

Report on the Intermodulation Testing

For

Draeger Safety UK Ltd

on

Dräger PSS AirBoss Sentinel

Report no. TRA-051967-47-24B

2025-06-19

RF915 4.0



Report Number: TRA-051982-47-24B
Issue: B

REPORT ON THE INTERMODULATION TESTING OF A
Draeger Safety UK Ltd
Dräger PSS AirBoss Sentinel
WITH RESPECT TO SELECTED CLAUSES OF SPECIFICATION
KDB 996369 D04 v02
IN CASES OF MORE THAN ONE TRANSMITTER OPERATING AT THE SAME TIME

TEST DATE: 2025-04-22 to 2025-04-22

Tested by:



pp Michael Else
Radio Test Engineer

Written by:



Steven Garwell
Radio Test Engineer

Approved by:

John Charters
Laboratory Manager

Date: 2025-06-19

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

RF915 4.0

1 Revision Record

| <i>Issue Number</i> | <i>Issue Date</i> | <i>Revision History</i> |
|---------------------|-------------------|--|
| A | 2025-04-24 | Original |
| B | 2025-06-19 | General updates and corrections throughout document. |

2 Summary

| | |
|-----------------------------|---|
| TEST REPORT NUMBER: | TRA-051967-47-24B |
| WORKS ORDER NUMBER: | TRA-051967-21 |
| PURPOSE OF TEST: | Intermodulation emissions investigation. |
| TEST SPECIFICATION: | KDB 996369 D04 v02 |
| EQUIPMENT UNDER TEST (EUT): | Dräger PSS AirBoss Sentinel |
| EUT SERIAL NUMBER: | ARTA 0005 01/24 |
| CONTAINS FCC ID: | RFRMS42 |
| CONTAINS ISSED ID: | 4957A-MS42 |
| MANUFACTURER/AGENT: | Draeger Safety UK Ltd |
| ADDRESS: | Ullswater Close Blyth Riverside Business Park Blyth NE24 4RG United Kingdom |
| CLIENT CONTACT: | Eoghan Quigley ☎ 01670 352 891 ✉ eoghan.quigley@draeger.com |
| ORDER NUMBER: | 4303193234 |
| TEST DATE: | 2025-04-22 to 2025-04-24 |
| TESTED BY: | Michael Else Element |

2.1 Test Summary

| Test Method and Description | Requirement Clause | | Applicable to this equipment | Result / Note |
|--|--------------------|---------|------------------------------|---------------|
| | RSS | 47CFR | | |
| Multi-radio Simultaneous Transmission Spurious Emissions | Gen, 8.10 | Part 15 | ☒ | Pass |

General notes:

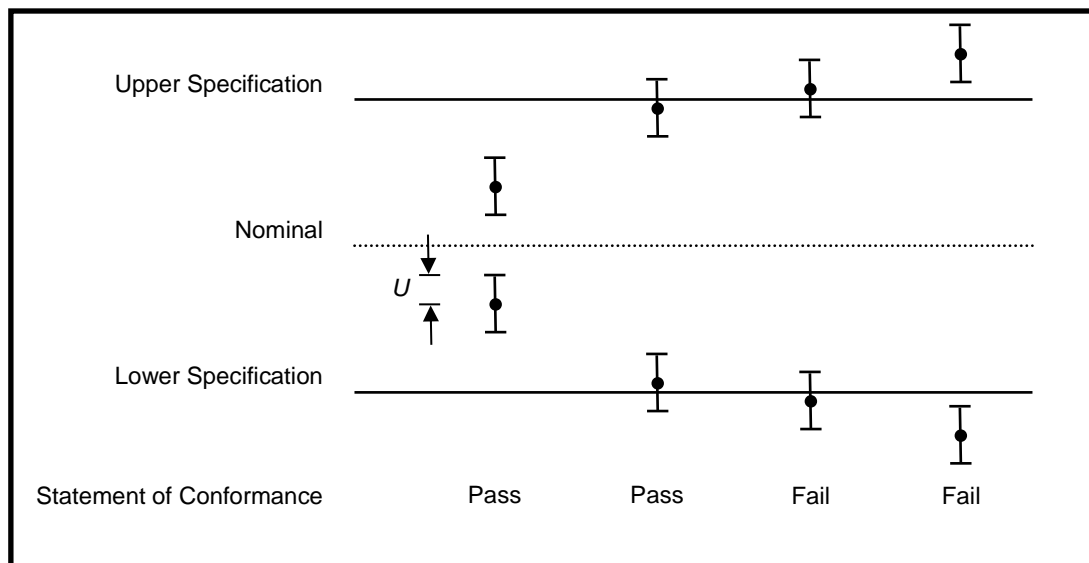
The results contained in this report relate only to the items tested, in the condition at time of test, and were obtained in the period between the date of initial receipt of samples and the date of issue of the report.

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).

The decision rule for compliance is not inherent within this specification and compliance is based on the customer requesting a simple acceptance rule based on understanding and acceptance of Elements Measurement Uncertainty values.

Graphical Representation of a Pass / Fail Binary Statement - Simple Acceptance



● = Measured value

U = 95 % expanded measurement uncertainty

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4 Introduction

This report TRA-051967-47-24B presents the results of the Radio testing on a, Draeger Safety UK Ltd PSS AirBoss Sentinel.

The Dräger PSS AirBoss Sentinel contains the following Radios:

Pressure module contains: BTLE 2.4 GHz Radio

Gauge contains: BTLE 2.4 GHz radio, NFC 13.56 MHz radio and a 900 MHz radio.

This report covers the testing the following radios that are co-located in the gauge housing:

BTLE 2.4 GHz radio, NFC 13.56 MHz radio and 900 MHz radio

At the customer's request the 2.4 GHz BTLE Radio in the pressure module housing was not considered as part of this assessment.

The testing was carried out for Draeger Safety UK Ltd by Element, at the address detailed below.

☒ Element Skelmersdale
Unit 1
Pendle Place
Skelmersdale
West Lancashire
WN8 9PN
UK

☐ Element Surrey Hills
Unit 15 B
Henley Business Park
Pirbright Road
Normandy
Guildford
GU3 2DX
UK

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:

The test laboratory is accredited for the above sites under the following US-UK MRA, Designation numbers.

Element Skelmersdale UK2020

ISED Registration Number:

Element North West 3930B

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

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.
- ISED RSS-Gen – General Requirements for Compliance of Radio Apparatus - Issue 5 April 2018.
- ISED RSS-210, Issue 11, June 2024 – Licence-Exempt Radio Apparatus: Category I Equipment.
- ISED RSS-247, Issue 3, August 2023 – Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices.
- KDB 996369 D04 Module Integration Guide v02 - Modular transmitter integration guide -Guidance for host product manufacturers.
- RSP-100 Issue 12, August 2019 - Certification of Radio Apparatus and Broadcasting Equipment.

5.2 Deviations from Test Standards

Only limited testing was performed to check the intermodulation emissions.

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: Dräger PSS AirBoss Sentinel
- Serial Number: ARTA 0005 01/24
- Model Number: 3729300-03
- Software Revision: Not Stated
- Hardware Version: Prototype

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.

1. *Not Applicable – No support/monitoring equipment required.*

7.3 EUT Mode of Operation

7.3.1 Transmission

The mode of operation for transmitter tests was as follows:

Radios were set to transmit permanently in various combinations, the spectrum was checked to determine if any intermodulation products were generated due to multiple radios operating simultaneously. The worst case emission plots are shown in this document.

EUT was operated with worst case modes of operation for each radio device.

7.4 EUT Description

Dräger PSS AirBoss Sentinel contains HUD BTLE 2.4 GHz Radio.

Pressure module contains: BTLE 2.4 GHz Radio

Gauge contains: BTLE 2.4 GHz radio, NFC 13.56 MHz radio and a 900 MHz radio.

This report covers the testing the following radios that are co-located in the gauge housing:

BTLE 2.4 GHz radio, NFC 13.56 MHz radio and 900 MHz radio

At the customer's request the 2.4 GHz BTLE Radio in the pressure module housing and HUD was not considered as part of this assessment.

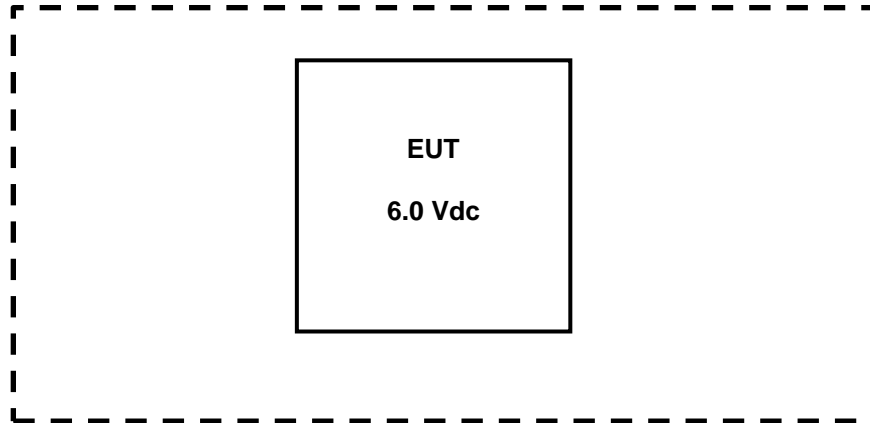
8 Modifications

No modifications were performed during this assessment.

9 EUT Test Setup

9.1 Block Diagram

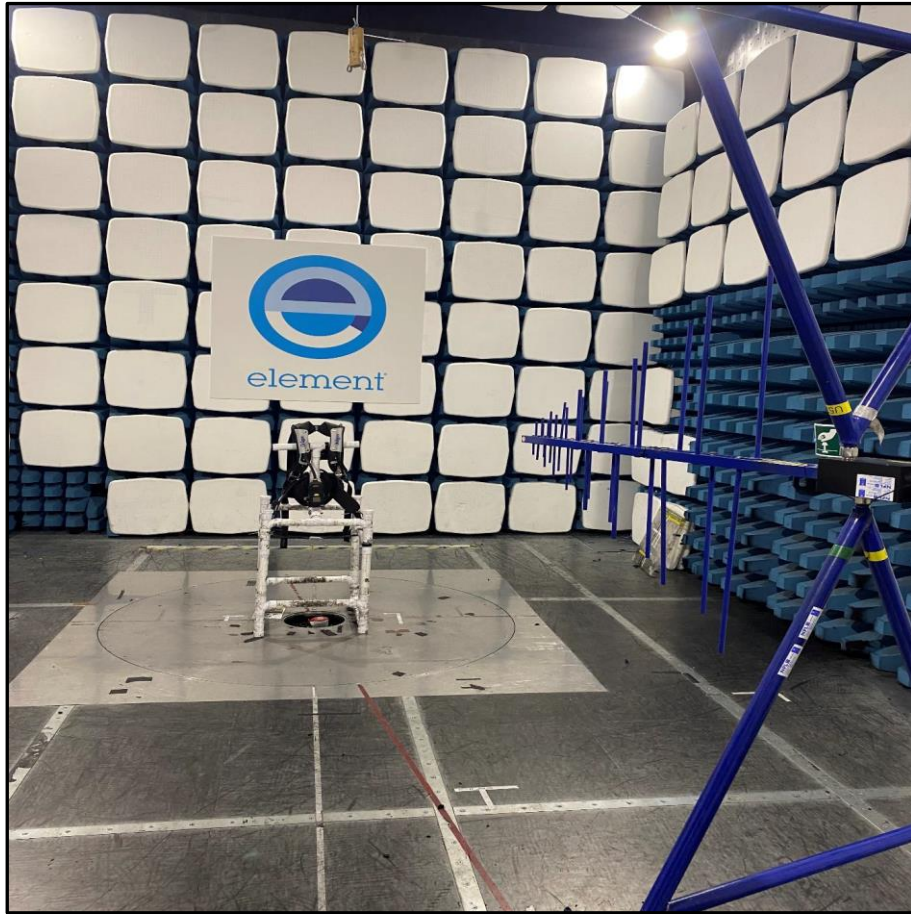
The following diagram shows basic EUT interconnections with cable type and cable lengths identified:



9.2 General Set-up Photographs

The following photographs shows basic EUT set-up:





9.3 *Measurement software*

Where applicable, the following software was used to perform measurements contained within this report.

Element Emissions R5 (See Note)
Element Transmitter Bench Test (See Note)
ETS Lindgren EMPower V1.0.4.2

Note:

The version of the Element software used is recorded in the results sheets contained within this report.

10 General Technical Parameters

10.1 Normal Conditions

The Gauge was tested under the normal environmental conditions of the test laboratory, except where otherwise stated. The normal power source applied was 6.0 V dc from Rechargeable battery Pack.

| Modes of operation: | NFC | UHF | BTLE |
|----------------------------------|----------------|------------|-------------|
| Frequencies of operation: | 13.56 MHz | 902.25 MHz | 2430 MHz |
| Antenna type(s): | INDUCTIVE LOOP | PCB TRACE | CHIP |
| Modulation type(s) | ASK | 4-GFSK | GFSK |
| Nominal Supply Voltage: | 6.0 Vdc | | |

11 Multi-radio Simultaneous Transmission Spurious Emissions below 30 MHz

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 Skelmersdale |
| Test Chamber: | Radio chamber U387 |
| Test Standard and Clause: | ANSI C63.10-2013, Clause 6.4 |
| Frequencies Measured: | 2430 MHz (BTLE) 13.56 MHz (NFC) 902.25 MHz (UHF) |
| Deviations From Standard: | None |
| Measurement Distance and Site | 3 m |
| EUT Height: | 1 m |
| Measurement Antenna and Height: | 60 cm shielded loop; 1 m |
| Measurement BW: | 9 kHz to 150 kHz: 200 Hz; 150 kHz to 30 MHz: 9 kHz |
| Measurement Detector: | 9 kHz to 90 kHz and 110 kHz to 490 kHz: Average, RMS Other frequencies below 30 MHz: Quasi-peak. |

Environmental Conditions (Normal Environment)

| | |
|------------------------|----------------------------------|
| Temperature: + 20.4 °C | +15 °C to +35 °C (as declared) |
| Humidity: 43.4 % RH | 20 % RH to 75 % RH (as declared) |
| Supply: 6.0 V dc | 6.0 V dc (as declared) |

11.3 Test Limit

Emissions from license-exempt transmitters shall comply with the field strength limits shown in the table below. Additionally, the level of any transmitter emission shall not exceed the level of the transmitter's fundamental emission.

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

| <i>Frequency, f (kHz)</i> | <i>Field Strength</i> | <i>Measurement Distance (m)</i> |
|-------------------------------|--|---|
| 9 to 490 | 2,400 / 377.f (μA/m) 2,400 / f (μV/m) | 300 |
| 490 to 1,750 | 24,000 / 377.f (μA/m) 24,000 / f (μV/m) | 30 |
| 1,750 to 30,000 | 30 (μV/m) | 30 |

n.b. Devices operated pursuant to §15.225 / RSS-210 B.6 are exempt from complying with the restricted band requirements for the 13.36–13.41 MHz band only.

11.4 Test Method

With the EUT setup as per section 9 of this report and connected as per Figure I, the EUT fundamental frequency was maximised by rotating the EUT through 360°, in three orthogonal planes, and adjusting the measurement antenna azimuth.

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 9 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 9 kHz and 30 MHz are measured using a calibrated 60cm active loop antenna. 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.

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

$$FS = 10 (PR - CF) / 20$$

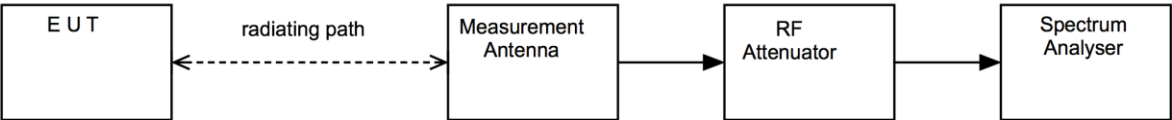
Where,

PR is the power recorded on the receiver / spectrum analyzer in dBμV and includes any cable loss, antenna factor and pre-amplifier gain;
CF is the distance extrapolation factor in dB (where measurement distance different to limit distance);

Per FCC 47CFR15.31(f)(2) / RSS-Gen 6.4, an extrapolation factor of 40 dB per decade was used for extrapolation from 3 m to 30 m and from 3 m to 300 m.

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

Figure I Test Setup



11.5 Test setup photograph

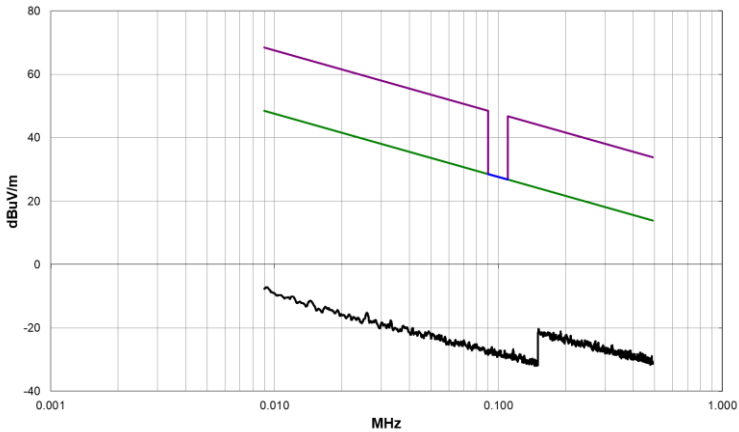


11.6 Test Equipment

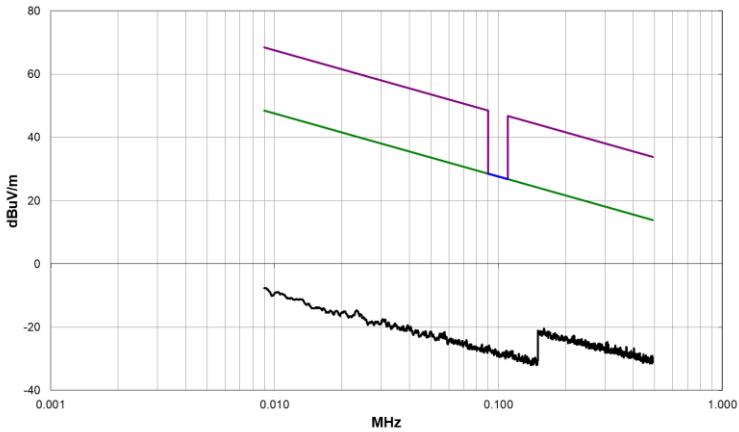
| <i>Equipment Description</i> | <i>Manufacturer</i> | <i>Equipment Type</i> | <i>Element No</i> | <i>Due For Calibration</i> |
|------------------------------|---------------------|-----------------------|-------------------|----------------------------|
| Radiated Test Software | Element | Emissions R5 | REF9000 | Cal Not Required |
| Chamber 1 | Rainford EMC | ATS | U387 | 2026-01-24 |
| Spectrum Analyser | R&S | ESR 7 | U727 | 2025-05-17 |
| Loop Antenna | EMCO | 6502 | R0079 | 2026-01-13 |

11.7 Test Results

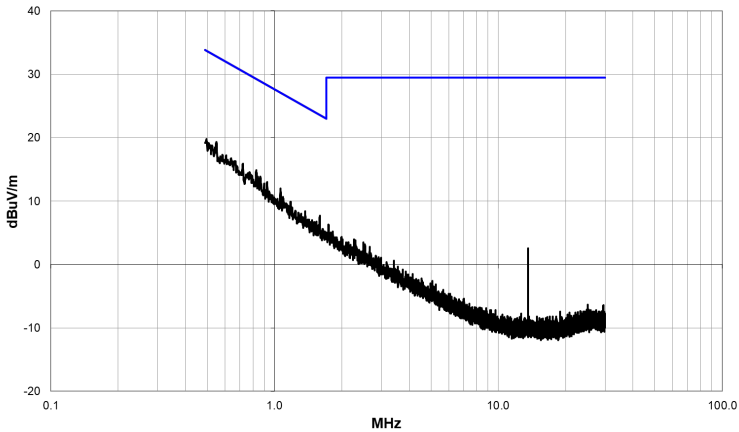
BTLE; Frequency: 2430 MHz; NFC; Frequency: 13.56 MHz; 900 MHz; Frequency: 902.25 MHz



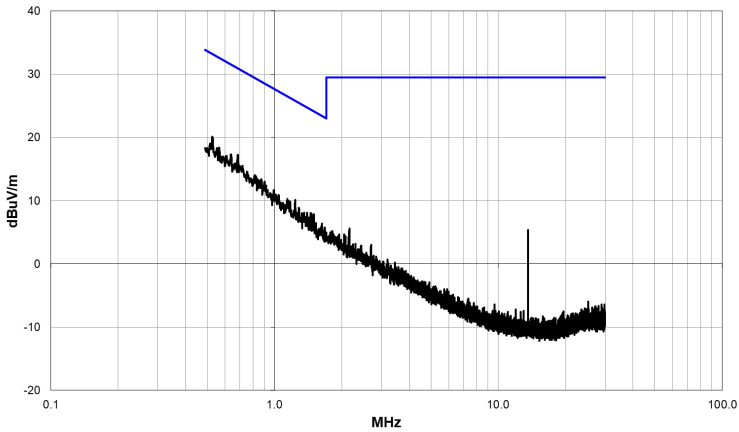
9 kHz to 490 kHz 0



9 kHz to 490 kHz 1



490 kHz to 30 MHz 0



490 kHz to 30 MHz I

No Significant intermodulation products were detected within 20 dB of the Limit.

12 Multi-radio Simultaneous Transmission Spurious Emissions above 30 MHz

12.1 Definitions

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.

Intermodulation products

Emissions of two or more electromagnetic waves transmitted simultaneously through a nonlinear electronic system.

12.2 Test Parameters

| | |
|---------------------------|--|
| Test Location: | Element Skelmersdale |
| Test Chamber: | Radio chamber U387 |
| Test Standard and Clause: | ANSI C63.10-2013, Clause 6.5 and 6.6 |
| Frequencies Tested: | 2430 MHz (BTLE) 13.56 MHz (NFC) 902.25 MHz (UHF) |
| Deviations From Standard: | None |
| Measurement BW: | 9 kHz to 150 kHz: 1 kHz 150 kHz to 30 MHz: 10 kHz 30 MHz to 1 GHz: 120 kHz Above 1 GHz: 1 MHz |
| Measurement Detector: | Up to 1 GHz: quasi-peak Above 1 GHz: RMS average and Peak |

Environmental Conditions (Normal Environment)

| | |
|-----------------------|----------------------------------|
| Temperature: +20.4 °C | +15 °C to +35 °C (as declared) |
| Humidity: 43.4% RH | 20 % RH to 75 % RH (as declared) |
| Supply: 6.0 Vdc | 6.0 Vdc (as declared) |

12.3 Test Limits

Unwanted emissions that fall within the restricted frequency bands shall comply with the limits specified:

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

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

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

| <i>Frequency, f (kHz)</i> | <i>Field Strength</i> | <i>Measurement Distance (m)</i> |
|-------------------------------|--|---|
| 9 to 490 | 2,400 / 377.f (μA/m) 2,400 / f (μV/m) | 300 |
| 490 to 1,750 | 24,000 / 377.f (μA/m) 24,000 / f (μV/m) | 30 |
| 1,750 to 30,000 | 30 (μV/m) | 30 |

Least stringent limit applied to any intermodulation products.

12.4 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 dBμV/m at the regulatory distance, using:

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

$$\text{Factor} = CL + AF - PA$$

Where,

PR is the power recorded on the receiver / spectrum analyzer in dBμV;

CL is the cable loss in dB;

AF is the test antenna factor in dB/m;

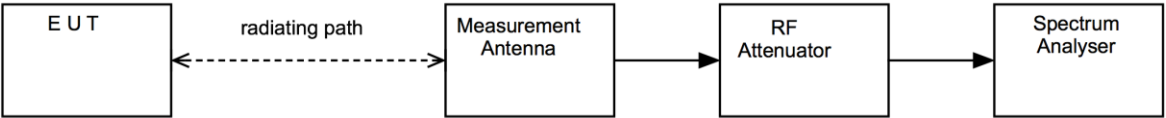
PA is the pre-amplifier gain in dB (where used);

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

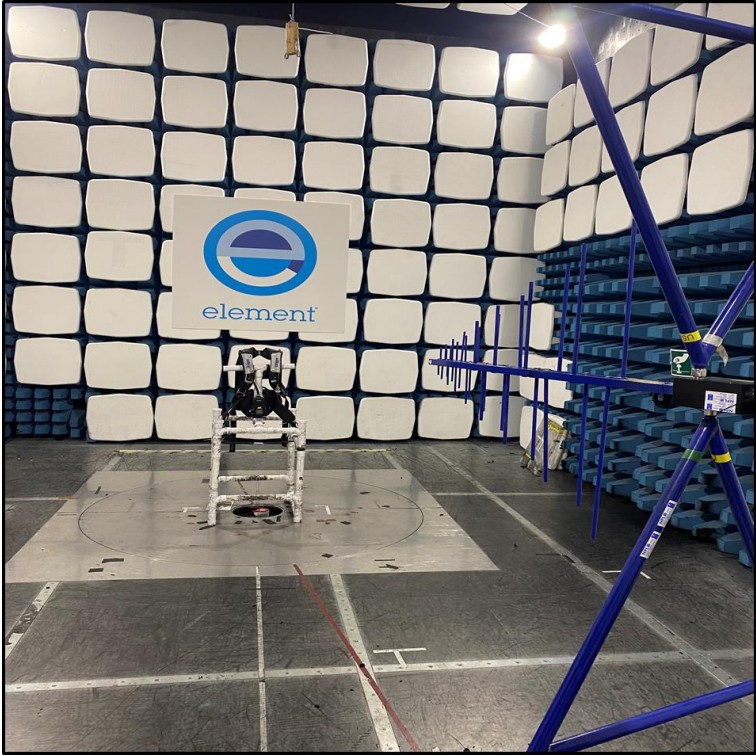
CF is the distance factor in dB (where measurement distance different to limit distance);

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

Figure i Test Setup



12.5 Test Set-up Photograph

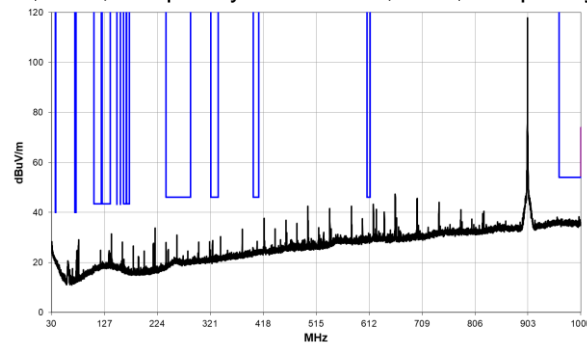


12.6 Test Equipment

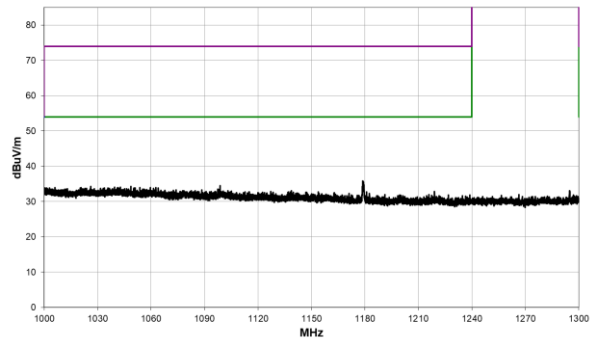
| <i>Equipment Description</i> | <i>Manufacturer</i> | <i>Equipment Type</i> | <i>Element No</i> | <i>Due For Calibration</i> |
|---|----------------------------|----------------------------------|------------------------------|---------------------------------------|
| Radiated Test Software | Element | Emissions R5 | REF9000 | Cal Not Required |
| Chamber 1 | Rainford EMC | ATS | U387 | 2026-01-24 |
| Spectrum Analyser | R&S | ESR 7 | U727 | 2025-05-17 |
| Bilog | Chase | CBL611/B | U573 | 2026-11-04 |
| B13-400-460-5-5M | Mlcable | RF Cable | U1014 | 2026-04-03 |
| Spectrum Analyser | R&S | FSU46 | REF910 | 2026-02-27 |
| 1-18GHz Horn | EMCO | 3115 | L139 | 2026-08-21 |
| Pre Amp | Agilent | 8449B | L572 | 2025-11-13 |
| High Pass Filter | Atlantic Microwave | AFH-07000 | U558 | 2026-02-17 |
| High Pass Filter | BSC | SH4141 | REF977 | 2026-02-18 |
| High Pass Filter 1.1-4 GHz | Atlantic Microwave | F-HPC5-730008-S5S5 | U719 | 2026-02-19 |
| Horn Antenna | A Info Inc | LB-62-25-C-SF | REF2244 | 2026-09-17 |
| Horn Antenna | A Info Inc | LB-180400-25-C-KF | REF2246 | 2026-10-08 |
| Pre-Amp (18 - 40 GHz) | Com-Power | PAM-840A | REF2390 | 2025-10-17 |

12.7 Results

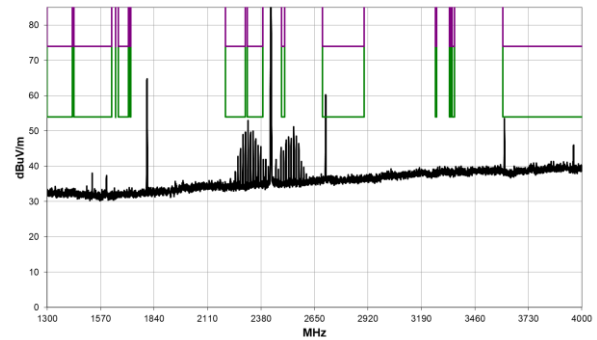
BTLE; Frequency 2430 MHz; NFC; Frequency: 13.56 MHz; UHF; Frequency: 902.25 MHz



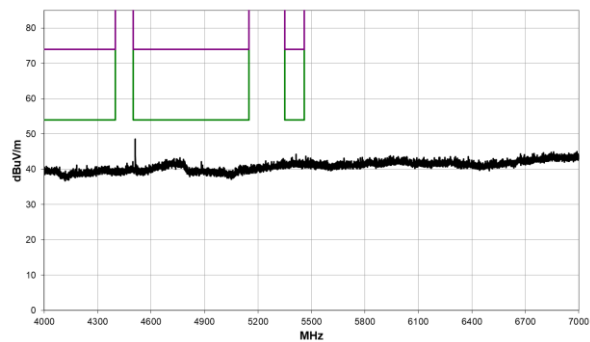
30 MHz to 1 GHz



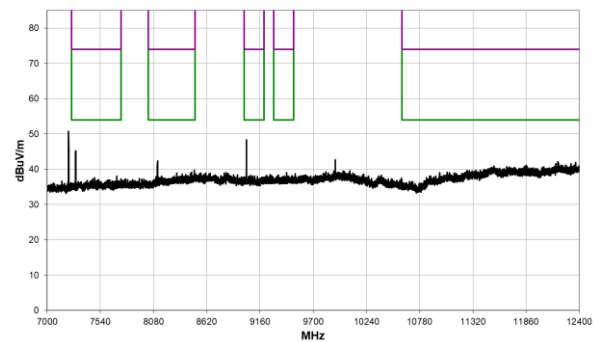
1 GHz to 1.3 GHz



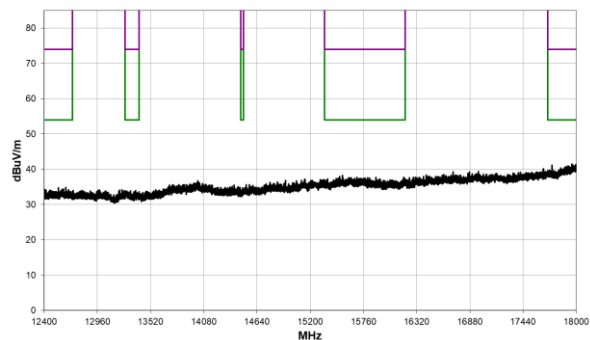
1.3 GHz to 4 GHz



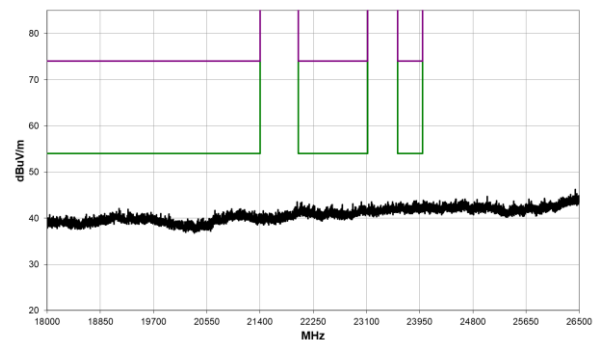
4 GHz to 7 GHz



7 GHz to 12.4 GHz



12.4 GHz to 18 GHz



18 GHz to 26.5 GHz

No Significant intermodulation products were detected within 20 dB of the Limit.
Emissions on graphs are related to either the BTLE 2430 MHz, NFC 13.56 MHz or Telemetry 902.25 MHz operation and are not intermodulation products.

13 Measurement Uncertainty

Radio Testing – General Uncertainty Schedule

All statements of uncertainty are expanded standard uncertainty using a coverage factor of 1.96 to give a 95 % confidence where no required test level exists.

| Test/Measurement | Budget Number | MU |
|--|----------------------|---------------|
| Conducted RF Power, Power Spectral Density, Adjacent Channel Power and Spurious emissions | | |
| Absolute RF power (via antenna connector) Sampling Power Meter to 8 GHz | MU4001 | 0.9 dB |
| Carrier Power and PSD - Spectrum Analysers | MU4004 | 1.7 dB |
| Adjacent Channel Power | MU4002 | 1.9 dB |
| Transmitter conducted spurious emissions (Including emissions due to intermodulation) | MU4041 | 0.9 dB |
| Conducted power and spurious emissions 40 GHz to 50 GHz | MU4042 | 2.4 dB |
| Conducted power and spurious emissions 50 GHz to 75 GHz | MU4043 | 2.5 dB |
| Conducted power and spurious emissions 75 GHz to 110 GHz | MU4044 | 2.4 dB |
| Radiated RF Power and Spurious emissions ERP and EIRP | | |
| Effective Radiated Power Reverb Chamber | MU4020 | 3.7 dB |
| Effective Radiated Power | MU4021 | 4.7 dB |
| TRP Emissions 30 MHz to 1 GHz using CBL6111 or CBL6112 Bilog Antenna | MU4046 | 5.3 dB |
| TRP Emissions 1 GHz to 18 GHz using HL050 Log Periodic Antenna | MU4047 | 5.1 dB |
| TRP Emissions 18 GHz to 26.5 GHz using Standard Gain Horn | MU4048 | 2.7 dB |
| TRP Emissions 26.5 GHz to 40 GHz using Standard Gain Horn | MU4049 | 2.7 dB |
| In-band (3450-3980 MHz) TRP using CATR_ASH_B2 | MU4051 | 4.1 dB |
| Cellular Radiated Spurious Emissions in a SAC 30 MHz to 180 MHz | MU4052 | 6.3 dB |
| Cellular Radiated Spurious Emissions in a SAC 180 MHz to 18 GHz | MU4052 | 3.6 dB |
| Cellular Radiated Spurious Emissions in a FAR 30 MHz to 180 MHz | MU4052 | 5.4 dB |
| Cellular Radiated Spurious Emissions in a FAR 180 MHz to 18 GHz | MU4052 | 3.0 dB |
| Spurious Emissions Electric and Magnetic Field | | |
| Radiated Spurious Emissions 30 MHz to 1 GHz (Including emissions due to intermodulation) | MU4037 | 4.7 dB |
| Radiated Spurious Emissions 1-18 GHz (Including emissions due to intermodulation) | MU4032 | 4.5 dB |
| E Field Emissions 18 GHz to 26 GHz | MU4024 | 3.2 dB |
| E Field Emissions 26 GHz to 40 GHz | MU4025 | 3.3 dB |
| E Field Emissions 40 GHz to 50 GHz | MU4026 | 3.5 dB |
| E Field Emissions 50 GHz to 75 GHz | MU4027 | 3.6 dB |
| E Field Emissions 75 GHz to 110 GHz | MU4028 | 3.6 dB |
| Radiated Magnetic Field Emissions | MU4031 | 2.3 dB |

| Test/Measurement | Budget Number | MU |
|--|----------------------|------------|
| Frequency Measurements | | |
| Frequency Deviation | MU4022 | 3.7 kHz |
| Frequency error using CMTA test set | MU4023 | 113.441 Hz |
| Frequency error using GPS locked frequency source | MU4045 | 0.0413 ppm |
| | | |
| Bandwidth/Spectral Mask Measurements | | |
| Channel Bandwidth | MU4005 | 3.87% |
| Transmitter Mask Amplitude | MU4039 | 1.3 dB |
| Transmitter Mask Frequency | MU4040 | 2.59% |
| | | |
| Time Domain Measurements | | |
| Transmission Time | MU4038 | 4.40% |
| | | |
| Dynamic Frequency Selection (DFS) Parameters | | |
| DFS Analyser - Measurement Time | MU4006 | 678.984 µs |
| DFS Generator - Frequency Error | MU4007 | 91.650 Hz |
| DFS Threshold Conducted | MU4008 | 1.3 dB |
| DFS Threshold Radiated | MU4009 | 3.2 dB |
| | | |
| Receiver Parameters | | |
| EN 300 328 Receiver Blocking | MU4010 | 1.1 dB |
| EN 301 893 Receiver Blocking | MU4011 | 1.1 dB |
| EN 303 340 Adjacent Channel Selectivity | MU4012 | 1.1 dB |
| EN 303 340 Overloading | MU4013 | 1.1 dB |
| EN 303 340 Receiver Blocking | MU4014 | 1.1 dB |
| EN 303 340 Receiver Sensitivity | MU4015 | 0.9 dB |
| EN 303 372-1 Image Rejection | MU4016 | 1.4 dB |
| EN 303 372-1 Receiver Blocking | MU4017 | 1.1 dB |
| EN 303 372-2 Adjacent Channel Selectivity | MU4018 | 1.1 dB |
| EN 303 372-2 Dynamic Range | MU4019 | 0.9 dB |
| Receiver Blocking Talk Mode Conducted | MU4033 | 1.2 dB |
| Receiver Blocking Talk Mode- radiated | MU4034 | 3.4 dB |
| Rx Blocking, listen mode, blocking level | MU4035 | 3.2 dB |
| Rx Blocking, listen mode, radiated Threshold Measurement | MU4036 | 3.4 dB |
| Adjacent Sub Band Selectivity | MU4003 | 4.2 dB |

| Test/Measurement | Budget Number | MU |
|--|----------------------|----------------|
| Rohde & Schwarz TS8997 | | |
| Carrier frequency | MU4050 | 5.2 ppm |
| RF Output Power | MU4050 | 1.0 dB |
| Peak Power | MU4050 | 0.8 dB |
| Power Spectral Density | MU4050 | 1.0 dB |
| Occupied Channel Bandwidth | MU4050 | 2.08 % |
| Transmitter unwanted emissions in-band | MU4050 | 0.9 dB |
| Transmitter unwanted emissions in the spurious domain 30 MHz to 1 GHz | MU4050 | 0.6 dB |
| Transmitter unwanted emissions in the spurious domain 1 GHz to 12.75 GHz | MU4050 | 1.8 dB |
| Receiver Spurious emission 30 MHz to 1 GHz | MU4050 | 0.6 dB |
| Receiver Spurious emission 1 GHz to 12.75 GHz | MU4050 | 1.8 dB |
| Duty Cycle | MU4050 | 0.02 % |
| Tx Sequence | MU4050 | 0.02 % |
| Tx Gap | MU4050 | 0.02 % |
| Medium Utilisation | MU4050 | 0.1 % |
| Accumulated Transmit Time | MU4050 | 0.01 % |
| Minimum Frequency Occupation Time | MU4050 | 0.01 % |
| Hopping Frequency Separation | MU4050 | 0.6 % |
| Receiver blocking (for bit streams) | MU4050 | 3.0 dB |
| Channel Access Mechanism / Adaptivity / DFS / Contention Based Protocol | MU4050 | 1.8 dB |