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FCC PART 15 SUBPART B CLASS B TEST REPORT

Applicant	YAESU MUSEN CO., LTD.
Address	TENNOZU PARKSIDE BUILDING 2-5-8 HIGASHI -SHINAGAWA, SHINAGAWA-KU, TOKYO140-0002JAPAN
FCC ID	K6620523X51
Model Number	FTM-3100R
Product Description	ANALOGUE SCANNING RECEIVER
Date Sample Received	2/11/2016
Final Test Date	3/09/2016
Tested By	Christian Pawlak
Approved By	Cory Leverett
Test Results	<input checked="" type="checkbox"/> PASS <input type="checkbox"/> FAIL

Report Number	Version Number	Description	Issue Date
288BUT16TestReport_	Rev1	Initial Issue	3/11/2016

**THE ATTACHED REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL
WITHOUT THE WRITTEN APPROVAL OF TIMCO ENGINEERING, INC.**

TABLE OF CONTENTS

GENERAL REMARKS	3
SUMMARY OF TESTING RESULTS.....	3
GENERAL INFORMATION	4
EUT CABLES USED FOR TESTING	4
REPORT SUMMARY.....	5
RESULTS SUMMARY.....	5
RADIATED SPURIOUS EMISSIONS	6
30-200 MHZ PEAK PLOT	7
200-1000 MHZ PEAK PLOT	8
1000-2000 MHz PEAK PLOT.....	9
POWER LINE CONDUCTED INTERFERENCE.....	10
POWERLINE 1 PEAK PLOT.....	11
POWERLINE 2 PEAK PLOT.....	12
TEST EQUIPMENT LIST.....	13

GENERAL REMARKS

The attached report shall not be reproduced except in full without the written permission of Timco Engineering Inc.

The test results only relate to the item tested.

SUMMARY OF TESTING RESULTS

The device under test does:

- Fulfill the general approval requirements as identified in this test report
 Not fulfill the general approval requirements as identified in this test report

ATTESTATIONS

This equipment was received without any visible damage and in good working order and has been tested in accordance with the standards identified in this test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report.

All instrumentation and accessories used to test products for compliance to the indicated standards are calibrated regularly in accordance with ISO 17025: 2005 requirements.

I attest that the necessary measurements were made at:

Timco Engineering Inc.
849 NW State Road 45
Newberry, FL 32669

Authorized Signatory Name:



Christian Pawlak
Project Manager

Date: 03/09/2016

[TABLE OF CONTENTS](#)

Applicant: YAESU MUSEN CO., LTD.
FCC ID: K6620523X51
Report: 288BUT16TestReport_Rev1

[TABLE OF CONTENTS](#)

GENERAL INFORMATION

The test results relate only to the items tested.

EUT Description	ANALOGUE SCANNING RECEIVER
FCC ID	K6620523X51
Model Number	FTM-3100R
Receiver Range	136 -174 MHz
Receiver Circuit Type	Double conversion superheterodyne
Lowest Internal Frequency	450 KHz IF signal
Highest Tuned Frequency	174 MHz
I / O Port Type	USB Mini
EUT Power Source	<input type="checkbox"/> 110–120Vac/50– 60Hz
	<input checked="" type="checkbox"/> 12.6 VDC Nominal
	<input type="checkbox"/> Battery Operated Exclusively
Test Item	<input type="checkbox"/> Prototype
	<input checked="" type="checkbox"/> Pre-Production
	<input type="checkbox"/> Production
Modifications required for Testing	None

EUT CABLES USED FOR TESTING

Description	Type	Connector	Length
USB Cable	Data	USB A to USB mini B	1 m

REPORT SUMMARY

Regulatory Standard	CFR Title 47 FCC Rule part 15B § 15.109, 15.107
Test Procedures	FCC Part 15.31, 15.33, 15.35 ANSI C63.4 – 2014
Operational Modes	Simulated firmware update via host PC.
Setup	The EUT was configured as a computer peripheral through a supplied USB cable, the setup used was a tabletop arrangement for IT equipment as specified in the standard
Environmental Condition in the laboratory	Temperature: 24-26°C Relative humidity: 50-65% Barometric Pressure:
Deviation from the standard/ procedure	No deviation
Host PC Model	Microsoft Surface Pro 3

RESULTS SUMMARY

Requirement	Result
15.109 Radiated Emissions	Pass
15.107 AC Powerline Conducted Emissions	Pass

RADIATED SPURIOUS EMISSIONS

Rule Part No.: FCC Part 15 Subpart B

Requirements: FCC Part 15.109(a) Radiated Emission Limit

Class B Field Strength Limits @ 3 Meters	
Frequency (MHz)	Level (dBuV/ m)
30 – 88	40.0
80 – 216	43.5
216 – 960	46.0
Above 960	54.0

Procedure: FCC Part 15.33(b)(1) Frequency range of radiated measurements

FCC Part 15.35(a) Measurement detector functions and bandwidths

ANSI C63.4 Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment 9 kHz to 40 GHz

§ 11.2 Operating conditions

§ 11.3 Peripherals / Accessories

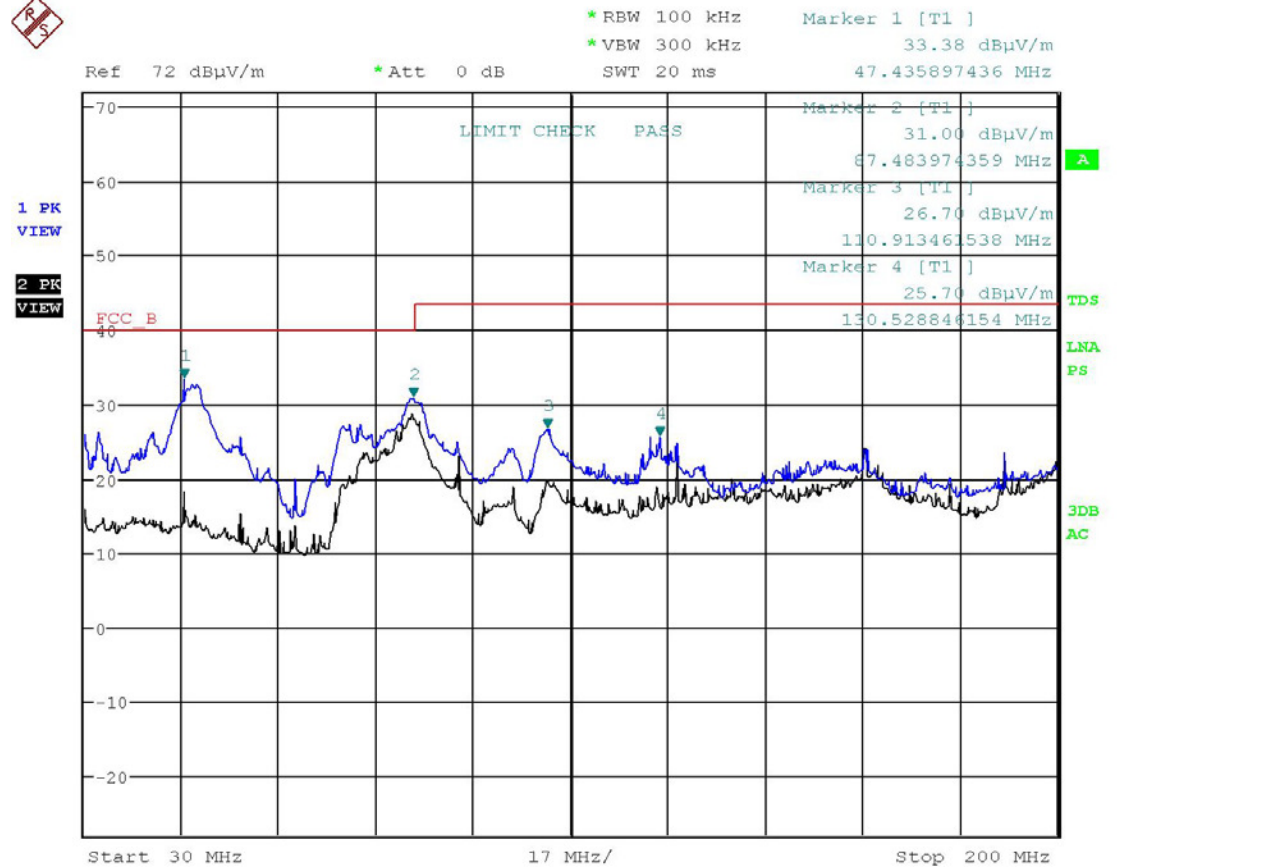
§ 11.5 Tabletop equipment arrangement

§ 11.9 Radiated emission measurements

Configuration: The EUT is configured as a computer peripheral through a USB cable connected to a partially configured host PC. A firmware update to the EUT was used to transfer data between the EUT and the host PC.

RADIATED SPURIOUS EMISSIONS

30-200 MHZ PEAK PLOT



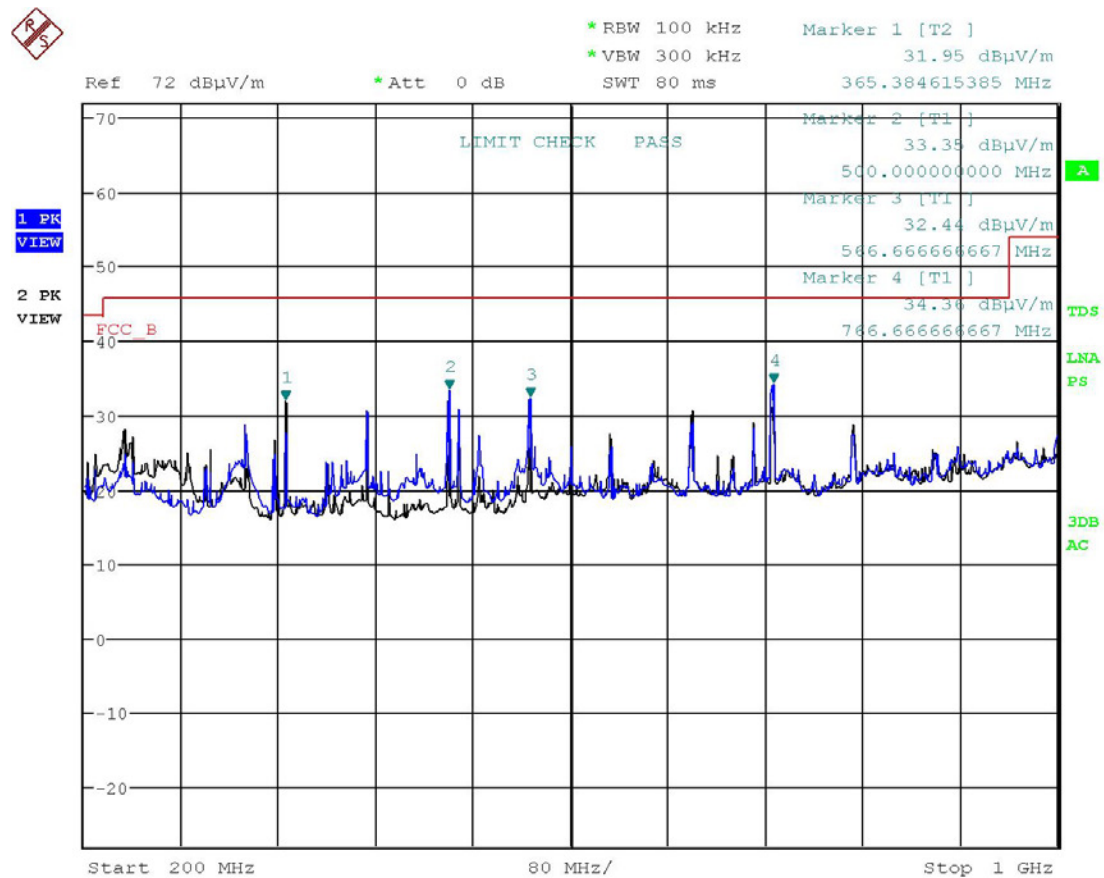
Date: 23.FEB.2016 16:21:15

Ant Polarity: T1 (Blue) = Vertical, T2 (Black) = Horizontal

Results - Meets Requirements

RADIATED SPURIOUS EMISSIONS

200-1000 MHZ PEAK PLOT



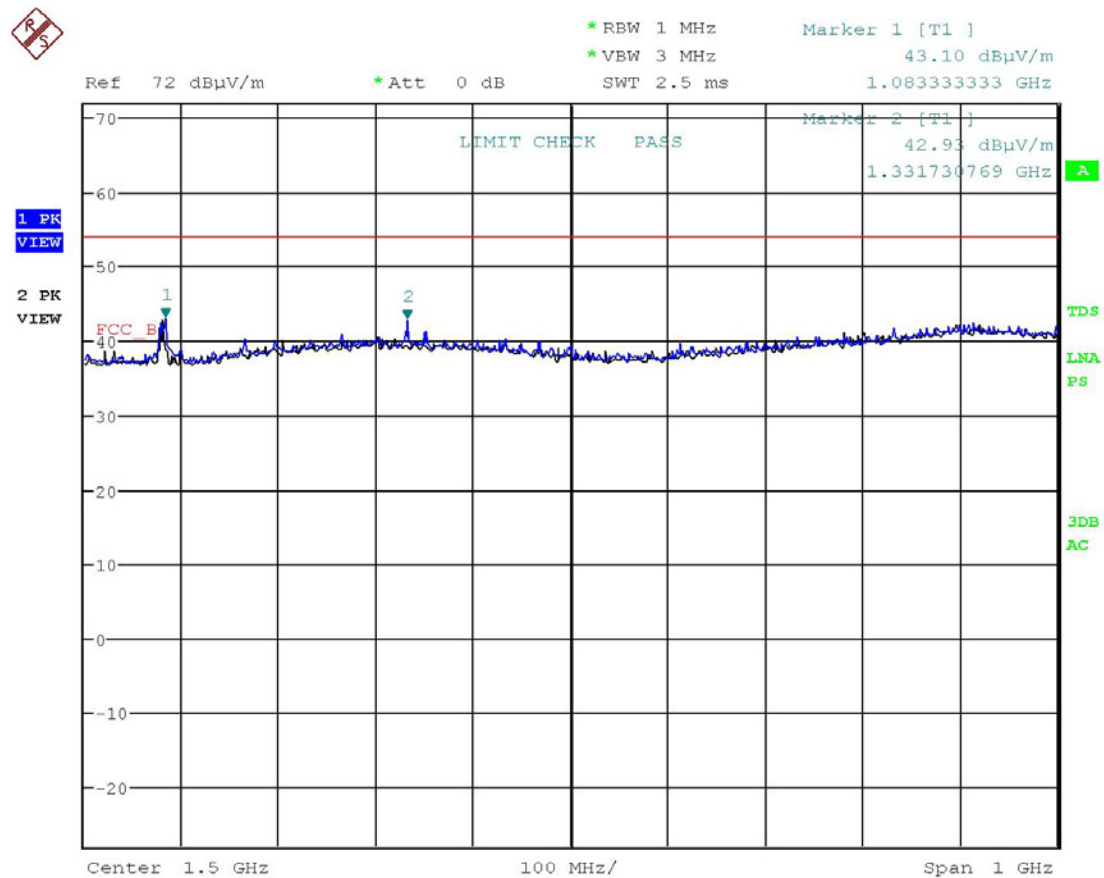
Date: 23.FEB.2016 16:12:04

Ant Polarity: T1 (Blue) = Vertical, T2 (Black) = Horizontal

Results - Meets Requirements

RADIATED SPURIOUS EMISSIONS

1000-2000 MHZ PEAK PLOT



Date: 23.FEB.2016 15:48:04

Ant Polarity: T1 (Blue) = Vertical, T2 (Black) = Horizontal

Results - Meets Requirements

POWER LINE CONDUCTED INTERFERENCE

Rules Part No.: FCC Subpart B

Requirements: FCC 15.107 (a) Conducted Limits

Frequency (MHz)	Quasi Peak Limits (dB μ V)	Average Limits (dB μ V)
0.15 – 0.5	66 – 56 *	56 – 46 *
0.5 – 5.0	56	46
5.0 – 30	60	50

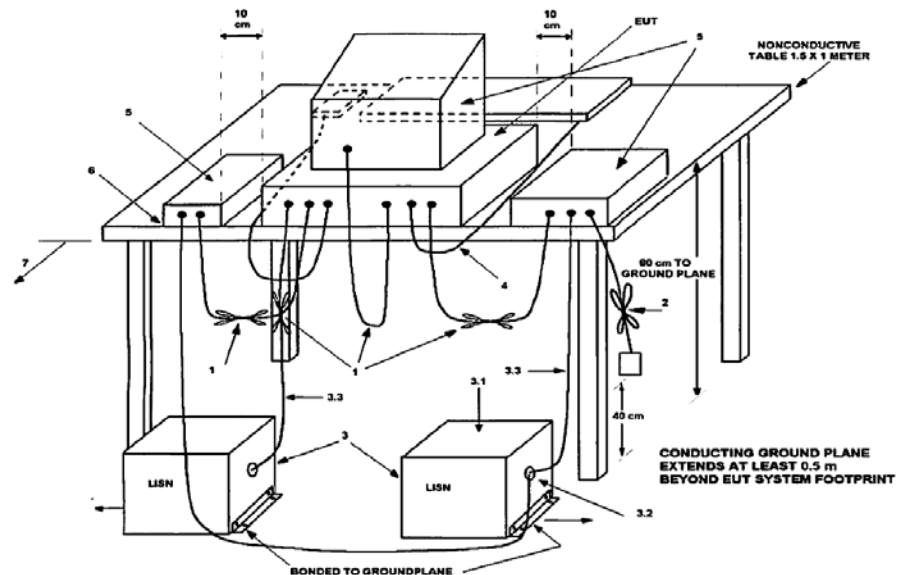
* Decrease with logarithm of frequency

Procedure: ANSI C63.4 Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment 9 kHz to 40 GHz

- § 11.2 Operating conditions
- § 11.3 Peripherals / Accessories
- § 11.5 Tabletop equipment arrangement
- § 11.8 AC power-line conducted emission measurements

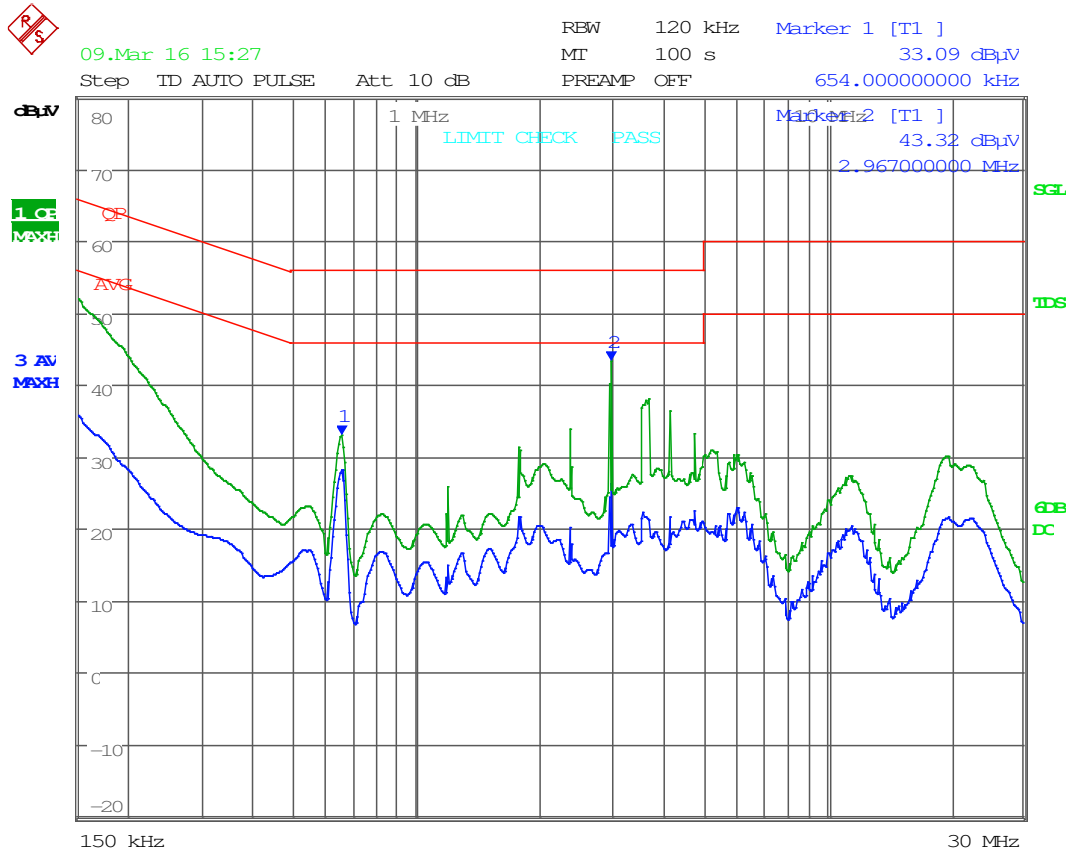
Configuration: The EUT is configured as a computer peripheral through a USB cable connected to a partially configured host PC. A firmware update to the EUT was used to transfer data between the EUT and the host PC

Setup:



POWER LINE CONDUCTED INTERFERENCE

POWERLINE 1 PEAK PLOT



Date: 9.MAR.2016 15:27:16

Results - Meets Requirements

POWER LINE CONDUCTED INTERFERENCE

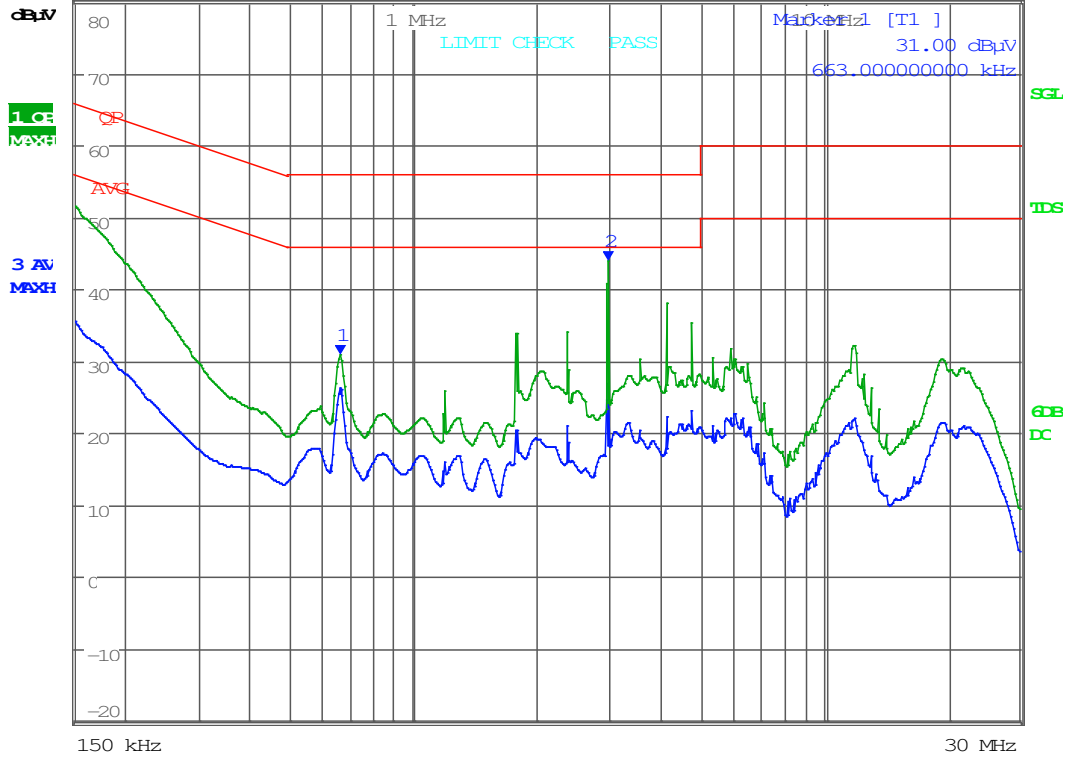
POWERLINE 2 PEAK PLOT



09.MAR.16 15:45

Step TD AUTO PULSE Att 10 dB

REW 120 kHz Marker 2 [T1]
 MT 100 s 43.97 dBµV
 PREAMP OFF 2.967000000 MHz



Date: 9.MAR.2016 15:45:52

Results - Meets Requirements

TEST EQUIPMENT LIST

Device	Manufacturer	Model	Serial Number	Cal/ Char Date	Due Date
Antenna: Biconnical Chamber	Eaton Chamber	94455-1	1057	11/ 18/ 15	11/ 18/ 17
Antenna: Log-Periodic Chamber	Electro-Metrics	LPA-25	1122	07/ 14/ 15	07/ 14/ 17
3-Meter Semi-Anechoic Chamber	Panashield	N/ A	N/ A	01/ 05/ 16	03/ 01/ 16
Antenna: Double-Ridged Horn/ ETS Horn 2	ETS-Lindgren	3117	00041534	02/ 25/ 15	02/ 25/ 17
Software: Field Strength Program	Timco	N/ A	Version 4.0	NA	NA
EMI Test Receiver R & S ESU 40	Rohde & Schwarz	ESU 40	100320	03/ 11/ 14	03/ 11/ 16

* EMI RECEIVER SOFTWARE VERSION

The receiver firmware used was version 4.43 Service Pack 3