Compliance Engineering Ireland Ltd

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Project Number: 13E4897-1c

Prepared for:

Galvanic Ltd.

By

Compliance Engineering Ireland Ltd

Clonross Lane

Derrockstown

Dunshaughlin

Co. Meath

FCC Site Registration: 92592

Industry Canada Assigned Site Code: 8517A-2

FCC ID: 2ABRHPIP

IC: 11686A-PIP

Date

18th April 2014

FCC EQUIPMENT AUTHORISATION

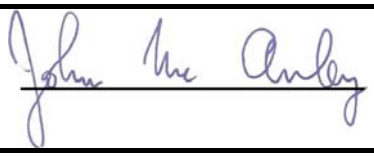
Test Report

EUT Description

Biosensor

Authorised :

John McAuley



TEST SUMMARY

The equipment complies with the requirements according to the following standards.

Bluetooth Classic

FCC Part Section(s)	RSS-210 Section	TEST PARAMETERS	Test Result
15.247a	A8.4	20dB bandwidth of hopping Channel	Pass
15.247(a)1	A8.1(b)	Hopping Frequency Separation	Pass
15.247(a)1iii	A8.1(d)	Number of Hopping Channels	Pass
15.247(a)1iii	A8.1(d)	Average Time of Occupancy	Pass
15.247(b)1	A8.4	Output power	Pass
15.247(d)1	A8.5	Conducted Spurious Emissions	Pass
15.209	2.6	Radiated Spurious Emissions	Pass

Exhibit A – Technical Report

Table of Contents

1.0 EUT Description

The EUT was a module using Bluetooth for Biosensor feedback .

Model:	PIP
Type:	Biosensor
FCC ID:	2ABRHPIP
Company:	Galvanic Ltd
Contact	Daragh McDonnell
Address:	One Gateway , East Wall Road Dublin 3 , Ireland
Phone:	+353 87 6648363
e-mail:	daragh@galvanic.ie
Test Standards:	47 CFR, Part 15.247
Type of radio:	Stand-alone
Transmitter Type:	GFSK
Operating Frequency Range(s):	2.402GHz- 2.48GHz
Number of Channels:	79
Antenna:	Integral
Power configuration:	3.7 v Battery.
Ports:	USB (for charging only.)
Oper. Temp Range:	5° C to +35° C
Classification:	DSS
Test Methodology:	Measurements performed according to the procedures in ANSI C63.4-2009 ANSI C63.10-2009

1.1 EUT Operation

Operating Conditions during Test:

The EUT had 2 modes of operation

a) Bluetooth Classic

i) Standard

ii) Enhanced Data Rate (EDR) 8DPSK

iii) Enhanced Data Rate (EDR) π/4 DPSK

b) Bluetooth Low Energy

Note the Bluetooth Low Energy results are contained in another report.

The EUT was battery operated.

For radiated measurements the EUT had a 100k resistor connected between the sensor pads to simulate normal use case and maintain the EUT in a constant transmit state.

Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

☒ Normal

Temperature:	+15 to +35 ° C
Humidity:	20-75 %

1.2 Modifications

No modifications were required in order to pass the test specifications.

1.3 Date of Test

The tests were carried out on one sample of the EUT during the months of March and April 2014.

1.4 Electromagnetic Emissions Testing

The guidelines of CISPR 16-4 were used for all uncertainty calculations, estimates and expressions thereof for EMC testing. A copy of Compliance Engineering Ireland Ltd's policy for EMC Measurement Uncertainty is available on request.

RF Requirements: Spurious emissions in accordance with FCC CFR 15.107, 15.109 and 15.209. Tests were carried out to the requirements of CISPR 16-4 and ANSI C63.4-2009.

1.4.1 Measurement Uncertainty

The measurement uncertainty (with a 95% confidence level) for the conducted emissions test was ±3.5 dB.

The measurement uncertainty (with a 95% confidence level) for the radiated emissions test was ±5.3 dB (from 30 to 100 MHz), ±4.7 dB (from 100 to 300 MHz), ±3.9 dB (from 300 to 1000 MHz) and ±3.8 dB (from 1 GHz to 40 GHz).

2.0 Emissions Measurements

2.1 Conducted Emissions Measurements

The EUT chip antenna was removed and an SMA connector was connected in its place for conducted radio test.

All results were measured as conducted except radiated spurious emissions.

EUT was battery powered so conducted mains tests were not performed.

2.2 Radiated Emissions Measurements

Radiated Power measurements were made at the Compliance Engineering Ireland Ltd anechoic chamber located in Dunshaughlin, Co. Meath, Ireland to determine the radio noise radiated from the EUT. A "Description of Measurement Facilities" has been submitted to the FCC and approved pursuant to Section 2.948 of CFR 47 of the FCC rules.

The EUT was centred on a motorized turntable, which allows 360 degree rotation.

Emissions below 1GHz were measured using a bi-log antenna positioned at a distance of 3 metres from the EUT(as measured from the closest point of the EUT). The radiated emissions were maximised by configuring the EUT, by rotating the EUT, and by raising and lowering the antenna from 1 to 4 metres.. In this case the resolution bandwidth was 100kHz.

Emissions above 1GHz were measured using a horn antenna located at 3 metres distance from the EUT. The radiated emissions were maximised by configuring the EUT and by rotating the EUT In this case the Resolution bandwidth was 1MHz and video bandwidth was 1MHz. for peak measurements. The Video bandwidth was changed to 10Hz (as per ANSI 63.4-2009 Section 4.2.2e) for average measurements on non-pulsed signals and spurious emission in restricted bands i.e. for average measurements in appendix A,B and C attached.

A Radiated Emission prescan was performed which covered the x, y and z orientations for low ,mid and high channels in horizontal and vertical polarizations. In each case the emission was maximised

The result of this prescan showed that the highest emission for vertical polarization was with the EUT in a vertical orientation (orientation3 O3) for low mid and high channels. The highest emission for vertical polarization was the high channel

The EUT on its side (orientation2 O2) gave the highest emissions for Low Mid and High channels for horizontal polarization. In this case the high channel gave the highest emission.

A full scan for radiated emission was performed on the high channel in orientation O3 for vertical polarization and high channel in orientation O2 for horizontal polarization.

2.3 Antenna Requirements

According to FCC 47 CFR 15.203:

"An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section."

* The antennas of this E.U.T are permanently attached.

*The E.U.T Complies with the requirement of 15.203

3. Bluetooth Basic Data rate results

3.1 Bandwidth of Hopping Channel

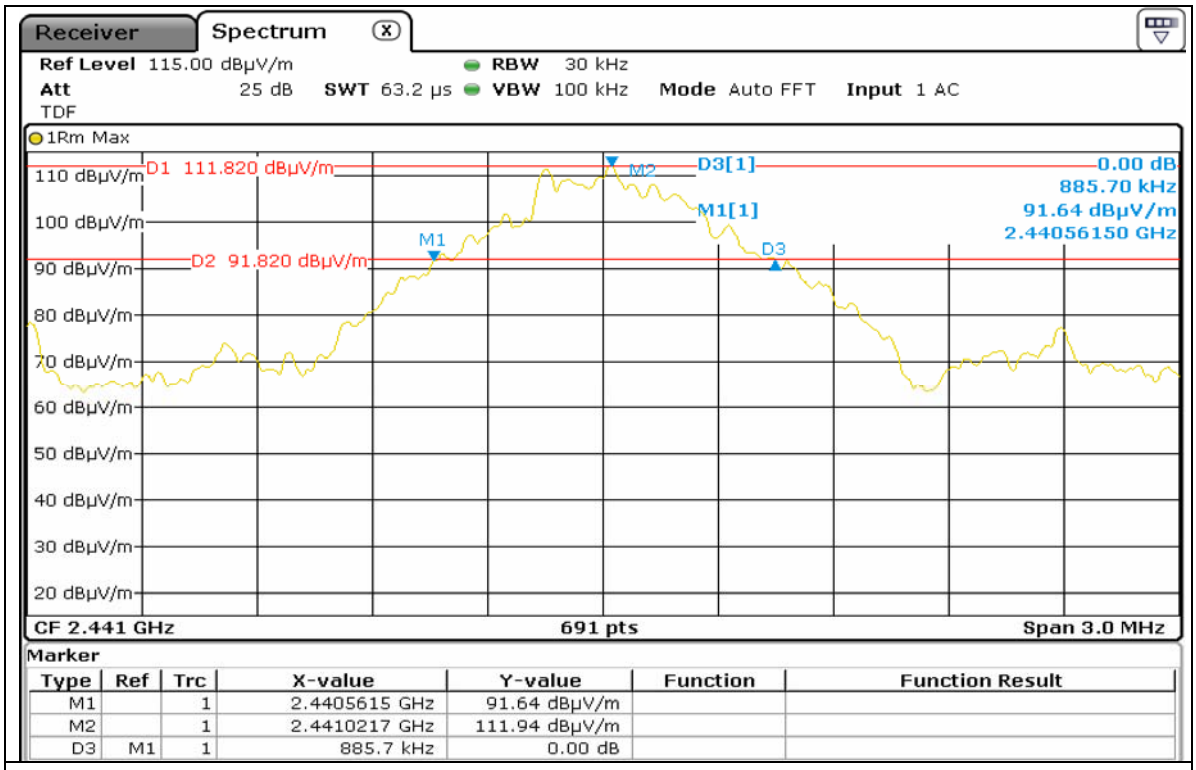


Fig 1 20dB Bandwidth

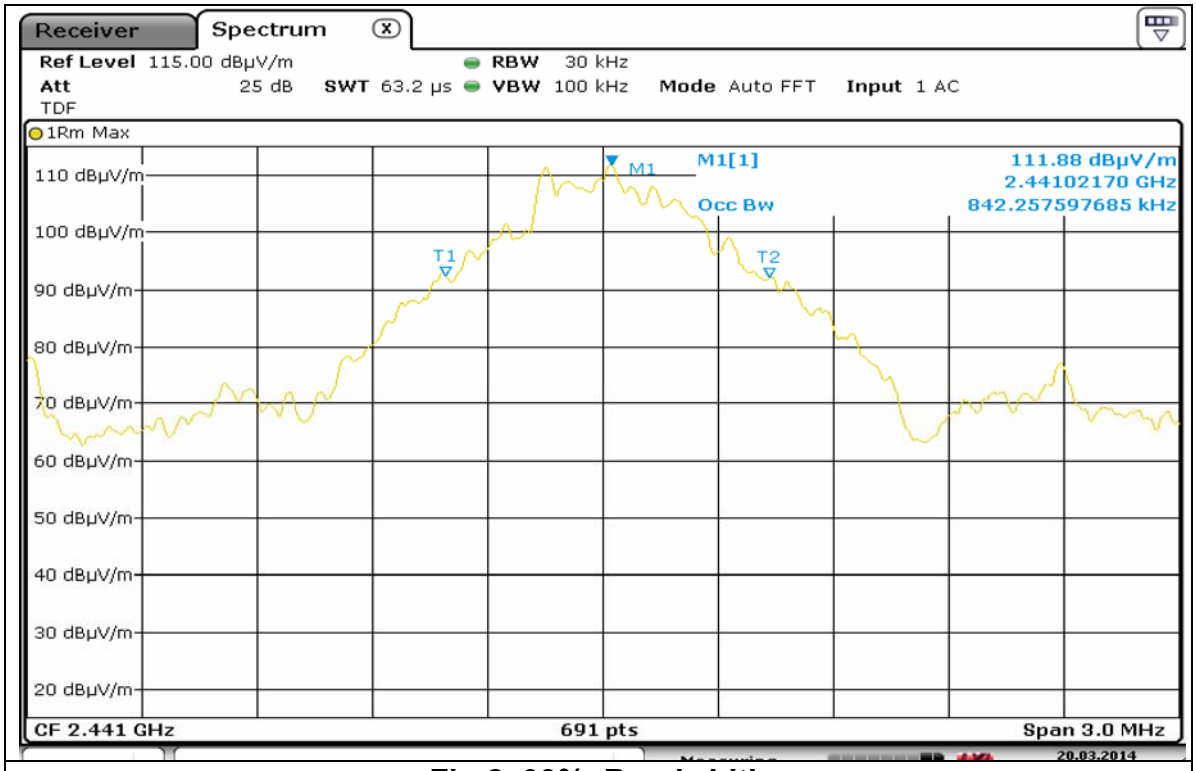


Fig 2 99% Bandwidth

Bandwidth

Operating Frequency (GHz)	20dB Bandwidth (kHz)	99% Bandwidth (kHz)
2.402	920.4	855.28
2.441	842.3	842.3
2.480	859	842.5

3.2 Hopping Frequency Separation

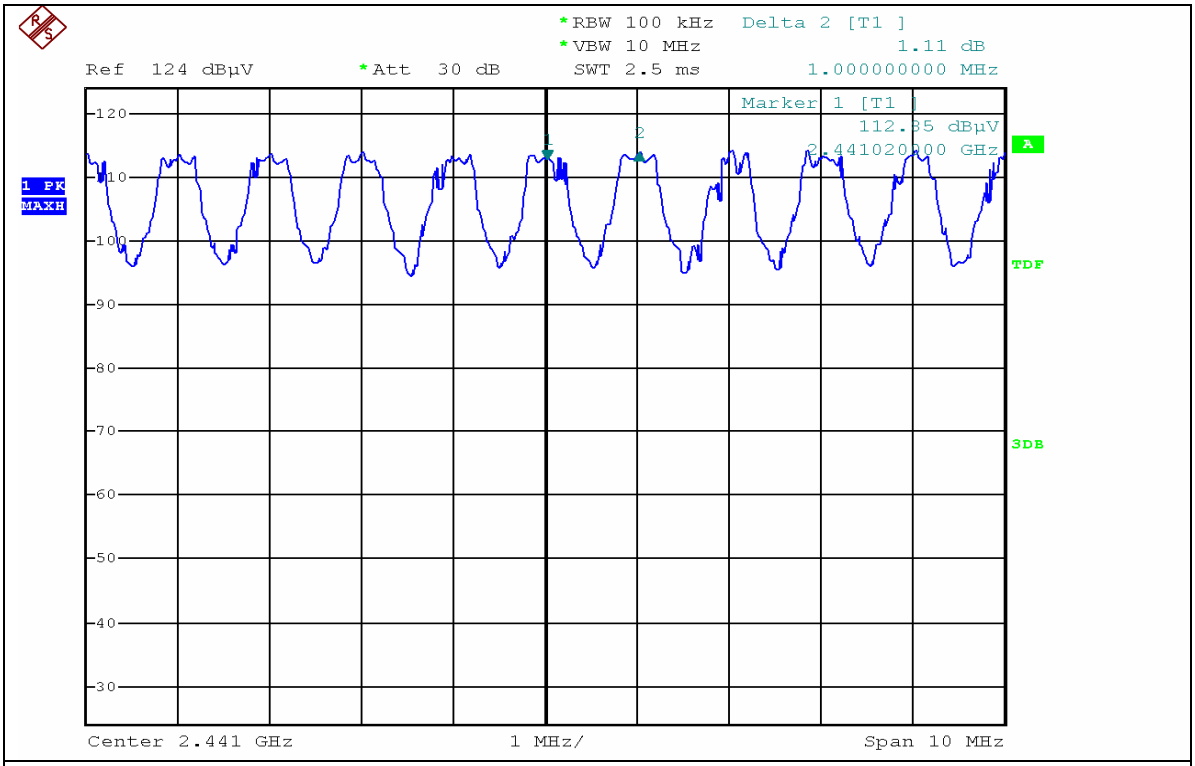


Fig 2 Hopping Frequency Separation

Hopping Frequency separation = 1MHz

Limit = 20dB bandwidth (920.4KHz)

Result Pass

3.3 Number of Hopping Channels

Number of hopping Channels	Limit Min	
79	15	**Pass**

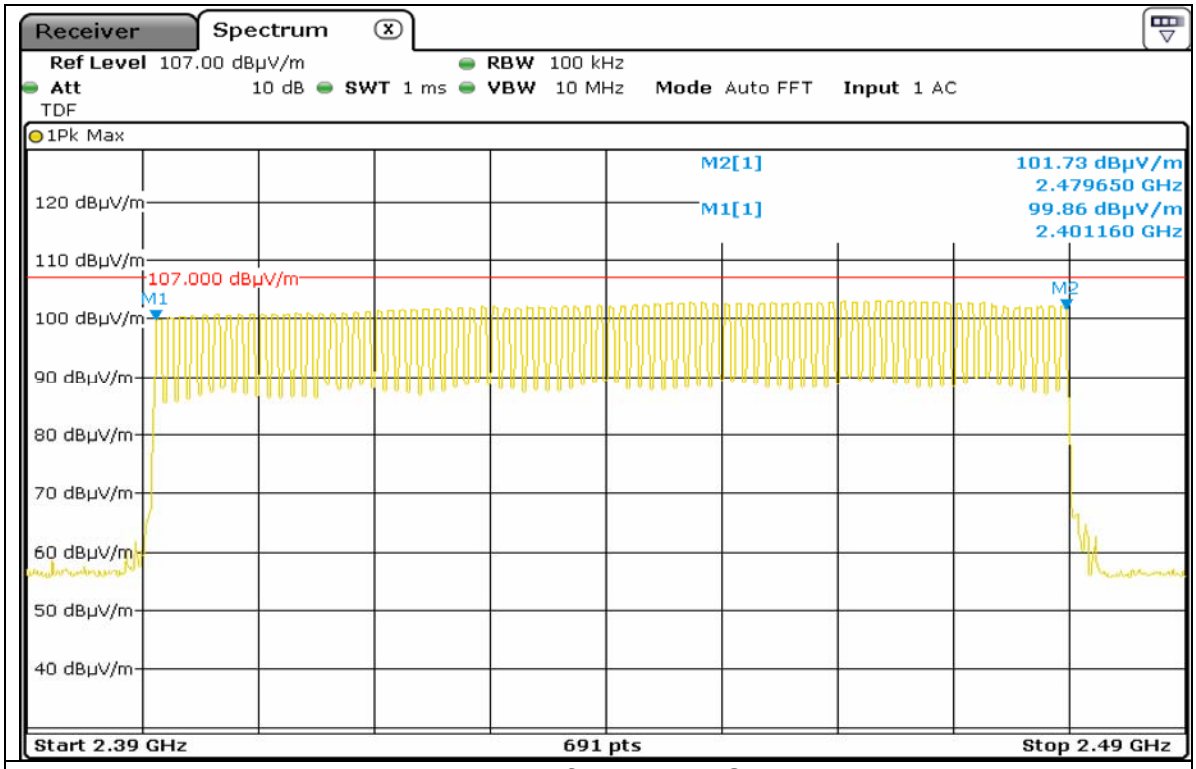


Fig 3 Number of Hopping Channels

3.4 Average Time of Occupancy

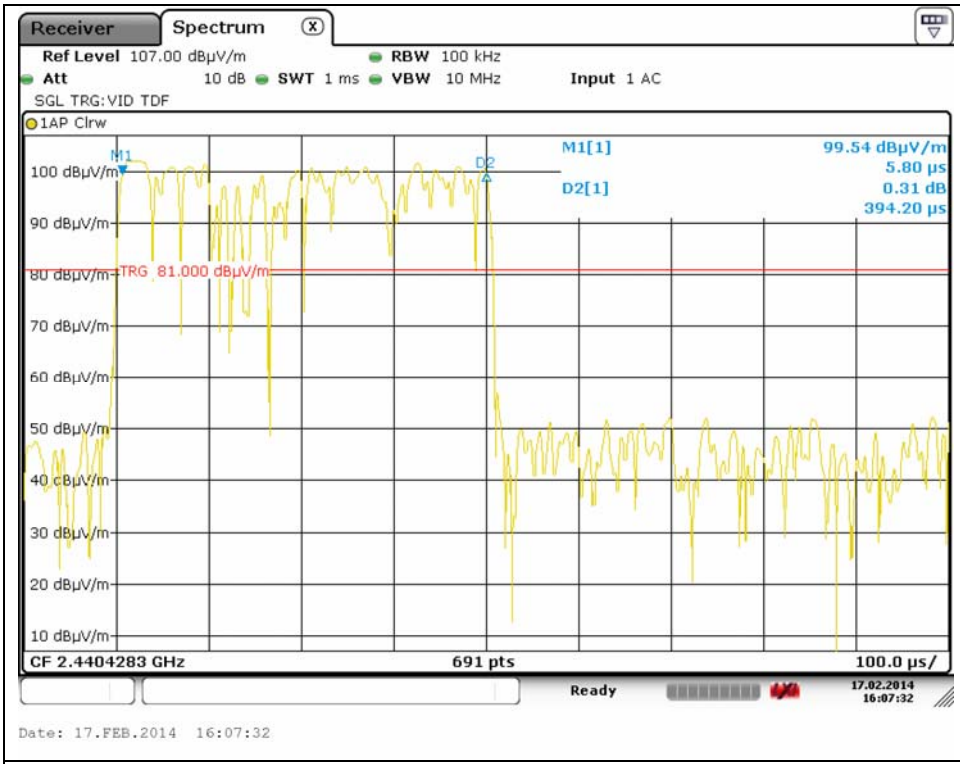


Fig 4 Pulse Width

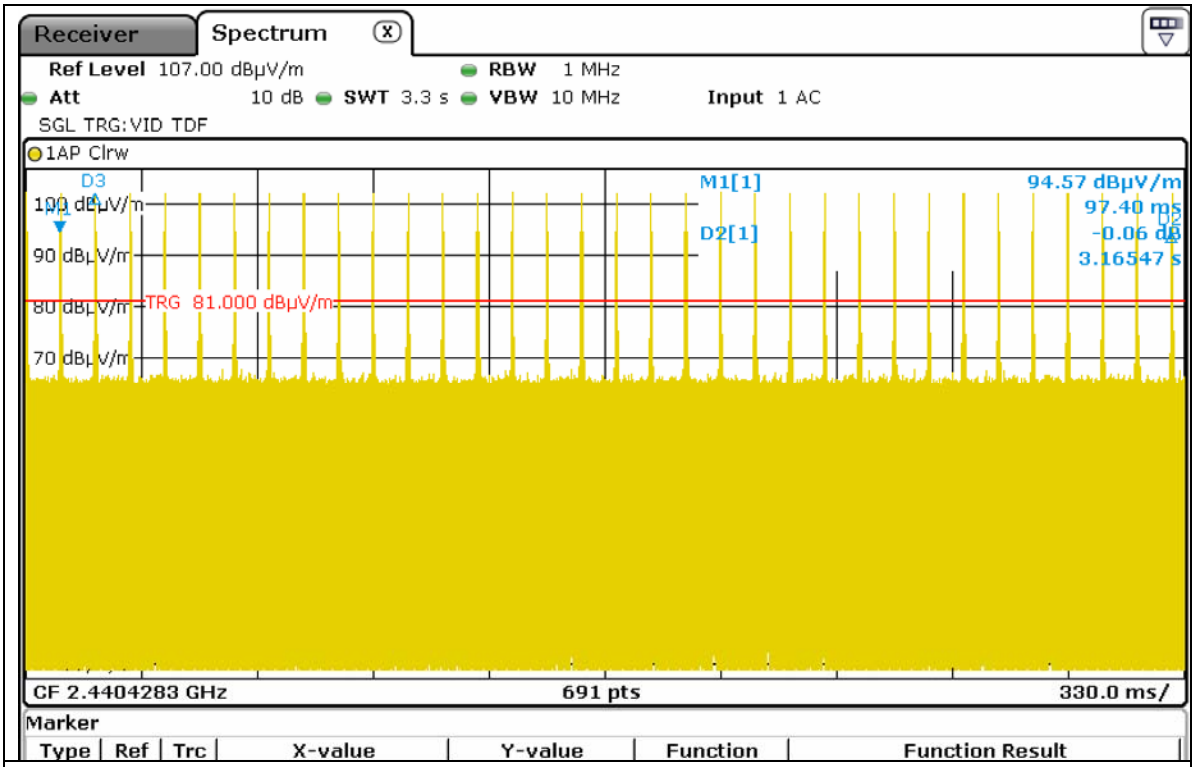


Fig 5 Number of pulses in 3.16secs

Total number of Channels	Multiplier Secs	Measurement Window Secs
79	0.4	31.6

Pulse Width	Number of pulses in 3.16Sec period	Number of pulses in 31.6Sec period	Average Time	Limit Min	Margin	
mS			**Sec**	**Sec**	**Sec**	
0.39565	32	320	0.126608	0.4	0.273392	**Pass**

3.5 Output Power Conducted

The maximum antenna gain is less than 6dBi therefore the limit is 30dBm

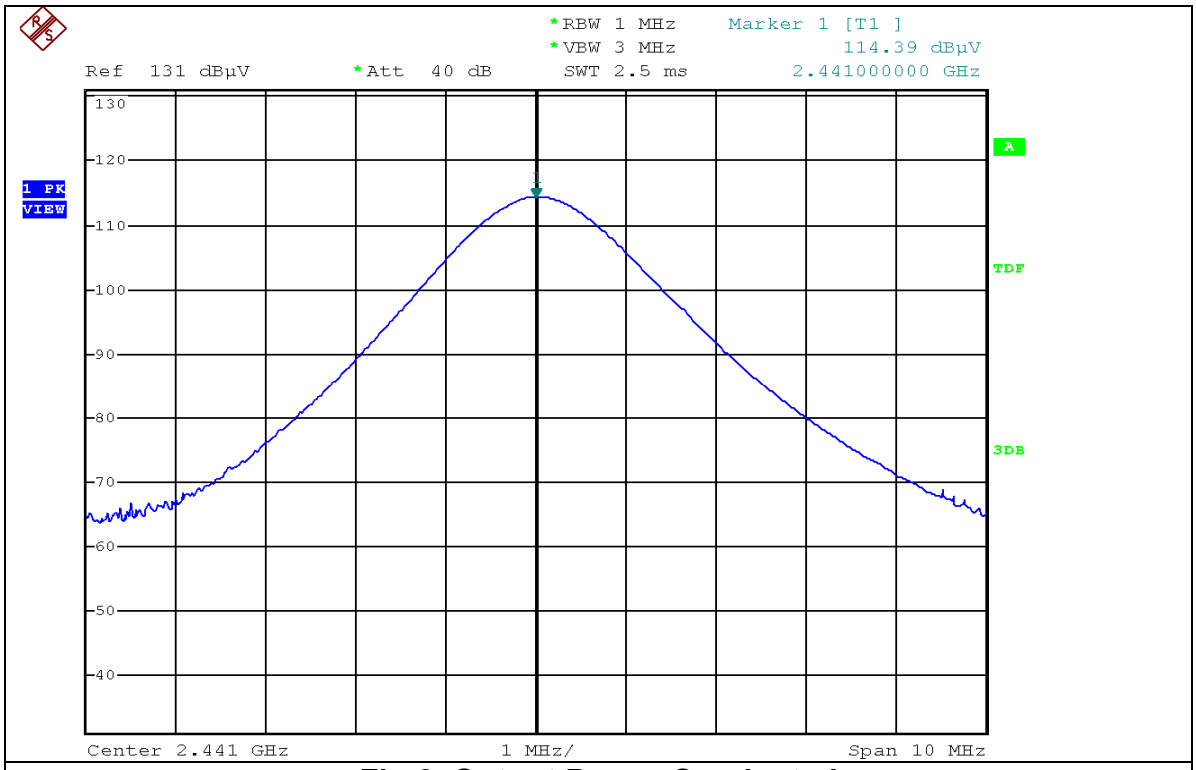


Fig 6 Output Power Conducted

Channel GHz	Power dBuV	Power dBm	Limit dBm	Margin dB
2.402	111.92	+4.92	30	25.08
2.441	114.39	+7.39	30	22.61
2.480	114.6	+7.6	30	22.4

3.6 Conducted Spurious Emissions

Ref scans for Bluetooth Classic in Appendix A

Frequency GHz	Peak Level dBuV	Cable Loss	Final Peak Level dBuV	Peak +20dB dBuV
2.31536	55.7	0.5	56.2	76.2
2.4	48.4	0.8	49.2	69.2
2.4835	50.7	0.8	51.5	71.5
2.5983	57.0	0.8	57.8	77.8
4.881	51.8	1.2	53.0	73.0
4.96	50.8	1.4	52.2	72.2

Limit Peak plus 20dB is less than carrier level

Result Pass

3.7 Results for Radiated emissions

Appendix D shows the results of the scans in the anechoic chamber, for Bluetooth Classic

Result: Pass

3.7.1 Measurements with Bilog Antenna (30MHz to 1GHz)

There were no peaks evident below 1 GHz

3.7.2 Horn Antenna Measurements (1GHz – 26 GHz)

Frequency GHz	Peak Level dBuV/m	Antenna Factor dB	Preamp Gain dB	Cable Loss	Antenna Polarity	EUT Orientation	Final Peak Level dBuV/m	Average Limit +20dB dBuV/m	Margin dB
4.804	55.8	32.3	37.1	5.2	Vertical	O3	56.2	74.0	17.8
4.804	52.0	32.3	37.1	5.2	Horizontal	O2	52.4	74.0	21.6
4.882	52.0	32.3	37.1	5.2	Vertical	O3	52.4	74.0	21.6
4.882	48.2	32.3	37.1	5.2	Horizontal	O2	48.6	74.0	25.3
4.96	51.9	34	37.3	5.2	Vertical	O3	53.8	74.0	20.2
4.96	48.9	34	37.3	5.2	Horizontal	O2	50.8	74.0	23.2

Frequency GHz	Final Peak Level dBuV/m	EUT Orientation	Antenna Polarity	Duty Cycle Correction dB	Average Level dBV/m	Average Limit dBuV/m	Margin dB
4.804	56.2	O3	Vertical	-48.0	8.2	54.0	45.8
4.804	52.4	O2	Horizontal	-48.0	4.4	54.0	49.6
4.882	52.4	O3	Vertical	-48.0	4.3	54.0	49.6
4.882	48.6	O2	Horizontal	-48.0	0.6	54.0	53.4
4.96	53.8	O3	Vertical	-48.0	5.7	54.0	48.2
4.96	50.8	O2	Horizontal	-48.0	2.8	54.0	51.2

One Period(mS)	Pulse Width (mS)	No of Pulses	Duty Cycle	20 log duty cycle (dB)
100	**0.3965**	**1**	**0.003965**	**-48.0**

Duty Cycle correction for Average measurement of pulsed signal =Peak -48dB

as per ANSI C63.10-2009 Section 7.6.3

Result: Pass

4. Bluetooth Enhanced Data Rate 8DPSK results

4.1 Bandwidth of Hopping Channel

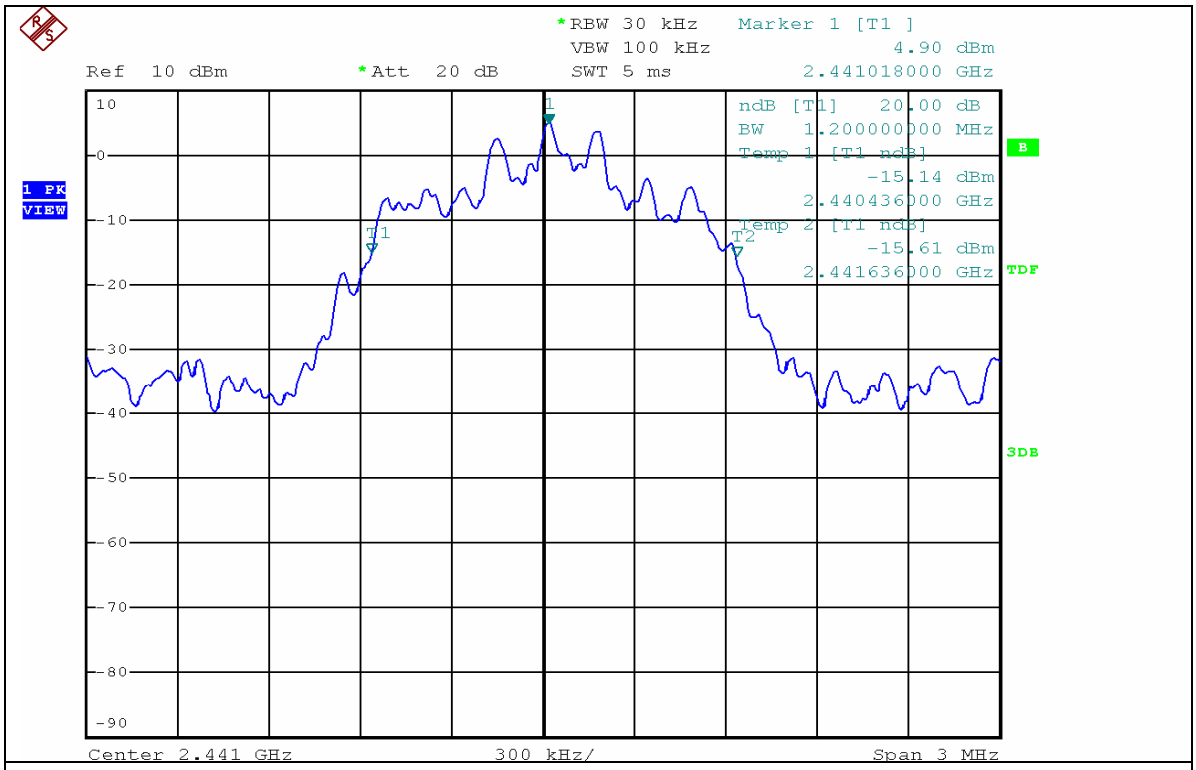


Fig 7 20dB Bandwidth

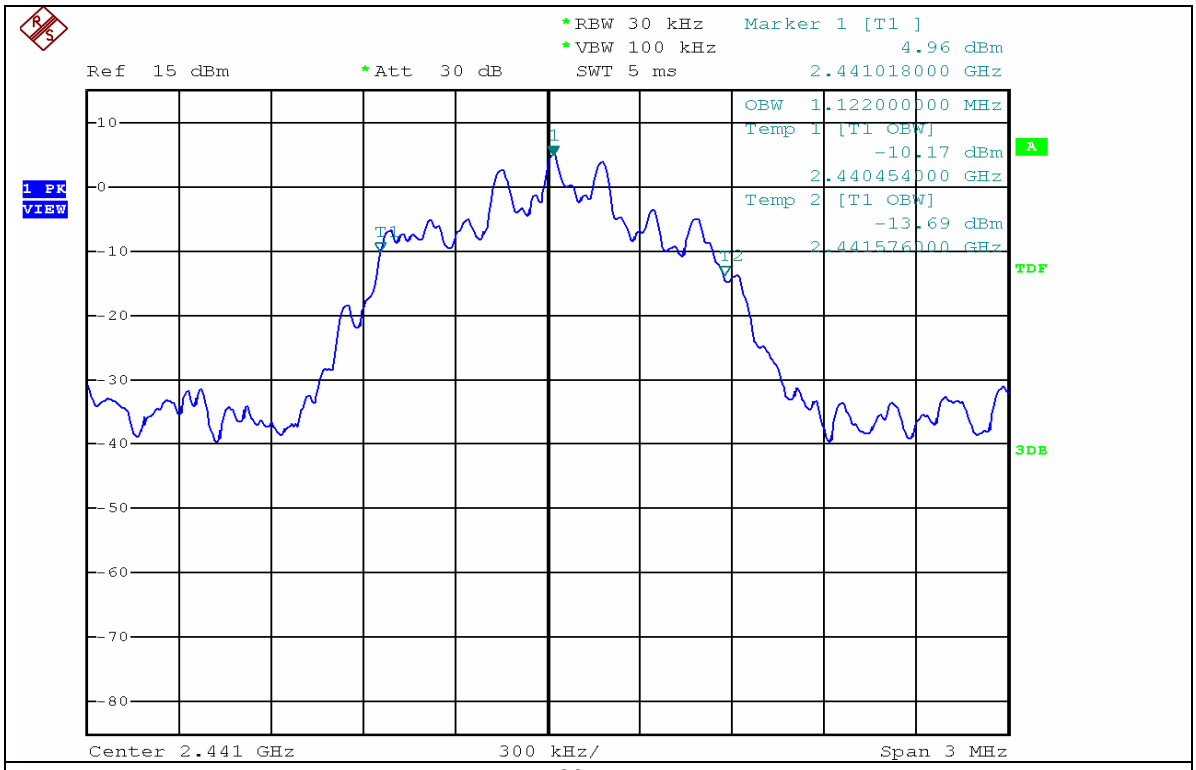


Fig 8 99% Bandwidth

Bandwidth

Channel	Frequency	99% Bandwidth	20dB Bandwidth
	GHz	KHz	KHz
Low	2.402	1122	1194
Mid	2.441	1122	1200
High	2.48	1110	1152

4.2 Hopping Frequency Separation

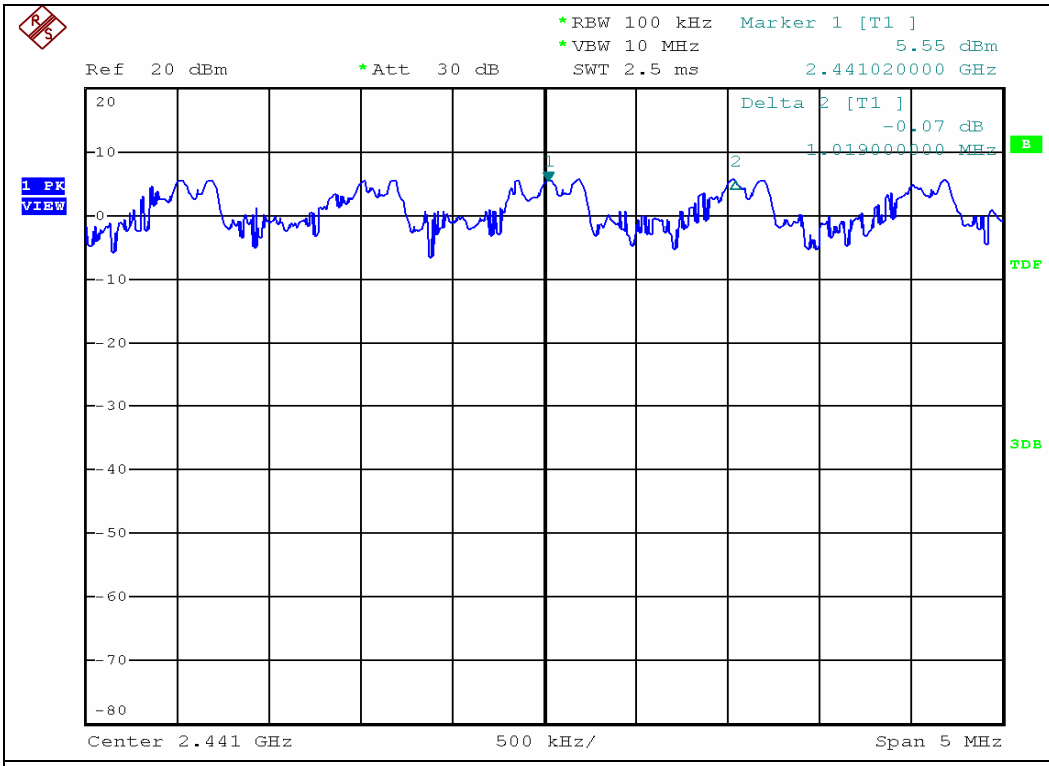


Fig 9 Hopping Frequency Separation

Hopping Frequency separation = 1.019 MHz

Limit =

a) 20dB Bandwidth

or

b) 2/3 of 20dB Bandwidth if output power less than 0.125W

Result Pass

4.3 Number of Hopping Channels

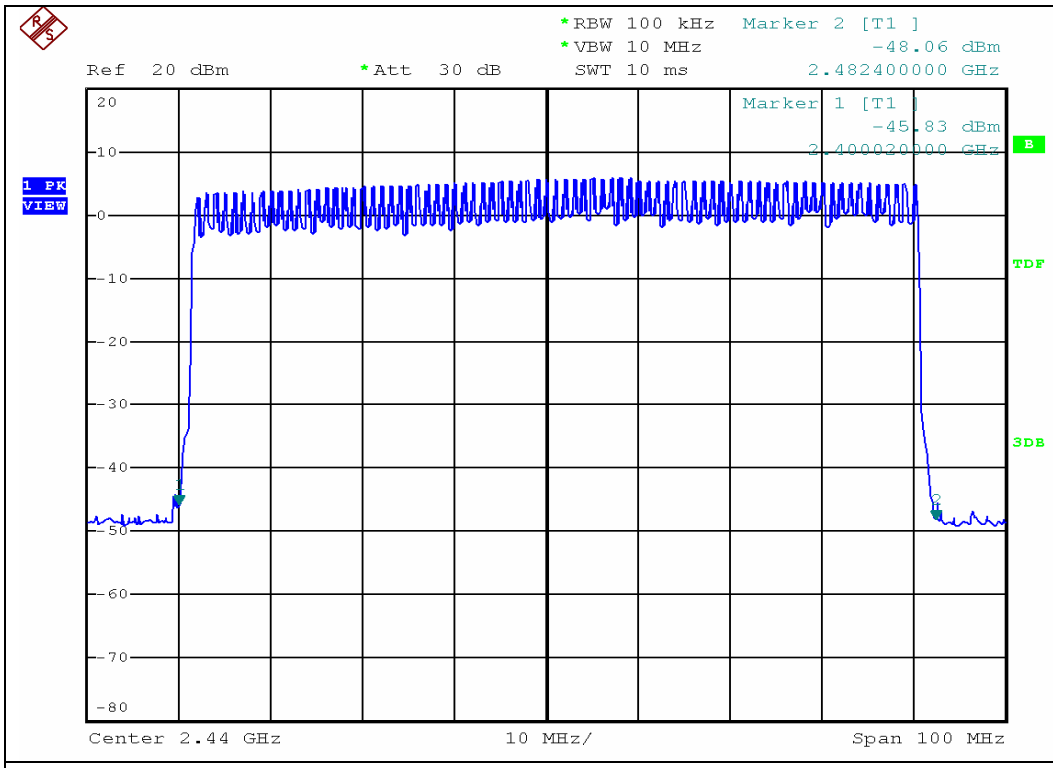


Fig 10 Number of Hopping Channels

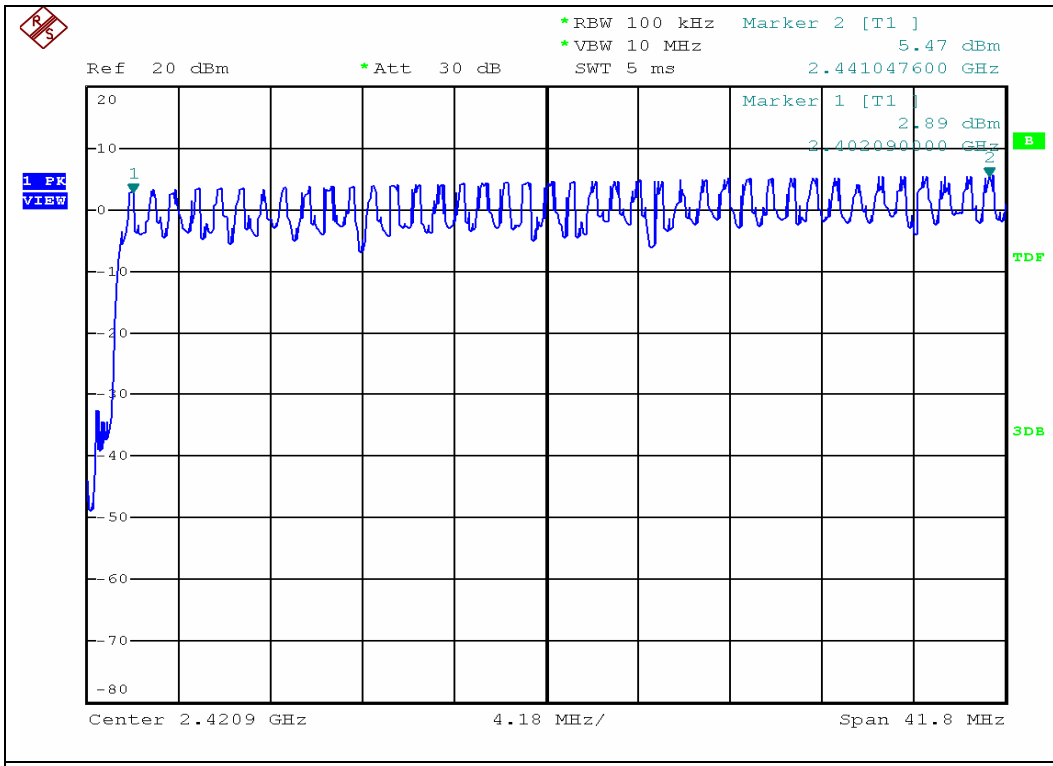


Fig 11 Number of Hopping Channels

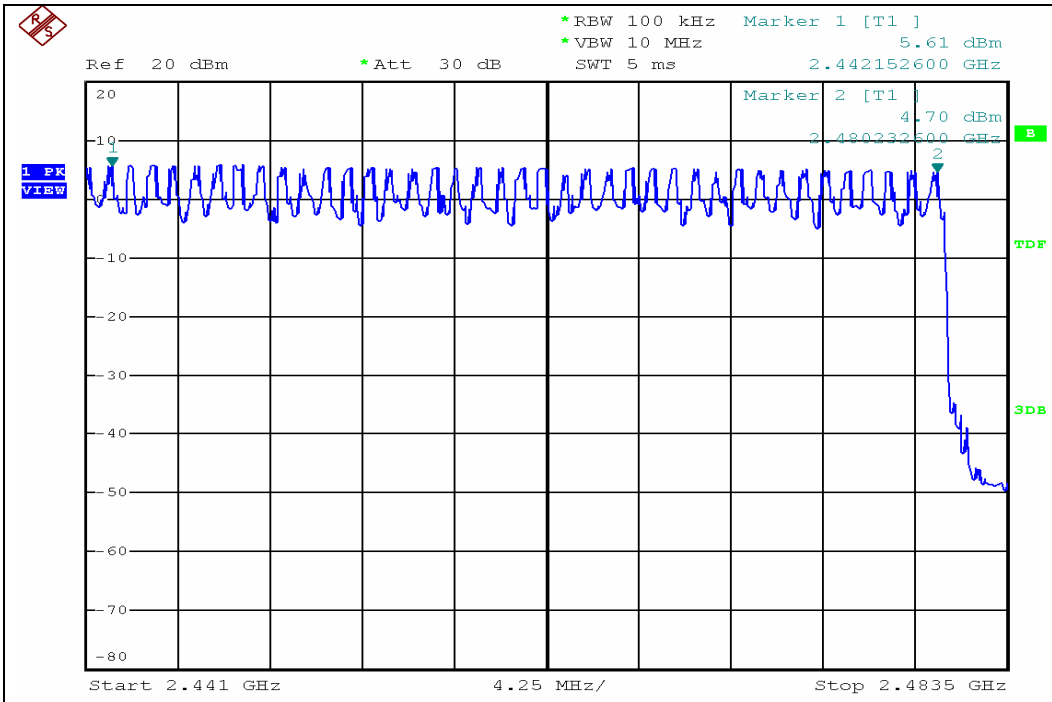


Fig 12 Number of Hopping Channels

Number of hopping Channels	Limit Min	
79	15	**Pass**

4.4 Average Time of Occupancy

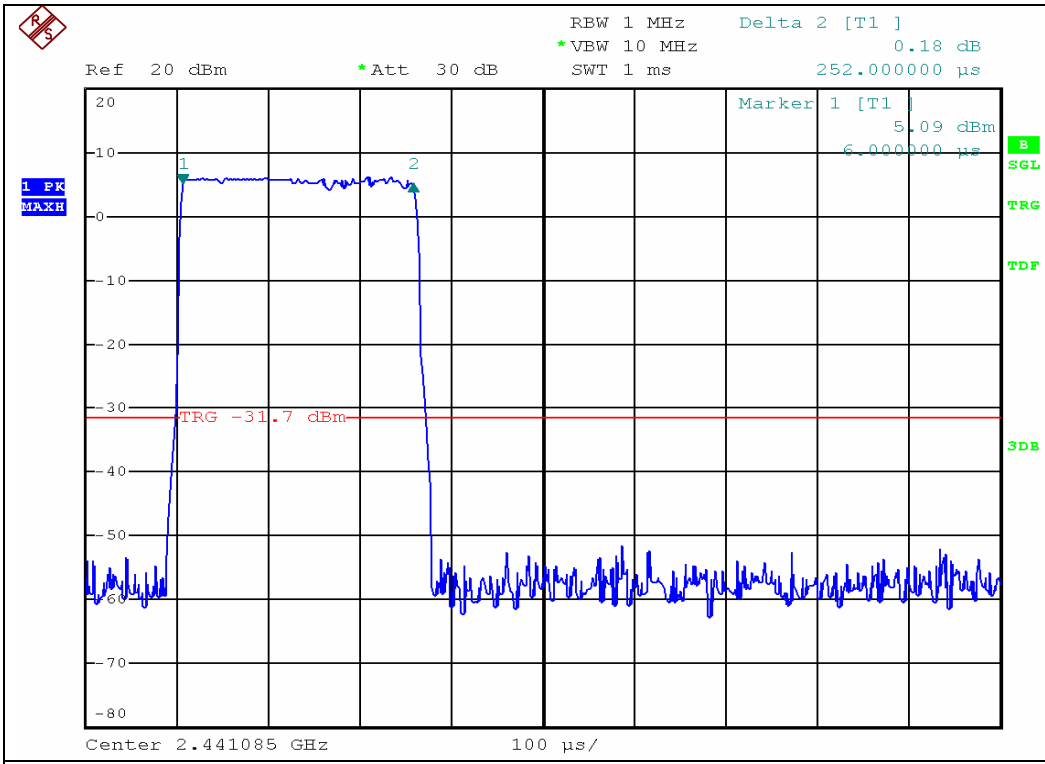


Fig 13 Pulse Width

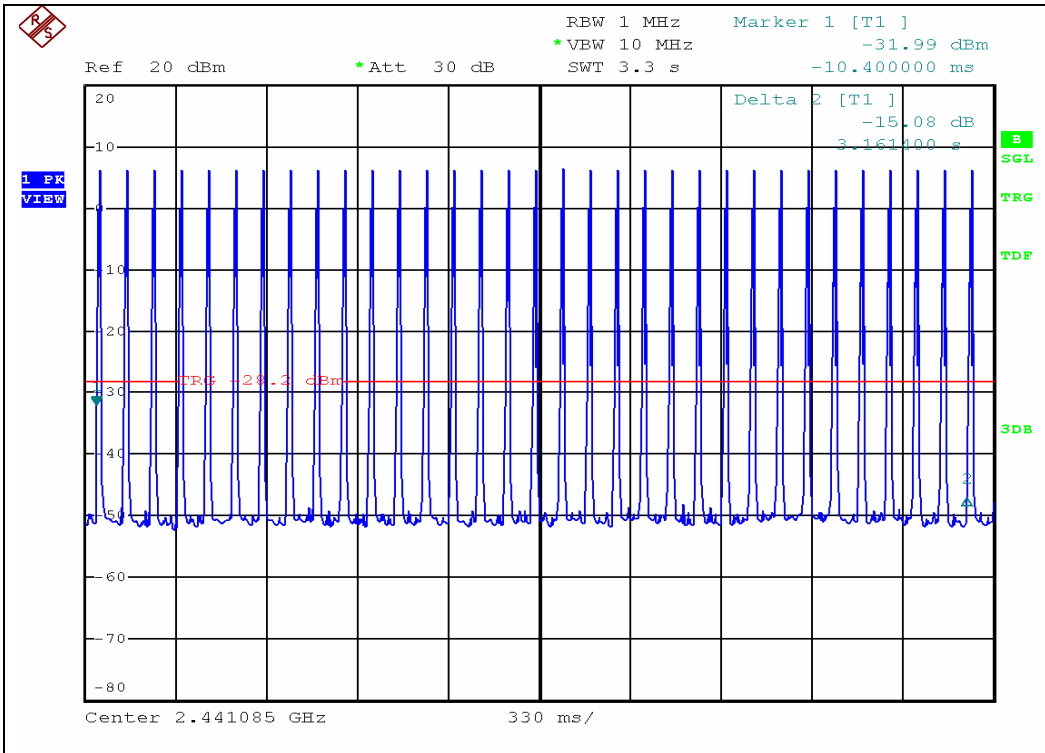


Fig 14 Number of pulses in 3.16secs

Total number of Channels	Multiplier Secs	Measurement Window Secs
79	0.4	31.6

Pulse Width	Number of pulses in 3.16Sec period	Number of pulses in 31.6Sec period	Average Time	Limit Min	Margin	
mS			**Sec**	**Sec**	**Sec**	
0.252	32	320	0.08064	0.4	0.31936	**Pass**

4.5 Output Power Conducted

The maximum antenna gain is less than 6dBi therefore the limit is 30dBm

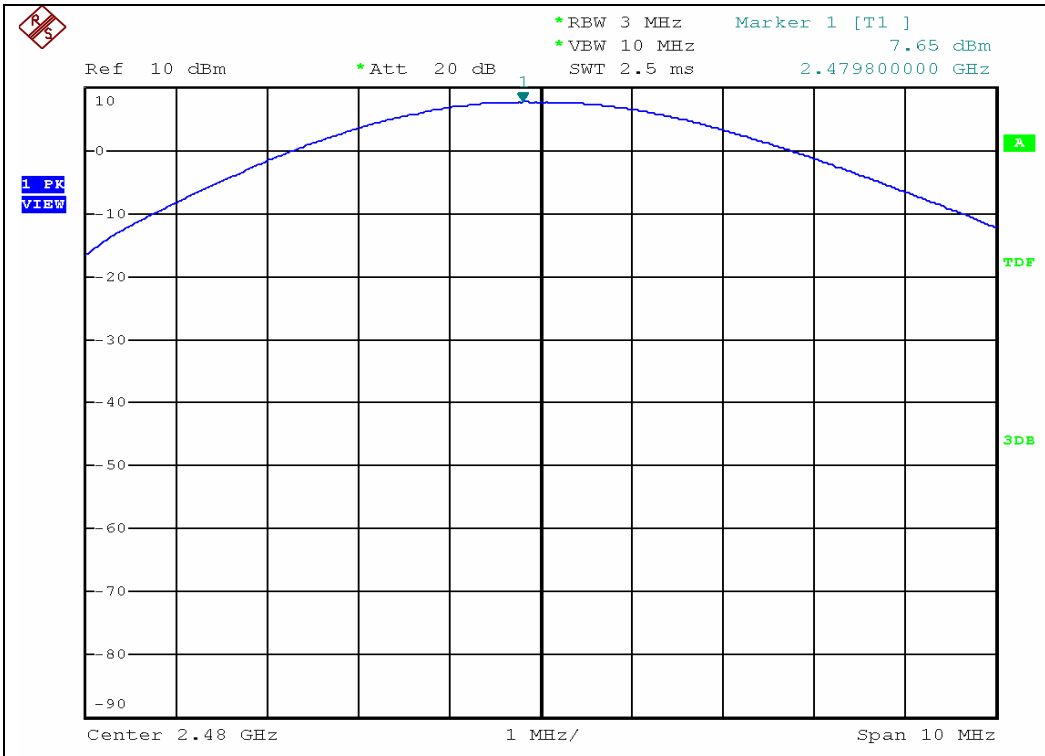


Fig 15 Output Power Conducted

Channel Frequency	Measured Level	Limit Peak Conducted Power	Margin
GHz	dBm	dBm	dB
2.402	5	30	25
2.441	7.36	30	22.64
2.48	7.65	30	22.35

4.6 Conducted Spurious Emissions

Ref scans for Bluetooth Classic EDR 8DPSK in Appendix B

Frequency GHz	Peak Level dBm	Cable Loss	Final Peak Level dBm	Peak +20dB dBm
2.558	-51.2	0.8	-52	-32.3

Limit Peak plus 20dB is less than carrier level

Result: Pass

4.7 Results for Radiated emissions

Appendix D shows the results of the scans in the anechoic chamber, for Bluetooth Classic

Result: Pass

4.7.1 Measurements with Bilog Antenna (30MHz to 1GHz)

There were no peaks evident below 1 GHz

4.7.2 Horn Antenna Measurements (1GHz – 26 GHz)

Frequency GHz	Peak Level dBuV/m	Antenna Loss dB	Preamp Gain dB	Cable Loss dB	Antenna Polarity	EUT Orientation	Final Peak Level dBuV/m	Average Limit +20dB dBuV/m	Margin dB
4.804	53.9	32.3	37.1	5.2	Vertical	O3	54.3	74.0	19.7
4.804	51.5	32.3	37.1	5.2	Horizontal	O2	51.9	74.0	22.1
4.882	51.6	32.3	37.1	5.2	Vertical	O3	52.0	74.0	21.9
4.882	48.3	32.3	37.1	5.2	Horizontal	O2	48.7	74.0	25.3
4.96	51.9	34	37.3	5.2	Vertical	O3	53.8	74.0	20.2
4.96	48.7	34	37.3	5.2	Horizontal	O2	50.6	74.0	23.4

Frequency GHz	Final Peak Level dBuV/m	EUT Orientation	Antenna Polarity	Duty Cycle Correction dB	Average Level dBV/m	Average Limit dBuV/m	Margin dB
4.804	54.3	O3	Vertical	-52.0	2.3	54.0	51.7
4.804	51.9	O2	Horizontal	-52.0	-0.1	54.0	54.0
4.882	52.0	O3	Vertical	-52.0	0.1	54.0	53.9
4.882	48.7	O2	Horizontal	-52.0	-3.3	54.0	57.3
4.96	53.8	O3	Vertical	-52.0	1.8	54.0	52.2
4.96	50.6	O2	Horizontal	-52.0	-1.4	54.0	55.3

One Period(mS)	Pulse Width (mS)	No of Pulses	Duty Cycle	20 log duty cycle (dB)
100	**0.252**	**1**	**0.00252**	**-52.0**

Duty Cycle correction for Average measurement of pulsed signal =Peak -52dB

as per ANSI C63.10-2009 Section 7.6.3

Result: Pass

5. Bluetooth Enhanced Data Rate π/4 DPSK results

5.1 Bandwidth of Hopping Channel

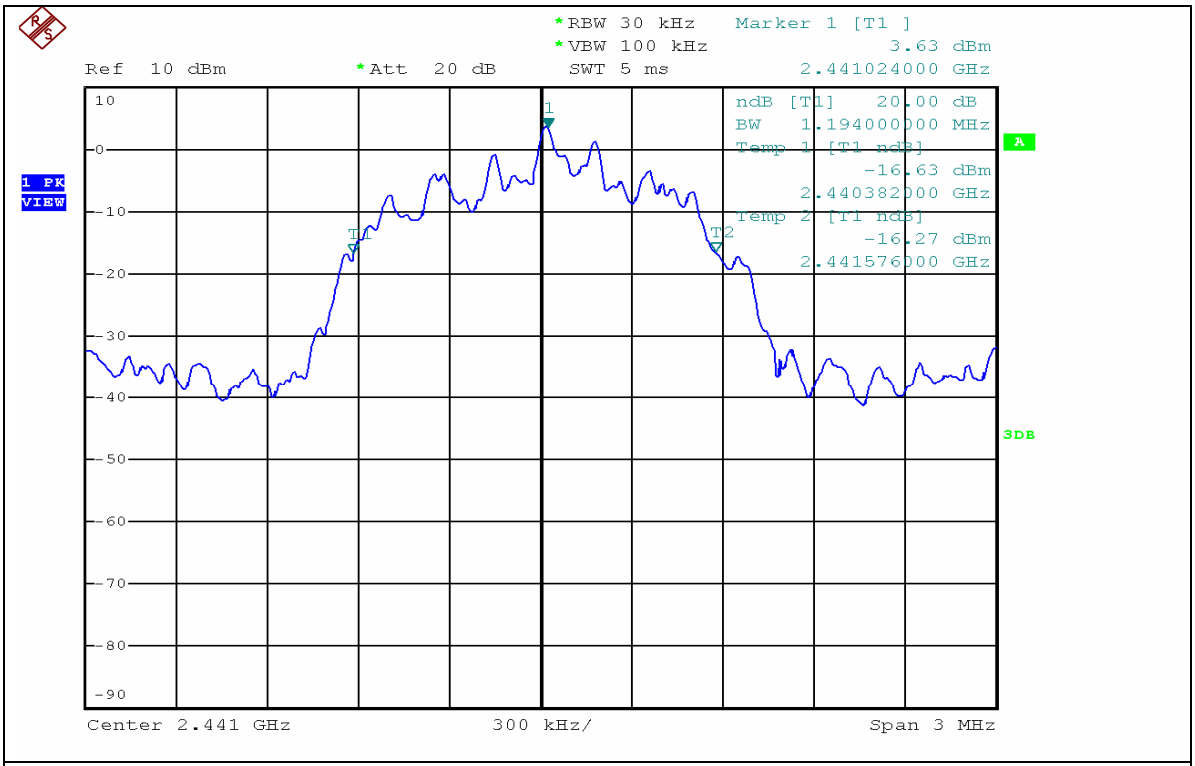


Fig 16 20dB Bandwidth

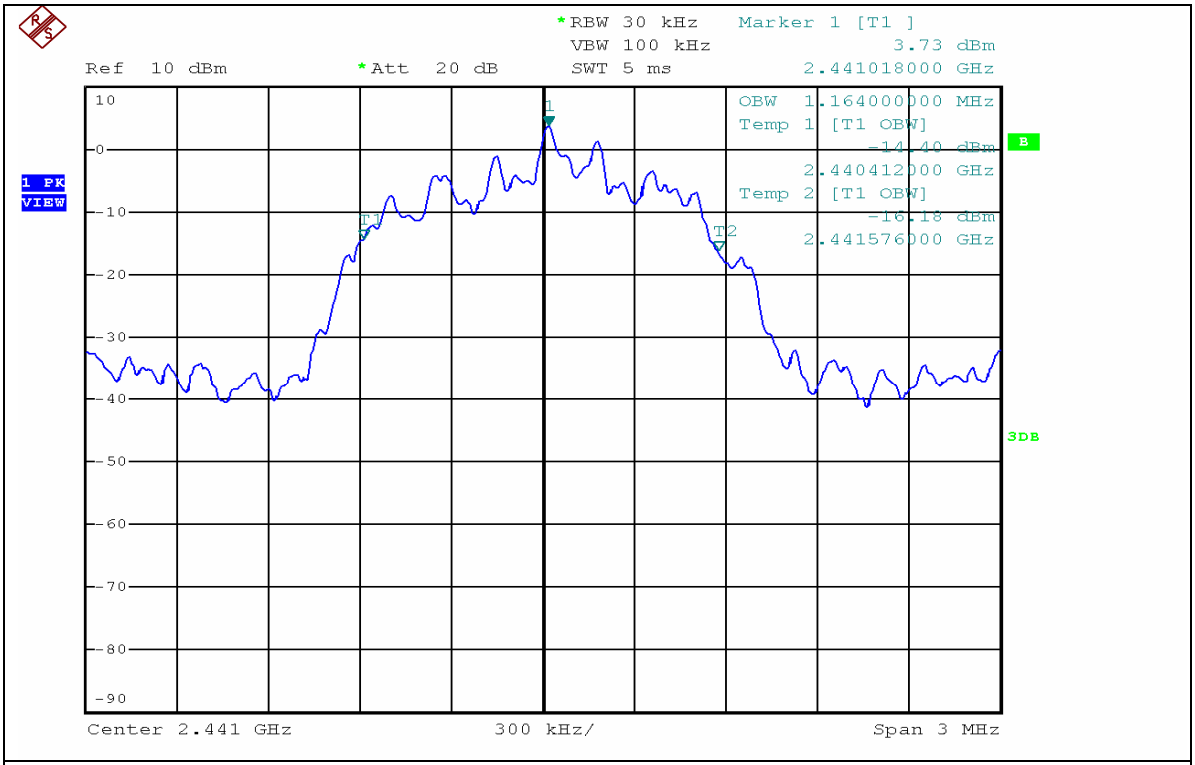


Fig 17 99% Bandwidth

Bandwidth

Channel	Frequency	99% Bandwidth	20dB Bandwidth
	GHz	KHz	KHz
Low	2.402	1158	1200
Mid	2.441	1164	1194
High	2.48	1146	1194

5.2 Hopping Frequency Separation

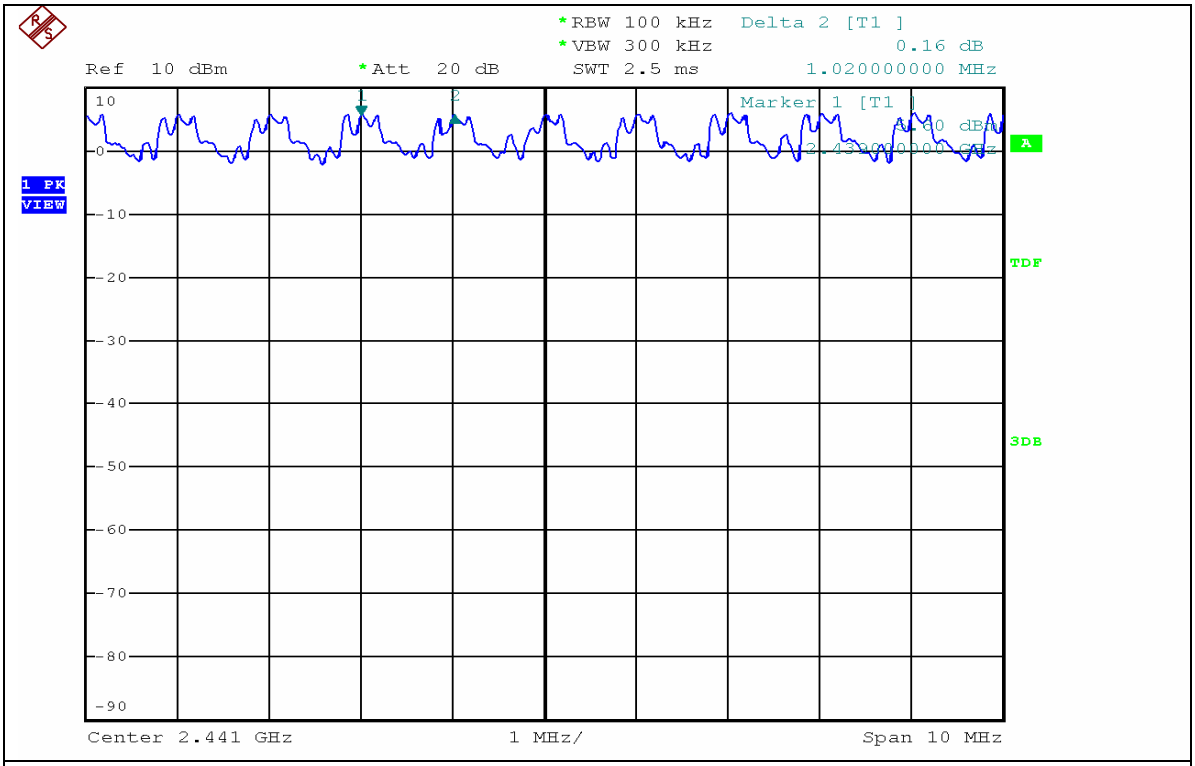


Fig 18 Hopping Frequency Separation

Hopping Frequency separation = 1.020 MHz

Limit =

c) 20dB Bandwidth

or

d) 2/3 of 20dB Bandwidth if output power less than 0.125W

Result Pass

5.3 Number of Hopping Channels

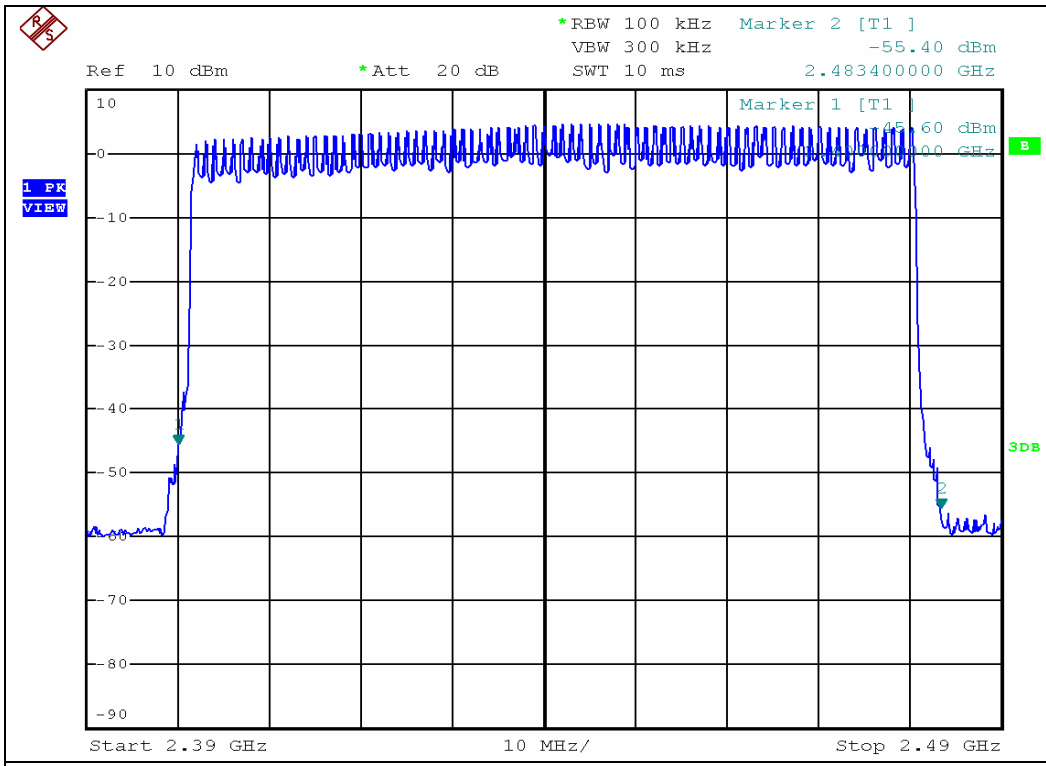


Fig 19 Number of Hopping Channels

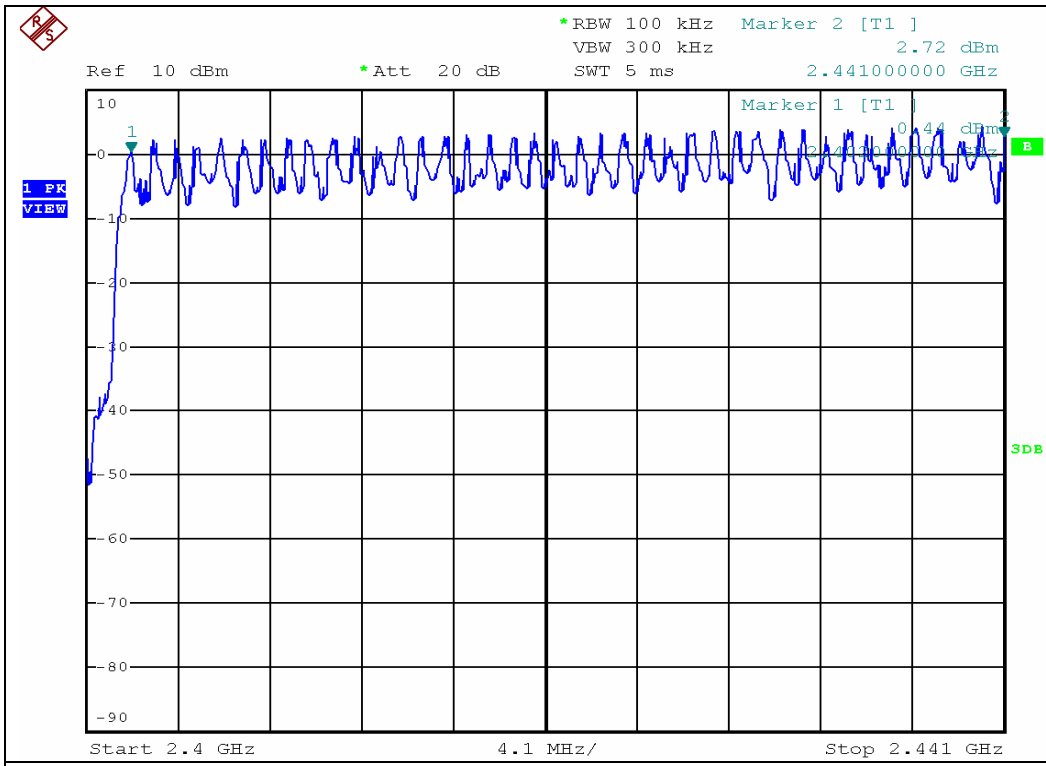


Fig 20 Number of Hopping Channels

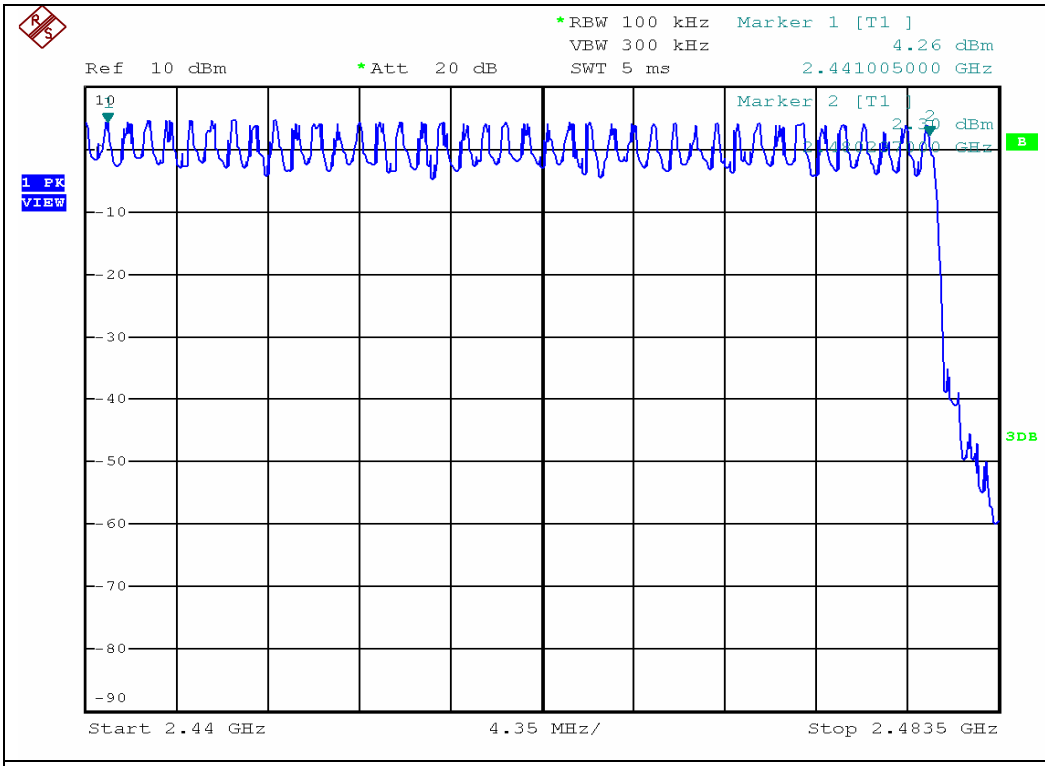


Fig 21 Number of Hopping Channels

Number of hopping Channels	Limit Min	
79	15	**Pass**

5.4 Average Time of Occupancy

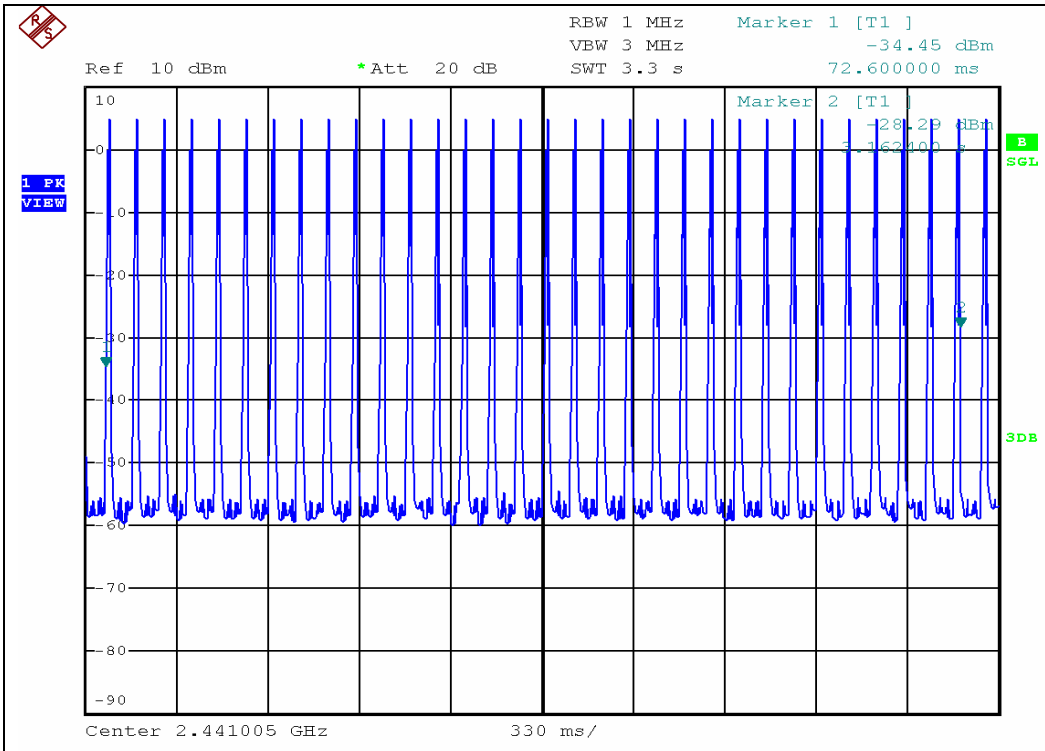


Fig 22 Number of pulses in 3.16secs

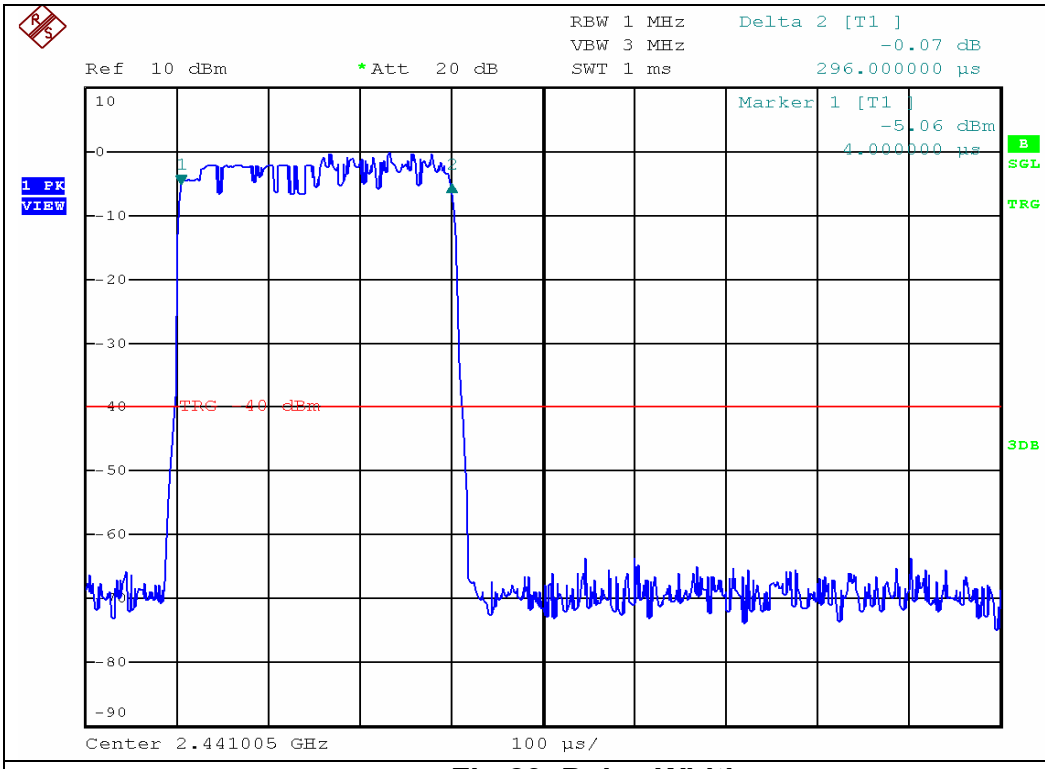


Fig 23 Pulse Width

Total number of Channels	Multiplier Secs	Measurement Window Secs
79	0.4	31.6

Pulse Width	Number of pulses in 3.16Sec period	Number of pulses in 31.6Sec period	Average Time	Limit Min	Margin	
mS			**Sec**	**Sec**	**Sec**	
0.296	32	320	0.09472	0.4	0.30528	**Pass**

5.5 Output Power Conducted

The maximum antenna gain is less than 6dBi therefore the limit is 30dBm

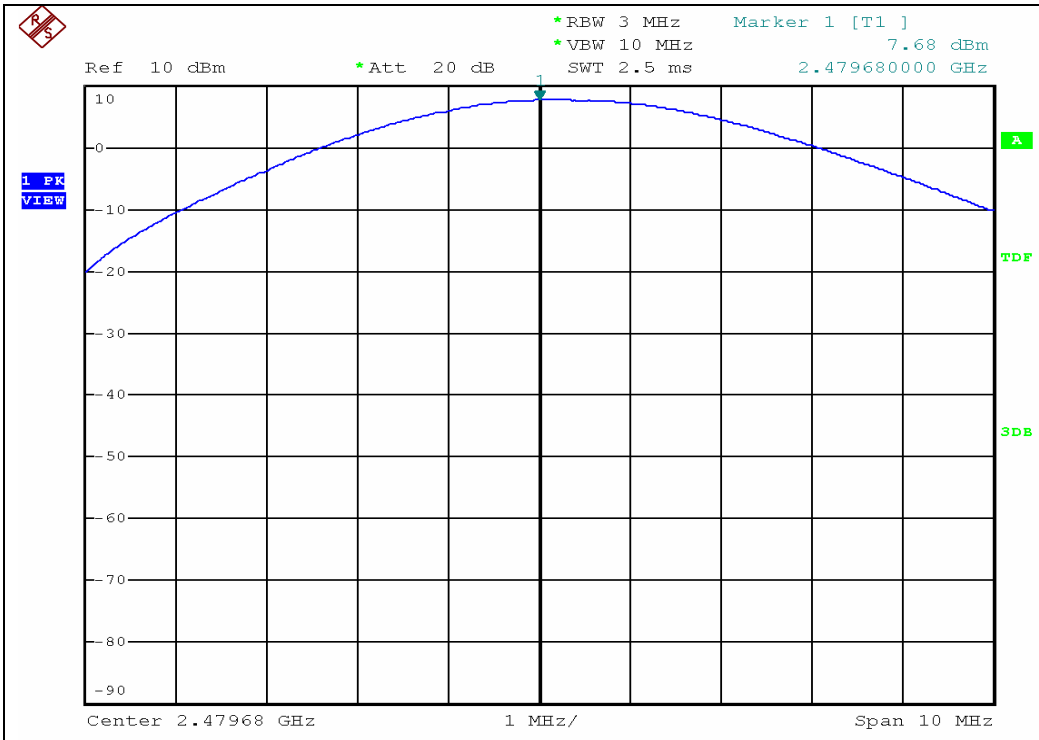


Fig 24 Output Power Conducted

Channel Frequency	Measured Level	Limit Peak Conducted Power	Margin	Result
GHz	dBm	dBm	dB	
2.402	5.03	30	24.97	Pass
2.441	7.39	30	22.61	Pass
2.48	7.68	30	22.32	Pass

5.6 Conducted Spurious Emissions

Ref scans for Bluetooth Classic in Appendix C

Frequency GHz	Peak Level dBm	Cable Loss	Final Peak Level dBm	Peak +20dB dBm
2.558	-53.1	0.8	-52.3	-32.3
2.597	-52.0	0.8	-51.2	-31.2
2.636	-49.7	0.7	-49.0	-29.0
2.584	-56.3	0.8	-55.5	-35.5

Limit Peak plus 20dB is less than carrier level

Result Pass

5.7 Results for Radiated emissions

Appendix A shows the results of the scans in the anechoic chamber, for Bluetooth Classic

Result: Pass

5.7.1 Measurements with Bilog Antenna (30MHz to 1GHz)

There were no peaks evident below 1 GHz

5.7.2 Antenna Measurements (1GHz – 26 GHz)

Frequency GHz	Peak Level dBuV/m	Antenna Loss dB	Preamp Gain dB	Cable Loss dB	Antenna Polarity	EUT Orientation	Final Peak Level dBuV/m	Average Limit +20dB dBuV/m	Margin dB
4.804	54.0	32.3	37.1	5.2	Vertical	O3	54.4	74.0	19.6
4.804	51.8	32.3	37.1	5.2	Horizontal	O2	52.2	74.0	21.8
4.882	52.2	32.3	37.1	5.2	Vertical	O3	52.6	74.0	21.3
4.882	49.3	32.3	37.1	5.2	Horizontal	O2	49.7	74.0	24.3
4.96	50.2	34	37.3	5.2	Vertical	O3	52.1	74.0	21.9
4.96	48.4	34	37.3	5.2	Horizontal	O2	50.3	74.0	23.7

Frequency GHz	Final Peak Level dBuV/m	EUT Orientation	Antenna Polarity	Duty Cycle Correction dB	Average Level dBV/m	Average Limit dBuV/m	Margin dB
4.804	54.4	O3	Vertical	-50.6	3.8	54.0	50.1
4.804	52.2	O2	Horizontal	-50.6	1.6	54.0	52.4
4.882	52.6	O3	Vertical	-50.6	2.1	54.0	51.9
4.882	49.7	O2	Horizontal	-50.6	-0.9	54.0	54.9
4.96	52.1	O3	Vertical	-50.6	1.5	54.0	52.5
4.96	50.3	O2	Horizontal	-50.6	-0.3	54.0	54.3

One Period(mS)	Pulse Width (mS)	No of Pulses	Duty Cycle	20 log duty cycle (dB)
100	**0.296**	**1**	**0.00296**	**-50.6**

Duty Cycle correction for Average measurement of pulsed signal =Peak -50.6dB

as per ANSI C63.10-2009 Section 7.6.3

Result: Pass

6.0 List of Test Equipment

Instrument	Mftr.	Model	CEI Ref No.	Cal Due Date
Bilog Antenna	Chase	CBL 6140	690	03/10/2015
Preamplifier	Hewlett Packard	83017A	805	10/04/2014
Horn Antenna	AH Systems	SAS 200 571	839	16/05/2016
Spectrum Analyser	Rohde & Schwarz	FSP 40	850	18/06/2014
Spectrum Analyser/Receiver	Rohde & Schwarz	ESR	869	25/05/2014
Horn Antenna	A-Inflow	LB-42-25-C-KF	877	04/09/2014
Cable low loss	Micro-Coax	Utiflex UFA147A	705	18/05/2014

Appendix A

Additional Test Results

For

Bluetooth Classic

Basic Data Rate

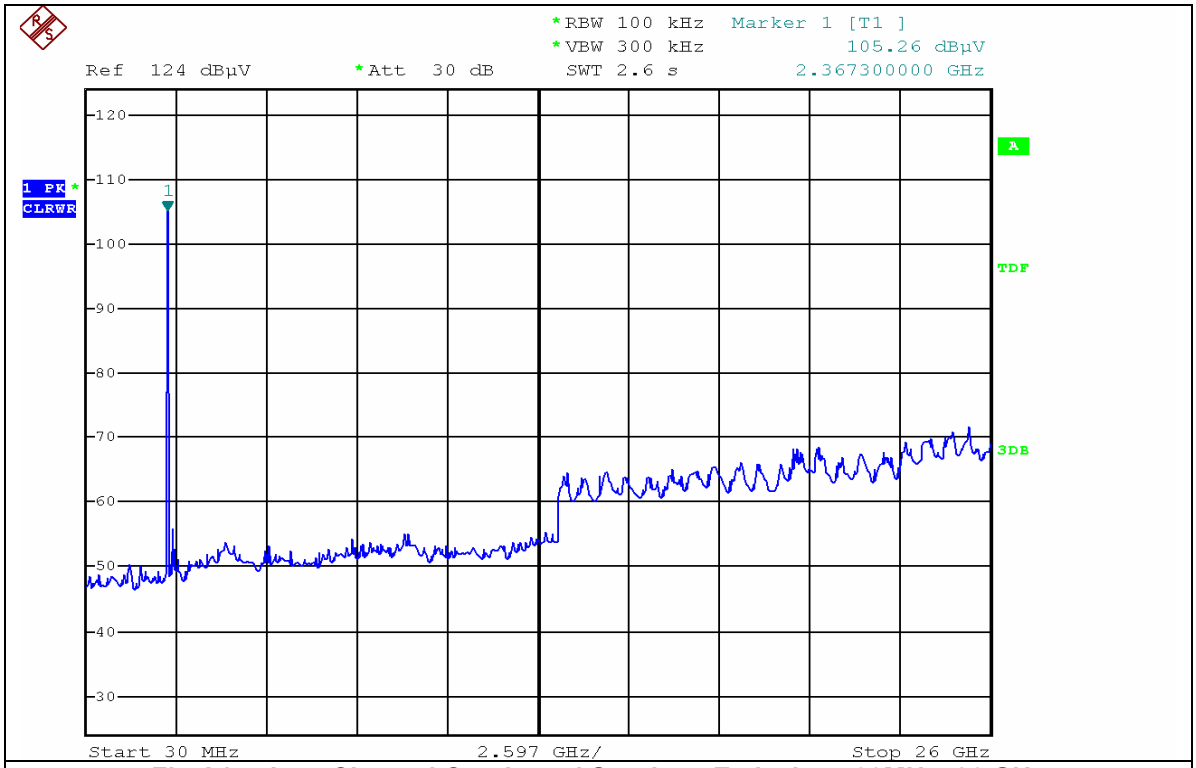


Fig A1 Low Channel Conducted Spurious Emissions 30MHz -26 GHz

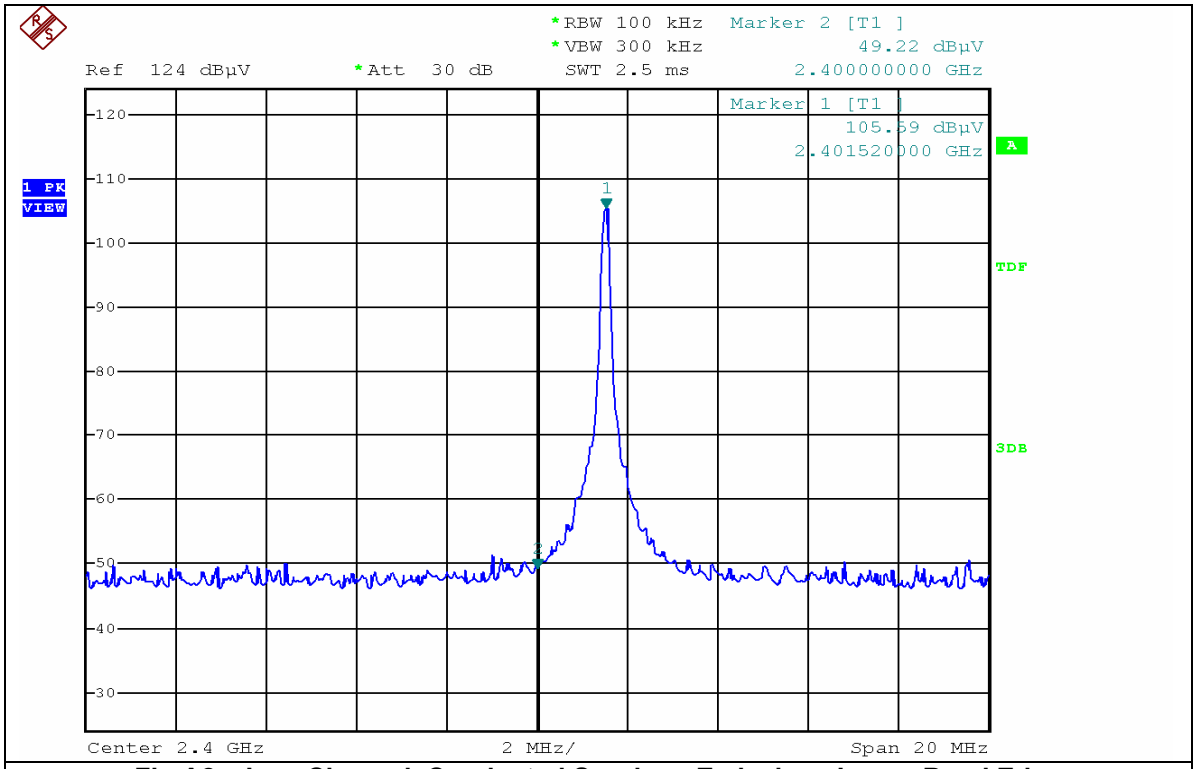


Fig A2 Low Channel Conducted Spurious Emissions Lower Band Edge

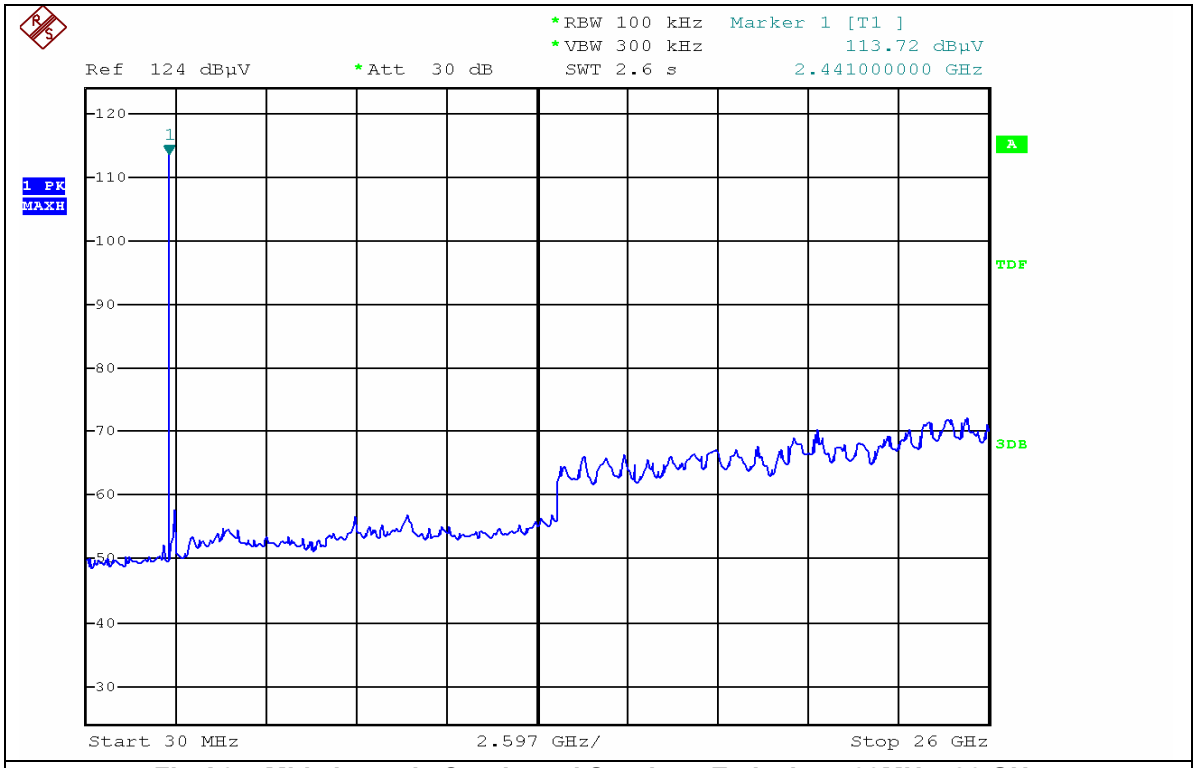


Fig A3 Mid channel Conducted Spurious Emissions 30MHz -26 GHz

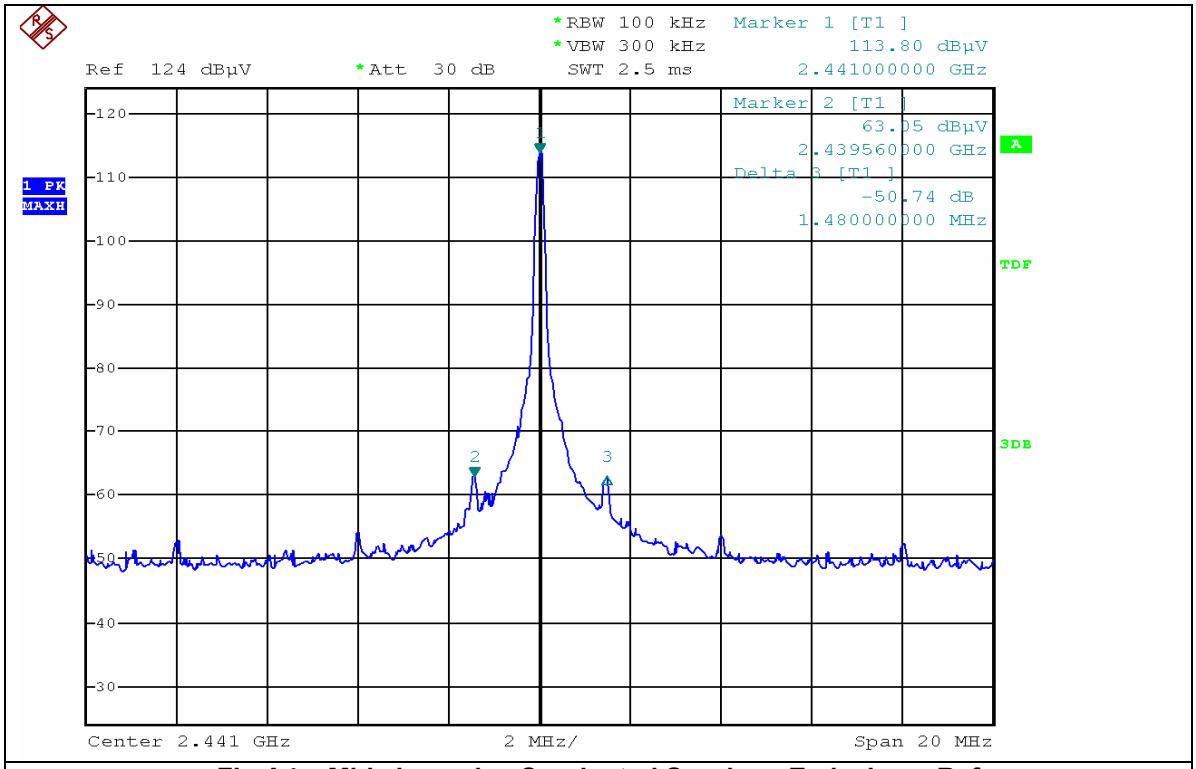


Fig A4 Mid channel Conducted Spurious Emissions Ref

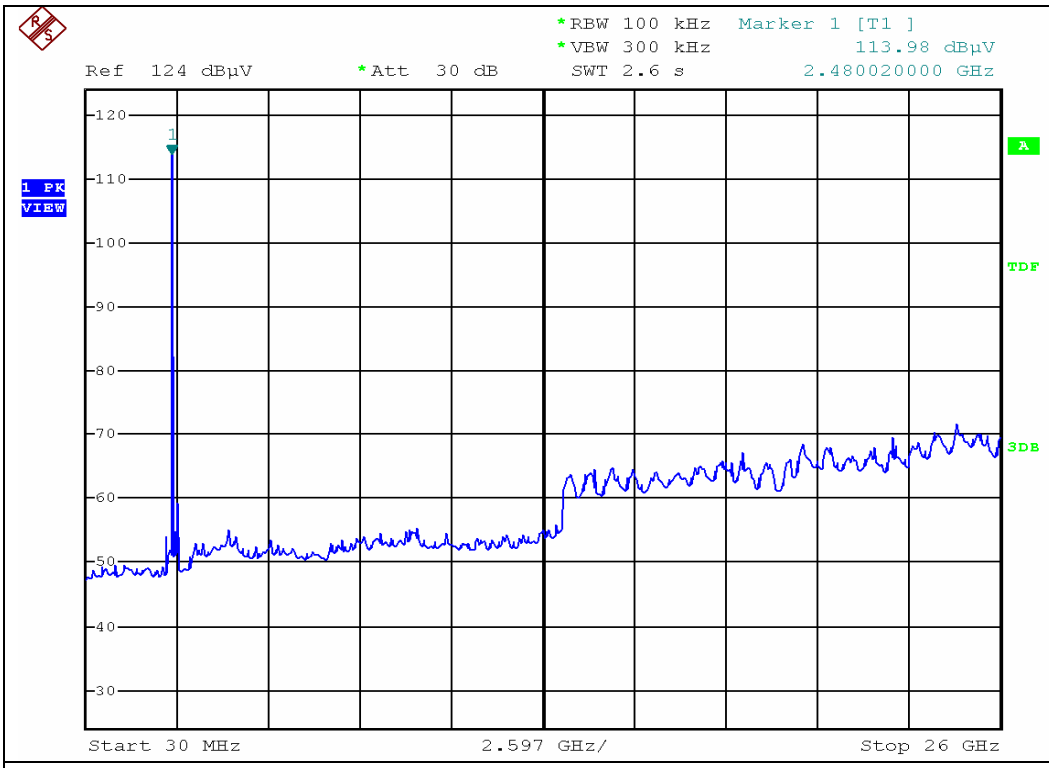


Fig A5 High channel Conducted Spurious Emissions 30MHz -26 GHz

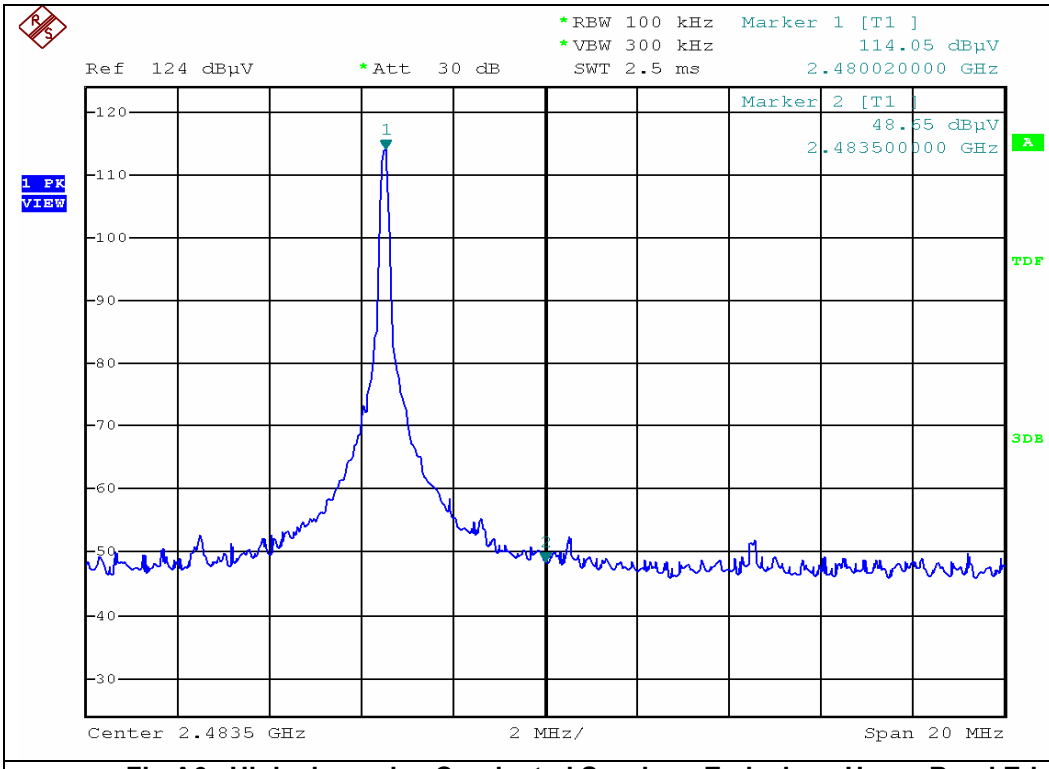


Fig A6 High channel Conducted Spurious Emissions Upper Band Edge

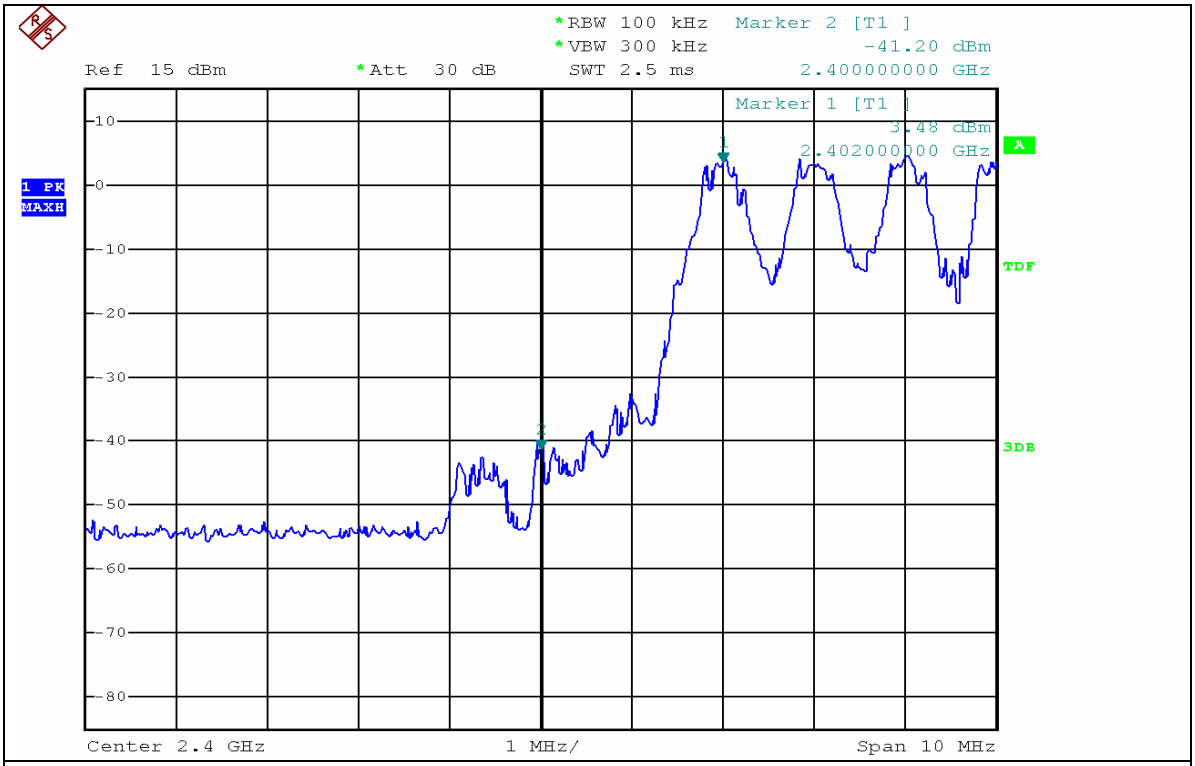


Fig A7 Low Channel Conducted Spurious Emissions Lower Band Edge Hopping On

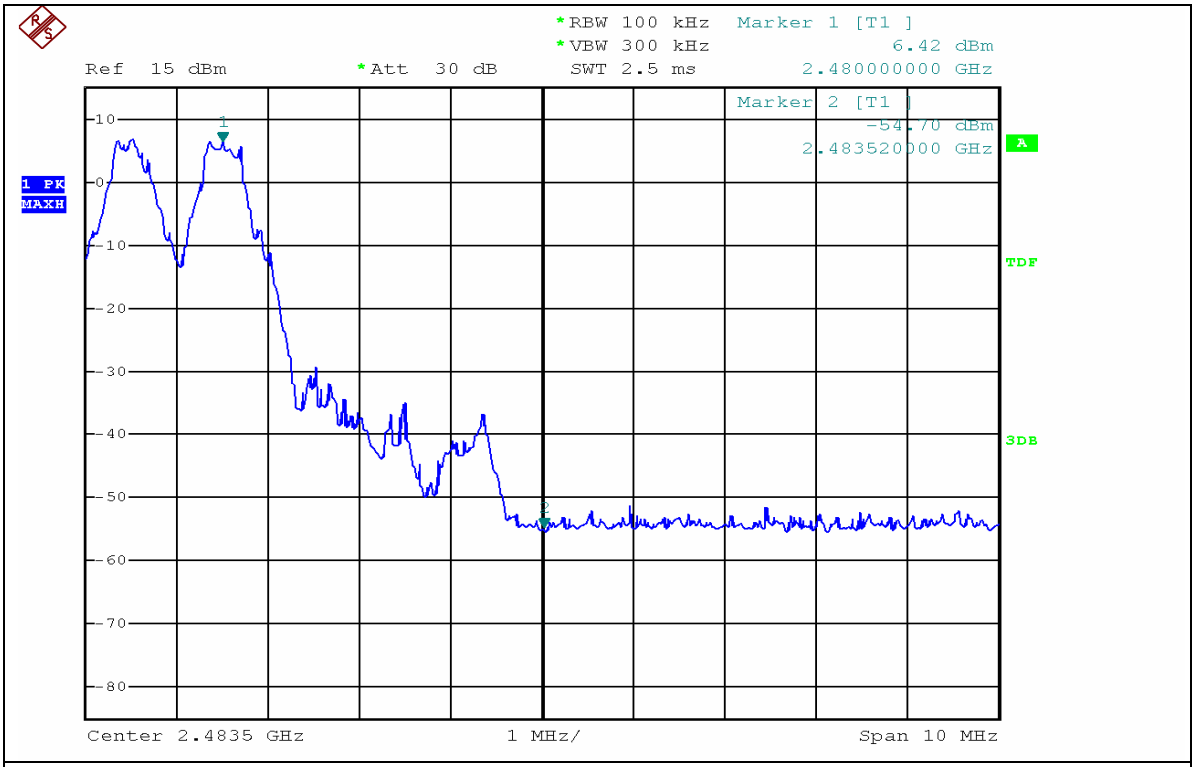


Fig A8 High Channel Conducted Spurious Emissions Higher Band Edge Hopping On

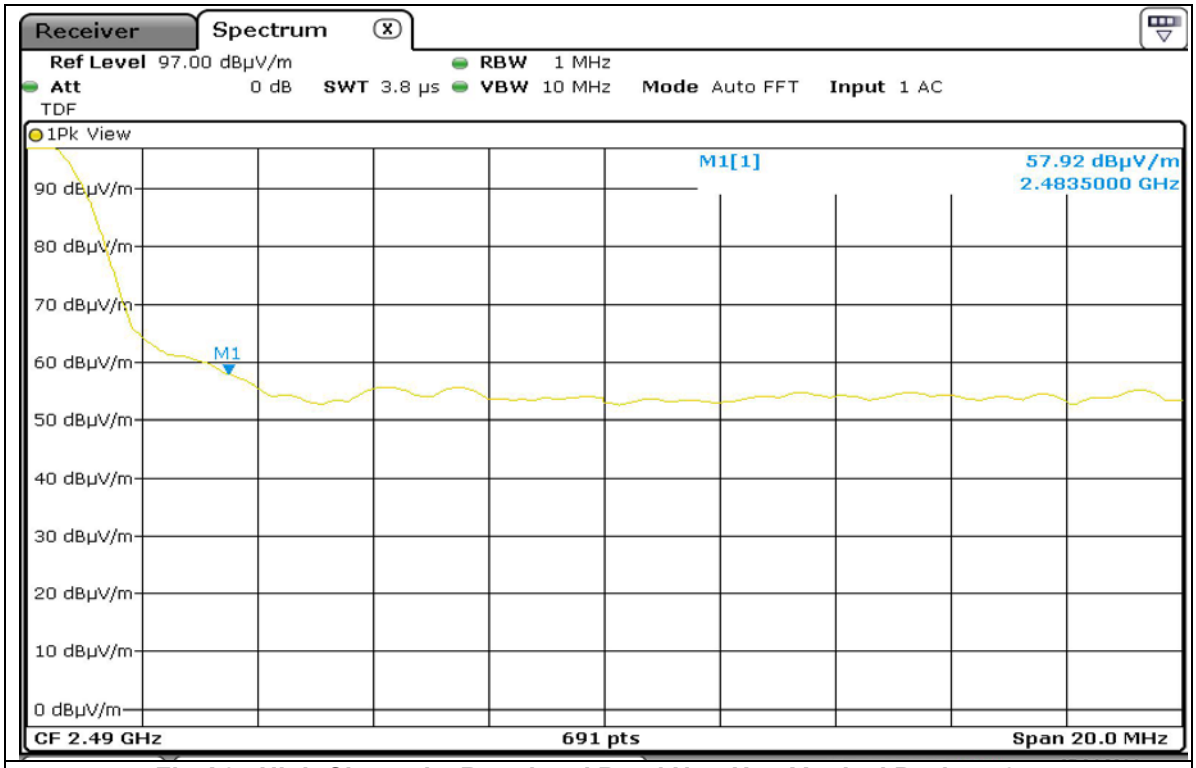


Fig A9 High Channel Restricted Band Non Hop Vertical Peak at 3m

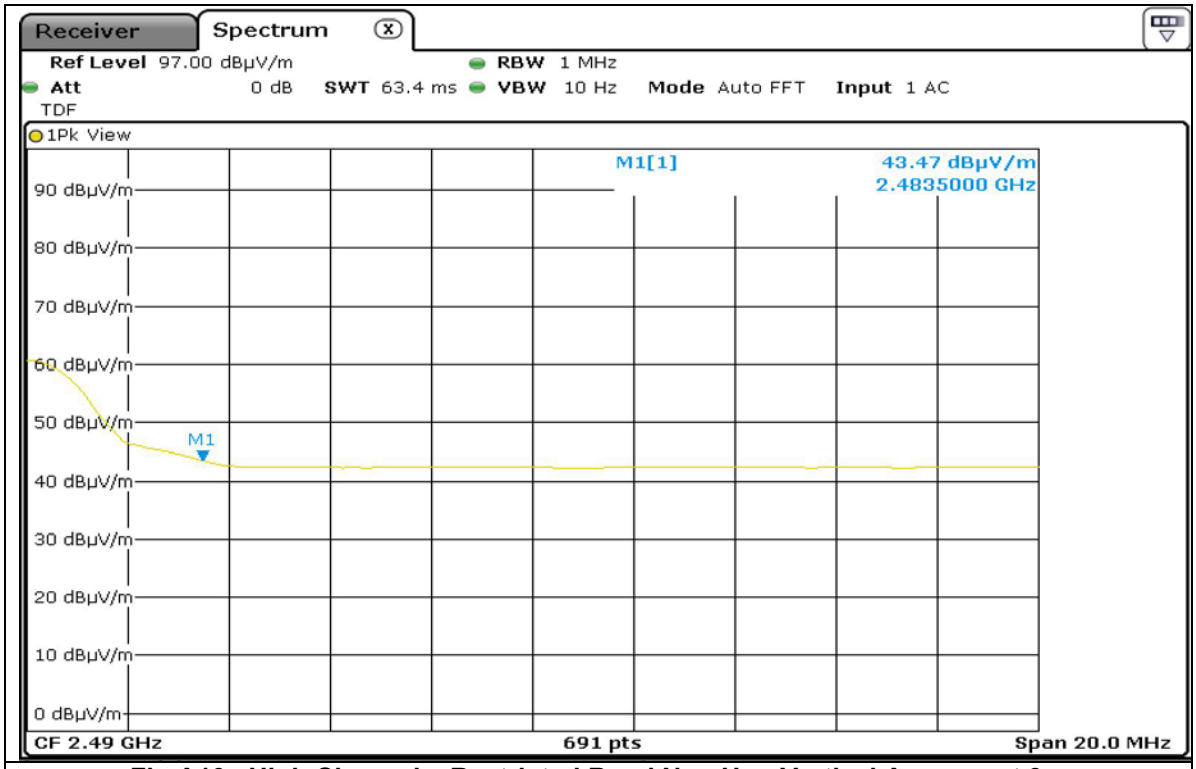


Fig A10 High Channel Restricted Band Non Hop Vertical Average at 3m

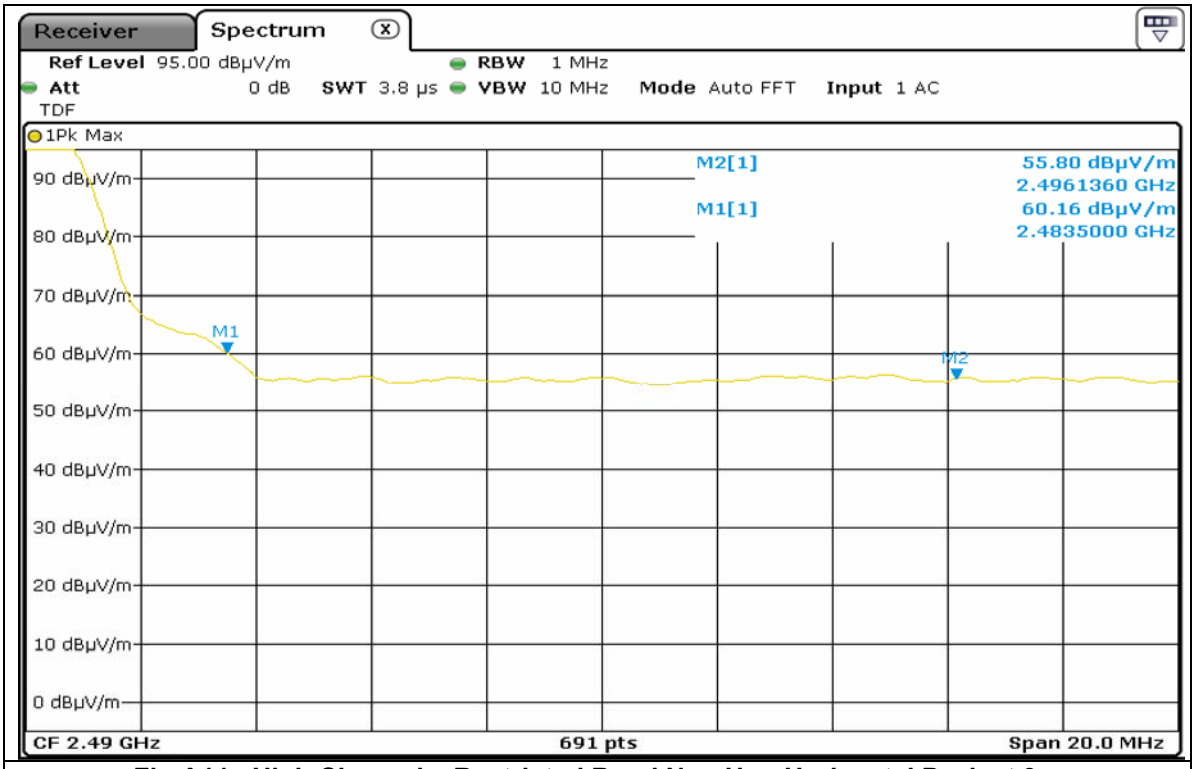


Fig A11 High Channel Restricted Band Non Hop Horizontal Peak at 3m

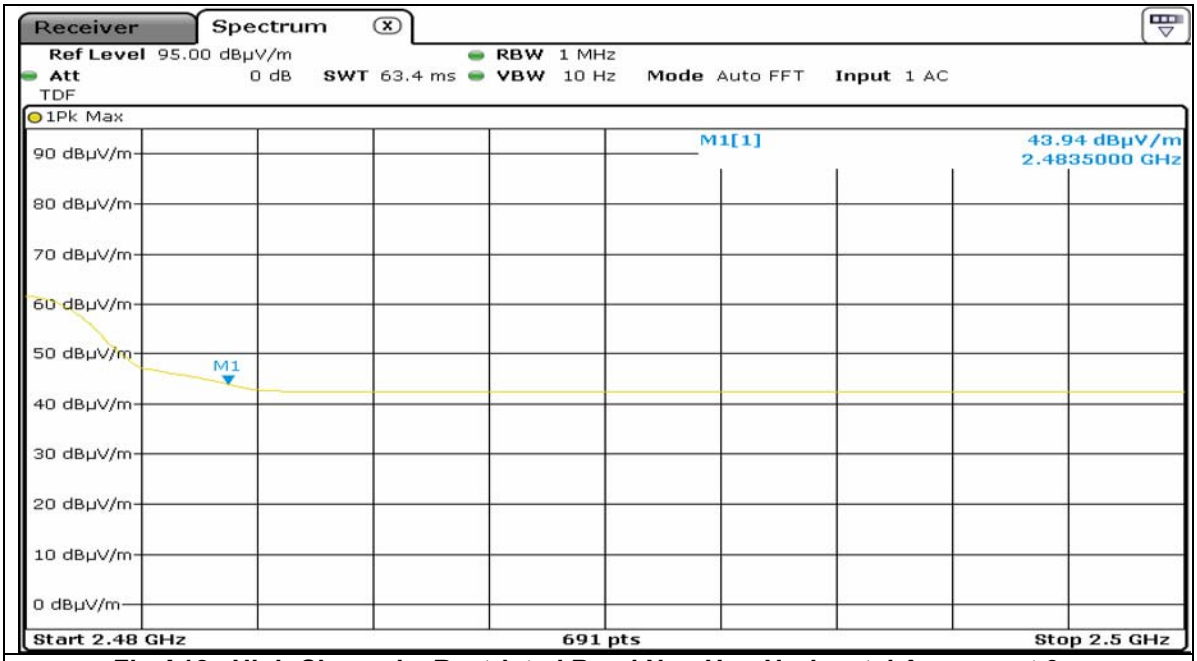


Fig A12 High Channel Restricted Band Non Hop Horizontal Average at 3m

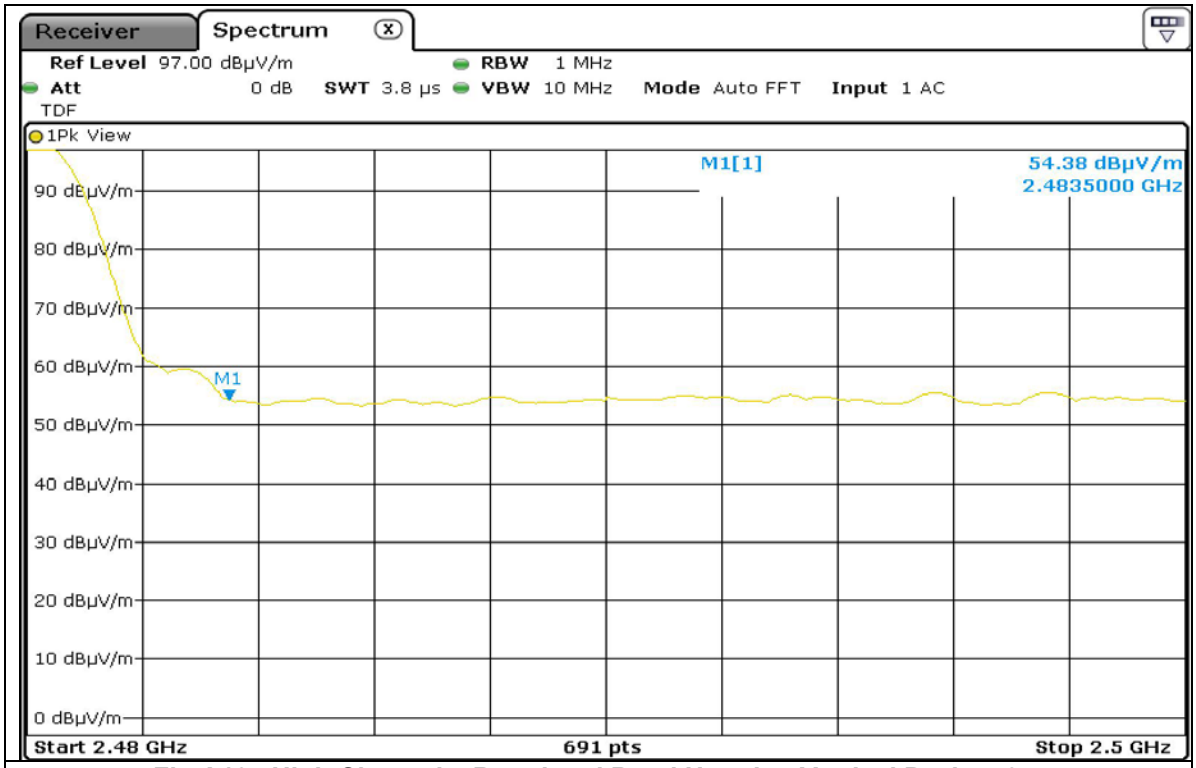


Fig A13 High Channel Restricted Band Hopping Vertical Peak at 3m

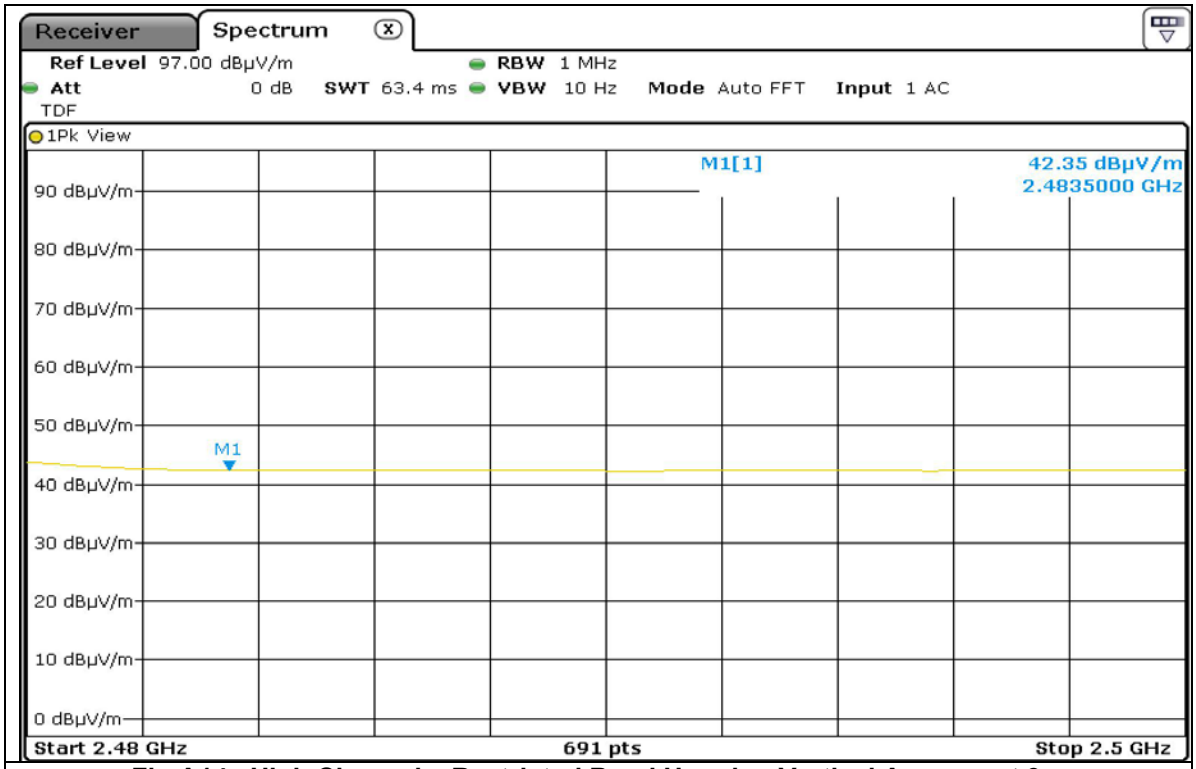


Fig A14 High Channel Restricted Band Hopping Vertical Average at 3m

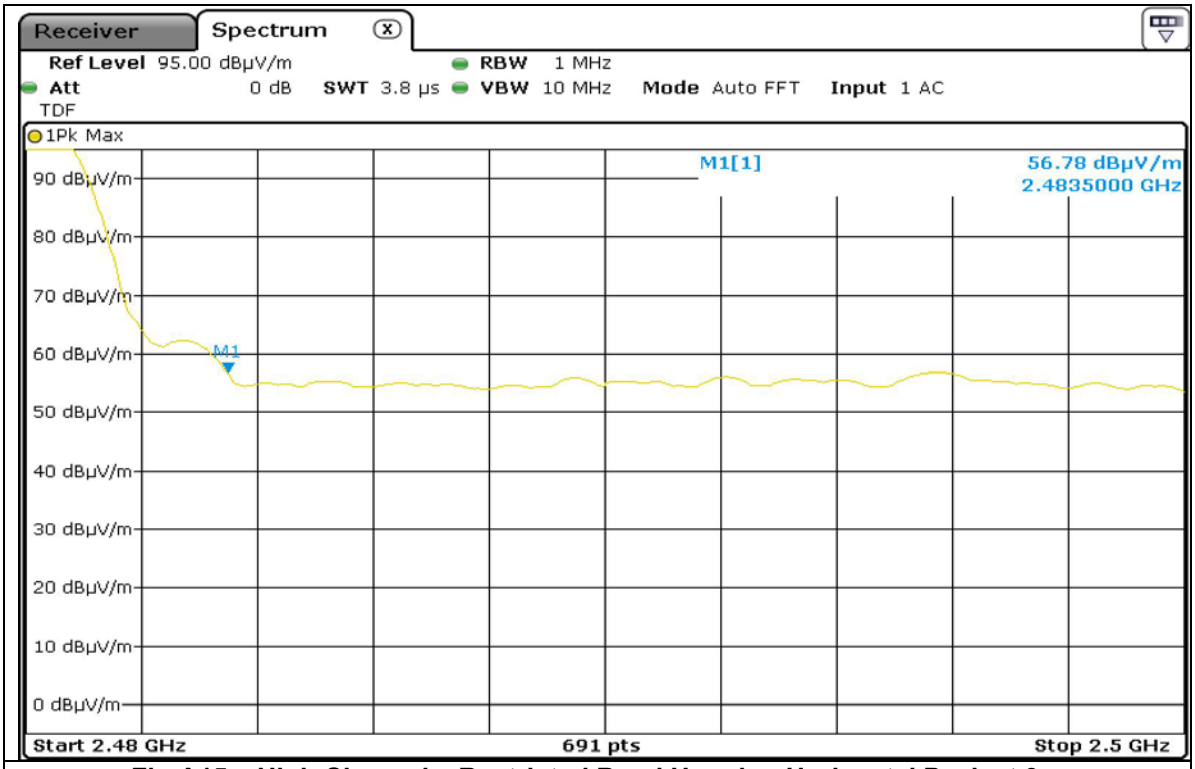


Fig A15 High Channel Restricted Band Hopping Horizontal Peak at 3m

Fig A16 High Channel Restricted Band Hopping Horizontal Average at 3m

Appendix B

Additional Test Results

For

Bluetooth Classic

Enhanced Data Rate 8DPSK

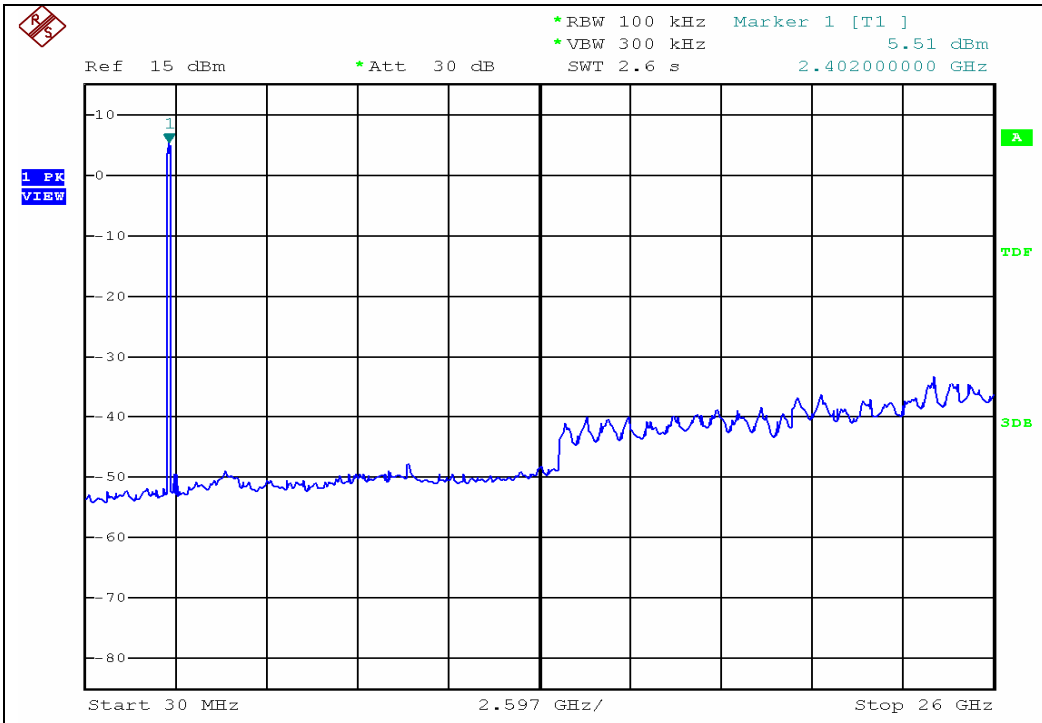


Fig B1 Low Channel Conducted Spurious Emissions 30MHz -26 GHz

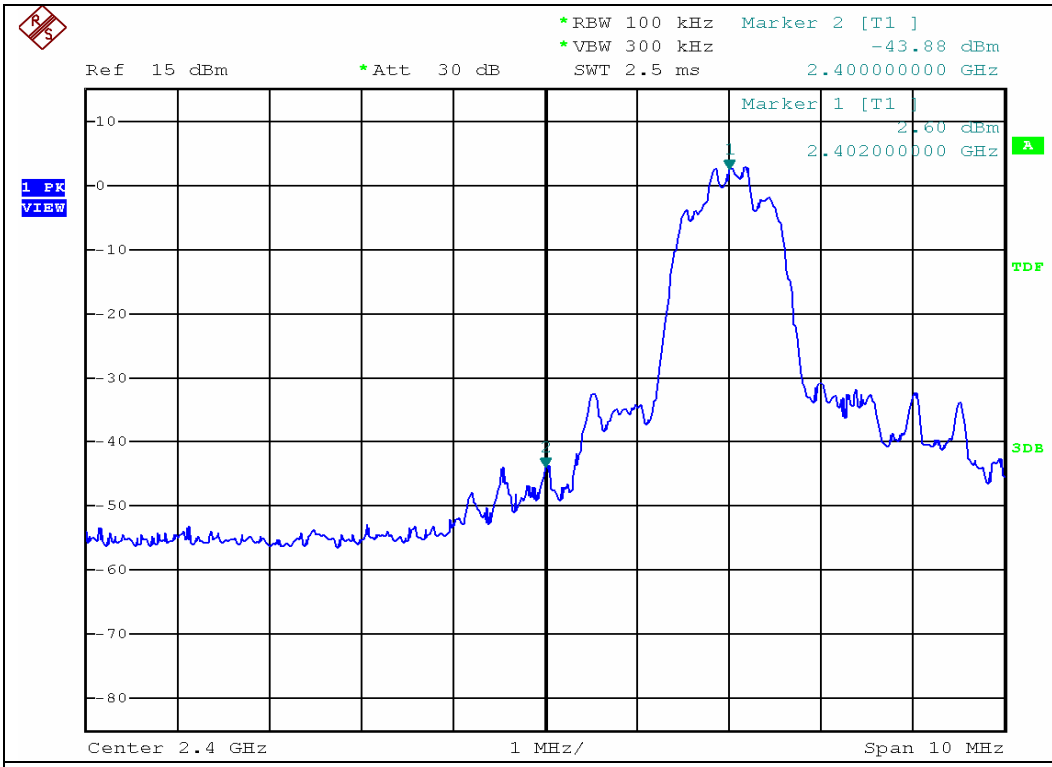


Fig B2 Low Channel Conducted Spurious Emissions Lower Band Edge

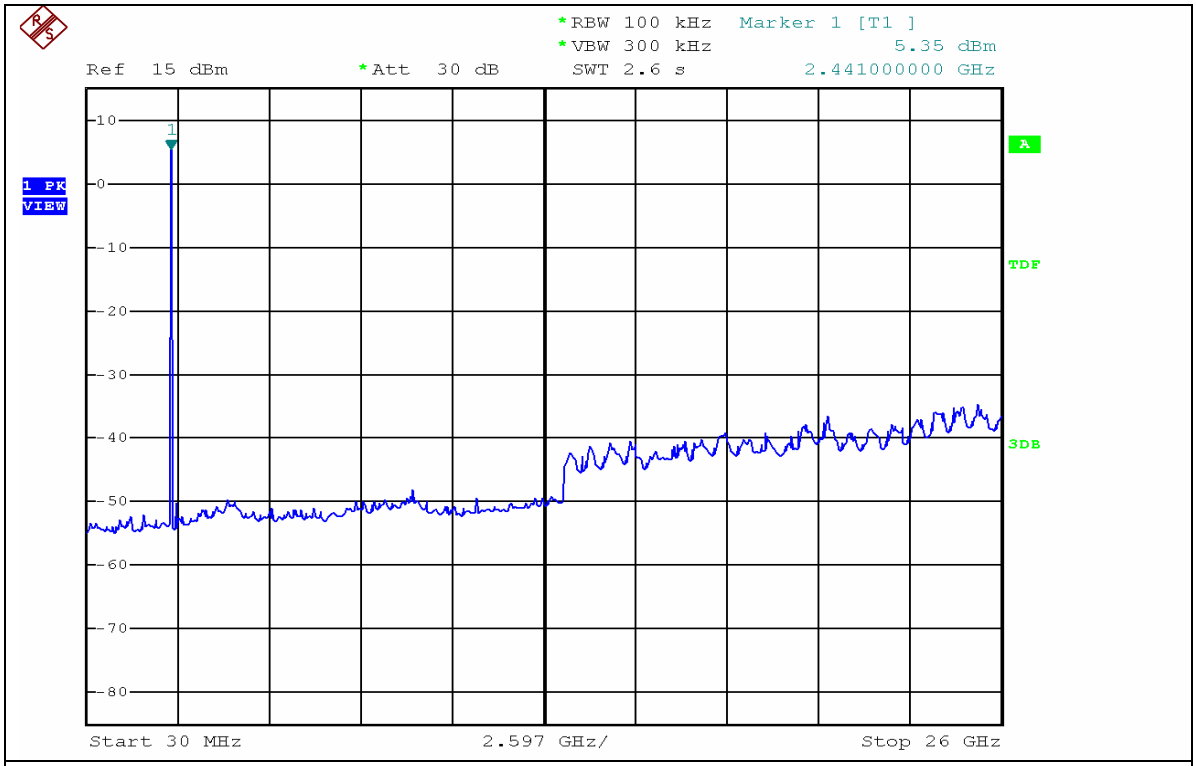


Fig B3 Mid channel Conducted Spurious Emissions 30MHz -26 GHz

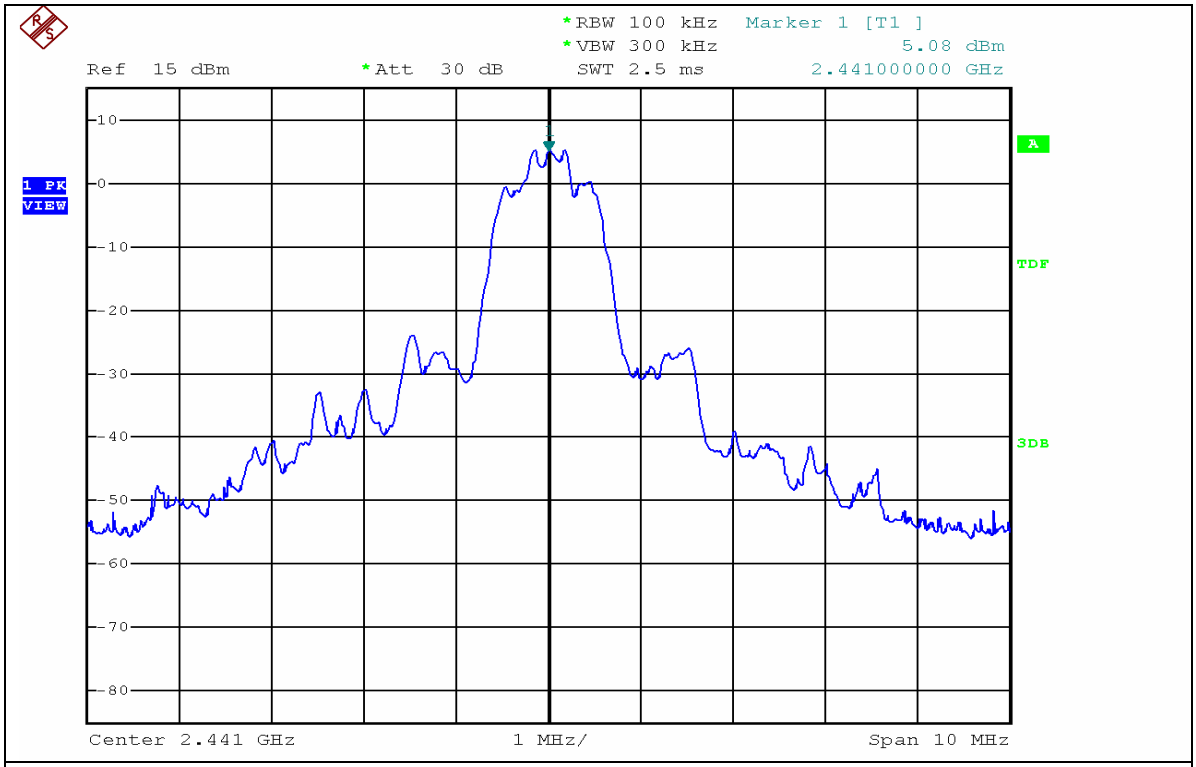


Fig B4 Mid channel Conducted Spurious Emissions Ref

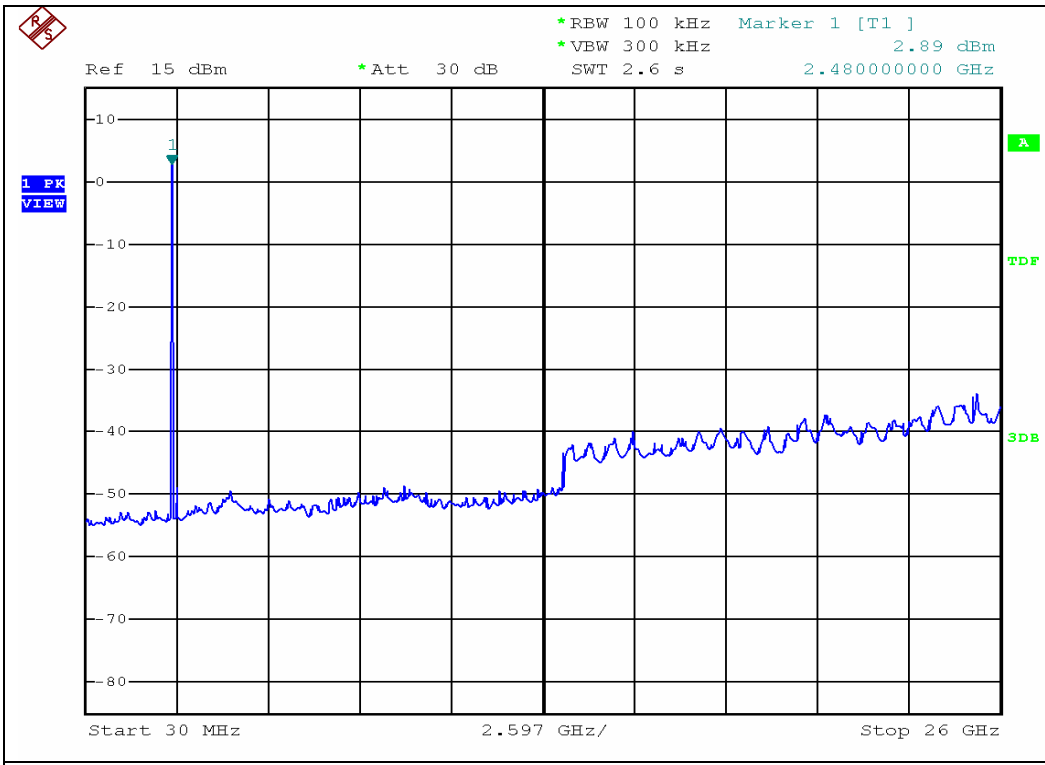


Fig B5 High channel Conducted Spurious Emissions 30MHz -26 GHz

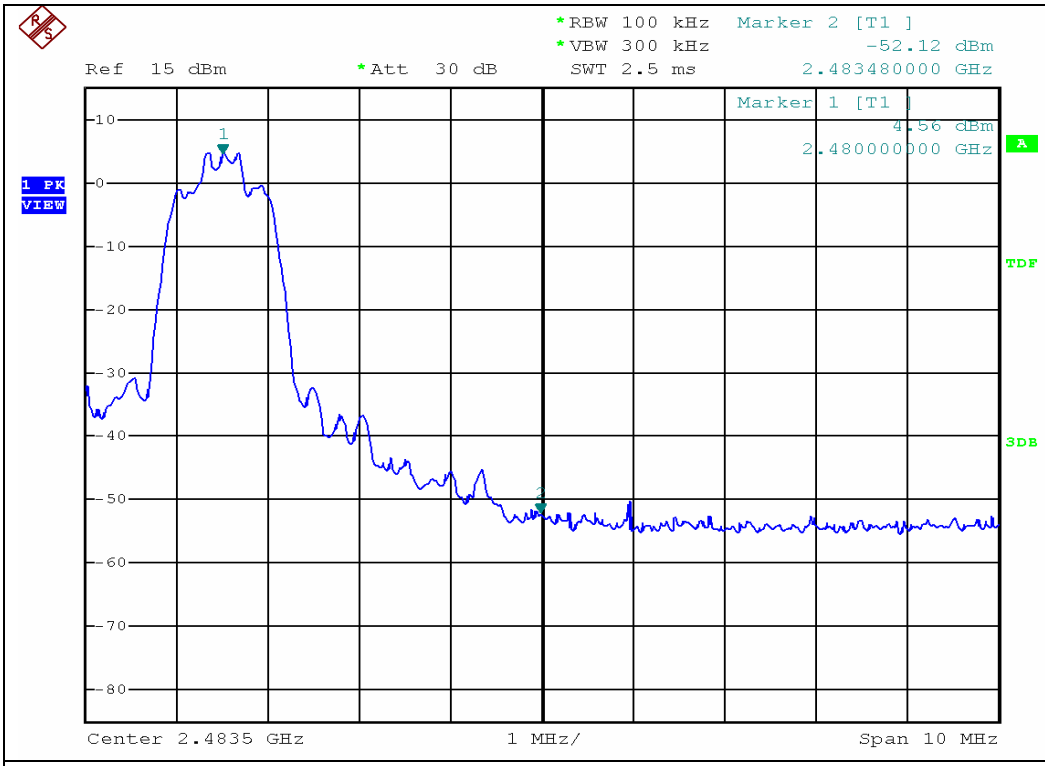


Fig B6 High channel Conducted Spurious Emissions Upper Band Edge

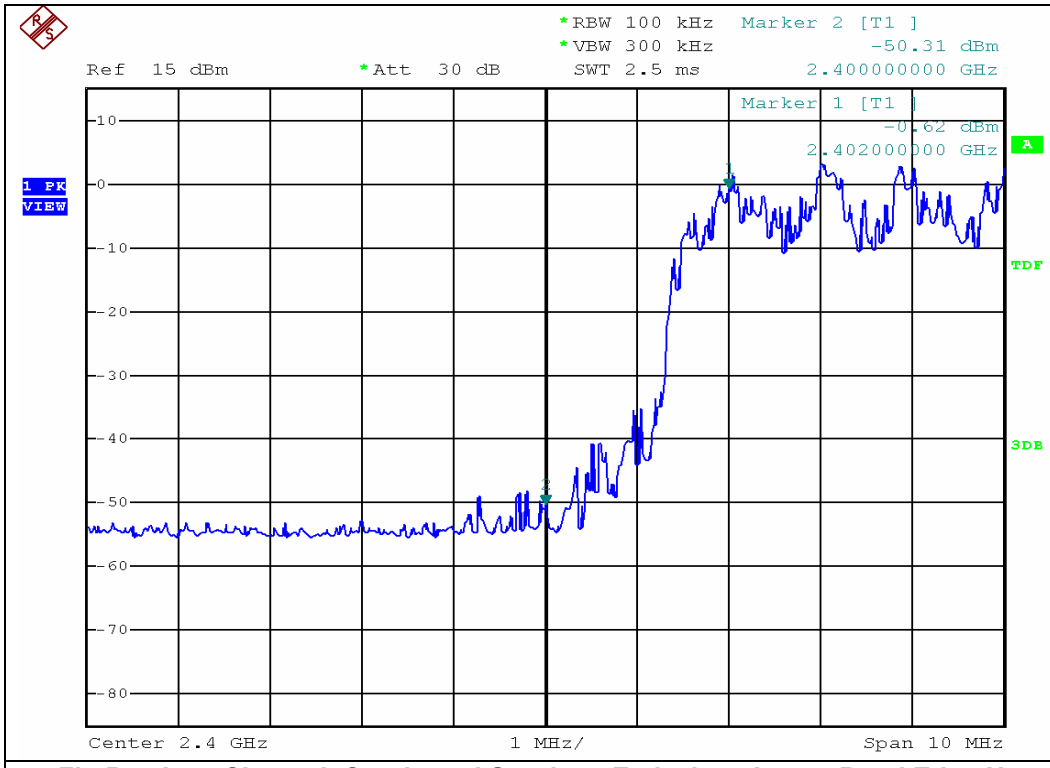


Fig B7 Low Channel Conducted Spurious Emissions Lower Band Edge Hopping On

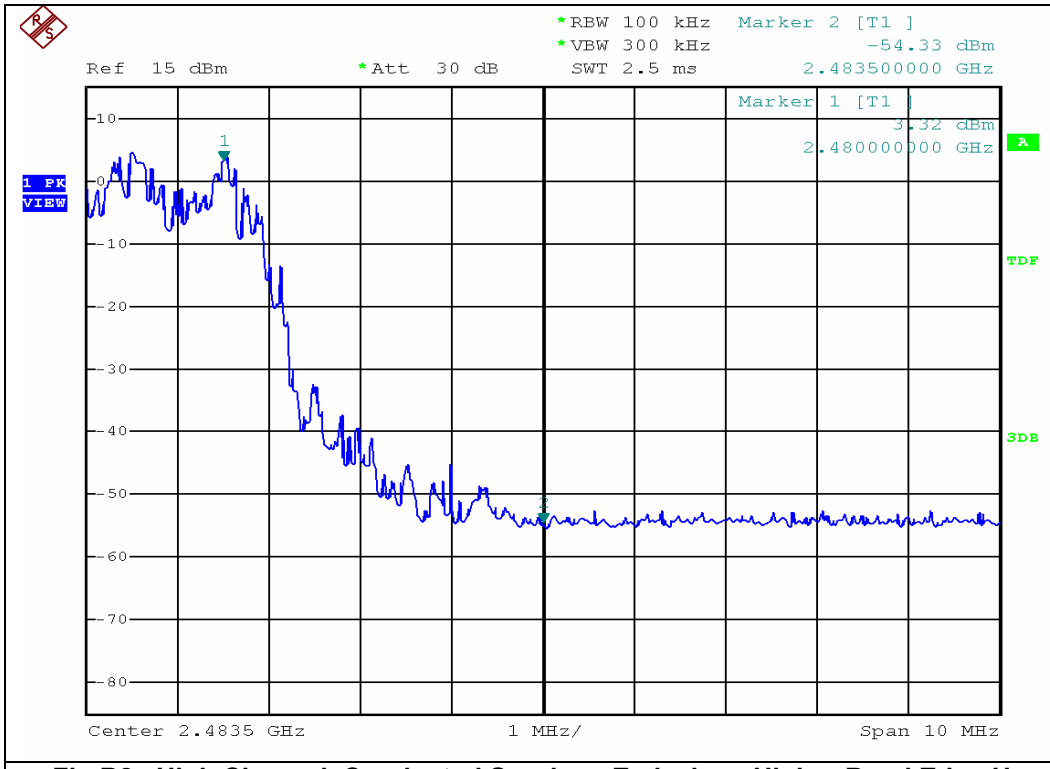


Fig B8 High Channel Conducted Spurious Emissions Higher Band Edge Hopping On

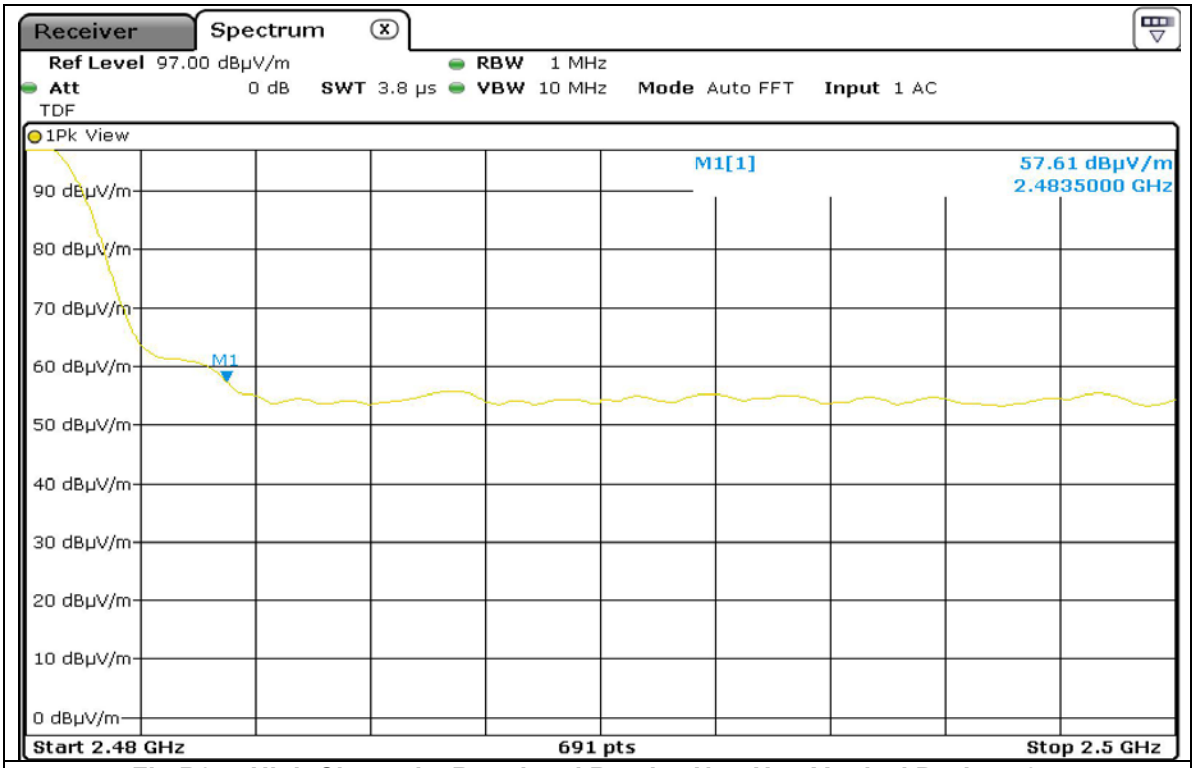


Fig B9 High Channel Restricted Band Non Hop Vertical Peak at 3m

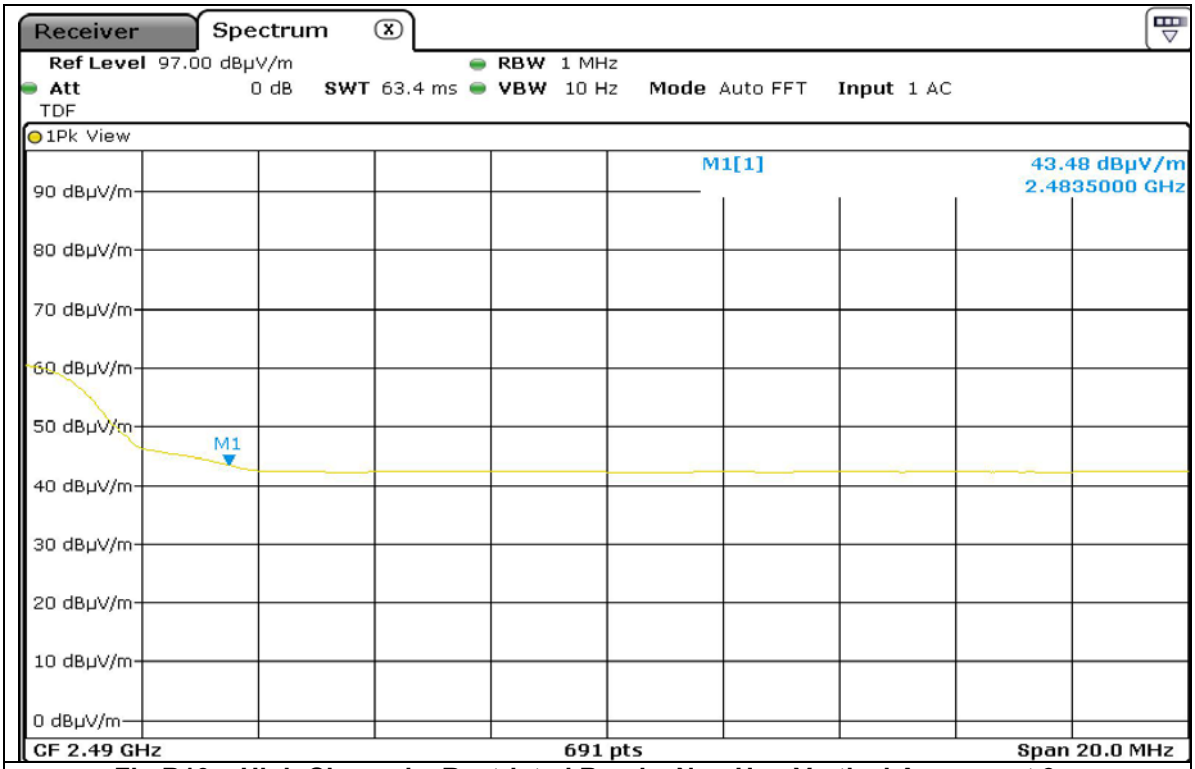


Fig B10 High Channel Restricted Band Non Hop Vertical Average at 3m

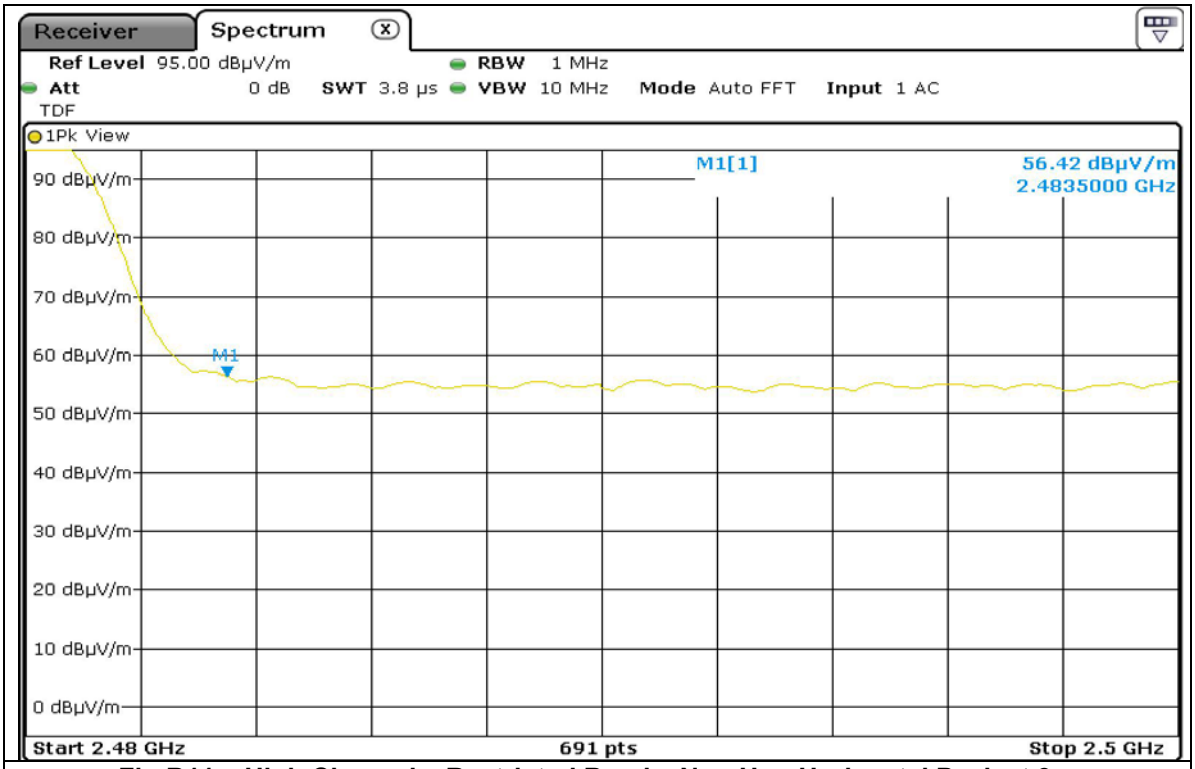


Fig B11 High Channel Restricted Band Non Hop Horizontal Peak at 3m

Fig B12 High Channel Restricted Band Non Hop Horizontal Average at 3m

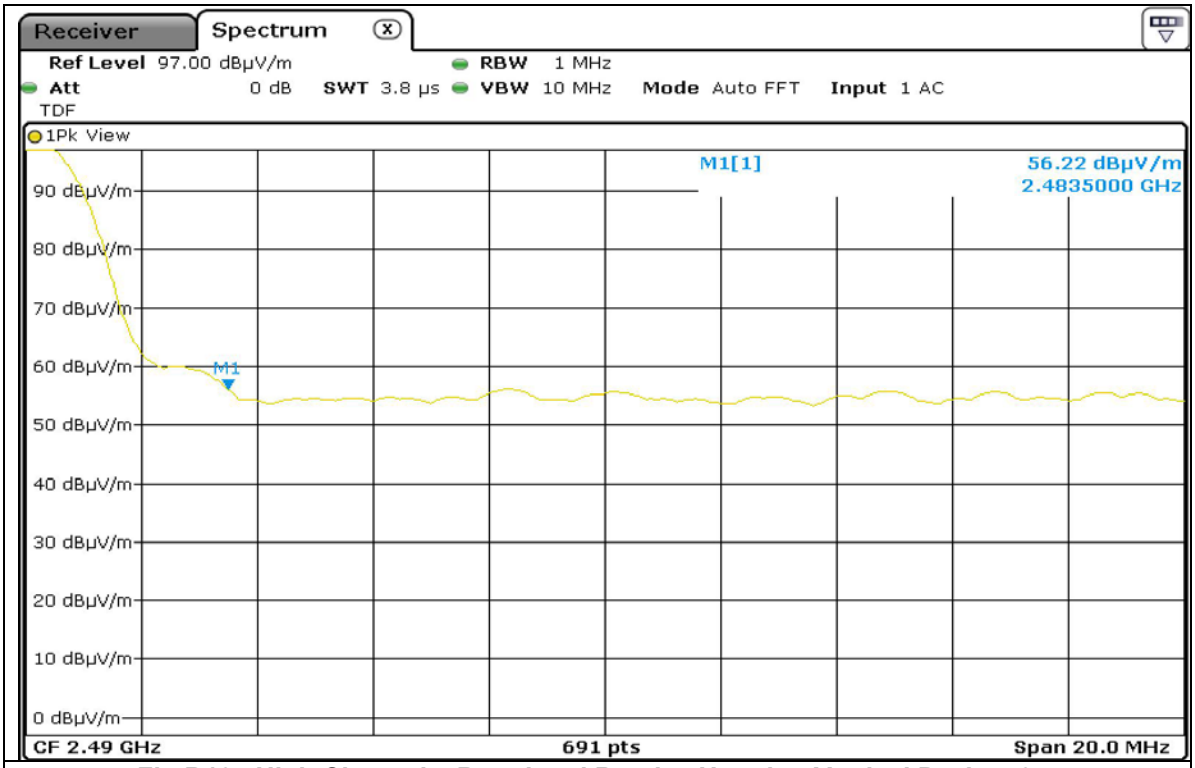


Fig B13 High Channel Restricted Band Hopping Vertical Peak at 3m

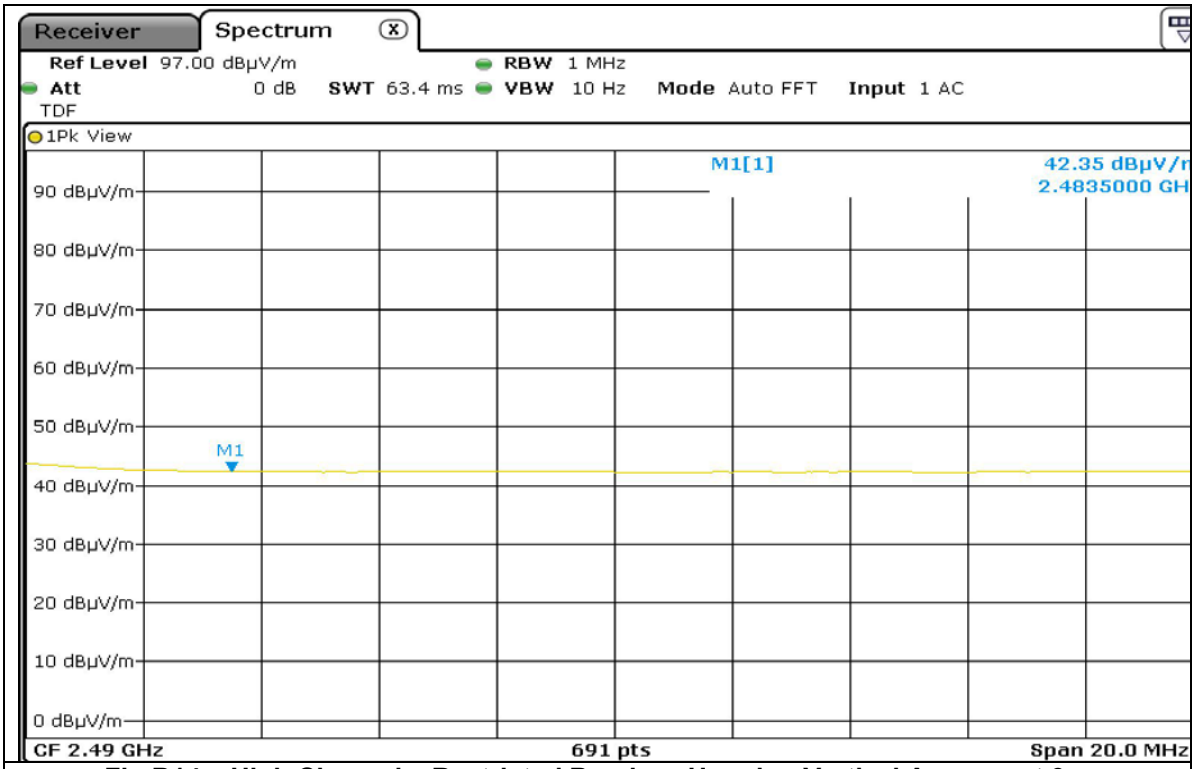


Fig B14 High Channel Restricted Band Hopping Vertical Average at 3m

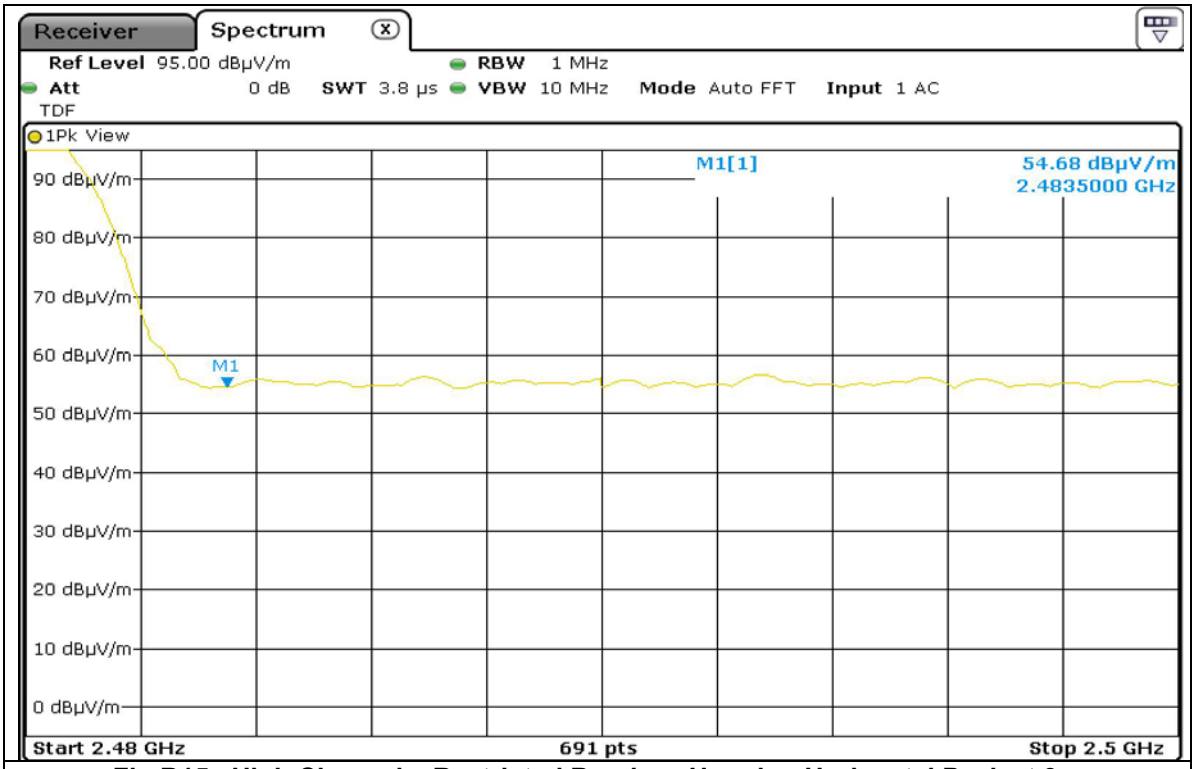


Fig B15 High Channel Restricted Band Hopping Horizontal Peak at 3m

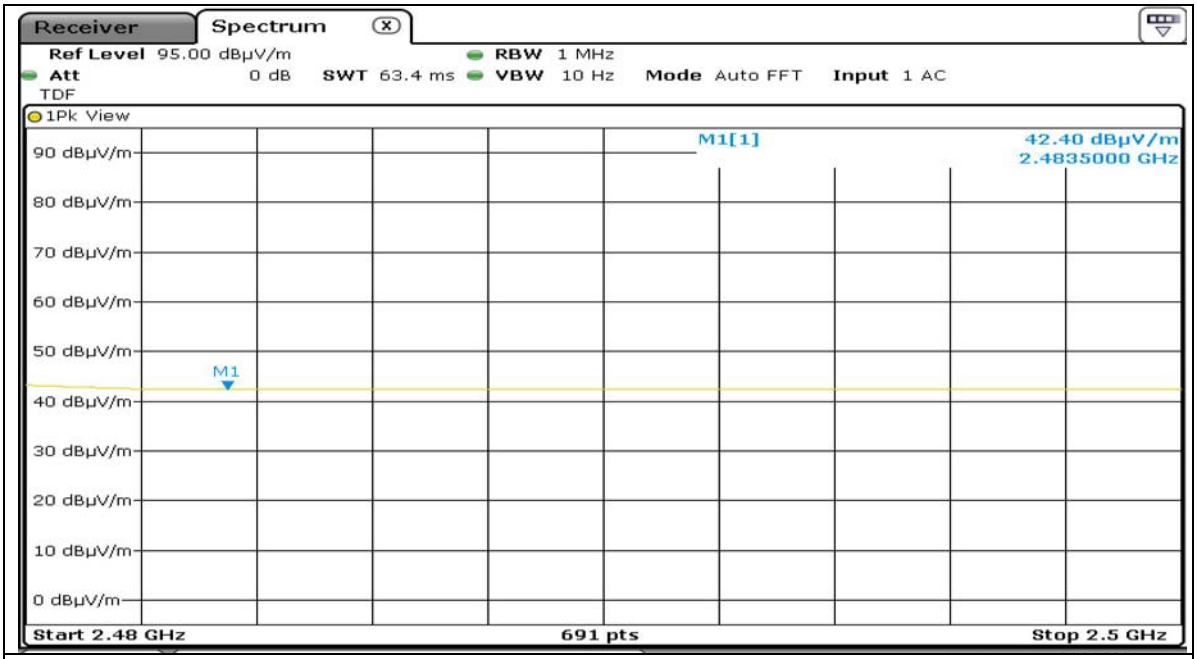


Fig B16 High Channel Restricted Band, Hopping Horizontal Average at 3m

Appendix C

Additional Test Results

For

Bluetooth Classic

Enhanced Data Rate π/4 DPSK

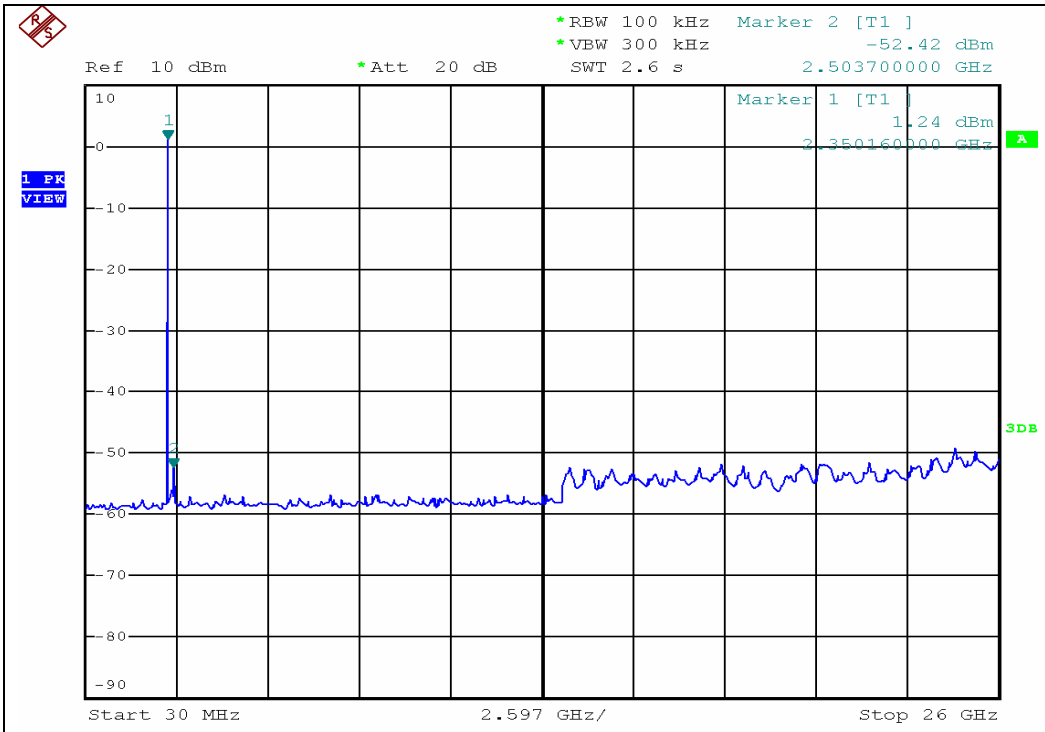


Fig C1 Low Channel Conducted Spurious Emissions 30MHz -26 GHz

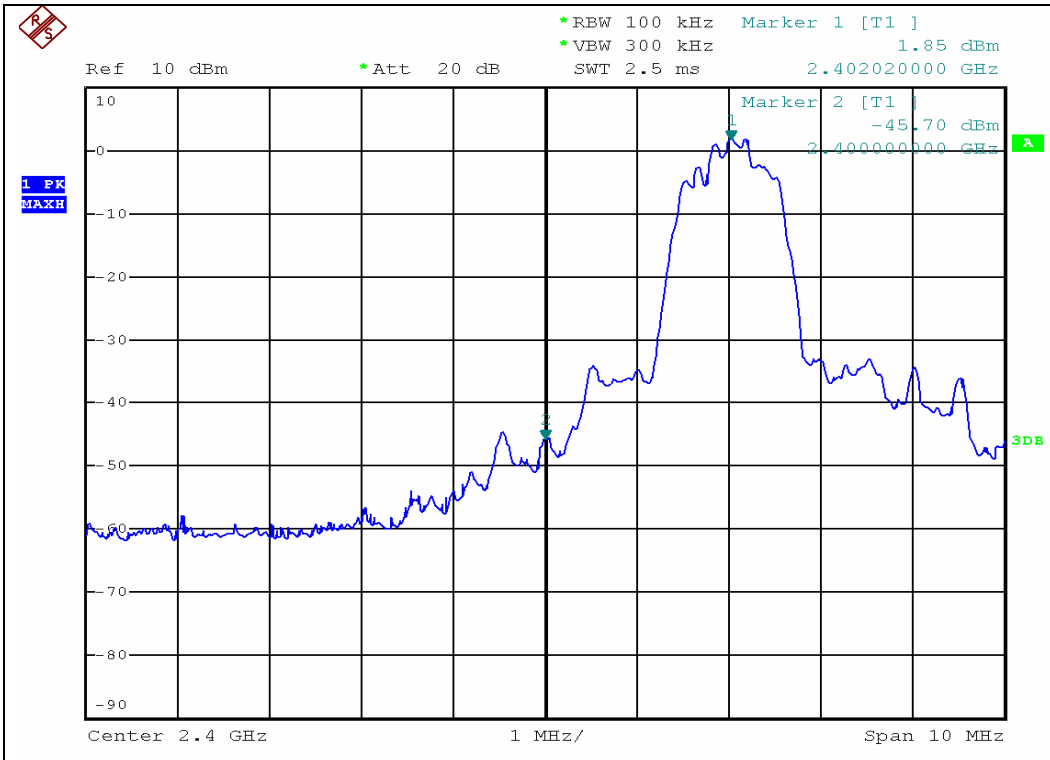


Fig C2 Low Channel Conducted Spurious Emissions Lower Band Edge

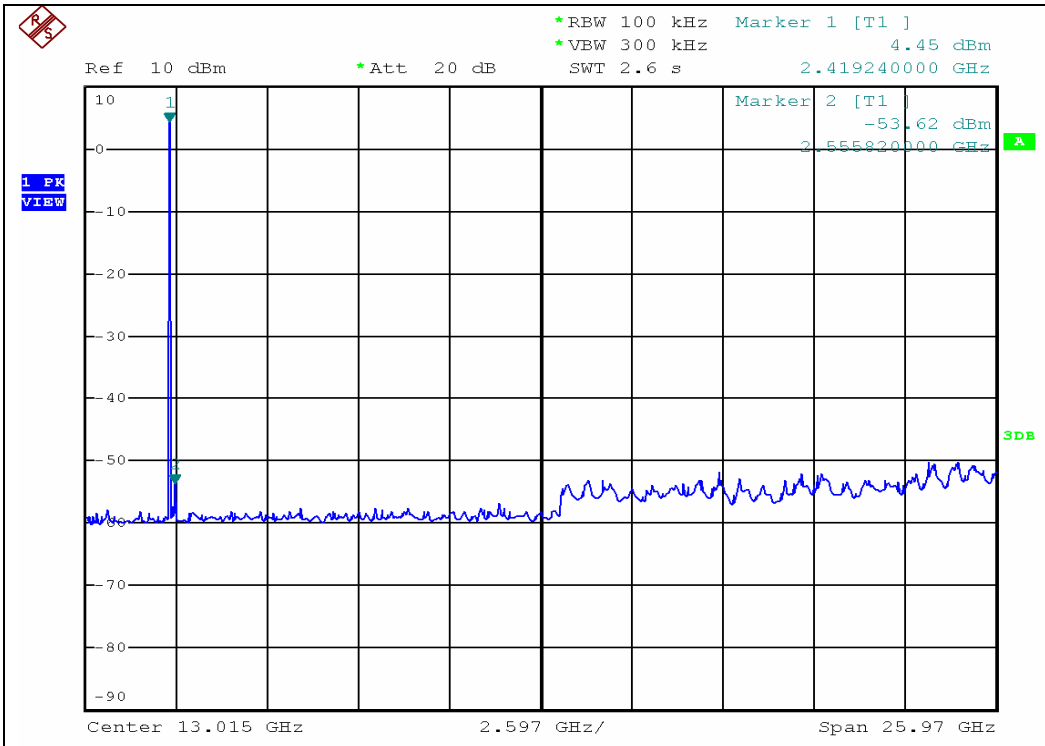


Fig C3 Mid channel Conducted Spurious Emissions 30MHz -26 GHz

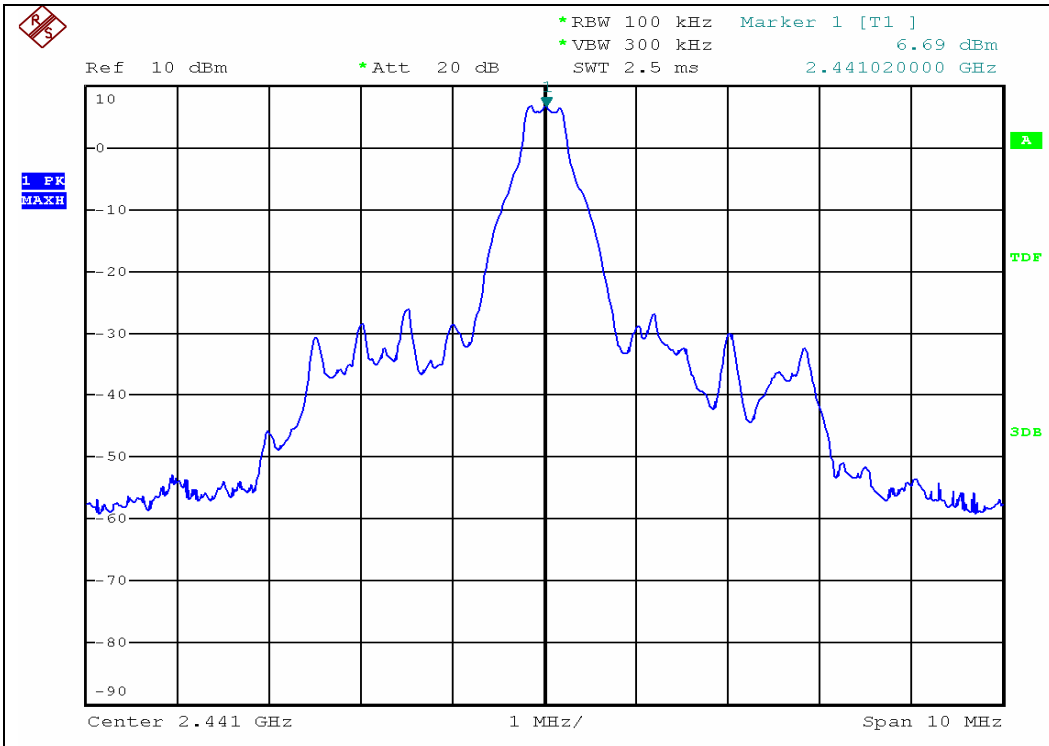


Fig C4 Mid channel Conducted Spurious Emissions Ref

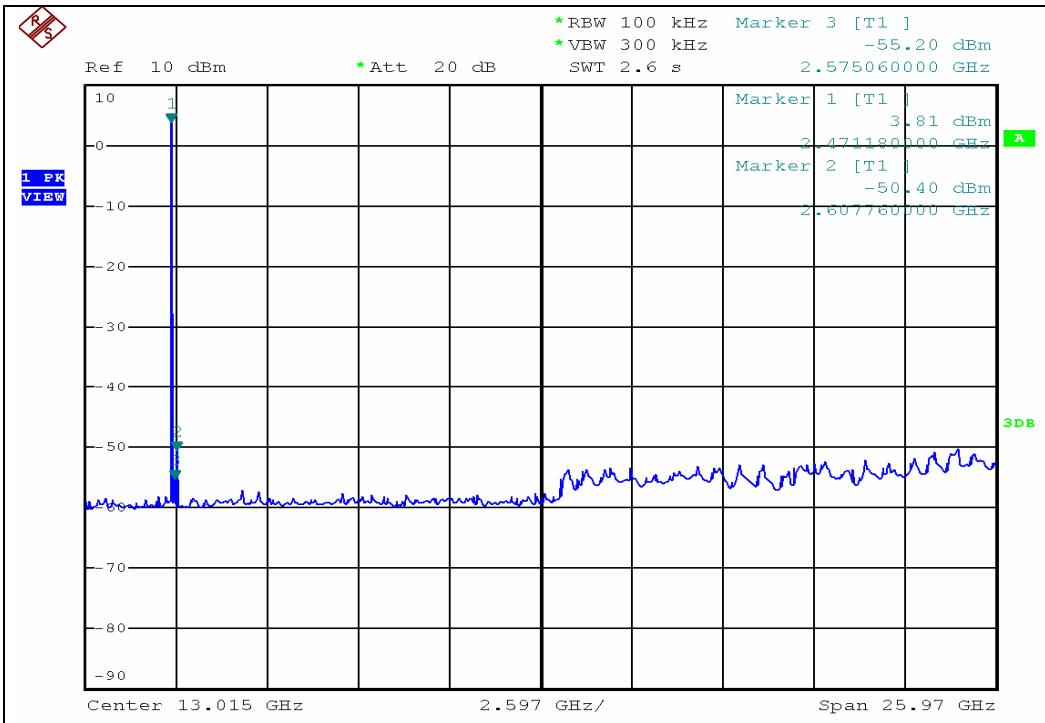


Fig C5 High channel Conducted Spurious Emissions 30MHz -26 GHz

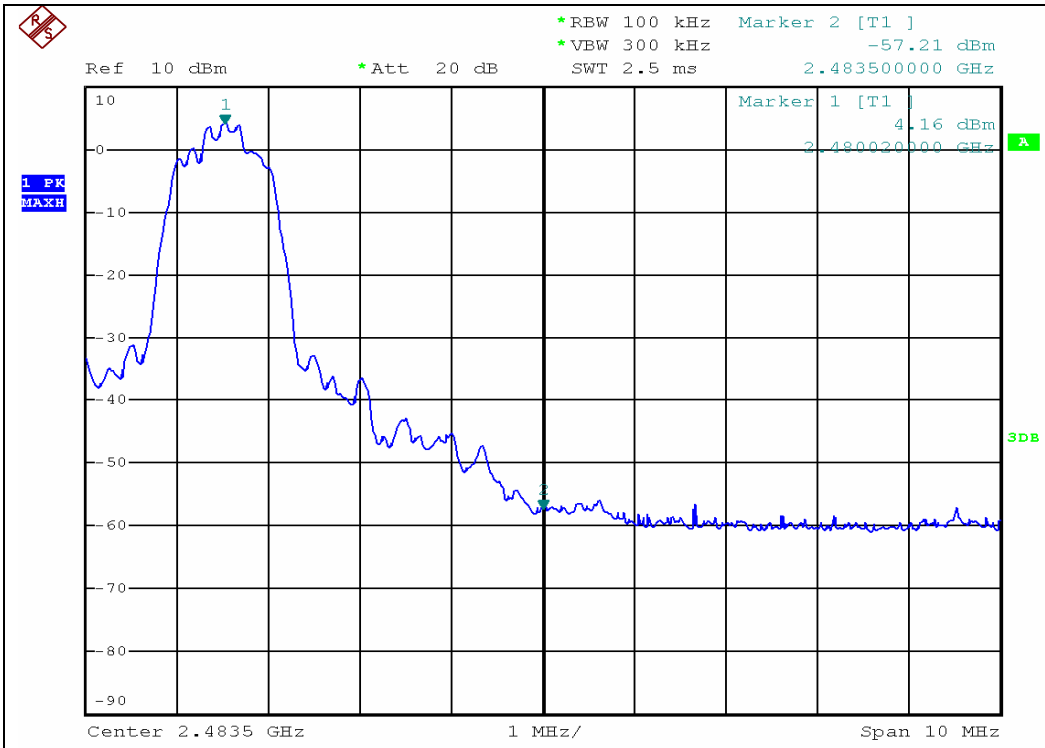


Fig C6 High channel Conducted Spurious Emissions Upper Band Edge

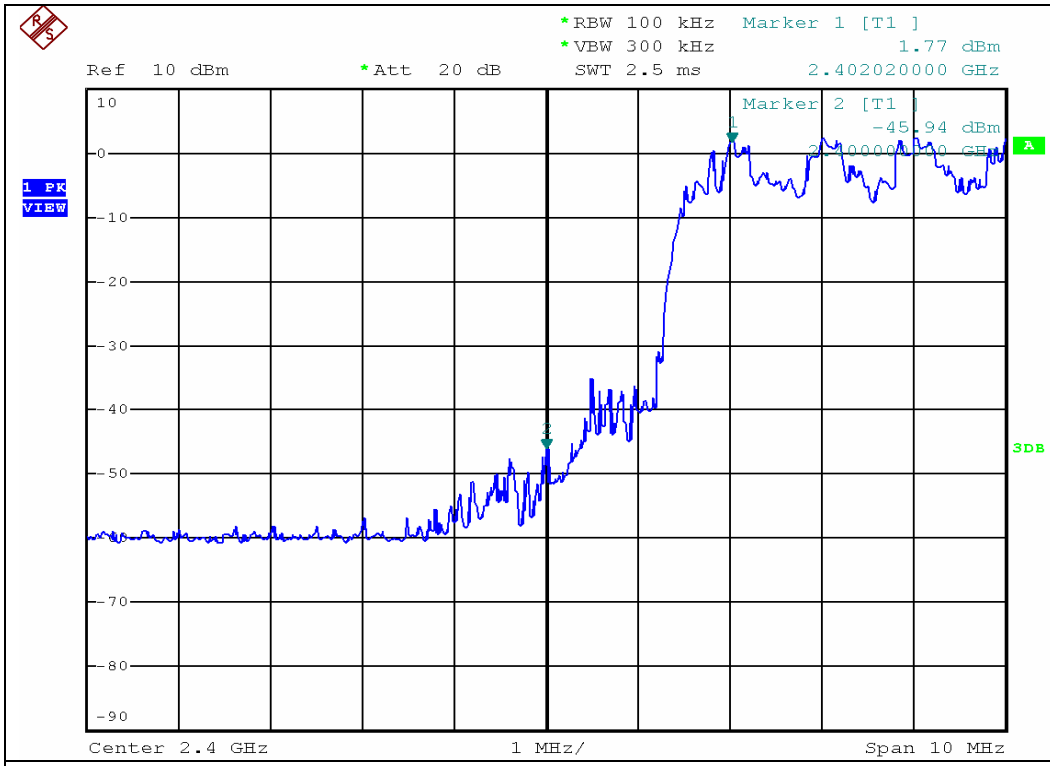


Fig C7 Low Channel Conducted Spurious Emissions Lower Band Edge Hopping On

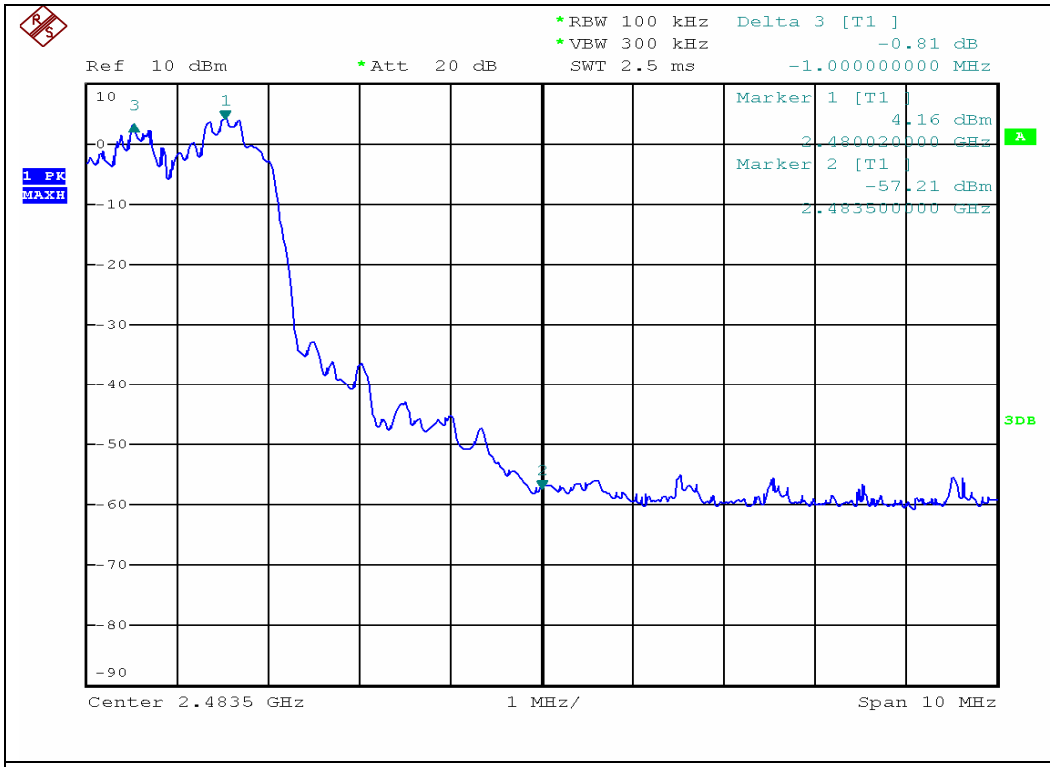


Fig C8 High Channel Conducted Spurious Emissions Higher Band Edge Hopping On

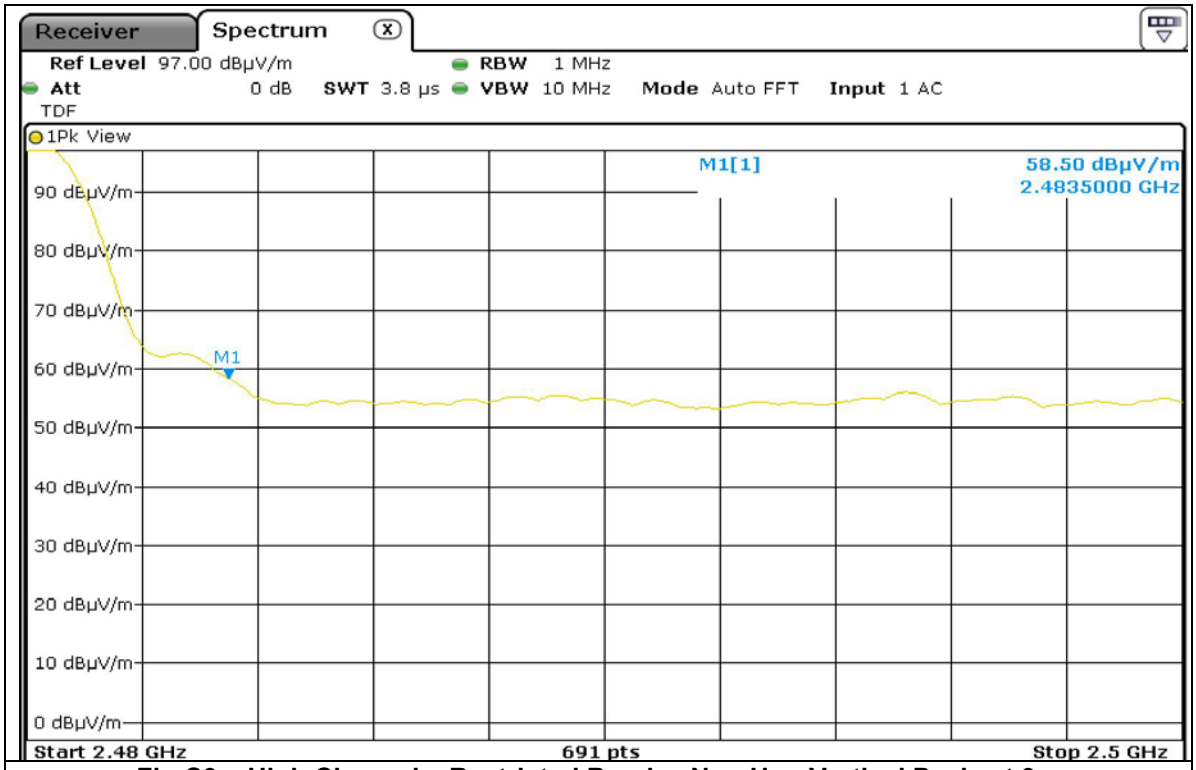


Fig C9 High Channel Restricted Band Non Hop Vertical Peak at 3m

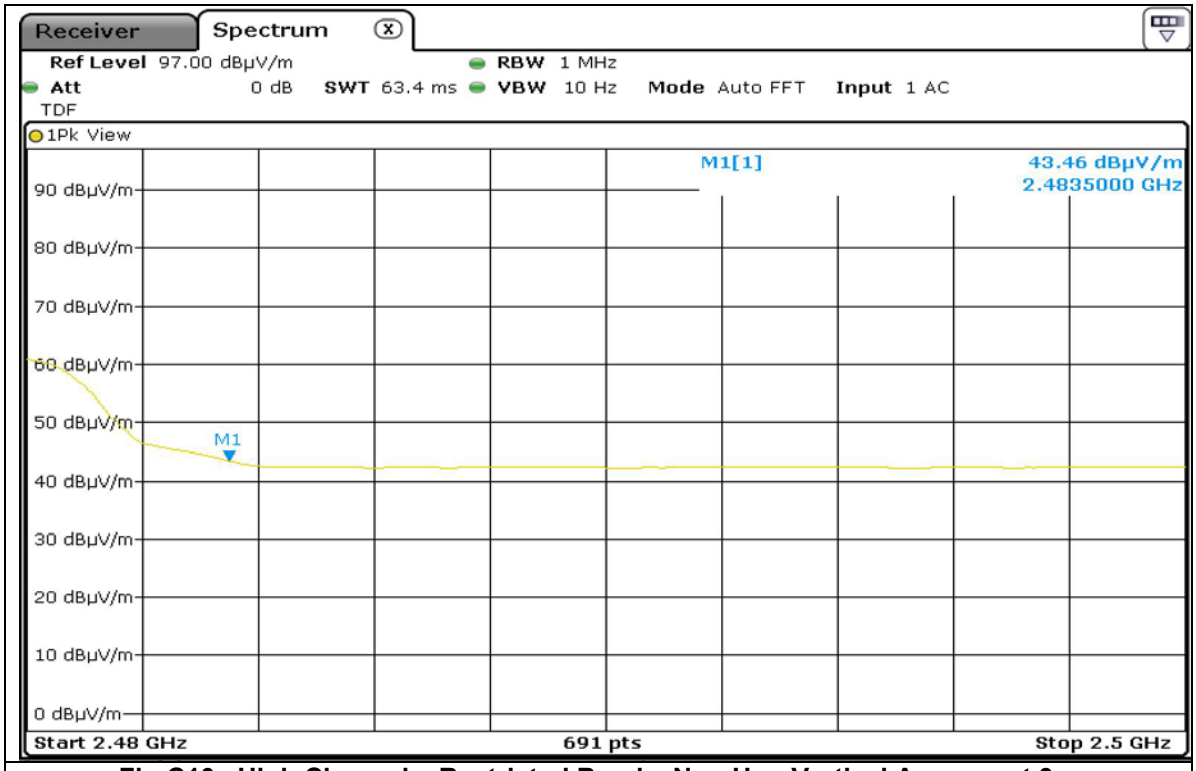


Fig C10 High Channel Restricted Band Non Hop Vertical Average at 3m

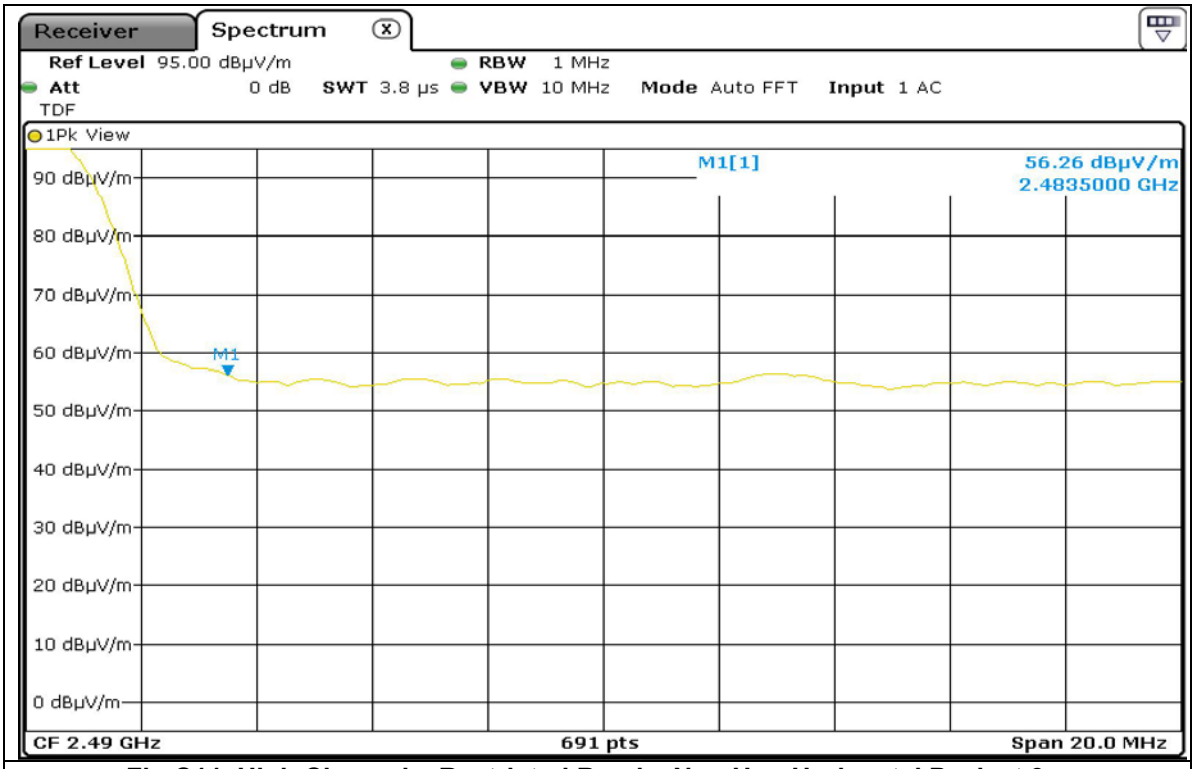


Fig C11 High Channel Restricted Band Non Hop Horizontal Peak at 3m

Fig C12 High Channel Restricted Band Non Hop Horizontal Average at 3m

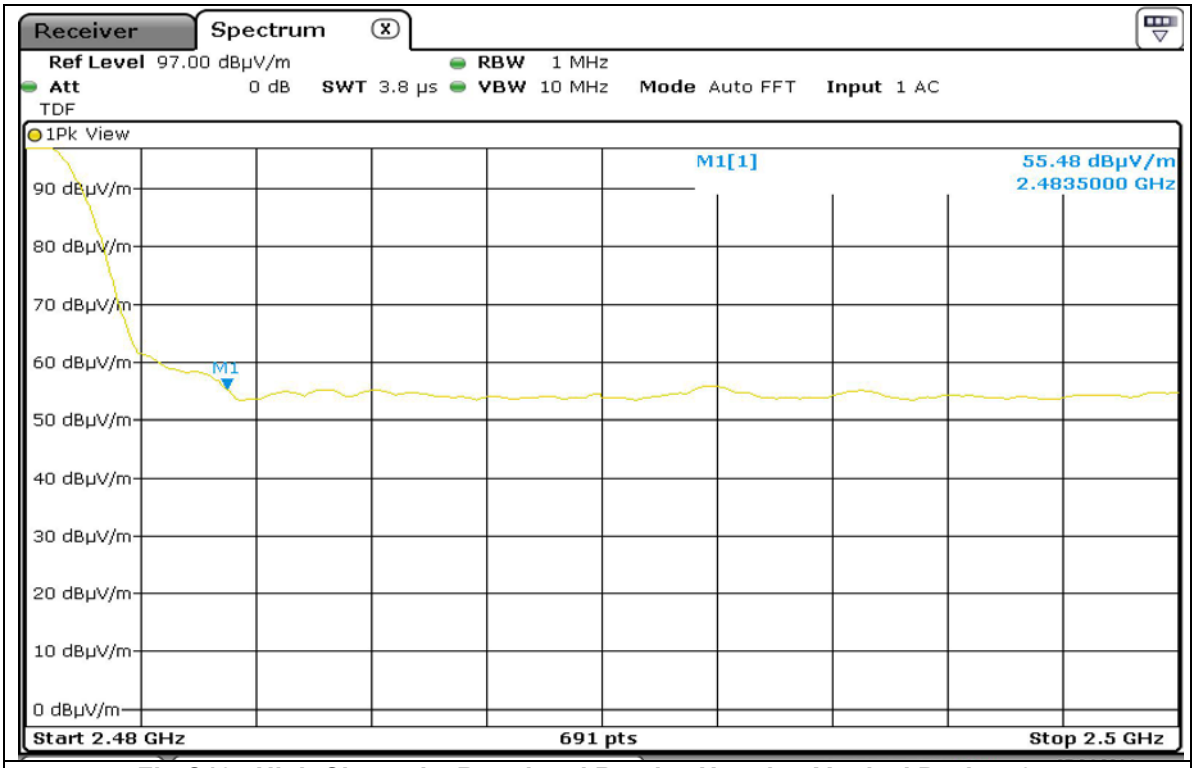


Fig C13 High Channel Restricted Band Hopping Vertical Peak at 3m

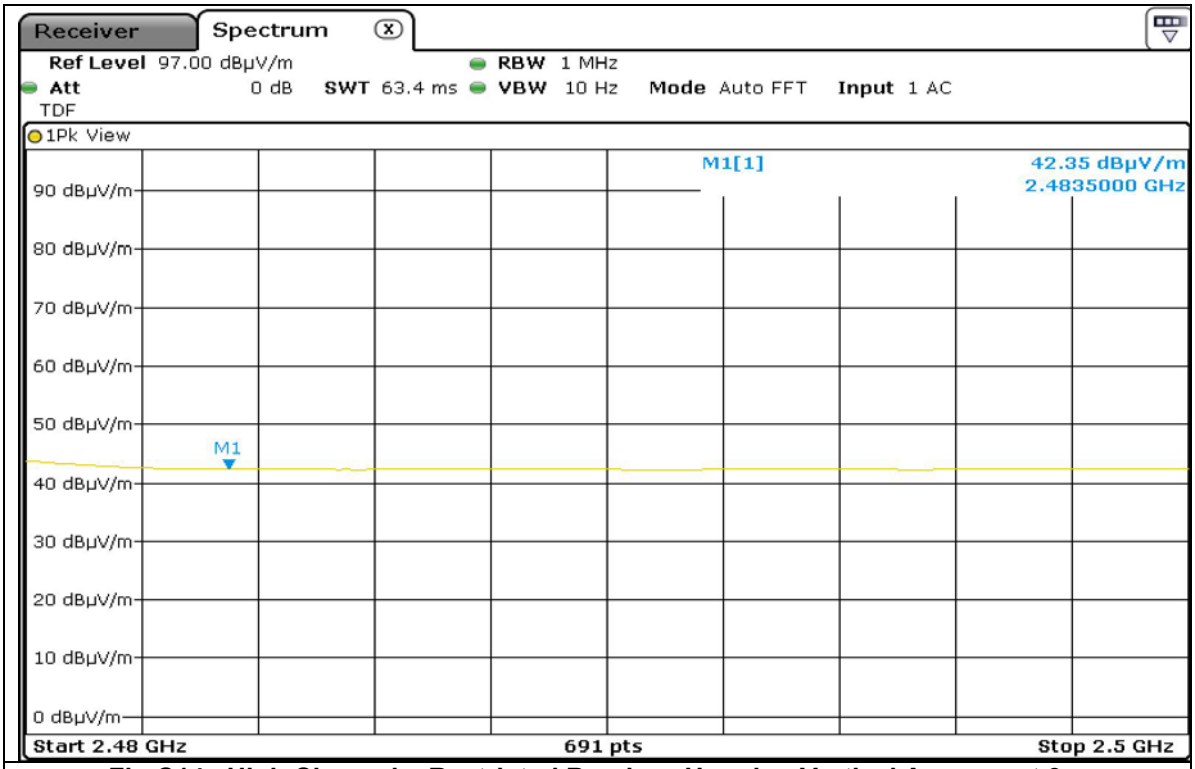


Fig C14 High Channel Restricted Band Hopping Vertical Average at 3m

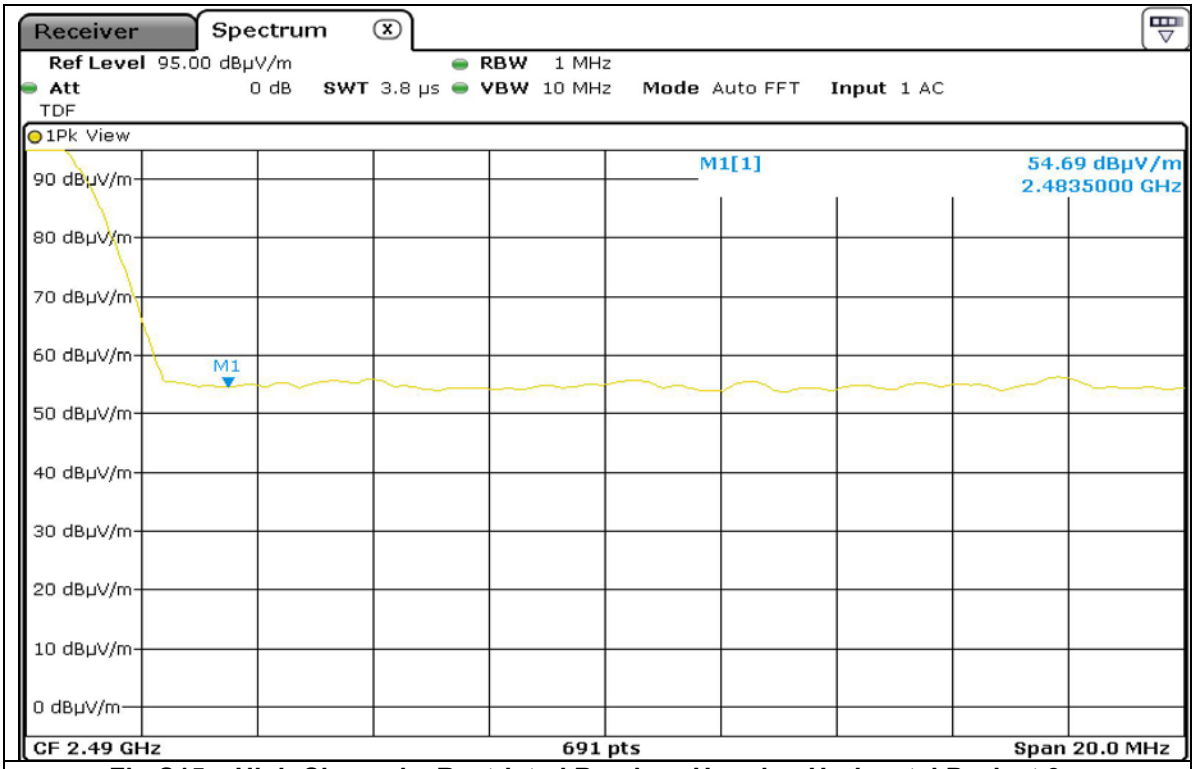


Fig C15 High Channel Restricted Band Hopping Horizontal Peak at 3m

Fig C16 High Channel Restricted Band, Hopping Horizontal Average at 3m

Appendix D

Additional Test Results

For

Bluetooth Classic

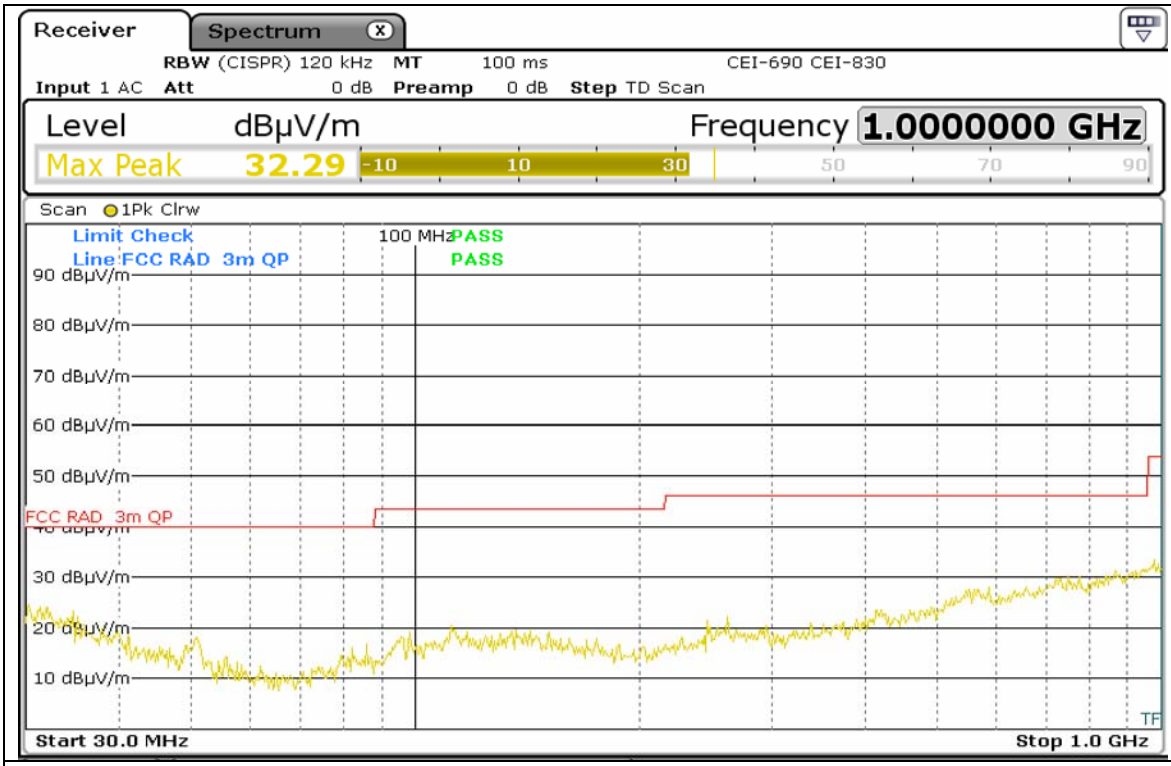


Fig D1 High Channel Radiated Emissions 30MHz -1GHz Vertical 3metres

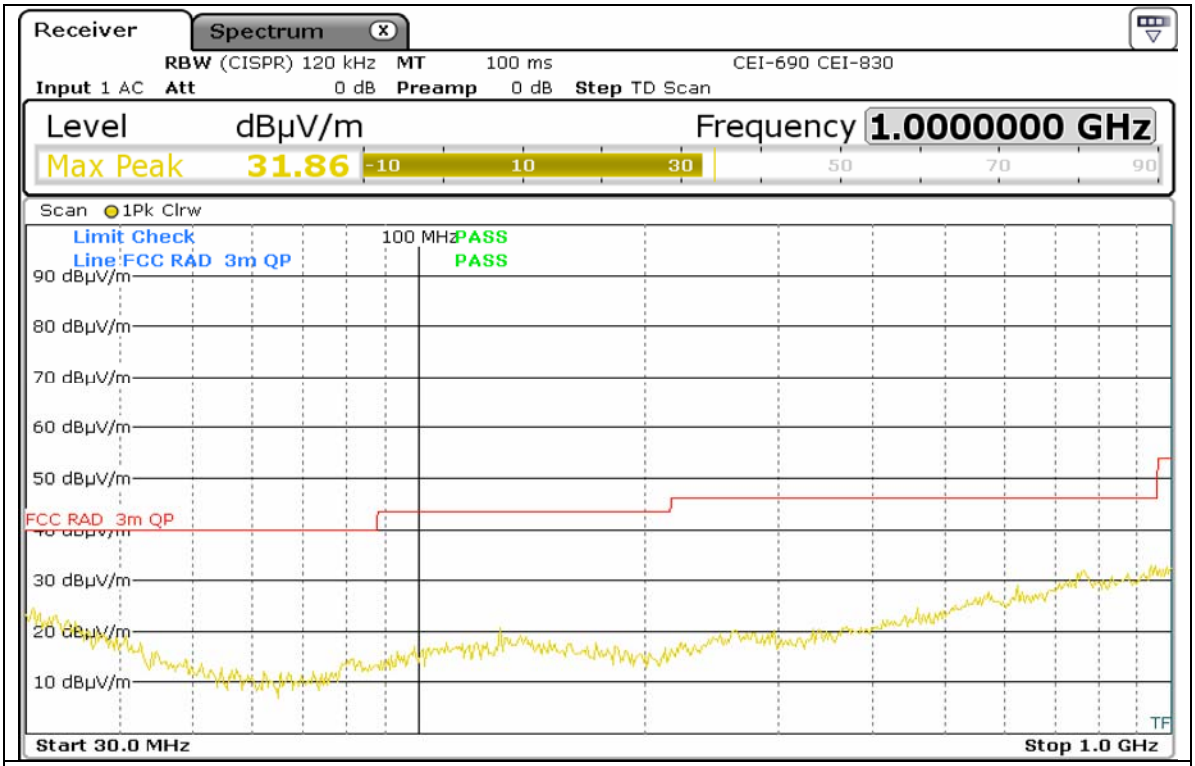


Fig D2 High Channel Radiated Emissions 30MHz -1GHz Horizontal 3metres

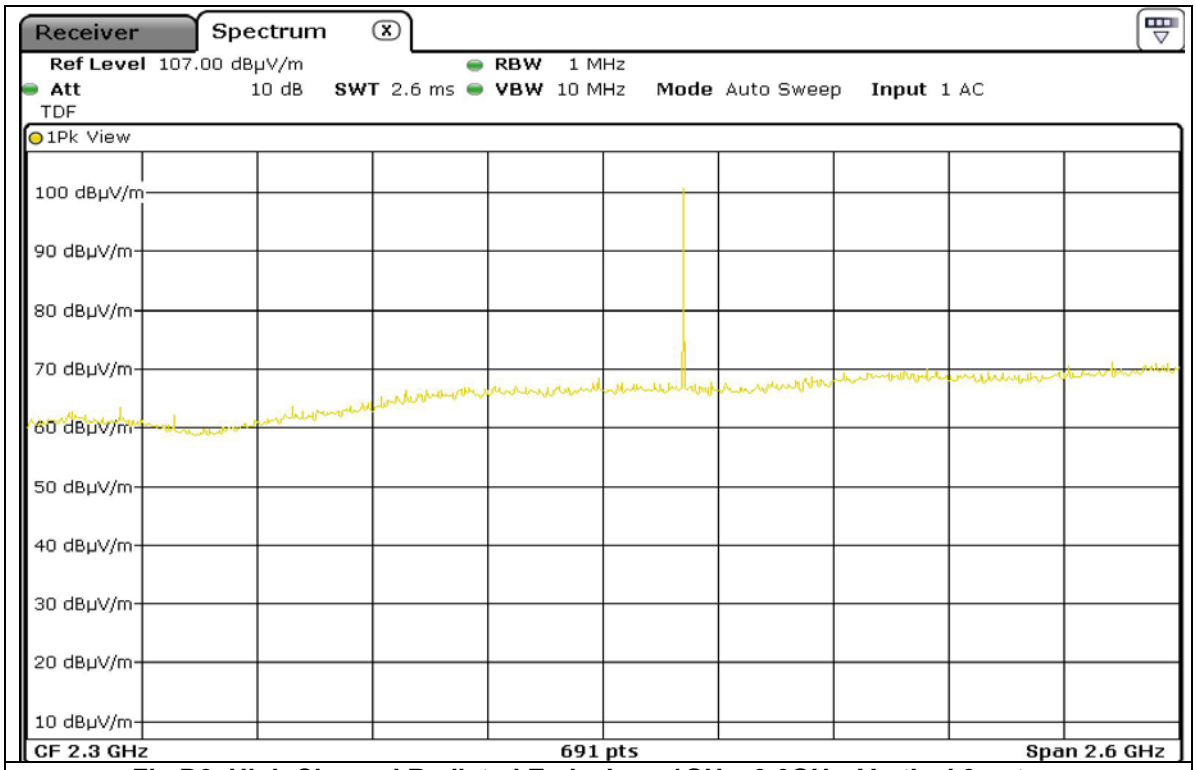


Fig D3 High Channel Radiated Emissions 1GHz -3.6GHz Vertical 3metres

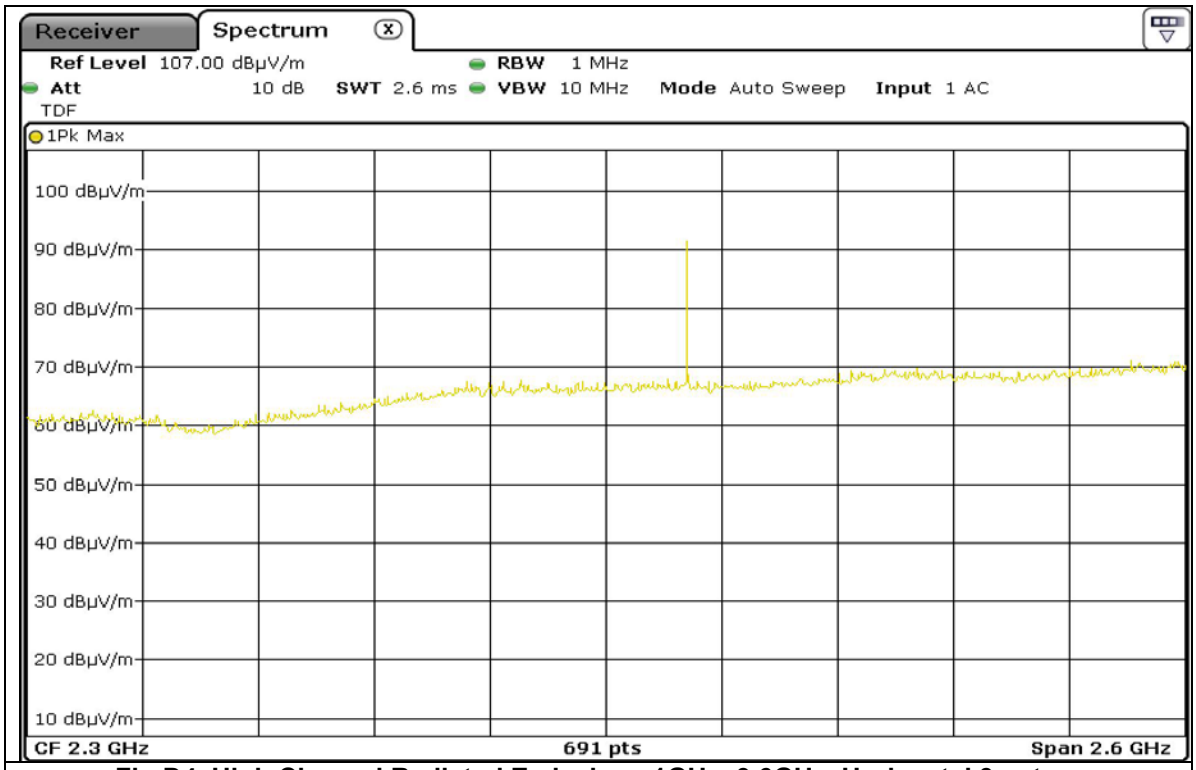


Fig D4 High Channel Radiated Emissions 1GHz -3.6GHz Horizontal 3metres

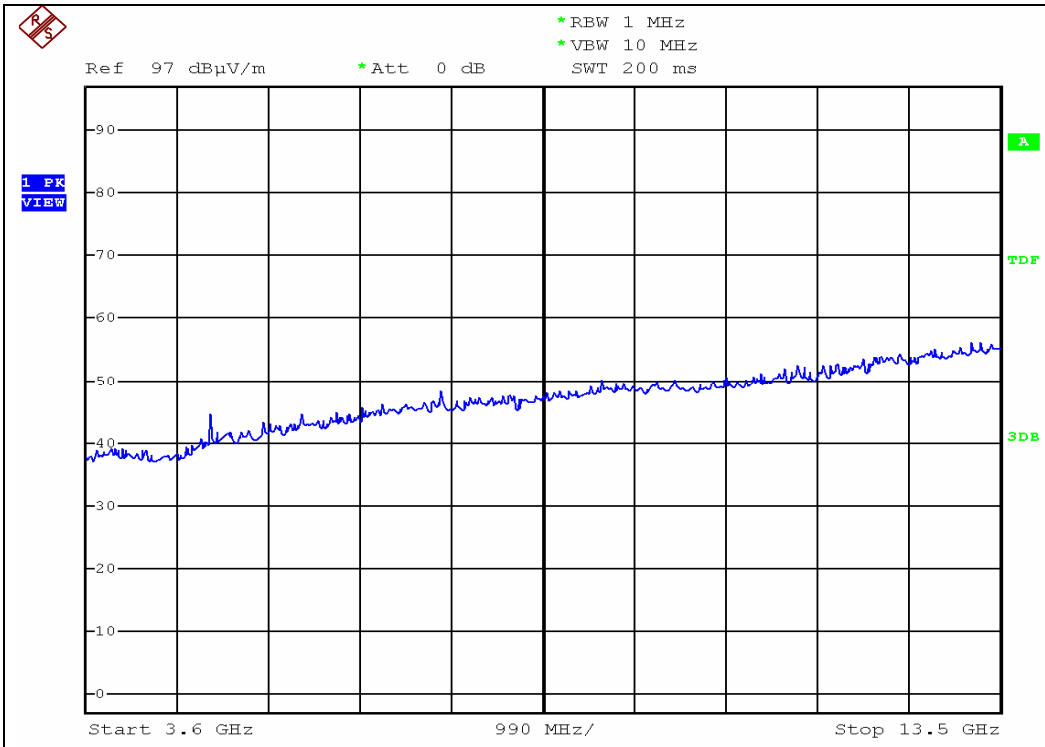


Fig D5 High Channel Radiated Emissions 3.6GHz -13.5GHz Vertical 3metres

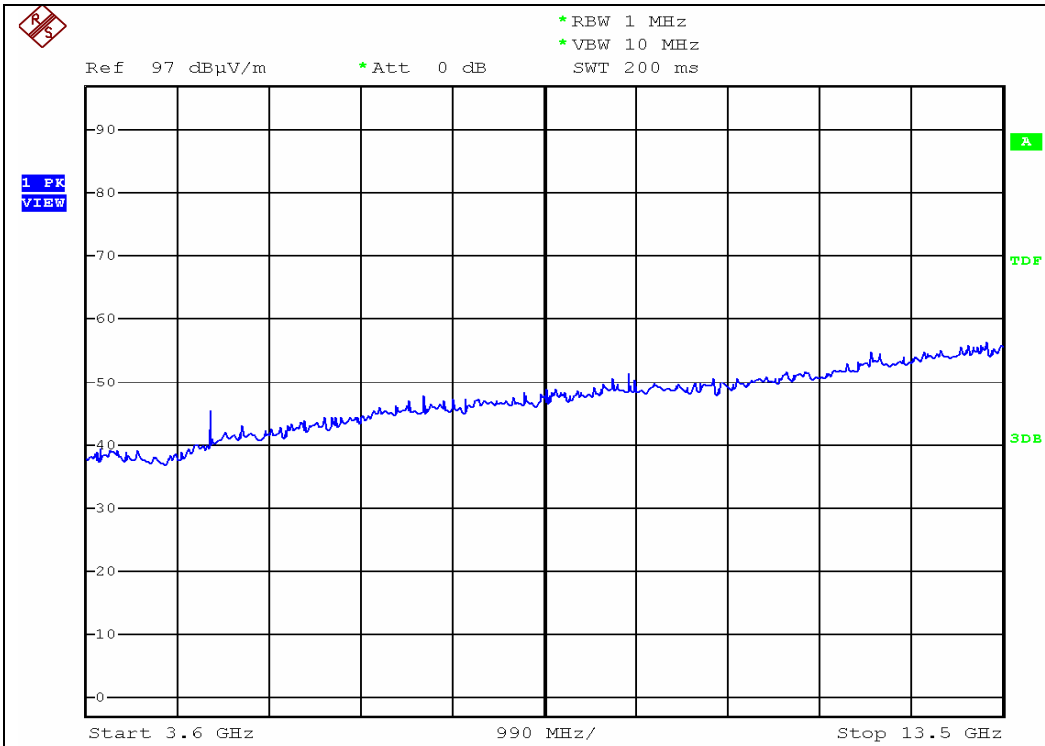


Fig D6 High Channel Radiated Emissions 3.6GHz -13.5GHz Horizontal 3metres

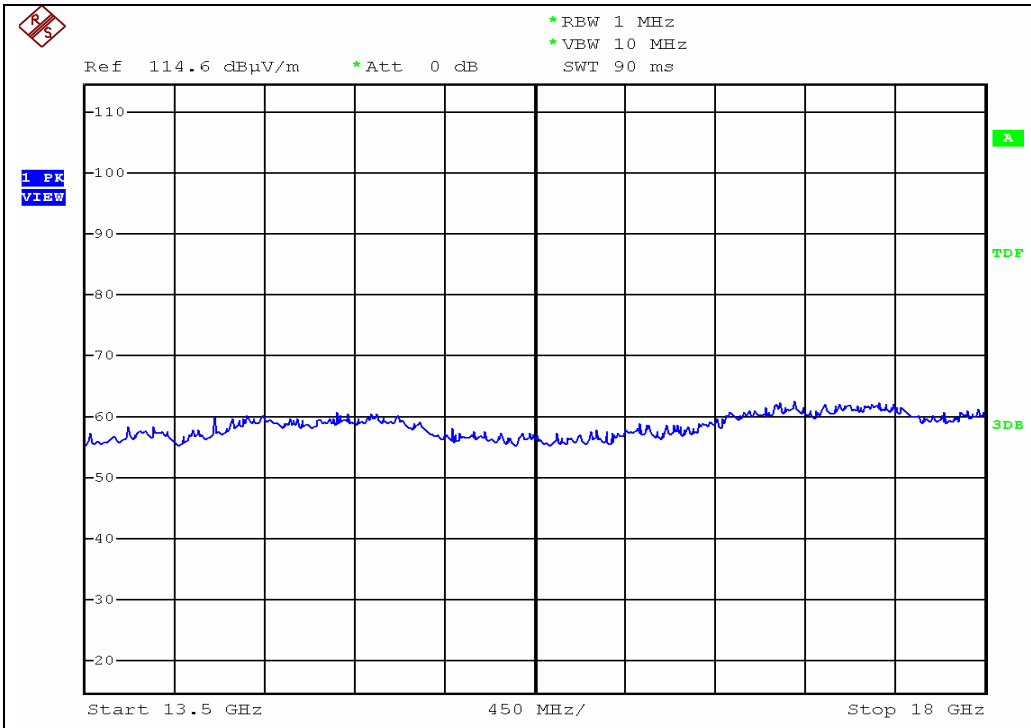


Fig D7 High Channel Radiated Emissions 13.5GHz -18GHz Vertical 3metres

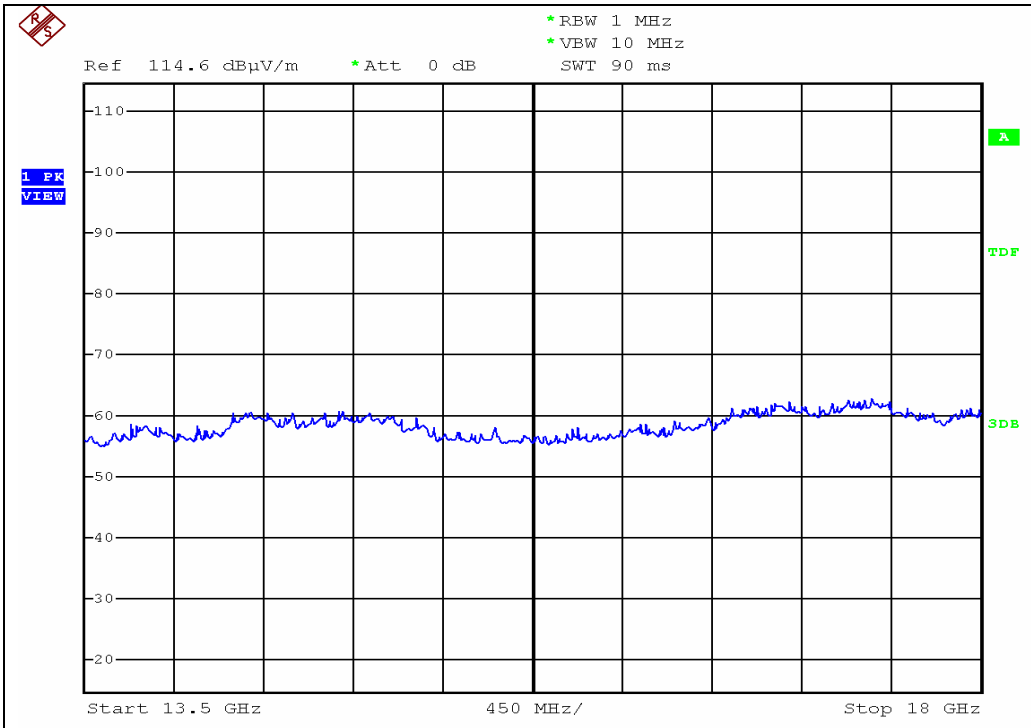


Fig D8 High Channel Radiated Emissions 13.5GHz -18GHz Horizontal 3metres

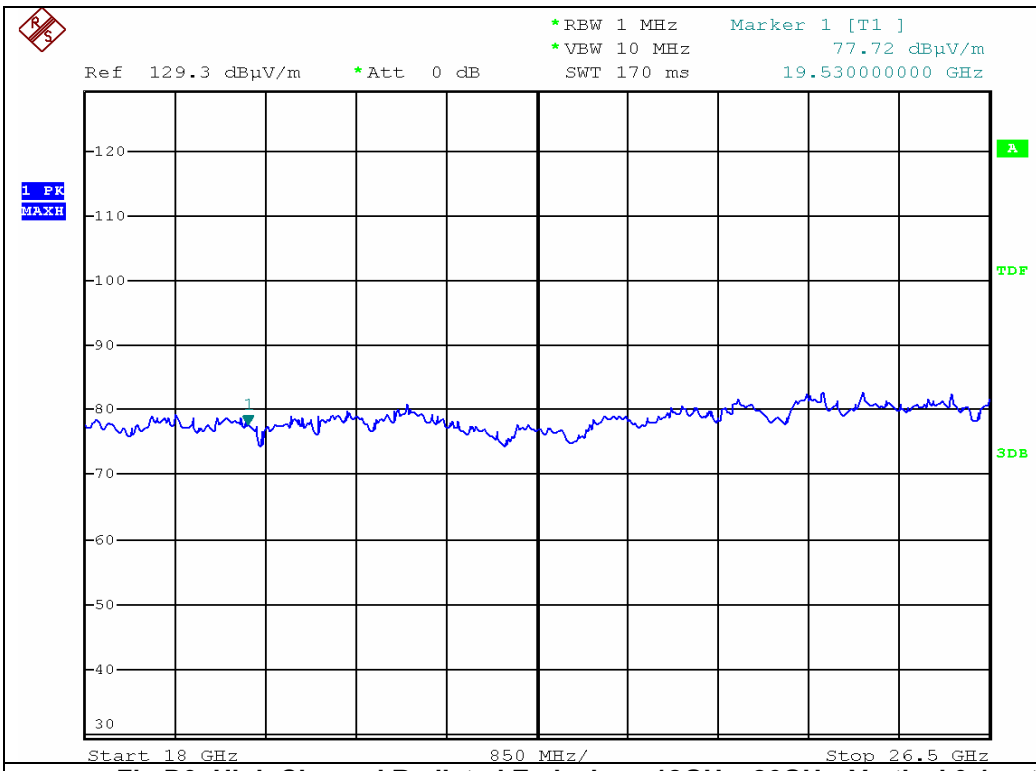


Fig D9 High Channel Radiated Emissions 18GHz -26GHz Vertical 0.1metres

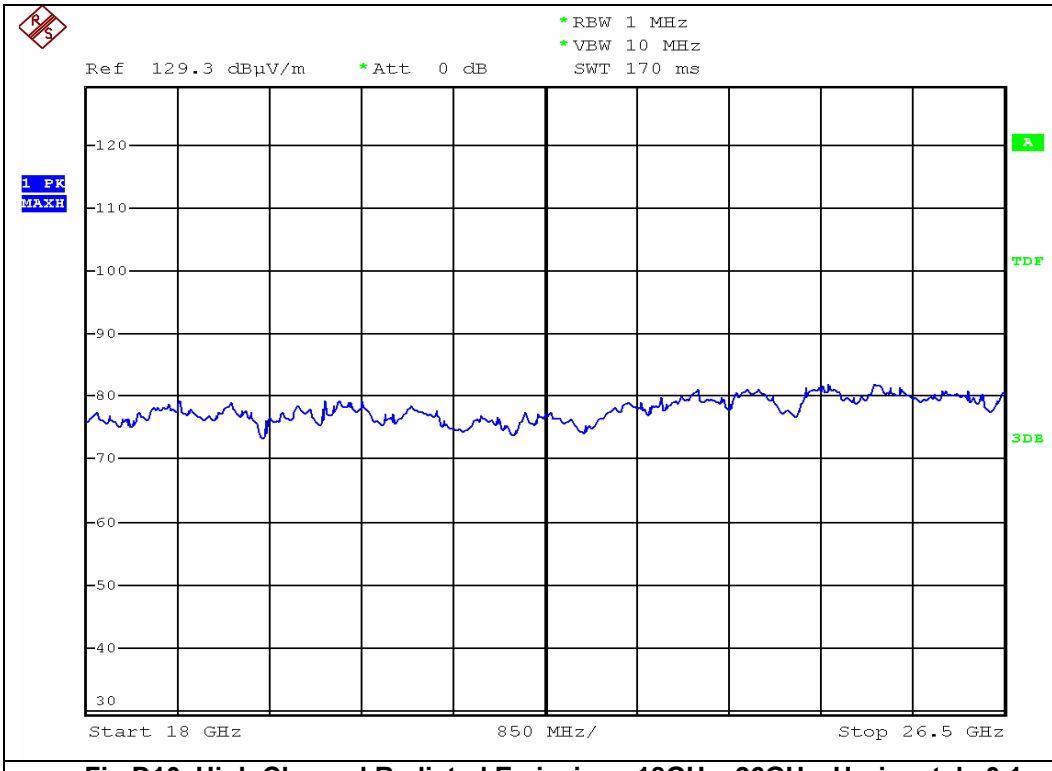


Fig D10 High Channel Radiated Emissions 18GHz -26GHz Horizontal 0.1metres