Report On

Limited FCC Testing of the
Standard Communications Pty Ltd
GX600D with Remote Panel (RM600D)
In accordance with FCC CFR 47 Part 80: 2006

FCC ID: TXJGX600D

Document 75902643 Report 03 Issue 2 June 2008

Product Service

TUV Product Service Ltd, Octagon House, Concorde Way, Segensworth North,
Fareham, Hampshire, United Kingdom, PO15 5RL
Tel: +44 (0) 1489 558100. Website: www.tuvps.co.uk

REPORT ON

Limited FCC Testing of the
Standard Communications Pty Ltd
GX600D
In accordance with FCC CFR 47 Part 80: 2006

Document 75902643 Report 03 Issue 2

June 2008

PREPARED FOR

Standard Communications Pty Ltd
6 Frank Street
Gladesville
NSW2111
Australia

PREPARED BY

J Plummer
Technical Author

APPROVED BY

M Hardy
Authorised Signatory

DATED 03 June 2008

ENGINEERING STATEMENT
The measurements shown in this report were made in accordance with the procedures described on test pages. All reported testing was carried out on a sample equipment to demonstrate limited compliance with FCC CFR 47 Part 80. The sample tested was found to comply with the requirements defined in the applied rules.

Test Engineers;

G Lawler

This report has been up-issued to issue 2 to revise the FCC ID.

UKAS TESTING 0141

Product Service

CONTENTS

Product Service

SECTION 1

REPORT SUMMARY

Limited FCC Testing of the
Standard Communications Pty Ltd GX600D with the Remote Panel (RM600D)
In accordance with FCC CFR 47 Part 80: 2006

1.1 INTRODUCTION

The information contained in this report is intended to show verification of the Limited FCC Testing of the Standard Communications Pty Ltd GX600D with the Remote Panel (RM600D) to the requirements of FCC CFR 47 Part 80: 2006.

Objective	To perform Radio Approval Testing to determine the Equipment Under Test's (EUT's) compliance with the Test Specification, for the series of tests carried out.
Manufacturer	Standard Communications Pty Ltd
Type Number(s)	Transmitter GX600D Remote Panel RM600D
Serial Number(s)	GX600D - 61100127 RM600D - 7500019
Number of Samples Tested	One
Test Specification/Issue/Date	FCC CFR 47 Part 80: 2006
Disposal Reference Number Date	Held Pending Disposal Not Applicable Not Applicable
Order Number Date	54345 26 November 2007
Start of Test	30 April 2008
Finish of Test	11 May 2008
Related Test Specification/Issue/Date	ANSI C63.4: 2003
Name of Engineer(s)	G Lawler

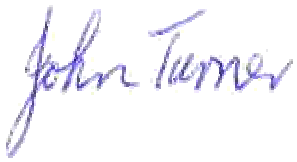
1.2 BRIEF SUMMARY OF RESULTS

A brief summary of the tests carried out in accordance with FCC CFR 47 Part 80: 2006 is shown below.

Section	Spec Clause	Test Description	Result	Comments
2.1	80.211 (f)(3)	Emission Limitations (Radiated Transmitter Spurious)	Pass	
2.2	80.211 (f)(3)	Emission Limitations (Radiated Transmitter Spurious)DSC	Pass	

1.3 DECLARATION OF BUILD STATUS

MAIN EUT	
MANUFACTURING DESCRIPTION	RM600D
MANUFACTURER	Standard Communications Pty Ltd
TYPE	Marine Equipment
PART NUMBER	RM600D
SERIAL NUMBER	70500126
HARDWARE VERSION	Version 1
SOFTWARE VERSION	Version 2
TRANSMITTER OPERATING RANGE	Not applicable
RECEIVER OPERATING RANGE	Not applicable
COUNTRY OF ORIGIN	Australia
INTERMEDIATE FREQUENCIES	Not applicable
ITU DESIGNATION OF EMISSION	Not applicable
HIGHEST INTERNALLY GENERATED FREQUENCY	Not applicable
OUTPUT POWER (W or dBm)	Not applicable
FCC ID	TXJGX600D
INDUSTRY CANADA ID	7332A-GX600D
TECHNICAL DESCRIPTION (a brief description of the intended use and operation)	Remote Control Head for VHF marine transceiver GME Model GX600D
BATTERY/POWER SUPPLY	
MANUFACTURING DESCRIPTION	Not applicable
MANUFACTURER	Not applicable
TYPE	Not applicable
PART NUMBER	Not applicable
VOLTAGE	12 Volts
COUNTRY OF ORIGIN	Not applicable

Signature 

Date 08/01/20087
Declaration of Build Status Serial Number 70500126

1.4 PRODUCT INFORMATION

1.4.1 Technical Description

The Equipment Under Test (EUT) was a Standard Communications Pty Ltd RM600D (a remote unit to suit the GX600D) as shown in the photograph below. A full technical description can be found in the manufacturer's documentation.

Equipment Under Test

1.5 TEST CONDITIONS

The transmit unit is already approved with relevant cables and dummy loads to simulate impedance of remote panel. The test was repeated with the active unit, i.e. the remote panel attached (Channels 88, 66, 16 and 70 (DSC)).

For all tests the EUT was set up in accordance with the relevant test standard and to represent typical operating conditions. Tests were applied with the EUT situated in a shielded enclosure.

Testing has been performed under the following site accreditation:

FCC Accreditation
90987 Octagon House, Fareham Test Laboratory

The EUT was powered from a 12V DC supply.

1.6 DEVIATIONS FROM THE STANDARD

No deviations from the applicable test standards or test plan were made during testing.

1.7 MODIFICATION RECORD

No modifications were made to the EUT during testing.

SECTION 2

TEST DETAILS

Limited FCC Testing of the
Standard Communications Pty Ltd GX600D with Remote Panel (RM600D)
In accordance with FCC CFR 47 Part 80: 2006

2.1 EMISSION LIMITATIONS (RADIATED TRANSMITTER SPURIOUS)

2.1.1 Specification Reference

FCC CFR 47 Part 80: 2006 Clause 80.211(f)(3)

2.1.2 Equipment Under Test

RM600D, S/N: 70500019

2.1.3 Date of Test and Modification State

30 April 2008 (Channel 88)
11 May 2008 (Channels 16 and 60)

2.1.4 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.1.5 Test Procedure

Test Performed in accordance with ANSI C63.4.

A preliminary profile of the Spurious Radiated Emissions was obtained by operating the EUT on a remotely controlled turntable within a semi-anechoic chamber. Measurements of emissions from the EUT were obtained with the Measurement Antenna in both Horizontal and Vertical Polarisations. The profiling produced a list of the worst-case emissions together with the EUT azimuth and antenna polarisation.

Using the information from the preliminary profiling of the EUT, the list of emissions was then confirmed or updated under Alternative Open Site conditions. Emission levels were maximised by adjusting the antenna height, antenna polarisation and turntable azimuth.

Emissions identified within the range 30MHz – 1GHz were then formally measured using a CISPR Quasi-Peak detector.

Emissions identified within the range 1GHz – 2GHz were then formally measured using Peak and Average Detectors, as appropriate.

The measurements were performed at a 3m distance unless otherwise stated.

2.1.6 Environmental Conditions

	30 April 2008	11 May 2008
Ambient Temperature	20.6°C	18.5°C
Relative Humidity	36%	43%
Atmospheric Pressure	985mbar	1015mbar

2.1.7 Test Results

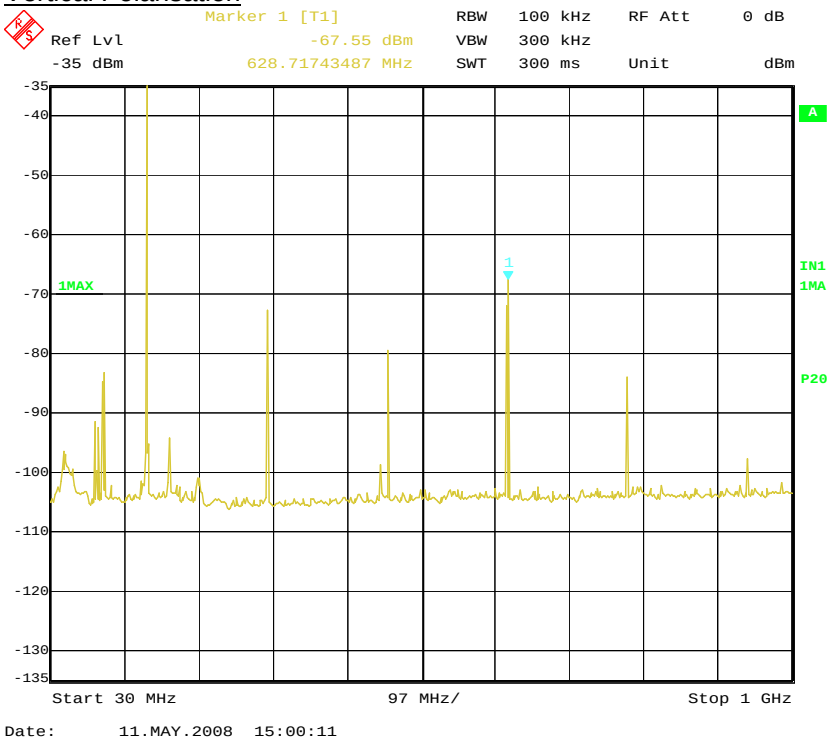
Transmitting on Channel 16

30MHz to 2GHz

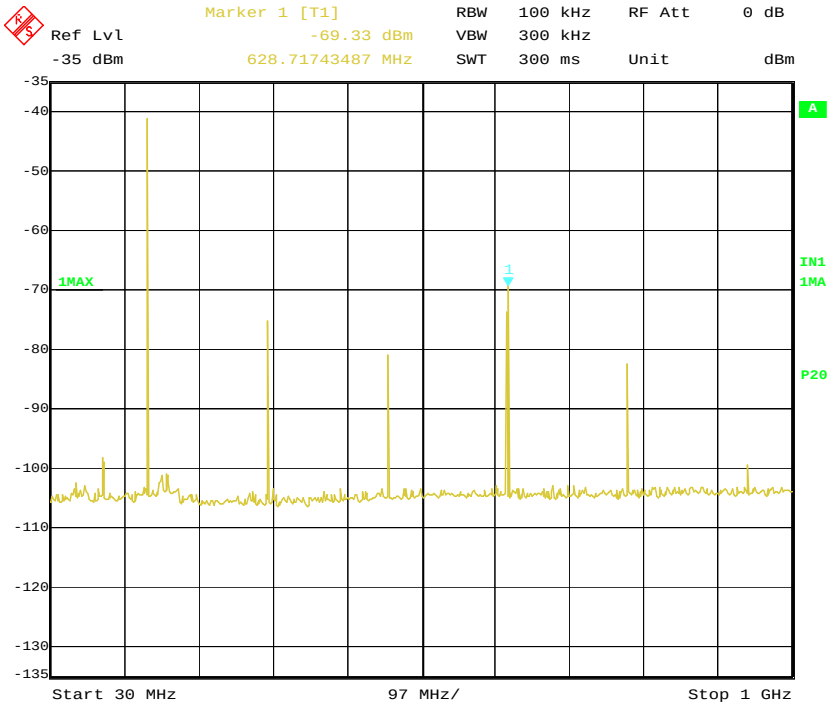
Frequency MHz	Antenna Polarisation	Antenna Height cm	EUT Arc degrees	Result Peak dBm	Limit dBm	Margin dB
313.603	Vertical	100	326	-43.6	-13	-30.6
628.717	Vertical	100	266	-34.2	-13	-21.2

30MHz to 1GHz

Vertical Polarisation

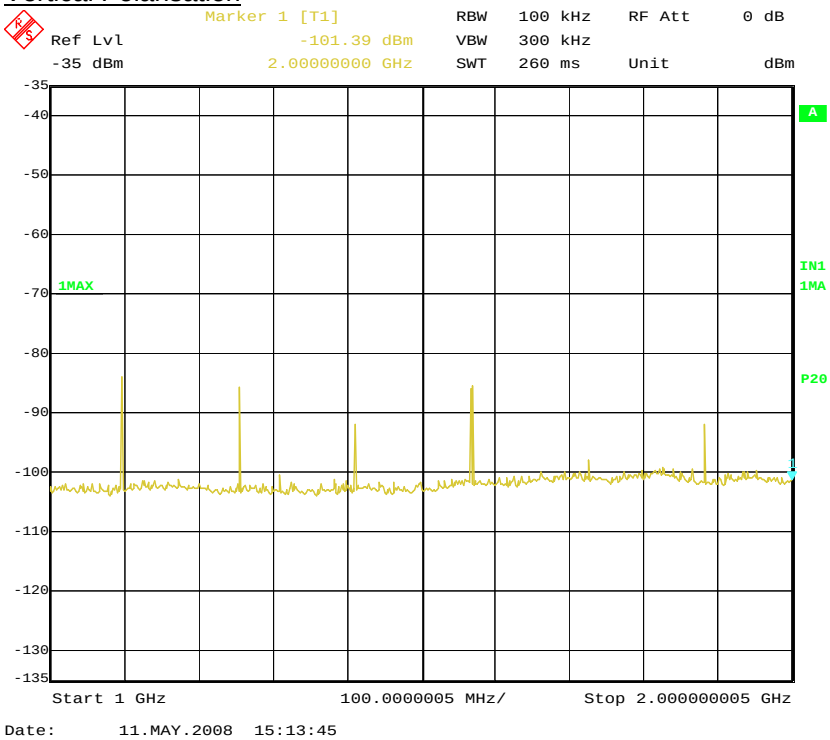


Horizontal Polarisation

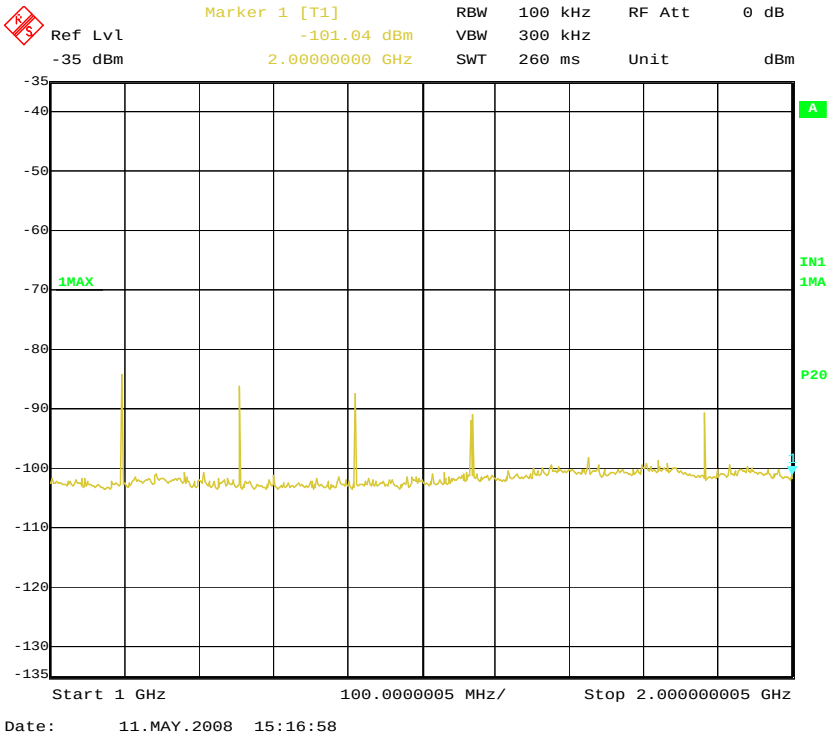


1GHz to 2GHz

Vertical Polarisation



Horizontal Polarisation



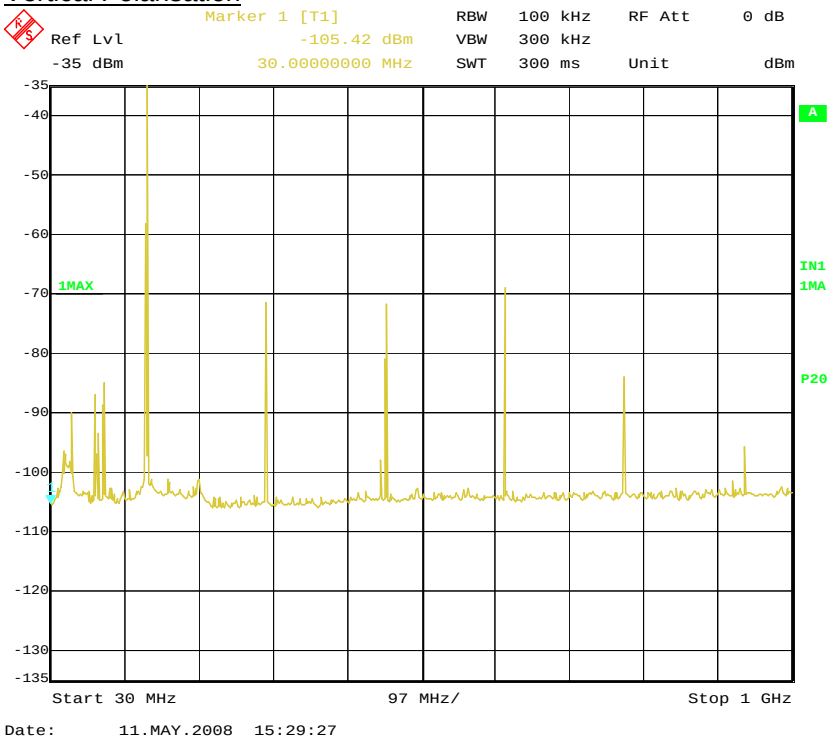
Transmitting on Channel 60

30MHz to 2GHz

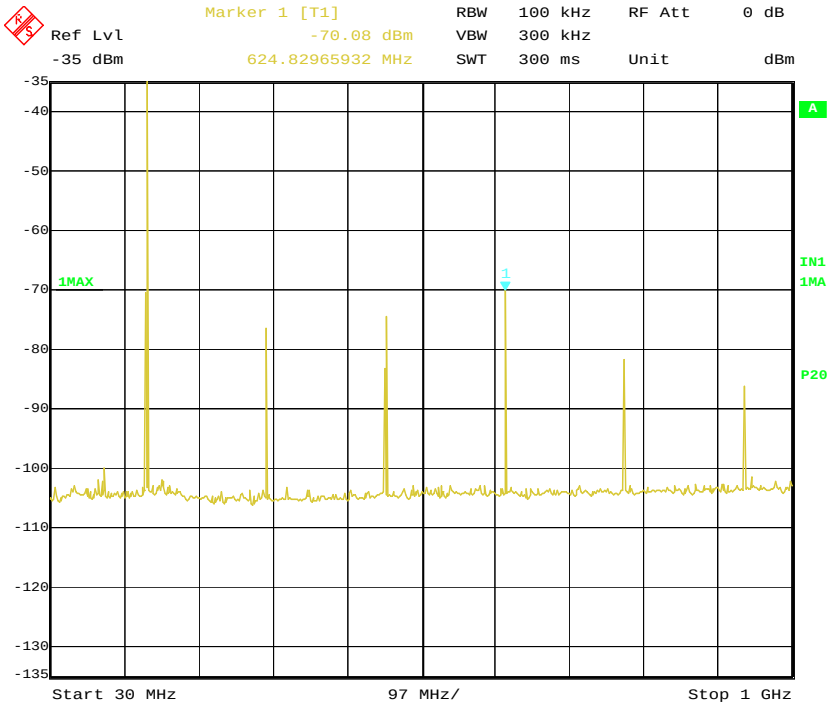
Frequency MHz	Antenna Polarisation	Antenna Height cm	EUT Arc degrees	Result Peak dBm	Limit dBm	Margin dB
312.048	Vertical	100	323	-42.7	-13	-29.7
624.829	Vertical	100	309	-35.4	-13	-22.4

30MHz to 1GHz

Vertical Polarisation

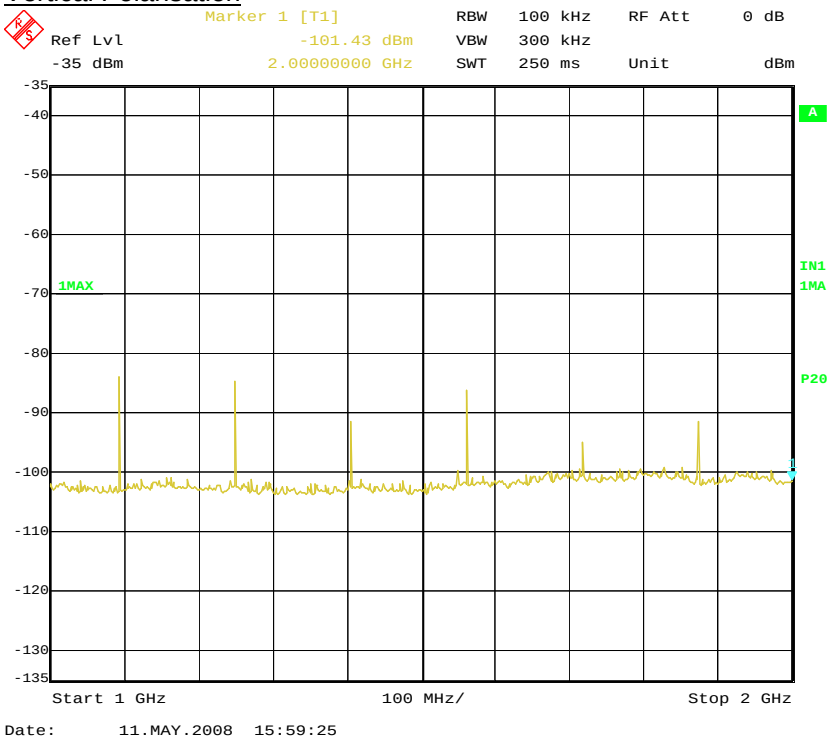


Horizontal Polarisation

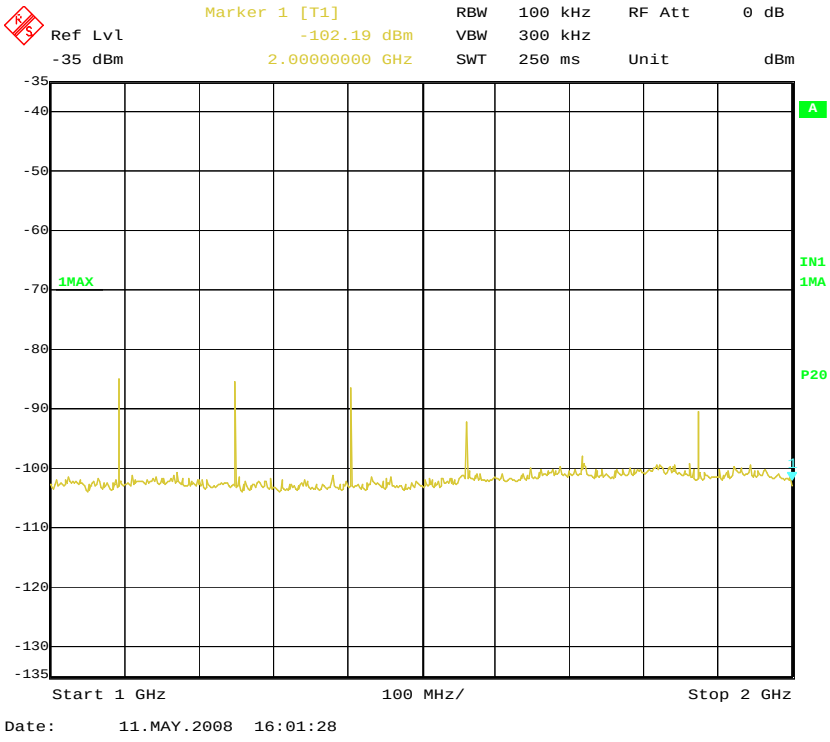


1GHz to 2GHz

Vertical Polarisation



Horizontal Polarisation



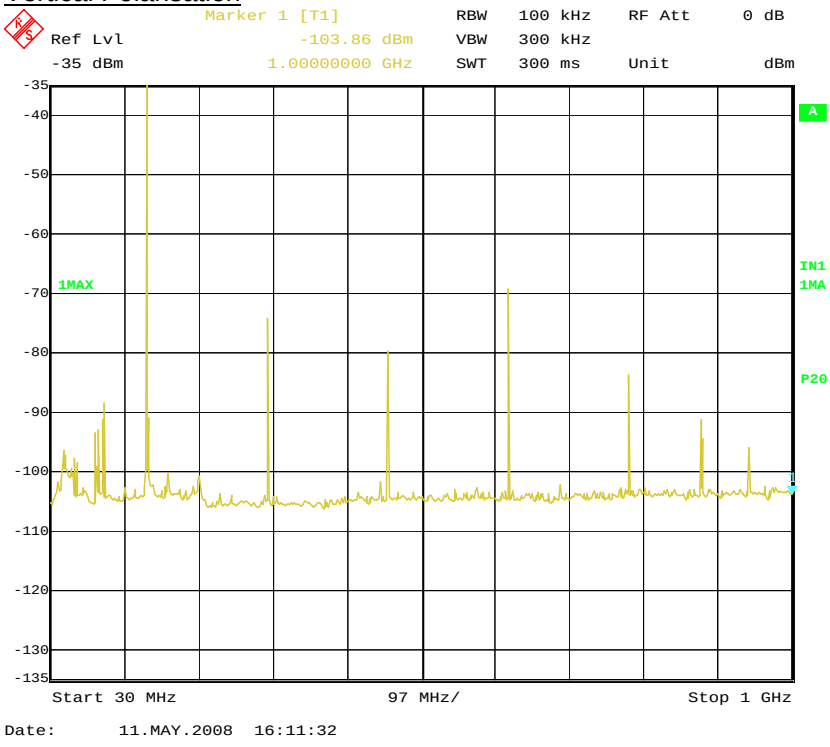
Transmitting on Channel 88

30MHz to 2GHz

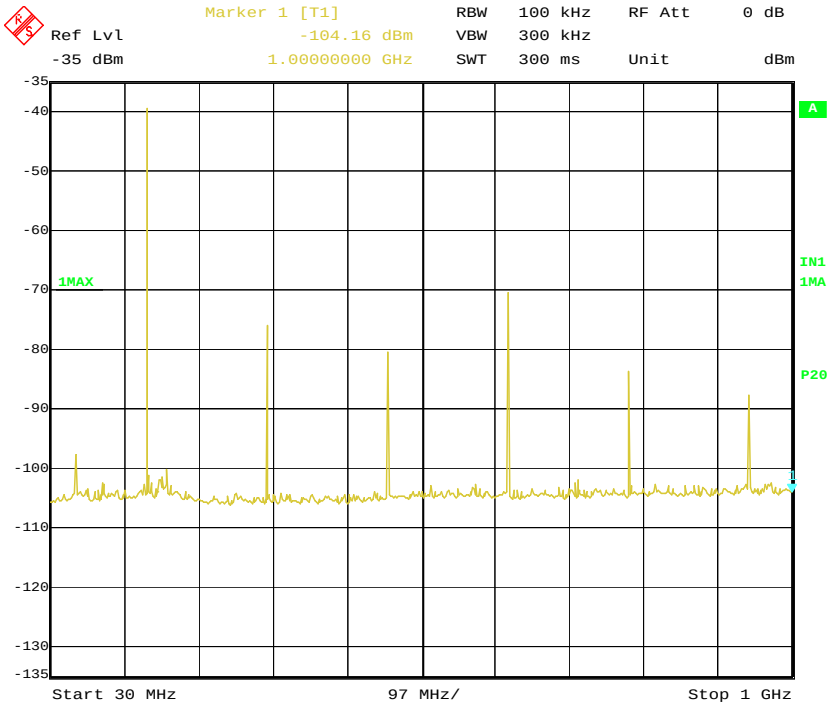
Frequency MHz	Antenna Polarisation	Antenna Height cm	EUT Arc degrees	Result Peak dBm	Limit dBm	Margin dB
314.471	Vertical	100	0-360	-40.9	-13	27.9
473.029	Vertical	100	299	-34.8	-13	21.8
630.032	Vertical	100	290	-39.8	-13	26.8

30MHz to 1GHz

Vertical Polarisation

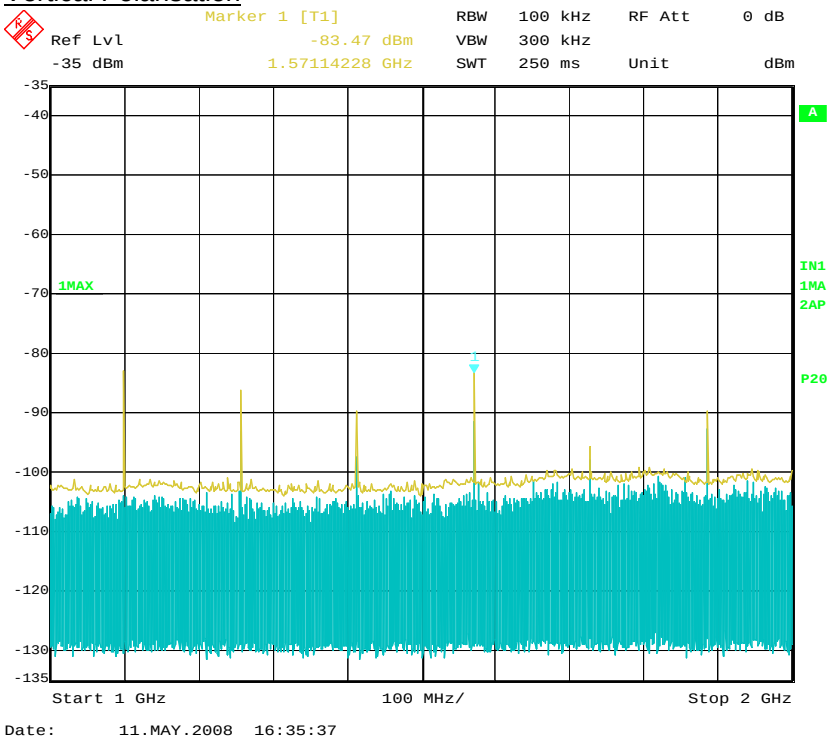


Horizontal Polarisation

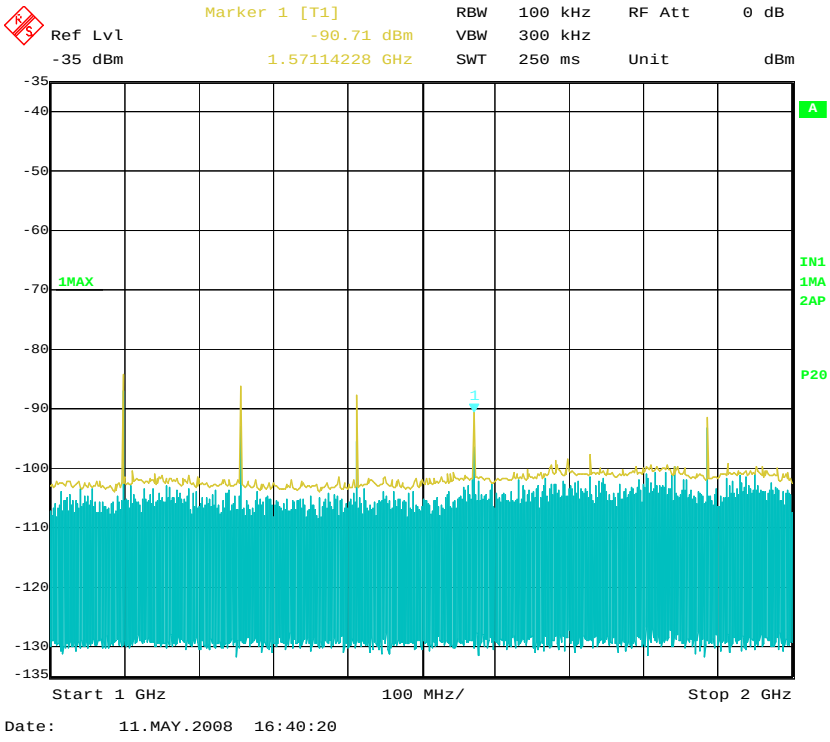


1GHz to 2GHz

Vertical Polarisation



Horizontal Polarisation



2.2 EMISSION LIMITATIONS (RADIATED TRANSMITTER SPURIOUS) DSC

2.2.1 Specification Reference

FCC CFR 47 Part 80: 2006 Clause 80.211(f)(3)

2.2.2 Equipment Under Test

RM600D, S/N: 70500019

2.2.3 Date of Test and Modification State

11 May 2008

2.2.4 Test Equipment Used

The major items of test equipment used for the above tests are identified in Section 3.1.

2.2.5 Test Procedure

Test Performed in accordance with ANSI C63.4.

A preliminary profile of the Spurious Radiated Emissions was obtained by operating the EUT on a remotely controlled turntable within a semi-anechoic chamber. Measurements of emissions from the EUT were obtained with the Measurement Antenna in both Horizontal and Vertical Polarisations. The profiling produced a list of the worst-case emissions together with the EUT azimuth and antenna polarisation.

Using the information from the preliminary profiling of the EUT, the list of emissions was then confirmed or updated under Alternative Open Site conditions. Emission levels were maximised by adjusting the antenna height, antenna polarisation and turntable azimuth.

Emissions identified within the range 30MHz – 1GHz were then formally measured using a CISPR Quasi-Peak detector.

Emissions identified within the range 1GHz – 2GHz were then formally measured using Peak and Average Detectors, as appropriate.

The measurements were performed at a 3m distance unless otherwise stated.

2.2.6 Environmental Conditions

Ambient Temperature	19.3°C
Relative Humidity	36%
Atmospheric Pressure	1014mbar

2.2.7 Test Results

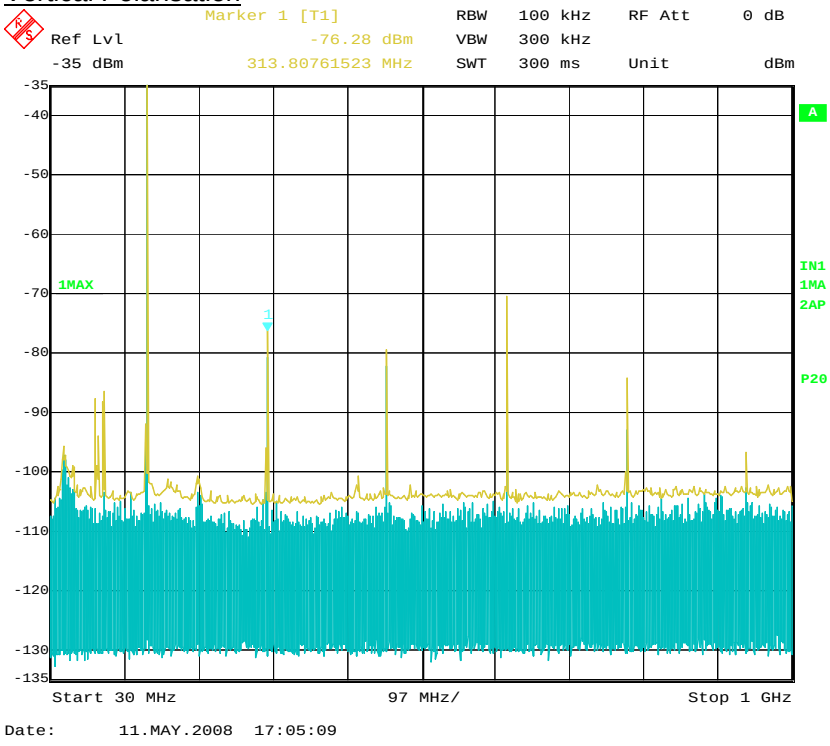
Transmitting on Channel DSC 70

30MHz to 2GHz

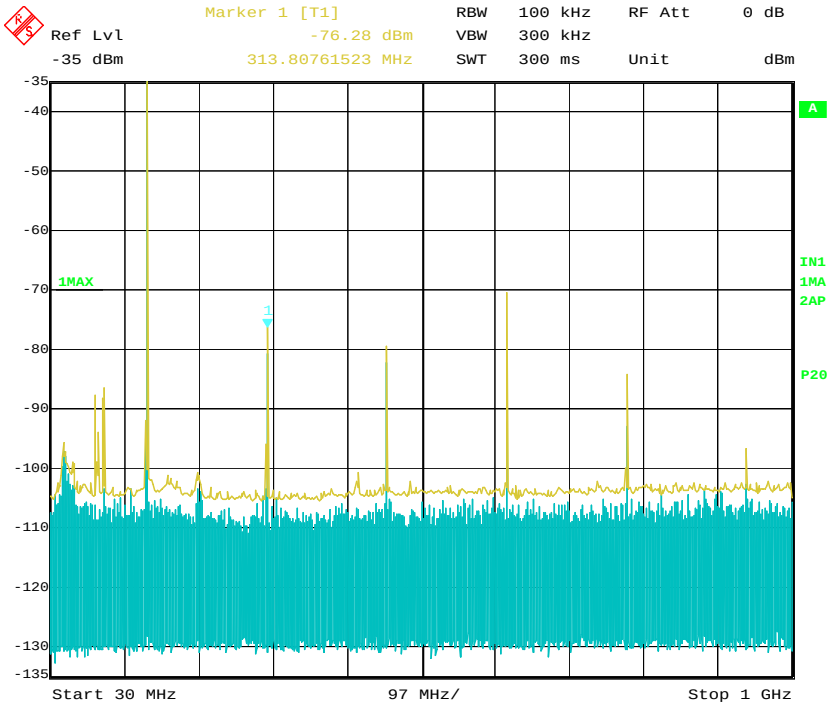
Frequency MHz	Antenna Polarisation	Antenna Height cm	EUT Arc degrees	Result Peak dBm	Limit dBm	Margin dB
313.038	Vertical	100	018	-43.6	-13	-30.6
469.574	Vertical	100	40	-46.0	-13	-33.0
626.774	Vertical	100	318	-37.0	-13	-24.0
782.616	Vertical	100	189	-43.0	-13	-30.0
939.174	Horizontal	100	10	-46.6	-13	-33.6
1065.645	Vertical	100	000	-71.1	-13	-58.1
1252.189	Horizontal	100	300	-46.6	-13	-33.6
1408.721	Vertical	100	39	-42.8	-13	-29.8
1565.270	Vertical	100	22	-41.5	-13	-28.5

30MHz to 1GHz

Vertical Polarisation

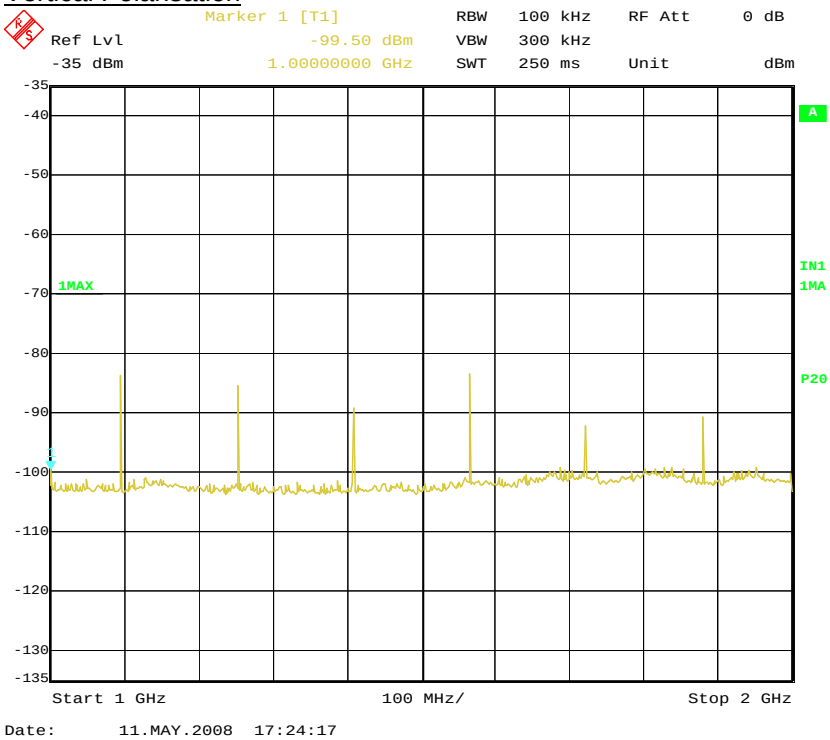


Horizontal Polarisation

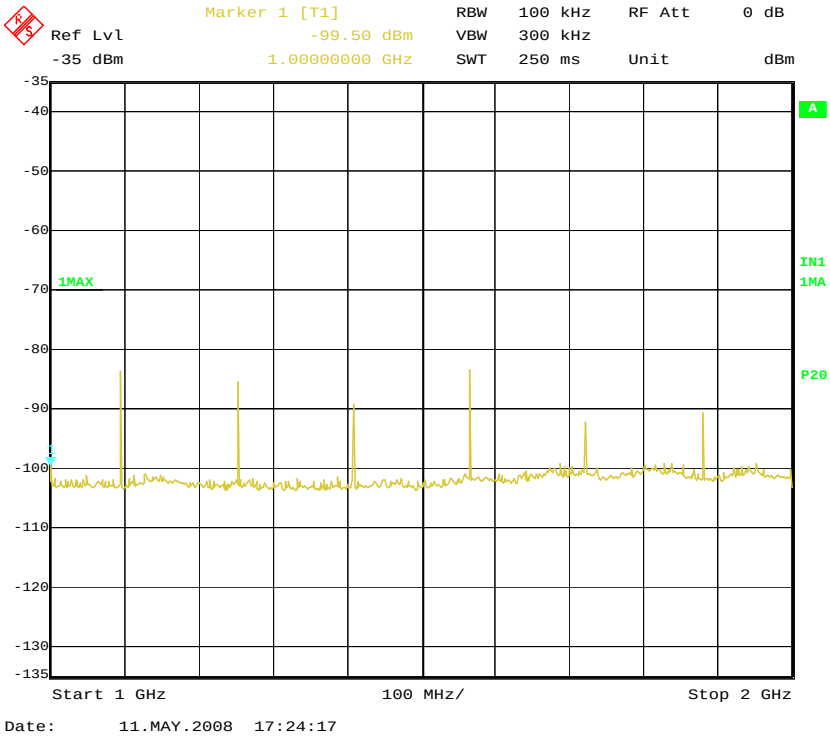


1GHz to 2GHz

Vertical Polarisation



Horizontal Polarisation



SECTION 3

TEST EQUIPMENT USED

3.1 TEST EQUIPMENT USED

List of absolute measuring and other principal items of test equipment.

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
Sections 2.1 and 2.2 EMC - Radiated Emissions					
Signal Generator	Rohde & Schwarz	SMY01	118	12	26-Jun-2008
Amplifier (20Hz-12.5kHz)	Various	SU-A700-Mk3	265	-	TU
Antenna (Bilog)	Schaffner	CBL6143	287	24	21-Jan-2010
Attenuator (30dB, 50W)	Bird	8321	494	12	9-Jan-2009
Modulation Analyser	Hewlett Packard	8901B	557	12	16-Nov-2008
Audio Analyser	Hewlett Packard	8903B	1350	12	12-Jul-2008
Screened Room (5)	Rainford	Rainford	1545	36	11-Feb-2011
Test Receiver	Rohde & Schwarz	ESIB26	2085	12	3-Dec-2008
Antenna (Bilog)	Chase	CBL6143	2904	24	28-Nov-2009

TU – Traceability Unscheduled
OP MON – Output Monitored with Calibrated Equipment

3.2 MEASUREMENT UNCERTAINTY

For a 95% confidence level, the measurement uncertainties for defined systems are:-

Test Discipline	Frequency / Parameter	MU
Emission Limitations (Radiated Transmitter / Receiver Spurious)	30MHz to 1GHz Amplitude	± 5.1dB
	1GHz to 40GHz Amplitude	6.3dB*

Worst case error for both Time and Frequency measurement 12 parts in 10^6.

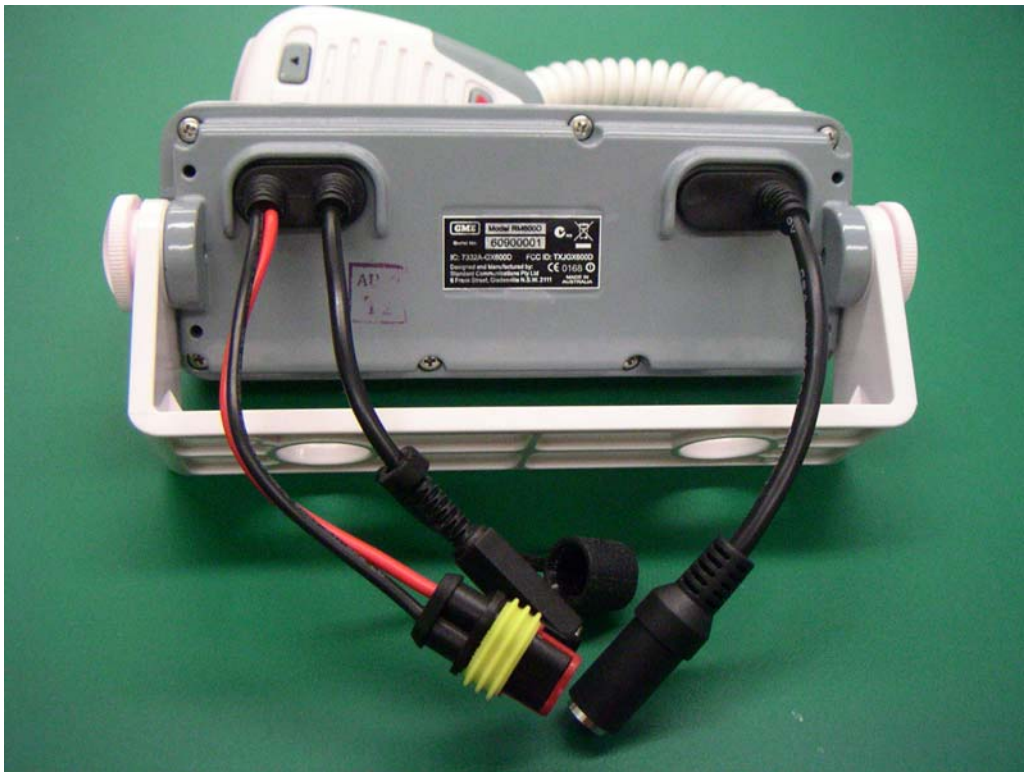
*In accordance with CISPR 16-4

SECTION 4

PHOTOGRAPHS

4.1 PHOTOGRAPHS OF EQUIPMENT UNDER TEST (EUT)

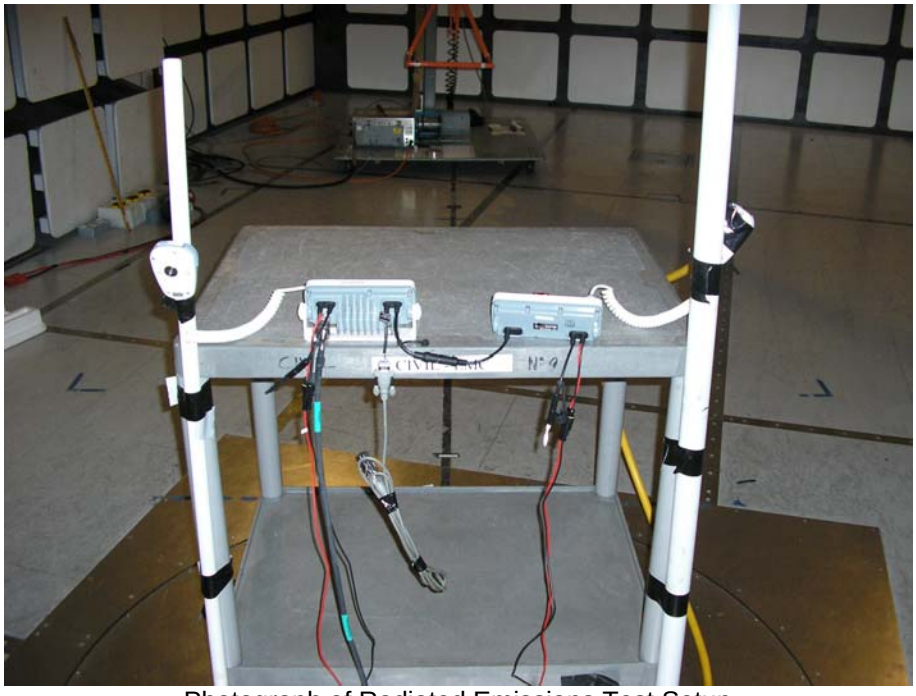
Photograph of Front of EUT



Photograph of Rear of EUT

4.2 PHOTOGRAPHS OF TEST SETUP

Photograph of Radiated Emissions Test Setup



Photograph of Radiated Emissions Test Setup

SECTION 5

ACCREDITATION, DISCLAIMERS AND COPYRIGHT

5.1 ACCREDITATION, DISCLAIMERS AND COPYRIGHT

This report relates only to the actual item/items tested.

Our UKAS Accreditation does not cover opinions and interpretations and any expressed are outside the scope of our UKAS Accreditation.

Results of tests not covered by our UKAS Accreditation Schedule are marked NUA (Not UKAS Accredited).