



# FCC/IC Test Report

FOR

**Garmin International Inc.**

**Model Name: A2AVGC00**

**Marketing Name: nüvi 2598FL**

**Description: Connected Personal Navigation Device**

**FCC ID: IPH-A2AVGC00**

**IC ID: 1792A-A2AVGC00**

**47 CFR Part 15.247 for FHSS Systems**

**IC RSS-210 Issue 8**

**TEST REPORT #: EMC\_GARMI\_041\_12001\_FHSS**

**DATE: 2012-07-02**



**FCC listed  
A2LA Accredited**

**IC recognized #  
3462B**

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CETECOM Inc. is a Delaware Corporation with Corporation number: 2905571



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## 1 Assessment

The following equipment (and as identified in Ch.3 of this test report) was evaluated against the applicable criteria specified in FCC CFR47 Part 15.247 and Industry Canada Radio Standard Specification RSS 210 Issue 8, and no deviations were ascertained during the course of the tests performed.

Company	Description	Model Name
Garmin International	Connected Personal Navigation Device	A2AVGC00

### Responsible for Testing Laboratory:

2012-07-02      Compliance      Sajay Jose  
(Test Lab Manager)

Date	Section	Name	Signature
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### Responsible for the Report:

2012-07-02      Compliance      Tunji Yusuf  
(EMC Engineer)

Date	Section	Name	Signature
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The test results of this test report relate exclusively to the test item specified in Section3. CETECOM Inc. USA does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of CETECOM Inc. USA.

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## 2 Administrative Data

### 2.1 Identification of the Testing Laboratory Issuing the Test Report

<b>Company Name:</b>	CETECOM Inc.
<b>Department:</b>	Compliance
<b>Address:</b>	411 Dixon Landing Road Milpitas, CA 95035 U.S.A.
<b>Telephone:</b>	+1 (408) 586 6200
<b>Fax:</b>	+1 (408) 586 6299
<b>Test Lab Manager:</b>	Sajay Jose
<b>Test Engineer:</b>	Tunji Yusuf

### 2.2 Identification of the Client

<b>Client:</b>	Garmin International Inc.
<b>Street Address:</b>	1200 E. 151 <sup>st</sup> Street
<b>City/Zip Code</b>	Olathe KS 66062
<b>Country</b>	USA
<b>Contact Person:</b>	Van Ruggles
<b>Phone No.</b>	913.397.8448
<b>Fax:</b>	913.397.8282
<b>e-mail:</b>	van.ruggles@garmin.com

### 2.3 Identification of the Manufacturer

<b>Manufacturer's Name:</b>	Garmin International Inc.
<b>Manufacturers Address:</b>	No. 68 Jangshu 2 <sup>nd</sup> Road
<b>City/Zip Code</b>	Shijr, Taipei County
<b>Country</b>	Taiwan

### 3 Equipment under Test (EUT)

#### 3.1 Specification of the Equipment under Test

<b>Marketing Name:</b>	nüvi 2598FL
<b>Model Name:</b>	A2AVGC00
<b>Product Description:</b>	Connected Personal Navigation Device
<b>Hardware Revision :</b>	1
<b>Software Revision :</b>	1.04
<b>FCC-ID:</b>	IPH-A2AVGC00
<b>IC-ID:</b>	1792A-A2AVGC00
<b>Frequency range of test:</b>	Bluetooth: 2400-2483.5MHz
<b>Type(s) of Modulation:</b>	Bluetooth: GFSK Note: EDR mode not supported.
<b>Number of channels:</b>	79
<b>Antenna Type and Gain:</b>	<b>Bluetooth:</b> Linear Chip Antenna Manufacturer stated, Max (peak) gain= 2.2 dBi
<b>Output Powers :</b>	Max. Conducted= 4.49 dBm Max. Radiated= 6.69 dBm (EIRP)
<b>Other Radios included in the device:</b>	WWAN Module: Telit HE910-D GSM/GPRS/EGPRS: 850/900/1800/1900 UMTS FDD Bands I/II/IV/V/VIII GPS Receiver: 1.57542 GHz/ L1 Band
<b>Power Supply (VDC):</b>	Dedicated Lithium battery pack Rated operating voltage: 4.75 (Low)/5.0 (Nom)/ 5.25 (High)
<b>Rated Operating Temperature Range:</b>	-20°C to 55°C
<b>Prototype / Production unit</b>	Production

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### 3.2 Identification of the Equipment Under Test (EUT)

EUT #	Serial Number	HW Version	SW Version	Model	Notes
1	2KM00233	1	1.04	nüvi 2598FL	Radiated Sample
2	2KM00231	1	1.04	nüvi 2598FL	Conducted Sample

### 3.3 Identification of Accessory equipment

AE #	Type	Manufacturer	Model	Serial Number
1	Vehicle Charger	Garmin	CLA100-050	N/A
2	Car Holder	Garmin	N/A	N/A
3	USB Cable	Garmin	N/A	N/A
4	Laptop Computer	Dell	D620	N/A



#### 4 Subject of Investigation

The objective of the measurements applied by CETECOM Inc. was to establish compliance of the EUT as described under Ch. 3 of this Test Report, with the applicable criteria specified in

- FCC CFR47 Parts 15.247, 15.209 and
- Industry Canada Radio Standard Specifications RSS-210 Issue 8, RSS-Gen Issue 3

This test report is to support a request for new equipment authorization under the FCC ID: **IPH-A2AVGC00** and IC ID: **1792A-A2AVGC00**.

The device was configured with a manufacturer provided test SW, capable of setting the unit in BT Test mode. In this mode, the unit can be connected to a Bluetooth Tester to control different modulation schemes, channels etc., as required for testing.

The EUT was tested on low, mid and high channels in GFSK mode.

## 5 Summary of Measurement Results

Test Specification	Test Case	Temperature and Voltage Conditions	Mode	Pass	Fail	NA	NP	Result
§15.247(e) RSS210 A8.2(b)	Power Spectral Density	Nominal	GFSK	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	-
§15.247(a)(1) RSS210 A8.1(b)	Carrier Frequency Separation	Nominal	GFSK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
§15.247(a)(1) RSS210 A8.1(d)	Number of Hopping Channels	Nominal	GFSK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
§15.247(a)(1)(iii) RSS210 A8.3(1)	Time of occupancy	Nominal	GFSK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
§15.247(a)(1) RSS210 A8.2(a)	Spectrum Bandwidth	Nominal	GFSK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
§15.247(b)(1) RSS210 A8.4(2)	Maximum Peak Conducted Output Power	Nominal	GFSK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Complies
§15.247(d) RSS210 A8.5	Band edge compliance-Conducted	Nominal	GFSK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
§15.247(d) RSS210 A8.5	Band edge compliance-Radiated	Nominal	GFSK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Complies
§15.247(d) RSS210 A8.5	TX Spurious emissions-Conducted	Nominal	GFSK	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-
§15.247(d) RSS210 A8.5	TX Spurious emissions-Radiated	Nominal	GFSK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Complies
§15.209(a) RSS Gen	TX Spurious Emissions Radiated<30MHz	Nominal	GFSK	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Complies

**Note:** NA= Not Applicable; NP= Not Performed.

Model A2AVGC00 integrates the same BT solution used in a previously certified Garmin product- Model 0247901

Per manufacturer declaration, all Conducted test data (identified “NP” in the above table) from Model 0247901 has been leveraged for this filing.

The test data for Model 0247901 can be obtained under the FCC Filing ID: IPH-0247901 (and IC ID: 1792A-0247901), Test Report #EMC\_GARMI\_033\_11001\_15.247 issued by CETECOM Inc., USA on 3/15/2011.

## 6 Measurements

### 6.1 Measurement Method:

Ref: FCC Public Notice DA 00-705: Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems|

### 6.2 Radiated Measurement Procedure

#### **ANSI C63.4 (2009) Section 8.3.1.1: Exploratory radiated emission measurements**

Exploratory radiated measurements shall be performed at the measurement distance or at a closer distance than that specified for compliance to determine the emission characteristics of the EUT. At near distances, for EUTs of comparably small size, it is relatively easy to determine the spectrum signature of the EUT and, if applicable, the EUT configuration that produces the maximum level of emissions. A shielded room may be used for exploratory testing, but may have anomalies that can lead to significant errors in amplitude measurements.

Broadband antennas and a spectrum analyzer or a radio-noise meter with a panoramic display are often useful in this type of testing. It is recommended that either a headset or loudspeaker be connected as an aid in detecting ambient signals and finding frequencies of significant emission from the EUT when the exploratory and final testing is performed in an OATS with strong ambient signals. Caution should be taken if either antenna height between 1 and 4 meters or EUT azimuth is not fully explored. Not fully exploring these parameters during exploratory testing may require complete testing at the OATS or semi-anechoic chamber when the final full spectrum testing is conducted.

The EUT should be set up in its typical configuration and arrangement, and operated in its various modes. For tabletop systems, cables or wires should be manipulated within the range of likely arrangements. For floor-standing equipment, the cables or wires should be located in the same manner as the user would install them and no further manipulation is made. For combination EUTs, the tabletop and floor-standing portions of the EUT shall follow the procedures for their respective setups and cable manipulation. If the manner of cable installation is not known, or if it changes with each installation, cables or wires for floor-standing equipment shall be manipulated to the extent possible to produce the maximum level of emissions.

For each mode of operation required to be tested, the frequency spectrum shall be monitored. Variations in antenna height between 1 and 4 m, antenna polarization, EUT azimuth, and cable or wire placement (each variable within bounds specified elsewhere) shall be explored to produce the emission that has the highest amplitude relative to the limit. A step-by-step technique for determining this emission can be found in Annex C.

When measuring emissions above 1 GHz, the frequencies of maximum emission shall be determined by manually positioning the antenna close to the EUT and by moving the antenna over all sides of the EUT while observing a spectral display. It will be advantageous to have prior knowledge of the frequencies of emissions above 1 GHz. If the EUT is a device with dimensions approximately equal to that of the measurement antenna beamwidth, the measurement antenna shall be aligned with the EUT.

**ANSI C63.4 (2009) Section 8.3.1.2: Final radiated emission measurements**

Based on the measurement results in 8.3.1.1, the one EUT, cable and wire arrangement, and mode of operation that produces the emission that has the highest amplitude relative to the limit is selected for the final measurement. The final measurement is then performed on a site meeting the requirements of 5.3, 5.4, or 5.5 as appropriate without variation of the EUT arrangement or EUT mode of operation. If the EUT is relocated from an exploratory test site to a final test site, the highest emission shall be remaximized at the final test location before final radiated emissions measurements are performed. However, antenna height and polarity and EUT azimuth are to be varied. In addition, the full frequency spectrum (for the range to be checked for meeting compliance) shall be investigated.

This investigation is performed with the EUT rotated 360°, the antenna height scanned between 1 m and 4 m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations. During the full frequency spectrum investigation, particular focus should be made on those frequencies found in exploratory testing that were used to find the final test configuration, mode of operation, and arrangement (associated with achieving the least margin with respect to the limit). This full spectrum test constitutes the compliance measurement.

For measurements above 1 GHz, use the cable, EUT arrangement, and mode of operation determined in the exploratory testing to produce the emission that has the highest amplitude relative to the limit. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the antenna in the “cone of radiation” from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response. The antenna may have to be higher or lower than the EUT, depending on the EUT’s size and mounting height, but the antenna should be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane. If the transmission line for the measurement antenna restricts its range of height and polarization, the steps needed to ensure the correct measurement of the maximum emissions, shall be described in detail in the report of measurements. Data collected shall satisfy the report requirements of Clause 10.

**NOTES**

- 1— Where limits are specified by agencies for both average and peak (or quasi-peak) detection, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement.
- 2—Use of waveguide and flexible waveguide may be necessary at frequencies above 10 GHz to achieve usable signal-to noise ratios at required measurement distances. If so, it may be necessary to restrict the height search of the antenna, and special care should be taken to ensure that maximum emissions are correctly measured.
- 3—All presently known devices causing emissions above 10 GHz are physically small compared with the beam-widths of typical horn antennas used for EMC measurements. For such EUTs and frequencies, it may be preferable to vary the height and polarization of the EUT instead of the receiving antenna to maximize the measured emissions.

### 6.3 Sample Calculations for Radiated Measurements

#### 6.3.1.1 Field Strength Measurements:

Measurements from the Spectrum Analyzer/ Receiver is used to calculate the Field Strength, taking into account the following parameters:

1. Measured reading in dB $\mu$ V
2. Cable Loss between the receiving antenna and SA in dB and
3. Antenna Factor in dB/m

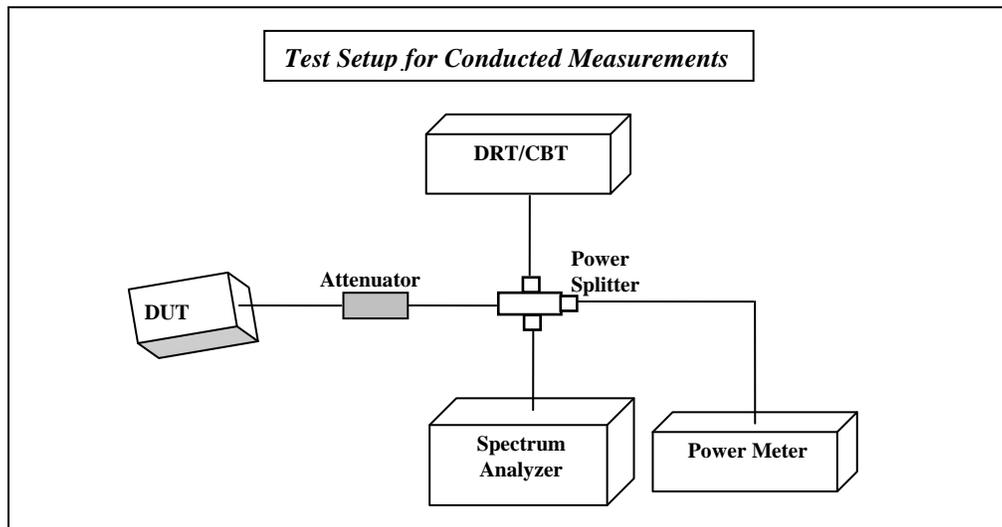
FS (dB $\mu$ V/m)= Measured Value on SA (dB $\mu$ V)+ Cable Loss (dB)+ Antenna Factor (dB/m)

Eg:

Frequency (MHz)	Measured SA (dB $\mu$ V)	Cable Loss (dB)	Antenna Factor Correction (dB)	Field Strength Result (dB $\mu$ V/m)
1000	80.5	3.5	14	98.0

All radiated measurement plots in this report are taken from a test SW that calculates the Field Strength based on the above equation.

#### 6.4 Conducted Measurement Procedure



1. Connect the equipment as shown in the above diagram.
2. Adjust the settings of the CBT (Rohde-Schwarz Bluetooth Tester) to connect the EUT at the required channel.
3. Measurements are to be performed with the EUT set to the low, middle and high channels and for GFSK modulation scheme.

Measurement Uncertainty:  $\pm 0.5\text{dB}$



**6.5 Maximum Peak Conducted Output Power**

**6.5.1 Limits:**

6.5.1.1 §15.247 (b)(1)

The maximum peak conducted output power of the intentional radiator shall not exceed the following:  
 For frequency hopping systems operating in the 2400–2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725–5850 MHz band: 1 watt.  
 For all other frequency hopping systems in the 2400–2483.5 MHz band: 0.125 watts.

6.5.1.2 RSS 210- A8.4(2)

Nominal Peak Output Power < 30 dBm (1W)

**6.5.2 Test Conditions:**

Tnom: 25°C; Vnom: 5V DC

Hopping OFF

**Measurement Settings:**

Conducted output power measured using a CBT (Bluetooth Tester).

Radiated EIRP calculated using the formula= Conducted Power+ Antenna Gain.

Manufacturer declared antenna gain= 2.2 dBi

**6.5.3 Test Result:**

Measured Peak Output Power - Conducted (dBm)			
Modulation	Frequency (MHz)		
	2402	2441	2480
GFSK	4.41	4.49	4.44

Calculated EIRP - Radiated (dBm)			
Modulation	Frequency (MHz)		
	2402	2441	2480
GFSK	6.61	6.69	6.64

6.5.3.1 Test Verdict:

Pass.



**6.6 Band Edge Compliance of Radiated Emissions**

**6.6.1 Limits: §15.247/15.205  
RSS-210 A8.5**

15.247 (d) Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

15.205 (a) Only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2690 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	( <sup>2</sup> )
13.36 - 13.41			

15.209 (a) Emission Limits:

The emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (MHz)	Field strength (microvolts/meter)	Measurement distance (m)
0.009–0.490	2400/F(kHz)	300
0.490–1.705	24000/F(kHz)	30
1.705–30.0	30	30
30–88	100**	3
88–216	150**	3
216–960	200**	3
Above 960	500	3

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### 6.6.2 Measurement Procedure:

Peak measurements are made using a peak detector and RBW=1MHz.

\*PEAK LIMIT= 74dB $\mu$ V/m

Average measurements performed using a peak detector and according to video averaging procedure with RBW=1MHz and VBW=10Hz.

\*AVG. LIMIT= 54dB $\mu$ V/m

Measurement Uncertainty:  $\pm$ 3.0dB

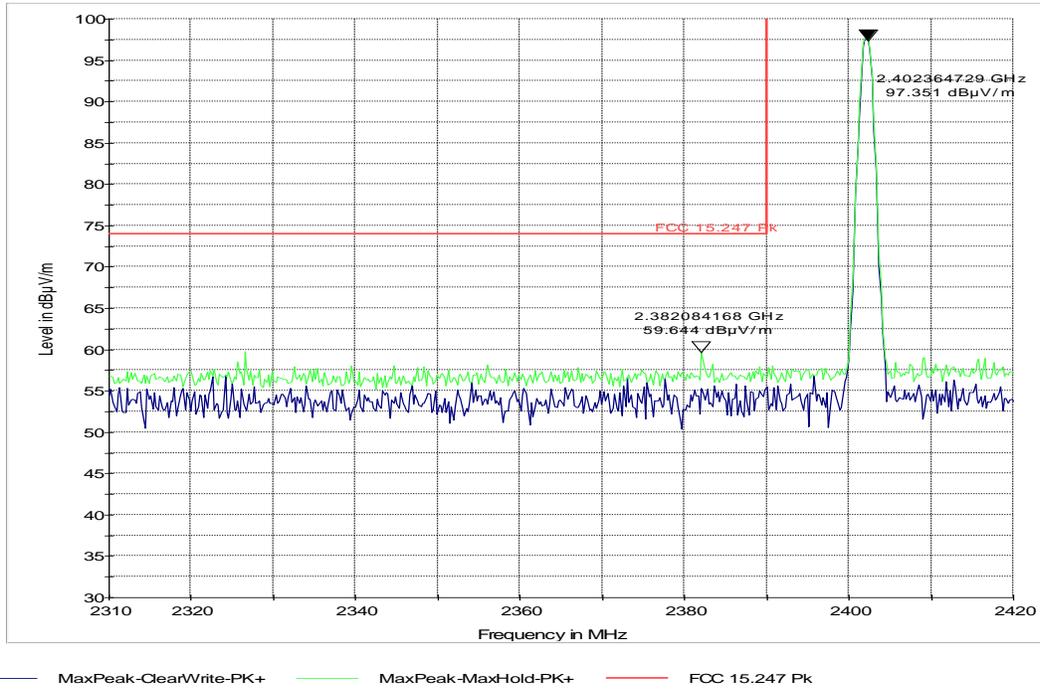
#### 6.6.2.1 Test Verdict

Pass.

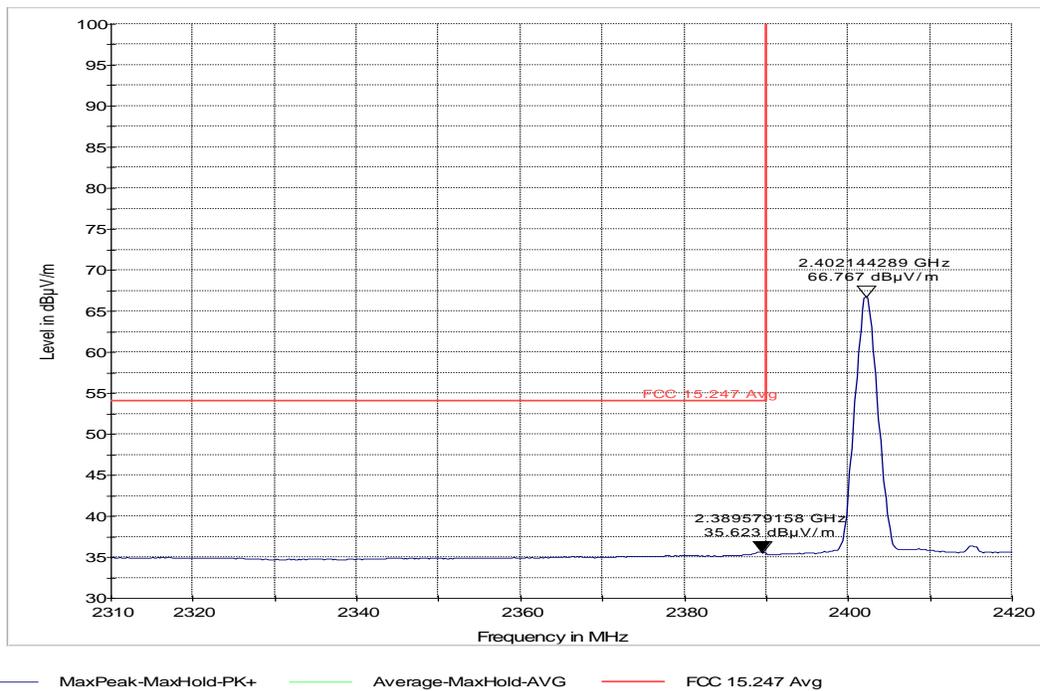


### 6.6.3 Test Data/plots:

#### Lower band edge peak -GFSK modulation

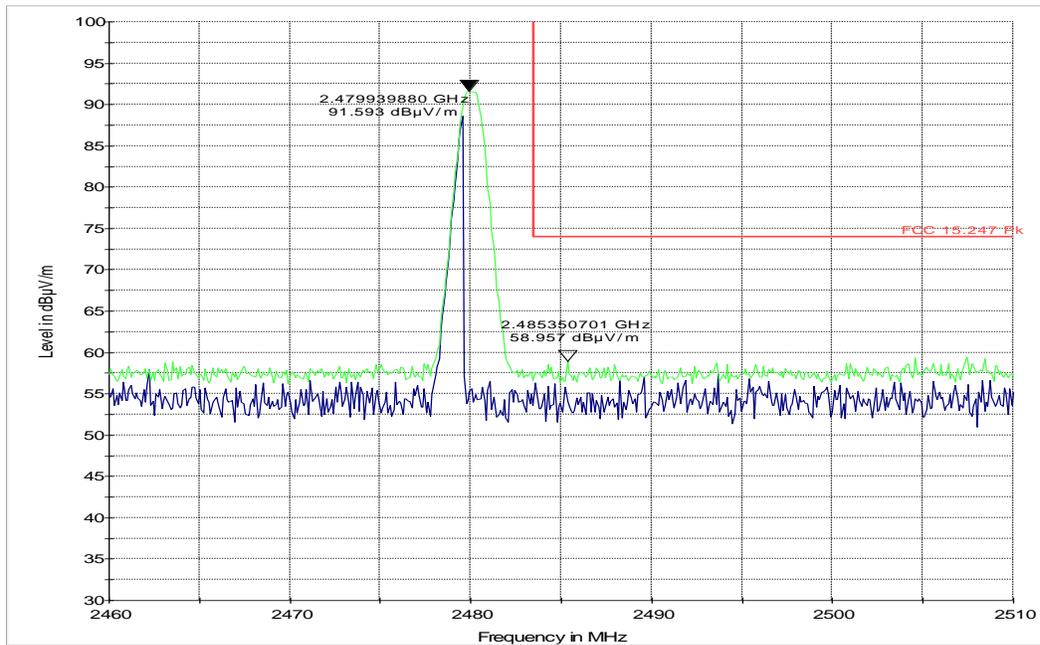


#### Lower band edge average -GFSK modulation



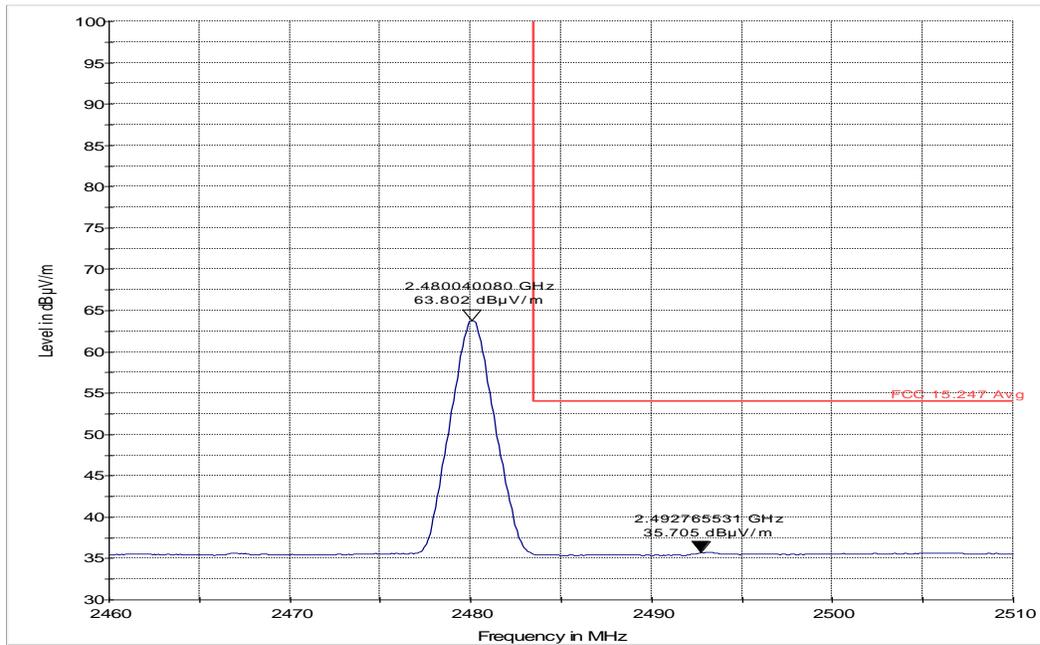


### Higher band edge peak -GFSK modulation



MaxPeak-ClearWrite-PK+    MaxPeak-MaxHold-PK+    FCC 15.247 Pk

### Higher band edge average-GFSK modulation



MaxPeak-MaxHold-PK+    FCC 15.247 Avg

## 6.7 Spurious Radiated Emissions

### 6.7.1 Limits:

§15.247/15.205

RSS 210-A8.5

Frequency of emission (MHz)	Field strength ( $\mu\text{V/m}$ )	Measurement Distance (m)
0.009–0.490	2400/F(kHz)	300
0.490–1.705	24000/F(kHz)	30
1.705–30.0	30	30

Frequency of emission (MHz)	Field strength ( $\mu\text{V/m}$ )
30–88	100 (40dB $\mu\text{V/m}$ )
88–216	150 (43.5 dB $\mu\text{V/m}$ )
216–960	200 (46 dB $\mu\text{V/m}$ )
Above 960	500 (54 dB $\mu\text{V/m}$ )

### 6.7.2 Test Result:

The device was set to operate in the test mode with highest conducted output power, and measurement results as reported here represents the worst case radiated spurious emissions.

Unless mentioned otherwise, the emissions outside the limit lines in the plots are from the transmit signal.

For radiated measurements, all data in this report shows the worst case emissions data between H/V antenna polarizations and for all 3 orthogonal orientations of the EUT.

### 6.7.3 Measurement Procedure:

Peak measurements are made using a peak detector and RBW=120 kHz (<1GHz) and RBW= 1MHz (>1GHz)

Measurement Uncertainty:  $\pm 3.0\text{dB}$

#### 6.7.3.1 Test Verdict

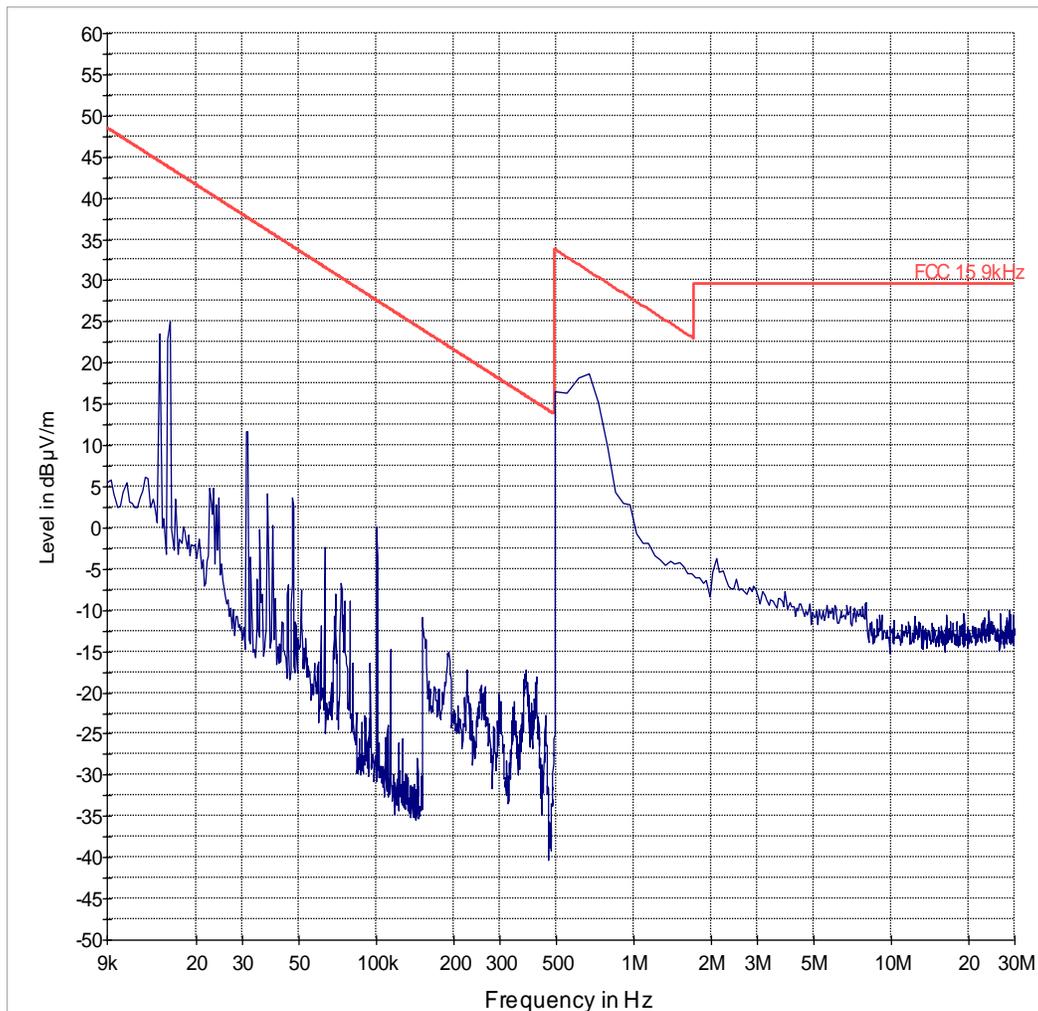
Pass.



**6.7.4 Test data/ plots:**

**Transmitter Radiated Spurious Emission: Ch 39: <30MHz**

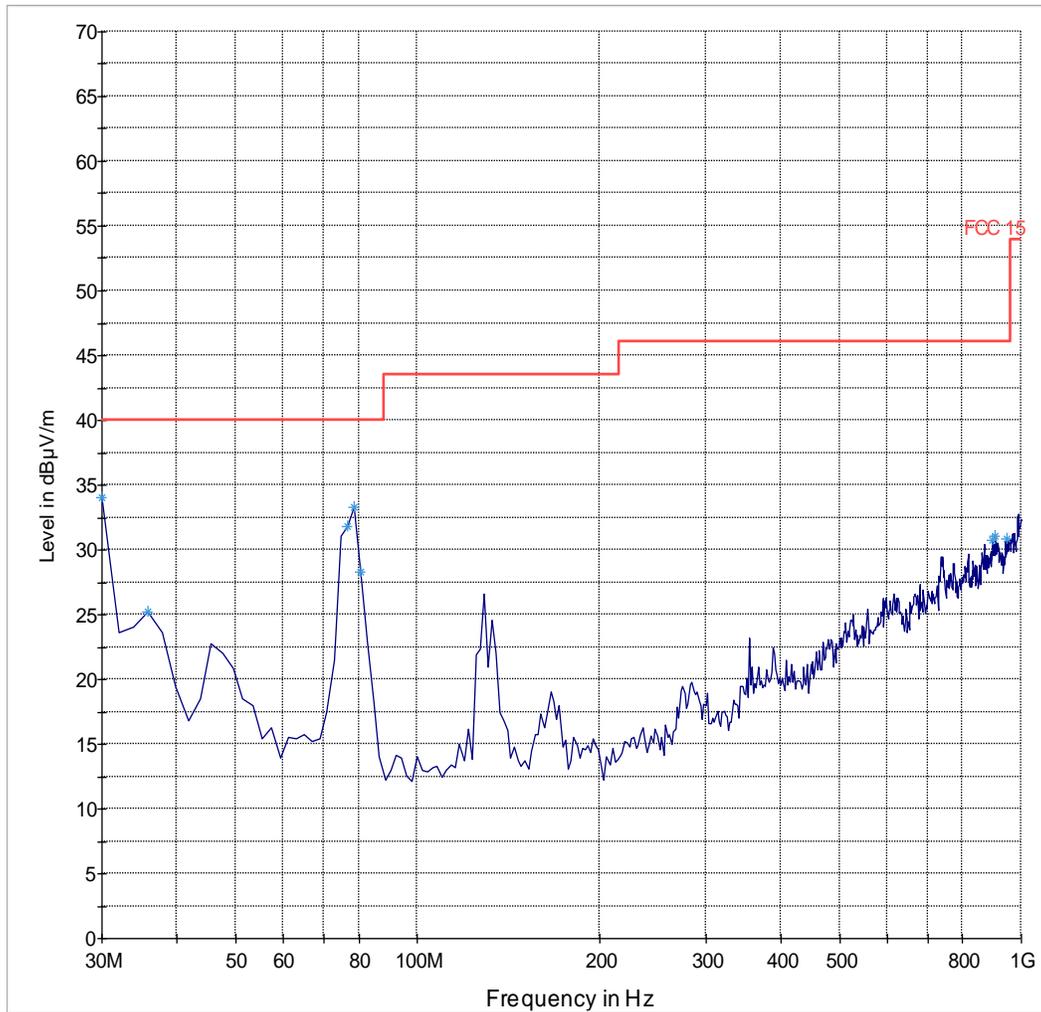
Note: Worst case representation for all channels and modes of operation in this frequency range- Limits adjusted for 3m measurement.



— FCC 15.9kHz — Preview Result 1-PK+



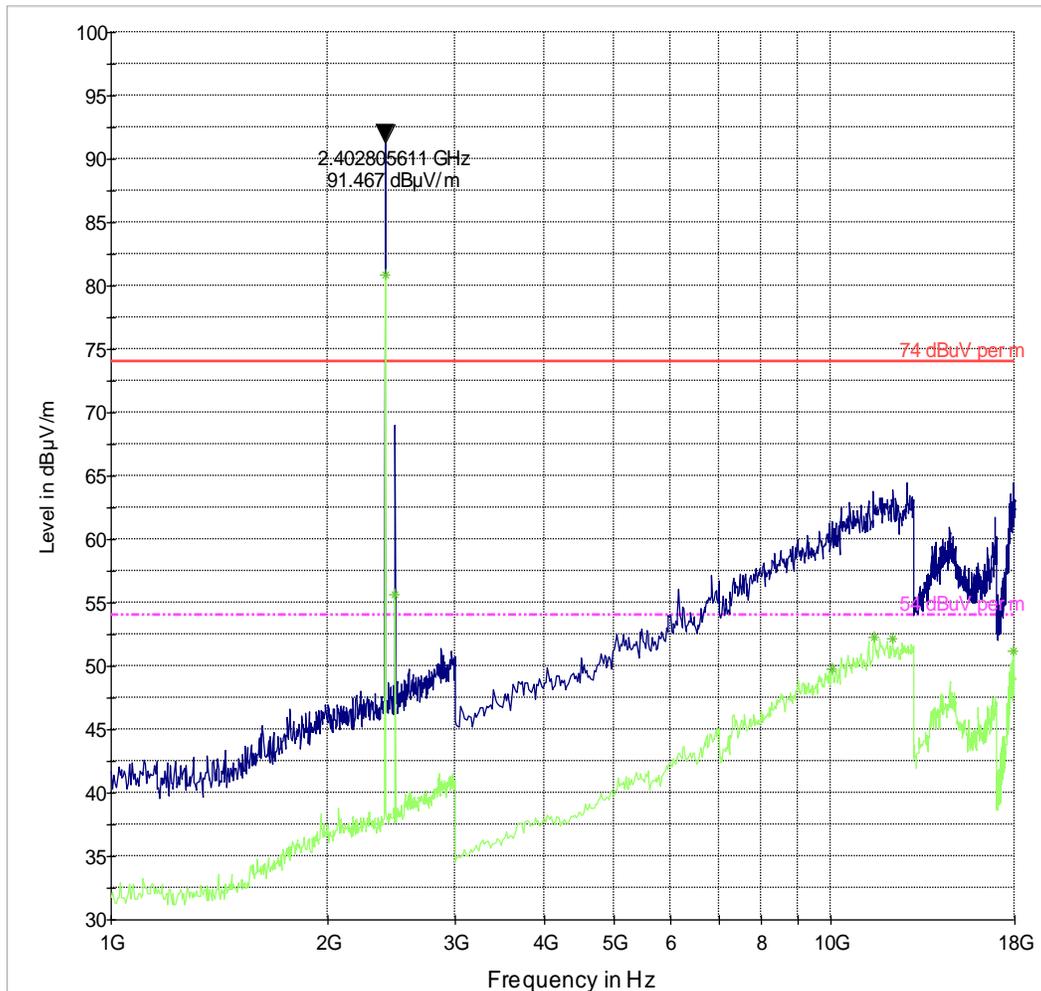
Transmitter Radiated Spurious Emission: Ch0: 30M-1GHz



— FCC 15    — Preview Result 1-PK+    \* Data Reduction Result 1 [3]-PK+



Transmitter Radiated Spurious Emission: Ch0: 1G - 18GHz

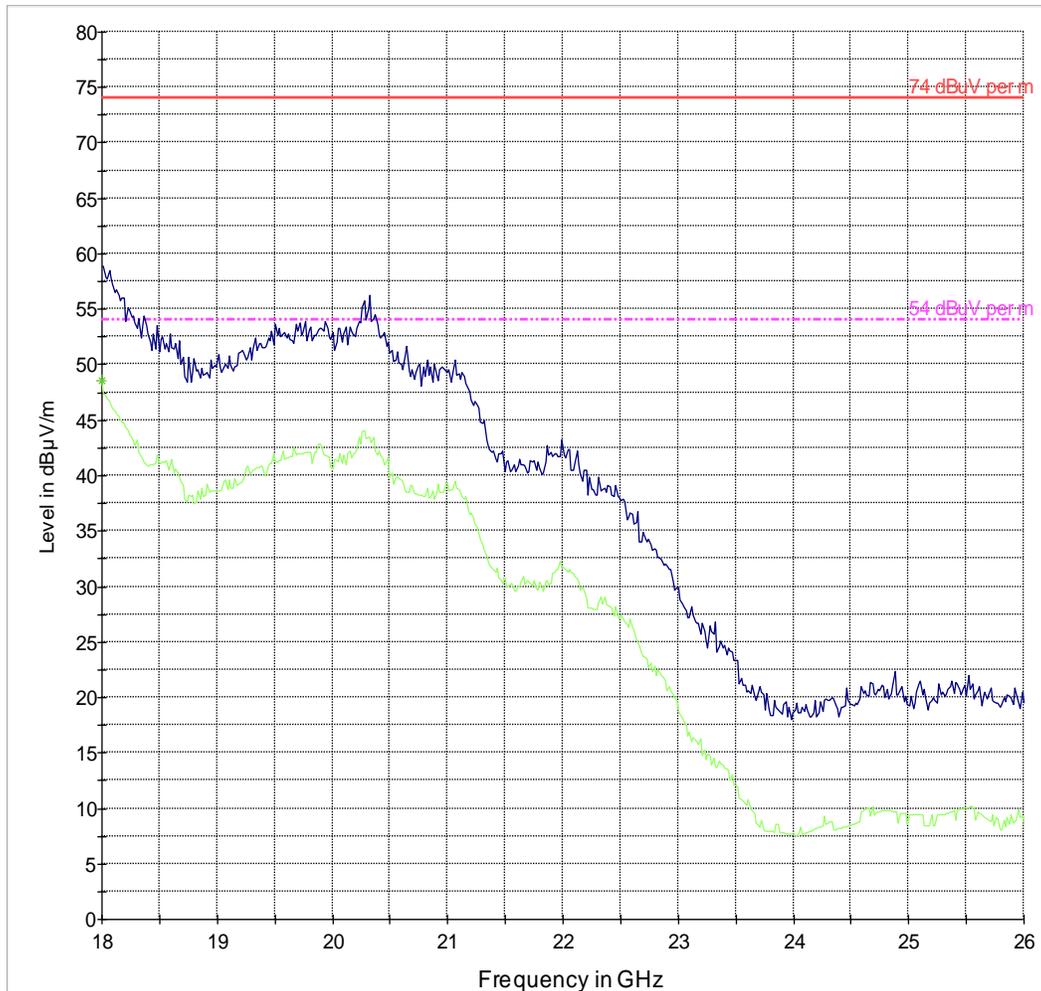


- 74 dBµV per m
- 54 dBµV per m
- Preview Result 1-PK+
- Preview Result 2-AVG
- \* Data Reduction Result 2 [4]-AVG



**Transmitter Radiated Spurious Emission: Ch0: 18G - 26GHz**

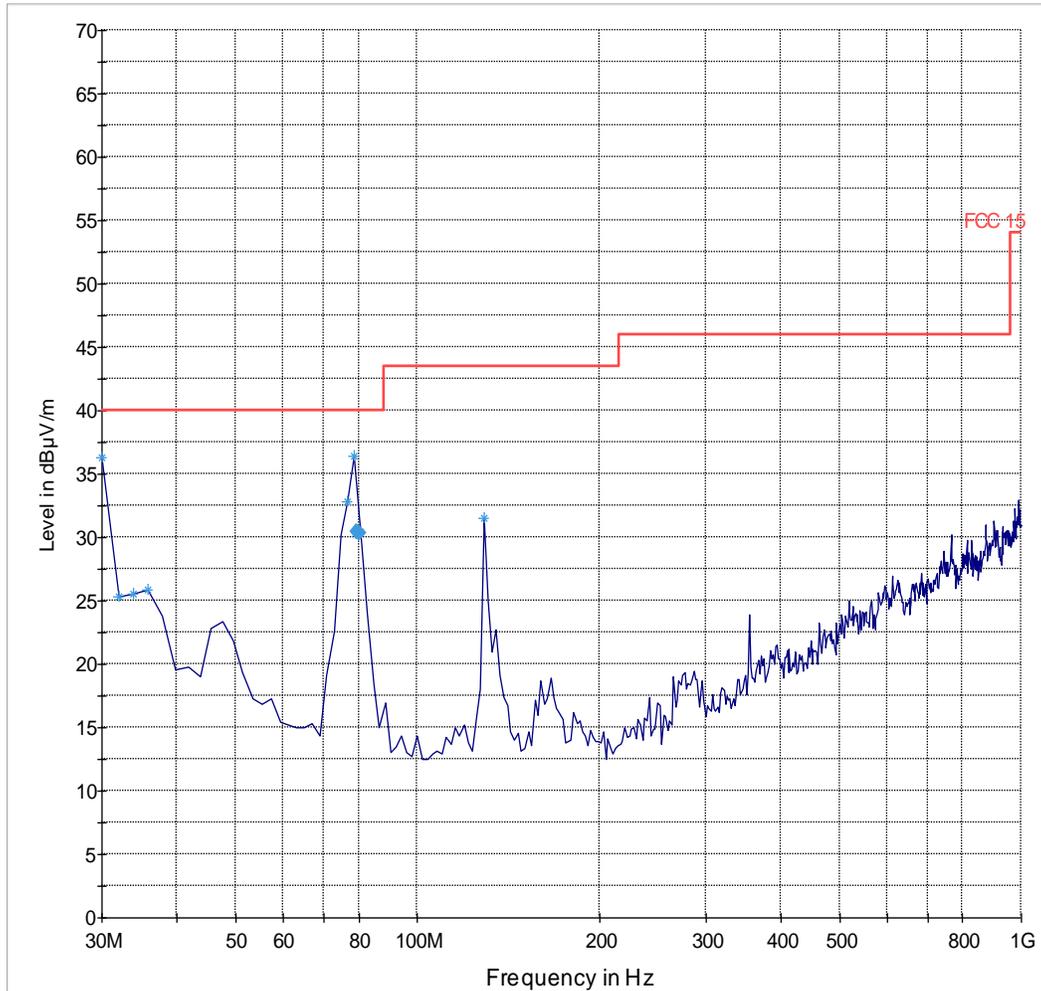
Note: Worst case representation for all channels and modes of operation in this frequency range-



- 74 dBuV per m
- 54 dBuV per m
- Preview Result 1-PK+
- Preview Result 2-AVG
- Data Reduction Result 2 [6]-AVG



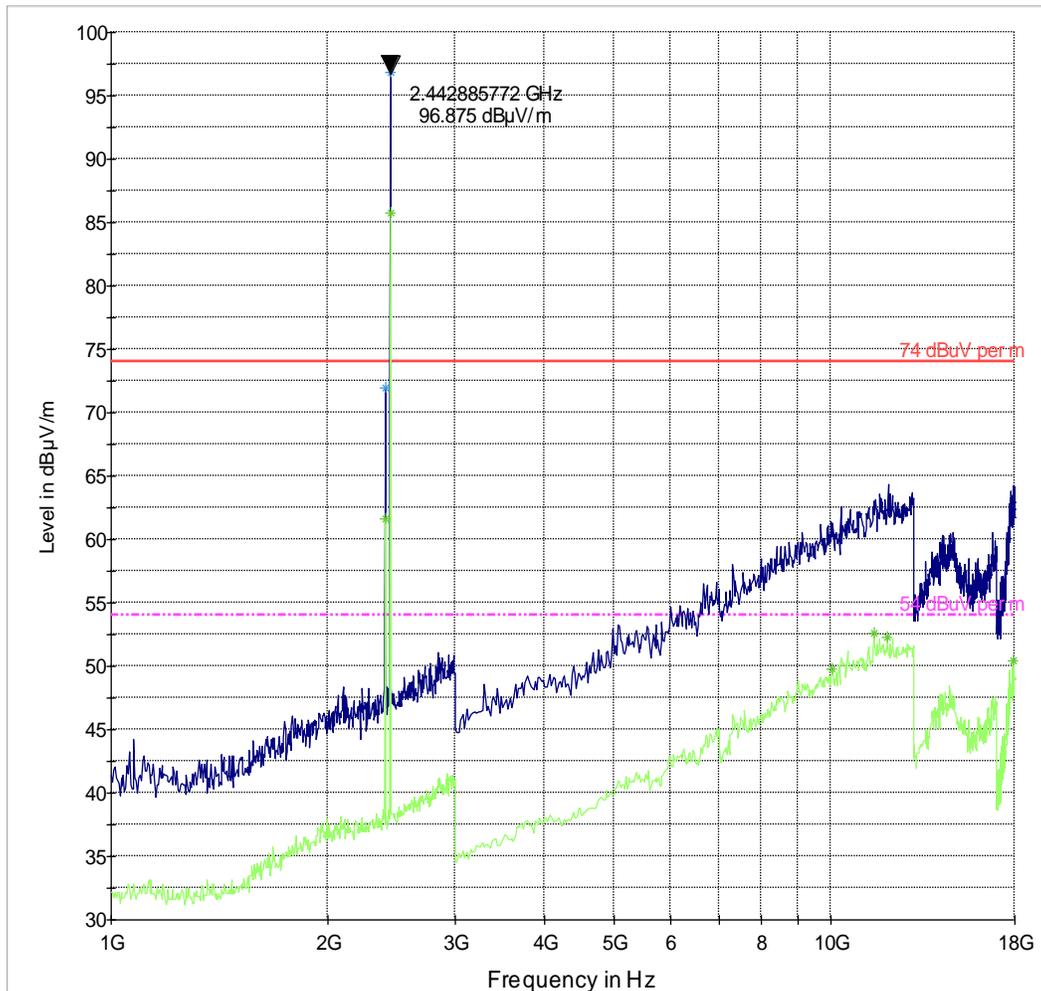
Transmitter Radiated Spurious Emission: Ch39: 30M - 1GHz



— FCC 15  
\* Data Reduction Result 1 [3]-PK+  
— Preview Result 1-PK+  
◆ Final Measurement Result 1-QPK



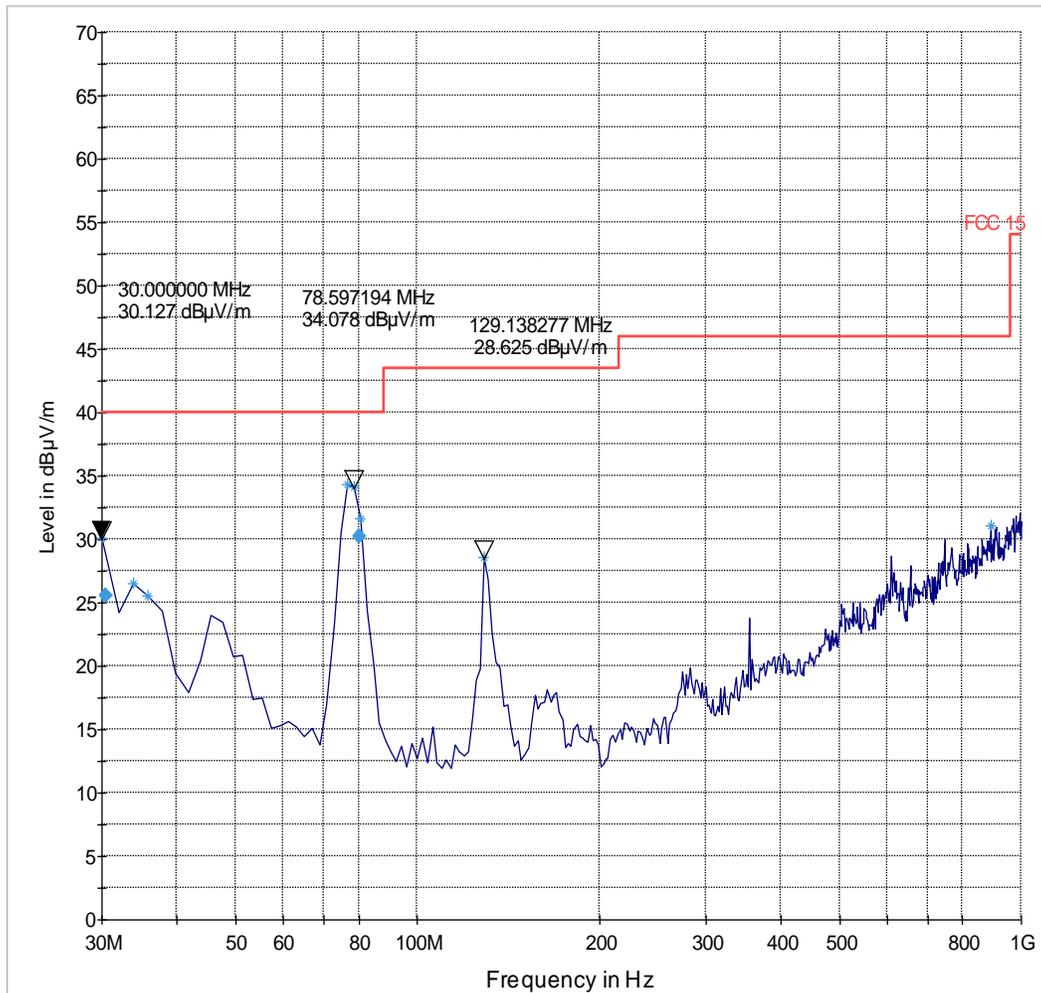
Transmitter Radiated Spurious Emission: Ch39: 1G - 18GHz



- 74 dBµV per m
- 54 dBµV per m
- Preview Result 1-PK+
- Preview Result 2-AVG
- Data Reduction Result 1 [4]-PK+
- Data Reduction Result 2 [4]-AVG



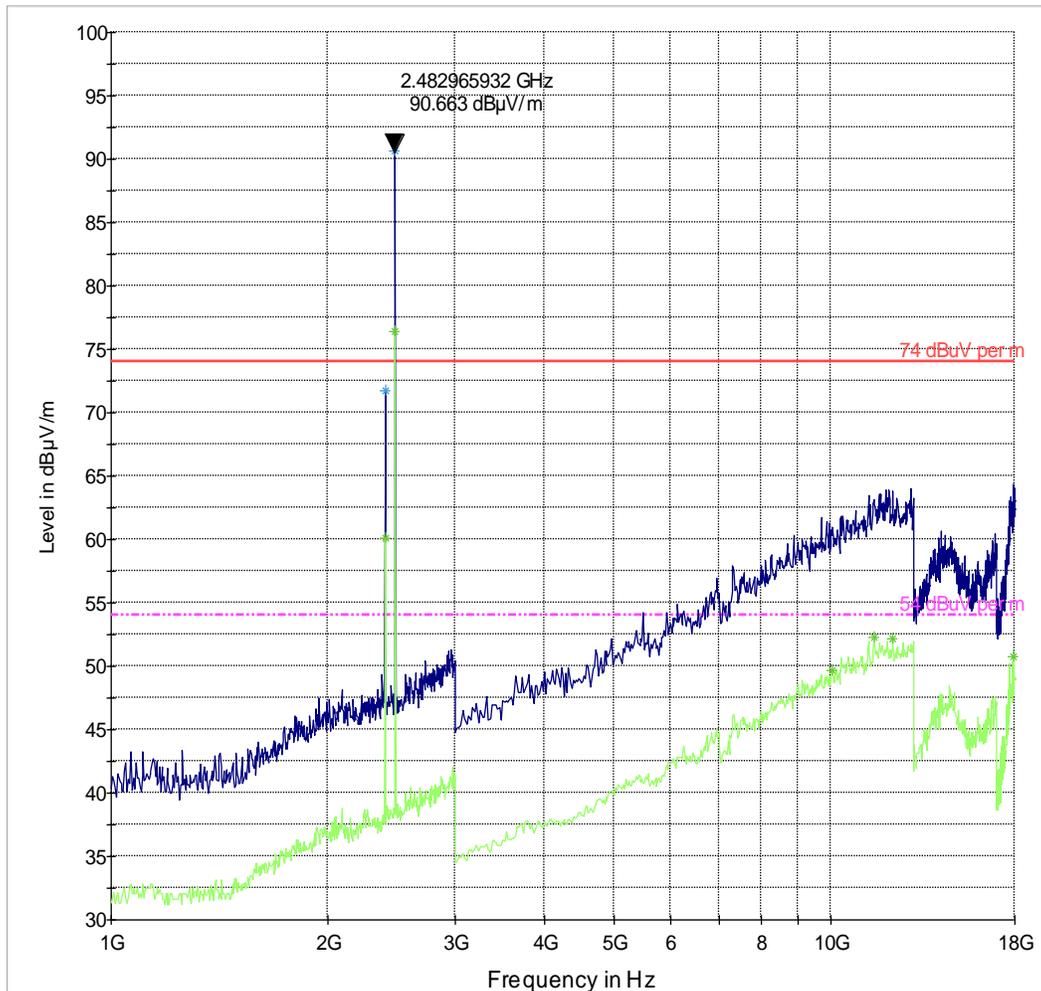
Transmitter Radiated Spurious Emission: Ch78: 30M - 1GHz



— FCC 15  
\* Data Reduction Result 1 [3]-PK+  
— Preview Result 1-PK+  
◆ Final Measurement Result 1-QPK



Transmitter Radiated Spurious Emission: Ch78: 1G - 18GHz

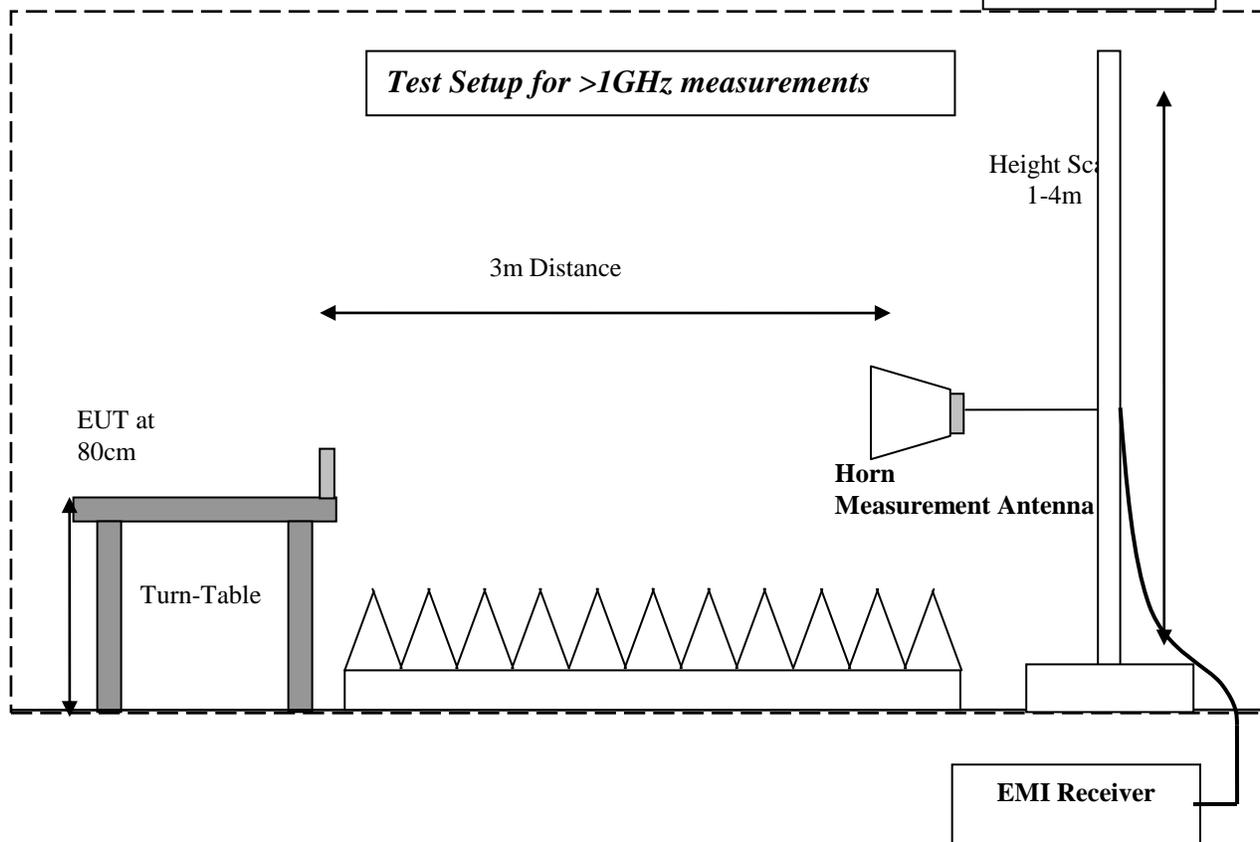
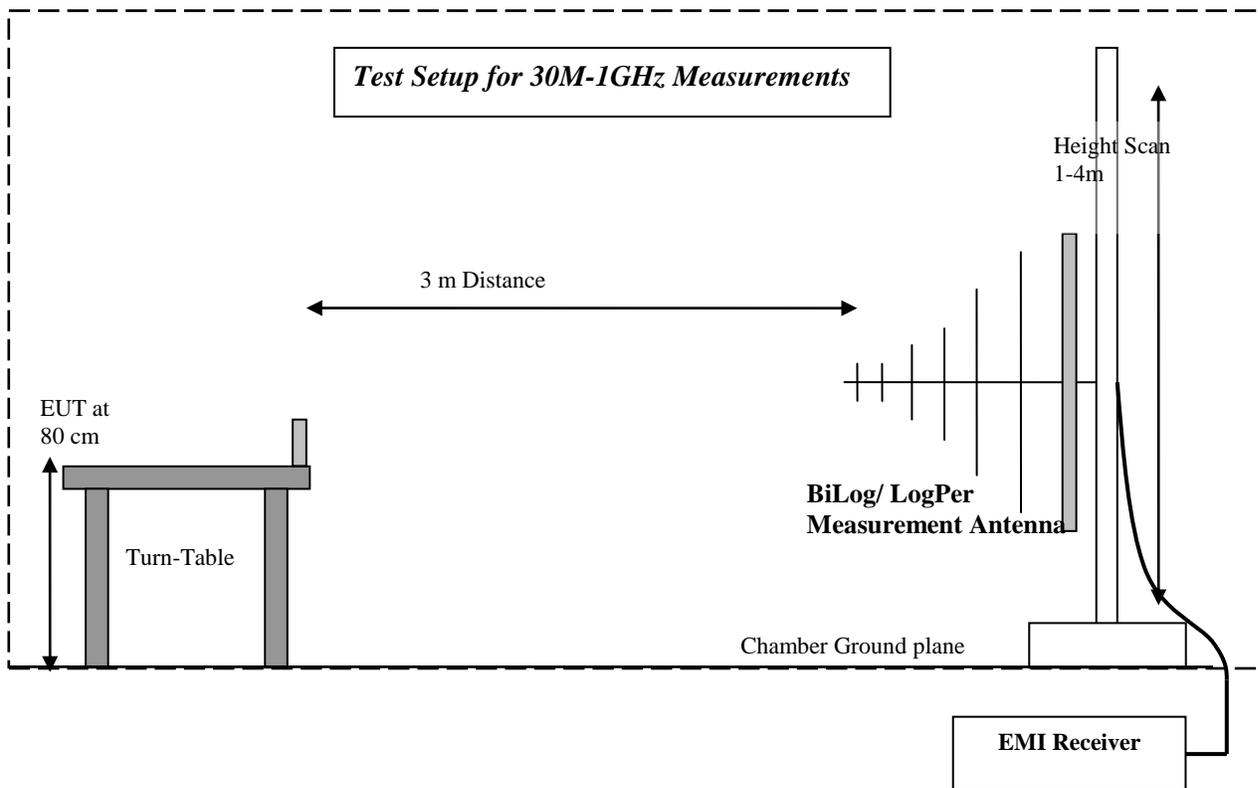


- 74 dBµV per m
- 54 dBµV per m
- Preview Result 1-PK+
- Preview Result 2-AVG
- Data Reduction Result 1 [4]-PK+
- Data Reduction Result 2 [4]-AVG

## 7 Test Equipment and Ancillaries used for tests

Instrument/Ancillary	Model	Manufacturer	Serial No.	Cal Date	Cal Interval
Bluetooth Tester	CBT	Rohde & Schwarz	100212	May 2011	2 Years
EMI Receiver/Analyzer	ESIB 40	Rohde & Schwarz	100107	May 2011	2 Years
Spectrum Analyzer	FSU	Rohde & Schwarz	200302	May 2011	2 Years
Loop Antenna	6512	EMCO	00049838	Aug 2011	3 years
Biconilog Antenna	3141	EMCO	0005-1186	Apr 2012	3 years
Horn Antenna (1-18GHz)	3115	ETS	00035111	Apr 2012	3 years
Horn Antenna (1-18GHz)	3115	ETS	00035114	Mar 2012	3 years
Horn Antenna (18-40GHz)	3116	ETS	00070497	Aug 2011	3 years
Communication Antenna	IBP5-900/1940	Kathrein	n/a	n/a	n/a
High Pass Filter	5HC2700	Trilithic Inc.	9926013	Part of system calibration	
High Pass Filter	4HC1600	Trilithic Inc.	9922307	Part of system calibration	
6GHz High Pass Filter	HPM50106	Microtronics	001	Part of system calibration	
Pre-Amplifier	JS4-00102600	Miteq	00616	Part of system calibration	
LISN	50-25-2-08	FCC	08014	Jan 2012	1 year
Power Smart Sensor	R&S	NRP-Z81	100161	May 2011	2 Years
DC Power Supply	E3610A	Hewlett Packard	KR83021224	n/a	n/a
Multimeter	MM200	Klein	N/A	Apr 2011	2 Years
Temp Hum Logger	TM320	Dickson	03280063	Mar 2012	1 Year
Temp Hum Logger	TM325	Dickson	5285354	Mar 2012	1 Year

8 Test Setup Diagram:



Test Report #: EMC\_GARMI\_041\_12001\_FHSS

FCC ID: IPH-A2AVGC00

Date of Report : 2012-07-02

IC ID: 1792A-A2AVGC00



9 Revision History

Date	Report Name	Changes to report	Report prepared by
2012-07-02	EMC_GARMI_041_12001_FHSS	First Version	Tunji Yusuf