# RF Test Report:

# Starkey Laboratories

# CPED

FCC ID: EOA-CPED

IC: 6903A-CPED

SC_TR_053_A

Prepared for: Starkey Laboratories

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# 1 Revision History

| Revision | Originator | Date | Comment |
|---|---|---|---|
| Draft | C Blackham | 21 Mar 2012 | Issued as draft for information |
| A | C Blackham | 10 Apr 2012 | Updated and issued |

# 2 Purpose

This report details testing performed on CPED against FCC and Industry Canada requirements.

# 3 Reference Documents

| | | |
|---|---|---|
| [1] | Title 47 CFR15 | Federal Communications Commission Title 47 Code of Federal Regulations Part 15 |
| [2] | ANSI C63.10-2009 | IEEE American National Standard for Testing Unlicensed Wireless Devices Committee 63 standard 63-10 10th September 2009. |
| [3] | 558074 D01 DTS Meas Guidance v01 | Federal Communications Commission Office of Engineering and Technology Laboratory Division Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247 |
| [4] | RSS-GEN Issue 3 | Industry Canada: General Requirements and Information for the Certification of Radio Apparatus (December 2010) |
| [5] | RSS-210 Issue 8 | Industry Canada: Licence-exempt Radio Apparatus (All Frequency Bands): Category I Equipment (December 2010) |
| [6] | ICES-003 Issue 4 | Industry Canada Spectrum Management and Telecommunications Policy; Interference-Causing Equipment Standard; Digital Apparatus (February 2004) |

# 4 Test Information

## 4.1 Client

Starkey Laboratories Inc
6600 Washington Ave. SO
Eden Prairie
MN55344
USA

## 4.2 Test personnel

Testing was performed by Charlie Blackham of Sulis Consultants Ltd.

## 4.3 Test sample

The results herein only refer to sample detailed in section 6.

# 5 Product Description

The equipment contains 2 transmitters:

- "900 MHz band" which is configured in North American variant to operate in the 902-928 MHz band as per 15.247. This mode can operates on a range of frequencies from 907.644 MHz to 920.993 MHz. The device operates with GMSK modulation and whilst transmission is normally TDD with on time of 6.8 ms and a frame length of 32 ms, testing will be done using 100 % duty cycle test mode.
- "2.4 GHz band" which operates in the 2400 – 2483.5 MHz band using an integrated 3rd party Bluetooth module. The following modulation rates are supported in the module: GFSK; π/4-DQPSK; 8-PSK.

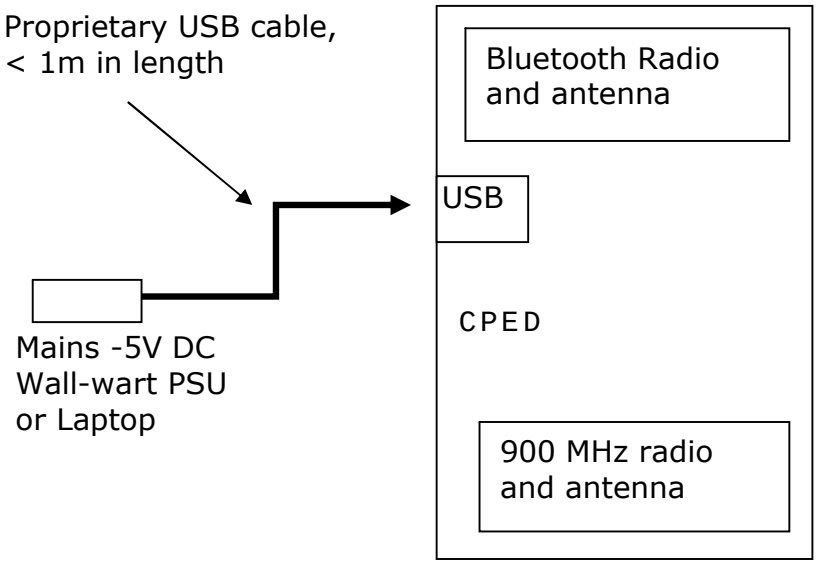



Figure 1: CPED block diagram showing radios and interfaces

Note:
The device operates on a range of frequencies from 907.644 MHz to 920.993 MHz. As band of operation is > 10 MHz, the device will be tested on the following three channels:

| Test Channel | 902-928 MHz radio test frequencies | Bluetooth radio test frequencies |
|---|---|---|
| Bottom | 907.644 | 2402 |
| Middle | 911.891 | 2441 |
| Top | 920.993 | 2480 |

Table 1: CPED Test frequencies

# 6 Test Configuration

## 6.1 Test sample and Operating mode

The equipment under test (EUT) was:

| Manufacturer | Model Number | Serial Number |
|---|---|---|
| Starkey Laboratories Inc | CPED | N051200023 |

Table 2: Equipment under test

## 6.2 Support equipment

The support equipment was:

| Description | Manufacturer | Name | Serial Number |
|---|---|---|---|
| Laptop | Fujitsu Siemens | Esprimo | YKDA651558 |

Table 3: Support Equipment

## 6.3 Test equipment

| Description | Manufacturer | Model | Serial Number | Calibration certificate Calibration Due Date |
|---|---|---|---|---|
| Spectrum Analyser | R&S | FSP30 | 100219 | R&S 1400-40279 08 Mar 2013 |
| RF Cable | Murata | MXHQ87WA3000 | None | Calibrated prior to test using Network Analyser |
| | Rosenberger | UFA210 | FA210A0010003030 | |
| Network Analyser | Agilent | N5230C | MY45001029 | 1-3365050900-2 09 May 2012 |
| Network Analyser | Agilent | E8364C | MY43040492 | 1-3365050900-5 10 May 2012 |
| Cal Kit used to cal Net An | HP | 85052D | 3101A03932 | 1-4124030527-1 14 Feb 2013 |

Table 4: Test Equipment

## 6.4 Equipment set-up

Equipment was configured as per figure 1:

- The CPED was connected to the laptop using a USB cable so that operating mode could be configured as required for relevant test.
- The losses for the RF cables were measured and loaded into the Spectrum Analyser as a transducer factor.

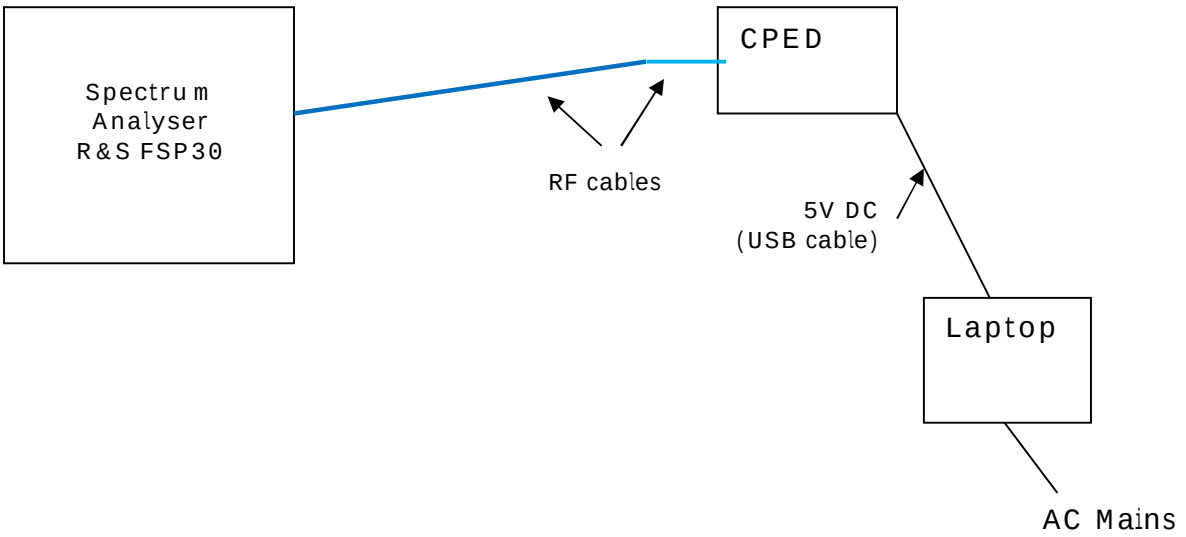



Figure 2: Test Configuration

## 6.5 Supported Antennas

The EUT supports operation with the following antennas:

| Radio Band | Antenna type | Type | Gain |
|---|---|---|---|
| 902-908 MHz | Integral | Strip line | 0.8 dBi |
| 2400-2483.5 | Integral | Strip line | 3.4 dBi |

Table 5: EUT Antenna configurations

Note regarding Unwanted Emissions into Restricted Frequency Bands in sections 12 and 13:

- 900 MHz radio was tested against antenna gain of 2.0 dBi as per [Ref 3] KDB section 5.4.2.
- Bluetooth radio scans were made using antenna gain of 2.0 dBi, but final results are presented against limit derived using antenna gain of 3.4 dBi.

# 7 Summary of tests performed

## 7.1 902-928 MHz Radio

| Test | Clause | Limit / Requirement | Result |
|---|---|---|---|
| Occupied bandwidth | FCC 15.247(a)(2) | > 500 kHz | Pass |
| | IC RSS-210 A8.2(a) | | |
| Max peak conducted TX power | FCC 15.247(b)(3) | 1 W | Pass |
| | IC RSS-210 A8.4(4) | | |
| Power Spectral Density | FCC 15.247(e) | 8dBm / 3 kHz | Pass |
| | IC RSS-210 A8.2(b) | | |
| Out of Band Emissions Non-restricted bands | FCC 15.247(d) | >20dB below peak carrier /100 kHz BW | Pass |
| | IC RSS-210 A8.5 | | |
| Out of Band Emissions Restricted-band: Conducted | FCC 15.247(d) / 15.205(a) and 15.209(a) | 15.209(a) table | Pass |
| | RSS GEN 7.2.5 | RSS Gen table 3 | |
| Max antenna gain | FCC 15.247(b)(4) | < 6dBi without TX power reduction | Pass |

Table 6a: Summary of test results; 900 MHz radio

## 7.2 Bluetooth Radio

The majority of required tests for this device have already been done on the module and reported separately.
The following sections of FCC rules are covered herein:

| Test | Clause | Limit / Requirement | Result |
|---|---|---|---|
| Out of Band Emissions Restricted-band: Conducted | FCC 15.247(d) / 15.205(a) and 15.209(a) | 15.209(a) table | Pass |
| | RSS GEN 7.2.5 | RSS Gen table 3 | |
| Max antenna gain | FCC 15.247(b)(4) | < 6dBi without TX power reduction | Pass |

Table 7b: Summary of test results; 2400 MHz radio

# 8 Occupied Bandwidth test: 902-928 MHz Radio

## 8.1 Measurement method

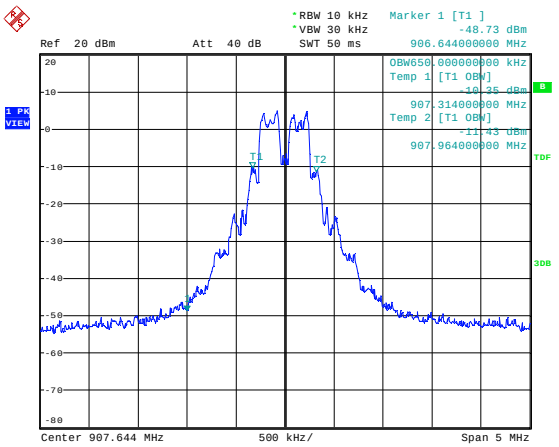
Test was conducted as per [Ref 3] section 5.1.2 using the automatic bandwidth measurement capability of the receiver, whilst using the following settings:

- Set resolution bandwidth (RBW) to be10 kHz, which is within the 1-5 % of the emission bandwidth (EBW) required.
- Set the video bandwidth to ≥ 3 x RBW
- Detector = Peak.
- Trace mode = max hold.
- Sweep = auto couple.
- Allow the trace to stabilize.
- Record measured Occupied Bandwidth

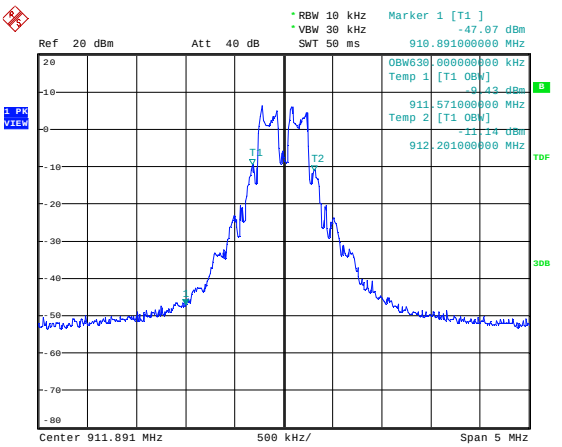
## 8.2 Test results

| Frequency (MHz) | Occupied Bandwidth (kHz) | Requirement | Result | Plot name |
|---|---|---|---|---|
| 907.644 | 650.0 | > 500 kHz | Pass | OCC-low |
| 911.891 | 630.0 | > 500 kHz | Pass | OCC-mid |
| 920.993 | 650.0 | > 500 kHz | Pass | OCC-high |

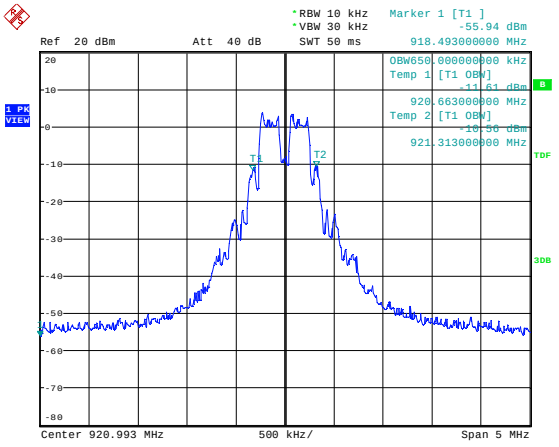
Table 8: Occupied Bandwidth: 902-928 MHz Radio




OCC-low




OCC-mid




OCC-high

Figure 3: Occupied Bandwidth plots: 902-928 MHz Radio

# 9 Maximum Peak Conducted Power: 902-928 MHz Radio

## 9.1 Measurement method

As the EBW of the device is < 1MHz and the power is well within required limits, the test was done as a conducted peak power measurement as per [Ref 3] section 5.2.1.1:

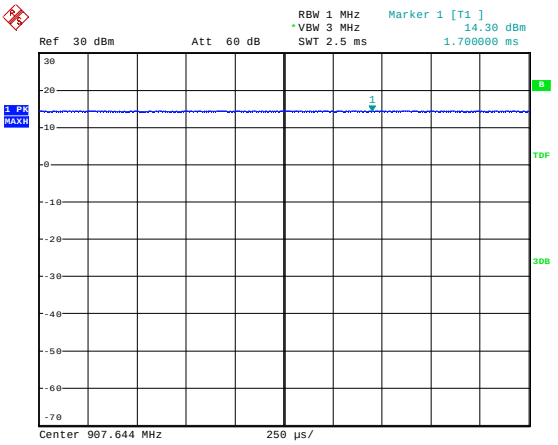
- Set the RBW = 1 MHz (≥ EBW).
- Set the VBW = 3 MHz (≥ 3 x RBW).
- Set span = zero.
- Sweep time = auto couple.
- Detector = peak.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use peak marker function to determine the peak amplitude level within the fundamental emission.

## 9.2 Test results

EUT set to transmit at maximum power on the required channel.

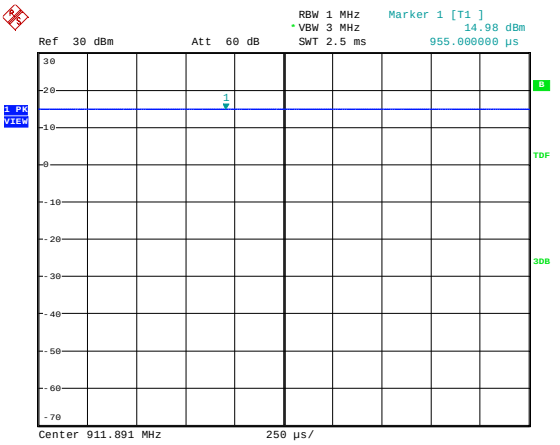
| Frequency (MHz) | Channel Power (dBm) | Limit (dBm) | Result | Plot name |
|---|---|---|---|---|
| 907.644 | 14.30 | 30.0 | Pass | CP-low |
| 911.891 | 14.98 | 30.0 | Pass | CP-mid |
| 920.993 | 13.32 | 30.0 | Pass | CP-high |

Table 9: Channel Power: 902-928 MHz Radio



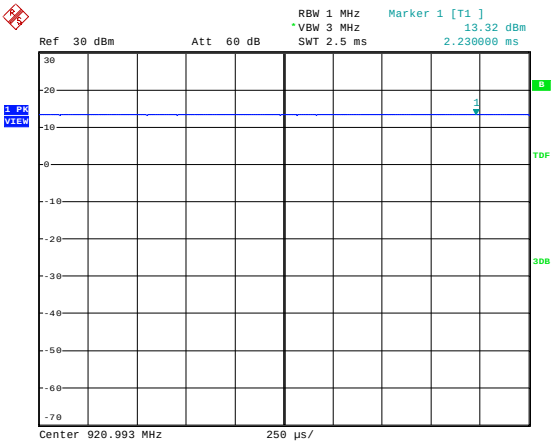

Date: 16.MAR.2012 13:40:46

CP-low




Date: 16.MAR.2012 13:38:52

CP-mid




Date: 16.MAR.2012 13:36:48

CP-high

Figure 4: Channel Power plots: 902-928 MHz Radio

# 10 Maximum Power Spectral Density: 902-928 MHz Radio

## 10.1 Measurement method

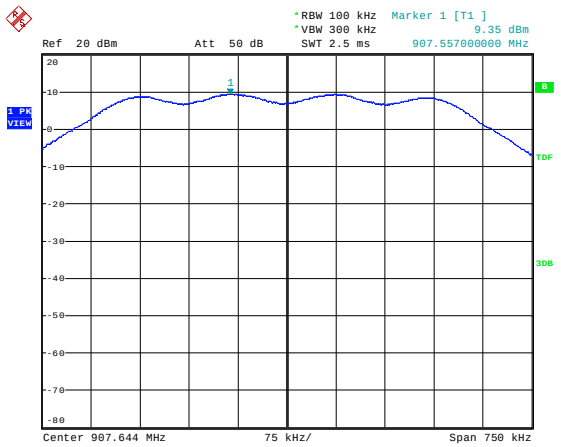
Maximum Peak Conducted Power was performed using Peak Detector, so Peak Detector will be used to measure Peak Spectral Density (PSD). Test procedure as per [Ref 3] section 5.3.1:

- Set the RBW = 100 kHz.
- Set the VBW ≥ 300 kHz.
- Set the span to 5-30 % greater than the EBW.
- Detector = peak.
- Sweep time = auto couple.
- Trace mode = max hold.
- Allow trace to fully stabilize.
- Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.
- Scale the observed power level to an equivalent value in 3 kHz by adjusting (reducing) the measured power by a bandwidth correction factor (BWCF) where BWCF = 10log (3 kHz/100 kHz = -15.2 dB).
- Compare resultant PSD value with maximum permitted value of 8dBm/3kHz.

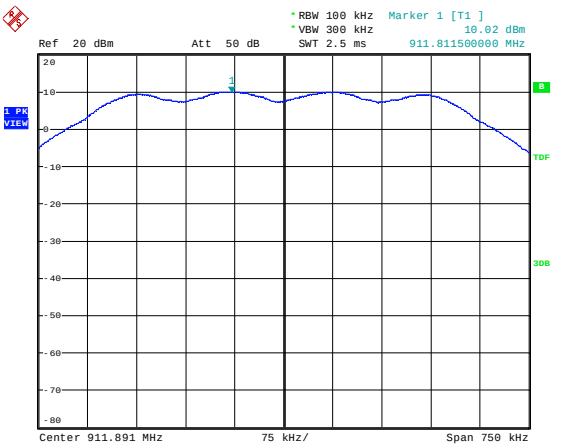
## 10.2 Test results

| Frequency (MHz) | Peak Marker reading (dBm) | PSD (dBm/3kHz) | Limit (dBm/3kHz) | Result | Plot name |
|---|---|---|---|---|---|
| 907.644 | 9.35 | -5.85 | 8.0 | Pass | PSD-low |
| 911.891 | 10.02 | -5.18 | 8.0 | Pass | PSD-mid |
| 920.993 | 8.43 | -6.77 | 8.0 | Pass | PSD-high |

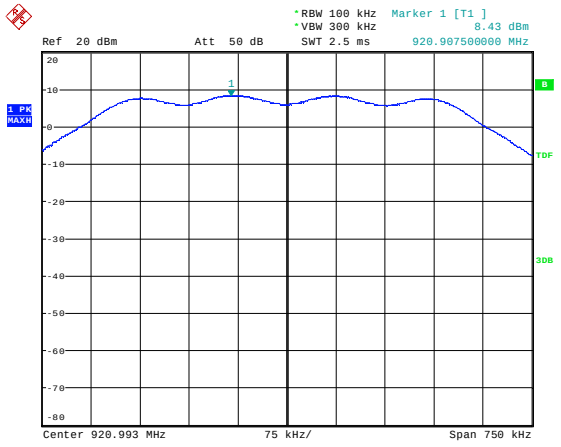
Table 10: Spectral Density results: 902-928 MHz Radio




PSD-low




PSD-mid




PSD-high

Figure 5: Spectral Density plots: 902-928 MHz Radio

# 11 Maximum Unwanted Emissions Levels: 902-928 MHz Radio

## 11.1 Measurement method

Since peak power measurements were made using a peak detector, the same detector will be used for unwanted emissions. The unwanted emissions shall be at least 20dB lower than the wanted emission.
Testing in the bands immediately adjacent to the wanted band may be done with lower than stated RBW provided the power is integrated over the required bandwidth.

First, establish a reference level by using the following procedure for measuring the peak power level in any 100 kHz bandwidth within the fundamental emission:

The measurement procedure for determining the reference level laid down in section 5.4.1.1 of KDB558074 is identical to measurement method employed in section 10, so maximum values "Peak Marker Values" obtained in section 10.0 shall be used.

The Maximum out of Band Emissions values are determined by subtracting 20dB from the values obtained in section 10 and detailed in table 9 which gives the resultant maximum permitted out-of-band emissions levels detailed in table 10:

| Frequency (MHz) | Peak Marker reading | Maximum out of band emission (dBm) | Plot name |
|---|---|---|---|
| 907.644 | 9.35 | -10.65 | PSD-low |
| 911.891 | 10.02 | -9.98 | PSD-mid |
| 920.993 | 8.43 | -11.57 | PSD-high |

Table 11: Out of band emissions limits: 902-928 MHz Radio

The following limit lines shall be applied to measurements performed for all three channels

-12.0 dBm

Next, determine the power in 100 kHz band segments outside of the authorized frequency band using the following measurement:

Measurement Procedure - Unwanted Emissions

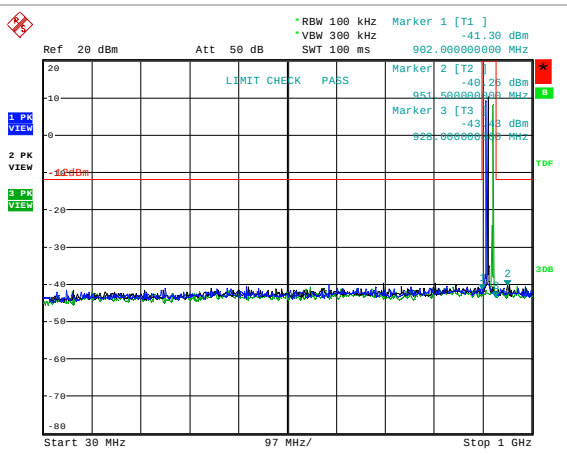
- Set RBW = 100 kHz.
- Set VBW = 300 kHz.
- Set span to encompass the spectrum to be examined.
- Detector = peak.
- Trace Mode = max hold.
- Sweep = auto couple.
- Allow the trace to stabilize (this may take some time, depending on the extent of the span).

## 11.2 Test results

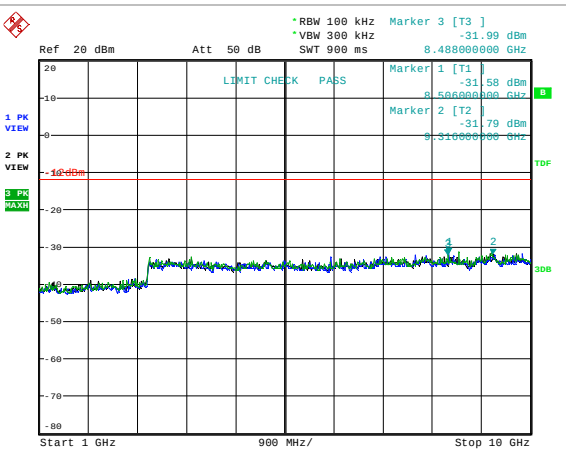
Tests were performed on each of the three channels in turn and results are presented using Trace 1, Trace 2 and Trace 3 for channels 907.644, 911.891 and 920.993 respectively.

| Test Frequency range (MHz) | Operating Frequency (MHz) | Result |
|---|---|---|
| 30-1000 | Plot: OOB_1<br>No emissions within 20 dB of limit | Pass |
| 1000-1000 | Plot: OOB_2<br>No emissions within 19 dB of limit | Pass |

Table 12: Out of band emissions: 902-928 MHz Radio




OOB_1




OOB_2

Figure 6: Out of band emissions plots: 902-928 MHz Radio

# 12 Maximum Emissions Restricted Band: 902-928 MHz Radio

## 12.1 Measurement method – conducted measurements

The radiated emissions field strength limit specified in 15.209(a) is converted to a conducted power at the antenna port as per section 5.4.2 of KDB 558074-d01.

| Frequency (MHz) | Field strength (µV/m) | Measurement distance (m) | Field Strength (dBµV/m) | EIRP (dBm) | Ground plane reflection factor (dB) | Antenna port assuming 2dBi antenna |
|---|---|---|---|---|---|---|
| 30–88 | 100 | 3 | 40.0 | -55.3 | 4.7 | -62.0 |
| 88–216 | 150 | 3 | 43.5 | -51.7 | 4.7 | -58.4 |
| 216–960 | 200 | 3 | 46.0 | -49.2 | 4.7 | -55.9 |
| 960-1000 | 500 | 3 | 54.0 | -41.3 | 4.7 | -48.0 |
| Above 1000 | 500 | 3 | 54.0 | -41.3 | 0.0 | -43.3 |

Table 13: Out of band emissions limits: 902-928 MHz Radio

The limit line used was a combination of restricted band and "worst case"

| Frequency (MHz) | Restricted Band | Limit applied | Limit at Antenna port assuming 2dBi antenna |
|---|---|---|---|
| 30–88 | In part | Restricted Band | -62.0 |
| 88–216 | In part | Restricted Band | -58.4 |
| 216–614 | In part | Restricted Band | -55.9 |
| 614-960 | No | None for this test | N/A |
| 960-1000 | Yes | Restricted Band | -48.0 |
| Above 1000 | In part | Restricted Band | -43.3 |

30-1000 MHz
Measurements below 1 GHz were performed according to section 5.4.2.2.1 of the KDB:

- RBW = 100 kHz.
- VBW ≥ 3 x RBW.
- Detector = Peak.
- Trace Mode = max hold.
- Sweep = auto coupled.
- Allow trace to stabilize.

Final measurements, if required were then performed using a QP detector:

- Span = adequate to encompass the emission of interest.
- Detector = CISPR quasi peak.
- RBW = auto couple.
- Sweep time = auto coupled

**1 – 10 GHz**

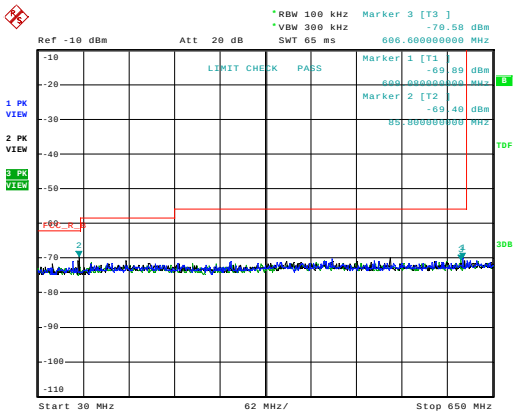
Measurements above 1 GHz, so the following test method was used as per section 5.4.2.2.2.1 of the KDB:

- Set the analyzer span to encompass the entire unwanted emission bandwidth.
- Set the required limit line as per above table.
- Set the RBW = 1 MHz.
- Set the VBW = 3 MHz.
- Detector = power average (RMS).
- Ensure that the number of measurement points in the sweep to ≥ 2 x (span/RBW).
- Manually set the sweep time to: ≥ 10 x (number of measurement points in sweep) x (transmission symbol period).
- Perform the measurement over a single sweep.
- Use the peak marker function to determine the maximum average power level in any 1 MHz of the unwanted emission.

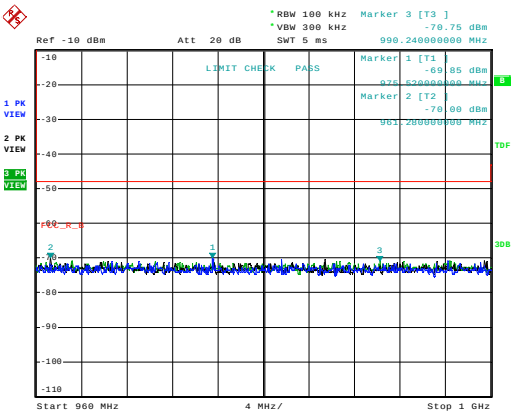
## 12.2 Test results

| Test Frequency range (MHz) | Operating Frequency (MHz) | | | Result |
|---|---|---|---|---|
| | **907.644** | **911.891** | **920.993** | |
| 30-650 | Plot: RB_1<br>Worst emission: -69.4 dBm at 85.8 MHz (Peak) | | | Pass |
| | | Plot RB_6<br>-71.71dBm QP at 85.51 MHz<br>Limit = -62.0 dBm | | |
| 960-1000 | Plot: RB_2<br>No emission within 20dB of limit | | | Pass |
| | Trace 1 | Trace 2 | Trace 3 | |
| 1000-10000 | No emission within 10dB of limit | | | Pass |
| | Plot: RB_3<br>-55.03dBm at 1.81 GHz | Plot: RB_4<br>-59.31dBm at 1.81 GHz | Plot: RB_5<br>-60.82dBm at 1.81 GHz | |

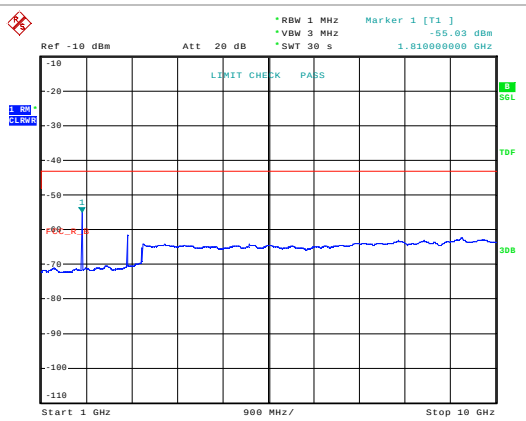
**Table 14: Restricted Band emissions results: 902-928 MHz Radio**



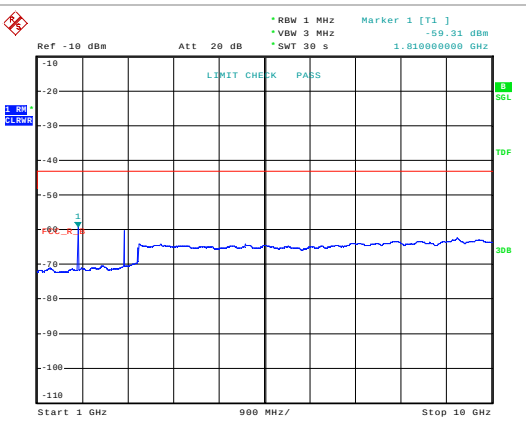

RB_1



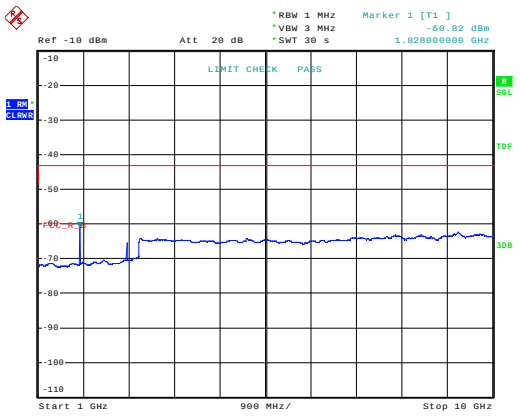

RB_2



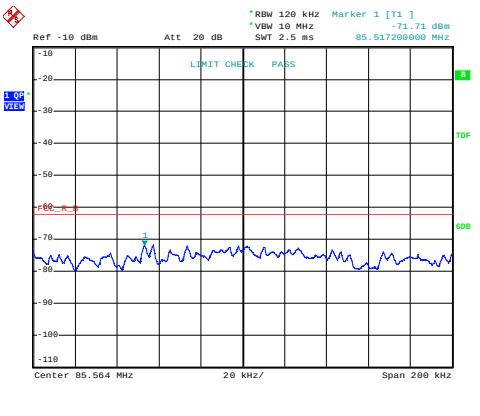

RB_3




RB_4




RB_5




RB_6

Figure 7: Restricted band emissions plots: 902-928 MHz Radio

# 13 Maximum Emissions Restricted Band Bluetooth Radio

## 13.1 Measurement method – conducted measurements

The radiated emissions field strength limit specified in 15.209(a) is converted to a conducted power at the antenna port as per section 5.4.2 of KDB 558074-d01.

| Frequency (MHz) | Field strength (µV/m) | Measurement distance (m) | Field Strength (dBµV/m) | EIRP (dBm) | Ground plane reflection factor (dB) | Antenna port assuming 2.0 dBi antenna | Antenna port assuming 3.4 dBi antenna |
|---|---|---|---|---|---|---|---|
| 30–88 | 100 | 3 | 40.0 | -55.3 | 4.7 | -62.0 | -63.4 |
| 88–216 | 150 | 3 | 43.5 | -51.7 | 4.7 | -58.4 | -59.8 |
| 216–960 | 200 | 3 | 46.0 | -49.2 | 4.7 | -55.9 | -57.3 |
| 960-1000 | 500 | 3 | 54.0 | -41.3 | 4.7 | -48.0 | -49.4 |
| Above 1000 | 500 | 3 | 54.0 | -41.3 | 0.0 | -43.3 | -44.7 |

Table 15: Out of band emissions limits: Bluetooth Radio

The limit line used was a combination of restricted band and "worst case"

| Frequency (MHz) | Restricted Band | Limit applied | Graph Limit at Antenna port assuming 2dBi antenna | Tabular limit applied assuming 3.4 dBi antenna |
|---|---|---|---|---|
| 30–88 | In part | Restricted Band | -62.0 | -63.4 |
| 88–216 | In part | Restricted Band | -58.4 | -59.8 |
| 216–614 | In part | Restricted Band | -55.9 | -57.3 |
| 614-960 | No | None for this test | N/A | N/A |
| 960-1000 | Yes | Restricted Band | -48.0 | -49.4 |
| Above 1000 | In part | Restricted Band | -43.3 | -44.7 |

30-1000 MHz
Measurements below 1 GHz were performed according to section 5.4.2.2.1 of the KDB:

- RBW = 100 kHz.
- VBW ≥ 3 x RBW.
- Detector = Peak.
- Trace Mode = max hold.
- Sweep = auto coupled.
- Allow trace to stabilize.

Final measurements, if required were then performed using a QP detector:

- Span = adequate to encompass the emission of interest.
- Detector = CISPR quasi peak.
- RBW = auto couple.
- Sweep time = auto coupled

**1 – 10 GHz**
Measurements above 1 GHz, so the following test method was used as per section 5.4.2.2.2.1 of the KDB:

- Set the analyzer span to encompass the entire unwanted emission bandwidth.
- Set the required limit line as per above table.
- Set the RBW = 1 MHz.
- Set the VBW = 3 MHz.
- Detector = power average (RMS).
- Ensure that the number of measurement points in the sweep to ≥ 2 x (span/RBW).
- Manually set the sweep time to: ≥ 10 x (number of measurement points in sweep) x (transmission symbol period).
- Perform the measurement over a single sweep.
- Use the peak marker function to determine the maximum average power level in any 1 MHz of the unwanted emission.

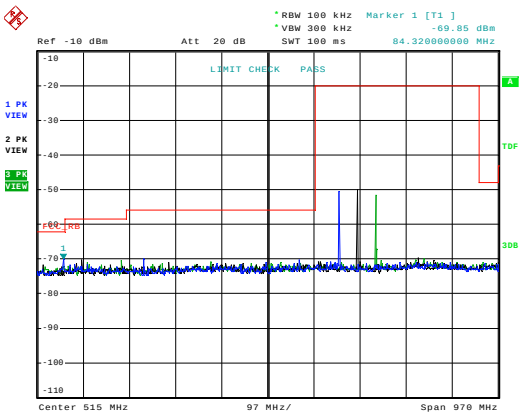
## 13.2 Test results - GFSK

| Test Frequency range (MHz) | Operating Frequency (MHz) | | | Result |
|---|---|---|---|---|
| | 2402 | 2441 | 2480 | |
| 30-1000 | Plot: RB_BT_1<br>Worst emission: -69.85dBm at 84.32 MHz (Peak) | | | Pass |
| | Trace 1<br>-69.85dBm at 84.32 MHz (Peak) | Trace 2 | Trace 3 | |
| 1000-2390 | | | | Pass |
| | Plot: RB_ BT_2<br>-62.85 dBm at 1895.16 MHz | Plot: RB_ BT_3<br>-63.84 dBm at 1895.16 MHz | Plot: RB_ BT_4<br>-62.85 dBm at 1895.16 MHz | |
| 2483.5-2500 | No emissions of note | No emissions of note | Plot: RB_ BT_5<br>-34.77 dBm at 2483.5 MHz | See table 16 |
| 2500-10000 | No emission within 20dB of limit | | | Pass |
| | Plot: RB_ BT_6 | Plot: RB_ BT_7 | Plot: RB_ BT_8 | |
| 10000-25000 | No emission within 10dB of limit | | | Pass |
| | Plot: RB_ BT_9a | Plot: RB_ BT_9b | Plot: RB_ BT_9c | |

**Table 16: Restricted Band emissions results; Bluetooth GFSK mode**

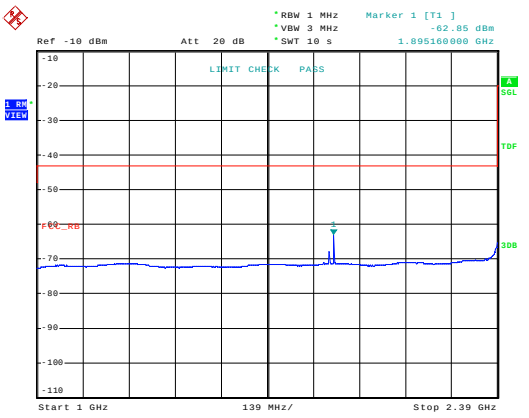
| Frequency Range (MHz) | Power/MHz (dBm) | Limit | Plot | Result |
|---|---|---|---|---|
| 2483.5-2484.5 | -54.73 | -44.7 | RB_ BT_4-CP | Pass |
| 2484.5-2485.5 | -54.87 | 44.7 | | |

**Table 17: Restricted Band emissions- band edge; Bluetooth GFSK mode**



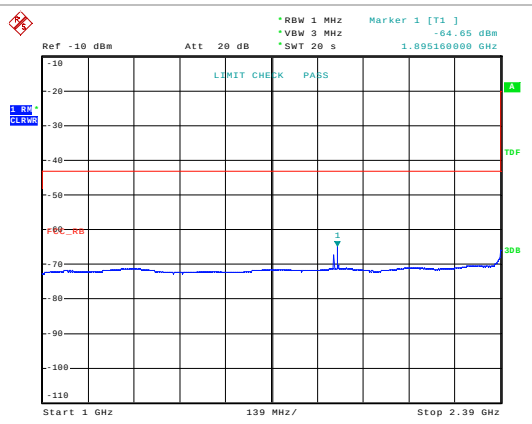

Date: 20.MAR.2012 18:18:07

RB_ BT_1



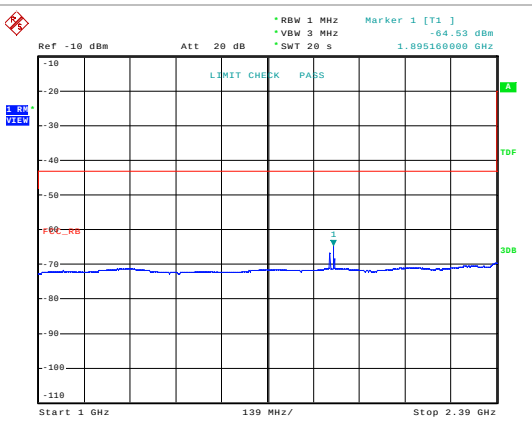

Date: 20.MAR.2012 18:28:51

RB_ BT_2



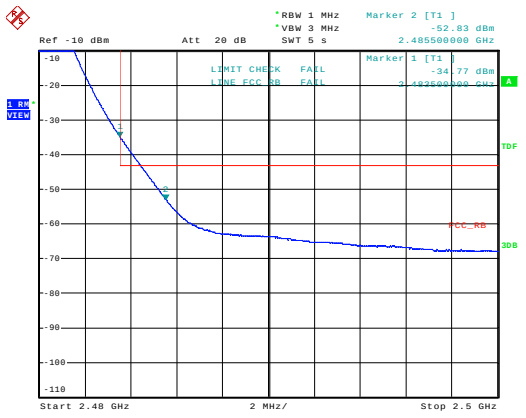

Date: 20.MAR.2012 18:56:54

RB_ BT_3



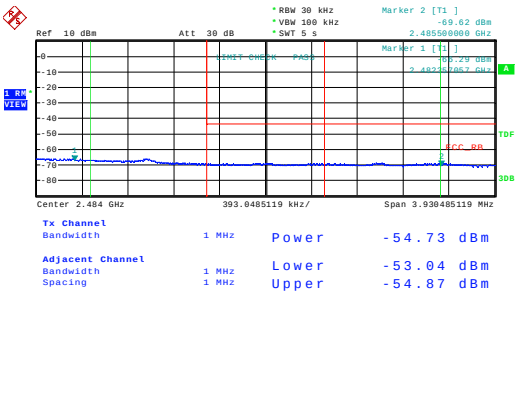

Date: 20.MAR.2012 18:58:35

RB_ BT_4



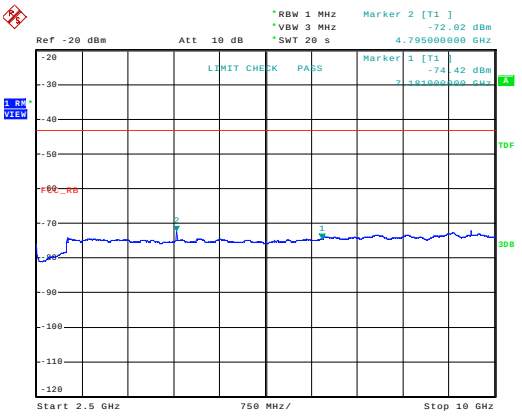

Date: 20.MAR.2012 19:29:26

RB_ BT_5



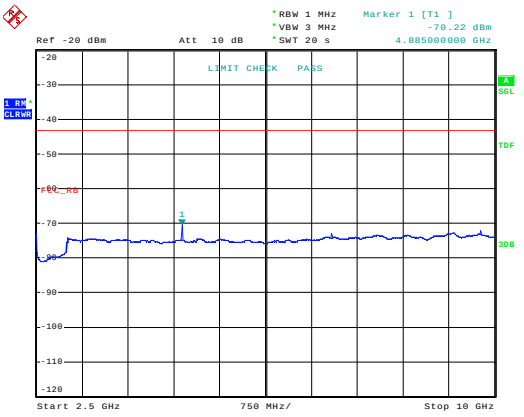

Date: 20.MAR.2012 19:22:33

RB_ BT_5-CP



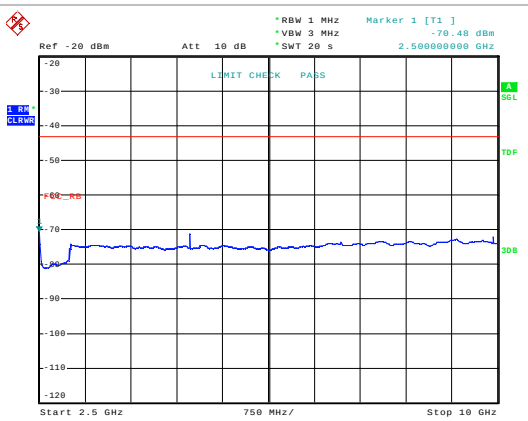

Date: 20.MAR.2012 19:35:53

RB_ BT_6



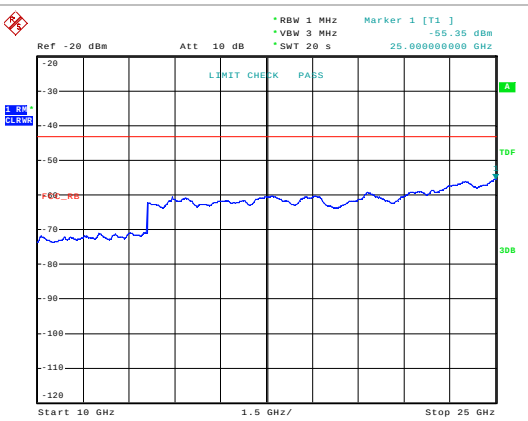

Date: 20.MAR.2012 19:36:40

RB_ BT_7



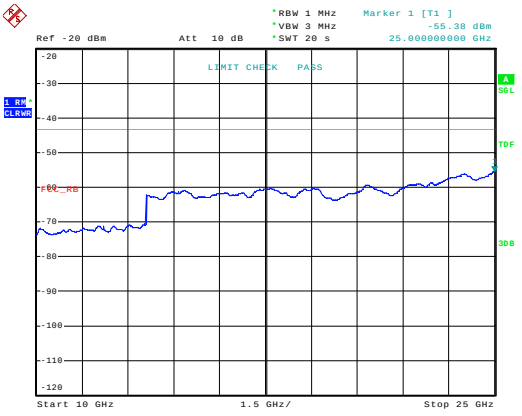

Date: 20.MAR.2012 19:37:33

RB_ BT_8



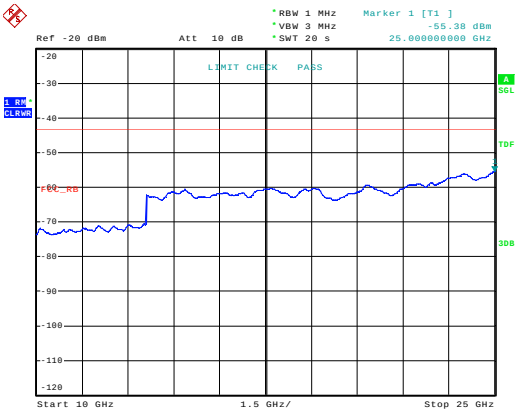

Date: 20.MAR.2012 19:46:36

RB_ BT_9a




Date: 20.MAR.2012 19:47:20

RB_ BT_9b




Date: 20.MAR.2012 19:48:07

RB_ BT_9c

**Figure 8: Restricted band emissions plots – Bluetooth GFSK mode**

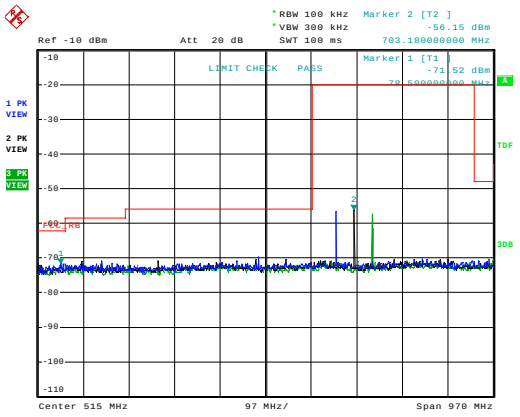
## 13.3 Test results – 8-DPSK

| Test Frequency range (MHz) | Operating Frequency (MHz) | | | Result |
|---|---|---|---|---|
| | 2402 | 2441 | 2480 | |
| 30-1000 | Plot: RB_BT_10<br>Worst emission: -71.52dBm at 78.50 MHz (Peak) | | | Pass |
| | Trace 1 | Trace 2 | Trace 3 | |
| 1000-2390 | | | | Pass |
| | Plot: RB_ BT_11<br>-54.95 dBm at 1886.82 MHz | Plot: RB_ BT_12<br>-62.06 dBm at 1893.95 MHz | Plot: RB_ BT13<br>-58.50 dBm at 1881.97 MHz | |
| 2483.5-2500 | No emissions of note | No emissions of note | Plot: RB_ BT_14<br>-36.37 dBm at 2483.5 MHz | See table 18 |
| 2500-10000 | No emissions within 10dB of limit | | | Pass |
| | Plot: RB_ BT_15 | Plot: RB_ BT_16 | Plot: RB_ BT_17 | |
| 10000-25000 | No emissions within 10dB of limit | | | Pass |
| | Plot: RB_ BT_18 | Plot: RB_ BT_19 | Plot: RB_ BT_20 | |

Table 18: Restricted Band emissions results; Bluetooth 8-DPSK mode

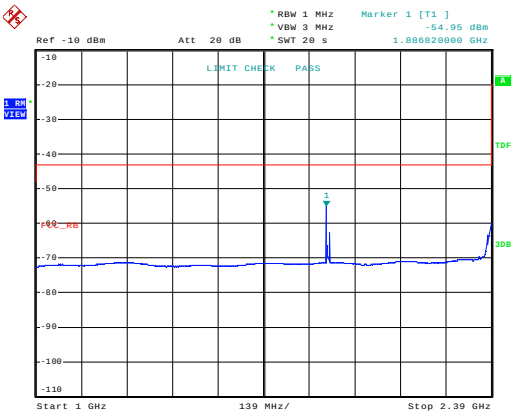
| Frequency Range (MHz) | Power/MHz (dBm) | Limit | Plot | Result |
|---|---|---|---|---|
| 2483.5-2484.5 | -51.52 | -44.7 | RB_ BT_14-CP | Pass |
| 2484.5-2485.5 | -52.60 | 44.7 | | |

Table 19: Restricted Band emissions- band edge; Bluetooth 8-DPSK mode



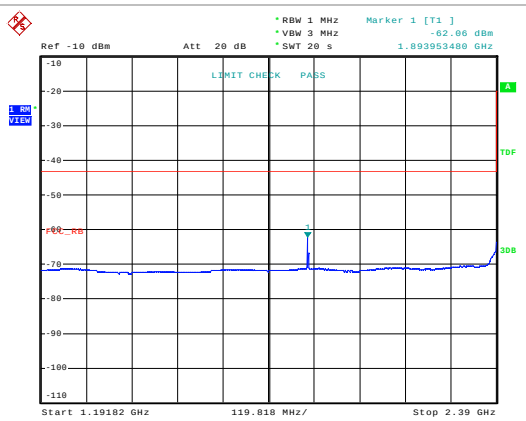

Date: 20.MAR.2012 18:22:28

RB_ BT_10



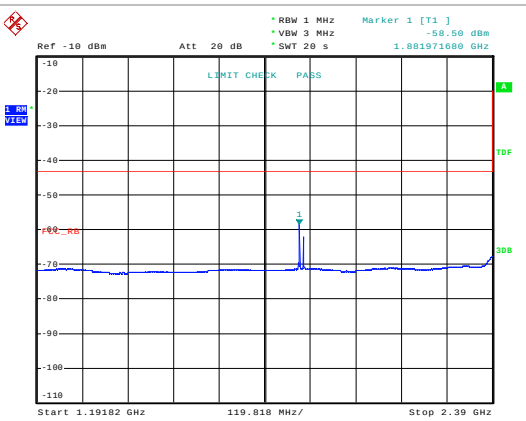

Date: 20.MAR.2012 19:01:23

RB_ BT_11



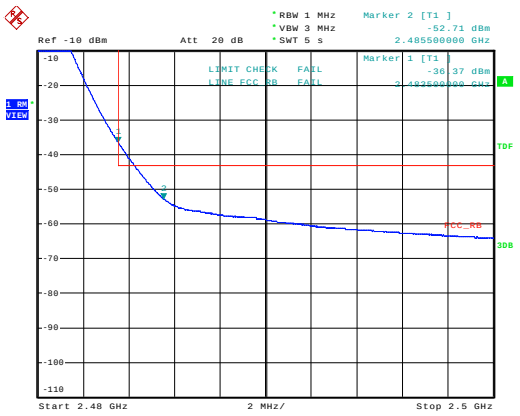

Date: 20.MAR.2012 19:03:40

RB_ BT_12



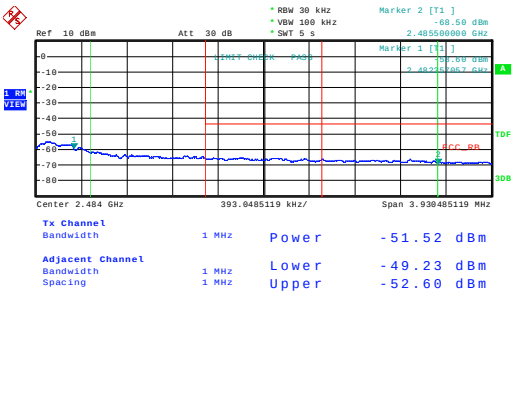

Date: 20.MAR.2012 19:04:51

RB_ BT_13



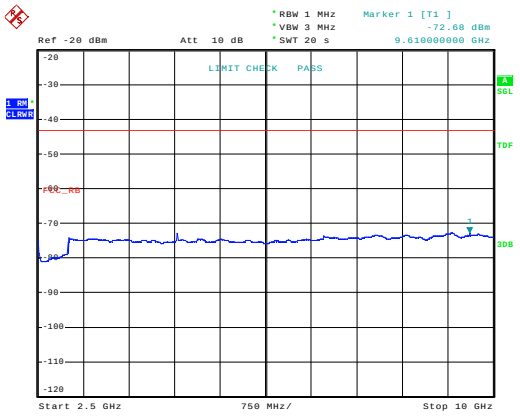

Date: 20.MAR.2012 19:13:53

RB_ BT_14

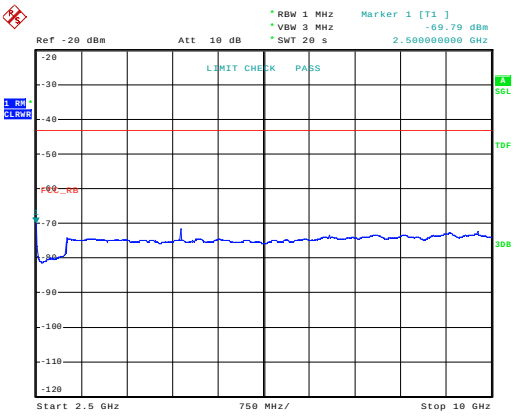



Date: 20.MAR.2012 19:24:49

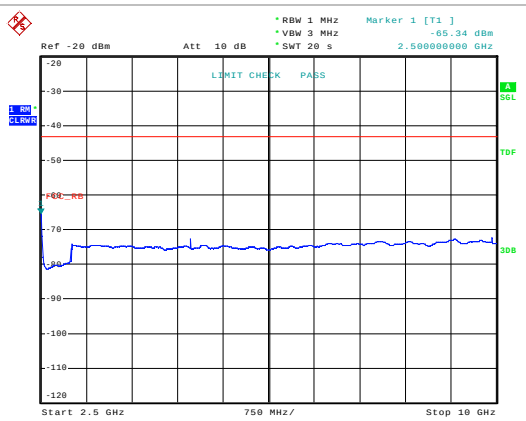
RB_ BT_14-CP



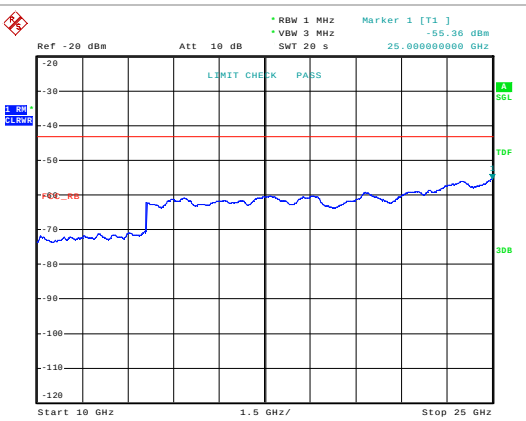

RB_ BT_15



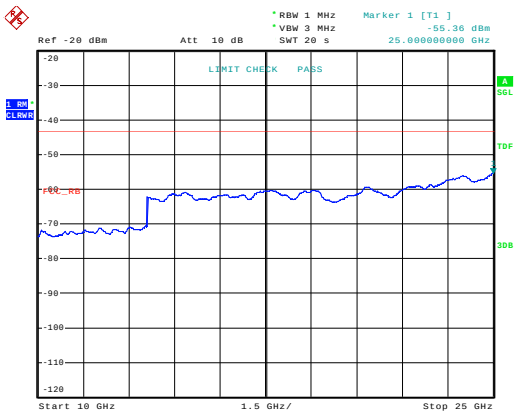

RB_ BT_16



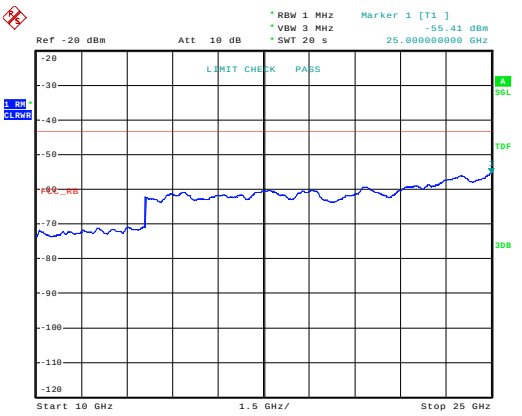

RB_ BT_17




RB_ BT_18




RB_ BT_19




RB_ BT_20

**Figure 9: Restricted band emissions plots – Bluetooth 8-DPSK mode**