

REV	Δ	Description	Sheet Effected	Date	Drawn	Checked
A				22.03.04	D.Lanuel	S.Cohen

EMC Laboratory

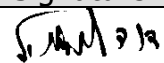


# MRD RF 700

FCCID :LSQ-MRDF-700  
 Manufactured by  
 Elmotech System Ltd.

EMC Test Report

According FCC Part 15 Requirements

March 2004

	Function/Title	Name	Signature	Date
Prepared by	Test Engineer	D.Lanuel		21.03.04
Checked by	Test Engineer	D.Lanuel		21.03.04
Approved by	EMC Lab. Manager	S.Cohen		22.03.04

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## 1 TEST DATA INFORMATION

### a. Description of equipment Under Test.

Equipment Under Test:	Manual Reset Device
FCCID	LSQ-MRDF-700
Manufacturer:	Elmotech System Ltd.
Serial Numbers:	0001
Mode of Operation:	TX MODE
Receiver operating frequency:	318MHZ
Year of Manufacture:	2004

### b. Applicant Information:

Applicant:	Elmotech System Ltd.
Applicant Address	2, Habarzel Street Tel-Aviv
Telephone:	+972-3-6478871
FAX:	+972-3-6478872
The testing was observed by following applicant's personnel:	MICHAEL LIFSHITZ

### c. Test Performance:

Date of reception for testing:	01.03.04
Dates of testing	02.03.04
Test Laboratory Location	TADIRAN EMC LAB , Hashoftim 26 Holon 58102 ISRAEL Tel: 972-3-5574476 Fax: 972-3-5575320
Applicable EMC Specification:	Federal Communication Commission (FCC), Code of Federal Regulations 47, FCC Docket 89-103,Part 15: Radio Frequency Devices, Sections 15.109, 15.209, & 15.231.

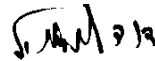
## 2 TEST SUMMARY AND SIGNATURES.

TADIRAN EMC Laboratory has completed testing of E.U.T in accordance with the requirements of the FCC Part 15 Regulations for Class B equipment.

**The E.U.T has been found to comply with the emission requirements of the FCC Part 15 Regulations for parts 15.109, 15.209, 15.205 & 15.231**


**a. Test performed by:**

Mr. D. Lanuel Test Engineer



**b. Test Report prepared by:**

Mr. D. Lanuel Test Engineer



**c. Test Report Approved by:**

Mr. Samuel Cohen EMC Lab. Manager



### 3 GENERAL INFORMATION

#### a. Specification Reference

Section 15.109:	Limits of Radiated Interference Field Strength in the 30MHz to 1000MHz frequency range.unintentional radiators
Section 15.209:	Limits of Radiated Interference Field Strength in the 9KHz to 35000MHz frequency range intentional Radiators
Section 15.205	Limits of Radiated Interference Field Strength in the Restricted bands of operation for intentional radiators
Section 15.231	Limits of Radiated Interference Field Strength in the 30MHz to 1000MHz frequency range for intentional radiators operating in frequency rang above 70MHz

#### b. Applicable Documents.

- 3.1 Federal Communication Commission (FCC), Code of Federal Regulations 47, FCC Docket 89-103, Part 15: Radio Frequency Devices, Sections 15.107 & 15.109.
- 3.2 FCC/OET, Laboratory Measurement Procedures MP-4, July 1987, "FCC Procedures for Measuring RF Emissions from Computing Devices".
- 3.3 FCC/Office of Science and Technology OST-55, August 1982, "Characteristics of Open Field Test Sites".
- 3.4 FCC/OET, "FCC Procedure for Measuring Electromagnetic Emissions from Digital Devices", TP-5, March 1989.
- 3.5 FCC/OET, "Understanding the FCC Regulations Concerning Computing Devices", OST-62, May 1984
- 3.6 International Special Committee On Radio Interference (CISPR) Publication 16, First Edition 1977, "CISPR Specification for Radio Interference Measuring Apparatus and Measurement Methods".
- 3.7 American National Standard, "Specifications for Electromagnetic Noise and Field Strength Instrumentation, 9KHz to 1GHz", ANSI C63.2, 1987.
- 3.8 American National Standard, "Method of Measurement Electromagnetic Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9KHz to 40GHz", ANSI C63.4, 1992.

## 4 ADMINISTRATIVE DATA

### a. Scope

This document describes the measurement procedures and tests for Radiated and conducted emission testing of the MRD RF 700 Manufactured by Elmotech System Ltd..

### b. Administrative Data

The test was performed by the TADIRAN / EMC Laboratory, 26 Hashoftim St. P.O.B. 267, 58102 Holon, ISRAEL.

### c. Certification And Qualifications

I Certify that TADIRAN / EMC Laboratory. Conducted the tests performed in order to obtain a technical data presented in this application. Also based on the results of this enclosed data I have concluded that the equipment tested meets or exceeds the requirements of the Rules and regulations governing this application.

TADIRAN / EMC Laboratory, 26 Hashoftim St. P.O.B. 267, 58102 Holon, ISRAEL was established in 1975 to provide Electromagnetic Compatibility testing, Consulting and Engineering. All facility are equipped with modern Automated test equipment and staffed with experienced EMC test engineers. Engineering support is a standard feather of our sites, we are ready to support and assist our customers in meeting the compliance requirements.

Our qualifications include:

Quality assurance MIL-I-45208A

Calibration per MIL-STD-45662A

FCC Listed

ISO 9001 Approved By The International Certification Network "IQNet"

ISO 9001 Approved By the Standards Institute of Israel.

Approved by I.D.F for Compliance with regulation.

Approved by I.A.F for Compliance with regulation

TADIRAN / EMC Laboratory has previously performed FCC testing of similar equipment.

Appendix A includes an FCC approval of our application for licensing of a previous generation of a Transceiver product operating under the requirements of FCC part 15.247 for intentional radiator equipment. As well as evidence for our accreditation by ISO 9001 & listing by FCC.

### d. Measurement Repeatability information

The test data presented in this report has been acquired using the guidelines set forth in FCC Part 15 .The test data presented in this document are valid only for the equipment identified under the test conditioned described. Repeatability of these tests results will only be achieved with identical test conditions. This conditions include: the same test distance, E.U.T height, measurement site characteristics and the same E.U.T System components, The system must have the same interconnecting cables arranged in identical placement to that in the test set-up, with the system and /or E.U.T functioning in identical mode of operation (i.e. software and so on) as on the date of the test. Any deviation from the test conditions and the environment on the date of test may result in measurement repeatability difficulties. All changes made to the E.U.T during the course of testing as identified in this test report must be incorporated into the E.U.T or identical modes to ensure compliance with the FCC regulations.

**e. Measuring Equipment Calibration**

(1) Receiving System Calibration

The equipment calibration is traceable. Calibration is performed under the MIL-STD-45662A requirements

**f. Antennas calibration**

Biconical and Log-periodic antennas are calibrated by using the reference antenna method according to ANSI C63.5-1988, when the reference antenna is the Robert's antenna.

Double-ridged guide antennas (1-18 GHz) are calibrated by using two identical antenna methods according to ANSI C63.2-1987 and SAE ARP-958

Calibration of listed above antennas is performed periodically once a year

Robert antenna is calibrated every three years by using the reference antenna method according to ANSI C63.5-1988, when the reference antenna is the calibrated Robert antenna.

Antennas, which are used according to military standards tests, are calibrated every two years by using two identical antenna methods according to SAE ARP-958.

**5 E.U.T INFORMATION**

**a. E.U.T description**

The Manual Reset Device (MRD) is a small microprocessor based battery operated device which is housed in a small plastic case. The MRD is used by probation officers in the home arrest environment. It is used for turning the offenders' transmitters on and off as well as transmitting three types of signal messages:

Officer enters the offender's premises.

Officer leaves the offender's premises.

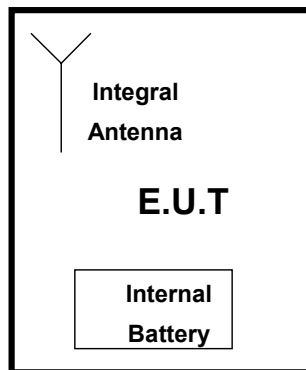
Officer in distress (panic message).

The Panic MRD is composed of one PCB and a replaceable 12V battery. The PCB includes the controlling CPU and the transmitter circuit.

The antenna is a rectangular loop antenna at the PCB external size.

**b. E.U.T Test Configuration**

E.U.T. test configuration is shown in figure bellow



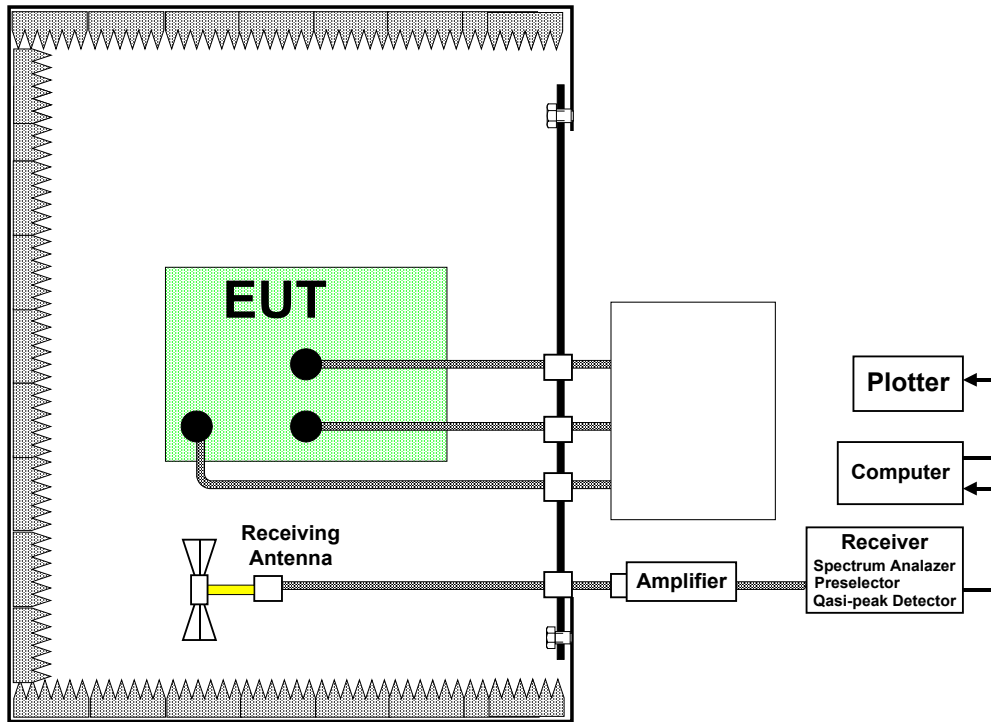
**c. E.U.T Mode of Operation description**

The tests were performed at TX Mode and Stand by mode.

## 6 OUT OF BAND RADIATED FIELD STRENGTH TEST PROCEDURE

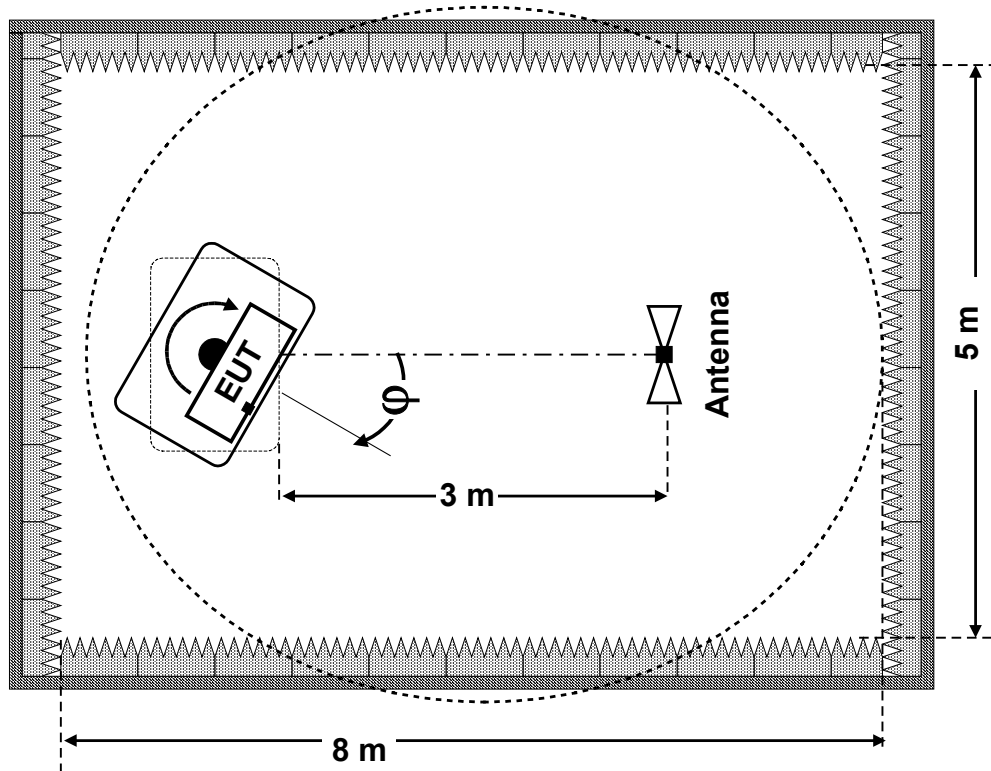
### a. Preliminary test set up

- (1) The measuring system block diagram shown in Figure 6.a.1.
- (2) E.U.T orientation and antenna position shown in Figure 6.a.2



**Absorber-Lined Shielded Room**  
**Figure 6a.1**





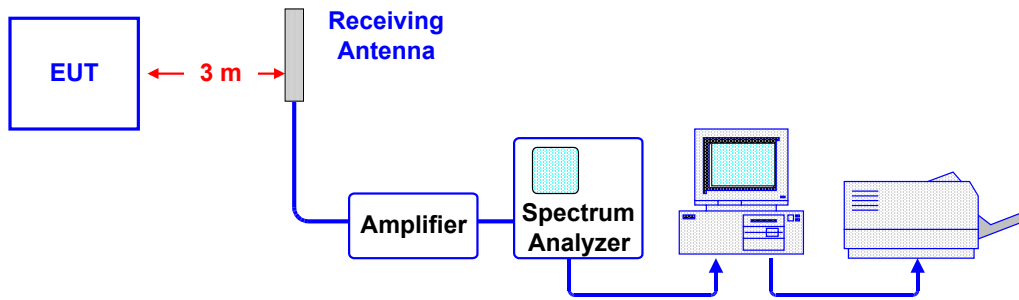
**Figure 6.a.2**

**b. Preliminary Test Procedure**

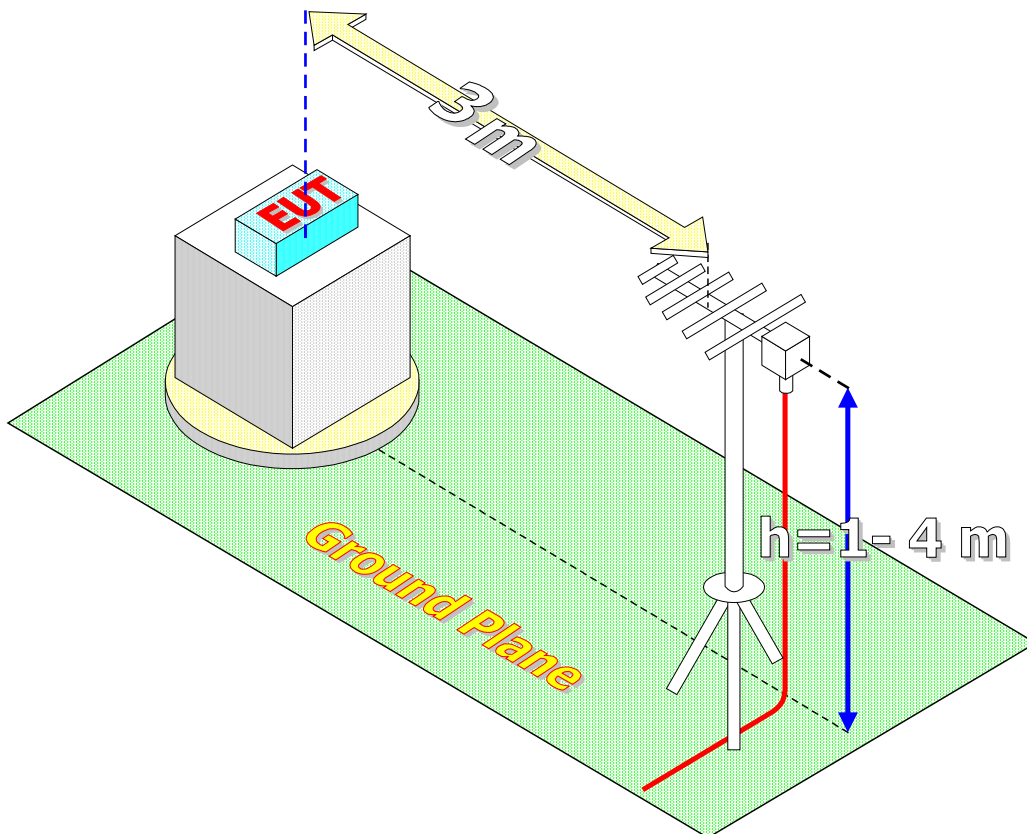
- (1) Maintain setup in absorber-lined shielded room as shown in Figures 6.a.1, 6.a.2
- (2) Turn on the E.U.T and allow sufficient time for stabilization.
- (3) Monitor the frequency range of interest at a fixed antenna height and E.U.T azimuth.
- (4) Rotate the E.U.T 360° to maximize the suspected highest amplitude signal.
- (5) Move the antenna over its full-allowed range of travel to maximize the suspected highest amplitude signal.
- (6) Change the polarity of the antenna and repeat step d and e. compare the result suspected highest amplitude signal with that found for the other polarity. Select and note the higher of the two signals. The signal is termed the highest observed signal with the respect to the limit.
- (7) Repeat testing for each operational mode of the E.U.T.
- (8) Choose six highest emissions relative to limit and record antenna heights and polarities, E.U.T configuration for each emission frequency.
- (9) Perform measurements for selected frequencies using quasi-peak detector.

**c. Final test setup**

- (1) The measuring system block diagram shown in Figure 6.c.1
- (2) E.U.T orientation and antenna position shown in Figure 6.c.2



**Figure 6.c.1**



**Figure 6.c.2**

## 7 BANDWIDTH OF THE EMISSION PART 15.231—TEST RESULTS

E.U.T: MRD RF 700 S/N 63289  
 Test Method: ANSI 63.4  
 Date: 02/06/03  
 Relative Humidity: 24%  
 Ambient Temperature: 21c  
 Air Pressure: 1053hpa  
 Test Setup: Figure 6.c.1

**Testing Engineer:** D.Lanuel *[Signature]* **Date** 15/06/03

### a. General

The test was performed to measure bandwidth of Radiated emission at fundamental Frequency.

### b. Test Results Summary & Conclusions

**The E.U.T was found in compliance with Bandwidth of Radiated Emission fundamental frequency requirement**

### c. Limits of Field Strength for fundamental according 15.231

The test unit shall meet the limits of Table 7.c for Class B equipment.

**Table 7.C Limits For Bandwidth**

Frequency (MHz)	Bandwidth Max Limits (%)	Bandwidth Max Limits (KHz)
318.01000	0.25	795

### d. Test Instrumentation and Equipment

**Table 7.d Test Instrumentation and Equipment**

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	31/01/04
Broadband Antenna	BTA-L	FRANKONIA	10.04.04
Low Noise Amp. (0-1GHz)	AM-1300-N	MITEQ	14.01.04

### e. Test Results

**Table 6.e Bandwidth Test Result**

Frequency (MHz)	Bandwidth (KHz)	Bandwidth Max Limit (KHz)	Plot No	PASS/FAIL
318	555	795	RE/1	PASS

## 8 FIELD STRENGTH OF FUNDAMENTAL PART 15.231-TEST RESULTS

E.U.T: MRD RF 700 S/N 63289  
 Test Method: ANSI 63.4  
 Date: 09/06/03  
 Relative Humidity: 24%  
 Ambient Temperature: 21c  
 Air Pressure: 1053hpa  
 Test Setup: Figure 6.c.1

**Testing Engineer:** D.Lanuel  **Date** 15/06/03

### a. General

The test was performed to measure Radiated emission at fundamental Frequency.

### b. Test Results Summary & Conclusions

**The E.U.T was found in compliance with fundamental frequency requirement**

### c. Limits of Field Strength for fundamental according 15.231

The test unit shall meet the limits of Table 8.c for Class B equipment.

**Table 8.C Limits For Fundamental**

Frequency (MHz)	Average Max Limits (dB $\mu$ V/m)	Peak Max Limits (dB $\mu$ V/m)
318.01000	75.8	95.8

### d. Test Instrumentation and Equipment

**Table 8.d Test Instrumentation and Equipment**

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	31/01/04
Broadband Antenna	BTA-L	FRANKONIA	10.04.04
Low Noise Amp. (0-1GHz)	AM-1300-N	MITEQ	14.01.04

**e. Test Results**
**Table 6.e Average Factor**

TX Period( min)	Duty Cycle(min)	Average Factor	Plot No
11.2ms*	$11.2/100=0.112$	$20\log 0.112=-19$	RE/3

\*The worst case is while two panics alert(5.6msx2) are transmitted within 100ms

**Table 6.e.1 Peak Result of Fundamental**

Frequency (MHz)	Peak Result (dB $\mu$ V/m)	peak Limits (dB $\mu$ V/m)	Margine (dB)	Plot No	Pass/Fail
318.07200	83	95.8	12.8	RE/2	PASS

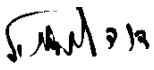
**Table 6.e.2 Average Result of Fundamental**

Freq (MHz)	Peak Result (dB $\mu$ V/m)	Average Factor	Calculation Results	Average Limits (dB $\mu$ V/m)	Pass/Fail
318	83	-19	64	75.8	PASS

## 9 RADIATED EMISSION PART 15.109-TEST RESULTS.

### a. Preliminary Radiated emission Test Result According Part 15.109

E.U.T: MRD RF 700 S/N 63289  
 Test Method: ANSI 63.4  
 Date: 10/06/03  
 Relative Humidity: 24%  
 Ambient Temperature: 21c  
 Air Pressure: 1053hpa  
 Test Setup: Figur 6.c.1

**Testing Engineer:** D.Lanuel  **Date** 15/06/03

### b. General

The test was performed to measure Radiated emission at out of band spurious emission at TX OFF period

### c. Test Results Summary & Conclusions

**The E.U.T was found in compliance with 15.109**

### d. Limits of Radiated Interference Field Strength according 15.109

The test unit shall meet the limits of Table 9.d for Class B equipment.

**Table 9.d Limits For 15.109 Class B equipment**

Frequency Range (MHz)	Quasi-peak Limits (dB $\mu$ V/m)
30 - 88	40
88 - 216	43
216 - 960	46
960 - 2000	54

**e. Test Instrumentation and Equipment**
**Table 9.e Test Instrumentation and Equipment**

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	31/01/04
Double Ridge Guide Antenna(1-18GHz)	3105	EMCO	24.04.04
Broadband Antenna(30-1000MHz)	BTA-L	FRANKONIA	10.04.04
Low Noise Amplifier (0-1GHz)	AM-1300-N	MITEQ	14.01.04
Low Noise Amplifier (1-2GHz)	SMC-09	MITEQ	14.01.04
Low Noise Amplifier (2-6GHz)	SMC-09	MITEQ	14.01.04

**f. Preliminary Results**
**Table 9.f Preliminary Test Results for Unintentional Emissions in TX Mode 15.109**

Configuratiion	Antenna Polarization	Freq. Range MHz	Res. BW (kHz)	Plot No.	PASS/ FAIL
Calibration	Calibration	4	120		OK
		30			OK
		200			OK
		956			OK
		1200			OK
		30-1000	120	Plot RE/4	Pass
		1000-2,800	1000	Plot RE/5	Pass
		2,800-4000	1000	Plot RE/6	Pass

**g. Final Test Results**
**Table 9.g Six Highest TX Mode 15.109**

Mode Of Operation	Freq. (MHz)	peak Reading (*) (dB $\mu$ V/m)	Limit dB $\mu$ V/m	Margin (dB)	Polarity Ver/Hor	Height (m)
TX	30-2000	No Emissions –Background noise only				

## 10 RADIATED EMISSION PART 15.231 & 15.205-TEST RESULTS

E.U.T: MRD RF 700 S/N 63289  
 Test Method: ANSI 63.4  
 Date: 11/06/03  
 Relative Humidity: 24%  
 Ambient Temperature: 21c  
 Air Pressure: 1053hpa  
 Test Setup: Figure 6.c.1

**Testing Engineer:** D.Lanuel *[Signature]* **Date** 15/06/03

### a. General

The test was performed to measure Radiated emission at out of band spurious emission at intentional period

### b. Test Results Summary & Conclusions

**The E.U.T was found in compliance with 15.231**

### c. Limits of Radiated Interference Field Strength according 15.231

The test unit shall meet the limits of Table 10.c for Class B equipment.

**Table 10.c Limits For 15.231(b)**

Frequency range(MHz)	Average Limits (dB $\mu$ V/m)	peak Limits (dB $\mu$ V/m)
0.009 – 3500	55.8	75.8

### d. Test Instrumentation and Equipment

**Table 10.d Test Instrumentation and Equipment**

Item	Model	Manufacturer	Next Date Calibration
Spectrum Analyzer	8593E	HP	31/01/04
Rode Antenna(10KHz-30MHz)	95010-1	ETN	13.11.04
Double Ridge Guide Antenna(1-18GHz)	3105	EMCO	24.04.04
Broadband Antenna	BTA-L	FRANKONIA	10.04.04
Low Noise Amplifier (0-1GHz)	AM-1300-N	MITEQ	14.01.04
Low Noise Amplifier (1-2GHz)	SMC-09	MITEQ	14.01.04
Low Noise Amplifier (2-6GHz)	SMC-09	MITEQ	14.01.04



**e. Preliminary Test Results**
**Table 9.f Preliminary Test Results for intentional Emissions in TX Mode 15.231**

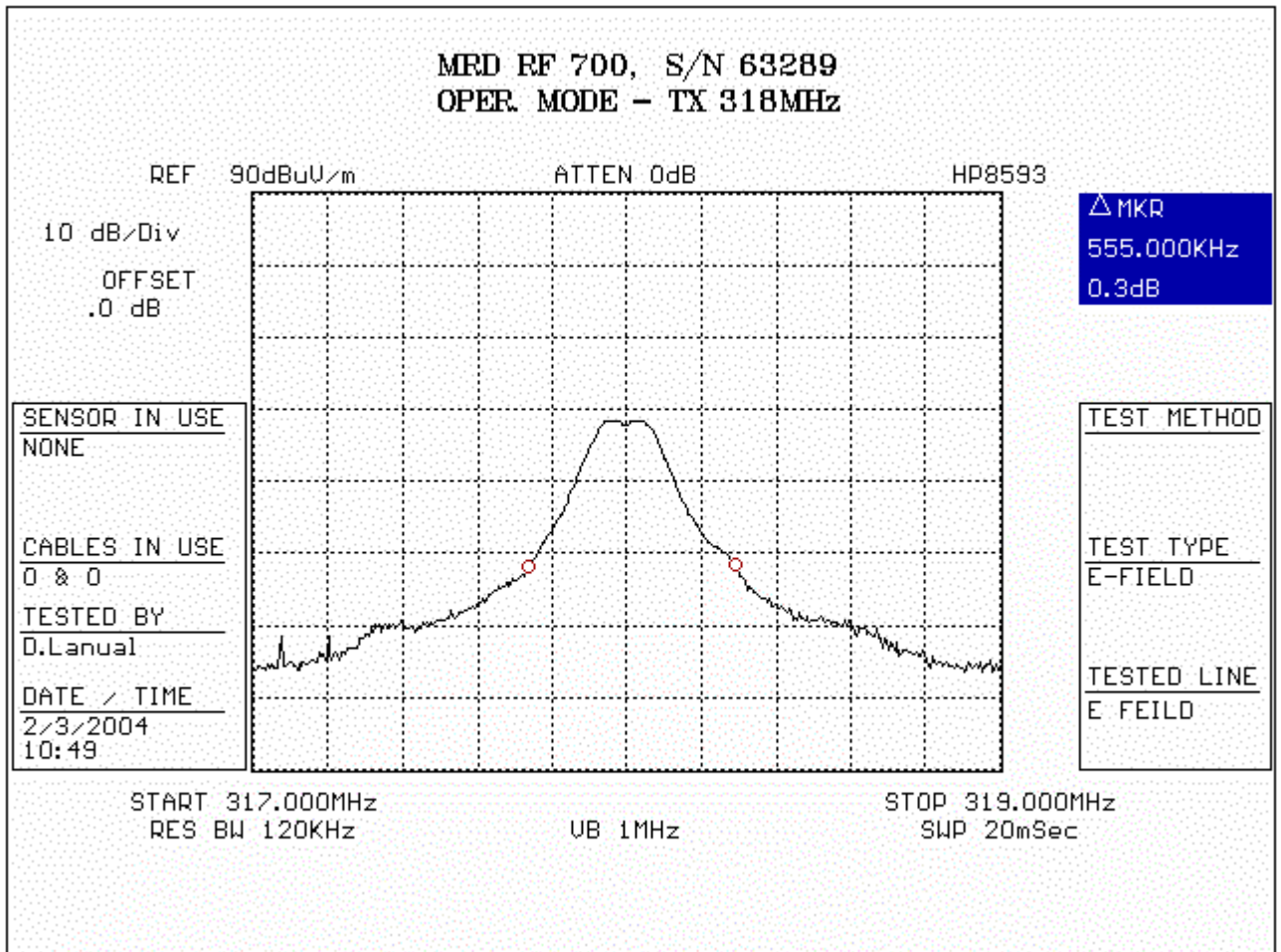
Antenna Polarization	Freq. Range MHz	Res. BW (kHz)	Plot No.	PASS/FAIL
Both Hor.&Vertical	0.009 – 0.15	1	Plot RE/7	Pass
	0.15 - 30	9	Plot RE/8	Pass
	30-1000	120	Plot RE/9	Pass
	1000-2,800	1000	Plot RE/10	Pass
	2,800-4,000	10000	Plot RE/11	Pass

**f. Final Results Results**
**Table 10.f Six Highest Peak Emission Test Results**

Mode Of Operation	Freq. (MHz)	peak Reading (*) (dB $\mu$ V/m)	Limit dB $\mu$ V/m	Margin (dB)	Pass/Fail
TX	6367.082	72.5	75.8	3.3	PASS

**Table 10.f.1 Six Highest Average Emission Test Results**

Mode Of Operation	Freq. (MHz)	Calculated (dB $\mu$ V/m)	Limit dB $\mu$ V/m	Margin (dB)	Pass/Fail
TX	6367.082	53.5	55.8	2.3	PASS



**Plot RE/1**

**EUT File:**  
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**Order Number:**

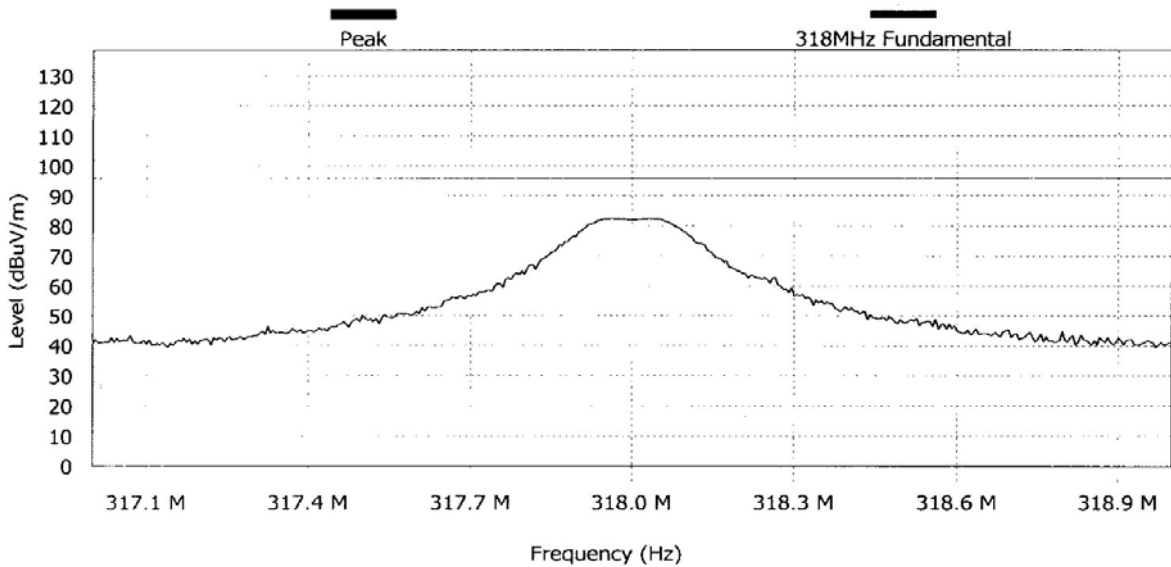
**EUT**  
Name: MRD RF 700  
Serial Number: 63289

**Client**  
Name: DMATEK  
Contact Person: MICHAEL LIFSHITZ

**Radiated Emission**

Description: 5) FUNDAMENTAL  
From 317 MHz to 319 MHz

**Graph:**



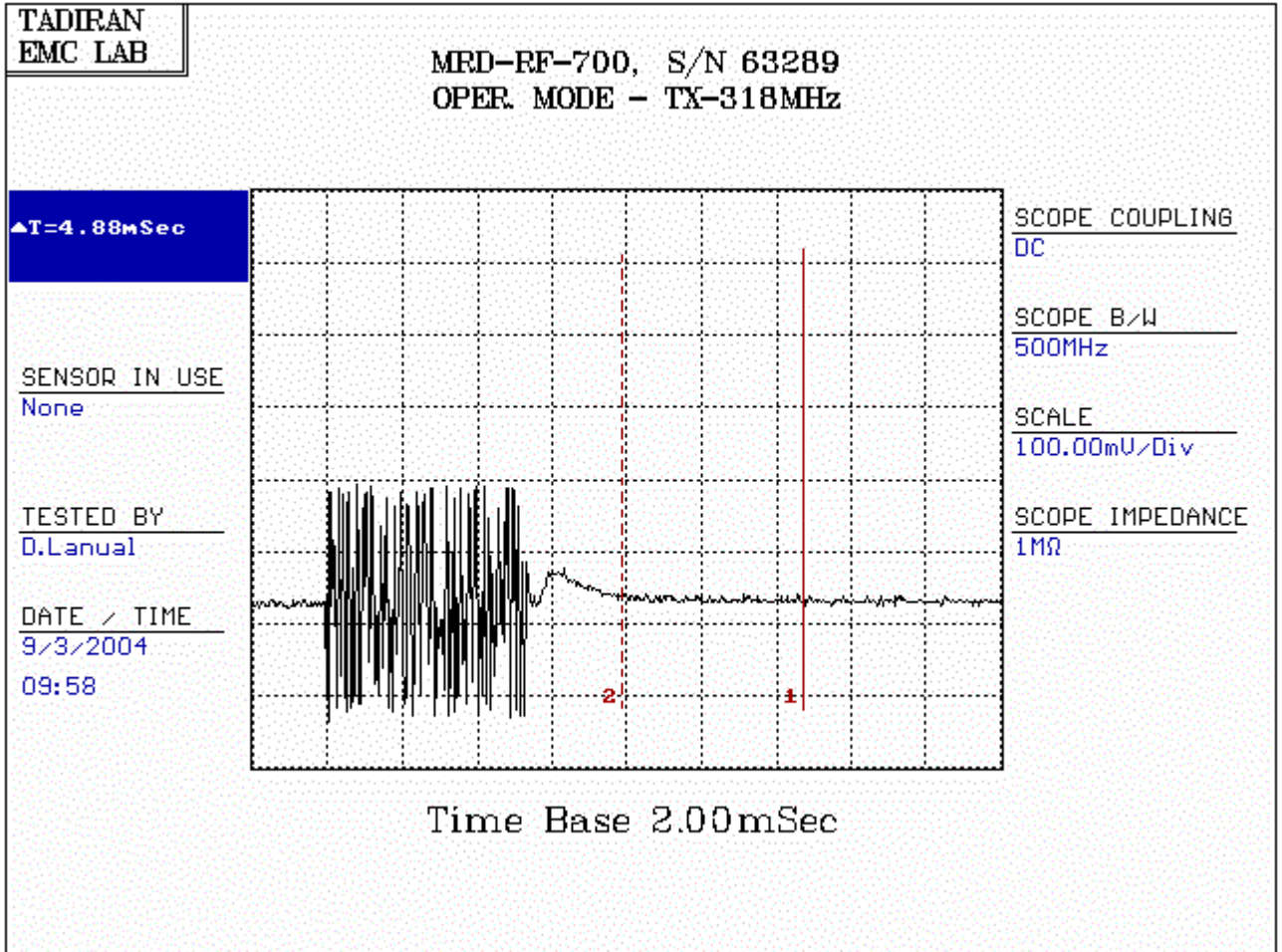
**Detected Peaks:**

Nr	Frequency (MHz)	Type	PK (dBuV/m)	PK Limit (dBuV/m)	PK Pass	Pass	Angle (degrees)	Height (m)	H/V
1	318.028	Disc. NB	83.0	95.8	Pass	Pass	5	1	V

**Settings:**

Antenna: Both Polarizations at 3 m  
Ref. Level: 100.0 dBuV/m Att: 0 dB. RBW: 120 kHz. VBW: 1000 kHz. Sweep time: 20 ms.  
Detect all peaks above 30 dB below the limit lines with a maximum of 1 peaks.  
Measure the peaks with the peak detector

**Note:**



**Plot RE/3**

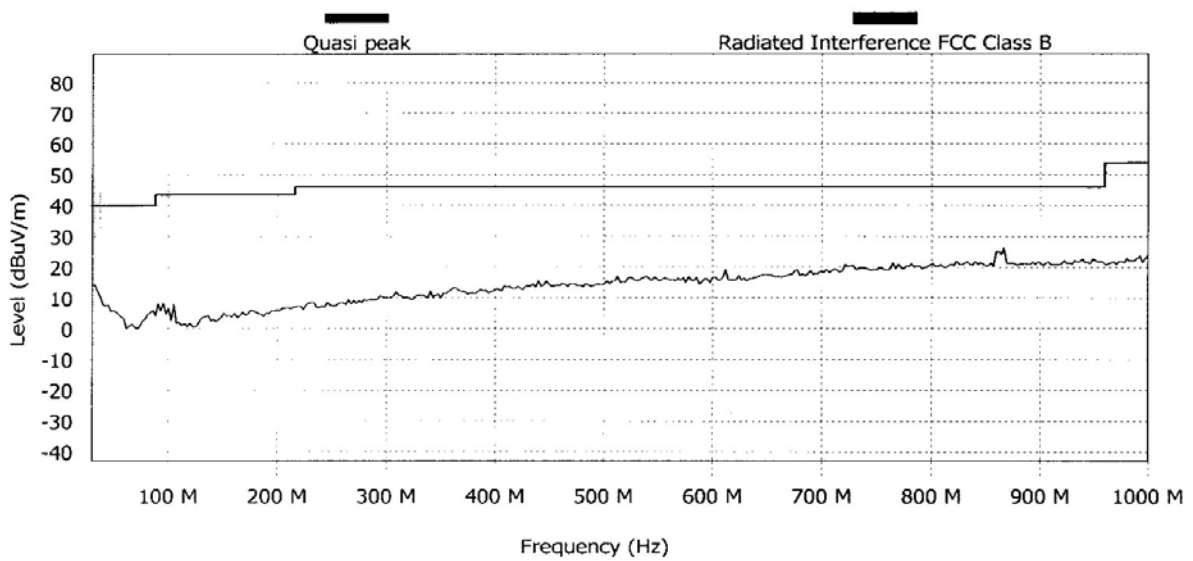
**EUT File:**  
S:\EMC\_LAB\common\Dmatek\MRD RF-700\Mrd-700.eut  
**Order Number:**

**EUT**  
Name: MRD RF 700  
Serial Number: 63289

**Client**  
Name: DMATEK  
Contact Person: MICHAEL LIFSHITZ

**Radiated Emission**  
Description: 10) FCC 15-109 30-1000MHz  
From 30 MHz to 1000 MHz

**Graph:**



**Settings:**  
Antenna: Both Polarizations at 3 m  
Ref. Level: 80.0 dBuV/m Att: 0 dB. RBW: 120 kHz. VBW: 1000 kHz. Sweep time: 202.0830078  
Detect all peaks above 10 dB below the limit lines with a maximum of 6 peaks.  
Measure the peaks with the quasi-peak detector

**Note:**

**EUT File:**  
S:\EMC\_LAB\common\Dmatek\MRD RF-700\Mrd-700.eut  
**Order Number:**

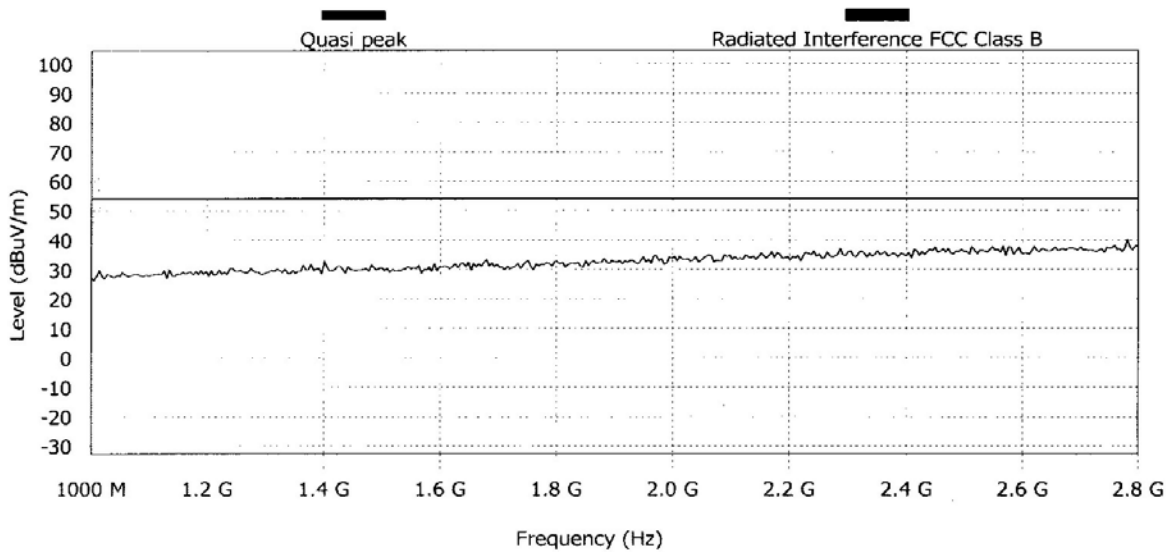
**EUT**  
Name: MRD RF 700  
Serial Number: 63289

**Client**  
Name: DMATEK  
Contact Person: MICHAEL LIFSHITZ

**Radiated Emission**

Description: 11) FCC 15-109 1-2.8GHz  
From 1000 MHz to 2800 MHz

**Graph:**



**Settings:**  
Antenna: Both Polarizations at 3 m  
Ref. Level: 70.0 dBuV/m Att: 0 dB. RBW: 1000 kHz. VBW: 1000 kHz. Sweep time: 36 ms.  
Detect all peaks above 6 dB below the limit lines with a maximum of 6 peaks.  
Measure the peaks with the quasi-peak detector

**Note:**

**EUT File:**  
S:\EMC\_LAB\common\Dmatek\MRD RF-700\Mrd-700.eut  
**Order Number:**

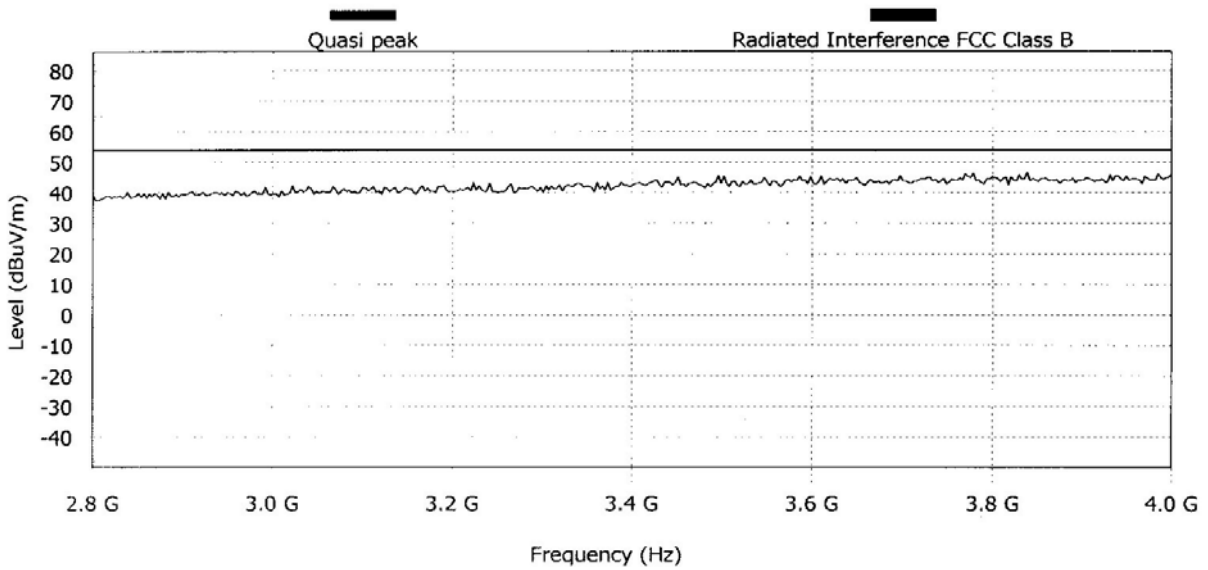
**EUT**  
Name: MRD RF 700  
Serial Number: 63289

**Client**  
Name: DMATEK  
Contact Person: MICHAEL LIFSHITZ

**Radiated Emission**

Description: 14) FCC 15-109 2.8-4GHz  
From 2800 MHz to 4000 MHz

**Graph:**



**Settings:**

Antenna: Both Polarizations at 5 m  
Ref. Level: 70.0 dBuV/m Att: 0 dB. RBW: 1000 kHz. VBW: 1000 kHz. Sweep time: 24 ms.  
Detect all peaks above 6 dB below the limit lines with a maximum of 6 peaks.  
Measure the peaks with the quasi-peak detector

**Note:**

**EUT File:**  
S:\EMC\_LAB\common\Dmatek\MRD RF-700\Mrd-700.eut  
**Order Number:**

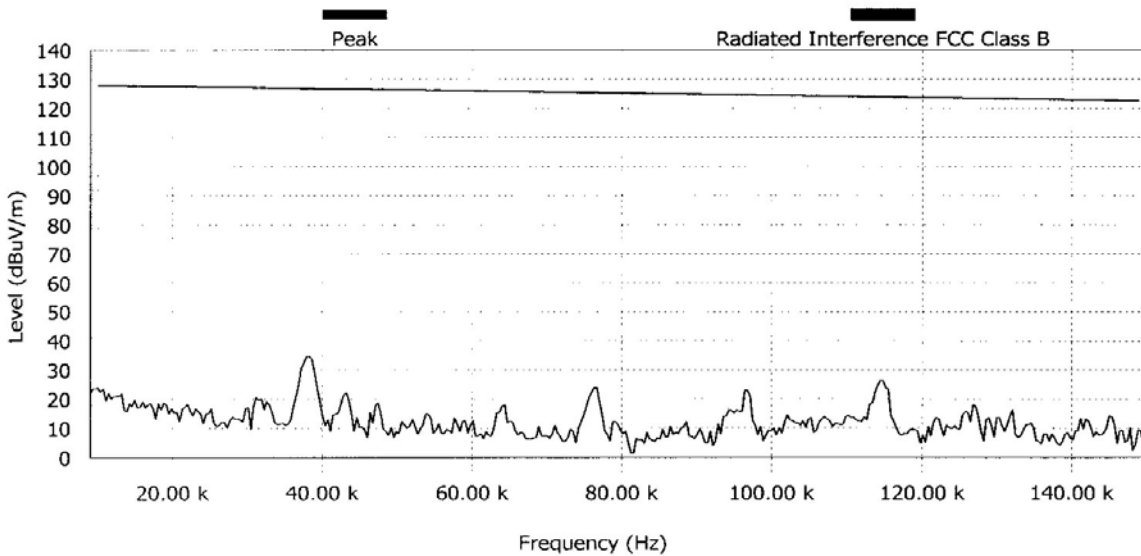
**EUT**  
Name: MRD RF 700  
Serial Number: 63289

**Client**  
Name: DMATEK  
Contact Person: MICHAEL LIFSHITZ

**Radiated Emission**

Description: 30) FCC 15-209 9-150KHz  
From .009 MHz to .15 MHz

**Graph:**



**Settings:**  
Antenna: Both Polarizations at 3 m  
Ref. Level: 130.0 dBuV/m Att: 0 dB. RBW: 1 kHz. VBW: 1 kHz. Sweep time: 423 ms.  
Detect all peaks above 10 dB below the limit lines with a maximum of 6 peaks.  
Measure the peaks with the peak detector

**Note:**



**EUT File:**  
S:\EMC\_LAB\common\Dmatek\MRD RF-700\Mrd-700.eut  
**Order Number:**

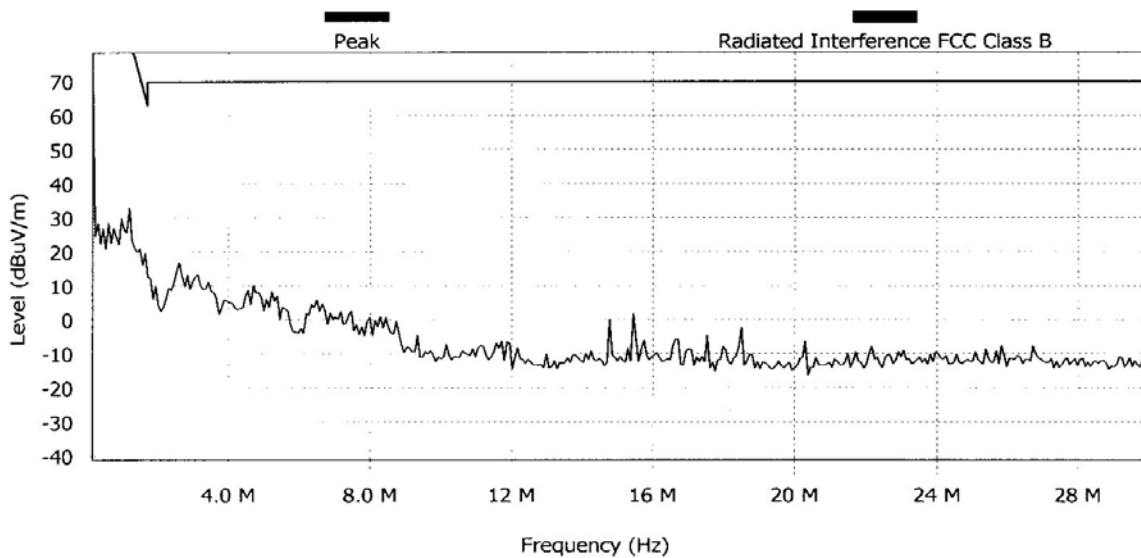
**EUT**  
Name: MRD RF 700  
Serial Number: 63289

**Client**  
Name: DMATEK  
Contact Person: MICHAEL LIFSHITZ

**Radiated Emission**

Description: 32) FCC 15-209 0.15-30MHz  
From .15 MHz to 30 MHz

**Graph:**



**Settings:**

Antenna: Both Polarizations at 3 m  
Ref. Level: 80.0 dBuV/m Att: 0 dB. RBW: 9 kHz. VBW: 30 kHz. Sweep time: 1105.5560302734  
Detect all peaks above 10 dB below the limit lines with a maximum of 6 peaks.  
Measure the peaks with the peak detector

**Note:**

**EUT File:**  
S:\EMC\_LAB\common\Dmatek\MRD RF-700\Mrd-700.eut  
**Order Number:**

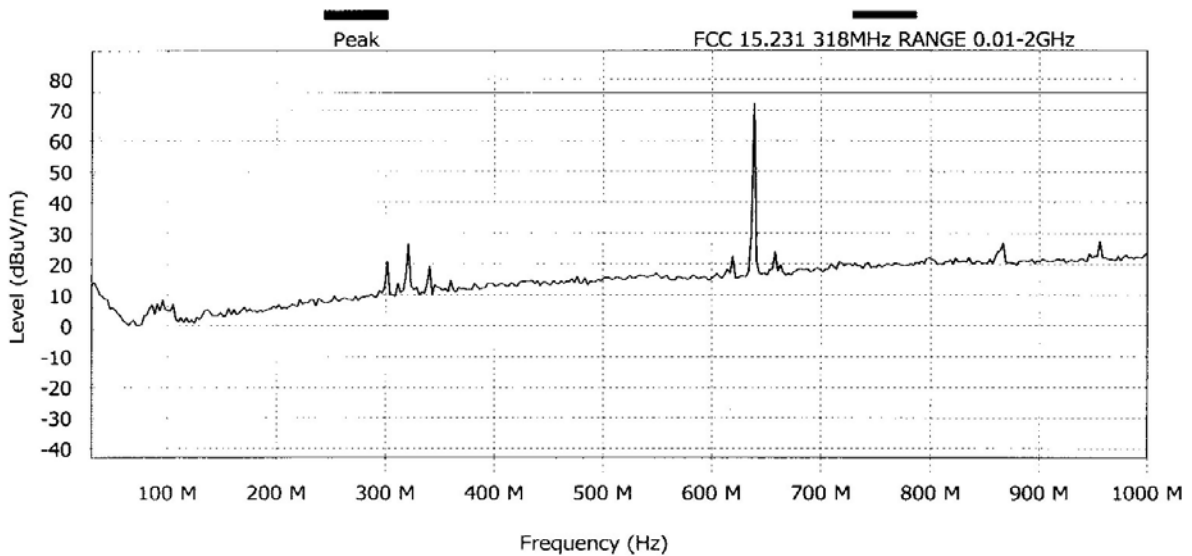
**EUT**  
Name: MRD RF 700  
Serial Number: 63289

**Client**  
Name: DMATEK  
Contact Person: MICHAEL LIFSHITZ

**Radiated Emission**

Description: 9) FCC 15-231 30-1000MHz  
From 30 MHz to 1000 MHz

**Graph:**



**Detected Peaks:**

Nr	Frequency (MHz)	Type	PK (dBuV/m)	PK Limit (dBuV/m)	PK Pass	Pass	Angle (degrees)	Height (m)	H/V
1	636.082	Disc. NB	72.5	75.8	Pass	Pass	120	1	V

**Settings:**

Antenna: Both Polarizations at 3 m  
Ref. Level: 80.0 dBuV/m Att: 0 dB. RBW: 120 kHz. VBW: 1000 kHz. Sweep time: 202.0830078  
Detect all peaks above 10 dB below the limit lines with a maximum of 6 peaks.  
Measure the peaks with the peak detector

**Note:**

**Plot RE/9**

**EUT File:**  
S:\EMC\_LAB\common\Dmatek\MRD RF-700\Mrd-700.eut  
**Order Number:**

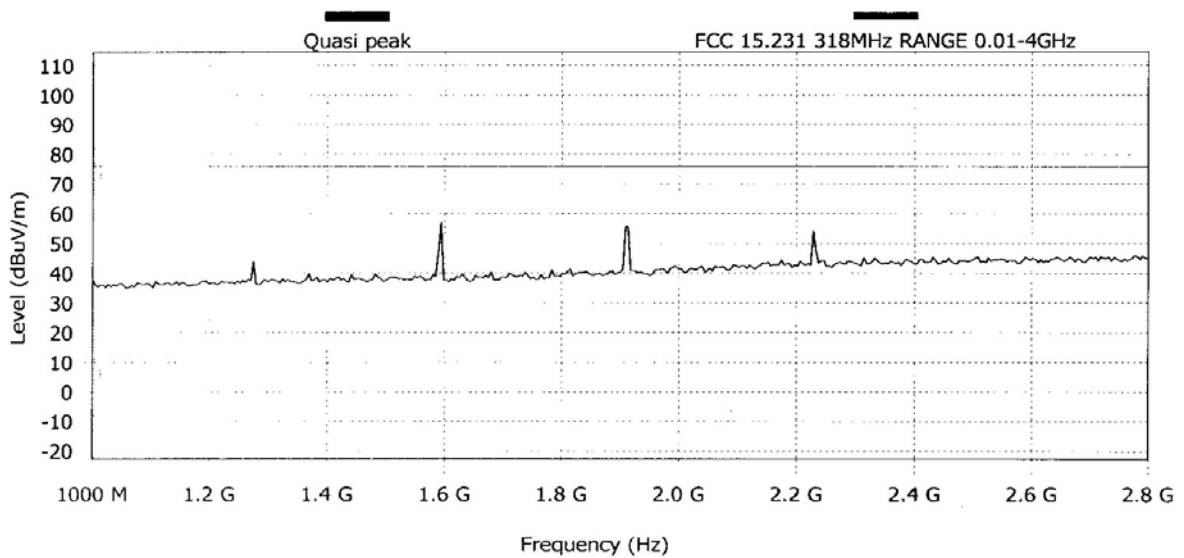
**EUT**  
Name: MRD RF 700  
Serial Number: 63289

**Client**  
Name: DMATEK  
Contact Person: MICHAEL LIFSHITZ

**Radiated Emission**

Description: 13) FCC 15-231 1-2.8GHz  
From 1000 MHz to 2800 MHz

**Graph:**



**Settings:**

Antenna: Both Polarizations at 3 m  
Ref. Level: 80.0 dBuV/m Att: 0 dB. RBW: 1000 kHz. VBW: 1000 kHz. Sweep time: 36 ms.  
Detect all peaks above 6 dB below the limit lines with a maximum of 6 peaks.  
Measure the peaks with the quasi-peak detector

**Note:**

**EUT File:**  
S:\EMC\_LAB\common\Dmatek\MRD RF-700\Mrd-700.eut  
**Order Number:**

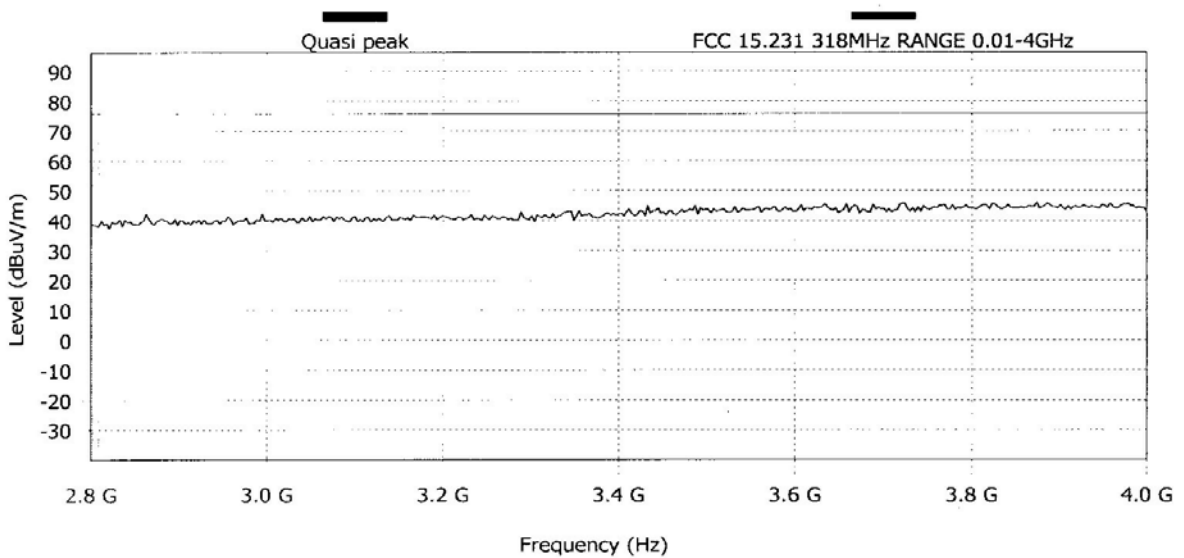
**EUT**  
Name: MRD RF 700  
Serial Number: 63289

**Client**  
Name: DMATEK  
Contact Person: MICHAEL LIFSHITZ

**Radiated Emission**

Description: 16) FCC 15-231 2.8-4GHz  
From 2800 MHz to 4000 MHz

**Graph:**



**Settings:**  
Antenna: Both Polarizations at 5 m  
Ref. Level: 80.0 dBuV/m Att: 0 dB. RBW: 1000 kHz. VBW: 1000 kHz. Sweep time: 24 ms.  
Detect all peaks above 6 dB below the limit lines with a maximum of 6 peaks.  
Measure the peaks with the quasi-peak detector

**Note:**



**Picture RE/1**

**E.U.T**



**Picture RE/2**

**E.U.T**



**Picture RE/3 Radiated Emission Setup 30MHz-  
1000MHz**