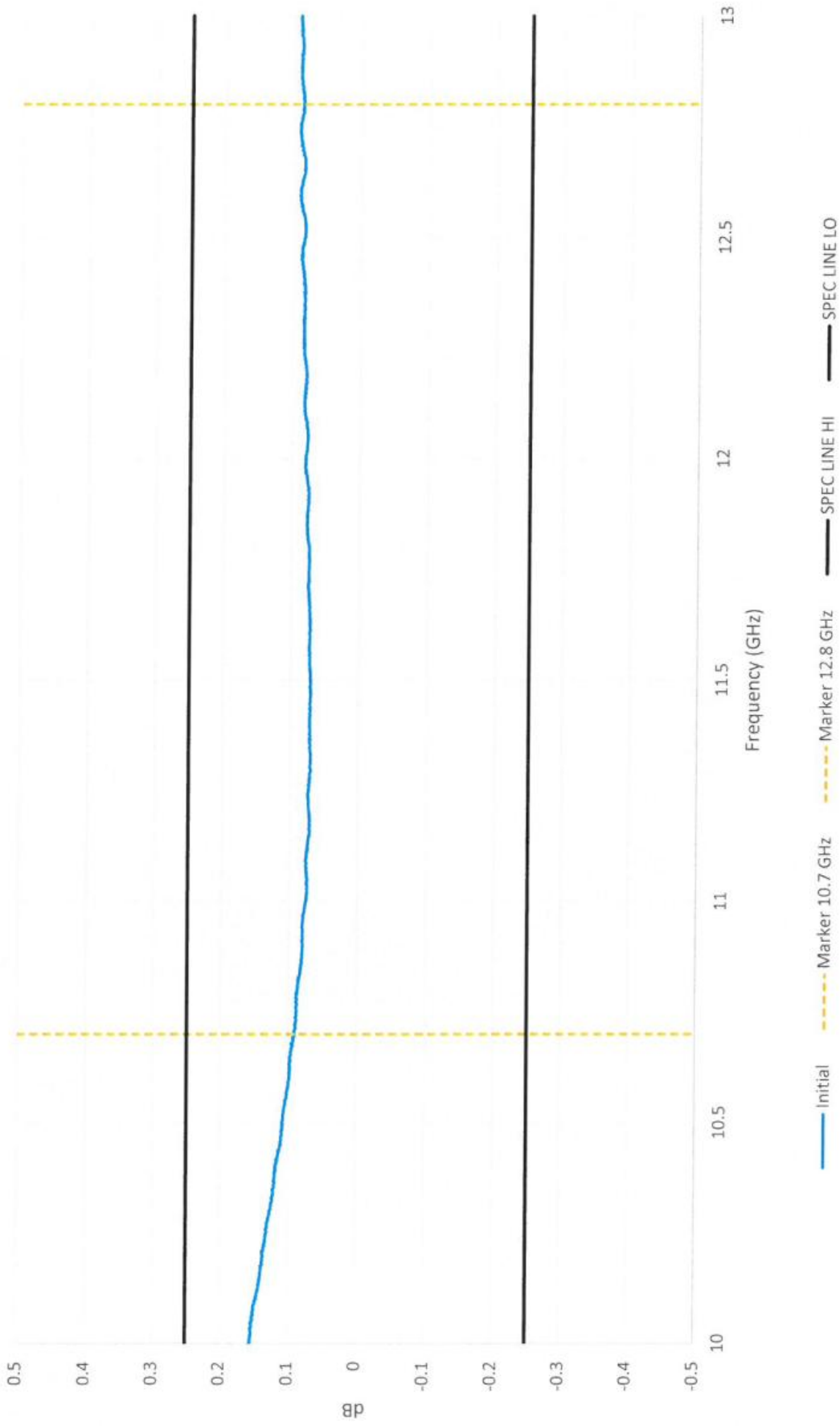


Figure 22: Output Amplitude Balance P1-P2 / P1-P3

XPD303 Rev B QUAL - Initial Electrical Test - P1-P2 INSERTION LOSS

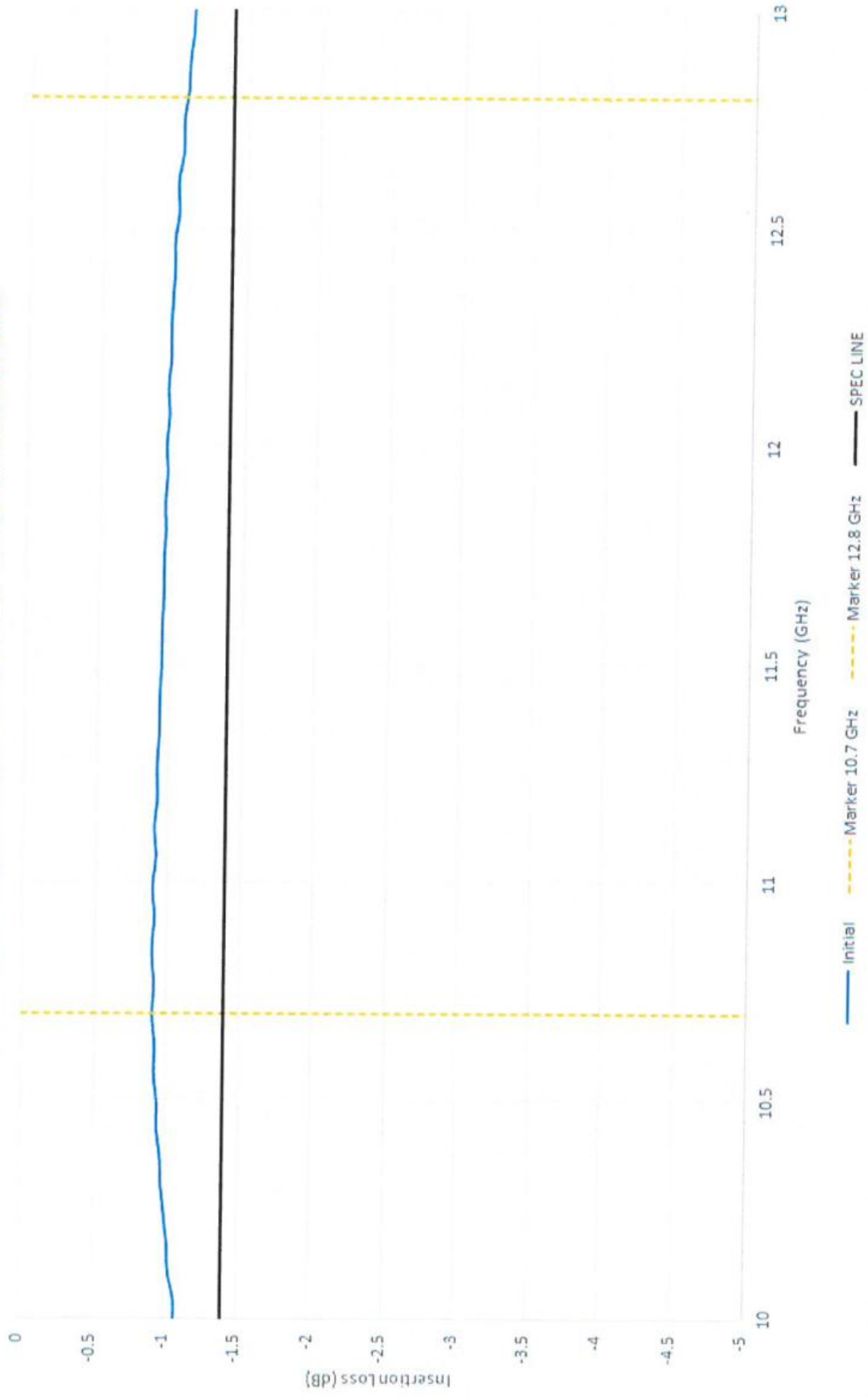


Figure 23: Insertion loss P1-P2

XPD303 Rev B QUAL - Initial Electrical Test - P1-P3 INSERTION LOSS



Figure 24: Insertion loss P1-P3

14. Qualification Test Profiles - Thermal Shock Test

XPD303 RevB QUAL - THERMAL SHOCK - 50 CYCLES
-40°C → +85°C

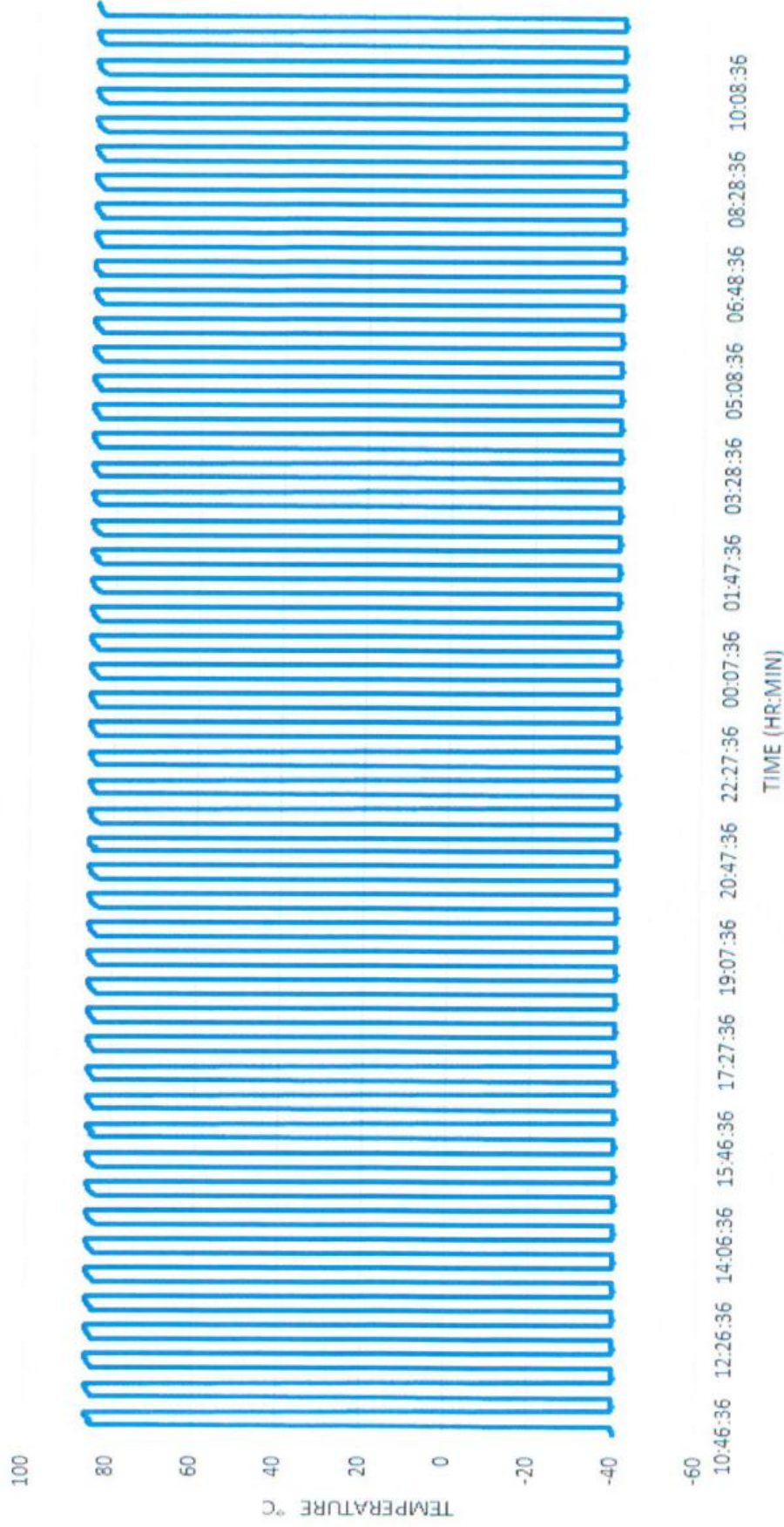
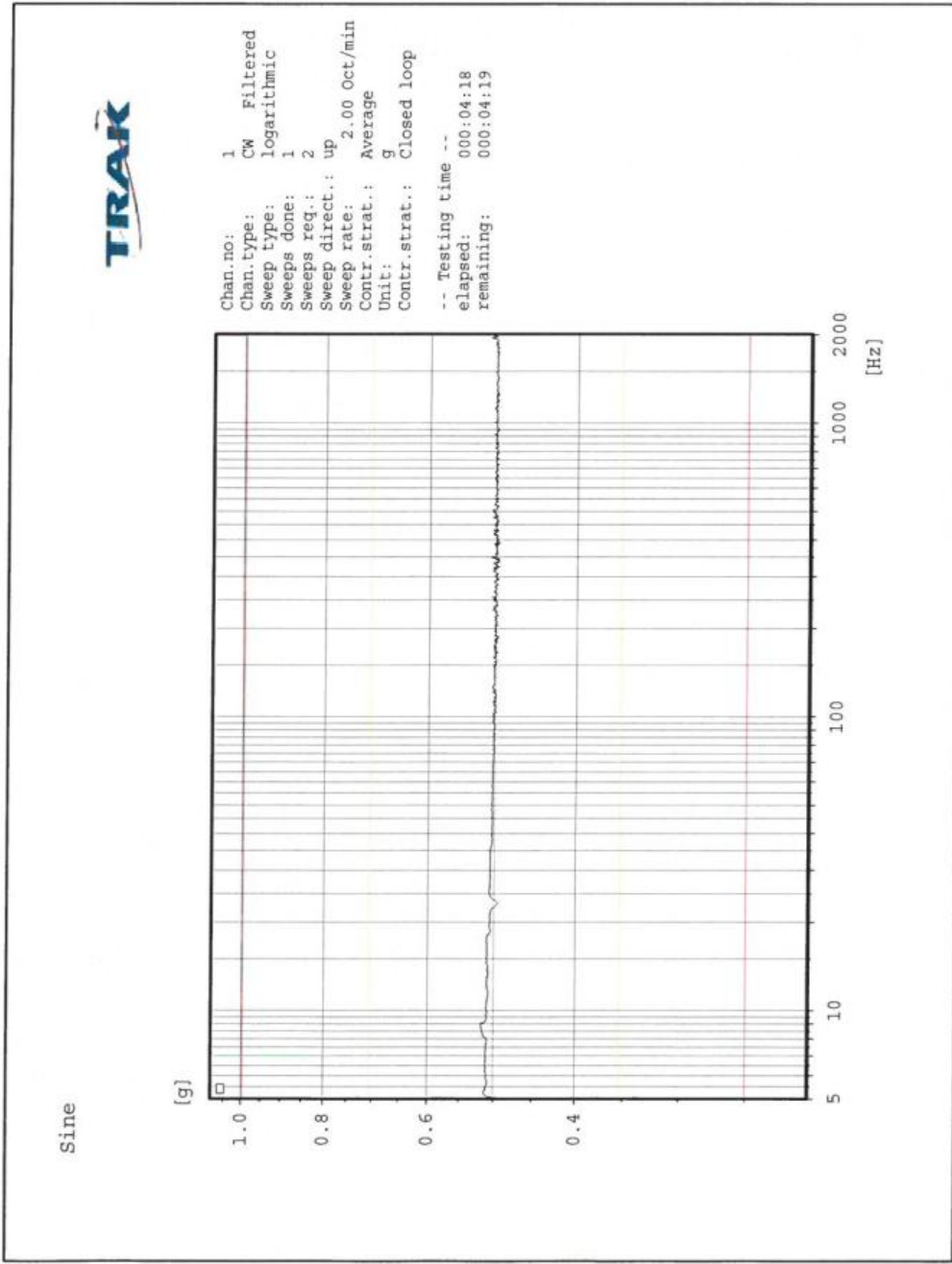


Figure 25: Thermal shock – 50 cycles

15. Qualification Test Profiles – Pre Sine Vibration



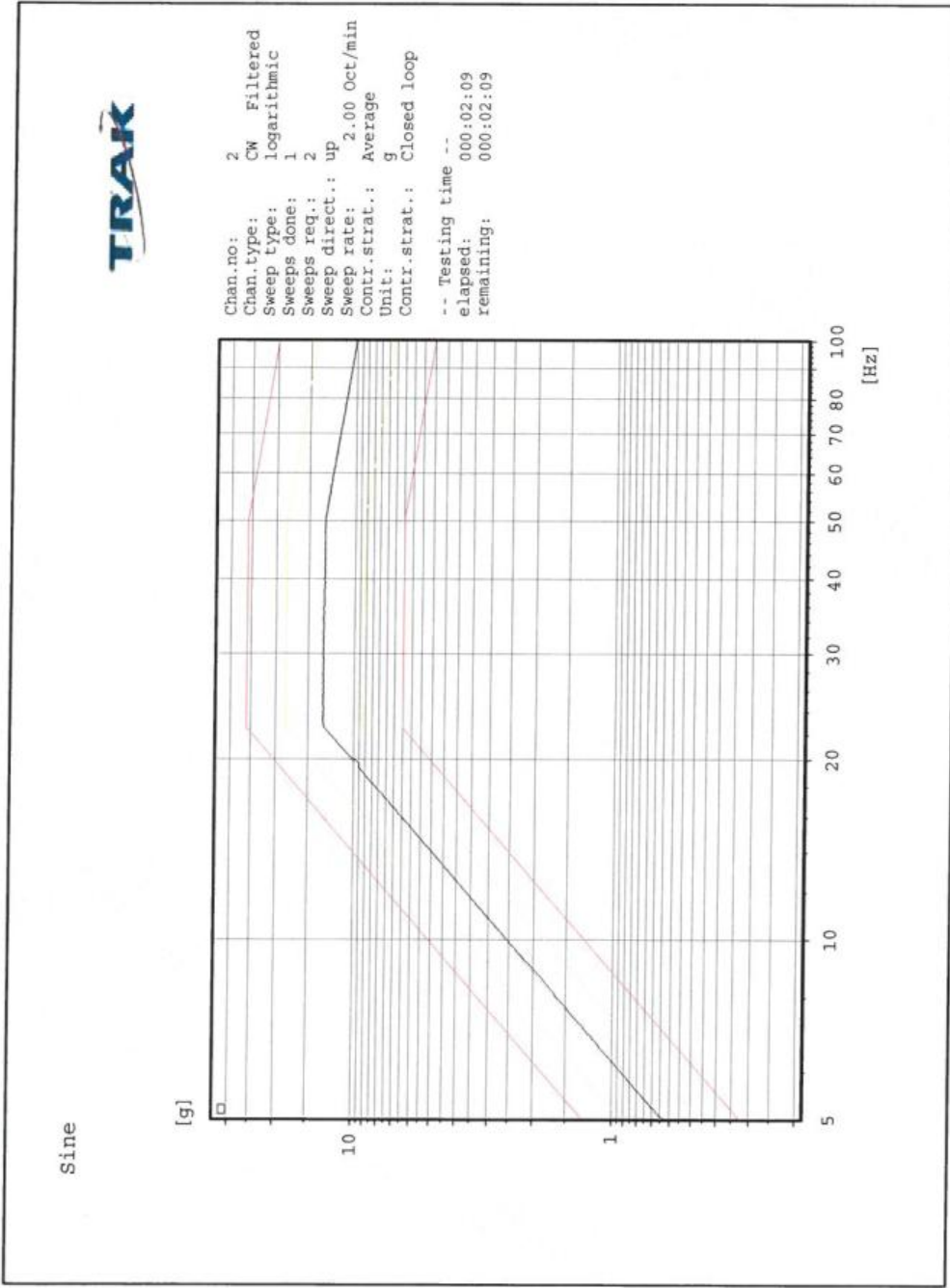
C:\VcpNT\Data\TRAK - Vibration Programs Backup\SINE\Sine Program 30_1347.rsn

Figure 26: Pre Sine Vibration (Typical)

Job Number: COTS+
 Model Number: XPD303
 Op No.: 90
 X Axis Y Axis Z Axis
 XXX

Pre Vibration Low level Sine (3-Axis)	
Frequency	Level
5 to 2000 Hz	Low level Sine covering full range
Duration	Covering full range, 3 mutually perpendicular axes

16. Qualification Test Profiles – Sine Vibration



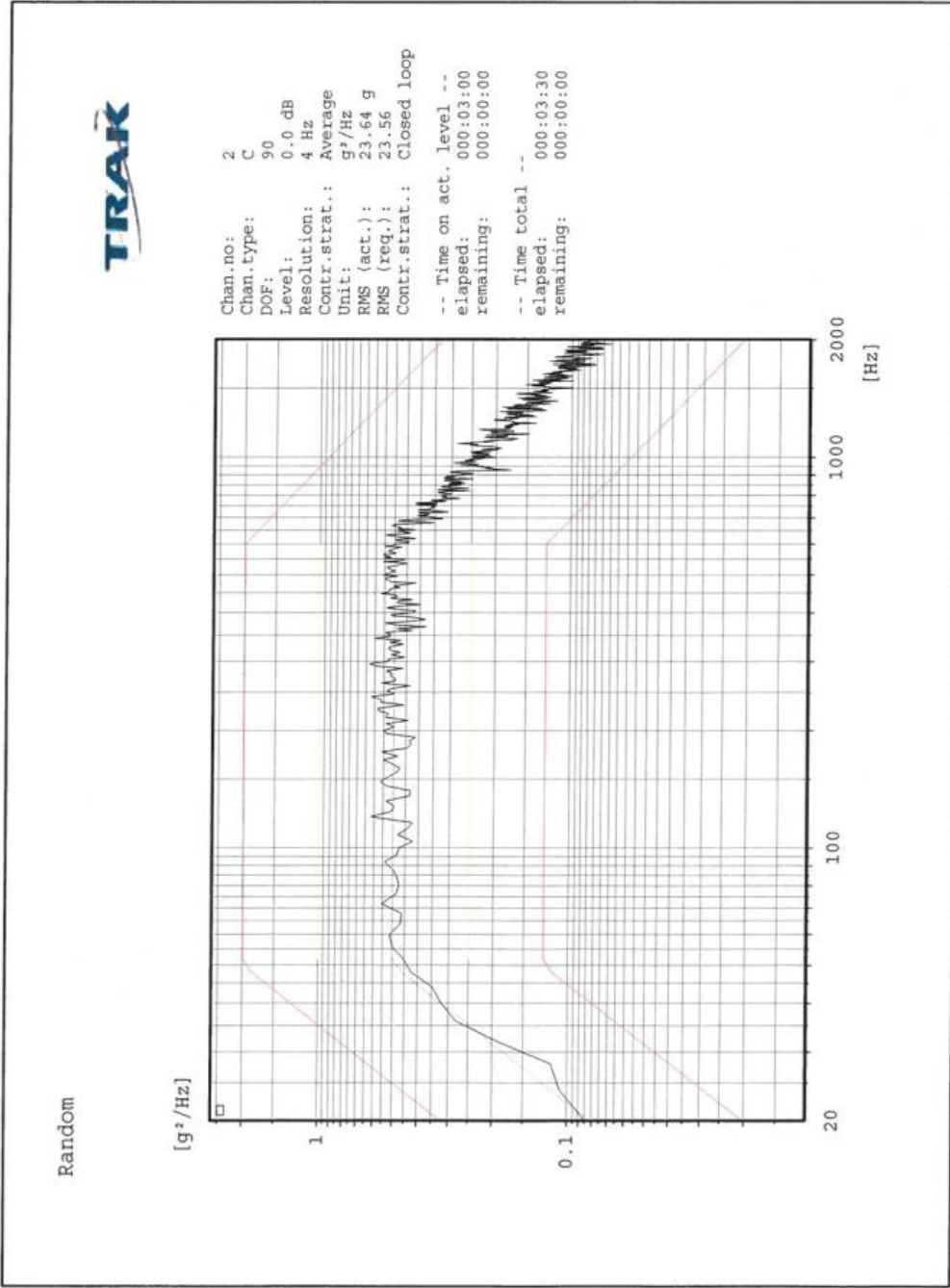
C:\VcpNT\Daten\TRAK - Vibration Programs Backup\SINE\Sine Program 34 - QM_028.rsn

Figure 27: Sine Vibration (Typical)

Job Number: COTS+
 Model Number: XPD303
 Op No: 100
 X Axis Y Axis Z Axis
 XXX

Sine Vibration (3-Axis)	
Frequency	Level
5-22.6 Hz	6.4mm (0.25 in.) (0-peak)
22.6-50 Hz	13.0 g
50-100 Hz	10.0 g
Duration	Sweep rate 2 octave/min, 3 mutually perpendicular axes

17. Qualification Test Profiles – Random Vibration

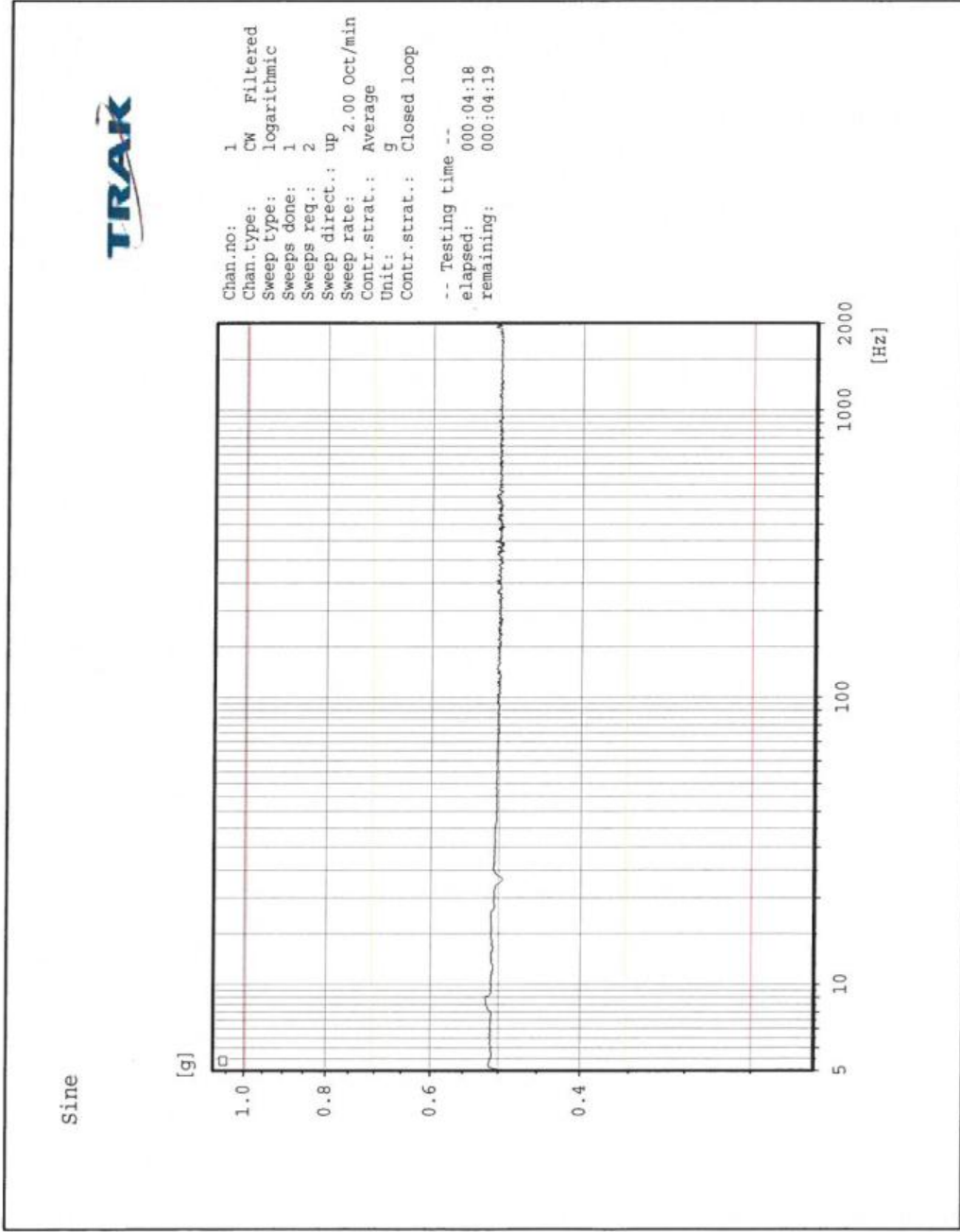


C:\VcpNT\Daten\TRAK - Vibration Programs Backup\RANDOM\Random Program 132 - QM_029.rtt

Figure 28: Random Vibration (Typical)

Job Number: COTS+
 Model Number: XPD303
 Op No: 110
 X Axis Y Axis Z Axis
 XXX

18. Qualification Test Profiles – Post Sine Vibration



C:\VcpMT\Daten\TRAK - Vibration Programs Backup\SINE\Sine Program 30_1347.rsn

Figure 29: Post Sine Vibration (Typical)

Job Number: COTS+
 Model Number: XPD303
 Op No.: 120
 X Axis
 Y Axis
 Z Axis
 XXX

Post Vibration Low level Sine (3-Axis)	
Frequency	Level
5 to 2000 Hz	Low level Sine covering full range
Duration	Covering full range, 3 mutually perpendicular axes

19. Qualification Test Profiles – Mechanical Shock

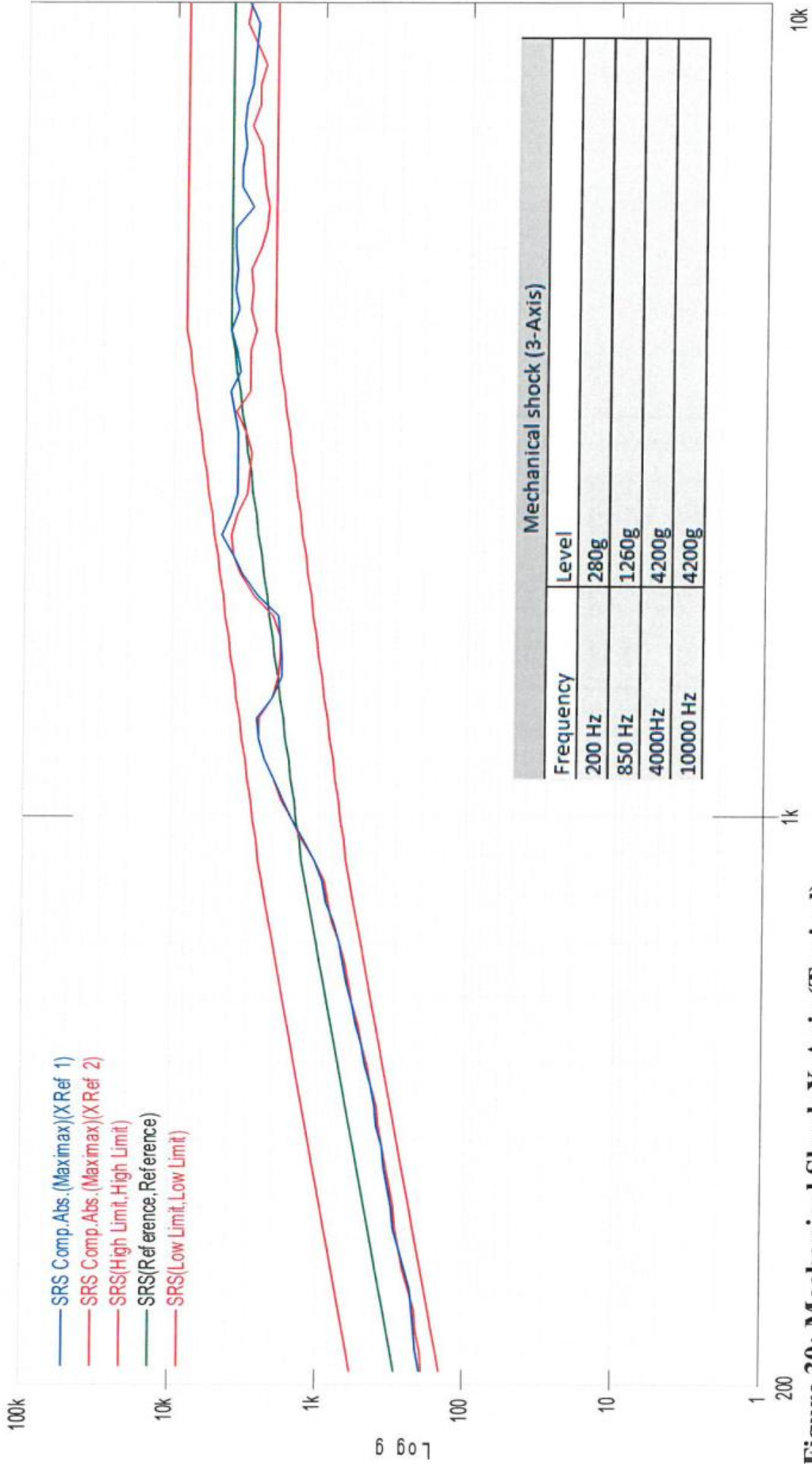


Figure 30: Mechanical Shock X-Axis (Typical)

20. Qualification Test Profiles – X-Ray

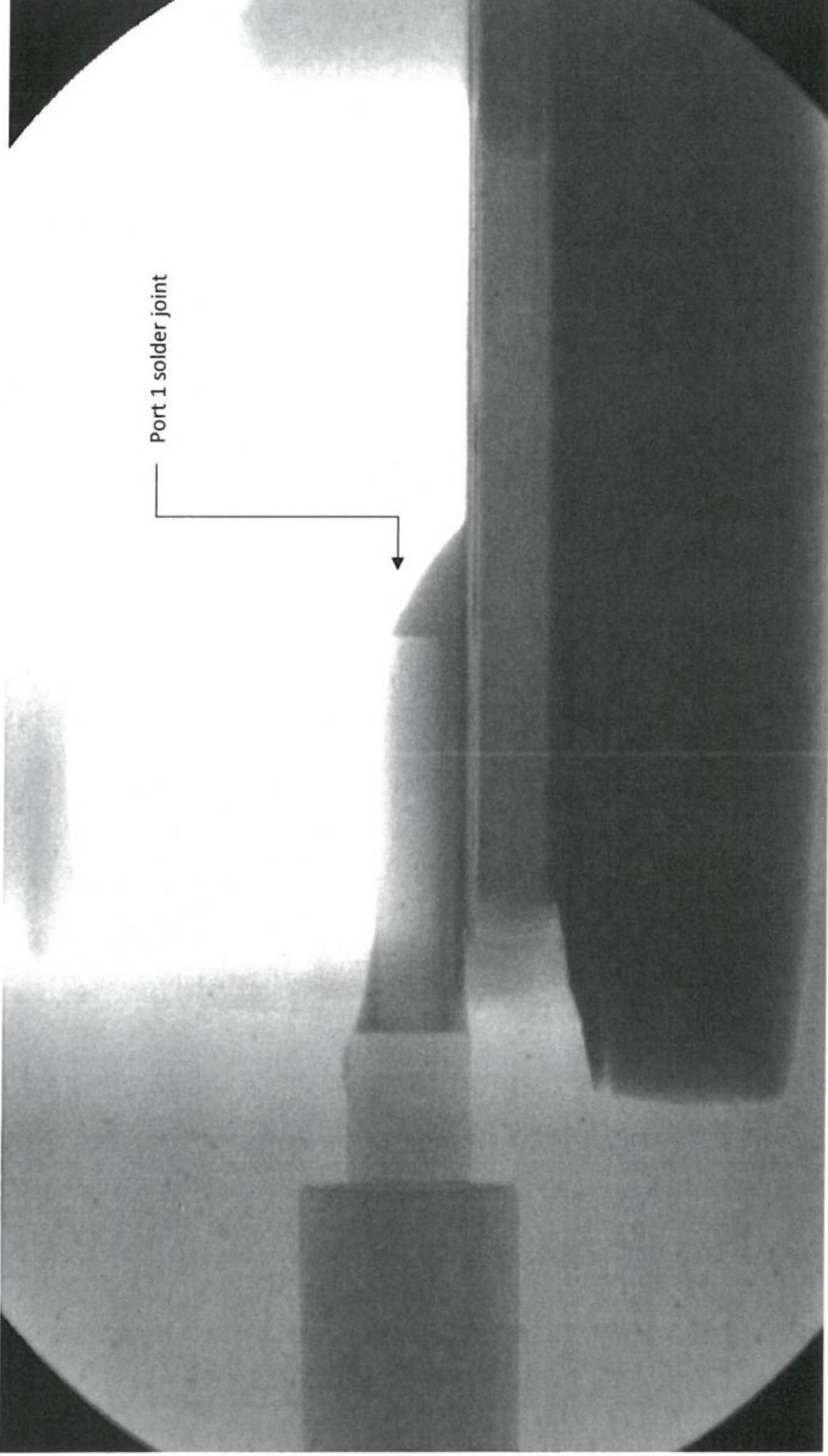


Figure 31: X-ray Port 1

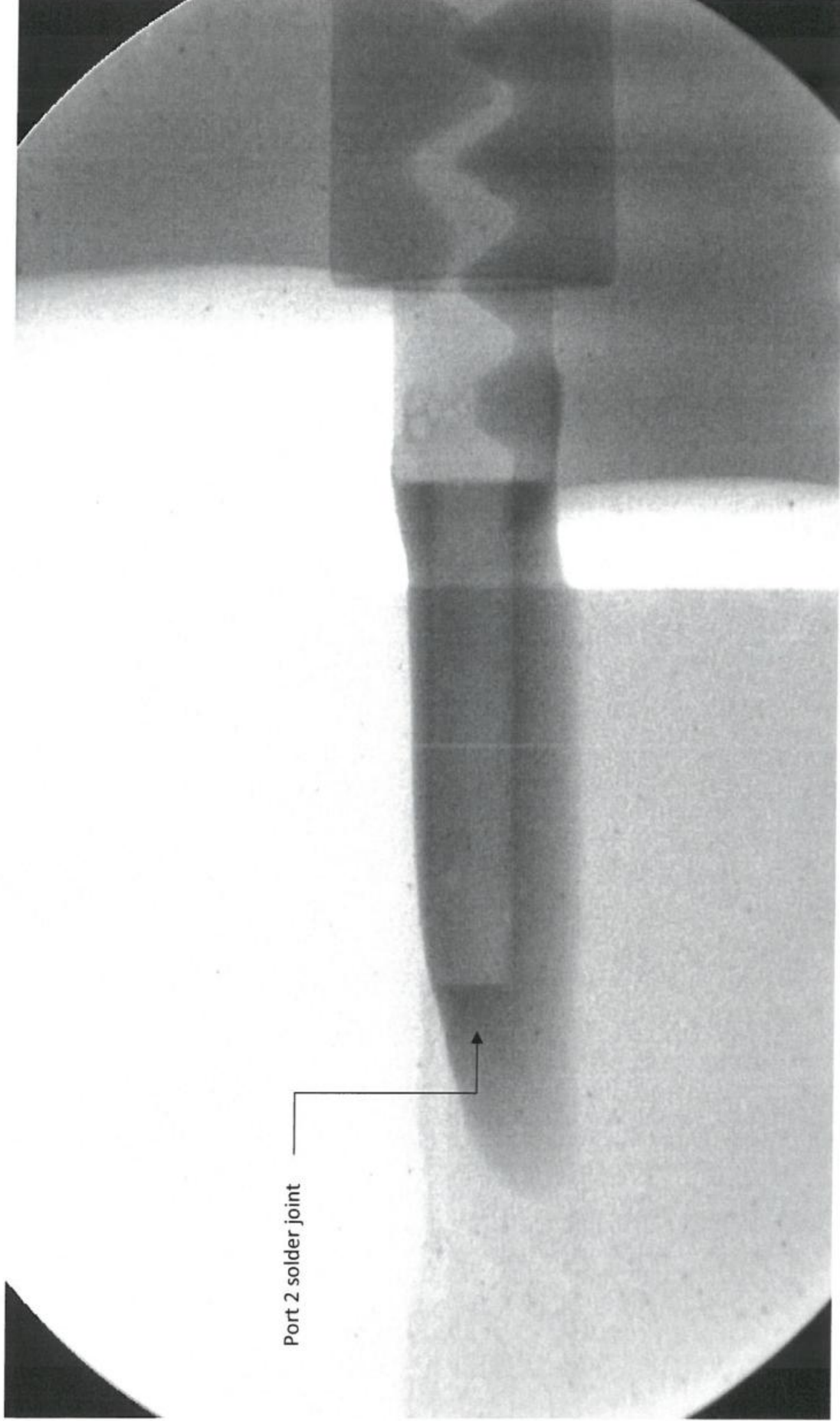


Figure 32: X-ray Port 2

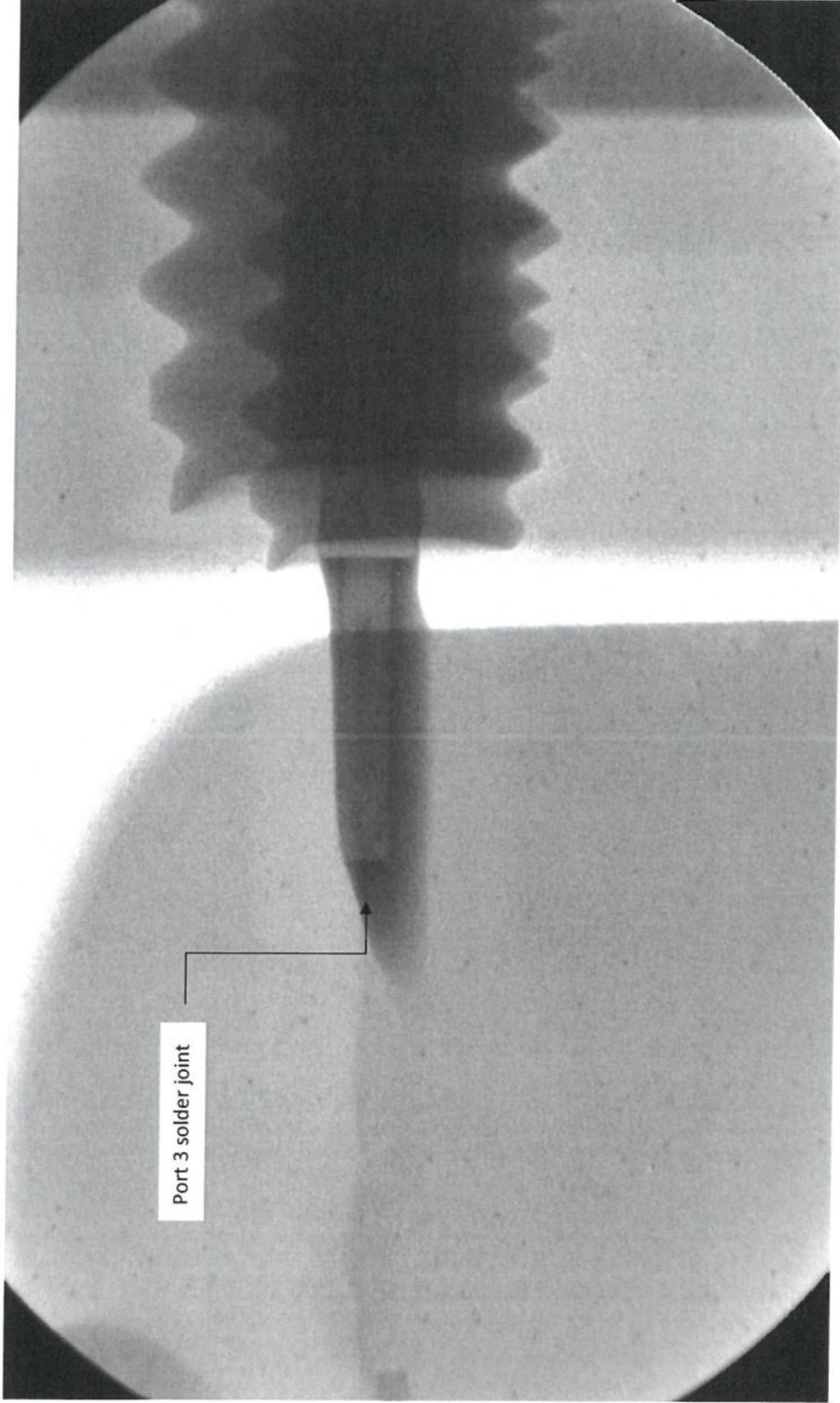


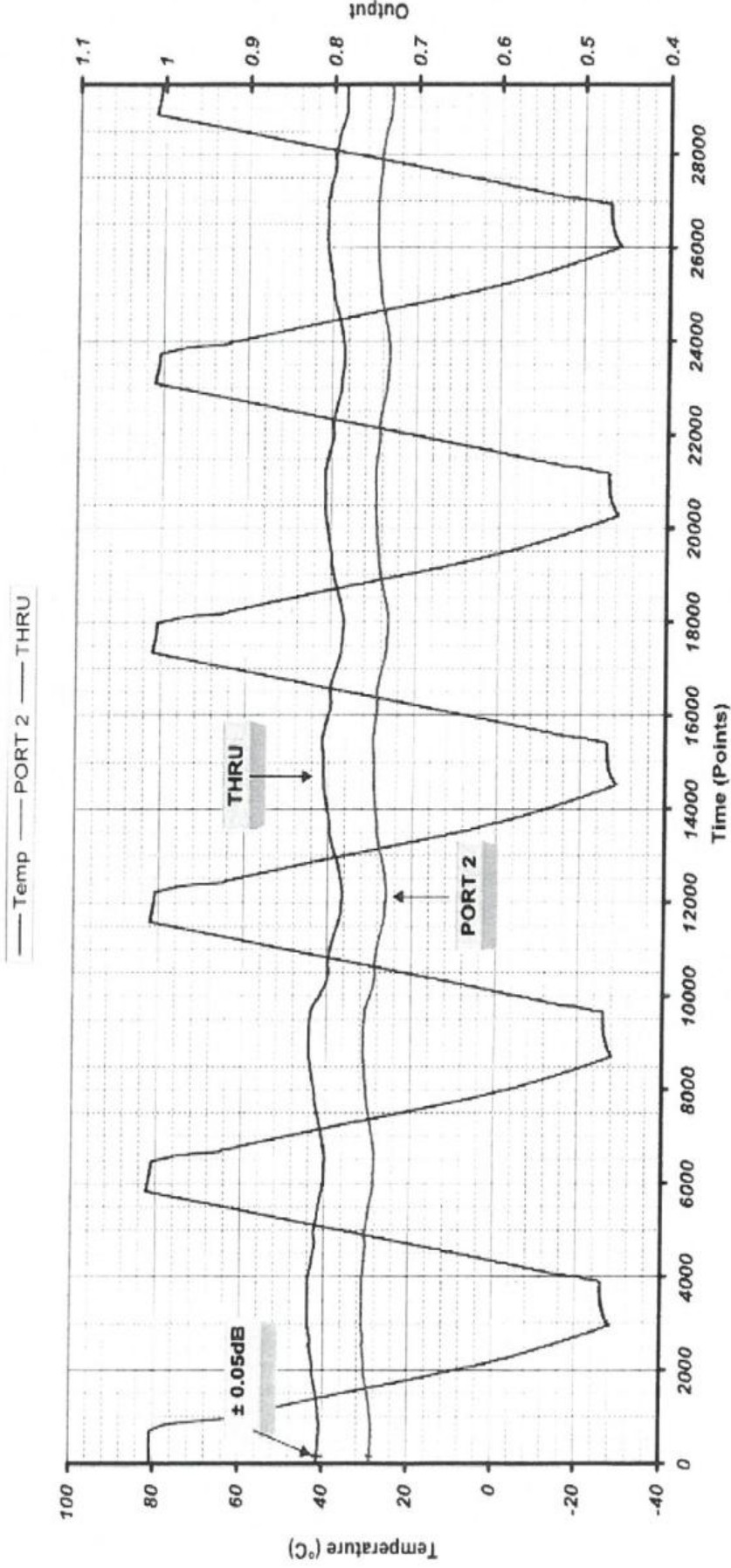
Figure 33: X-ray Port 3

21. Qualification Test Profiles – Thermal Glitch Cycles _ (-25°C +80°C)

TRAK

XPD303 - Glitch 2 - Line 2

smiths



TRAK MICROWAVE LIMITED
 29 Dunsinane Avenue - Dundee - Scotland - DD2 3QF
 Tel: +44 1382 427200
 Fax: +44 1382 833599

Figure 34: Thermal Cycle for Glitches - 5 cycle glitch (Typical)

22. Qualification Test Profiles – TVAC Temperature Test _ (-25°C +80°C)

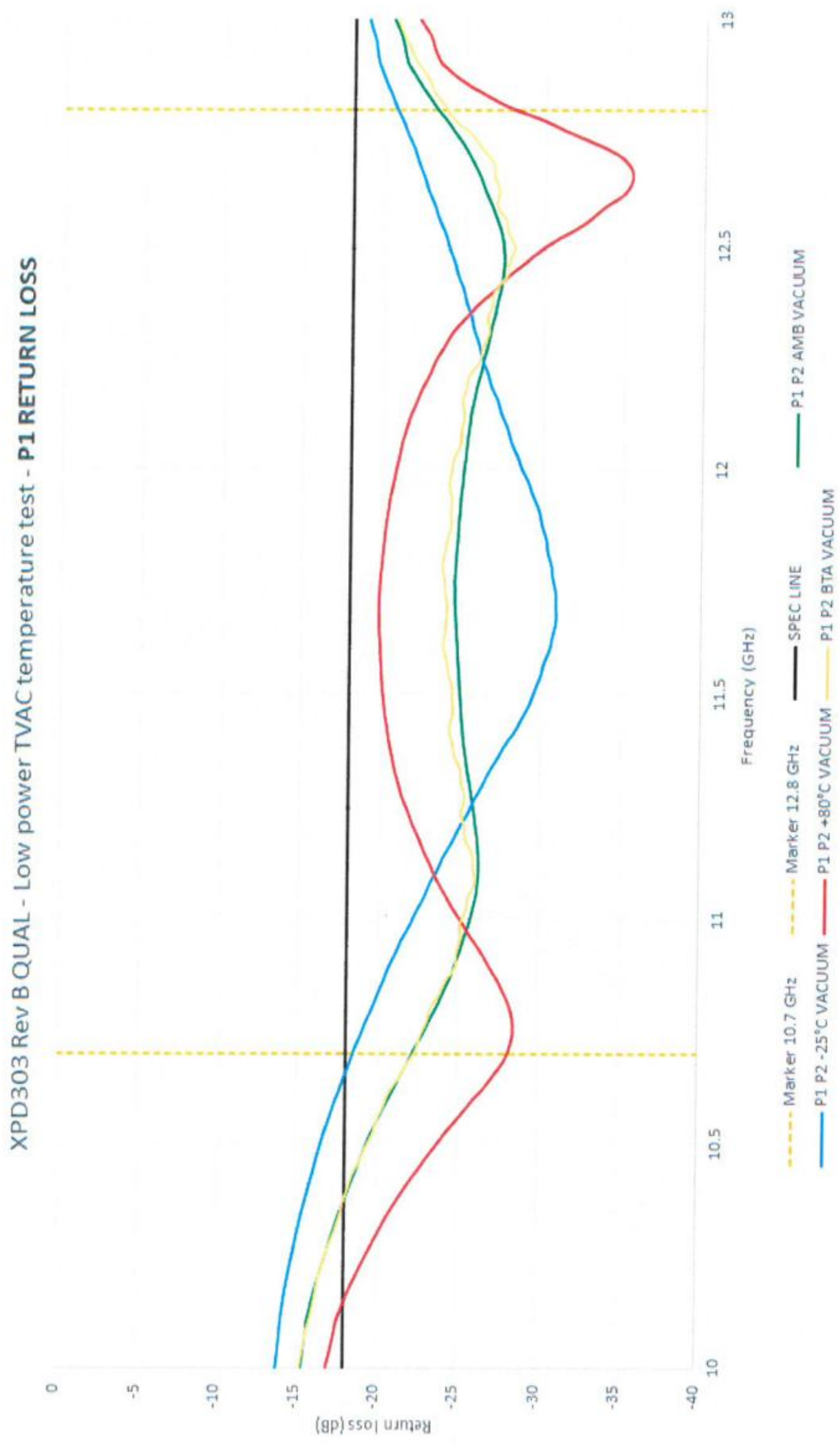


Figure 35: Return Loss Port 1

XPD303 Rev B QUAL - Low power TVAC temperature test - P2 RETURN LOSS

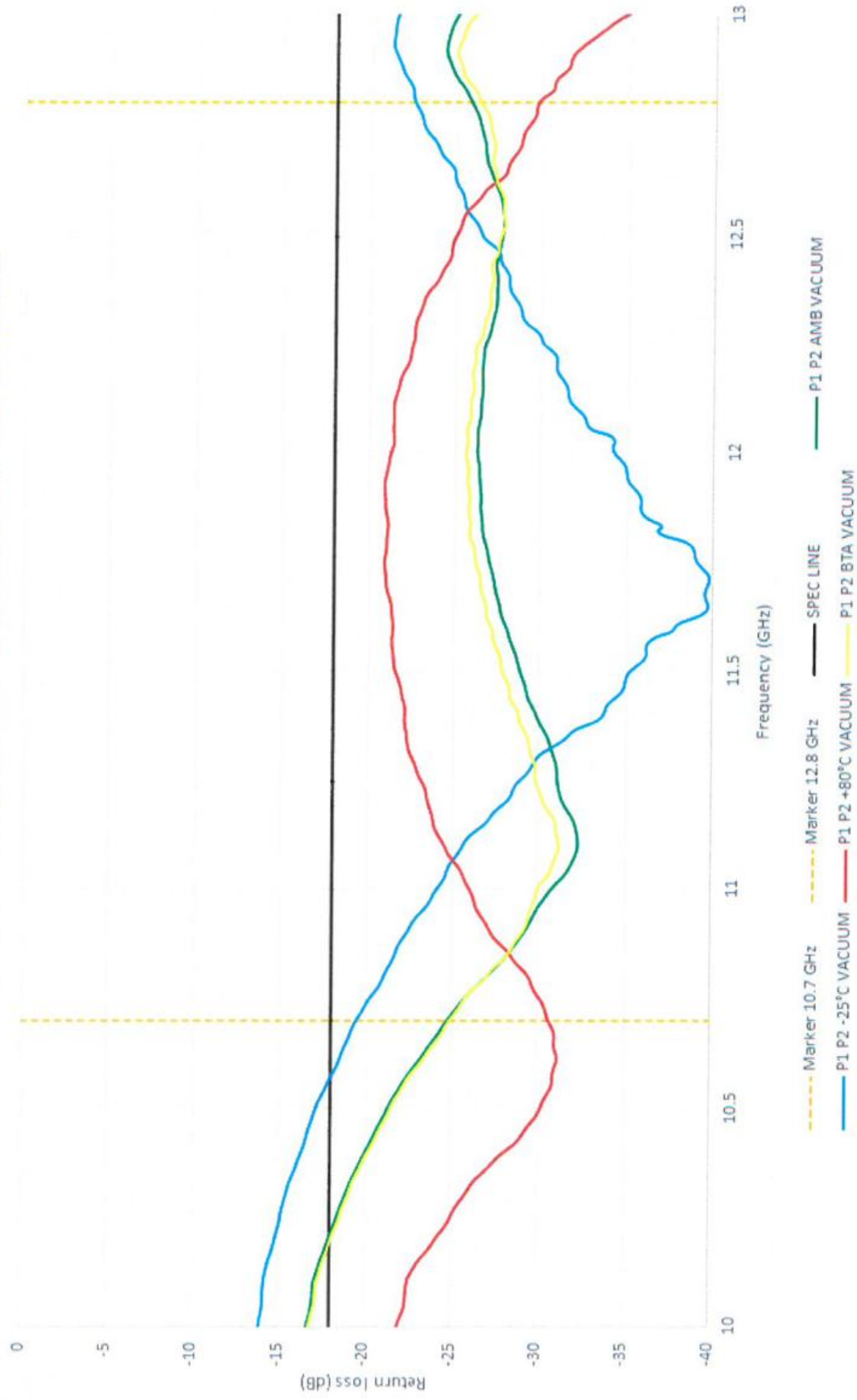


Figure 36: Return Loss Port 2

XPD303 Rev B QUAL - Low power TVAC temperature test - P3 RETURN LOSS

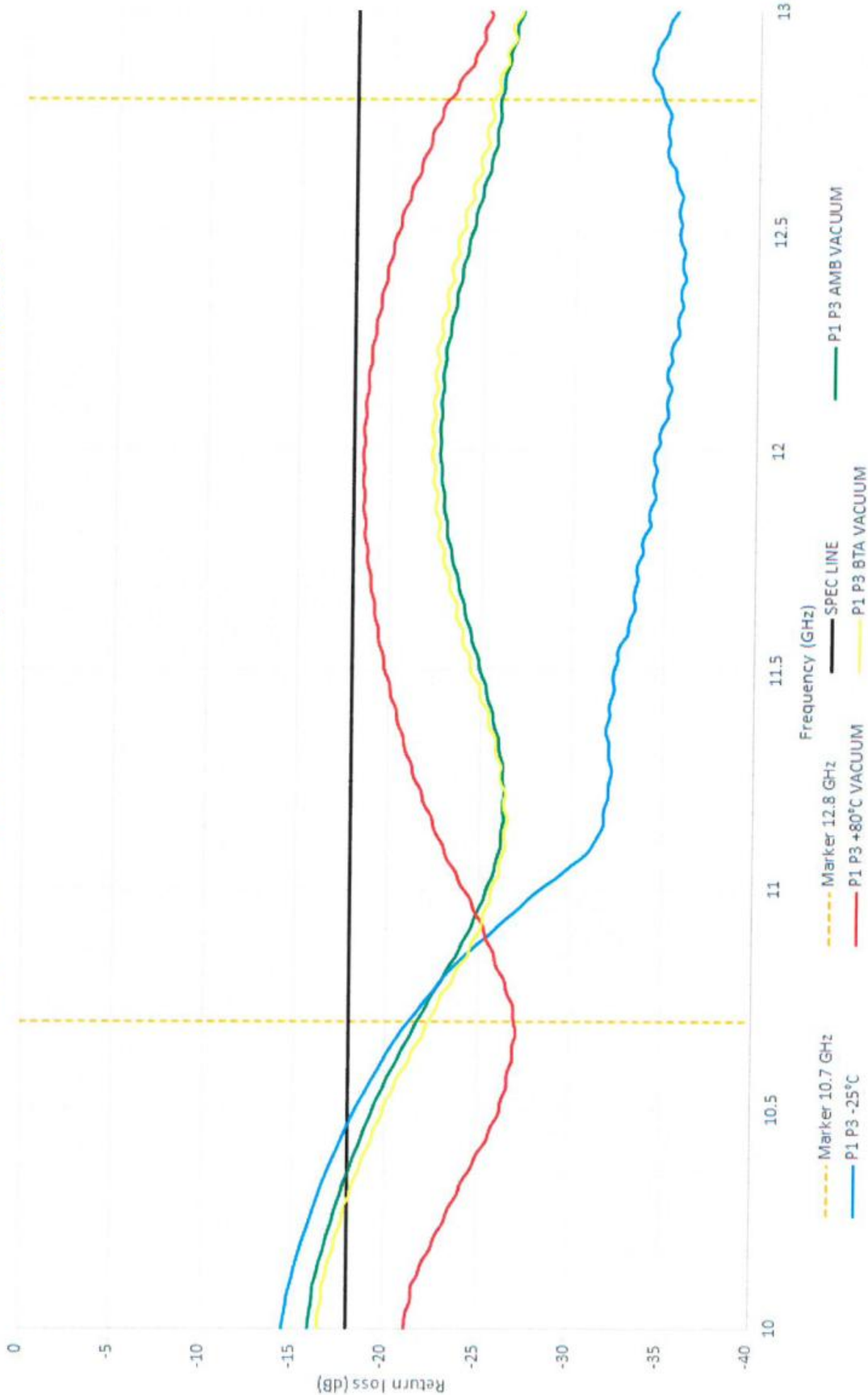


Figure 37: Return Loss Port 3

XPD303 Rev B QUAL - Low power TVAC temperature test - P1-P2 GROUP DELAY

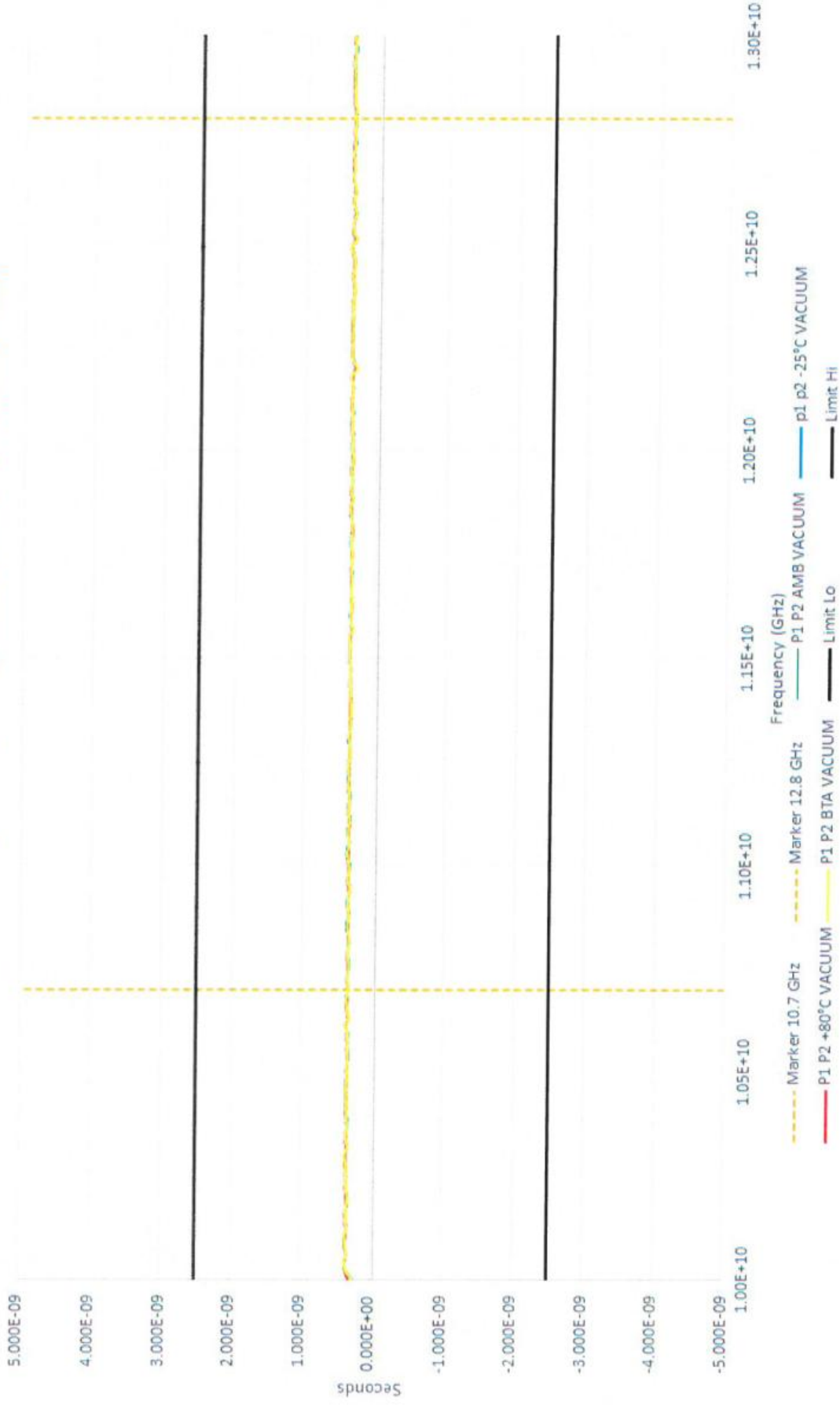


Figure 38: Group Delay P1-P2 (Typical)

XPD303 Rev B QUAL - Low power TVAC temperature test - P1-P2 INSERTION PHASE

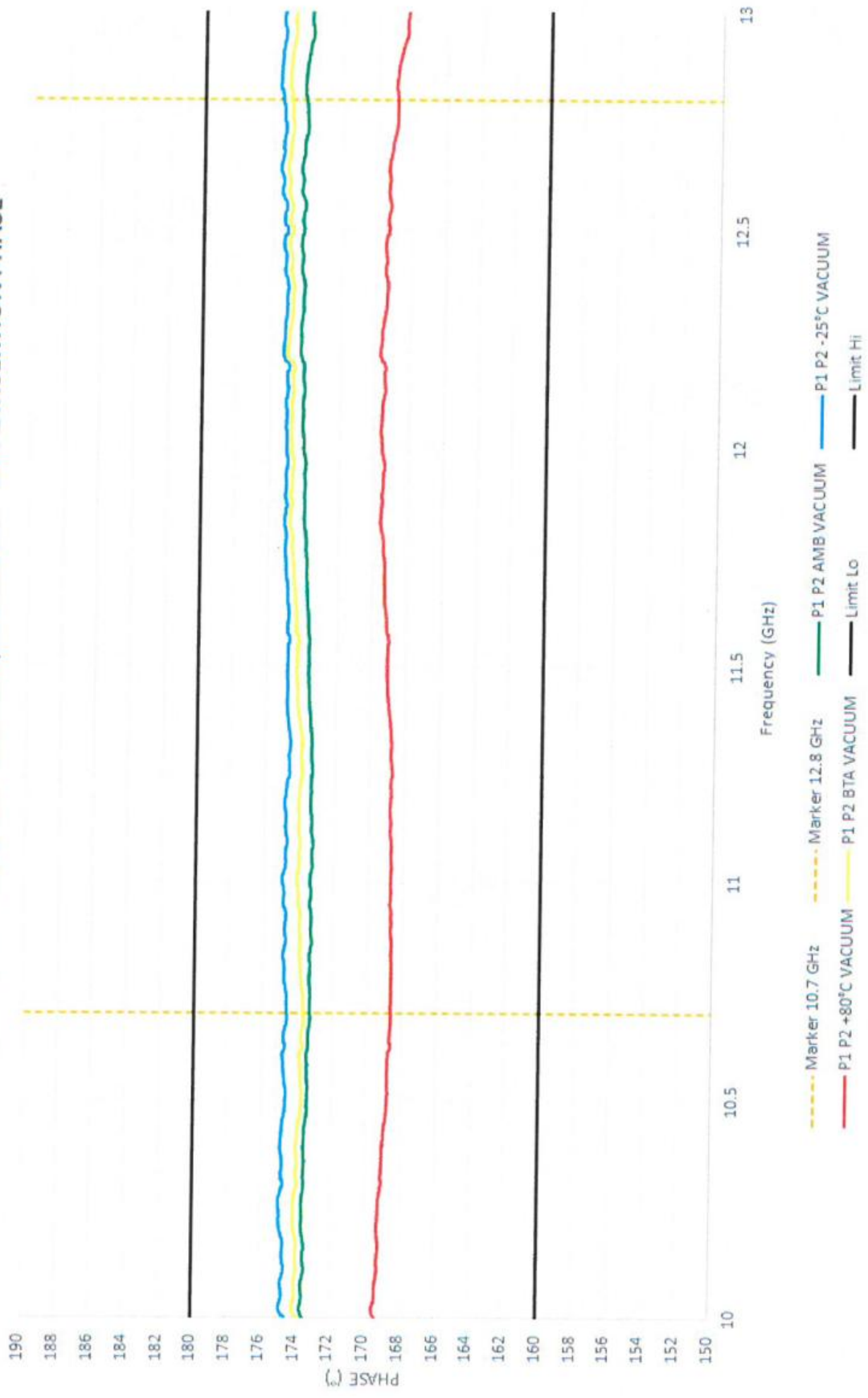


Figure 39: Insertion Phase P1-P2 (Typical)

XPD303 Rev B QUAL - Low power TVAC temperature test - P2-P1 ISOLATION

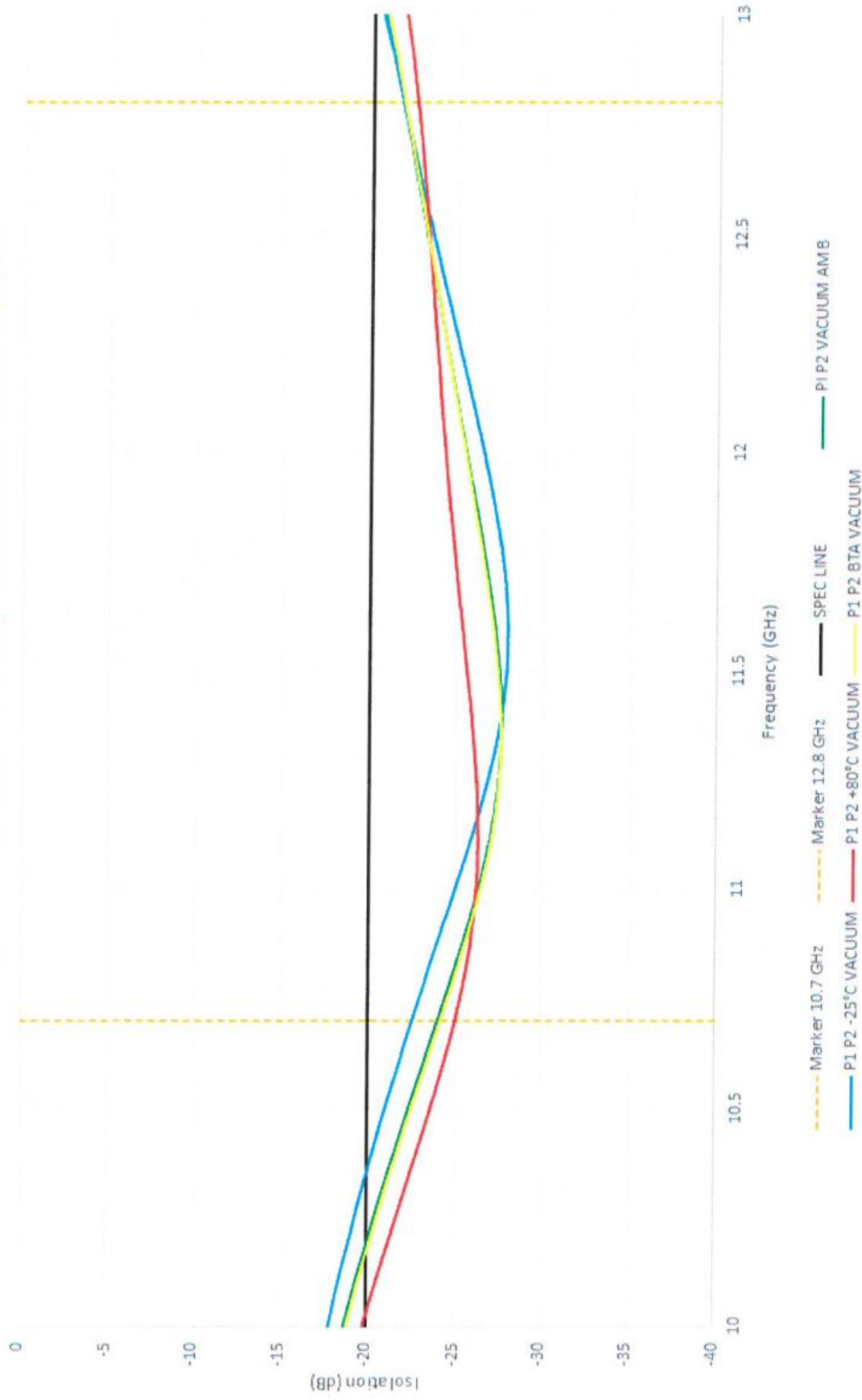


Figure 40: Isolation P2-P1 (Typical)

XPD303 Rev B QUAL - Low power TVAC temperature test - P1-P2 INSERTION LOSS



Figure 41: Insertion Loss P1-P2 (Typical)

23. Qualification Test Profiles - EMC

TRAK
TRAK Microwave Limited
A Smiths Group Company

NOTE: Enter values into the yellow boxes only!! (working from the top, left to right)




EMC Test Spreadsheet		Waveguide Size												
		WG 16		WR 59		a =		b =		c =				
		Distance from the transition to the device		1.016 cm		2.286 cm		1.016 cm		0.15 cm				
		Test frequency (GHz)		11.75 GHz		11.75 GHz		11.75 GHz		11.75 GHz				
Model No	S/N	Port 1, 2 or 3	Centre freq MHz	Gain of the transition	Synthesiser output power measured on spectrum analyser dBm	Cable loss dB	Power to the transition dBm	E-field V/m	Power read on spectrum analyzer dBm	Power at device output dBm	SE dB	SE Spec dB	Margin dB	PASS/ FAIL
XPD303	XXXX	1	11.750	4.5	10.4	-1.8	12.2	10.0	-105.1	-103.3	85	80	5	PASS
XPD303	XXXX	2	11.750	4.5	10.4	-1.8	12.2	10.0	-106.5	-104.7	86	80	6	PASS
XPD303	XXXX	3	11.750	4.5	10.4	-1.8	12.2	10.0	-105.5	-103.7	85	80	5	PASS

Tested By: A. Smith Date: 5/9/2019 QA: _____ Date: _____

C. Smith
2/05/03
TRAK-MICROWAVE LIMITED, DUNDEE AVENUE DUNDEE DD2 3DF Tel +44 (0)1392 427200 Fax +44 (0)1392 833555

Figure 42: EMC test result

24. Qualification Test Profiles – PIND Test

	GBR	REF: 2019901931-001	REV:
		DOC. DATE: 2019/11/07	
TEST RESULTS		PAGE: 1 of 5	
LAB TESTS SEQUENCE PARTS TRACEABILITY DATA			
COMPONENT DESCRIPTION:	HYBRID		
PART TYPE:	XPD303		
COMPONENT NUMBER:	XPD303		
CUSTOMER PURCHASE ORDER:	ATP@20191002		
GENERIC SPECIFICATION:	-		
DETAIL SPECIFICATION:	MFR DATA SHEET		
MANUFACTURER:	-		
DATE CODE:	-		
QUANTITY:	2		
SERIAL NUMBER:	N/A		
MARKING:	PIND#SINT#S/N-XXX#SOUTHWEST (*) A part has only the following marking: SOUTHWEST. This is on the connectors assembled to the device.		
REPORT PREPARED BY	Tomás Pérez Cabrera		
REPORT SUPERVISED BY	Dimas Morilla Mairén		
<ul style="list-style-type: none"> • This documentation is property of ALTER TECHNOLOGY TUV NORD, S.A.U. (ATN) and the Customer for whom it was issued. • Results included herein are referred just to the product specified on this cover sheet. • This documentation must not be partially reproduced nor divulged without ATN approval. Individual reports included herein are only valid if they are accompanied by the rest of the testing documentation. 			

ALTER TECHNOLOGY TUV NORD S.A.U. / C/ Tomas Albi Edison, 4. PCT. Carvajal - 41030 SEVILLA (SPAIN)

ATNI 393

Figure 43: PIND test report (ALTER) – Full test report available

25. Qualification Test Data

XPD303 Rev B QUAL - Initial vs PTS 50 Cycles vs PTS Vibration vs PTS Mechanical Shock vs PTS TVAC vs PTS PIND - Electrical Test - **P1 RETURN LOSS**

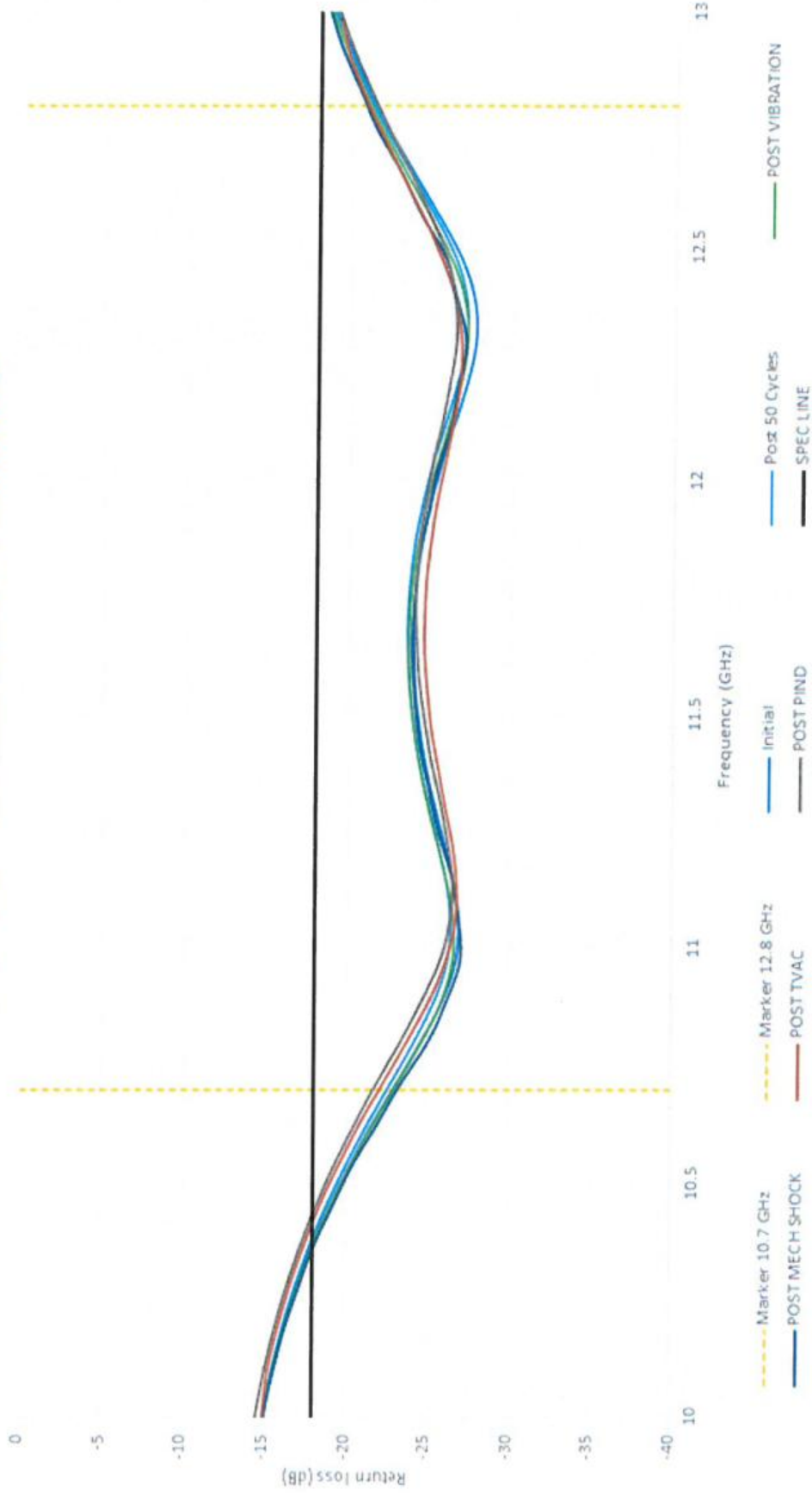


Figure 44: Qualification Test Data – Return loss Port 1

XPD303 Rev B QUAL - Initial vs PTS 50 Cycles vs PTS Vibration vs PTS Mechanical Shock vs PTS TVAC vs PTS PIND - Electrical Test - **P2 RETURN LOSS**

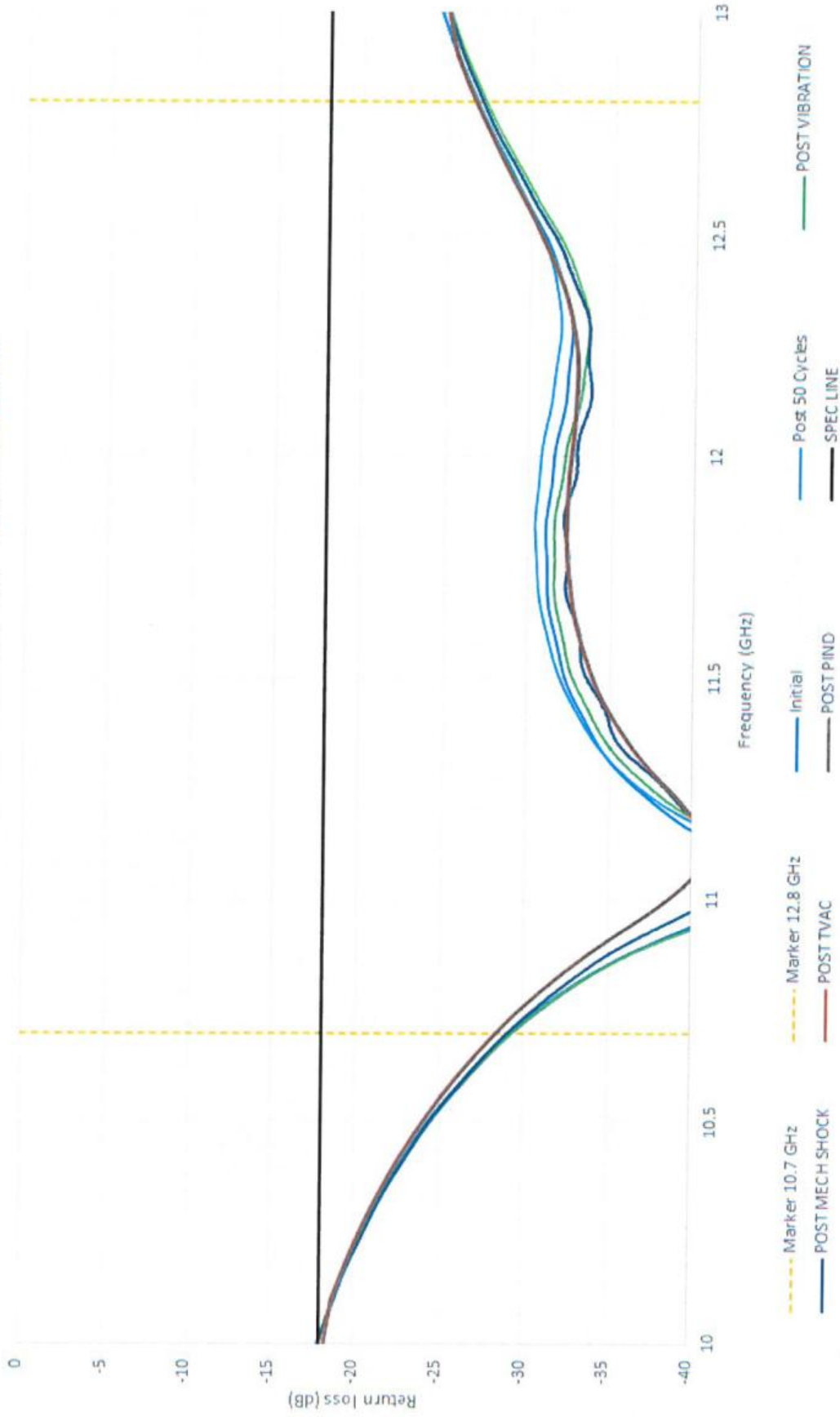


Figure 45: Qualification Test Data – Return loss Port 2

XPD303 Rev B QUAL - Initial vs PTS 50 Cycles vs PTS Vibration vs PTS Mechanical Shock vs PTS TVAC vs PTS PIND - Electrical Test - P3 RETURN LOSS

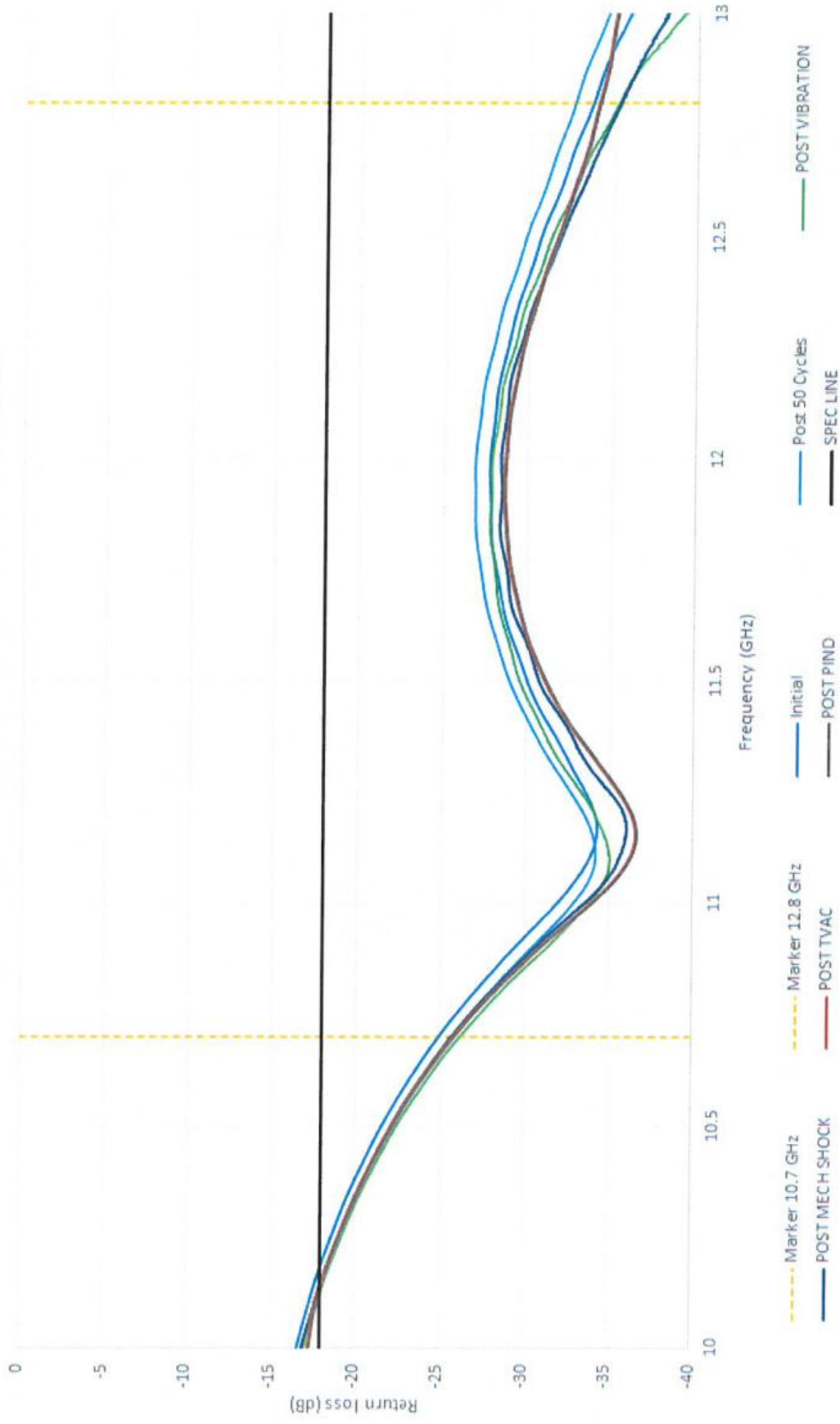


Figure 46: Qualification Test Data – Return loss Port 3

XP303 Rev B QUAL - Initial vs PTS 50 Cycles vs PTS Vibration vs PTS Mechanical Shock vs PTS TVAC vs PTS PIND - Electrical Test **P1-P2 / P1-P3 GROUP DELAY VARIATION**

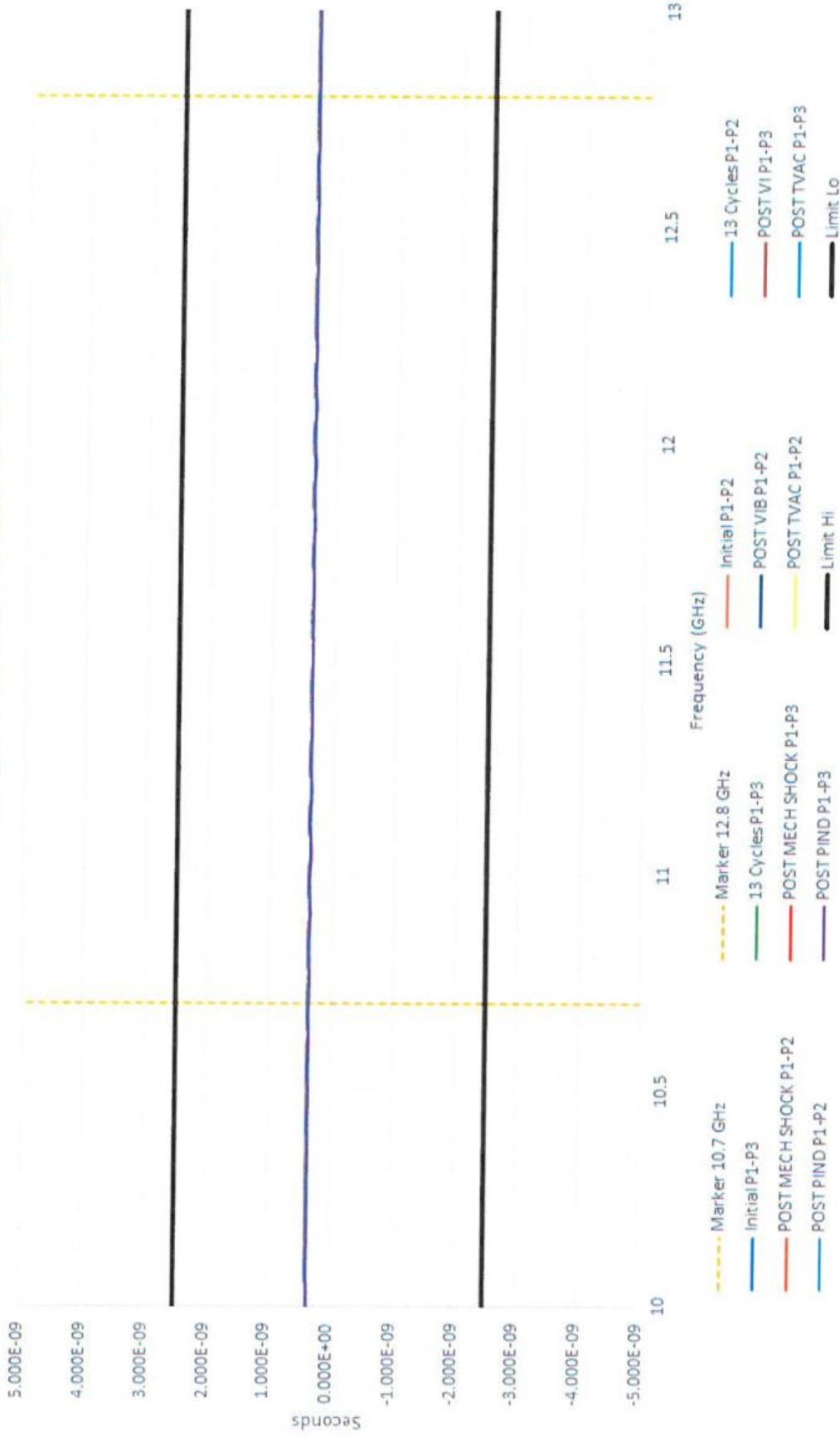


Figure 47: Qualification Test Data – Group delay variation P1-P2 / P1-P3

XPD303 Rev B QUAL - Initial vs PTS 50 Cycles vs PTS Vibration vs PTS Mechanical Shock vs PTS TVAC vs PTS PIND - Electrical Test - P1-P2/P3 INSERTION PHASE BALANCE

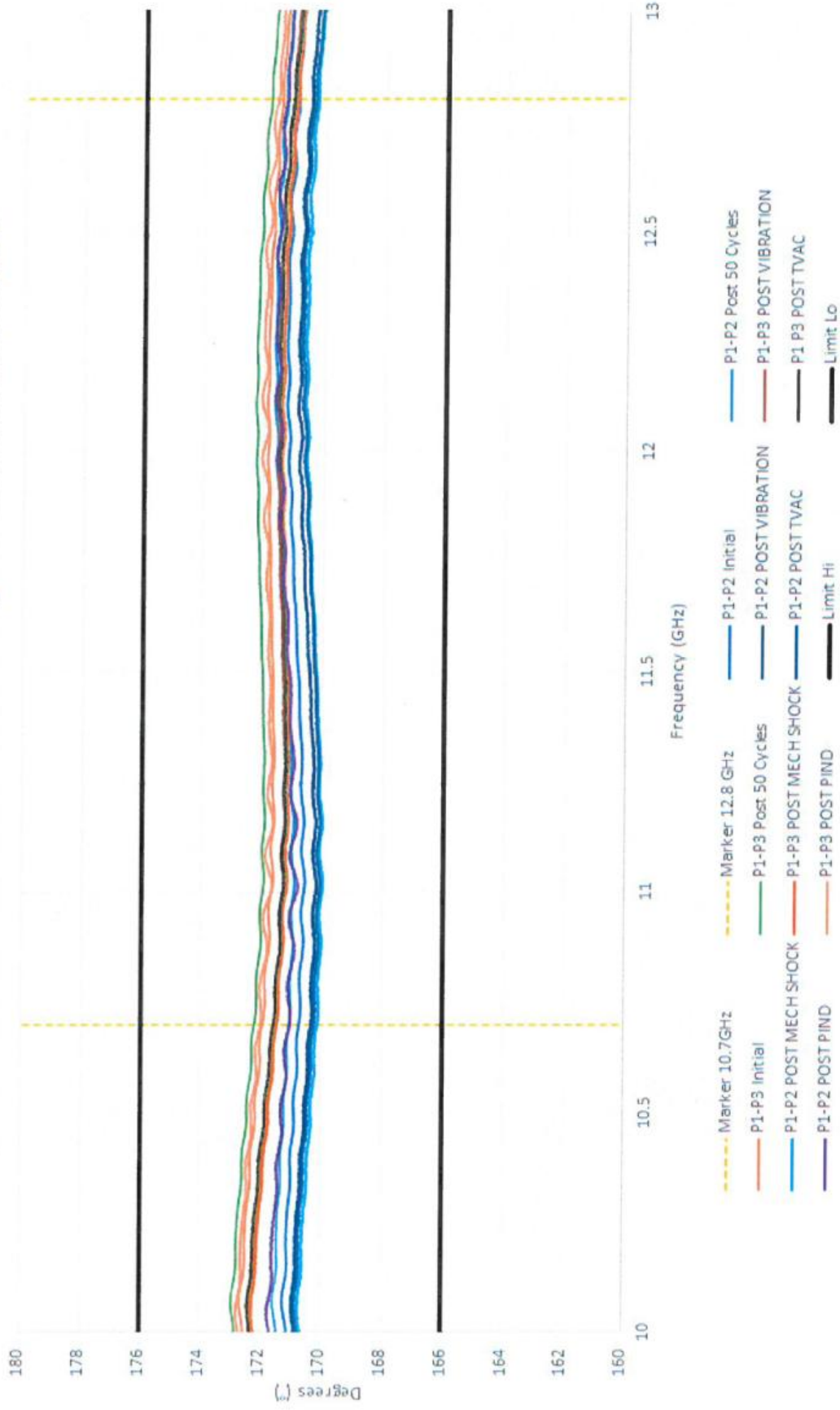


Figure 48: Qualification Test Data – Insertion phase balance P1-P2/P3

XPD303 Rev B QUAL - Initial vs PTS 50 Cycles vs PTS Vibration vs PTS Mechanical Shock vs PTS TVAC vs PTS PIND - Electrical Test - **P2-P1 ISOLATION**

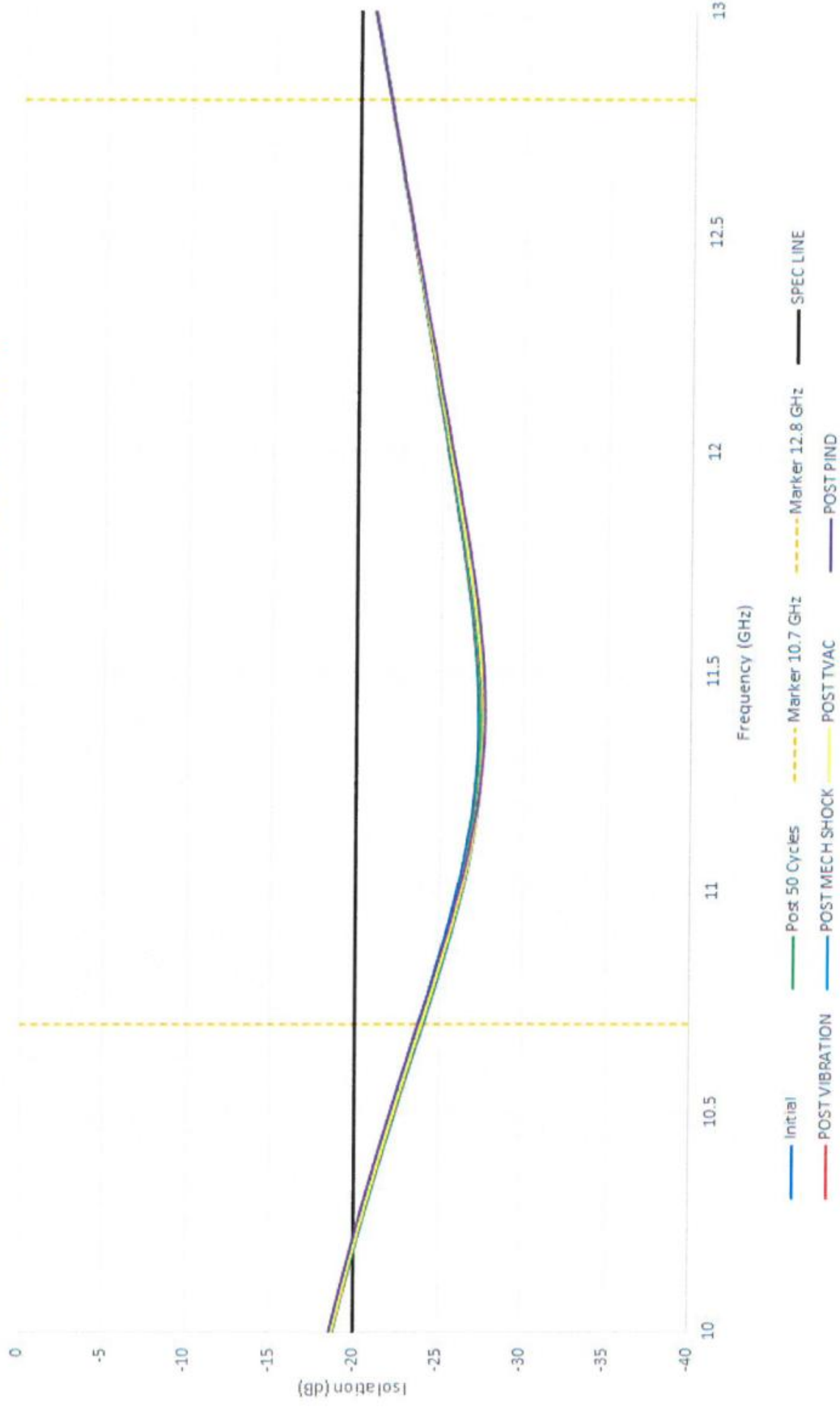


Figure 49: Qualification Test Data – Isolation P2-P1

XPD303 Rev B QUAL - Initial vs PTS 50 Cycles vs PTS Vibration vs PTS Mechanical Shock vs PTS TVAC vs PTS PIND - Electrical Test - P3-P1 ISOLATION

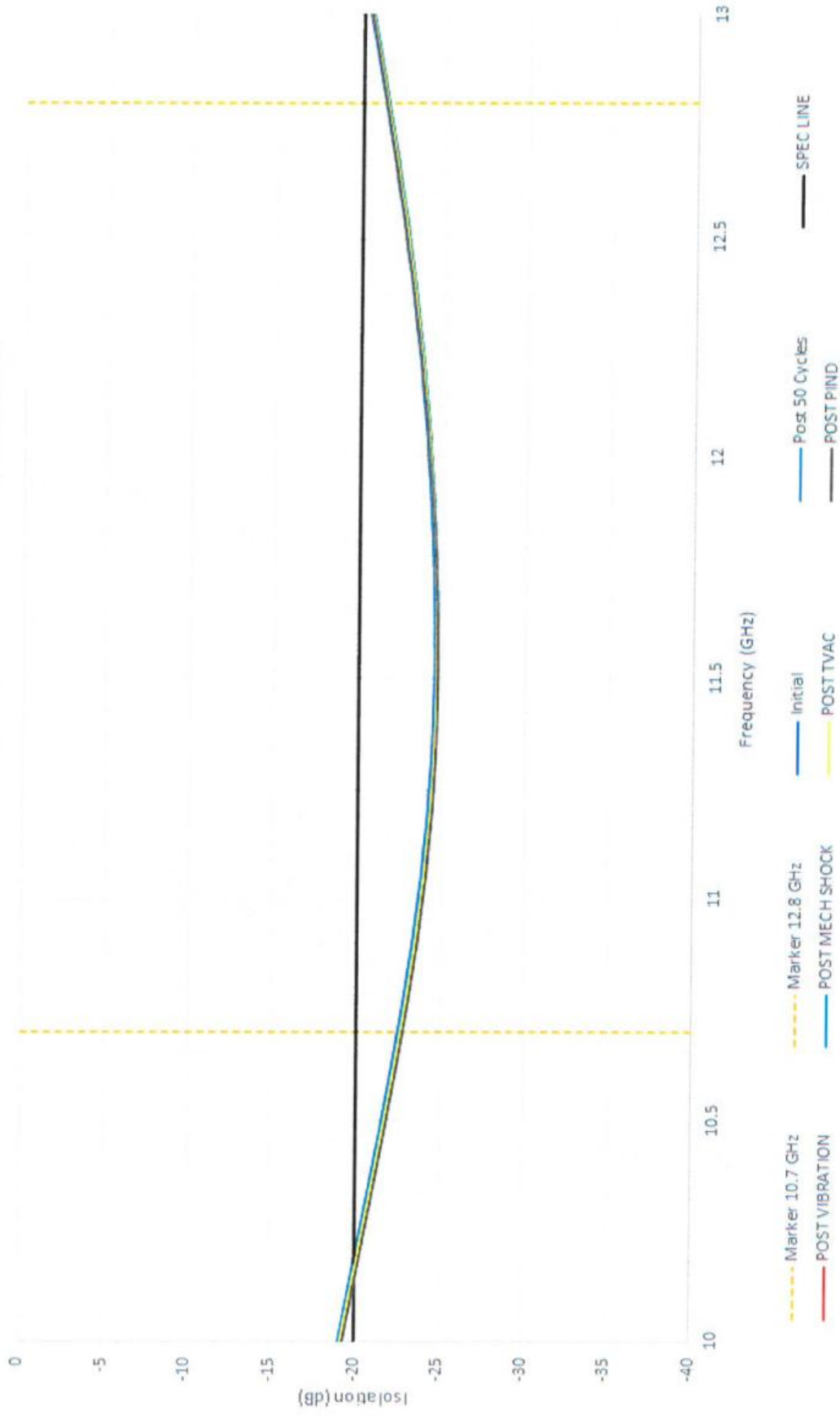


Figure 50: Qualification Test Data – Isolation P3-P1

XPD303 Rev B QUAL - Initial vs PTS 50 Cycles vs PTS Vibration vs PTS Mechanical Shock vs PTS TVAC vs PTS PIND - Electrical Test - P2-P3 ISOLATION

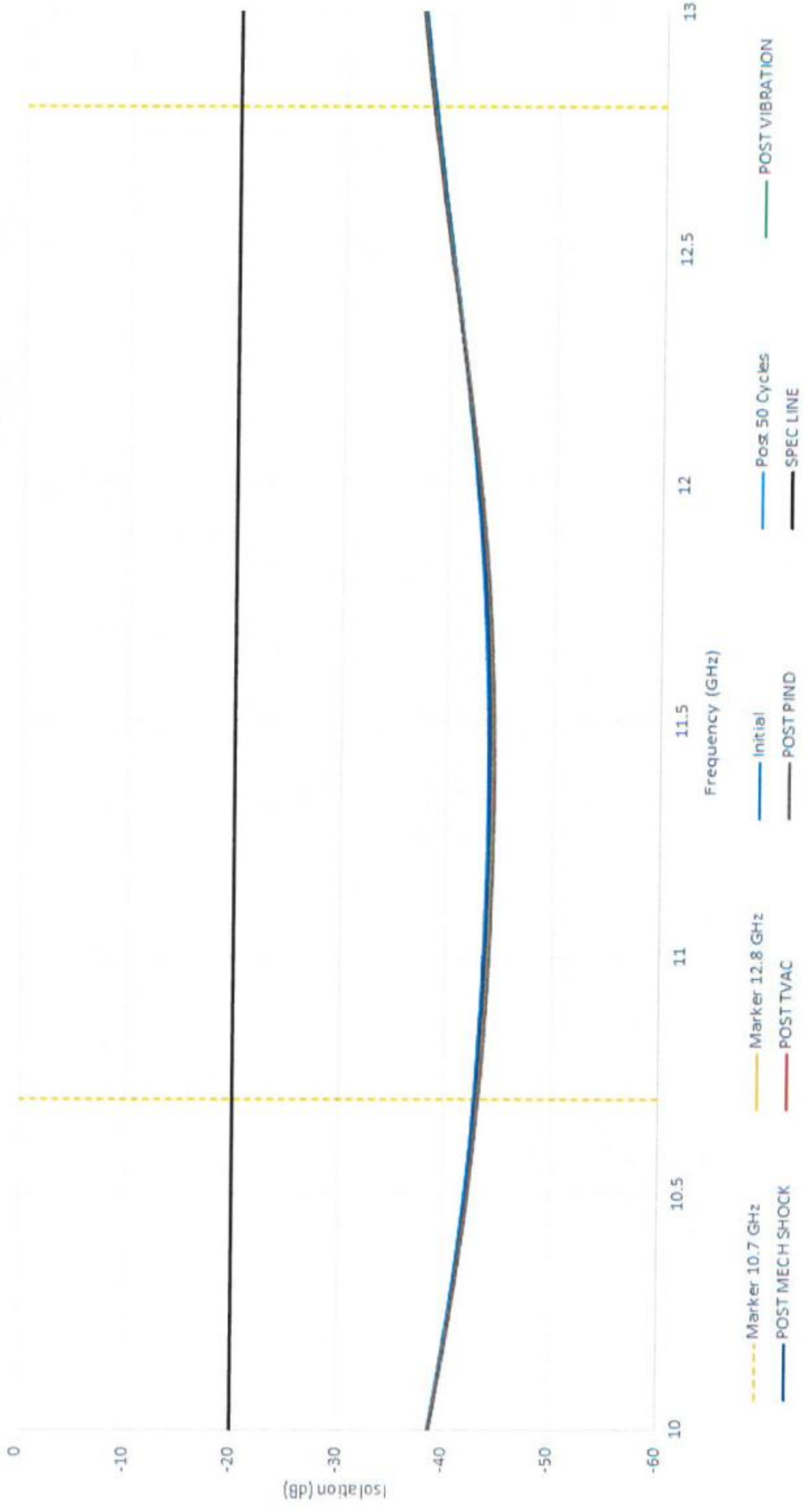


Figure 51: Qualification Test Data – Isolation P2-P3

XPD303 Rev B QUAL - Initial vs PTS 50 Cycles vs PTS Vibration vs PTS Mechanical Shock vs PTS TVAC vs PTS PIND - Electrical Test **OUTPUT AMPLITUDE BALANCE P1-P2 - P1-P3**

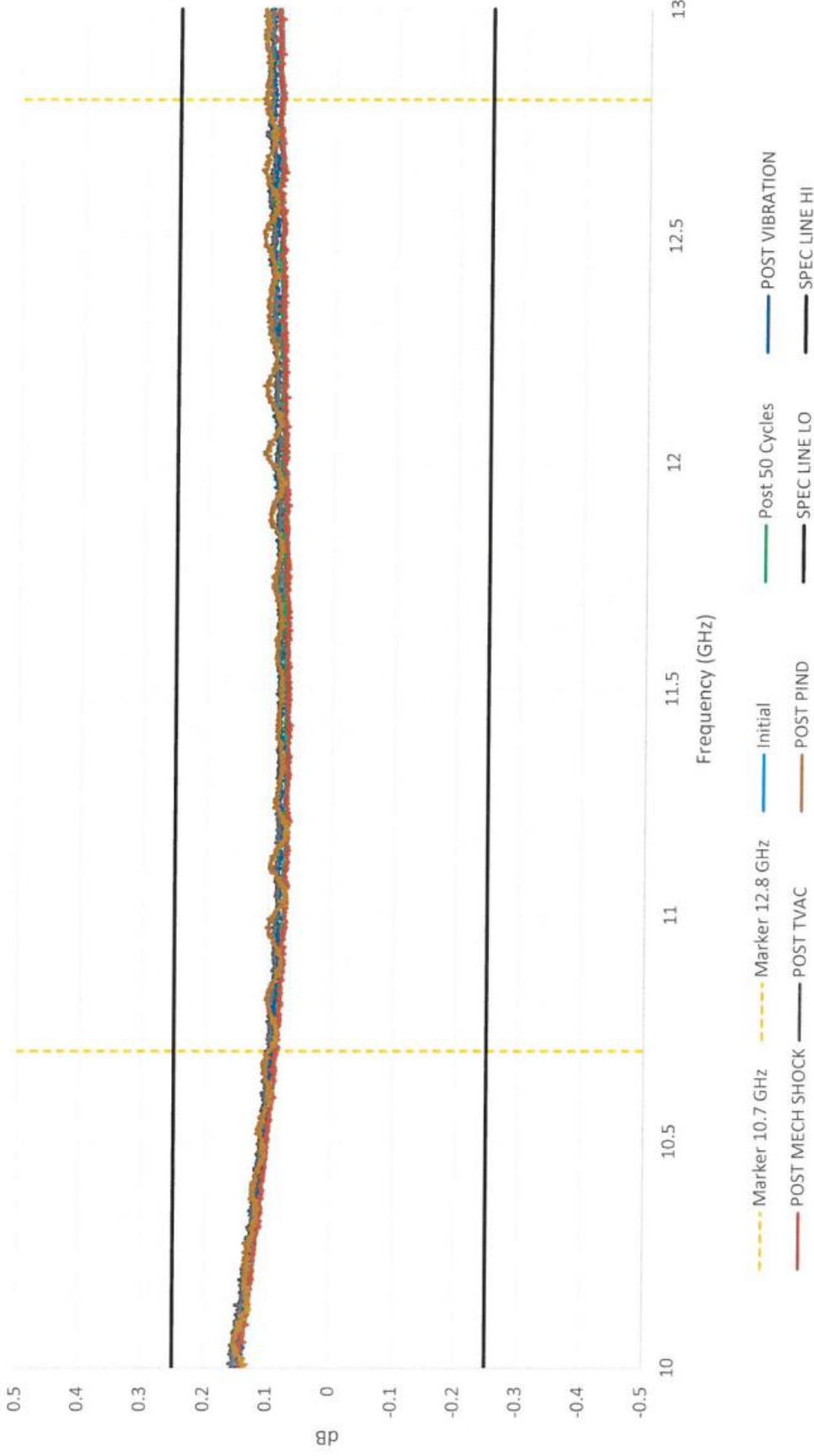


Figure 52: Qualification Test Data – Output Amplitude Balance P1-P2 / P1-P3

XP303 Rev B QUAL - Initial vs PTS 50 Cycles vs PTS Vibration vs PTS Mechanical Shock vs PTS TVAC vs PTS PIND - Electrical Test - **P1-P2 INSERTION LOSS**



Figure 53: Qualification Test Data – Insertion loss P1-P2

XPD303 Rev B QUAL - Initial vs PTS 50 Cycles vs PTS Vibration vs PTS Mechanical Shock vs PTS TVAC vs PTS PIND - Electrical Test - P1-P3 INSERTION LOSS



Figure 54: Qualification Test Data – Insertion loss P1-P3

26. Final Electrical Test

XPD303 Rev B QUAL - Final Electrical Test - P1 RETURN LOSS

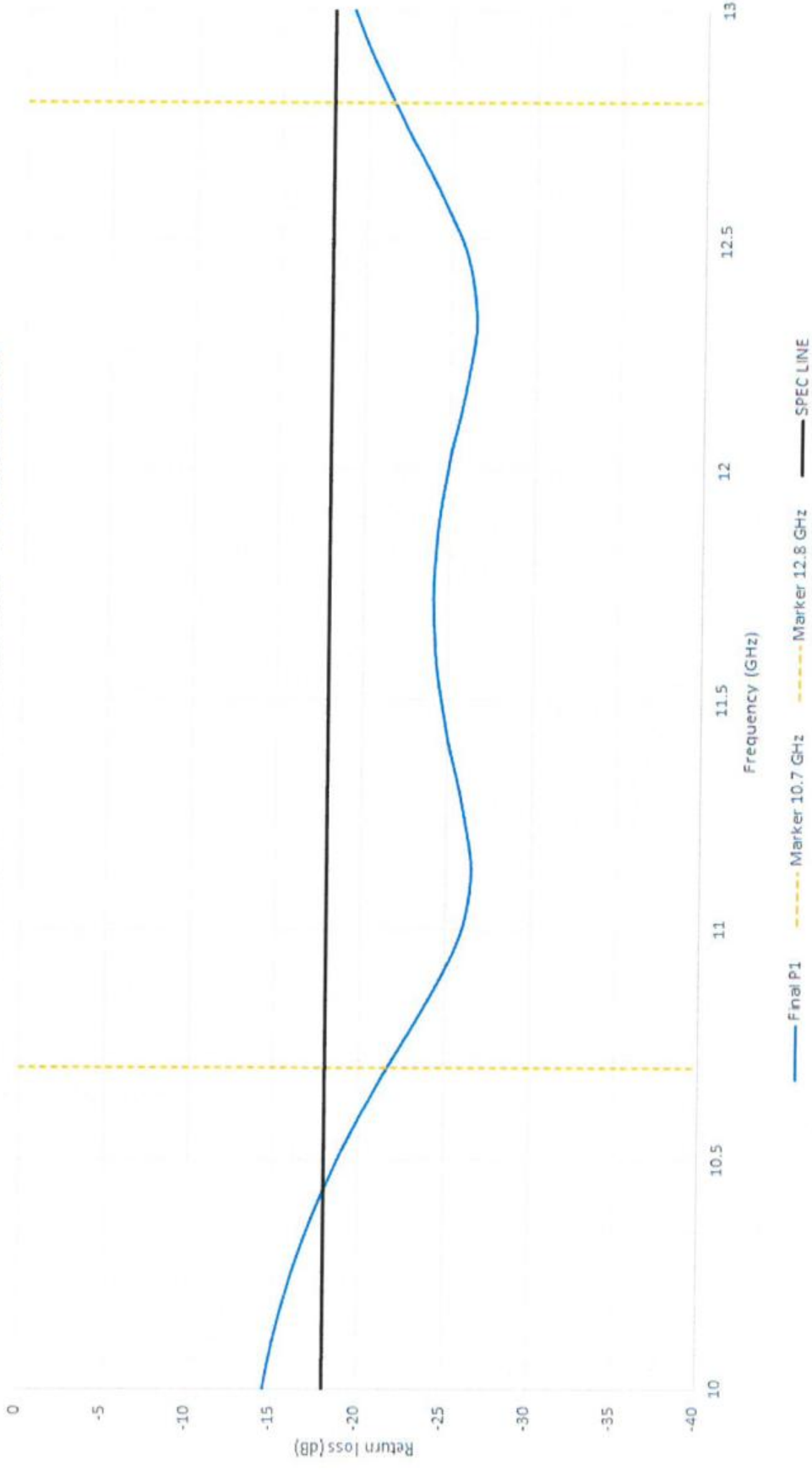


Figure 55: Final Electrical Test – Return loss Port 1

XPD303 Rev B QUAL - Final Electrical Test - P2 RETURN LOSS

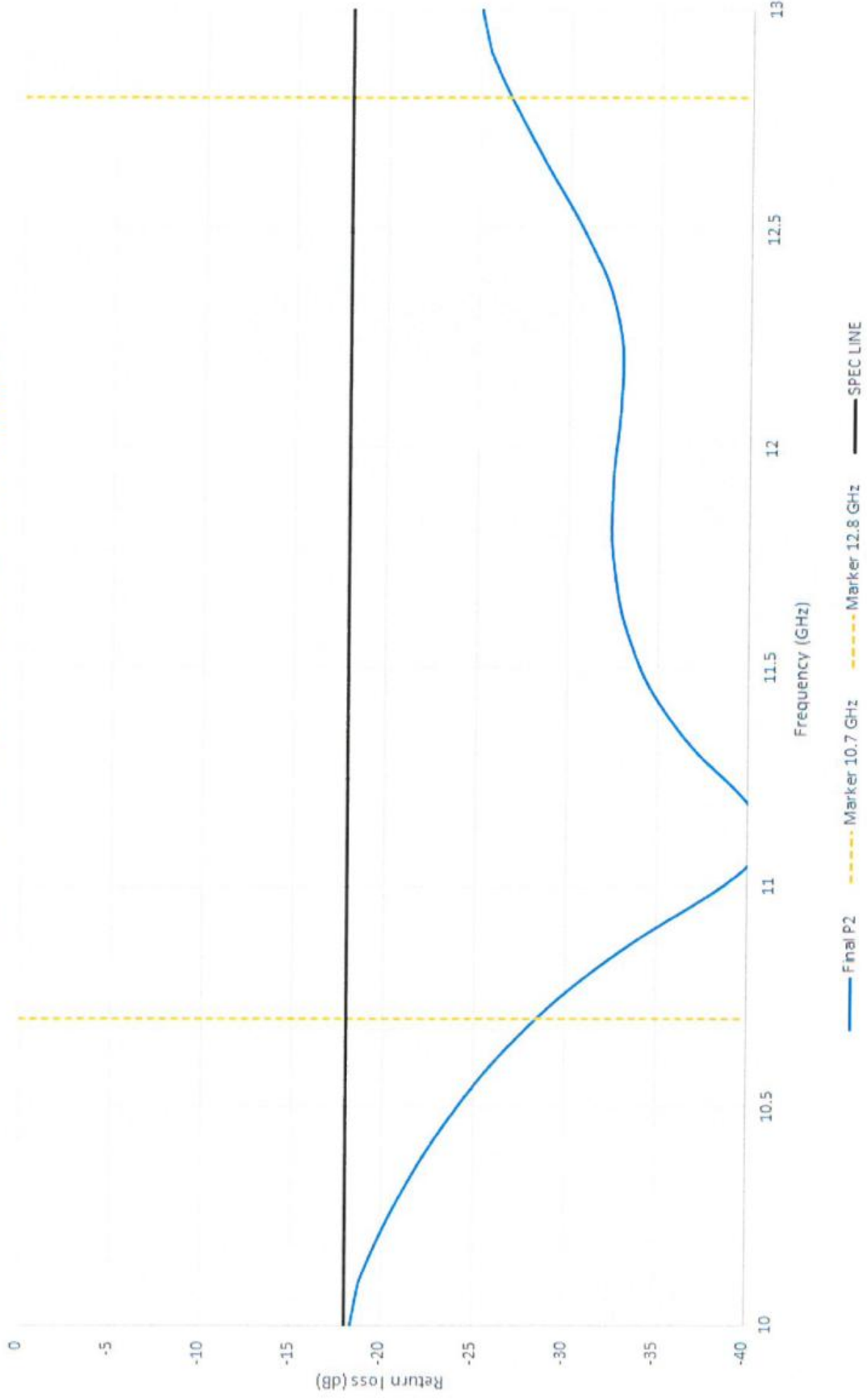


Figure 56: Final Electrical Test – Return loss Port 2

XPD303 Rev B QUAL - Final Electrical Test - P3 RETURN LOSS

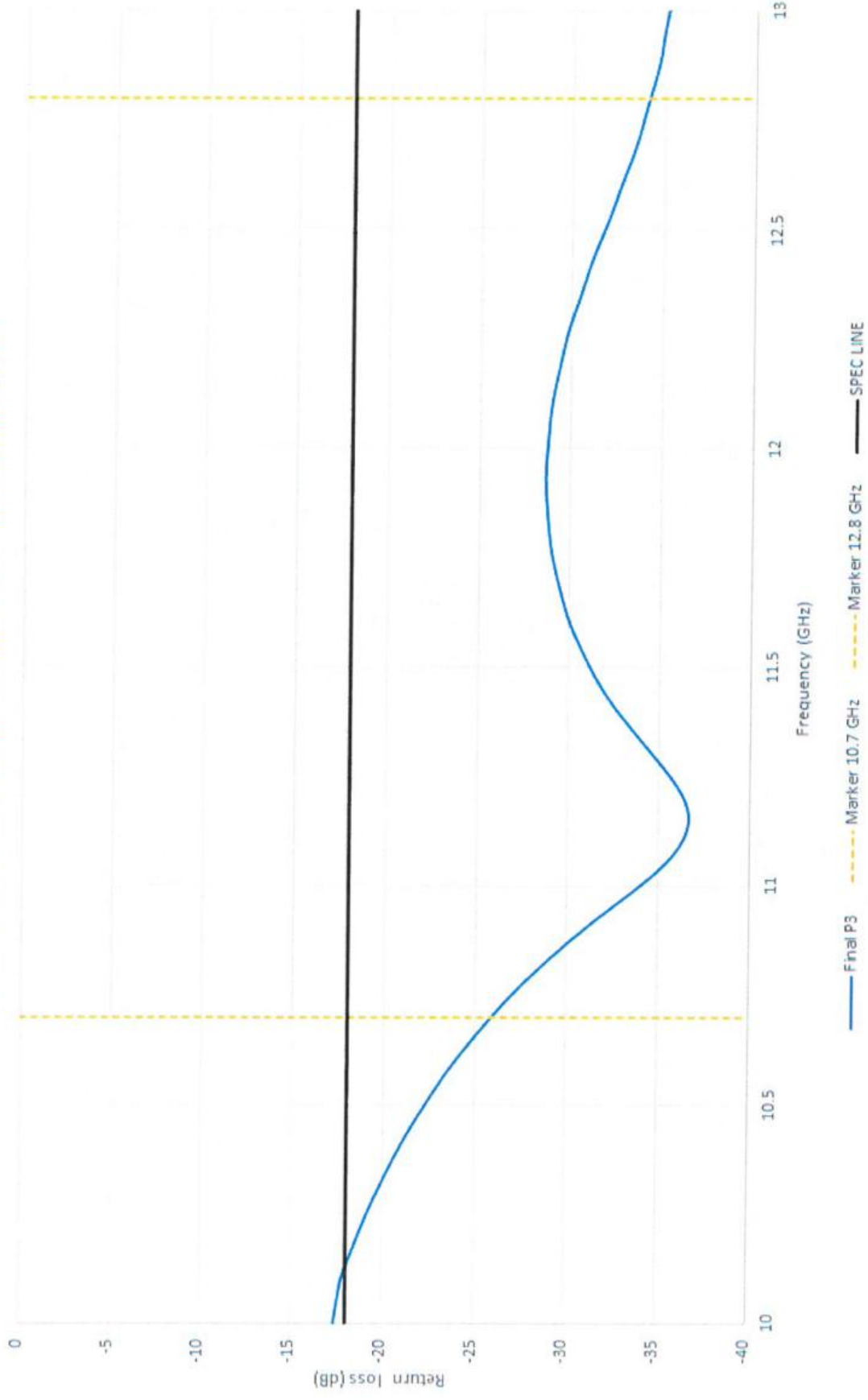


Figure 57: Final Electrical Test – Return loss Port 3

XPD303 Rev B QUAL - Final Electrical Test - P1-P2 / P1-P3 GROUP DELAY VARIATION

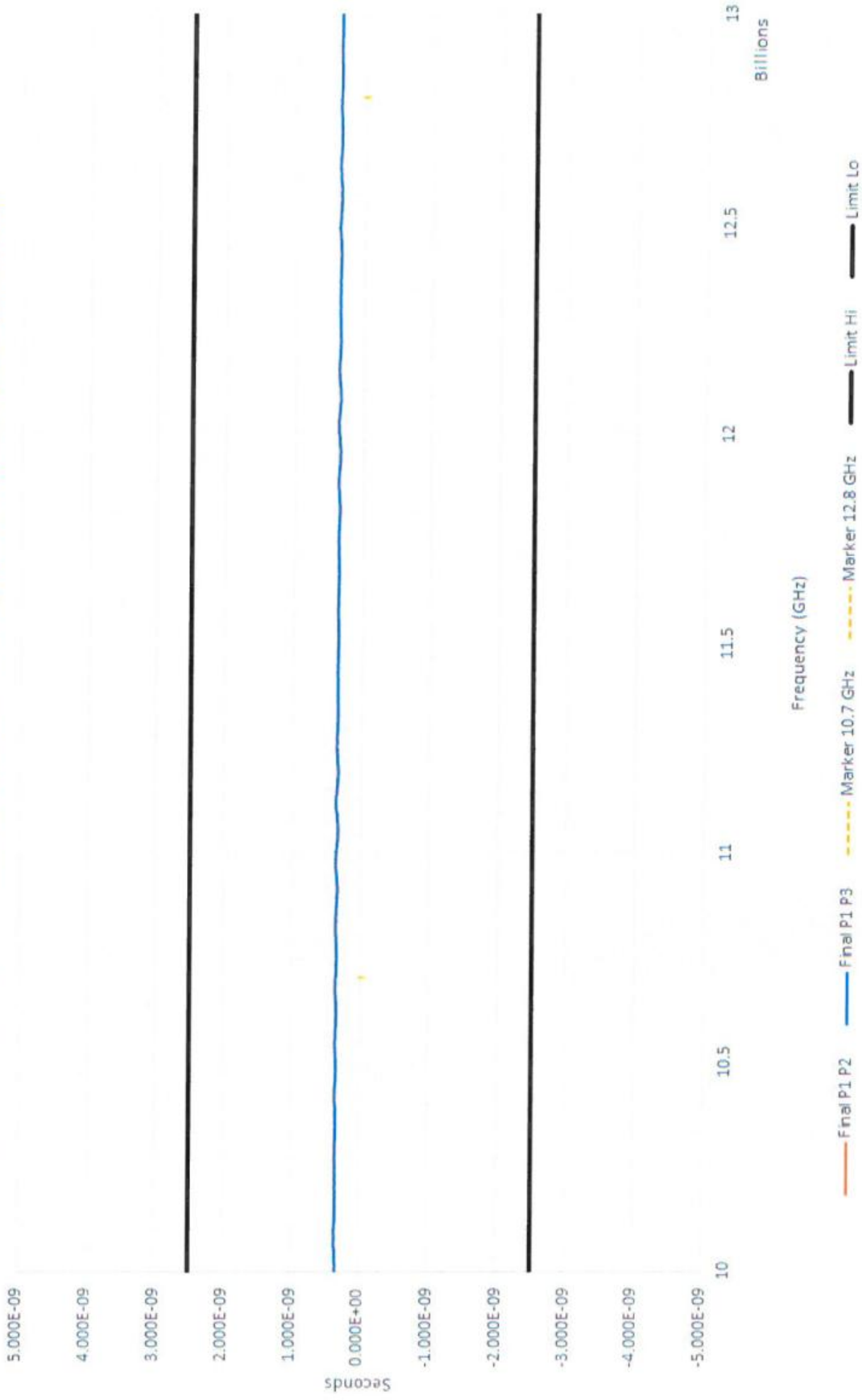


Figure 58: Final Electrical Test – Group delay variation P1-P2 / P1-P3

XPD303 Rev B QUAL - Final Electrical Test - P1-P2/P3 INSERTION PHASE BALANCE

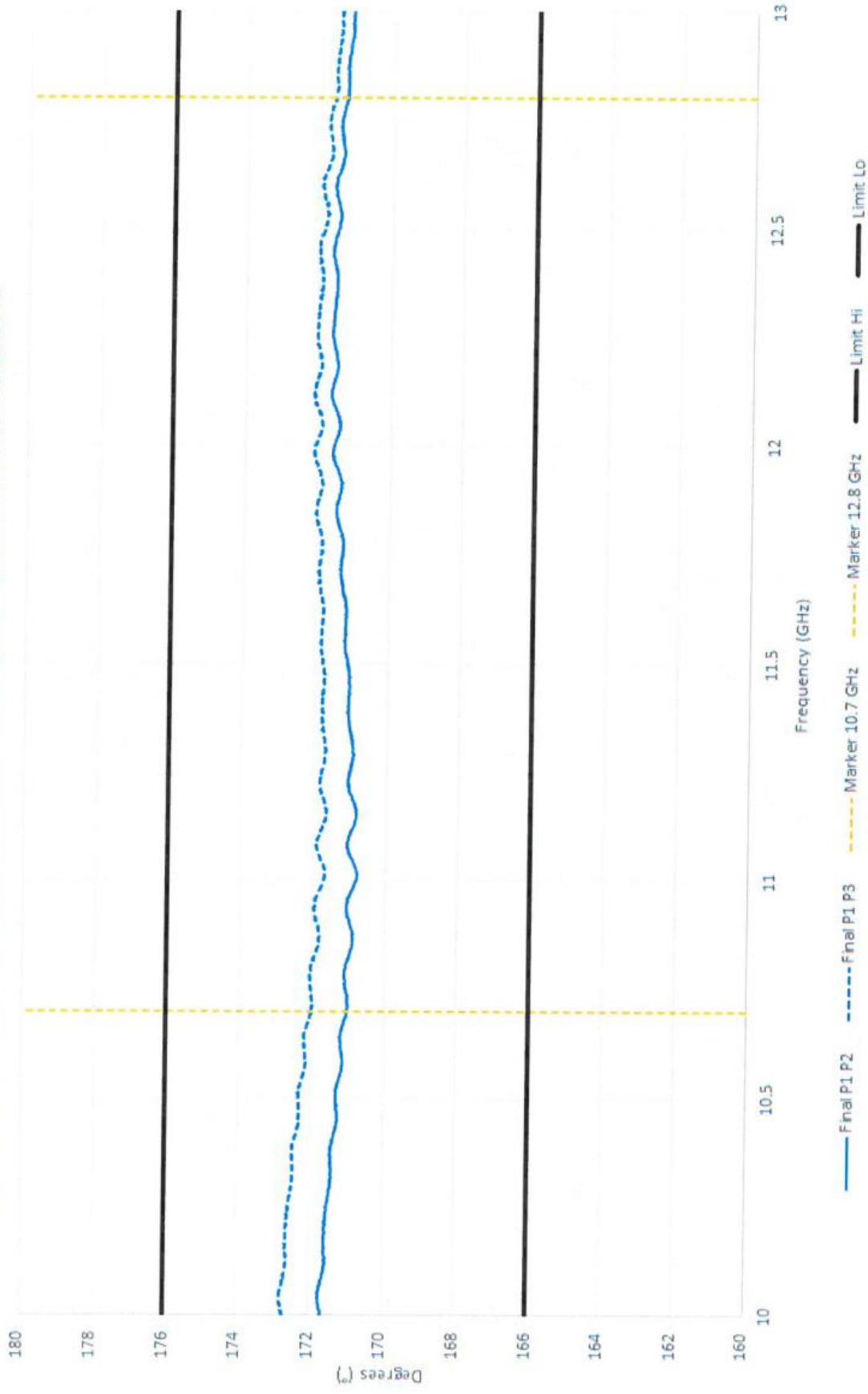


Figure 59: Final Electrical Test – Insertion phase balance P1-P2/P3

XPD303 Rev B QUAL - Final Electrical Test - P2-P1 ISOLATION

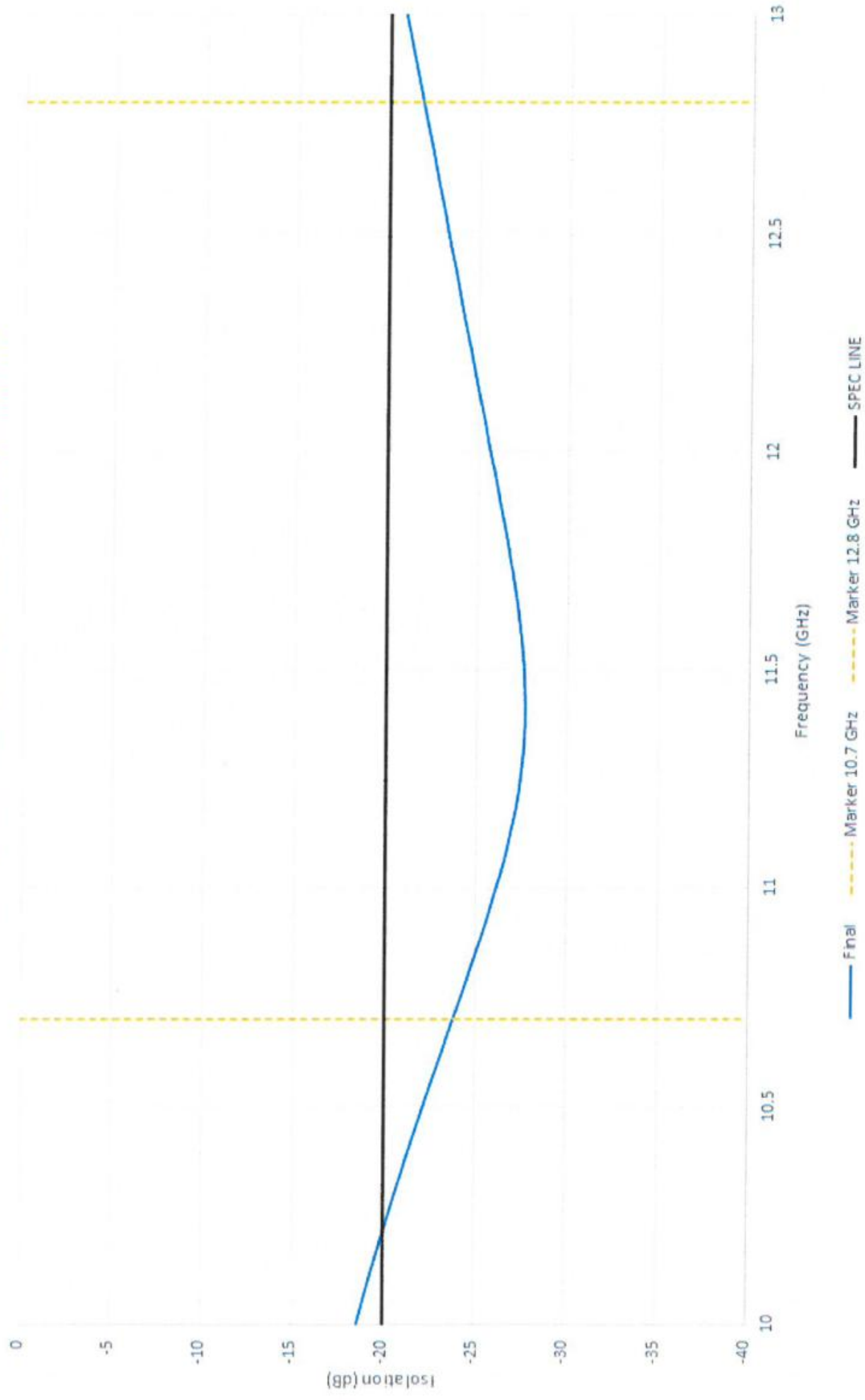


Figure 60: Final Electrical Test – Isolation P2-P1

XPD303 Rev B QUAL - Final Electrical Test - P3-P1 ISOLATION

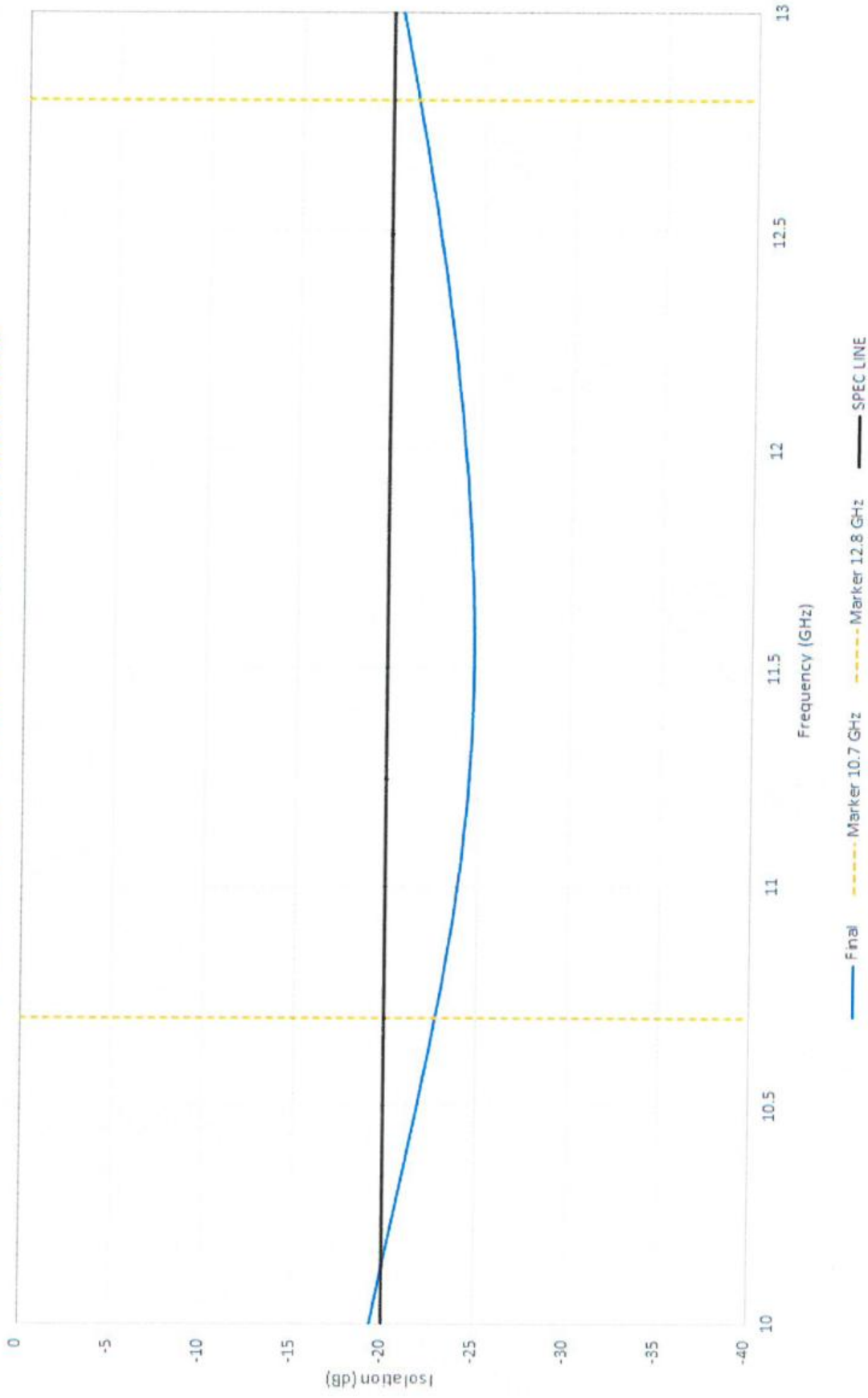


Figure 61: Final Electrical Test – Isolation P3-P1

XPD303 Rev B QUAL - Final Electrical Test - P2-P3 ISOLATION

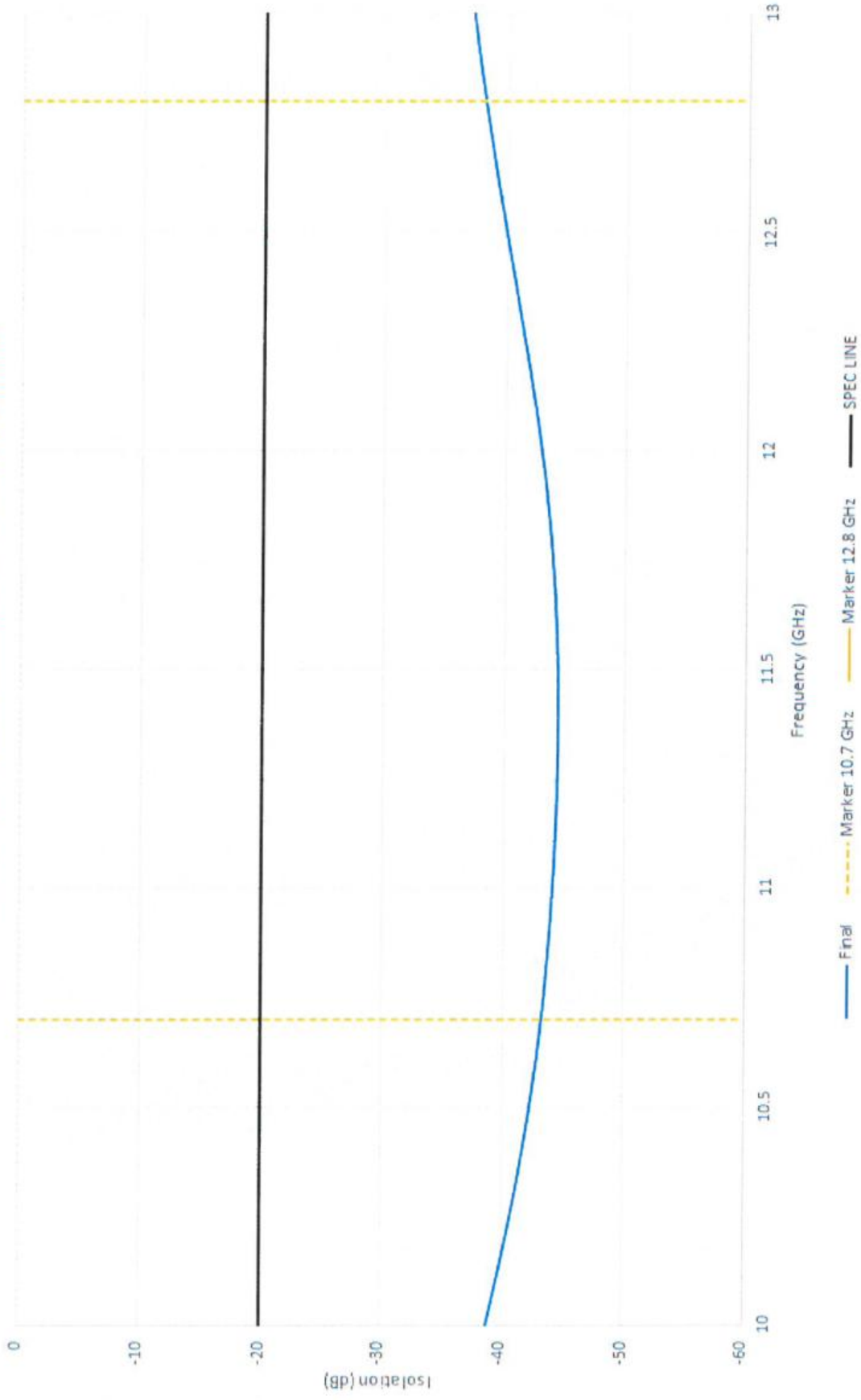


Figure 62: Final Electrical Test – Isolation P2-P3

XPD303 Rev B QUAL - Final Electrical Test - OUTPUT AMPLITUDE BALANCE P1-P2 - P1-P3

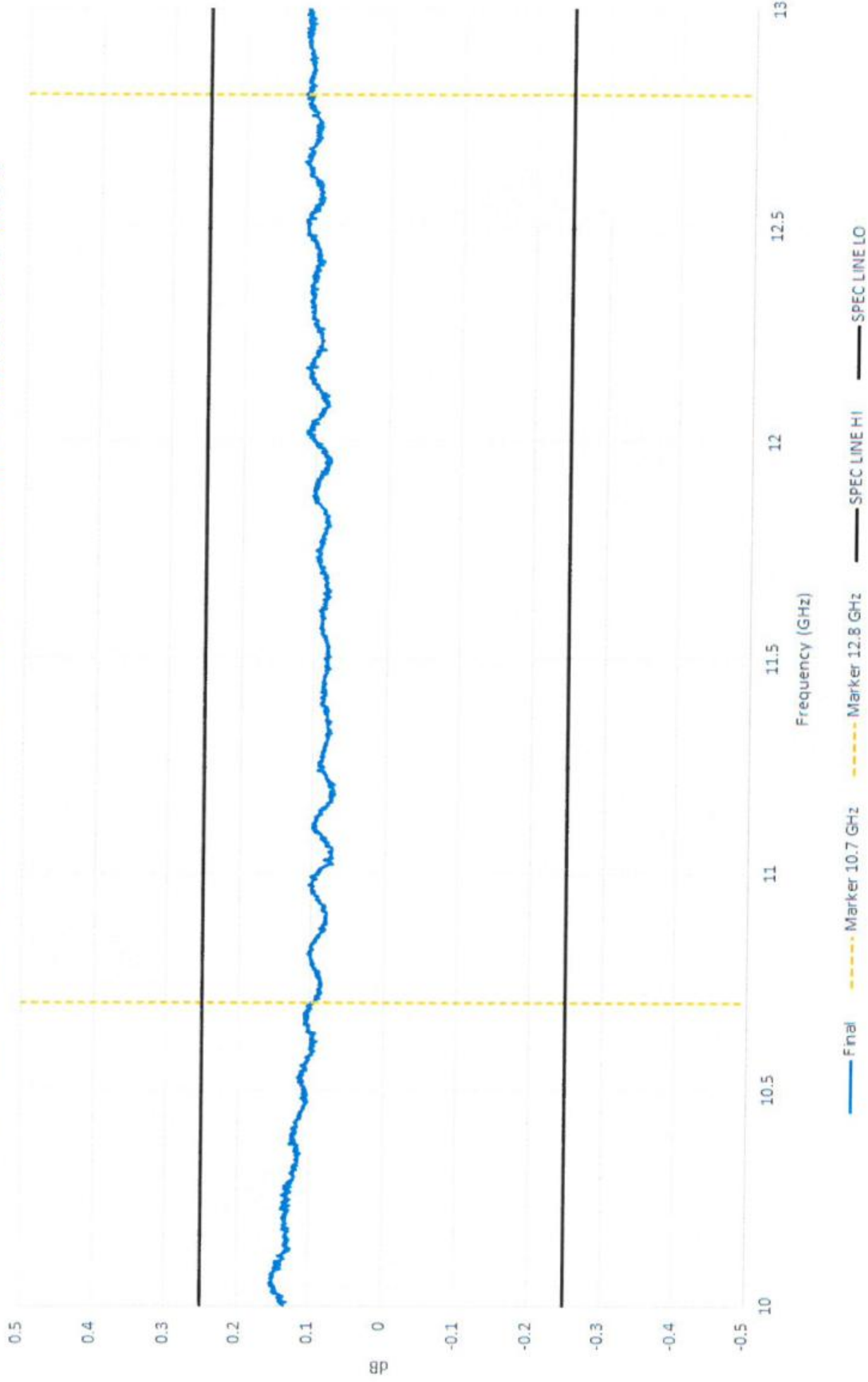


Figure 63: Final Electrical Test – Output amplitude balance P1-P2 / P1-P3

XPD303 Rev B QUAL - Final Electrical Test - P1-P2 INSERTION LOSS

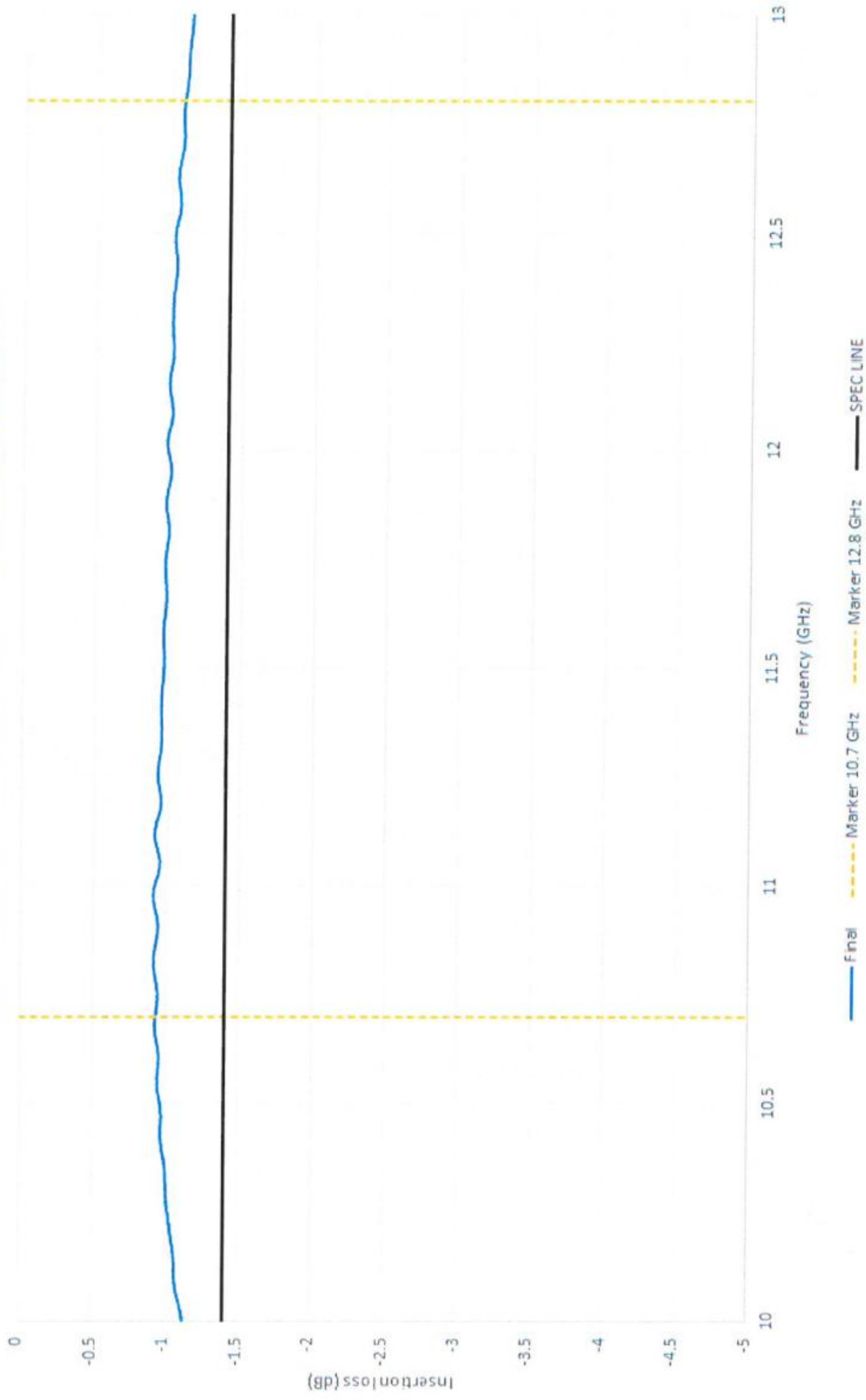


Figure 64: Final Electrical Test – Insertion loss P1-P2

XPD303 Rev B QUAL - Final Electrical Test - P1-P3 INSERTION LOSS

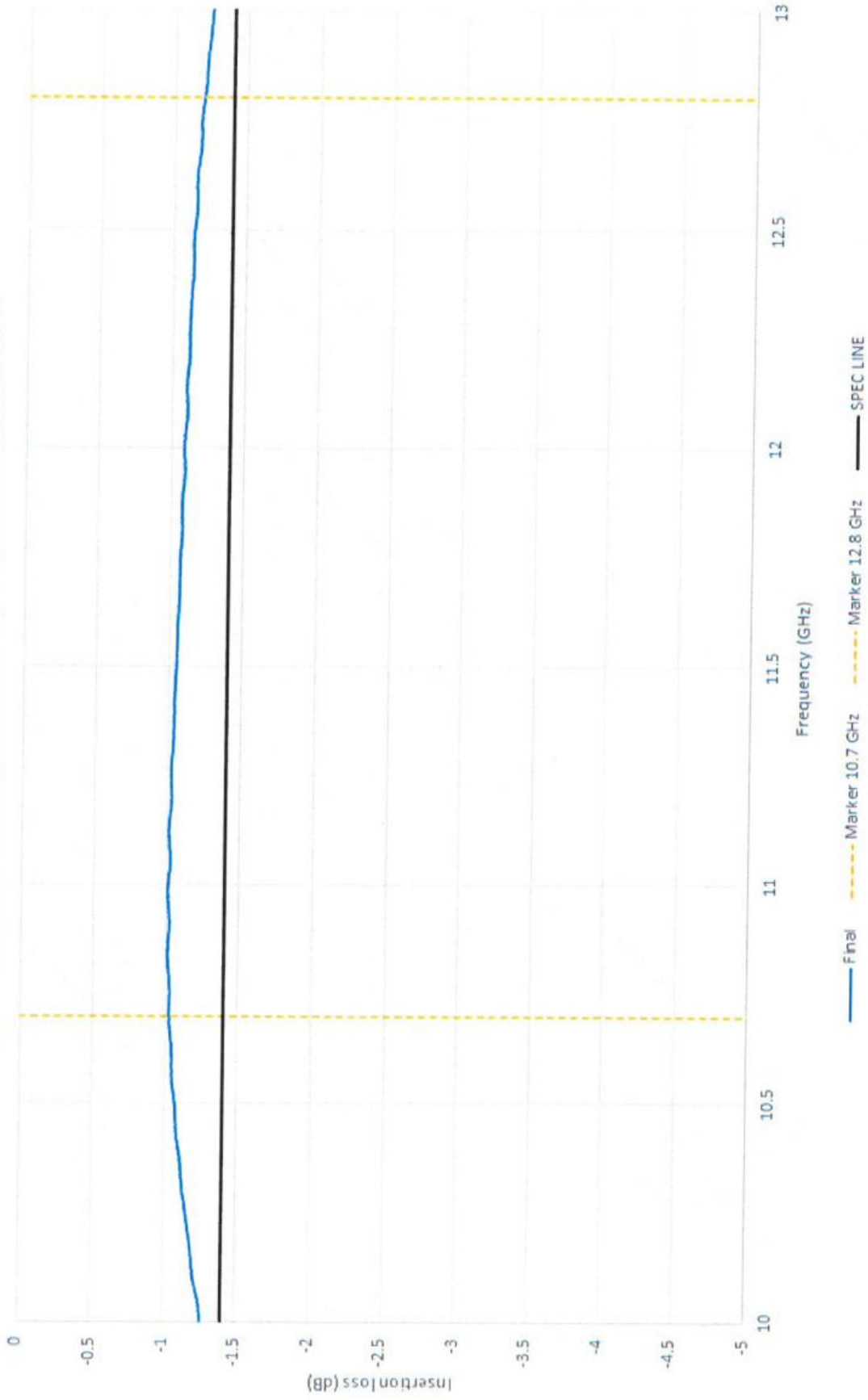


Figure 65: Final Electrical Test – Insertion loss P1-P3

27. Final X-ray

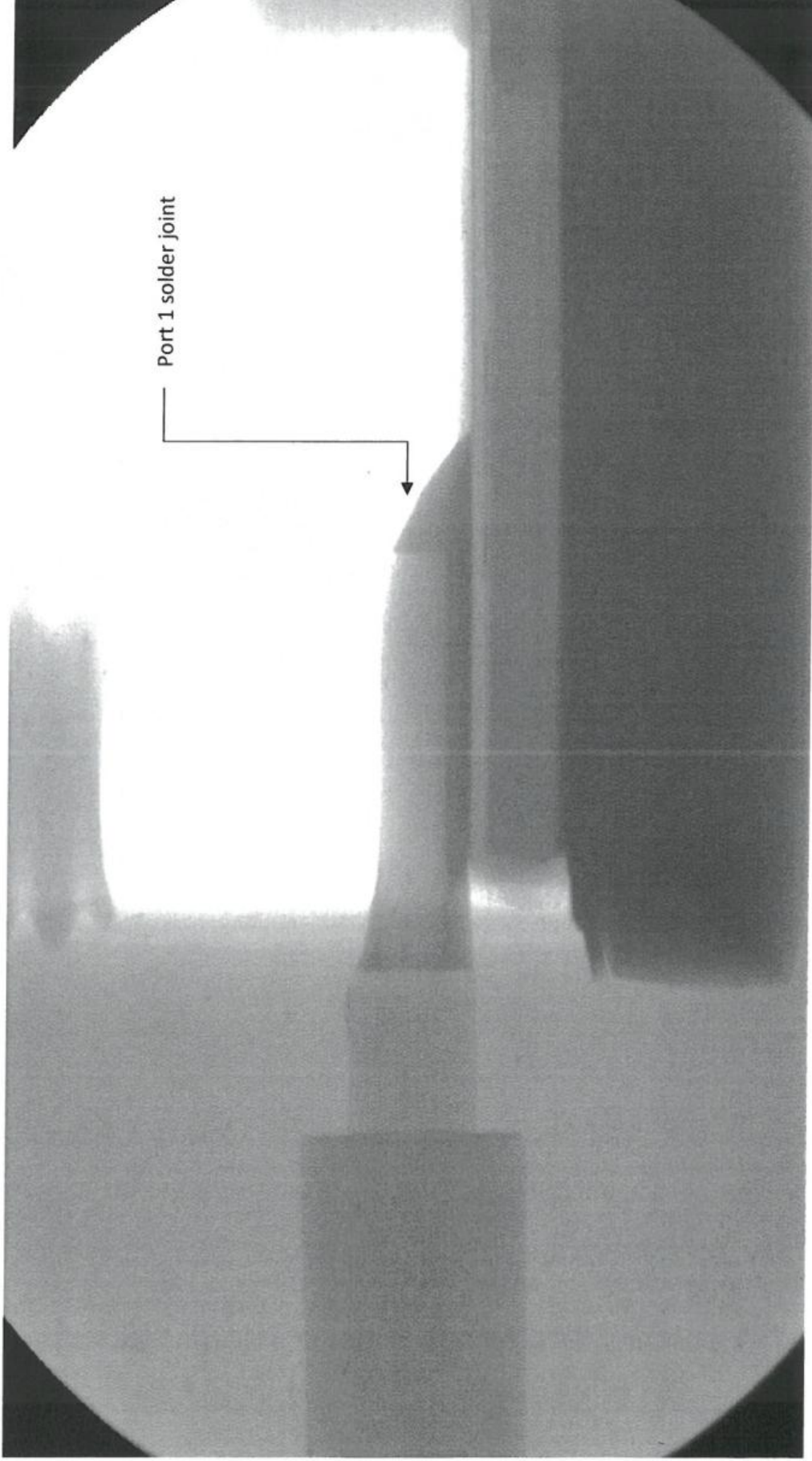


Figure 66: Final X-ray Port 1

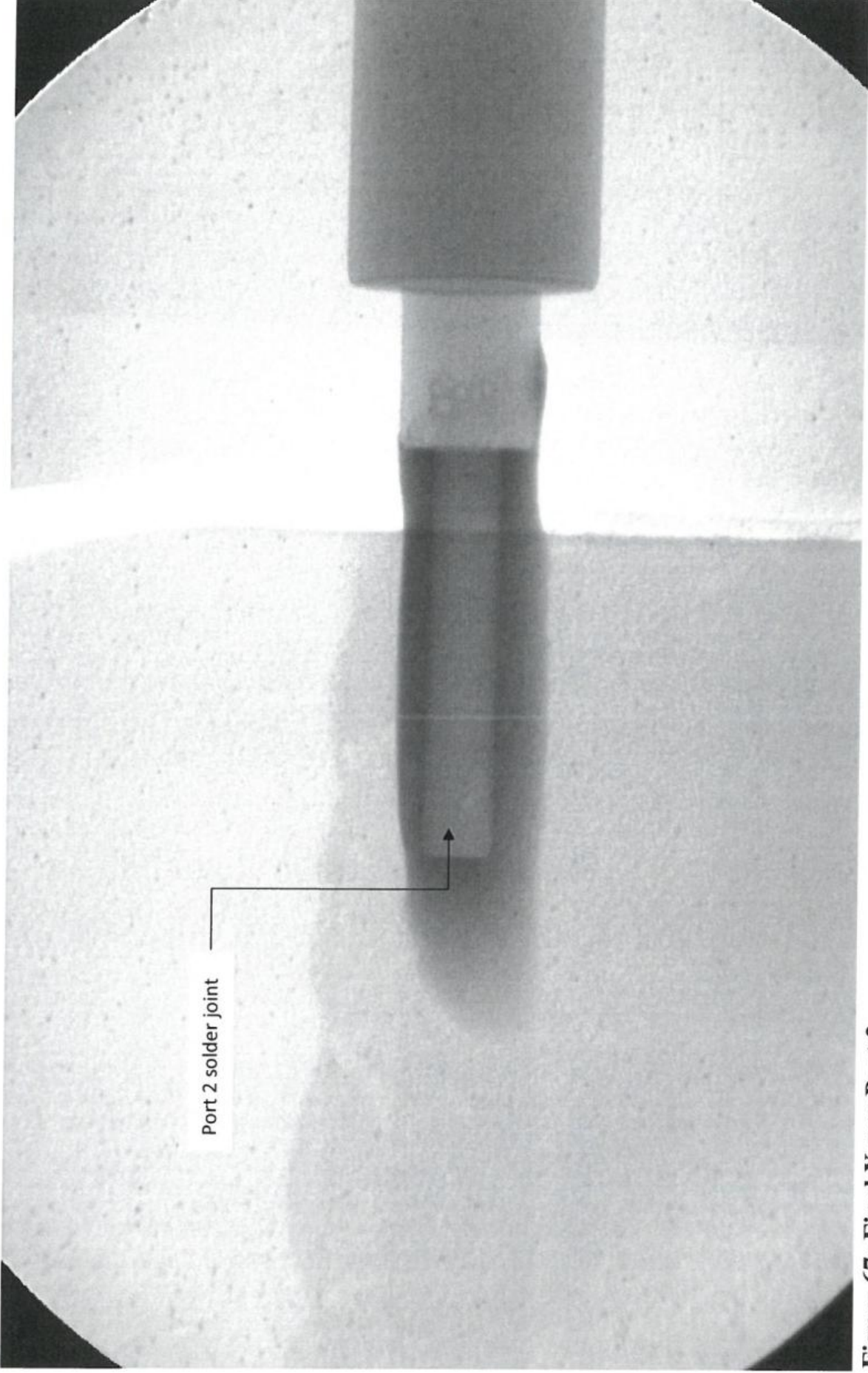


Figure 67: Final X-ray Port 2

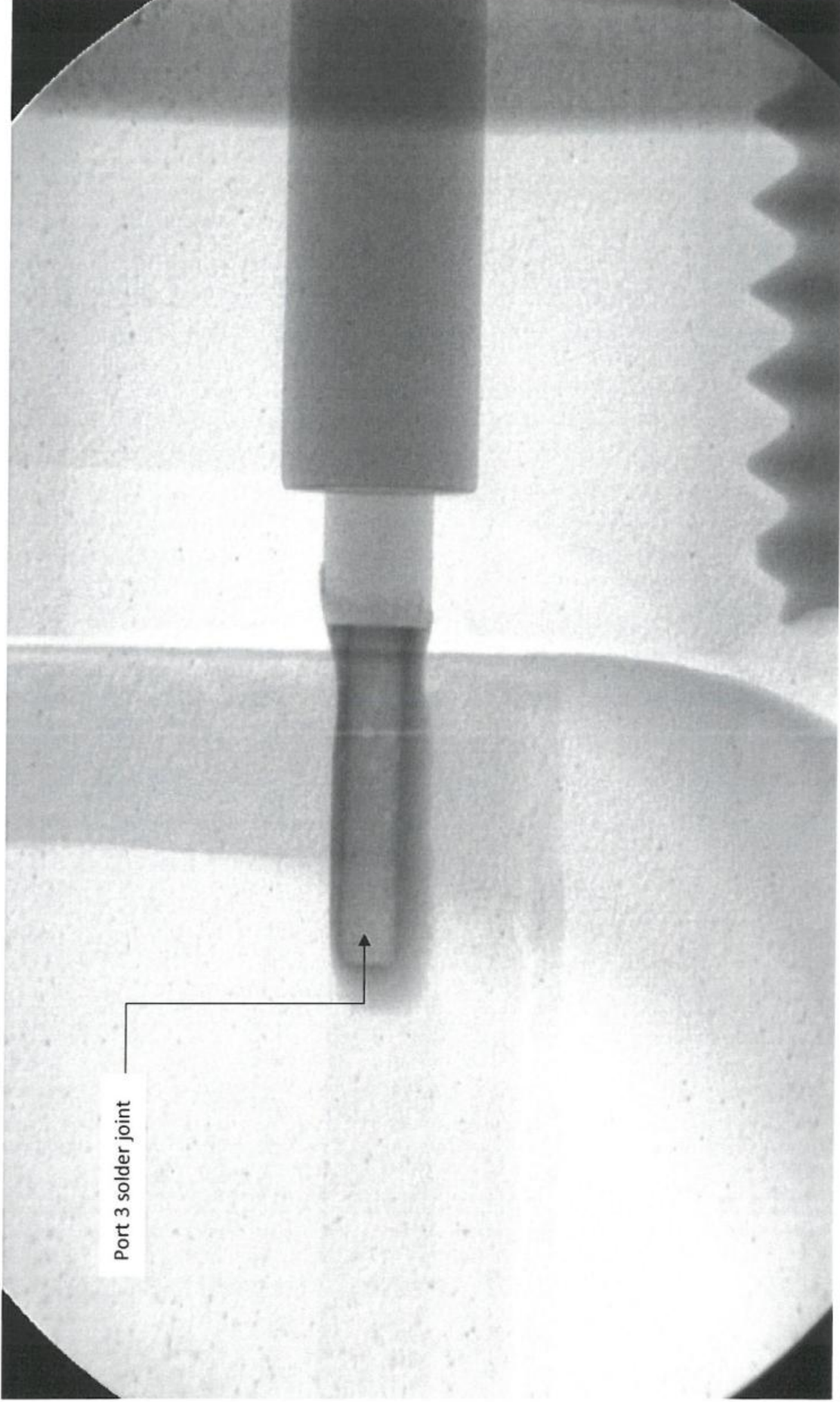


Figure 68: Final X-ray Port 3

28. Conclusion

All qualification testing of XPD303 Iso-splitter (1:2) for Smiths Interconnect was completed successfully with the results summarised throughout this report. There were no concerning electrical parameter drifts observed between initial ambient and final ambient testing and data remained compliant throughout. All testing and inspections were carried out by Smiths Interconnect, Dundee, UK apart from PIND testing, this was completed by ALTER TECHNOLOGY, Seville, Spain. A full PIND test report was supplied and is available on request.

