



# Intentional Radiator Test Report

Test Standards:  
FCC Part 15.247 (Subpart C)  
Industry Canada RSS-210, Issue 8

Prepared For:  
Socket Mobile, Inc.  
39700 Eureka Drive  
Newark, CA 94560

Product Name :  
Cordless Hand Scanner

Model Name :  
CHS 8Ci

Application Purpose : Original

Prepared by:

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## Revision History

Rev.	Issue Date	Description
0	9/3/13	Initial Issue



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## 1.0 GENERAL INFORMATION

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	FCC registration number : 743299
	Test Site : FCC : US5291, IC : 3324A
Applicant Name :	Socket Mobile, Inc. 39700 Eureka Drive Newark, CA 94560  Tel: 510-744-2700 Fax:510-744-2701 Contact Person: Tim Miller
Application Purpose :	Original
Product Name	Cordless Hand Scanner
Model Name :	CHS 8Ci
Applied Standards :	FCC Part 2, 15 (15.247) and IC RSS-210, Issue 8
FCC ID :	LUBCHS8
IC :	2529A-CHS8
Receipt of EUT :	7/15/13
Date of Testing :	7/15/13 – 8/15/13
Date of Report :	9/3/13

The tests listed in this report have been completed to demonstrated compliance to the CFR 47 Part 15.247, as well as Industry Canada Radio Standard RSS-210, Issue 8.

Contents approved:


Name: Bob Cole Title: President

## 2.0 EUT AND ACCESSORY INFORMATION

### 2.1 EUT Information

Product Specification	Description
Product Name	Cordless Hand Scanner
Model Name	CHS 8Ci
Type of Modulation	FHSS GFSK(Normal), $\pi/4$ DQPSK and 8DPSK(EDR)
Number of Channels	79
BT Operating Mode	Normal, EDR
Operating Frequency Range	2480 – 2483.5 MHz
TX Output Power(Conducted)	6.0 dBm (3.981 mW)
Type of Equipment	Portable
Extreme Operating Temperature Range	-20 C – 55 C
Extreme Operating Voltage Range	N/A – Battery Powered
Type of Antenna	Integral (PCB)
Antenna Gain (dBi)	-0.54dBi
Transmitter Method of Frequency Generation	Synthesized
Transmitter Aggregate Data Rate	>250kbps
Transmitter Duty Type	Intermittant
Continuous Operation for Testing Purposes?	Yes

#### ※ 15.247 Requirements for Bluetooth transmitter

▪ This Bluetooth module has been tested by a Bluetooth Qualification Lab, and we confirm the following:

- 1) This system is hopping pseudo-randomly.
- 2) Each frequency is used equally on the average by each transmitter.
- 3) The receiver input bandwidths that match the hopping channel bandwidths of their corresponding transmitters
- 4) The receiver shifts frequencies in synchronization with the transmitted signals.

▪ 15.247(g): The system, consisting of both the transmitter and the receiver, must be designed to comply with all of the regulations in this Section 15.247 should the transmitter be presented with a continuous data (or information) stream.

▪ 15.247(h): The coordination of frequency hopping systems in any other manner for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters is not permitted.

## 2.2 EUT and accessories

The table below lists all EUTs and accessories used in the tests. Later in this report, only numbers in the last column are used to refer to the devices in each test.

	Name	Type	S/N	Number
EUT	CHS 8CI	Cordless Hand Scanner	N/A	E0001
Accessories	Laptop Computer	HP M/N: dv4000	3882A744	S0001
Software	CRS	BlueTest	N/A	N/A

## 2.3 Software

The computers were equipped with test software provided by the customer. The software was used to control the EUT in the tests.

## 2.4 EUT Modes

Bluetooth GFSK  
Bluetooth  $\pi/4$ DQPSK  
Bluetooth 8DPSK

## 2.5 Number of Frequencies to be examined (CFR 47, 15.31(m)):

79 total, 3 frequencies examined (2042, 2441, 2480 MHz).



### 3.0 SUMMARY OF TEST RESULTS

CFR 47, 15.247:2007 Section #	RSS 210 Issue 8 Section #	Description	Results
15.203	-	Antenna Requirement	PASSED
15.205	RSS 210 (A8.5)	Restricted Band of Operation	N/A
15.207 (a)	RSS Gen 7.2.2	AC Power Conducted Emissions Voltage	N/A
15.247 (a)(1)	RSS 210 (A8.1b)	Carrier Frequency Separation	PASSED
15.247 (a)(1)	RSS 210 (A8.1e)	Number of Hopping Channels	PASSED
15.247 (1)(ii)	RSS 210 (8.1d)	Dwell Time	PASSED
-	RSS 210 (A8.1)	Occupied Bandwidth(99%)	PASSED
15.247 (a)(1)	RSS 210 (A8.2)	Bandwidth(20dB)	PASSED
15.247 (b)	RSS 210 (A8.4(2))	Max Output Power	PASSED
15.247 (b)	RSS 210 (A8.4(4))	De Facto EIRP Limit	N/A
15.247 (4)(i)	RSS 210 (A8.4(5))	Point-to-Point Operation	N./A
15.247 (c)	RSS 210 (A8.5)	Band-Edge Compliance of RF Emissions	PASSED
15.247 (d)	RSS 210 (A8.5)	Conducted Spurious Emissions	PASSED
15.247d: 15.209	RSS 210 (A8.5)	Radiated Spurious Emissions	PASSED
15.247e	RSS 210 (A8.2(b))	Power Spectral Density	N/A
15.247f	RSS 210 (A8.3)	Hybrid System Requirement	N/A
15.247g	RSS 210 (A8.1)	Hopping Capability	PASSED
15.247h	RSS 210 (A8.1)	Hopping Coordination Requirement	PASSED
15.247i	RSS Gen (5.5)	RF Exposure Requirement	PASSED

PASS        The EUT passed that particular test.  
 FAIL        The EUT failed that particular test.  
 N/A         Not Applicable due to product type.

## 4.0 STANDARDS AND MEASUREMENT METHODS

The tests were performed in guidance of CFR 47 section 15.247, FCC Public Notice DA 00-705 (March 30, 2000), FCC Report & Order 97-114 (April 10, 1997), Industry Canada RSS-210 Issue 8, and ANSI C63.10 (2009). Deviations, modifications or clarifications (if any) to above mentioned documents are written in each section under "Test method". For the test equipment, see device list in the end of this test.

### 4.1 Selection of operation mode for tests

Before tests, all operation modes and modulation patterns were tried. The worst case was selected for each test and those results reported.



## 5.0 TEST SETUPS

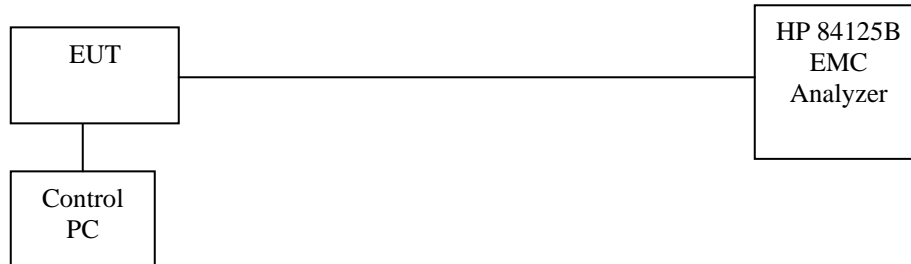
To fulfill all requirements for the testing, total of two different test setups were used. One EUT was used, unmodified for radiated tests.

SMA connector added in place of internal antenna for Antenna Conducted measurements.

### 5.1 Setup A (Antenna Conducted Emissions Measurements)

The EUT was connected to the Laptop Computer through the serial port (COM1), the antenna bypassed and the SMA Cable connected to the Spectrum Analyzer. This setup was used for the *PEAK POWER OUTPUT, 20 dB BW, BAND-EDGE COMPLIANCE, and RESTRICTED BAND* measurements.

#### *Block Diagram*



The solid lines are coaxial cables and the dashed lines are either EUT insertion to the test board or control cables between test setup devices. The measurement results were adjusted with the attenuation of the coaxial cable.

## 5.2 Setup B (Radiated Emissions Measurements)

This setup was used in radiated emissions measurements.

The EUT was tested in 3 orthogonal orientations.

Worst case data is presented.

THIS SETUP USED FOR RADIATED SPURIOUS EMISSIONS:

Note: A high –pass filter is used for the Radiated Spurious emissions above 2.4835 GHz. A pass-thru connector is used for Radiated Spurious emissions measurements from 30 MHz – 2.4 GHz.

## 6.0 TEST RESULTS

### 6.1 Antenna Requirement

Requirement(s): CFR 47, 15.203:

An intentional radiator shall be designed such that no antenna other than that furnished by the responsible party shall be used with the device.

Antenna requirement must meet one of the following:

- Antenna must be permanently attached to the device.
- Antenna must use unique type of connector to attach to the device.
- Device must be professionally installed. Installer shall be responsible for insuring the correct antenna is installed with the device.

Bluetooth Antenna :           Gain = -0.54 dBi  
  Type = PCB Antenna

## 6.2 Conducted Emissions Voltage (Not Applicable)

Requirement(s): CFR47, 15.207a, RSS Gen 7.2.2

Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50  $\mu$ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the boundary between the frequency ranges.

CFR47, 15.207c waives the requirement for battery powered devices:

Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines. Devices that include, or make provisions for, the use of battery chargers which permit operating while charging, AC adapters or battery eliminators or that connect to the AC power lines indirectly, obtaining their power through another device which is connected to the AC power lines, shall be tested to demonstrate compliance with the conducted limits.

### AC Line Conducted Emissions Measurement 150 kHz – 30 MHz

EUT	
Test setup	
Temp, Humidity, Air Pressure	
Date of Measurement	
Measured by	
Result	

### CLASS B LIMIT

Frequency Band (MHz)	EN 55022 B Limit (dB $\mu$ V/m)	Detector
0.15 – 0.5	66 to 56	QP
0.5 – 5.0	56	QP
5.0 – 30.0	60	QP

Note : The EUT is not working while it is charging through USB port.

### 6.3 Carrier Frequency Separation

Requirement(s): 15.247(a)(1), RSS 210(A8.2)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 2/3 of the 20 dB bandwidth of the hopping channel, whichever is greater.

EUT	Cordless Hand Scanner
Test setup	A (conducted – hopping enabled)
Temp, Humidity, Air Pressure	57° F, 30.96
Test Method	DA 00-705
Date of Measurement	7/22/13
Measured by	Bob Cole
Result	PASSED

- The EUT was set to low, mid, and high channels at maximum RF Power output. The spectrum analyzer was connected directly to the antenna output.
- Conducted Emissions Measurement Uncertainty: The uncertainty of the measurement with a confidence factor of approx. 95% (normal distribution) with a coverage factor of 2, in the range of 30 MHz – 26.2 GHz, is +/- 1.5 dB

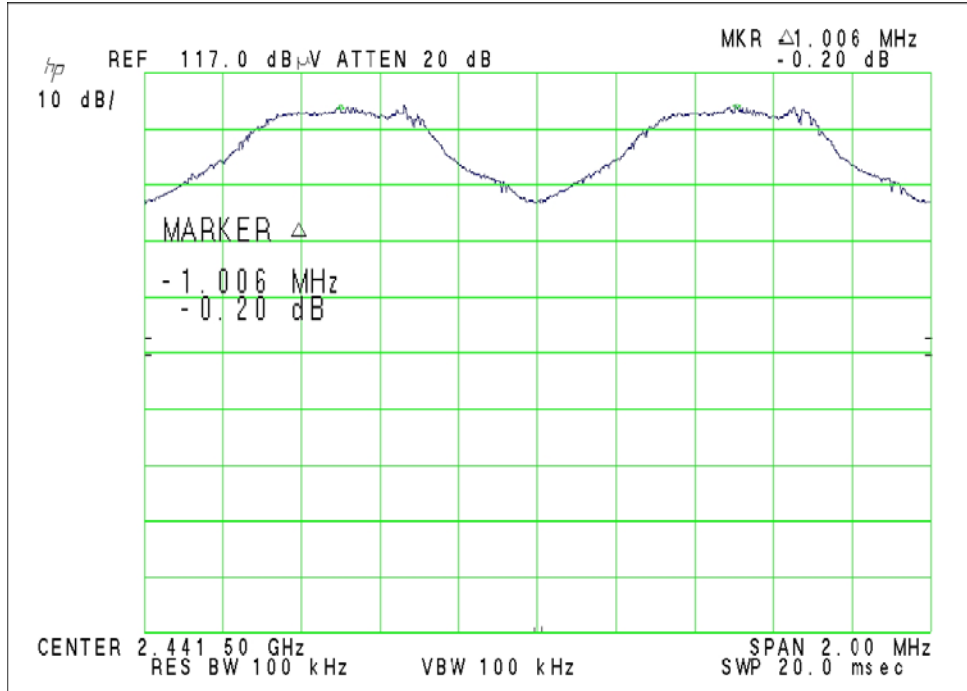
#### Limits and results

EUT Channel	Limit (MHz)	Test results (MHz)
2441 - 2442	< 25KHz or 2/3 of the 20dB BW (582.7KHz)	1.006

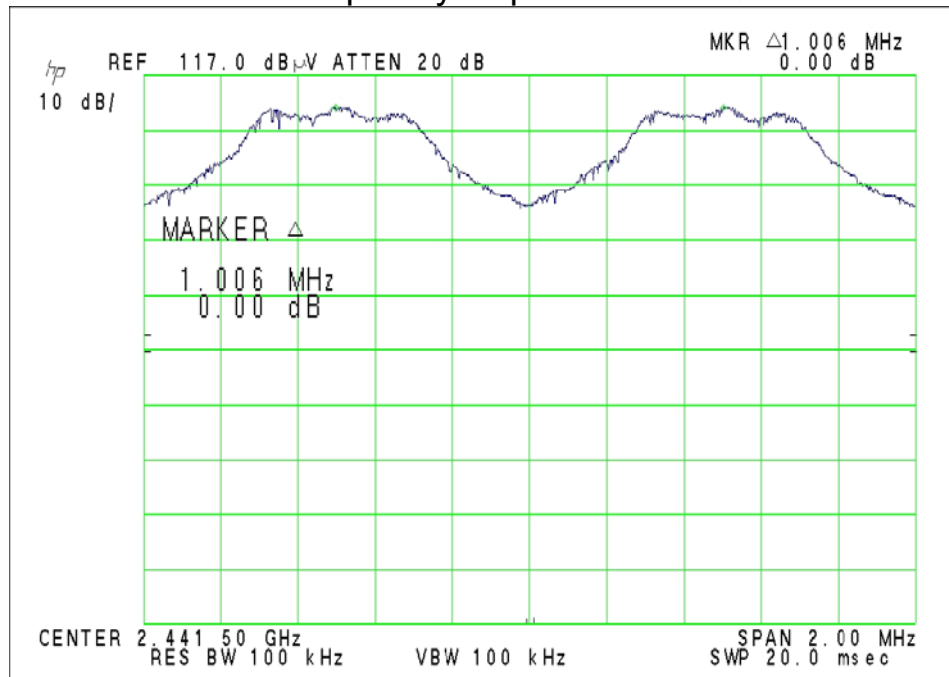
#### Setup Condition

Freq. Band	RBW	VBW
2400 – 2483.5	100 kHz	100kHz

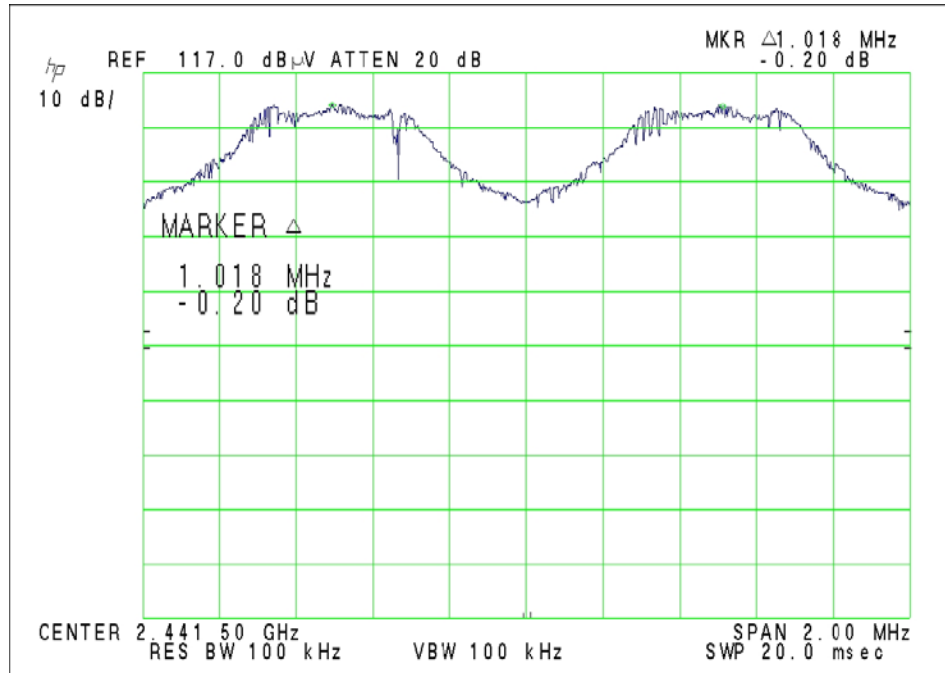
### Carrier Frequency Separation – GFSK



### Carrier Frequency Separation – DQPSK



### Carrier Frequency Separation – 8DPSK





## 6.4 20 dB Bandwidth / 99% Occupied Bandwidth

EUT	Cordless Hand Scanner
Test setup	A (conducted)
Temp, Humidity, Air Pressure	68° F, 31.47
Date of Measurement	7/22/13
Measured by	Bob Cole
Result	PASSED

## Limits and results

EUT Channel	Limit (MHz)	Test results (MHz)
GFSK 2402	1.0	.876
GFSK 2441	1.0	.878
GFSK 2480	1.0	.874
DQPSK 2402	1.0	.910
DQPSK 2441	1.0	.908
DQPSK 2480	1.0	.920
8DPSK 2402	1.0	.908
8DPSK 2441	1.0	.910
8DPSK 2480	1.0	.910

## EUT operation mode

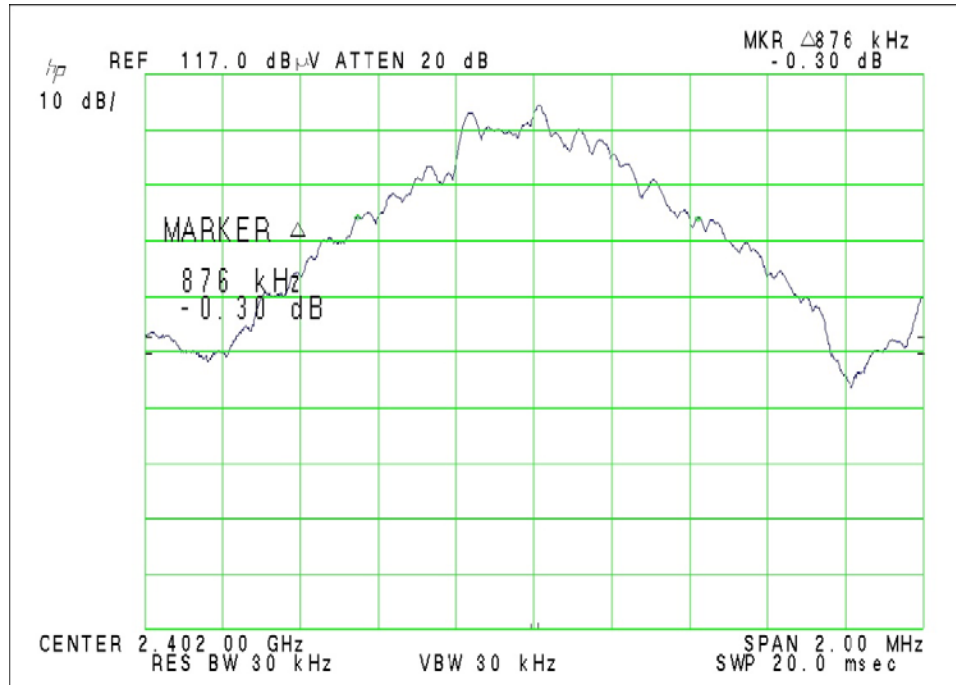
EUT operation mode	Hopping Enabled
EUT channel	First, Center and Last
EUT TX power level	Maximum

## Setup Condition

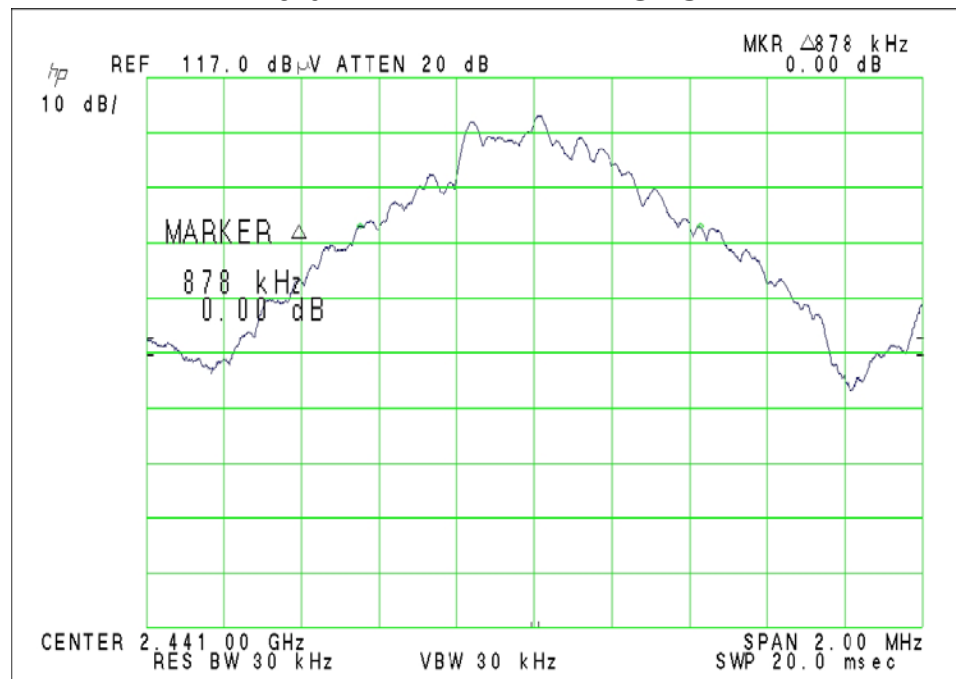
Freq. Band	RBW	VBW
2400 – 2483.5MHz	30 kHz	30 kHz



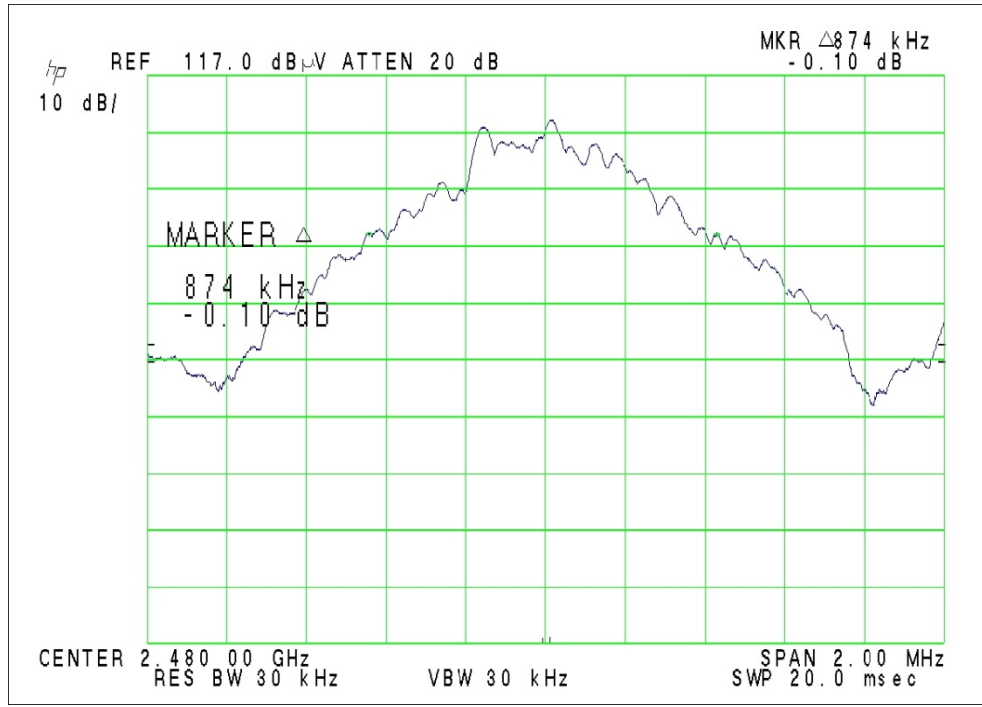
### 20 dB BW 2402 MHz - GFSK



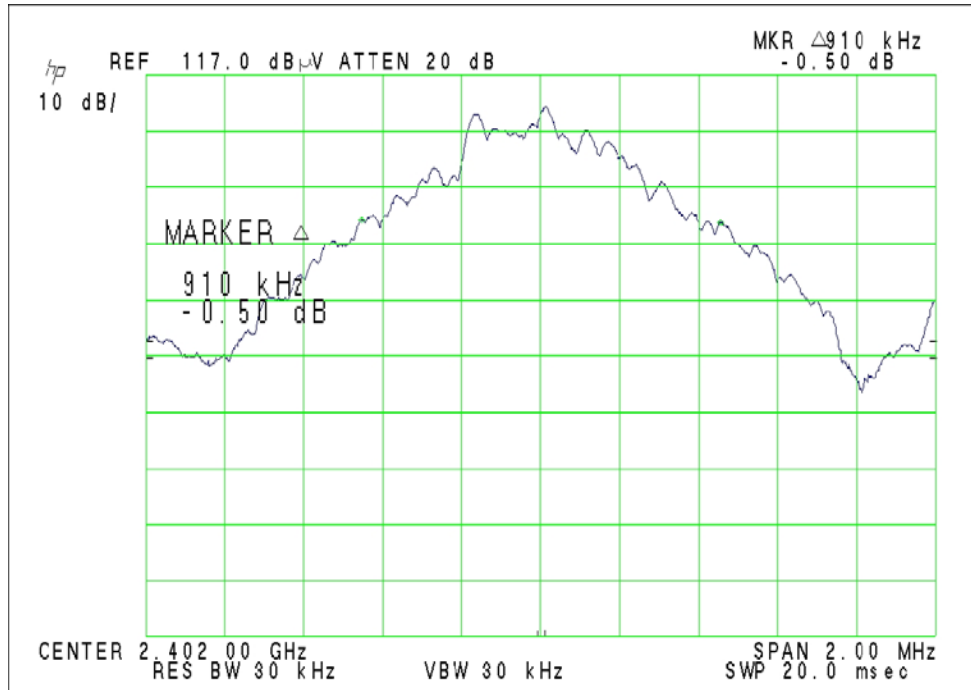
### 20 dB BW 2441MHz - GFSK



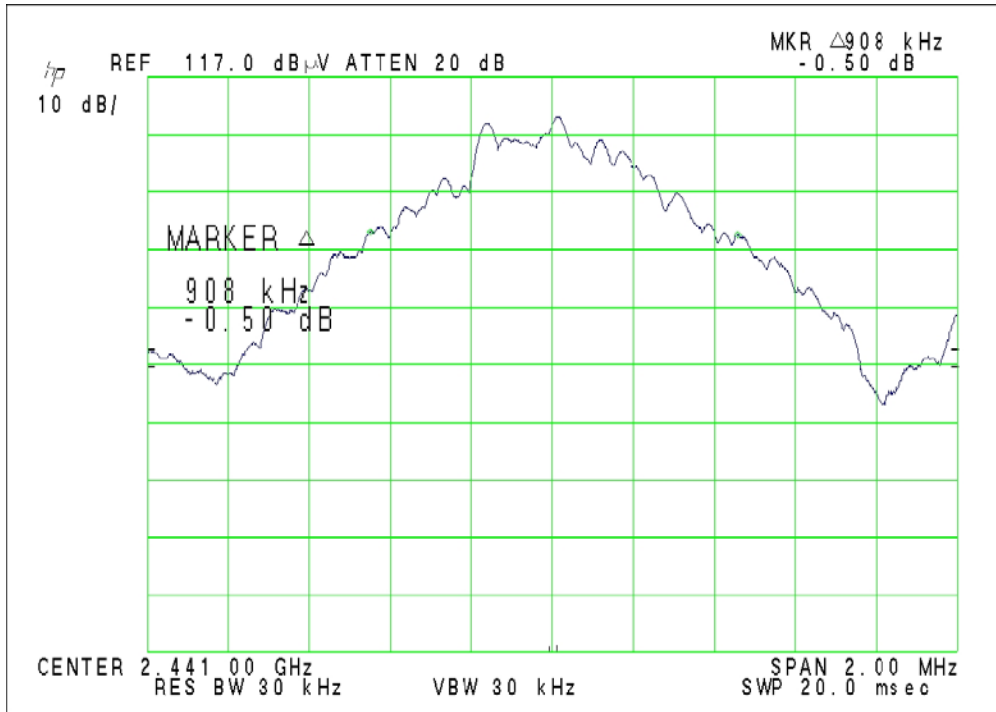
### 20 dB BW 2480 MHz - GFSK



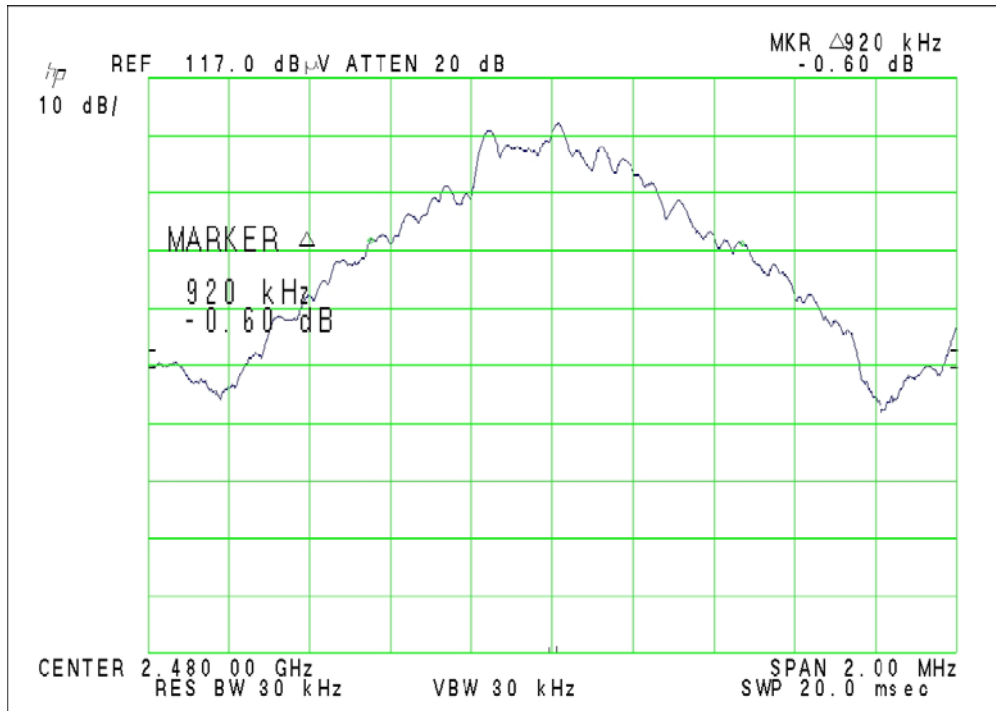
### 20 dB BW 2402 MHz – DQPSK



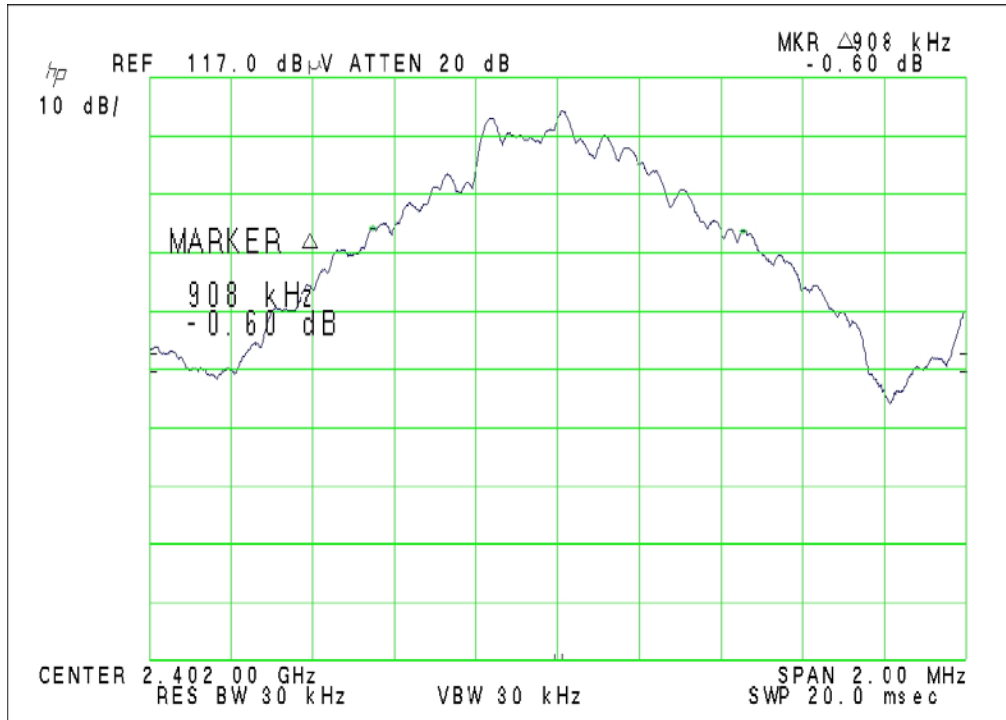
### 20 dB BW 2441MHz – DQPSK



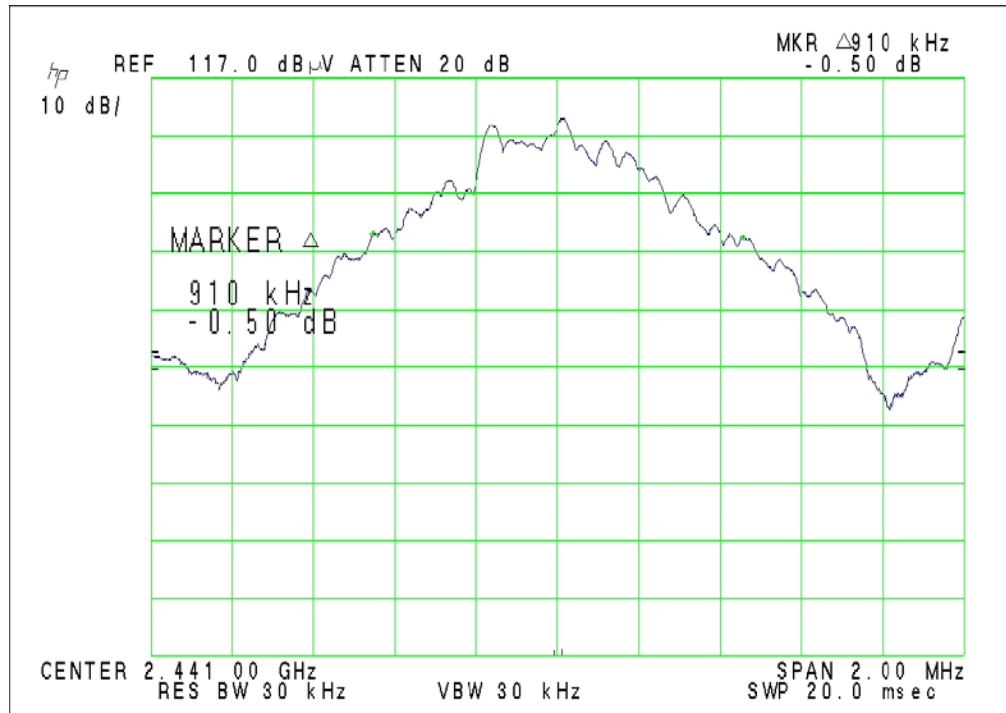
### 20 dB BW 2480 MHz – DQPSK



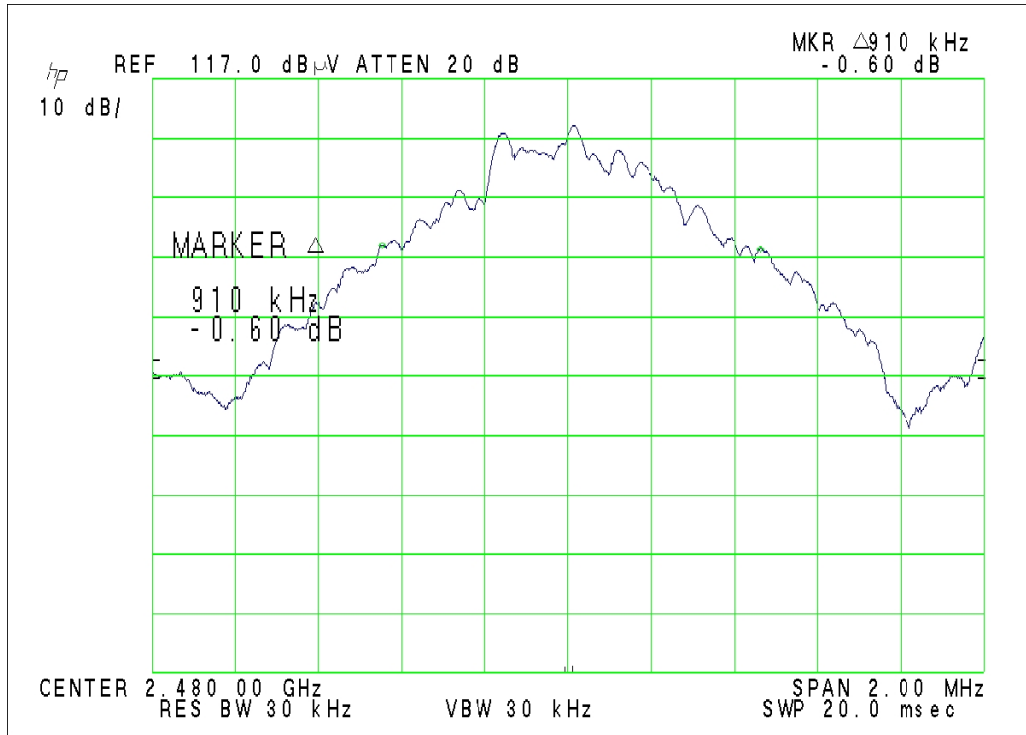
### 20 dB BW 2402MHz – 8DPSK



### 20 dB BW 2441MHz – 8DPSK



### 20 dB BW 2480MHz – 8DPSK



## 6.5 Number of Hopping Frequencies

Requirement(s): CFR47, 15.247(a)(1)(iii), RSS210(A8.1)

Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

EUT	Cordless Hand Scanner
Test setup	A (conducted – hopping enabled)
Temp, Humidity, Air Pressure	75° F, 30.92
Date of Measurement	8/2/13
Measured by	Bob Cole
Result	PASSED

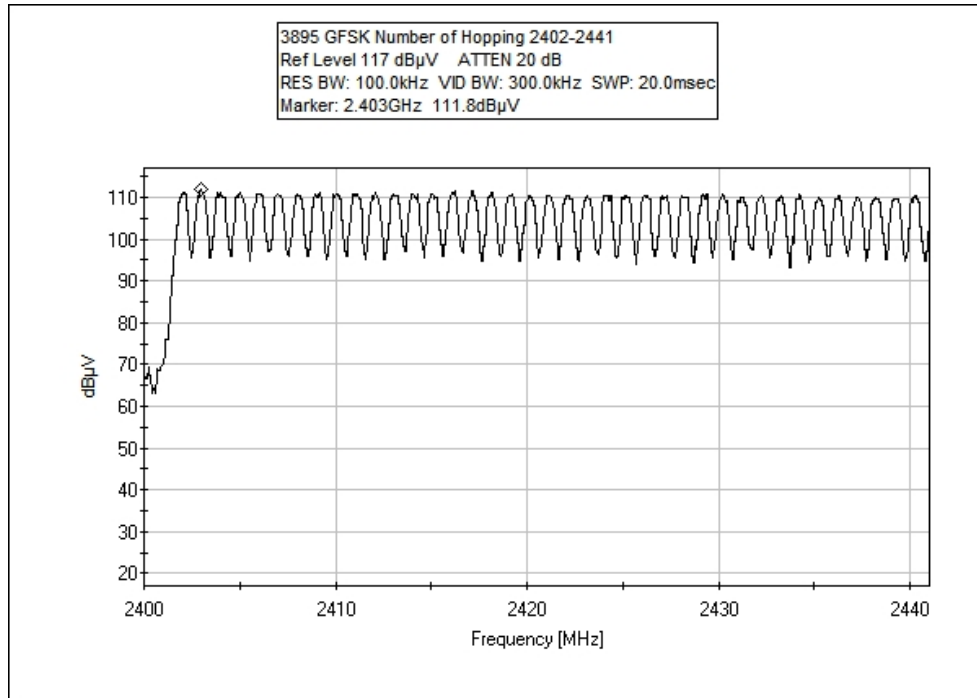
### Limits and results

Freq. Band(MHz)	Limit	Test results
2400-2483.5	>= 15	79

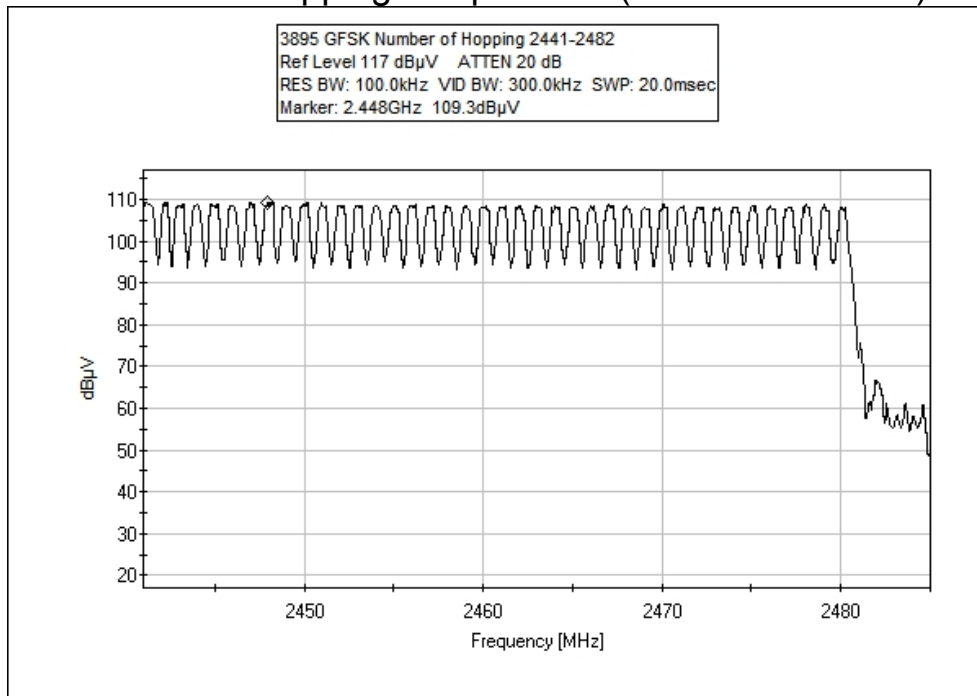
### Setup Condition

Freq. Band	RBW	VBW
2400 – 2483.5	30 kHz	30 kHz

### Number of Hopping Frequencies (2402 – 2441MHz)



### Number of Hopping Frequencies (2441 – 2480MHz)



## 6.6 Time of Occupancy

Requirement(s): CFR47, 15.247(a)(1)(iii), RSS210(A8.1)

Frequency hopping systems in the 2400–2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

EUT	Cordless Hand Scanner
Test setup	A (conducted – hopping enabled)
Temp, Humidity, Air Pressure	75° F, 30.92
Date of Measurement	8/2/13
Measured by	Bob Cole
Result	PASSED – see Bluetooth Specification below

### Limits and results

#### Time of Occupancy

EUT Channel	Limit	Test results
Any	400 ms per 30 second of operation	PASSED <i>See description that follows</i>

There are five hopping sequences :

- 1) A **page hopping sequence** with 32 unique wake-up frequencies distributed equally over the 79 MHz, with a period length of 32; The basic slot time can be 312.5 uS or 625 uS. Min. hop repeat rate =  $32 \cdot 3125\text{mS} = 10\text{mS}$ .
- 2) A **page response sequence (page scan)** covering 32 unique response frequencies that all are in a one-to-one correspondence to the current page hopping sequence. The master and slave use different rules to obtain the same sequence. The basic slot time can be 312.5 uS or 625 uS and the period is 1.28s.
- 3) An **inquiry sequence** with 32 unique wake-up frequencies distributed equally over the 79 MHz, with a period length of 32; The basic slot time can be 312.5 uS or 625 uS. Min. hop repeat rate =  $32 \cdot 3125\text{mS} = 10\text{mS}$ .
- 4) An **inquiry response sequence (inquiry scan)** covering 32 unique response frequencies that all are in a one-to-one correspondence to the current inquiry hopping sequence. The basic slot time can be 312.5 uS or 625 uS and the period is 1.28s.



- 5) A **channel hopping sequence** which has a very long period length, which does not show repetitive patterns over a short time interval, but which distributes the hop frequencies equally over the 79 MHz during a short time interval; The basic slot time is 625 uS.

Worst case dwell times (largest dwell value) would be found with #5, the Channel Hopping (or data) sequence. The other hopping sequences may shorter time sequences; however they are not repeated as often and hence have a lower overall dwell or duty cycle.

In normal transactions one may see occasional short periods between a chosen frequency due to inquiry and page scans possibly be interleaved during data transactions. It's my understanding that this would not create a dwell cycle result worse than the Channel hopping or data sequence.

### **Channel Hopping Sequence (Data sequence) Dwell Calculation**

Cycle time for complete hopping sequence of a 79 hop cycle (data transmission mode) =

$$(1.1) \text{ Time slot period} * 79 \text{ slots} = 625\mu\text{S} * 79 = 49.375 \text{ mS}$$

Every time slot has a frequency assignment, and the frequency used for a packet remains the same as the slot it started in, if the packet is longer than one time slot.

For a DH1 packet this does not have an impact. The channel selector steps thru the entire list of 79 pseudo-random channels and then start over from the beginning.

For a DH5 (5 Slot packet), the starting frequency will be used for all 5 time slots (f(k) in this example), and 4 following frequencies will not be used during that hopping cycle. Therefore instead of stepping sequential thru the 79 frequency channel list, only every 5<sup>th</sup> channel is used. Each time the 79 frequency channel list is started, is it a new randomized list of 79 channels. The probability that it will use the same frequency channel in the next list is 1/5.

Therefore even though the DH5 is at one frequency for 5 times longer than a DH1 packet, it repeats itself 1/5 as often, with the effective dwell time (averaged over a long period over a long period of time – for instance the 30 sec FCC dwell test) being the same.

For the “duty cycle correction factor”, my “read” of the FCC doc says that one should take the “worst” 100mS period found, in contrast to the average 30 sec dwell time just mentioned. As a result the DH1 and DH5 numbers for the 100 mS dwell case will be different. For a worst case DH5 packet sequence, the same frequency channel could appear in two successive 79 channel sequences.

### **DH1 calculation: DH1 uses 1 time slot of 0.625 mS per hopping cycle.**

Dwell time per 100mS – since one 79 hop sequence is approx 50mS, there will be approx. two hop sequences in 100 mS (more accurately 100/49.375).

$$(1.2) \text{ DH1 dwell time} = 0.625 \text{ mS} * (100\text{ms}/49.375\text{mS}) = 1.26 \text{ mS (per 100 mS)}$$

### **DH5 calculation: DH5 uses 5 time slots of 0.625 mS per hopping cycle.**

Dwell time per 100mS – since one 79 hop sequence is approx 50mS and there could be two appearances of a frequency channel in 100 mS (more accurately 100mms/49.375ms).



(1.3) DH5 dwell time =  $5 * 0.625 \text{ mS} * (100\text{ms}/49.375\text{mS}) = 6.3 \text{ mS}$  (per 100 mS)

**Using the FCC duty cycle correction factor:**

(1.4) DH1 Dwell correction =  
 $20 \log (\text{DH1 dwell time}/100\text{mS}) = 20 \log (0.0126) = -38 \text{ dB}$

(1.5) DH5 Dwell correction =  
 $20 \log (\text{DH5 dwell time}/100\text{mS}) = 20 \log (0.0633) = -24 \text{ dB}$

Therefore the worst case duty cycle adjustment condition will be for the DH5 packet.

The calculation shows us that we can subtract 24 dB from our 2<sup>nd</sup> harmonic measurement to compensate for this duty cycle adjustment.

## 6.7 Peak Output Power

Requirement(s): CFR47, 15.247(b)(1), RSS210(A8.4)

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.

EUT	Cordless Hand Scanner
Test setup	A (conducted)
Temp, Humidity, Air Pressure	67° F, 30.97
Date of Measurement	7/26/13
Measured by	Bob Cole
Result	PASSED

- The EUT was set to low, mid, and high channels at maximum RF Power output. The spectrum analyzer was connected directly to the antenna output.
- Conducted Emissions Measurement Uncertainty: The uncertainty of the measurement with a confidence factor of approx. 95% (normal distribution) with a coverage factor of 2, in the range of 30 MHz – 26.2 GHz, is +/- 1.5 dB
- dBm to dBuV conversion: 0 dBm = 107 dBuV

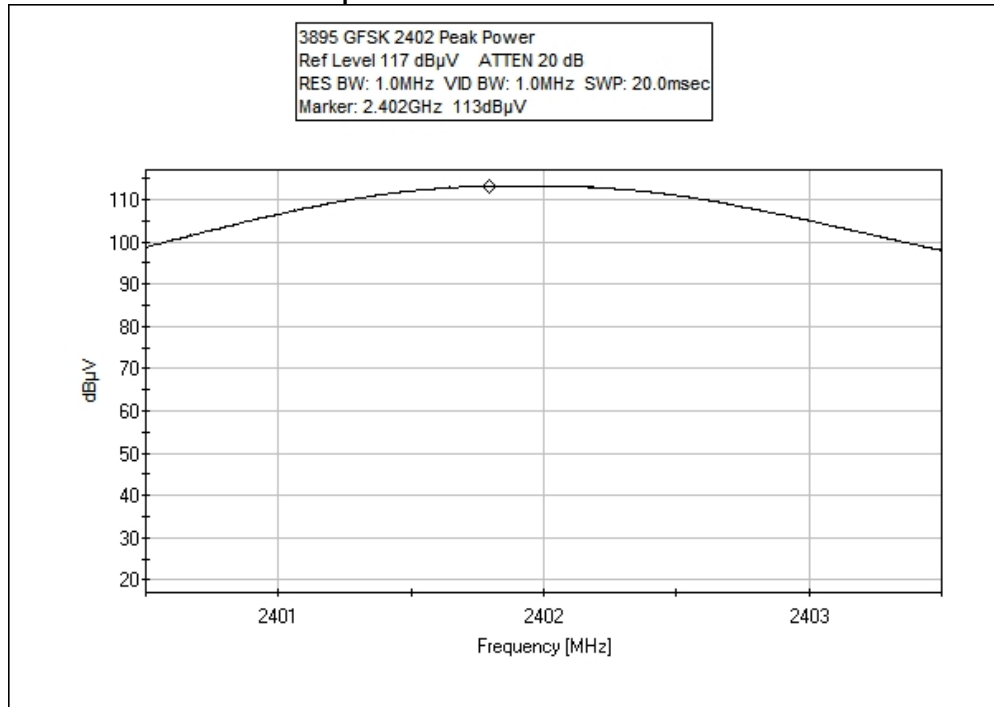
### Limit and Results

EUT Channel Info	Limit (dBm)	Test results (dBm)
GFSK 2402	30.0	6.0
GFSK 2441	30.0	5.0
GFSK 2480	30.0	3.8
DQPSK 2402	30.0	5.9
DQPSK 2441	30.0	4.9
DQPSK 2480	30.0	3.8
8DPSK 2402	30.0	3.7
8DPSK 2441	30.0	4.9
8DPSK 2480	30.0	3.7

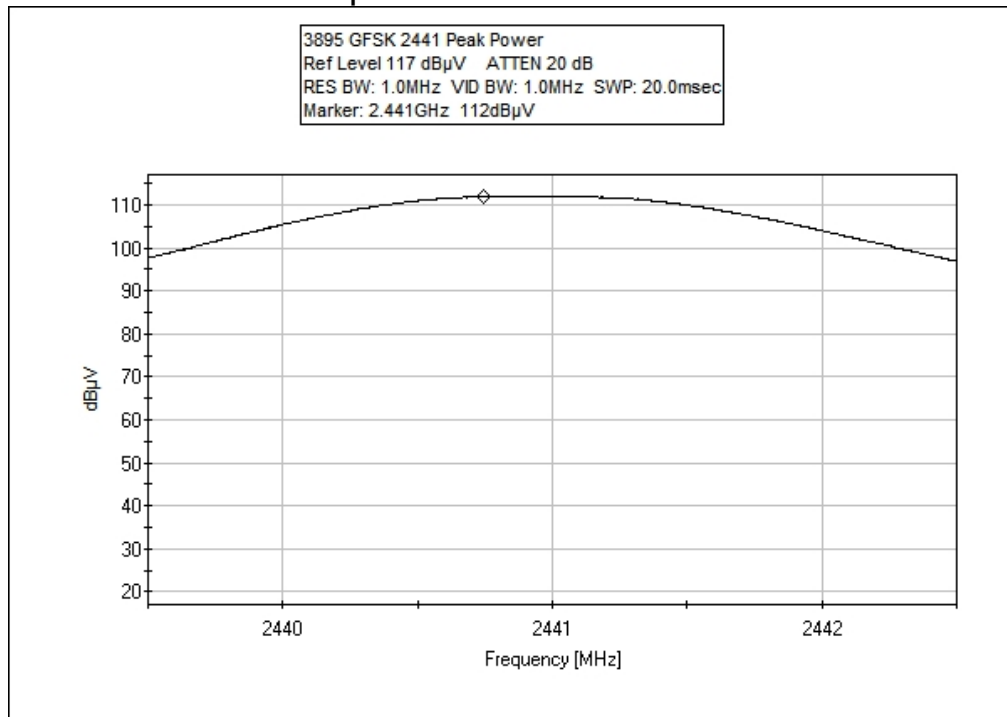
### Setup Condition

Freq. Band	RBW	VBW
2400 – 2483.5	1 MHz	1 MHz

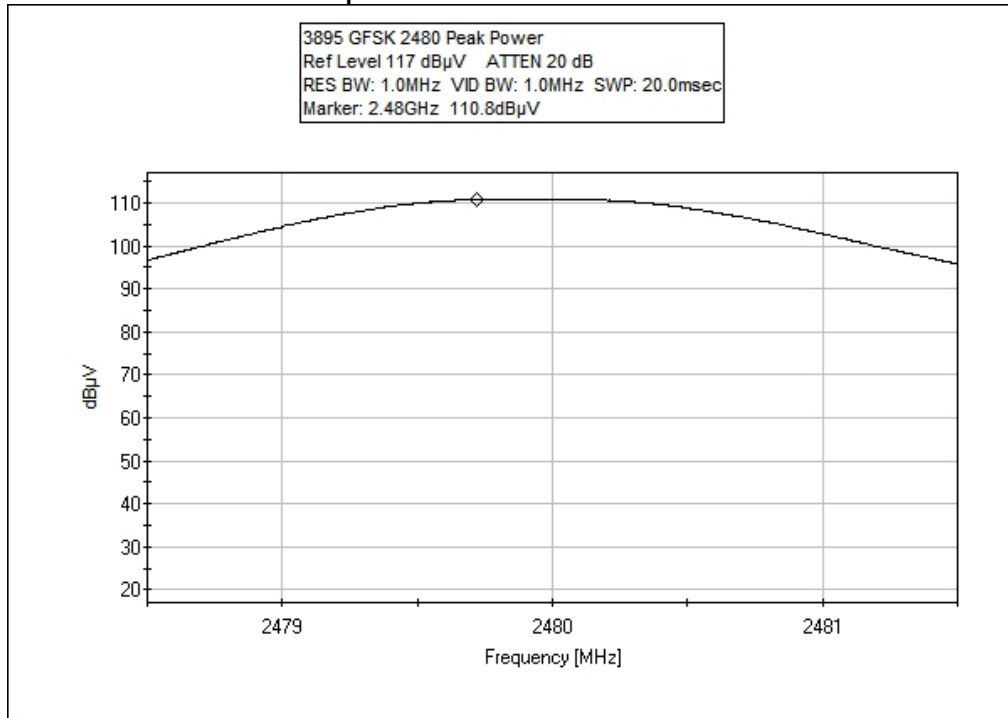
### Peak Output Power 2402 MHz - GFSK



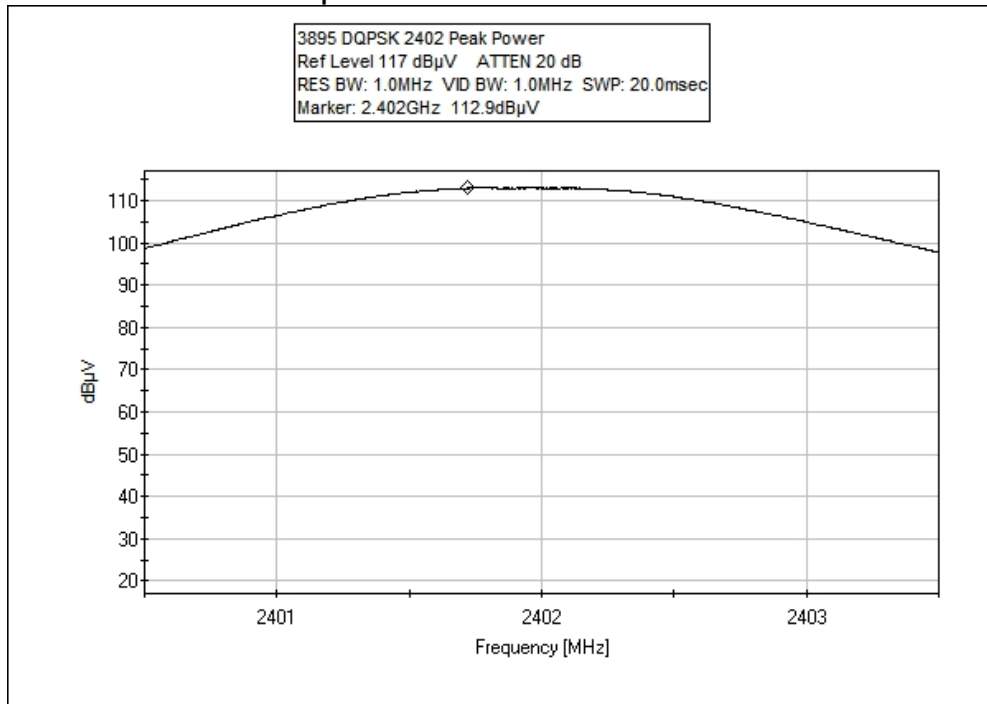
### Peak Output Power 2441 MHz - GFSK



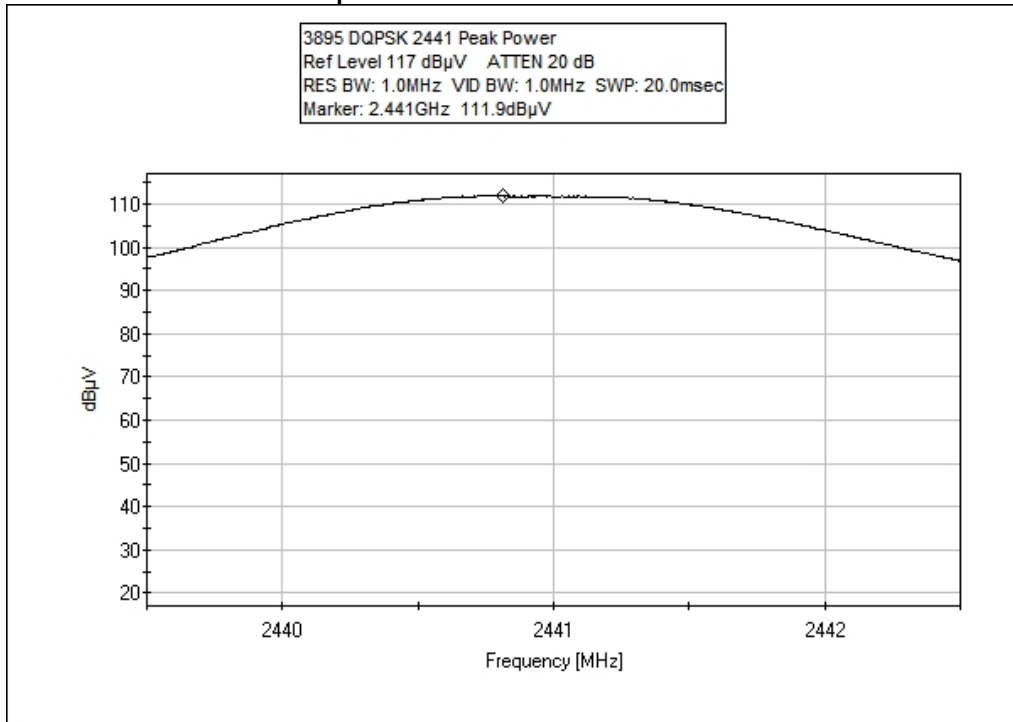
### Peak Output Power 2480 MHz – GFSK



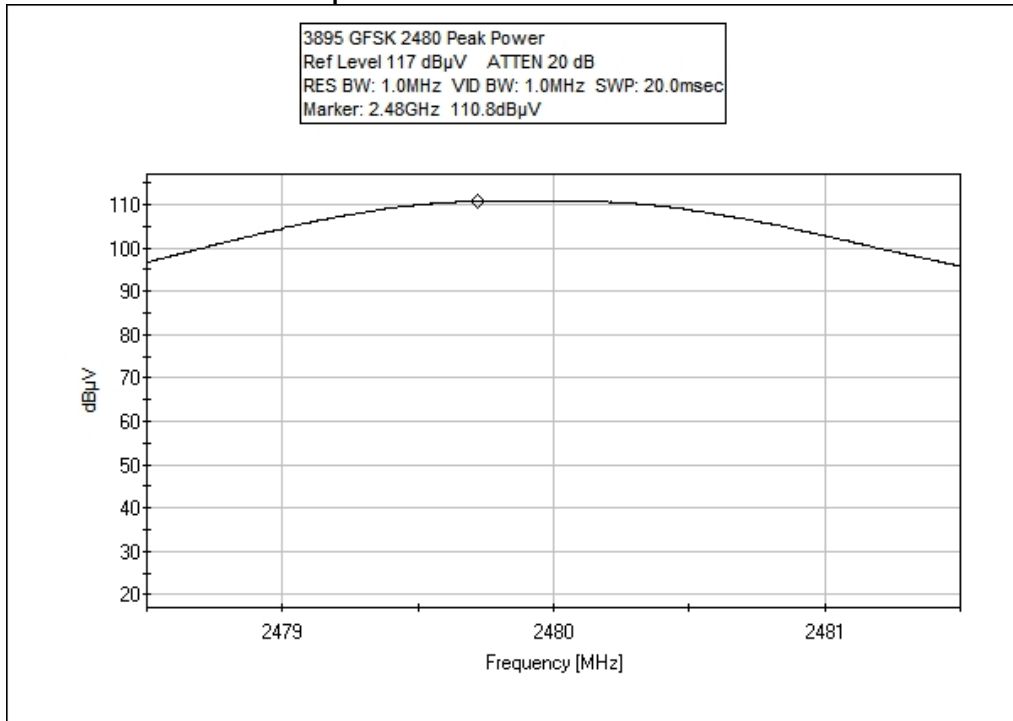
### Peak Output Power 2402 MHz – DQPSK



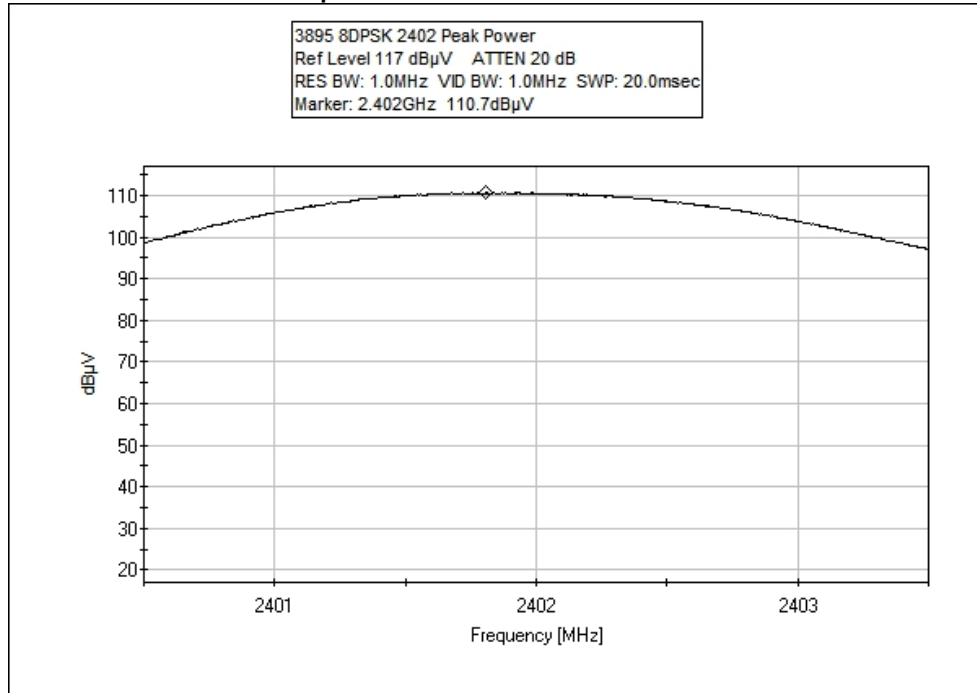
### Peak Output Power 2441 MHz - DQPSK



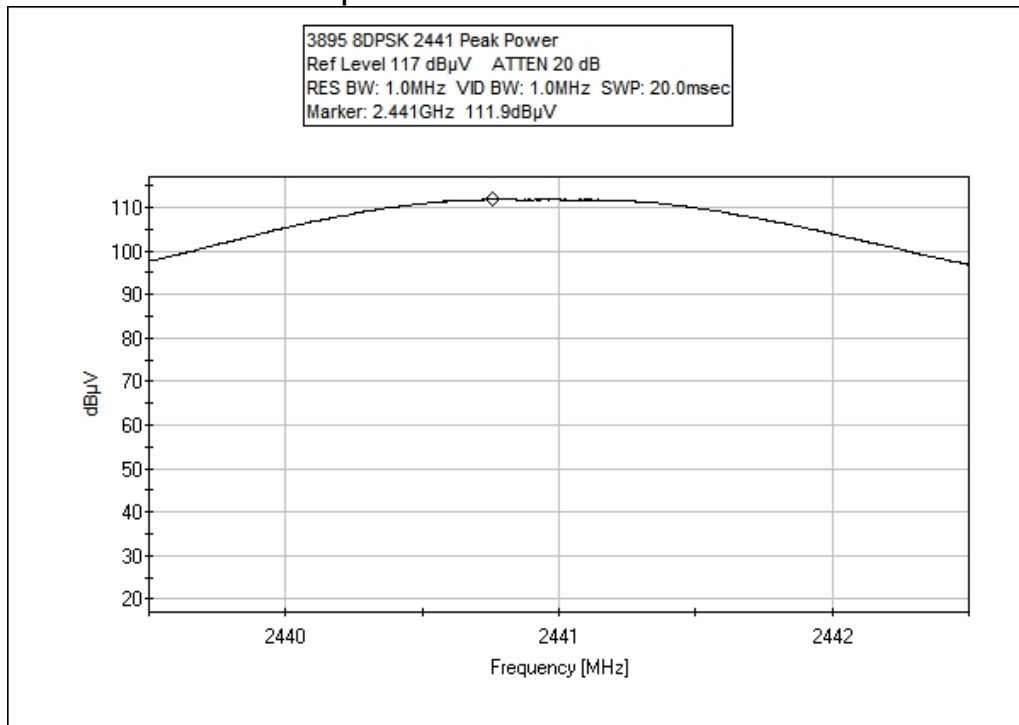
### Peak Output Power 2480 MHz – DQPSK



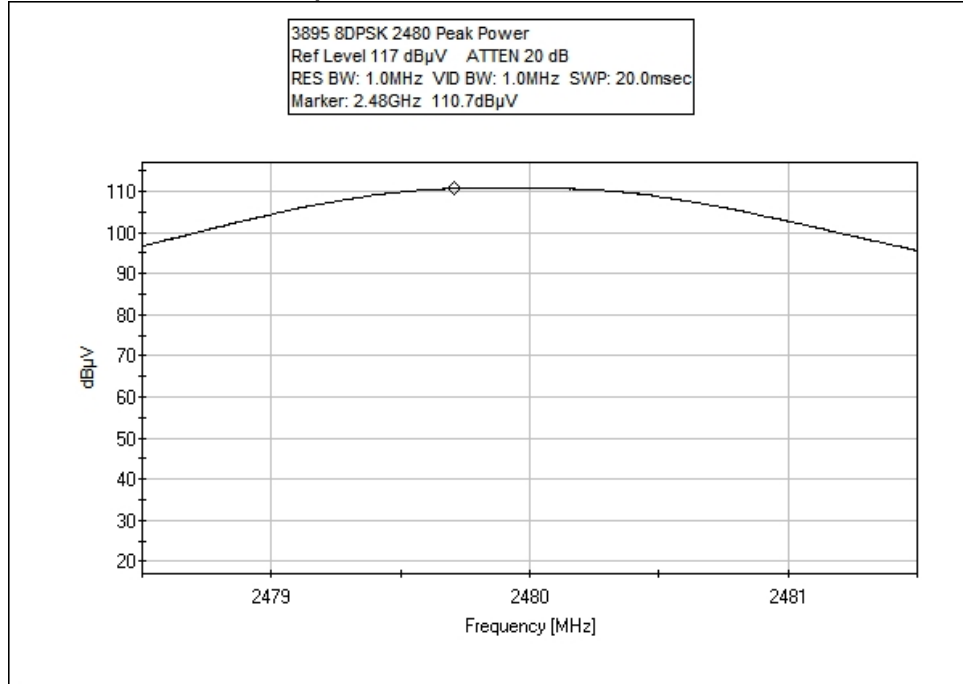
### Peak Output Power 2402 MHz – 8DPSK



### Peak Output Power 2441 MHz – 8DPSK



### Peak Output Power 2480 MHz – 8DPSK





## 6.8 RADIATED SPURIOUS EMISSIONS

EUT	Cordless Hand Scanner
Test setup	B (Radiated)
Temp, Humidity, Air Pressure	67° F, 30.97
Date of Measurement	8/1/13
Measured by	Bob Cole
Result	PASSED

Requirement(s): CFR47, 15.247(d), 15.209, RSS210(2.2, A8.5)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, 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) (see §15.205(c)).

GFSK, DQPSK, 8DPSK modes were investigated operating at 2402, 2441, 2480 MHz.

Worst case data is presented:

Setup Condition

Freq. Band	RBW	VBW
30 – 25000	100 kHz	100 kHz



### 30 – 1000 MHz Transmit Frequency: 2402 MHz / DQPSK Quasi-Peak

Test Location: EMCE Engineering •44366 S. Grimmer Blvd • Fremont, CA 94538 •

Customer: **Socket Mobile, Inc.**  
 Specification: **FCC Part 15B RADIATED**  
 Work Order #: **3895-2** Date: 8/1/2013  
 Test Type: **Radiated Scan** Time: 13:33:57  
 Equipment: **Cordless Hand Scanner** Sequence#: 7  
 Manufacturer: Socket Mobile, Inc. Tested By: Bob Cole  
 Model: CHS 8Ci  
 S/N: N/A

**Test Equipment:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8447D PreAmp	2443A03587	05/01/2013	05/01/2014	008
HP 85650A Quasi Peak Adapter	3145A01673	05/02/2013	05/02/2014	003
HP 8566B Spectrum Analyzer	3014A06947	05/02/2012	05/02/2014	598
Sunol Sciences JB6 Antenna	1090	03/09/2012	03/09/2014	701
EMITest Measurement Software	v4.01 Build 195	05/01/2012	05/01/2014	610

**Equipment Under Test (\* = EUT):**

Function	Manufacturer	Model #	S/N
Cordless Hand Scanner*	Socket Mobile	CHS 8Ci	N/A

**Support Devices:**

Function	Manufacturer	Model #	S/N
Laptop PC (Host)	HP	dv4000	N/A

**Test Conditions / Notes:**

2480MHz DPQSK
---------------

**Transducer Legend:**

T1=150' LMR 900	T2=8447 Pre-Amp Asset 377
T3=Sunol JB6 S/N A42610	

Ext Attn: 0 dB

<b>Measurement Data:</b>		Reading listed by margin.				Test Distance: 10 Meters				
#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	Dist Table dB	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	707.420M	35.6	+3.7	+27.1	+20.3	+0.0 98	25.1	37.0	-11.9	Horiz 247
2	537.370M	36.5	+3.1	+26.9	+18.1	+0.0 112	24.6	37.0	-12.4	Vert 184
3	242.620M QP	41.0	+1.9	+27.0	+11.5	+0.0 92	23.6	37.0	-13.4	Horiz 141
4	147.650M	25.0	+1.6	+26.7	+12.8	+0.0	9.5	30.0	-20.5	Horiz 124

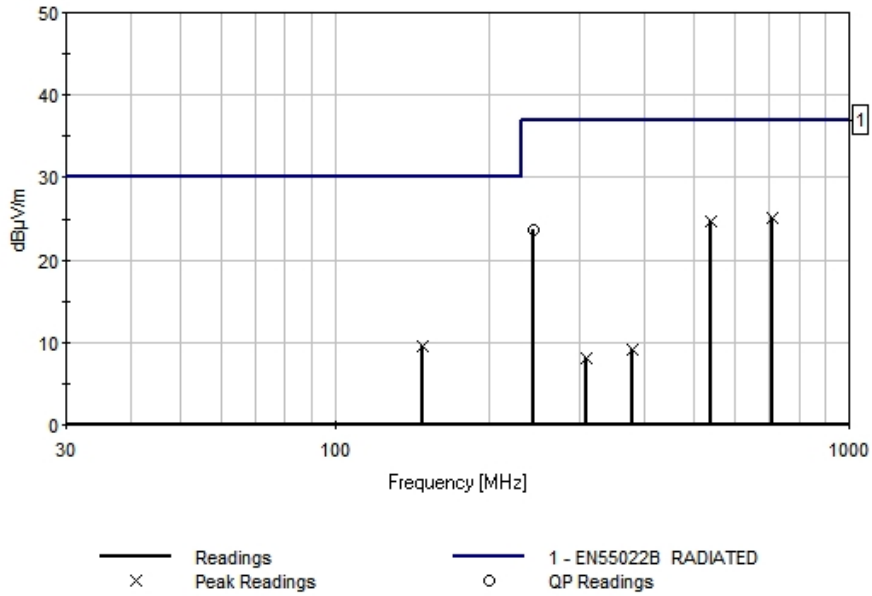


FCC ID : LUBCHS8, IC : 2529A-CHS8

Test Report # 3895-2

5	377.560M	23.6	+2.5	+26.9	+15.0	+0.0	9.2	37.0	-27.8	Vert
						170				115
6	308.920M	23.6	+2.2	+27.0	+13.7	+0.0	8.1	37.0	-28.9	Horiz
						175				128

EMCE Engineering Date: 8/1/2013 Time: 13:33:57 Socket Mobile, Inc. WO#: 3895  
 EN55022B RADIATED Test Distance: 10 Meters Sequence#: 7 Ext ATTN: 0 dB





1000 - 2400 MHz Transmit Frequency: 2402 MHz / DQPSK Average Mode

Test Location: EMCE Engineering •44366 S. Grimmer Blvd • Fremont, CA 94538 •

Customer: **Socket Mobile, Inc.**  
 Specification: **FCC 15.209 Average Limits 1 - 2.4GHz**  
 Work Order #: **3895** Date: 8/2/2013  
 Test Type: **Radiated Scan** Time: 11:44:39  
 Equipment: **Cordless Hand Scanner** Sequence#: 8  
 Manufacturer: Socket Mobile Tested By: Bob Cole  
 Model: CHS 8CI  
 S/N: N/A

**Test Equipment:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8447D PreAmp	2443A03587	05/01/2013	05/01/2014	008
HP 85650A Quasi Peak Adapter	3145A01673	05/02/2013	05/02/2014	003
HP 8566B Spectrum Analyzer	3014A06947	05/02/2012	05/02/2014	598
Sunol Sciences JB6 Antenna	1090	03/09/2012	03/09/2014	701
EMITest Measurement Software	v4.01 Build 195	05/01/2012	05/01/2014	610

**Equipment Under Test (\* = EUT):**

Function	Manufacturer	Model #	S/N
Cordless Hand Scanner*	Socket Mobile	CHS 8Ci	N/A

**Support Devices:**

Function	Manufacturer	Model #	S/N
Laptop PC (Host)	HP	dv4000	

**Test Conditions / Notes:**

2480MHz DPQSK
---------------

**Transducer Legend:**

T1=150' LMR 900	T2=Sunol JB6 S/N A42610
T3=8449B Preamp	

Measurement Data:			Reading listed by margin.			Test Distance: 3 Meters				
#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	1732.920M	44.0	+6.1	+27.5	+23.5	+0.0 187	41.9	54.0	-12.1	Vert 226
2	1441.270M	41.7	+5.5	+26.2	+23.5	+0.0 94	38.9	54.0	-15.1	Horiz 187
3	1247.450M	41.1	+5.1	+25.0	+23.5	+0.0 21	37.5	54.0	-16.5	Horiz 214
4	1644.350M	39.5	+5.9	+27.2	+23.5	+0.0 187	37.3	54.0	-16.7	Vert 226

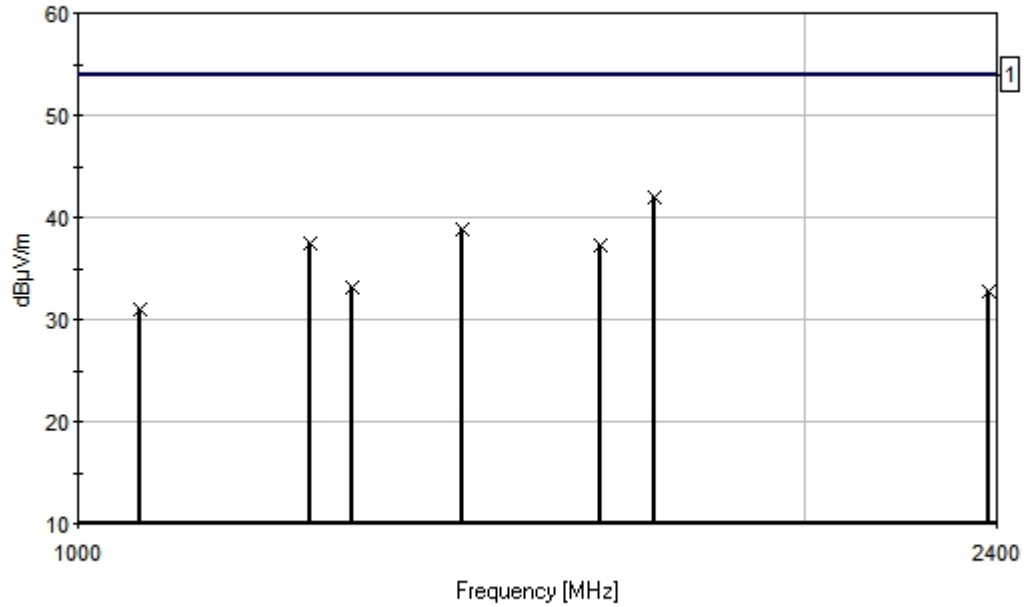


FCC ID : LUBCHS8, IC : 2529A-CHS8

Test Report # 3895-2

5	1298.050M	36.6	+5.2	+25.2	+23.5	+0.0	33.1	54.0	-20.9	Vert
						187				226
6	2379.780M	37.0	+4.7	+23.9	+23.5	+0.0	32.7	54.0	-21.3	Vert
						272				175

EMCE Engineering Date: 8/2/2013 Time: 11:44:39 Socket Mobile, Inc. WO#: 3895  
 FCC 15.209 Average Limits 1 - 2.4GHz Test Distance: 3 Meters Sequence#: 8 Ext ATTN: 0 dB



— Readings      — 1 - FCC 15.209 Average Limits 1 - 2.4GHz      × Peak Readings



## 2483.5 - 25000 MHz Transmit Frequency: 2402 MHz / DQPSK Average Mode

Test Location: EMCE Engineering • 44366 S. Grimmer Blvd • Fremont, CA 94538 •

Customer: **Socket Mobile, Inc.**  
 Specification: **FCC 15.209 Average Limits 1 - 25 G**  
 Work Order #: **3895** Date: 8/1/2013  
 Test Type: **Radiated Scan** Time: 12:54:23  
 Equipment: **Cordless Hand Scanner** Sequence#: 4  
 Manufacturer: Socket Mobile Tested By: Bob Cole  
 Model: CHS 8CI  
 S/N: N/A

**Test Equipment:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
EMITest Measurement Software	v4.01 Build 195	05/01/2012	05/01/2014	610
HP 84125B RF Measurement System	2542A11087	05/02/2012	04/02/2014	001

**Equipment Under Test (\* = EUT):**

Function	Manufacturer	Model #	S/N
Cordless Hand Scanner*	Socket Mobile	CHS 8CI	N/A

**Support Devices:**

Function	Manufacturer	Model #	S/N
Laptop PC (Host)	HP	dv4000	

**Test Conditions / Notes:**

2402 MHz DPQSK
----------------

**Transducer Legend:**

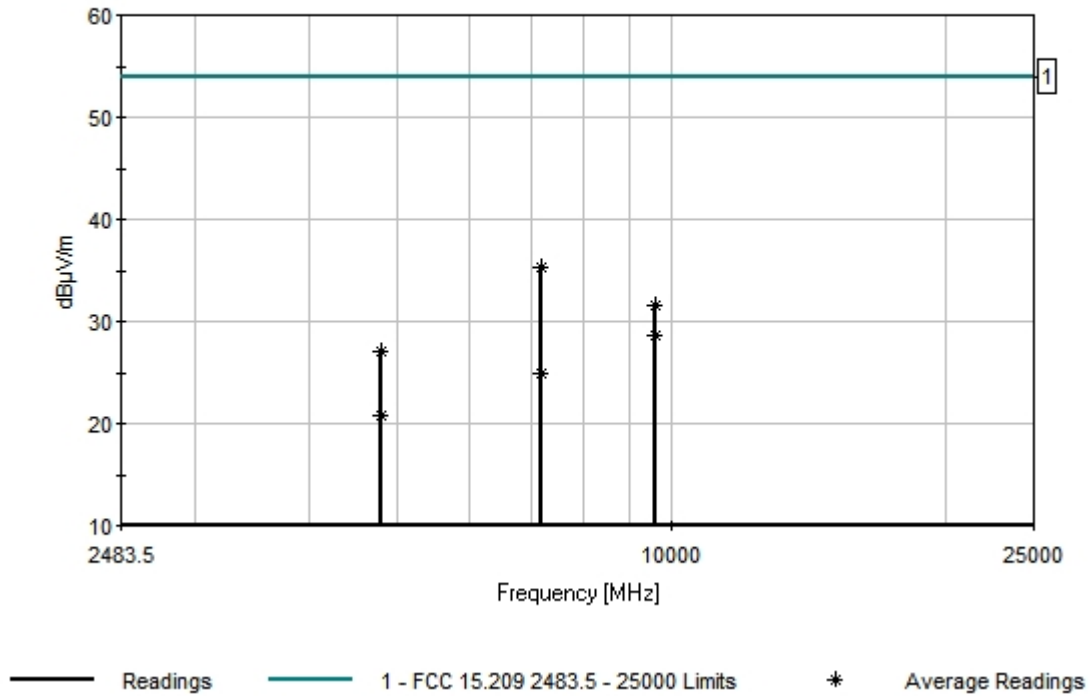
T1=150' LMR 900	T2=84125 RF Amps
T3=A.H. SAS-200/571 Horn	

Ext Attn: 0 dB

<b>Measurement Data:</b>						Reading listed by margin.						Test Distance: 3 Meters	
#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	dB	Dist Table	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant		
1	7208.500M	39.4	+55.2	+37.0	+14.0		+0.0	35.2	54.0	-18.8	Vert		
	Ave						44				176		
2	9610.500M	31.1	+54.9	+38.3	+17.0		+0.0	31.5	54.0	-22.5	Vert		
	Ave						19				212		
3	9610.500M	28.2	+54.9	+38.3	+17.0		+0.0	28.6	54.0	-25.4	Horiz		
	Ave						2				244		
4	4806.500M	35.8	+54.7	+34.7	+11.3		+0.0	27.1	54.0	-26.9	Horiz		
	Ave										235		
5	7208.500M	29.2	+55.2	+37.0	+14.0		+0.0	25.0	54.0	-29.0	Horiz		
	Ave						26				152		
6	4806.500M	29.5	+54.7	+34.7	+11.3		+0.0	20.8	54.0	-33.2	Vert		
	Ave										209		



EMCE Engineering Date: 8/1/2013 Time: 13:07:26 Socket Mobile, Inc. WO#: 3895  
FCC 15.209 2483.5 - 25000 Limits Test Distance: 3 Meters Sequence#: 3 Ext ATTN: 0 dB





2483.5 - 25000 MHz Transmit Frequency: 2402 MHz / DQPSK PEAK Mode

Test Location: EMCE Engineering •44366 S. Grimmer Blvd • Fremont, CA 94538 •

Customer: Socket Mobile, Inc.
Specification: FCC 15.209 Peak Limits 1 - 25 GHz
Work Order #: 3895
Test Type: Radiated Scan
Equipment: Cordless Hand Scanner
Manufacturer: Socket Mobile
Model: CHS 8CI
S/N: N/A
Date: 8/1/2013
Time: 13:24:44
Sequence#: 6
Tested By: Bob Cole

Test Equipment:

Table with 5 columns: Function, S/N, Calibration Date, Cal Due Date, Asset #. Rows include EMITest Measurement Software and HP 84125B RF Measurement System.

Equipment Under Test (\* = EUT):

Table with 4 columns: Function, Manufacturer, Model #, S/N. Row: Cordless Hand Scanner\* Socket Mobile CHS 8CI N/A

Support Devices:

Table with 4 columns: Function, Manufacturer, Model #, S/N. Row: Laptop PC (Host) HP dv4000

Test Conditions / Notes:

Table with 1 column: 2402 MHz DPQSK

Transducer Legend:

Table with 2 columns: T1=150' LMR 900, T2=84125 RF Amps, T3=A.H. SAS-200/571 Horn

Ext Attn: 0 dB

Measurement Data: Reading listed by margin. Test Distance: 3 Meters

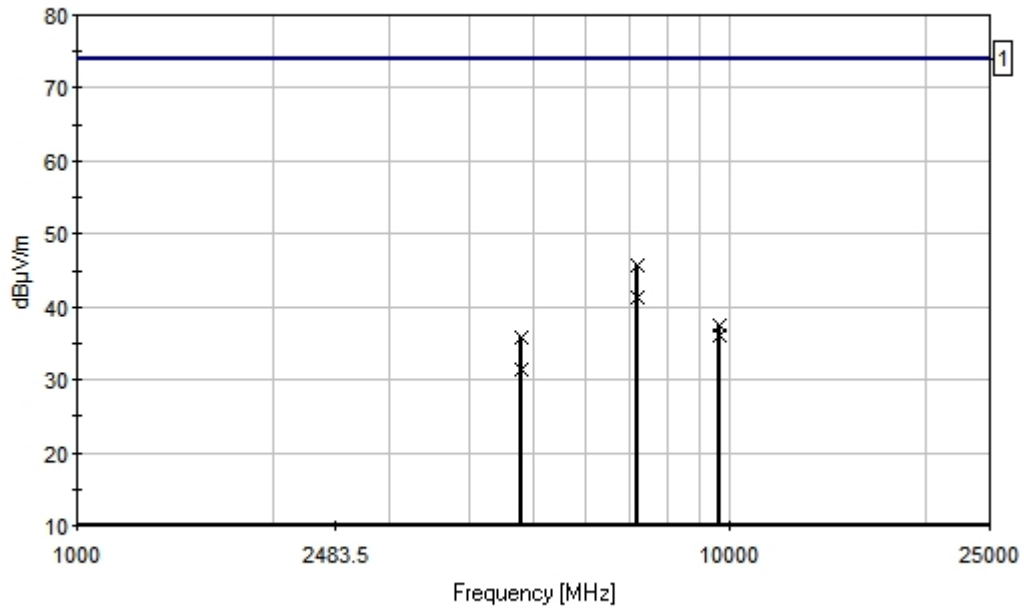
Table with 12 columns: #, Freq MHz, Rdng dBµV, T1 dB, T2 dB, T3 dB, dB, Dist Table, Corr dBµV/m, Spec dBµV/m, Margin dB, Polar Ant. Rows 1-4 showing frequency and measurement data.





5	4806.500M	44.6	+54.7	+34.7	+11.3	+0.0	35.9	74.0	-38.1	Vert
						17				156
6	4806.500M	40.1	+54.7	+34.7	+11.3	+0.0	31.4	74.0	-42.6	Horiz
						17				175

EMCE Engineering Date: 8/1/2013 Time: 13:24:44 Socket Mobile, Inc. WO#: 3895  
 FCC 15.209 Peak Limits 1 - 25 GHz Test Distance: 3 Meters Sequence#: 6 Ext ATTN: 0 dB



— Readings      — 1 - FCC 15.209 Peak Limits 1 - 25 GHz      × Peak Readings



## 2483.5 - 25000 MHz Transmit Frequency: 2441 MHz / DQPSK Average Mode

Test Location: EMCE Engineering • 44366 S. Grimmer Blvd • Fremont, CA 94538 •

Customer: **Socket Mobile, Inc.**  
 Specification: **FCC 15.209 Average Limits 1 - 25 G**  
 Work Order #: **3895** Date: 8/1/2013  
 Test Type: **Radiated Scan** Time: 12:54:23  
 Equipment: **Cordless Hand Scanner** Sequence#: 4  
 Manufacturer: Socket Mobile Tested By: Bob Cole  
 Model: CHS 8  
 S/N: N/A

### Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
EMITest Measurement Software	v4.01 Build 195	05/01/2012	05/01/2014	610
HP 84125B RF Measurement System	2542A11087	05/02/2012	04/02/2014	001

### Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Cordless Hand Scanner*	Socket Mobile	CHS 8	N/A

### Support Devices:

Function	Manufacturer	Model #	S/N
Laptop PC (Host)	HP	dv4000	

### Test Conditions / Notes:

2441 MHz DPQSK
----------------

### Transducer Legend:

T1=84125 RF Amps	T2=A.H. SAS-200/571 Horn
T3=150' LMR 900	

Ext Attn: 0 dB

Measurement Data:		Reading listed by margin.				Test Distance: 3 Meters				
#	Freq MHz	Rdng dB $\mu$ V	T1 dB	T2 dB	T3 dB	Dist Table	Corr dB $\mu$ V/m	Spec dB $\mu$ V/m	Margin dB	Polar Ant
1	7323.000M	37.4	+55.2	+36.9	+14.3	+0.0 12	33.4	54.0	-20.6	Horiz 224
2	9764.150M	28.4	+54.9	+38.4	+17.1	+0.0 21	29.0	54.0	-25.0	Horiz 199
3	4882.120M	36.2	+54.7	+34.9	+11.5	+0.0 359	27.9	54.0	-26.1	Horiz 189
4	9764.080M	26.5	+54.9	+38.4	+17.1	+0.0 6	27.1	54.0	-26.9	Vert 241
5	4882.000M	33.7	+54.7	+34.9	+11.5	+0.0 274	25.4	54.0	-28.6	Vert 201

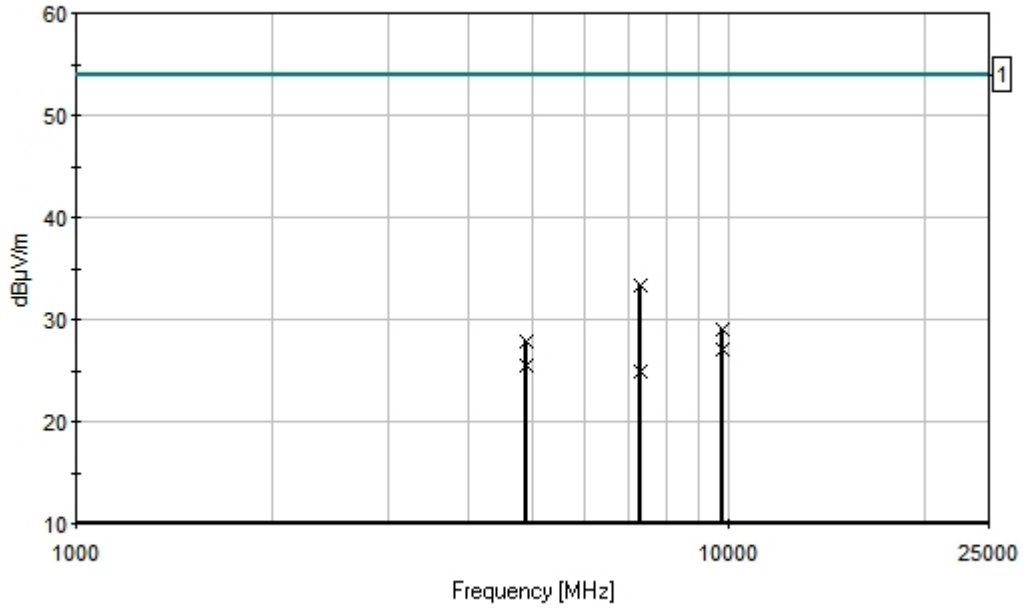


FCC ID : LUBCHS8, IC : 2529A-CHS8

Test Report # 3895-2

6	7323.000M	29.0	+55.2	+36.9	+14.3	+0.0	25.0	54.0	-29.0	Vert
						41				144

EMCE Engineering Date: 8/1/2013 Time: 12:54:23 Socket Mobile, Inc. WO#: 3895  
 FCC 15.209 Average Limits 1 - 25 G Test Distance: 3 Meters Sequence#: 4 Ext ATTN: 0 dB



— Readings    — 1 - FCC 15.209 Average Limits 1 - 25 G    × Peak Readings



## 2483.5 - 25000 MHz Transmit Frequency: 2441 MHz / DQPSK PEAK Mode

Test Location: EMCE Engineering • 44366 S. Grimmer Blvd • Fremont, CA 94538 •

Customer: **Socket Mobile, Inc.**  
 Specification: **FCC 15.209 Peak Limits 1 - 25 GHz**  
 Work Order #: **3895** Date: 8/1/2013  
 Test Type: **Radiated Scan** Time: 13:20:21  
 Equipment: **Cordless Hand Scanner** Sequence#: 5  
 Manufacturer: Socket Mobile Tested By: Bob Cole  
 Model: CHS 8  
 S/N: N/A

**Test Equipment:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
EMITest Measurement Software	v4.01 Build 195	05/01/2012	05/01/2014	610
HP 84125B RF Measurement System	2542A11087	05/02/2012	04/02/2014	001

**Equipment Under Test (\* = EUT):**

Function	Manufacturer	Model #	S/N
Cordless Hand Scanner*	Socket Mobile	CHS 8	N/A

**Support Devices:**

Function	Manufacturer	Model #	S/N
Laptop PC (Host)	HP	dv4000	

**Test Conditions / Notes:**

2441 MHz DQPSK
----------------

**Transducer Legend:**

T1=84125 RF Amps	T2=A.H. SAS-200/571 Horn
T3=150' LMR 900	

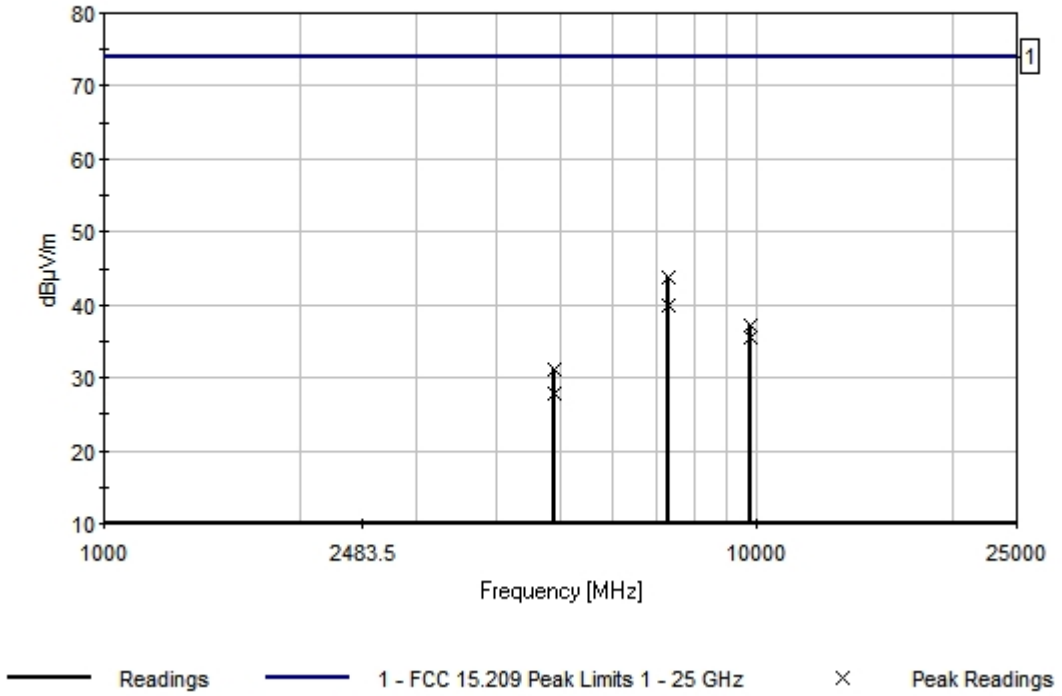
Ext Attn: 0 dB

<b>Measurement Data:</b>		Reading listed by margin.				Test Distance: 3 Meters				
#	Freq MHz	Rdng dBµV	T1 dB	T2 dB	T3 dB	Dist Table dB	Corr dBµV/m	Spec dBµV/m	Margin dB	Polar Ant
1	7325.500M	47.8	+55.2	+36.9	+14.3	+0.0 26	43.8	74.0	-30.2	Vert 188
2	7325.500M	44.0	+55.2	+36.9	+14.3	+0.0 26	40.0	74.0	-34.0	Horiz 227
3	9766.500M	36.7	+54.9	+38.4	+17.1	+0.0 9	37.3	74.0	-36.7	Vert 171
4	9766.500M	34.8	+54.9	+38.4	+17.1	+0.0 2	35.4	74.0	-38.6	Horiz 199
5	4884.500M	39.4	+54.7	+34.9	+11.5	+0.0 4	31.1	74.0	-42.9	Vert 215



6	4884.500M	36.2	+54.7	+34.9	+11.5	+0.0	27.9	74.0	-46.1	Horiz
						6				179

EMCE Engineering Date: 8/1/2013 Time: 13:20:21 Socket Mobile, Inc. WO#: 3895  
 FCC 15.209 Peak Limits 1 - 25 GHz Test Distance: 3 Meters Sequence#: 5 Ext ATTN: 0 dB





## 2483.5 - 25000 MHz Transmit Frequency: 2480 MHz / DQPSK Average Mode

Test Location: EMCE Engineering • 44366 S. Grimmer Blvd • Fremont, CA 94538 •

Customer: **Socket Mobile, Inc.**

Specification: **FCC 15.209 Average Limits 1 - 25 G**

Work Order #: **3895**

Date: 8/8/2013

Test Type: **Radiated Scan**

Time: 15:15:38

Equipment: **Cordless Hand Scanner**

Sequence#: 5

Manufacturer: Socket Mobile

Tested By: Bob Cole

Model: CHS 8

S/N: N/A

### Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
EMITest Measurement Software	v4.01 Build 195	05/01/2012	05/01/2014	610
HP 84125B RF Measurement System	2542A11087	05/02/2012	04/02/2014	001

### Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Cordless Hand Scanner*	Socket Mobile	CHS 8	N/A

### Support Devices:

Function	Manufacturer	Model #	S/N
Laptop PC (Host)	HP	dv4000	

### Test Conditions / Notes:

2480 MHz DPQSK
----------------

### Transducer Legend:

T1=84125 RF Amps T3=150' LMR 900	T2=A.H. SAS-200/571 Horn
-------------------------------------	--------------------------

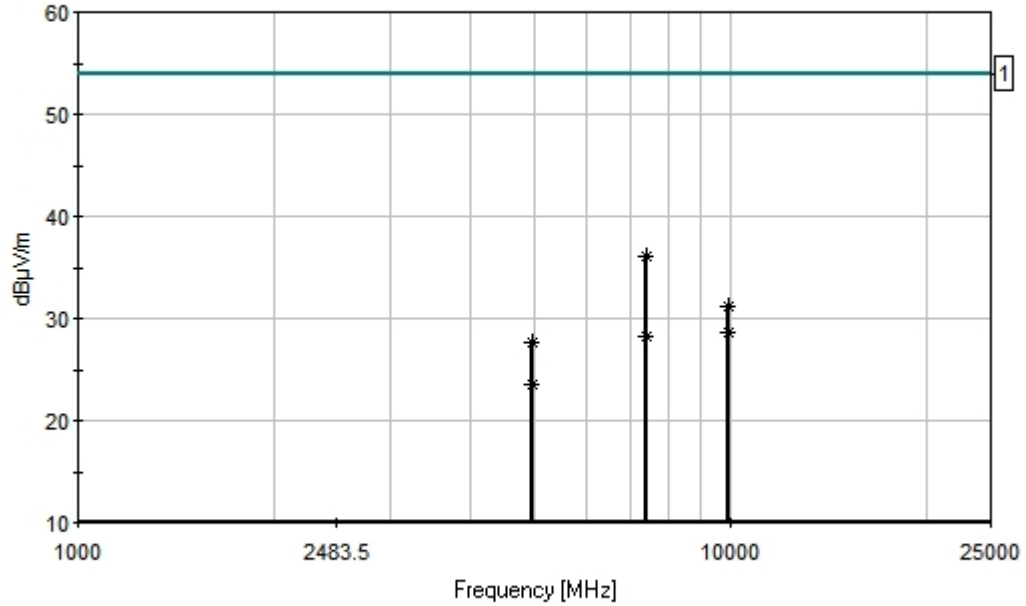
Ext Attn: 0 dB

**Measurement Data:** Reading listed by frequency. Test Distance: 3 Meters

#	Freq MHz	Rdng dB $\mu$ V	T1 dB	T2 dB	T3 dB	Dist Table	Corr dB $\mu$ V/m	Spec dB $\mu$ V/m	Margin dB	Polar Ant
1	4960.000M Ave	35.7	+54.7	+35.1	+11.6	+0.0 6	27.7	54.0	-26.3	Horiz 241
2	4960.000M Ave	31.6	+54.7	+35.1	+11.6	+0.0 6	23.6	54.0	-30.4	Vert 241
3	7440.000M Ave	32.1	+55.2	+36.9	+14.5	+0.0 37	28.3	54.0	-25.7	Horiz 188
4	7440.000M Ave	39.8	+55.2	+36.9	+14.5	+0.0 40	36.0	54.0	-18.0	Vert 222
5	9920.000M Ave	27.9	+54.9	+38.5	+17.2	+0.0 11	28.7	54.0	-25.3	Vert 174
6	9920.000M Ave	30.4	+54.9	+38.5	+17.2	+0.0 4	31.2	54.0	-22.8	Horiz 201



EMCE Engineering Date: 8/8/2013 Time: 15:15:38 Socket Mobile, Inc. WO#: 3895  
FCC 15.209 Average Limits 1 - 25 G Test Distance: 3 Meters Sequence#: 5 Ext ATTN: 0 dB



— Readings    — 1 - FCC 15.209 Average Limits 1 - 25 G    \* Average Readings



## 2483.5 - 25000 MHz Transmit Frequency: 2480 MHz / DQPSK PEAK Mode

Test Location: EMCE Engineering • 44366 S. Grimmer Blvd • Fremont, CA 94538 •

Customer: **Socket Mobile, Inc.**

Specification: **FCC 15.209 Peak Limits 1 - 25 GHz**

Work Order #: **3895**

Date: 8/8/2013

Test Type: **Radiated Scan**

Time: 15:20:34

Equipment: **Cordless Hand Scanner**

Sequence#: 4

Manufacturer: Socket Mobile

Tested By: Bob Cole

Model: CHS 8

S/N: N/A

### Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
EMITest Measurement Software	v4.01 Build 195	05/01/2012	05/01/2014	610
HP 84125B RF Measurement System	2542A11087	05/02/2012	04/02/2014	001

### Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
Cordless Hand Scanner*	Socket Mobile	CHS 8	N/A

### Support Devices:

Function	Manufacturer	Model #	S/N
Laptop PC (Host)	HP	dv4000	

### Test Conditions / Notes:

2480MHz DPQSK
---------------

### Transducer Legend:

T1=84125 RF Amps T3=150' LMR 900	T2=A.H. SAS-200/571 Horn
-------------------------------------	--------------------------

Ext Attn: 0 dB

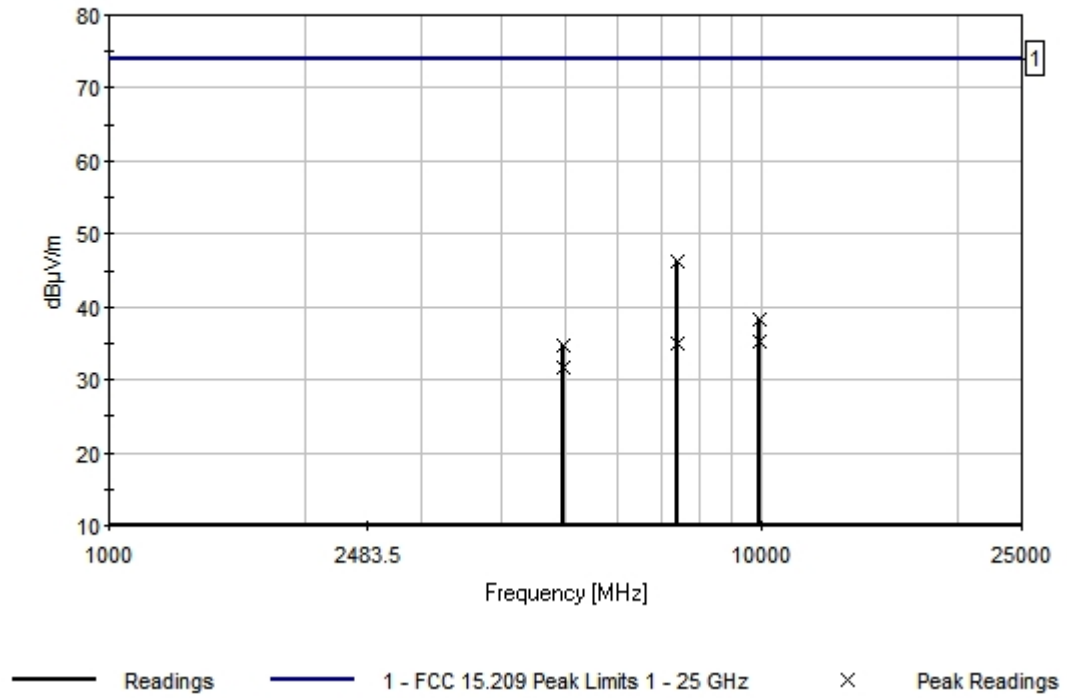
**Measurement Data:** Reading listed by frequency. Test Distance: 3 Meters

#	Freq MHz	Rdng dB $\mu$ V	T1 dB	T2 dB	T3 dB	Dist dB	Table	Corr dB $\mu$ V/m	Spec dB $\mu$ V/m	Margin dB	Polar Ant
1	4962.500M	42.8	+54.7	+35.1	+11.6	+0.0	2	34.8	74.0	-39.2	Horiz 244
2	4962.500M	39.8	+54.7	+35.1	+11.6	+0.0	12	31.8	74.0	-42.2	Vert 210
3	7442.500M	49.9	+55.2	+36.9	+14.5	+0.0	31	46.1	74.0	-27.9	Horiz 152
4	7442.500M	38.7	+55.2	+36.9	+14.5	+0.0	31	34.9	74.0	-39.1	Vert 177
5	9922.500M	37.6	+54.9	+38.5	+17.2	+0.0	16	38.4	74.0	-35.6	Horiz 226
6	9922.500M	34.5	+54.9	+38.5	+17.2	+0.0	16	35.3	74.0	-38.7	Vert 159





EMCE Engineering Date: 8/8/2013 Time: 15:20:34 Socket Mobile, Inc. WO#: 3895  
FCC 15.209 Peak Limits 1 - 25 GHz Test Distance: 3 Meters Sequence#: 4 Ext ATTN: 0 dB



## 6.9 Band-Edge Compliance - Conducted

Band-Edge compliance [CFR 47, 15.247c(1) and RSS-210 6.2.2(o)]

EUT	Cordless Hand Scanner
Temp, Humidity, Air Pressure	59° F, 30.72
Date of Measurement	8/5/13
Test Method	A(Conducted)
Measured by	Bob Cole
Result	PASSED

EUT operation mode

EUT operation mode	Hopping Enabled / Disabled
EUT channel	2, 80
EUT TX power level	Maximum

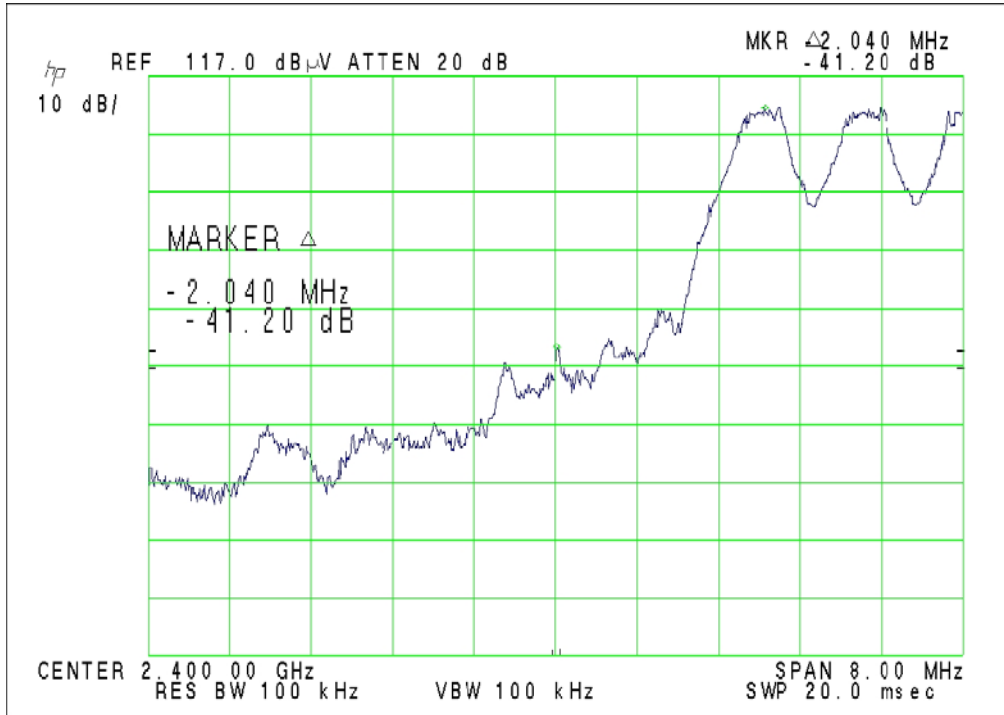
Limits and results

Channel	Limit (dBc)	Results(dBc)
GFSK 2400	Greater than 20 dBc	41.2
GFSK 2483.5	Greater than 20 dBc	40.6
DQPSK 2400	Greater than 20 dBc	38.6
DQPSK 2483.5	Greater than 20 dBc	48.6
8DPSK 2400	Greater than 20 dBc	43.1
8DPSK 2483.5	Greater than 20 dBc	47.7

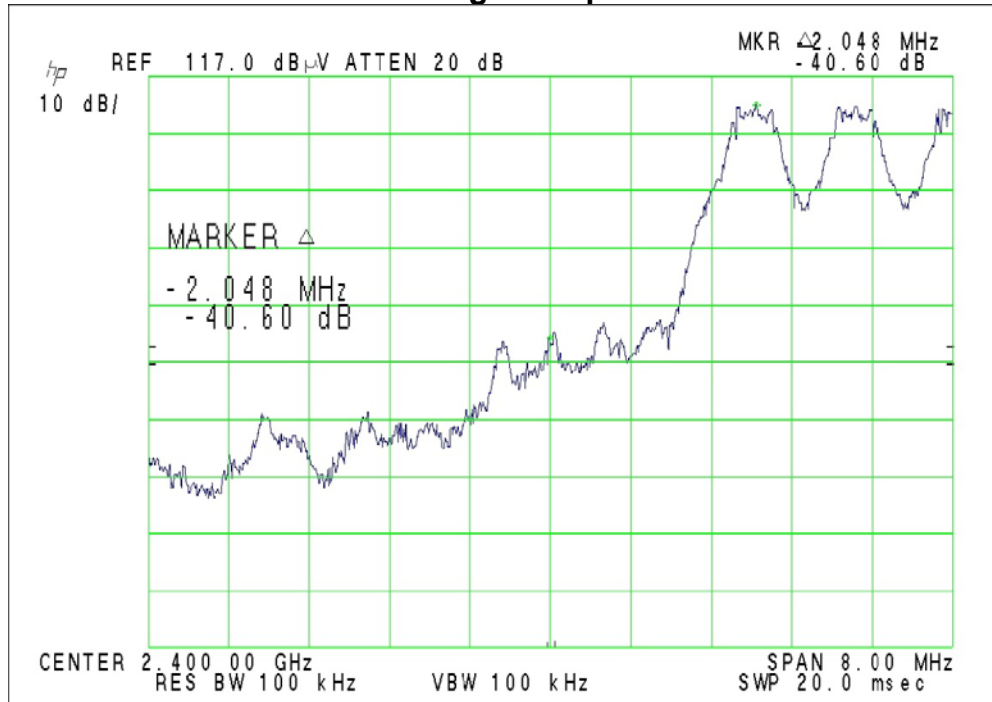
Setup Condition

Freq. Band	Test Type	RBW	VBW
1000 - 25000	Delta	100 kHz	100 kHz

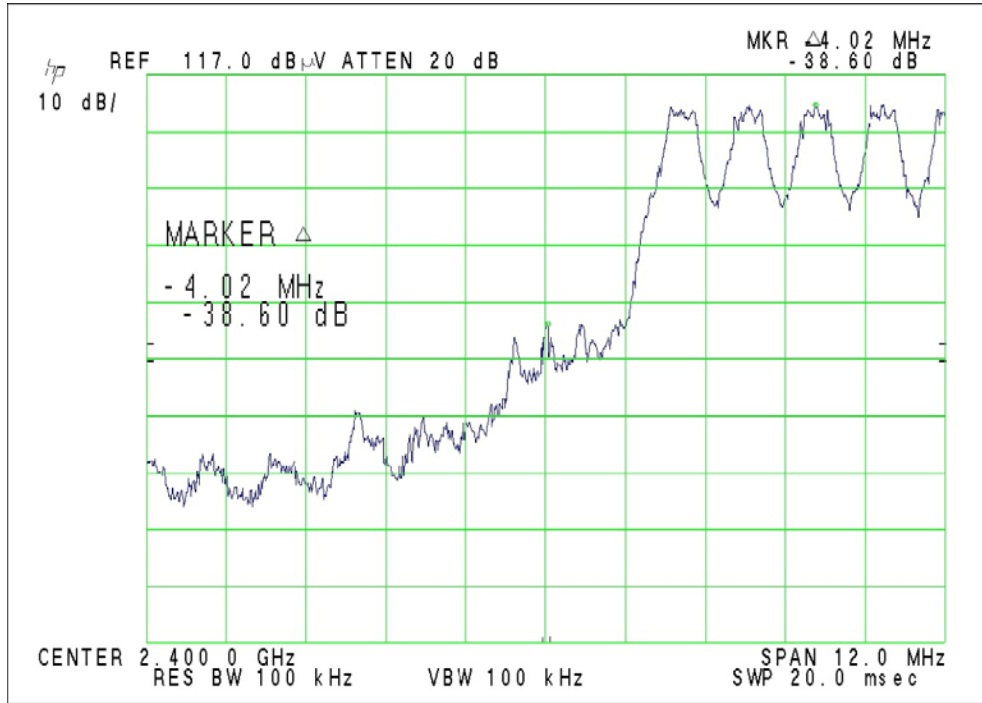
### 2400 MHz Band-Edge Compliance GSKF



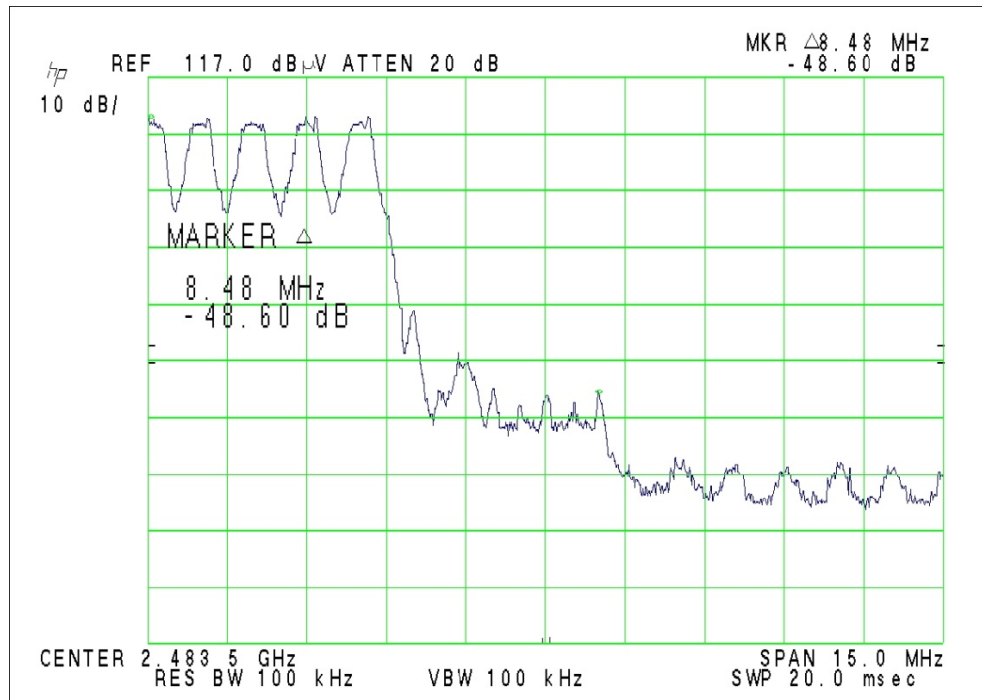
### 2400 MHz Band-Edge Compliance DQPSK



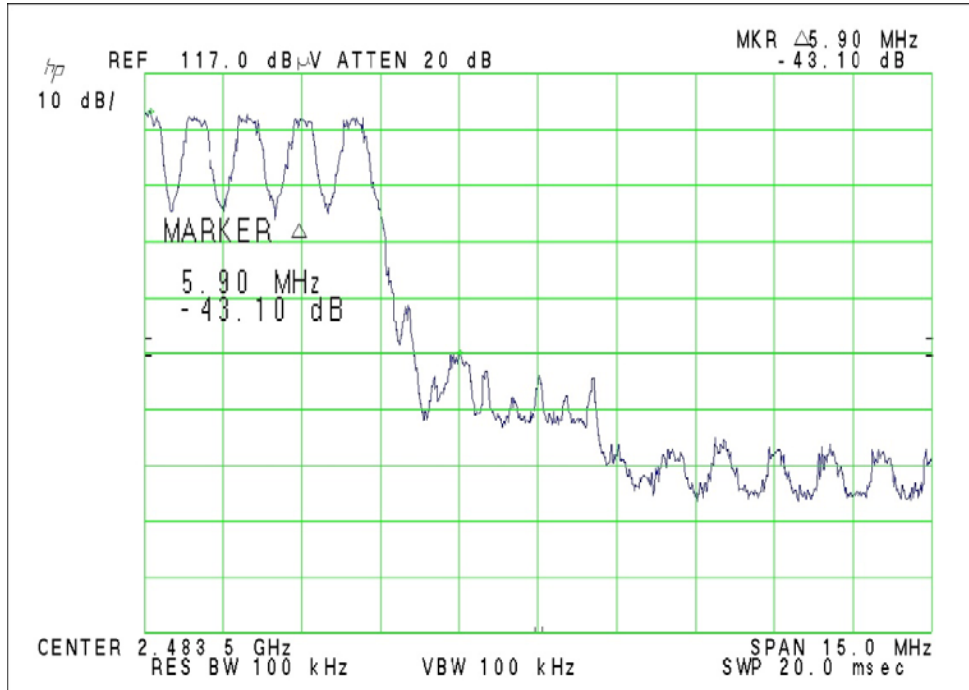
**2400 MHz Band-Edge Compliance 8DPSK**



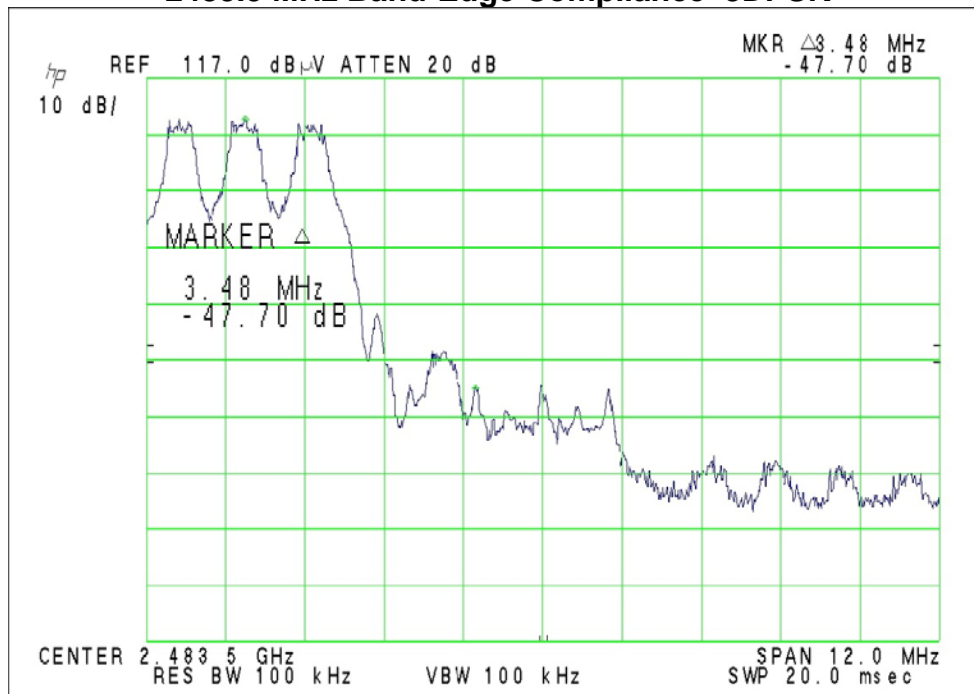
**2483.5 MHz Band-Edge Compliance GFSK**



**2483.5 MHz Band-Edge Compliance DQPSK**



**2483.5 MHz Band-Edge Compliance 8DPSK**





## 6.10 Band-Edge Compliance - Radiated

Band-Edge compliance [CFR 47, 15.247c(1) and RSS-210 6.2.2(o)]

EUT	Cordless Hand Scanner
Temp, Humidity, Air Pressure	60° F, 30.85
Date of Measurement	8/9/13
Test Method	B(Radiated)
Measured by	Bob Cole
Result	PASSED

EUT operation mode

EUT operation mode	Hopping Enabled / Disabled
EUT channel	2, 80
EUT TX power level	Maximum

Limits and results

Channel	Limit (dBuV/m)	Results
DQPSK 2400	74 – Peak	Pass
DQPSK 2400	54 – Average	Pass
DQPSK 2483.5	74 – Peak	Pass
DQPSK 2483.5	54 – Average	Pass

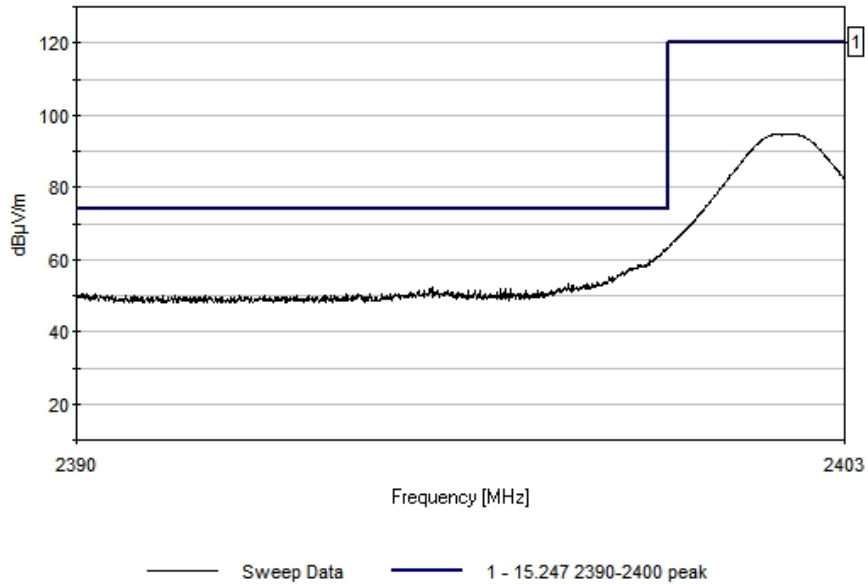
Setup Condition

Freq. Band	Test Type	RBW	VBW
2390-2500	Peak	1MHz	1MHz
2390-2500	Average	1MHz	10Hz



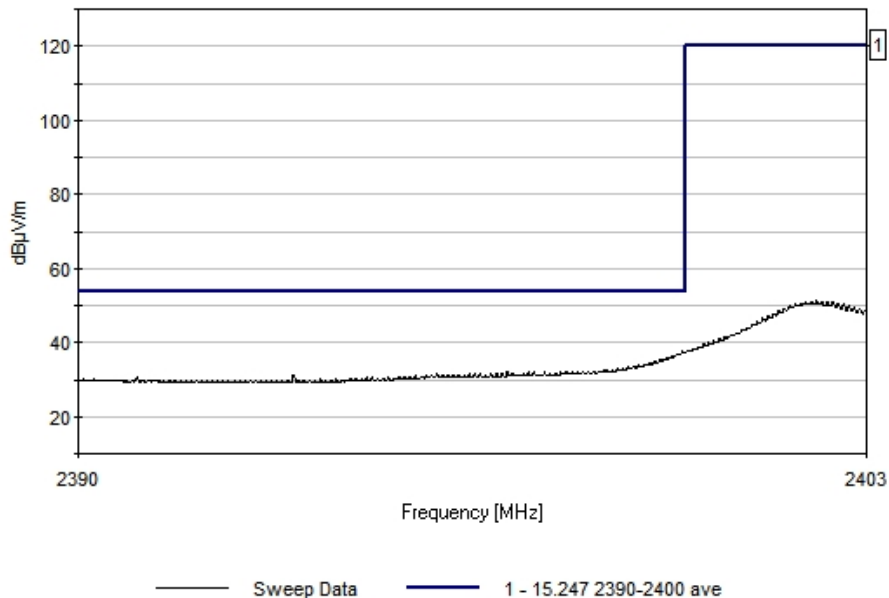
### 2400 MHz Band-Edge Compliance 8DPSK - Peak

EMCE Engineering Date: 8/9/2013 Time: 11:41:58 AM Socket Mobile, Inc. WO#: 3895  
15.247 2390-2400 peak Test Distance: 3 Meters Sequence#: 12 Ext ATTN: 0 dB



### 2400 MHz Band-Edge Compliance 8DPSK - Average

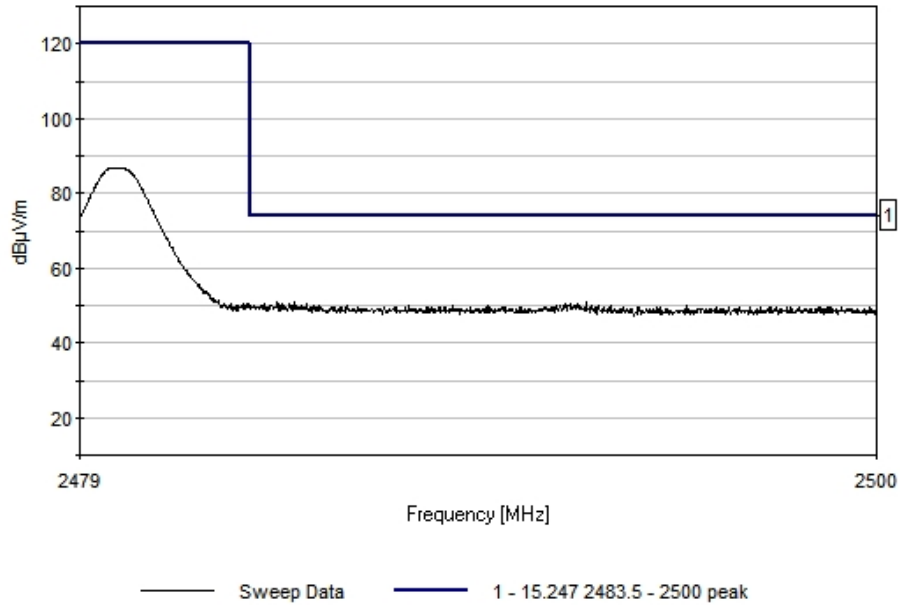
EMCE Engineering Date: 8/9/2013 Time: 11:40:23 AM Socket Mobile, Inc. WO#: 3895  
15.247 2390-2400 ave Test Distance: 3 Meters Sequence#: 11 Ext ATTN: 0 dB





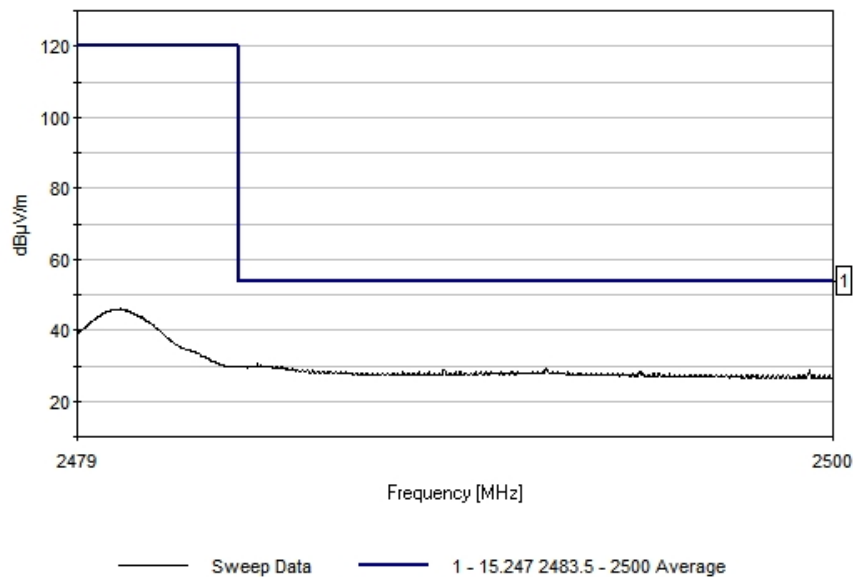
### 2483.5 MHz Band-Edge Compliance 8DPSK - Peak

EMCE Engineering Date: 8/9/2013 Time: 12:11:57 PM Socket Mobile, Inc. WO#: 3895  
15.247 2483.5 - 2500 peak Test Distance: 3 Meters Sequence#: 17 Ext ATTN: 0 dB



### 2483.5 MHz Band-Edge Compliance 8DPSK – Average

EMCE Engineering Date: 8/9/2013 Time: 12:17:31 PM Socket Mobile, Inc. WO#: 3895  
15.247 2483.5 - 2500 Average Test Distance: 3 Meters Sequence#: 20 Ext ATTN: 0 dB





## 7.0 TEST EQUIPMENT

### Antenna Conducted Emissions Measurements:

Equipment	Type	Manufacturer	Calibration Date	Calibration Due Date
EMI Analyzer System	84125B	Hewlett-Packard	5/1/12	5/1/14
Spectrum Analyzer	8566B	Hewlett-Packard	5/2/12	5/2/14
Pre-Amp	83051A	Hewlett-Packard	5/1 /13	5/1/14
Pre-Amp	83017A	Hewlett-Packard	5/1 /13	5/1/14
Pre-Amp	8744D	Hewlett-Packard	5/2/13	5/2/14
Cable	0.25 meters	Murata	5/10/13	5/10/14

### Radiated Emissions Measurements:

Equipment	Type	Manufacturer	Calibration Date	Calibration Due Date
EMI Analyzer System	84125B	Hewlett-Packard	5/1/12	5/1/14
Spectrum Analyzer	8566B	Hewlett-Packard	5/2/12	5/2/14
Antenna	JB6 BiConiLog	Sunol Sciences	2/15/12	2/15/14
Pre-Amp	83051A	Hewlett-Packard	5/1 /13	5/1 /14
Pre-Amp	83017A	Hewlett-Packard	5/1 /13	5/1 /14
Pre-Amp	8744D	Hewlett-Packard	5/2/13	5/2/14
Horn Antenna	SAS 200/571	AH Systems	2/19/12	2/19/14
Cable	N – N (30 Meters)	EMCE	5/1 /13	5/1 /14