

# Test report

**252445-1TRFWL**

Date of issue: June 13, 2014

Applicant:

**Kapsch TrafficCom Canada Inc.**

Product:

**TRP-8100**

Model

**802477-TAB**

FCC ID:

**JQU802477**

IC Registration number:

**2665A-802477**

Specifications:

- ◆ **FCC Part 90, Subpart M**  
LMS operations in the 902–928 MHz band
- ◆ **RSS-137 Issue 2, February 2009**  
Location and Monitoring Service in the Band 902–928 MHz

#### Test location

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Company name:	Nemko Canada Inc.
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City:	Ottawa
Province:	Ontario
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Country:	Canada
Telephone:	+1 613 737 9680
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Toll free:	+1 800 563 6336
Website:	www.nemko.com
Site number:	FCC: 176392; IC: 2040A-4 (3 m semi anechoic chamber)

Tested by:	Kevin Rose, Wireless/EMC Specialist
Reviewed by:	Andrey Adelberg, Senior Wireless/EMC Specialist
Date:	June 13, 2014
Signature:	

#### Limits of responsibility

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Note that the results contained in this report relate only to the items tested and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

This test report has been completed in accordance with the requirements of ISO/IEC 17025. All results contain in this report are within Nemko Canada's ISO/IEC 17025 accreditation.

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## Table of contents

<b>Table of contents</b> .....	<b>3</b>
<b>Section 1. Report summary</b> .....	<b>4</b>
1.1 Applicant/Manufacturer .....	4
1.2 Test specifications .....	4
1.3 Statement of compliance .....	4
1.4 Exclusions .....	4
1.5 Test report revision history .....	4
<b>Section 2. Summary of test results</b> .....	<b>5</b>
2.1 RSS-Gen, Issue 3, test results .....	5
2.2 RSS-137, Issue 2, tests results .....	5
2.3 FCC Part 90, Subpart I tests results .....	5
2.4 FCC Part 90, Subpart M tests results .....	5
<b>Section 3. Equipment under test (EUT) details</b> .....	<b>6</b>
3.1 Sample information .....	6
3.2 EUT information .....	6
3.3 Technical information .....	6
3.4 Product description and theory of operation .....	6
3.5 EUT exercise details .....	6
3.6 EUT setup diagram .....	7
<b>Section 4. Engineering considerations</b> .....	<b>8</b>
4.1 Modifications incorporated in the EUT .....	8
4.2 Technical judgment .....	8
4.3 Deviations from laboratory tests procedures .....	8
<b>Section 5. Test conditions</b> .....	<b>9</b>
5.1 Atmospheric conditions .....	9
5.2 Power supply range .....	9
<b>Section 6. Measurement uncertainty</b> .....	<b>10</b>
6.1 Uncertainty of measurement .....	10
<b>Section 7. Test equipment</b> .....	<b>11</b>
7.1 Test equipment list .....	11
<b>Section 8. Testing data</b> .....	<b>12</b>
8.1 FCC 90.353 LMS operations in the 902–928 MHz band .....	12
8.2 FCC 90.357 Frequencies for LMS systems in the 902–928 MHz band .....	13
8.3 FCC 90.209, RSS-Gen Clause 4.6.1 and RSS-137 Clause 6.1.2 Occupied bandwidth .....	14
8.4 FCC 90.213(a) and RSS-137 Clause 6.3 Transmitter frequency stability .....	16
8.5 FCC 90.205(l) and RSS-137 Clause 6.4 Transmit output power .....	18
8.6 FCC 90.210(b) Emission mask .....	20
8.7 FCC 90.210 and RSS-137 Clause 6.5 Transmitter unwanted emissions .....	23
<b>Section 9. Block diagrams of test set-ups</b> .....	<b>25</b>
9.1 Radiated emissions set-up .....	25

## Section 1. Report summary

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### 1.1 Applicant/Manufacturer

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Company name:	Kapsch TrafficCom Canada Inc.
Address:	6020 Ambler Drive
City:	Mississauga
Province/State:	Ontario
Postal/Zip code:	L4W 2P1
Country:	Canada

### 1.2 Test specifications

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FCC Part 90, Subpart M	LMS operations in the 902–928 MHz band
RSS-137 Issue 2, February 2009	Location and Monitoring Service in the Band 902–928 MHz

### 1.3 Statement of compliance

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In the configuration tested, the EUT was found compliant.

Testing was completed against all relevant requirements of the test standard. Results obtained indicate that the product under test complies in full with the requirements tested. The test results relate only to the items tested.

See “Summary of test results” for full details.

### 1.4 Exclusions

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None

### 1.5 Test report revision history

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Revision #	Details of changes made to test report
TRF	Original report issued

## Section 2. Summary of test results

### 2.1 RSS-Gen, Issue 3, test results

Part	Test description	Verdict
4.6.1	Occupied bandwidth	Pass
7.2.4	Transmitter and receiver AC power lines conducted emission limits	Not applicable
4.7	Transmitter frequency stability	Pass
6.1	Receiver spurious emissions limits (radiated)	Not applicable
6.2	Receiver spurious emissions limits (antenna conducted)	Not applicable

Notes: <sup>1</sup> According to Notice 2012-DRS0126 (from January 2012) section 2.2 of RSS-Gen, Issue 3 has been revised. The EUT does not have a stand-alone receiver neither scanner receiver, therefore exempt from receiver requirements.

### 2.2 RSS-137, Issue 2, tests results

Part	Test description	Verdict
6.1	Frequency band and occupied bandwidth	Pass
6.2	Types of modulations	Pass
6.3	Frequency stability	Pass
6.4	Transmitter output power	Pass
6.5	Transmitter unwanted emissions	Pass
6.6	Receiver spurious emissions	Not applicable

Notes: <sup>1</sup> The EUT is a using a digital modulation

### 2.3 FCC Part 90, Subpart I tests results

Clause	Test description	Verdict
90.205(l)	Power and antenna height limits	Pass
90.209	Bandwidth limitations	Pass
90.210(k)	Emission masks	Pass
90.210(k)	Spurious emissions	Pass
90.213	Frequency stability	Pass

### 2.4 FCC Part 90, Subpart M tests results

Clause	Test description	Verdict
90.353(h)	Authorized bands	Pass
90.357(b)	Frequencies for LMS systems in the 902–928 MHz band	Pass

## Section 3. Equipment under test (EUT) details

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### 3.1 Sample information

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Receipt date	May 27, 2014
Nemko sample ID number	1

### 3.2 EUT information

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Product name	TRP-8100
Model	802477-TAB
Part number	N/A

### 3.3 Technical information

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Operating band	902–928 MHz
Operating frequencies	915 MHz
Modulation type	OOK
Occupied bandwidth (99 %)	6.84 MHz
Emission designator	6M84P1D
Power requirements	3.6 V <sub>DC</sub> internal Lithium battery
Antenna information	Gain=0 dBi (–2.15 dBd) The EUT uses a unique antenna coupling/ non-detachable antenna to the intentional radiator.

### 3.4 Product description and theory of operation

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The EUT is a Transponder that operates within 902–928 MHz M-LMS band at frequency 915 ±0.6 MHz, which is mounted on a vehicle at a location that is visible to the Reader Antenna when the vehicle passes through the RF capture zone, which is dictated by the directional pattern of the Reader Antenna. This Transponder is designed for interior mounting in a passenger vehicle, specifically on the windshield near the top and near the vehicle centerline. The Transponder responds to and emits with horizontal polarization when correctly oriented for normal operation with the flat surface of the Transponder against the vehicle windshield. In this location the boresite will point towards the Reader antenna when the vehicle approaches the Reader antenna. Outside the RF Capture Zone of the Reader, the unit does not transmit but continuously receives.

### 3.5 EUT exercise details

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Client provided modified sample for testing, continues TX. Also one connectorized unit for conductive measurements

### 3.6 EUT setup diagram

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*Figure 3.6-1: Setup diagram*

## Section 4. Engineering considerations

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### 4.1 Modifications incorporated in the EUT

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There were no modifications performed to the EUT during this assessment.

### 4.2 Technical judgment

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None

### 4.3 Deviations from laboratory tests procedures

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No deviations were made from laboratory procedures.



## Section 5. Test conditions

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### 5.1 Atmospheric conditions

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Temperature	15–30 °C
Relative humidity	20–75 %
Air pressure	860–1060 mbar

When it is impracticable to carry out tests under these conditions, a note to this effect stating the ambient temperature and relative humidity during the tests shall be recorded and stated.

### 5.2 Power supply range

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The normal test voltage for equipment to be connected to the mains shall be the nominal mains voltage. For the purpose of the present document, the nominal voltage shall be the declared voltage, or any of the declared voltages  $\pm 5\%$ , for which the equipment was designed.

## Section 6. Measurement uncertainty

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### 6.1 Uncertainty of measurement

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Nemko Canada Inc. has calculated measurement uncertainty and is documented in EMC/MUC/001 "Uncertainty in EMC measurements." Measurement uncertainty was calculated using the methods described in CISPR 16-4 Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC measurements; as well as described in UKAS LAB34: The expression of Uncertainty in EMC Testing. Measurement uncertainty calculations assume a coverage factor of  $K=2$  with 95% certainty.

## Section 7. Test equipment

### 7.1 Test equipment list

*Table 7.1-1: Equipment list*

Equipment	Manufacturer	Model no.	Asset no.	Cal cycle	Next cal.
3 m EMI test chamber	TDK	SAC-3	FA002047	1 year	Mar. 18/15
Flush mount turntable	Sunol	FM2022	FA002082	—	NCR
Controller	Sunol	SC104V	FA002060	—	NCR
Antenna mast	Sunol	TLT2	FA002061	—	NCR
Receiver/spectrum analyzer	Rohde & Schwarz	ESU 26	FA002043	1 year	Oct. 24/14
Bilog antenna (20–3000 MHz)	Sunol	JB3	FA002108	1 year	Mar. 12/15
Horn antenna (1–18 GHz)	EMCO	3115	FA000825	1 year	Mar. 10/15
Pre-amplifier (1–18 GHz)	JCA	JCA118-503	FA002091	1 year	June 21/14
50 Ω coax cable	Huber + Suhner	NONE	FA002392	1 year	July. 17/14
50 Ω coax cable	C.C.A.	None	FA002555	1 year	Oct. 07/14
Spectrum analyzer	Rohde & Schwarz	FSP	FA001920	1 year	June 25/14
Horn antenna #1	EMCO	3115	FA000649	1 year	Mar. 25/15
Laboratory DC power supply	GW	GPC-3030D	FA001251	—	NCR
Temperature chamber	Thermotron	SM-16C	FA001030	1 year	NCR
Multimeter	Fluke	16	FA001831	1 year	Feb. 4/15

Note: NCR - no calibration required, VOU - verify on use

## Section 8. Testing data

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### 8.1 FCC 90.353 LMS operations in the 902–928 MHz band

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#### 8.1.1 Definitions and limits

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**FCC**  
LMS systems may be authorized within the 902–928 MHz band, subject to the conditions in this section. LMS licensees are required to maintain whatever records are necessary to demonstrate compliance with these provisions and must make these records available to the Commission upon request:

(h) Non-multilateration stations are authorized to operate on a shared, non-exclusive basis in the 902–904 MHz and 909.75–921.75 MHz sub-bands. Non-multilateration systems and multilateration systems will share the 919.75–921.75 MHz band on a co-equal basis. Non-multilateration LMS systems may not provide non-vehicular location services. The maximum antenna height above ground for non-multilateration LMS systems is 15 meters.

(i) Non-multilateration LMS licenses will be issued on a site-by-site basis, except that municipalities or other governmental operatives may file jointly for a non-multilateration license covering a given U.S. Department of Commerce Bureau of Economic Analysis Economic Area (EA). Such an application must identify all planned sites. After receiving the license, the non-multilateration EA licensee must notify the Commission if sites are deleted or if new sites are added, before those sites may be put into operation.

#### 8.1.2 Test summary

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Test date:	May 28, 2014
Test engineer:	Kevin Rose
Verdict:	Pass

#### 8.1.3 Observations settings and special notes

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The EUT operates within 909.75–921.75 MHz band. The only operational frequency is 915 ±0.6 MHz.

## 8.2 FCC 90.357 Frequencies for LMS systems in the 902–928 MHz band

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### 8.2.1 Definitions and limits

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#### FCC

(b) Non-multilateration LMS systems will be authorized in the frequency bands stated in the Table below.

*Table 8.2-1: LMS frequency bands*

LMS sub-band*
902.00–904.00 MHz
909.75–921.75 MHz

\*- Applicants for non-multilateration LMS systems should request only the minimum amount of bandwidth necessary to meet their operational needs.

### 8.2.2 Test summary

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Test date:	May 28, 2014
Test engineer:	Kevin Rose
Verdict:	Pass

### 8.2.3 Observations settings and special notes

---

The EUT operates within 909.75–921.75 MHz band. The only operational frequency is 915 ±0.6 MHz.

## 8.3 FCC 90.209, RSS-Gen Clause 4.6.1 and RSS-137 Clause 6.1.2 Occupied bandwidth

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### 8.3.1 Definitions and limits

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#### FCC

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission.

The maximum authorized bandwidth shall be 12 MHz for non-multilateration LMS operations in the band 909.75-921.75 MHz and 2 MHz in the band 902.00-904.00 MHz.

#### IC RSS-Gen:

When an occupied bandwidth value is not specified in the applicable RSS, the transmitted signal bandwidth to be reported is to be its 99 percent emission bandwidth, as calculated or measured.

The transmitter shall be operated at its maximum carrier power measured under normal test conditions.

The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts. The resolution bandwidth shall be set to as close to 1 percent of the selected span as is possible without being below 1 percent. The video bandwidth shall be set to 3 times the resolution bandwidth. Video averaging is not permitted. Where practical, a sampling detector shall be used since a peak or, peak hold, may produce a wider bandwidth than actual.

The trace data points are recovered and are directly summed in linear terms. The recovered amplitude data points, beginning at the lowest frequency, are placed in a running sum until 0.5 percent of the total is reached and that frequency recorded. The process is repeated for the highest frequency data points. This frequency is recorded.

The span between the two recorded frequencies is the occupied bandwidth.

#### IC RSS-137:

The maximum authorized bandwidth shall be 12 MHz for non-multilateration LMS operations in the band 909.75-921.75 MHz and 2 MHz in the band 902.00-904.00 MHz.

### 8.3.2 Test summary

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Test date:	May 27, 2014	Temperature:	22 °C
Test engineer:	Kevin Rose	Air pressure:	1001 mbar
Verdict:	Pass	Relative humidity:	37 %

### 8.3.3 Observations settings and special notes

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Spectrum analyser settings:

Resolution bandwidth:	≥ 1 % of span
Video bandwidth:	≥ 3 × RBW
Frequency span:	30 MHz
Detector mode:	Peak
Trace mode:	Max Hold

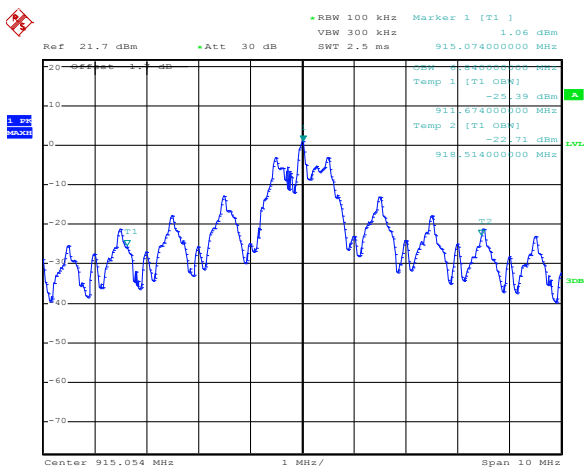
8.3.4 Test data

Table 8.3-1: 99 % bandwidth results IC and FCC

Frequency, MHz	99 % bandwidth, MHz	Limit, MHz	Margin, MHz
915	6.84	12.00	5.16

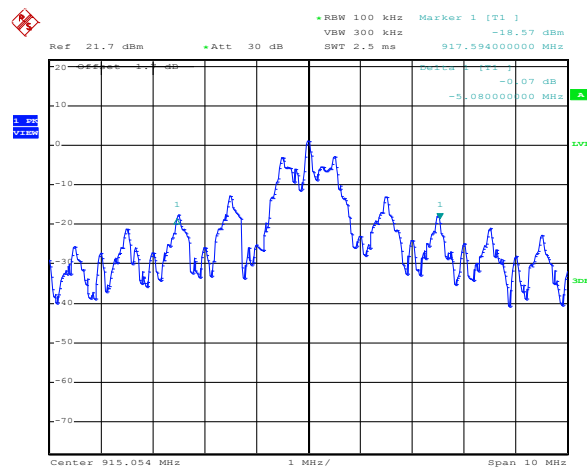
Table 8.3-2: 20 dB bandwidth results

Frequency, MHz	20 dB bandwidth, MHz
915	5.08



Date: 27.MAY.2014 17:52:55

Figure 8.3-1: 99 % bandwidth, sample



Date: 27.MAY.2014 18:08:04

Figure 8.3-2: 20 dB bandwidth, sample

## 8.4 FCC 90.213(a) and RSS-137 Clause 6.3 Transmitter frequency stability

### 8.4.1 Definitions and limits

**FCC:**

(a) Unless noted elsewhere, transmitters used in the services governed by this part must have a minimum frequency stability as specified in the following table:

*Table 8.4-1: Minimum frequency stability*

Frequency range (MHz)	Fixed and base stations ( $\pm$ ppm)	Mobile stations ( $\pm$ ppm)	
		Over 2 watts output power	2 watts or less output power
Below 25	100	100	200
25–50	20	20	50
72–76	5		50
150–174	5	5	50
216–220	1.0		1.0
220–222	0.1	1.5	1.5
421–512	2.5	5	5
806–809	1.0	1.5	1.5
809–824	1.5	2.5	2.5
851–854	1.0	1.5	1.5
854–869	1.5	2.5	2.5
896–901	0.1	1.5	1.5
902–928	2.5	2.5	2.5
902–928	2.5	2.5	2.5
929–930	1.5		
935–940	0.1	1.5	1.5
1427–1435	300	300	300
Above 2450			

**IC:**

The carrier frequency shall not depart from the reference frequency in excess of  $\pm 2.5$  ppm for any type of equipment unless indicated otherwise.

Fixed N-LMS transmitters with an emission bandwidth located more than 40 kHz from the band edge, intermittently operated hand-held readers and mobile transponders are exempt from meeting the frequency stability limit.

### 8.4.2 Test summary

Test date:	May 27, 2014	Temperature:	22 °C
Test engineer:	Kevin Rose	Air pressure:	1001 mbar
Verdict:	Pass	Relative humidity:	37 %



### 8.4.3 Observations settings and special notes

The EUT is an LMS transmitters with an emission bandwidth located more than 40 kHz from the band edges and it's a mobile transponder and therefore is exempt from meeting the frequency stability limit.

Spectrum analyser settings:

Resolution bandwidth:	20 kHz
Video bandwidth:	50 kHz
Frequency span:	2 MHz
Detector mode:	Peak
Trace mode:	Max Hold

### 8.4.4 Test data

**Table 8.4-2: Frequency drift measurement**

Test conditions	Frequency, GHz	Drift, Hz	Drift, ppm
+50 °C, Nominal	915.037988	-0.00756	-8.264
+40 °C, Nominal	915.051012	0.00546	5.969
+30 °C, Nominal	915.053826	0.00828	9.044
+20 °C, +15 %	915.044970	-0.00058	-0.634
+20 °C, Nominal	915.045550	Reference	0.000
+20 °C, -15 %	915.045690	0.00014	0.153
+10 °C, Nominal	915.033440	-0.01211	-13.234
0 °C, Nominal	915.014770	-0.03078	-33.638
-10 °C, Nominal	914.986230	-0.05932	-64.825
-20 °C, Nominal	914.965240	-0.08031	-87.768
-30 °C, Nominal	914.937440	-0.10811	-118.143

Offset Calculation: 
$$\frac{F_{\text{Measured}} - F_{\text{reference}}}{F_{\text{reference}}} \times 1 \cdot 10^6$$

## 8.5 FCC 90.205(l) and RSS-137 Clause 6.4 Transmit output power

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### 8.5.1 Definitions and limits

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**FCC:**  
 Applicants for licenses must request and use no more power than the actual power necessary for satisfactory operation. Except where otherwise specifically provided for, the maximum power that will be authorized to applicants whose license applications for new stations are filed after August 18, 1995 is as follows:

(l) 902–928 MHz.

LMS systems operating pursuant to subpart M of this part in the 902–927.25 MHz band will be authorized a maximum of 30 W (44.77 dBm) ERP. LMS equipment operating in the 927.25–928 MHz band will be authorized a maximum of 300 W (54.77 dBm) ERP. ERP must be measured as peak envelope power. Antenna heights will be as specified in §90.353(h).

**IC:**  
 The output power shall be within  $\pm 1.0$  dB of the manufacturer’s rated value, and the e.r.p. shall not exceed 30 W (44.77 dBm) for the band 902–927.25 MHz and 300 W (54.77 dBm) for the band 927.25–928 MHz.

*Table 8.5-1: ERP limits*

Assigned frequency band, MHz	ERP, W	ERP, dBm
902.00–927.25	30	44.77
927.25–928.00	300	54.77

### 8.5.2 Test summary

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Test date:	May 27, 2014	Temperature:	22 °C
Test engineer:	Kevin Rose	Air pressure:	1001 mbar
Verdict:	Pass	Relative humidity:	37 %

### 8.5.3 Observations settings and special notes

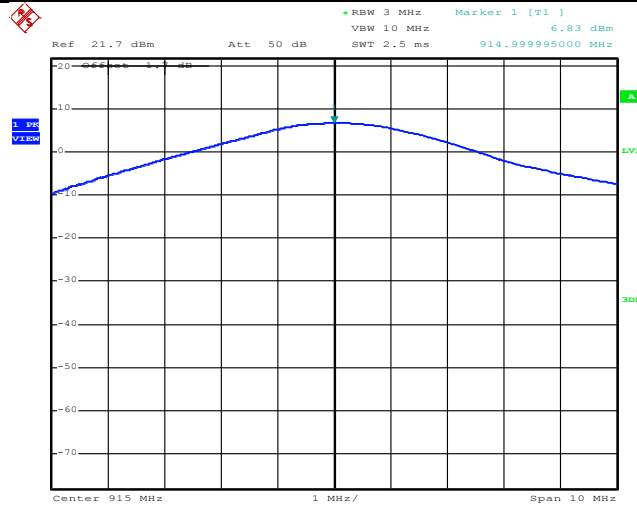
The test was performed using peak detector of the spectrum analyzer with RBW and VBW of 10 MHz.  
 The test was performed conducted on the specially modified sample for that matter. The antenna gain declared by the manufacturer is 0 dBi (-2.15 dBd).

Resolution bandwidth:	Wider than 99 % OBW
Video bandwidth:	≥ 3 times the RBW
Detector mode:	Peak
Trace mode:	Max Hold

### 8.5.4 Test data

Table 8.5-2: ERP calculation

Frequency, (MHz)	Peak output power, (dBm)	Antenna gain, (dBd)	ERP, (dBm)	Limit, (dBm)	Margin, (dB)
915	6.83	-2.15	4.68	44.77	40.09



Date: 27.MAY.2014 17:48:17

Figure 8.5-1: Peak output power

## 8.6 FCC 90.210(b) Emission mask

### 8.6.1 Definitions and limits

Except as indicated elsewhere in this part, transmitters used in the radio services governed by this part must comply with the emission masks outlined in this section. Unless otherwise stated, per paragraphs (d)(4), (e)(4), and (m) of this section, measurements of emission power can be expressed in either peak or average values provided that emission powers are expressed with the same parameters used to specify the unmodulated transmitter carrier power. For transmitters that do not produce a full power unmodulated carrier, reference to the unmodulated transmitter carrier power refers to the total power contained in the channel bandwidth. Unless indicated elsewhere in this part, the table in this section specifies the emission masks for equipment operating in the frequency bands governed under this part.

**Table 8.6-1: Emission mask requirements**

Frequency band, (MHz)	Mask for equipment with Audio low pass filter	Mask for equipment without Audio low pass filter
Below 25	A or B	A or C
25–50	B	C
72–76	B	C
150–174	B, D, or E	C, D, or E
150 Paging only	B	C
220–222	F	F
421–512	B, D, or E	C, D, or E
450 Paging only	B	G
806–809/851–854	B	H
809–824/854–869	B	G
896–901/935–940	I	J
902–928	K	K
929–930	B	G
4940–4990	L or M	L or M
5850–5925		
All other bands	B	C

(k)(3) Other transmitters. For all other transmitters authorized under subpart M that operate in the 902–928 MHz band, the peak power of any emission shall be attenuated below the power of the highest emission contained within the licensee's sub-band in accordance with the following schedule:

(i) On any frequency within the authorized bandwidth: Zero dB.

(ii) On any frequency outside the licensee's sub-band edges:  $55 + 10 \times \log_{10}(P)$  dB, where (P) is the highest emission (watts) of the transmitter inside the licensee's sub-band.

(4) In the 902–928 MHz band, the resolution bandwidth of the instrumentation used to measure the emission power shall be 100 kHz, except that, in regard to paragraph (2) of this section, a minimum spectrum analyzer resolution bandwidth of 300 Hz shall be used for measurement center frequencies with 1 MHz of the edge of the authorized subband. The video filter bandwidth shall not be less than the resolution bandwidth.

(5) Emission power shall be measured in peak values.

(6) The LMS sub-band edges for non-multilateration systems for which emissions must be attenuated are 902.00, 904.00, 909.75 and 921.75 MHz.

### 8.6.2 Test summary

---

Test date:	May 27, 2014	Temperature:	22 °C
Test engineer:	Kevin Rose	Air pressure:	1001 mbar
Verdict:	Pass	Relative humidity:	37 %

### 8.6.3 Observations settings and special notes

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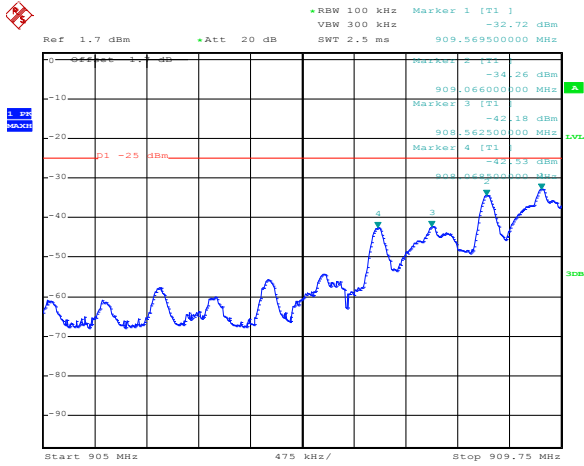
Spectrum analyser settings below 901 MHz and above 929 MHz:

Resolution bandwidth:	100 kHz
Video bandwidth:	1 MHz
Detector mode:	Peak
Trace mode:	MaxHold

Spectrum analyser settings within 901–902 MHz and within 928–929 MHz (band-edge measurements):

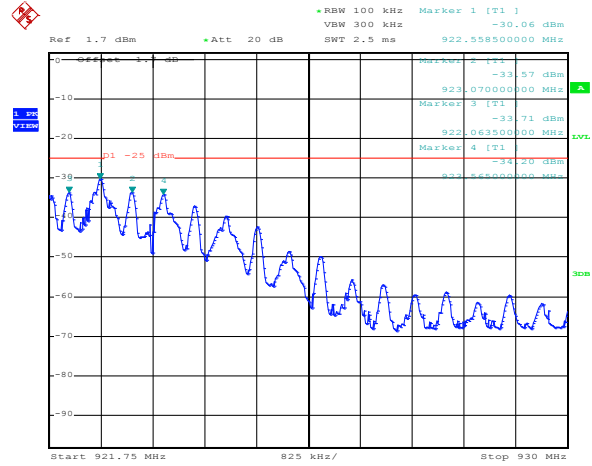
Resolution bandwidth:	300 Hz
Video bandwidth:	1 kHz
Detector mode:	Peak
Trace mode:	MaxHold

8.6.4 Test data



Date: 27.MAY.2014 18:12:45

Figure 8.6-1: Lower band edge at 909.75 MHz



Date: 27.MAY.2014 18:14:10

Figure 8.6-2: Upper band edge at 921.75 MHz

Table 8.6-2: Conducted spurious emissions measurements

Frequency (MHz)	Measured power (dBm)	EUT antenna gain (dBd)	ERP* (dBm)	Limit (dBm)	Margin (dB)
909.569	-32.72	-2.15	-34.87	-25.00	9.87
909.066	-34.26	-2.15	-36.41	-25.00	11.41
908.562	-42.18	-2.15	-44.33	-25.00	19.33
908.068	-42.53	-2.15	-44.68	-25.00	19.68
922.558	-30.06	-2.15	-32.21	-25.00	7.21
923.07	-33.57	-2.15	-35.72	-25.00	10.72
922.063	-33.71	-2.15	-35.86	-25.00	10.86
923.565	-34.20	-2.15	-36.35	-25.00	11.35

\* - ERP = Measured power at antenna connector + EUT antenna gain.

## 8.7 FCC 90.210 and RSS-137 Clause 6.5 Transmitter unwanted emissions

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### 8.7.1 Definitions and limits

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**FCC:**

(k)(3)(ii) On any frequency outside the licensee's sub-band edges:  $55 + 10 \log_{10}(P)$  dB, where (P) is the highest emission (watts) of the transmitter inside the licensee's sub-band.

**IC:**

6.5.3 Emission Mask C – Other Transmitters

Except as provided in sections 6.5.1, 6.5.2 and 6.5.4, the unwanted emission of all other transmitters operating in the band 902–928 MHz shall comply with the following:

The power of any emission outside the equipment operating sub-band edge shall be attenuated below the maximum permitted output power  $P_{max}$  by at least  $55 + 10 \log_{10}(P_{max})$  dB.

6.5.4 Emission Mask D – Intermittent Transmitters

In the band 902–928 MHz, mobile transponders with integral antennas (i.e. transmitters that respond only to a received radio signal) and intermittently operated hand-held transmitters shall not be required to comply with the above emission mask, provided that their 20 dB bandwidth does not exceed the maximum occupied bandwidth permitted. In addition, on any frequency distanced from the carrier frequency by more than 250 % of the occupied bandwidth, the power of any emission shall be attenuated below the maximum permitted transmitter output power,  $P_{max}$ , by at least  $43 + 10 \log_{10}(P_{max})$  dB, measured in a bandwidth of 100 kHz.

### 8.7.2 Test summary

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Test date:	May 27, 2014	Temperature:	22 °C
Test engineer:	Kevin Rose	Air pressure:	1001 mbar
Verdict:	Pass	Relative humidity:	37 %

### 8.7.3 Observations settings and special notes

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For radiated measurements at the frequencies below 1 GHz the RBW was set to 100 kHz.  
 For radiated measurements at the frequencies above 1 GHz the RBW was set to 1 MHz. VBW was wider than RBW at any time  
 Radiated emissions were tested using substitution method for field strength at 3 m to ERP conversion.  
 Two EUT possible positions were assessed; only worst-case emissions are reported.  
 The test was performed using a substitution method.  
 Conducted measurements were performed on the sample especially modified for that matter.

Spectrum analyser settings for peak conducted measurements:

Resolution bandwidth:	1 MHz
Video bandwidth:	3 MHz
Detector mode:	Peak
Trace mode:	Max Hold

Spectrum analyser settings for band edge measurements:

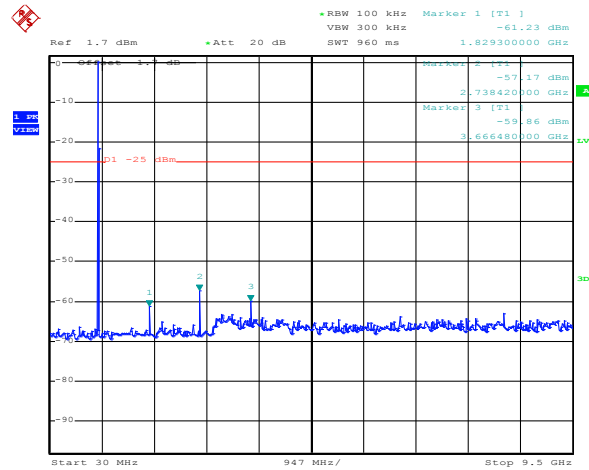
Resolution bandwidth:	100 kHz
Video bandwidth:	1 MHz
Detector mode:	Peak
Trace mode:	Max-hold

8.7.4 Test data

Table 8.7-1: Radiated spurious emissions measurements

Frequency (MHz)	Field strength (dBμV/m)	Substitution method				
		SG-CL (dBm)	Tx antenna gain (dBd)	ERP* (dBm)	Limit (dBm)	Margin (dB)
1830.10	68.8	-37.80	6.32	-31.48	-25.00	6.48
2745.14	66.0	-44.60	8.27	-36.33	-25.00	11.33
4575.25	60.6	-42.40	8.84	-33.56	-25.00	8.56

\* - ERP = SG-CL (Signal generator level – cable loss) + antenna gain.



Date: 27.MAY.2014 18:10:48

Plot 8.7-1: Conducted Spurious emissions within 30–9500 MHz

Table 8.7-2: Conducted spurious emissions measurements

Frequency (MHz)	Measured power (dBm)	EUT antenna gain (dBd)	ERP (dBm)	Limit (dBm)	Margin (dB)
2738	-57.17	-2.15	-59.32	-25	34.32



## Section 9. Block diagrams of test set-ups

### 9.1 Radiated emissions set-up

