

# Intentional Radiator Test Report

Test Standards:  
FCC Part 15.225 (Subpart C – Intentional Radiators)  
Industry Canada RSS-210, Issue 8

Prepared For:  
Socket Mobile, Inc.  
39700 Eureka Drive  
Newark, CA 54560

Product Name :  
NFC Reader-Scan Card

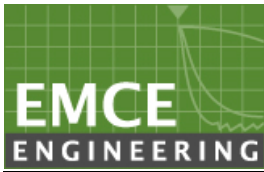
Model Name :  
CF RFID 6E2

Application Purpose : Original

Prepared by:

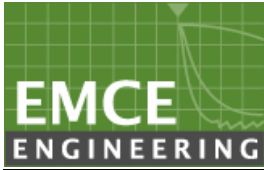
EMCE Engineering, Inc.  
44366 S. Grimmer Blvd.  
Fremont, CA 94538  
USA

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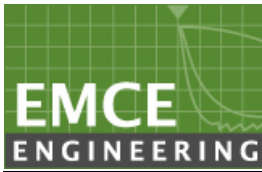
## **Revision History**

Rev.	Issue Date	Description
0	4/28/14	Initial Issue



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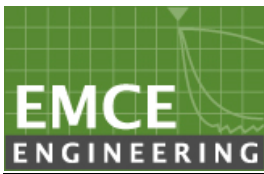
## 1.0 GENERAL INFORMATION

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 Test Site : FCC : US5291, IC : 3324A
Applicant Name :	Socket Mobile, Inc. 39700 Eureka Drive Newark, CA 94560 Tel: 510-933-3300 Contact Person: Tim Miller
Application Purpose :	Original
EUT Description	NFC Reader-Scan Card
Product Name	NFC Reader-Scan Card
Model Name :	CF RFID 6E2
Applied Standards :	47 CFR §15.207, 15.209, 15.225: 2010 & Canadian Standards RSS-GEN Issue 3, RSS-210 Issue 8
FCC ID :	LUBCF6V2
IC :	2529A-CF6V2
RF Operating Frequency (ies)	13.56MHz
Modulation	ASK
Emission Designator	16K6K1D
Receipt of EUT :	4/4/14
Date of Testing :	4/8/14 – 4/28/14
Date of Report :	4/28/14

The tests listed in this report have been completed to demonstrated compliance to the CFR 47 Section 15.225, as well as Industry Canada Radio Standard RSS-210, Issue 8.

Contents approved:


Name: Bob Cole Title: President



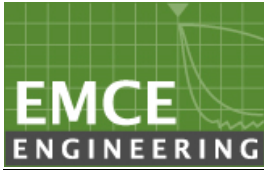
## 2.0 EUT AND ACCESSORY INFORMATION

EUT				
Model name:	CF RFID 6E2			
Description:	NFC Reader-Scan Card (13.56MHz)			
Manufacturer:	Socket Mobile, Inc.			
Support Equipment				
Description	Model Number	Serial Number	Manufacturer	Power Cable Description
PDA	SoMo 655	N/A	Socket Mobile	Unshielded / 1 Meter
Cable Description				
From	To	Length (Meters)	Shielded (Y/N)	Ferrite Loaded (Y/N)
PDA	Power	1.5	Y	N

### 3.0 SUMMARY OF TEST RESULTS

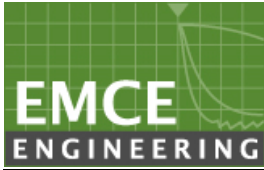
Test Standard		Description	Pass / Fail
47 CFR Part 15.225: 2010	RSS 210 Issue 8		
15.203		Antenna Requirement	Pass
15.207(a)	RSS Gen(7.2.2)	Conducted Emissions Voltage	Pass
15.225(a)	RSS210(A2.6)	Limit in the band of 13.553 – 13.567 MHz	Pass
15.225(b)	RSS210(A2.6)	Limit in the band of 13.410 – 13.553 MHz and 13.567 – 13.710 MHz	Pass
15.225(c)	RSS210(A2.6)	Limit in the band of 13.110 – 13.410 MHz and 13.710 – 14.010 MHz	Pass
15.225(d), 15.209	RSS210(A2.6)	Limit outside the band of 13.110 – 14.010 MHz	Pass
15.225(e)	RSS210(A2.6)	Frequency Stability	Pass
	RSS-210(5.9.1)	Occupied Bandwidth	Pass
ANSI C63.4: 2009/ RSS-Gen Issue 3			
PS: All measurement uncertainties are not taken into consideration for all presented test result.			

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



## 4.0 MODIFICATIONS

There were no modifications.



## 5.0 TEST RESULTS

### 5.1 Antenna Requirement

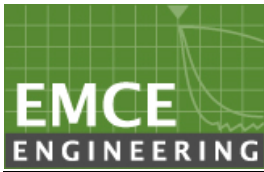
**Requirement(s):** 47 CFR §15.203

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

Antenna requirement must meet at least one of the following:

- a) Antenna must be permanently attached to the device.
  - b) Antenna must use a unique type of connector to attach to the device.
  - c) Device must be professionally installed. Installer shall be responsible for ensuring that the correct antenna is employed with the device.
- 
- 1) The RFID antenna is integral to the main board permanently to the device which meets the requirement (See Internal Photographs submitted as another Exhibit).





## 5.2 Conducted Emissions Voltage

**Requirement(s):** 47 CFR §15.207

Requirement:

Frequency of emission (MHz)	Conducted limit (dBμV)	
	Quasi-peak	Average
0.15–0.5	66 to 56*	56 to 46*
0.5–5	56	46
5–30	60	50

\*Decreases with the logarithm of the frequency.

### Procedures:

1. All possible modes of operation were investigated. Only the 6 worst case emissions measured, using the correct CISPR and Average detectors, are reported. All other emissions were relatively insignificant.
2. A "-ve" margin indicates a PASS as it refers to the margin present below the limit line at the particular frequency.
3. Conducted Emissions Measurement Uncertainty  
All test measurements carried out are traceable to national standards. The uncertainty of measurement at a confidence level of approximately 95% (in the case where distributions normal), with a coverage factor of 2, in the range 9kHz – 30MHz (Average & Quasi-peak)  $\pm 3.5$ dB.
4. Environmental Conditions  
Temperature 24°C  
Relative Humidity 45%  
Atmospheric Pressure 1010mbar

Test Date : 4/8/2014

Tested By : Bob Cole

**Results:** Pass



FCC Part 15.207 Line Conducted Emissions  
120V / 60 Hz - Line 1  
150kHz – 30 MHz

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

Customer: **Socket Mobile, Inc.**  
Specification: **EN55022 B COND [QP]**  
Work Order #: **4030**  
Test Type: **Conducted Emissions**  
Equipment: **NFC Reader-Scan Card**  
Manufacturer: **Socket Mobile**  
Model: **CF RFID 6E2**  
S/N: **N/A**

Date: 4/8/2014  
Time: 11:34:21 AM  
Sequence#: 1  
Tested By: Bob Cole  
120V 60Hz

**Test Equipment:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B Spectrum Analyzer	3014A06947	05/02/2012	05/02/2014	598
HP 85650A Quasi Peak Adapter	3145A01673	05/02/2013	05/02/2015	003
EMCO 3810-2 LISN	4576	05/17/2012	05/17/2014	007
EMITest Measurement Software	v4.01 Build 195	05/01/2012	05/01/2014	610

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

Function	Manufacturer	Model #	S/N
NFC Reader-Scan Card*	Socket Mobile	CF RFID 6E2	N/A

**Support Devices:**

Function	Manufacturer	Model #	S/N
PDA	Socket Mobile	SoMo 655	N/A
AC Adapter	PI	P015WA0508	N/A

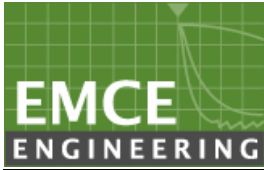
**Test Conditions / Notes:**

SoMo 655 AC Adapter Connected to LISN EUT plugged into SoMo 655 EUT exercised via RFID Test Rev 1.2 FW:40b0
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**Transducer Legend:**

T1=25' LMR #001	T2=EMCO 3810-2 LISN S/N 9807-1988
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Ext Attn: 0 dB



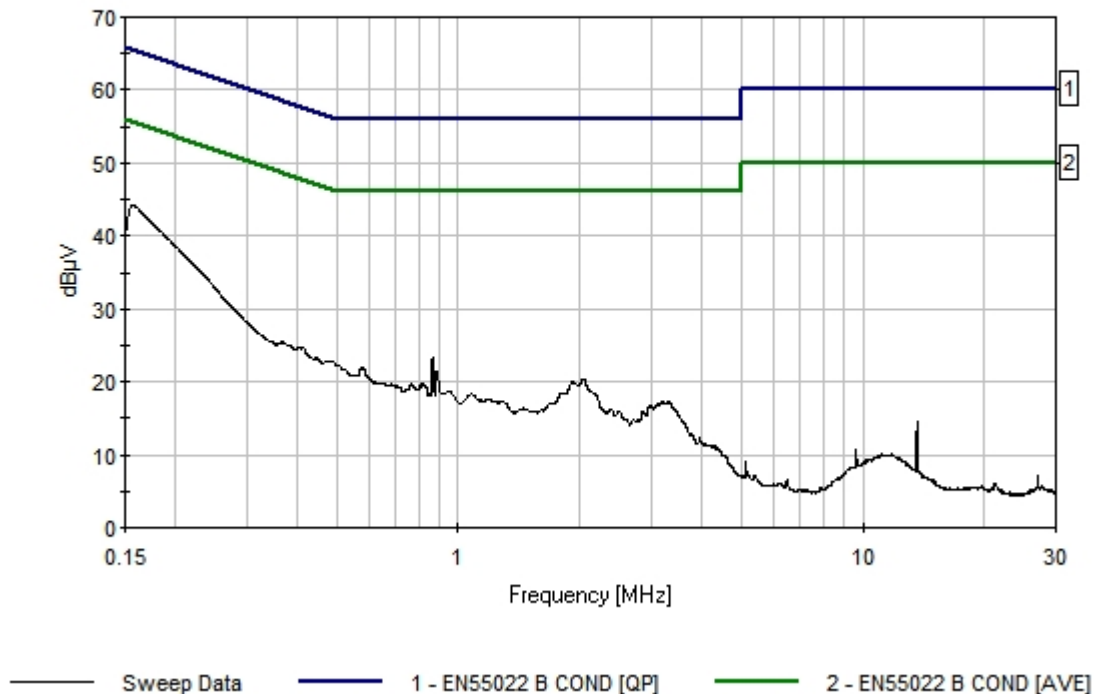
**Measurement Data:**

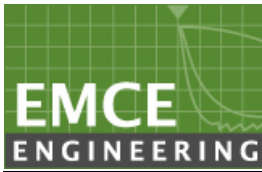
Reading listed by margin.

Test Lead: Line 1

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB		Dist Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	156.545k	43.0	+0.0	+1.1		+0.0	44.1	65.6	-21.5	Line
2	863.383k	22.9	+0.0	+0.5		+0.0	23.4	56.0	-32.6	Line
3	877.000k	20.8	+0.0	+0.5		+0.0	21.3	56.0	-34.7	Line
4	2.021M	19.7	+0.0	+0.6		+0.0	20.3	56.0	-35.7	Line
5	3.288M	16.6	+0.0	+0.7		+0.0	17.3	56.0	-38.7	Line
6	13.606M	13.6	+0.0	+0.9		+0.0	14.5	60.0	-45.5	Line

EMCE Engineering Date: 4/8/2014 Time: 11:34:21 AM Socket Mobile, Inc. WO#: 4030  
EN55022 B COND [QP] Test Lead: Line 1 120V 60Hz Sequence#: 1 Ext ATTN: 0 dB





**FCC Part 15.207 Line Conducted Emissions**  
**120V / 60 Hz - Line 2**  
**150kHz – 30 MHz**

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

Customer: **Socket Mobile, Inc.**  
Specification: **EN55022 B COND [QP]**  
Work Order #: **4030**  
Test Type: **Conducted Emissions**  
Equipment: **NFC Reader-Scan Card**  
Manufacturer: **Socket Mobile**  
Model: **CF RFID 6E2**  
S/N: **N/A**

Date: 4/8/2014  
Time: 11:40:44 AM  
Sequence#: 2  
Tested By: Bob Cole  
120V 60Hz

**Test Equipment:**

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8566B Spectrum Analyzer	3014A06947	05/02/2012	05/02/2014	598
HP 85650A Quasi Peak Adapter	3145A01673	05/02/2013	05/02/2015	003
EMCO 3810-2 LISN	4576	05/17/2012	05/17/2014	007
EMITest Measurement Software	v4.01 Build 195	05/01/2012	05/01/2014	610

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

Function	Manufacturer	Model #	S/N
NFC Reader-Scan Card*	Socket Mobile	CF RFID 6E2	N/A

**Support Devices:**

Function	Manufacturer	Model #	S/N
PDA	Socket Mobile	SoMo 655	N/A
AC Adapter	PI	P015WA0508	N/A

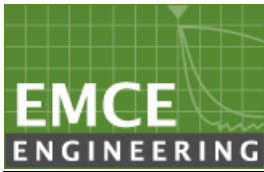
**Test Conditions / Notes:**

SoMo 655 AC Adapter Connected to LISN
EUT plugged into SoMo 655
EUT exercised via RFID Test Rev 1.2 FW:40b0

**Transducer Legend:**

T1=25' LMR #001	T2=EMCO 3810-2 LISN S/N 9807-1988
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Ext Attn: 0 dB



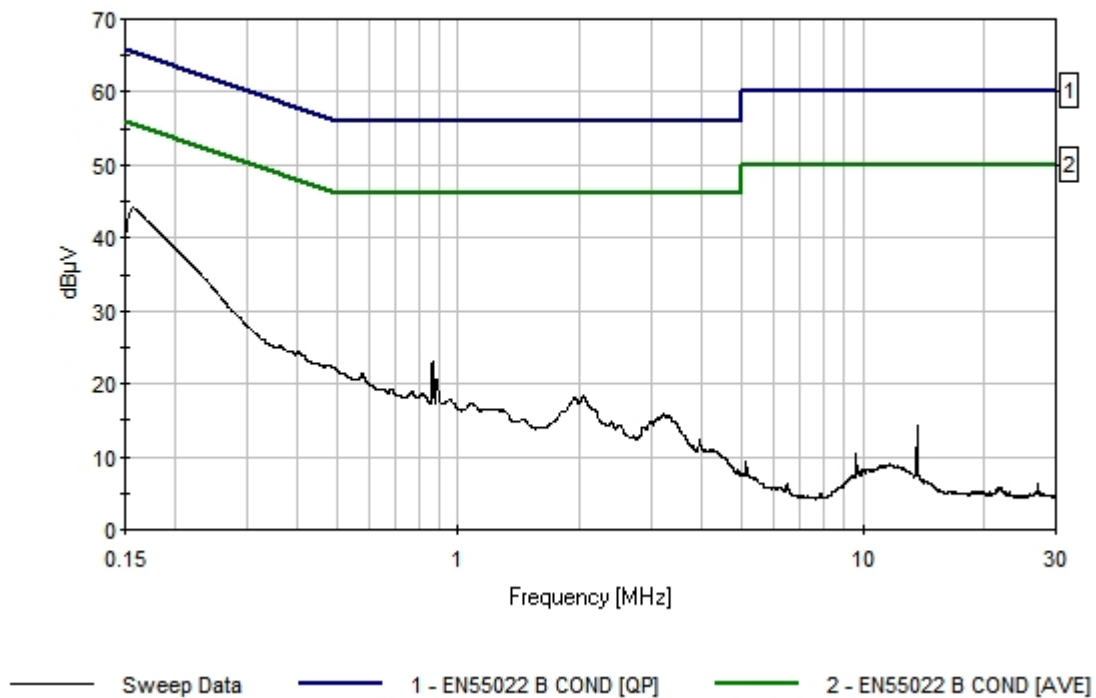
**Measurement Data:**

Reading listed by margin.

Test Lead: Line 2

#	Freq MHz	Rdng dBμV	T1 dB	T2 dB	Dist dB	Table	Corr dBμV	Spec dBμV	Margin dB	Polar Ant
1	156.545k	43.0	+0.0	+1.1		+0.0	44.1	65.6	-21.5	Line
2	862.656k	22.6	+0.0	+0.5		+0.0	23.1	56.0	-32.9	Line
3	877.000k	20.0	+0.0	+0.5		+0.0	20.5	56.0	-35.5	Line
4	2.034M	17.7	+0.0	+0.6		+0.0	18.3	56.0	-37.7	Line
5	3.199M	15.1	+0.0	+0.7		+0.0	15.8	56.0	-40.2	Line
6	13.615M	13.5	+0.0	+0.9		+0.0	14.4	60.0	-45.6	Line

EMCE Engineering Date: 4/8/2014 Time: 11:40:44 AM Socket Mobile, Inc. WO#: 4030  
EN55022 B COND [QP] Test Lead: Line 2 120V 60Hz Sequence#: 2 Ext ATTN: 0 dB





### 5.3 Radiated Emission < 30MHz (9kHz - 30MHz, H-Field)

**Requirement(s):** 47 CFR §15.225 & RSS-210 (A2.6) & RSS-310 (3.7)

**Procedures:** For < 30MHz, Radiated emissions were measured according to ANSI C63.4. The EUT was set to transmit at the highest output power. The EUT was set 3 meter away from the measuring antenna. The loop antenna was positioned 1 meter above the ground from the centre of the loop. The measuring bandwidth was set to 10 kHz. (Note: During testing the receive antenna was rotated about its axis to maximize the emission from the EUT.)

The limit is converted from microvolt/meter to decibel microvolt/meter.

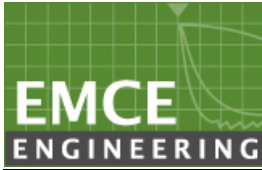
**Sample Calculation:** Corrected Amplitude = Raw Amplitude (dBµV/m) + ACF (dB) + Cable Loss (dB) – Distance Correction Factor

1. All possible modes of operation were investigated. Only the 6 worst case emissions measured, using the correct CISPR detectors, are reported. All other emissions were relatively insignificant.
2. A "-ve" margin indicates a PASS as it refers to the margin present below the limit line at the particular frequency.
3. Radiated Emissions Measurement Uncertainty  
All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, is +/-6dB.
4. Environmental Conditions      Temperature      24°C  
   Relative Humidity      45%  
   Atmospheric Pressure      1010mbar

Test Date : 4/28/2014

Tested By : Bob Cole

**Results:** Pass



## FCC Part 15.209 Radiated Emissions 9 kHz – 30 MHz

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

Customer: **Socket Communications**  
Specification: **15.209 9k-30M FCC Limits**  
Work Order #: **4030**  
Test Type: **Radiated Scan**  
Equipment: **NFC Reader-Scan Card**  
Manufacturer: **Socket Mobile, Inc.**  
Model: **6E2**  
S/N: **N/A**

Date: 4/28/2014  
Time: 1:37:04 PM  
Sequence#: 3  
Tested By: Bob Cole

### Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
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### Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
NFC Reader-Scan Card*	Socket Mobile, Inc.	CF RFID 6E2	N/A

### Support Devices:

Function	Manufacturer	Model #	S/N
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### Test Conditions / Notes:

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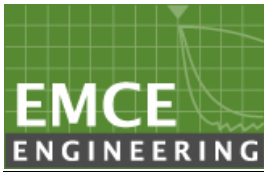
### Transducer Legend:

T1=25' LMR #001
-----------------

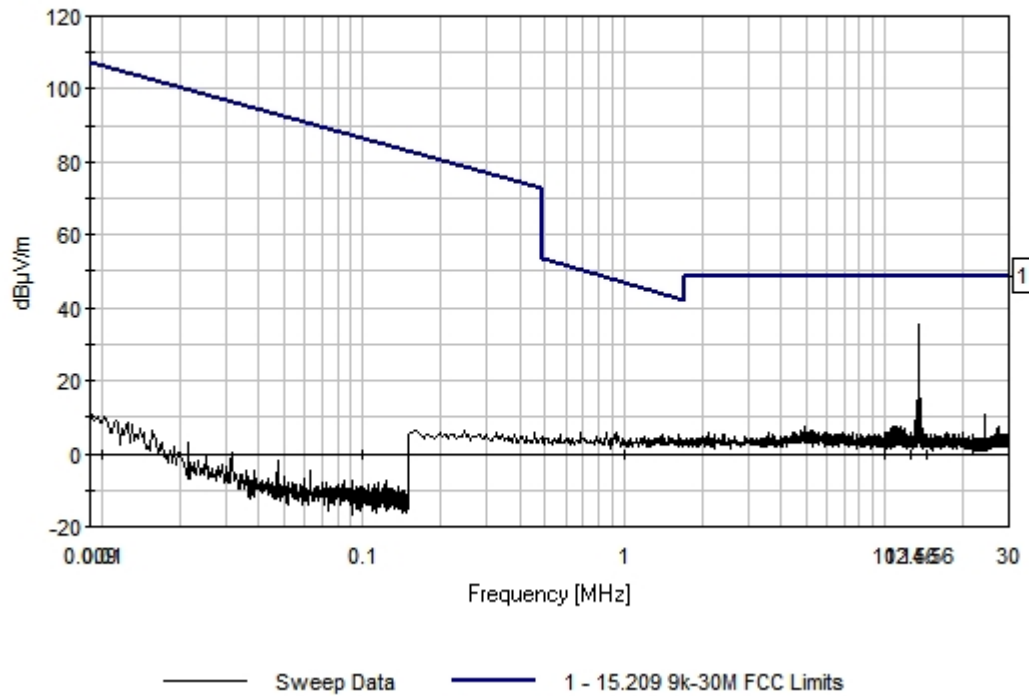
Ext Attn: 0 dB

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

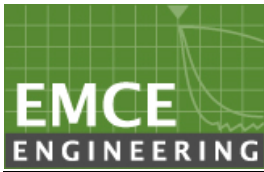
#	Freq MHz	Rdng dBμV	T1 dB	dB			Dist Table	Corr dBμV/m	Spec dBμV/m	Margin dB	Polar Ant
1	13.555M	45.7	+0.0				-10.0	35.7	48.6	-12.9	Vert
2	13.654M	27.3	+0.0				-10.0	17.3	48.6	-31.3	Vert
3	13.447M	26.1	+0.0				-10.0	16.1	48.6	-32.5	Vert
4	13.762M	25.4	+0.0				-10.0	15.4	48.6	-33.2	Vert
5	13.420M	24.8	+0.0				-10.0	14.8	48.6	-33.8	Vert
6	13.483M	24.4	+0.0				-10.0	14.4	48.6	-34.2	Vert



EMCE Engineering Date: 4/28/2014 Time: 1:37:04 PM Socket Communications WO#: 4030  
15.209 9k-30M FCC Limits Test Distance: 3 Meters Sequence#: 3 Ext ATTN: 0 dB







## 5.4 Radiated Emissions > 30 MHz (30MHz – 1 GHz, E-Field)

**Requirement(s):** 47 CFR §15.209; 47 CFR §15.225(d) & RSS-210 (A2.6)

**Procedures:** For > 30MHz, Radiated emissions were measured according to ANSI C63.4. The EUT was set to transmit at the highest output power. The EUT was set 10 meter away from the measuring antenna. The Log periodic antenna was positioned 1 meter above the ground from the centre of the antenna. The measuring bandwidth was set to 120 kHz. (Note: During testing the receive antenna was raised from 1~4 meters to maximize the emission from the EUT.)

The limit is converted from microvolt/meter to decibel microvolt/meter.

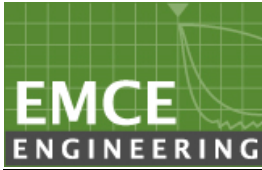
Sample Calculation: Corrected Amplitude = Raw Amplitude (dBμV/m) + ACF (dB) + Cable Loss(dB) – Distance Correction Factor

1. All possible modes of operation were investigated. Only the 6 worst case emissions measured, using the correct CISPR detectors, are reported. All other emissions were relatively insignificant.
2. A “-ve” margin indicates a PASS as it refers to the margin present below the limit line at the particular frequency.
3. Radiated Emissions Measurement Uncertainty  
All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, is +/-6dB.
4. Environmental Conditions      Temperature      24°C  
   Relative Humidity      45%  
   Atmospheric Pressure      1010mbar

Test Date : 4/15/2014

Tested By : Bob Cole

**Results:** Pass



FCC ID: LUBCF6V2, IC:2529A-CF6V2 Test Report # 4030-1

**FCC Part 15B Radiated Emissions  
30 MHz – 1 GHz**

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

Customer: **Socket Mobile, Inc.**  
Specification: **EN55022B RADIATED**  
Work Order #: **4030**  
Test Type: **Maximized Emissions**  
Equipment: **NFC Reader-Scan Card**  
Manufacturer: **Socket Mobile**  
Model: **CF RFID 6E2**  
S/N: **N/A**

Date: 4/15/2014  
Time: 12:06:22  
Sequence#: 4  
Tested By: Bob Cole

***Test Equipment:***

Function	S/N	Calibration Date	Cal Due Date	Asset #
HP 8593EM	3497A5703	05/17/2012	05/17/2014	609
HP 8447D PreAmp	2443A03587	05/01/2013	05/01/2015	008
Sunol Sciences JB6 Antenna	1090	08/14/2012	08/14/2014	701
EMITest Measurement Software	v4.01 Build 195	05/01/2012	05/01/2014	610

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

Function	Manufacturer	Model #	S/N
NFC Reader-Scan Card*	Socket Mobile	CF RFID 6E2	N/A

***Support Devices:***

Function	Manufacturer	Model #	S/N
PDA	Socket Mobile	SoMo 655	N/A
AC Adapter	PI	P015WA0508	N/A

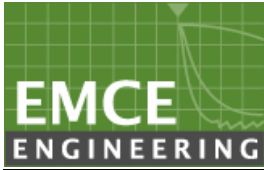
***Test Conditions / Notes:***

EUT Emissions Maximized | OATS 10 Meters  
EUT plugged into SoMo 655  
EUT exercised via RFID Test Rev 1.2 FW:40b0

***Transducer Legend:***

T1=8447 Pre-Amp Asset 377  
T2=Sunol JB6 S/N A42610  
T3=100' LMR 900 Rad Cable 12-2013

Ext Attn: 0 dB



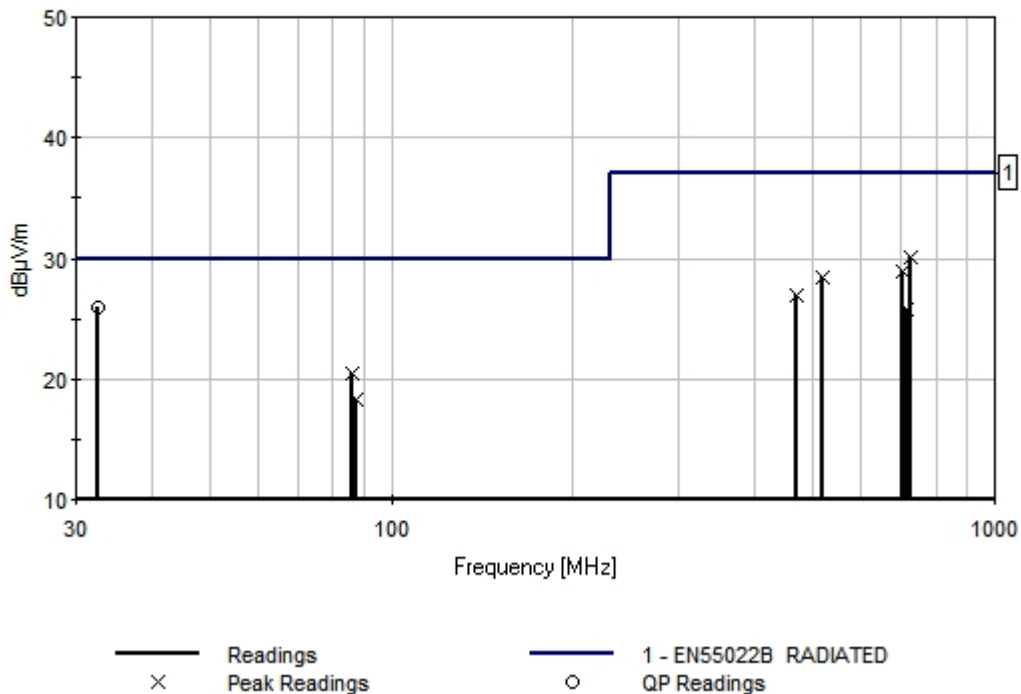
**Measurement Data:**

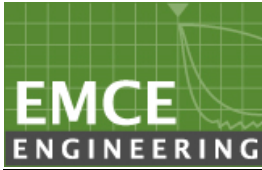
Reading listed by margin.

Test Distance: 10 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	32.596M QP	33.7	+27.0	+19.1	+0.1		+0.0 219	25.9	30.0	-4.1	Vert 177
2	727.969M	35.2	+27.1	+20.6	+1.4		+0.0 180	30.1	37.0	-6.9	Horiz 141
4	519.986M	36.2	+26.9	+18.1	+1.0		+0.0 55	28.4	37.0	-8.6	Horiz 206
5	85.800M	40.1	+27.0	+7.5	-0.1		+0.0 125	20.5	30.0	-9.5	Vert 100
6	467.976M	35.8	+26.9	+17.3	+0.8		+0.0 72	27.0	37.0	-10.0	Horiz 161
7	714.977M	31.0	+27.1	+20.4	+1.4		+0.0 2	25.7	37.0	-11.3	Horiz 144
8	87.320M	37.7	+26.9	+7.6	-0.1		+0.0 170	18.3	30.0	-11.7	Vert 100

EMCE Engineering Date: 4/15/2014 Time: 12:06:22 Socket Mobile, Inc. WO#: 4030  
EN55022B RADIATED Test Distance: 10 Meters Sequence#: 4 Ext ATTN: 0 dB





## 5.5 Frequency Stability

**Requirement(s):** 47 CFR §15.225(e) & RSS-210 (A2.6)

**Procedures:** Frequency Stability was measured according to 47 CFR §2.1055. Measurement was taken with spectrum analyzer. The spectrum analyzer bandwidth and span was set to read in hertz. A voltmeter was used to monitor when varying the voltage.

Limit:  $\pm 0.01\%$  of 13.5589 MHz = 1355 Hz

Environmental Conditions	Temperature	23°C
	Relative Humidity	45%
	Atmospheric Pressure	1010mbar

Test Date : 4/21/2014

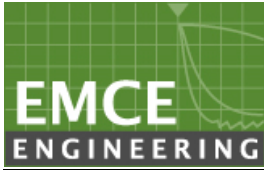
Tested By : Bob Cole

**Results:** Pass

**Frequency Stability versus Temperature:** The Frequency tolerance of the carrier signal shall be maintained within  $\pm 0.01\%$  of the operating frequency over a temperature variation of -20°C to +50°C at normal supply voltage.

Reference Frequency: 13.5589 MHz at -20°C and +50°C

Temperature (°C)	Measured Freq. (MHz)	Freq. Drift (Hz)	Freq. Deviation (Limit: 0.01%)	Pass/Fail
50	13.55904	96	<0.01	Pass
40	13.55913	87	<0.01	Pass
30	13.55911	89	<0.01	Pass
20	Reference (13.56 MHz)			
10	13.55962	38	<0.01	Pass
0	13.55922	78	<0.01	Pass
-10	13.55945	55	<0.01	Pass
-20	13.55946	54	<0.01	Pass



**Frequency Stability versus Input Voltage:** The Frequency tolerance of the carrier signal shall be maintained within  $\pm 0.01\%$ , the frequency of the transmitter was measured at 85% and at 115% of the rated power supply voltage at 20°C environmental temperature.

Carrier Frequency: 13.5589 MHz at 20°C at 5VDC

Measured Voltage $\pm 15\%$ of nominal (DC)	Measured Freq. (MHz)	Freq. Drift (Hz)	Freq. Deviation (Limit: 0.01%)	Pass/Fail
4.25	13.55982	18	<0.01	Pass
5.75	13.55977	23	<0.01	Pass

## 5.6 Fundamental Field Strength Test Result

1. All possible modes of operation were investigated. Only the 6 worst case emissions measured, using the correct CISPR detectors, are reported. All other emissions were relatively insignificant.
2. A “-ve” margin indicates a PASS as it refers to the margin present below the limit line at the particular frequency.
3. Radiated Emissions Measurement Uncertainty  
All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, is +/-6dB.
4. Environmental Conditions

Temperature	23°C
Relative Humidity	46%
Atmospheric Pressure	1010mbar

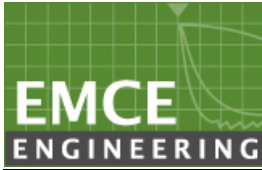
Test Date : 4/25/2014

Tested By : Bob Cole

### Test Requirement:

13.56MHz

- (a) The field strength of any emissions within the band 13.553–13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.
- (b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.
- (c) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.



## Peak Output Power Per CFR 47, Section 15.225 and RSS-210 Issue 8 A2.6

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

Customer: **Socket Communications**  
Specification: **RFID FCC Mask 3 Meter**  
Work Order #: **4030**  
Test Type: **Radiated Scan**  
Equipment: **NFC Reader-Scan Card**  
Manufacturer: **Socket Mobile, Inc.**  
Model: **CF RFID 6E2**  
S/N: **N/A**

Date: 4/25/2014  
Time: 11:18:49  
Sequence#: 1  
Tested By: Bob Cole

### Test Equipment:

Function	S/N	Calibration Date	Cal Due Date	Asset #
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### Equipment Under Test (\* = EUT):

Function	Manufacturer	Model #	S/N
NFC Reader-Scan Card*	Socket Mobile, Inc.	CF RFID 6E2	N/A

### Support Devices:

Function	Manufacturer	Model #	S/N
PDA	Socket Mobile	SoMo 655	N/A

### Test Conditions / Notes:

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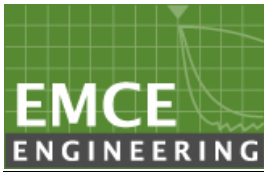
### Transducer Legend:

T1=25' LMR #001	T2=8447 Pre-Amp Asset 377
T3=LP-105 Loop Antenna	

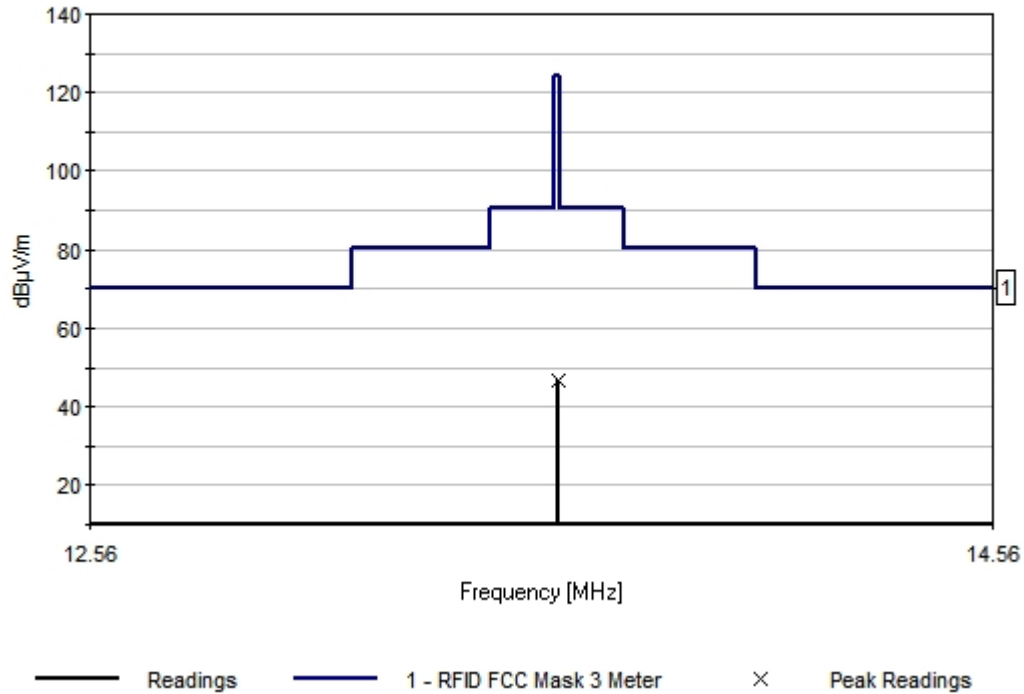
Ext Attn: 0 dB

Measurement Data: 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	13.560M	54.2	+0.0	+27.3	+19.6		+0.0	46.5	124.0	-77.5	Paral

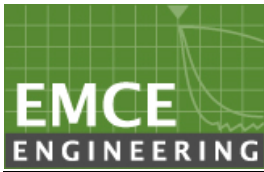


EMCE Engineering Date: 4/25/2014 Time: 11:18:49 Socket Communications WO#: 4030  
RFID FCC Mask 3 Meter Test Distance: 3 Meters Sequence#: 1 Ext ATTN: 0 dB



Frequency (MHz)	Corrected Amplitude Reading (dBuV/m @ 3M)
13.5602	46.5





## 5.7 Occupied Bandwidth

**Requirement(s):** RSS-210 (5.9.1)

**Procedures:** Occupied Bandwidth was measured according to RSS-210 (5.9.1). Measurement was taken with spectrum analyzer. The spectrum analyzer bandwidth and span was set to read in hertz.

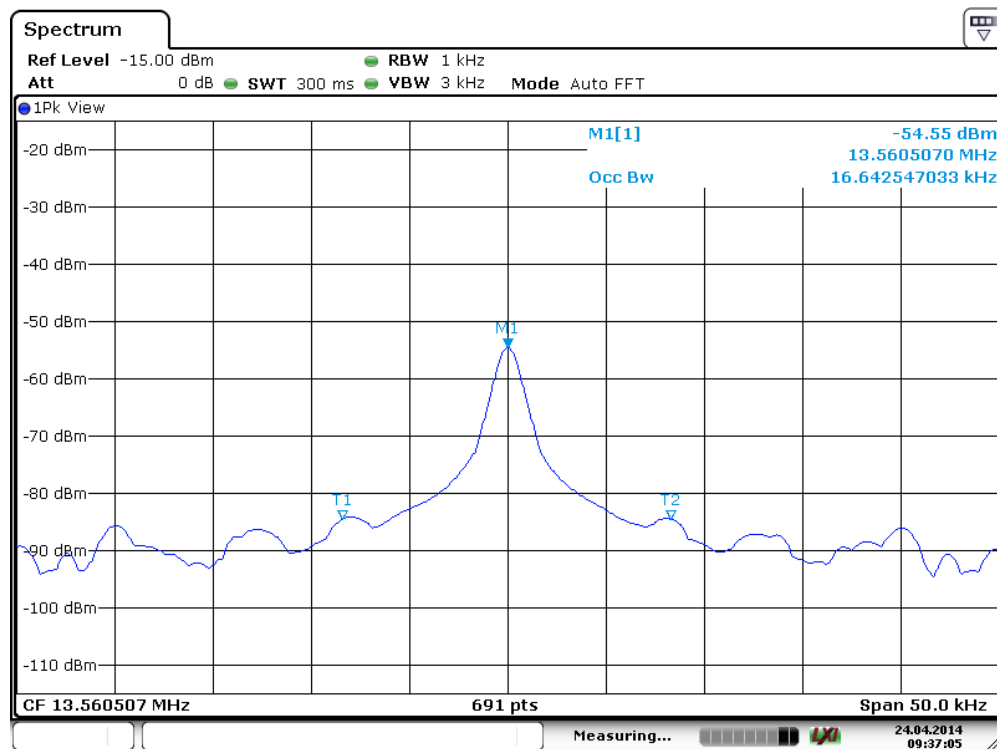
Environmental Conditions	Temperature	24°C
	Relative Humidity	45%
	Atmospheric Pressure	1010mbar

Test Date : 4/24/2014

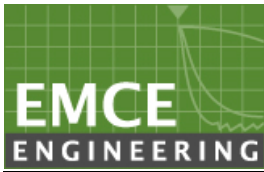
Tested By : Bob Cole

**Results:** Pass

Frequency	Occupied Bandwidth (99%)
13.5589 MHz	16.64 KHz



Date: 24 APR. 2014 09:37:05



## 6.0 TEST EQUIPMENT

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CAL. DATE	CAL. DUE DATE
Spectrum Analyzer Hewlett-Packard	8566B	3014A06947	5/2/12	5/2/14
Quasi-Peak Adapter Hewlett-Packard	85650A	3145A01673	5/2/13	5/2/15
EMI Analyzer System Hewlett-Packard	8593EM	3497A5703	5/17/12	5/17/14
Signal Analyzer Rohde-Schwarz	FSV7	1321.3008K7	3/10/14	3/10/16
HP 84125 EMI Measurement System	84125B	US36432003	5/1 /13	5/1/15
Pre-Amplifier(100KHz-1.3GHz) Hewlett-Packard	8447D	2443A03587	5/1/13	5/1/15
LISN(9KHz-30MHz) EMCO	3810-2	9807-1988	5/17/12	5/17/14
LISN(9KHz-30MHz) EMCO	3810-2	4576	5/17/12	5/17/14
BiConiLog Antenna Sunol Sciences	JB6	1090	8/14/12	8/14/14
Loop Antenna Eppire Devices	LP105	000114	1/15/14	1/15/16
Webber Temperature Chamber	WE4-100- 200	3-60-32	8/15/13	8/15/15
RF Signal Cable Murata	25' LMR	N/A	5/10 /13	5/10 /15
RF Signal Cable EMCE	100' LMR	N/A	5/1 /13	5/1 /15