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Report On

FCC CFR 47 Part 15C and Industry Canada Testing of the
Modelabs Manufacture
TH01M Mobile Handset

COMMERCIAL-IN-CONFIDENCE

FCC ID: WCKTH01M

IC ID: IC 7712A TH01-M

Document 75903671 Report 02 Issue 3 July 2008

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REPORT ON

FCC CFR 47 Part 15C and Industry Canada Testing of the
Modelabs Manufacture
TH01M Mobile Handset

Document 75903671 Report 02 Issue 3

July 2008

PREPARED FOR

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APPROVED BY

K Adsetts
Authorised Signatory

M J Hardy
Authorised Signatory

DATED

16 July 2008

16 July 2008

This report has been up-issued to Issue 3 to amend typographical errors.

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 15C and Industry Canada Testing. The sample tested was found to comply with the requirements defined in the applied rules.

Test Engineers:

M P Hardy

P Harrison

A Guy

UKAS TESTING 0141

Product Service

CONTENTS

Product Service

SECTION 1

REPORT SUMMARY

FCC CFR 47 Part 15C and Industry Canada Testing of the
Modelabs Manufacture
TH01M Mobile Handset

Product Service

1.1 INTRODUCTION

The information contained in this report is intended to show verification of the Modelabs Manufacture TH01M Mobile Handset to the requirements of FCC CFR 47 Part 15C: 2006 and Industry Canada RSS-210 Issue 7: 2007 and RSS-Gen: 2005.

Objective	To perform Electromagnetic Compatibility (EMC) Qualification Approval Testing to determine the Equipment Under Test's (EUT's) compliance with the Test Specification, for the series of tests carried out.
Manufacturer	Modelabs Manufacture
Part Number(s)	091358009804000
IMEI Number(s)	004401750001063 004401750000677
Software Version	0259000505020000
Hardware Version	PIR
Number of Samples Tested	2
Test Specification/Issue/Date	FCC CFR 47 Part 15C: 2006 and Industry Canada RSS-210 Issue 7: 2007 and RSS-Gen: 2005
Incoming Release Date	Declaration of Build Status 02 June 2008
Disposal Reference Number Date	Held Pending Disposal Not Applicable Not applicable
Start of Test	28 May 2008
Finish of Test	13 June 2008
Name of Engineer(s)	P Harrison A Guy M P Hardy

Product Service

1.2 BRIEF SUMMARY OF RESULTS

A brief summary of results for each configuration, in accordance with FCC CFR 47 Part 15C: 2006 and Industry Canada RSS-210 Issue 7: 2007 and RSS-Gen: 2005, is shown below.

Configuration 1 - Mobile Handset							
Section	Spec Clause		Test Description	Mode	Mod State	Result	Base Standard
	FCC	Industry Canada					
2.1	15.207	RSS-Gen, 7.2.2	Conducted Emissions (AC Power Port)	1	0	Pass	FCC CFR 47 Part 15C and Industry Canada
				2	0	Pass	
				3	0	Pass	
2.2	15.209, 15.247(d), 15.205	RSS-Gen, 7.2.3	Radiated Emissions (Enclosure Port)	1	0	Pass	FCC CFR 47 Part 15C and Industry Canada
				2	0	Pass	
				3	0	Pass	
2.3	15.247(b)(3)	RSS-210, A8.4 RSS-Gen, 4.6	Maximum Peak Output Power (Radiated)	1	0	Pass	FCC CFR 47 Part 15C and Industry Canada
				2	0	Pass	
				3	0	Pass	
2.4	15.247(a)(1)	RSS-210, A8.2 (1) RSS-Gen, 4.4.2	20dB Bandwidth	1	0	Pass	FCC CFR 47 Part 15C and Industry Canada
				2	0	Pass	
				3	0	Pass	
2.5	15.247(a)	RSS-210, A8.1	Channel Dwell Time (DH1)	1	0	Pass	FCC CFR 47 Part 15C and Industry Canada
				2	0	Pass	
				3	0	Pass	
2.6	15.247(a)	RSS-210, A8.1	Channel Dwell Time (DH3)	1	0	Pass	FCC CFR 47 Part 15C and Industry Canada
				2	0	Pass	
				3	0	Pass	
2.7	15.247(a)	RSS-210, A8.1	Channel Dwell Time (DH5)	1	0	Pass	FCC CFR 47 Part 15C and Industry Canada
				2	0	Pass	
				3	0	Pass	

Product Service

Configuration 1 - Mobile Handset							
Section	Spec Clause		Test Description	Mode	Mod State	Result	Base Standard
	FCC	Industry Canada					
2.8	15.247(a)(1)	RSS-210, A8.1 (b)	Channel Separation	4	0	Pass	FCC CFR 47 Part 15C and Industry Canada
2.9	15.247(a)(1)	RSS-210, A8.1 (b)	Number of Hopping Channels	4	0	Pass	FCC CFR 47 Part 15C and Industry Canada
2.10	15.247(c)	RSS-210, A8.5 and 2.7, Table 2 RSS-Gen, 4.7	Spurious Conducted Emissions	4	0	Pass	FCC CFR 47 Part 15C and Industry Canada
2.11	15.247(b) (1)	RSS-210, A8.4 (2) RSS-Gen, 4.6	Maximum Peak Output Power (Conducted)	1	0	Pass	FCC CFR 47 Part 15C and Industry Canada
				2	0	Pass	
				3	0	Pass	

N/A – Not Applicable

Product Service

1.3 DECLARATION OF BUILD STATUS

MAIN EUT			
MANUFACTURING DESCRIPTION	Cellular mobile phone manufacturer		
MANUFACTURER	Modelabs Manufacture		
TYPE	Cellular mobile phone		
PART NUMBER	091358009804000		
SERIAL NUMBER			
HARDWARE VERSION	PIR		
SOFTWARE VERSION	0259000505020000		
TRANSMITTER OPERATING RANGE	Part22(824.2-848.8 Mhz) Part24(1850.2-1909.8 Mhz)		
RECEIVER OPERATING RANGE	Part22(869.2-893.8 Mhz) Part24(1930.2-1989.8 Mhz)		
COUNTRY OF ORIGIN	France		
INTERMEDIATE FREQUENCIES	Direct conversion		
ITU DESIGNATION OF EMISSION	300KGXW		
HIGHEST INTERNALLY GENERATED FREQUENCY			
OUTPUT POWER (W or dBm)	32 dBm		
FCC ID	WCKTH01M		
INDUSTRY CANADA ID	IC 7712A TH01-M		
TECHNICAL DESCRIPTION (a brief description of the intended use and operation)	This product is the cellular mobile phone in 850/900/1800/1900 bands		
BATTERY/POWER SUPPLY			
MANUFACTURING DESCRIPTION	Batterie's Manufacturer		
MANUFACTURER	Xwoda		
TYPE	Lithium Ion		
PART NUMBER	TH01M-BAT		
VOLTAGE	3.7 V		
COUNTRY OF ORIGIN	China		
MODULES (if applicable)			
MANUFACTURING DESCRIPTION			
MANUFACTURER			
TYPE			
POWER			
FCC ID			
COUNTRY OF ORIGIN			
INDUSTRY CANADA ID			
EMISSION DESIGNATOR			
DHSS/FHSS/COMBINED OR OTHER			
ANCILLARIES (if applicable)			
MANUFACTURING DESCRIPTION			
MANUFACTURER			
TYPE			
PART NUMBER			
SERIAL NUMBER			
COUNTRY OF ORIGIN			

Signature

Date 2 June 2008

Declaration of Build Status Serial Number

Product Service

1.4 PRODUCT INFORMATION

1.4.1 Technical Description

The Equipment Under Test (EUT) was a Modelabs Manufacture TH01M Mobile Handset as shown in the photograph below. A full technical description can be found in the Manufacturers documentation.

Equipment Under Test

Product Service

1.4.2 Test Configuration

Configuration 1: EUT & Battery

The EUT was configured in accordance with FCC CFR 47 Part 15C: 2006 and Industry Canada RSS-210 Issue 7: 2007 and RSS-Gen: 2005.

Configuration 2: EUT & AC Adaptor

The EUT was configured in accordance with FCC CFR 47 Part 15C: 2006 and Industry Canada RSS-210 Issue 7: 2007 and RSS-Gen: 2005.

1.4.3 Modes of Operation

Modes of operation of each EUT during testing were as follows:

Mode 1 - 2402MHz Transmit

Mode 2 - 2441MHz Transmit

Mode 3 - 2480MHz Transmit

Mode 4 - Frequency Hopping

Information on the specific test modes utilised are detailed in the test procedure for each individual test.

Product Service

1.5 TEST CONDITIONS

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, test laboratories or an open test area as appropriate.

For Sections 2.1 of this report the EUT was powered from 120V, 60Hz AC Adapter supply.
For Sections 2.2 and 2.3 of this report the EUT was powered from an internal Battery.
For Sections 2.4 to 2.11 of this report the EUT was powered from a battery eliminator.

FCC Accreditation
90987 Octagon House, Fareham Test Laboratory

Industry Canada Accreditation
2932B-1 Octagon House, Fareham Test Laboratory

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.

Product Service

SECTION 2

TEST DETAILS

FCC CFR 47 Part 15C and Industry Canada Testing of the
Modelabs Manufacture
TH01M Mobile Handset

Product Service

2.1 CONDUCTED EMISSIONS (AC POWER PORT)

2.1.1 Specification Reference

FCC CFR 47 Part 15C: 2006, Clause 15.207
Industry Canada RSS Gen: 2005, Clause 7.2.2

2.1.2 Equipment Under Test

TH01M Mobile Handset, IMEI: 004401750000677

2.1.3 Date of Test

28 May 2008 - Modification State 0

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 Method and Operating Modes

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 15: 2006 and Industry Canada RSS Gen: 2006.

The test was performed with the EUT in the following configurations and modes of operation:

Configuration 2 - Mode 1
- Mode 2
- Mode 3

2.1.6 Environmental Conditions

	28 May 2008
Ambient Temperature	22.7°C
Relative Humidity	41%
Atmospheric Pressure	995mbar

Product Service

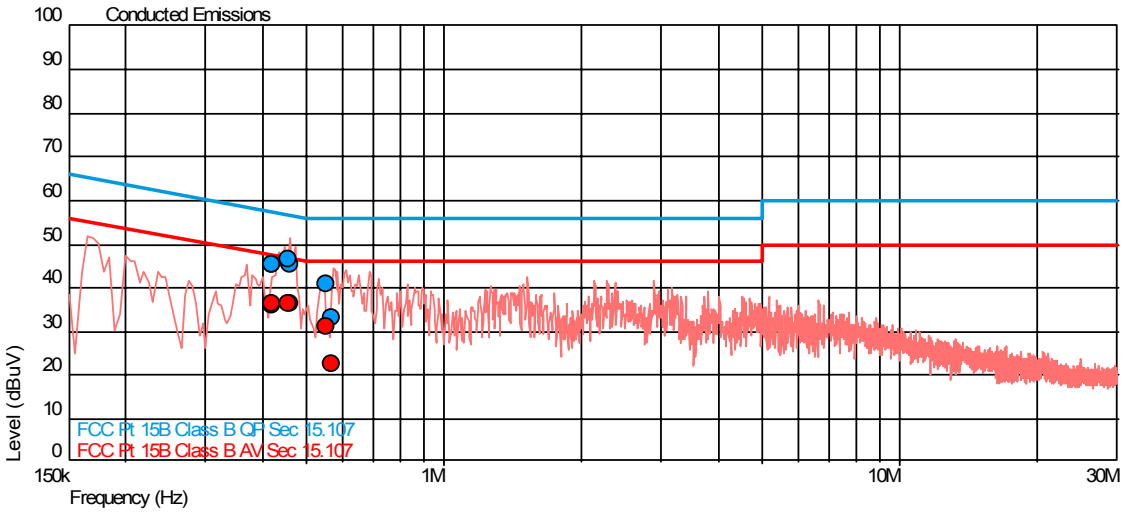
2.1.7 Test Results

For the period of test the EUT met the requirements of FCC CFR 47 Part 15C: 2006 and Industry Canada RSS Gen: 2005 for Conducted Emissions (AC Power Port).

The test results are shown below.

Configuration 2 - Mode 1

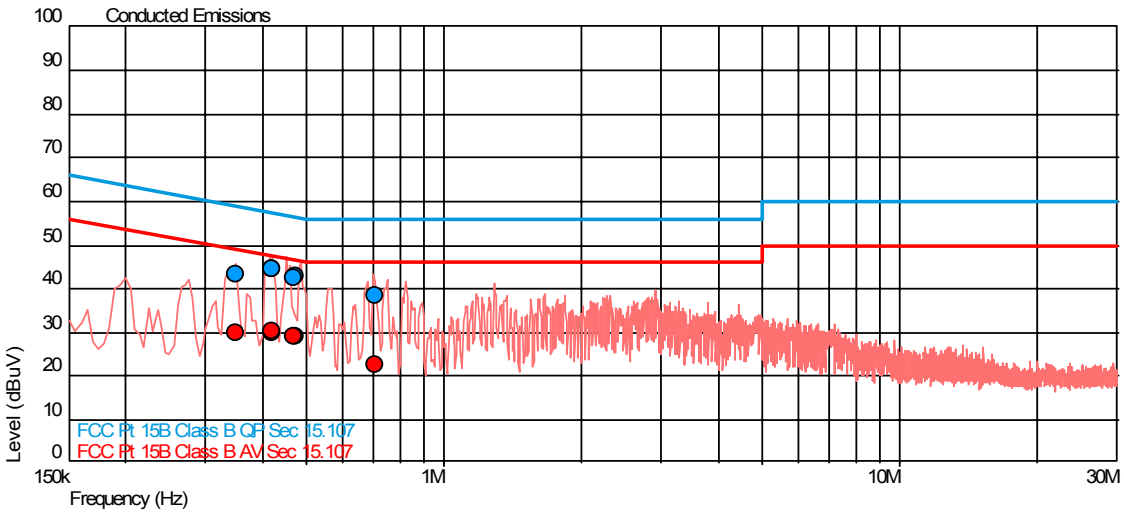
Live Line



Frequency (MHz)	QP Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Level (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)
0.418	45.5	57.5	-12.0	36.3	47.5	-11.2
0.419	45.2	57.5	-12.2	36.0	47.5	-11.4
0.455	46.3	56.8	-10.4	36.3	46.8	-10.5
0.461	45.2	56.7	-11.5	36.2	46.7	-10.5
0.552	41.0	56.0	-15.0	31.2	46.0	-14.8
0.568	33.0	56.0	-23.0	22.7	46.0	-23.3

Product Service

Neutral Line

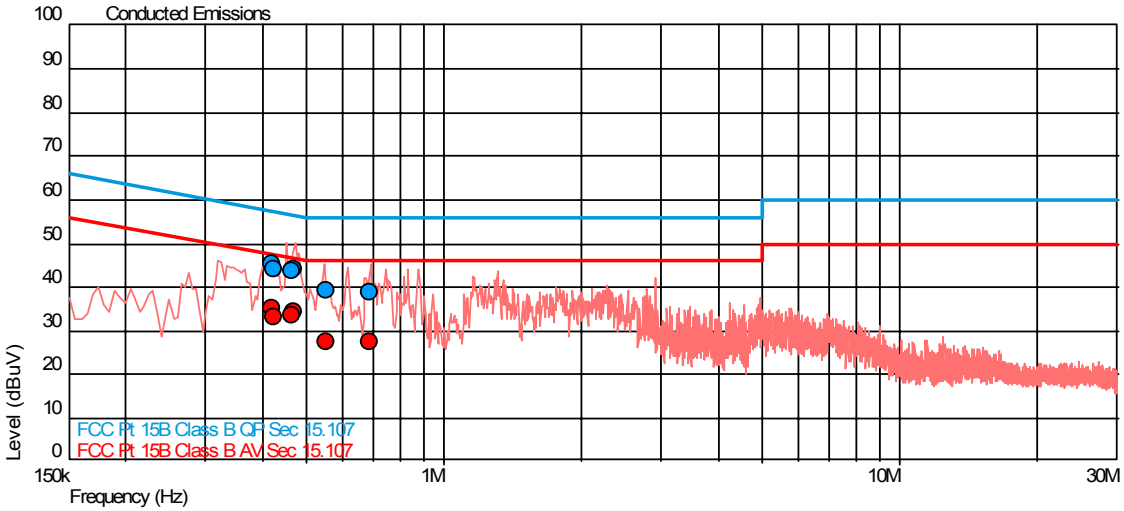


Frequency (MHz)	QP Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Level (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)
0.348	43.4	59.0	-15.6	29.9	49.0	-19.1
0.418	44.5	57.5	-13.0	30.2	47.5	-17.2
0.420	44.6	57.5	-12.9	29.9	47.5	-17.6
0.466	42.3	56.6	-14.3	29.0	46.6	-17.6
0.471	43.0	56.5	-13.5	29.3	46.5	-17.2
0.703	38.5	56.0	-17.5	22.5	46.0	-23.5

Product Service

Configuration 2 - Mode 2

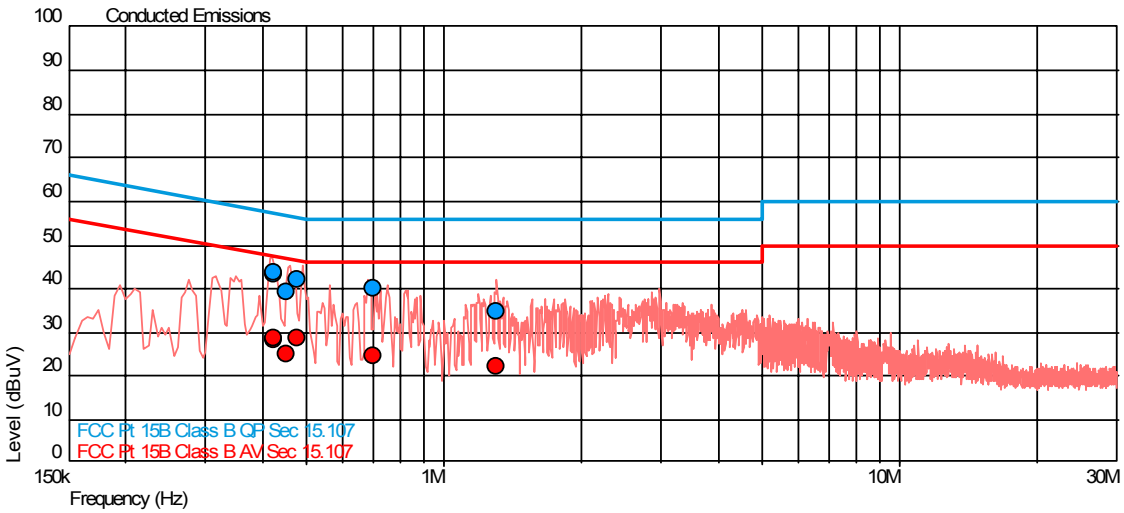
Live Line



Frequency (MHz)	QP Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Level (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)
0.418	45.3	57.5	-12.2	35.1	47.5	-12.4
0.422	44.0	57.4	-13.4	33.0	47.4	-14.4
0.464	43.9	56.6	-12.8	33.6	46.6	-13.0
0.470	44.1	56.5	-12.4	34.3	46.5	-12.2
0.553	39.1	56.0	-16.9	27.4	46.0	-18.6
0.683	38.8	56.0	-17.2	27.6	46.0	-18.4

Product Service

Neutral Line

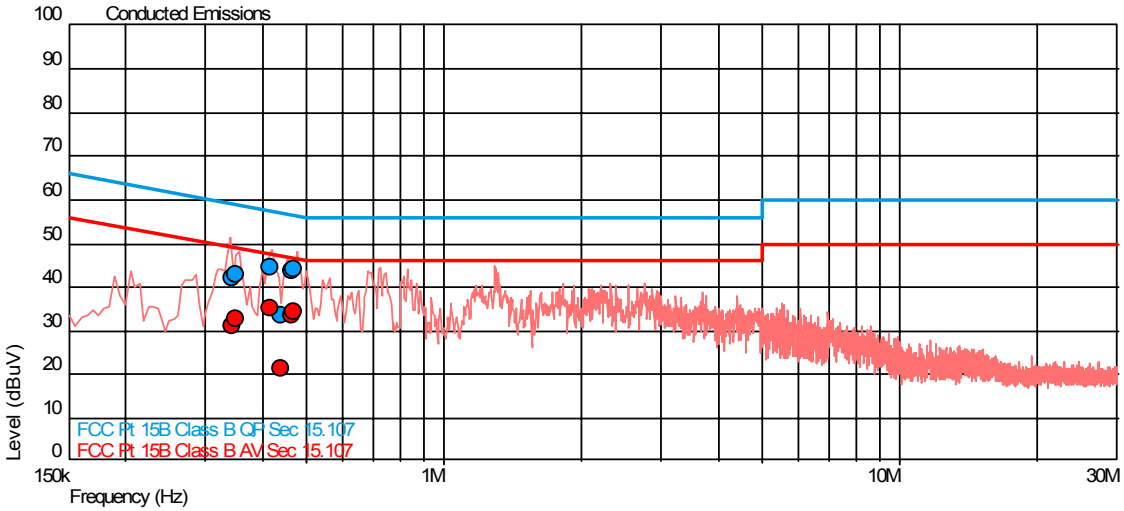


Frequency (MHz)	QP Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Level (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)
0.421	43.8	57.4	-13.6	28.6	47.4	-18.8
0.422	43.2	57.4	-14.2	28.1	47.4	-19.3
0.453	39.3	56.8	-17.5	25.2	46.8	-21.7
0.475	42.0	56.4	-14.5	28.7	46.4	-17.7
0.696	40.1	56.0	-15.9	24.8	46.0	-21.2
1.305	34.9	56.0	-21.1	22.2	46.0	-23.8

Product Service

Configuration 2 - Mode 3

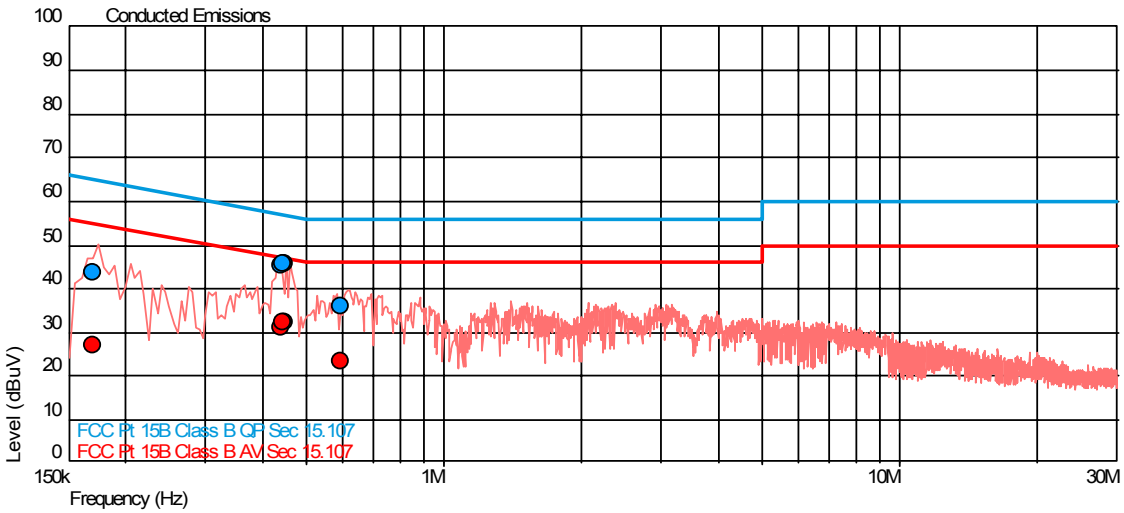
Live Line



Frequency (MHz)	QP Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Level (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)
0.342	41.9	59.2	-17.3	31.3	49.2	-17.9
0.349	43.0	59.0	-16.0	32.6	49.0	-16.4
0.414	44.5	57.6	-13.0	35.0	47.6	-12.5
0.438	33.6	57.1	-23.5	21.4	47.1	-25.7
0.464	43.9	56.6	-12.7	33.6	46.6	-13.0
0.470	43.9	56.5	-12.6	34.3	46.5	-12.2

Product Service

Neutral Line



Frequency (MHz)	QP Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Level (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)
0.139	28.0	66.0	-38.0	25.4	56.0	-30.6
0.170	43.6	65.0	-21.4	27.1	55.0	-27.9
0.439	45.3	57.1	-11.8	31.0	47.1	-16.1
0.444	45.5	57.0	-11.5	32.3	47.0	-14.7
0.446	45.6	56.9	-11.3	32.4	46.9	-14.5
0.595	36.1	56.0	-19.9	23.4	46.0	-22.6

Product Service

2.2 RADIATED EMISSIONS (ENCLOSURE PORT)

2.2.1 Specification Reference

FCC CFR 47 Part 15C: 2006. Clause 15.209, 15.247(d), 15.205
Industry Canada RSS-Gen: 2005. Clause 7.2.3

2.2.2 Equipment Under Test

TH01M Mobile Handset, IMEI: 004401750000677

2.2.3 Date of Test

11 and 12 June 2008 - Modification State 0

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 Method and Operating Modes

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 15: 2006.

The test was performed with the EUT in the following configurations and modes of operation:

Configuration 1 - Mode 1
- Mode 2
- Mode 3

2.2.6 Environmental Conditions

	11 June 2008	12 June 2008
Ambient Temperature	19°C	19°C
Relative Humidity	46%	46%
Atmospheric Pressure	1017mbar	1017mbar

Product Service

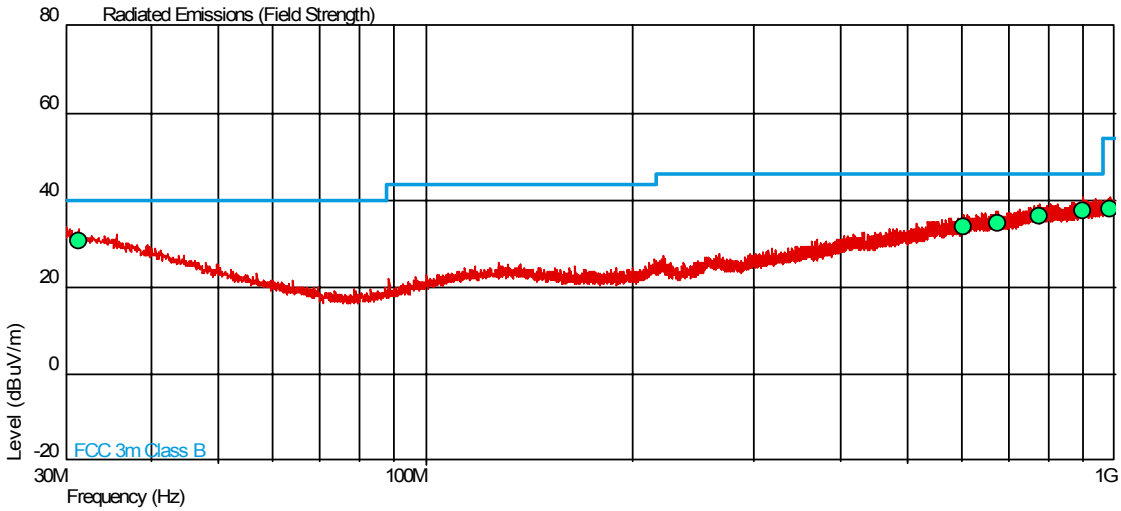
2.2.7 Test Results

For the period of test the EUT met the requirements of FCC CFR 47 Part 15C: 2006 and Industry Canada RSS-Gen: 2005 for Radiated Emissions (Enclosure Port).

The test results are shown below.

Configuration 1 - Mode 1

30MHz to 1GHz (Combined Polarity)



Frequency (MHz)	QP Level		QP Limit		QP Margin		Angle (Deg)	Height(m)	Polarity
	(dBuV/m)	(uV/m)	(dBuV/m)	(uV/m)	(dBuV/m)	(uV/m)			
31.308	30.5	33.5	40.0	100.0	-9.5	66.5	255	1.57	Horizontal
603.393	34.0	50.1	46.0	200.0	-12.0	150.0	285	1.00	Horizontal
678.617	34.6	53.7	46.0	200.0	-11.4	416.3	0	1.77	Vertical
779.863	36.4	66.0	46.0	200.0	-9.6	134.0	112	1.00	Horizontal
898.414	37.4	74.1	46.0	200.0	-8.6	126.0	149	1.00	Vertical
982.531	38.1	80.4	54.0	500.0	-15.9	419.6	52	1.00	Horizontal

Product Service

1GHz to 25GHz

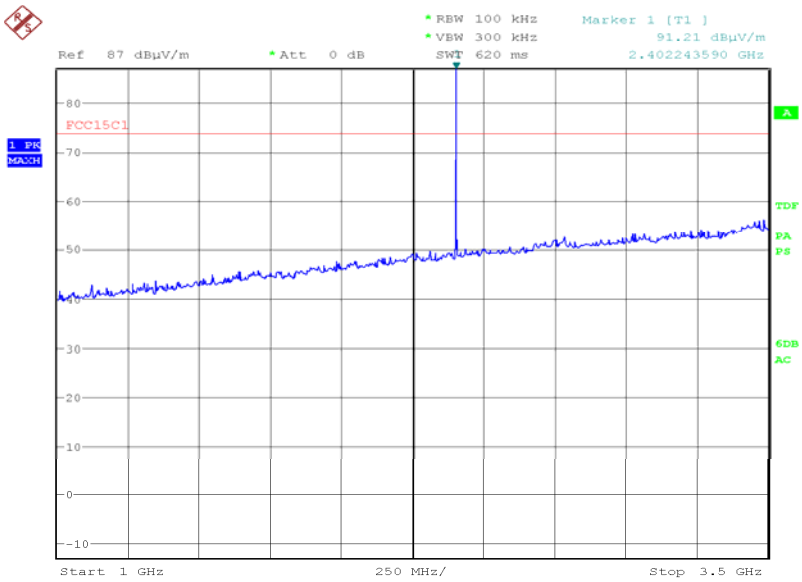
Freq. GHz	Ant Pol. V/H	Ant. Hgt Cm	EUT Arc Deg	Result Peak dBµV/m	Result Average dBµV/m	Peak Limit dBµV/m	Average Limit dBµV/m	Pass/Fail
9.607	H	100	112	47.9	N/A	80.4	N/A	Pass

No other emissions were detected above the receiver noise floor with the exception of the trasmit frequency.

Product Service

1GHz to 3.5GHz

Vertical Polarity



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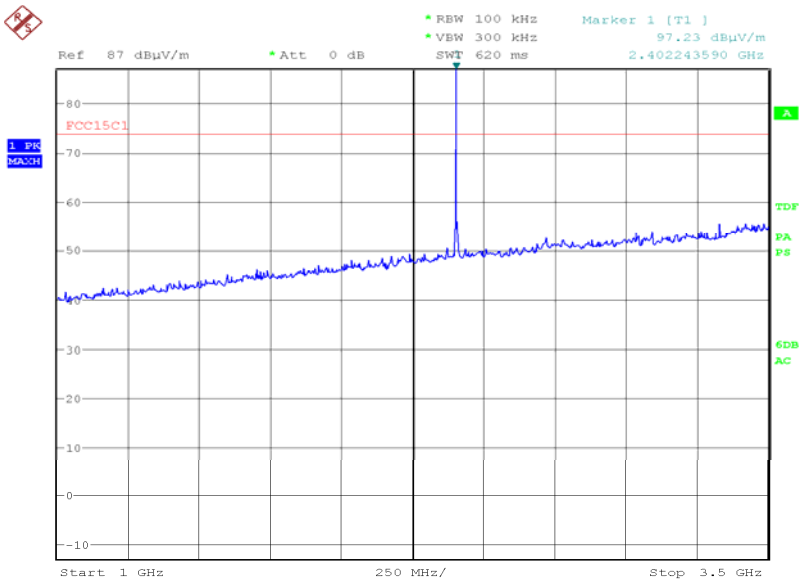

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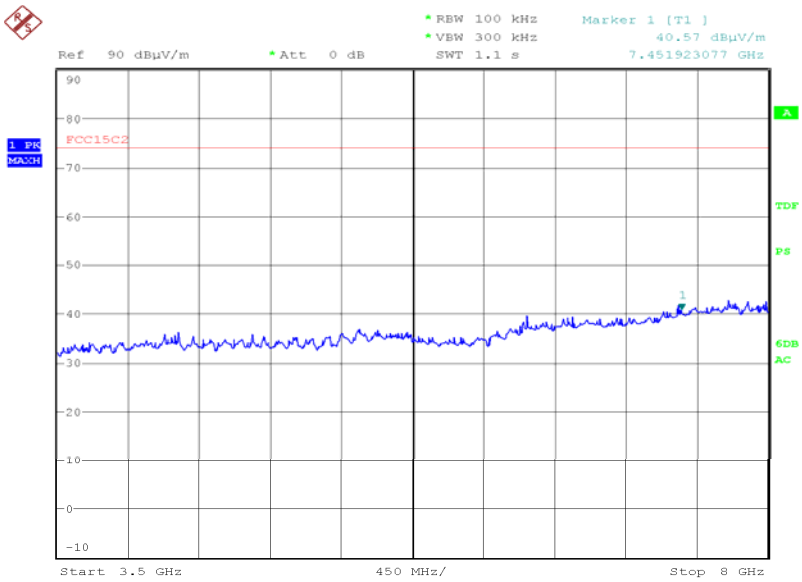
Product Service

3.5GHz to 8GHz

Vertical Polarity



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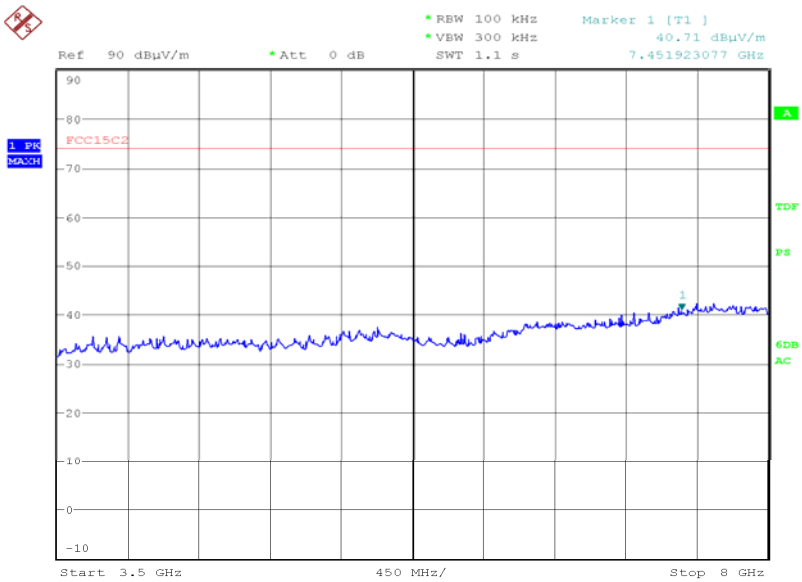

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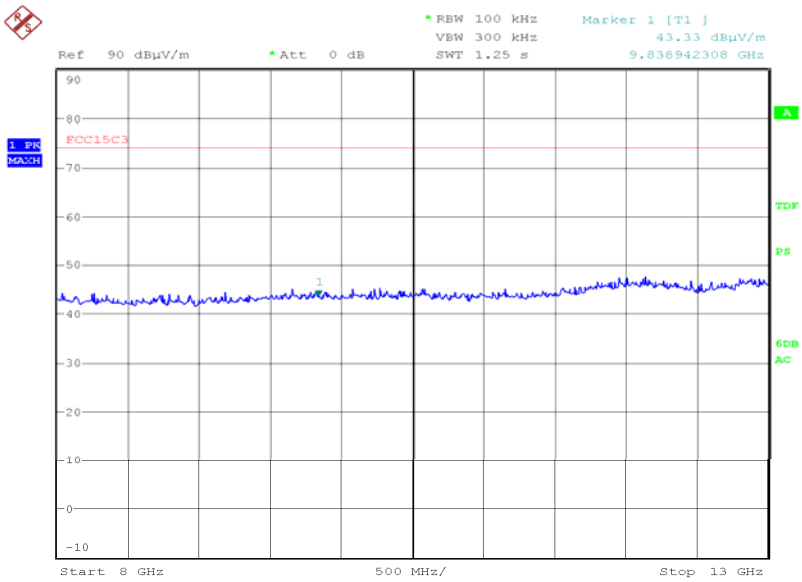
Product Service

8GHz to 13GHz

Vertical Polarity



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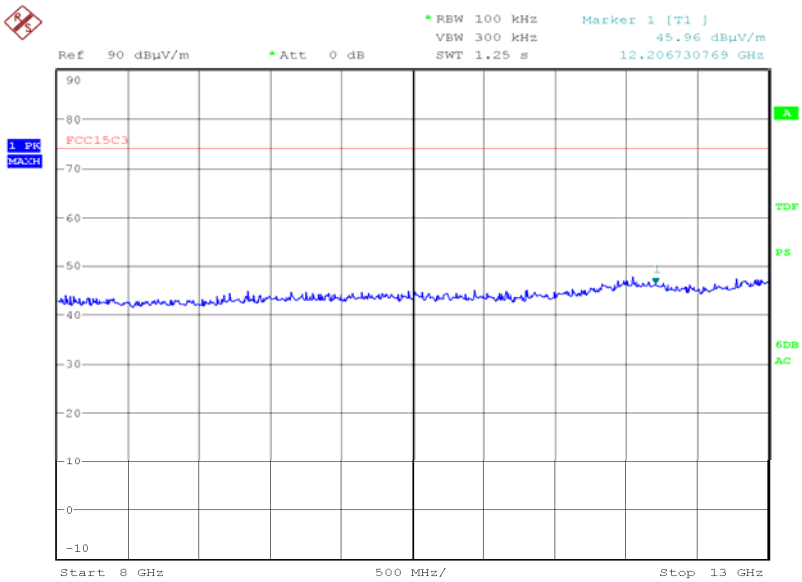

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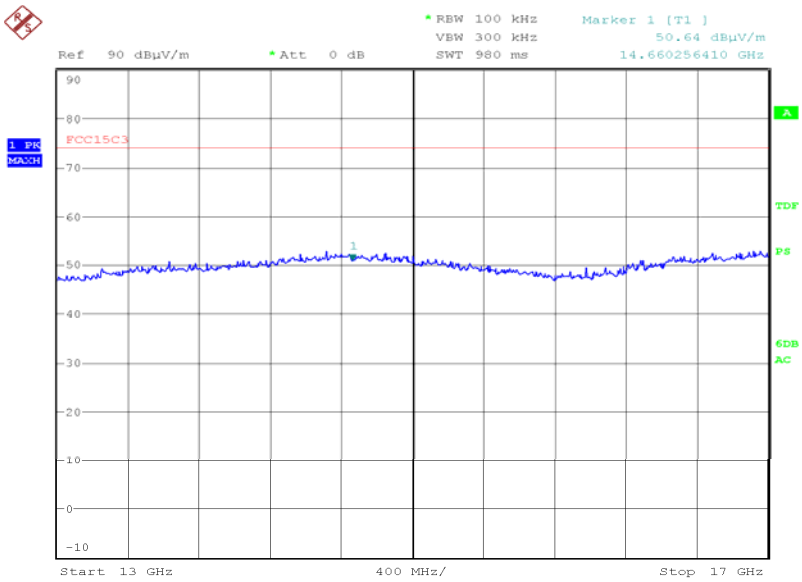
Product Service

13GHz to 17GHz

Vertical Polarity



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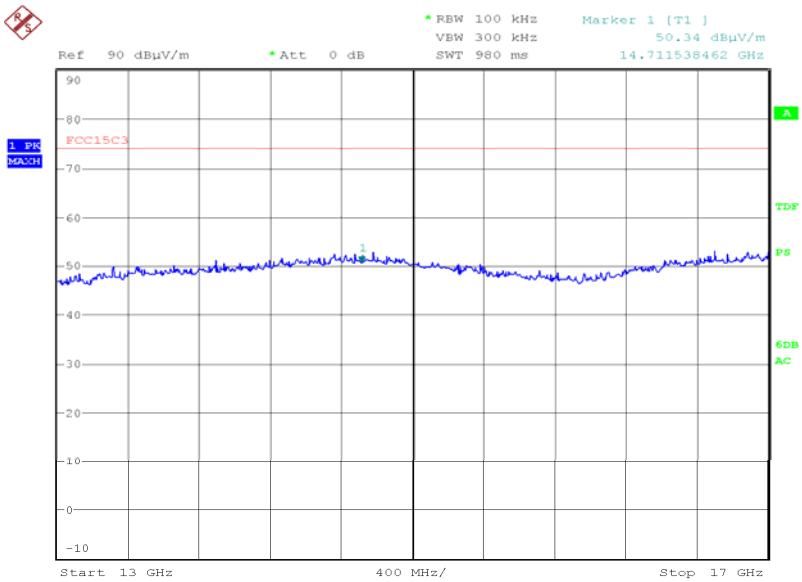
Horizontal Polarity

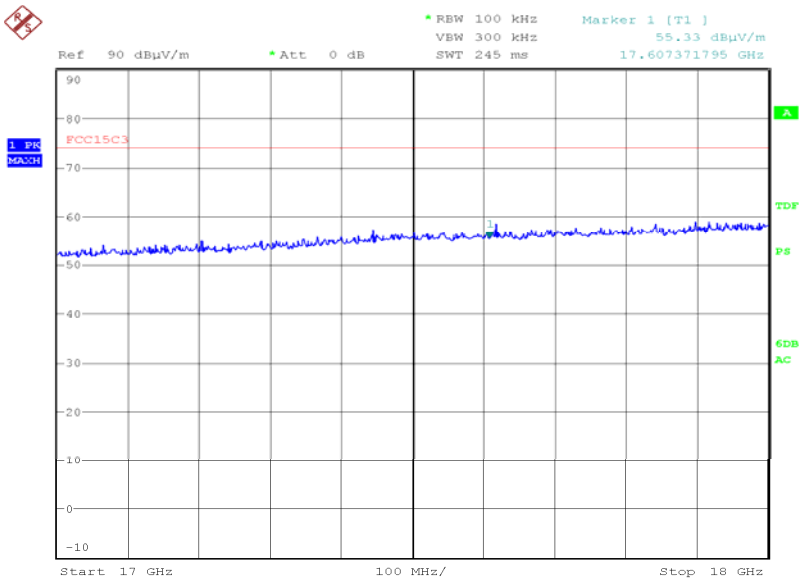


Date: 14.JUN.2008 00:42:49

Product Service

17GHz to 18GHz

Vertical Polarity



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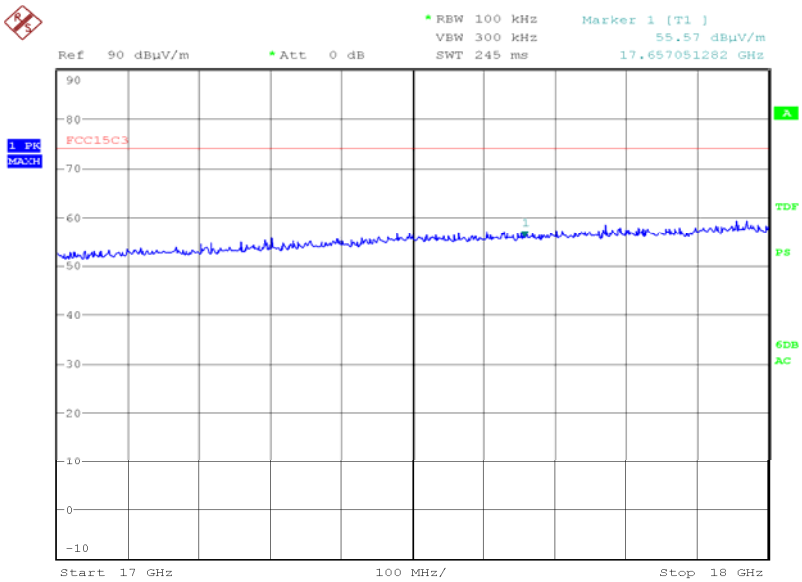
Horizontal Polarity



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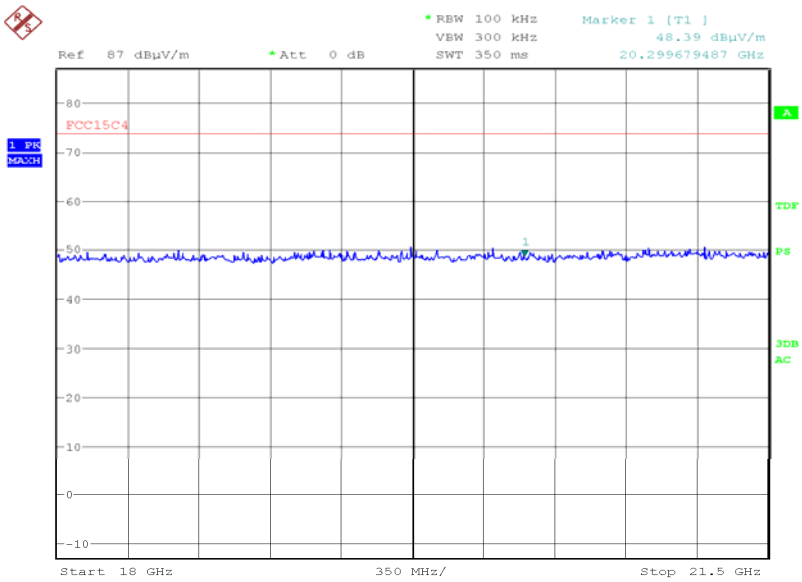
Product Service

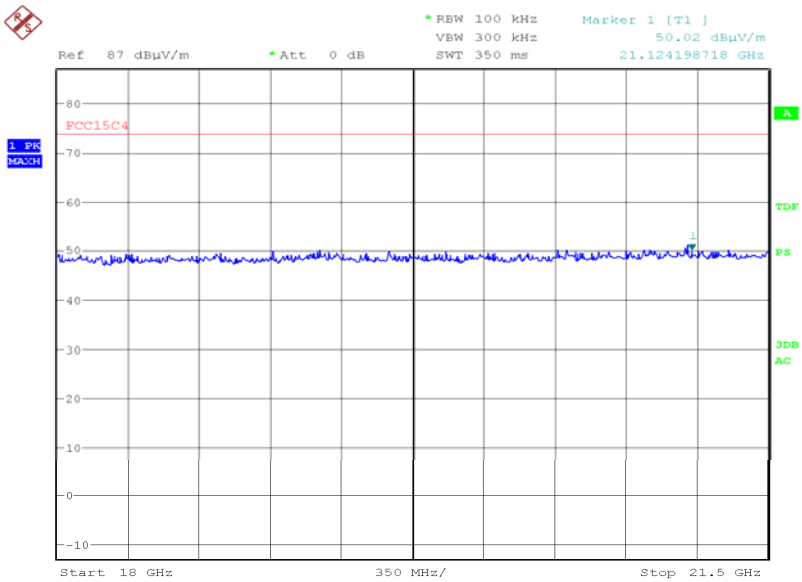
18GHz to 21.5GHz

Vertical Polarity



Date: 14.JUN.2008 03:45:31

Horizontal Polarity

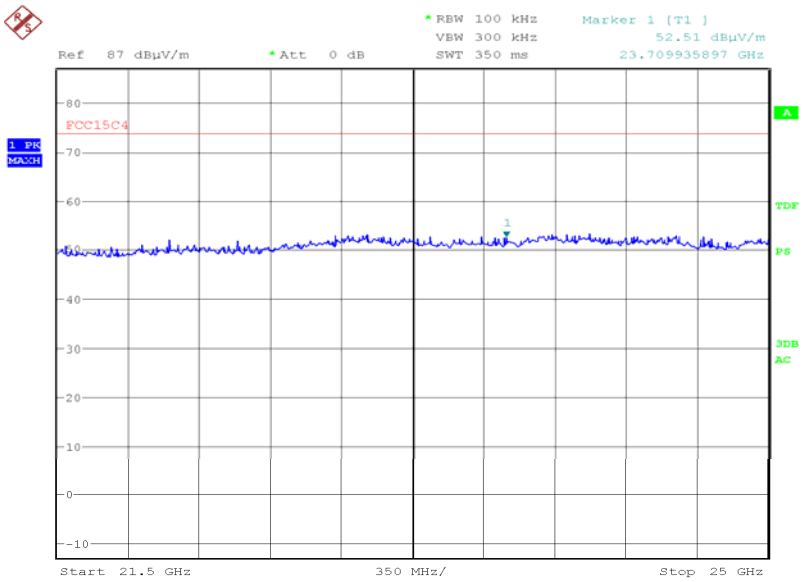


Date: 14.JUN.2008 03:55:11

Product Service

21.5GHz to 25GHz

Vertical Polarity



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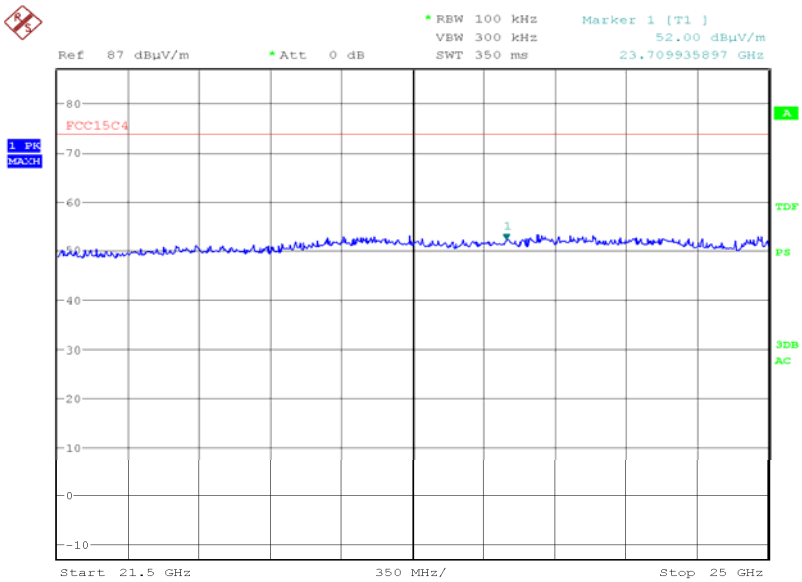
Horizontal Polarity

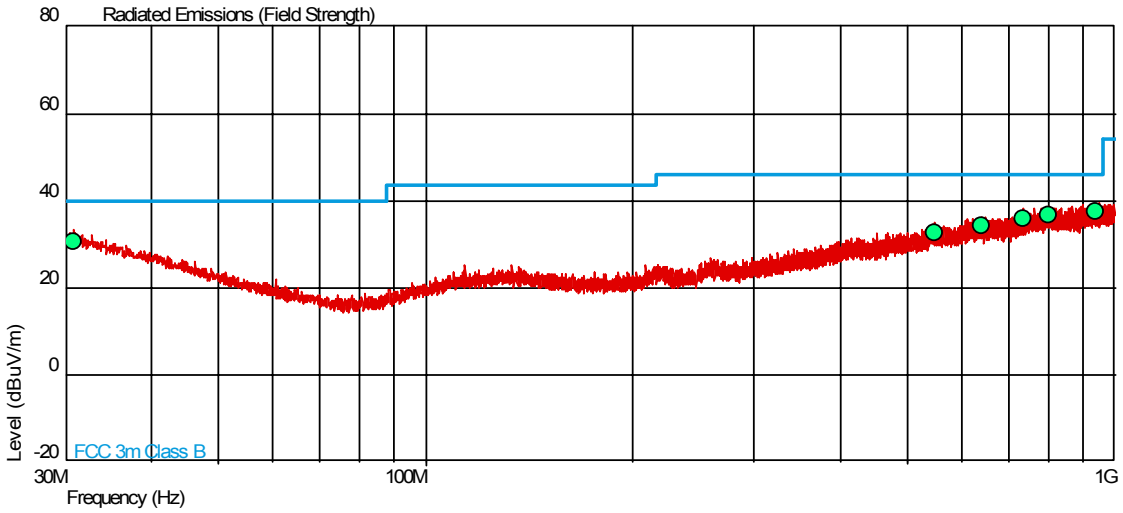


Date: 14.JUN.2008 03:52:24

Product Service

Configuration 1 - Mode 2

30MHz to 1GHz (Combined Polarity)



Frequency (MHz)	QP Level		QP Limit		QP Margin		Angle (Deg)	Height(m)	Polarity
	(dBuV/m)	(uV/m)	(dBuV/m)	(uV/m)	(dBuV/m)	(uV/m)			
30.837	30.6	33.9	40.0	100.0	-9.4	66.1	171	1.00	Horizontal
547.530	32.7	43.2	46.0	200.0	-13.3	156.8	360	3.59	Horizontal
641.974	34.4	52.5	46.0	200.0	-11.6	147.5	202	1.00	Vertical
737.243	35.7	61.0	46.0	200.0	-10.3	139.0	147	1.00	Vertical
802.857	36.7	68.4	46.0	200.0	-9.3	131.6	358	1.00	Vertical
940.041	37.6	75.0	46.0	200.0	-8.4	125.0	52	3.72	Horizontal

Product Service

1GHz to 25GHz

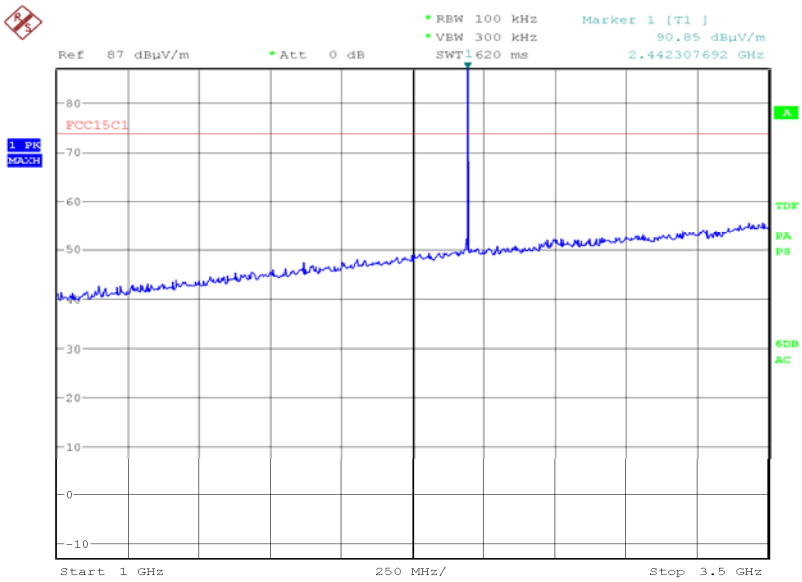
Frequency GHz	Antenna Polarisation	Antenna Height Cm	EUT Arc Deg	Result Peak dBµV/m	Result Average dBµV/m	Peak Limit dBµV/m	Average Limit dBµV/m	Pass/Fail
9.764	Horizontal	100	108	46.4	N/A	80.0	N/A	Pass

No other emissions were detected above the receiver noise floor with the exception of the EUT transmit frequency

Product Service

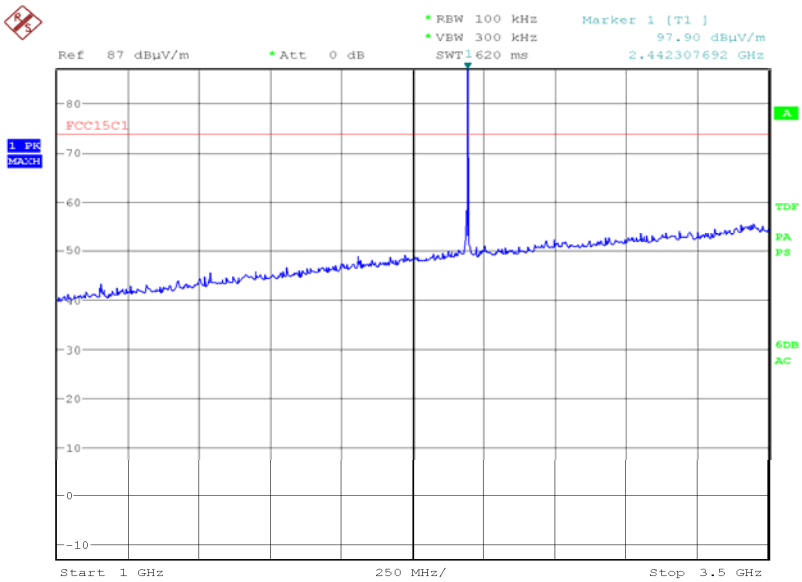
1GHz to 3.5GHz

Vertical Polarity



Date: 12.JUN.2008 02:51:08

Horizontal Polarity

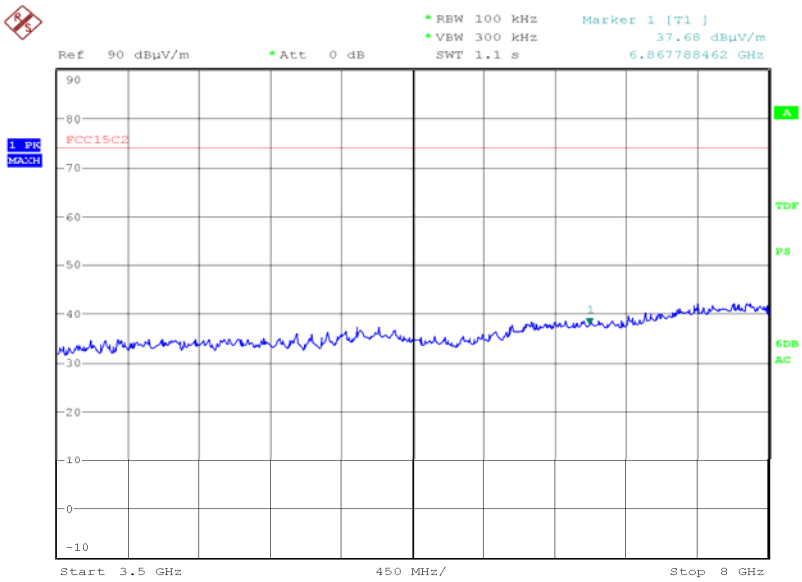


Date: 12.JUN.2008 02:42:08

Product Service

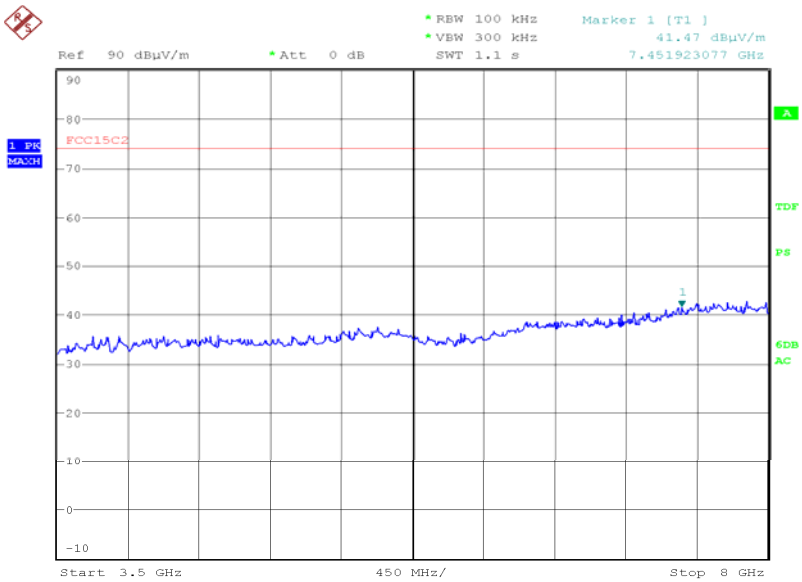
3.5GHz to 8GHz

Vertical Polarity



Date: 12.JUN.2008 04:41:57

Horizontal Polarity

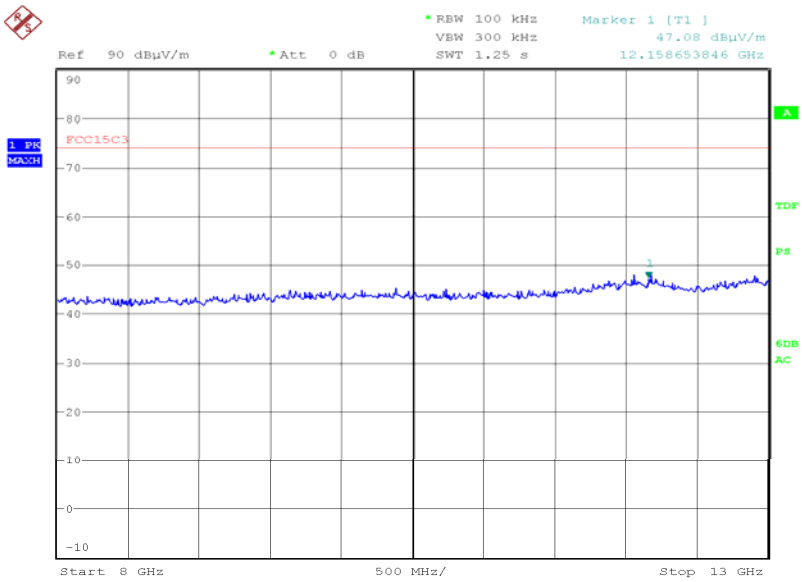


Date: 12.JUN.2008 04:53:35

Product Service

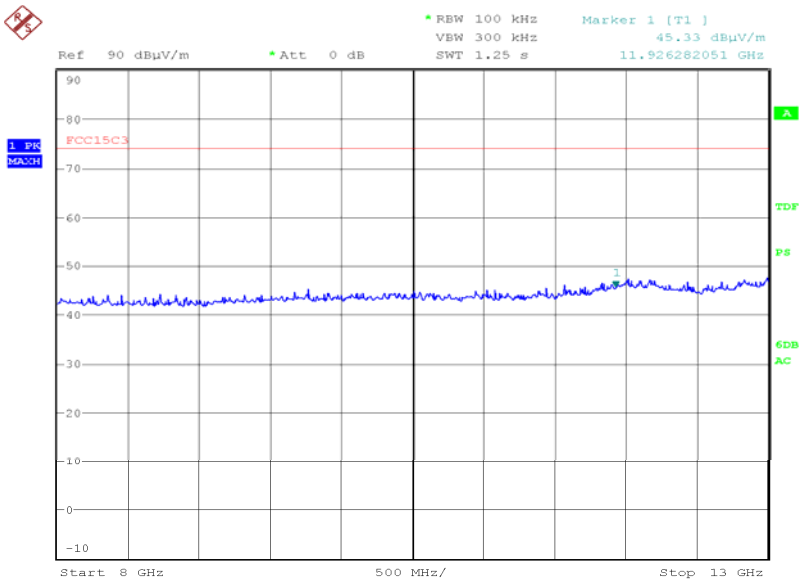
8GHz to 13GHz

Vertical Polarity



Date: 14.JUN.2008 01:18:12

Horizontal Polarity

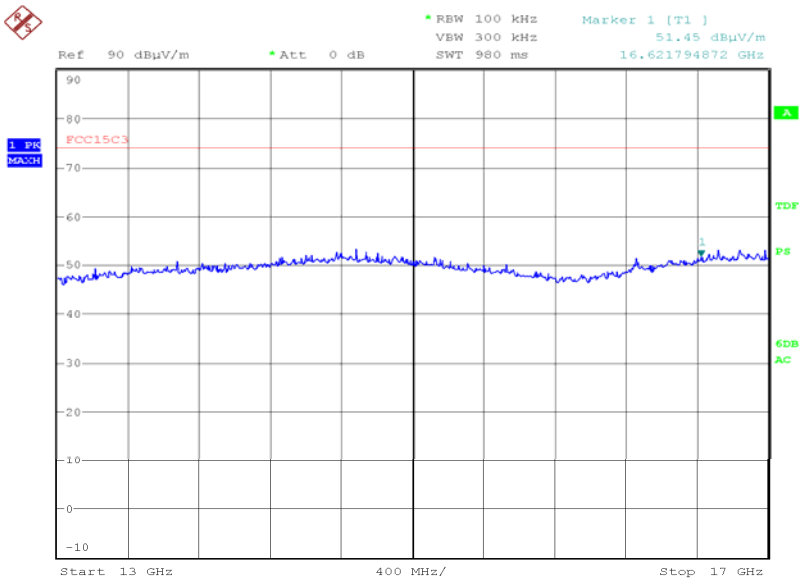


Date: 14.JUN.2008 01:04:04

Product Service

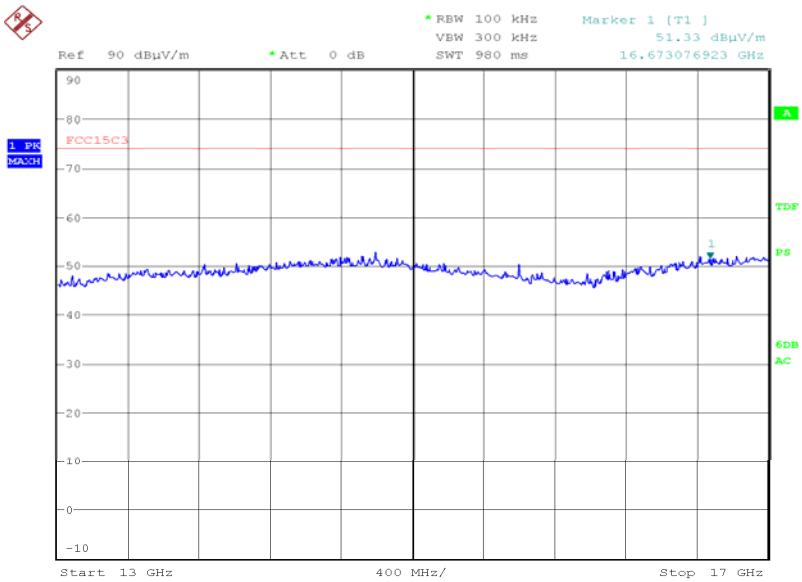
13GHz to 17GHz

Vertical Polarity



Date: 14.JUN.2008 01:15:15

Horizontal Polarity

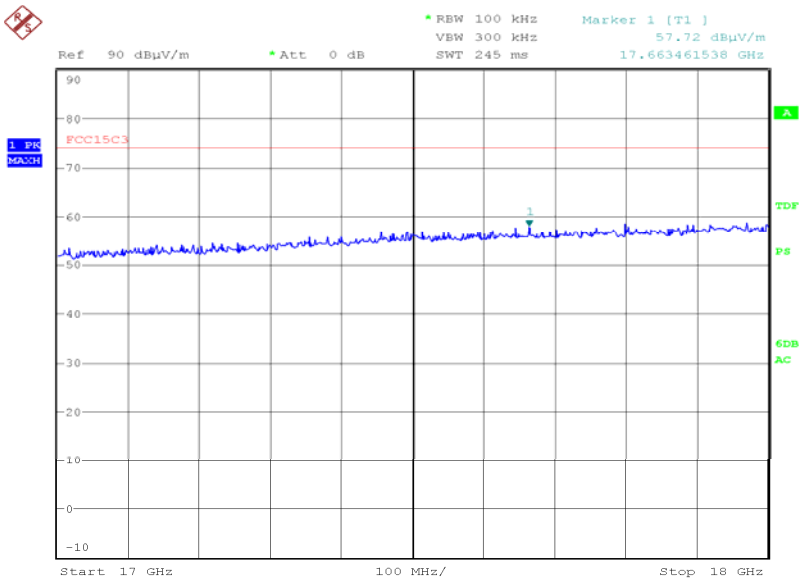


Date: 14.JUN.2008 01:06:36

Product Service

17GHz to 18GHz

Vertical Polarity



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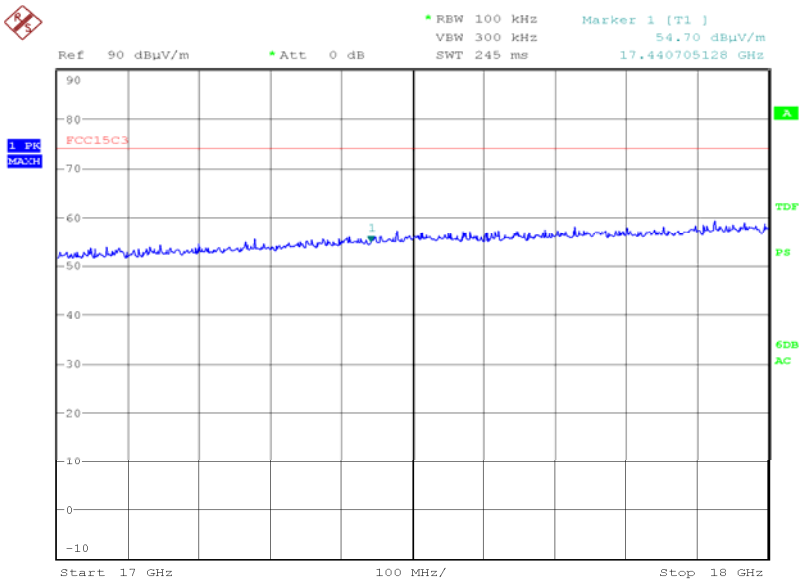
Horizontal Polarity

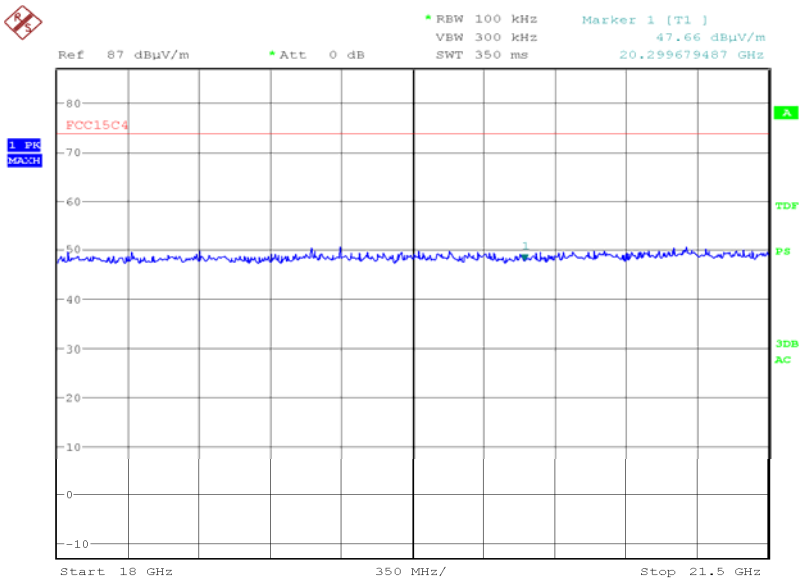


Date: 14.JUN.2008 01:09:27

Product Service

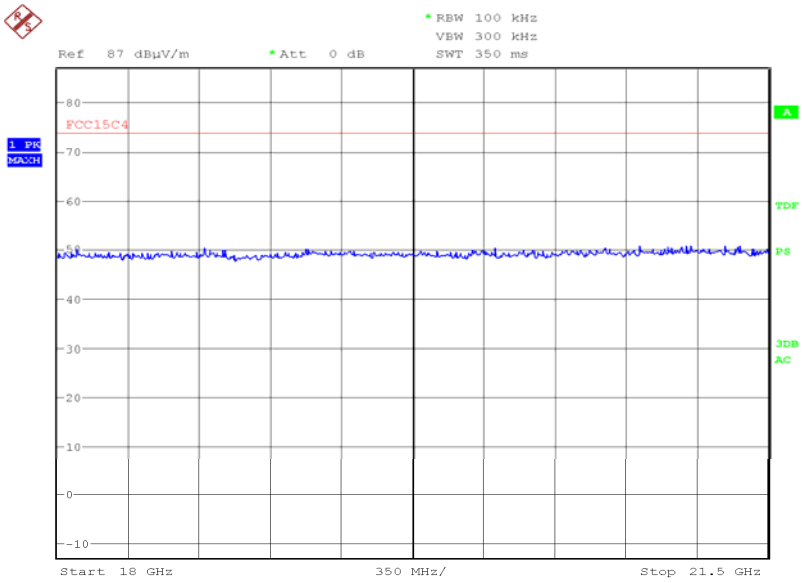
18GHz to 21.5GHz

Vertical Polarity



Date: 14.JUN.2008 03:42:59

Horizontal Polarity

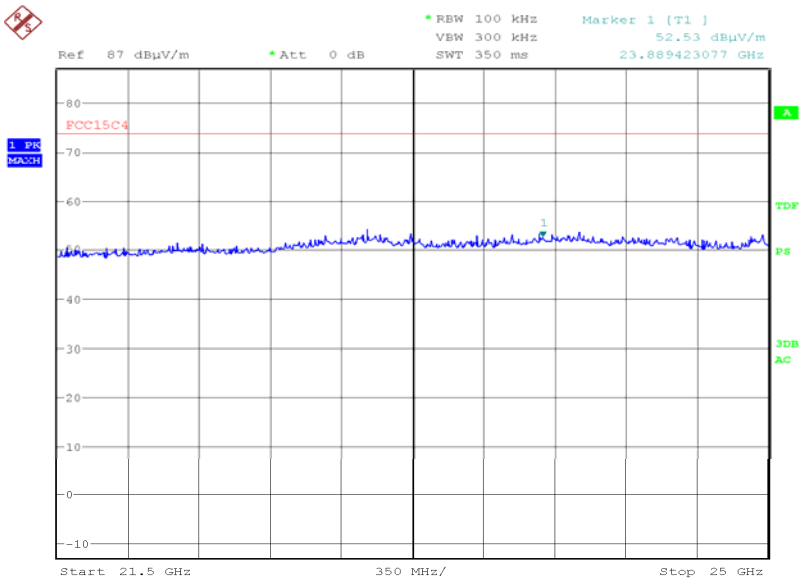


Date: 14.JUN.2008 03:34:39

Product Service

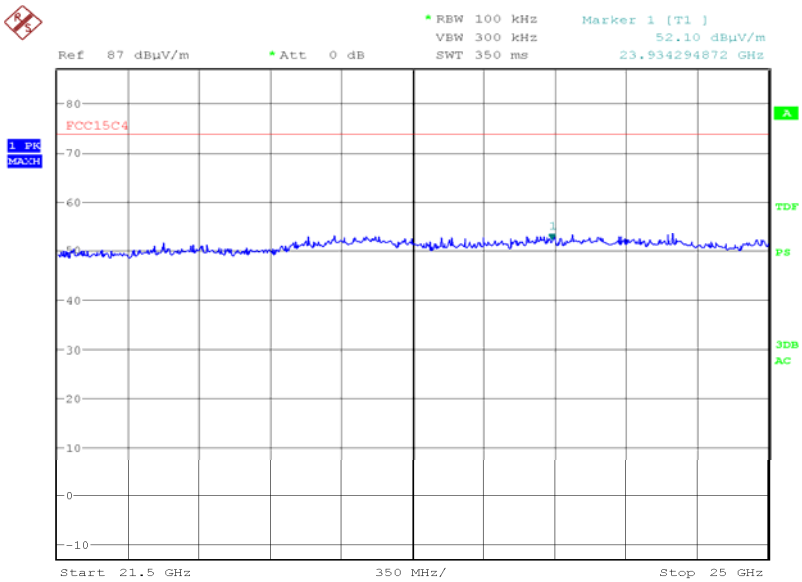
21.5GHz to 25GHz

Vertical Polarity



Date: 14.JUN.2008 03:40:49

Horizontal Polarity

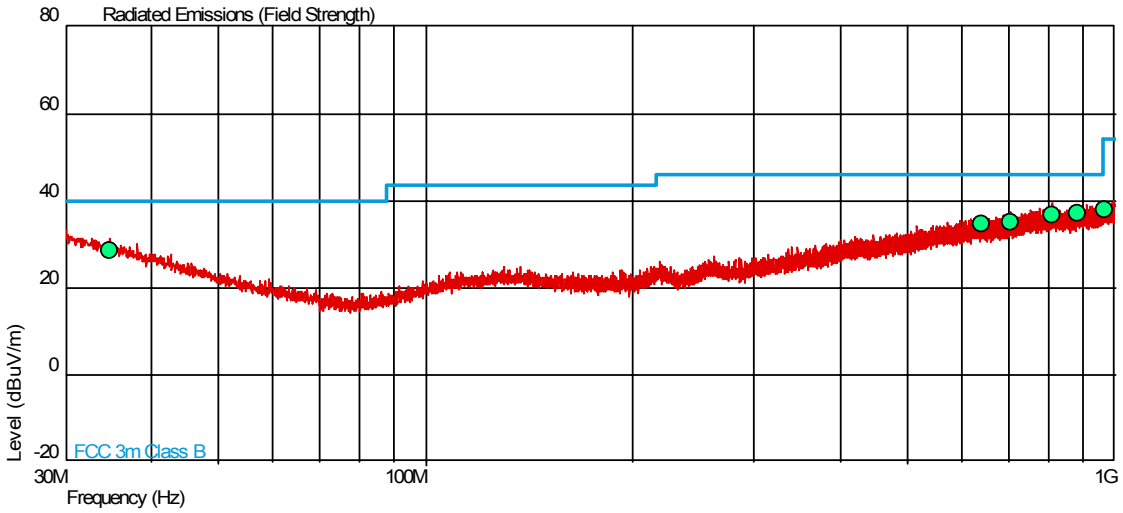


Date: 14.JUN.2008 03:37:39

Product Service

Configuration 1 - Mode 3

30Mhz to 1GHz (Combined Polarity)



Frequency (MHz)	QP Level		QP Limit		QP Margin		Angle (Deg)	Height(m)	Polarity
	(dBuV/m)	(uV/m)	(dBuV/m)	(uV/m)	(dBuV/m)	(uV/m)			
34.708	28.7	27.2	40.0	100.0	-11.3	72.8	101	1.00	Vertical
642.621	34.5	53.1	46.0	200.0	-11.5	146.9	115	3.50	Vertical
708.184	34.9	55.6	46.0	200.0	-11.1	144.4	123	1.00	Vertical
813.003	36.7	68.4	46.0	200.0	-9.3	131.6	152	1.00	Vertical
885.295	37.2	72.4	46.0	200.0	-8.8	127.6	269	1.00	Vertical
965.684	37.8	75.0	54.0	500.0	-16.2	425.0	173	1.00	Horizontal

Product Service

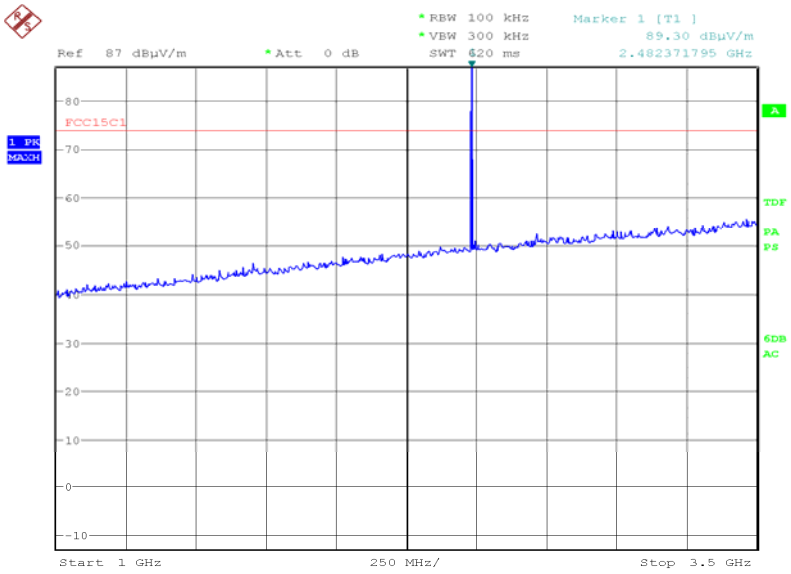
1GHz to 25GHz

No other emissions were detected above the receiver noise floor with the exception of the EUT transmit frequency

Configuration 1 - Mode 3

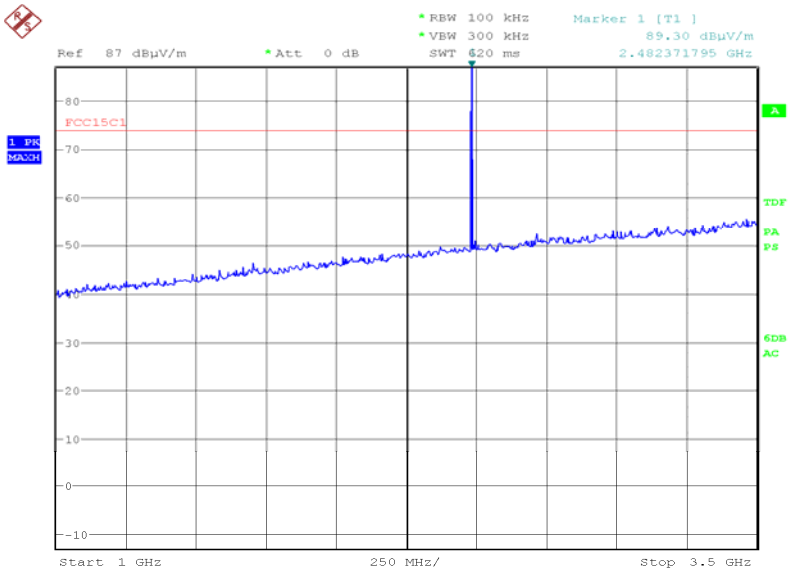
1GHz to 3.5GHz

Vertical Polarity



Date: 12.JUN.2008 02:53:44

Horizontal Polarity

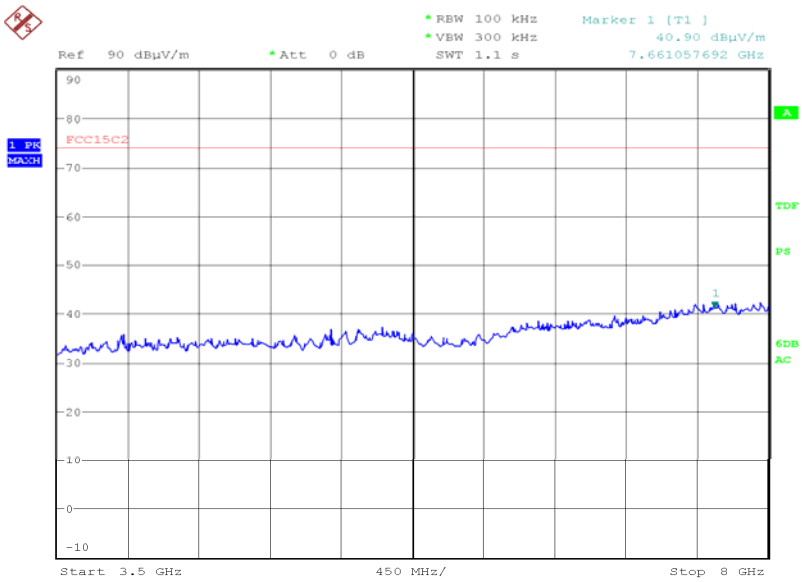


Date: 12.JUN.2008 02:53:44

Product Service

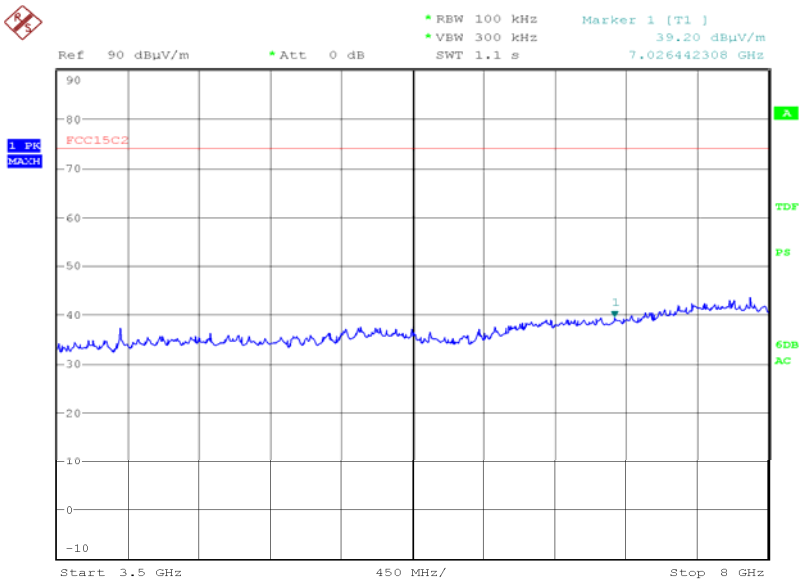
3.5GHz to 8GHz

Vertical Polarity



Date: 12.JUN.2008 04:38:19

Horizontal Polarity

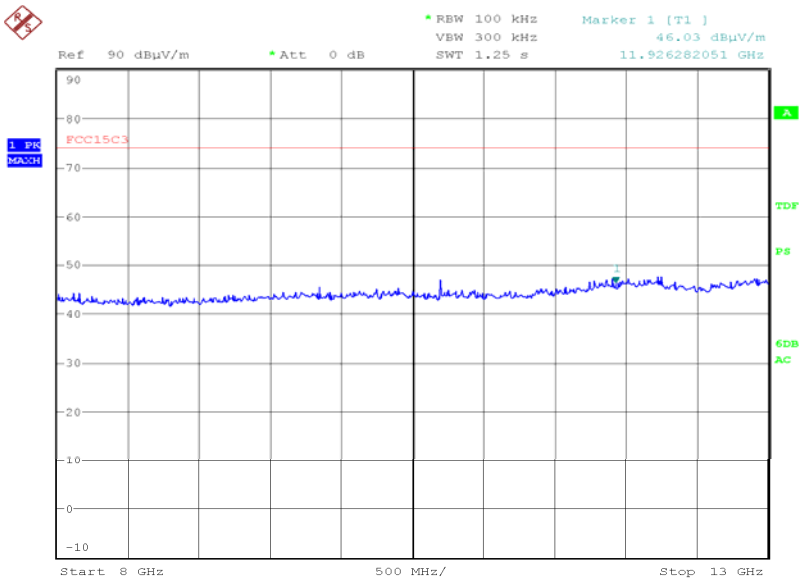


Date: 12.JUN.2008 05:03:58

Product Service

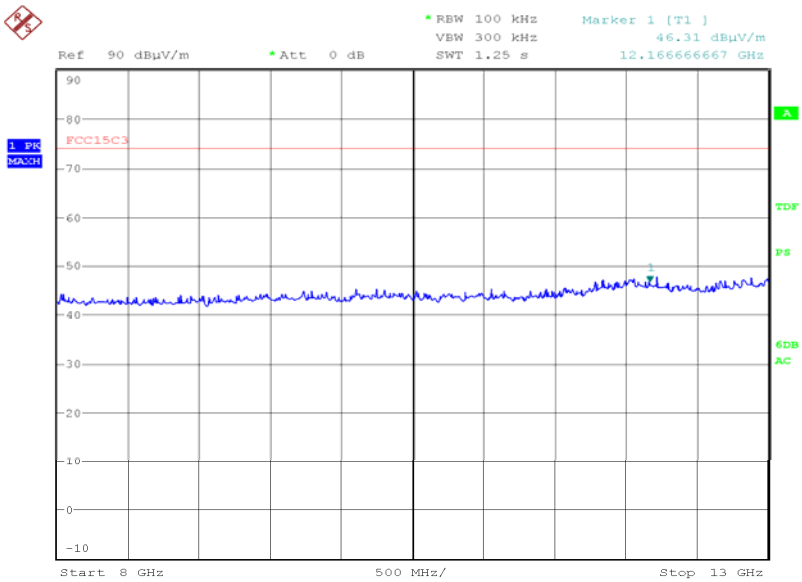
8GHz to 13GHz

Vertical Polarity



Date: 14.JUN.2008 01:41:44

Horizontal Polarity

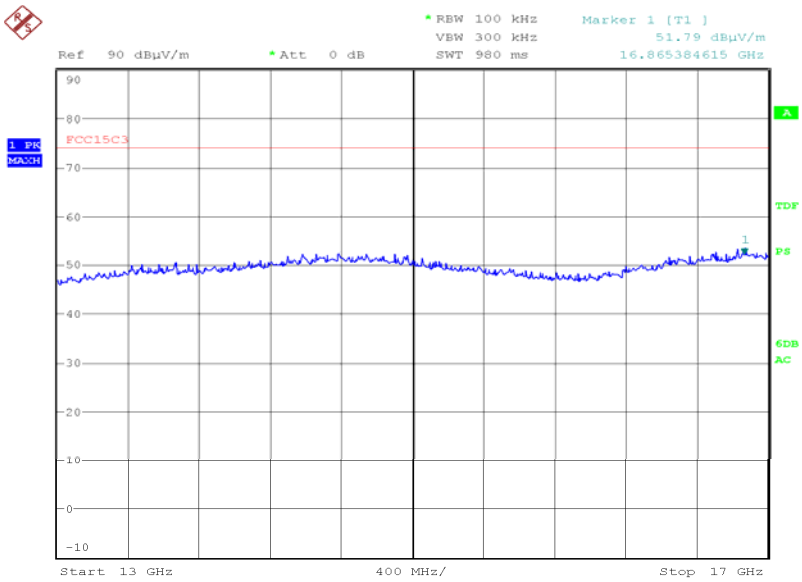


Date: 14.JUN.2008 01:55:54

Product Service

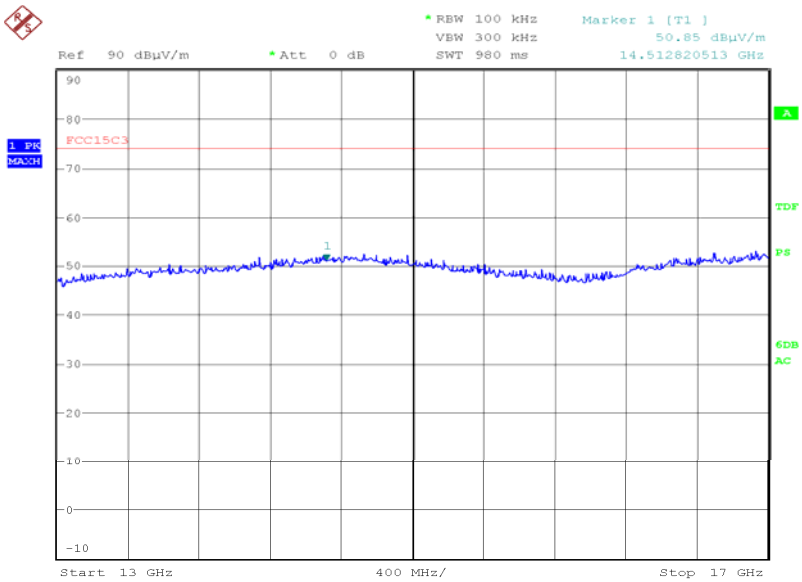
13GHz to 17GHz

Vertical Polarity



Date: 14.JUN.2008 01:44:11

Horizontal Polarity

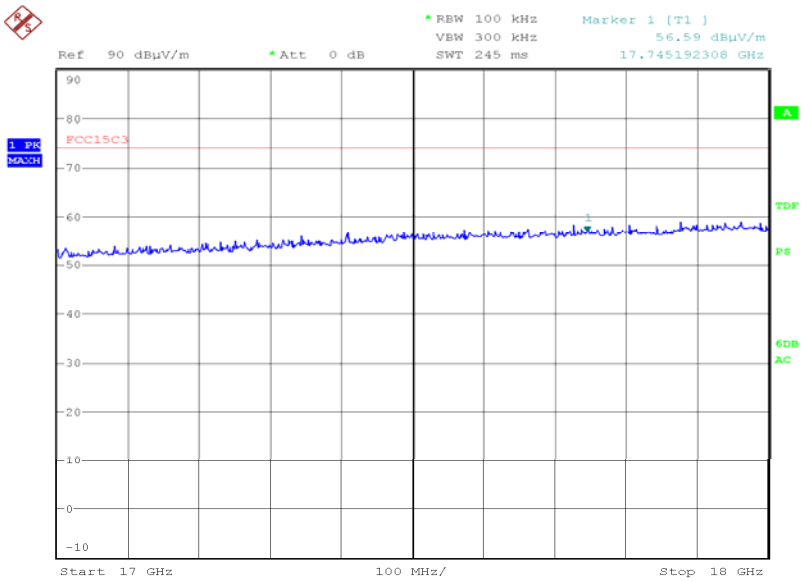


Date: 14.JUN.2008 01:53:24

Product Service

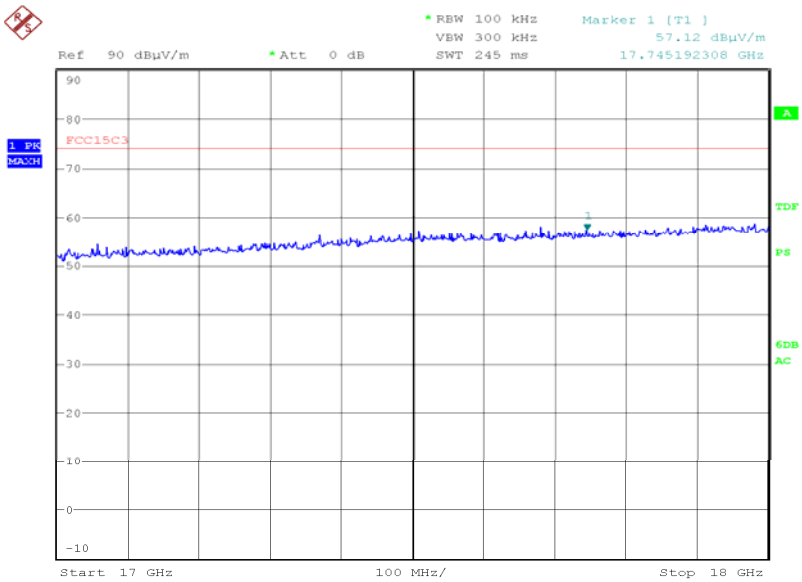
17GHz to 18GHz

Vertical Polarity



Date: 14.JUN.2008 01:47:29

Horizontal Polarity

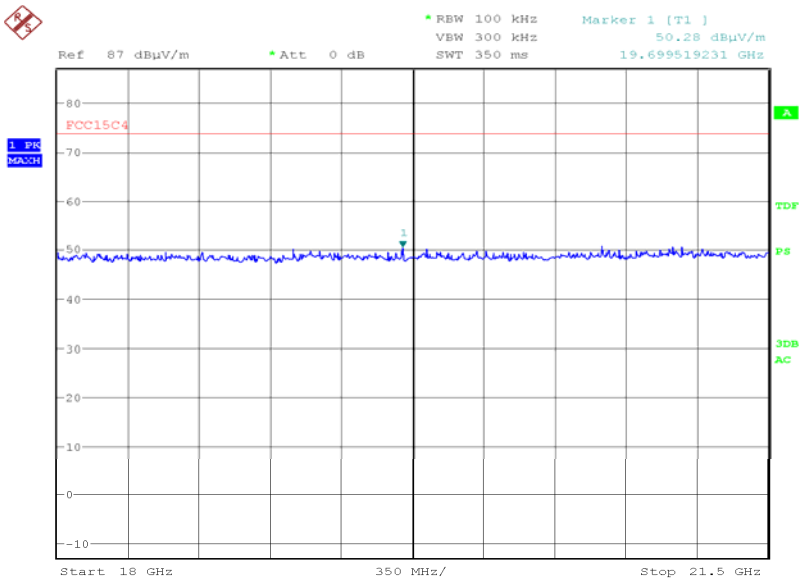


Date: 14.JUN.2008 01:50:24

Product Service

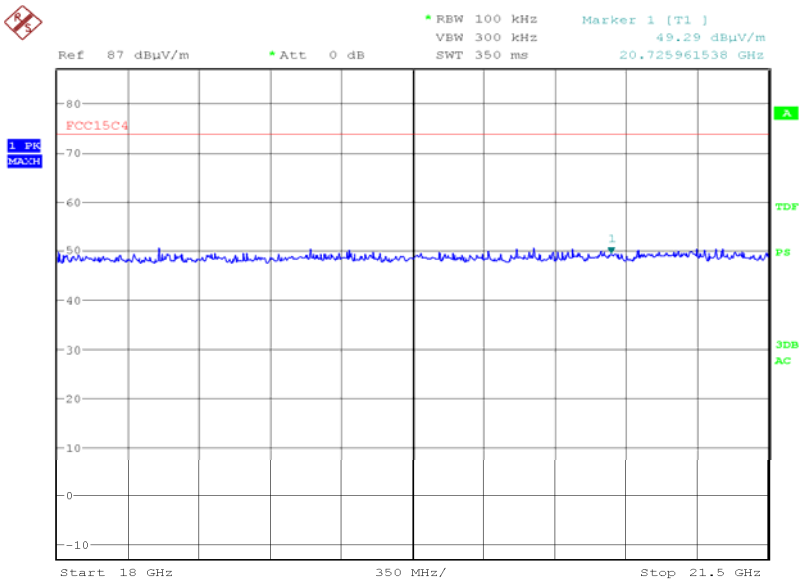
18GHz to 21.5GHz

Vertical Polarity



Date: 14.JUN.2008 04:04:30

Horizontal Polarity

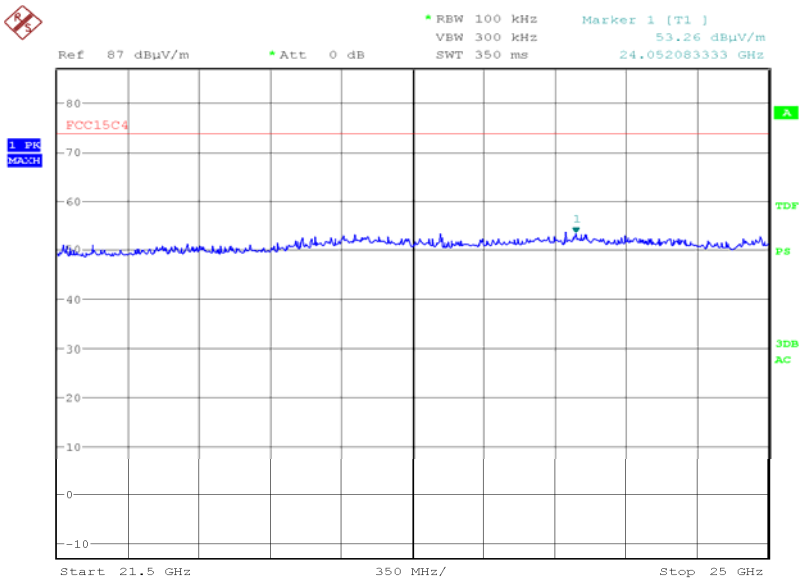


Date: 14.JUN.2008 04:15:31

Product Service

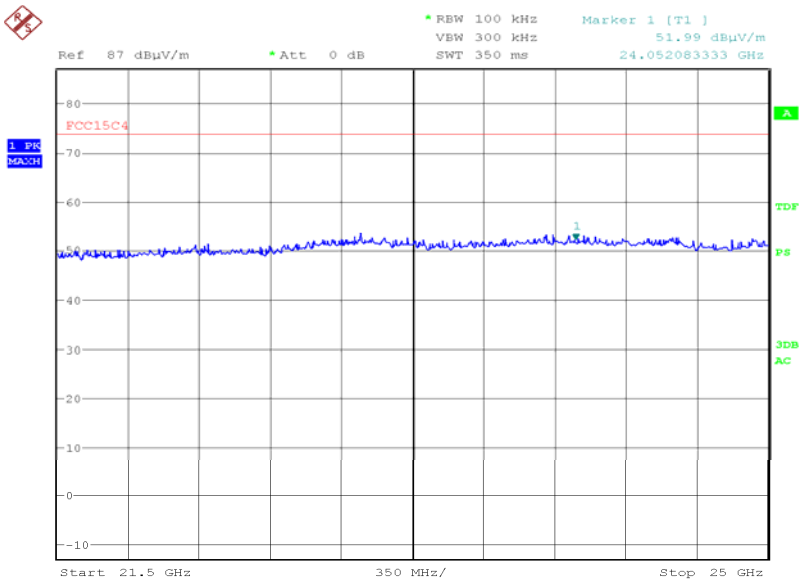
21.5GHz to 25GHz

Vertical Polarity



Date: 14.JUN.2008 04:07:25

Horizontal Polarity



Date: 14.JUN.2008 04:10:42

Product Service

2.3 MAXIMUM PEAK OUTPUT POWER (RADIATED)

2.3.1 Specification Reference

FCC CFR 47 Part 15C: 2006, Clause 15.209, 15.247(d), 15.205
Industry Canada Testing RSS-Gen: 2005, Clause 4.6 and RSS-210: 2007, Clause 4.6

2.3.2 Equipment Under Test

TH01M Mobile Handset, IMEI: 004401750000677

2.3.3 Date of Test

11 and 12 June 2008 - Modification State 0

2.3.4 Test Equipment Used

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

2.3.5 Test Method and Operating Modes

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 15: 2006 and Industry Canada.

The test was performed with the EUT in the following configurations and modes of operation:

Configuration 1 - Mode 1
- Mode 2
- Mode 3

2.3.6 Environmental Conditions

	11 June 2008
Ambient Temperature	19°C
Relative Humidity	46%

2.3.7 Test Procedure

Test Performed in accordance with 15.247.

Product Service

2.3.8 Test Results

For the period of test the EUT met the requirements of FCC CFR 47 Part 15C: 2006 and Industry Canada RSS-Gen: 2005 and RSS-210: 2007 for Maximum Peak Output Power.

The test results are shown below.

Frequency (MHz)	EIRP Result (dBm)	Limit (dBm)	EIRP Result (mW)	Limit (mW)
2402	0.3	36.0	1.07	4000
2441	0.6	36.0	1.15	4000
2.480	-0.4	36.0	0.91	4000

Limit	<4W or <+36dBm

Product Service

2.4 20DB BANDWIDTH

2.4.1 Specification Reference

FCC CFR 47 Part 15C: 2006, Clause 15.247 (a)(1)
Industry Canada RSS-Gen: 2005, Clause 4.4.2 and RSS-210, Clause A8.2(1)

2.4.2 Equipment Under Test

TH01M Mobile Handset, IMEI 00441750001063

2.4.3 Date of Test

12 June 2008

2.4.4 Test Equipment Used

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

2.4.5 Test Method and Operating Modes

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 15: 2006 and Industry Canada.

The test was performed with the EUT in the following configurations and modes of operation:

Configuration 1 - Mode 1
- Mode 2
- Mode 3

2.4.6 Environmental Conditions

	12 June 2008
Ambient Temperature	20.8°C
Relative Humidity	44.6%

2.4.7 Test Results

For the period of test the EUT met the requirements of FCC CFR 47 Part 15C: 2006 and Industry Canada RSS-Gen: 2005 and RSS-210: 2007 for 20dB Bandwidth.

The test results are shown below.

Product Service

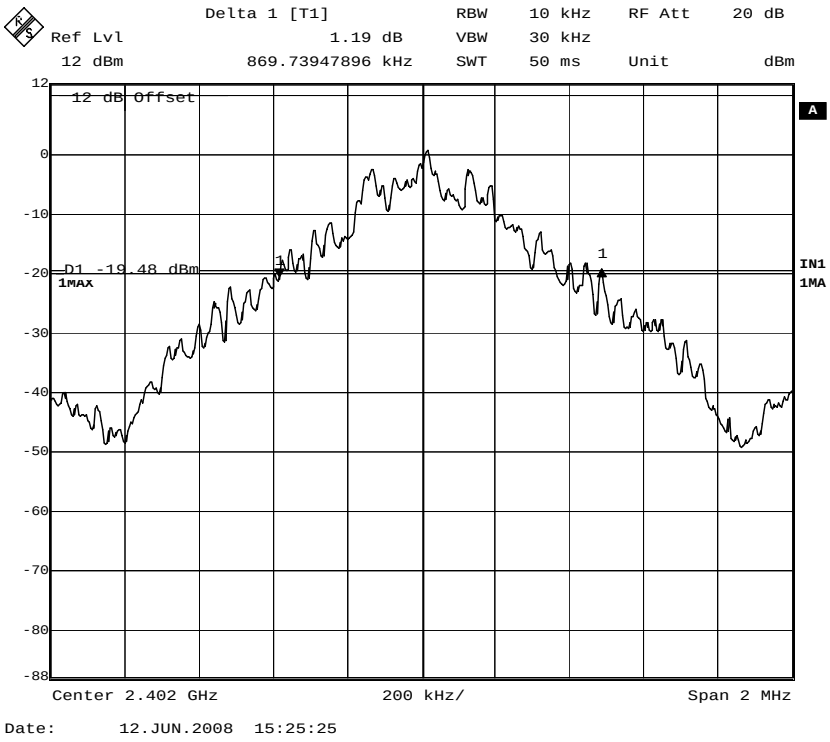
Configuration 1 - Modes 1, 2 & 3

Frequency (MHz)	Data Rate (Mbps)	20dB Bandwidth (kHz)
2402	DH1	869.73
2441	DH1	869.73
2480	DH1	869.73

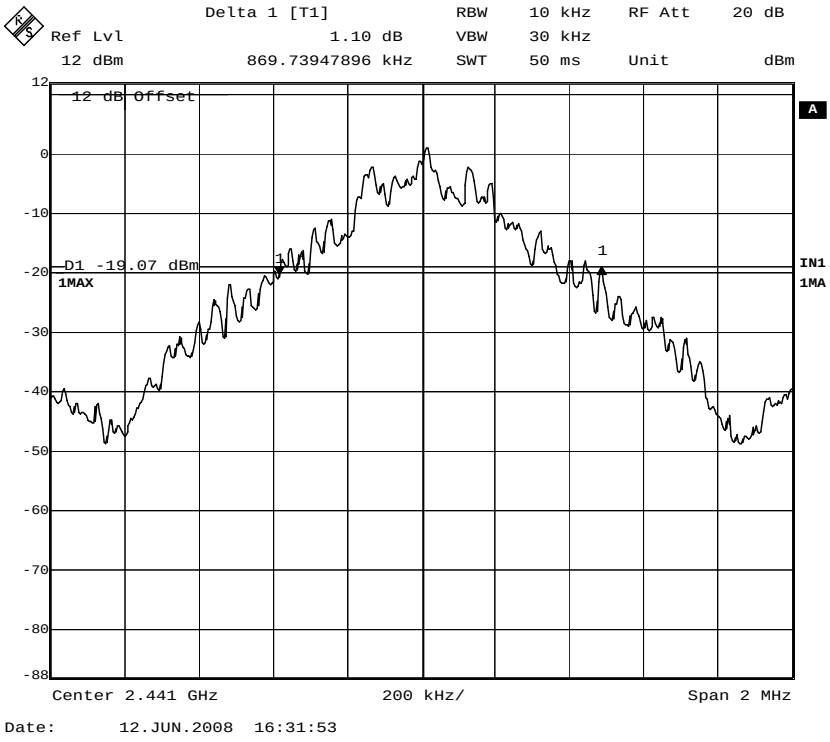
Frequency (MHz)	Data Rate (Mbps)	20dB Bandwidth (kHz)
2402	DH3	921.84
2441	DH3	921.84
2480	DH3	921.84

Frequency (MHz)	Data Rate (Mbps)	20dB Bandwidth (kHz)
2402	DH5	921.84
2441	DH5	921.84
2480	DH5	921.84

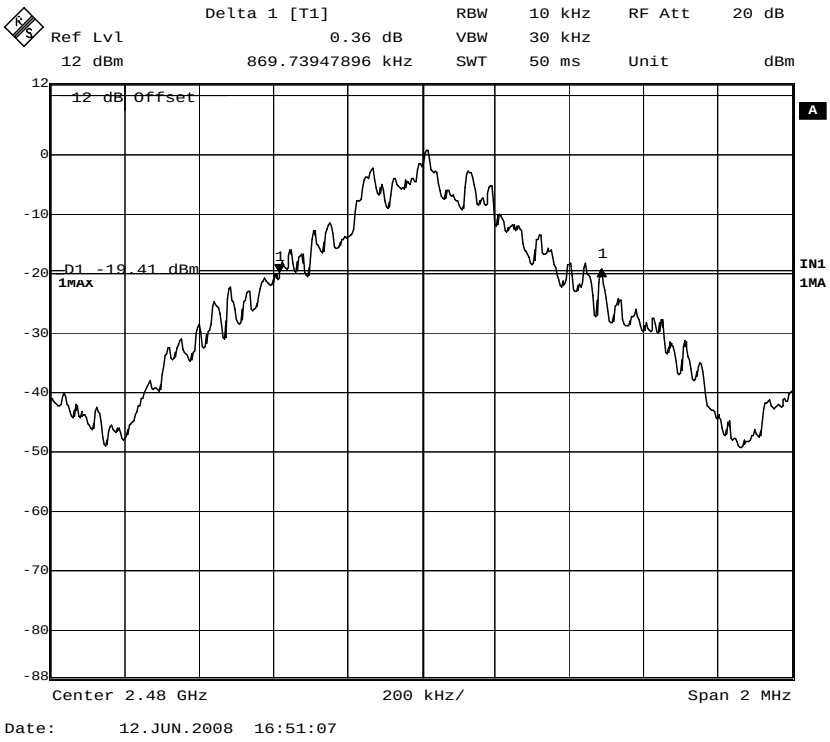
Configuration 1 – Mode 1 – Maximum Power DH1



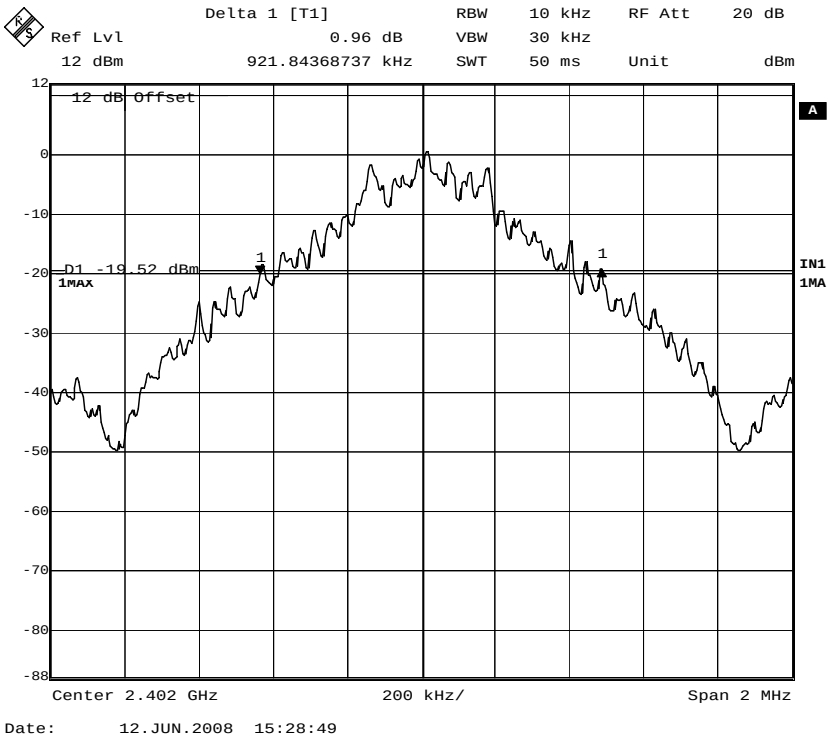
Configuration 1 – Mode 2 – Maximum Power DH1



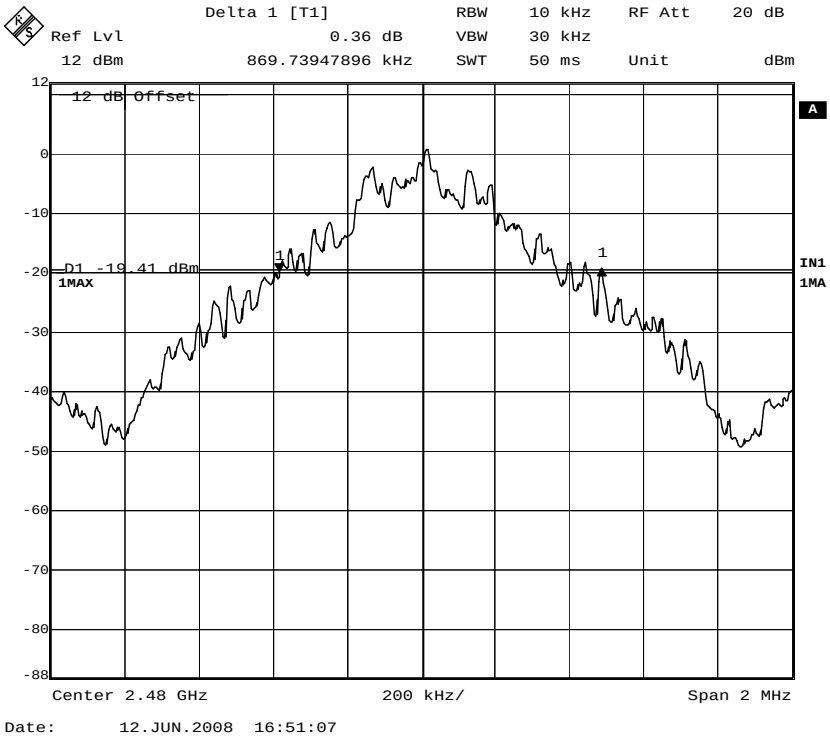
Configuration 1 – Mode 3 – Maximum Power DH1



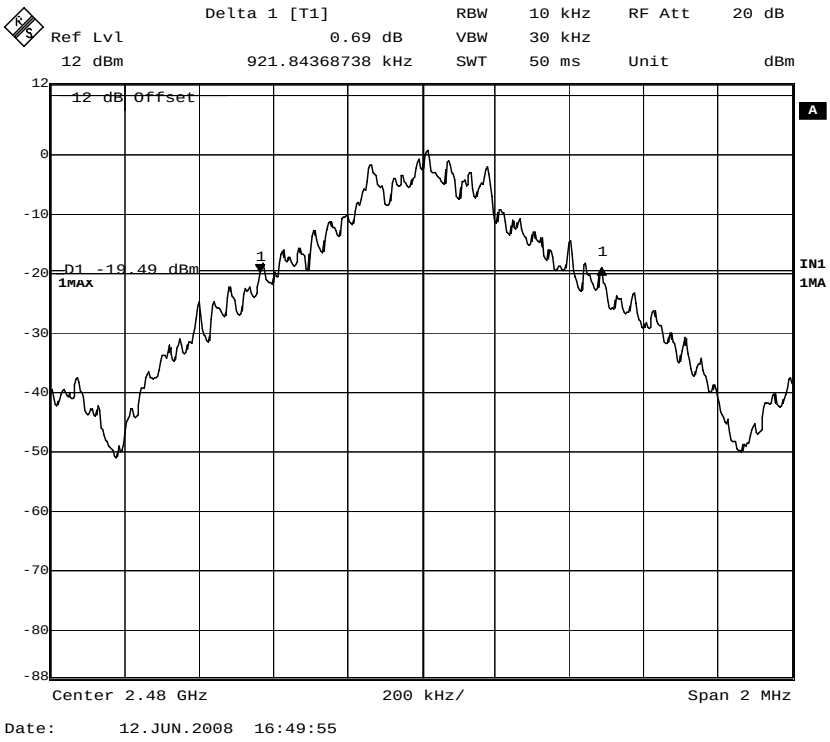
Configuration 1 – Mode 1 – Maximum Power DH3



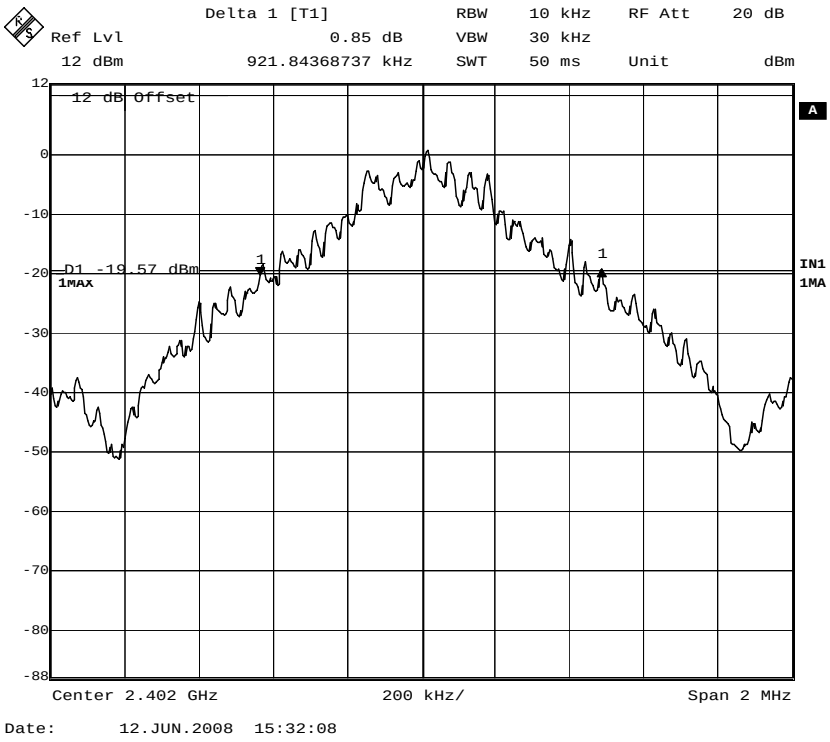
Configuration 1 – Mode 2 – Maximum Power DH3



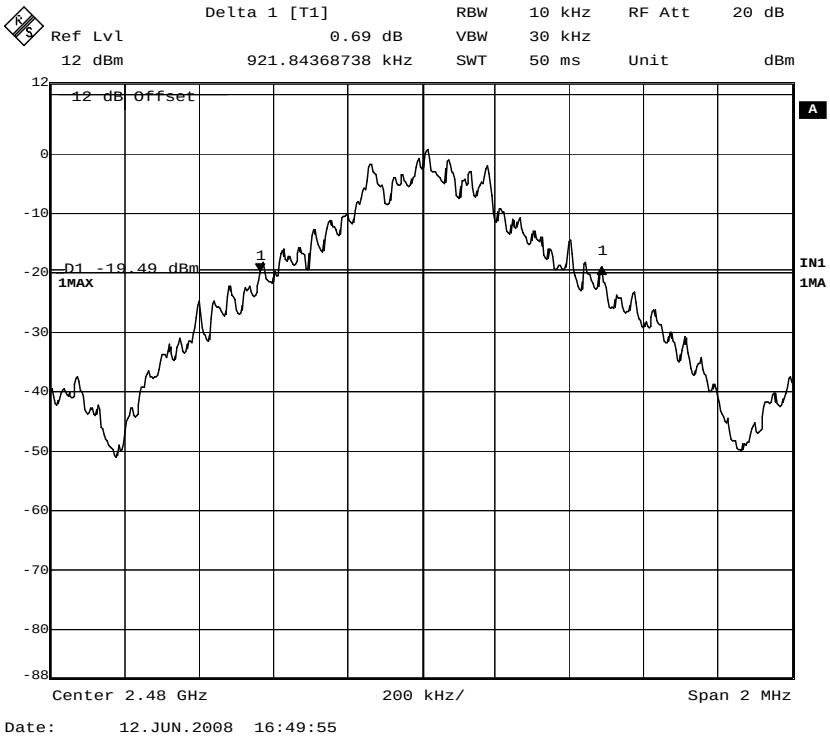
Configuration 1 – Mode 3 – Maximum Power DH3



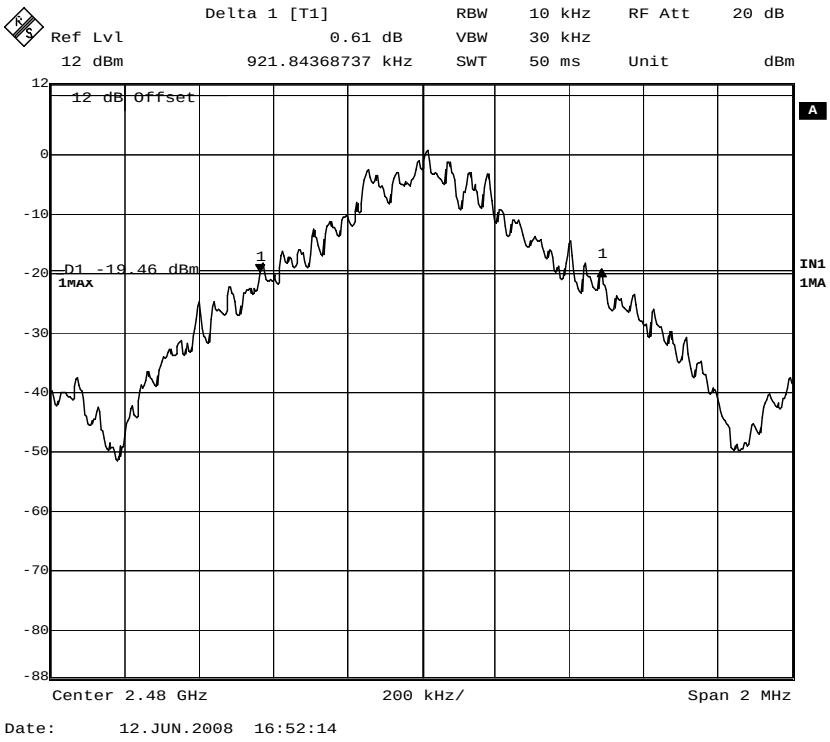
Configuration 1 – Mode 1 – Maximum Power DH5



Configuration 1 – Mode 2 – Maximum Power DH5



Configuration 1 – Mode 3 – Maximum Power DH5



Product Service

2.5 CHANNEL DWELL TIME (DH1)

2.5.1 Specification Reference

FCC CFR 47 Part 15C: 2006, Clause 15.247(a)(iii)
Industry Canada RSS-210: 2007, Clause A8.1

2.5.2 Equipment Under Test

TH01M Mobile Handset, IMEI 004401750001063

2.5.3 Date of Test

13 June 2008

2.5.4 Test Equipment Used

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

2.5.5 Test Method and Operating Modes

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 15: 2006 and Industry Canada.

The test was performed with the EUT in the following configurations and modes of operation:

Configuration 1 - Mode 2

2.5.6 Environmental Conditions

	18 February 2008
Ambient Temperature	23°C
Relative Humidity	22%

2.5.7 Test Procedure

Procedure: Test Performed in accordance with 15.247.

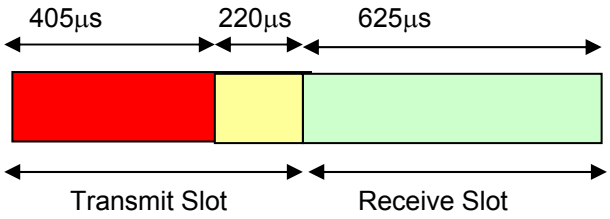
The Bluetooth system hops at a rate of 1600 times per second. Thus, this equates to 1600 timeslots in 1 second. The DH1 data rate operates on a Transmit on 1 timeslot and Receive on 1 timeslot basis. Thus, in 1 second, there are 800 Transmit timeslots and 800 Receive timeslots.

Thus:

$$1 \text{ Timeslot} = \frac{1}{1600} = 625\mu s$$

Product Service

In 1 transmit timeslot, the transmit on time is only 405µs. 220µs is reserved as off time for the synthesizer to re-tune ready for the next transmit frequency. The following timeslot is a receive slot. This process continues assuming the data rate remains the same.



DH1 Timeslot Arrangement Showing One Complete Transmit and Receive Cycle

So, with 800 Tx and 800 Rx timelsots, the transmitter is on for 800 x 405µs = 0.324 seconds.

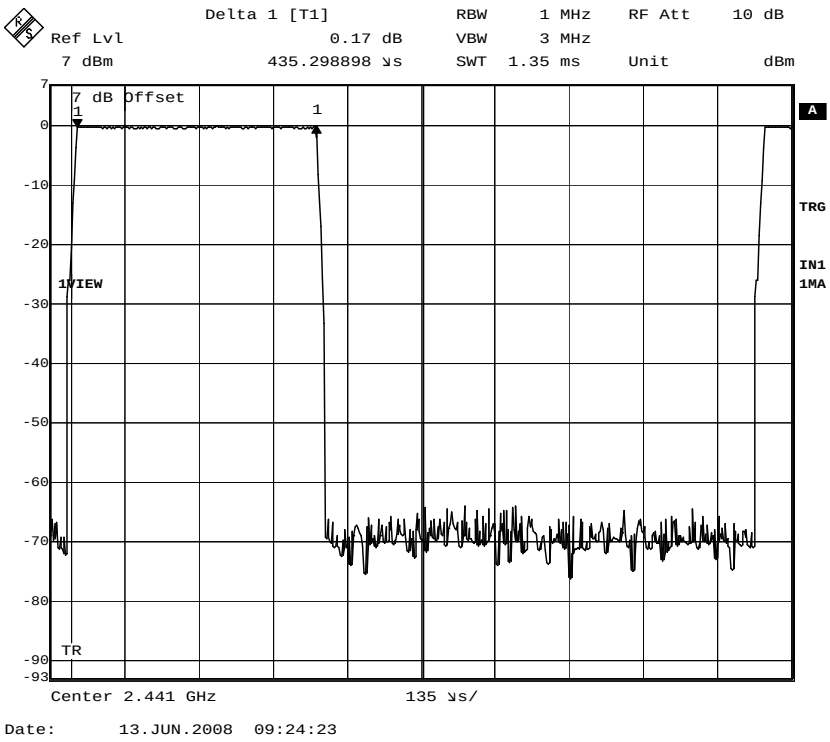
$$\therefore \quad \frac{\text{Total Tx Time On}}{\text{No of Channels}} = \frac{0.324}{79} = 4.10\text{ms}$$

So, in 31.6 seconds, the transmitter dwell time per channel is:

31.6 x 4.10ms = 0.1296 seconds

2.5.8 Test Results

For the period of test the EUT met the requirements of FCC CFR 47 Part 15C: 2006 and Industry Canada RSS-210: 2007 Channel Dwell Time (DH1).



Product Service

2.6 CHANNEL DWELL TIME (DH3)

2.6.1 Specification Reference

FCC CFR 47 Part 15C: 2006, Clause 15.247(a)(iii)
Industry Canada RSS-210: 2007, Clause A8.1

2.6.2 Equipment Under Test

TH01M Mobile Handset, IMEI 004401750001063

2.6.3 Date of Test

13 June 2008

2.6.4 Test Equipment Used

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

2.6.5 Test Method and Operating Modes

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 15: 2006 and Industry Canada.

The test was performed with the EUT in the following configurations and modes of operation:

Configuration 1 - Mode 2

2.6.6 Environmental Conditions

	18 February 2008
Ambient Temperature	23°C
Relative Humidity	22%

2.6.7 Test Procedure

Test Performed in accordance with 15.247.

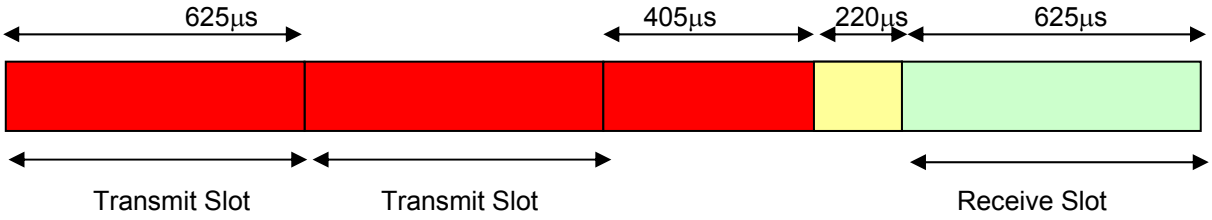
The Bluetooth system hops at a rate of 1600 times per second. Thus, this equates to 1600 timeslots in 1 second. With data rate DH3, the data payload is higher and can use up to 3 timeslots. When more than one timeslot is used, the frequency does not hop and transmission is continuous on all 3 slots, (ie. no receive slot in-between the 3 transmit slots). The 220μs off time for synthesizer re-tuning at the end of a slot is only used on the final slot. Thus, for one cycle, there are 3 transmit timeslots. 2 are 625μs long and the final slot is transmitting for 405μs.

The DH3 data rate operates on a Transmit on 3 timeslots and Receives on 1 timeslot basis, (assuming maximum data payload). The frequency-hopping rate is the same. Thus, in 1 second, there are 1200 Transmit timeslots and 400 Receive timeslots.

Thus:

$$1\ \text{Timeslot} = \frac{1}{1600} = 625\mu s$$

The first 2 Transmit timeslots are transmitting for the complete 625µs. In the third transmit slot, the transmit on time is only 405µs. 220µs is reserved as off time for the synthesizer to re-tune ready for the next transmit frequency. The following timeslot is a receive slot. This process continues assuming the data rate remains the same.



DH3 Timeslot Arrangement Showing One Complete Transmit and Receive Cycle, (Maximum Payload)

Thus, the transmitter for one complete transmit and receive cycle would be on for:

Tx (2 x 625µs) + (1 x 405µs) = 1.655ms

So:

800 x 625µs = 0.5 seconds
400 x 405µs = 0.162 seconds

Thus: 0.5 + 0.162 = 0.662 seconds

$$\therefore \frac{\text{Total Tx Time On}}{\text{No Of Channels}} = \frac{0.662}{79} = 8.379\text{ms}$$

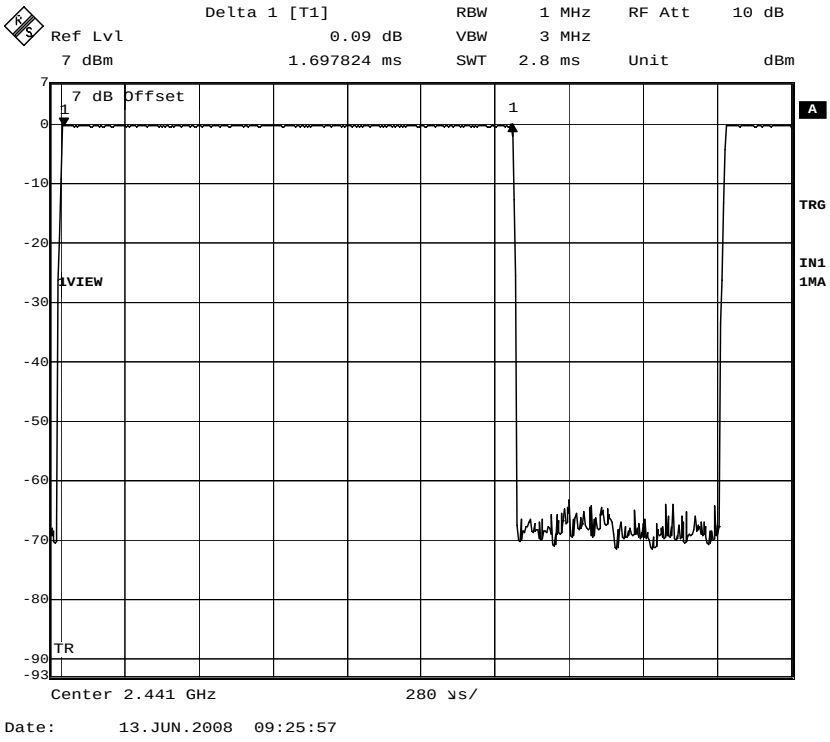
So, in 31.6 seconds, the transmitter dwell time per channel is:

31.6 x 8.379ms = 0.2648 seconds

Product Service

2.6.8 Test Results

For the period of test the EUT met the requirements of FCC CFR 47 Part 15C: 2006 and Industry Canada RSS-210: 2007 Channel Dwell Time (DH3).



Product Service

2.7 CHANNEL DWELL TIME (DH5)

2.7.1 Specification Reference

FCC CFR 47 Part 15C: 2006, Clause 15.247(a)(iii)
Industry Canada RSS-210: 2007, Clause A8.1

2.7.2 Equipment Under Test

TH01M Mobile Handset, IMEI 004401750001063

2.7.3 Date of Test

13 June 2008

2.7.4 Test Equipment Used

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

2.7.5 Test Method and Operating Modes

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 15: 2006 and Industry Canada.

The test was performed with the EUT in the following configurations and modes of operation:

Configuration 1 - Mode 2

2.7.6 Environmental Conditions

	18 February 2008
Ambient Temperature	23°C
Relative Humidity	22%

2.7.7 Test Procedure

Test Performed in accordance with 15.247.

The Bluetooth system hops at a rate of 1600 times per second. Thus, this equates to 1600 timeslots in 1 second. With data rate DH5, the data payload is higher and can use up to 5 timeslots. When more than one timeslot is used, the frequency does not hop and transmission is continuous on all 5 slots, (ie. no receive slot in-between the 5 transmit slots). The 220μs off time for synthesizer re-tuning at the end of a slot is only used on the final slot. Thus, for one cycle, there are 5 transmit timeslots. 4 are 625μs long and the final slot is transmitting for 405μs.

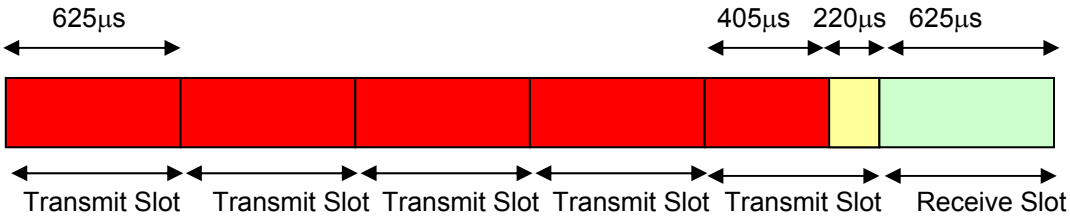
Product Service

The DH5 data rate operates on a Transmit on 5 timeslots and Receives on 1 timeslot basis, (assuming maximum data payload). The frequency-hopping rate is the same. Thus, in 1 second, there are 1333.3 Transmit timeslots and 266.7 Receive timeslots.

Thus:

$$1 \text{ Timeslot} = \frac{1}{1600} = 625\mu s$$

The first 4 Transmit timeslots are transmitting for the complete 625µs. In the fifth transmit slot, the transmit on time is only 405µs. 220µs is reserved as off time for the synthesizer to re-tune ready for the next transmit frequency. The following timeslot is a receive slot. This process continues assuming the data rate remains the same.



DH5 Timeslot Arrangement Showing One Complete Transmit and Receive Cycle, (Maximum Payload)

Thus, the transmitter for one complete transmit and receive cycle would be on for:

Tx (2 x 625µs) + (1 x 405µs) = 2.905ms

So:

1066.7 x 625µs = 0.666 seconds
266.7 x 405µs = 0.108 seconds

Thus: 0.666 + 0.108 = 0.774 seconds

$$\therefore \frac{\text{Total Tx Time On}}{\text{No Of Channels}} = \frac{0.774}{79} = 9.797\text{ms}$$

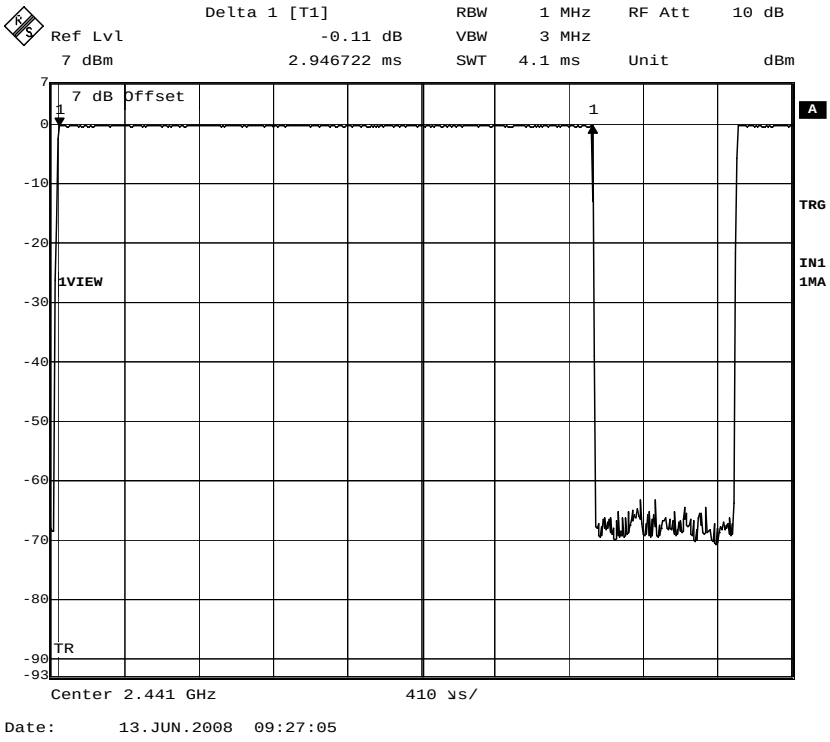
So, in 31.6 seconds, the transmitter dwell time per channel is:

31.6 x 9.797ms = 0.31 seconds

Product Service

2.7.8 Test Results

For the period of test the EUT met the requirements of FCC CFR 47 Part 15C: 2006 and Industry Canada RSS-210: 2007 Channel Dwell Time (DH5).



Product Service

2.8 CHANNEL SEPARATION

2.8.1 Specification Reference

FCC CFR 47 Part 15C: 2006, Clause 15.247(a)(1)
Industry Canada RSS-210: 2007, A8.1(b)

2.8.2 Equipment Under Test

TH01M Mobile Handset, IMEI 004401750001063

2.8.3 Date of Test

13 June 2008

2.8.4 Test Equipment Used

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

2.8.5 Test Method and Operating Modes

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 15: 2006 and Industry Canada.

The test was performed with the EUT in the following configurations and modes of operation:

Configuration 1 - Mode 4

2.8.6 Environmental Conditions

	13 June 2008
Ambient Temperature	23°C
Relative Humidity	22%

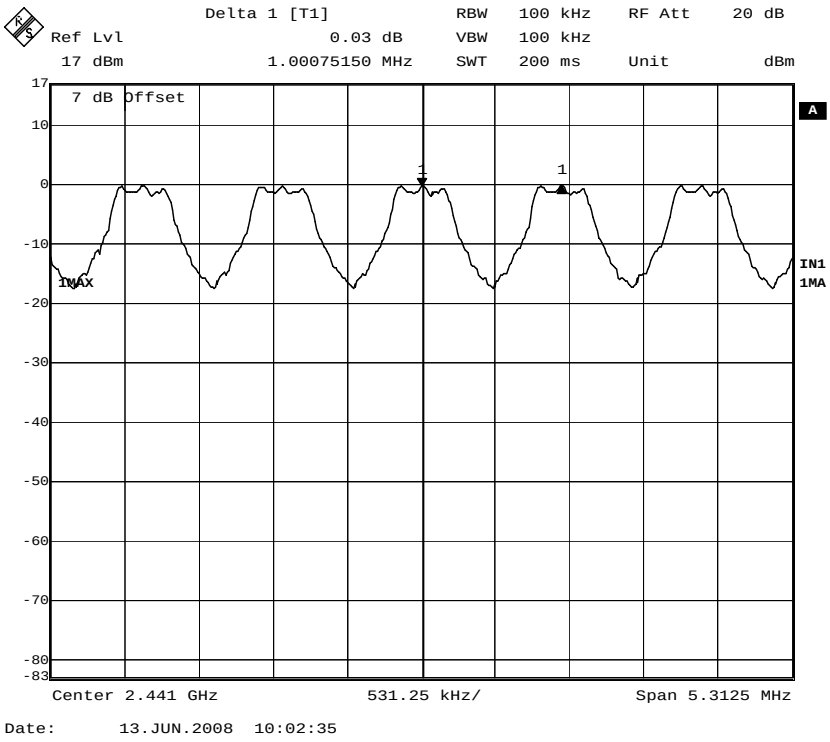
2.8.7 Test Procedure

The EUT was transmitted at maximum power into a Spectrum Analyser. The trace was set to Max Hold to store several adjacent channels on screen. Using the marker delta function, the markers were positioned to show the separation between adjacent channels.

2.8.8 Test Results

For the period of test the EUT met the requirements of FCC CFR 47 Part 15C: 2006 and Industry Canada RSS-210: 2007, Clause A8.1(b) for Channel Separation.

The test results are shown below.



The system channel separation is specified as being 1MHz. The measured channel separation from the plot above is: 1000kHz.

Limit	>25kHz

Product Service

2.9 NUMBER OF HOPPING CHANNELS

2.9.1 Specification Reference

FCC CFR 47 Part 15C: 2006, Clause 15.247(a)(1)
Industry Canada RSS-210: 2007, Clause A8.1(b)

2.9.2 Equipment Under Test

TH01M Mobile Handset, IMEI 004401750001063

2.9.3 Date of Test

13 June 2008

2.9.4 Test Equipment Used

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

2.9.5 Test Method and Operating Modes

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 15: 2006 and Industry Canada.

The test was performed with the EUT in the following configurations and modes of operation:

Configuration 1 - Mode 4

2.9.6 Environmental Conditions

	13 June 2008
Ambient Temperature	23°C
Relative Humidity	22%

2.9.7 Test Procedure

Test Performed in accordance with 15.247.

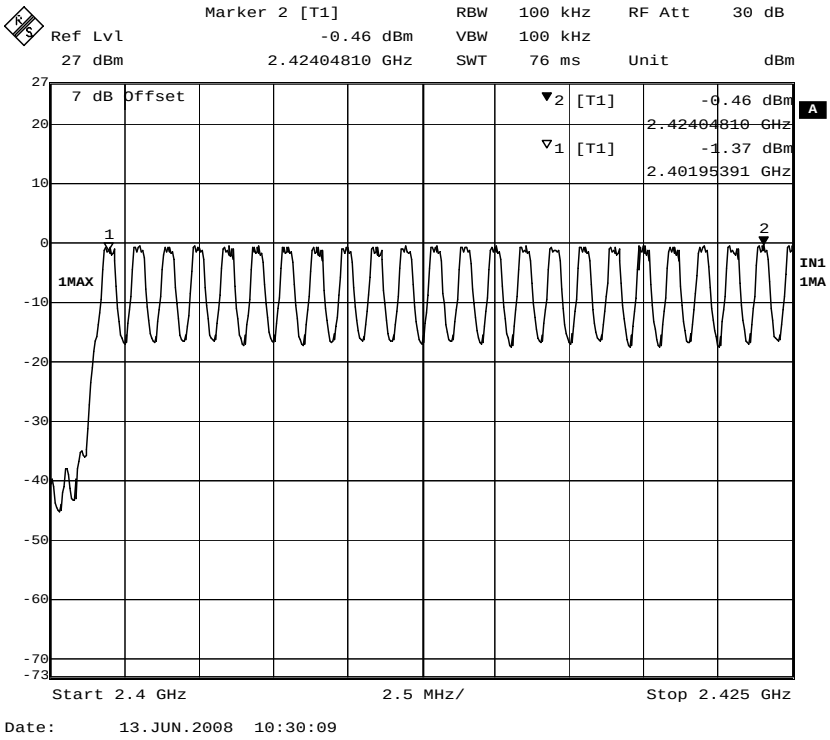
The EUT was connected to a Spectrum Analyser via a cable. The EUT was set to transmit on maximum power and hopping on all channels. The span was adjusted to show the individual channels. To reasonably display the number of channels, the occupied band was split into four traces. The display trace was set to Max Hold and the plots recorded.

Product Service

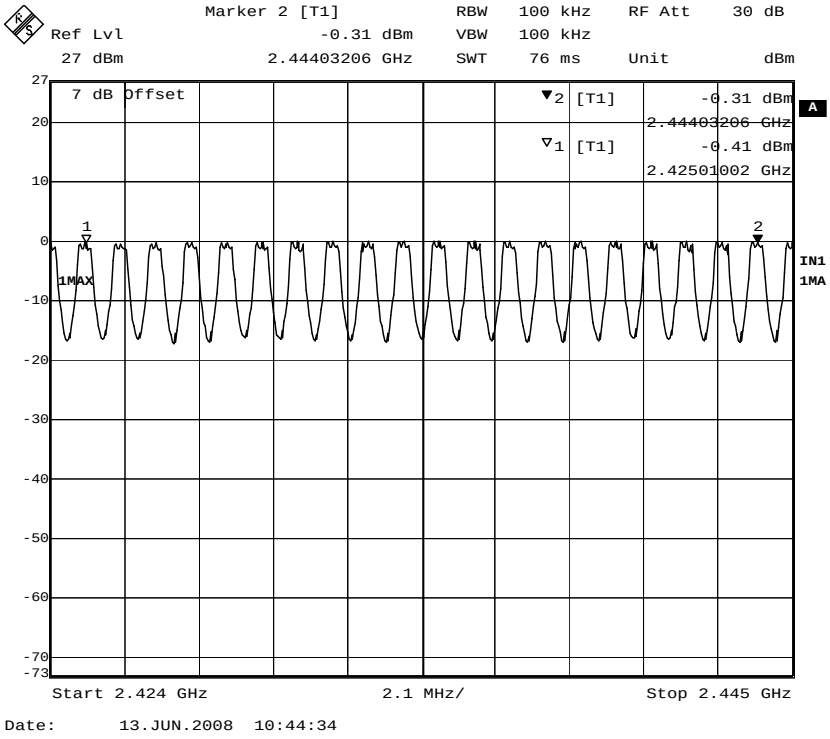
2.9.8 Test Results

For the period of test the EUT met the requirements of FCC CFR 47 Part 15C: 2006 and Industry Canada RSS-210: 2007 for Number of Hopping Channels.

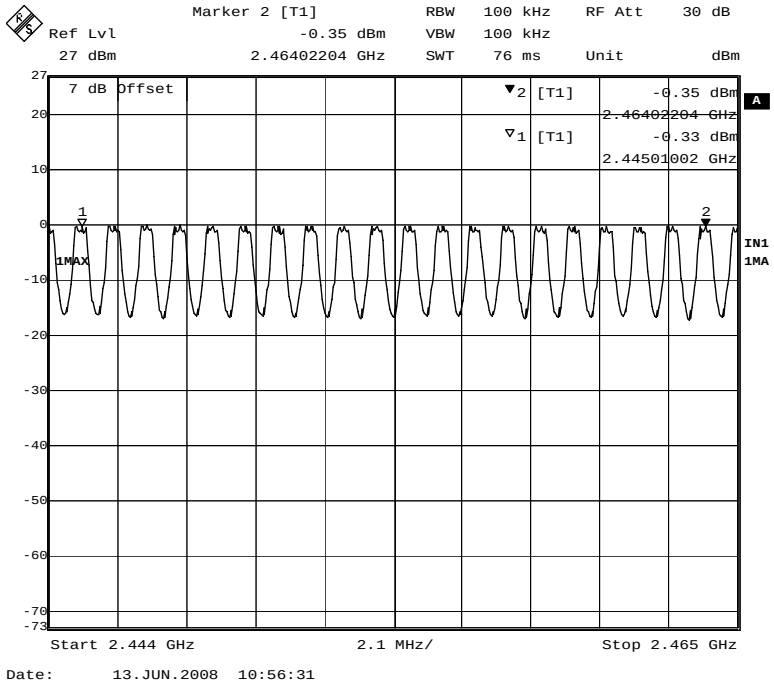
The test results are shown below.



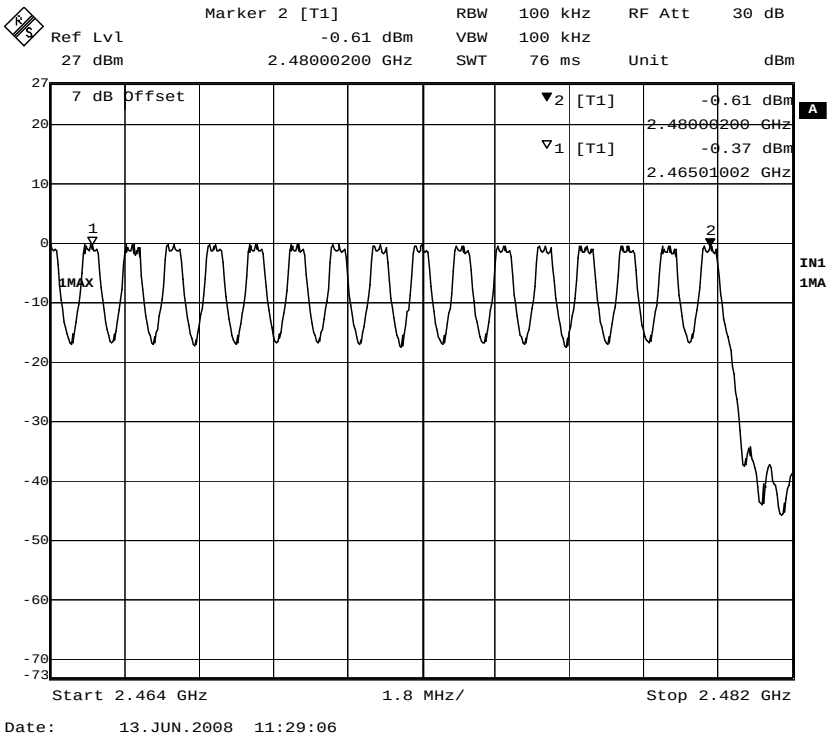
Trace Showing Channels 1 - 23



Trace Showing Channels 24 - 43



Trace Showing Channels 44 - 63



Trace Showing Channels 64 - 79

Limit	≥75 channels

Product Service

2.10 SPURIOUS CONDUCTED EMISSIONS

2.10.1 Specification Reference

FCC CFR 47 Part 15C: 2006, Clause 15.247(c)
Industry Canada RSS-210: 2007, Clause A8.5 and 2.7, Table 2 and
RSS-Gen: 2005, Clause 4.7

2.10.2 Equipment Under Test

TH01M Mobile Handset, IMEI 004401750001063

2.10.3 Date of Test

12 June 2008

2.10.4 Test Equipment Used

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

2.10.5 Test Method and Operating Modes

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 15: 2006 and Industry Canada.

The test was performed with the EUT in the following configurations and modes of operation:

Configuration 1 - Mode 4

2.10.6 Environmental Conditions

	12 June 2008
Ambient Temperature	18.3°C
Relative Humidity	51.5%

2.10.7 Test Procedure

In accordance with Part 15.247(c), the Spurious Conducted Emissions from the antenna terminal were measured. The transmitter output power was attenuated using an RF splitter, the frequency spectrum investigated from 9kHz to 25 GHz. The EUT was set to transmit on full power and frequency hopping on all channels. The resolution and video bandwidths were set to 100kHz in accordance with Part 15.247. The spectrum analyser detector was set to Max Hold.

With the EUT transmitting at maximum power, the Spectrum Analyser was set to Max Hold and the fundamental peak measured in a RBW and VBW of 100kHz. This level was used to determine the limit line as displayed on the plots of -20dBc.

The maximum path loss across each measurement band was used as the reference level offset to ensure worst case results.

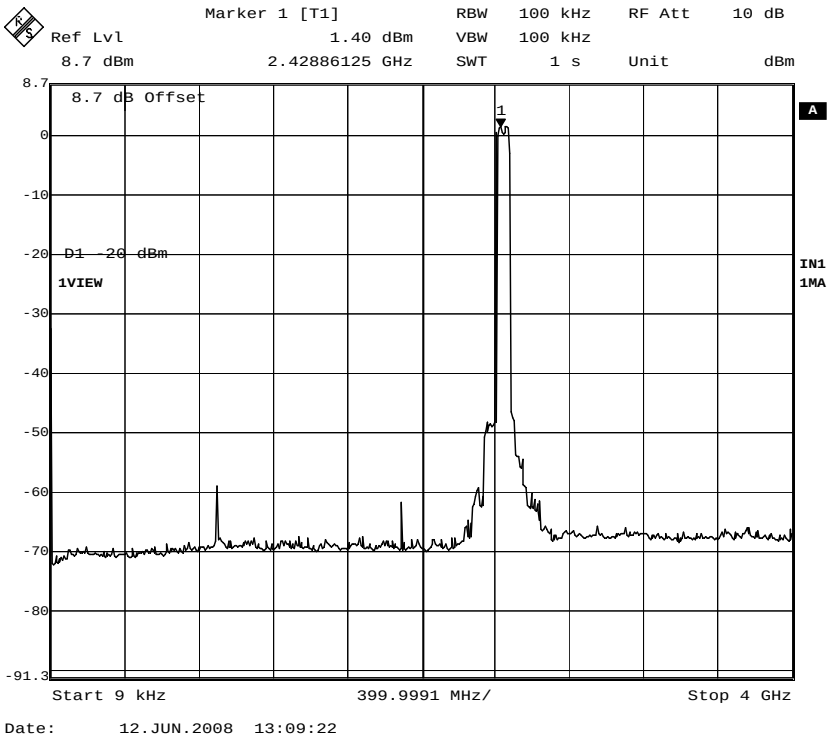
Product Service

2.10.8 Test Results

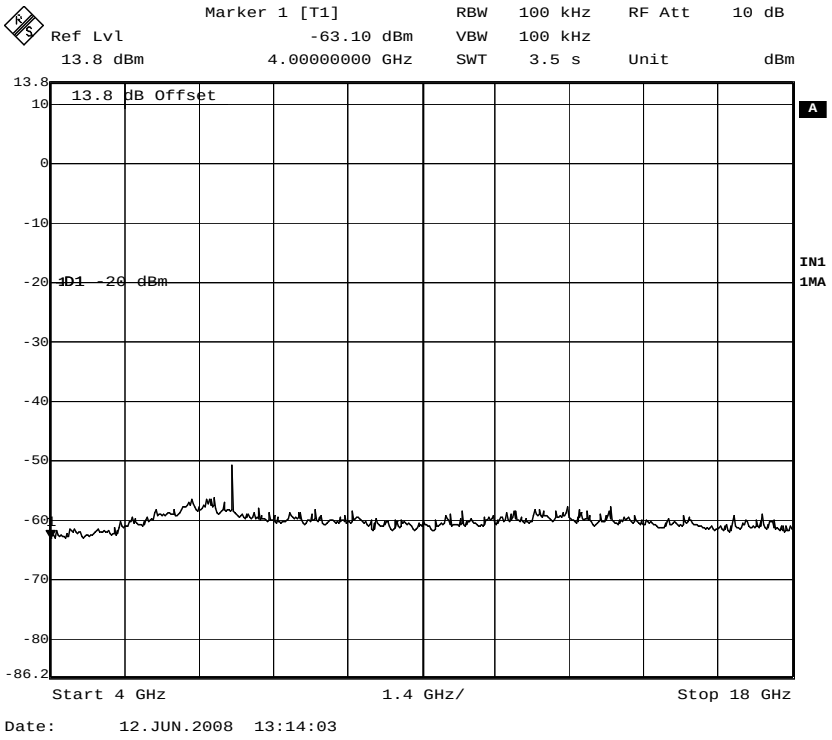
For the period of test the EUT met the requirements of FCC CFR 47 Part 15C: 2006 and Industry Canada RSS-210: 2007, RSS-Gen: 2005 for Spurious Conducted Emissions.

The test results are shown below.

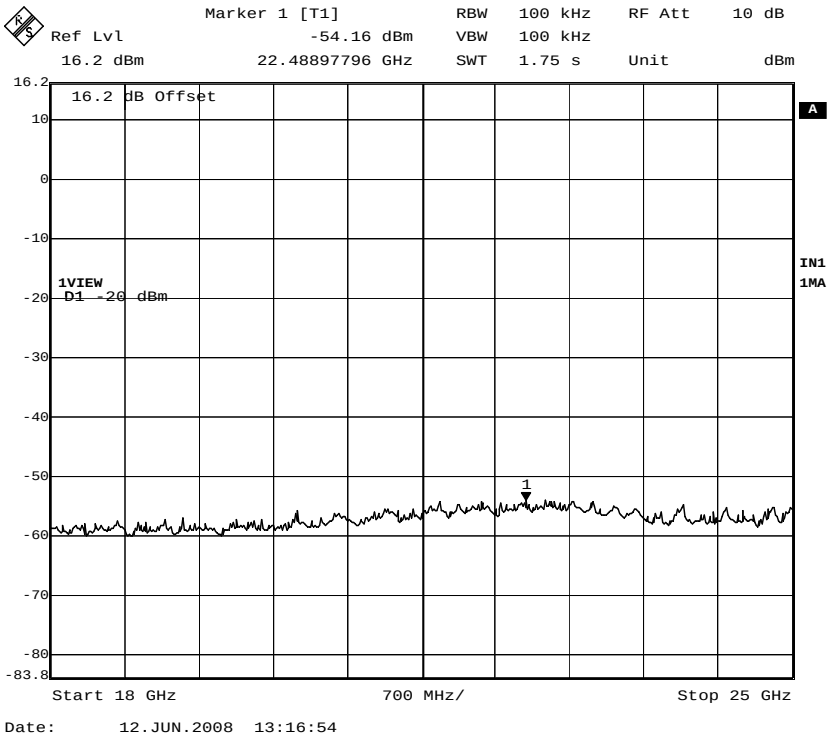
Spurious Conducted Emissions (9kHz – 4GHz)
Frequency Hopping On All Channels – Maximum Power (DH1) Configuration 1 - Mode 4



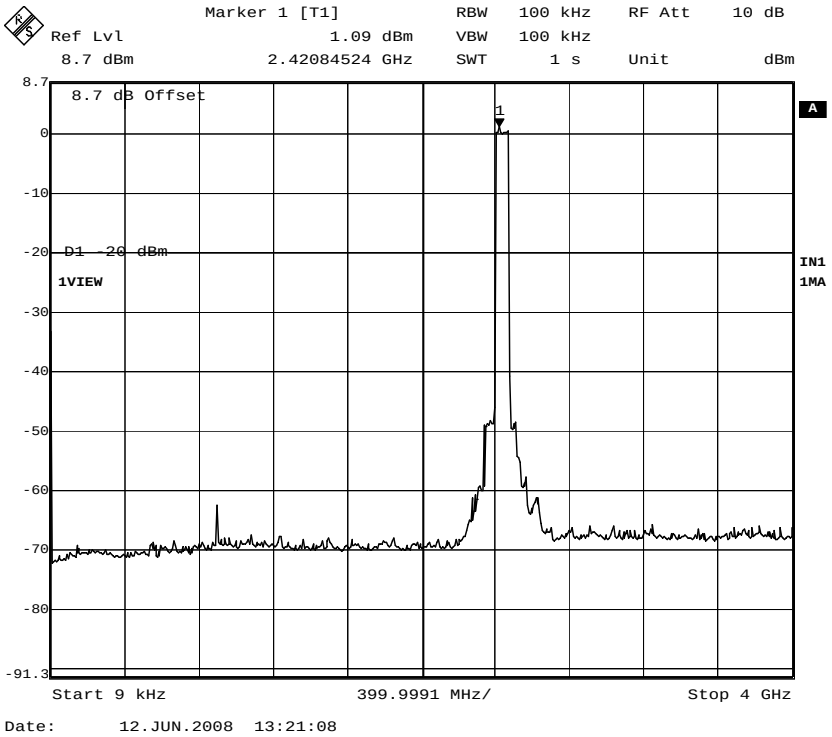
Spurious Conducted Emissions (4GHz – 18GHz)
Frequency Hopping On All Channels – Maximum Power (DH1) Configuration 1 - Mode 4



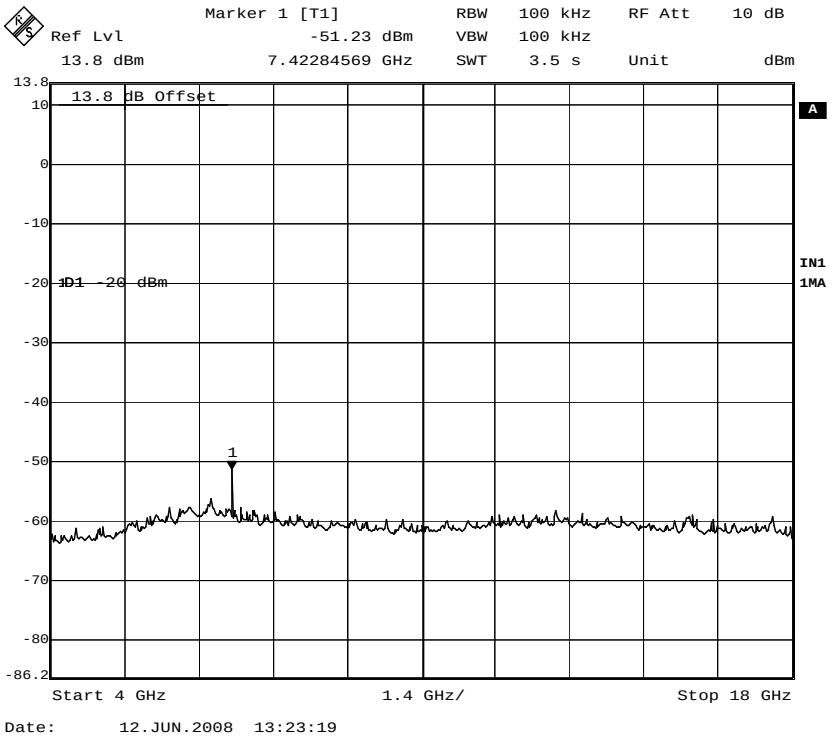
Spurious Conducted Emissions (18GHz – 25GHz)
Frequency Hopping On All Channels – Maximum Power (DH1) Configuration 1 - Mode 4



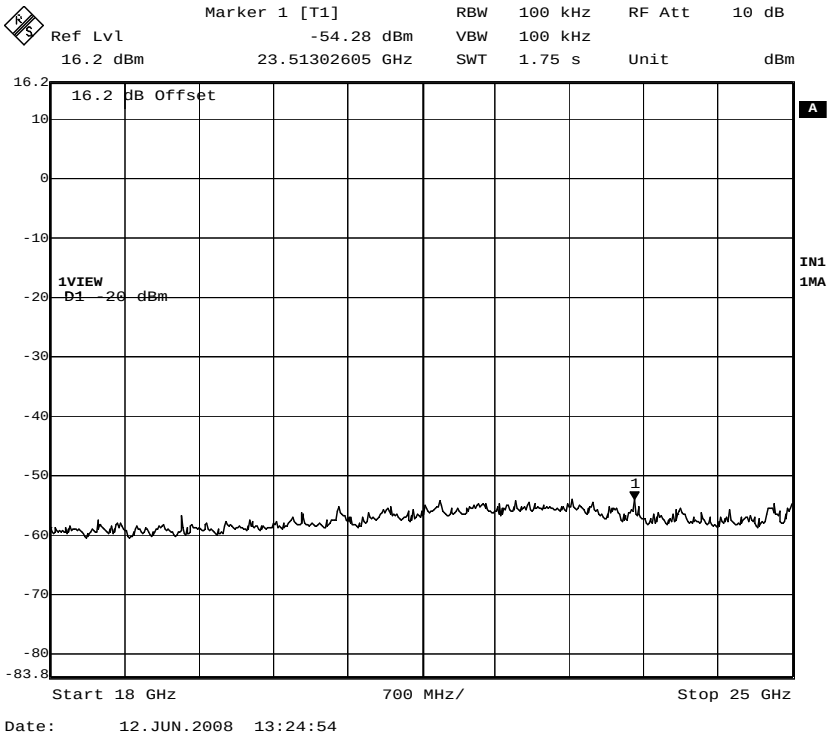
Spurious Conducted Emissions (9kHz – 4GHz)
Frequency Hopping On All Channels – Maximum Power (DH3) Configuration 1 - Mode 4



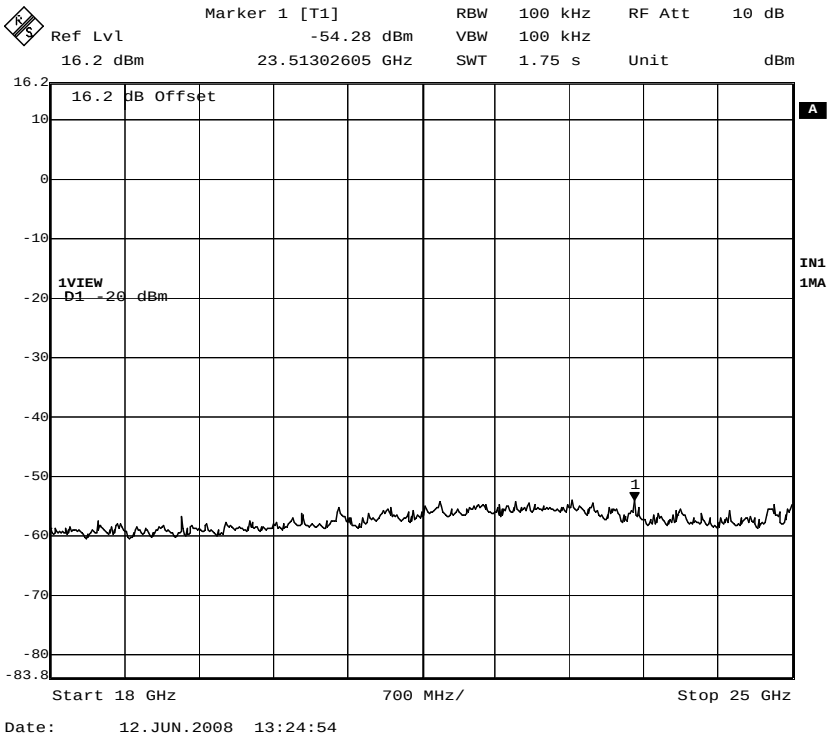
Spurious Conducted Emissions (4GHz – 18GHz)
Frequency Hopping On All Channels – Maximum Power (DH3) Configuration 1 - Mode 4



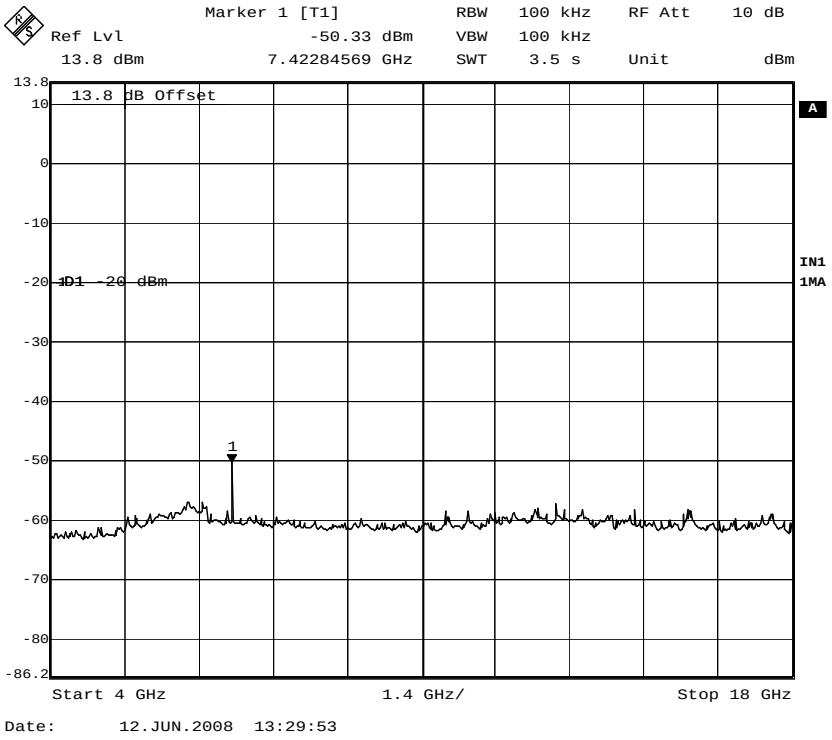
Spurious Conducted Emissions (18GHz – 25GHz)
Frequency Hopping On All Channels – Maximum Power (DH3) Configuration 1 - Mode 4



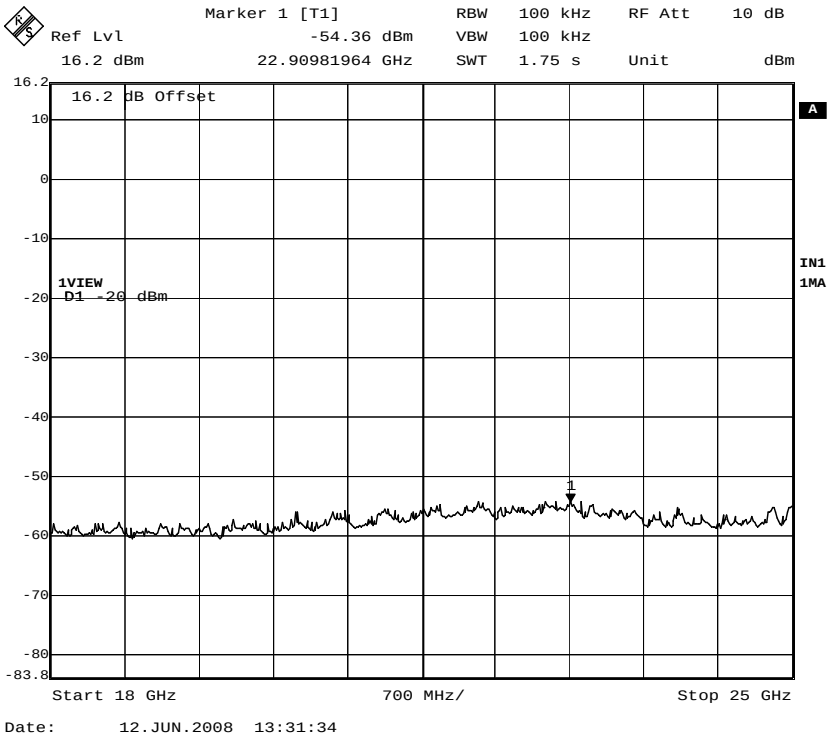
Spurious Conducted Emissions (9kHz – 4GHz)
Frequency Hopping On All Channels – Maximum Power (DH5) Configuration 1 - Mode 4



Spurious Conducted Emissions (4GHz – 18GHz)
Frequency Hopping On All Channels – Maximum Power (DH5) Configuration 1 - Mode 4



Spurious Conducted Emissions (18GHz – 25GHz)
Frequency Hopping On All Channels – Maximum Power (DH5) Configuration 1 - Mode 4



Product Service

2.11 MAXIMUM PEAK OUTPUT POWER (CONDUCTED)

2.11.1 Specification Reference

FCC CFR 47 Part 15C: 2006, Clause 15.247(b)(1)
Industry Canada RSS-Gen: 2005, Clause 4.6 and RSS-210: 2007, Clause A8.4(2)

2.11.2 Equipment Under Test

TH01M Mobile Handset, IMEI 004401750001063

2.11.3 Date of Test

12 June 2008

2.11.4 Test Equipment Used

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

2.11.5 Test Method and Operating Modes

The test was applied in accordance with the test method requirements of FCC CFR 47 Part 15: 2006 and Industry Canada.

The test was performed with the EUT in the following configurations and modes of operation:

Configuration 1 - Mode 1
- Mode 2
- Mode 3

2.11.6 Environmental Conditions

	12 June 2008
Ambient Temperature	15.5°C
Relative Humidity	50.0%

2.11.7 Test Procedure

Test Performed in accordance with 15.247.

The EUT was connected to a Peak Power Analyser, (8990A), via an RF cable. Using a Signal Generator and the 8990A, the path loss of the cable was measured and entered as an offset adjustment into the 8990A. The peak level was recorded and compared with the test limits.

Product Service

2.11.8 Test Results

For the period of test the EUT met the requirements of FCC CFR 47 Part 15C: 2006 and Industry Canada RSS-Gen: 2005 and RSS-210: 2007 for Maximum Peak Output Power (Conducted).

The test results are shown below.

Configuration 1 - Modes 1, 2 & 3

DH1 Results

Frequency (MHz)	Path Loss (dB)	Output Power (dBm)	Result (mW)
2402.0	7.53	0.70	1.17
2441.0	7.47	0.95	1.24
2480.0	7.54	0.74	1.18

DH3 Results

Frequency (MHz)	Path Loss (dB)	Output Power (dBm)	Result (mW)
2402.0	7.53	0.74	1.18
2441.0	7.47	1.08	1.28
2480.0	7.54	0.74	1.18

DH5 Results

Frequency (MHz)	Path Loss (dB)	Output Power (dBm)	Result (mW)
2402.0	7.53	0.79	1.19
2441.0	7.47	1.04	1.27
2480.0	7.54	1.10	1.28

Limit	<1W or <+30dBm

Product Service

SECTION 3

TEST EQUIPMENT USED

Product Service

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
Section 2.1 EMC - Conducted Emissions					
LISN (1 Phase)	Chase	MN 2050	336	12	18-Mar-2009
Test Receiver	Rohde & Schwarz	ESIB40	1006	12	14-May-2009
Transient Limiter	Hewlett Packard	11947A	1032	12	19-Jun-2008
Screened Room (2)	Rainford	Rainford	1542	-	TU
Radio Communications Test Set	Rohde & Schwarz	CMU 200	3035	12	5-Jun-2008
Compliance 3 Emissions	Schaffner	C3e Software V.4.00.00	3276	-	N/A - Software
Section 2.3 EMC - Maximum Output Power					
Radiocommunications Tester	Rohde & Schwarz	CMU 200	39	12	27-Oct-2008
Antenna (Double Ridge Guide, 1GHz-18GHz)	EMCO	3115	234	12	29-Jun-2008
Antenna (Double Ridge Guide, 1GHz-18GHz)	EMCO	3115	235	12	29-Jun-2008
Antenna, Dipole	Schwarzbeck	UHAP	447	24	7-Sep-2009
Screened Room (5)	Rainford	Rainford	1545	36	11-Feb-2011
Mast Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Turntable/Mast Controller	EMCO	2090	1607	-	TU
Signal Generator (10MHz to 40GHz)	Rohde & Schwarz	SMR40	3171	12	11-Jul-2008
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	15-Mar-2009
Section 2.2 EMC - Radiated Emissions					
Radiocommunications Tester	Rohde & Schwarz	CMU 200	39	12	27-Oct-2008
Antenna (Double Ridge Guide)	Link Microtek Ltd	AM180HA-K-TU2	230	24	22-Jun-2008
Antenna (Double Ridge Guide, 1GHz-18GHz)	EMCO	3115	234	12	29-Jun-2008
Antenna (Double Ridge Guide, 1GHz-18GHz)	EMCO	3115	235	12	29-Jun-2008
Pre-Amplifier	Phase One	PS04-0085	1532	-	TU
Pre-Amplifier	Phase One	PS04-0086	1533	-	TU
Pre-Amplifier	Phase One	PSO4-0087	1534	-	TU
Screened Room (5)	Rainford	Rainford	1545	36	11-Feb-2011
Mast Controller	Inn-Co GmbH	CO 1000	1606	-	TU
Turntable/Mast Controller	EMCO	2090	1607	-	TU

Product Service

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
Section 2.2 EMC - Radiated Emissions					
Filter (High Pass)	RLC Electronics	RLC-F100-1500-S-R	2843	-	TU
Antenna (Bilog)	Chase	CBL6143	2904	24	28-Nov-2009
Signal Generator (10MHz to 40GHz)	Rohde & Schwarz	SMR40	3171	12	11-Jul-2008
High Pass Filter (3GHz)	RLC Electronics	F-100-3000-5-R	3349	12	23-May-2009
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	15-Mar-2009
Section 2.5, 2.6, 2.7, 2.8, 2.9 Radio (Tx) - Channel Dwell Time, Channel Separation, Number of Hopping Channels					
Power Splitter	Weinschel	1506A	607	12	18-Sep-2008
Test Receiver	Rohde & Schwarz	ESIB40	1006	12	14-May-2009
Power Supply Unit	Various	SC1398	2754	-	TU
Attenuator (3dB)	Suhner	6803.17.B	3026	12	20-Mar-2009
Multimeter	Fluke	77 Series II	3067	12	15-May-2009
Hygrometer	Rotronic	I-1000	3220	12	9-Apr-2009
Section 2.10 Radio (Tx) - Conducted Spurious Emissions					
Attenuator (10dB, 10W)	Weinschel	23-10-34	470	12	19-Jun-2008
Filter (High Pass)	Lorch	SHP7-7000-SR	566	-	TU
Power Splitter	Weinschel	1506A	607	12	18-Sep-2008
Test Receiver	Rohde & Schwarz	ESIB40	1006	12	14-May-2009
Test Receiver	Rohde & Schwarz	ESIB26	2085	12	3-Dec-2008
Cable (1m, sma(m) - sma(m)	Reynolds	262-0248-1000	2406	-	TU
Programmable Power Supply	Iso-tech	IPS 2010	2436	12	21-Sep-2008
Power Supply Unit	Various	SC1398	2754	-	TU
Attenuator (3dB)	Suhner	6803.17.B	3026	12	20-Mar-2009
Multimeter	Fluke	77 Series II	3067	12	15-May-2009
Attenuator (20dB, 10W)	Aeroflex / Weinschel	23-20-34	3158	-	TU
Hygrometer	Rotronic	I-1000	3220	12	9-Apr-2009
Power Divider (N), 1W	Weinschel	1506A	3345	12	6-May-2009
1m RF Cable sma(m)-sma(m)	Reynolds	262-0248-1000	3453	12	17-Sep-2008
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	16-Apr-2009
3 GHz High Pass Filter	K&L 5wave	11SH10-3000/X18000-O/O	3552	12	16-Apr-2009

Product Service

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
Section 2.11 Radio (Tx) - Maximum Peak Output Power					
Peak Power Analyser	Hewlett Packard	8990A	107	12	24-Jan-2009
Power Splitter	Weinschel	1506A	607	12	18-Sep-2008
Power Sensor	Hewlett Packard	84812A	2743	12	24-Jan-2009
Power Supply Unit	Various	SC1398	2754	-	TU
Attenuator (3dB)	Suhner	6803.17.B	3026	12	20-Mar-2009
Multimeter	Fluke	77 Series II	3067	12	15-May-2009
Hygrometer	Rotronic	I-1000	3220	12	9-Apr-2009
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	16-Apr-2009
Section 2.4 Radio (Tx) – 20 dB Bandwidth					
Attenuator (10dB, 10W)	Weinschel	23-10-34	470	12	19-Jun-2008
Power Splitter	Weinschel	1506A	607	12	18-Sep-2008
Test Receiver	Rohde & Schwarz	ESIB40	1006	12	14-May-2009
Test Receiver	Rohde & Schwarz	ESIB26	2085	12	3-Dec-2008
Cable (1m, sma(m) - sma(m)	Reynolds	262-0248-1000	2406	-	TU
Programmable Power Supply	Iso-tech	IPS 2010	2436	12	21-Sep-2008
Power Supply Unit	Various	SC1398	2754	-	TU
Attenuator (3dB)	Suhner	6803.17.B	3026	12	20-Mar-2009
Multimeter	Fluke	77 Series II	3067	12	15-May-2009
Attenuator (20dB, 10W)	Aeroflex / Weinschel	23-20-34	3158	-	TU
Hygrometer	Rotronic	I-1000	3220	12	9-Apr-2009
Power Divider (N), 1W	Weinschel	1506A	3345	12	6-May-2009
1m RF Cable sma(m)-sma(m)	Reynolds	262-0248-1000	3453	12	17-Sep-2008
Network Analyser	Rohde & Schwarz	ZVA 40	3548	12	16-Apr-2009

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

Product Service

3.2 MEASUREMENT UNCERTAINTY

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

Test Discipline	Frequency / Parameter	MU
Radiated Emissions, Bilog Antenna, AOATS	30MHz to 1GHz Amplitude	5.1dB*
Radiated Emissions, Horn Antenna, AOATS	1GHz to 40GHz Amplitude	6.3dB*
Conducted Emissions, LISN	150kHz to 30MHz Amplitude	3.2dB*
Conducted Emissions, ISN	150kHz to 30MHz Amplitude	2.1dB
Substitution Antenna, Radiated Field	30MHz to 18GHz Amplitude	2.6dB
Discontinuous Interference	150kHz to 30MHz Amplitude	3.0dB*
Interference Power	30MHz to 300MHz Amplitude	3.0dB*
Radiated E-Field Susceptibility	26MHz to 2.5GHz Test Amplitude	1.4dB†
Conducted Susceptibility	100kHz to 250MHz Amplitude	1.8dB†
Power Frequency Magnetic Field	50Hz/60Hz Amplitude	0.45%
Magnetic Emissions	9kHz to 30MHz Amplitude	3.4dB*
Magnetic Field/Flux iaw EN 50366	10Hz to 400kHz	2.64%
Harmonics and Flicker	The test was applied using proprietary equipment that meets the requirements of EN 61000-3-2 and EN 61000-3-3	—
Mains Voltage Variations and Interrupts	The test was applied using proprietary equipment that meets the requirements of EN 61000-4-11	—
Fast Transient Burst	The test was applied using proprietary equipment that meets the requirements of EN 61000-4-4	—
Electrostatic Discharge	The test was applied using proprietary equipment that meets the requirements of EN 61000-4-2	—
Surge	The test was applied using proprietary equipment that meets the requirements of EN 61000-4-5	—
Vehicle Transients	The test was applied using proprietary equipment that meets the requirements of ISO 7637-1 and 2	—
Compass Safe Distance	Azimuth Accuracy	0.10°

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

* In accordance with CISPR 16-4
† In accordance with UKAS Lab 34

Product Service

SECTION 4

PHOTOGRAPHS

Product Service

4.1 PHOTOGRAPHS OF EQUIPMENT UNDER TEST (EUT)

Front View

Rear View

Product Service

Battery Exposed

Product Service

SECTION 5

ACCREDITATION, DISCLAIMERS AND COPYRIGHT

Product Service

5.1 ACCREDITATION, DISCLAIMERS AND COPYRIGHT

UKAS TESTING 0141

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).