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Test report

332151-3TRFWL

Date of issue: July 19, 2017

Applicant:

Fortin Systèmes Électroniques

Product:

Keyfob

Model:

RM912

FCC ID:

2ACKU-RM912

IC Registration number: 12084A-RM912

Specifications:

FCC 47 CFR Part 15 Subpart C, §15.247

Operation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz

• RSS-247, Issue 2, Feb 2017, Section 5

Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs)
and Licence-Exempt Local Area Network (LE-LAN) Devices
5) Standard specifications for frequency hopping systems and digital transmission systems operating in the bands 902–928 MHz, 2400–2483.5 MHz and 5725–5850 MHz

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Nemko Canada Inc., a testing laboratory, is accredited by the Standards Council of Canada. The tests included in this report are within the scope of this accreditation



FCC 15.247 and RSS-247.docx; Date: Mar 2017



Test location

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Site number	FCC: CA2041; IC: 2040G-5 (3 m semi anechoic chamber)

Tested by	Yong Huang, Wireless/EMC Specialist
Reviewed by	Kevin Rose, Wireless/EMC Specialist
Review date	July 19, 2017
Reviewer signature	The

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Limits of responsibility

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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Section 1. Report summary

1.1 Applicant and manufacturer

Company name	Fortin Systèmes Électroniques
Address	9855, rue Colbert
City	Anjou
Province/State	Québec
Postal/Zip code	H1J 1Z9
Country	Canada

1.2 Test specifications

FCC 47 CFR Part 15, Subpart C, Clause 15.247	Operation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–585 MHz
RSS-247, Issue 2, Feb 2017, Section 5	Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

1.3 Test methods

558074 D01 DTS Meas Guidance v04 (April 5, 2017)	Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247
662911 D01 Multiple Transmitter Output v02r01 (October 31, 2013)	Emissions Testing of Transmitters with Multiple Outputs in the Same Band
DA 00-705, Released March 30, 2000	Filing and Measurement Guidelines for Frequency Hopping Spread Spectrum Systems
ANSI C63.10 v2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

1.4 Statement of compliance

In the configuration tested, the EUT was found compliant.

Testing was completed against all relevant requirements of the test standard or as per detailed in the section 1.5 Exclusions below. 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.

1.5 Exclusions

None

1.6 Test report revision history

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

Report reference ID: 332151-3TRFWL



Section 2. Summary of test results

2.1 FCC Part 15 Subpart C, general requirements test results

Part	Test description	Verdict
§15.207(a)	Conducted limits	Not applicable
§15.31(e)	Variation of power source	Pass ¹
§15.203	Antenna requirement	Pass ²

Notes: ¹ For battery operated equipment, the equipment tests were performed using a new battery.

² The Antennas are located within the enclosure of EUT and not user accessible.

2.2 FCC Part 15 Subpart C, intentional radiators test results

Part	Test description	Verdict
§15.247(a)(1)(i)	Frequency hopping systems operating in the 902–928 MHz band	Not applicable
§15.247(a)(1)(ii)	Frequency hopping systems operating in the 5725–5850 MHz band	Not applicable
§15.247(a)(1)(iii)	Frequency hopping systems operating in the 2400–2483.5 MHz band	Not applicable
§15.247(a)(2)	Minimum 6 dB bandwidth for systems using digital modulation techniques	Pass
§15.247(b)(1)	Maximum peak output power of frequency hopping systems operating in the 2400–2483.5 MHz band and 5725–5850 MHz band	Not applicable
§15.247(b)(2)	Maximum peak output power of Frequency hopping systems operating in the 902–928 MHz band	Not applicable
§15.247(b)(3)	Maximum peak output power of systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands	Pass
§15.247(c)(1)	Fixed point-to-point operation with directional antenna gains greater than 6 dBi	Not applicable
§15.247(c)(2)	Transmitters operating in the 2400–2483.5 MHz band that emit multiple directional beams	Not applicable
§15.247(d)	Spurious emissions	Pass
§15.247(e)	Power spectral density for digitally modulated devices	Pass
§15.247(f)	Time of occupancy for hybrid systems	Not applicable

2.3 ISED RSS-GEN, Issue 4, test results

Part	Test description	Verdict
7.1.2	Receiver radiated emission limits	Pass
7.1.3	Receiver conducted emission limits	Not applicable
8.8	Power Line Conducted Emissions Limits for Licence-Exempt Radio Apparatus	Not applicable



2.4 ISED RSS-247, Issue 2, test results

Part	Test description	Verdict
5.1	Frequency Hopping Systems (FHSs)	
5.1 (a)	Bandwidth of a frequency hopping channel	Not applicable
5.1 (b)	Minimum channel spacing for frequency hopping systems	Not applicable
5.1 (c)	Frequency hopping systems operating in the 902–928 MHz band	Not applicable
5.1 (d)	Frequency hopping systems operating in the 2400–2483.5 MHz band	Not applicable
5.1 (e)	Frequency hopping systems operating in the 5725–5850 MHz band	Not applicable
5.2	Digital Transmission Systems (DTSs)	
5.2 (a)	Minimum 6 dB bandwidth	Pass
5.2 (b)	Maximum power spectral density	Pass
5.3	Hybrid Systems	
5.3 (a)	Digital modulation turned off	Not applicable
5.3 (b)	Frequency hopping turned off	Not applicable
5.4	Transmitter output power and e.i.r.p. requirements	
5.4 (a)	Frequency hopping systems operating in the 902–928 MHz band	Not applicable
5.4 (b)	Frequency hopping systems operating in the 2400–2483.5 MHz band	Not applicable
5.4 (c)	Frequency hopping systems operating in the 5725–5850 MHz	Not applicable
5.4 (d)	Systems employing digital modulation techniques	Pass
5.4 (e)	Point-to-point systems in 2400–2483.5 MHz and 5725–5850 MHz band	Not applicable
5.4 (f)	Transmitters which operate in the 2400–2483.5 MHz band with multiple directional beams	Not applicable
5.5	Unwanted emissions	Pass

Notes: None



Section 3. Equipment under test (EUT) details

3.1 Sample information

Receipt date	May 30, 2017
Nemko sample ID number	Item 3

3.2 EUT information

Product name	Keyfob
Model	RM912
Serial number	None

3.3 Technical information

Applicant IC company number	12084A
IC UPN number	RM912
All used IC test site(s) Reg. number	2040G-5
RSS number and Issue number	RSS-247 Issue 2, Feb 2017
Frequency band	902–928 MHz
Frequency Min (MHz)	910
Frequency Max (MHz)	918
RF power Min (W), Conducted/ERP/EIRP	N/A
RF power Max (W), Conducted	0.0245 (13.9 dBm)
Field strength, Units @ distance	N/A
Measured BW (kHz) (6 dB)	771.2
Calculated BW (kHz), as per TRC-43	N/A
Type of modulation	FSK
Emission classification (F1D, G1D, D1D)	F1D
Transmitter spurious, Units @ distance	53.6 dBμV/m, at 2754 MHz@ 3 m
Power requirements	3 V _{DC} battery
Antenna information	The EUT uses a non-detachable antenna to the intentional radiator. As per customer, antenna is -3 dBi.

3.4 Product description and theory of operation

The product is an aftermarket remote starter keyfob. When the costumer press the remote button, the remote sends through radio frequency a unique message that is received by the remote starter that will execute the command in the costumer vehicle.

3.5 EUT exercise details

EUT was configured and operated by client on site. During transmitter testing, the unit was set to transmit continuously.



3.6 EUT setup diagram

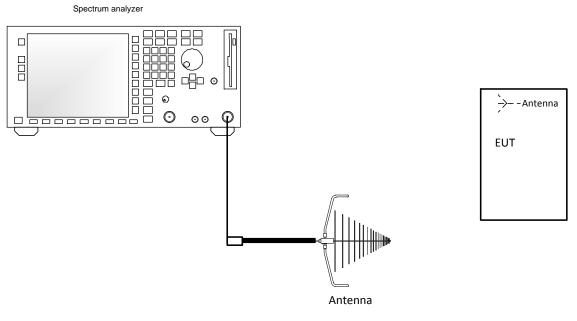


Figure 3.6-1: Setup diagram



Section 4. Engineering considerations

4.1 Modifications incorporated in the EUT

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

4.2 Technical judgment

None

4.3 Deviations from laboratory tests procedures

No deviations were made from laboratory procedures.



Section 5. Test conditions

5.1 Atmospheric conditions

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

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 ±5 %, for which the equipment was designed.



Section 6. Measurement uncertainty

6.1 Uncertainty of measurement

UKAS Lab 34 and TIA-603-B have been used as guidance for measurement uncertainty reasonable estimations with regards to previous experience and validation of data. Nemko Canada, Inc. follows these test methods in order to satisfy ISO/IEC 17025 requirements for estimation of uncertainty of measurement for wireless products.

Measurement uncertainty budgets for the tests are detailed below. Measurement uncertainty calculations assume a coverage factor of K = 2 with 95% certainty.

Test name	Measurement uncertainty, dB
All antenna port measurements	0.55
Conducted spurious emissions	1.13
Radiated spurious emissions	3.78
AC power line conducted emissions	3.55

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.
Flush mount turntable	Sunol	FM2022	FA002550	_	NCR
Controller	Sunol	SC104V	FA002551	_	NCR
Antenna mast	Sunol	TLT2	FA002552	_	NCR
Spectrum analyzer	Rohde & Schwarz	ESW44	101605	1 year	Feb.14/18
50 Ω coax cable	C.C.A.	None	FA002603	_	VOU
50 Ω coax cable	C.C.A.	None	FA002605	_	VOU
50 Ω coax cable	C.C.A.	None	FA002607	_	VOU
Bilog antenna (20–2000 MHz)	Sunol	JB1	FA002517	1 year	Oct. 5/17
Horn antenna (1–18 GHz)	EMCO	3115	FA001452	1 year	Oct. 26/17
Horn antenna (18–40 GHz)	EMCO	3116	FA002487	2 year	Aug. 16/1
Pre-amplifier (0.5–18 GHz)	COM-POWER	PAM-118A	FA002561	1 year	May 8/18
Pre-amplifier (18–40 GHz)	COM-POWER	PAM-840	FA002508	1 year	May 8/18
2400-2483 MHz Notch Filter	Microwave Circuits	N0324413	FA002693	_	VOU
50 Ω coax cable	HUBER+SUHNER	SUCOFLEX 100	FA002564	_	VOU
Power source	California Instruments	5001ix	FA001770	1 year	Feb 1/18
Receiver/spectrum analyzer	Rohde & Schwarz	ESU 40	FA002071	1 year	May 3/18

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





Section 8. Testing data

8.1 FCC 15.247(a)(2) and RSS-247 5.2(a) Minimum 6 dB bandwidth for systems using digital modulation techniques

8.1.1 Definitions and limits

FCC and IC:

(a) Operation under the provisions of this Section is limited to frequency hopping and digitally modulated intentional radiators that comply with the following provisions:

(2) Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

8.1.2 Test summary

Test date	June 16, 2017	Temperature	24 °C
Test engineer	Yong Huang	Air pressure	1015 mbar
Verdict	Pass	Relative humidity	40 %

8.1.3 Observations, settings and special notes

Spectrum analyser settings:

Resolution bandwidth	100 kHz
Video bandwidth	>3 × RBW
Frequency span	2 MHz
Detector mode	Peak
Trace mode	Max Hold



Frequency 918.0000000 MHz

pan 2.0 MHz

Function Result

6.0 dB 771.20 kHz

Att PS State

MA

200.0 kHz/

-

Fund

wn BW

8.1.4 Test data

Table 8.1-1: 6 dB bandwidth results						
Frequency, MHz	Frequency, MHz 6 dB bandwidth, kHz Minimum Limit, kHz Margin, kHz					
910	771.2	500	271.2			
918	771.2	500	271.2			



19:29:29 16.06.2017

Figure 8.1-1: 6 dB bandwidth on low channel

Figure 8.1-2: 6 dB bandwidth on high channel



8.2 FCC 15.247(b) and RSS-247 5.4 (d) Transmitter output power and e.i.r.p. requirements

8.2.1 Definitions and limits

FCC:

- (b) The maximum peak conducted output power of the intentional radiator shall not exceed the following:
 - (3) For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 W (30 dBm). As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be sum med across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.
 - (4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

ISED:

d. For DTSs employing digital modulation techniques operating in the bands 902–928 MHz and 2400–2483.5 MHz, the maximum peak conducted output power shall not exceed 1 W. The e.i.r.p. shall not exceed 4 W, except as provided in section 5.4(e).

As an alternative to a peak power measurement, compliance can be based on a measurement of the maximum conducted output power. The maximum conducted output power is the total transmit power delivered to all antennas and antenna elements, averaged across all symbols in the signalling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or transmitting at a reduced power level. If multiple modes of operation are implemented, the maximum conducted output power is the highest total transmit power occurring in any mode.



8.2.2 Test summary

Test date	June 16, 2017	Temperature	24 °C
Test engineer	Yong Huang	Air pressure	1015 mbar
Verdict	Pass	Relative humidity	40 %

8.2.3 Observations, settings and special notes

The test was performed according to DTS guidelines section 9.2.3.1 Method AVGPM (Measurement using an RF average-reading power meter) As per customer, EUT was set to 100 % duty cycle during the test.

8.2.4 Test data

	Table 8.2-1: Output power and EIRP results						
Frequency, MHz	Output power, dBm	Output power limit, dBm	Margin, dB	Antenna gain, dBi	EIRP, dBm	EIRP limit, dBm	EIRP margin, dB
910	13.9	30	16.1	-3	10.9	36	25.1
918	13.8	30	16.2	-3	10.8	36	25.2

EIRP = Output power + Antenna gain



8.3 FCC 15.247(d) and RSS-247 5.5 Spurious (out-of-band) unwanted emissions

8.3.1 Definitions and limits

FCC:

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)).

ISED:

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated device is operating, the RF power that is produced 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 that the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of root-mean-square averaging over a time interval, as permitted under section 5.4(d), the attenuation required shall be 30 dB instead of 20 dB. Attenuation below the general field strength limits specified in RSS-Gen is not required.

Table 8.3-1: FCC §15.209 and RSS-Gen – Radiated emission limits

Frequency,	Field stren	gth of emissions	Measurement distance, m
MHz	μV/m	dBµV/m	
0.009-0.490	2400/F	67.6 – 20 × log ₁₀ (F)	300
0.490-1.705	24000/F	87.6 – 20 × log ₁₀ (F)	30
1.705-30.0	30	29.5	30
30–88	100	40.0	3
88–216	150	43.5	3
216-960	200	46.0	3
above 960	500	54.0	3

Notes: In the emission table above, the tighter limit applies at the band edges.

For frequencies above 1 GHz the limit on peak RF emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test

Table 8.3-2: ISED restricted frequency bands

MHz	MHz	MHz	GHz
0.090-0.110	12.51975-12.52025	399.9–410	5.35-5.46
2.1735-2.1905	12.57675-12.57725	608–614	7.25–7.75
3.020-3.026	13.36–13.41	960–1427	8.025-8.5
4.125-4.128	16.42-16.423	1435-1626.5	9.0–9.2
4.17725-4.17775	16.69475-16.69525	1645.5-1646.5	9.3–9.5
4.20725-4.20775	16.80425-16.80475	1660–1710	10.6-12.7
5.677-5.683	25.5–25.67	1718.8-1722.2	13.25–13.4
6.215-6.218	37.5–38.25	2200-2300	14.47–14.5
6.26775-6.26825	73–74.6	2310–2390	15.35-16.2
6.31175-6.31225	74.8–75.2	2655-2900	17.7–21.4
8.291-8.294	108–138	3260–3267	22.01-23.12
8.362-8.366	156.52475-156.52525	3332–3339	23.6-24.0
8.37625-8.38675	156.7–156.9	3345.8-3358	31.2–31.8
8.41425-8.41475	240–285	3500-4400	36.43-36.5
12.29–12.293	322–335.4	4500–5150	Above 38.6

Note: Certain frequency bands listed in Table 8.3-2 and above 38.6 GHz are designated for low-power licence-exempt applications. These frequency bands and the requirements that apply to the devices are set out in this Standard



Table 8.3-3: FCC restricted frequency bands

N411-	N 411-	N 41 1-	
MHz	MHz	MHz	GHz
0.090-0.110	16.42–16.423	399.9–410	4.5–5.15
0.495-0.505	16.69475-16.69525	608–614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960–1240	7.25-7.75
4.125-4.128	25.5–25.67	1300–1427	8.025-8.5
4.17725-4.17775	37.5–38.25	1435–1626.5	9.0–9.2
4.20725-4.20775	73–74.6	1645.5-1646.5	9.3–9.5
6.215-6.218	74.8–75.2	1660–1710	10.6–12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25–13.4
6.31175-6.31225	123–138	2200–2300	14.47–14.5
8.291-8.294	149.9–150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7–21.4
8.37625-8.38675	156.7-156.9	2690–2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72–173.2	3332–3339	31.2–31.8
12.51975-12.52025	240–285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	Above 38.6
13.36–13.41			

8.3.2 Test summary

Test date	June 15, 2017 to June 16, 2017	Temperature	24 °C
Test engineer	Yong Huang	Air pressure	1015 mbar
Verdict	Pass	Relative humidity	40 %



8.3.3 Observations, settings and special notes

The spectrum was searched from 30 MHz to the 10th harmonic.

EUT was set to transmit with 100 % duty cycle.

Radiated measurements were performed at a distance of 3 m. For cabinet radiated spurious emission measurements, the EUT transmit antenna was replaced with a termination with 50 Ω impedance.

Since fundamental power was tested using average method, the spurious emissions limit is -30 dBc/100 kHz

Spectrum analyser settings for measurements within restricted bands below 1 GHz:

Resolution bandwidth:	100 kHz
Video bandwidth:	300 kHz
Detector mode:	Peak
Trace mode:	Max Hold

Spectrum analyser settings for peak measurements within restricted bands above 1 GHz:

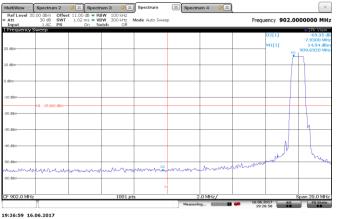
Resolution bandwidth:	1 MHz
Video bandwidth:	3 MHz
Detector mode:	Peak
Trace mode:	Max Hold

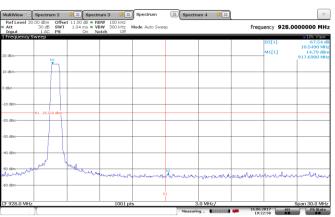
Spectrum analyser settings for average measurements within restricted bands above 1 GHz:

Resolution bandwidth:	1 MHz
Video bandwidth:	3 MHz
Detector mode:	power averaging (RMS)
Trace mode:	averaging (RMS)



Test data 8.3.4





19:22:59 16.06.2017

Figure 8.3-1: Conducted spurious emission at band edge outside restricted band, low channel

Figure 8.3-2: Conducted spurious emissions at band edge outside restricted band, , High channel



Att 30 dB Input 1 AC		VBW 300 kHz Notch Off	Mode Auto Swe	ep		Fr	equency 5.	.0150000 GH
Frequency Sweep							M1[1] D2[1]	 1Pk View 14.98 dBr 911.50 MH -63.40 d 8.85450 GH
.0 dBm								
) dBm								
10 dBm	dBm							
20 dBm								
40 dBm								
50 dBm			11 ht american	March ed	والمروالي	Mendelkardura	horeman	D2
60 dBm	anti-helpet Althouth adden	in the property of the server	d'estrene a					
30.0 MHz		1001 pt	s	99	7.0 MHz/			10.0 GH

Figure 8.3-3: Conducted spurious emissions outside restricted band, Low channel

AultiView	B Spectrur				Spectrum	Spectru	ım 4 🛛 🦊 🖾			∇
Ref Level Att Input	30.00 dBm 30 dB 1 AC	SWT 99	00 dB • RB 0.7 ms • VB On No		Mode Auto Swee	*P		Fr	equency 5.0	150000 GH
Frequency		10	011 140	011					í de la companya de la	1Pk View
									D2[1]	-63.29 (8.05770 G
									M1[1]	8.05770 G 14.85 dB
) dBm	M1								mili	921.40 M
	M1 ▼									
d8m-										
d8m										
0 dBm										
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	-15.15	U UBIII								
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i0 dBm					100		the base weather	M. Marchard March	and when the street standed	to the will we we
all parents	M. unknow	ad and the set	d week Apply	Margon mand about	Wellyworkers	malmetaninner	of hurden of stands			
0 dBm			-							
0.0 MHz				1001 pt	s	99	7.0 MHz/	1	1	10.0 GH
	T T					Measurir	ig	16.06.2 19:2	2017 Att	PS State
								19:2		

Figure 8.3-4: Conducted spurious emissions outside restricted band, High channel



)	pectrum 4 🛛 🔆 🗵	***	Spectrum	rum 3 🛛 🧎 🗵	Spectr	ctrum 2	= Spect	MultiView 🗄
ncy 615.0000000 M	Frequency			Auto Sweep	Mode : ch Off	11.00 dB On Not	AC PS	1 AC	Ref Level 1 Input
●1 Ma							ns	Emissions	Spurious E
M1[1] -66.60 dl									dBm
1.20000000									dBm
									.0 dBm
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					1				0 dDm
								DUCTED	C15.209 COND
								_	0 dBm
	1.1.2								
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		and the second se		and the second second second	A STREET CONTRACTOR	Constant Program Constants	- In the sector		0 dBm
1.2 G		117.0 MHz/		ts	66002 p				0.0 MHz
								mmary	Result Sun
ΔLimit	Power Abs	equency		3W	RI	Range Up			Range
	-66.14 dBm	5431 MHz			100.00	02.000 MHz			30.000
-200.00 dB	-66.45 dBm	7842 MHz			100.00	02.000 MHz			30.000
-200.00 dB -200.00 dB	-67.17 dBm -68.71 dBm	3437 MHz			100.00	02.000 MHz			30.000
-200.00 dB	-68.83 dBm	1113 MHZ 3788 MHz			100.00	02.000 MHz			30.000
				JU KHZ	100.00	02.000 MHz			30.000
				NO Lilia	100.00				
-200.00 dB	-69.19 dBm	539 MHz			100.00	02.000 MHz	ç		
-200.00 dB -200.00 dB -200.00 dB	-69.19 dBm -68.26 dBm -70.19 dBm	539 MHZ 5250 MHZ 5250 MHZ	974.	00 kHz	100.00	1.000 GHz	ç	0 MHz	950.000
-200.00 dB	-68.26 dBm	5250 MHz	974. 988.	00 kHz	100.00		ç	0 MHz	950.000 950.000
-200.00 dB -200.00 dB -200.00 dB -200.00 dB	-68.26 dBm -70.19 dBm -60.05 dBm -60.71 dBm	5250 MHz 5250 MHz	974. 988. 1.	00 kHz 00 kHz	100.00 100.00 1.00	1.000 GHz 1.000 GHz	ç	0 MHz 0 MHz	950.000 950.000 1.000
-200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB	-68.26 dBm -70.19 dBm -60.05 dBm -60.71 dBm -60.79 dBm	5250 MHz 5250 MHz 0892 GHz 8761 GHz 1722 GHz	974. 988. 1. 1. 1.	00 kHz 00 kHz 0 MHz	100.00 100.00 1.00 1.00	1.000 GHz 1.000 GHz 1.200 GHz	Ş	0 MHz 0 MHz 0 GHz	950.000 950.000 1.000 1.000
-200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB	-68.26 dBm -70.19 dBm -60.05 dBm -60.71 dBm -60.79 dBm -60.95 dBm	5250 MHz 5250 MHz 0892 GHz 8761 GHz 1722 GHz 2407 GHz	974.0 988.5 1. 1. 1. 1.	00 kHz 00 kHz 0 MHz 0 MHz 0 MHz 0 MHz 0 MHz	100.00 100.00 1.00 1.00 1.00 1.00	1.000 GHz 1.000 GHz 1.200 GHz 1.200 GHz 1.200 GHz 1.200 GHz 1.200 GHz	<u>S</u>	0 MHz 0 MHz 0 GHz 0 GHz 0 GHz 0 GHz 0 GHz	950.000 950.000 1.000 1.000 1.000 1.000
-200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB	-68.26 dBm -70.19 dBm -60.05 dBm -60.71 dBm -60.79 dBm	5250 MHz 5250 MHz 0892 GHz 8761 GHz 1722 GHz	974.0 988.5 1. 1. 1. 1. 1.	00 kHz 00 kHz 0 MHz 0 MHz 0 MHz 0 MHz	100.00 100.00 1.00 1.00 1.00 1.00 1.00	1.000 GHz 1.000 GHz 1.200 GHz 1.200 GHz 1.200 GHz 1.200 GHz	<u></u>	0 MHz 0 MHz 0 GHz 0 GHz 0 GHz 0 GHz	950.000 950.000 1.000 1.000 1.000 1.000 1.000

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Figure 8.3-5: Conducted spurious emission of restricted band 30 MHz to 1.2 GHz, low channel

7		🔆 🔟 Spectrum 4 🛛 🗵	Mode Auto Sweep	m 2 X Spectr	Ref Level 0.00 dBm 0
quency 615.0000000 MI	Freque		off	PS On Note	Input 1 AC P
1 Ma			511	0 01 1000	Spurious Emissions
M1[1] -57.68 dE					
1.000000 G					LO dBm
					20 dBm
					30 dBm
					40 dBm
MI					C15.209 CONDUCTED
and the same field the site stress stress be-					50 dBm
The second	a state of the	at the second	A STATE OF STATE	al and some design of the second states	to dom
		a series of the second sector is a second			D-OBIT
					0 dBm
					U dBm
					0 dBm
1.2 G		117.0 MHz/	66002 pts	·	30.0 MHz
			•		Result Summary
ds ΔLimit	Power Abs	Frequency	RBW	Range Up	Range Low
	-62.91 dBm	435.56270 MHz	100.000 kHz	902.000 MHz	30,000 MHz
	-62.96 dBm	416.51555 MHz	100.000 kHz	902.000 MHz	30.000 MHz
	-63.31 dBm	885.66414 MHz	100.000 kHz	902.000 MHz	30.000 MHz
Bm -200.00 dB	-63.42 dBm	32.60229 MHz	100.000 kHz	902.000 MHz	30.000 MHz
Bm -200.00 dB	-63.64 dBm	191.98256 MHz	100.000 kHz	902.000 MHz	30.000 MHz
Bm -200.00 dB	-63.67 dBm	70.77835 MHz	100.000 kHz	902.000 MHz	30.000 MHz
	-64.59 dBm	958.31250 MHz	100.000 kHz	1.000 GHz	950.000 MHz
Bm -200.00 dB	-64.82 dBm	954.31250 MHz	100.000 kHz	1.000 GHz	950.000 MHz
Bm -200.00 dB Bm -200.00 dB	-54.18 dBm	1.07292 GHz	100.000 kHz 1.000 MHz	1.000 GHz 1.200 GHz	1.000 GHz
Bm -200.00 dB Bm -200.00 dB Bm -200.00 dB	-54.18 dBm -54.43 dBm	1.07292 GHz 1.00267 GHz	1.000 MHz 1.000 MHz	1.200 GHz 1.200 GHz	1.000 GHz 1.000 GHz
Bm -200.00 dB Bm -200.00 dB Bm -200.00 dB Bm -200.00 dB	-54.18 dBm -54.43 dBm -54.45 dBm	1.07292 GHz 1.00267 GHz 1.19337 GHz	1.000 MHz 1.000 MHz 1.000 MHz	1.200 GHz 1.200 GHz 1.200 GHz	1.000 GHz 1.000 GHz 1.000 GHz
Bm -200.00 dB Bm -200.00 dB Bm -200.00 dB Bm -200.00 dB Bm -200.00 dB	-54.18 dBm -54.43 dBm -54.45 dBm -54.59 dBm	1.07292 GHz 1.00267 GHz 1.19337 GHz 1.05249 GHz	1.000 MHz 1.000 MHz 1.000 MHz 1.000 MHz 1.000 MHz	1.200 GHz 1.200 GHz 1.200 GHz 1.200 GHz 1.200 GHz	1.000 GHz 1.000 GHz 1.000 GHz 1.000 GHz
Bm -200.00 dB Bm -200.00 dB Bm -200.00 dB Bm -200.00 dB Bm -200.00 dB Bm -200.00 dB	-54.18 dBm -54.43 dBm -54.45 dBm	1.07292 GHz 1.00267 GHz 1.19337 GHz	1.000 MHz 1.000 MHz 1.000 MHz	1.200 GHz 1.200 GHz 1.200 GHz	1.000 GHz 1.000 GHz 1.000 GHz

19:12:03 16.06.2017

Figure 8.3-6: Conducted spurious emissions of restricted band 30 MHz to 1.2 GHz, High channel



MultiView 🖽 Spe	ectrum 2	Spectr	um 3 🛛 🧎 🗵	Spectrum	🔆 🖾 Spectru	um 4 🛛 🦂 🖾			▽
Ref Level 10.00 d				uto Sweep			Fr	equency 5.	6000000 GH
Input 1 Spurious Emissio	AC PS	On Not	ch Off						1 View
) dBm	113							M1[1	
dBm									
10 dBm									
20 dBm									
30 dBm									
C15.209 CONDUCTED									
i0 dBm									
50 dBm							and a lighter that the same in	a little la ser a la ser la	di anti anti anti anti anti anti anti ant
أنقصة لكافية أستنقل وحادمه	surflament in the	an in the second second second second	A MARKAN AND	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1	and the second second second	and the second templetic	and the second second second second	a des la desensitación de	The state of the second se
had the second part of the second part	no han an la las	a delete a construction (Construction of the Construction of the C	ali de contra		and the standard stress				
B0 dBm									
1.2 GHz			32001 pt	5	88	0.0 MHz/			10.0 GH
Result Summary	,								
Range Low		Range Up	RE		Frequer		Power Abs		∆Limit
1.200 GHz 1.200 GHz		0.000 GHz 0.000 GHz	1.000		3.63959 5.46030		-56.38 dBi -56.57 dBi		200.00 dB 200.00 dB
1.200 GHz		0.000 GHz	1.000		1.82024		-56.99 dBr		200.00 dB
1.200 GHz	1	0.000 GHz	1.000	MHz	9.04702		-57.41 dBr		200.00 dB
1.200 GHz		0.000 GHz	1.000		8.30757		-58.39 dBi		200.00 dB
1.200 GHz	1	0.000 GHz	1.000	MHZ	7.00108	GHZ	-58.71 dBi		200.00 dB
					Measuri	ng 🚺 📰 🗊	16.06.2 19:33		PS State

19:33:58 16.06.2017

Figure 8.3-7: Conducted spurious emission of restricted band 1.2 GHz to 10 GHz, low channel

MultiView 🔠 Spectrur	Cobecar		🔆 🖾 Spectrum 4 🛛 🔆	X	
	Offset 11.00 dB	Mode Auto Sweep		Frequen	cy 5.6000000 GH
Input 1 AC Spurious Emissions	PS On Note	h Off			1 View
opunous Emissions					M1[1] -65.85 dBr
					1.2000000 GH
dBm					
) dBm					
) dBm					
I dBm					
15.209 CONDUCTED					
dBm					
o do lin					
l dBm			• I I I I		water and the first state
J dBm		ورقوع ويقعوا فكرفته وفاعل والله وبالرا ويرور وروار	and a second provident in the second s	and particular for an inclusion of the providence of the providenc	in the second
nudes produkted at the second	Contraction of the local data and the second s				. Bahati at a she cara that
an Alamha	n Jaconine a Julia a strategici biat	a to donate indicate in the first of the state is a	ato and a statistication in the second of the	the state of the s	distance of the statistic framework of
adding a state of the second	hat a balance where which	All on the second second	the second s		
0 dBm					
2 GHz		32001 pts	880.0 MHz/		10.0 G
Result Summary			,		
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.200 GHz	10.000 GHz	1.000 MHz	1.83564 GHz	-56.11 dBm	-200.00 dB
1.200 GHz	10.000 GHz	1.000 MHz	3.67176 GHz	-57.77 dBm	-200.00 dB
1.200 GHz	10.000 GHz	1.000 MHz	5.50705 GHz	-57.83 dBm	-200.00 dB
1.200 GHz	10.000 GHz	1.000 MHz	9.31871 GHz	-58.10 dBm	-200.00 dB
1.200 GHz	10.000 GHz	1.000 MHz	9.88409 GHz	-59.10 dBm	-200.00 dB
1.200 GHz	10.000 GHz	1.000 MHz	9.55685 GHz	-59.27 dBm	-200.00 dB
			Measuring	16.06.2017	Att PS Stat

19:38:57 16.06.2017

Figure 8.3-8: Conducted spurious emissions of restricted band 1.2 GHz to 10 GHz, High channel



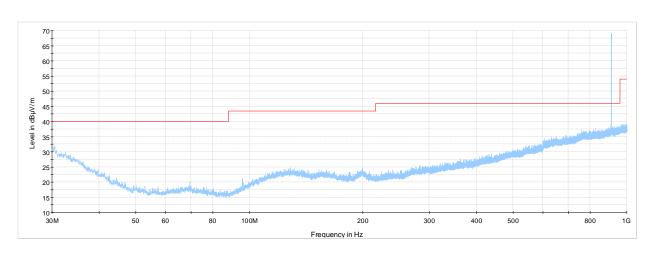


Figure 8.3-9: Cabinet Radiated spurious emissions 30 MHz to1 GHz, Low channel

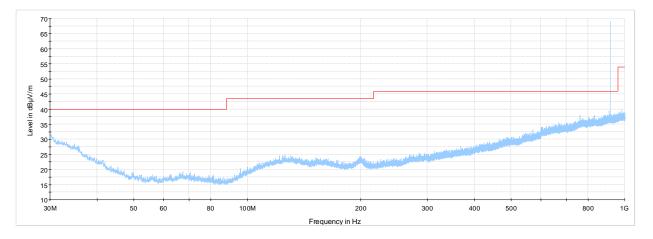


Figure 8.3-10: Cabinet Radiated spurious emissions 30 MHz to1 GHz, High channel



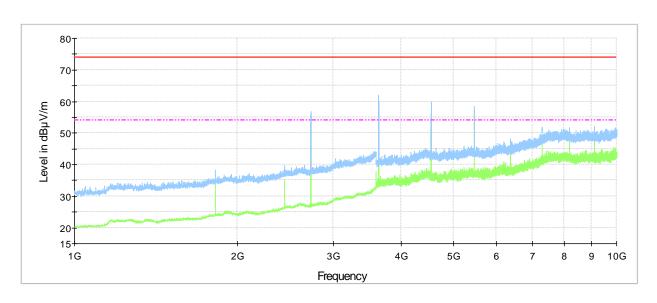


Figure 8.3-11: Cabinet Radiated spurious emissions 1 to10 GHz, Low channel

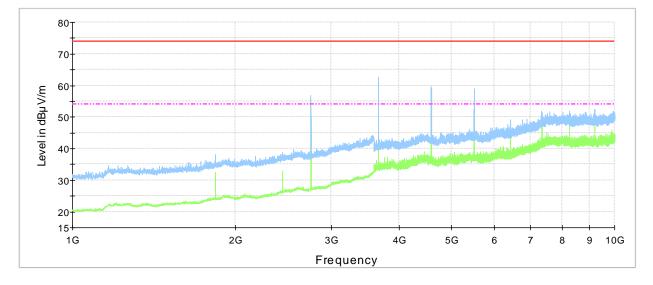


Figure 8.3-12: Cabinet Radiated spurious emissions 1 to10 GHz, High channel



Table 8.3-4: Radiated field strength measurement results

Channel	Frequency,	Peak Field strer	ngth, dBμV/m	Margin,	Average Field stre	Average Field strength, dBµV/m		
MHz	MHz	Measured	Limit	dB	Measured	Limit	dB	
Low	3641	62.1	74	11.9	51.0	54	3.0	
Low	5461	58.5	74	15.5	47.6	54	6.4	
Low	2730	56.8	74	17.2	48.9	54	5.1	
Low	4551	60.0	74	14	49.0	54	5.0	
High	2754	56.9	74	17.1	53.6	54	0.4	
High	3674	62.8	74	11.2	53.6	54	0.4	
High	4589	59.7	74	14.3	52.0	54	2.0	
High	5507	59.0	74	15	46.6	54	7.4	

Notes: Field strength includes correction factor of antenna, cable loss, amplifier, and attenuators where applicable.

	Offset 11.00 dB	Mode Auto Sweep		Frequenc	y 5.0150000 GH
Input 1 AC Sourious Emissions	PS On Note	h Off			●1 Max
1 Spanous Emissions					•1 Hd/
0 dBm					
-10 d8m					
20 d8m					
-30 d8m					
-40 d8m					
CC15.209 CONDUCTED					
-60 d8m					
ALC: NOT THE OWNER OF	الباسفة وتتبعد بيتام درمان	ومكبسها فالانتباعية وأبيا ومروت ومعتور ومراجا والمتلا	a the second		
70 dBm	Contrained as a second second second	interistics and constrained and provide the state of the	and a second standing of the south second states	In the second	Street Street Street Street
too will an an an an an					
30.0 MHz		66002 pts	997.0 MHz/		10.0 Gł
0010		66002 pts	997.0 MHZ/		10.0 Gr
Result Summary Range Low	Range Up	RBW			ALimit
			Frequency	Power Abs	
30.000 MHz	902.000 MHz	100.000 kHz	435.53545 MHz	-71.87 dBm	-200.00 dB
30.000 MHz 30.000 MHz	902.000 MHz 902.000 MHz	100.000 kHz 100.000 kHz	435.53545 MHz 843.64595 MHz	-71.87 dBm -71.91 dBm	-200.00 dB -200.00 dB
30.000 MHz 30.000 MHz 30.000 MHz	902.000 MHz 902.000 MHz 902.000 MHz	100.000 kHz 100.000 kHz 100.000 kHz	435.53545 MHz 843.64595 MHz 408.77679 MHz	-71.87 dBm -71.91 dBm -72.18 dBm	-200.00 dB -200.00 dB -200.00 dB
30.000 MHz 30.000 MHz 30.000 MHz 30.000 MHz	902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz	100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz	435.53545 MHz 843.64595 MHz 408.77679 MHz 135.74032 MHz	-71.87 dBm -71.91 dBm -72.18 dBm -72.31 dBm	-200.00 dB -200.00 dB -200.00 dB -200.00 dB
30.000 MHz 30.000 MHz 30.000 MHz 30.000 MHz 30.000 MHz 30.000 MHz	902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz	100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz	435.53545 MHz 843.64595 MHz 408.77679 MHz	-71.87 dBm -71.91 dBm -72.18 dBm	-200.00 dB -200.00 dB -200.00 dB
30.000 MHz 30.000 MHz 30.000 MHz 30.000 MHz	902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz	100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz	435.53545 MHz 843.64595 MHz 408.77679 MHz 135.74032 MHz 667.56195 MHz	-71.87 dBm -71.91 dBm -72.18 dBm -72.31 dBm -72.41 dBm -72.53 dBm -73.43 dBm	-200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB
30.000 MHz 30.000 MHz 30.000 MHz 30.000 MHz 30.000 MHz 30.000 MHz 30.000 MHz	902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz	100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz	435.53545 MHz 843.64595 MHz 408.77679 MHz 135.74032 MHz 667.56195 MHz 405.09815 MHz	-71.87 dBm -71.91 dBm -72.18 dBm -72.31 dBm -72.41 dBm -72.53 dBm -73.43 dBm -73.89 dBm	-200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB
30.000 MHz 30.000 MHz 30.000 MHz 30.000 MHz 30.000 MHz 30.000 MHz 902.000 MHz	902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 GHz	100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz	435.53545 MHz 843.64595 MHz 408.77679 MHz 135.74032 MHz 667.56195 MHz 405.09815 MHz 937.74550 MHz 974.25050 MHz 951.41650 MHz	-71.87 dBm -71.91 dBm -72.18 dBm -72.31 dBm -72.53 dBm -72.53 dBm -73.43 dBm -73.89 dBm -74.22 dBm	-200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB
30.000 MHz 30.000 MHz 30.000 MHz 30.000 MHz 30.000 MHz 902.000 MHz 902.000 MHz	902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 1.000 GHz 1.000 GHz	100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz	435.53545 MHz 843.64595 MHz 408.77679 MHz 135.74032 MHz 667.56195 MHz 405.09815 MHz 937.74550 MHz 974.25050 MHz 951.41650 MHz 999.82850 MHz	-71.87 dBm -71.91 dBm -72.18 dBm -72.31 dBm -72.41 dBm -72.41 dBm -73.43 dBm -73.89 dBm -73.89 dBm -74.22 dBm	-200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB -200.00 dB
30,000 MHz 30,000 MHz 30,000 MHz 30,000 MHz 30,000 MHz 902,000 MHz 902,000 MHz 902,000 MHz 902,000 MHz 902,000 MHz 902,000 MHz	902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 1.000 GHz 1.000 GHz 1.000 GHz 1.000 GHz 1.000 GHz	100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz 100.000 kHz	435.53545 MHz 843.64595 MHz 408.77679 MHz 135.74032 MHz 667.56195 MHz 405.09815 MHz 937.74550 MHz 937.4550 MHz 951.41650 MHz 999.82850 MHz 908.14950 MHz	-71.87 dBm -72.91 dBm -72.18 dBm -72.31 dBm -72.41 dBm -72.53 dBm -73.89 dBm -74.22 dBm -74.22 dBm -74.27 dBm -74.90 dBm	-200.00 dB -200.00 dB
30,000 MHz 30,000 MHz 30,000 MHz 30,000 MHz 30,000 MHz 900,000 MHz 902,000 MHz 902,000 MHz 902,000 MHz 902,000 MHz 902,000 MHz 900,000 GHz	902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 GHz 1.000 GHz 1.000 GHz 1.000 GHz 1.000 GHz 1.000 GHz 1.000 GHz	100.000 kHz 100.000 kHz	435.53545 MHz 843.64595 MHz 408.77679 MHz 135.74032 MHz 667.56195 MHz 937.74550 MHz 974.25050 MHz 974.25050 MHz 999.82850 MHz 909.14950 MHz 8.87236 GHz	-71.87 dBm -71.91 dBm -72.18 dBm -72.31 dBm -72.41 dBm -72.53 dBm -73.89 dBm -73.89 dBm -74.22 dBm -74.27 dBm -74.90 dBm -57.97 dBm	-200.00 dB -200.00 dB
30,000 MHz 30,000 MHz 30,000 MHz 30,000 MHz 30,000 MHz 30,000 MHz 902,000 MHz 902,000 MHz 902,000 MHz 902,000 MHz 902,000 MHz 1,000 GHz	902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 1.000 GHz 1.000 GHz 1.000 GHz 1.000 GHz 1.000 GHz 10.000 GHz	100.000 HHz 100.000 HHz 1.000 MHz 1.000 MHz	435.53545 MHz 843.64595 MHz 408.77679 MHz 135.74032 MHz 667.56195 MHz 937.74550 MHz 951.21650 MHz 959.82650 MHz 999.82650 MHz 8.87236 GHz 9.31419 GHz	-71.87 dBm -71.91 dBm -72.18 dBm -72.31 dBm -72.41 dBm -73.43 dBm -73.43 dBm -73.89 dBm -74.27 dBm -74.27 dBm -74.27 dBm -74.90 dBm -58.19 dBm	-200.00 dB -200.00 dB
30,000 MHz 30,000 MHz 30,000 MHz 30,000 MHz 30,000 MHz 902,000 MHz 902,000 MHz 902,000 MHz 902,000 MHz 902,000 MHz 1,000 GHz 1,000 GHz	902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 GHz 1.000 GHz 1.000 GHz 1.000 GHz 1.000 GHz 1.000 GHz 10.000 GHz 10.000 GHz	100.000 HHz 100.000 HHz 1.000 MHz 1.000 MHz 1.000 MHz	435.53545 MHz 843.64595 MHz 408.77679 MHz 135.74032 MHz 667.56195 MHz 937.74550 MHz 974.25050 MHz 999.82850 MHz 999.82850 MHz 8.87236 GHz 9.31419 GHz 9.75996 GHz	-71.87 dBm -71.91 dBm -72.18 dBm -72.11 dBm -72.31 dBm -72.41 dBm -73.43 dBm -73.43 dBm -73.89 dBm -74.22 dBm -74.90 dBm -74.97 dBm -58.19 dBm -58.61 dBm	-200.00 dB -200.00 dB
30,000 MHz 30,000 MHz 30,000 MHz 30,000 MHz 30,000 MHz 30,000 MHz 30,000 MHz 902,000 MHz 902,000 MHz 902,000 MHz 902,000 MHz 1,000 GHz 1,000 GHz 1,000 GHz	902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 1.000 GHz 1.000 GHz 1.000 GHz 1.000 GHz 1.000 GHz 10.000 GHz 10.000 GHz	100.000 HHz 100.000 HHz 1.000 MHz 1.000 MHz 1.000 MHz 1.000 MHz	435.53545 MHz 843.64595 MHz 408.77679 MHz 135.74032 MHz 667.56195 MHz 937.74550 MHz 937.42505 MHz 937.42505 MHz 938.14950 MHz 938.14950 MHz 938.14950 MHz 938.14950 MHz 9.31419 GHz 9.75996 GHz 7.27857 GHz	-71.87 dBm -71.91 dBm -72.18 dBm -72.13 dBm -72.31 dBm -73.43 dBm -73.43 dBm -73.43 dBm -73.43 dBm -74.22 dBm -74.20 dBm -74.90 dBm -57.97 dBm -58.85 dBm -58.85 dBm	-200.00 dB -200.00 dB
30,000 MHz 30,000 MHz 30,000 MHz 30,000 MHz 30,000 MHz 902,000 MHz 902,000 MHz 902,000 MHz 902,000 MHz 902,000 MHz 1,000 GHz 1,000 GHz	902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 MHz 902.000 GHz 1.000 GHz 1.000 GHz 1.000 GHz 1.000 GHz 1.000 GHz 10.000 GHz 10.000 GHz	100.000 HHz 100.000 HHz 1.000 MHz 1.000 MHz 1.000 MHz	435.53545 MHz 843.64595 MHz 408.77679 MHz 135.74032 MHz 667.56195 MHz 937.74550 MHz 974.25050 MHz 999.82850 MHz 999.82850 MHz 8.87236 GHz 9.31419 GHz 9.75996 GHz	-71.87 dBm -71.91 dBm -72.18 dBm -72.11 dBm -72.31 dBm -72.41 dBm -73.43 dBm -73.43 dBm -73.89 dBm -74.22 dBm -74.90 dBm -74.97 dBm -58.19 dBm -58.61 dBm	-200.00 dB -200.00 dB

19:45:17 16.06.2017

Figure 8.3-13: Conducted spurious emissions 30 MHz to10 GHz, Receiver mode



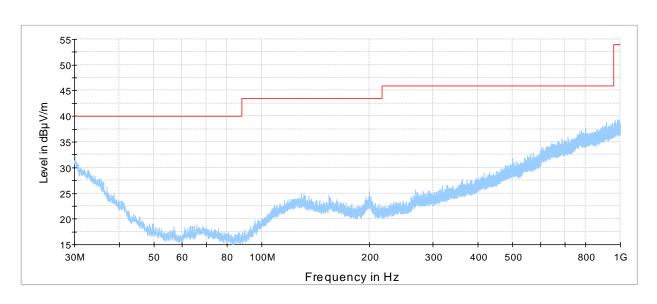


Figure 8.3-14: Cabinet Radiated spurious emissions 30 MHz to1 GHz, Receiver mode

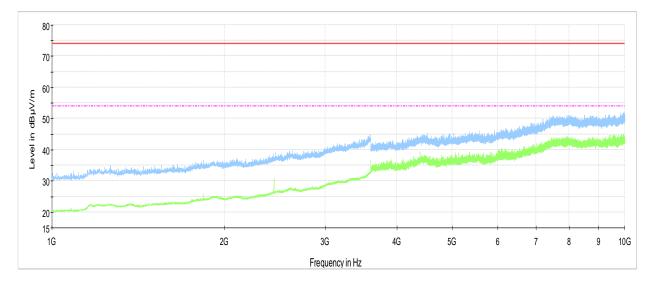


Figure 8.3-15: Cabinet Radiated spurious emissions 1 to10 GHz, Receiver mode



8.4 FCC 15.247(e) and RSS-247 5.2(b) Power spectral density for digitally modulated devices

8.4.1 Definitions and limits

FCC:

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

ISED:

The transmitter power spectral density conducted from the transmitter to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of section 5.4(d), (i.e. the power spectral density shall be determined using the same method as is used to determine the conducted output power).

8.4.2 Test summary

Test date	June 16, 2017	Temperature	24 °C
Test engineer	Yong Huang	Air pressure	1015 mbar
Verdict	Pass	Relative humidity	40 %

8.4.3 Observations, settings and special notes

The test was performed using method described in section 10.3 Method AVGPSD-1 (average PSD). Spectrum analyzer settings:

Resolution bandwidth:	$3 \text{ kHz} \le \text{RBW} \le 100 \text{ kHz}$
Video bandwidth:	≥3 × RBW
Frequency span:	1.5 times the OBW
Detector mode:	RMS
Trace mode:	Average



8.4.4 Test data

Table	8 1-1.	חאם	measurements results
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Frequency, MHz	PSD, dBm/3 kHz	PSD limit, dBm/3 kHz	Margin, dB
910	-4.0	8	12.0
918	-4.0	8	12.0

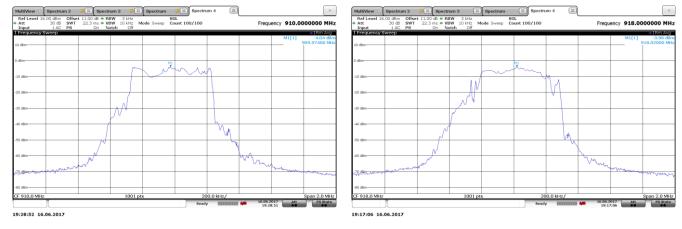


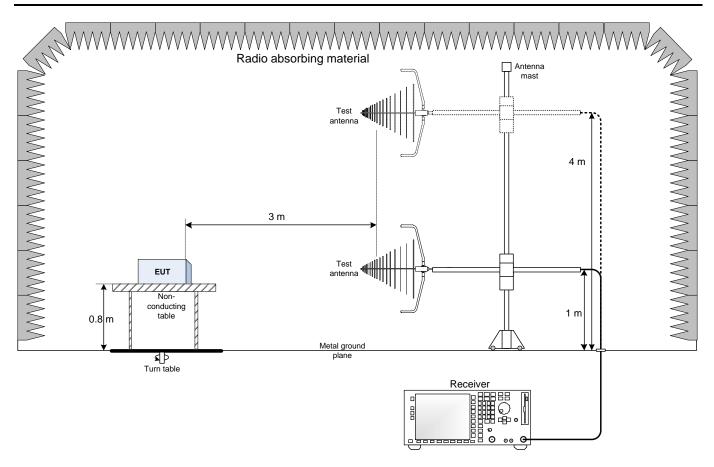
Figure 8.4-1: PSD plot on Low channel

Figure 8.4-2: PSD plot on high channel



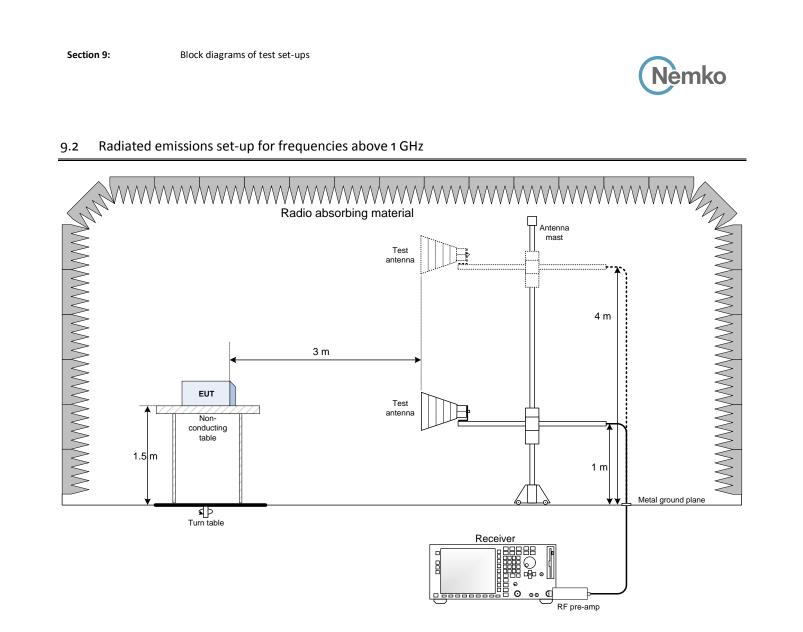
Section 9. Block diagrams of test set-ups

9.1 Radiated emissions set-up for frequencies below 1 GHz





Radiated emissions set-up for frequencies above 1 GHz 9.2



9.3 Conducted antenna port set-up

