

Report on the Radio Testing
For
Accesso Technology Group PLC
on
Prism
Report no. TRA-032154-45-02A
26 June 2018

RF922 3.0

Report Number: TRA-032154-45-02A
Issue: A

REPORT ON THE RADIO TESTING OF A
ACCESSO TECHNOLOGY GROUP PLC
PRISM
WITH RESPECT TO SPECIFICATION
FCC 47CFR 15.249

TEST DATE: From 2018-03-20 to 2018-03-22

Written by:

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Approved by:

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Department Manager (Radio)

Date: 26 June 2018

Disclaimers:

[1] THIS DOCUMENT MAY BE REPRODUCED ONLY IN ITS ENTIRETY AND WITHOUT CHANGE
[2] THE RESULTS CONTAINED IN THIS DOCUMENT RELATE ONLY TO THE ITEM(S) TESTED

RF922 3.0

1 Revision Record

<i>Issue Number</i>	<i>Issue Date</i>	<i>Revision History</i>
A	26 June 2018	Original

2 Summary

TEST REPORT NUMBER: TRA-032154-45-02A

WORKS ORDER NUMBER: TRA-032154-07

PURPOSE OF TEST: USA: Testing of radio frequency equipment per the relevant authorization procedure of chapter 47 of CFR (code of federal regulations) Part 2, subpart J.

TEST SPECIFICATION(S): 47CFR15.249

EQUIPMENT UNDER TEST (EUT): Prism

FCC IDENTIFIER: 2AKCM-P2600-915-UNI

EUT SERIAL NUMBER: S12: 38002349000046
S13: 38002349000023
S14: 38002349000031
S15: 38002349000008
S16: 38002349000027

MANUFACTURER/AGENT: Accesso Technology Group PLC
ADDRESS: Unit 2 The Pavilions, Ruscombe Park,
Twyford, Berkshire, RG10 9NN
United Kingdom

CLIENT CONTACT: Tony Underwood
☎ 01189 347446
✉ tony.underwood@accesso.com

ORDER NUMBER: PO: 1544

TEST DATE: From 2018-03-20 to 2018-03-22

TESTED BY: I. Broadwell / A. L. Y. Wong
Element

2.1 Test Summary

Test Method and Description	Requirement Clause	Applicable to this equipment	Result / Note
	47CFR15		
Radiated spurious emissions	15.249(d)	<input checked="" type="checkbox"/>	PASS
AC power line conducted emissions	15.207	<input type="checkbox"/>	Note 1
Occupied bandwidth	15.215(c)	<input checked="" type="checkbox"/>	PASS
Field strength of fundamental	15.249(a)	<input checked="" type="checkbox"/>	PASS
Calculation of duty correction	15.35(c)	<input type="checkbox"/>	N/A

Notes:

Note1 – Disposable Lithium battery operated only

The results contained in this report relate only to the items tested, in the condition at time of test, and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

The apparatus was set up and exercised using the configurations, modes of operation and arrangements defined in this report only. Any modifications made are identified in Section 8 of this report.

Particular operating modes, apparatus monitoring methods and performance criteria required by the standards tested to have been performed except where identified in Section 5.2 of this test report (Deviations from Test Standards).

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4 Introduction

This report TRA-032154-45-02A presents the results of the Radio testing on a Accesso Technology Group PLC, Prism to specification 47CFR15 Radio Frequency Devices and RSS-210 Licence-exempt Radio Apparatus (All Frequency Bands): Category I Equipment.

The testing was carried out for Accesso Technology Group PLC by Element, at the address detailed below.

<input checked="" type="checkbox"/>	Element Hull Unit E South Orbital Trading Park Hedon Road Hull HU9 1NJ UK	<input type="checkbox"/>	Element North West Unit 1 Pendle Place Skemersdale West Lancashire WN8 9PN UK
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This report details the configuration of the equipment, the test methods used and any relevant modifications where appropriate.

All test and measurement equipment under the control of the laboratory and requiring calibration is subject to an established programme and procedures to control and maintain measurement standards. The quality management system meets the principles of ISO 9001, and has quality control procedures for monitoring the validity of tests undertaken. Records and sufficient detail are retained to establish an audit trail of calibration records relating to its test results for a defined period. Under control of the established calibration programme, key quantities or values of the test & measurement instrumentation are within specification and comply with the relevant traceable internationally recognised and appropriate standard specifications, which are UKAS calibrated as such where these properties have a significant effect on results. Participation in inter-laboratory comparisons and proficiency testing ensures satisfactory correlation of results conform to Elements own procedures, as well as statistical techniques for analysis of test data providing the appropriate confidence in measurements.

Throughout this report EUT denotes equipment under test.

FCC Site Listing:

Element is accredited for the above sites under the US-EU MRA, Designation number UK0009.

IC Registration Number(s):

Element North West 3930B

The test site requirements of ANSI C63.4-2014 are met up to 1 GHz.

The test site SVSWR requirements of CISPR 16-1-4:2010 are met over the frequency range 1 GHz to 18 GHz.

5 Test Specifications

5.1 Normative References

- FCC 47 CFR Ch. I – Part 15 – Radio Frequency Devices.
- ANSI C63.10-2013 – American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.
- ANSI C63.4-2014 – 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.

5.2 Deviations from Test Standards

None.

6 Glossary of Terms

§	denotes a section reference from the standard, not this document
AC	Alternating Current
ANSI	American National Standards Institute
BW	bandwidth
C	Celsius
CFR	Code of Federal Regulations
CW	Continuous Wave
dB	decibel
dBm	dB relative to 1 milliwatt
DC	Direct Current
DSSS	Direct Sequence Spread Spectrum
EIRP	Equivalent Isotropically Radiated Power
ERP	Effective Radiated Power
EUT	Equipment Under Test
FCC	Federal Communications Commission
FHSS	Frequency Hopping Spread Spectrum
Hz	hertz
IC	Industry Canada
ITU	International Telecommunication Union
LBT	Listen Before Talk
m	metre
max	maximum
MIMO	Multiple Input and Multiple Output
min	minimum
MRA	Mutual Recognition Agreement
N/A	Not Applicable
PCB	Printed Circuit Board
PDF	Portable Document Format
Pt-mpt	Point-to-multipoint
Pt-pt	Point-to-point
RF	Radio Frequency
RH	Relative Humidity
RMS	Root Mean Square
Rx	receiver
s	second
SVSWR	Site Voltage Standing Wave Ratio
Tx	transmitter
UKAS	United Kingdom Accreditation Service
V	volt
W	watt
Ω	ohm

7 Equipment Under Test

7.1 EUT Identification

- Name: Prism
- Serial Numbers:
 - S12: 38002349000046
 - S13: 38002349000023
 - S14: 38002349000031
 - S15: 38002349000008
 - S16: 38002349000027
- Model Number: Universal Version is P2600-915-1
Generic Accesso Version is P2600-915-2
- Software Revision: V1.0 Test
- Build Level / Revision Number: Production Issue f V3_US

7.2 System Equipment

Equipment listed below forms part of the overall test setup and is required for equipment functionality and/or monitoring during testing. The compliance levels achieved in this report relate only to the EUT and not items given in the following list.

Laptop computer: TRA-032154-S17

Device programmer (FEIG Reader): TRA-032154-S210

7.3 EUT Mode of Operation

7.3.1 Transmission

The mode of operation for transmitter tests was set by placing a wristband on a programmer, to set it transmitting modulated signals at top, mid and low channels.

7.3.2 Reception

Receiver test was not covered, as the scope of work according to the quotation TRA-032154-07-QTE Item 1, was only limited to FCC CFR 47 Part 15 Subpart C.

7.4 EUT Radio Parameters

Frequency of operation:	From 902.5 MHz to 927.5 MHz
Modulation type(s):	Chirp Spread Spectrum
ITU emission designator(s):	130KX1D
Nominal Supply Voltage:	3V DC
Method of prevention of use on non-US / non-Canadian frequencies:	N/A: Fixed internal antenna
Frequency Tolerance:	5 ppm
Maximum power:	1.38 mW (+1.4 dBm)
Bandwidth:	125 kHz

7.5 EUT Description

The device is a wristband for electronic queuing systems.

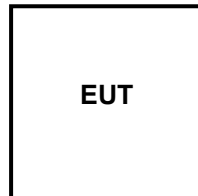
8 Modifications

No modifications were performed during this assessment.

9 EUT Test Setup

9.1 Block Diagram

The EUT was only battery powered standalone device, placed inside the Semi-Anechoic Room (SAR) for testing, without connecting to any other equipment, as shown in the photograph.



9.2 General Set-up Photograph

The following photograph shows basic EUT set-up:



10 General Technical Parameters

10.1 Normal Conditions

The E U T was tested under the normal environmental conditions of the test laboratory, except where otherwise stated. The normal power source applied was 3 V DC from Lithium battery.

10.2 Varying Test Conditions

There are no specific frequency stability requirements for the type of device. The results contained in this report demonstrate that the occupied bandwidth is contained within the authorised band and the manufacturer has declared sufficient frequency stability (refer to section 7.4).

Variation of supply voltage is required to ensure stability of the declared output power. During carrier power testing the following variations were made:

	Category	Nominal	Variation
<input type="checkbox"/>	Mains	110V	85 % and 115 %
<input checked="" type="checkbox"/>	New battery	3 V dc	2.8 V and 3 V

11 Radiated emissions

11.1 Definitions

Out-of-band emissions

Emissions on a frequency or frequencies immediately outside the necessary bandwidth which result from the modulation process, but exclude spurious emissions.

Spurious emissions

Emissions on a frequency or frequencies which are outside the necessary bandwidth and the level of which may be reduced without affecting the corresponding transmission of information. Spurious emissions include harmonic emissions, parasitic emissions, intermodulation products and frequency conversion products, but exclude out-of-band emissions.

Restricted bands

A frequency band in which intentional radiators are permitted to radiate only spurious emissions but not fundamental signals.

11.2 Test Parameters

Test Location:	Element Hull
Test Chamber:	Wireless Laboratory 2
Test Standard and Clause:	ANSI C63.10-2013, Clause 6.5 and 6.6
EUT Channels / Frequencies Measured:	Low / Mid / High (902.5 / 915.0 / 927.5 MHz)
EUT Channel Bandwidths:	130 kHz
Deviations From Standard:	None
Measurement BW:	30 MHz to 1 GHz: 120 kHz Above 1 GHz: 1 MHz
Measurement Detector:	Up to 1 GHz: Quasi-peak Above 1 GHz: Average and Peak

Environmental Conditions (Normal Environment)

Temperature: 18 °C	+15 °C to +35 °C (as declared)
Humidity: 34 % RH	20 % RH to 75 % RH (as declared)
Supply: 3 V dc	Lithium battery

11.3 Test Limit

Except for harmonics, out-of-band emissions shall be attenuated by at least 50 dB below the level of the fundamental or to the general field strength limits listed in FCC 47CFR15.209 / RSS-Gen {see table below}, whichever is less stringent.

Harmonics shall be limited to a maximum level of 0.5 mV/m measured at 3 metres.

General Field Strength Limits for License-Exempt Transmitters at Frequencies above 30 MHz

Frequency (MHz)	Field Strength ($\mu\text{V}/\text{m}$ at 3 m)
30 to 88	100
88 to 216	150
216 to 960	200
Above 960	500

n.b. per FCC 47CFR15.35(b) / RSS-Gen 8.1, peak limit is 20 dB above average.

11.4 Test Method

With the EUT setup as per section 9 of this report and connected as per Figure i, the emissions from the EUT were measured on a spectrum analyzer / EMI receiver.

Radiated electromagnetic emissions from the EUT are checked first by preview scans. Preview scans for all spectrum and modulation characteristics are checked, using a peak detector and where applicable worst-case determined for function, operation, orientation, etc. for both vertical and horizontal polarisations. Pre-scan plots are shown with a peak detector and 100 kHz RBW.

If the EUT connects to auxiliary equipment and is table or floor standing, the configurations prescribed in ANSI C63.10 are followed. Alternatively, a layout closest to normal use (as declared by the provider) is employed, (see EUT setup photographs for more detail).

Emissions between 30 MHz and 1 GHz are measured using calibrated broadband antennas. Emissions above 1 GHz are characterized using standard gain horn antennas. Pre-amplifiers and filters are used where required. Care is taken to ensure that test receiver resolution bandwidth, video bandwidth and detector type(s) meet the regulatory requirements.

For both horizontal and vertical polarizations, the EUT is then rotated through 360 degrees in azimuth until the highest emission is detected. At the previously determined azimuth the test antenna is raised and lowered from 1 to 4 m in height until a maximum emission level is detected, this maximum value is recorded.

Power values measured on the test receiver / analyzer are converted to field strength, FS, in dB μ V/m at the regulatory distance, using:

$$FS = PR + CL + AF - PA + DC - CF$$

Where,

PR is the power recorded on the receiver / spectrum analyzer in dB μ V;

CL is the cable loss in dB;

AF is the test antenna factor in dB/m;

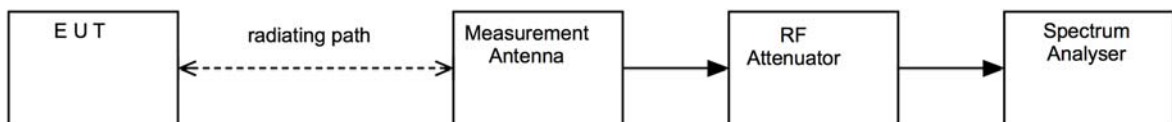
PA is the pre-amplifier gain in dB (where used);

DC is the duty correction factor in dB (where used, e.g. harmonics of pulsed fundamental);

CF is the distance factor in dB (where measurement distance different to limit distance);

This field strength value is then compared with the regulatory limit.

Figure i Test Setup



11.5 Test Set-up Photograph

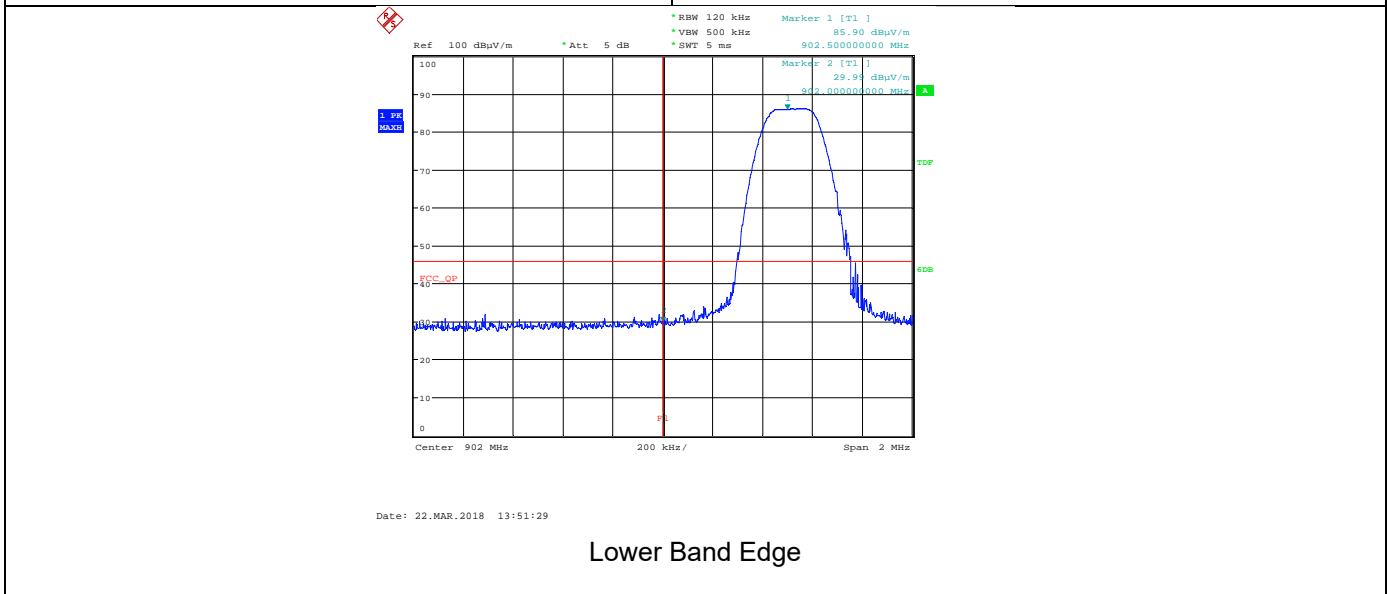
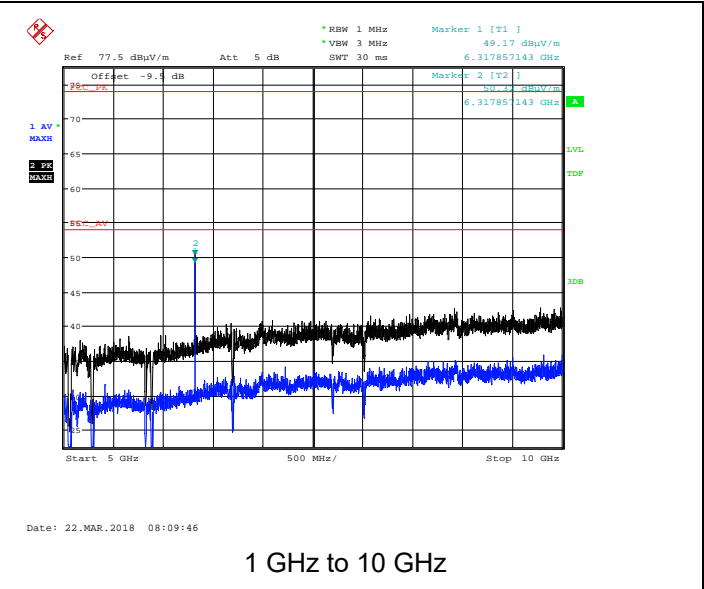
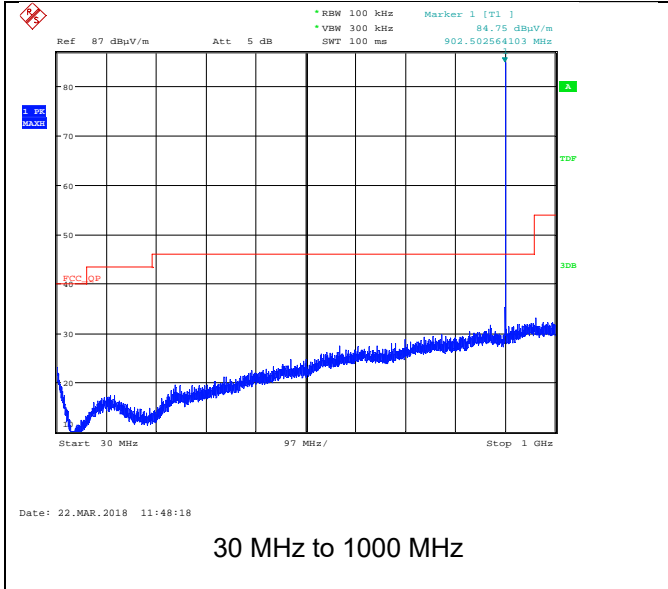


11.6 Test Equipment

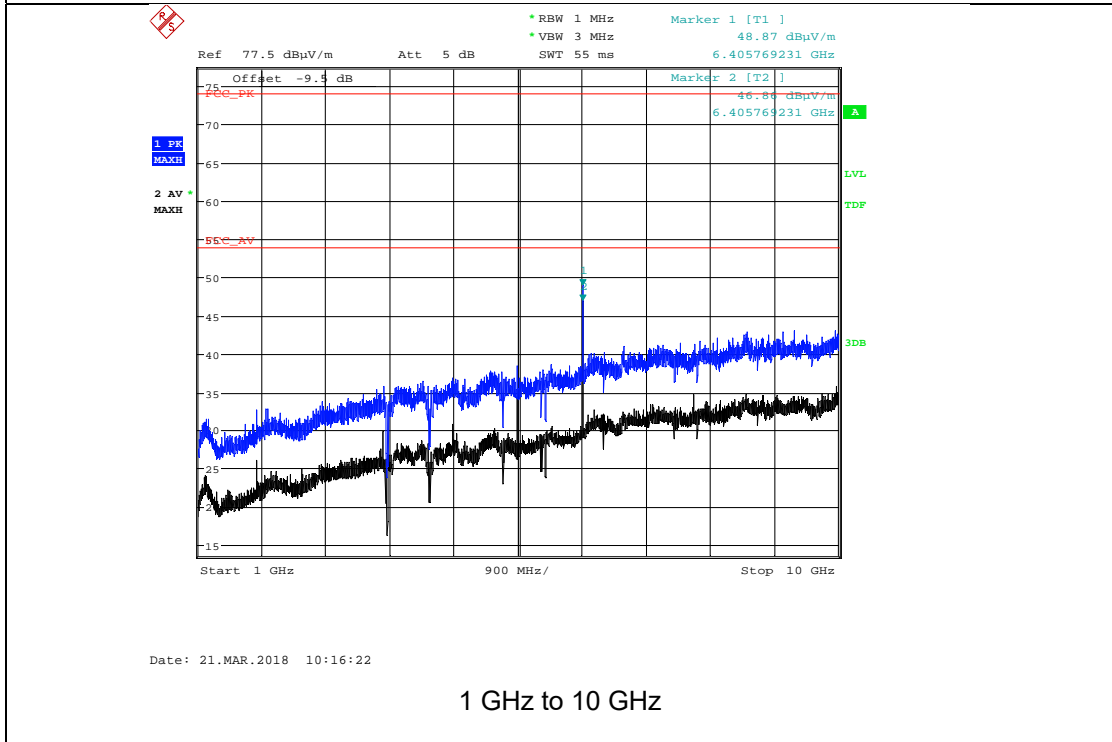
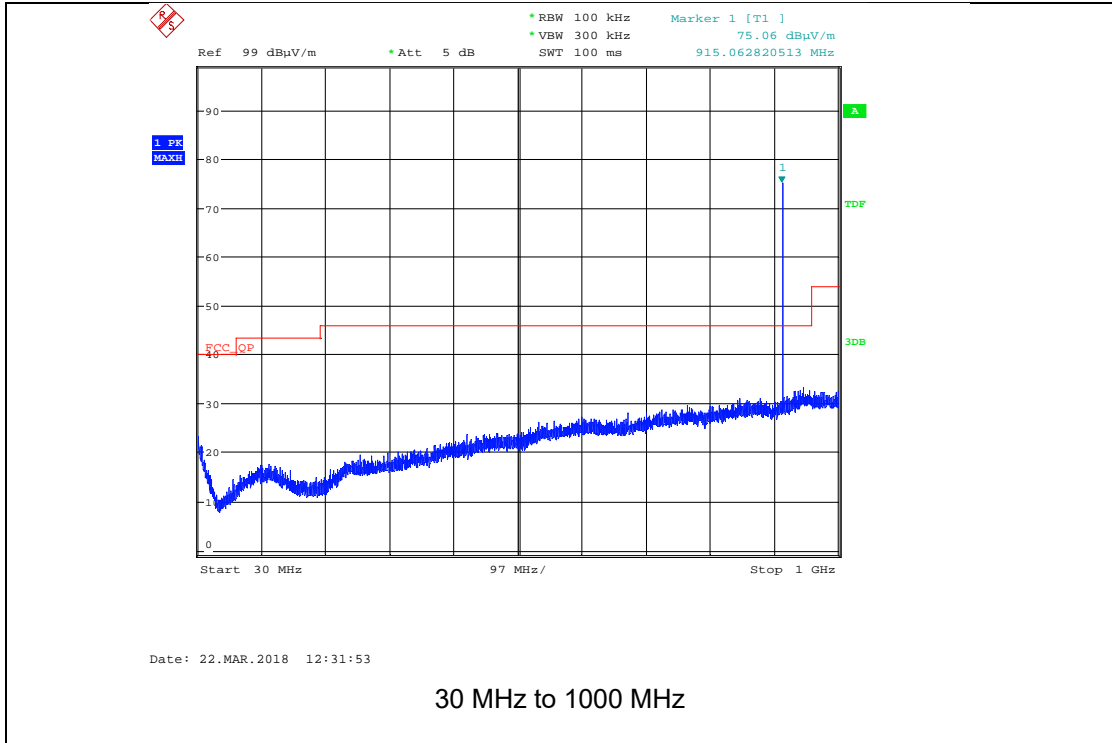
<i>Equipment Type</i>	<i>Manufacturer</i>	<i>Equipment Description</i>	<i>Element No</i>	<i>Due For Calibration</i>
310	Sonoma	Pre-Amp (9kHz – 1GHz)	REF927	2018-06-30
8449B	Agilent	Pre-Amp (1 – 26.5GHz)	REF913	2020-02-07
3115	EMCO	Horn Antenna	RFG129	2020-02-12
CBL6111B	Chase	Bilog Antenna	REF2218	2019-11-06
FSU50	R&S	Spectrum Analyser	U544	2018-04-27
Cable	Teledyne	K-Type RF coaxial cable	REF2184	2018-03-27
Cable	Teledyne	K-Type RF coaxial cable	REF2185	2018-03-27

11.7 Test Results

Sample: TRA-032154-S14; Channel: 902.5 MHz; LoRa Modulated Signal									
Detector	Freq. (MHz)	Meas'd Emission (dB μ V)	Cable Loss (dB)	Antenna Factor (dB/m)	Pre-amp Gain (dB)	Distance Extrapolation Factor (dB)	Field Strength (dB μ V/m)	Field Strength (μ V/m)	Limit (μ V/m)
Peak	6317.5	57.1	5.2	34.5	35.6	-9.5	51.7	384.6	5000.0
Average	6317.5	54.7	5.2	34.5	35.6	-9.5	49.3	291.7	500.0

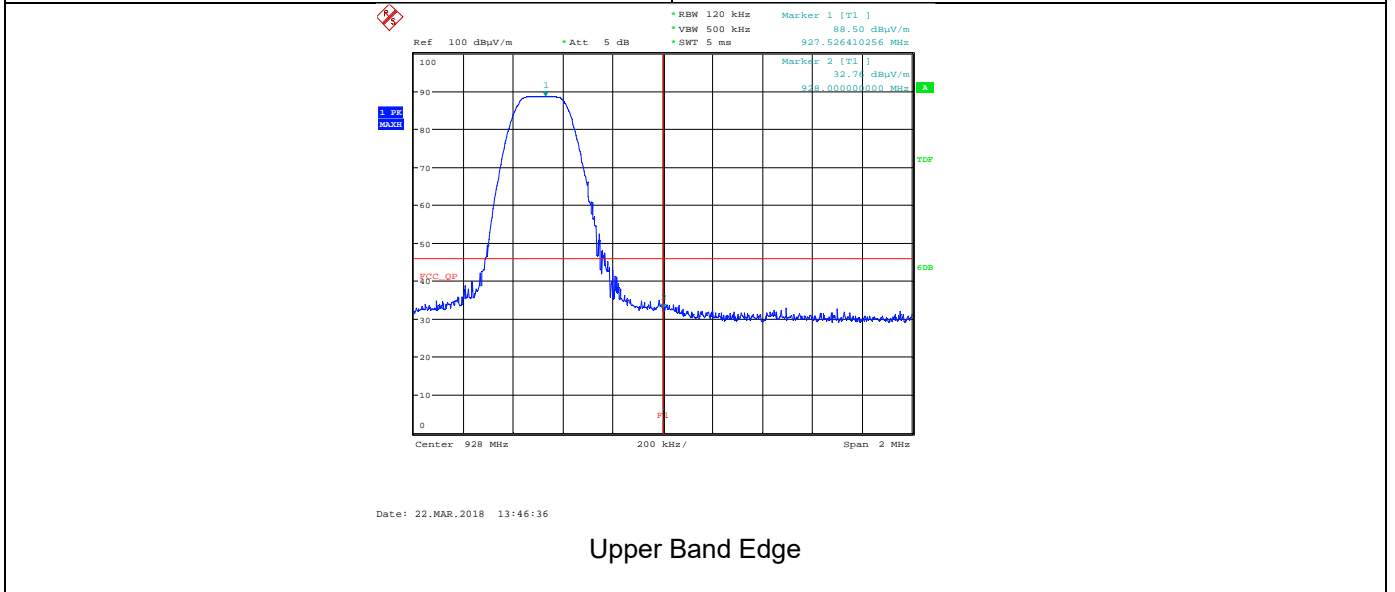
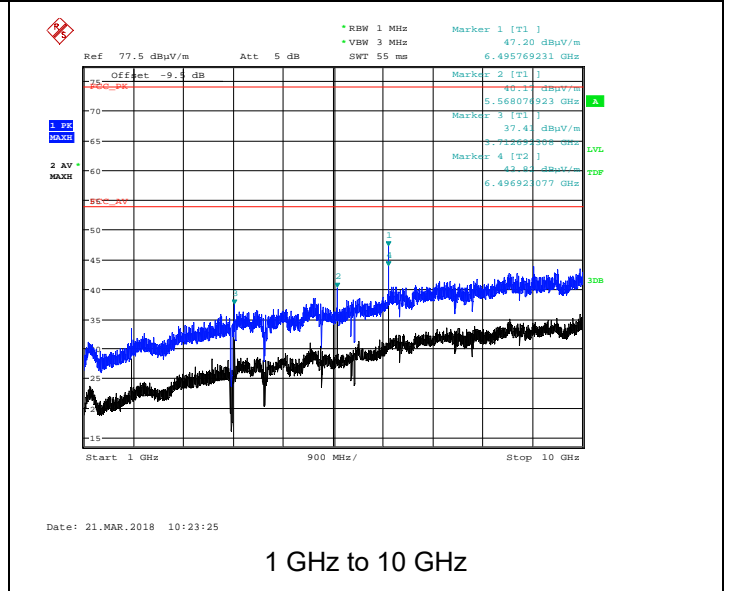
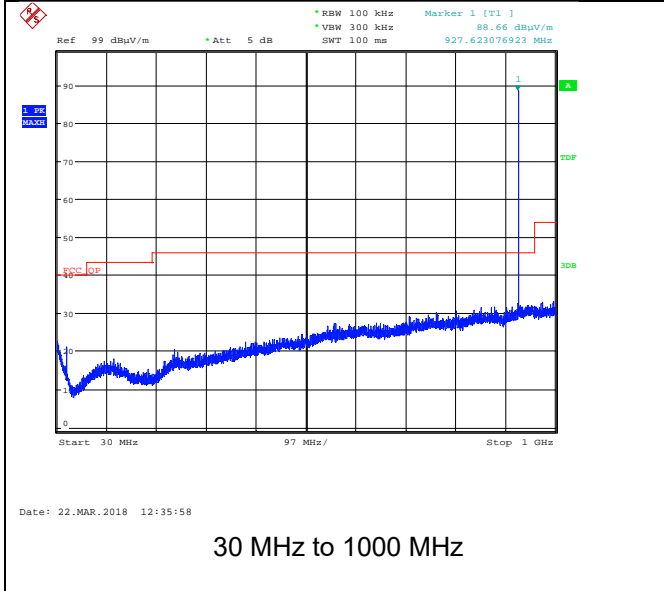


Sample: TRA-032154-S16; Channel: 915.0 MHz; LoRa Modulated Signal									
Detector	Freq. (MHz)	Meas'd Emission (dBµV)	Cable Loss (dB)	Antenna Factor (dB/m)	Pre-amp Gain (dB)	Distance Extrapolation Factor (dB)	Field Strength (dBµV/m)	Field Strength (µV/m)	Limit (µV/m)
Peak	6405.0	57.0	5.3	34.5	35.7	-9.5	51.6	380.2	5000.0
Average	6405.0	54.5	5.3	34.5	35.7	-9.5	49.1	285.1	500.0



Sample: TRA-032154-S16; Channel: 927.5 MHz; LoRa Modulated Signal

Detector	Freq. (MHz)	Meas'd Emission (dBμV)	Cable Loss (dB)	Antenna Factor (dB/m)	Pre-amp Gain (dB)	Distance Extrapolation Factor (dB)	Field Strength (dBμV/m)	Field Strength (μV/m)	Limit (μV/m)
Peak	6492.5	55.6	5.3	34.5	35.7	-9.5	50.2	323.6	5000.0
Average	6492.5	52.3	5.3	34.5	35.7	-9.5	46.9	221.3	500.0



12 Occupied Bandwidth

12.1 Definitions

20 dB bandwidth

The emission bandwidth (x dB) is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated x dB below the maximum in-band spectral density of the modulated signal.

12.2 Test Parameters

Test Location:	Element Hull
Test Chamber:	Wireless Laboratory 2
Test Standard and Clause:	ANSI C63.10-2013, Clause 6.9
EUT Channels / Frequencies Measured:	Low / Mid / High (902.5 / 915.0 / 927.5 MHz)
EUT Channel Bandwidths:	130 kHz
EUT Test Modulations:	Standard LoRa
Deviations From Standard:	None
Measurement BW: (requirement: 1 % to 5 % OBW)	5 kHz
Spectrum Analyzer Video BW: (requirement at least 3x RBW)	20 kHz
Measurement Span: (requirement 2 to 5 times OBW)	500 kHz
Measurement Detector:	Peak

Environmental Conditions (Normal Environment)

Temperature: 18 °C	+15 °C to +35 °C (as declared)
Humidity: 22 % RH	20 % RH to 75 % RH (as declared)
Supply: 3 V dc	Lithium Battery

12.3 Test Limit

Federal Communications Commission:

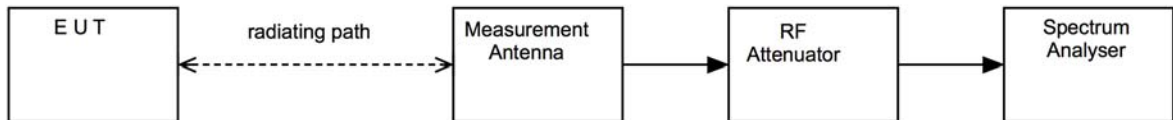
Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §15.217 through §15.257 and in §subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

12.4 Test Method

With the EUT setup as per section 9 of this report and connected as per Figure iii, the bandwidth of the EUT was measured on a spectrum analyser.

The measurements were performed with EUT set at its maximum duty. All modulation schemes, data rates and power settings were used to observe the worst-case configuration in each bandwidth.

Figure iii Test Setup

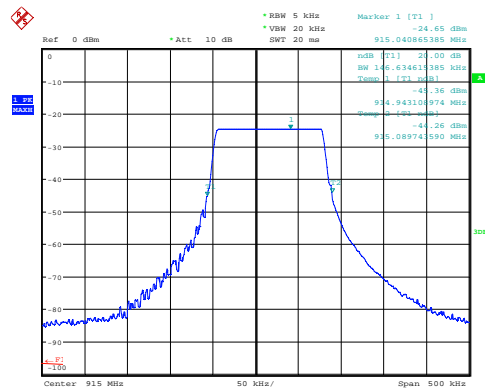
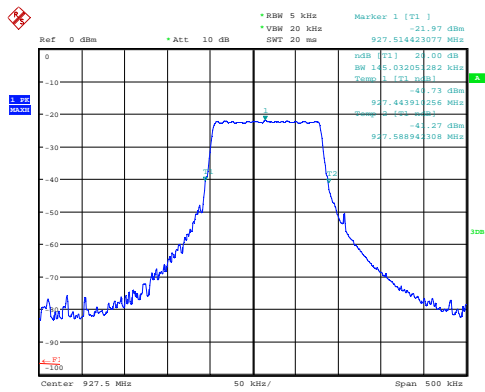


12.5 Test Equipment

Equipment Type	Manufacturer	Equipment Description	Element No	Due For Calibration
310	Sonoma	Pre-Amp (9kHz – 1GHz)	REF927	2018-06-30
CBL6111B	Chase	Bilog Antenna	REF2218	2019-11-06
FSU50	R&S	Spectrum Analyser	U544	2018-04-27

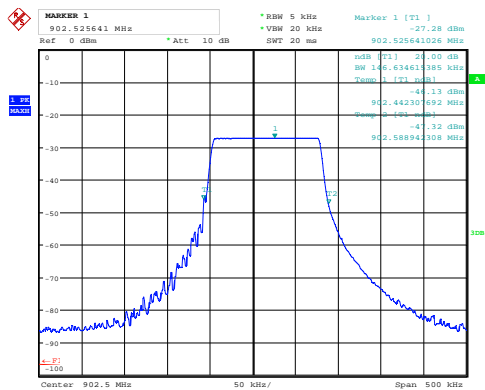
12.6 Test Results

LoRa transmitter				
Channel Frequency (MHz)	F_L (MHz)	F_H (MHz)	20dB Bandwidth (kHz)	Result
927.5	927.444	927.589	145	PASS
915.0	914.943	915.090	147	PASS
902.5	902.442	902.589	147	PASS



Date: 22.MAR.2018 19:12:34

Date: 22.MAR.2018 18:50:30



Date: 22.MAR.2018 19:05:16

13 Transmitter output power (fundamental radiated emission)

13.1 Definition

The RF power dissipated in the standard output termination when operating under the rated duty cycle selected by the applicant for approval.

13.2 Test Parameters

Test Location:	Element Hull
Test Chamber:	Wireless Laboratory 2
Test Standard and Clause:	ANSI C63.10-2013, Clause 6.5 / 6.6
EUT Channels / Frequencies Measured:	Low / Mid / High (902.5 / 915.0 / 927.5 MHz)
EUT Channel Bandwidths:	130 kHz
Deviations From Standard:	Peak Detector was used
Measurement BW:	120 kHz
Spectrum Analyzer Video BW: (requirement at least 3x RBW)	Not available on ESVS 20 EMI Test Receiver
Measurement Detector:	Quasi-Peak
Voltage:	3 V Lithium Battery

Environmental Conditions (Normal Environment)

Temperature: 17 °C	+15 °C to +35 °C (as declared)
Humidity: 34 % RH	20 % RH to 75 % RH (as declared)

13.3 Test Limit

The field strength measured at 3 metres shall not exceed the limits in the following table:

Field Strength Limits for License-Exempt Transmitters for Any Application

<i>Fundamental frequency (MHz)</i>	<i>Field strength (mV/m at 3 m)</i>	<i>Detector</i>
902 to 928	50	Quasi-Peak
2400 to 2483.5	50	Average
5725 to 5875	50	Average

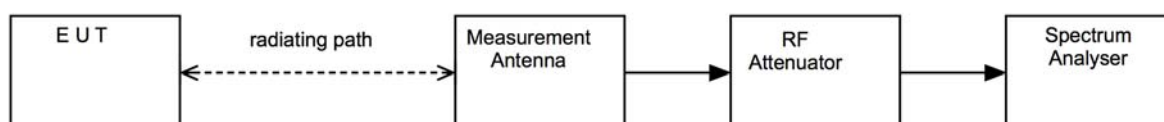
n.b. per FCC 47CFR15.249(e) / RSS-Gen 8.1, peak limit is 20 dB above average.

13.4 Test Method

With the EUT setup as per section 9 of this report and connected as per Figure iv, the resolution bandwidth of the spectrum analyser was increased above the EUT occupied bandwidth and the peak emission data noted.

The measurements were performed with EUT set at its maximum duty. All modulation schemes, data rates and power settings were used to observe the worst-case configuration in each bandwidth.

Figure iv Test Setup



13.5 Test Equipment

<i>Equipment Type</i>	<i>Manufacturer</i>	<i>Equipment Description</i>	<i>Element No</i>	<i>Due For Calibration</i>
310	Sonoma	Pre-Amp (9kHz – 1GHz)	REF927	2018-06-30
CBL6111B	Chase	Bilog Antenna	REF2218	2019-11-06
EMI Receiver	R&S	ESVS 20	RFG126	2018-06-01
Cable	AtlanTec RF	SMA Cable	REF2164	2018-10-31
Cable	Unknown	N-Type	REF881	2018-12-19
Cable	Unknown	N-Type	REF882	2018-12-19
Cable	Unknown	N-Type	REF885	2018-12-19

13.6 Test Results

Detector	Freq. (MHz)	Meas'd Emission (dBμV)	Cable Loss (dB)	Antenna Factor (dB/m)	Pre-amp Gain (dB)	Field Strength (dBμV/m)	Field Strength (mV/m)	Limit (mV/m)	Result
Quasi-Peak	902.5	85.7	3.9	28.2	31.8	86.0	20.0	50.0	PASS
Quasi-Peak	915.0	86.3	3.8	28.7	31.7	87.1	22.6	50.0	PASS
Quasi-Peak	927.5	86.4	3.9	29.3	31.6	87.9	24.8	50.0	PASS

14 Measurement Uncertainty

Calculated Measurement Uncertainties

All statements of uncertainty are expanded standard uncertainty using a coverage factor of 1.96 to give a 95 % confidence:

[1] Carrier power

Uncertainty in test result (Power Meter) = **1.08 dB**

Uncertainty in test result (Spectrum Analyser) = **2.48 dB**

[2] Spurious emissions

Uncertainty in test result (30 MHz to 1 GHz) = **4.6 dB**

Uncertainty in test result (1 GHz to 18 GHz) = **4.7 dB**

[3] AC power line conducted emissions

Uncertainty in test result = **3.4 dB**

[4] Occupied bandwidth

Uncertainty in test result = **15.5 %**

[5] Maximum frequency error

Uncertainty in test result (Power Meter) = **0.113 ppm**

Uncertainty in test result (Spectrum Analyser) = **0.265 ppm**

[6] Duty cycle

Uncertainty in test result = **7.98 %**

15 RF Exposure

KDB 447498

Section 4.3 General SAR test reduction and exclusion guidance

For Standalone SAR exclusion consideration, when SAR exclusion Threshold requirement in KDB 447498 is satisfied, standalone SAR evaluation for general population exposure conditions by measurement or numerical simulation is not required.

In the frequency range below 100 MHz to 6 GHz and test separation distance of 50 mm, the SAR Test Exclusion Threshold for operation at 902.5 MHz, 915.0 MHz and 927.5 MHz will be determined as follows

SAR Exclusion Threshold (SARET)

SAR Exclusion Threshold = Step 1 + Step 2

Step 1

$$NT = [(MP/TSD^A) * \sqrt{f_{GHz}}]$$

NT = Numeric Threshold (3.0 for 1-g SAR and 7.5 for 10-g SAR)
 MP = Max Power of channel (mW) (inc tune up)
 TSD^A = Min Test separation Distance or 50 mm (whichever is lower) = 50 mm

We can transpose this formula to allow us to find the maximum power of a channel allowed and compare this to the measured maximum power.

$$= [(NT * TSD^A) / \sqrt{f_{GHz}}]$$

For Distances Greater than 50 mm Step 2 applies

Step 2

$$(TSD^B - 50 \text{ mm}) * 10\}$$

Where:

TSD^B = Min Test separation Distance = 50 mm

Calculations made as per KDB 447498 4.3.1(b):**Operating Frequency 902.5 MHz**

$$\begin{aligned} \text{MP} &= [(7.5 \times 50) / \sqrt{0.9025}] + \{ (50 - 50) * [902.5/150] \} \text{ mW} \\ \text{MP} &= 394.7 \text{ mW} \end{aligned}$$

The measured output power 0.073 mW (Peak), which is much less than the SAR Exclusion Threshold of 394.7 mW.

Operating Frequency 915.0 MHz

$$\begin{aligned} \text{MP} &= [(7.5 \times 50) / \sqrt{0.9150}] + \{ (50 - 50) * [915.0/150] \} \text{ mW} \\ \text{MP} &= 392.0 \text{ mW} \end{aligned}$$

The measured output power 0.094 mW (Peak), which is much less than the SAR Exclusion Threshold of 392.0 mW.

Operating Frequency 927.5 MHz

$$\begin{aligned} \text{MP} &= [(7.5 \times 50) / \sqrt{0.9275}] + \{ (50 - 50) * [927.5/150] \} \text{ mW} \\ \text{MP} &= 389.4 \text{ mW} \end{aligned}$$

The measured output power 0.113 mW (Peak), which is much less than the SAR Exclusion Threshold of 389.4 mW.

Therefore standalone SAR evaluation for general population exposure conditions by measurement or numerical simulation is not required, as per Section 4.3 General SAR test reduction and exclusion guidance