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Report On

FCC CFR 47 Part 15C and Industry Canada Testing of the
Modelabs Manufacture
CD1D

COMMERCIAL-IN-CONFIDENCE

FCC ID: WCKCD1D

IC ID: IC 7343B

Document 75903927 Report 02 Issue 2 June 2008

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REPORT ON FCC CFR 47 Part 15C and Industry Canada Testing of the Modelabs Manufacture CD1D

Document 75903927 Report 02 Issue 2

June 2008

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M J Hardy
Authorised Signatory

DATED 26 June 2008 | 26 June 2008

This report has been up-issued to Issue 2 to amend the model name

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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 | S Bennett | 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
CD1D

Product Service

1.1 INTRODUCTION

The information contained in this report is intended to show verification of the Modelabs Manufacture CD1D 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)	CD1D
Serial Number(s)	031425000814000030 031425000815000110
IMEI Number(s)	004401750007177 004401750007698
Software Version	0259000505020000
Hardware Version	PrePilot
Number of Samples Tested	Two
Test Specification/Issue/Date	FCC CFR 47 Part 15C: 2006 Industry Canada RSS-210 Issue 7: 2007 and RSS-Gen: 2005
Incoming Release Date	Declaration of Build Status 02 June 2008
Disposal	Held Pending Disposal Not Applicable Not applicable
Order Number Date	08/0000000152 21 May 2008
Start of Test	05 June 2008
Finish of Test	12 June 2008
Name of Engineer(s)	M P Hardy S Bennett A Guy

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					
2.2	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)	2	0	Pass	FCC CFR 47 Part 15C and Industry Canada
2.6	15.247(a)	RSS-210, A8.1	Channel Dwell Time (DH3)	2	0	Pass	FCC CFR 47 Part 15C and Industry Canada
2.7	15.247(a)	RSS-210, A8.1	Channel Dwell Time (DH5)	2	0	Pass	FCC CFR 47 Part 15C and Industry Canada

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	

Configuration 2 - Mobile Handset with AC Adaptor							
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	

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	CD1D
SERIAL NUMBER	031425000814000036
HARDWARE VERSION	PrePilot
SOFTWARE VERSION	0259000505020000
TRANSMITTER OPERATING RANGE	Part15C 869.2-893.8 MHz, 1930.2-1989.8 MHz, 2402-2480MHz
RECEIVER OPERATING RANGE	N/A
COUNTRY OF ORIGIN	France
INTERMEDIATE FREQUENCIES	Direct conversion
ITU DESIGNATION OF EMISSION	300KGXW
HIGHEST INTERNALLY GENERATED FREQUENCY	2480MHz
OUTPUT POWER (W or dBm)	33dBm
FCC ID	WCKCD1D
Industry Canada ID	IC 7343B
BATTERY/POWER SUPPLY	
MANUFACTURING DESCRIPTION	Batterie'e Manufacturer
MANUFACTURER	XWODA
TYPE	Lithium Ion
PART NUMBER	XWD00016063
VOLTAGE	3.7 V Nominal
COUNTRY OF ORIGIN	China

Signature

Date: 02 June 2008
Declaration of Build Status Serial Number: 75903927-01

Product Service

1.4 PRODUCT INFORMATION

1.4.1 Technical Description

The Equipment Under Test (EUT) was a Modelabs Manufacture CD1D 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: Mobile Handset with 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: Mobile Handset with 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 - 2402 MHz Transmit

Mode 2 - 2441 MHz Transmit

Mode 3 - 2480 MHz 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.

The EUT was powered from a designated battery, battery eliminator or 115V, 60Hz AC Adapter supply.

Configuration 1

The EUT was powered from a battery or battery eliminator supply of 3.7V nominal.

Configuration 2

The EUT was powered from an AC/DC adaptor powered from 115V 60Hz AC.

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
CD1D

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

CD1D, S/N: 031425000814000030 and IMEI: 004401750007177

2.1.3 Date of Test and Modification State

05 June 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

	05 June 2008
Ambient Temperature	18°C
Relative Humidity	42%
Atmospheric Pressure	1014mbar

Product Service

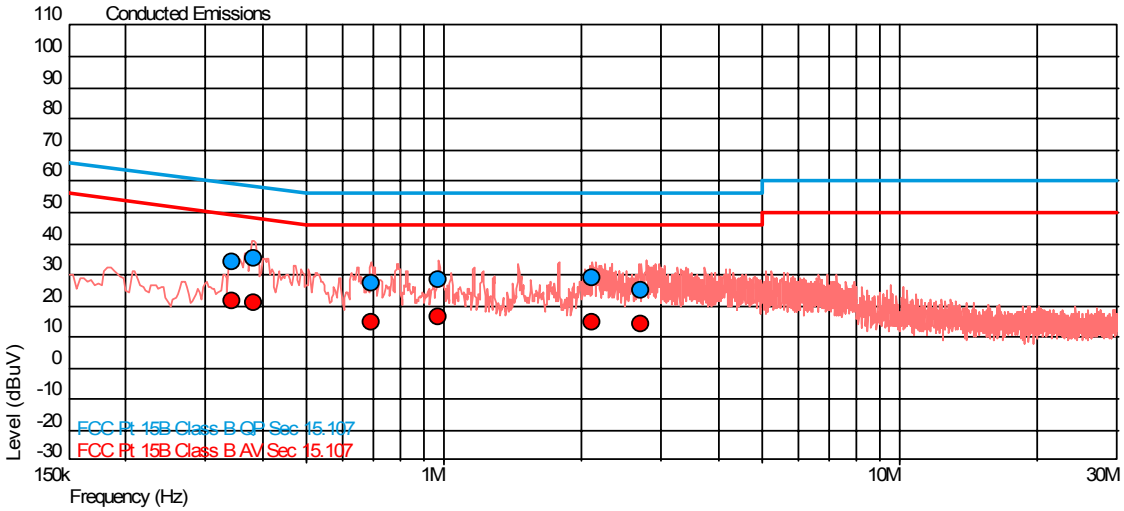
2.1.7 Test Results

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

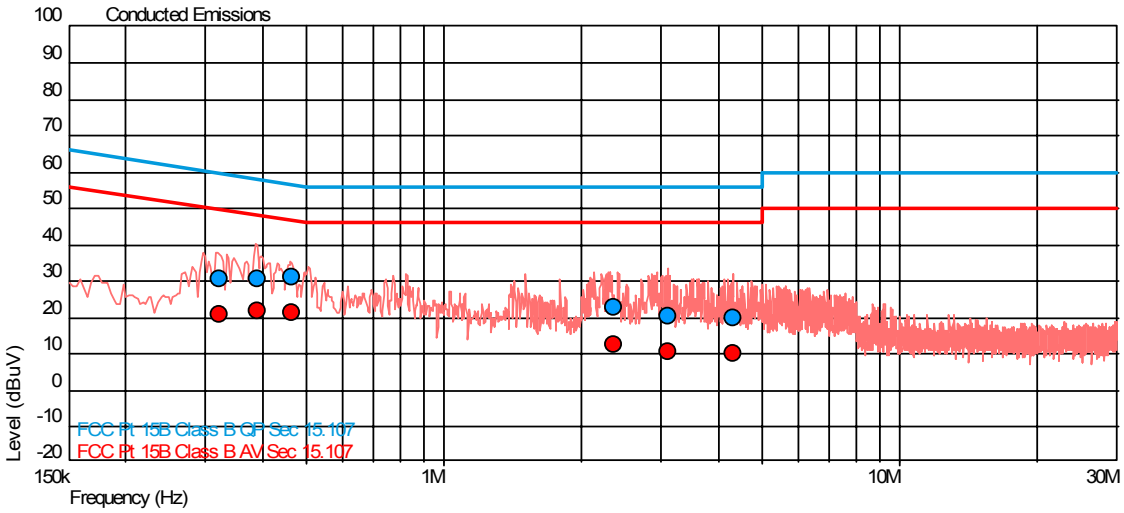
Live Line



Frequency (MHz)	QP Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Level (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)
0.342	34.1	59.2	-25.1	21.7	49.2	-27.4
0.384	35.3	58.2	-22.9	21.2	48.2	-27.0
0.693	27.2	56.0	-28.8	14.7	46.0	-31.3
0.967	28.5	56.0	-27.5	16.3	46.0	-29.7
2.119	28.7	56.0	-27.3	14.8	46.0	-31.2
2.710	24.8	56.0	-31.2	14.1	46.0	-31.9

Product Service

Neutral Line

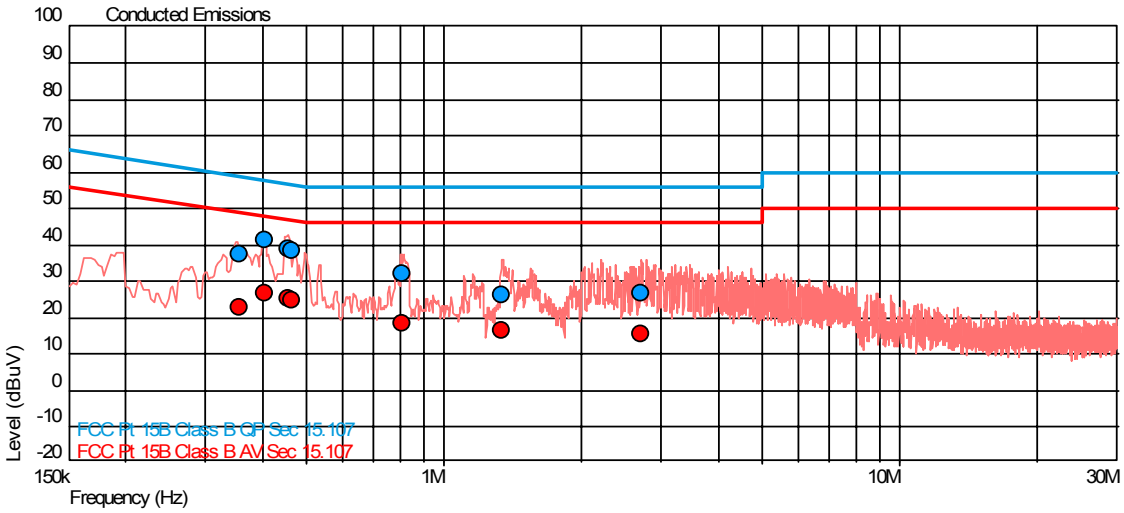


Frequency (MHz)	QP Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Level (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)
0.321	30.4	59.7	-29.3	20.5	49.7	-29.2
0.389	30.4	58.1	-27.7	21.6	48.1	-26.5
0.465	31.1	56.6	-25.4	21.2	46.6	-25.3
2.361	22.5	56.0	-33.5	12.5	46.0	-33.5
3.104	20.2	56.0	-35.8	10.6	46.0	-35.4
4.293	19.7	56.0	-36.3	10.2	46.0	-35.8

Product Service

Configuration 2 - Mode 2

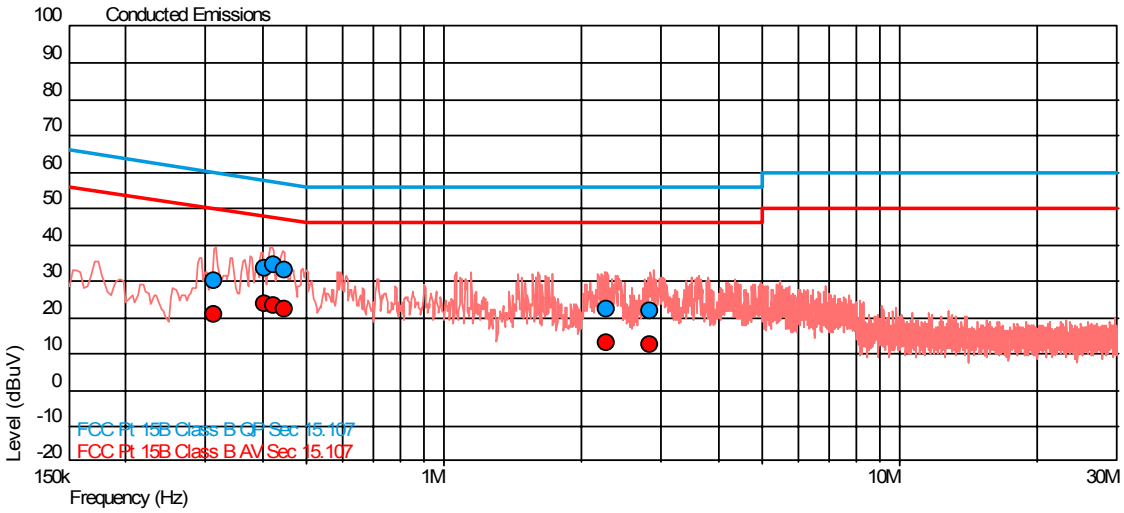
Live Line



Frequency (MHz)	QP Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Level (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)
0.354	37.2	58.9	-21.7	22.5	48.9	-26.4
0.405	41.1	57.7	-16.6	26.7	47.7	-21.1
0.455	38.8	56.8	-18.0	25.1	46.8	-21.6
0.462	38.5	56.7	-18.1	24.4	46.7	-22.3
0.811	32.1	56.0	-23.9	18.4	46.0	-27.6
1.341	26.0	56.0	-30.0	16.2	46.0	-29.8
2.698	26.7	56.0	-29.3	15.4	46.0	-30.6

Product Service

Neutral Line

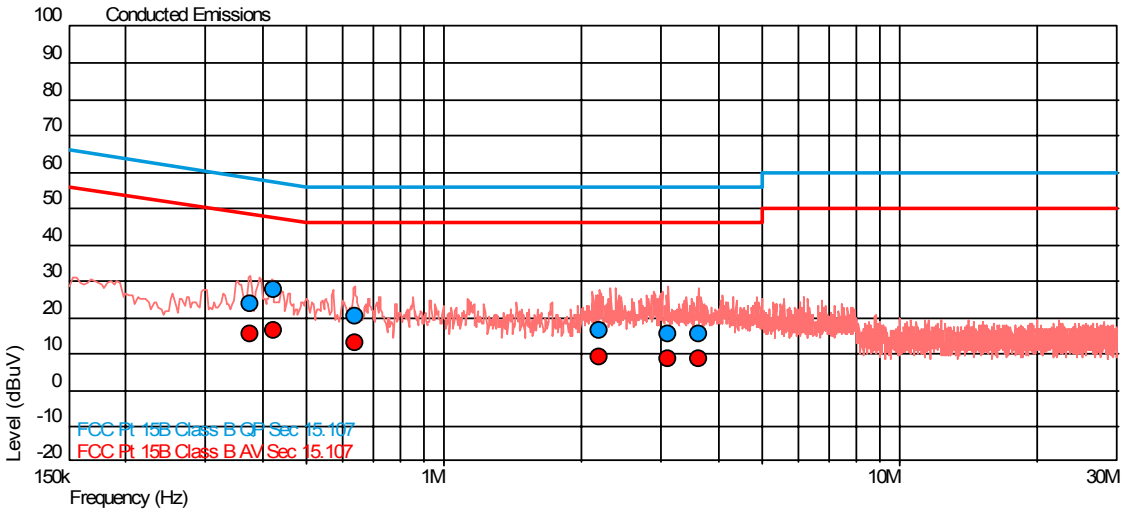


Frequency (MHz)	QP Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Level (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)
0.313	30.1	59.9	-29.8	20.5	49.9	-29.4
0.404	33.3	57.8	-24.4	23.6	47.8	-24.2
0.423	34.6	57.4	-22.8	23.0	47.4	-24.3
0.446	32.9	56.9	-24.1	22.0	46.9	-25.0
2.280	22.4	56.0	-33.6	12.7	46.0	-33.3
2.835	21.9	56.0	-34.1	12.5	46.0	-33.5

Product Service

Configuration 2 - Mode 3

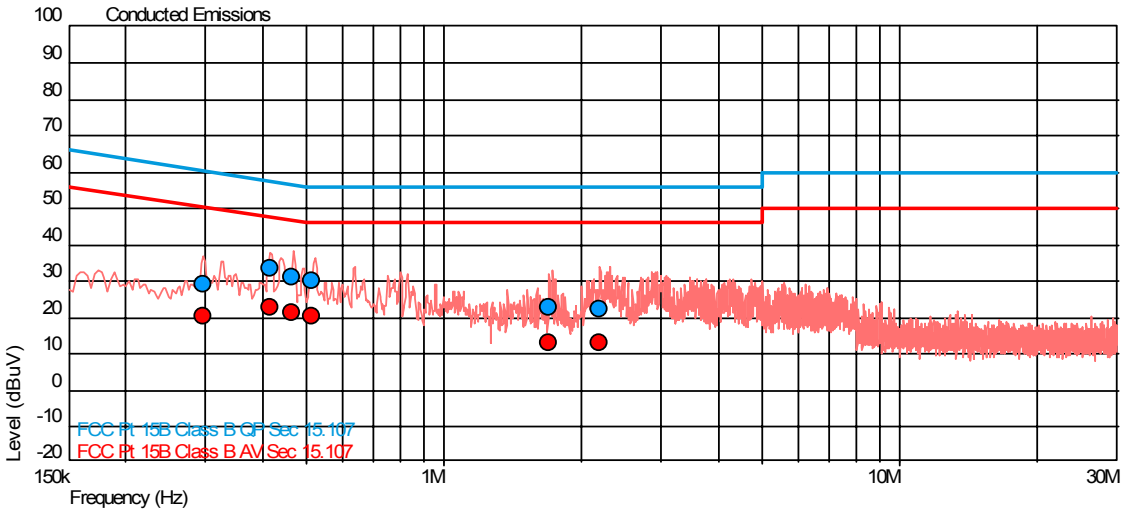
Live Line



Frequency (MHz)	QP Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Level (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)
0.375	23.7	58.4	-34.7	15.3	48.4	-33.1
0.422	27.5	57.4	-29.9	16.3	47.4	-31.1
0.638	20.0	56.0	-36.0	12.9	46.0	-33.1
2.187	16.4	56.0	-39.6	9.2	46.0	-36.8
3.097	15.5	56.0	-40.5	8.4	46.0	-37.6
3.605	15.2	56.0	-40.8	8.4	46.0	-37.6

Product Service

Neutral Line



Frequency (MHz)	QP Level (dBuV)	QP Limit (dBuV)	QP Margin (dBuV)	AV Level (dBuV)	AV Limit (dBuV)	AV Margin (dBuV)
0.295	29.1	60.4	-31.2	20.2	50.4	-30.2
0.414	33.4	57.6	-24.2	22.7	47.6	-24.8
0.465	30.8	56.6	-25.8	21.2	46.6	-25.4
0.512	30.1	56.0	-25.9	20.1	46.0	-25.9
1.699	22.6	56.0	-33.4	13.0	46.0	-33.0
2.199	22.2	56.0	-33.8	12.7	46.0	-33.3

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

CD1D, S/N: 031425000814000030 and IMEI: 004401750007177

2.2.3 Date of Test and Modification State

05 and 06 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

	05 June 2008	06 June 2008
Ambient Temperature	19°C	19°C
Relative Humidity	36%	36%
Atmospheric Pressure	1013mbar	1013mbar

Product Service

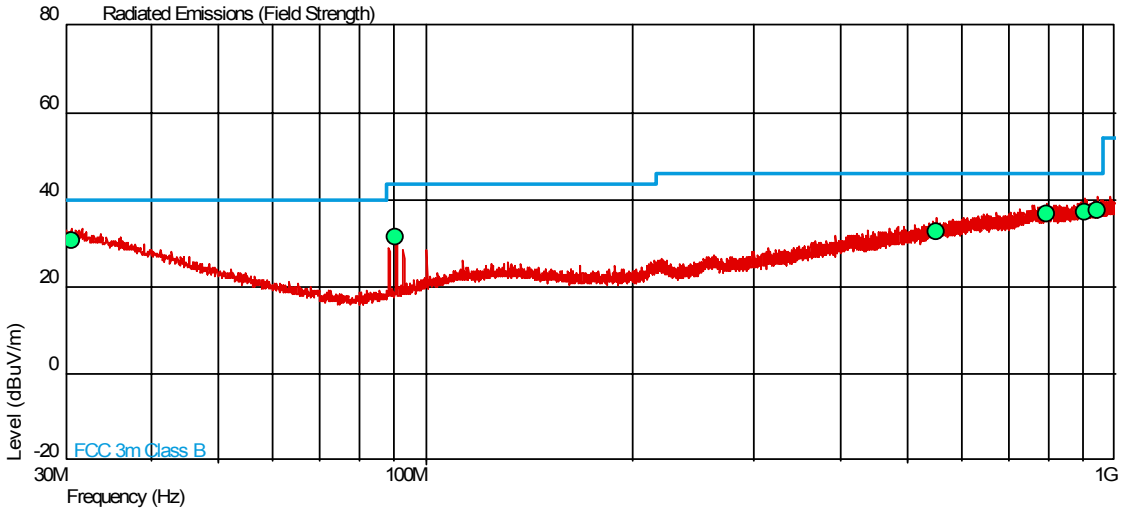
2.2.7 Test Results

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)	(µV/m)	(dBuV/m)	(µV/m)	(dBuV/m)	(µV/m)			
30.581	30.7	34.3	40.0	100.0	-9.3	65.7	360	1.00	Vertical
90.698*	31.5	37.6	43.5	150.0	-12.0	112.4	233	1.05	Vertical
550.656	32.6	42.7	46.0	200.0	-13.4	157.3	207	2.02	Vertical
796.369	36.5	66.8	46.0	200.0	-9.5	133.2	188	1.46	Horizontal
902.633	37.3	73.3	46.0	200.0	-8.7	126.7	159	1.00	Horizontal
946.013	37.3	73.3	46.0	200.0	-8.7	126.7	64	1.00	Horizontal

*The frequencies from 88MHz to 100MHz were proved to be ambient emissions.

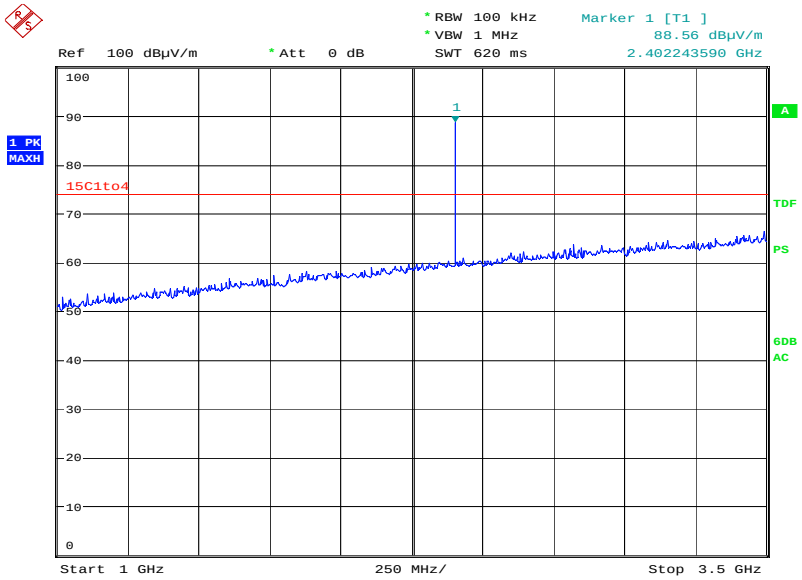
Product Service

1GHz to 25GHz

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

1GHz to 3.5GHz

Vertical Polarity



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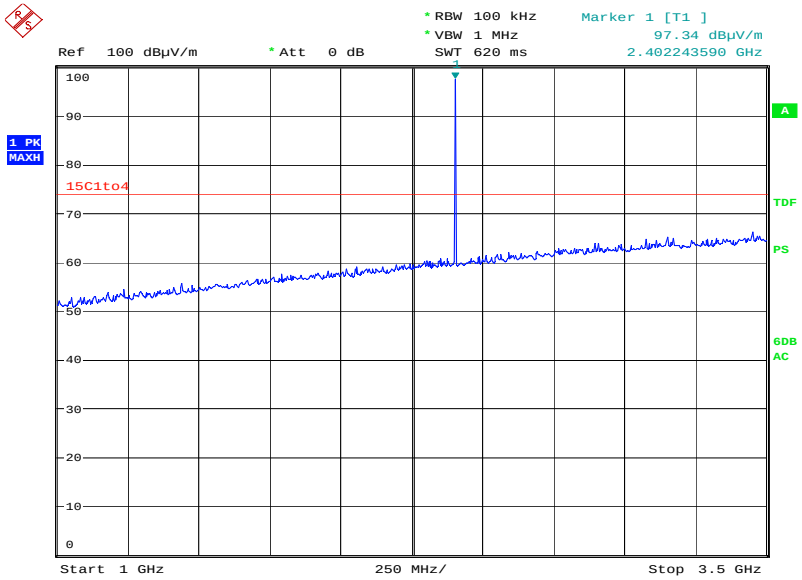
Horizontal Polarity



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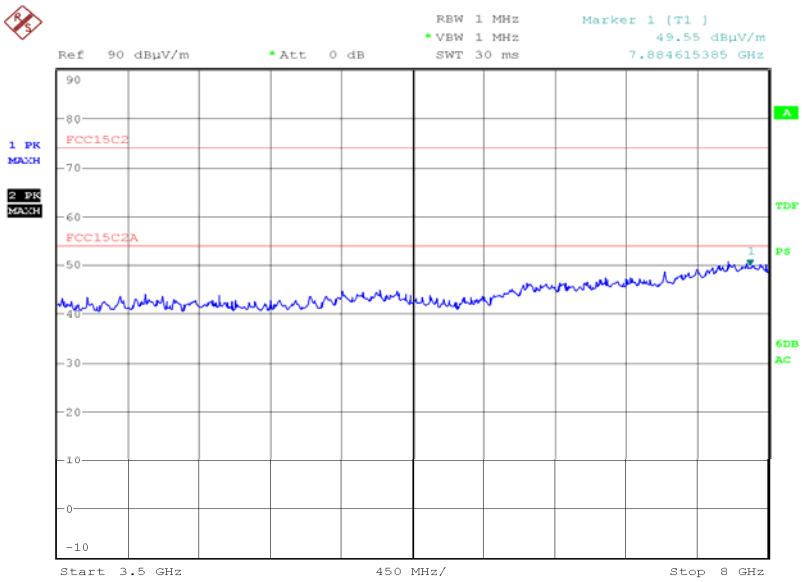
Product Service

3.5GHz to 8GHz

Vertical Polarity



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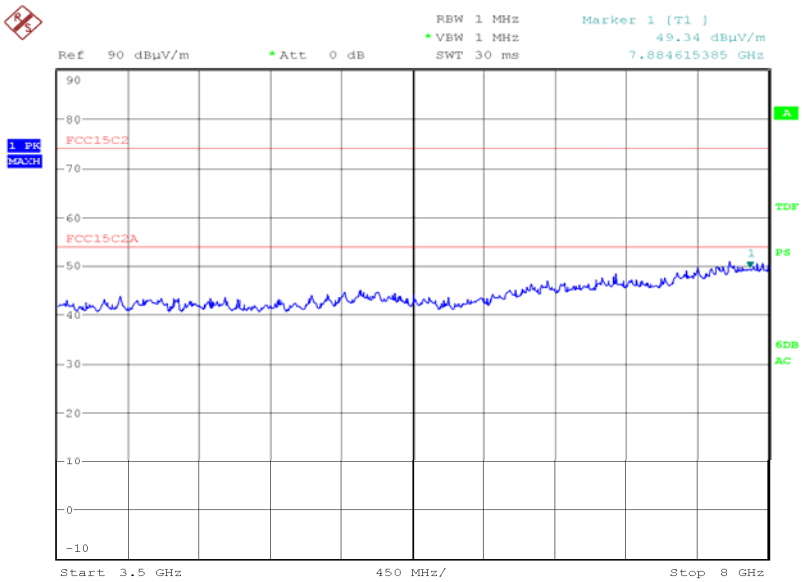
Horizontal Polarity



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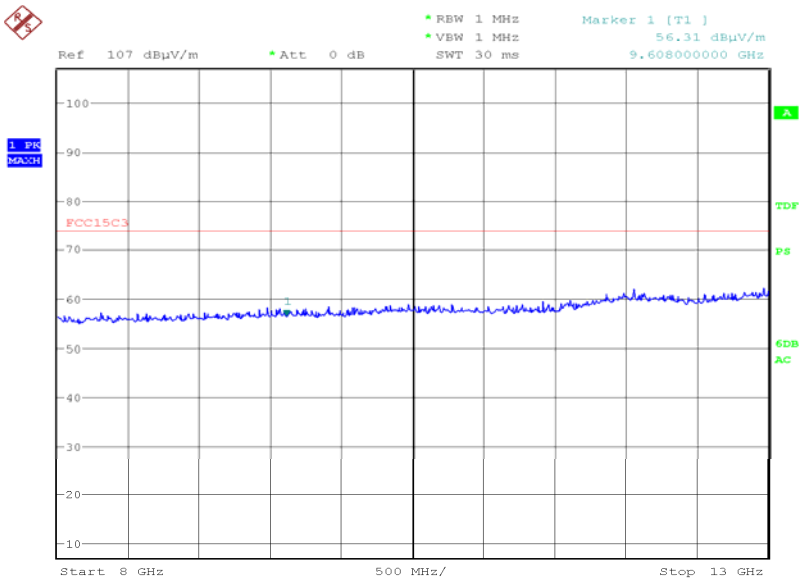
Product Service

8GHz to 13GHz

Vertical Polarity



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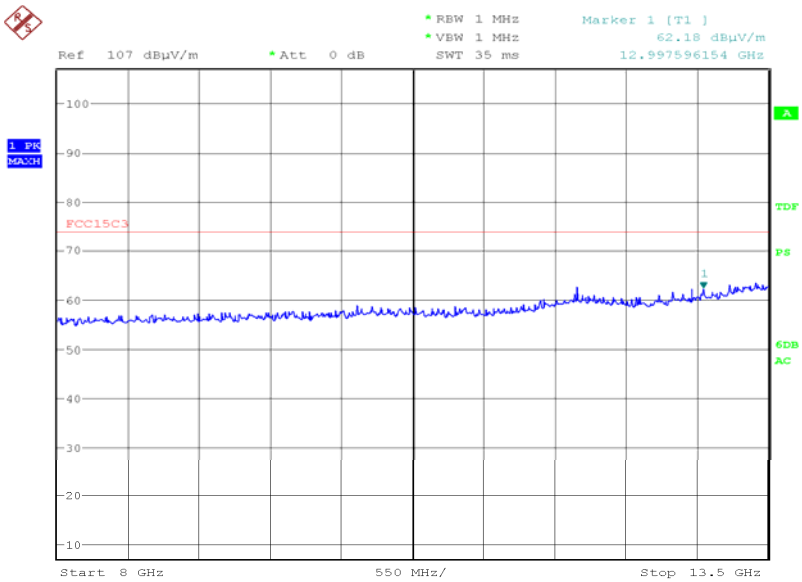

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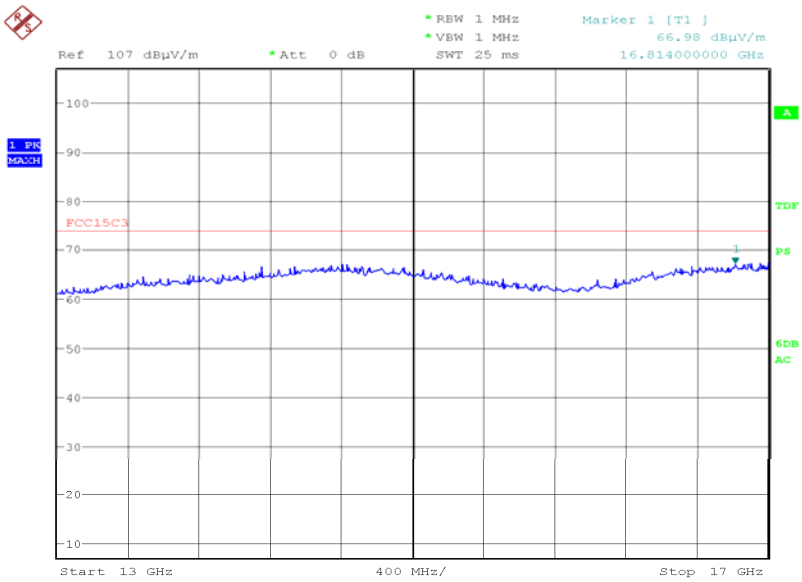
Product Service

13GHz to 17GHz

Vertical Polarity



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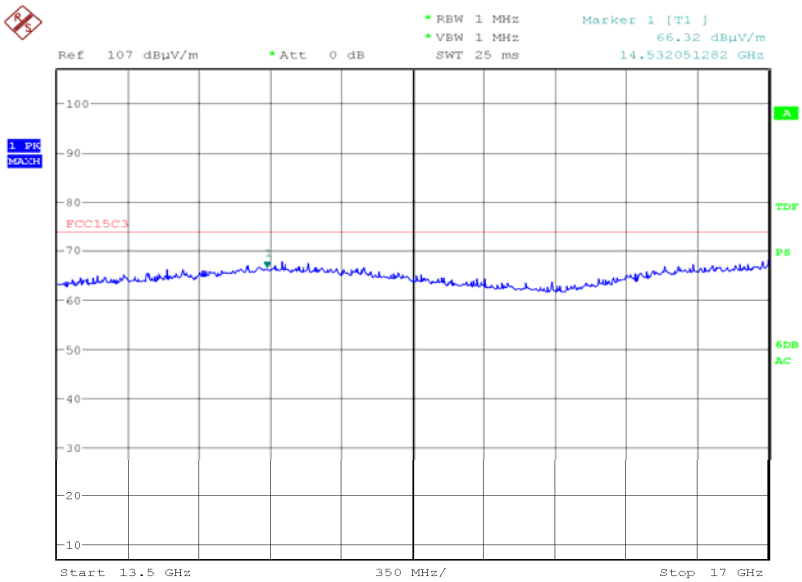

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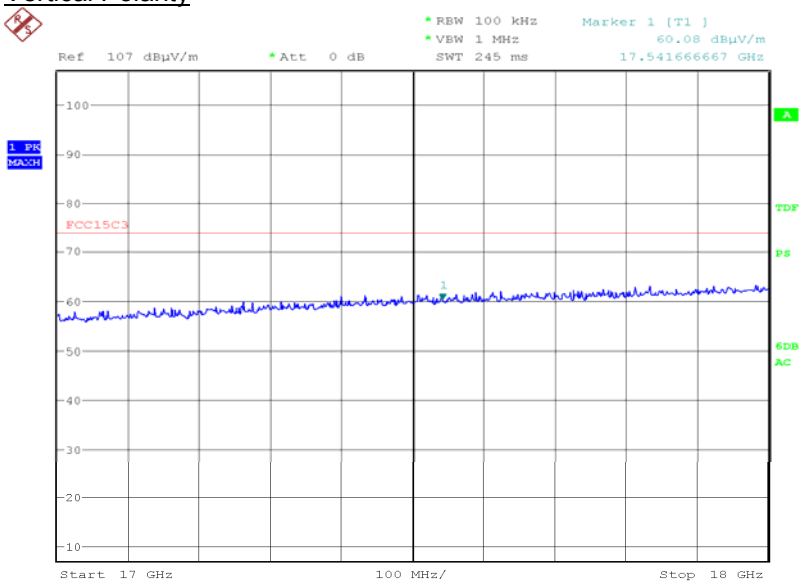
Product Service

17GHz to 18GHz

Vertical Polarity



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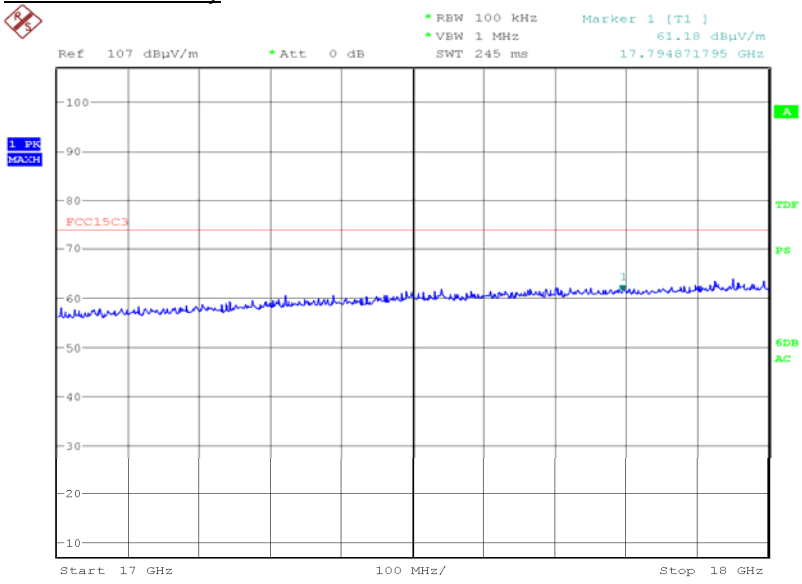
Horizontal Polarity



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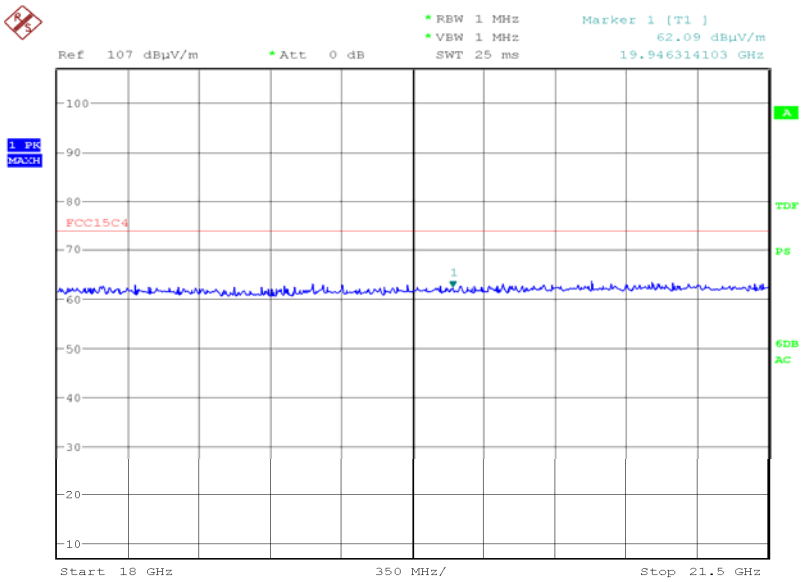
Product Service

18GHz to 21.5GHz

Vertical Polarity



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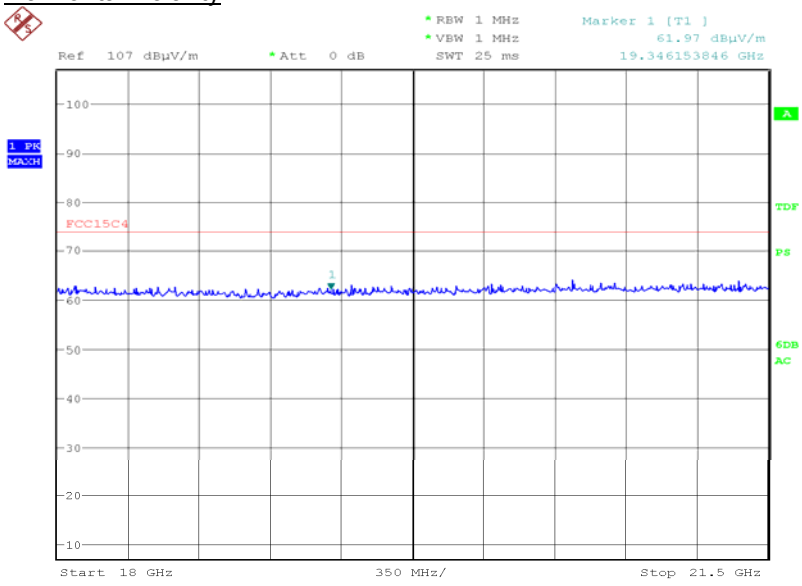
Horizontal Polarity



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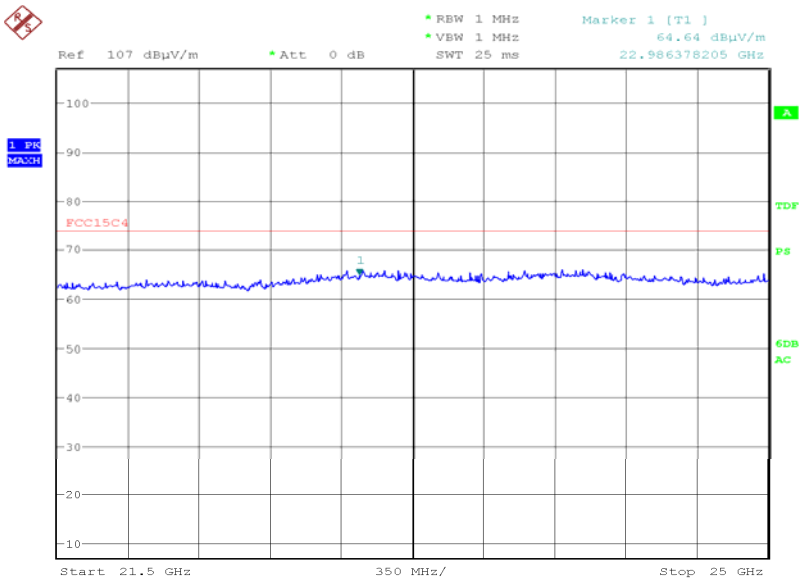
Product Service

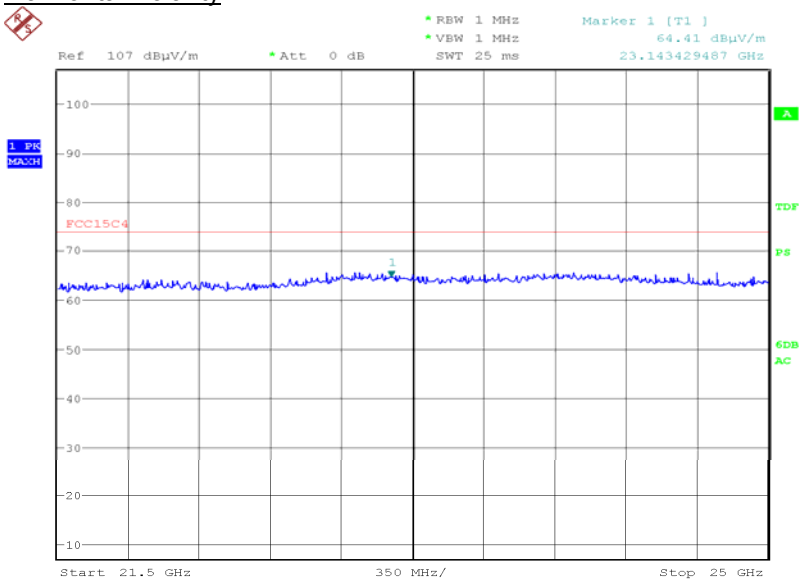
21.5GHz to 25GHz

Vertical Polarity



Date: 8.JUN.2008 05:58:06

Horizontal Polarity

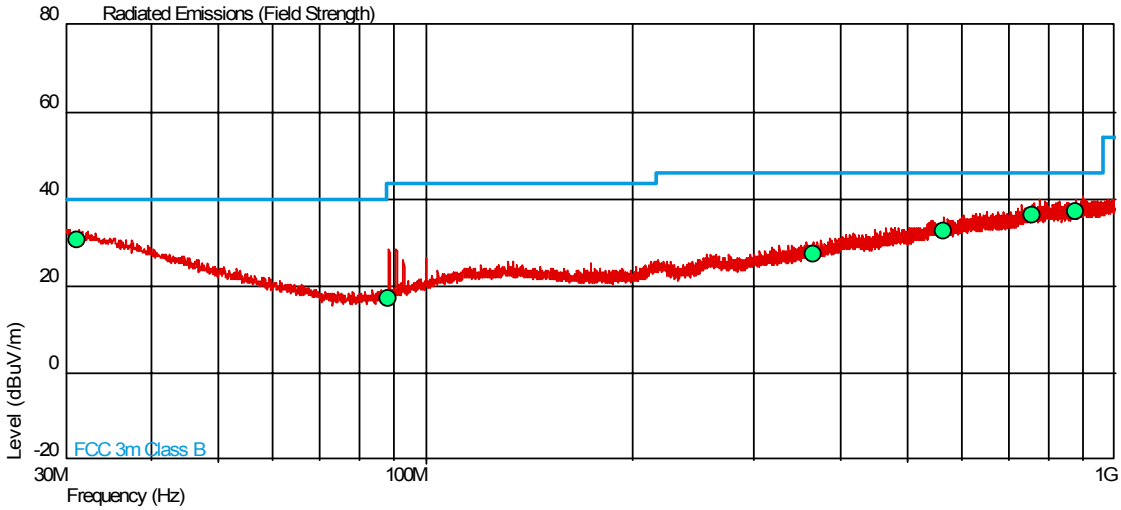


Date: 8.JUN.2008 06:01:16

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)	(µV/m)	(dBuV/m)	(µV/m)	(dBuV/m)	(µV/m)			
31.164	30.7	34.3	40.0	100.0	-9.3	65.7	95	1.00	Vertical
88.506*	17.2	7.2	43.5	150.0	-26.3	142.8	112	1.00	Vertical
364.570	27.3	23.2	46.0	200.0	-18.7	176.8	27	1.28	Horizontal
565.110	32.7	43.2	46.0	200.0	-13.3	156.8	320	3.80	Horizontal
758.397	36.3	65.3	46.0	200.0	-9.7	134.7	125	2.14	Horizontal
880.690	36.9	70.0	46.0	200.0	-9.1	130.0	359	1.00	Vertical

*The frequencies from 88MHz to 100MHz were proved to be ambient emissions.

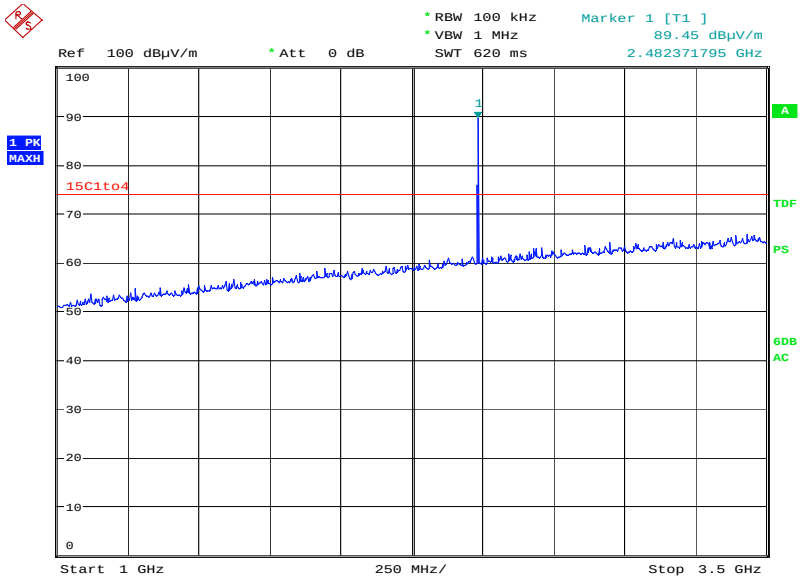
Product Service

1GHz to 25GHz

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

1GHz to 3.5GHz

Vertical Polarity



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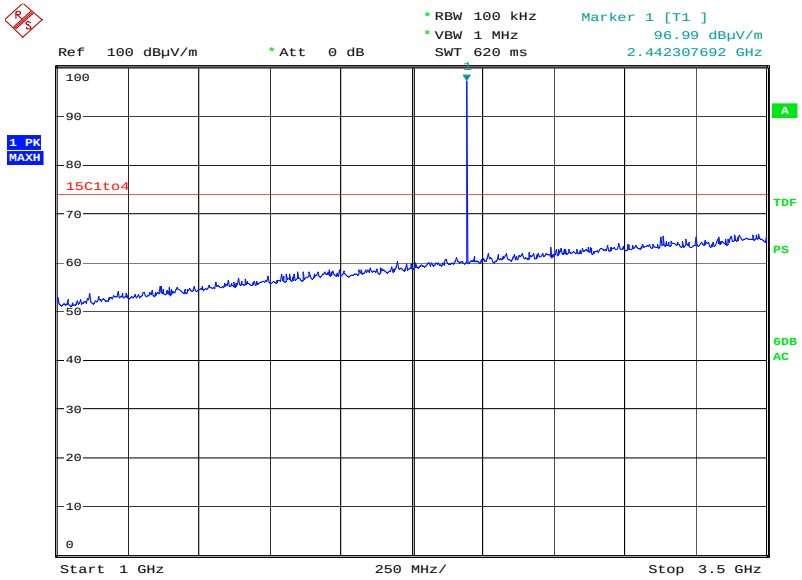
Horizontal Polarity

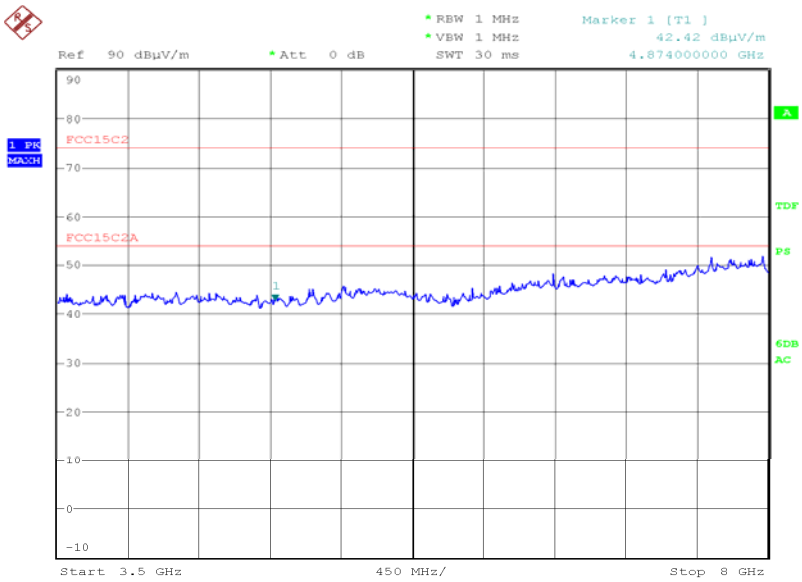


Date: 6.JUN.2008 05:26:42

Product Service

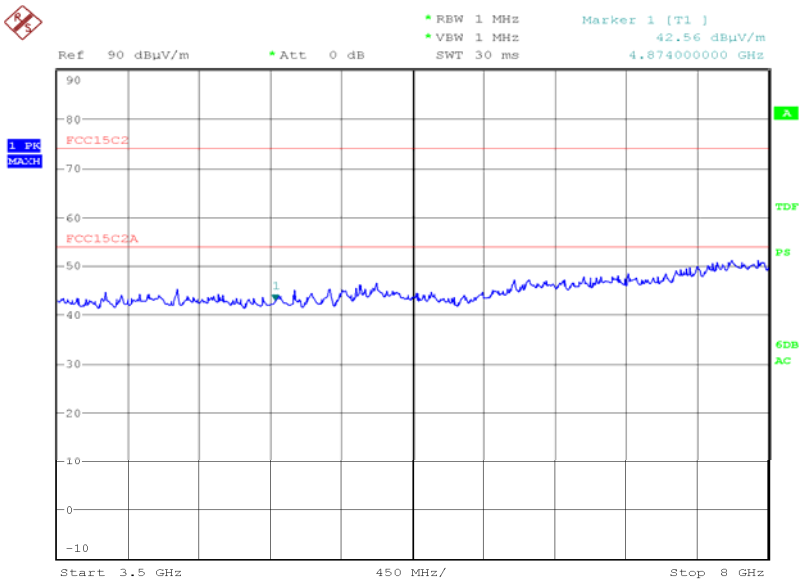
3.5GHz to 8GHz

Vertical Polarity



Date: 7.JUN.2008 22:57:08

Horizontal Polarity

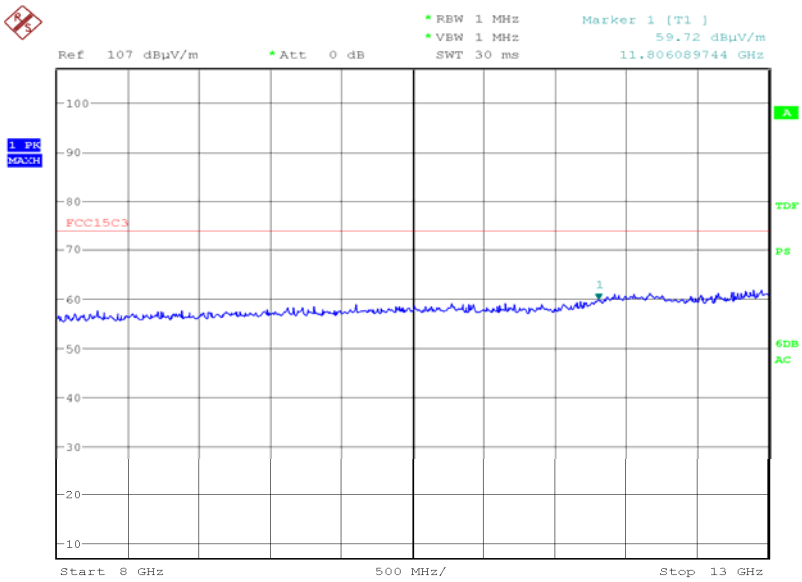


Date: 7.JUN.2008 22:53:37

Product Service

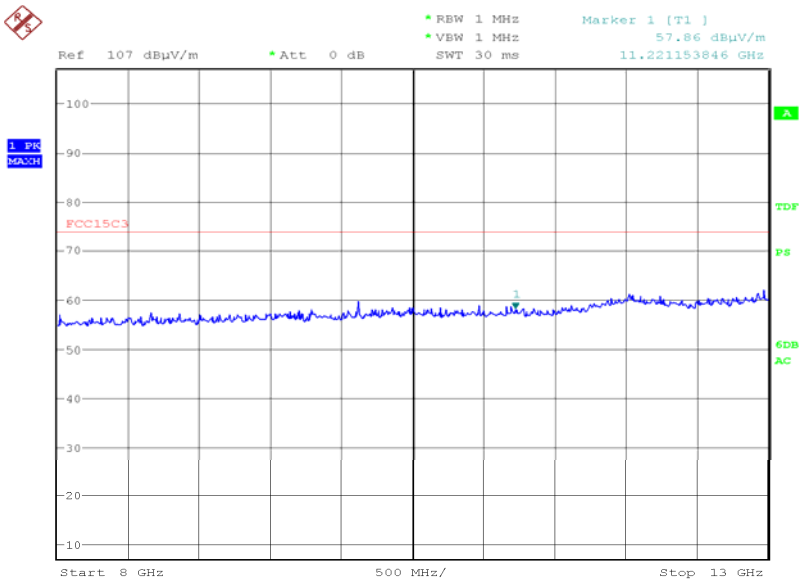
8GHz to 13GHz

Vertical Polarity



Date: 8.JUN.2008 02:21:31

Horizontal Polarity

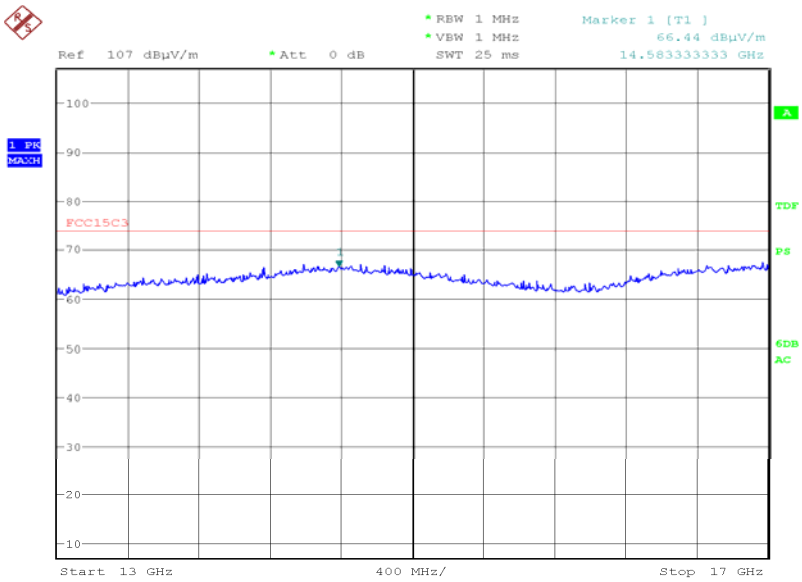


Date: 8.JUN.2008 02:09:23

Product Service

13GHz to 17GHz

Vertical Polarity



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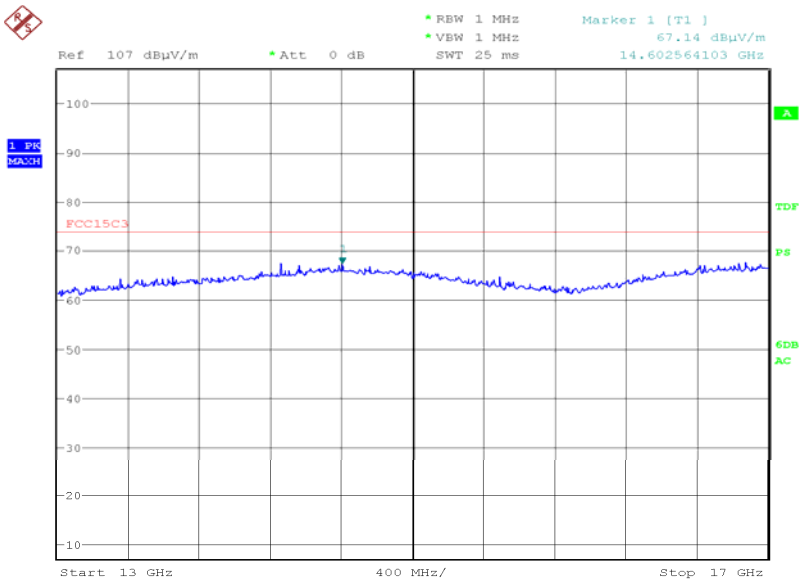
Horizontal Polarity

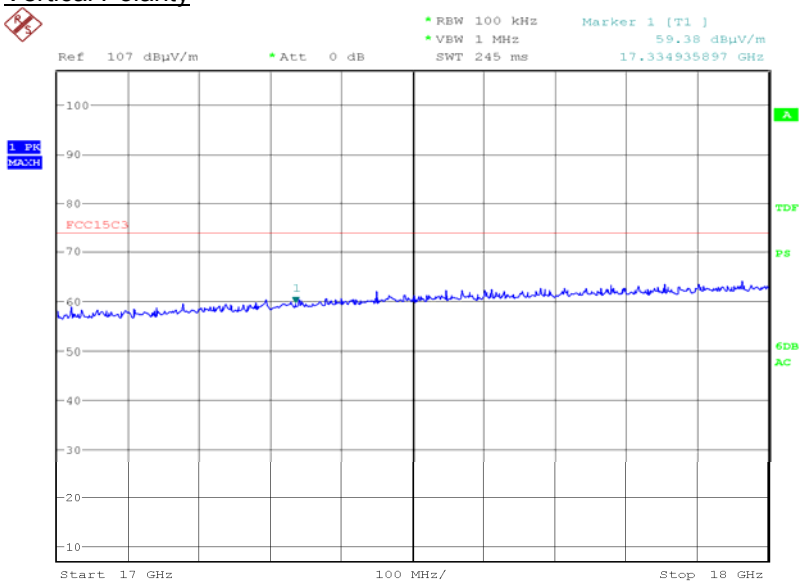


Date: 8.JUN.2008 02:08:33

Product Service

17GHz to 18GHz

Vertical Polarity



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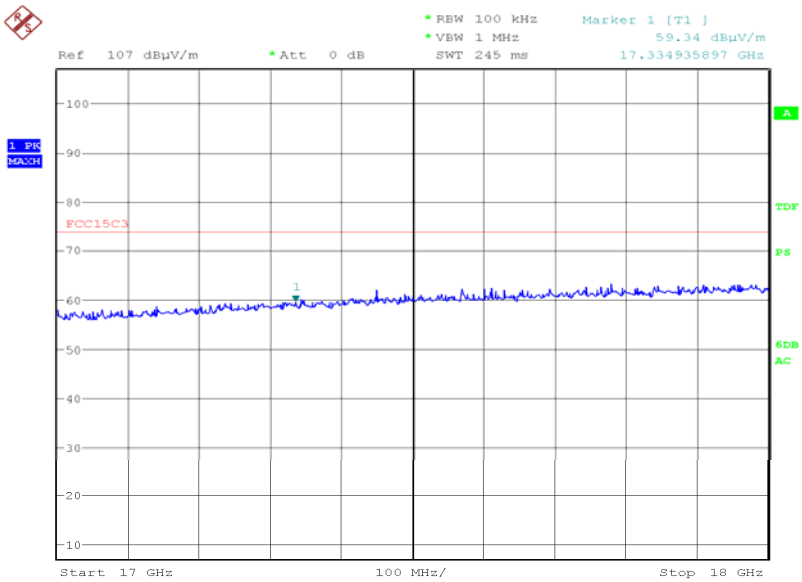
Horizontal Polarity

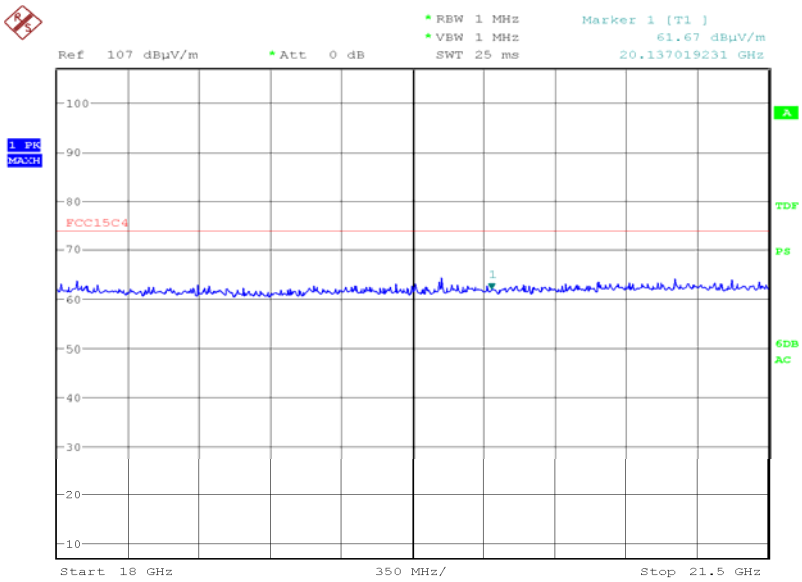


Date: 8.JUN.2008 02:12:00

Product Service

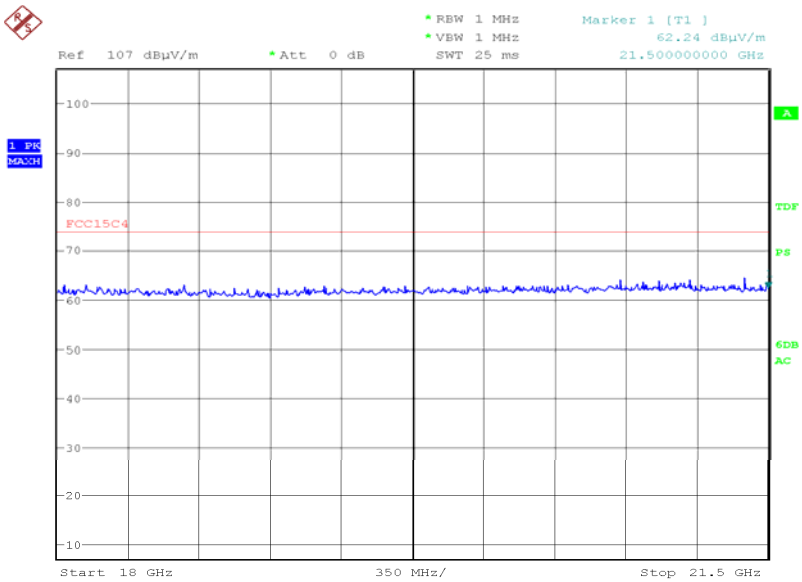
18GHz to 21.5GHz

Vertical Polarity



Date: 8.JUN.2008 05:42:11

Horizontal Polarity

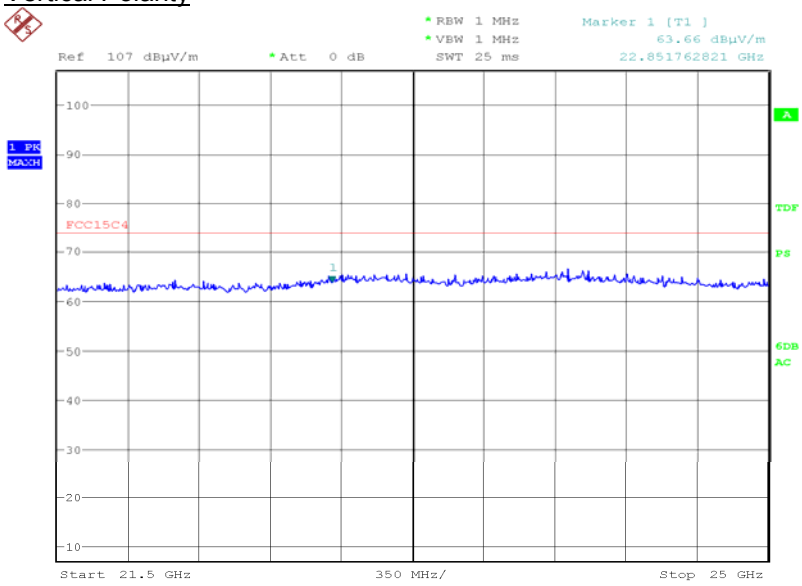


Date: 8.JUN.2008 05:50:42

Product Service

21.5GHz to 25GHz

Vertical Polarity



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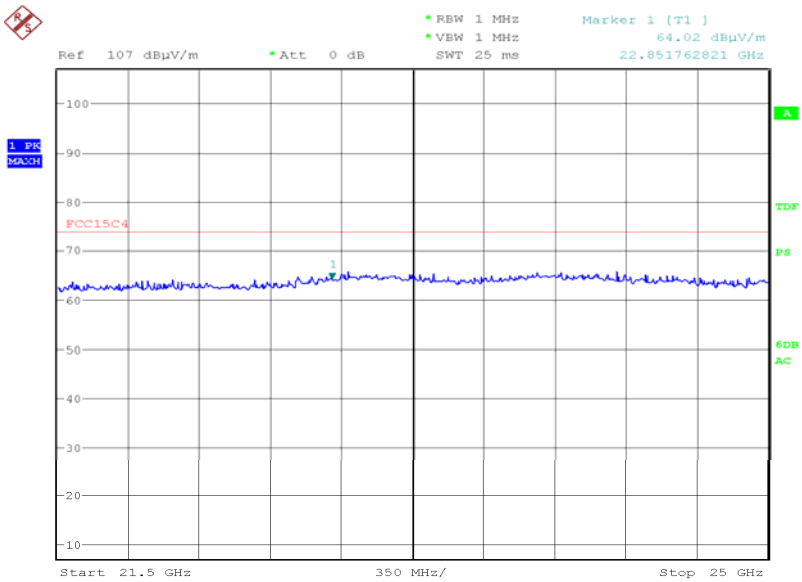
Horizontal Polarity

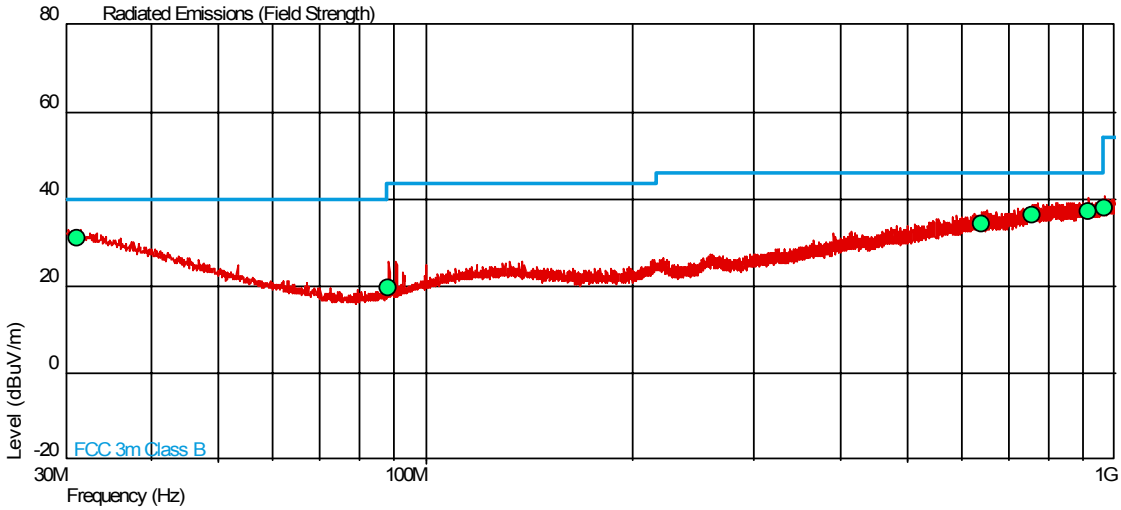


Date: 8.JUN.2008 05:47:44

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)	(µV/m)	(dBuV/m)	(µV/m)	(dBuV/m)	(µV/m)			
31.165	30.8	34.7	40.0	100.0	-9.2	65.3	292	1.00	Vertical
88.501*	19.8	9.8	43.5	150.0	-23.7	140.2	128	1.00	Vertical
642.901	34.4	52.5	46.0	200.0	-11.6	147.5	26	1.00	Vertical
761.806	36.4	66.1	46.0	200.0	-9.6	133.9	146	2.80	Horizontal
917.676	37.3	73.3	46.0	200.0	-8.7	126.7	360	1.43	Vertical
970.058	37.7	76.7	46.0	200.0	-16.3	123.3	21	3.02	Vertical

*The frequencies from 88MHz to 100MHz were proved to be ambient emissions.

Product Service

1GHz to 25GHz

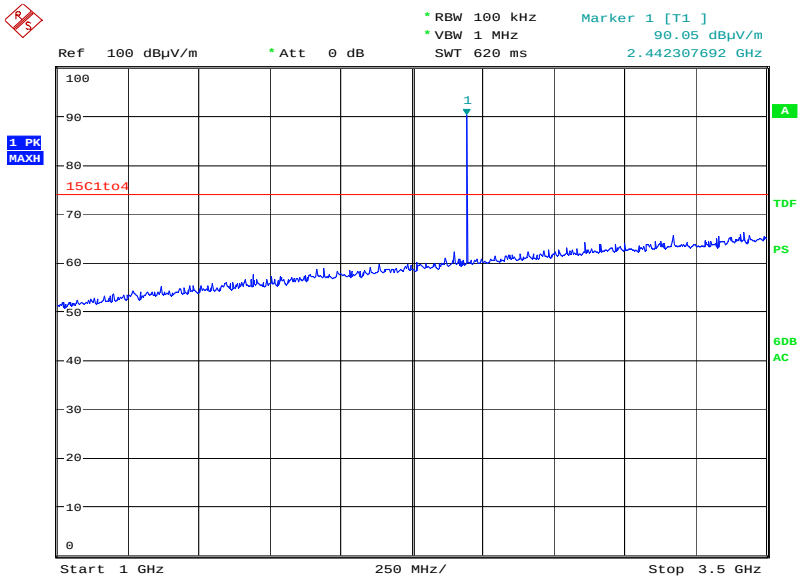
Frequency GHz	Antenna Polarisation	Antenna Height Cm	EUT Arc Deg	Result Peak dBµV/m	Result Average dBµV/m	Peak Limit dBµV/m	Average Limit dBµV/m	Result
7.440	Vertical	100	107	49.18	40.54	74.0	54.0	Pass

No other emissions were detected above the receiver noise floor with the exception of the transmit frequncy.

Configuration 1 - Mode 3

1GHz to 3.5GHz

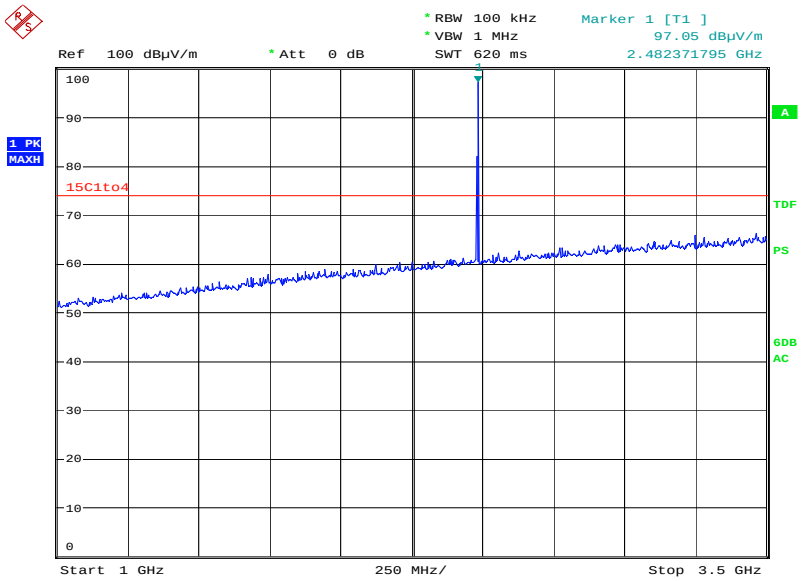
Vertical Polarity



Date: 6.JUN.2008 05:21:42

Product Service

Horizontal Polarity

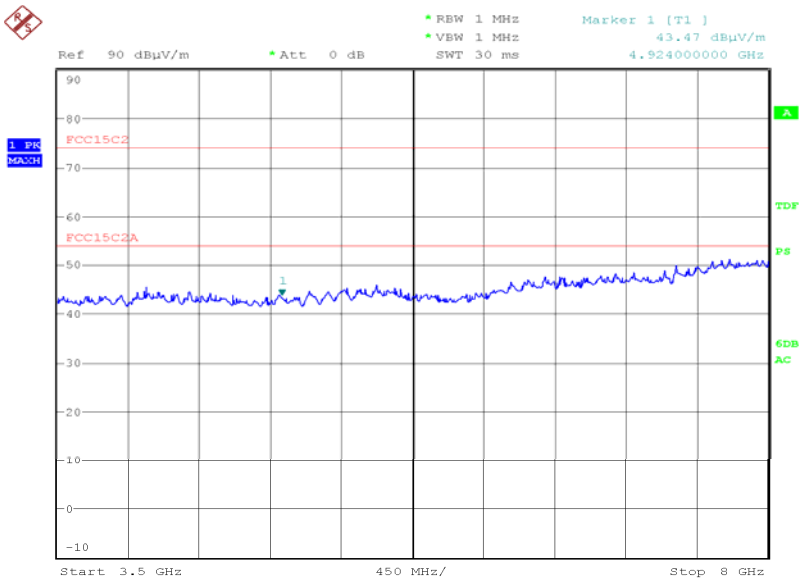


Date: 6.JUN.2008 05:15:22

Product Service

3.5GHz to 8GHz

Vertical Polarity



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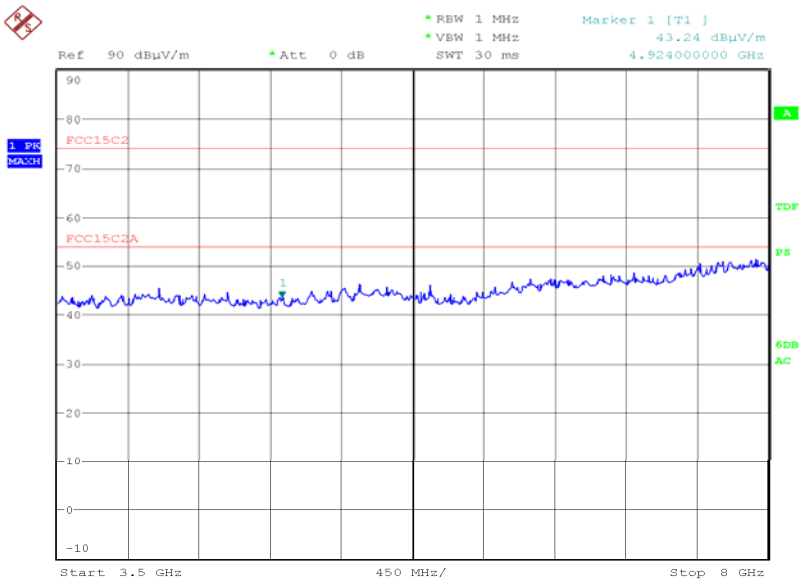
Horizontal Polarity

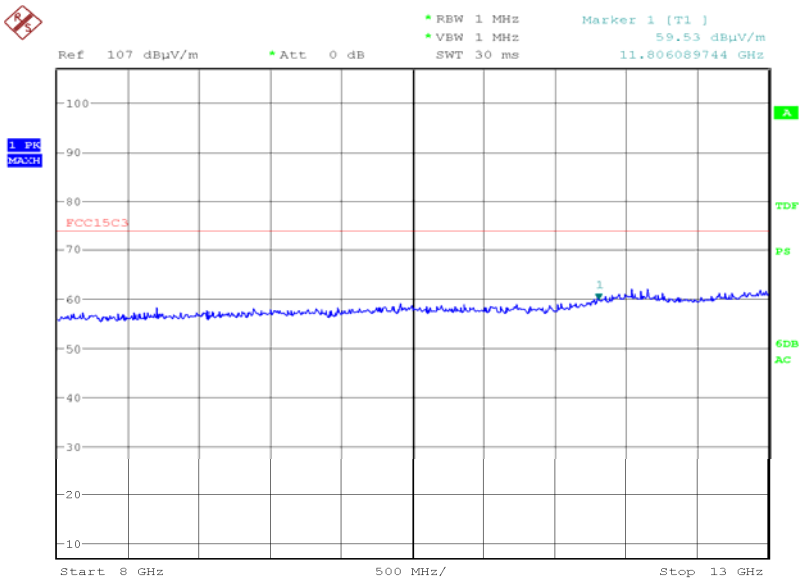


Date: 7.JUN.2008 23:04:12

Product Service

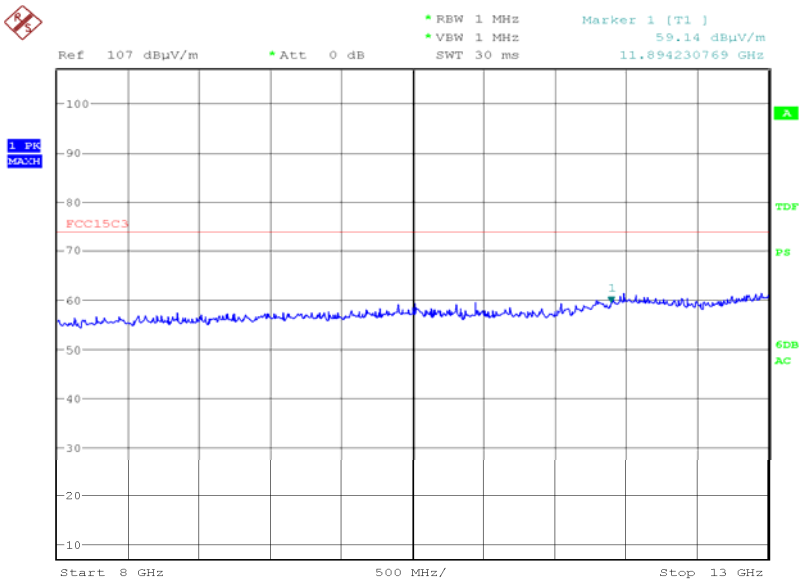
8GHz to 13GHz

Vertical Polarity



Date: 8.JUN.2008 02:28:04

Horizontal Polarity



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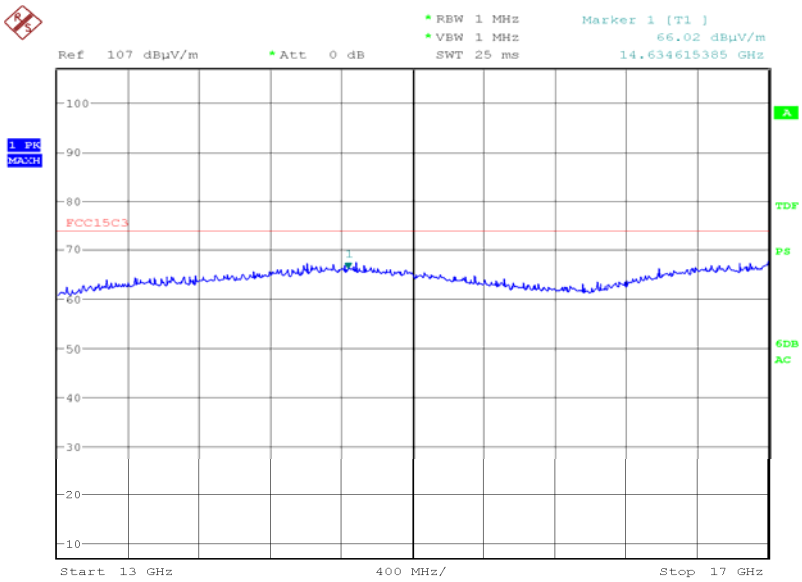
Product Service

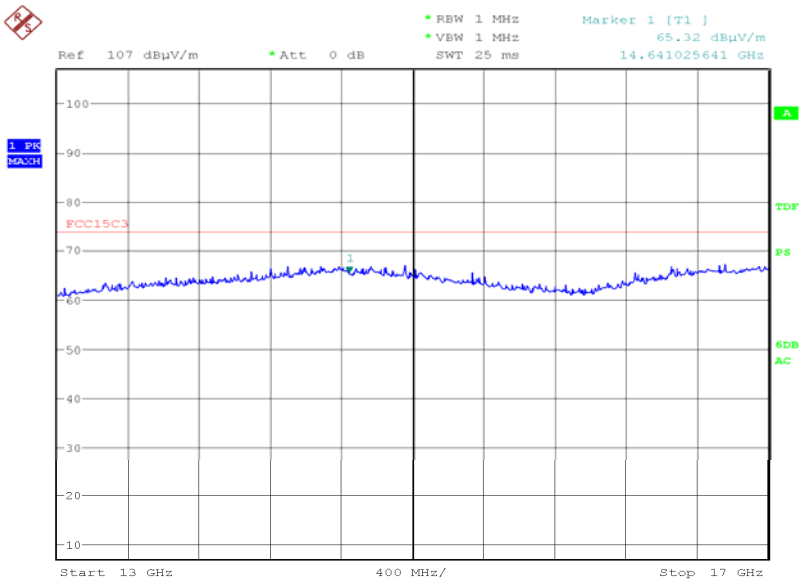
13GHz to 17GHz

Vertical Polarity



Date: 8.JUN.2008 02:30:53

Horizontal Polarity

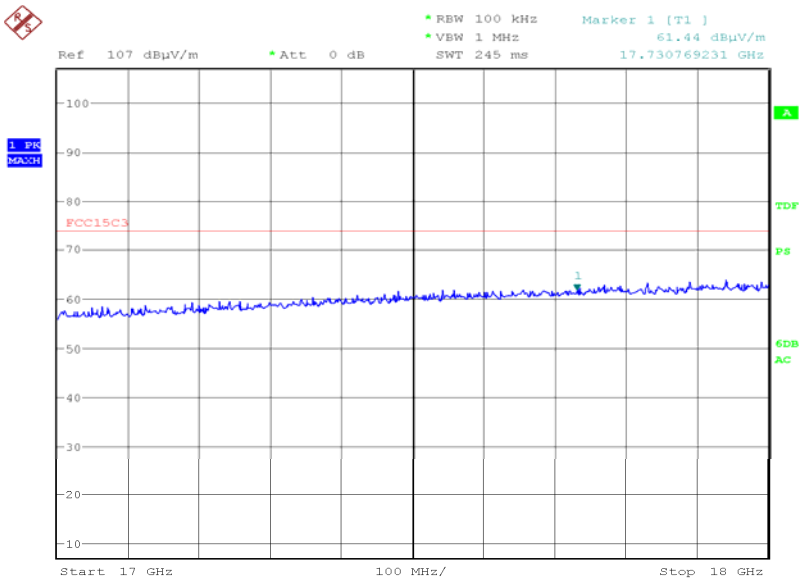


Date: 8.JUN.2008 02:39:51

Product Service

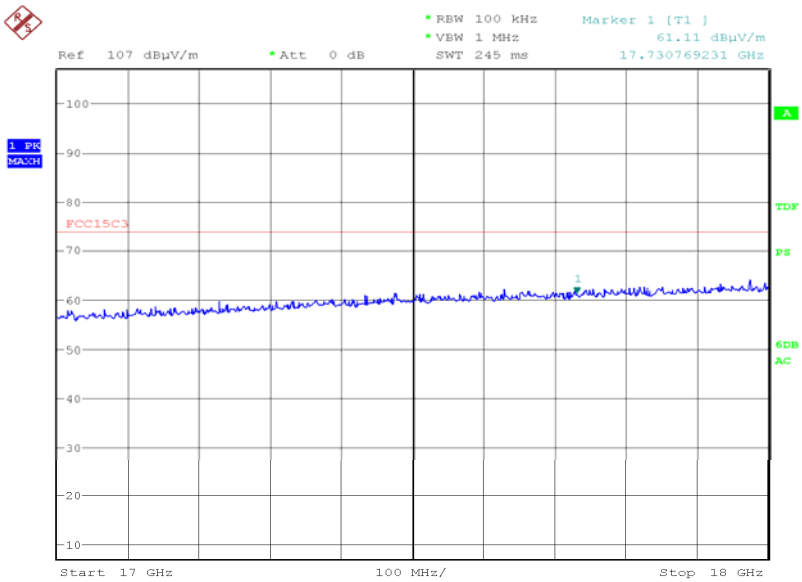
17GHz to 18GHz

Vertical Polarity



Date: 8.JUN.2008 02:34:26

Horizontal Polarity

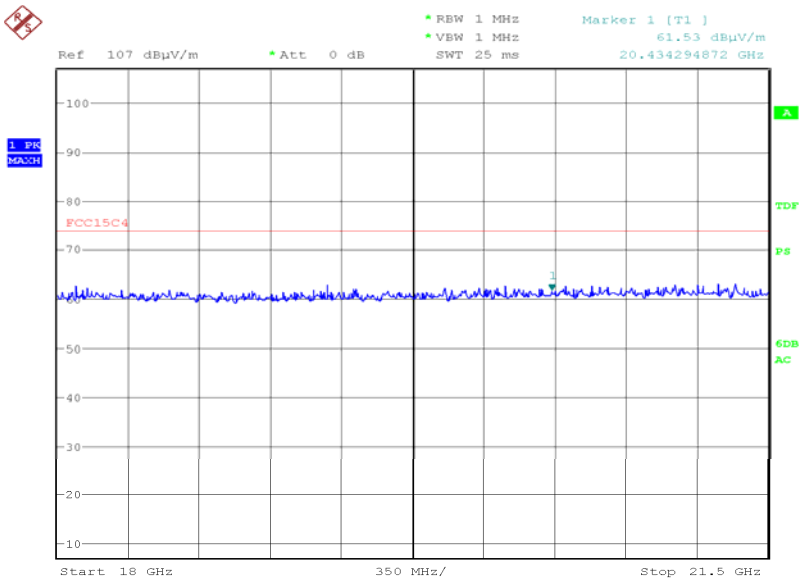


Date: 8.JUN.2008 02:37:28

Product Service

18GHz to 21.5GHz

Vertical Polarity



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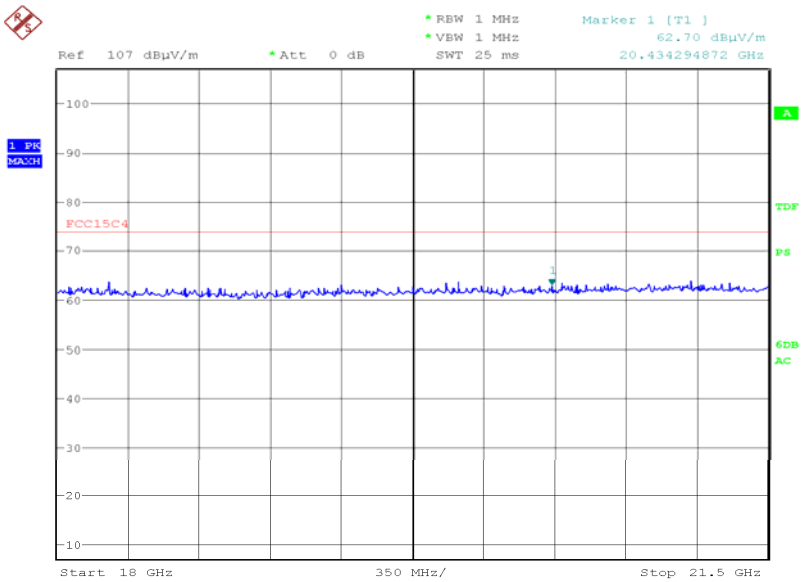
Horizontal Polarity

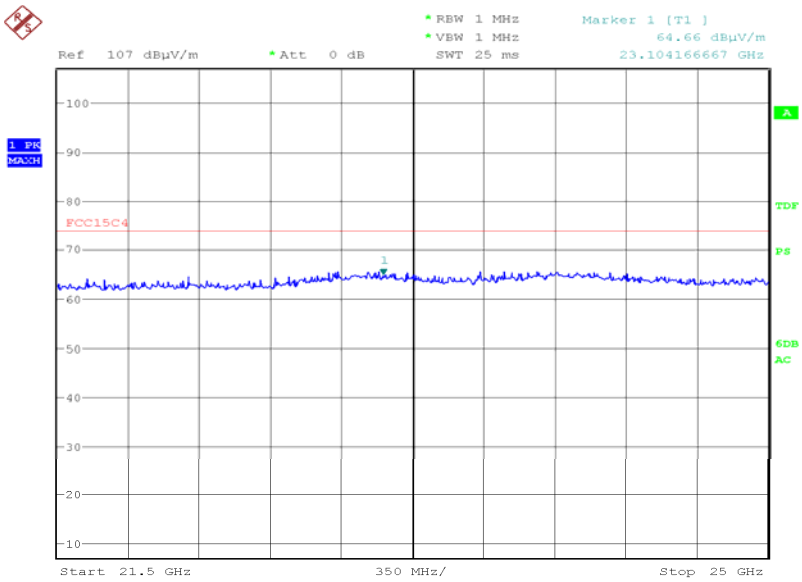


Date: 8.JUN.2008 04:53:57

Product Service

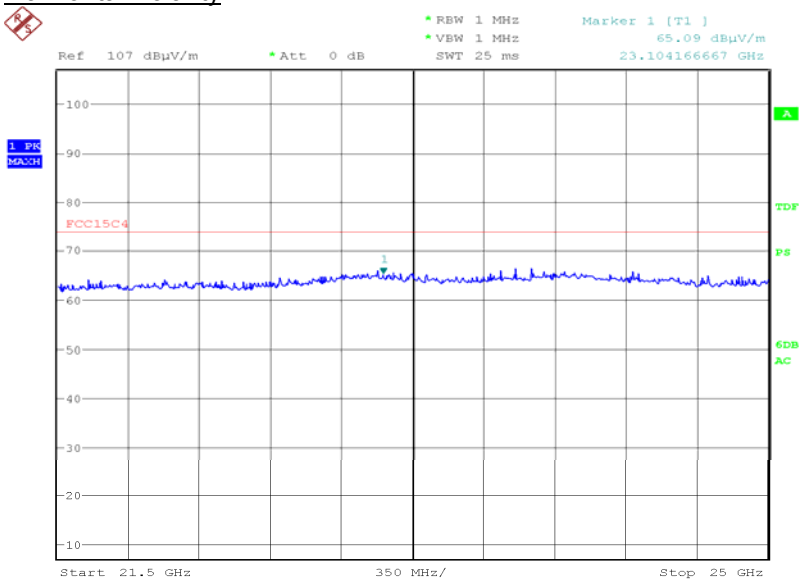
21.5GHz to 25GHz

Vertical Polarity



Date: 8.JUN.2008 04:47:49

Horizontal Polarity



Date: 8.JUN.2008 04:51:45

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

CD1D, S/N: 031425000814000030 and IMEI: 004401750007177

2.3.3 Date of Test and Modification State

05 and 06 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 Cananda.

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

	05 June 2008	06 June 2008
Ambient Temperature	19°C	19°C
Relative Humidity	36%	36%
Atmospheric Pressure	1013 mbar	1013 mbar

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 (W)	Limit (W)
2.402	0.00	36.0	1.0	4000
2.441	1.78	36.0	1.5	4000
2.480	0.8	36.0	1.2	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

CD1D, S/N: 031425000815000110 and IMEI: 004401750007698

2.4.3 Date of Test and Modification State

10 June 2008 – Modification State 0

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

	10 June 2008
Ambient Temperature	18.6°C
Relative Humidity	54.9%

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

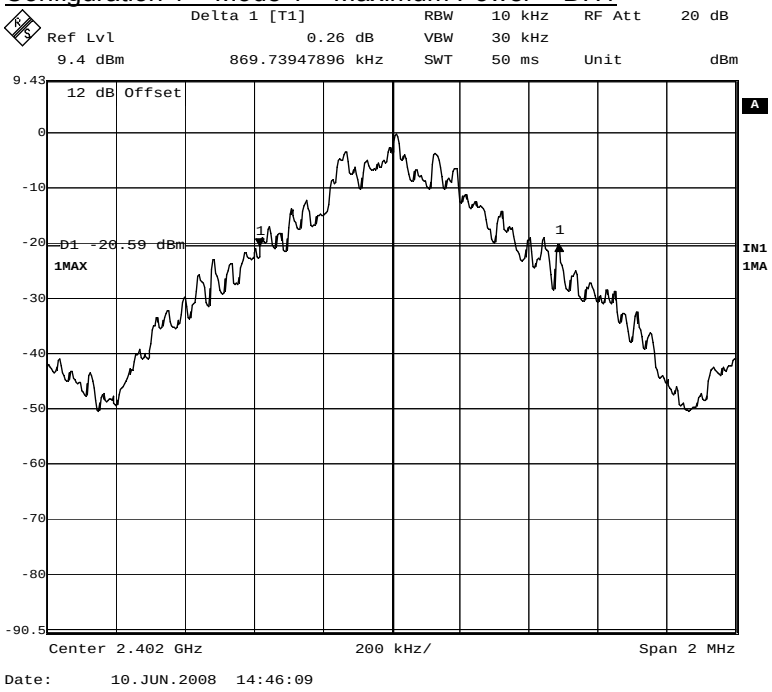
Configuration 1 - Modes 1, 2 & 3

Frequency (MHz)	Data Rate (Mbps)	20dB Bandwidth (kHz)
2402	DH1	869.73
2441	DH1	869.73
2480	DH1	865.73

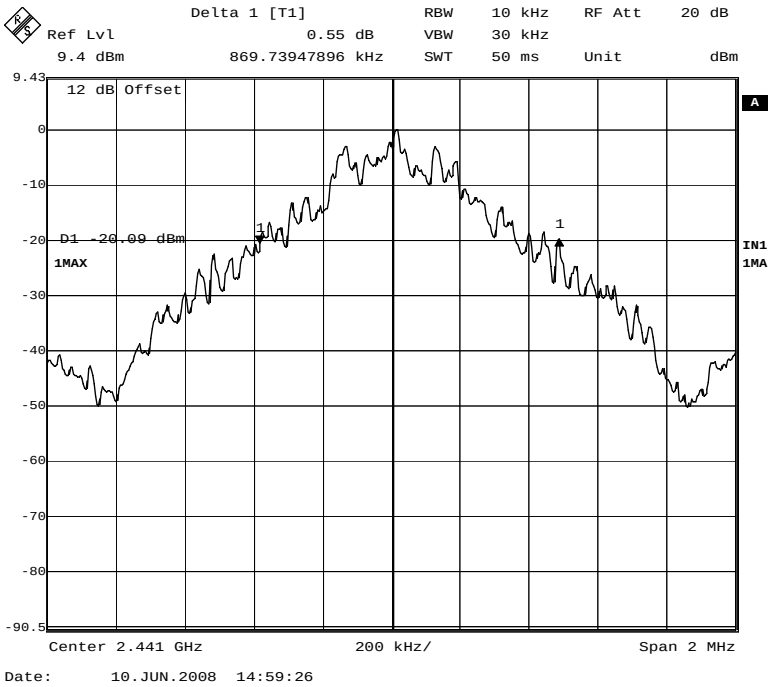
Frequency (MHz)	Data Rate (Mbps)	20dB Bandwidth (kHz)
2402	DH3	921.84
2441	DH3	921.84
2480	DH3	917.83

Frequency (MHz)	Data Rate (Mbps)	20dB Bandwidth (kHz)
2402	DH5	917.83
2441	DH5	921.84
2480	DH5	917.83

Configuration 1 – Mode 1 – Maximum Power DH1

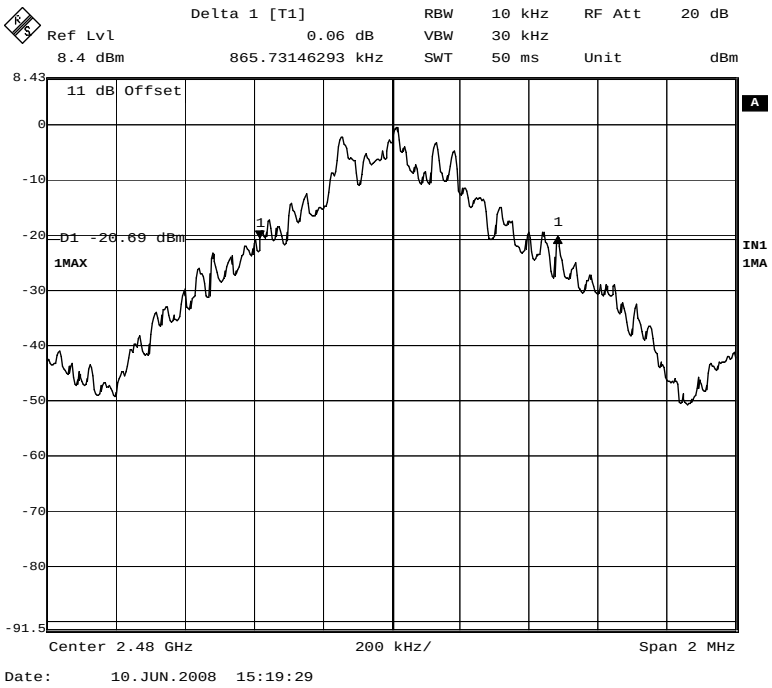


Configuration 1 – Mode 2 – Maximum Power DH1



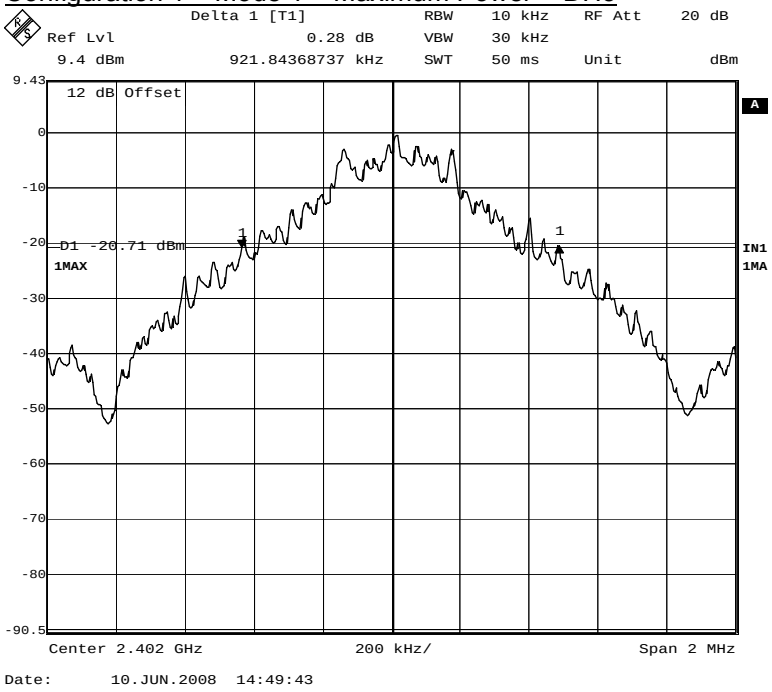
Product Service

Configuration 1 – Mode 3 – Maximum Power DH1

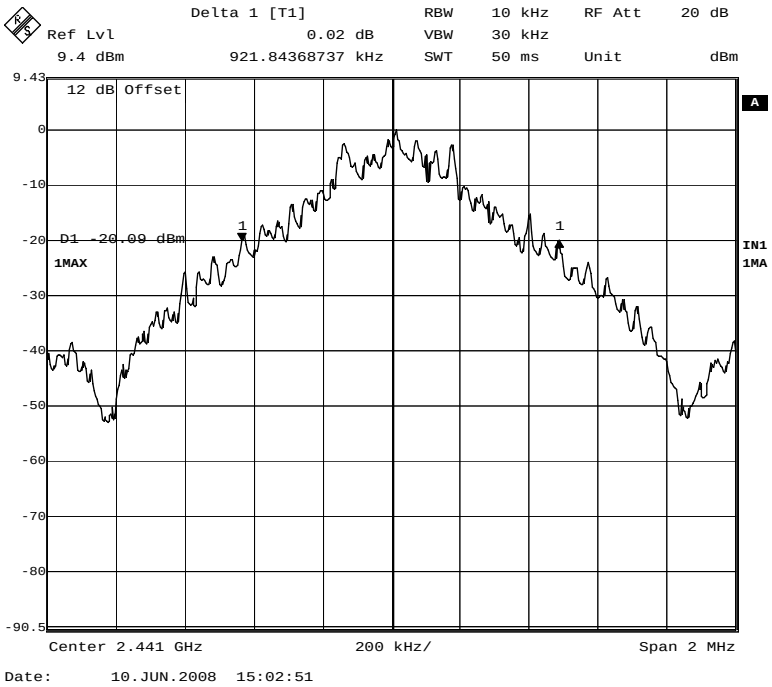


Product Service

Configuration 1 – Mode 1 – Maximum Power DH3

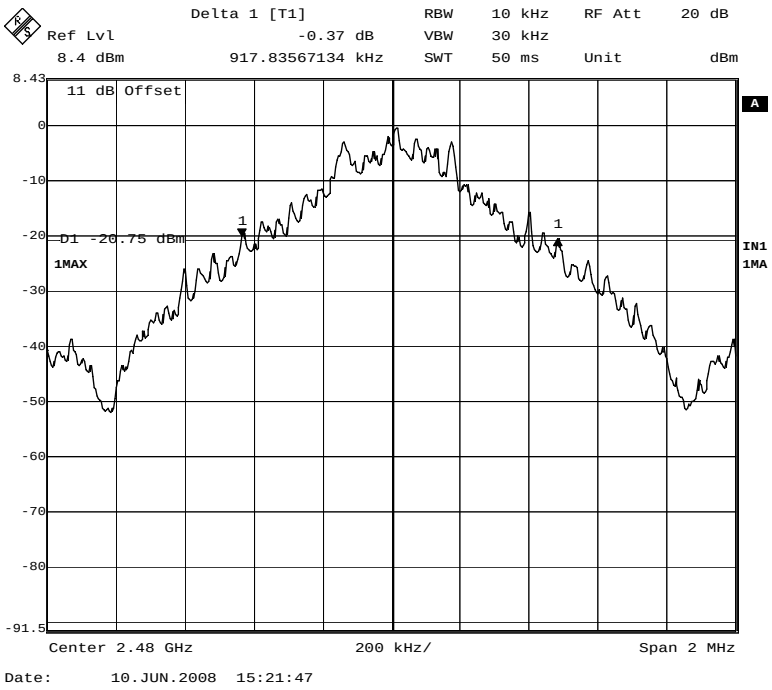


Configuration 1 – Mode 2 – Maximum Power DH3



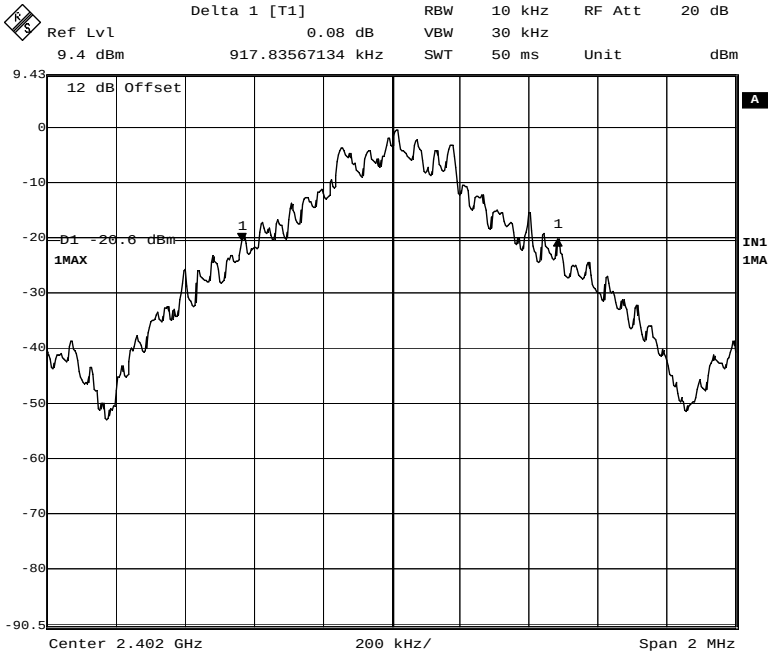
Product Service

Configuration 1 – Mode 3 – Maximum Power DH3

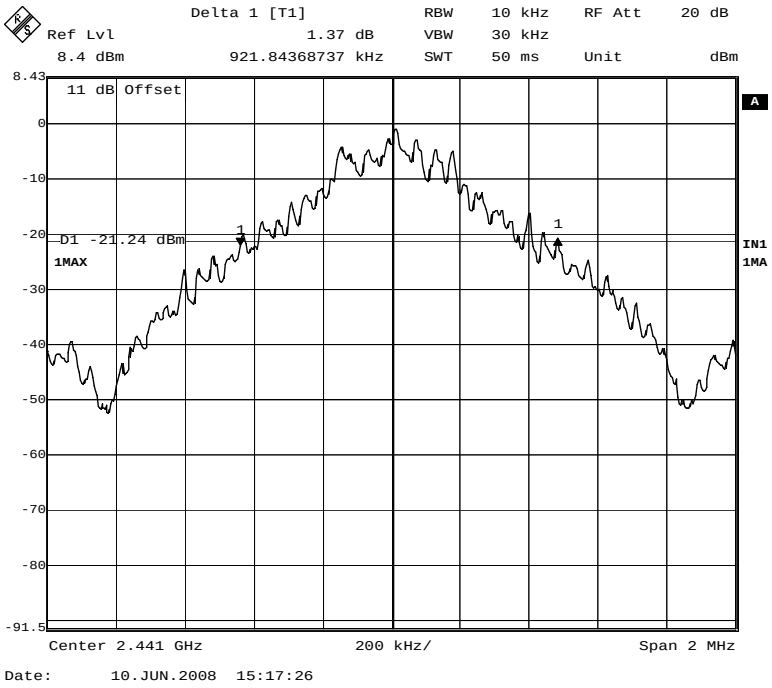


Product Service

Configuration 1 – Mode 1 – Maximum Power DH5

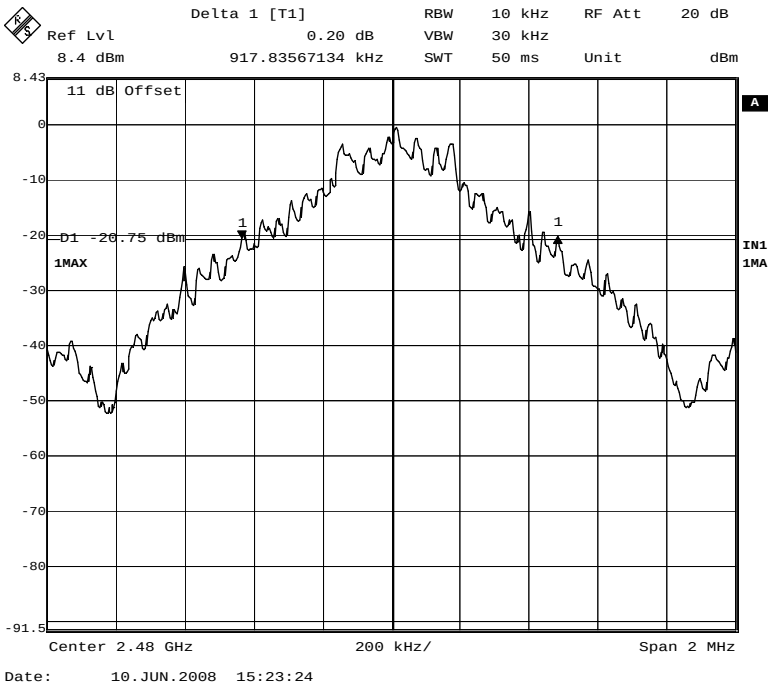


Configuration 1 – Mode 2 – Maximum Power DH5



Product Service

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

CD1D, S/N: 031425000815000110 and IMEI: 004401750007698

2.5.3 Date of Test and Modification State

10 June 2008 – Modification State 0

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

	10 June 2008
Ambient Temperature	19.1°C
Relative Humidity	62.3%

2.5.7 Test Procedure

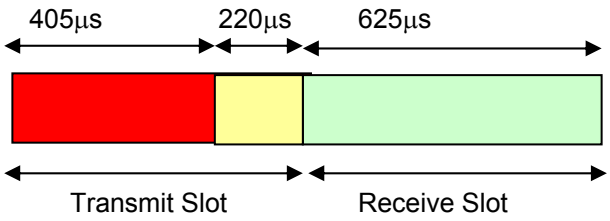
Procedure: Test Performed in accordance with 15.247.

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.

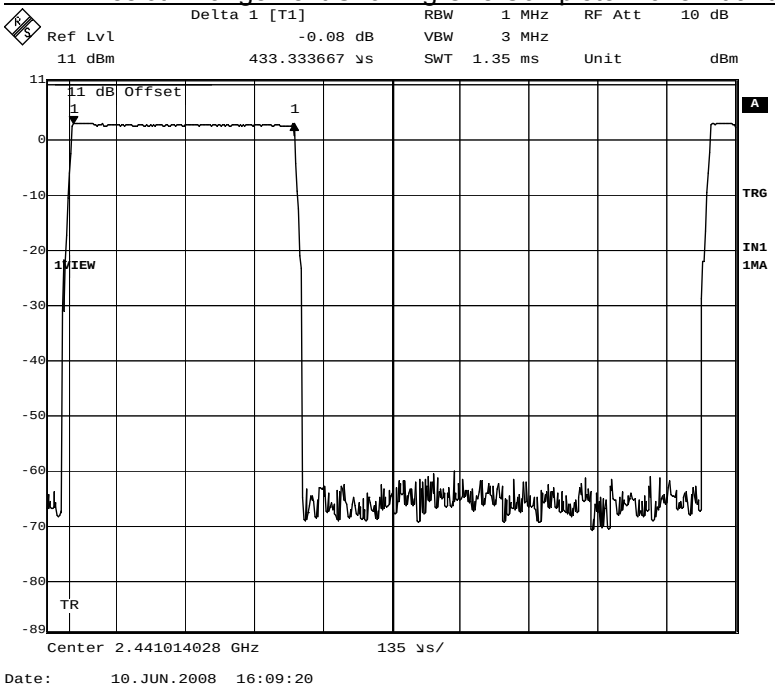
Thus:

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

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

CD1D, S/N: 031425000815000110 and IMEI: 004401750007698

2.6.3 Date of Test and Modification State

10 June 2008 – Modification State 0

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

	10 June 2008
Ambient Temperature	19.1°C
Relative Humidity	62.3%

2.6.7 Test Procedure

Test Performed in accordance with 15.247.

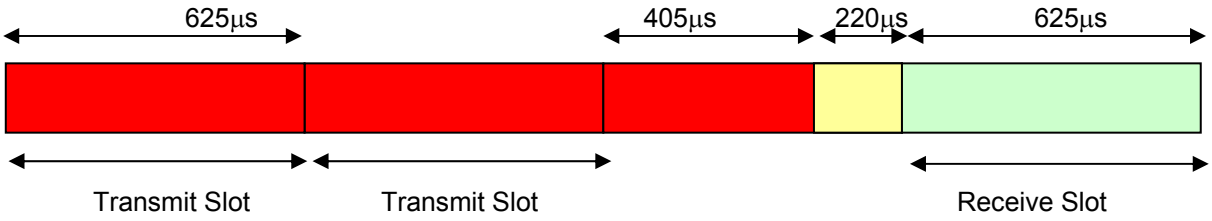
The Bluetooth system hops at a rate of 1600 times per second. Thus, this equates to 1600 timeslots in 1 second. With data rate DH3, the data payload is higher and can use up to 3 timeslots. When more than one timeslot is used, the frequency does not hop and transmission is continuous on all 3 slots, (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.

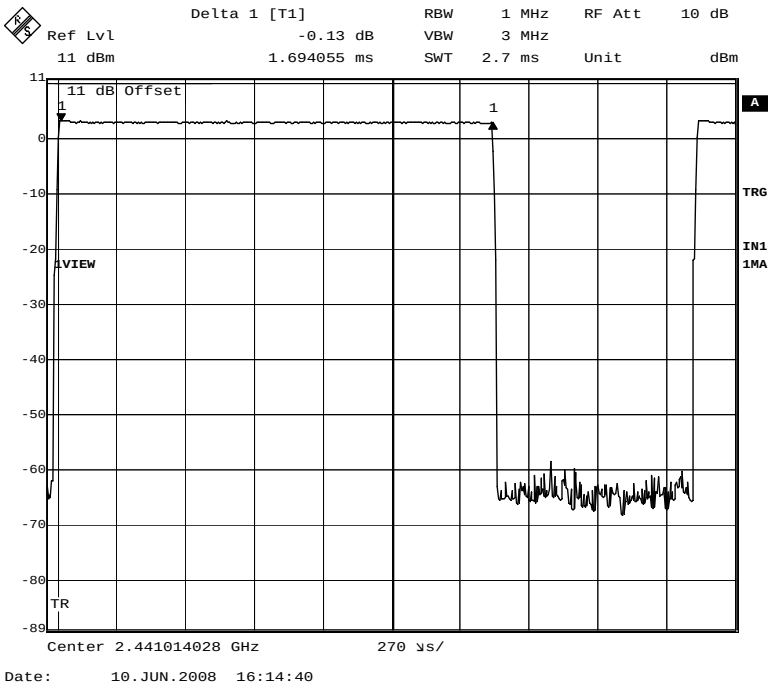
Thus:

1 Timeslot = $\frac{1}{1600}$ = 625µs

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

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

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

31.6 x 8.379ms = 0.2648 seconds

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

CD1D, S/N: 031425000815000110 and IMEI: 004401750007698

2.7.3 Date of Test and Modification State

10 June 2008 – Modification State 0

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

	10 June 2008
Ambient Temperature	19.1°C
Relative Humidity	62.3%

2.7.7 Test Procedure

Test Performed in accordance with 15.247.

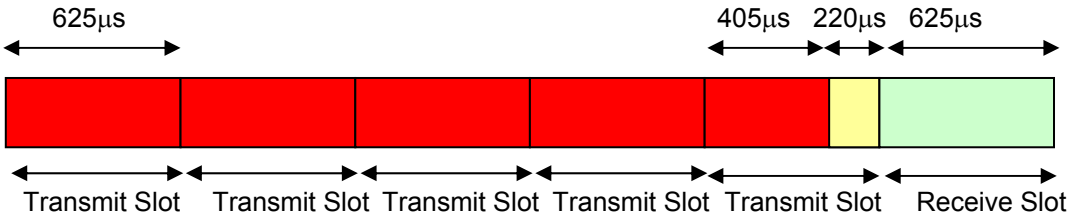
The Bluetooth system hops at a rate of 1600 times per second. Thus, this equates to 1600 timeslots in 1 second. With data rate DH5, the data payload is higher and can use up to 5 timeslots. When more than one timeslot is used, the frequency does not hop and transmission is continuous on all 5 slots, (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.

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.

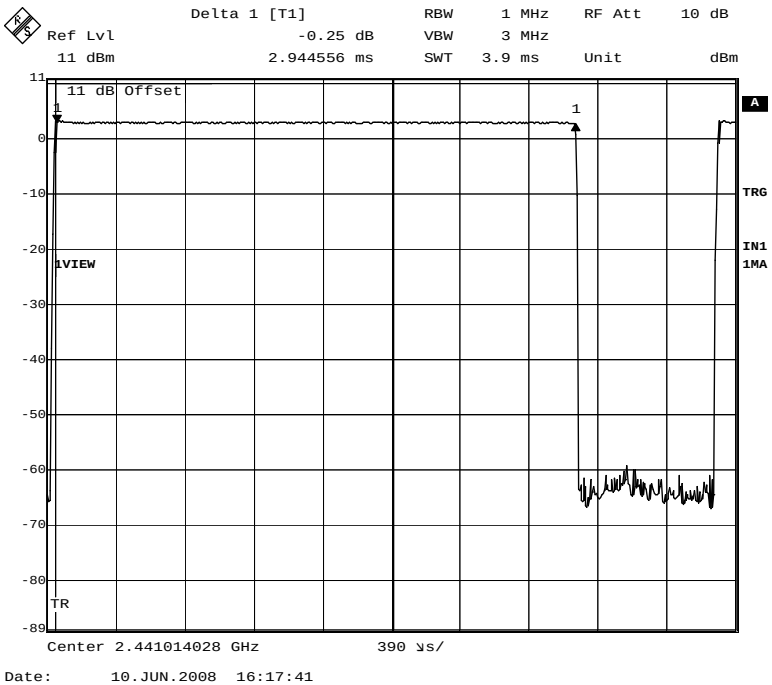
Thus:

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

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

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

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

31.6 x 9.797ms = 0.31 seconds

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 SEPERATION

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

CD1D, S/N: 031425000815000110 and IMEI: 004401750007698

2.8.3 Date of Test and Modification State

11 June 2008 – Modification State 0

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.

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

Configuration 1 - Mode 4

2.8.6 Environmental Conditions

	11 June 2008
Ambient Temperature	18.8°C
Relative Humidity	48.5%

2.8.7 Test Procedure

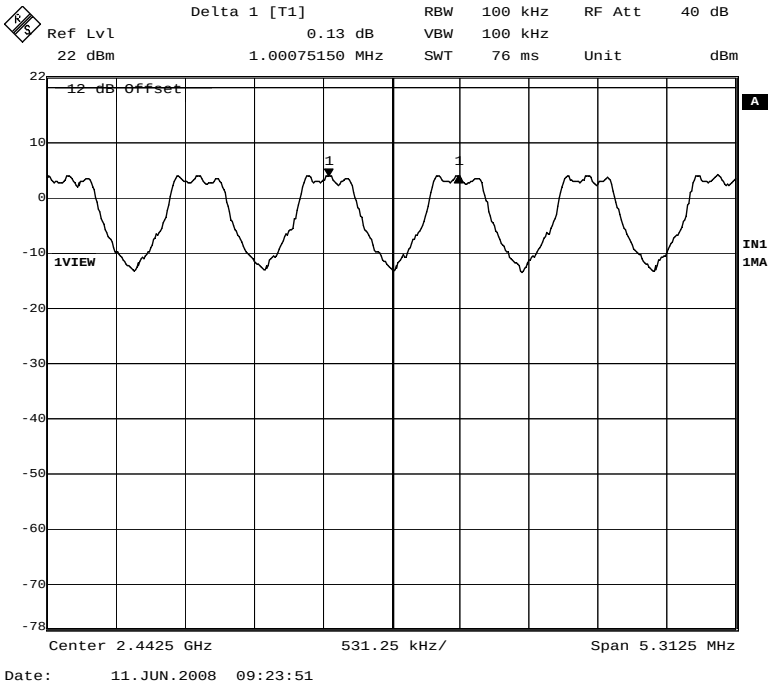
The EUT was transmitted at maximum power into a Spectrum Analyser. The trace was set to Max Hold to store several adjacent channels on screen. Using the marker delta function, the markers were positioned to show the separation between adjacent channels.

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.

Product Service



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

CD1D, S/N: 031425000815000110 and IMEI: 004401750007698

2.9.3 Date of Test and Modification State

10 June 2008 – Modification State 0

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.

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

Configuration 1 - Mode 4

2.9.6 Environmental Conditions

	10 June 2008
Ambient Temperature	22.3°C
Relative Humidity	43.1%

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.

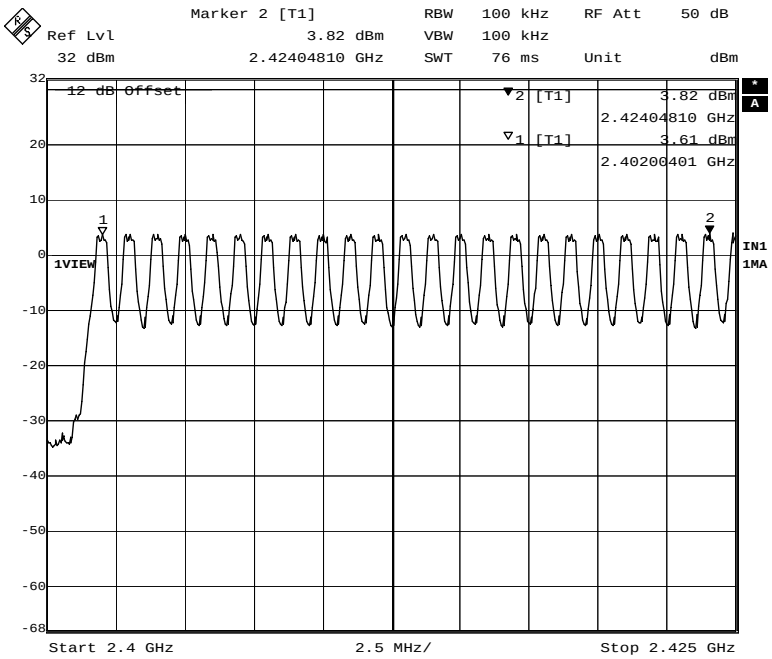
2.9.8 Test Results

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.

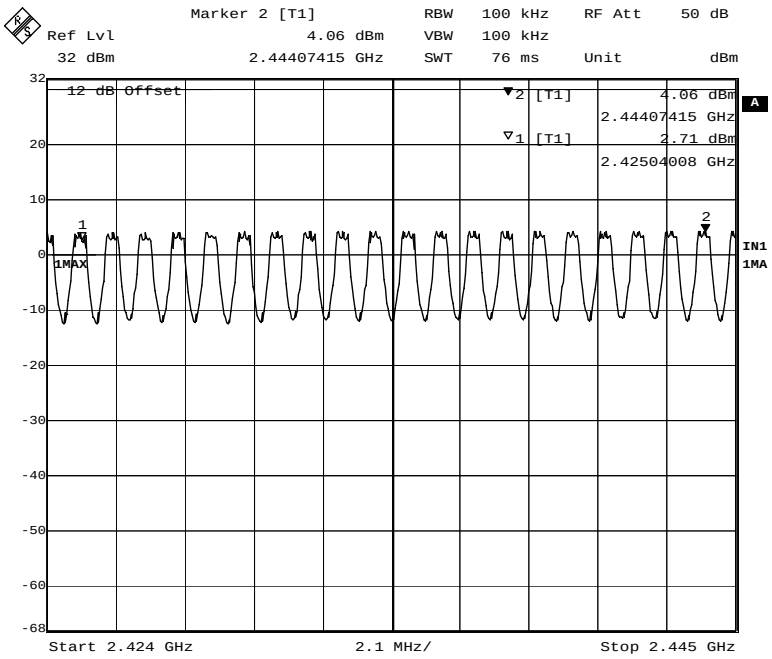
Product Service

Trace Showing Channels 1 - 23



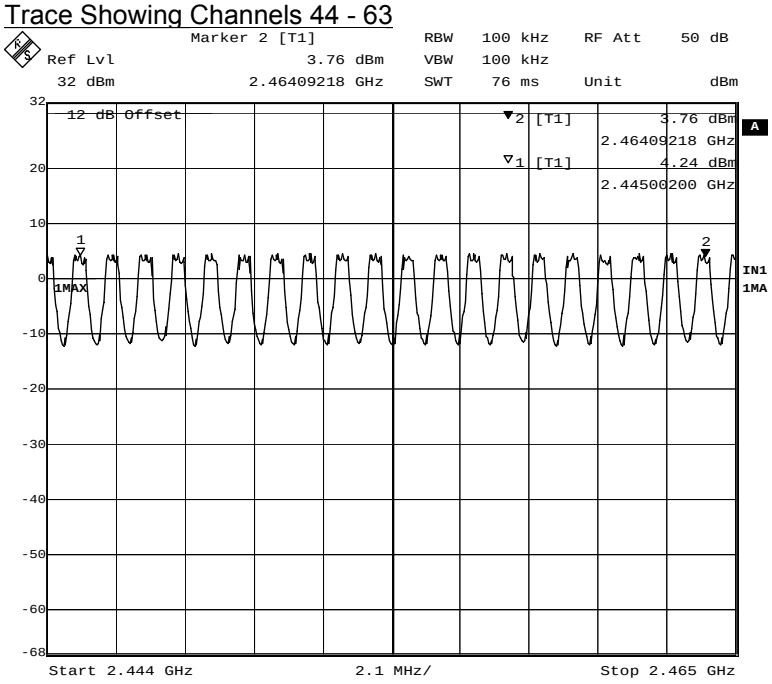
Date: 11.JUN.2008 10:08:10

Trace Showing Channels 24 - 43



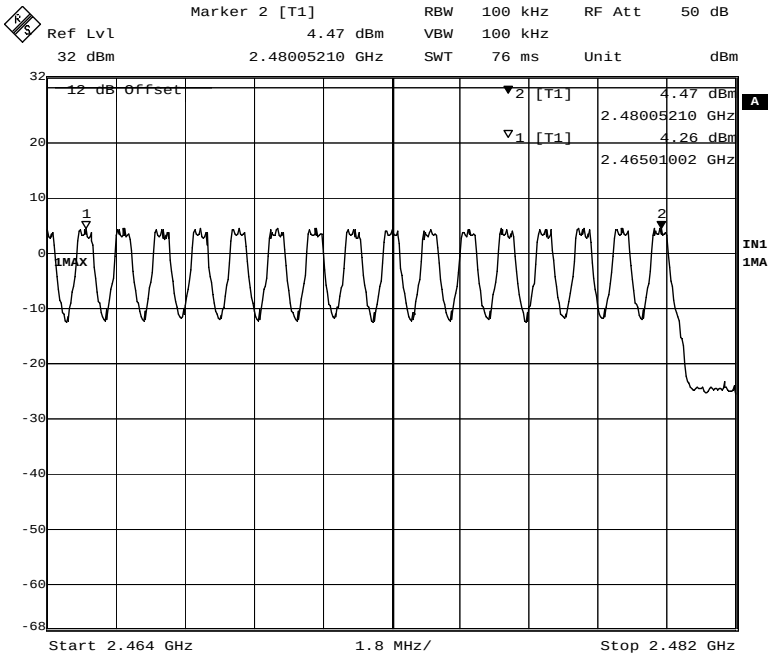
Date: 11.JUN.2008 10:59:26

Trace Showing Channels 44 - 63



Date: 11.JUN.2008 11:10:27

Trace Showing Channels 64 - 79



Date: 11.JUN.2008 11:18:50

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

CD1D, S/N: 031425000815000110 and IMEI: 004401750007698

2.10.3 Date of Test and Modification State

12 June 2008 – Modification State 0

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.

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	17.7°C
Relative Humidity	59.6%

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.

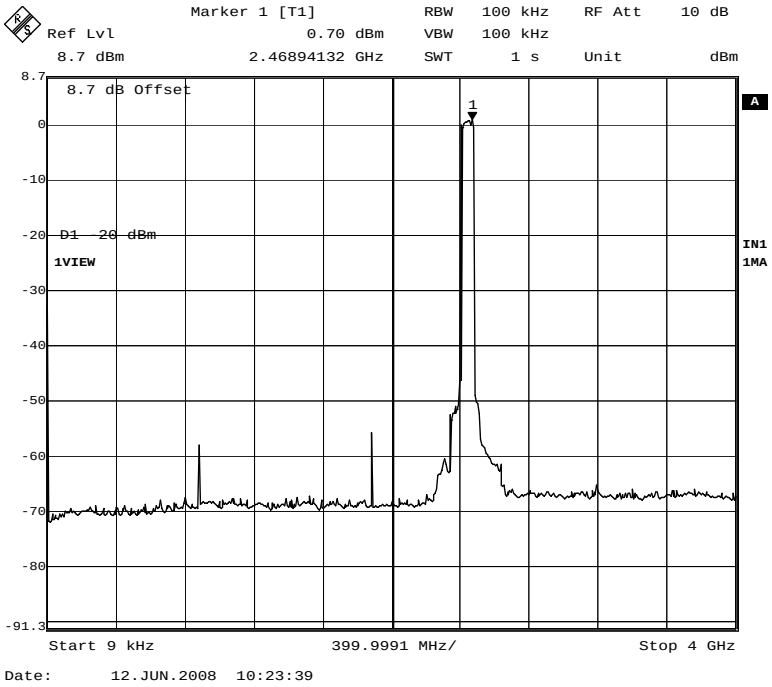
Product Service

2.10.8 Test Results

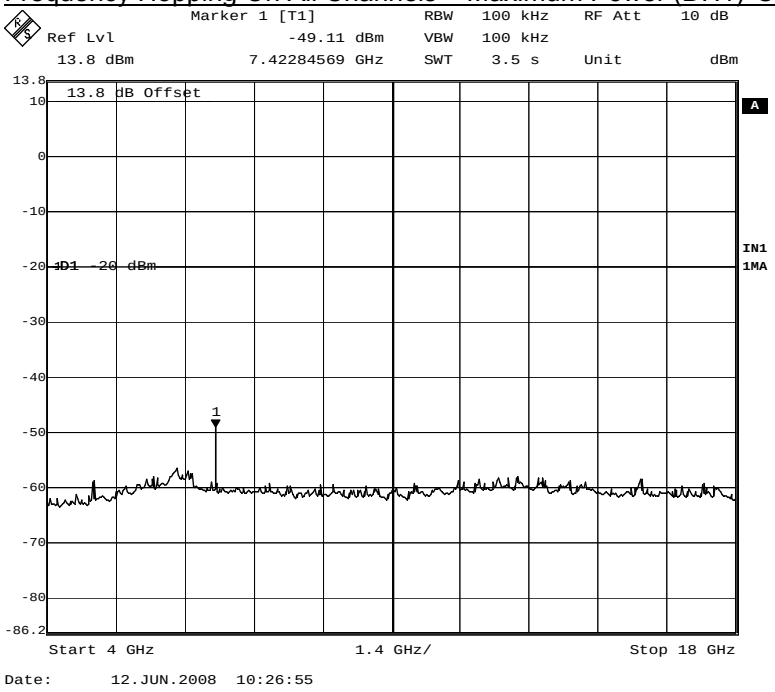
For the period of test the EUT met the requirements of FCC CFR 47 Part 15C: 2006 and Industry Canada RSS-210: 2007, RSS-Gen: 2005 for Spurious Conducted Emissions.

The test results are shown below.

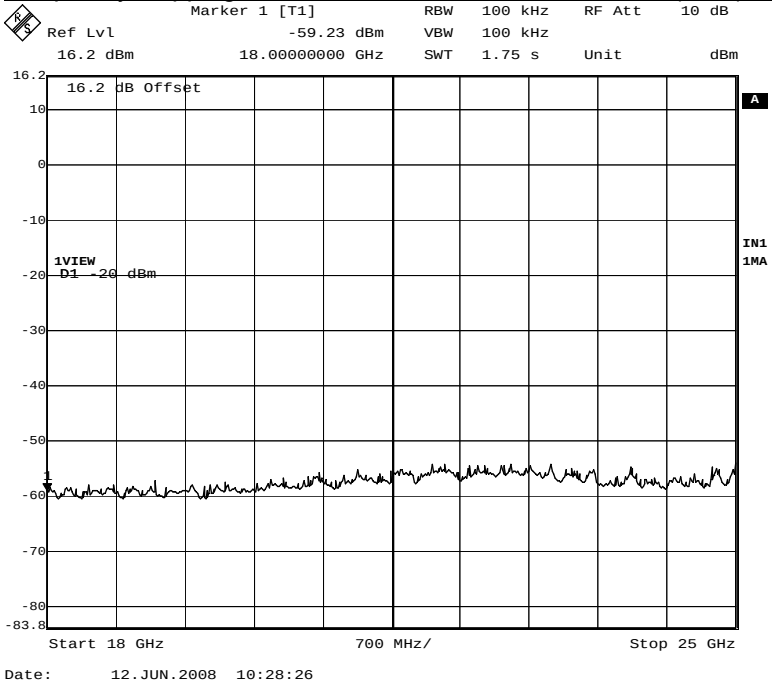
Spurious Conducted Emissions (9kHz – 4GHz)
Frequency Hopping On All Channels – Maximum Power (DH1) Configuration 1 - Mode 4



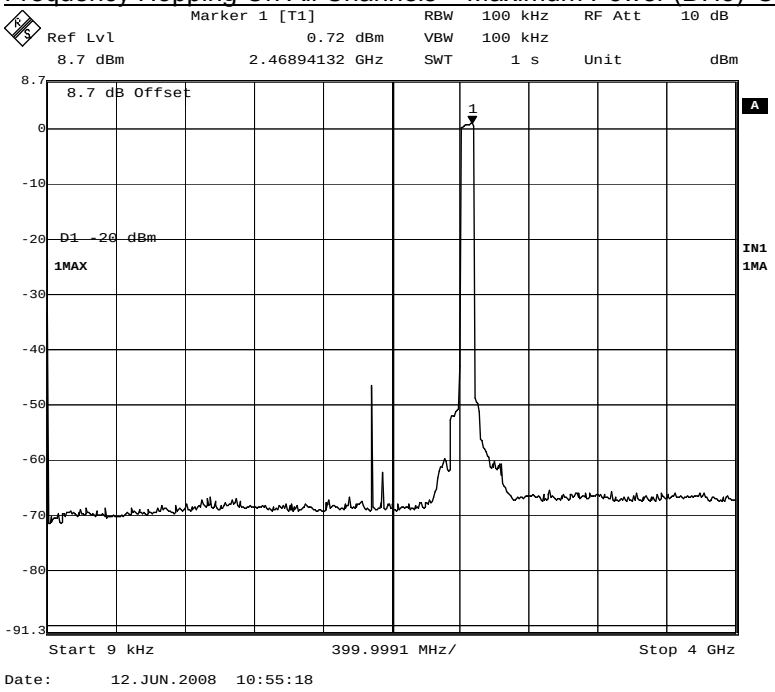
Spurious Conducted Emissions (4GHz – 18GHz)
Frequency Hopping On All Channels – Maximum Power (DH1) Configuration 1 - Mode 4



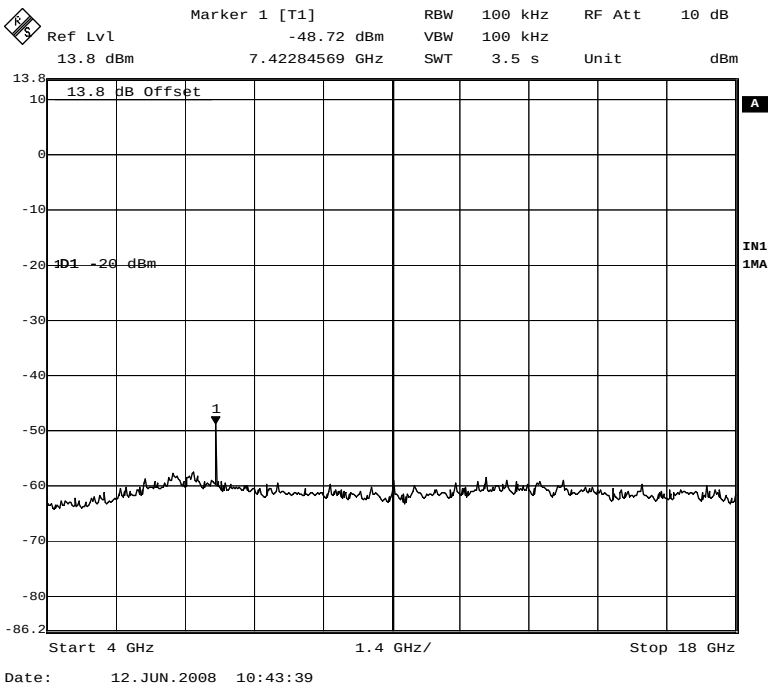
Spurious Conducted Emissions (18GHz – 25GHz)
Frequency Hopping On All Channels – Maximum Power (DH1) Configuration 1 - Mode 4



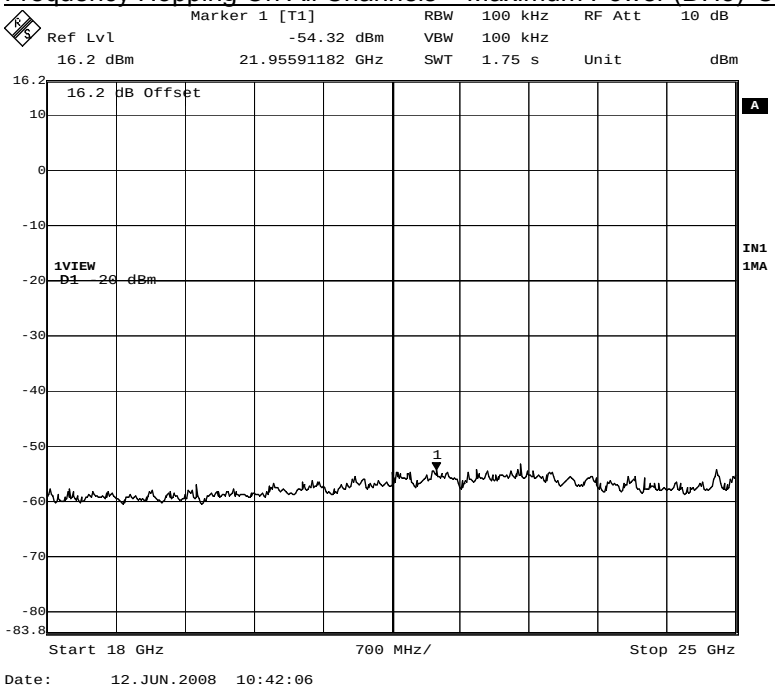
Spurious Conducted Emissions (9kHz – 4GHz)
Frequency Hopping On All Channels – Maximum Power (DH3) Configuration 1 - Mode 4



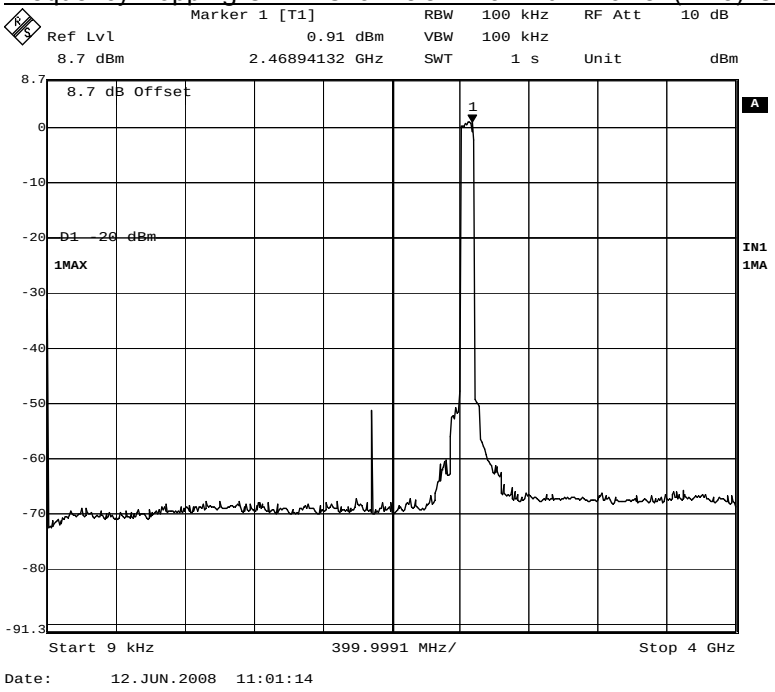
Spurious Conducted Emissions (4GHz – 18GHz)
Frequency Hopping On All Channels – Maximum Power (DH3) Configuration 1 - Mode 4



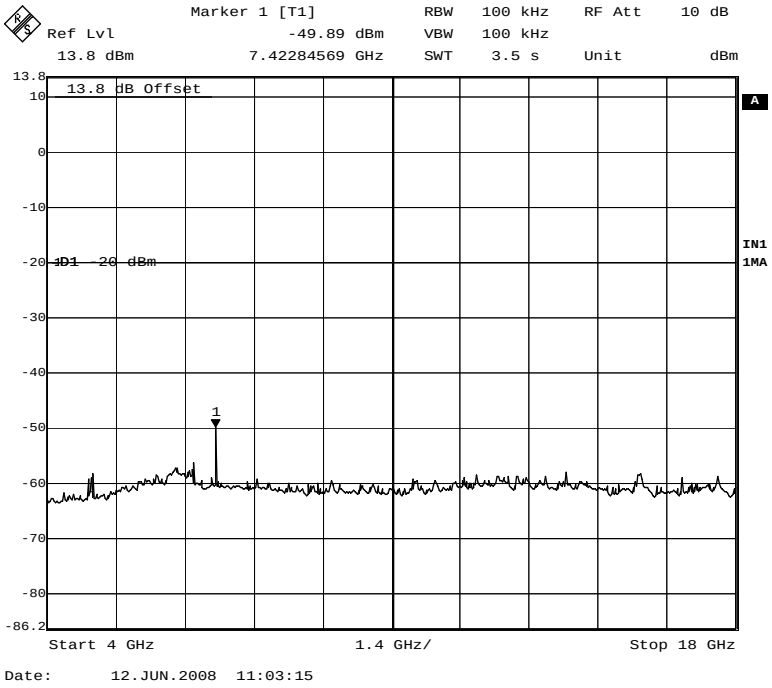
Spurious Conducted Emissions (18GHz – 25GHz)
Frequency Hopping On All Channels – Maximum Power (DH3) Configuration 1 - Mode 4



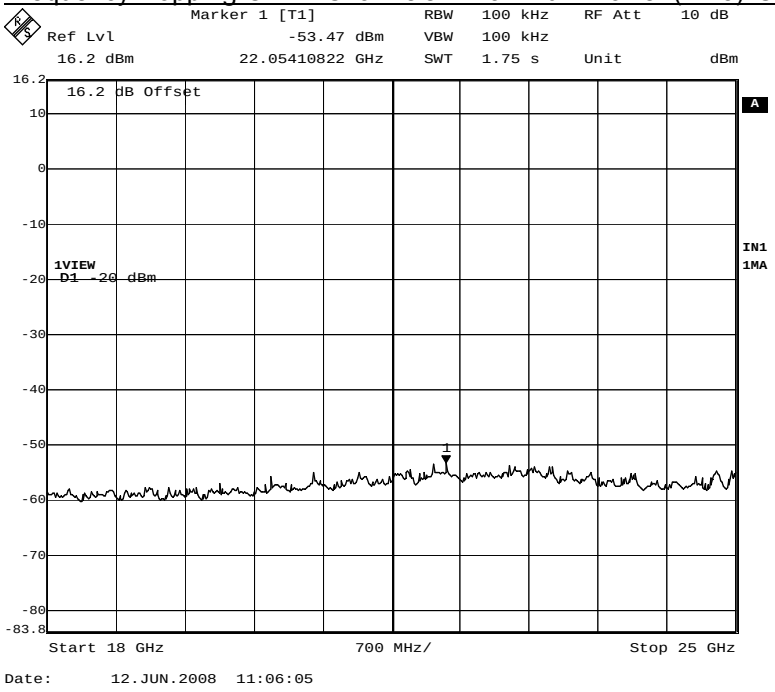
Spurious Conducted Emissions (9kHz – 4GHz)
Frequency Hopping On All Channels – Maximum Power (DH5) Configuration 1 - Mode 4



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

CD1D, S/N: 031425000815000110 and IMEI: 004401750007698

2.11.3 Date of Test and Modification State

10 June 2008 – Modification State 0

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

	10 June 2008
Ambient Temperature	18.1°C
Relative Humidity	48.5%

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	-0.02	0.99
2441.0	7.47	+0.41	1.09
2480.0	7.54	+0.85	1.21

DH3 Results

Frequency (MHz)	Path Loss (dB)	Output Power (dBm)	Result (mW)
2402.0	7.53	+0.21	1.04
2441.0	7.47	+0.52	1.12
2480.0	7.54	+0.94	1.24

DH5 Results

Frequency (MHz)	Path Loss (dB)	Output Power (dBm)	Result (mW)
2402.0	7.53	+0.22	1.05
2441.0	7.47	+0.55	1.12
2480.0	7.54	+0.95	1.24

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
Transient Limiter	Hewlett Packard	11947A	2378	12	19-Jun-2008
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	15-Mar-2009
Sections 2.2 and 2.3 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	0	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
Antenna (Bilog)	Chase	CBL6143	2904	24	28-Nov-2009
Signal Generator (10MHz to 40GHz)	Rohde & Schwarz	SMR40	3171	12	11-Jul-2008
Signal Generator: 10MHz to 20GHz	Rohde & Schwarz	SMR20	3475	12	27-Nov-2008
EMI Test Receiver	Rohde & Schwarz	ESU40	3506	12	15-Mar-2009
Section 2.8 - Channel Separation					
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	0	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

Product Service

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
Section 2.10– Spurious Conducted Emissions					
Filter (High Pass)	Lorch	SHP7-7000-SR	566	12	TU
Power Splitter	Weinschel	1506A	607	12	18-Sep-2008
Test Receiver	Rohde & Schwarz	ESIB40	1006	12	14-May-2009
Programmable Power Supply	Iso-tech	IPS 2010	2436	12	21-Sep-2008
Power Supply Unit	Various	SC1398	2754	0	TU
GSM Test Set	Rohde & Schwarz	CMU 200	2809	12	21-Apr-2009
Attenuator (3dB)	Suhner	6803.17.B	3026	12	20-Mar-2009
Multimeter	Fluke	77 Series II	3067	12	15-May-2009
Attenuator (20dB, 50W)	Aeroflex / Weinschel	47-20-34	3165	12	30-May-2009
Attenuator (10dB, 50W)	Aeroflex / Weinschel	47-10-34	3166	12	30-May-2009
Hygrometer	Rotronic	I-1000	3220	12	9-Apr-2009
Power Divider (N), 1W	Weinschel	1506A	3345	12	6-May-2009
Cable (2m, N Type)	Rhophase	NPS-1601-2000-NPS	3355	12	22-Apr-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
Section 2.11 - Maximum Peak Output Power					
Peak Power Analyser	Hewlett Packard	8990A	107	12	24-Jan-2009
Power Sensor	Hewlett Packard	84812A	2743	12	24-Jan-2009
Power Supply Unit	Various	SC1398	2754	0	TU
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

Product Service

Instrument	Manufacturer	Type No.	TE No.	Calibration Period (months)	Calibration Due
Section 2.4, 2.5, 2.6, 2.7 and 2.9 - 20dB Bandwidth, Channel Dwell Time and Number of Hopping Channels					
Power Splitter	Weinschel	1506A	607	12	18-Sep-2008
Test Receiver	Rohde & Schwarz	ESIB40	1006	12	14-May-2009
Programmable Power Supply	Iso-tech	IPS 2010	2436	12	21-Sep-2008
Power Supply Unit	Various	SC1398	2754	0	TU
GSM Test Set	Rohde & Schwarz	CMU 200	2809	12	21-Apr-2009
Attenuator (3dB)	Suhner	6803.17.B	3026	12	20-Mar-2009
Multimeter	Fluke	77 Series II	3067	12	15-May-2009
Attenuator (20dB, 50W)	Aeroflex / Weinschel	47-20-34	3165	12	30-May-2009
Attenuator (10dB, 50W)	Aeroflex / Weinschel	47-10-34	3166	12	30-May-2009
Hygrometer	Rotronic	I-1000	3220	12	9-Apr-2009
Power Divider (N), 1W	Weinschel	1506A	3345	12	6-May-2009
Cable (2m, N Type)	Rhophase	NPS-1601-2000-NPS	3355	12	22-Apr-2009
1m RF Cable sma(m)-sma(m)	Reynolds	262-0248-1000	3453	12	17-Sep-2008

TU – Traceability Unscheduled

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

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

ACCREDITATION, DISCLAIMERS AND COPYRIGHT

Product Service

4.1 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).