



TEST REPORT

Test Report No. : UL-RPT-RP10155013JD25A

Manufacturer : Satellite Tracking of People LLC
Model No. : Blu+
FCC ID : S5E0114BLU07
IC Certification No. : 9086A-BLU07
Test Standard(s) : FCC Parts 15.107(a), 15.109, 15.207, 15.209(a) & 15.249,
Industry Canada RSS-210 A2.9 and RSS-Gen 4.6.1, 4.8, 4.9 & 7.2.4

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2. The results in this report apply only to the sample(s) tested.
3. The sample tested is in compliance with the above standard(s).
4. The test results in this report are traceable to the national or international standards.
5. Version 1.0.

Date of Issue: 02 September 2014

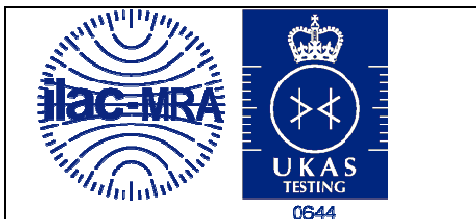
Checked by:

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Senior Engineer, Radio Laboratory

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Quality Manager,
UL VS LTD



This laboratory is accredited by UKAS.
The tests reported herein have been
performed in accordance with its terms
of accreditation.

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1. Customer Information











Company Name:	Satellite Tracking of People LLC
Address:	212 North Post Oak Rd, Suite 100, Houston, TX 77055 USA

2. Summary of Testing

2.1. General Information

Specification Reference:	47CFR15.249
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications): Part 15 Subpart C (Intentional Radiators) - Section 15.249
Specification Reference:	47CFR15.107 and 47CFR15.109
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications): Part 15 Subpart B (Unintentional Radiators) - Sections 15.107 and 15.109
Specification Reference:	47CFR15.207 and 47CFR15.209
Specification Title:	Code of Federal Regulations Volume 47 (Telecommunications): Part 15 Subpart C (Intentional Radiators) - Sections 15.207 and 15.209
Specification Reference:	RSS-Gen Issue 3 December 2010
Specification Title:	General Requirements and Information for the Certification of Radio Apparatus
Specification Reference:	RSS-210 Issue 8 December 2010
Specification Title:	Licence-exempt Radio Apparatus (All Frequency Bands): Category I Equipment.
Site Registration:	FCC: 209735; Industry Canada: 3245B-2
Location of Testing:	UL VS LTD, Unit 3 Horizon, Wade Road, Kingsland Business Park, Basingstoke, Hampshire, RG24 8AH, United Kingdom
Test Dates:	14 August 2014 to 01 September 2014

2.2. Summary of Test Results

FCC Reference (47CFR)	IC Reference	Measurement	Result
Part 15.107(a)	N/A	Receiver/Idle Mode AC Conducted Emissions	
Part 15.109	N/A	Receiver/Idle Mode Radiated Spurious Emissions	
Part 15.207	RSS-Gen 7.2.4	Transmitter AC Conducted Emissions	
Part 15.249(a)(e)	RSS-Gen 4.8/ RSS-210 A2.9(a)	Transmitter Fundamental Field Strength	
Part 2.1049	N/A	Transmitter 20 dB Bandwidth	
N/A	RSS-Gen 4.6.1	Transmitter 99% Emission Bandwidth	
Part 15.249(a)(d)(e)/ 15.209(a)	RSS-Gen 4.9/ RSS-210 A2.9	Transmitter Radiated Emissions	
Part 15.249(d)/ 15.209(a)	RSS-Gen 4.9/ RSS-210 A2.9	Transmitter Band Edge Radiated Emissions	
Key to Results			
 = Complied  = Did not comply			

2.3. Methods and Procedures

Reference:	ANSI C63.4 (2009)
Title:	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz
Reference:	ANSI C63.10 (2009)
Title:	American National Standard for Testing Unlicensed Wireless Devices

2.4. Deviations from the Test Specification

For the measurements contained within this test report, there were no deviations from, additions to, or exclusions from the test specification identified above.

3. Equipment Under Test (EUT)

3.1. Identification of Equipment Under Test (EUT)

Brand Name:	Blu+ V7
Model Name or Number:	Blu+
Test Sample Serial Number:	001 (<i>Conducted Sample</i>)
Hardware Version:	KK37 V7
Software Version:	10.0.0.
FCC ID:	S5E0114BLU07
Industry Canada Certification Number:	9086A-BLU07

Brand Name:	Blu+ V7
Model Name or Number:	Blu+
Test Sample Serial Number:	003 (<i>Radiated Sample</i>)
Hardware Version:	KK37 V7
Software Version:	10.0.0.
FCC ID:	S5E0114BLU07
Industry Canada Certification Number:	9086A-BLU07

Description:	Blu+ Charger / PSU
Brand Name:	Spry Power Products
Model Name or Number:	PA1015-2HU
Serial Number:	B2013090007444

3.2. Description of EUT

The Equipment Under Test was an offender body worn tracking device with a low power 915 MHz single channel transceiver.

3.3. Modifications Incorporated in the EUT

No modifications were applied to the EUT during testing.

3.4. Additional Information Related to Testing

Tested Technology:	Low Power Transceiver	
Power Supply Requirement:	Nominal	3.7 VDC
Type of Unit:	Transceiver	
Modulation:	FSK	
Transmit Frequency Range:	902 - 928 MHz band	
Transmit Channels Tested:	Channel Frequency (MHz)	
	915	
Receive Frequency Range:	902 - 928 MHz band	
Receive Channels Tested:	Channel Frequency (MHz)	
	915	

3.5. Support Equipment

No support equipment was used to exercise the EUT during testing.

4. Operation and Monitoring of the EUT during Testing

4.1. Operating Modes

The EUT was tested in the following operating mode(s):

- Transmit Mode - continuously transmitting with 100% duty cycle at maximum power and a modulated carrier.
- Receive/Idle mode.

4.2. Configuration and Peripherals

The EUT was tested in the following configuration(s):

- The EUT had test software pre-installed by the Customer, which allowed selection of a continuous transmission at maximum power, with modulation applied.
- The EUT powered up in a standby/receive mode.
- AC conducted tests were performed with the EUT connected to the PA1015-2HU AC charger unit. The PA1015-2HU was connected to a 120 VAC 60 Hz single phase supply via a LISN.
- A test SIM was fitted to the EUT for all tests.

5. Measurements, Examinations and Derived Results

5.1. General Comments

Measurement uncertainties are evaluated in accordance with current best practice. Our reported expanded uncertainties are based on standard uncertainties, which are multiplied by an appropriate coverage factor to provide a statistical confidence level of approximately 95%. Please refer to *Section 6. Measurement Uncertainty* for details.

In accordance with UKAS requirements all the measurement equipment is on a calibration schedule. All equipment was within the calibration period on the date of testing.

5.2. Test Results**5.2.1. Receiver/Idle Mode AC Conducted Spurious Emissions****Test Summary:**

Test Engineer:	Mark Percival	Test Date:	18 August 2014
Test Sample Serial Number:	003		

FCC Reference:	Part 15.107(a)
Test Method Used:	As detailed in ANSI C63.10 Section 6.2 referencing ANSI C63.4

Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	45

Results: Live / Quasi Peak

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.168	Live	45.7	65.1	19.4	Complied
0.172	Live	46.2	64.8	18.6	Complied
0.379	Live	32.2	58.3	26.1	Complied
3.102	Live	25.7	56.0	30.3	Complied
13.708	Live	27.3	60.0	32.7	Complied

Results: Live / Average

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.172	Live	33.1	54.8	21.7	Complied
0.217	Live	31.9	52.9	21.0	Complied
0.388	Live	21.4	48.1	26.7	Complied
2.899	Live	13.6	46.0	32.4	Complied
13.420	Live	14.7	50.0	35.3	Complied

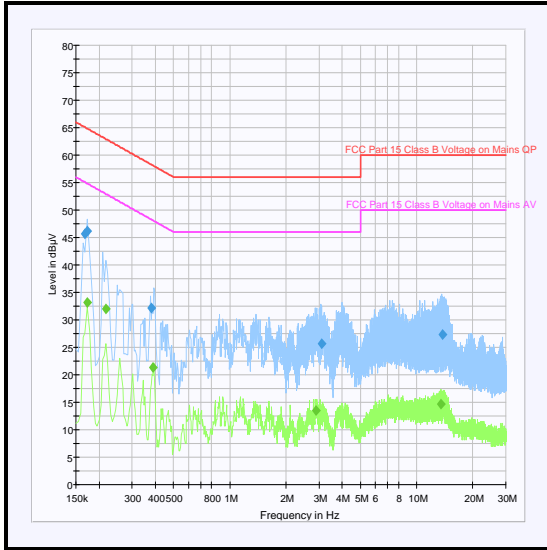
Receiver/Idle Mode AC Conducted Spurious Emissions (continued)**Results: Neutral / Quasi Peak**

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.168	Neutral	46.2	65.1	18.9	Complied
0.172	Neutral	46.3	64.8	18.5	Complied
0.384	Neutral	30.8	58.2	27.4	Complied
1.383	Neutral	27.2	56.0	28.8	Complied
1.657	Neutral	28.1	56.0	27.9	Complied
13.978	Neutral	25.8	60.0	34.2	Complied

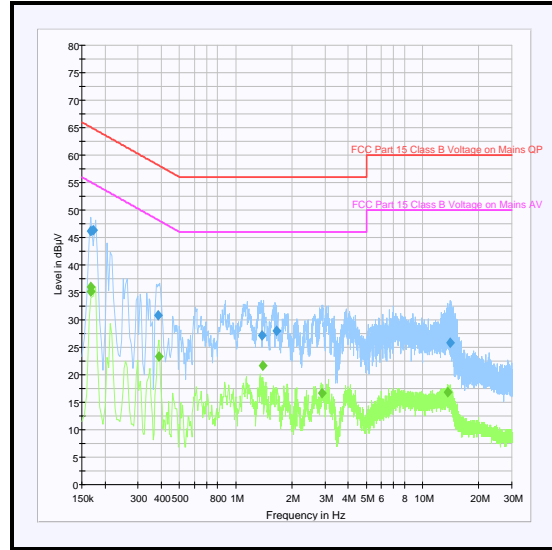
Results: Neutral / Average

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.168	Neutral	36.1	55.1	19.0	Complied
0.388	Neutral	23.4	48.1	24.7	Complied
1.392	Neutral	21.6	46.0	24.4	Complied
2.899	Neutral	16.7	46.0	29.3	Complied
13.573	Neutral	16.9	50.0	33.1	Complied

Receiver/Idle Mode AC Conducted Spurious Emissions (continued)



Live



Neutral

Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1625	Thermohygrometer	JM Handlungspunkt	30.5015.06	None stated	31 Dec 2014	12
A004	LISN	Rohde & Schwarz	ESH3-Z5	890604/027	18 Nov 2014	12
A1830	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100668	27 Feb 2015	12
M1263	Test Receiver	Rohde & Schwarz	ESIB7	100265	14 Oct 2014	12

5.2.2. Receiver/Idle Mode Radiated Spurious Emissions**Test Summary:**

Test Engineer:	Mark Percival	Test Date:	20 August 2014
Test Sample Serial Number:	003		

FCC Reference:	Part 15.109
Test Method Used:	As detailed in ANSI C63.10 Sections 6.3 and 6.5 referencing ANSI C63.4
Frequency Range:	30 MHz to 1000 MHz

Environmental Conditions:

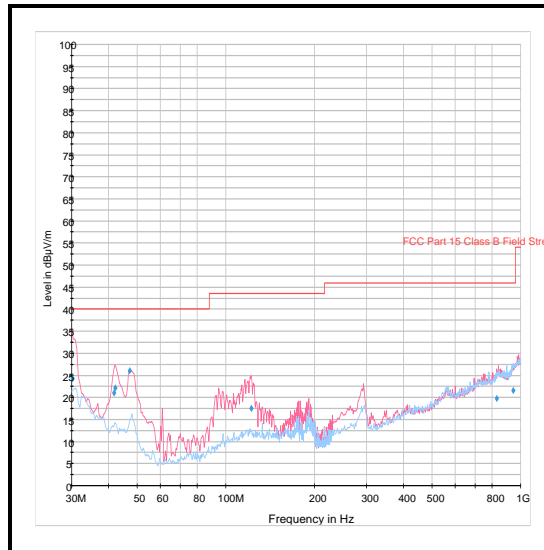
Temperature (°C):	25
Relative Humidity (%):	29

Note(s):

1. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
2. All other emissions shown on the pre-scan plot were investigated and found to be ambient or >20 dB below the applicable limit or below the measurement system noise floor.
3. Measurements below 1 GHz were performed in a semi-anechoic chamber (Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.

Results:

Frequency (MHz)	Antenna Polarity	Level (dBμV/m)	Limit (dBμV/m)	Margin (dB)	Result
30.205	Vertical	24.3	40.0	15.7	Complied
41.767	Vertical	21.0	40.0	19.0	Complied
42.168	Vertical	22.1	40.0	17.9	Complied
47.223	Vertical	26.0	40.0	14.0	Complied

Receiver/Idle Mode Radiated Spurious Emissions (continued)

Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying table.

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1622	Thermohygrometer	JM Handelspunkt	30.5015.06	None stated	31 Dec 2014	12
K0001	5m RSE Chamber	Rainford EMC	N/A	N/A	26 Nov 2014	12
G0543	Amplifier	Sonoma	310N	230801	20 Nov 2014	3
M1273	Test Receiver	Rohde & Schwarz	ESIB 26	100275	15 Feb 2015	12
A259	Antenna	Chase	CBL6111	1513	01 Apr 2015	12
A1834	Attenuator	Hewlett Packard	8491B	10444	15 Nov 2014	12

Receiver/Idle Mode Radiated Spurious Emissions (continued)**Test Summary:**

Test Engineer:	Mark Percival	Test Date:	14 August 2014
Test Sample Serial Number:	003		

FCC Reference:	Part 15.109
Test Method Used:	As detailed in ANSI C63.10 Sections 6.3 and 6.6 referencing ANSI C63.4
Frequency Range:	1 GHz to 5 GHz

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	52

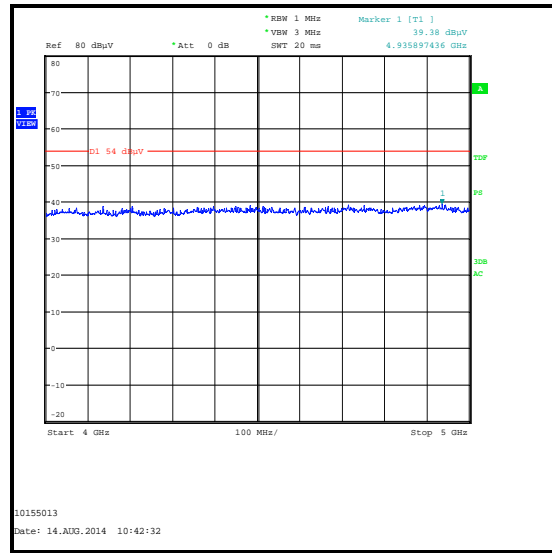
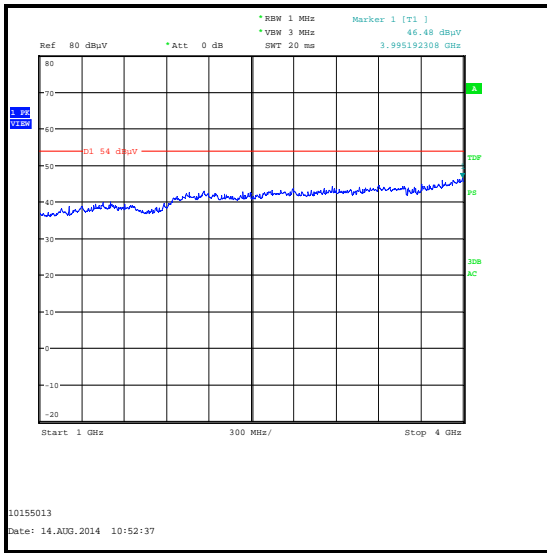
Note(s):

1. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
2. No spurious emissions were detected above the noise floor of the measuring receiver therefore the highest peak noise floor reading of the measuring receiver was recorded as shown in the table below. The peak level was compared to the average limit as opposed to being compared to the peak limit because this is the more onerous limit.
3. Pre-scans above 1 GHz were performed in a fully anechoic chamber (Asset Number K0002) at a distance of 3 metres. The EUT was placed at a height of 1.5 metres above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 metres above the test chamber floor, in line with the EUT. Final measurements above 1 GHz were performed in a semi-anechoic chamber (Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.

Results:

Frequency (MHz)	Antenna Polarity	Peak Level (dB μ V/m)	Average Limit (dB μ V/m)	Margin (dB)	Result
3995.192	Vertical	46.5	54.0	7.5	Complied

Receiver/Idle Mode Radiated Spurious Emissions (continued)



Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1656	Thermohygrometer	JM Handelspunkt	30.5015.13	None stated	14 Mar 2015	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	14 Nov 2014	12
M1630	Test Receiver	Rohde & Schwarz	ESU26	100553	13 Mar 2015	12
A1534	Pre Amplifier	Hewlett Packard	8449B	3008A00405	18 May 2015	12
A1818	Antenna	EMCO	3115 3115	00075692	14 Nov 2014	12
A253	Antenna	Flann	12240-20	128	14 Nov 2014	12

5.2.3. Transmitter AC Conducted Spurious Emissions**Test Summary:**

Test Engineer:	Mark Percival	Test Date:	18 August 2014
Test Sample Serial Number:	003		

FCC Reference:	Part 15.207
Industry Canada Reference:	RSS-Gen 7.2.4
Test Method Used:	As detailed in ANSI C63.10 Section 6.2 referencing ANSI C63.4

Environmental Conditions:

Temperature (°C):	22
Relative Humidity (%):	45

Results: Live / Quasi Peak

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.168	Live	48.6	65.1	16.5	Complied
0.388	Live	33.8	58.1	24.3	Complied
3.039	Live	26.6	56.0	29.4	Complied
13.677	Live	27.3	60.0	32.7	Complied

Results: Live / Average

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.168	Live	34.5	55.1	20.6	Complied
0.172	Live	34.0	54.8	20.8	Complied
0.384	Live	22.1	48.2	26.1	Complied
3.984	Live	13.4	46.0	32.6	Complied
13.542	Live	14.7	50.0	35.3	Complied

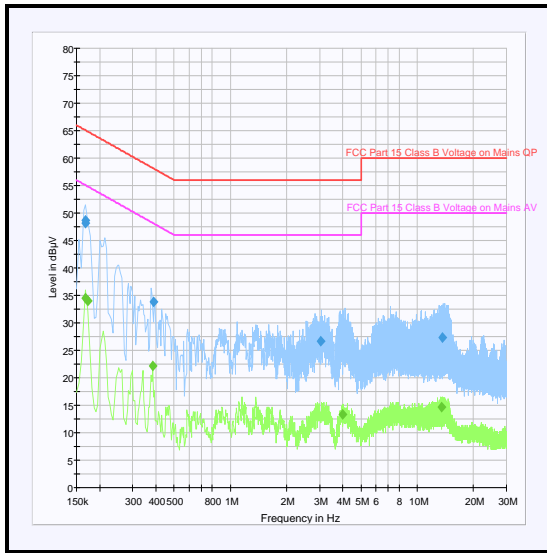
Transmitter AC Conducted Spurious Emissions (continued)**Results: Neutral / Quasi Peak**

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.168	Neutral	46.7	65.1	18.4	Complied
0.172	Neutral	47.2	64.8	17.6	Complied
0.388	Neutral	35.6	58.1	22.5	Complied
1.369	Neutral	30.5	56.0	25.5	Complied
14.370	Neutral	25.8	60.0	34.2	Complied

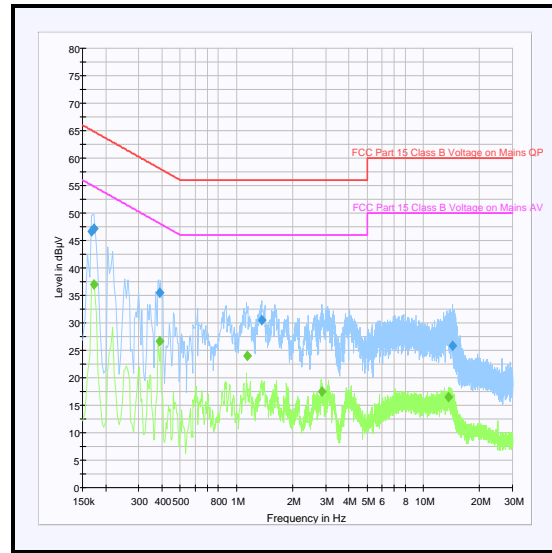
Results: Neutral / Average

Frequency (MHz)	Line	Level (dB μ V)	Limit (dB μ V)	Margin (dB)	Result
0.172	Neutral	37.0	54.8	17.8	Complied
0.388	Neutral	26.6	48.1	21.5	Complied
1.140	Neutral	24.1	46.0	21.9	Complied
2.872	Neutral	17.5	46.0	28.5	Complied
13.614	Neutral	16.4	50.0	33.6	Complied

Transmitter AC Conducted Spurious Emissions (continued)



Live



Neutral

Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying tables.

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1625	Thermohygrometer	JM Handelpunkt	30.5015.06	None stated	31 Dec 2014	12
A004	LISN	Rohde & Schwarz	ESH3-Z5	890604/027	18 Nov 2014	12
A1830	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100668	27 Feb 2015	12
M1263	Test Receiver	Rohde & Schwarz	ESIB7	100265	14 Oct 2014	12

5.2.4. Transmitter Fundamental Field Strength

Test Summary:

Test Engineer:	Mark Percival	Test Date:	27 August 2014
Test Sample Serial Number:	003		

FCC Reference:	Part 15.249(a)
Industry Canada Reference:	RSS-Gen 4.8 / RSS-210 A2.9(a)
Test Method Used:	As detailed in ANSI C63.10 Section 6.5

Environmental Conditions:

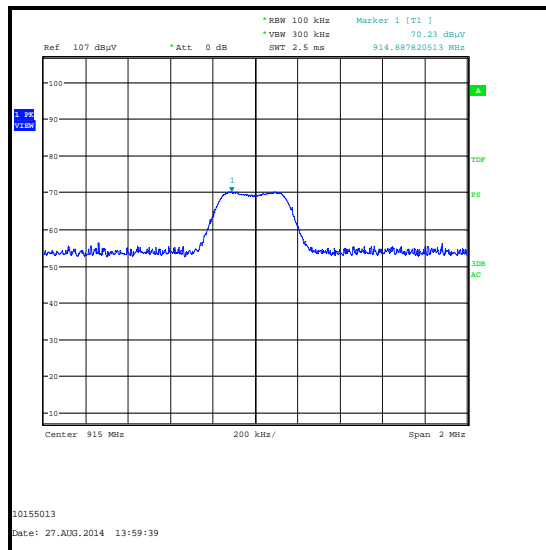
Temperature (°C):	22
Relative Humidity (%):	49

Note(s):

1. The final measured value in the table below incorporates the calibrated antenna factor and cable loss.
2. The plots of the fundamental shown on the following page were performed using a peak detector with final measurements being made with a quasi-peak detector.

Results: Quasi-Peak

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
914.888	Horizontal	70.2	94.0	23.8	Complied



Transmitter Fundamental Field Strength (continued)**Test Equipment Used:**

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1656	Thermohygrometer	JM Handelspunkt	30.5015.13	Not stated	14 Mar 2015	12
A259	Antenna	Chase	CBL6111	1513	01 Apr 2015	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	14 Nov 2014	12
M1874	Test Receiver	Rohde & Schwarz	ESU26	100553	13 May 2015	12

5.2.5. Transmitter 20 dB Bandwidth

Test Summary:

Test Engineer:	Mark Percival	Test Date:	15 August 2014
Test Sample Serial Number:	001		

FCC Reference:	Part 2.1049
Test Method Used:	As detailed in ANSI C63.10 Section 6.9.1

Environmental Conditions:

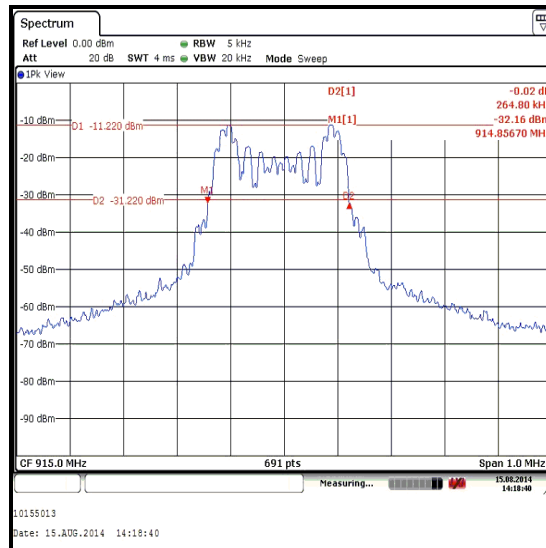
Temperature (°C):	25
Relative Humidity (%):	39

Note(s):

1. The test receiver resolution bandwidth was set to 5 kHz and video bandwidth 20 kHz. A Peak detector was used, sweep time was set to auto and the trace mode was Max Hold. The span was set to 1 MHz Normal and delta markers were placed 20 dB down from the peak of the carrier. The result is recorded in the table below.
2. The test receiver was connected to the RF port on the EUT using suitable attenuation and RF cable

Results:

Transmitter Frequency	20 dB Bandwidth (kHz)
915 MHz	264.800



Transmitter 20 dB Bandwidth (continued)**Test Equipment Used:**

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1659	Thermohygrometer	JM Handelpunkt	30.5015.13	None stated	14 Mar 2015	12
L1138	Test Receiver	Rohde & Schwarz	FSV13.6	101389	17 Apr 2015	12

5.2.6. Transmitter 99% Emission Bandwidth

Test Summary:

Test Engineer:	Mark Percival	Test Date:	27 August 2014
Test Sample Serial Number:	001		

Industry Canada Reference:	RSS-Gen 4.6.1
Test Method Used:	Tested using the occupied bandwidth function of a test receiver

Environmental Conditions:

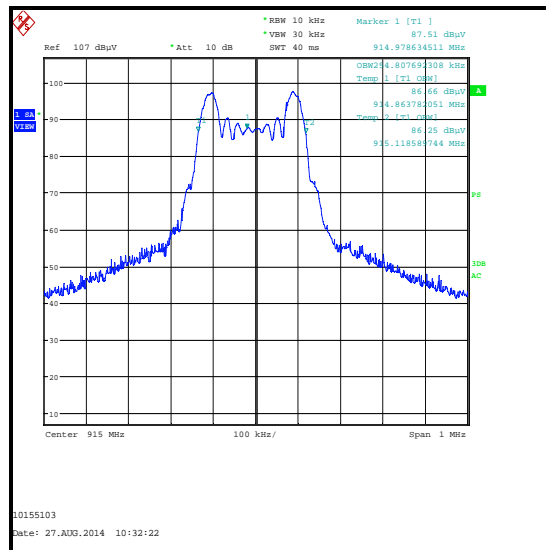
Temperature (°C):	22
Relative Humidity (%):	49

Note(s):

1. The 99% emission bandwidth was measured using the test receiver occupied bandwidth function. The resolution bandwidth was set to 1% of the span and the video bandwidth set to 3 times the resolution bandwidth.
2. The test receiver was connected to the RF port on the EUT using suitable attenuation and RF cable.

Results:

Transmitter Frequency	99% Occupied Bandwidth (kHz)
915 MHz	254.808



Transmitter 99% Emission Bandwidth (continued)**Test Equipment Used:**

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1625	Thermohygrometer	JM Handelspunkt	30.5015.06	None stated	31 Dec 2014	12
M1886	Test Receiver	Rohde & Schwarz	ESU 26	100554	09 May 2015	12

5.2.7. Transmitter Radiated Emissions**Test Summary:**

Test Engineer:	Mark Percival	Test Date:	20 August 2014
Test Sample Serial Number:	003		

FCC Reference:	Parts 15.249(a)(d)(e) & 15.209(a)
Industry Canada Reference:	RSS-Gen 4.9 / RSS-210 A2.9
Test Method Used:	As detailed in ANSI C63.10 Sections 6.3 and 6.5 referencing ANSI C63.4
Frequency Range	30 MHz to 1000 MHz

Environmental Conditions:

Temperature (°C):	25
Relative Humidity (%):	29

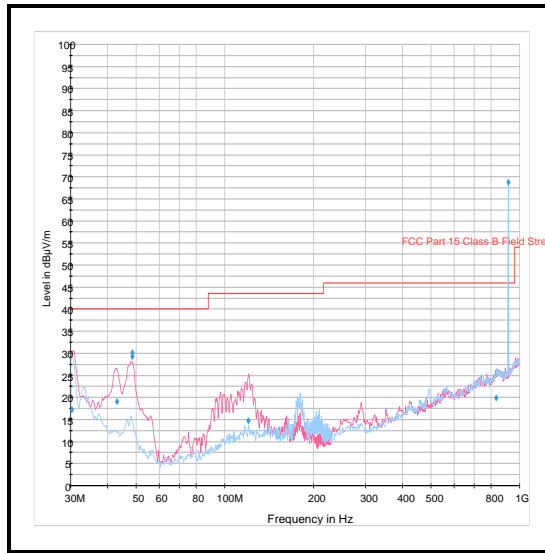
Note(s):

1. The emission at 915 MHz shown on the 30 MHz to 1 GHz plot is the EUT fundamental.
2. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
3. All other emissions shown on the pre-scan plot were investigated and found to be ambient or >20 dB below the applicable limit or below the measurement system noise floor.
4. Measurements below 1 GHz were performed in a semi-anechoic chamber (Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.
5. Pre-scans were performed and markers placed on the highest measured levels. The test receiver resolution bandwidth was set to 100 kHz and video bandwidth 300 kHz. The sweep time was set to auto. A peak detector was used, sweep time was set to auto and trace mode was Max Hold.
6. Final measurements were performed on the marker frequencies and the results entered into the table below. The test receiver resolution bandwidth was set to 120 kHz. A CISPR quasi-peak detector was used.

Results:

Frequency (MHz)	Antenna Polarity	Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
43.052	Vertical	19.1	40.0	20.9	Complied
48.535	Vertical	30.1	40.0	9.9	Complied

Transmitter Radiated Emissions (continued)



Note: This plot is a pre-scan and for indication purposes only. For final measurements, see accompanying table.

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1622	Thermohygrometer	JM Handelpunkt	30.5015.06	None stated	31 Dec 2014	12
K0001	5m RSE Chamber	Rainford EMC	N/A	N/A	26 Nov 2014	12
G0543	Amplifier	Sonoma	310N	230801	20 Nov 2014	3
M1273	Test Receiver	Rohde & Schwarz	ESIB 26	100275	15 Feb 2015	12
A259	Antenna	Chase	CBL6111	1513	01 Apr 2015	12
A1834	Attenuator	Hewlett Packard	8491B	10444	15 Nov 2014	12

Transmitter Radiated Emissions (continued)**Test Summary:**

Test Engineer:	Mark Percival	Test Date:	14 August 2014
Test Sample Serial Number:	003		

FCC Reference:	Parts 15.249(a)(d)(e) & 15.209(a)
Industry Canada Reference:	RSS-Gen 4.9 / RSS-210 A2.9(a)(b)
Test Method Used:	As detailed in ANSI C63.10 Sections 6.3 and 6.6 referencing ANSI C63.4
Frequency Range	1 GHz to 10 GHz

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	52

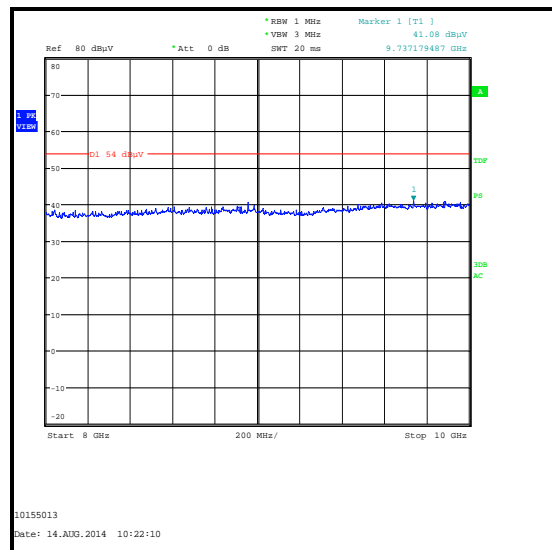
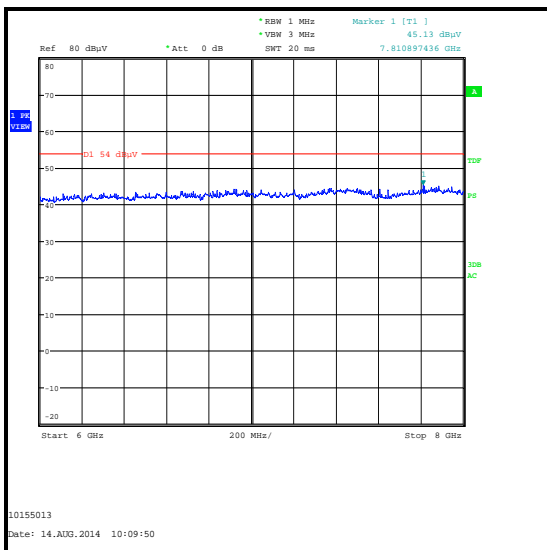
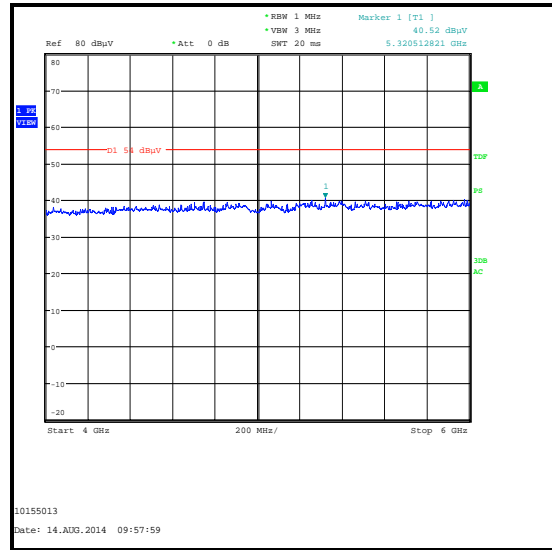
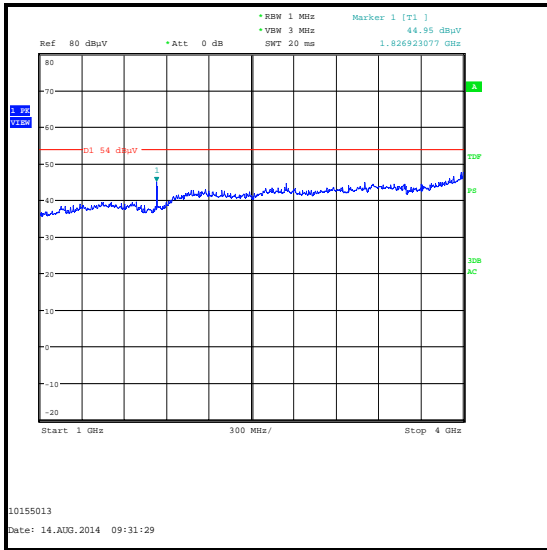
Note(s):

1. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.
2. All other emissions shown on the pre-scan plot were investigated and found to be ambient or >20 dB below the applicable limit or below the measurement system noise floor.
3. *54 dB μ V/m limit applied to the measured emission as the frequency of the emission is the 2nd harmonic of the carrier frequency.
4. Pre-scans above 1 GHz were performed in a fully anechoic chamber (Asset Number K0002) at a distance of 3 metres. The EUT was placed at a height of 1.5 metres above the test chamber floor in the centre of the chamber turntable. All measurement antennas were placed at a fixed height of 1.5 metres above the test chamber floor, in line with the EUT. Final measurements above 1 GHz were performed in a semi-anechoic chamber (Asset Number K0001) at a distance of 3 metres. The EUT was placed at a height of 80 cm above the reference ground plane in the centre of the chamber turntable. Maximum emission levels were determined by height searching the measurement antenna over the range 1 metre to 4 metres.

Results:

Frequency (MHz)	Antenna Polarity	Peak Level (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Result
1829.748	Vertical	46.2	54.0*	7.8	Complied

Transmitter Radiated Emissions (continued)



Note: These plots are pre-scans and for indication purposes only. For final measurements, see accompanying table.

Transmitter Radiated Emissions (continued)**Test Equipment Used:**

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1656	Thermohygrometer	JM Handelspunkt	30.5015.13	None stated	14 Mar 2015	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	14 Nov 2014	12
M1630	Test Receiver	Rohde & Schwarz	ESU26	100553	13 Mar 2015	12
A1534	Pre Amplifier	Hewlett Packard	8449B	3008A00405	18 May 2015	12
A1818	Antenna	EMCO	3115 3115	00075692	14 Nov 2014	12
A253	Antenna	Flann	12240-20	128	14 Nov 2014	12
A254	Antenna	Flann	14240-20	139	14 Nov 2014	12
A255	Antenna	Flann	16240-20	519	14 Nov 2014	12

5.2.8. Transmitter Band Edge Radiated Emissions**Test Summary:**

Test Engineer:	Mark Percival	Test Date:	01 September 2014
Test Sample Serial Number:	003		

FCC Reference:	Parts 15.249(d) & 15.209
Industry Canada Reference:	RSS-Gen 4.9 / RSS-210 A2.9
Test Method Used:	As detailed in ANSI C63.10 Section 6.9.2

Environmental Conditions:

Temperature (°C):	23
Relative Humidity (%):	48

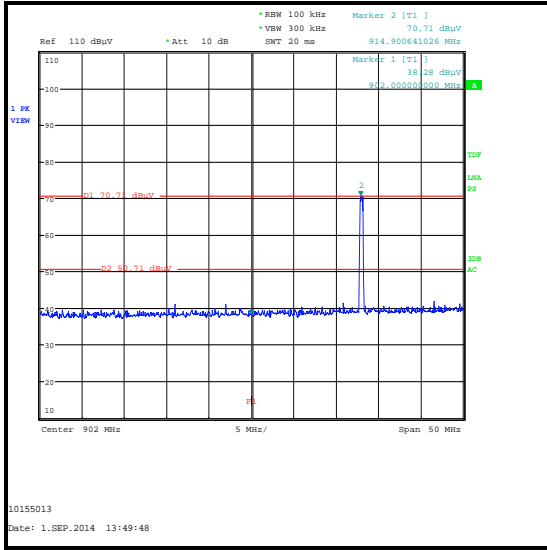
Note(s):

1. The final measured value, for the given emission, in the table below incorporates the calibrated antenna factor and cable loss.

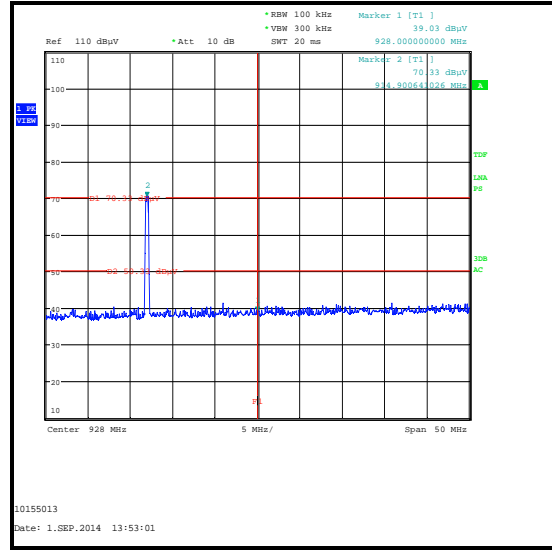
Results:

Frequency (MHz)	Antenna Polarity	Peak Level (dBμV/m)	-20 dBc Limit (dBμV/m)	Margin (dB)	Result
902	Horizontal	38.3	50.7	12.4	Complied
928	Horizontal	39.0	50.3	11.3	Complied

Transmitter Band Edge Radiated Emissions (continued)



Lower Band Edge Peak Measurement



Upper Band Edge Peak Measurement

Test Equipment Used:

Asset No.	Instrument	Manufacturer	Type No.	Serial No.	Date Calibration Due	Cal. Interval (Months)
M1656	Thermohygrometer	JM Handelpunkt	30.5015.13	Not stated	14 Mar 2015	12
A259	Antenna	Chase	CBL6111	1513	01 Apr 2015	12
K0002	3m RSE Chamber	Rainford EMC	N/A	N/A	14 Nov 2014	12
M1874	Test Receiver	Rohde & Schwarz	ESU26	100553	13 May 2015	12

6. Measurement Uncertainty

No measurement or test can ever be perfect and the imperfections give rise to error of measurement in the results. Consequently the result of a measurement is only an approximation to the value of the measurand (the specific quantity subject to measurement) and is only complete when accompanied by a statement of the uncertainty of the approximation.

The expression of uncertainty of a measurement result allows realistic comparison of results with reference values and limits given in specifications and standards.

The uncertainty of the result may need to be taken into account when interpreting the measurement results.

The reported expanded uncertainties below are based on a standard uncertainty multiplied by an appropriate coverage factor such that a confidence level of approximately 95% is maintained. For the purposes of this document "approximately" is interpreted as meaning "effectively" or "for most practical purposes".

Measurement Type	Range	Confidence Level (%)	Calculated Uncertainty
AC Conducted Spurious Emissions	0.15 MHz to 30 MHz	95%	±4.69 dB
Fundamental Field Strength	902 MHz to 928 MHz	95%	±5.65 dB
20 dB Bandwidth	902 MHz to 928 MHz	95%	±3.92%
99% Emission Bandwidth	902 MHz to 928 MHz	95%	±3.92%
Radiated Spurious Emissions	30 MHz to 1 GHz	95%	±5.65 dB
Radiated Spurious Emissions	30 MHz to 9.3 GHz	95%	±2.94 dB

The methods used to calculate the above uncertainties are in line with those recommended within the various measurement specifications. Where measurement specifications do not include guidelines for the evaluation of measurement uncertainty the published guidance of the appropriate accreditation body is followed.

7. Report Revision History

Version Number	Revision Details		
	Page No(s)	Clause	Details
1.0	-	-	Initial Version

---END OF REPORT---