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CETECOM ICT Services
consulting - testing - certification >>>

TEST REPORT

Test report no.: 1-4852/12-03-03



Deutsche
Akkreditierungsstelle
D-PL-12076-01-01

Testing laboratory

CETECOM ICT Services GmbH
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Accredited Testing Laboratory:

The testing laboratory (area of testing) is accredited according to DIN EN ISO/IEC 17025 (2005) by the Deutsche Akkreditierungsstelle GmbH (DAkkS). The accreditation is valid for the scope of testing procedures as stated in the accreditation certificate with the registration number: D-PL-12076-01-01
Area of Testing: Radio/Satellite Communications

Applicant

Oticon A/S
Kongebakken 9
2765 Smørum / DENMARK
Phone: +45 39 17 71 00
Contact: Jørgen Peter Hanuscheck
e-mail: inp@oticon.dk
Phone: +45 39 13 85 38

Manufacturer

Oticon A/S
Kongebakken 9
2765 Smørum / DENMARK

Test standard/s

47 CFR Part 15 Title 47 of the Code of Federal Regulations; Chapter I
Part 15 - Radio frequency devices
RSS - 210 Issue 8 Spectrum Management and Telecommunications - Radio Standards Specification
Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands):
Category I Equipment
RSS - Gen Issue 3 General Requirements and Information for the Certification of Radiocommunication
Equipment

For further applied test standards please refer to section 3 of this test report.

Test Item

Kind of test item: Hearing Aid
Model name: mini BTE Fusion 2
FCC ID: U28FU2MBTE
IC: 1350-FU2MBTE
Frequency: 3.8 MHz
Technology tested: Magnetic coupling
Antenna: Integrated coil antenna
Power Supply: 1.40 V DC by zinc - air battery / power supply
Temperature Range: 0°C to +35 °C

This test report is electronically signed and valid without handwriting signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

Test report authorised:

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Marco Bertolino
Testing Manager

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Tobias Wittenmeier

1 Table of contents

1 Table of contents2

2 General information3

 2.1 Notes and disclaimer3

 2.2 Application details.....3

3 Test standard/s3

4 Test environment.....4

5 Test item.....4

6 Test laboratories sub-contracted4

7 Summary of measurement results5

8 RF measurement testing6

 8.1 Description of test setup6

 8.1.1 Radiated measurements.....6

 8.1.2 Conducted measurements.....7

 8.2 Additional comments7

 8.3 RSP100 test report cover sheet / performance test data8

9 Measurement results.....9

 9.1 Timing of the transmitter9

 9.2 Bandwidth of the modulated carrier10

 9.3 Field strength of the fundamental12

 9.4 Fieldstrength of the harmonics and spurious14

 9.5 Receiver spurious emissions17

 9.6 Conducted limits20

10 Test equipment and ancillaries used for tests21

11 Observations22

Annex A Photographs of the test setup23

Annex B External photographs of the EUT28

Annex C Internal photographs of the EUT32

Annex D Document history36

Annex E Further information.....36

Annex F Accreditation Certificate37

2 General information

2.1 Notes and disclaimer

The test results of this test report relate exclusively to the test item specified in this test report. CETECOM ICT Services GmbH does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item.

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In no case this test report can be considered as a Letter of Approval.

This test report is electronically signed and valid without handwritten signature. For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

2.2 Application details

| | |
|------------------------------------|------------|
| Date of receipt of order: | 2012-09-03 |
| Date of receipt of test item: | 2012-09-12 |
| Start of test: | 2012-09-13 |
| End of test: | 2012-09-13 |
| Person(s) present during the test: | -/- |

3 Test standard/s

| Test standard | Date | Test standard description |
|-------------------|---------|---|
| 47 CFR Part 15 | 2010-10 | Title 47 of the Code of Federal Regulations; Chapter I Part 15 - Radio frequency devices |
| RSS - 210 Issue 8 | 2010-12 | Spectrum Management and Telecommunications - Radio Standards Specification Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment |
| RSS - Gen Issue 3 | 2010-12 | General Requirements and Information for the Certification of Radiocommunication Equipment |

4 Test environment

| | | |
|----------------------------|-----------|--|
| Temperature: | T_{nom} | +22 °C during room temperature tests |
| | T_{max} | +35 °C during high temperature tests |
| | T_{min} | 0 °C during low temperature tests |
| Relative humidity content: | | 55 % |
| Barometric pressure: | | not relevant for this kind of testing |
| Power supply: | V_{nom} | 1.40 V DC by zinc - air battery / power supply |
| | V_{max} | 1.40 V |
| | V_{min} | 1.26 V |

5 Test item

| | | |
|----------------------------|---|---|
| Kind of test item | : | Hearing Aid |
| Type identification | : | mini BTE Fusion 2 |
| S/N serial number | : | TX units: EUT No. 1: 20890813 EUT No. 2: 20890786 EUT No. 3: 20890800 RX units: EUT No. 4: 20890826 EUT No. 5: 20890769 |
| HW hardware status | : | Rev. 1 |
| SW software status | : | 23-090.5.1 |
| Frequency band [MHz] | : | EUT No. 1: 3.819 MHz EUT No. 2: 3.838 MHz EUT No. 3: 3.828 MHz |
| Type of radio transmission | : | Modulated carrier |
| Use of frequency spectrum | : | |
| Channel access method | : | -/- |
| Type of modulation | : | A1D |
| Number of channels | : | 1 |
| Antenna | : | Integrated coil antenna |
| Power supply | : | 1.40 V DC by zinc - air battery / power supply |
| Temperature range | : | 0°C to +35 °C |

6 Test laboratories sub-contracted

None

7 Summary of measurement results

- No deviations from the technical specifications were ascertained**
- There were deviations from the technical specifications ascertained

| TC Identifier | Description | Verdict | Date | Remark |
|---------------|---------------------------------|---------|------------|--------|
| RF-Testing | CFR Part 15 RSS 210, Issue 8 | Passed | 2012-11-13 | -/- |

| Test Specification Clause | Test Case | Temperature Conditions | Power Source Voltages | Pass | Fail | NA | NP | Results |
|--|--|------------------------|-----------------------|-------------------------------------|--------------------------|-------------------------------------|--------------------------|----------|
| § 15.35 (c) / RSS-GEN Issue 3 Section 4.5 | Timing of the transmitter (Duty cycle correction factor) | Nominal | Nominal | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | complies |
| § 15.223 / RSS-210 Issue 8 | Bandwidth of the modulated carrier | Nominal | Nominal | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | complies |
| § 15.223 / RSS-210 Issue 8 | Fieldstrength of fundamental | Nominal | Nominal | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | complies |
| § 15.209 (a) / RSS-210 Issue 8 | Fieldstrength of harmonics and spurious | Nominal | Nominal | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | complies |
| § 15.109 / RSS-210 Issue 8 | Receiver spurious emissions | Nominal | Nominal | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | complies |
| § 15.107 / § 15.207 | Conducted limits | Nominal | Nominal | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | - |

Note: NA = Not Applicable; NP = Not Performed

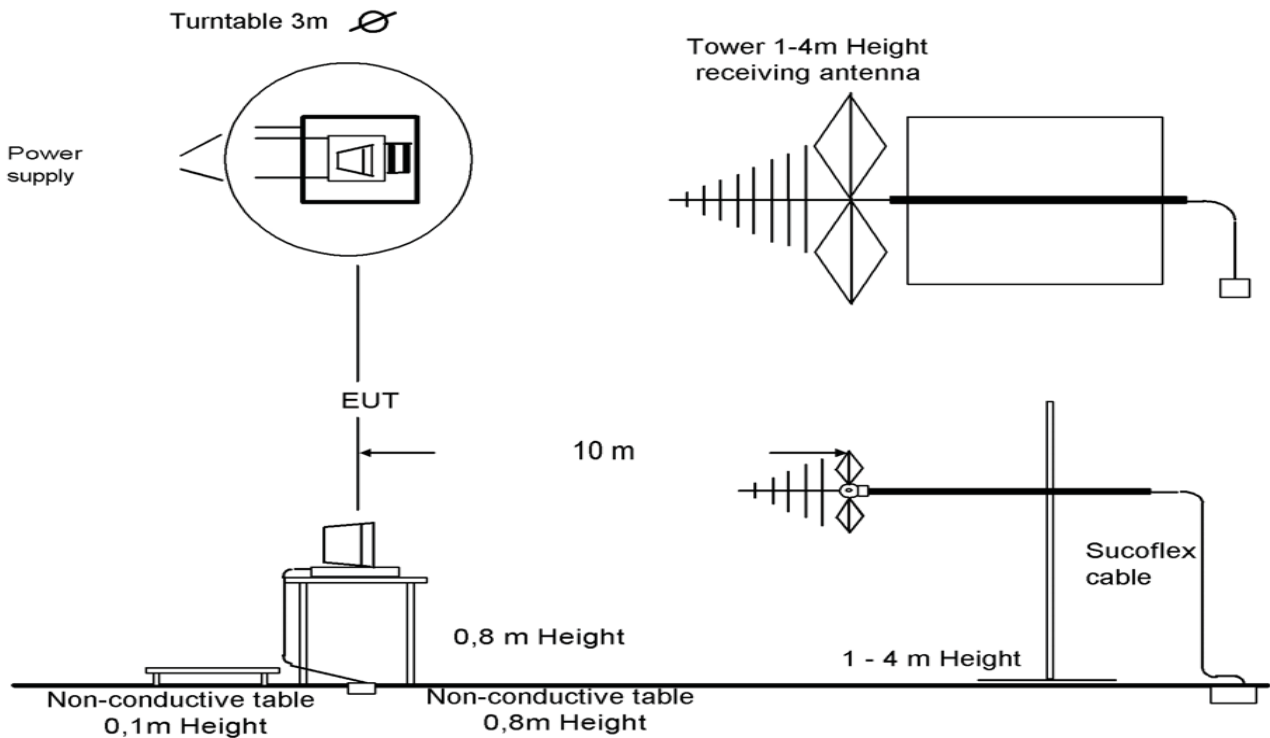
8 RF measurement testing

8.1 Description of test setup

8.1.1 Radiated measurements

The radiated measurements are performed in vertical and horizontal plane in the frequency range from 9 kHz to 25 GHz in semi-anechoic chambers. The EUT is positioned on a non-conductive support with a height of 0.80 m above a conductive ground plane that covers the whole chamber. The receiving antennas are confirmed with specifications ANSI C63.2-1996 and ANSI C63.4-2009. These antennas can be moved over the height range between 1.0 m and 4.0 m in order to search for maximum field strength emitted from EUT. The measurement distances between EUT and receiving antennas are indicated in the test setups for the various frequency ranges. For each measurement, the EUT is rotated in all three axes until the maximum field strength is received. The wanted and unwanted emissions are received by spectrum analysers where the detector modes and resolution bandwidths over various frequency ranges are set according to requirement ANSI C63-4-2003. Antennas are confirmed with ANSI C63.2-1996 item 15.

Semi anechoic chamber



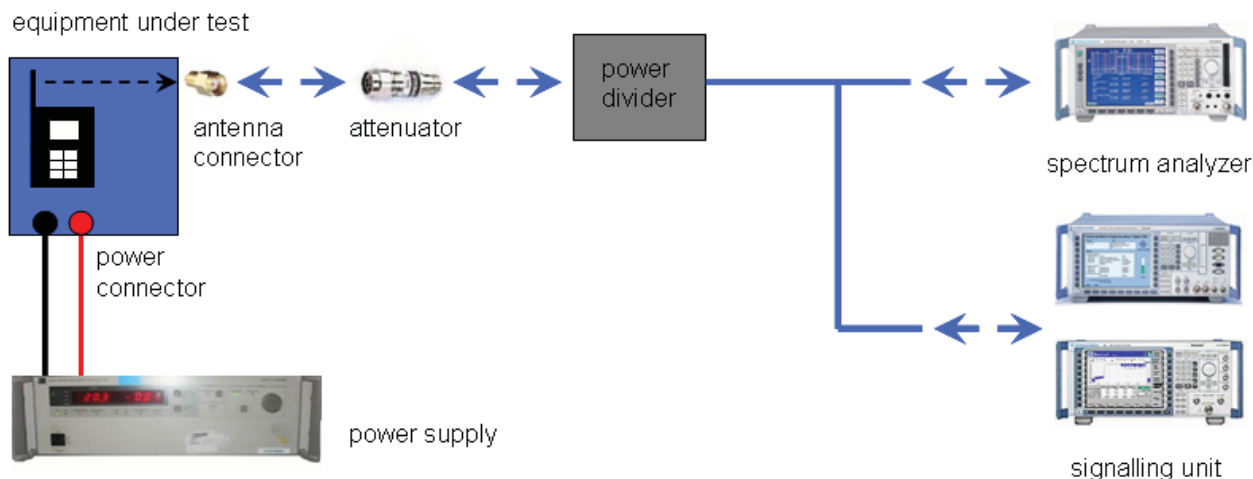
Picture 1: Diagram radiated measurements

| | |
|-----------------|---------------------|
| 9 kHz - 30 MHz: | active loop antenna |
| 30 MHz – 1 GHz: | tri-log antenna |
| > 1 GHz: | horn antenna |

The EUT is powered by an external power supply with nominal voltage. The signalling (if needed) is performed from outside the chamber with a signalling unit by air link using signalling antenna.

8.1.2 Conducted measurements

The EUT's RF signal is coupled out by the antenna connector which is supplied by the manufacturer. The signal is first 10dB attenuated before it is power divided (~6dB loss per branch). The measurement readings on the signalling unit/spectrum analyzer are corrected by the specific test set-up loss. The attenuator, power divider, and the spectrum analyzer are impedance matched on 50 Ohm.



Picture 2: Diagram conducted measurements

8.2 Additional comments

Reference documents: Oticon Wireless Hearing Aids – RF Test Setup 2012.

Manufacturer statement:

The RF-carrier frequency in Oticon's wireless hearing aids, targeted for 3.84 MHz, is in the current Fusion platform generated by an RC-oscillator in turn feeding an LC-tank circuit in the transceiver. In other words, there is NO stable crystal oscillator and NO closed phase lock loop keeping the oscillator frequency in place. Furthermore, due to tolerances of the self induction of the antenna coil, which is part of the RF-tank circuit, and tolerances of the parallel capacitors, the initial carrier frequency tolerance of the RF-carrier is about plus and minus 2.5%. Finally due to the configuration of the RF-carrier frequency generating parts as described above an uncorrelated temperature drift of about plus and minus 2.5% can be added to the initial tolerance, resulting in an overall frequency accuracy of about plus minus 5.0% worst case!

Note: The EUT with the maximum field strength was used to perform the radiated spurious emissions tests!

Manufacturer declaration:

The provided test sample for radiated measurements had a transmitter duty cycle of 22% for ease of test, while the transmitter duty cycle in normal use is approximately 2.5%.

Special test descriptions:

We perform the radiated pre-scans in different spherical positions and consolidate the results in one result plot. The test procedure includes scans in the theta axes every 120° and in phi axes @ 0° and 90° for both polarizations vertical & horizontal or magnetic emissions.

Configuration descriptions: None

8.3 RSP100 test report cover sheet / performance test data

| | | |
|---|---|--|
| Test Report Number | : | 1-4852/12-03-03 |
| Equipment Model Number | : | mini BTE Fusion 2 EUT Serial No. 20890813 |
| Certification Number | : | 1350B-FU2MBTE |
| Manufacturer (complete Address) | : | Oticon A/S Kongebakken 9 2765 Smørum / DENMARK |
| Tested to radio standards specification no. | : | RSS 210, Issue 8, Annex 8 |
| Open Area Test Site IC No. | : | IC 3462C-1 |
| Frequency Range or fixed frequency | : | 3.8 MHz |
| Field Strength [dB μ V/m] (at which distance) | : | 51.5 dB μ V/m @ 1m |
| Occupied bandwidth (99%-BW) [kHz] | : | 359 kHz |
| Type of modulation | : | A1D |
| Emission Designator (TRC-43) | : | 359 KA1D |
| Antenna Information | : | Integrated coil antenna |
| Transmitter Spurious (worst case) [dB μ V/m @ 10m]: | | 21.7 @ 851.7 MHz |
| Receiver Spurious (worst case) [dB μ V/m @ 10m]: | | 21.1 (noise floor) |

ATTESTATION:

DECLARATION OF COMPLIANCE:

I attest that the testing was performed or supervised by me; that the test measurements were made in accordance with the above-mentioned Industry Canada standard(s); and that the equipment identified in this application has been subjected to all the applicable test conditions specified in the Industry Canada standards and all of the requirements of the standard have been met.

Laboratory Manager:

2012-09-14
Date

Tobias Wittenmeier
Name


Signature

9 Measurement results

9.1 Timing of the transmitter

Measurement:

| Measurement parameter | |
|-----------------------|-----|
| Detector: | -/- |
| Sweep time: | -/- |
| Resolution bandwidth: | -/- |
| Video bandwidth: | -/- |
| Span: | -/- |
| Trace-Mode: | -/- |

Limits:

| FCC | IC |
|---|----|
| Timing of the transmitter | |
| <p>(c) Unless otherwise specified, e.g. Section 15.255(b), when the radiated emission limits are expressed in terms of the average value of the emission, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value. The exact method of calculating the average field strength shall be submitted with any application for certification or shall be retained in the measurement data file for equipment subject to notification or verification.</p> | |

Duty cycle of the sample with test mode: 22%

In normal use the duty cycle is approximately 2.5% (declared by the manufacturer).

Result: The result of the measurement is passed.

9.2 Bandwidth of the modulated carrier

Limits:

| FCC | IC |
|------------------------------------|----|
| Bandwidth of the modulated carrier | |

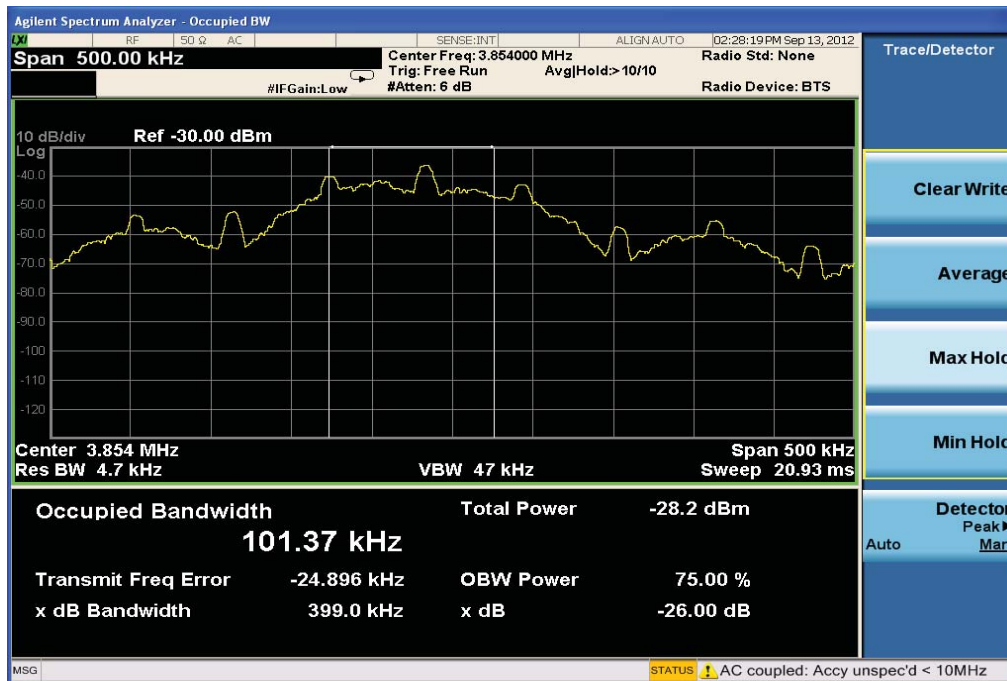
Measured with the integrated OBW-function of the spectrum analyser Agilent MXA (measurement criteria is the integrated power in %)

Result:

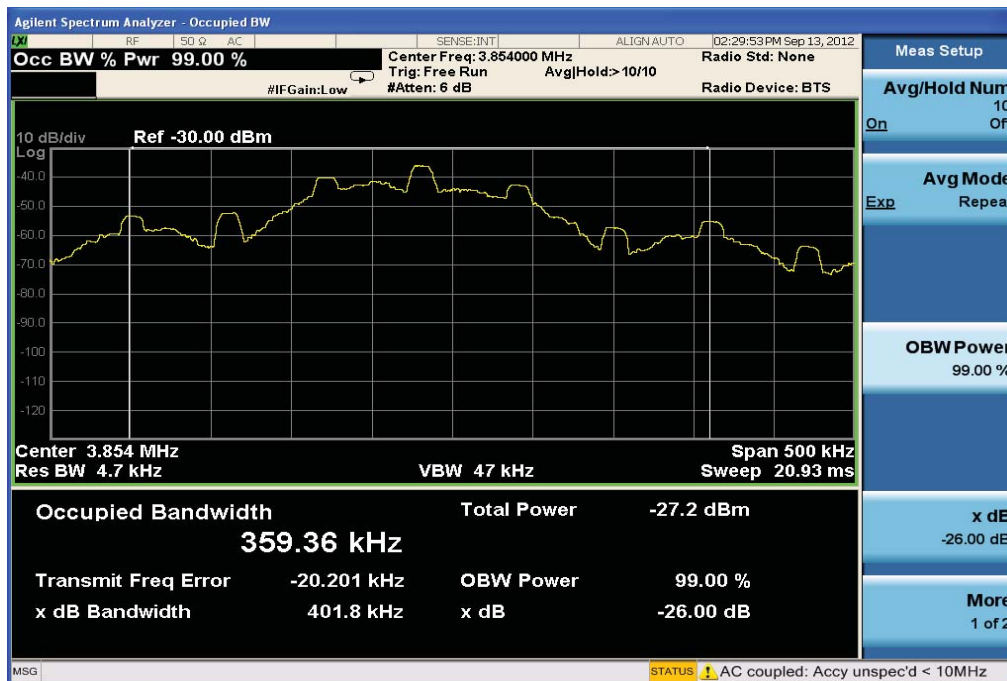
| | Occupied Bandwidth (kHz) |
|-------------|--------------------------|
| 6 dB (75%) | 101 |
| 20 dB (99%) | 359 |

Plots of the measurement

Plot 1: 6dB (75%) – bandwidth



Plot 2: 20dB (99%) – bandwidth



9.3 Field strength of the fundamental

Measurement:

| Measurement parameter | |
|-----------------------|--------------------|
| Detector: | Quasi Peak (CISPR) |
| Resolution bandwidth: | 10kHz |
| Trace-Mode: | Max Hold |

Limits:

| FCC | | IC |
|-----------------------------|--|--------------------------|
| Fundamental Frequency (MHz) | Field strength of Fundamental ($\mu\text{V/m}$) | Measurement distance (m) |
| 1.705 – 10.0 | [15] or [6dB-BW(kHz) / F(MHz)] Whichever is higher | 30 |

Result:

| TEST CONDITIONS | | MAXIMUM POWER (dB $\mu\text{V/m}$) | |
|-------------------------|------------------|-------------------------------------|------------------|
| Frequency | | 3.8 MHz | 3.8 MHz |
| EUT No. 1: 20890813 | | at 1 m distance | at 30 m distance |
| T_{nom} | V_{nom} | 51.5 | -8.5* |
| EUT No. 2: 20890786 | | at 1 m distance | at 30 m distance |
| T_{nom} | V_{nom} | 48.5 | -11.5* |
| EUT No. 3: 20890800 | | at 1 m distance | at 30 m distance |
| T_{nom} | V_{nom} | 50.0 | -10.0* |
| Measurement uncertainty | | ±3dB | |

Recalculation to a measurement distance of 30m with a correction of 40 dB/decade.

Result: The result of the measurement is passed.

Noise floor: 26.5 dB μ V/m

***Note:**

- Calculation: Measured maximum field strength @ 1 m distance: 51.5 dB μ V/m

Correction factor from 1 m to 10 m: -40 dB (40 dB / decade)

51.5 dB μ V/m @ 1 meter - 40 dB = 11.5 dB μ V/m @ 10 meter

Correction factor from 1 m to 30 m: -60 dB (40 dB / decade)

51.5 dB μ V/m @ 1 meter - 60 dB = -8.5 dB μ V/m @ 30 meter

9.4 Fieldstrength of the harmonics and spurious

Measurement:

| Measurement parameter | |
|-----------------------|----------------------|
| Detector: | Average / Quasi Peak |
| Sweep time: | Auto |
| Resolution bandwidth: | 3 kHz – 120 kHz |
| Video bandwidth: | Comparable to RBW |
| Trace-Mode: | Max Hold |

Limits:

| FCC | | IC | |
|---|-----------------------|--------------------------|--|
| Field strength of the harmonics and spurious. | | | |
| Frequency (MHz) | Field strength (µV/m) | Measurement distance (m) | |
| 0.009 – 0.490 | 2400/F(kHz) | 300 | |
| 0.490 – 1.705 | 24000/F(kHz) | 30 | |
| 1.705 – 30 | 30 (29.5 dBµV/m) | 30 | |
| 30 – 88 | 100 (40 dBµV/m) | 3 | |
| 88 – 216 | 150 (43.5 dBµV/m) | 3 | |
| 216 – 960 | 200 (46 dBµV/m) | 3 | |

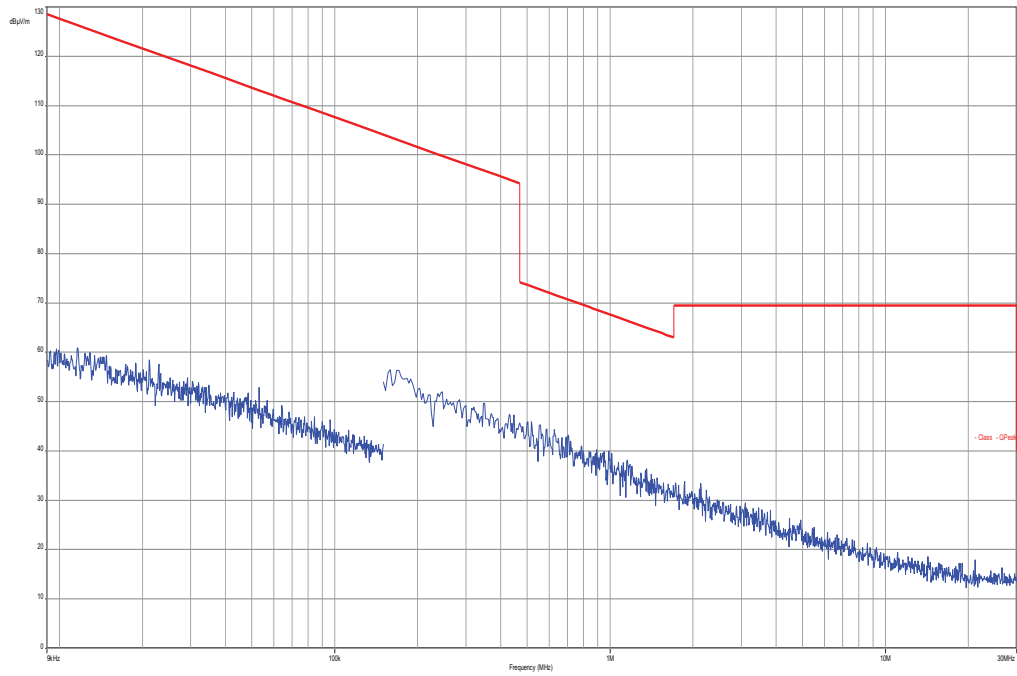
Result:

| EMISSION LIMITATIONS | | | | |
|---|----------|-----------------------------|--------------------------------|---------|
| f [MHz] | Detector | Limit max. allowed [dBµV/m] | Amplitude of emission [dBµV/m] | Results |
| No critical peaks detected. All detected emissions are below the limit! | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Result: The result of the measurement is passed.

Plots of the measurements: Radiated unit No. 1 20890813 (TX - mode)

Plot 1: 9 kHz – 30 MHz; frontal antenna position ;measuring distance 3m



Plot 2: 30 MHz – 1000 MHz

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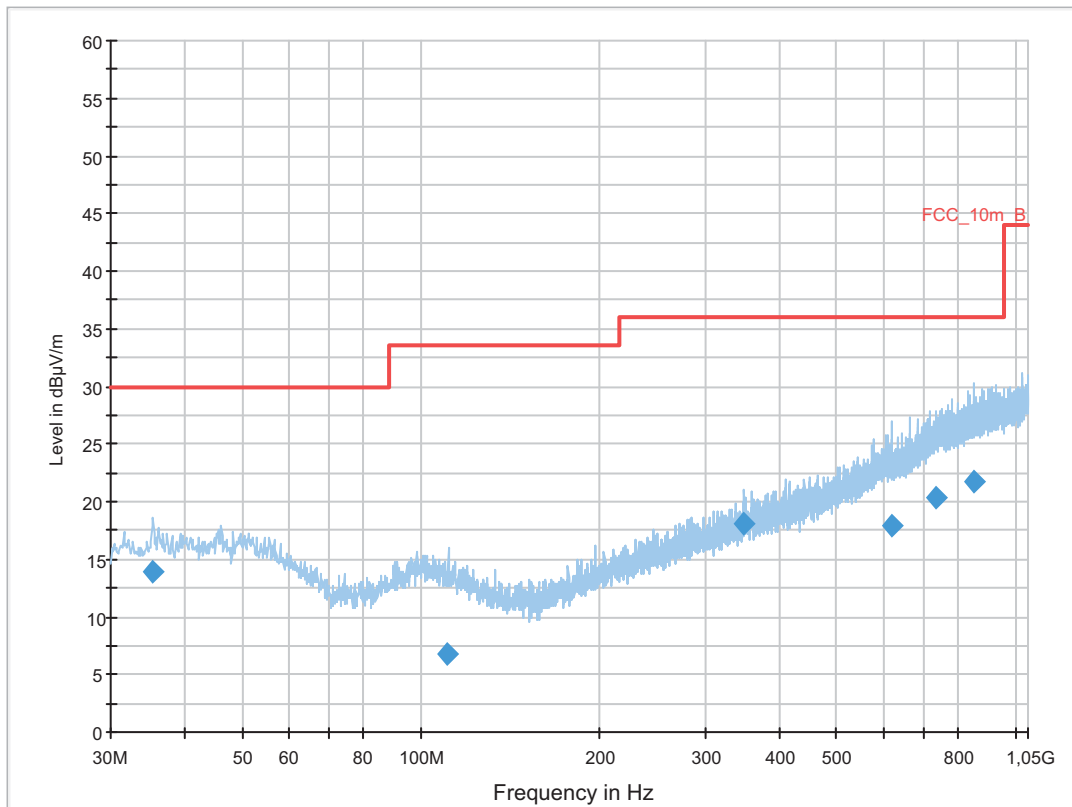
Common Information

EUT: mini BTE Fusion 2
 Serial Number: 20890800
 Test Description: FCC part 15 B class B @ 10 m
 Operating Conditions: TX high duty cycle
 Operator Name: Wolsdorfer
 Comment: battery powered, 1.4V

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)
 Receiver: [ESCI 3]
 Level Unit: dBµV/m

| Subrange | Step Size | Detectors | IF BW | Meas. Time | Preamp |
|----------------|-----------|-----------|---------|------------|--------|
| 30 MHz - 2 GHz | 60 kHz | QPK | 120 kHz | 1 s | 20 dB |



Final Result 1

| Frequency (MHz) | QuasiPeak (dBµV/m) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Polarization | Azimuth (deg) | Corr. (dB) | Margin (dB) | Limit (dBµV/m) | Comment |
|-----------------|--------------------|-----------------|-----------------|-------------|--------------|---------------|------------|-------------|----------------|---------|
| 35.336700 | 13.9 | 1000.0 | 120.000 | 200.0 | V | 269.0 | 13.1 | 16.1 | 30.0 | |
| 110.510850 | 6.8 | 1000.0 | 120.000 | 256.0 | V | 150.0 | 11.0 | 26.7 | 33.5 | |
| 349.995150 | 18.1 | 1000.0 | 120.000 | 100.0 | V | 226.0 | 16.1 | 17.9 | 36.0 | |
| 621.355800 | 18.0 | 1000.0 | 120.000 | 400.0 | H | 62.0 | 20.9 | 18.0 | 36.0 | |
| 734.289900 | 20.4 | 1000.0 | 120.000 | 400.0 | V | 287.0 | 23.3 | 15.6 | 36.0 | |
| 851.723100 | 21.7 | 1000.0 | 120.000 | 200.0 | H | 265.0 | 24.6 | 14.3 | 36.0 | |

9.5 Receiver spurious emissions

Measurement:

| Measurement parameter | |
|-----------------------|----------------------|
| Detector: | Average / Quasi peak |
| Sweep time: | Auto |
| Resolution bandwidth: | 3 kHz – 120 kHz |
| Video bandwidth: | Comparable to RBW |
| Trace-Mode: | Max hold |

Limits:

| FCC | | IC | |
|---|------------------------------------|--------------------------|--|
| Field strength of the harmonics and spurious. | | | |
| Frequency (MHz) | Field strength ($\mu\text{V/m}$) | Measurement distance (m) | |
| 0.009 – 0.490 | 2400/F(kHz) | 300 | |
| 0.490 – 1.705 | 24000/F(kHz) | 30 | |
| 1.705 – 30 | 30 (29.5 dB $\mu\text{V/m}$) | 30 | |
| 30 – 88 | 100 (40 dB $\mu\text{V/m}$) | 3 | |
| 88 – 216 | 150 (43.5 dB $\mu\text{V/m}$) | 3 | |
| 216 – 960 | 200 (46 dB $\mu\text{V/m}$) | 3 | |

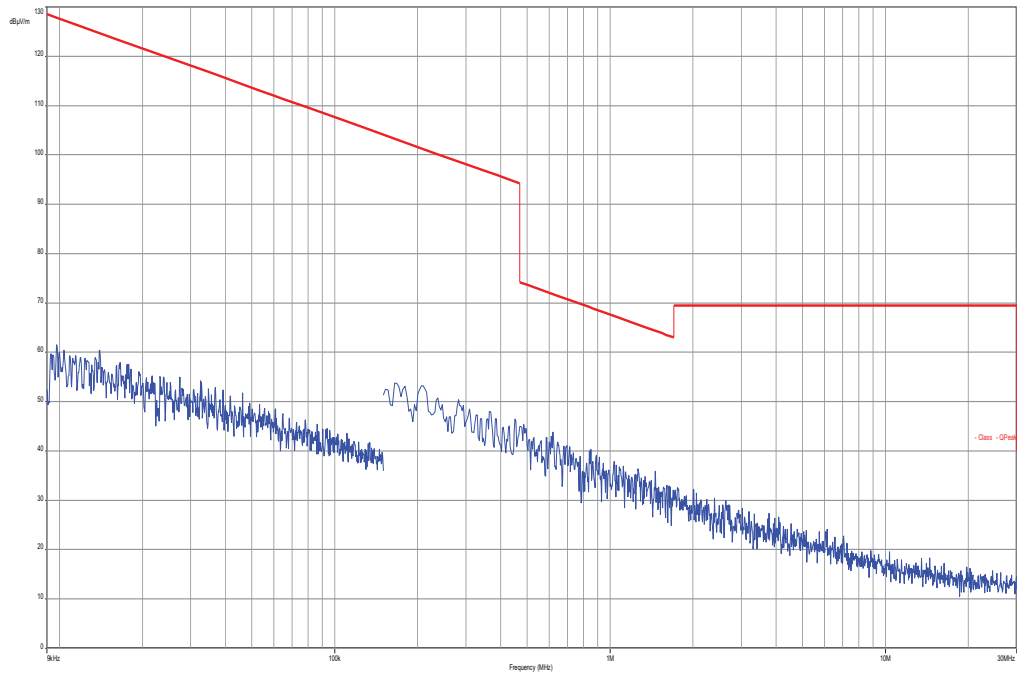
Result:

| EMISSION LIMITATIONS | | | | |
|---|----------|--|---|---------|
| f [MHz] | Detector | Limit max. allowed [dB $\mu\text{V/m}$] | Amplitude of emission [dB $\mu\text{V/m}$] | Results |
| No critical peaks detected. All detected emissions are below the limit! | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |
| | | | | |

Result: The result of the measurement is passed.

Plots of the measurements: Radiated unit No. 4: 20890826 (RX – mode)

Plot 1: 9 kHz – 30 MHz; frontal antenna position ;measuring distance 3m



Plot 2: 30 MHz – 1000 MHz

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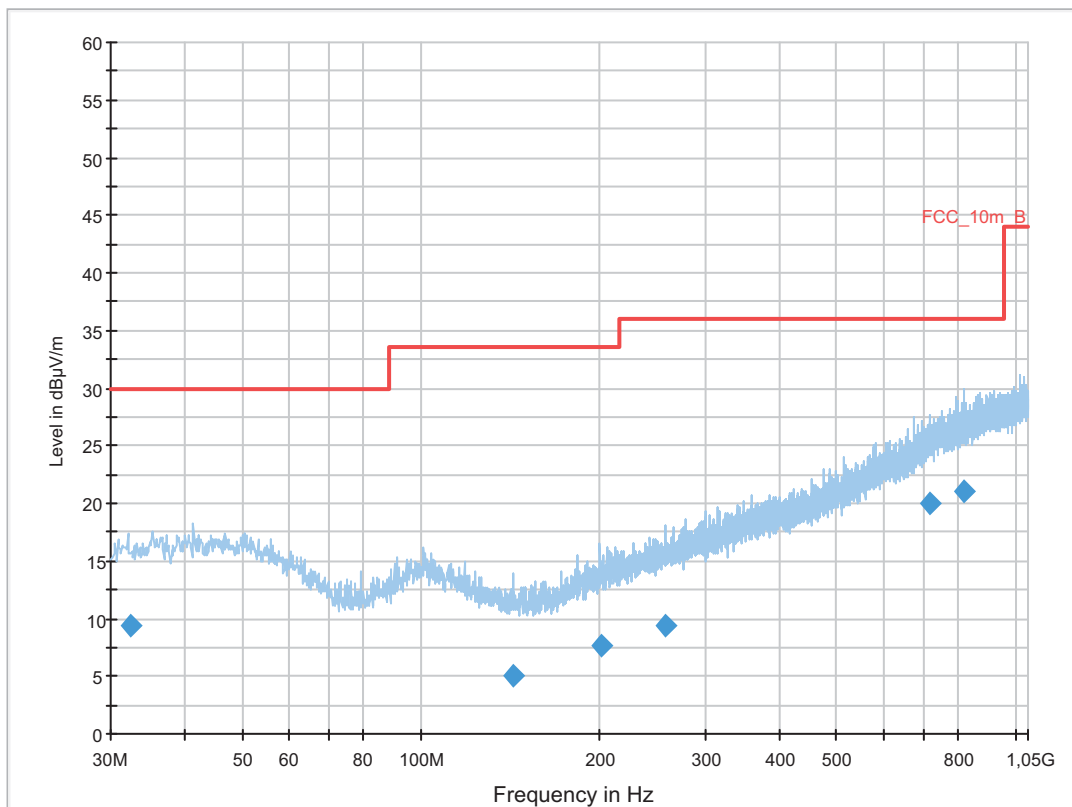
Common Information

EUT: mini BTE Fusion 2
 Serial Number: 20890769
 Test Description: FCC part 15 B class B @ 10 m
 Operating Conditions: TX off
 Operator Name: Wolsdorfer
 Comment: battery powered, 1.4V

Scan Setup: STAN_Fin [EMI radiated]

Hardware Setup: Electric Field (NOS)
 Receiver: [ESCI 3]
 Level Unit: dBµV/m

| Subrange | Step Size | Detectors | IF BW | Meas. Time | Preamp |
|----------------|-----------|-----------|---------|------------|--------|
| 30 MHz - 2 GHz | 60 kHz | QPK | 120 kHz | 1 s | 20 dB |



Final Result 1

| Frequency (MHz) | QuasiPeak (dBµV/m) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Polarization | Azimuth (deg) | Corr. (dB) | Margin (dB) | Limit (dBµV/m) | Comment |
|-----------------|--------------------|-----------------|-----------------|-------------|--------------|---------------|------------|-------------|----------------|---------|
| 32.301150 | 9.5 | 1000.0 | 120.000 | 311.0 | H | 95.0 | 12.8 | 20.5 | 30.0 | |
| 142.601700 | 5.0 | 1000.0 | 120.000 | 200.0 | V | 43.0 | 8.7 | 28.5 | 33.5 | |
| 200.334150 | 7.6 | 1000.0 | 120.000 | 235.0 | H | 13.0 | 11.7 | 25.9 | 33.5 | |
| 257.634450 | 9.4 | 1000.0 | 120.000 | 400.0 | V | -6.0 | 13.5 | 26.6 | 36.0 | |
| 715.598250 | 20.0 | 1000.0 | 120.000 | 312.0 | H | 315.0 | 22.9 | 16.0 | 36.0 | |
| 818.336700 | 21.1 | 1000.0 | 120.000 | 221.0 | V | 332.0 | 24.1 | 14.9 | 36.0 | |

9.6 Conducted limits

Not applicable

The EUT is battery powered only!

No possibility to connect the mains power supply!

10 Test equipment and ancillaries used for tests

Typically, the calibrations of the test apparatus are commissioned to and performed by an accredited calibration laboratory. The calibration intervals are determined in accordance with the DIN EN ISO/IEC 17025. In addition to the external calibrations, the laboratory executes comparison measurements with other calibrated test systems or effective verifications. Weekly chamber inspections and range calibrations are performed. Where possible, rf-generating and signalling equipment as well as measuring receivers and analyzers are connected to an external high-precision 10 MHz reference (GPS-based or rubidium frequency standard).

In order to simplify the identification of the equipment used at some special tests, some items of test equipment and ancillaries can be provided with an identifier or number in the equipment list below (Labor/Item).

| No. | Lab / Item | Equipment | Type | Manufact. | Serial No. | INV. No Cetecom | Kind of Calibration | Last Calibration | Next Calibration |
|-----|--------------|--|----------------------------------|----------------------|------------|-----------------|---------------------|------------------|------------------|
| 1 | n. a. | Active Loop Antenna | 6502 | EMCO | 2210 | 300001015 | ne | | |
| 2 | n. a. | Anechoic chamber | FAC 3/5m | MWB / TDK | 87400/02 | 300000996 | ev | | |
| 3 | Spec.A. 2_2e | System rack for EMI measurement solution | 85900 | HP I.V. | * | 300000222 | ne | | |
| 4 | 9 | Artificial Mains 9 kHz to 30 MHz | ESH3-Z5 | R&S | 828576/020 | 300001210 | Ve | 06.01.2012 | 06.01.2014 |
| 5 | n. a. | Relais Matrix | 3488A | HP Meßtechnik | 2719A15013 | 300001156 | ne | | |
| 6 | n. a. | Relais Matrix | PSU | R&S | 890167/024 | 300001168 | ne | | |
| 7 | n. a. | Three-Way Power Splitter, 50 Ohm | 11850C | HP Meßtechnik | | 300000997 | ne | | |
| 8 | n. a. | Switch / Control Unit | 3488A | HP | 2605e08770 | 300001443 | ne | | |
| 9 | n. a. | Amplifier | js42-00502650-28-5a | Parzich GMBH | 928979 | 300003143 | ne | | |
| 10 | n. a. | Band Reject filter | WRCG185 5/1910-1835/1925-40/8SS | Wainwright | 7 | 300003350 | ev | | |
| 11 | n. a. | Band Reject filter | WRCG240 0/2483-2375/2505-50/10SS | Wainwright | 11 | 300003351 | ev | | |
| 12 | n. a. | Highpass Filter | WHKX2.9/1 8G-12SS | Wainwright | 1 | 300003492 | ev | | |
| 13 | n. a. | Highpass Filter | WHK1.1/15 G-10SS | Wainwright | 3 | 300003255 | ev | | |
| 14 | n. a. | Highpass Filter | WHKX7.0/1 8G-8SS | Wainwright | 18 | 300003789 | ne | | |
| 15 | n. a. | TRILOG Broadband Test-Antenna 30 MHz - 3 GHz | VULB9163 | Schwarzbeck | 371 | 300003854 | vKI! | 14.10.2011 | 14.10.2014 |
| 16 | n. a. | MXE EMI Receiver 20 Hz bis 26,5 GHz | N9038A | Agilent Technologies | MY51210197 | 300004405 | k | 19.12.2011 | 19.12.2012 |
| 17 | n. a. | MXA Signal Analyzer 20 Hz - 26.5 GHz | N9020A MXA Signal Analyzer | Agilent Technologies | US46220229 | 300003805 | | | |

Agenda: Kind of Calibration

k calibration / calibrated
 ne not required (k, ev, izw, zw not required)
 ev periodic self verification
 Ve long-term stability recognized
 vKI! Attention: extended calibration interval
 NK! Attention: not calibrated

EK limited calibration
 zw cyclical maintenance (external cyclical maintenance)
 izw internal cyclical maintenance
 g blocked for accredited testing
 *) next calibration ordered / currently in progress

11 Observations

No observations exceeding those reported with the single test cases have been made.