

## STEREO CONFIGURATION CHANGE REQUEST

For Office Use Only	TITLE: IMPACT FM-1 EMI/EMC Test Waiver		CLASS:		NUMBER:																																
			<input checked="" type="checkbox"/>	I	DATE: 06-01-2005																																
CONFIGURED ITEM:			ORIGINATOR:			PRIORITY:																															
STS Number:		Payload: STEREO	Name: Dave Curtis		<input checked="" type="checkbox"/>	Routine																															
Component:		Experiment: IMPACT	Organization: U.C. Berkeley		<input type="checkbox"/>	Urgent																															
Component Part #:		Serial #: See attached	Phone: 510-642-5998		<input type="checkbox"/>	Emergency																															
Email: dwc@ssl.berkeley.edu																																					
TYPE OF REQUEST:		RESPONSIBLE ORGANIZATION/INDIVIDUAL:			IMPACTS: (If yes attach additional pages)																																
Configuration					COST:																																
Deviation #					Yes <input checked="" type="checkbox"/> No																																
x Waiver #					SCHEDULE:																																
Other:					Yes <input checked="" type="checkbox"/> No																																
REASONS FOR CHANGE:					RETEST REQUIRED:																																
<input type="checkbox"/> Improvement		<input type="checkbox"/> Test/Payload Failure		<input checked="" type="checkbox"/> No																																	
<input type="checkbox"/> Reliability		<input checked="" type="checkbox"/> Specification Requirements		<input type="checkbox"/> Yes																																	
		<input type="checkbox"/> New Document:																																			
		<input type="checkbox"/> Other:																																			
<p>PROPOSED CHANGE (Attach additional pages as required)    IMPACT FM-1 requests a waiver for exceedances for CE-01, CE-03, RE-01 and RE-02. In addition, the STE showed some sensitivity during CS-02 testing. Thesting was conducted in accordance with STEREO EMI/EMC Control Plan 7381-9030 Rev C. Specific data plots for each exceedance are attached.</p>																																					
<p>RATIONALE (Attach additional pages as required):    The IMPACT FM 1 EMI/EMC testing was conducted in accordance with the IMPACT EMI test procedure Rev A dated 03-08-2004. Prior to the test a STEREO waiver 463-179 was approved on 02-15-05 against the test configuration. Equipment under test was IMPACT FM 1, Boom s/n 001, IDPU s/n 001, SEP Main s/n 001, SIT s/n 001, SEPT- E s/n 001, SEPT-NS s/n 002. PLASTIC was not included in this test</p> <p>All the EMI/EMC test results from the IMPACT FM1 were reviewed and discussed with the STEREO EMI/EMC committee in detail. The exceedances shown in that attached plots do not affect any other spacecraft or instrument system. The STE suspectability noted during CS-02 testing was fully characterized during the test and judged acceptable.</p> <p>Additional test details can be found in the IMPACT FM-1 EMI Quailifaction Test Report dated 02-14-2005 which is in the STEREO library.</p>																																					
<p>DOCUMENTS/DRAWINGS AFFECTED (Document No./Title/Section):    EMC Control Plan and EMI Performance Requirements Specification, APL 7381-9030, Rev C</p>																																					
<p>AFFECTED (Check all that apply):</p> <table style="width: 100%; border: none;"> <tr> <td colspan="3">FLIGHT SYSTEMS:</td> <td colspan="4">GROUND SYSTEMS:</td> </tr> <tr> <td><input type="checkbox"/></td><td>Avionics</td> <td><input type="checkbox"/></td><td>Electrical and Cables</td> <td><input type="checkbox"/></td><td></td> <td><input type="checkbox"/></td><td></td> </tr> <tr> <td><input checked="" type="checkbox"/></td><td>Experiment</td> <td><input type="checkbox"/></td><td>Software/Firmware</td> <td><input type="checkbox"/></td><td></td> <td><input type="checkbox"/></td><td></td> </tr> <tr> <td><input type="checkbox"/></td><td>Structures and Mechanical</td> <td><input type="checkbox"/></td><td>Other:</td> <td><input type="checkbox"/></td><td></td> <td><input type="checkbox"/></td><td>Other:</td> </tr> </table>							FLIGHT SYSTEMS:			GROUND SYSTEMS:				<input type="checkbox"/>	Avionics	<input type="checkbox"/>	Electrical and Cables	<input type="checkbox"/>		<input type="checkbox"/>		<input checked="" type="checkbox"/>	Experiment	<input type="checkbox"/>	Software/Firmware	<input type="checkbox"/>		<input type="checkbox"/>		<input type="checkbox"/>	Structures and Mechanical	<input type="checkbox"/>	Other:	<input type="checkbox"/>		<input type="checkbox"/>	Other:
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<p>REQUIRED APPROVAL DATE: _____</p> <p>REQUIRED JUSTIFICATION:</p>																																					
						(Page 1 of 2)																															

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For Office Use Only	TITLE:		CLASS:		NUMBER:	
				I	DATE:	
			II			
CONTRACT/AGREEMENT NUMBER EFFECTIVITY:						
	STEREO NAS5-97271	√	IMPACT S-13635Y	PLASTIC NAS5-00132	SECCHI S-13631Y	
DOCUMENTS/DRAWINGS TO BE REVISED:						
Document/Drawing Number:		Document/Drawing Title:		Section(s) No.	EO No.:	Date Completed:
PROCESSING APPROVAL:						
	CCB					
	Out of Board					
	Emergency	Systems Engineer			Date	
CCB APPROVAL:						
CCB ACTION DATE:		CCB ACTION ITEMS/CONDITIONS:				
	Approved Denied Withdrawn Hold					
CLOSEOUT COMMENTS:					DATE OF CLOSEOUT:	
					CMO	

EMC TEMPEST Engineering  
MIL-STD 461C PART 2 RE02  
14 kHz-30 MHz NARROWBAND

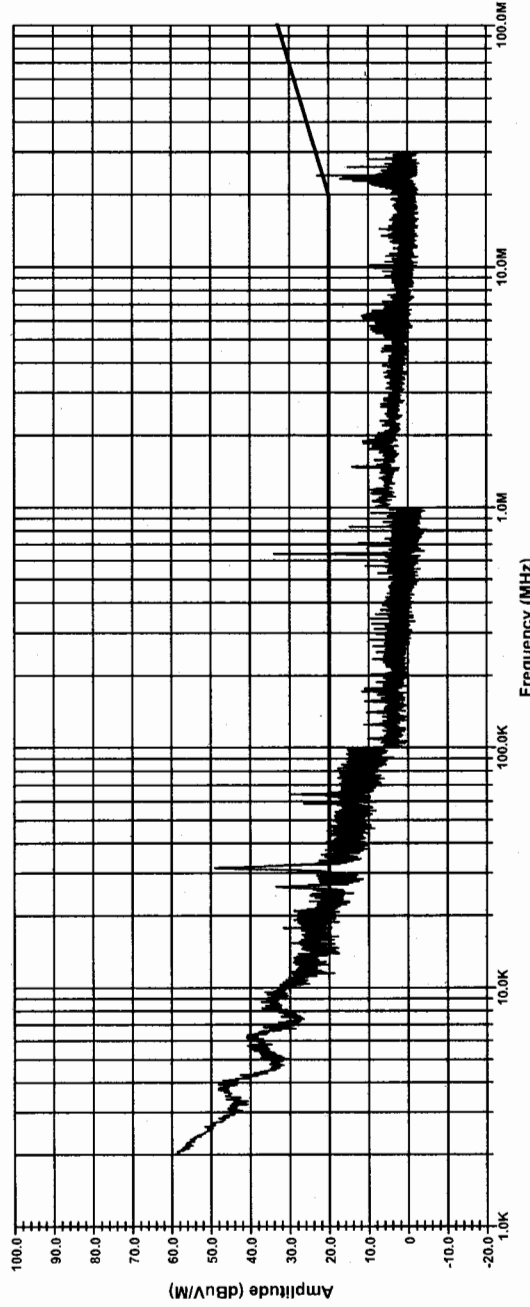
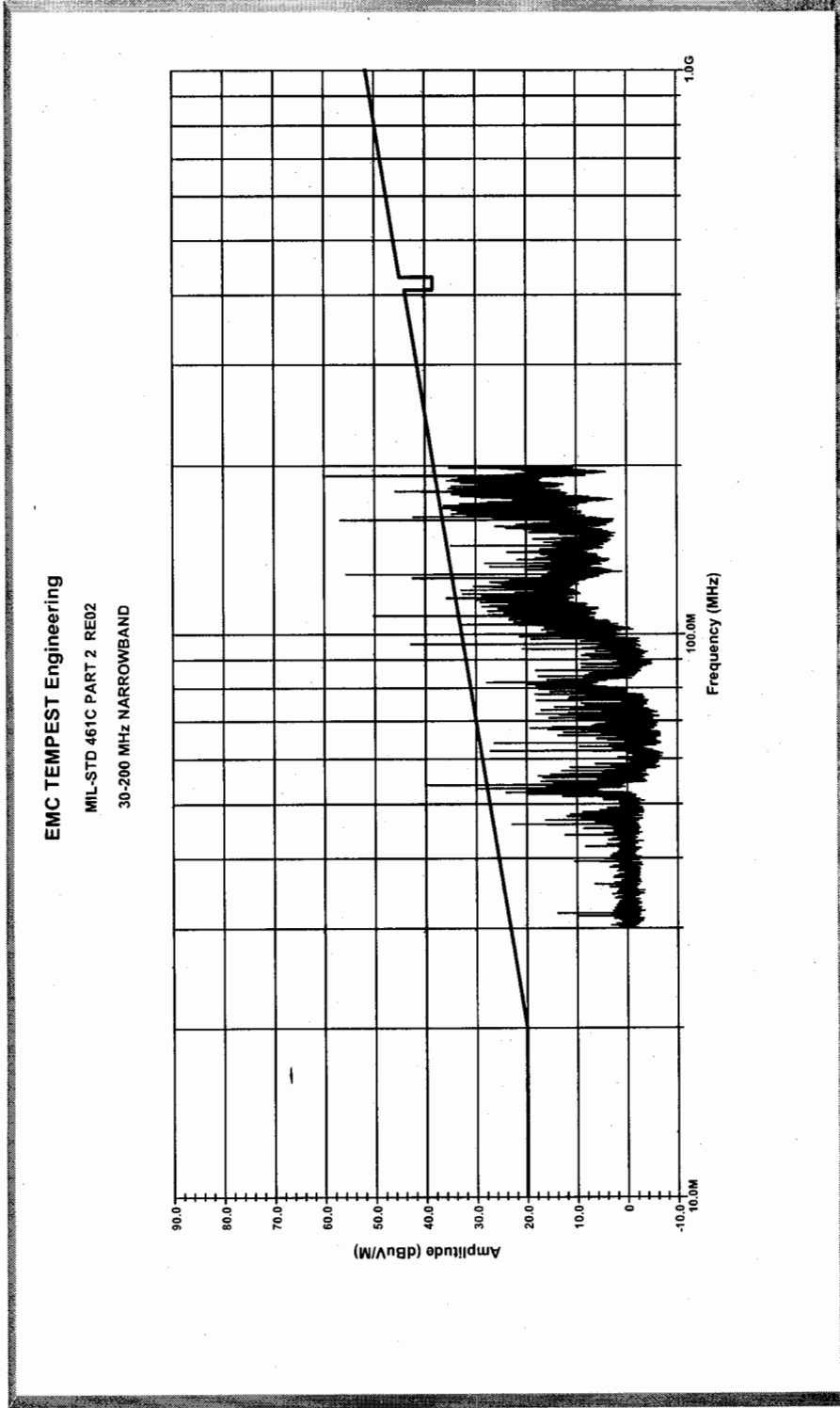


Figure 12-21. Results of RE02 Narrowband Emissions Testing – Run 06a Vertical Antennas @ Position #1 (2 kHz – 30 MHz)  
First Full Emissions Run: SEP J5,J7,J9 Connectors Mounted with Screws



**Figure 12-13. Results of RE02 Narrowband Emissions Testing – Run 01a Vertical Antennas @ Position #1 (30 MHz – 200 MHz)**  
Initial Look at System - All Equipment Running

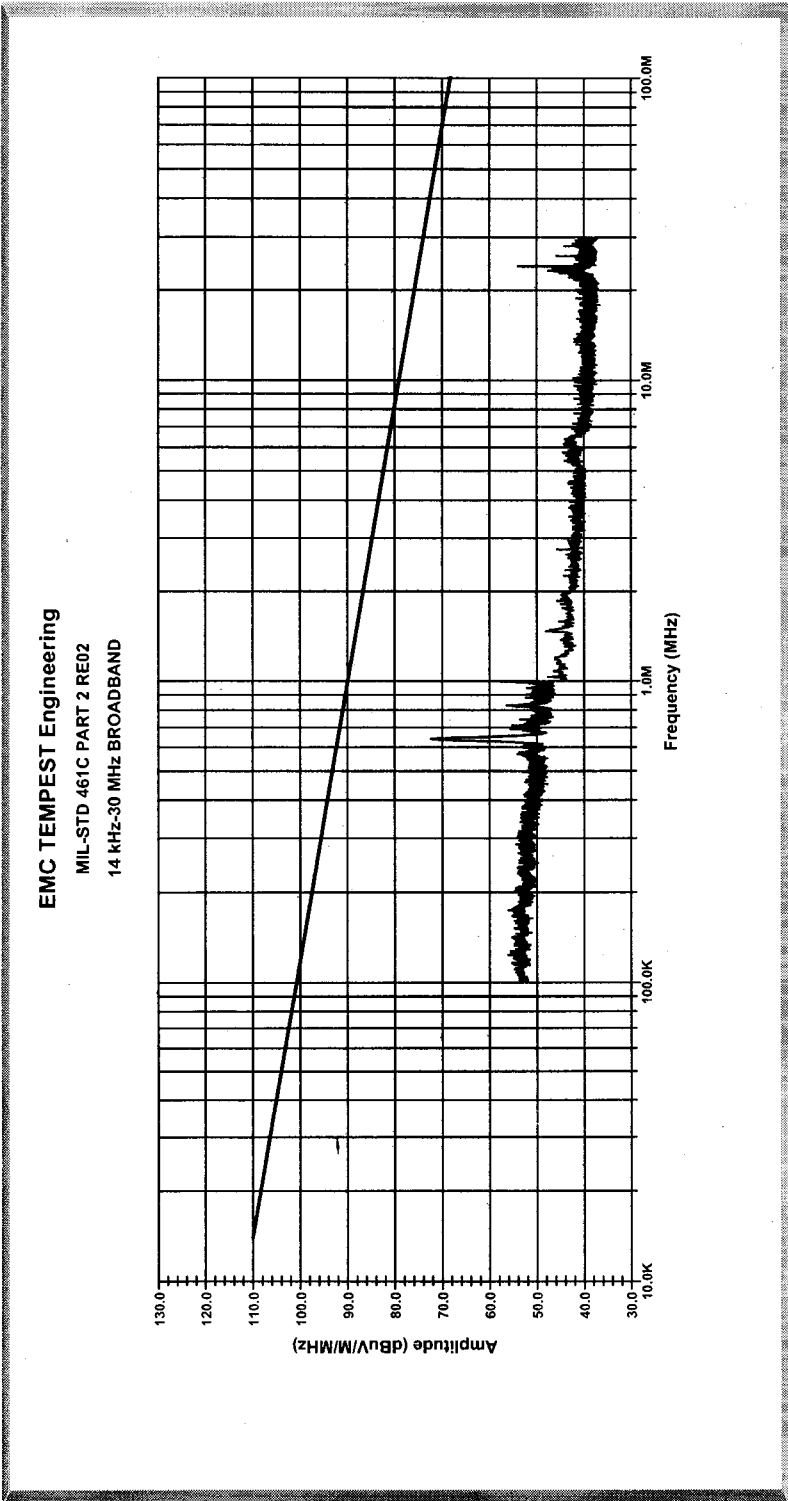
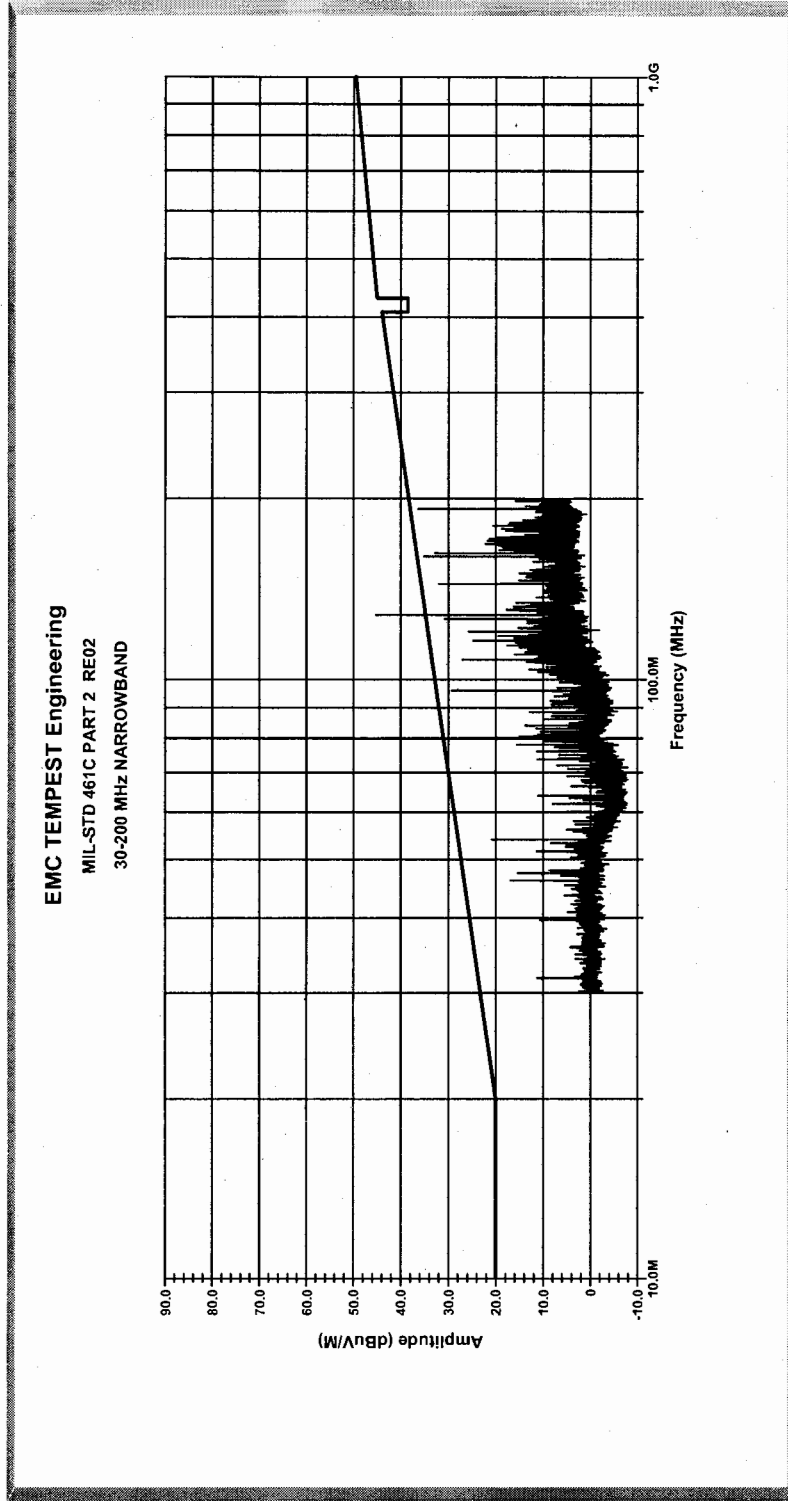


Figure 12-22. Results of RE02 Broadband Emissions Testing – Run 06b Vertical Antennas @ Position #1 (100 kHz – 30 MHz)  
First Full Emissions Run: SEP Full Noisy, SEP J5, J7, J9 Connectors Mounted with Screws



**Figure 12-23. Results of RE02 Narrowband Emissions Testing – Run 06c Vertical Antennas @ Position #1 (30 – 200 MHz)**  
First Full Emissions Run: SEP Full Noisy, SEP J5,J7,J9 Connectors Mounted with Screws

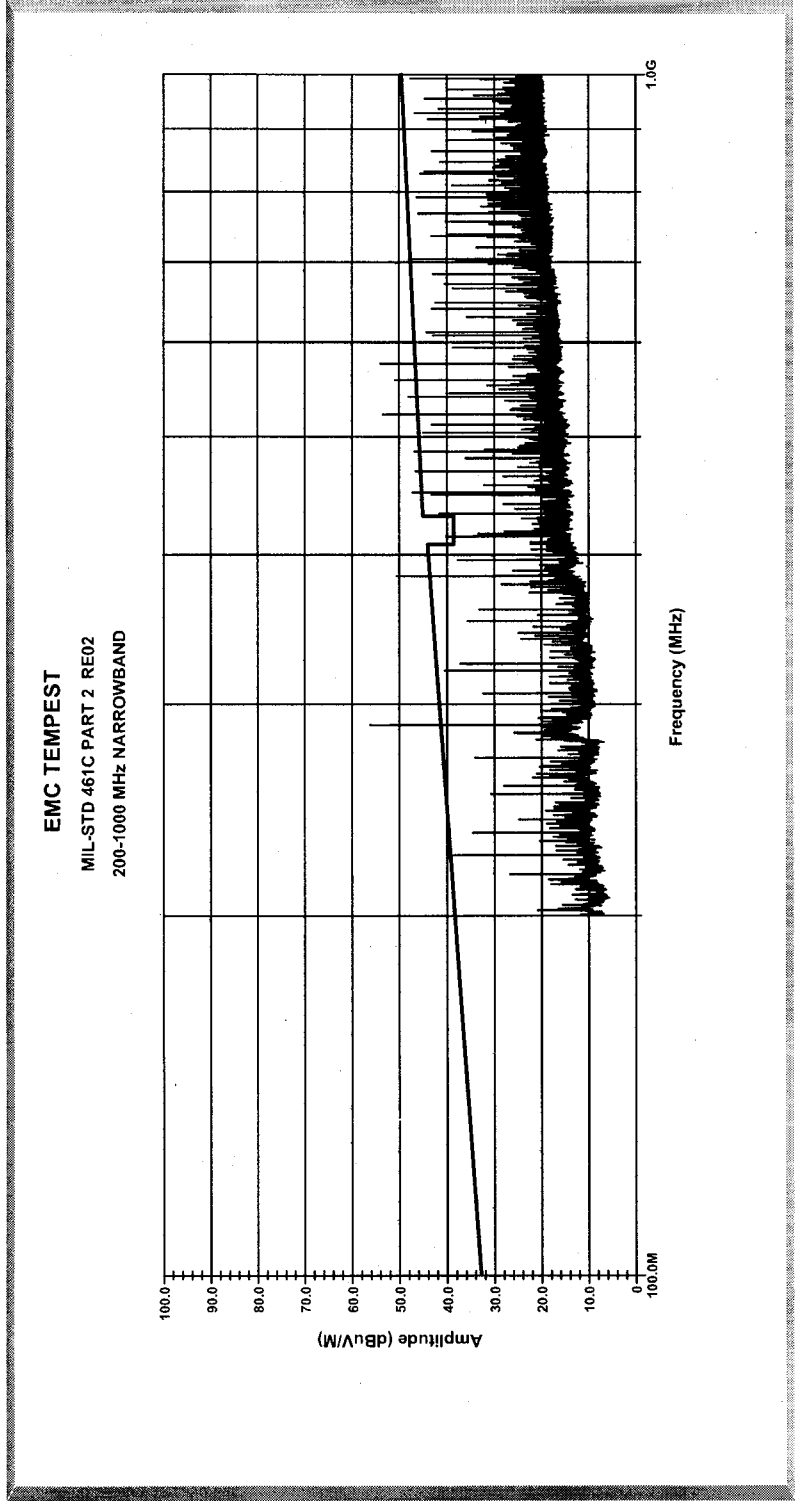
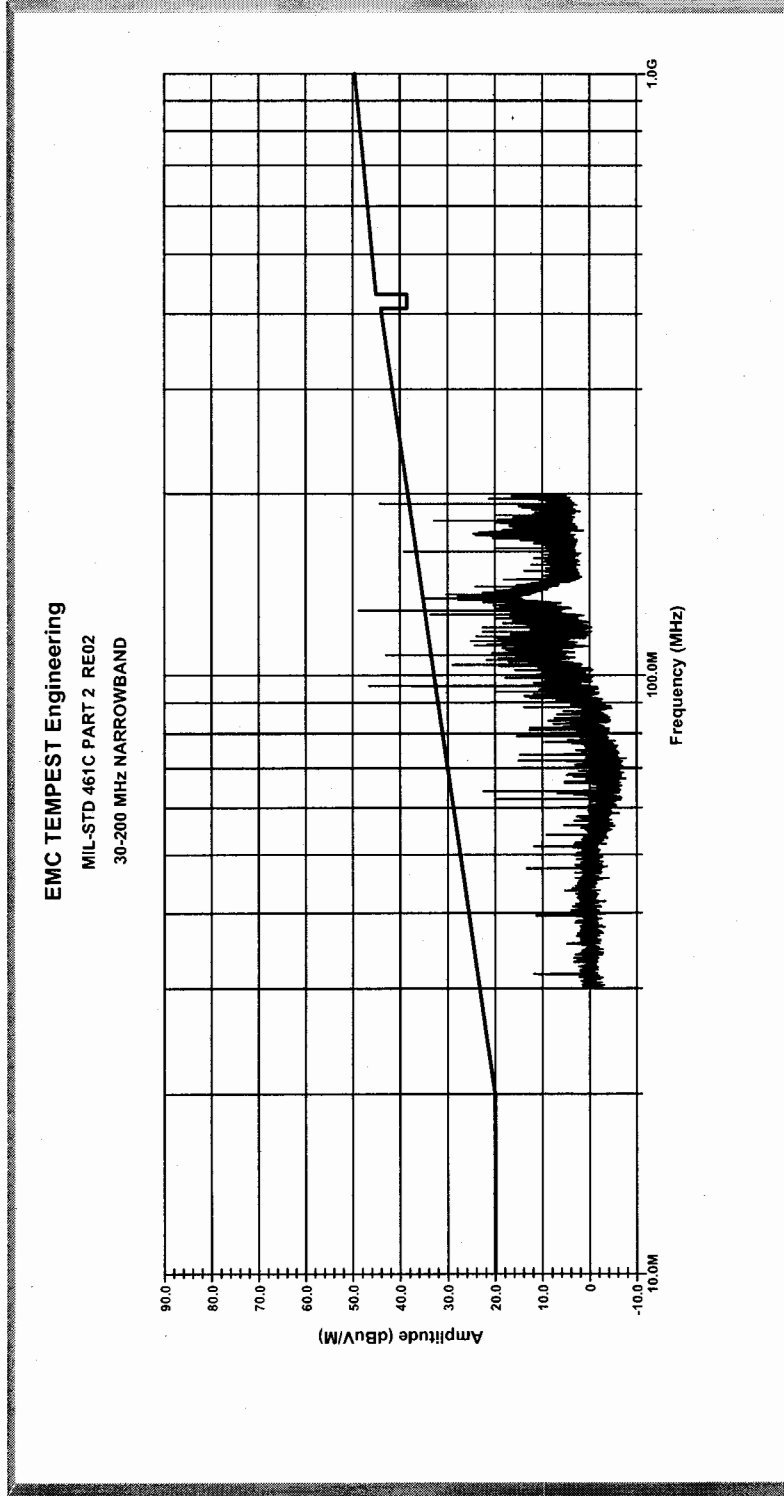
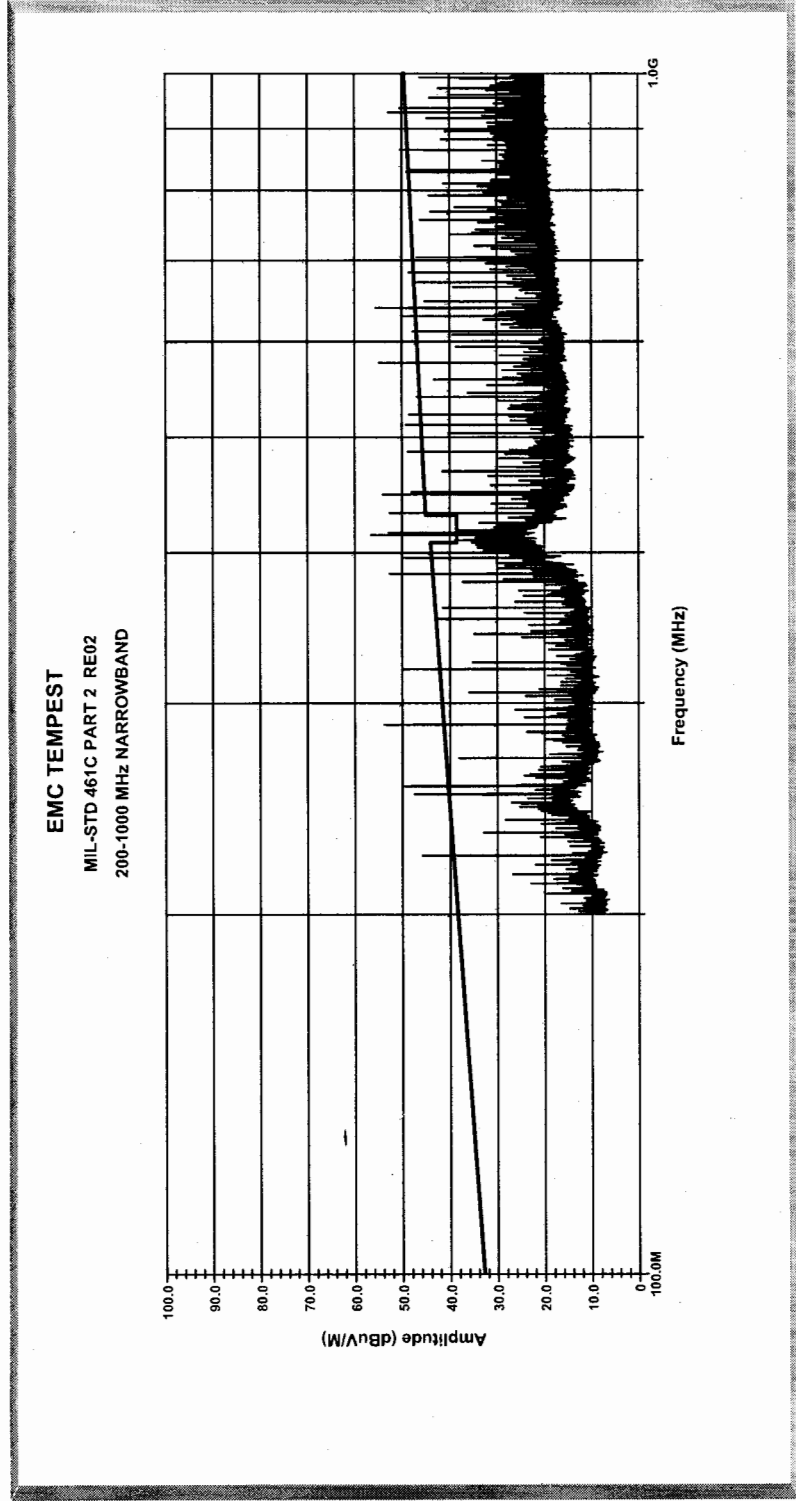


Figure 12-27. Results of RE02 Narrowband Emissions Testing – Run 06g Vertical Antennas @ Position #1 (200 MHz – 1 GHz)  
First Full Emissions Run: SEP Full Noisy, SEP J5,J7,J9 Connectors Mounted with Screws



**Figure 12-49. Results of RE02 Narrowband Emissions Testing – Run 09c Horizontal Antennas @ Position #1 (30 – 200 MHz)**  
Full Emissions Run: SEP Full Noisy, SEP J5,J7,J9 Connectors Mounted with Screws





**Figure 12-51. Results of RE02 Narrowband Emissions Testing – Run 09e Vertical Antennas @ Position #1 (200 MHz – 1 GHz)**  
Full Emissions Run: SEP J5,J7,J9 Connectors Mounted with Screws

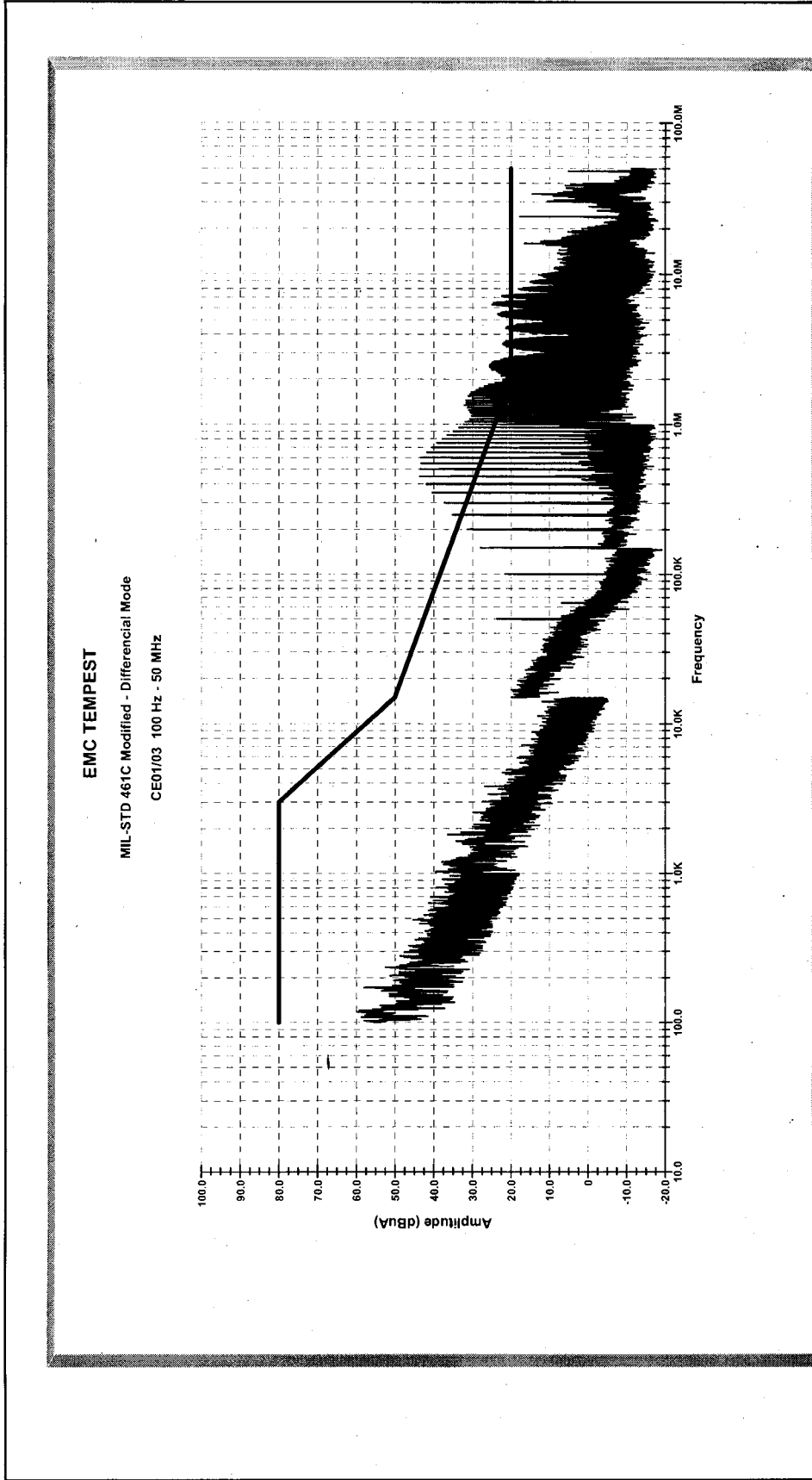


Figure 5-11. CE01 - CE03 Differential Mode Current Test Results: MAG Heater +28 VDC Power Lead with Ferrites

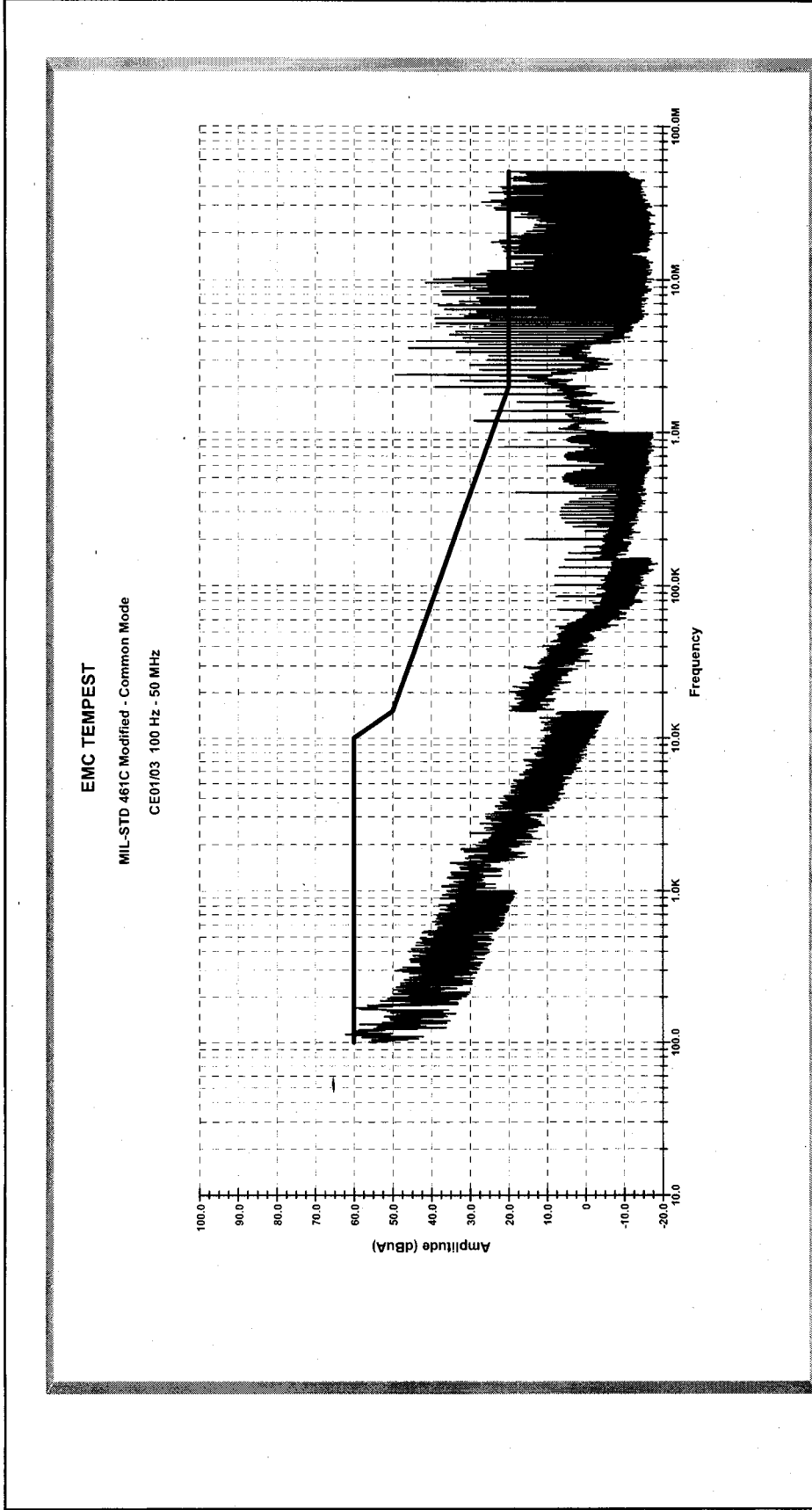


Figure 5-27. CE01 - CE03 Common Mode Test Results: SEP Power Harness (SEP J1)

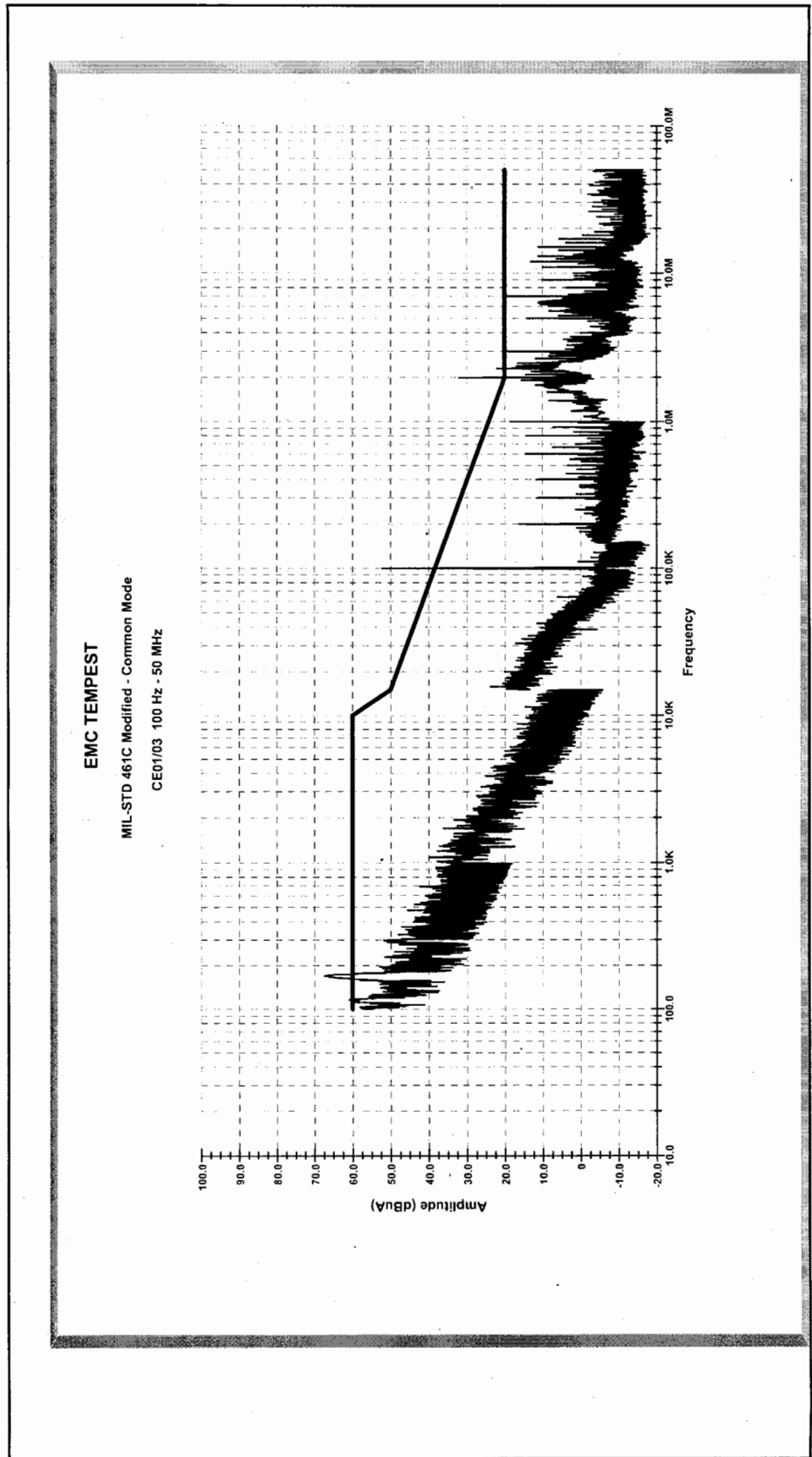


Figure 5-39. CE01 - CE03 Common Mode Test Results: SWEA/STE-D Power Harness (BOOM J1)

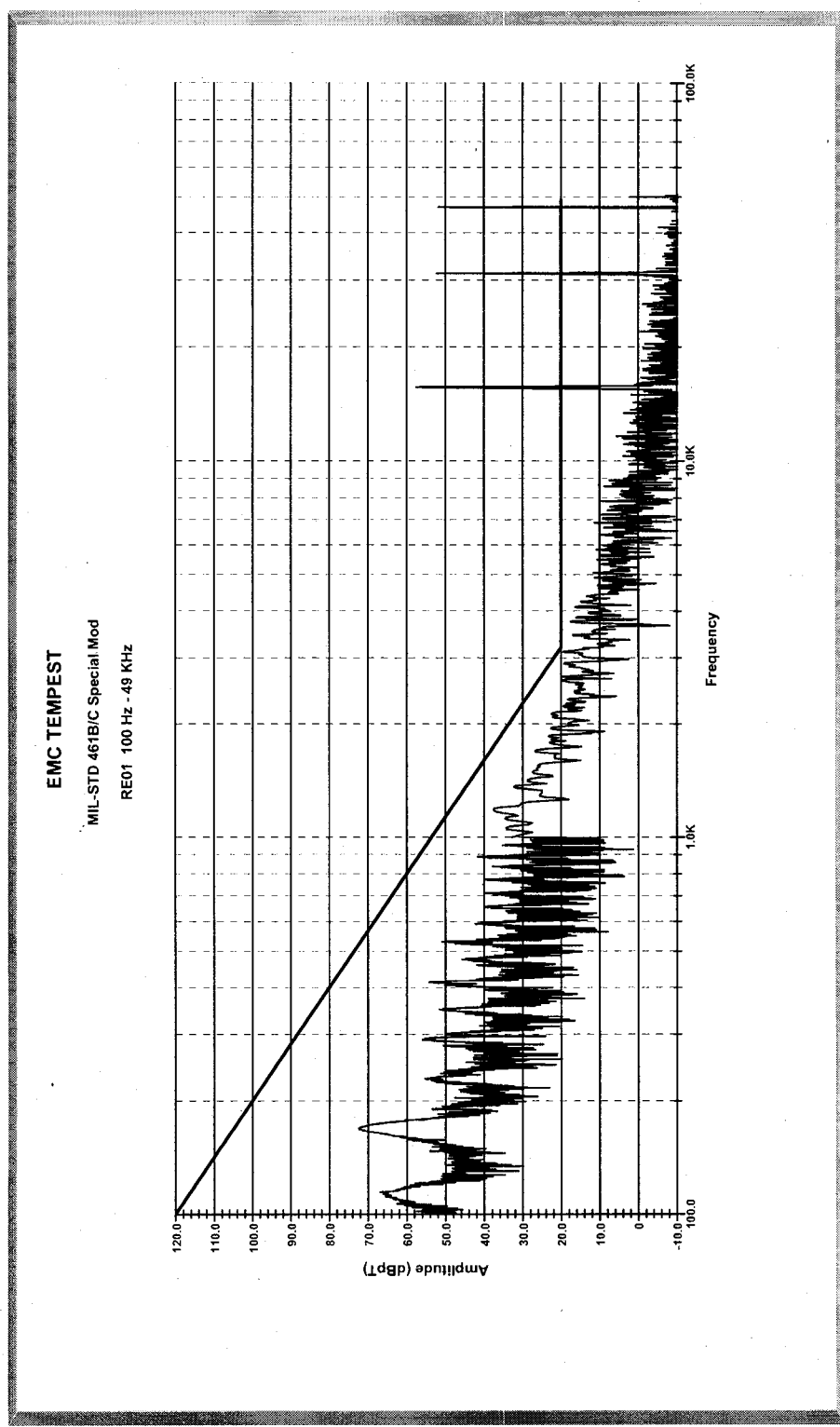


Figure 11-13. Measured RE01 Emissions with the Loop Antenna at Boom Magnetometer (30 Hz - 49 kHz)

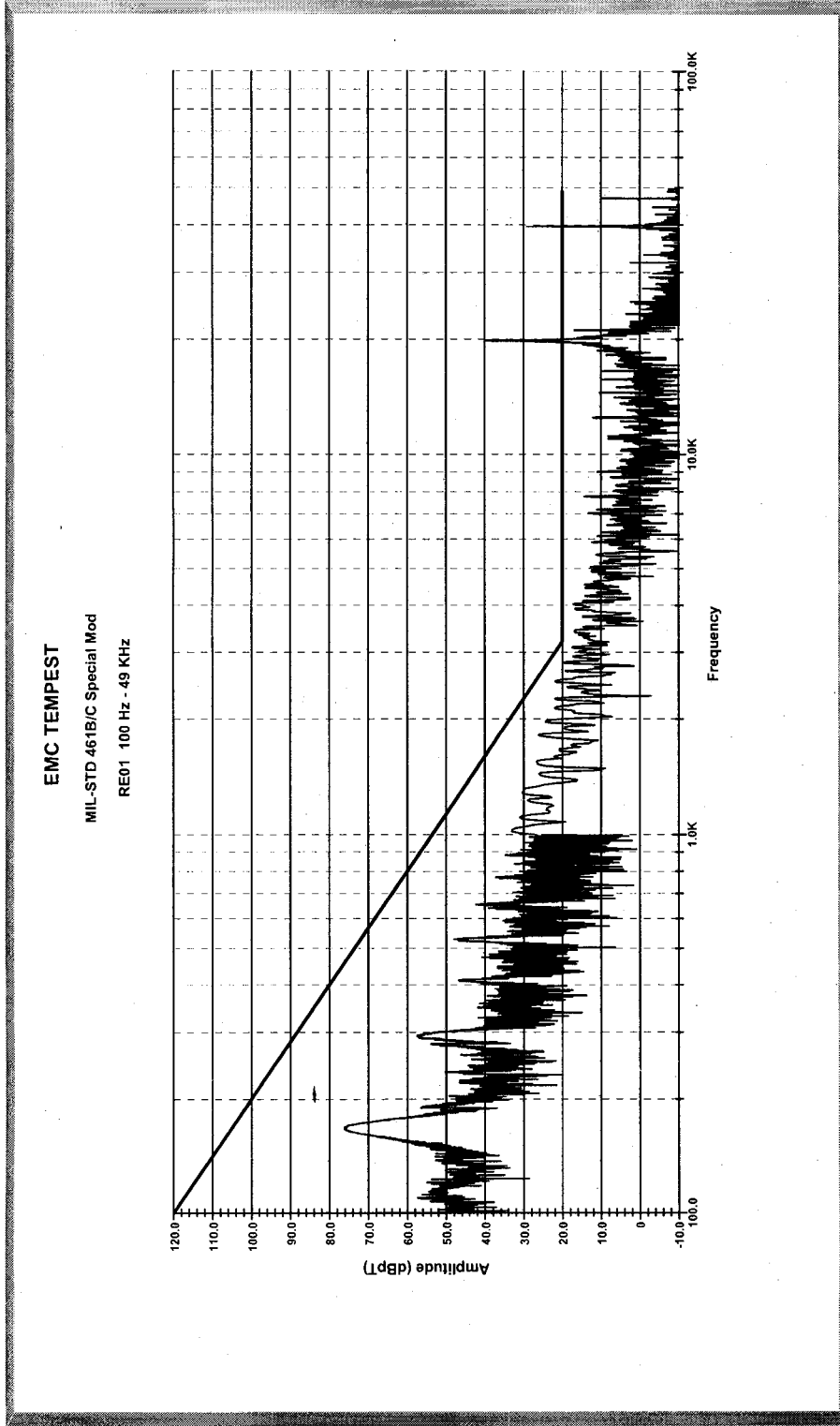


Figure 11-14. Measured RE01 Emissions with the Loop Antenna at the SEPT (30 Hz - 49 kHz)