# **Intentional Radiator Test Report**

Test Standards: FCC Part 15 (Subpart C – Intentional Radiators) Industry Canada RSS-210, Issue 7

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

**Equipment Under Test: Cordless Hand Scanner** 

Model: CORDLESS HAND SCANNER CHS 7C

## **Prepared by:**



Page 1 of 30

# **TABLE OF CONTENTS**

1.	CUSTOMER INFORMATION	3
2.	EUT AND ACCESSORY INFORMATION	4
3.	SUMMARY OF TEST RESULTS	5
4.	STANDARDS AND MEASUREMENT METHODS	6
5.	TEST SETUPS	7
6.	TEST RESULTS	9
7.	TEST EQUIPMENT	47

# **1.0 CUSTOMER INFORMATION**

Test Laboratory:	EMCE Engineering
	44366 S. Grimmer Blvd.
	Fremont, CA 94538
	USA
	Tel: 510-490-4307
	Fax: 510-490-3441
	bob@universalcompliance.com
FCC registration number	743299
Customer:	Socket Communications, Inc.
	39700 Eureka Drive
	Newark, CA 94560
	Tel: 510-744-2700
	Fax:510-744-2701
Contact Person:	Tim Miller
Receipt of EUT:	11/20/09
Test plan reference:	FCC Part 2, 15 (15.247) / IC RSS-210
FCC ID:	LUBCHS2 Permissive Change II
IC #:	2529A-CHS2
Date of testing:	8/28/11-9/05/11
Date of Report:	11/08/11

The tests listed in this report have been completed to demonstrate compliance to the CFR 47 Section 15.247, as well as Industry Canada Radio Standard RSS-210, Issue 7.

Contents approved:

Name: Bob Cole

Name: Bob Cole Title: President

# **2.0 EUT AND ACCESSORY INFORMATION**

#### **EUT description**

The EUT is a Socket Communications, Inc. Cordless Hand Scanner, M/N: CORDLESS HAND SCANNER 7Xi / 7XRxi.

#### **Model Numbers Represented**

8550-00036 / 8550-00047

#### 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.

#### Software

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

	Name	Туре	S/N	Number
EUT	CHS	CORDLESS RING	N/A	E0001
		SCANNER 7Xi / 7XRxi		
Accessories	Laptop Computer	HP M/N: dv4000	3882A744	S0001
Software	CRS	BlueTest 3.0	N/A	N/A

EUT	Inform	nation
-	- J -	

Product Specification	Description
Model Name	CORDLESS HAND SCANNER 7Xi / 7XRxi
Type of Modulation	FHSS
Number of Channels	79
Operating Frequency Range	2480 – 2483.5 MHz
Type of Equipment	Portable
Extreme Operating Temperature Range	-20 C – 55 C
Extreme Operating Voltage Range	N/A
Type of Antenna	Integral
Antenna Gain (dBi)	-3.0
Transmitter Method of Frequency Generation	Synthesized
Transmitter Aggregate Data Rate	>250kbps
Transmitter Duty Type	Intermittant
Continuous Operation for Testing Purposes?	Yes
Transmit Emissions Designator	1M0G1D

# **3.0 SUMMARY OF TEST RESULTS**

CFR 47, 15.247:2007	RSS 210 Issue 7:2007	Description	Results
Section	Section		
15.203		Antenna Requirement	N/A
15.205	RSS 210(A8.5)	Restricted Band of Operation	N/A
15.207a	RSS Gen 7.2.2	Conducted Emission Voltage	N/A
15.247a(1)	RSS 210(A8.1)	Channel Separation	N/A
15.247a(1)	RSS 210(A8.1)	Occupied Bandwidth	N/A
15.247a(2)	RSS 210(A8.2)	Bandwidth	N/A
15.247a(1)	RSS 210(A8.1)	Number of Hopping Channels	N/A
15.247a(1)	RSS 210(A8.1)	Time of Occupancy	N/A
15.247b	RSS 210(A8.4)	Output Power	N/A
15.247c	RSS 210(A8.4)	Antenna Gain >6 dB	N/A
15.247d	RSS 210(A8.5)	Conducted Spurious Emissions	N/A
15.247d: 15.209	RSS 210(A8.5)	Radiated Spurious Emissions	PASSED
15.247e	RSS 210(A8.3)	Power Spectral Density	N/A
15.247f	RSS 210(A8.3)	Hybrid System Requirement	N/A
15.247g	RSS 210(A8.1)	Hopping Capability	N/A
15.247h	RSS 210(A8.1)	Hopping Coordination Requirement	N/A
15.247i	RSS Gen(5.5)	RF Exposure Requirement	N/A
	RSS Gen(4.8)	Receiver Spurious Emissions	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 7, and ANSI C63.4 (2003). 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, several 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.

#### Setup A (Antenna Conducted measurements)

#### **Operational description**

### 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, POWER DENSITY, 20 dB BW, BAND-EDGE COMPLIANCE, and RESTRICTED BAND* measurements.



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.

#### Setup B (Radiated measurements)

#### **Operational description**

### 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

#### Block diagram



Note: The 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.

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.

# 6.0 ENGINEERING EVALUATION RESULTS

## 6.1 Antenna Requirement

Requirement(s): CFR47, 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 the correct antenna is installed with the device.

#### The antenna is a printed trace, integral to the PCB.

Antenna Gain (max) is -3.0 in the 2400 – 2483.5 MHz band.

# 6.2 Conducted Emissions Voltage

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	CORDLESS HAND SCANNER 7Xi / 7XRxi
Test setup	
Temp, Humidity, Air Pressure	
Date of Measurement	
Measured by	Bob Cole
Result	

# CLASS B LIMIT

Frequency Band (MHz)	EN 55022 B Limit (dBµV/m)	Detector
0.15 - 0.5	66 to 56	QP
0.5 - 5.0	56	QP
5.0-30.0	60	QP

# Not Applicable – Battery Powered EUT

# 6.3 Radiated Emissions – Restricted Bands

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)).

EUT	CORDLESS HAND SCANNER 7Xi / 7XRxi
Test setup	B (Radiated)
Temp, Humidity, Air Pressure	74° F, 30.02
Date of Measurement	8/31/11
Measured by	Bob Cole
Result	PASSED

**Restricted Band Measurements** 

Restricted Band Measurements were taken, using a Peak detector, over the frequency band of 30 - 1000 MHz, and using an Average Detector over the bands of 1000 – 2400 MHz, and 2483.5 – 25000 MHz, in both horizontal and vertical polarizations. All measurements were repeated with the EUT operating at 2402, 2441, and 2480 MHz.

Worst case data is presented in this report.

## Restricted Band Spurious Radiated Emissions Transmit Frequency 2480Hz

# *30 - 1000 MHz PEAK DETECTOR*

Custom Specific Work C Test Ty Equipm Manufa Model: S/N:	er: S cation: F brder #: 3 pe: F ent: C cturer: S C	ocket Mol N55022B 568 Radiated S Cordless H locket Mol CHS 7C	bile, Inc. RADIA Scan Iand Scar Dile	TED			Da Tin Sequenc Tested I	ate: 10/28 ne: 16:49 e#: 20 By: Bob (	/2011 :51 Cole		
Test E	quipment: 	C/NI			Calibratian	Data	Cal	Due Dete	•	aaat 4	
Functio	n 	S/IN			Calibration	Date	Cal	Due Date	А	sset #	
Equipi	nent Under	$\frac{Test}{N}$	SUT): Ionufactu	***		Madal	4		C/N		
Cordles	s Hand Scan	ner* S	ocket Mc	bile		CHS 70	+ C		5/1N		
Sunno	rt Dovicos:						-				
Functio	n	N	/anufactu	irer		Model 7	#		S/N		
Test C	- onditions / N	lates.							2.2.		
2480 M	Hz	oles.									
Transa	lucer Legen	d:									
T1=75'	LMR Cable	to 1 GHz				T2=844	7 Pre-A	mp Asset 3	77		
T3=Sun	ol JB6 S/N A	442610						•			
Ext A	Attn: 0 dB										
Measur	ement Data:	Re	eading lis	ted by r	margin.	Test Distance: 10 Meters					
#	Freq	Vdna			<u> </u>		16			ers	D 1
1	MHz	dBuV	TT dB	T2 dB	T3 dB	dB	Dist Table	Corr dBuV/m	Spec dBuV/m	Margin dB	Polar Ant
	MHz 744.210M	$\frac{dB\mu V}{32.4}$	$\frac{dB}{+2.7}$	T2 dB +27.0	$\begin{array}{r} T3 \\ dB \\ +21.2 \end{array}$	dB	Dist Table +0.0	Corr dBµV/m 29.3	$\frac{10 \text{ Wett}}{\text{Spec}}$ $\frac{\text{dB}\mu\text{V/m}}{37.0}$	Margin dB -7.7	Polar Ant Horiz
1	MHz 744.210M	$\frac{dB\mu V}{32.4}$	11 dB +2.7	T2 dB +27.0	$\begin{array}{r} T3 \\ dB \\ 0 +21.2 \end{array}$	dB	Dist Table +0.0 104	Corr dBµV/m 29.3	<u>Spec</u> <u>dBμV/m</u> 37.0	Margin dB -7.7	Polar Ant Horiz 185
2	MHz 744.210M 144.330M	Kdlig           dBμV           32.4           34.8	11 dB +2.7 +1.1	T2 dB +27.0 +26.7		dB	Dist Table +0.0 104 +0.0	<u>Corr</u> <u>dBμV/m</u> 29.3 22.1	Spec <u>dBμV/m</u> 37.0 30.0	ers Margin dB -7.7 -7.9	Polar Ant Horiz 185 Vert
2	MHz 744.210M 144.330M	dBµV           32.4           34.8	11 dB +2.7 +1.1	T2 dB +27.0 +26.7	T3 dB +21.2 ' +12.9	dB	Dist           Table           +0.0           104           +0.0           92	Corr <u>dBµV/m</u> 29.3 22.1	$\frac{dB\mu V/m}{37.0}$	Margin dB -7.7 -7.9	Polar Ant Horiz 185 Vert 125
2	MHz 744.210M 144.330M 336.100M	dBµV           32.4           34.8           38.9	11 dB +2.7 +1.1 +1.8	T2 dB +27.0 +26.7 +27.0	$\begin{array}{c} T3 \\ dB \\ 0 +21.2 \\ 7 +12.9 \\ 0 +14.1 \end{array}$	dB	Table           +0.0           104           +0.0           92           +0.0           277	Corr dBµV/m 29.3 22.1 27.8	Spec         dBμV/m           37.0         30.0           37.0         37.0	Margin           dB           -7.7           -7.9           -9.2	Polar Ant Horiz 185 Vert 125 Horiz 174
2 3 4	MHz 744.210M 144.330M 336.100M 617.260M	Kding           dBµV           32.4           34.8           38.9           32.0	11 dB +2.7 +1.1 +1.8 +2.3	T2 dB +27.0 +26.7 +27.0 +27.0	$\begin{array}{c} T3 \\ dB \\ 0 +21.2 \\ \hline +12.9 \\ 0 +14.1 \\ \hline +19.7 \end{array}$	dB	Table           +0.0           104           +0.0           92           +0.0           277           +0.0	Corr dBµV/m 29.3 22.1 27.8 27.0	Spec         dBμV/m           37.0         30.0           37.0         37.0	Margin dB -7.7 -7.9 -9.2 -10.0	Polar Ant Horiz 185 Vert 125 Horiz 174 Vert
2 3 4	MHz 744.210M 144.330M 336.100M 617.260M	Kding           dBµV           32.4           34.8           38.9           32.0	$ \begin{array}{r}     11 \\     dB \\     +2.7 \\     +1.1 \\     +1.8 \\     +2.3 \\ \end{array} $	T2 dB +27.0 +26.7 +27.0 +27.0	$\begin{array}{c} T3 \\ dB \\ 0 +21.2 \\ 7 +12.9 \\ \hline 0 +14.1 \\ \hline 0 +19.7 \end{array}$	dB	Dist           Table           +0.0           104           +0.0           92           +0.0           277           +0.0           189	Corr dBµV/m 29.3 22.1 27.8 27.0	Spec         dBμV/m           37.0         30.0           37.0         37.0	Margin           dB           -7.7           -7.9           -9.2           -10.0	Polar Ant Horiz 185 Vert 125 Horiz 174 Vert 128
$\begin{array}{c} 1 \\ 2 \\ \hline 3 \\ \hline 4 \\ \hline 5 \\ \end{array}$	MHz 744.210M 144.330M 336.100M 617.260M 682.440M	Kding           dBµV           32.4           34.8           38.9           32.0           30.9	11 dB +2.7 +1.1 +1.8 +2.3 +2.3	T2 dB +27.0 +26.7 +27.0 +27.0 +27.0	$\begin{array}{c} T3 \\ dB \\ 0 +21.2 \\ \hline \\ +12.9 \\ \hline \\ 0 +14.1 \\ \hline \\ 0 +19.7 \\ \hline \\ 0 +19.4 \end{array}$	dB	Dist           Table           +0.0           104           +0.0           92           +0.0           277           +0.0           189           +0.0	Corr         dBµV/m           29.3         22.1           27.8         27.0           25.6         25.6	Spec         dBμV/m           37.0         30.0           37.0         37.0           37.0         37.0           37.0         37.0	Margin           dB           -7.7           -7.9           -9.2           -10.0           -11.4	Polar Ant Horiz 185 Vert 125 Horiz 174 Vert 128 Horiz
$\begin{array}{c} 1 \\ 2 \\ 3 \\ 4 \\ 5 \\ \end{array}$	MHz 744.210M 144.330M 336.100M 617.260M 682.440M	Kding       dBµV       32.4       34.8       38.9       32.0       30.9       20.0	$ \begin{array}{r} 11\\ dB\\ +2.7\\ +1.1\\ +1.8\\ +2.3\\ +2.3\\ +2.3\\ \end{array} $	$\begin{array}{c} T2 \\ dB \\ +27.0 \\ +26.7 \\ +27.0 \\ +27.0 \\ +27.0 \\ +27.0 \\ \end{array}$	$\begin{array}{c} T3 \\ dB \\ 0 +21.2 \\ 7 +12.9 \\ \hline 0 +14.1 \\ \hline 0 +19.7 \\ \hline 0 +19.4 \\ \hline 1 -2.5 \\ \hline \end{array}$	dB	Dist           Table           +0.0           104           +0.0           92           +0.0           277           +0.0           189           +0.0           188	Corr dBµV/m 29.3 22.1 27.8 27.0 25.6	Spec         dBμV/m           37.0         30.0           37.0         37.0           37.0         37.0           37.0         37.0	Margin dB           -7.7           -7.9           -9.2           -10.0           -11.4	Polar Ant Horiz 185 Vert 125 Horiz 174 Vert 128 Horiz 112



#### **EMCE Engineering, Inc.**, 44366 S. Grimmer Blvd., Fremont, CA 94538 Tel:510-490-4307 Fax: 510-490-3441 e-mail: <u>bob@universalcompliance.com</u> Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of Accreditation under Lab Code 200092-0

Page 14 of 30

## Restricted Band Spurious Radiated Emissions Transmit Frequency 2402 MHz 1000 - 2400 MHz AVERAGE DETECTOR

Customer:Socket Mobile, Inc.Specification:FCC Rad Restricted Band 1000 - 2400Work Order #:3568Date:10/27/2011Test Type:Radiated ScanEquipment:Cordless Hand ScannerSocket MobileTested By:Manufacturer:Socket MobileModel:CHS 7CS/N:S/N:											
Test E	quipment:	CDI			G 111	D					
Functio	n M	S/N	A 11007		Calibration	n Date	Call I	Due Date	A	Asset #	
Measur	ement Syste	2542 em	AI1087		05/17/201	1	05/1	//2012	0	01	
Equip	ment Under	r Test (* :	= EUT):						-		
Functio	n		Manufact	turer		Model 7	#		S/N		
Cordles	ss Hand Sca	nner*	Socket M	lobile		CHS 70	2				
Suppo	rt Devices:										
Functio	n		Manufact	turer		Model 7	#		S/N		
Test C	onditions /	Notes:									
2402 N	ſHz										
Trans	ducer Leger	nd:									
T1=25'	LMR #001										
Ext A	Attn: 0 dB		D 1' 1'				T				
Measu	rement Data	l: Ddma	Reading I	isted by	margin.		Dist	est Distance	e: I Mete	r Morain	Dolor
#	гтеq MHz	dBuV	dB	dB	dB	dB	Dist Table	dBuV/m	dBuV/m	dB	Ant
1	1602.179M	<u>42.</u>	$\frac{ab}{5 + 1.2}$	uD.	<u>u</u> D	uD	-10.0	33.7	<u>54.0</u>	-20.3	Vert
2	1008.493M	25.	3 +1.0				-10.0	16.3	54.0	-37.7	Vert
3	1389.117M	[ 24.	6 +0.9				-10.0	15.5	54.0	-38.5	Vert
4	1002.548M	[ 24.	0 +1.0				-10.0	15.0	54.0	-39.0	Vert
5	1392.132M	[ 23.4	4 +0.9				-10.0	14.3	54.0	-39.7	Vert
6	1031.424M	[ 22.	0 +1.0				-10.0	13.0	54.0	-41.0	Vert



## Restricted Band Spurious Radiated Emissions Transmit Frequency 2402 MHz

### 2483.5 - 25000 MHz AVERAGE DETECTOR

Customer:	Socket M	obile, Inc.									
Specification:	FCC 15.2	09 Averag	e Limits								
Work Order #:	3568	0		Date: 10/28/2011							
Test Type:	Radiated	Scan		Time: 10:20:21 AM							
Equipment:	Cordless	Hand Scar	ner	Sequence# 35							
Manufacturer:	Socket M	obile			Tested By	v: Bob Co	ole				
Model:	CHS 7C				••••••						
S/N:											
Test Equipment	:										
Function	S/N		Calibra	ation Date	Cal D	ue Date	Asset #				
HP 84125B RF	2542	A11087	05/17/2	2011	05/17/	/2012	001				
Measurement Sys	stem										
Equipment Und	er Test (* =	EUT):					-				
Function		Manufactu	rer	Model #	Ł		S/N				
Cordless Hand So	canner*	Socket Mo	bile	CHS 7C	1						
Support Devices	:										
Function		Manufactu	rer	Model #	Ł		S/N				
Test Conditions	/ Notes:										
2402 MHz											
Transducer Leg	end:										
Ext Attn: 0 d	В										
Measurement Da	ıta:	Reading li	sted by margi	n.	Те	st Distanc	e: 1 Meter				
# Freq	Rdng				Dist	Corr	Spec	Margin	Polar		
MHz	dBµV	dB dB	dB d	B dB	Table	dBµV/m	dBµV/m	dB	Ant		
1 4806.162	2M 58	.9			-10.0	48.9	54.0	-5.1	Vert		
2 17972.90	OM 35	.0			-10.0	25.0	54.0	-29.0	Vert		
3 9609.643	3M 31	.1			-10.0	21.1	54.0	-32.9	Vert		
4 17493.440	OM 30	.4			-10.0	20.4	54.0	-33.6	Vert		
5 7207.149	9M 30	.0			-10.0	20.0	54.0	-34.0	Vert		
6 16893.940	OM 27	.8			-10.0	17.8	54.0	-36.2	Vert		



## Restricted Band Spurious Radiated Emissions Transmit Frequency 2402 MHz

# *1000 - 2400 MHz PEAK DETECTOR*

Test Loo	cation: I	EMCE Engineering •44366 S. Grimmer Blvd • Fremont, CA 94538 • 510-490-4307											
Customa Specific Work O Test Tyj Equipma Manufaa Model: S/N:	er: S eation: J rder #: 2 pe: J ent: S cturer: S	Socket Mo FCC Peak 3568 Radiated S Cordless I Socket Mo CHS 7C	bbile, Inc. 1000 - 24 Scan Hand Scan bile	400 nner	Date: 10/27/2011 Time: 11:52:25 AM Sequence#: 23 Tested By: Bob Cole								
Test Eq	quipment:												
Function HP 8412	n 25B RF	S/N 2542A	.11087		Calibration 05/17/201	Calibration DateCal Due DateAsset05/17/201105/17/2012001							
		TT (* )											
Equipn	nent Under	Test (* = 1)	EUT): Manufactu	iror		Model	#		S/N				
Cordles	s Hand Scar	nner* S	Socket Mc	bile		CHS 70	7		<b>B</b> /1 <b>N</b>				
Suppor	rt Devices:						-						
Function	n	Ν	Manufactu	ırer		Model	#		S/N				
<i>Test Co</i> 2402 M	o <b>nditions</b> / 1 Hz	Notes:											
Transd	lucer Legen	d:											
T1=25'	LMR #001												
Ext A	ttn: 0 dB												
Measur	ement Data	: R	eading lis	ted by	margin. Test Distance: 1 Meter								
#	Freq MHz	Rdng dBuV	T1 dB	dB	dB	dB	Dist Table	Corr dBuV/m	Spec dBuV/m	Margin dB	Polar Ant		
1	1603.184M	51.6	+1.2	42		uD	-10.0	42.8	74.0	-31.2	Vert		
2	1643.385M	51.0	+1.2				-10.0	42.2	74.0	-31.8	Vert		
3 2	2399.351M	48.3	+1.3				-10.0	39.6	74.0	-34.4	Vert		
4	1550.924M	43.1	+1.1				-10.0	34.2	74.0	-39.8	Vert		
5	1008.493M	43.1	+1.0				-10.0	34.1	74.0	-39.9	Vert		
6	1562.984M	42.0	+1.1				-10.0	33.1	74.0	-40.9	Vert		

**EMCE Engineering, Inc.**, 44366 S. Grimmer Blvd., Fremont, CA 94538 Tel:510-490-4307 Fax: 510-490-3441 e-mail: <u>bob@universalcompliance.com</u> Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of Accreditation under Lab Code 200092-0



## Restricted Band Spurious Radiated Emissions Transmit Frequency 2441 MHz

### 2483.5 - 25000 MHz PEAK DETECTOR

Customer: Specification: Work Order #: Test Type: Equipment: Manufacturer: Model: S/N:	Socket I FCC 15 3568 Radiate Cordles Socket I CHS 7C	Mobile, I .209 Pea d Scan s Hand S Mobile	nc. k Limits Scanner		Se T	Date Time equence fested By	e: 10/27/2 e: 12:48:2 #: 30 y: Bob Co	2011 25 PM ble			
Test Equipment											
Function	S/N			Calibratio	n Date	Cal D	ue Date	Ass	set #		
HP 84125B RF	2542	2A11087		05/17/201	1	05/17/	2012	001			
Measurement Sys	lem										
Equipment Und	er Test (*	<u>= EUT):</u>			26 1 1 11			0.b.t			
Function		Manufa	acturer		Model #			S/N			
Cordiess Halid Sc	anner .	Socket	Mobile		спз /с						
Support Devices	:				36 1 1 11			CAL			
Function		Manufa	acturer		Model #			S/N			
Test Conditions	/ Notes:										
2441 MHz											
Transducer Leg	end:										
Ext Attn: 0 d	В										
Measurement Da	ta:	Readir	ng listed by	y margin.		Te	st Distance	e: 1 Meter			
# Freq	Rdn	lg V JF	. ID	٦Ŀ	JD	Dist	Corr	Spec	Margin	Polar	
MHZ	ави	<u>v dE</u>	a B	đВ	đВ		$\frac{dB\mu V/m}{54.2}$	$\frac{dB\mu V/m}{74.0}$	<u>dB</u>	Ant	
1 4884.487	IVI 0	4.2				-10.0	54.2	/4.0	-19.8	vert	
2 17903.920	)M 4	7.2				-10.0	37.2	74.0	-36.8	Vert	
2 17822 700	)M 4	6.2				10.0	26.2	74.0	27.7	Vort	
5 1/855./00	J1VI 4	0.5				-10.0	50.5	/4.0	-51.1	veit	
4 17881.740	)M 4	6.2				-10.0	36.2	74.0	-37.8	Vert	
5 17804.140	)M 4	6.1				-10.0	36.1	74.0	-37.9	Vert	
6 17754.870	)M 4	6.0				-10.0	36.0	74.0	-38.0	Vert	



#### RX MODE

### *1000 - 2400 MHz PEAK DETECTOR*

Test Locat	tion: E	EMCE Engineering •44366 S. Grimmer Blvd • Fremont, CA 94538 • 510-490-4307											
Customer: Specificati Work Ord Test Type Equipmen Manufactu Model: S/N:	S ion: F er #: 3: : R t: C irer: S C	ocket Mo CC Peak 568 adiated S ordless F ocket Mo HS 7C	bile, Inc. 1000 - 24 Scan Iand Scar bile	00 nner			Da Tir Sequence Tested F	nte: 10/27 ne: 12:09 e#: 26 3y: Bob C	/2011 :38 PM Cole				
Test Equi	ipment:												
Function		S/N			Calibration	n Date	Cal I	Due Date	As	set #			
HP 84125	B RF	2542A11087			05/17/201	1	05/1	7/2012	00	1			
Measurem	ent Systen	1											
Equipme	nt Under T	$Test \ (* = 1)$	EUT):						Gat				
Function	I I.C	N N	Aanufactu	rer		Model 7	# ~		S/N				
Cordless F	land Scan	ner* S	ocket Mo	bile		CHS /(	ب						
Support 1	Devices:												
Function		N	Aanufactu	rer		Model 7	#		S/N				
Test Con	ditions / N	otes:											
RX Mode													
Transduc	er Legend	l:											
T1=25' LN	/IR #001												
Ext Att	n: 0 dB												
Measuren	ent Data:	R	eading list	ted by	margin.		Те	st Distance	e: 1 Meter				
#	Freq	Rdng	T1 JD	JD	٦Ŀ	ЛĿ	Dist	Corr	Spec	Margin	Polar		
1 16	MHZ	<u>α</u> Βμν		đВ	đВ	đВ		$\frac{dB\mu V/m}{27.8}$	$\frac{dB\mu V/m}{74.0}$	<u>ab</u>	Ant		
1 10	27.304W	40.0	±1.2				-10.0	57.8	/4.0	-30.2	ven		
2 10	08.493M	42.0	+1.0				-10.0	33.0	74.0	-41.0	Vert		
3 15	47.908M	41.5	+1.0				-10.0	32.5	74.0	-41.5	Vert		
4 23	29.209M	39.9	+1.2				-10.0	31.1	74.0	-42.9	Vert		
5 15	54.944M	39.6	+1.1				-10.0	30.7	74.0	-43.3	Vert		
6 15	61.979M	39.4	+1.1				-10.0	30.5	74.0	-43.5	Vert		

**EMCE Engineering, Inc.**, 44366 S. Grimmer Blvd., Fremont, CA 94538 Tel:510-490-4307 Fax: 510-490-3441 e-mail: <u>bob@universalcompliance.com</u> Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of Accreditation under Lab Code 200092-0



### RX MODE

### *1000 - 2400 MHz AVERAGE DETECTOR*

Test Location: EMCE Engineering •44366 S. Grimmer Blvd • Fremont, CA 94538 • 510-490-4307

Custon	ner:	Socket Mo	obile, Inc	•									
Specifi	ication:	FCC 15.2	09 Avera	ge Lim	its								
Work (	Order #:	<b>3568</b> Date: 10/27/2011											
Test T	ype:	Radiated	Scan			Time: 2:29:08 PM							
Equipr	nent:	Cordless Hand Scanner Sequence#: 33											
Manuf	acturer:	Socket Mc	obile				Tested B	y: Bob Co	ole				
Model	:	CHS 7C											
S/N:													
Test E	Equipment:												
Function S/N			Calibration	Calibration Date Cal Due Date Asset #									
HP 841	125B RF	2542A	11087		05/17/201	1	05/17	/2012	001				
Measu	rement Syste	em											
Equip	ment Under	• Test (* =	EUT):										
Functio	on	]	Manufact	urer		Model #			S/N				
Cordle	ss Hand Sca	nner*	Socket M	obile		CHS 7C							
Suppo	ort Devices:												
Functio	on	]	Manufact	urer		Model #			S/N				
Test C	Conditions /	Notes:											
RX Mo	ode												
Trans	ducer Leger	ıd:											
Ext	Attn: 0 dB												
Measu	rement Data	ı:	Reading	listed by	y margin. Test Distance: 1 Meter								
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar		
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant		
1	17983.990N	М 34.	8				-10.0	24.8	54.0	-29.2	Vert		
2	17400 4601	<u> </u>	<b>`</b>				10.0	20.2	54.0	22.8	Vort		
2	1/499.4001	VI 30.2	2				-10.0	20.2	54.0	-33.8	ven		
3	16898.4601	M 27.	7				-10.0	17.7	54.0	-36.3	Vert		
4	14503.500N	M 24.9	9				-10.0	14.9	54.0	-39.1	Vert		
5	16280 0301	<u> 1</u> 24 9	8				_10.0	14.8	54.0	_30.2	Vert		
5	10209.9901	×1 24.0	0				-10.0	14.0	54.0	-39.4	vert		
6	13983.8401	M 24.:	5				-10.0	14.5	54.0	-39.5	Vert		
L													

**EMCE Engineering, Inc.**, 44366 S. Grimmer Blvd., Fremont, CA 94538 Tel:510-490-4307 Fax: 510-490-3441 e-mail: <u>bob@universalcompliance.com</u> Accredited by the National Voluntary Laboratory Accreditation Program for the specific scope of Accreditation under Lab Code 200092-0



#### RX MODE

### 2483.5 - 25000 MHz PEAK DETECTOR

Customer	: S	ocket Mo	obile, Inc.									
Specificat	tion: <b>F</b>	CC 15.20	<b>)9 Averag</b>	e Lim	its							
Work Orc	ler #: 3	<b>3568</b> Date: 10/27/2011										
Test Type	e: R	Radiated S	Scan		Time: 2:29:08 PM							
Equipmer	nt: C	Cordless I	Hand Scar	nner	Sequence#: 33							
Manufact	urer: S	ocket Mo	bile			, ,	Tested B	y: Bob Co	ole			
Model:	C	CHS 7C										
S/N:												
Test Equ	ipment:											
Function S/N			Calibration	n Date	Cal D	ue Date	Ass	sset #				
HP 84125	B RF	2542A	11087		05/17/201	1	05/17	/2012	001			
Measuren	nent Syster	n										
Equipme	ent Under l	<b>Test</b> (* =	EUT):									
Function		1	Manufactu	rer		Model #			S/N			
Cordless I	Hand Scan	ner* S	Socket Mo	bile		CHS 7C						
Support	Devices:											
Function		1	Manufactu	rer		Model #			S/N			
Test Con	ditions / N	lotes:										
RX Mode	•											
Transdu	cer Legend	1:										
	0											
Ext At	tn: 0 dB											
Measuren	nent Data:		Reading li	sted by	y margin.		Τe	est Distance	e: 1 Meter			
#	Freq	Rdng					Dist	Corr	Spec	Margin	Polar	
	MHz	dBµV	dB	dB	dB	dB	Table	dBµV/m	dBµV/m	dB	Ant	
1 17	7983.990M	34.8	3				-10.0	24.8	54.0	-29.2	Vert	
2 17	7400 460M	20.2	<b>.</b>				10.0	20.2	54.0	22.0	Vort	
2 17	499.400101	50.2	2				-10.0	20.2	34.0	-33.8	ven	
3 16	5898.460M	27.7	7				-10.0	17.7	54.0	-36.3	Vert	
4 14	1503.500M	24.9	)				-10.0	14.9	54.0	-39.1	Vert	
5 16	5289.930M	24 8	3				-10.0	14.8	54 0	-39 2	Vert	
		2	~				10.0	1 1.0	- 1.0	27.2		
6 13	39 <mark>83.840M</mark>	24.5	5				-10.0	14.5	54.0	-39.5	Vert	



### RX MODE

### 2483.5 - 25000 MHz Average DETECTOR

Custom Specific Work C	ner: cation: Order #:	Socket M FCC 15.2 3568 Padiated	Iobile, In 209 Aver	ic. age Lim	its		Dat Tim	e: 10/27/2	2011 8 DM			
Equipm	pe. Pent:	Cordless	Hond Se	onnar	TIME. 2:29:08 PWI Sequence#: 33							
Manufa	ioni. acturer	Socket M	Inalia St Iohile	annei			Tested B	v: Boh C	ole			
Model.	ieturer.	CHS 7C	loone				Tested D	y. Doo C	010			
S/N:		0110 / 0										
Test E	quipment:											
Functio	n	S/N			Calibration	n Date	Cal D	ue Date	Ass	set #		
HP 841	25B RF	2542	A11087		05/17/2011	l	05/17	/2012	001			
Measur	ement Syste	em										
Equip	ment Under	r Test (* =	= EUT):									
Functio	n		Manufac	cturer		Model #	Ł		S/N			
Cordles	ss Hand Sca	nner*	Socket N	Mobile		CHS 7C						
Suppo	rt Devices:		-			-			<u>.</u>			
Functio	n		Manufac	eturer		Model #	ŧ		S/N			
Test C	onditions /	Notes:										
RX Mo	de											
Transa	ducer Leger	nd:										
Ext A	Attn: 0 dB											
Measur	rement Date	<i>i</i> :	Reading	g listed by	y margin.		Те	est Distanc	e: 1 Meter			
#	Freq	Rdng	, ID	10	15	10	Dist	Corr	Spec	Margin	Polar	
	MHz	dBµV	/ dB	dB	dB	dB	Table	$dB\mu V/m$	$dB\mu V/m$	dB	Ant	
1	17983.9901	M 34.	.8				-10.0	24.8	54.0	-29.2	Vert	
2	17499.4601	M 30	.2				-10.0	20.2	54.0	-33.8	Vert	
3	16898.4601	M 27	7.7				-10.0	17.7	54.0	-36.3	Vert	
4	14503.5001	M 24	.9				-10.0	14.9	54.0	-39.1	Vert	
5	16289.930	M 24	.8				-10.0	14.8	54.0	-39.2	Vert	
6	13983.8401	M 24	.5				-10.0	14.5	54.0	-39.5	Vert	

