

| <b>RADIO REPORT</b><br><br><b>FCC 47 CFR Part 22H, FCC 47 CFR Part 24E, FCC 47 CFR Part 27, FCC 47 CFR Part 90</b><br><b>ISED Canada RSS-132 Issue 3, ISED RSS-133, Issue 6 Amendment 1, ISED Canada RSS-139, Issue 3,</b><br><b>ISED Canada RSS-130, Issue 2, ISED Canada RSS-140, Issue 1</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Report Reference No</b>                                                                                                                                                                                                                                                                      | G0M-1909-8479-TFCMOCORSE-V02                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Testing Laboratory</b>                                                                                                                                                                                                                                                                       | Eurofins Product Service GmbH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Address</b>                                                                                                                                                                                                                                                                                  | Storkower Str. 38c<br>15526 Reichenwalde<br>Germany                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Accreditation</b>                                                                                                                                                                                                                                                                            |    <br>DAkks - Registration number : D-PL-12092-01-03 (ISED)<br>ISED Testing Laboratory site: 3470A-2<br>DAkks - Registration number : D-PL-12092-01-04 (FCC)<br>FCC Filed Test Laboratory, Reg.-No.: 96970 |
| <b>Applicant</b>                                                                                                                                                                                                                                                                                | pei tel Communications GmbH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Address</b>                                                                                                                                                                                                                                                                                  | Rheinstraße 15 A<br>14513 Teltow<br>GERMANY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>Test Specification</b>                                                                                                                                                                                                                                                                       | 47 CFR Part 22H<br>47 CFR Part 24E<br>47 CFR Part 27<br>47 CFR Part 90<br>ISED RSS-132, Issue 3: 2013-01<br>ISED RSS-133, Issue 6+A1: 2018-01<br>ISED RSS-139, Issue 3: 2015-07<br>ISED RSS-130, Issue 2: 2019-02<br>ISED RSS-140, Issue 1: 2018-04                                                                                                                                                                                                                                                                                                |
| <b>Non-Standard Test Method</b>                                                                                                                                                                                                                                                                 | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Equipment under Test (EUT):</b>                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Product Description</b>                                                                                                                                                                                                                                                                      | PTCarPhone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Model(s)</b>                                                                                                                                                                                                                                                                                 | PTCarPhone 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Additional Model(s)</b>                                                                                                                                                                                                                                                                      | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Brand Name(s)</b>                                                                                                                                                                                                                                                                            | PEI TEL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Hardware Version(s)</b>                                                                                                                                                                                                                                                                      | 01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Software Version(s)</b>                                                                                                                                                                                                                                                                      | V.6.01.01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>FCC-ID</b>                                                                                                                                                                                                                                                                                   | 2AU9JPTC6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <b>IC</b>                                                                                                                                                                                                                                                                                       | 25691-PTC6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

Test Report No.: G0M-1909-8479-TFCMOCORSE-V02

Eurofins Product Service GmbH  
Storkower Str. 38c, D-15526 Reichenwalde, Germany

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |                                                                                                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|------------------------------------------------------------------------------------------------|
| Test Result                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 | PASSED                                                                                         |
| Possible test case verdicts:                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                 |                                                                                                |
| Required by standard but not tested                                                                                                                                                                                                                                                                                                                                                                                                                                            | N/T             |                                                                                                |
| Not required by standard                                                                                                                                                                                                                                                                                                                                                                                                                                                       | N/R             |                                                                                                |
| Not applicable to EUT                                                                                                                                                                                                                                                                                                                                                                                                                                                          | N/A             |                                                                                                |
| Test object does meet the requirement                                                                                                                                                                                                                                                                                                                                                                                                                                          | P(PASS)         |                                                                                                |
| Test object does not meet the requirement                                                                                                                                                                                                                                                                                                                                                                                                                                      | F(FAIL)         |                                                                                                |
| Testing:                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                 |                                                                                                |
| Test Lab Temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 20 °C – 23 °C   |                                                                                                |
| Test Lab Humidity                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 32 % – 38 %     |                                                                                                |
| Date of receipt of test item                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2019-11-18      |                                                                                                |
| Report:                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                                                                                                |
| Compiled by                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Toralf Jahn     |                                                                                                |
| Tested by (+ signature)<br>(Responsible for Test)                                                                                                                                                                                                                                                                                                                                                                                                                              | Toralf Jahn     | <br>.....  |
| Approved by (+ signature)<br>(Head of Lab)                                                                                                                                                                                                                                                                                                                                                                                                                                     | Christian Weber | <br>..... |
| Date of Issue                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2020-02-10      |                                                                                                |
| Total number of pages                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 78              |                                                                                                |
| General Remarks:                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                 |                                                                                                |
| <p>The test results presented in this report relate only to the object tested.</p> <p>The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.</p> <p>This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.</p> |                 |                                                                                                |
| Additional Comments:                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                 |                                                                                                |
| <p>PTCarPhone 6 6609-006-101-51 consists of:</p> <p>6098-006-000-51 (TPU), 6922-001-002-51 (ME16), 6508-006-000-51 (HA59),<br/>         6507-002-100-51 (A58), 6601-011-000-51 (KL18), 6098-024-000-51 Versorgungskabel),<br/>         6098-260-005-51 (Verlängerungskabel)</p>                                                                                                                                                                                                |                 |                                                                                                |

## VERSION HISTORY

| Version History |            |                                                                                                                                           |            |
|-----------------|------------|-------------------------------------------------------------------------------------------------------------------------------------------|------------|
| Version         | Issue Date | Remarks                                                                                                                                   | Revised By |
| 01              | 2020-02-06 | Initial Release                                                                                                                           |            |
| 02              | 2020-02-10 | Replaced document: G0M-1909-8479-TFCMOCORSE-V01<br>Replaced by: G0M-1909-8479-TFCMOCORSE-V02<br><br>Reason:<br>Test modes table corrected |            |

**ABBREVIATIONS AND ACRONYMS**

| Acronyms         |                                                     |
|------------------|-----------------------------------------------------|
| Acronym          | Description                                         |
| EUT              | Equipment Under Test                                |
| FCC              | Federal Communications Commission                   |
| ISED             | Innovation, Science and Economic Development Canada |
| RBW              | Resolution bandwidth                                |
| RMS              | Root mean square                                    |
| VBW              | Video bandwidth                                     |
| V <sub>NOM</sub> | Nominal supply voltage                              |

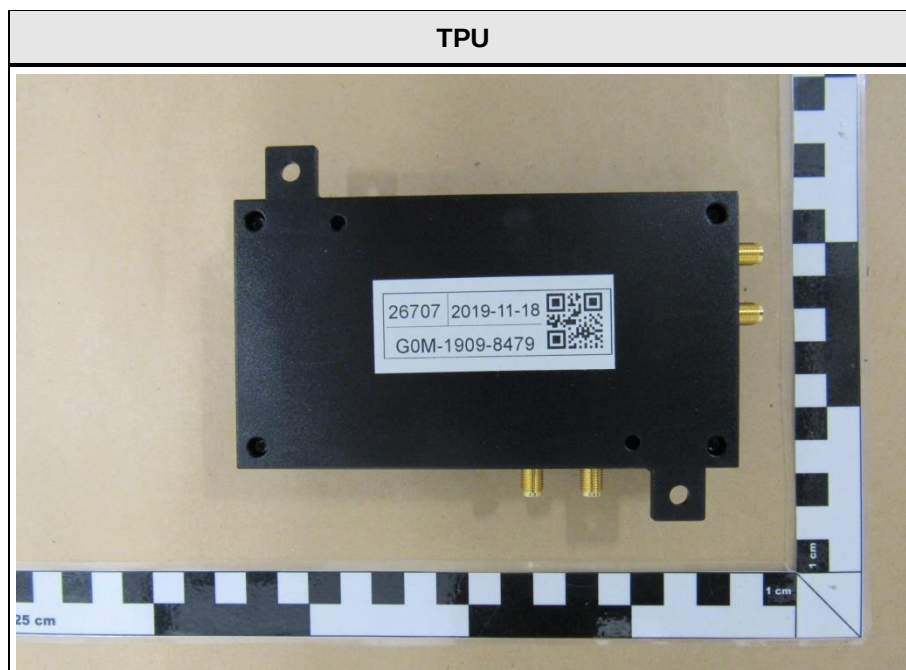
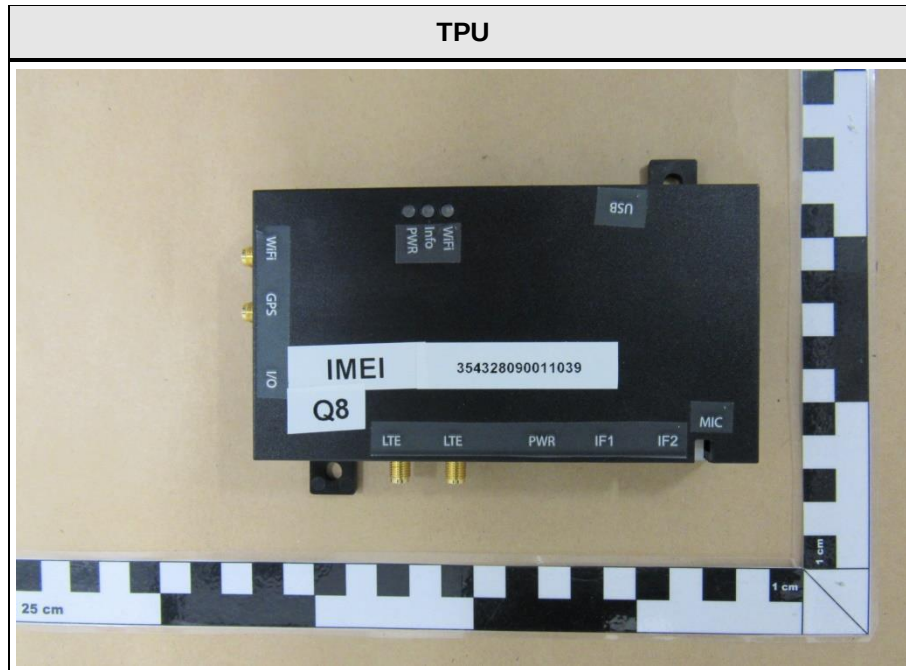
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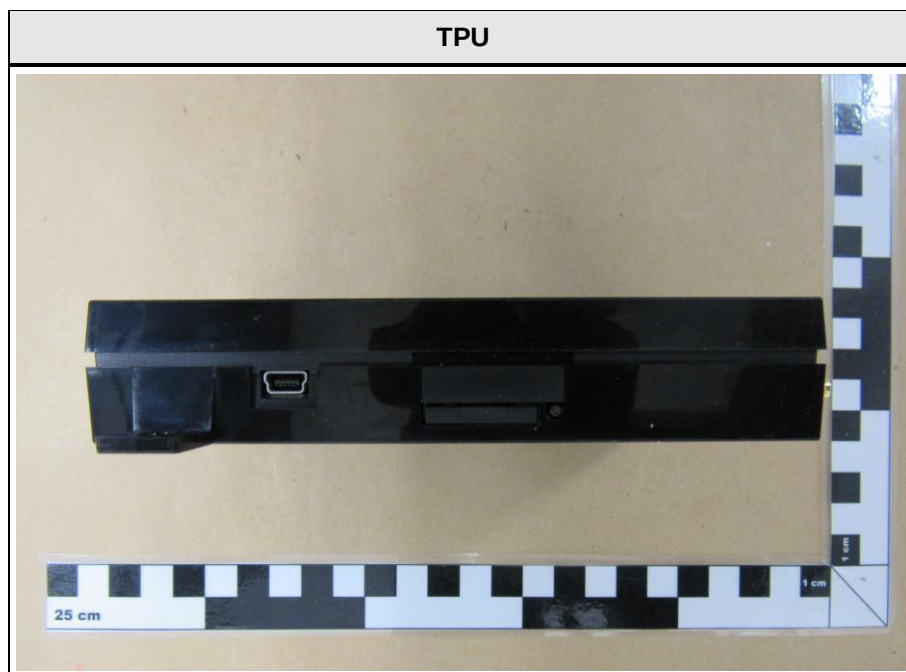
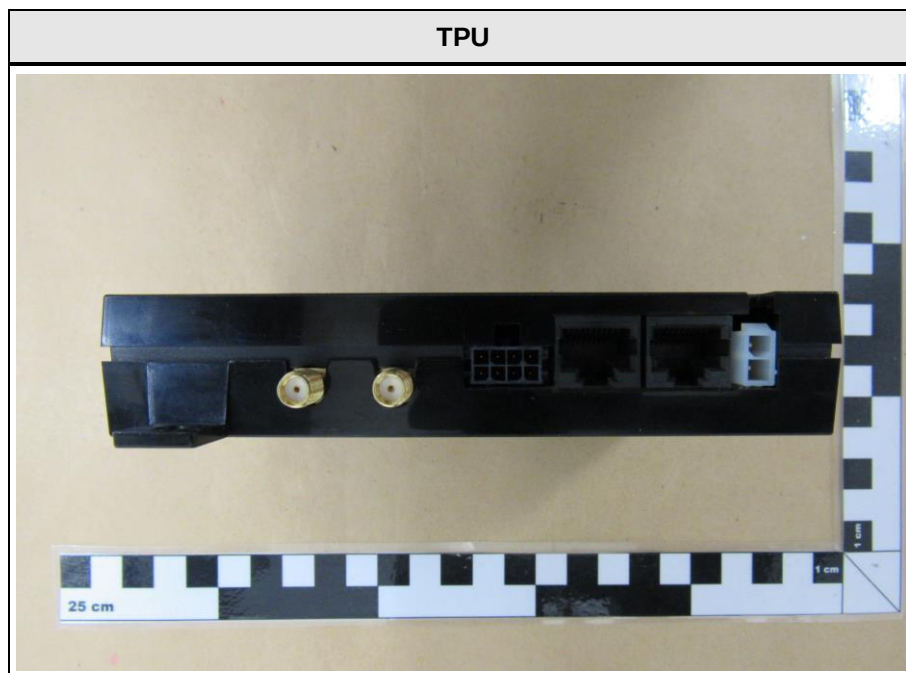
## 1 Equipment (Test Item) Under Test

|                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                        |
|----------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|
| Description          | PTCarPhone                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |
| Model                | PTCarPhone 6                                                                                                                                                                                                                                                                                                                                                                                                                                          |                        |
| Additional Model(s)  | None                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                        |
| Brand Name(s)        | PEI TEL                                                                                                                                                                                                                                                                                                                                                                                                                                               |                        |
| Serial Number(s)     | Q8 (IMEI 354328090011039)                                                                                                                                                                                                                                                                                                                                                                                                                             |                        |
| Hardware Version(s)  | 01                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                        |
| Software Version(s)  | V.6.01.01                                                                                                                                                                                                                                                                                                                                                                                                                                             |                        |
| PMN                  | PTCarPhone6                                                                                                                                                                                                                                                                                                                                                                                                                                           |                        |
| HVIN                 | 01                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                        |
| FVIN                 | V.6.01.01                                                                                                                                                                                                                                                                                                                                                                                                                                             |                        |
| HMN                  | N/A                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                        |
| IC                   | 25691-PTC6                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |
| FCC-ID               | 2AU9JPTC6                                                                                                                                                                                                                                                                                                                                                                                                                                             |                        |
| Equipment type       | End Product                                                                                                                                                                                                                                                                                                                                                                                                                                           |                        |
| Radio type           | Transceiver                                                                                                                                                                                                                                                                                                                                                                                                                                           |                        |
| Radio technologies   | UMTS, LTE                                                                                                                                                                                                                                                                                                                                                                                                                                             |                        |
| UMTS frequency bands | UMTS FDDII = UL = 1850 - 1910 MHz, DL = 1930 - 1990 MHz<br>UMTS FDDIV = UL = 1710 - 1755 MHz, DL = 2110 - 2155 MHz<br>UMTS FDDV = UL = 824 - 849 MHz, DL = 869 - 894 MHz                                                                                                                                                                                                                                                                              |                        |
| UMTS Modulations     | QPSK                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                        |
| LTE frequency bands  | LTE FDD2 = UL = 1850 - 1910 MHz, DL = 1930 - 1990 MHz<br>LTE FDD4 = UL = 1710 - 1755 MHz, DL = 2110 - 2155 MHz<br>LTE FDD5 = UL = 824 - 849 MHz, DL = 869 - 894 MHz<br>LTE FDD12 = UL = 699 - 716 MHz, DL = 729 - 746 MHz<br>LTE FDD13 = UL = 777 - 787 MHz, DL = 746 - 756 MHz<br>LTE FDD14 = UL = 788 - 798 MHz, DL = 758 - 768 MHz<br>LTE FDD66 = UL = 1710 - 1780 MHz, DL = 2110 - 2200 MHz<br>LTE FDD71 = UL = 663 - 698 MHz, DL = 617 - 652 MHz |                        |
| LTE Modulations      | QPSK, 16-QAM                                                                                                                                                                                                                                                                                                                                                                                                                                          |                        |
| Number of modules    | 1                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                        |
| Radio Module         | Type                                                                                                                                                                                                                                                                                                                                                                                                                                                  | UMTS / LTE             |
|                      | Model                                                                                                                                                                                                                                                                                                                                                                                                                                                 | LE910C4-NF             |
|                      | Manufacturer                                                                                                                                                                                                                                                                                                                                                                                                                                          | Telit                  |
|                      | HW Version                                                                                                                                                                                                                                                                                                                                                                                                                                            | unspecified            |
|                      | SW Version                                                                                                                                                                                                                                                                                                                                                                                                                                            | unspecified            |
|                      | FCC-ID                                                                                                                                                                                                                                                                                                                                                                                                                                                | RI7LE910CXNF           |
|                      | IC                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 5131A-LE910CXNF        |
| Antenna              | Type                                                                                                                                                                                                                                                                                                                                                                                                                                                  | external               |
|                      | Model                                                                                                                                                                                                                                                                                                                                                                                                                                                 | CEL 70 26 RD M/FME/2,5 |
|                      | Manufacturer                                                                                                                                                                                                                                                                                                                                                                                                                                          | Hirschmann             |
|                      | Gain                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 3.0 dBi                |
| Supply Voltage       | V <sub>NOM</sub>                                                                                                                                                                                                                                                                                                                                                                                                                                      | 14 VDC                 |
| AC/DC-Adaptor        | Model                                                                                                                                                                                                                                                                                                                                                                                                                                                 | None                   |
|                      | Vendor                                                                                                                                                                                                                                                                                                                                                                                                                                                | None                   |
|                      | Input                                                                                                                                                                                                                                                                                                                                                                                                                                                 | None                   |
|                      | Output                                                                                                                                                                                                                                                                                                                                                                                                                                                | None                   |
| Manufacturer         | pei tel Communications GmbH<br>Rheinstraße 15 A<br>14513 Teltow<br>GERMANY                                                                                                                                                                                                                                                                                                                                                                            |                        |

## 1.1 Photos – Equipment External

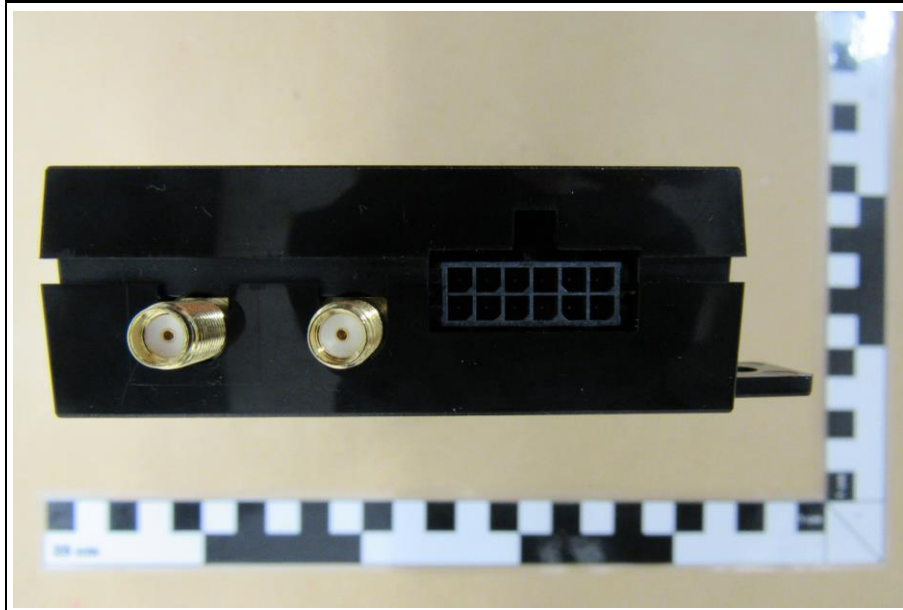








TPU



HA59



**HA59**



**GNSS ANTENNA**



### LTE ANTENNA



### LTE ANTENNA



**WIFI ANTENNA**



**MICROPHONE**

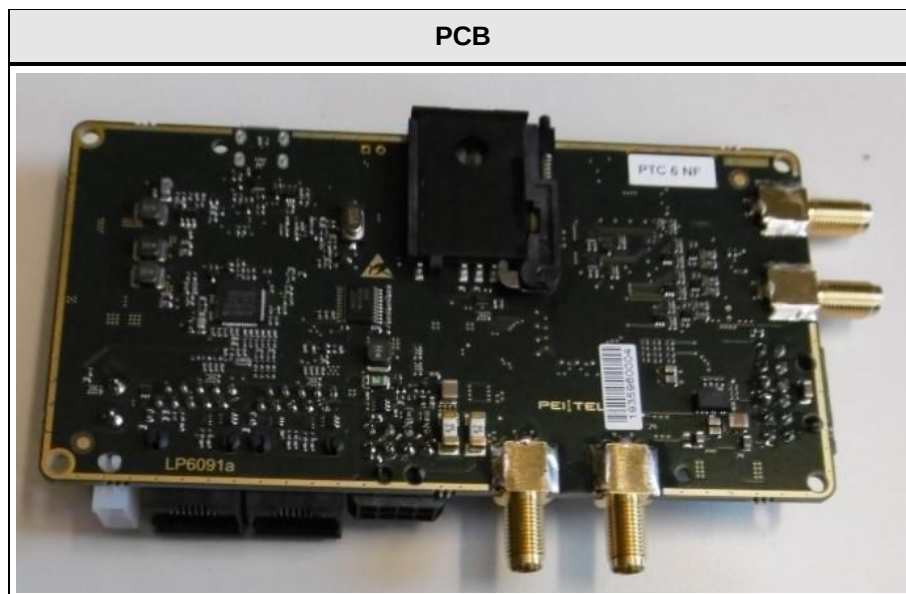
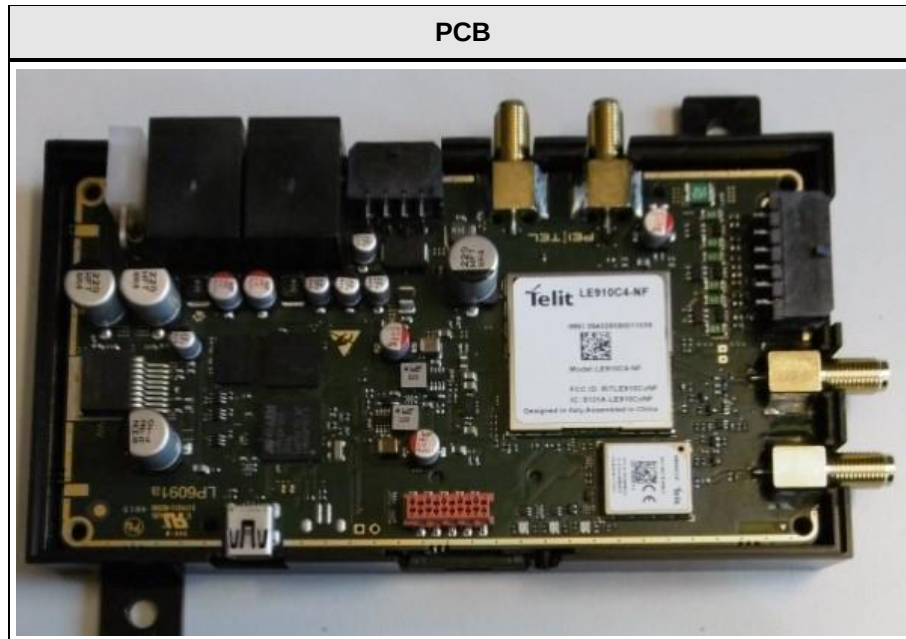




**SPEAKER**

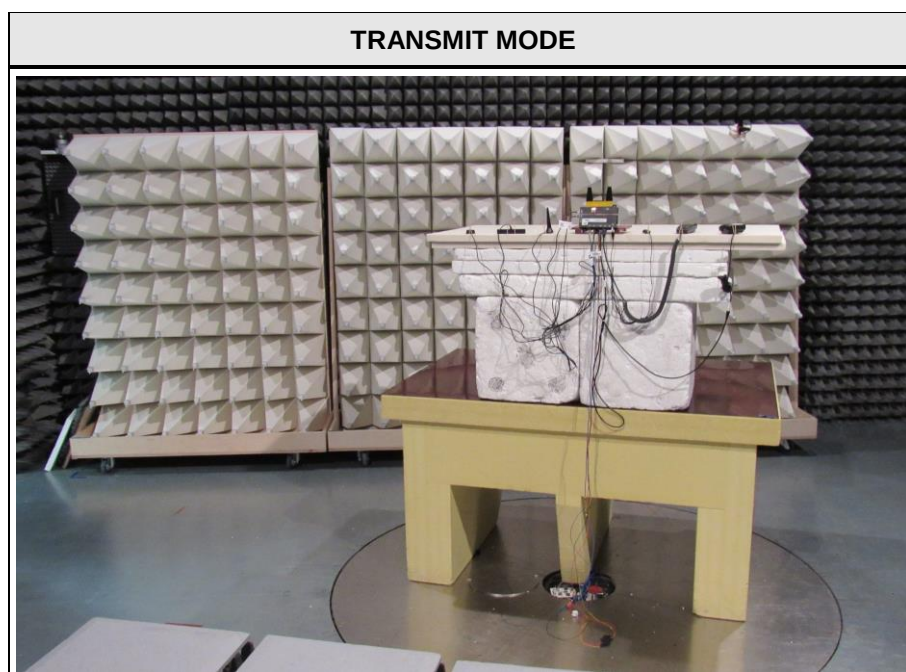
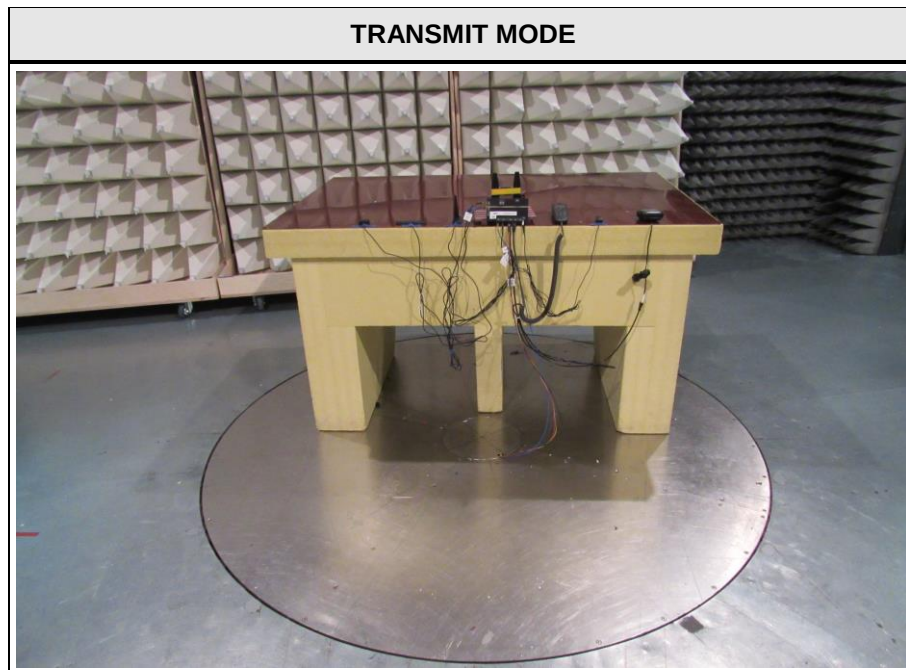


## 1.2 Photos – Equipment Internal



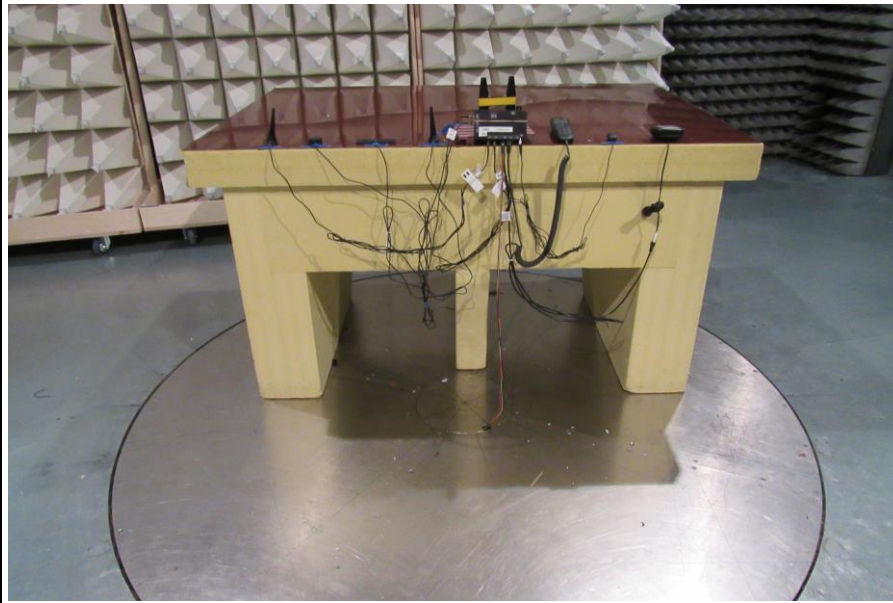
Note: Internal photos provided by manufacturer.

### 1.3 Photos – Test Setup

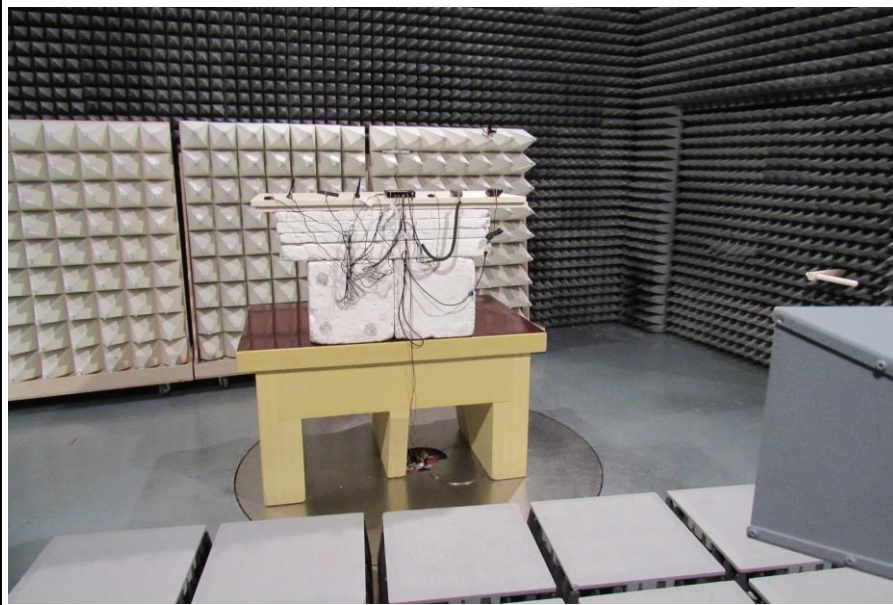




RECEIVE MODE



RECEIVE MODE



#### 1.4 Support Equipment

| Product Type | Device               | Manufacturer | Model  | Comment                |
|--------------|----------------------|--------------|--------|------------------------|
| SIM          | Communication Tester | R&S          | CMW500 | Base Station Simulator |
| Description: |                      |              |        |                        |
| AE           | Auxiliary Equipment  |              |        |                        |
| SIM          | Simulator            |              |        |                        |
| CBL          | Connecting Cable     |              |        |                        |
| SFT          | Software             |              |        |                        |
| Comment:     |                      |              |        |                        |

## 1.5 Test Modes

| Mode              | Description                                                                                                                                                                       |
|-------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| UMTS FDDII / QPSK | Channel = 1880 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = QPSK<br>Duty cycle = 100 %                                                                                        |
| UMTS FDDIV / QPSK | Channel = 1712.4 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = QPSK<br>Duty cycle = 100 %                                                                                      |
| UMTS FDDV / QPSK  | Channel = 846.6 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = QPSK<br>Duty cycle = 100 %                                                                                       |
| LTE FDD2 / QPSK   | Channel = 1880 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = QPSK<br>Bandwidth = 20 MHz<br>Number of resource blocks = 1<br>Resource block offset = 49<br>Duty cycle = 100 %   |
| LTE FDD2 / QAM    | Channel = 1880 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = 16-QAM<br>Bandwidth = 20 MHz<br>Number of resource blocks = 1<br>Resource block offset = 49<br>Duty cycle = 100 % |
| LTE FDD2 / PMAx   | Channel = 1880 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = QPSK<br>Bandwidth = 3 MHz<br>Number of resource blocks = 1<br>Resource block offset = 7<br>Duty cycle = 100 %     |
| LTE FDD4 / QPSK   | Channel = 1745 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = QPSK<br>Bandwidth = 20 MHz<br>Number of resource blocks = 1<br>Resource block offset = 49<br>Duty cycle = 100 %   |

|                  |                                                                                                                                                                                   |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LTE FDD4 / QAM   | Channel = 1745 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = 16-QAM<br>Bandwidth = 20 MHz<br>Number of resource blocks = 1<br>Resource block offset = 49<br>Duty cycle = 100 % |
| LTE FDD4 / PMAX  | Channel = 1752.5 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = QPSK<br>Bandwidth = 5 MHz<br>Number of resource blocks = 1<br>Resource block offset = 12<br>Duty cycle = 100 %  |
| LTE FDD5 / QPSK  | Channel = 844 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = QPSK<br>Bandwidth = 10 MHz<br>Number of resource blocks = 1<br>Resource block offset = 24<br>Duty cycle = 100 %    |
| LTE FDD5 / QAM   | Channel = 829 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = 16-QAM<br>Bandwidth = 10 MHz<br>Number of resource blocks = 1<br>Resource block offset = 24<br>Duty cycle = 100 %  |
| LTE FDD5 / PMAX  | Channel = 844 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = QPSK<br>Bandwidth = 10 MHz<br>Number of resource blocks = 1<br>Resource block offset = 24<br>Duty cycle = 100 %    |
| LTE FDD12 / QPSK | Channel = 704 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = QPSK<br>Bandwidth = 10 MHz<br>Number of resource blocks = 1<br>Resource block offset = 24<br>Duty cycle = 100 %    |

|                  |                                                                                                                                                                                  |
|------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LTE FDD12 / QAM  | Channel = 711 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = 16-QAM<br>Bandwidth = 10 MHz<br>Number of resource blocks = 1<br>Resource block offset = 49<br>Duty cycle = 100 % |
| LTE FDD12 / PMAx | Channel = 715.3 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = QPSK<br>Bandwidth = 1.4 MHz<br>Number of resource blocks = 1<br>Resource block offset = 2<br>Duty cycle = 100 % |
| LTE FDD13 / QPSK | Channel = 782 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = QPSK<br>Bandwidth = 10 MHz<br>Number of resource blocks = 1<br>Resource block offset = 24<br>Duty cycle = 100 %   |
| LTE FDD13 / QAM  | Channel = 782 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = 16-QAM<br>Bandwidth = 10 MHz<br>Number of resource blocks = 1<br>Resource block offset = 24<br>Duty cycle = 100 % |
| LTE FDD13 / PMAx | Channel = 782 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = QPSK<br>Bandwidth = 5 MHz<br>Number of resource blocks = 1<br>Resource block offset = 12<br>Duty cycle = 100 %    |
| LTE FDD14 / QPSK | Channel = 793 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = QPSK<br>Bandwidth = 10 MHz<br>Number of resource blocks = 1<br>Resource block offset = 49<br>Duty cycle = 100 %   |



|                  |                                                                                                                                                                                   |
|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LTE FDD14 / QAM  | Channel = 793 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = 16-QAM<br>Bandwidth = 10 MHz<br>Number of resource blocks = 1<br>Resource block offset = 24<br>Duty cycle = 100 %  |
| LTE FDD14 / PMAx | Channel = 795.5 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = QPSK<br>Bandwidth = 5 MHz<br>Number of resource blocks = 1<br>Resource block offset = 24<br>Duty cycle = 100 %   |
| LTE FDD66 / QPSK | Channel = 1745 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = QPSK<br>Bandwidth = 20 MHz<br>Number of resource blocks = 1<br>Resource block offset = 0<br>Duty cycle = 100 %    |
| LTE FDD66 / QAM  | Channel = 1745 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = 16-QAM<br>Bandwidth = 20 MHz<br>Number of resource blocks = 1<br>Resource block offset = 49<br>Duty cycle = 100 % |
| LTE FDD66 / PMAx | Channel = 1745 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = QPSK<br>Bandwidth = 3 MHz<br>Number of resource blocks = 1<br>Resource block offset = 7<br>Duty cycle = 100 %     |
| LTE FDD71 / QPSK | Channel = 680.5 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = QPSK<br>Bandwidth = 20 MHz<br>Number of resource blocks = 1<br>Resource block offset = 49<br>Duty cycle = 100 %  |

|                                                                                                                                                                               |                                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| LTE FDD71 / QAM                                                                                                                                                               | Channel = 680.5 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = 16-QAM<br>Bandwidth = 20 MHz<br>Number of resource blocks = 1<br>Resource block offset = 49<br>Duty cycle = 100 % |
| LTE FDD71 / PMAX                                                                                                                                                              | Channel = 665.5 MHz<br>Mode = RMC<br>TPC = All 1<br>Modulation = QPSK<br>Bandwidth = 5 MHz<br>Number of resource blocks = 1<br>Resource block offset = 12<br>Duty cycle = 100 %    |
| Comment: Above worst case scenarios were found in module test reports: 1870209R-HPUSP17V00, 2018-08-23 issued by DEKRA and 1870209R-HPUSP17V00-A, 2018-08-23 issued by DEKRA. |                                                                                                                                                                                    |

## 1.6 Sample emission level calculation

The following is a description of terms and a sample calculation, as appears in the radiated emissions data table. The numbers used in the calculation are for example only. There is no direct correlation to the specific data taken for the product described in this document:

Reading:

This is the reading obtained on the spectrum analyzer in dBμV. Any external preamplifiers used are taken into account through internal analyzer settings.

A.F.:

This is the antenna factor for the receiving antenna. It is a conversion factor, which converts electric fields strengths to voltages, which can be measured directly on the spectrum analyzer. It is treated as a loss in dB. Cable losses have been included with the A.F. to simplify the calculations. The antenna factor is used in calculations as follows:

$$\text{Reading on Analyzer (dB}\mu\text{V)} + \text{A.F. (dB)} = \text{Net field strength (dB}\mu\text{V/m)}$$

Net:

This is the net field strength measurement (as shown above).

Limit:

This is the FCC Class B radiated emission limit (in units of dBμV/m). The FCC limits are given in units of μV/m. The following formula is used to convert the units of μV/m to dBμV/m:

$$\text{Limit (dB}\mu\text{V/m)} = 20 \cdot \log(\mu\text{V/m})$$

Margin:

This is the margin of compliance below the FCC limit. The units are given in dB. A negative margin indicates the emission was below the limit. A positive margin indicates that the emission exceeds the limit.

Example only:

|              |                       |   |             |               |           |
|--------------|-----------------------|---|-------------|---------------|-----------|
| Reading + AF | = Net Reading         | : | Net reading | - FCC limit   | = Margin  |
| +21.5 dBμV   | + 26 dB = 47.5 dBμV/m | : | 47.5 dBμV/m | - 57.0 dBμV/m | = -9.5 dB |

## 2 Result Summary

| Test Summary)                                                                                                                                                                |                                 |                           |        |         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|---------------------------|--------|---------|
| Product Standard Reference                                                                                                                                                   | Requirement                     | Reference Method          | Result | Remarks |
| 47 CFR §22.913<br>47 CFR §24.232<br>47 CFR §27.50<br>47 CFR §90.542<br>ISED RSS-132 §5.4<br>ISED RSS-133 §6.4<br>ISED RSS-139 §6.5<br>ISED RSS-130 §4.6<br>ISED RSS-140 §4.3 | Radiated power                  | ANSI C63.26<br>KDB 971168 | PASS   |         |
| 47 CFR §22.917<br>47 CFR §24.238<br>47 CFR §27.53<br>47 CFR §90.542<br>ISED RSS-132 §5.5<br>ISED RSS-133 §6.5<br>ISED RSS-139 §6.6<br>ISED RSS-130 §4.7<br>ISED RSS-140 §4.4 | Transmitter conducted emissions | ANSI C63.26<br>KDB 971168 | PASS   |         |
| 47 CFR §22.917<br>47 CFR §24.238<br>47 CFR §27.53<br>47 CFR §90.542<br>ISED RSS-132 §5.5<br>ISED RSS-133 §6.5<br>ISED RSS-139 §6.6<br>ISED RSS-130 §4.7<br>ISED RSS-140 §4.4 | Transmitter radiated emissions  | ANSI C63.26<br>KDB 971168 | PASS   |         |
| ISED RSS-132 §3.1<br>ISED RSS-133 §3.1<br>ISED RSS-139 §3.1<br>ISED RSS-130 §3.3<br>ISED RSS-140 §2.3<br>ISED RSS-Gen §7                                                     | Receiver radiated emissions     | ANSI C63.26<br>KDB 971168 | PASS   |         |
| Comment:                                                                                                                                                                     |                                 |                           |        |         |

| Possible Test Case Verdicts |                                              |
|-----------------------------|----------------------------------------------|
| PASS                        | Test object does meet the requirements       |
| FAIL                        | Test object does not meet the requirements   |
| N/T                         | Required by standard but not tested          |
| N/R                         | Not required by standard for the test object |

### 3 Test Conditions and Results

#### 3.1 Test Conditions and Results - Radiated power

##### 3.1.1 Information

| Test Information |                                                                                                                                                                              |
|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reference        | 47 CFR §22.913<br>47 CFR §24.232<br>47 CFR §27.50<br>47 CFR §90.542<br>ISED RSS-132 §5.4<br>ISED RSS-133 §6.4<br>ISED RSS-139 §6.5<br>ISED RSS-130 §4.6<br>ISED RSS-140 §4.3 |
| Operator         | Toralf Jahn                                                                                                                                                                  |
| Date             | 2020-02-05                                                                                                                                                                   |

##### 3.1.2 Limits

| Limits - Portable equipment |                       |                       |                     |                        |                      |
|-----------------------------|-----------------------|-----------------------|---------------------|------------------------|----------------------|
| Band                        | Frequency range [MHz] | Power limit [dBm ERP] | Power limit [W ERP] | Power limit [dBm EIRP] | Power limit [W EIRP] |
| GSM850                      | 824 - 849             | 38.45                 | 7                   | 40.6                   | 11.5                 |
| GSM1900                     | 1850 - 1910           | 30.85                 | 1.22                | 33                     | 2                    |
| UMTS FDDII                  | 1850 - 1910           | 30.85                 | 1.22                | 33                     | 2                    |
| UMTS FDDIV                  | 1710 - 1780           | 27.85                 | 0.61                | 30                     | 1                    |
| UMTS FDDV                   | 824 - 849             | 38.45                 | 7                   | 40.6                   | 11.5                 |
| LTE FDD2                    | 1850 - 1910           | 30.85                 | 1.22                | 33                     | 2                    |
| LTE FDD4                    | 1710 - 1780           | 27.85                 | 0.61                | 30                     | 1                    |
| LTE FDD5                    | 824 - 849             | 38.45                 | 7                   | 40.6                   | 11.5                 |
| LTE FDD13                   | 777 - 787             | 34.77                 | 3                   | 36.92                  | 4.92                 |
| LTE FDD14                   | 788 - 798             | 34.77                 | 3                   | 36.92                  | 4.92                 |
| LTE FDD17                   | 704 - 716             | 34.77                 | 3                   | 36.92                  | 4.92                 |
| LTE FDD26                   | 814 - 849             | 38.45                 | 7                   | 40.6                   | 11.5                 |
| LTE FDD66                   | 1710 - 1780           | 27.85                 | 0.61                | 30                     | 1                    |
| LTE FDD71                   | 663 - 698             | 34.77                 | 3                   | 36.92                  | 4.92                 |

##### 3.1.3 Procedure

| Test Procedure                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. The highest conducted output power for each radio technology, band, modulation and bandwidth is determined<br>2. The antenna gain for the corresponding transmission frequency is added to the conducted output power<br>3. The calculated radiated power is compared to the transmitter output power limit |

Comment: Conducted power values were found in module test reports: 1870209R-HPUSP17V00, 2018-08-23 issued by DEKRA and 1870209R-HPUSP17V00-A, 2018-08-23 issued by DEKRA.

### 3.1.4 Results

| Test Results - UMTS FDDII |             |                    |                           |                  |             |        |
|---------------------------|-------------|--------------------|---------------------------|------------------|-------------|--------|
| Mode                      | Power [dBm] | Antenna gain [dBi] | Radiated power [dBm EIRP] | Limit [dBm EIRP] | Margin [dB] | Result |
| UMTS FDDII / QPSK         | 24.74       | 3                  | 27.74                     | 33               | 5.26        | PASS   |

| Test Results - UMTS FDDIV |             |                    |                           |                  |             |        |
|---------------------------|-------------|--------------------|---------------------------|------------------|-------------|--------|
| Mode                      | Power [dBm] | Antenna gain [dBi] | Radiated power [dBm EIRP] | Limit [dBm EIRP] | Margin [dB] | Result |
| UMTS FDDIV / QPSK         | 25.10       | 3                  | 28.10                     | 30               | 1.90        | PASS   |

| Test Results - UMTS FDDV |             |                    |                           |                  |             |        |
|--------------------------|-------------|--------------------|---------------------------|------------------|-------------|--------|
| Mode                     | Power [dBm] | Antenna gain [dBi] | Radiated power [dBm EIRP] | Limit [dBm EIRP] | Margin [dB] | Result |
| UMTS FDDV / QPSK         | 25.14       | 3                  | 28.14                     | 40.6             | 12.46       | PASS   |

| Test Results - LTE FDD2 |             |                    |                           |                  |             |        |
|-------------------------|-------------|--------------------|---------------------------|------------------|-------------|--------|
| Mode                    | Power [dBm] | Antenna gain [dBi] | Radiated power [dBm EIRP] | Limit [dBm EIRP] | Margin [dB] | Result |
| LTE FDD2 / PMAx         | 24.57       | 3                  | 27.57                     | 33               | -05.43      | PASS   |
| LTE FDD2 / QPSK         | 24.18       | 3                  | 27.18                     | 33               | -05.82      | PASS   |
| LTE FDD2 / QAM          | 23.60       | 3                  | 26.60                     | 33               | -06.40      | PASS   |

| Test Results - LTE FDD4 |             |                    |                           |                  |             |        |
|-------------------------|-------------|--------------------|---------------------------|------------------|-------------|--------|
| Mode                    | Power [dBm] | Antenna gain [dBi] | Radiated power [dBm EIRP] | Limit [dBm EIRP] | Margin [dB] | Result |
| LTE FDD4 / PMAx         | 24.59       | 3                  | 27.59                     | 30               | -02.41      | PASS   |
| LTE FDD4 / QPSK         | 24.24       | 3                  | 27.24                     | 30               | -02.76      | PASS   |
| LTE FDD4 / QAM          | 23.26       | 3                  | 26.26                     | 30               | -03.74      | PASS   |

| Test Results - LTE FDD5 |             |                    |                           |                  |             |        |
|-------------------------|-------------|--------------------|---------------------------|------------------|-------------|--------|
| Mode                    | Power [dBm] | Antenna gain [dBi] | Radiated power [dBm EIRP] | Limit [dBm EIRP] | Margin [dB] | Result |
| LTE FDD 5 / PMAx        | 25.10       | 3                  | 28.10                     | 40.6             | -12.50      | PASS   |
| LTE FDD5 / QPSK         | 25.10       | 3                  | 28.10                     | 40.6             | -12.50      | PASS   |
| LTE FDD5 / QAM          | 23.50       | 3                  | 26.50                     | 40.6             | -14.10      | PASS   |



| Test Results - LTE FDD12 |             |                    |                           |                  |             |        |
|--------------------------|-------------|--------------------|---------------------------|------------------|-------------|--------|
| Mode                     | Power [dBm] | Antenna gain [dBi] | Radiated power [dBm EIRP] | Limit [dBm EIRP] | Margin [dB] | Result |
| LTE FDD12 / PMAX         | 24.74       | 3                  | 27.74                     | 36.92            | -09.18      | PASS   |
| LTE FDD12 / QPSK         | 24.13       | 3                  | 27.13                     | 36.92            | -09.79      | PASS   |
| LTE FDD12 / QAM          | 23.32       | 3                  | 26.32                     | 36.92            | -10.60      | PASS   |

| Test Results - LTE FDD13 |             |                    |                           |                  |             |        |
|--------------------------|-------------|--------------------|---------------------------|------------------|-------------|--------|
| Mode                     | Power [dBm] | Antenna gain [dBi] | Radiated power [dBm EIRP] | Limit [dBm EIRP] | Margin [dB] | Result |
| LTE FDD13 / PMAX         | 24.96       | 3                  | 27.96                     | 36.92            | -08.96      | PASS   |
| LTE FDD13 / QPSK         | 24.55       | 3                  | 27.55                     | 36.92            | -09.37      | PASS   |
| LTE FDD13 / QAM          | 23.49       | 3                  | 26.49                     | 36.92            | -10.43      | PASS   |

| Test Results - LTE FDD14 |             |                    |                           |                  |             |        |
|--------------------------|-------------|--------------------|---------------------------|------------------|-------------|--------|
| Mode                     | Power [dBm] | Antenna gain [dBi] | Radiated power [dBm EIRP] | Limit [dBm EIRP] | Margin [dB] | Result |
| LTE FDD14 / PMAX         | 24.38       | 3                  | 27.38                     | 36.92            | -09.54      | PASS   |
| LTE FDD14 / QPSK         | 24.38       | 3                  | 27.38                     | 36.92            | -09.54      | PASS   |
| LTE FDD14 / QAM          | 23.31       | 3                  | 26.31                     | 36.92            | -10.61      | PASS   |

| Test Results - LTE FDD66 |             |                    |                           |                  |             |        |
|--------------------------|-------------|--------------------|---------------------------|------------------|-------------|--------|
| Mode                     | Power [dBm] | Antenna gain [dBi] | Radiated power [dBm EIRP] | Limit [dBm EIRP] | Margin [dB] | Result |
| LTE FDD66 / PMAX         | 24.41       | 3                  | 27.41                     | 30               | -02.59      | PASS   |
| LTE FDD66 / QPSK         | 24.34       | 3                  | 27.34                     | 30               | -02.66      | PASS   |
| LTE FDD66 / QAM          | 23.49       | 3                  | 26.49                     | 30               | -03.51      | PASS   |

| Test Results - LTE FDD71 |             |                    |                           |                  |             |        |
|--------------------------|-------------|--------------------|---------------------------|------------------|-------------|--------|
| Mode                     | Power [dBm] | Antenna gain [dBi] | Radiated power [dBm EIRP] | Limit [dBm EIRP] | Margin [dB] | Result |
| LTE FDD71 / PMAX         | 24.00       | 3                  | 27.00                     | 36.92            | -09.92      | PASS   |
| LTE FDD71 / QPSK         | 23.70       | 3                  | 26.70                     | 36.92            | -10.22      | PASS   |
| LTE FDD71 / QAM          | 22.62       | 3                  | 25.62                     | 36.92            | -11.30      | PASS   |

### 3.2 Test Conditions and Results - Transmitter conducted emissions

#### 3.2.1 Information

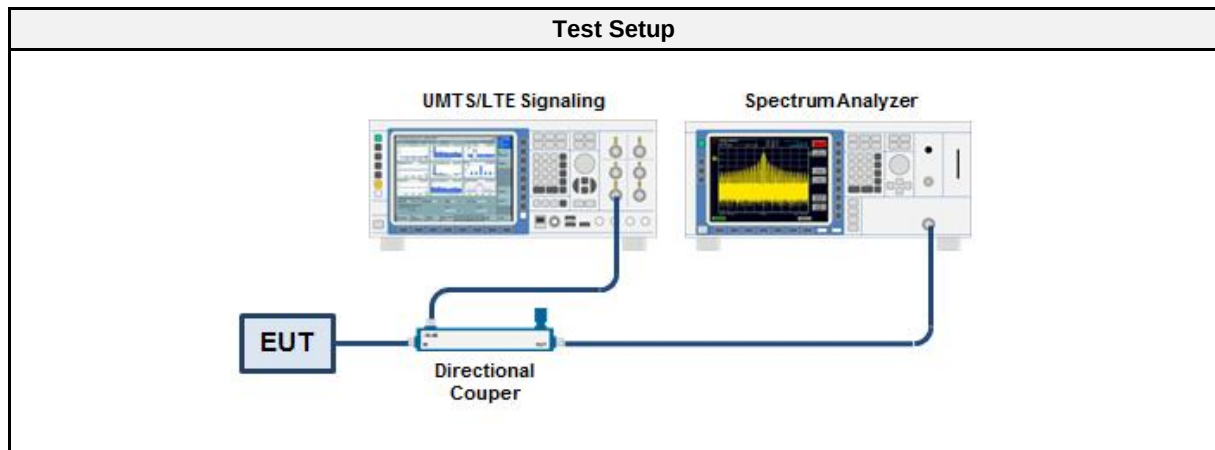
| Test Information   |                                                                                                                                                                              |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reference          | 47 CFR §22.917<br>47 CFR §24.238<br>47 CFR §27.53<br>47 CFR §90.543<br>ISED RSS-132 §5.5<br>ISED RSS-133 §6.5<br>ISED RSS-139 §6.6<br>ISED RSS-130 §4.7<br>ISED RSS-140 §4.4 |
| Measurement Method | FCC KDB 971168 D01 Section 6<br>ANSI C63.26-2015 5.7                                                                                                                         |
| Operator           | Toralf Jahn                                                                                                                                                                  |
| Date               | 2020-01-07                                                                                                                                                                   |

#### 3.2.2 Limits

| Limits FCC |                 |                              |             |
|------------|-----------------|------------------------------|-------------|
| Band       | Bandwidth       | Attenuation [dB]             | Limit [dBm] |
| GSM850     | 100 kHz / 1 MHz | $43 + \text{Log}_{10}(P[W])$ | -13         |
| GSM1900    | 1 MHz           | $43 + \text{Log}_{10}(P[W])$ | -13         |
| UMTS FDDII | 1 MHz           | $43 + \text{Log}_{10}(P[W])$ | -13         |
| UMTS FDDIV | 1 MHz           | $43 + \text{Log}_{10}(P[W])$ | -13         |
| UMTS FDDV  | 100 kHz / 1 MHz | $43 + \text{Log}_{10}(P[W])$ | -13         |
| LTE FDD2   | 1 MHz           | $43 + \text{Log}_{10}(P[W])$ | -13         |
| LTE FDD4   | 1 MHz           | $43 + \text{Log}_{10}(P[W])$ | -13         |
| LTE FDD5   | 100 kHz / 1 MHz | $43 + \text{Log}_{10}(P[W])$ | -13         |
| LTE FDD13  | 100 kHz         | $43 + \text{Log}_{10}(P[W])$ | -13         |
| LTE FDD14  | 100 kHz         | $43 + \text{Log}_{10}(P[W])$ | -13         |
| LTE FDD17  | 100 kHz         | $43 + \text{Log}_{10}(P[W])$ | -13         |
| LTE FDD26  | 100 kHz / 1 MHz | $43 + \text{Log}_{10}(P[W])$ | -13         |
| LTE FDD66  | 1 MHz           | $43 + \text{Log}_{10}(P[W])$ | -13         |
| LTE FDD71  | 100 kHz         | $43 + \text{Log}_{10}(P[W])$ | -13         |

| Limits ISED |           |                              |             |
|-------------|-----------|------------------------------|-------------|
| Band        | Bandwidth | Attenuation [dB]             | Limit [dBm] |
| GSM850      | 100 kHz   | $43 + \text{Log}_{10}(P[W])$ | -13         |
| GSM1900     | 1 MHz     | $43 + \text{Log}_{10}(P[W])$ | -13         |
| UMTS FDDII  | 1 MHz     | $43 + \text{Log}_{10}(P[W])$ | -13         |
| UMTS FDDIV  | 1 MHz     | $43 + \text{Log}_{10}(P[W])$ | -13         |
| UMTS FDDV   | 100 kHz   | $43 + \text{Log}_{10}(P[W])$ | -13         |
| LTE FDD2    | 1 MHz     | $43 + \text{Log}_{10}(P[W])$ | -13         |
| LTE FDD4    | 1 MHz     | $43 + \text{Log}_{10}(P[W])$ | -13         |
| LTE FDD5    | 100 kHz   | $43 + \text{Log}_{10}(P[W])$ | -13         |
| LTE FDD13   | 100 kHz   | $43 + \text{Log}_{10}(P[W])$ | -13         |
| LTE FDD14   | 100 kHz   | $43 + \text{Log}_{10}(P[W])$ | -13         |
| LTE FDD17   | 100 kHz   | $43 + \text{Log}_{10}(P[W])$ | -13         |
| LTE FDD26   | 100 kHz   | $43 + \text{Log}_{10}(P[W])$ | -13         |
| LTE FDD66   | 1 MHz     | $43 + \text{Log}_{10}(P[W])$ | -13         |
| LTE FDD71   | 100 kHz   | $43 + \text{Log}_{10}(P[W])$ | -13         |

### 3.2.3 Setup



### 3.2.4 Equipment

| Test Equipment    |              |        |            |           |          |
|-------------------|--------------|--------|------------|-----------|----------|
| Description       | Manufacturer | Model  | Identifier | Cal. Date | Cal. Due |
| Spectrum Analyzer | R&S          | FSW 43 | EF00896    | 2019-07   | 2020-07  |

### 3.2.5 Procedure

| Test Procedure                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1. EUT is placed on a non conducting support at the center of a turn table 0.8 m above the ground</li> <li>2. EUT set to test mode</li> <li>3. The receiver is set to peak detection with max hold</li> <li>4. The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m</li> <li>5. All significant emissions are measured again using the corresponding final detector</li> </ol> |

### 3.2.6 Results

| Test Results - UMTS FDDII |        |
|---------------------------|--------|
| Mode                      | Result |
| UMTS FDDII / QPSK         | PASS   |

| Test Results - UMTS FDDIV |        |
|---------------------------|--------|
| Mode                      | Result |
| UMTS FDDIV / QPSK         | PASS   |

| Test Results - UMTS FDDV |        |
|--------------------------|--------|
| Mode                     | Result |
| UMTS FDDV / QPSK         | PASS   |

| Test Results - LTE FDD2 |        |
|-------------------------|--------|
| Mode                    | Result |
| LTE FDD2 / PMAx         | PASS   |

| Test Results - LTE FDD4 |        |
|-------------------------|--------|
| Mode                    | Result |
| LTE FDD4 / PMAx         | PASS   |

| Test Results - LTE FDD5 |        |
|-------------------------|--------|
| Mode                    | Result |
| LTE FDD 5 / PMAx        | PASS   |

| Test Results - LTE FDD12 |        |
|--------------------------|--------|
| Mode                     | Result |
| LTE FDD12 / PMAx         | PASS   |

| Test Results - LTE FDD13 |        |
|--------------------------|--------|
| Mode                     | Result |
| LTE FDD13 / PMAx         | PASS   |

| Test Results - LTE FDD14 |        |
|--------------------------|--------|
| Mode                     | Result |
| LTE FDD14 / PMAx         | PASS   |

| Test Results - LTE FDD66 |        |
|--------------------------|--------|
| Mode                     | Result |
| LTE FDD66 / PMAx         | PASS   |

| Test Results - LTE FDD71 |        |
|--------------------------|--------|
| Mode                     | Result |
| LTE FDD71 / PMAx         | PASS   |

### 3.3 Test Conditions and Results - Transmitter radiated emissions

#### 3.3.1 Information

| Test Information   |                                                                                                                                                                              |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reference          | 47 CFR §22.917<br>47 CFR §24.238<br>47 CFR §27.53<br>47 CFR §90.543<br>ISED RSS-132 §5.5<br>ISED RSS-133 §6.5<br>ISED RSS-139 §6.6<br>ISED RSS-130 §4.7<br>ISED RSS-140 §4.4 |
| Measurement Method | FCC KDB 971168 D01 Section 7<br>ANSI C63.26-2015 5.5                                                                                                                         |
| Operator           | Toralf Jahn                                                                                                                                                                  |
| Date               | 2020-01-14                                                                                                                                                                   |

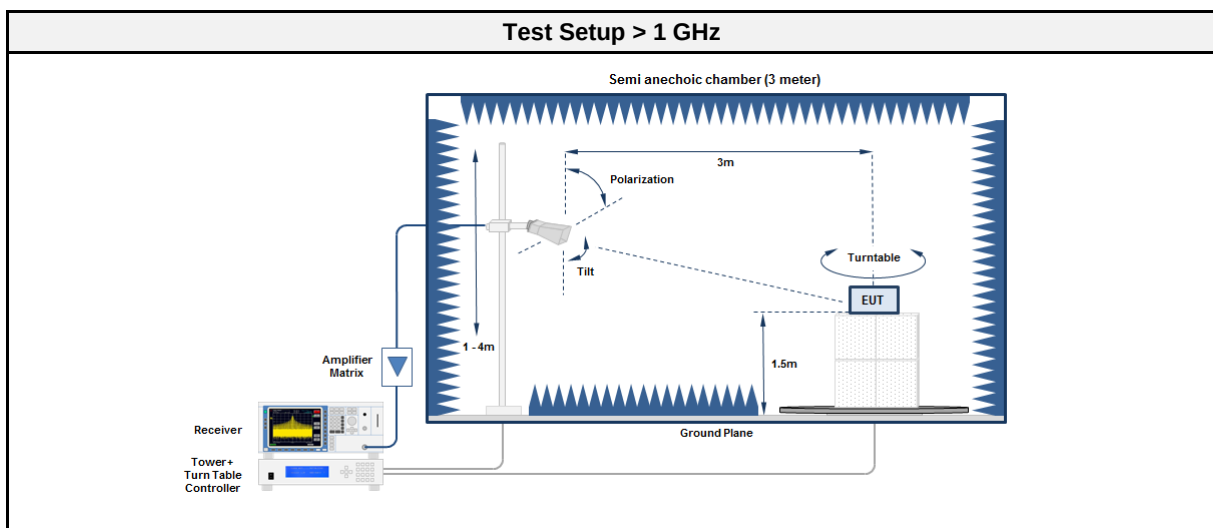
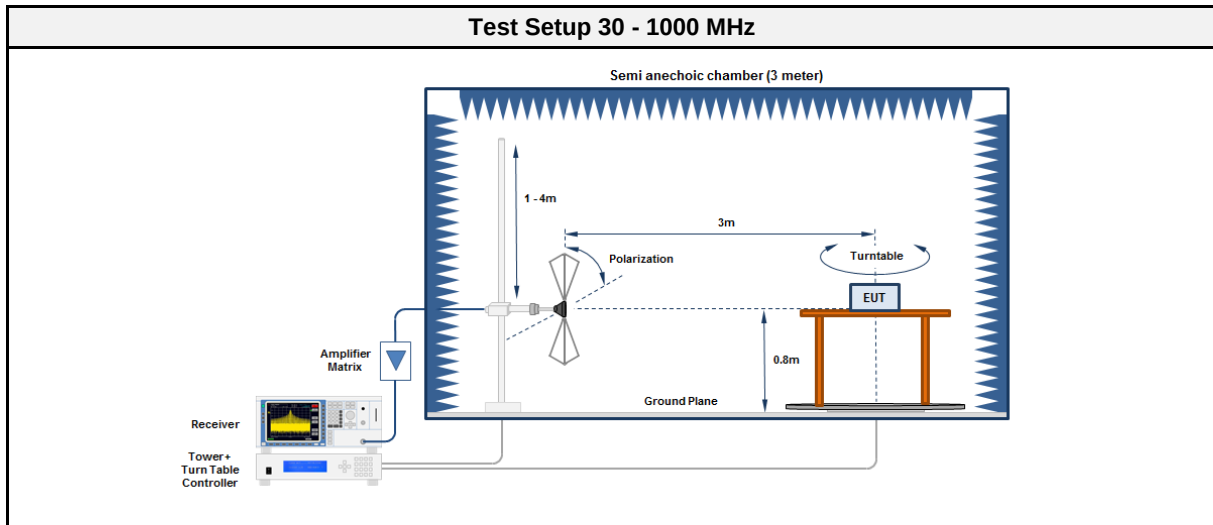
#### 3.3.2 Limits

| Limits FCC |                       |                 |                             |                  |
|------------|-----------------------|-----------------|-----------------------------|------------------|
| Band       | Frequency range [MHz] | Bandwidth       | Attenuation [dB]            | Limit [dBm EIRP] |
| GSM850     | -                     | 100 kHz / 1 MHz | 43+Log <sub>10</sub> (P[W]) | -13              |
| GSM1900    | -                     | 1 MHz           | 43+Log <sub>10</sub> (P[W]) | -13              |
| UMTS FDDII | -                     | 1 MHz           | 43+Log <sub>10</sub> (P[W]) | -13              |
| UMTS FDDIV | -                     | 1 MHz           | 43+Log <sub>10</sub> (P[W]) | -13              |
| UMTS FDDV  | -                     | 100 kHz / 1 MHz | 43+Log <sub>10</sub> (P[W]) | -13              |
| LTE FDD2   | -                     | 1 MHz           | 43+Log <sub>10</sub> (P[W]) | -13              |
| LTE FDD4   | -                     | 1 MHz           | 43+Log <sub>10</sub> (P[W]) | -13              |
| LTE FDD5   | -                     | 100 kHz / 1 MHz | 43+Log <sub>10</sub> (P[W]) | -13              |
| LTE FDD13  | -                     | 100 kHz         | 43+Log <sub>10</sub> (P[W]) | -13              |
| LTE FDD13  | 763-775               | 6.25 kHz        | 65+Log <sub>10</sub> (P[W]) | -35              |
| LTE FDD13  | 793-805               | 6.25 kHz        | 65+Log <sub>10</sub> (P[W]) | -35              |
| LTE FDD13  | 1559-1610             | 700 Hz          | -                           | -50              |
| LTE FDD13  | 1559-1610             | 1 MHz           | -                           | -40              |
| LTE FDD14  | -                     | 100 kHz         | 43+Log <sub>10</sub> (P[W]) | -13              |
| LTE FDD14  | 769-775               | 6.25 kHz        | 65+Log <sub>10</sub> (P[W]) | -35              |
| LTE FDD14  | 799-805               | 6.25 kHz        | 65+Log <sub>10</sub> (P[W]) | -35              |
| LTE FDD14  | 1559-1610             | 700 Hz          | -                           | -50              |
| LTE FDD14  | 1559-1610             | 1 MHz           | -                           | -40              |
| LTE FDD17  | -                     | 100 kHz         | 43+Log <sub>10</sub> (P[W]) | -13              |
| LTE FDD26  | -                     | 100 kHz / 1 MHz | 43+Log <sub>10</sub> (P[W]) | -13              |
| LTE FDD66  | -                     | 1 MHz           | 43+Log <sub>10</sub> (P[W]) | -13              |
| LTE FDD71  | -                     | 100 kHz         | 43+Log <sub>10</sub> (P[W]) | -13              |



| Limits ISSED |                       |           |                              |                  |
|--------------|-----------------------|-----------|------------------------------|------------------|
| Band         | Frequency range [MHz] | Bandwidth | Attenuation [dB]             | Limit [dBm EIRP] |
| GSM850       | -                     | 100 kHz   | $43 + \text{Log}_{10}(P[W])$ | -13              |
| GSM1900      | -                     | 1 MHz     | $43 + \text{Log}_{10}(P[W])$ | -13              |
| UMTS FDDII   | -                     | 1 MHz     | $43 + \text{Log}_{10}(P[W])$ | -13              |
| UMTS FDDIV   | -                     | 1 MHz     | $43 + \text{Log}_{10}(P[W])$ | -13              |
| UMTS FDDV    | -                     | 100 kHz   | $43 + \text{Log}_{10}(P[W])$ | -13              |
| LTE FDD2     | -                     | 1 MHz     | $43 + \text{Log}_{10}(P[W])$ | -13              |
| LTE FDD4     | -                     | 1 MHz     | $43 + \text{Log}_{10}(P[W])$ | -13              |
| LTE FDD5     | -                     | 100 kHz   | $43 + \text{Log}_{10}(P[W])$ | -13              |
| LTE FDD13    | -                     | 100 kHz   | $43 + \text{Log}_{10}(P[W])$ | -13              |
| LTE FDD13    | 763-775               | 6.25 kHz  | $65 + \text{Log}_{10}(P[W])$ | -35              |
| LTE FDD13    | 793-806               | 6.25 kHz  | $65 + \text{Log}_{10}(P[W])$ | -35              |
| LTE FDD13    | 1559-1610             | 700 Hz    | -                            | -50              |
| LTE FDD13    | 1559-1610             | 1 MHz     | -                            | -40              |
| LTE FDD14    | -                     | 100 kHz   | $43 + \text{Log}_{10}(P[W])$ | -13              |
| LTE FDD14    | 769-775               | 6.25 kHz  | $65 + \text{Log}_{10}(P[W])$ | -35              |
| LTE FDD14    | 799-806               | 6.25 kHz  | $65 + \text{Log}_{10}(P[W])$ | -35              |
| LTE FDD14    | 1559-1610             | 700 Hz    | -                            | -50              |
| LTE FDD14    | 1559-1610             | 1 MHz     | -                            | -40              |
| LTE FDD17    | -                     | 100 kHz   | $43 + \text{Log}_{10}(P[W])$ | -13              |
| LTE FDD17    | 763-775               | 6.25 kHz  | $65 + \text{Log}_{10}(P[W])$ | -35              |
| LTE FDD17    | 793-806               | 6.25 kHz  | $65 + \text{Log}_{10}(P[W])$ | -35              |
| LTE FDD17    | 1559-1610             | 700 Hz    | -                            | -50              |
| LTE FDD17    | 1559-1610             | 1 MHz     | -                            | -40              |
| LTE FDD26    | -                     | 100 kHz   | $43 + \text{Log}_{10}(P[W])$ | -13              |
| LTE FDD66    | -                     | 1 MHz     | $43 + \text{Log}_{10}(P[W])$ | -13              |
| LTE FDD71    | -                     | 100 kHz   | $43 + \text{Log}_{10}(P[W])$ | -13              |

### 3.3.3 Setup



### 3.3.4 Equipment

| Test Equipment 30 - 1000 MHz |              |                |            |           |          |
|------------------------------|--------------|----------------|------------|-----------|----------|
| Description                  | Manufacturer | Model          | Identifier | Cal. Date | Cal. Due |
| Anechoic Chamber             | Frankonia    | AC1            | EF00062    | 2018-07   | 2021-07  |
| Measurement Receiver         | Agilent      | N9038A-526/WXP | EF01070    | 2019-09   | 2020-09  |
| Antenna                      | R&S          | HK 116         | EF00030    | 2019-04   | 2022-04  |
| Antenna                      | R&S          | HL 223         | EF00187    | 2019-05   | 2022-05  |

| Test Equipment > 1 GHz |                    |                |            |           |          |
|------------------------|--------------------|----------------|------------|-----------|----------|
| Description            | Manufacturer       | Model          | Identifier | Cal. Date | Cal. Due |
| Anechoic Chamber       | Frankonia          | AC1            | EF00062    | 2018-07   | 2021-07  |
| Measurement Receiver   | Agilent            | N9038A-526/WXP | EF01070    | 2019-09   | 2020-09  |
| Antenna                | Schwarzbeck        | BBHA 9120D     | EF00018    | 2019-10   | 2022-10  |
| Antenna                | Amplifier Research | AT4560         | EF00302    | 2019-05   | 2020-05  |

### 3.3.5 Procedure

| Test Procedure 30 - 1000 MHz |                                                                                                |
|------------------------------|------------------------------------------------------------------------------------------------|
| 1.                           | EUT is placed on a non conducting support at the center of a turn table 0.8 m above the ground |
| 2.                           | EUT set to test mode                                                                           |
| 3.                           | The receiver is set to peak detection with max hold                                            |
| 4.                           | The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m        |
| 5.                           | All significant emissions are measured again using the corresponding final detector            |

| Test Procedure > 1 GHz |                                                                                                |
|------------------------|------------------------------------------------------------------------------------------------|
| 1.                     | EUT is placed on a non conducting support at the center of a turn table 1.5 m above the ground |
| 2.                     | EUT set to test mode                                                                           |
| 3.                     | The receiver is set to peak detection with max hold                                            |
| 4.                     | The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m        |
| 5.                     | All significant emissions are measured again using the corresponding final detector            |

## 3.3.6 Results

| Test Results - UMTS FDDII |                 |             |             |             |        |
|---------------------------|-----------------|-------------|-------------|-------------|--------|
| Mode                      | Frequency [MHz] | Level [dBm] | Limit [dBm] | Margin [dB] | Result |
| UMTS FDDII / QPSK         | 3758            | -39.00      | -13.00      | -25.97      | PASS   |
| UMTS FDDII / QPSK         | 5638            | -44.00      | -13.00      | -31.04      | PASS   |
| UMTS FDDII / QPSK         | 5710            | -48.20      | -13.00      | -35.15      | PASS   |
| UMTS FDDII / QPSK         | 7646            | -43.40      | -13.00      | -30.40      | PASS   |

| Test Results - UMTS FDDIV |                 |             |             |             |        |
|---------------------------|-----------------|-------------|-------------|-------------|--------|
| Mode                      | Frequency [MHz] | Level [dBm] | Limit [dBm] | Margin [dB] | Result |
| UMTS FDDIV / QPSK         | 3424.8          | -51.00      | -13.00      | -38.00      | PASS   |
| UMTS FDDIV / QPSK         | 5137.2          | -48.00      | -13.00      | -35.00      | PASS   |
| UMTS FDDIV / QPSK         | 6849.6          | -44.00      | -13.00      | -31.00      | PASS   |

| Test Results - UMTS FDDV |                 |             |             |             |        |
|--------------------------|-----------------|-------------|-------------|-------------|--------|
| Mode                     | Frequency [MHz] | Level [dBm] | Limit [dBm] | Margin [dB] | Result |
| UMTS FDDV / QPSK         | 1693.2          | -59.00      | -13.00      | -46.00      | PASS   |
| UMTS FDDV / QPSK         | 2539.8          | -55.00      | -13.00      | -42.00      | PASS   |
| UMTS FDDV / QPSK         | 3386.4          | -50.00      | -13.00      | -37.00      | PASS   |

| Test Results - LTE FDD2 |                 |             |             |             |        |
|-------------------------|-----------------|-------------|-------------|-------------|--------|
| Mode                    | Frequency [MHz] | Level [dBm] | Limit [dBm] | Margin [dB] | Result |
| LTE FDD2 / PMAx         | 3760            | -51.00      | -13.00      | -38.00      | PASS   |
| LTE FDD2 / PMAx         | 5640            | -51.00      | -13.00      | -38.00      | PASS   |
| LTE FDD2 / PMAx         | 7520            | -46.00      | -13.00      | -33.00      | PASS   |

| Test Results - LTE FDD4 |                 |             |             |             |        |
|-------------------------|-----------------|-------------|-------------|-------------|--------|
| Mode                    | Frequency [MHz] | Level [dBm] | Limit [dBm] | Margin [dB] | Result |
| LTE FDD4 / PMAx         | 3505            | -51.00      | -13.00      | -38.00      | PASS   |
| LTE FDD4 / PMAx         | 5257.5          | -51.00      | -13.00      | -38.00      | PASS   |
| LTE FDD4 / PMAx         | 7010            | -46.00      | -13.00      | -33.00      | PASS   |

| Test Results - LTE FDD5 |                 |             |             |             |        |
|-------------------------|-----------------|-------------|-------------|-------------|--------|
| Mode                    | Frequency [MHz] | Level [dBm] | Limit [dBm] | Margin [dB] | Result |
| LTE FDD 5 / PMAX        | 1688            | -60.00      | -13.00      | -47.00      | PASS   |
| LTE FDD 5 / PMAX        | 2532            | -53.00      | -13.00      | -40.00      | PASS   |
| LTE FDD 5 / PMAX        | 3376            | -49.00      | -13.00      | -36.00      | PASS   |

| Test Results - LTE FDD12 |                 |             |             |             |        |
|--------------------------|-----------------|-------------|-------------|-------------|--------|
| Mode                     | Frequency [MHz] | Level [dBm] | Limit [dBm] | Margin [dB] | Result |
| LTE FDD12 / PMAX         | 1430.6          | -59.00      | -13.00      | -46.00      | PASS   |
| LTE FDD12 / PMAX         | 2145.9          | -57.00      | -13.00      | -44.00      | PASS   |
| LTE FDD12 / PMAX         | 2861.2          | -44.00      | -13.00      | -31.00      | PASS   |

| Test Results - LTE FDD13 |                 |             |             |             |        |
|--------------------------|-----------------|-------------|-------------|-------------|--------|
| Mode                     | Frequency [MHz] | Level [dBm] | Limit [dBm] | Margin [dB] | Result |
| LTE FDD13 / PMAX         | 1564            | -58.00      | -40.00      | -18.00      | PASS   |
| LTE FDD13 / PMAX         | 2346            | -56.00      | -13.00      | -43.00      | PASS   |
| LTE FDD13 / PMAX         | 3128            | -36.00      | -13.00      | -23.00      | PASS   |

| Test Results - LTE FDD14 |                 |             |             |             |        |
|--------------------------|-----------------|-------------|-------------|-------------|--------|
| Mode                     | Frequency [MHz] | Level [dBm] | Limit [dBm] | Margin [dB] | Result |
| LTE FDD14 / PMAX         | 1591            | -59.00      | -40.00      | -19.00      | PASS   |
| LTE FDD14 / PMAX         | 2386.5          | -56.00      | -13.00      | -43.00      | PASS   |
| LTE FDD14 / PMAX         | 3182            | -40.00      | -13.00      | -27.00      | PASS   |

| Test Results - LTE FDD66 |                 |             |             |             |        |
|--------------------------|-----------------|-------------|-------------|-------------|--------|
| Mode                     | Frequency [MHz] | Level [dBm] | Limit [dBm] | Margin [dB] | Result |
| LTE FDD66 / PMAX         | 3490            | -51.00      | -13.00      | -38.00      | PASS   |
| LTE FDD66 / PMAX         | 5235            | -51.00      | -13.00      | -38.00      | PASS   |
| LTE FDD66 / PMAX         | 6980            | -46.00      | -13.00      | -33.00      | PASS   |

| Test Results - LTE FDD71 |                 |             |             |             |        |
|--------------------------|-----------------|-------------|-------------|-------------|--------|
| Mode                     | Frequency [MHz] | Level [dBm] | Limit [dBm] | Margin [dB] | Result |
| LTE FDD71 / PMAX         | 1331            | -60.00      | -13.00      | -47.00      | PASS   |
| LTE FDD71 / PMAX         | 1996.5          | -53.00      | -13.00      | -40.00      | PASS   |
| LTE FDD71 / PMAX         | 2662            | -49.00      | -13.00      | -36.00      | PASS   |

### 3.4 Test Conditions and Results - Receiver radiated emissions

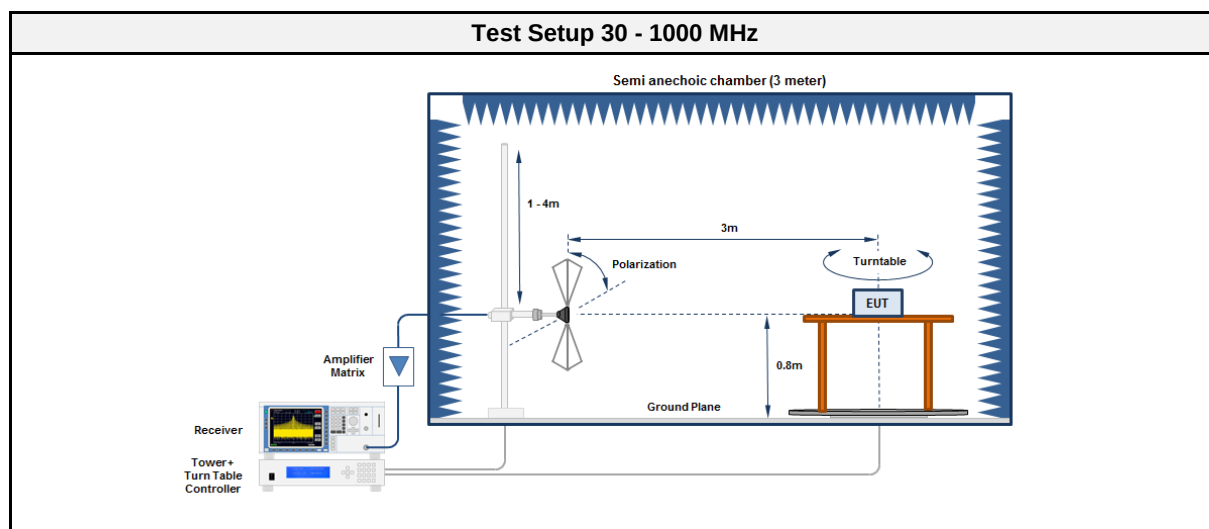
#### 3.4.1 Information

| Test Information   |                                                                                                                            |
|--------------------|----------------------------------------------------------------------------------------------------------------------------|
| Reference          | ISED RSS-132 §3.1<br>ISED RSS-133 §3.1<br>ISED RSS-139 §3.1<br>ISED RSS-130 §3.3<br>ISED RSS-140 §2.3<br>ISED RSS-Gen §7.4 |
| Measurement Method | ANSI C63.10-2013 6.3-6.6                                                                                                   |
| Operator           | Toralf Jahn                                                                                                                |
| Date               | 2020-01-07                                                                                                                 |

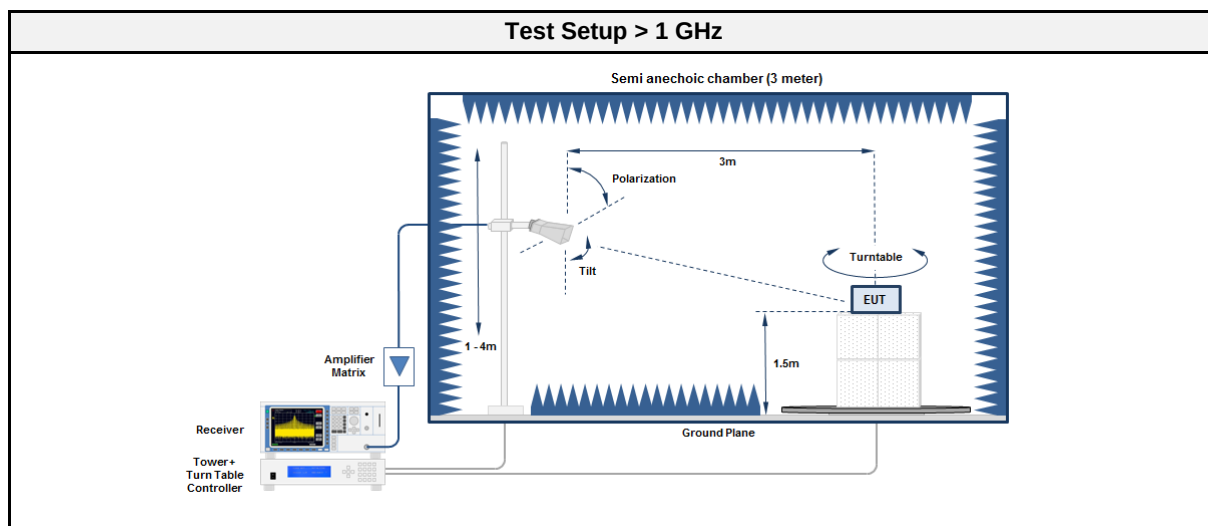
#### 3.4.2 Limits

| Limits                |           |            |                      |
|-----------------------|-----------|------------|----------------------|
| Frequency range [MHz] | Bandwidth | Detector   | Limit [dBμV/m @ 3 m] |
| 30 - 88               | 100 kHz   | Quasi-peak | 40                   |
| 88 - 216              | 100 kHz   | Quasi-peak | 43.5                 |
| 216 - 960             | 100 kHz   | Quasi-peak | 46                   |
| 960 - 1000            | 100 kHz   | Quasi-peak | 54                   |
| > 1000                | 1 MHz     | Average    | 54                   |

#### 3.4.3 Setup







### 3.4.4 Equipment

| Test Equipment 30 - 1000 MHz |              |                |            |           |          |
|------------------------------|--------------|----------------|------------|-----------|----------|
| Description                  | Manufacturer | Model          | Identifier | Cal. Date | Cal. Due |
| Anechoic Chamber             | Frankonia    | AC1            | EF00062    | 2018-07   | 2021-07  |
| Measurement Receiver         | Agilent      | N9038A-526/WXP | EF01070    | 2019-09   | 2020-09  |
| Antenna                      | R&S          | HK 116         | EF00030    | 2019-04   | 2022-04  |
| Antenna                      | R&S          | HL 223         | EF00187    | 2019-05   | 2022-05  |

| Test Equipment > 1 GHz |                    |                |            |           |          |
|------------------------|--------------------|----------------|------------|-----------|----------|
| Description            | Manufacturer       | Model          | Identifier | Cal. Date | Cal. Due |
| Anechoic Chamber       | Frankonia          | AC1            | EF00062    | 2018-07   | 2021-07  |
| Measurement Receiver   | Agilent            | N9038A-526/WXP | EF01070    | 2019-09   | 2020-09  |
| Antenna                | Schwarzbeck        | BBHA 9120D     | EF00018    | 2019-10   | 2022-10  |
| Antenna                | Amplifier Research | AT4560         | EF00302    | 2019-05   | 2020-05  |

### 3.4.5 Procedure

| Test Procedure 30 - 1000 MHz                                                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1. EUT is placed on a non conducting support at the center of a turn table 0.8 m above the ground</li> <li>2. EUT set to test mode</li> <li>3. The receiver is set to peak detection with max hold</li> <li>4. The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m</li> <li>5. All significant emissions are measured again using the corresponding final detector</li> </ol> |

| Test Procedure > 1 GHz                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ol style="list-style-type: none"> <li>1. EUT is placed on a non conducting support at the center of a turn table 1.5 m above the ground</li> <li>2. EUT set to test mode</li> <li>3. The receiver is set to peak detection with max hold</li> <li>4. The EUT is rotated through 360° and the height of the antenna is varied from 1 m to 4 m</li> <li>5. All significant emissions are measured again using the corresponding final detector</li> </ol> |

## 3.4.6 Results

| Test Results - UMTS FDDII |                 |                |                |             |        |
|---------------------------|-----------------|----------------|----------------|-------------|--------|
| Mode                      | Frequency [MHz] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result |
| Receive Mode              | 36.6655         | 26.50          | 40.00          | -13.48      | PASS   |
| Receive Mode              | 36.6655         | 20.10          | 40.00          | -19.88      | PASS   |
| Receive Mode              | 778.8052        | 34.60          | 46.00          | -11.40      | PASS   |
| Receive Mode              | 934.0138        | 34.50          | 46.00          | -11.46      | PASS   |

| Test Results - UMTS FDDIV |                 |                |                |             |        |
|---------------------------|-----------------|----------------|----------------|-------------|--------|
| Mode                      | Frequency [MHz] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result |
| Receive Mode              | 36.4253         | 26.20          | 40.00          | -13.76      | PASS   |
| Receive Mode              | 851.8163        | 34.40          | 46.00          | -11.65      | PASS   |

| Test Results - UMTS FDDV |                 |                |                |             |        |
|--------------------------|-----------------|----------------|----------------|-------------|--------|
| Mode                     | Frequency [MHz] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result |
| Receive Mode             | 36.6054         | 19.90          | 40.00          | -20.10      | PASS   |
| Receive Mode             | 114.8379        | 07.60          | 43.50          | -35.90      | PASS   |
| Receive Mode             | 163.8982        | 11.60          | 43.50          | -31.85      | PASS   |
| Receive Mode             | 229.9009        | 29.70          | 46.00          | -16.28      | PASS   |

| Test Results - LTE FDD2 |                 |                |                |             |        |
|-------------------------|-----------------|----------------|----------------|-------------|--------|
| Mode                    | Frequency [MHz] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result |
| Receive Mode            | 36.4853         | 25.60          | 40.00          | -14.42      | PASS   |
| Receive Mode            | 739.2375        | 34.10          | 46.00          | -11.86      | PASS   |
| Receive Mode            | 756.7697        | 33.10          | 46.00          | -12.90      | PASS   |

| Test Results - LTE FDD4 |                 |                |                |             |        |
|-------------------------|-----------------|----------------|----------------|-------------|--------|
| Mode                    | Frequency [MHz] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result |
| Receive Mode            | 842.3296        | 34.40          | 46.00          | -11.62      | PASS   |
| Receive Mode            | 880.8166        | 34.90          | 46.00          | -11.11      | PASS   |

| Test Results - LTE FDD5 |                 |                |                |             |        |
|-------------------------|-----------------|----------------|----------------|-------------|--------|
| Mode                    | Frequency [MHz] | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result |
| Receive Mode            | 93.8926         | 22.10          | 43.50          | -21.44      | PASS   |
| Receive Mode            | 857.9406        | 34.70          | 46.00          | -11.34      | PASS   |
| Receive Mode            | 905.674         | 34.40          | 46.00          | -11.61      | PASS   |

| Test Results - LTE FDD12 |                                            |                |                |             |        |
|--------------------------|--------------------------------------------|----------------|----------------|-------------|--------|
| Mode                     | Frequency [MHz]                            | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result |
| Receive Mode             | No significant spurious emissions detected |                |                |             | PASS   |

| Test Results - LTE FDD13 |                                            |                |                |             |        |
|--------------------------|--------------------------------------------|----------------|----------------|-------------|--------|
| Mode                     | Frequency [MHz]                            | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result |
| Receive Mode             | No significant spurious emissions detected |                |                |             | PASS   |

| Test Results - LTE FDD14 |                                            |                |                |             |        |
|--------------------------|--------------------------------------------|----------------|----------------|-------------|--------|
| Mode                     | Frequency [MHz]                            | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result |
| Receive Mode             | No significant spurious emissions detected |                |                |             | PASS   |

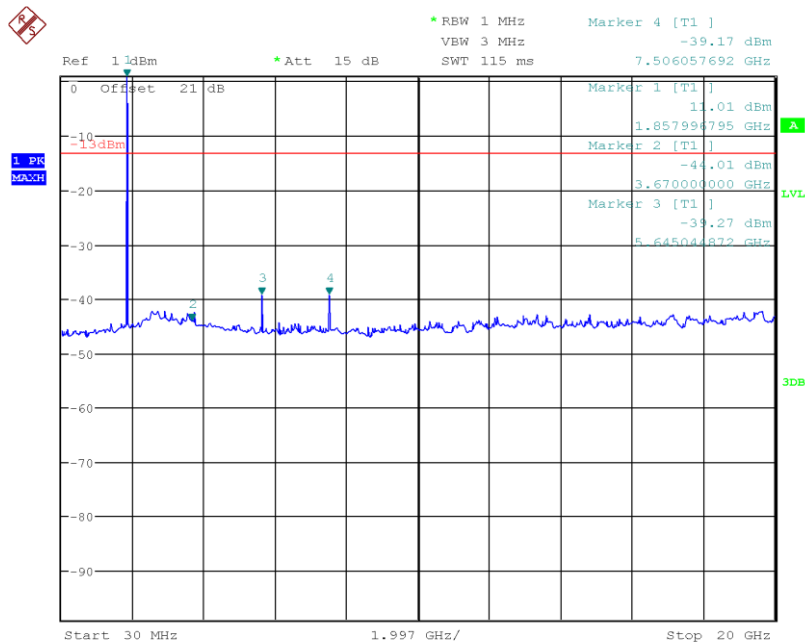
| Test Results - LTE FDD66 |                                            |                |                |             |        |
|--------------------------|--------------------------------------------|----------------|----------------|-------------|--------|
| Mode                     | Frequency [MHz]                            | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result |
| Receive Mode             | No significant spurious emissions detected |                |                |             | PASS   |

| Test Results - LTE FDD71 |                                            |                |                |             |        |
|--------------------------|--------------------------------------------|----------------|----------------|-------------|--------|
| Mode                     | Frequency [MHz]                            | Level [dBμV/m] | Limit [dBμV/m] | Margin [dB] | Result |
| Receive Mode             | No significant spurious emissions detected |                |                |             | PASS   |

## ANNEX A Transmitter conducted emissions

### Conducted spurious emission according to FCC

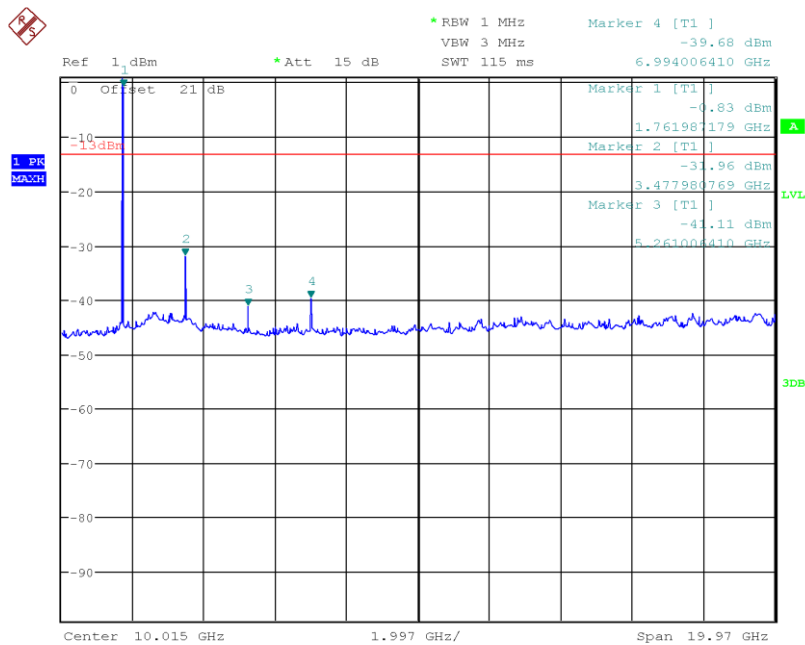
Project Number: G0M-1909-8479  
 Applicant: pei tel Communications GmbH  
 Model Description: PTCarPhone  
 Model: PTCarPhone 6  
 Test Sample ID: 26683  
 Operator: Toralf Jahn  
 Test Site: Eurofins Product Service GmbH  
 Test Date: 2020-01-23  
 Operating Conditions: Tnom/Vnom  
 Mode: LTE Band 2  
 Note 1: 1880 MHz



Date: 23.JAN.2020 15:51:36

## Conducted spurious emission according to FCC

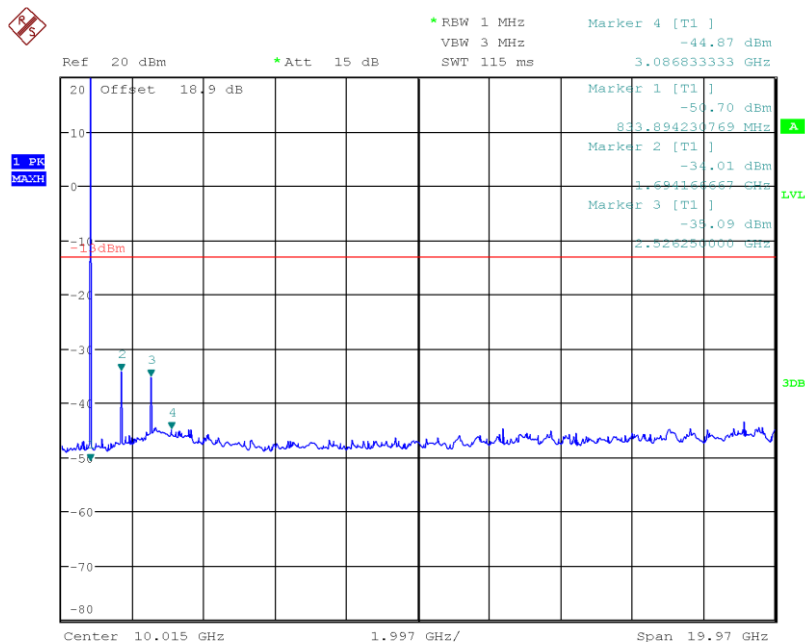
Project Number: G0M-1909-8479  
 Applicant: pei tel Communications GmbH  
 Model Description: PTCarPhone  
 Model: PTCarPhone 6  
 Test Sample ID: 26683  
 Operator: Toralf Jahn  
 Test Site: Eurofins Product Service GmbH  
 Test Date: 2020-01-23  
 Operating Conditions: Tnom/Vnom  
 Mode: LTE Band 4  
 Note 1: 1752.5 MHz



Date: 23.JAN.2020 15:58:58

## Conducted spurious emission according to FCC

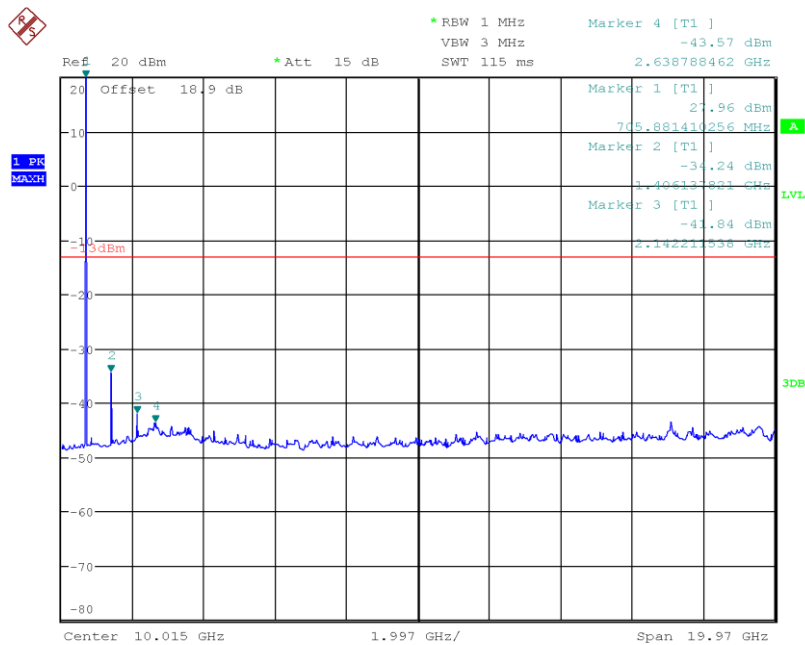
Project Number: G0M-1909-8479  
 Applicant: pei tel Communications GmbH  
 Model Description: PTCarPhone  
 Model: PTCarPhone 6  
 Test Sample ID: 26683  
 Operator: Toralf Jahn  
 Test Site: Eurofins Product Service GmbH  
 Test Date: 2020-01-27  
 Operating Conditions: Tnom/Vnom  
 Mode: LTE Band 5  
 Note 1: 844 MHz



Date: 27.JAN.2020 11:59:29

## Conducted spurious emission according to FCC

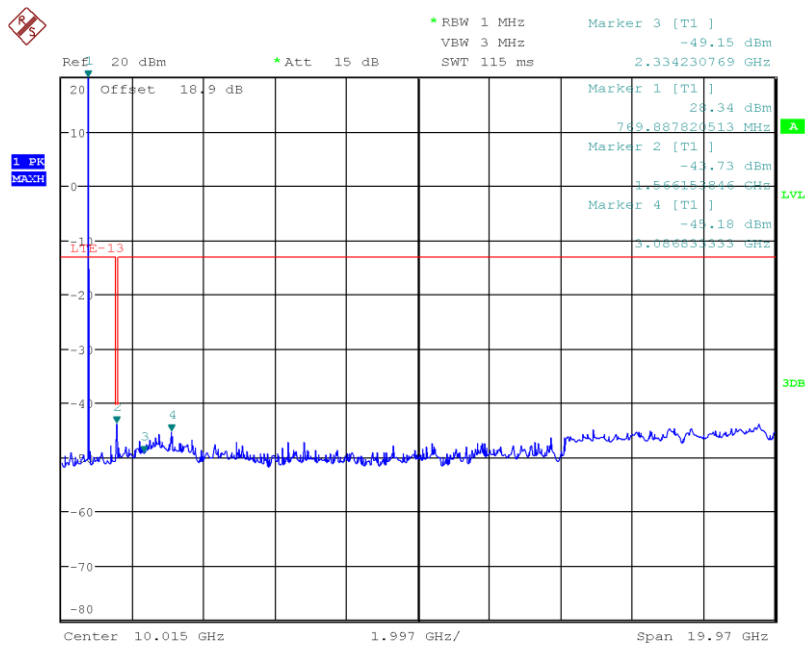
Project Number: G0M-1909-8479  
 Applicant: pei tel Communications GmbH  
 Model Description: PTCarPhone  
 Model: PTCarPhone 6  
 Test Sample ID: 26683  
 Operator: Toralf Jahn  
 Test Site: Eurofins Product Service GmbH  
 Test Date: 2020-01-27  
 Operating Conditions: Tnom/Vnom  
 Mode: LTE Band 12  
 Note 1: 715.3 MHz



Date: 27.JAN.2020 11:55:06

## Conducted spurious emission according to FCC

Project Number: G0M-1909-8479  
 Applicant: pei tel Communications GmbH  
 Model Description: PTCarPhone  
 Model: PTCarPhone 6  
 Test Sample ID: 26683  
 Operator: Toralf Jahn  
 Test Site: Eurofins Product Service GmbH  
 Test Date: 2020-01-27  
 Operating Conditions: Tnom/Vnom  
 Mode: LTE Band 13  
 Note 1: 782.0 MHz

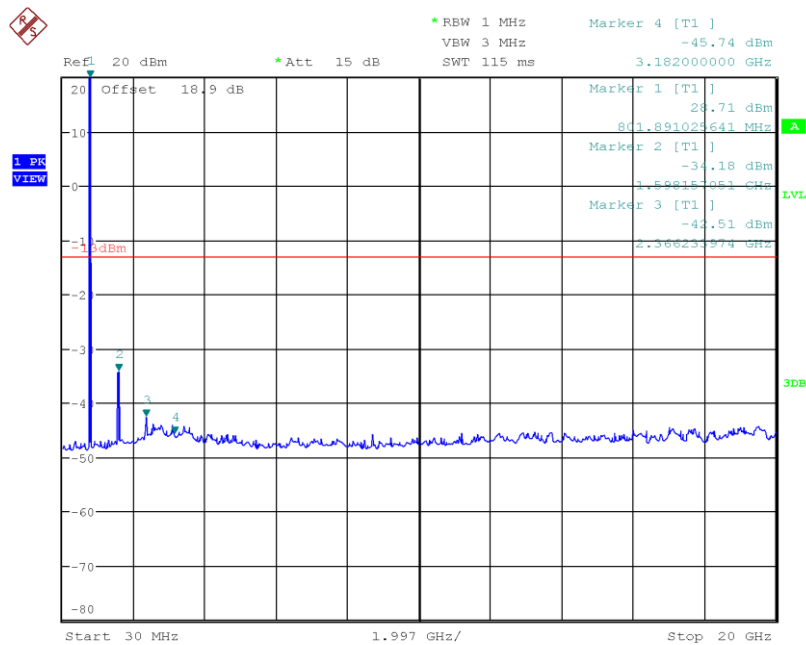


Date: 27.JAN.2020 12:30:04



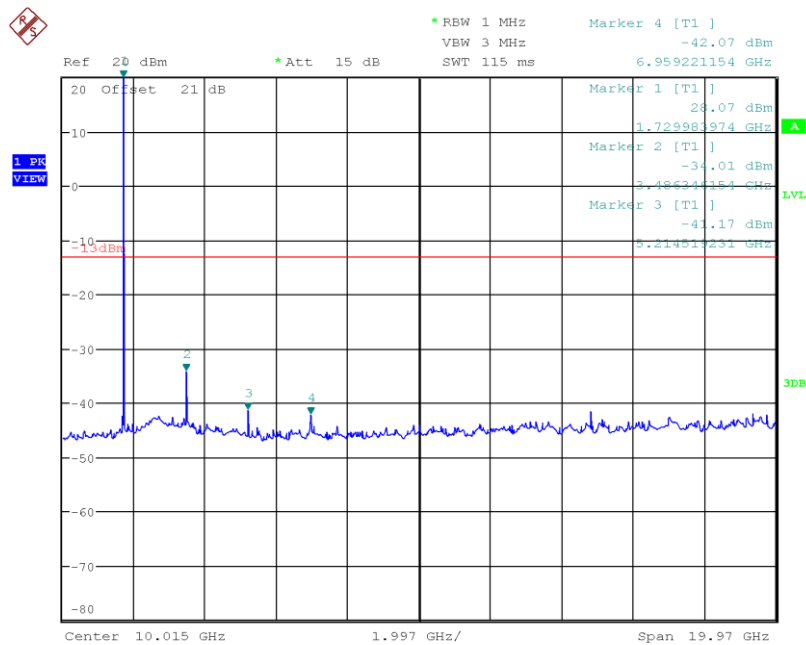
## Conducted spurious emission according to FCC

Project Number: G0M-1909-8479  
 Applicant: pei tel Communications GmbH  
 Model Description: PTCarPhone  
 Model: PTCarPhone 6  
 Test Sample ID: 26683  
 Operator: Toralf Jahn  
 Test Site: Eurofins Product Service GmbH  
 Test Date: 2020-01-27  
 Operating Conditions: Tnom/Vnom  
 Mode: LTE Band 14  
 Note 1: 795.5 MHz



## Conducted spurious emission according to FCC

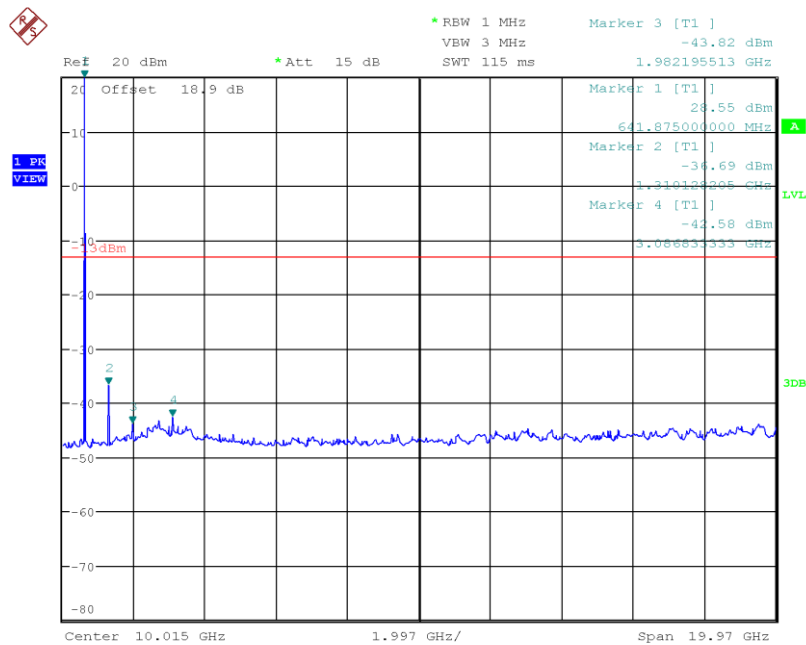
Project Number: G0M-1909-8479  
 Applicant: pei tel Communications GmbH  
 Model Description: PTCarPhone  
 Model: PTCarPhone 6  
 Test Sample ID: 26683  
 Operator: Toralf Jahn  
 Test Site: Eurofins Product Service GmbH  
 Test Date: 2020-01-27  
 Operating Conditions: Tnom/Vnom  
 Mode: LTE Band 66  
 Note 1: 1745 MHz



Date: 27.JAN.2020 12:59:53

## Conducted spurious emission according to FCC

Project Number: G0M-1909-8479  
 Applicant: pei tel Communications GmbH  
 Model Description: PTCarPhone  
 Model: PTCarPhone 6  
 Test Sample ID: 26683  
 Operator: Toralf Jahn  
 Test Site: Eurofins Product Service GmbH  
 Test Date: 2020-01-27  
 Operating Conditions: Tnom/Vnom  
 Mode: LTE Band 71  
 Note 1: 665.5 MHz



Date: 27.JAN.2020 12:48:24

## ANNEX B Receiver radiated emissions

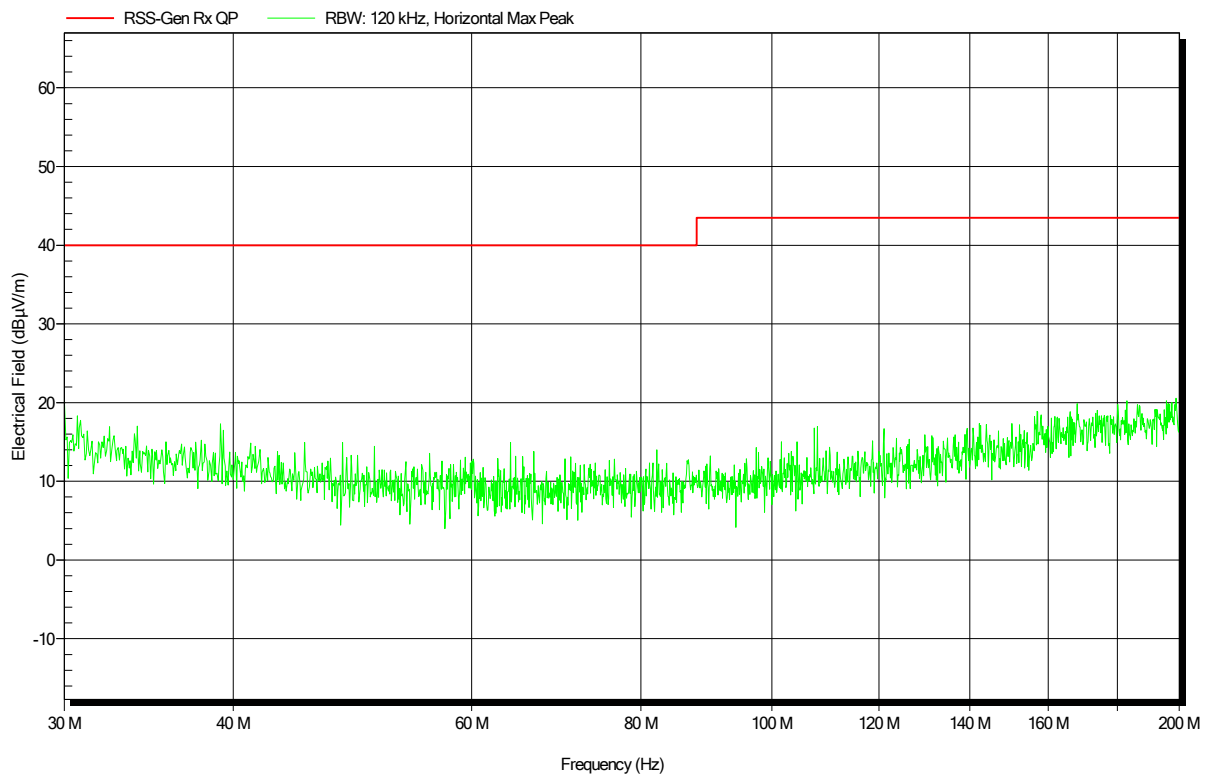
Only plots containing spurious emission are shown in this annex.  
All missing plots only contain noise.

### Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarphone  
Model: PTCarphone6 6609-006-101-51  
Test Site: Eurofins Product Service GmbH  
Operator: Mr. Jahn  
Test Conditions: Tnom: 22°C, Vnom: 14.0 VDC  
Antenna: Rohde & Schwarz HK 116, Horizontal  
Measurement distance: 3 m  
Mode: RX; UMTSII; 1960 MHz  
Test Date: 2020-01-07  
Note:

Index 23

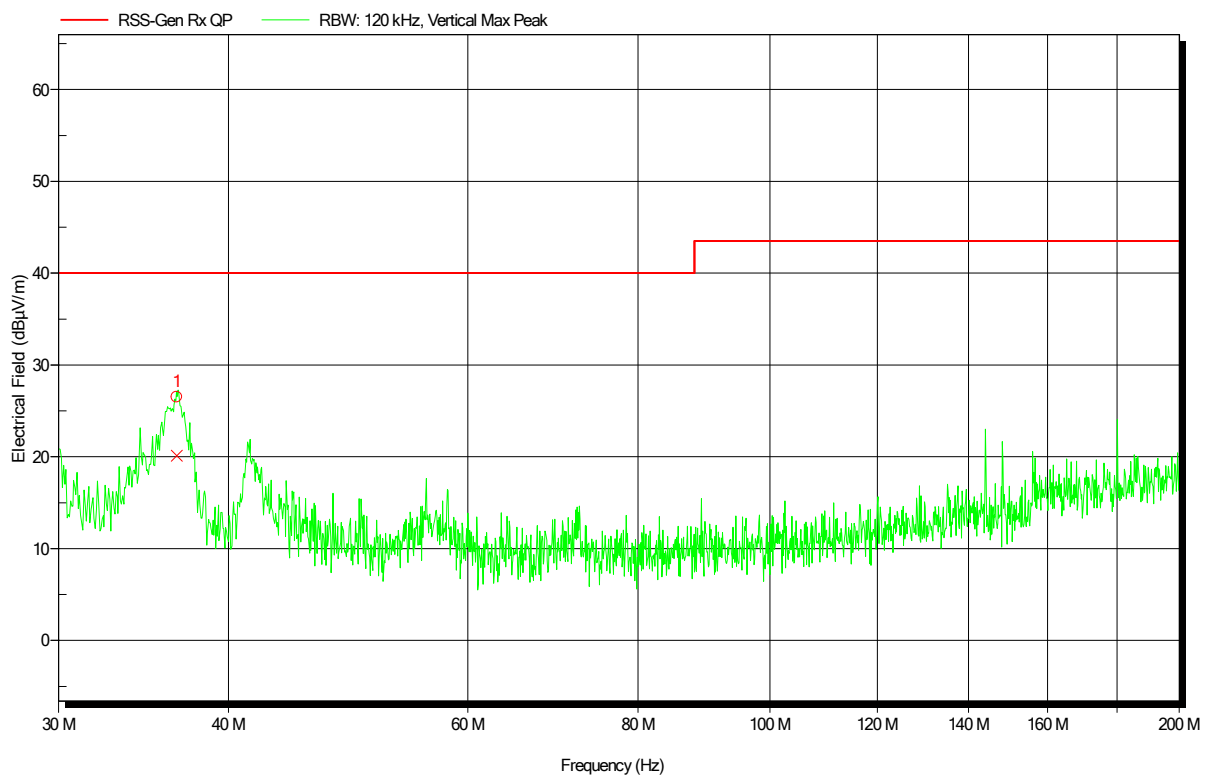


## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
 EUT Name: PTCarphone  
 Model: PTCarphone6 6609-006-101-51  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Jahn  
 Test Conditions: Tnom: 22°C, Vnom: 14.0 VDC  
 Antenna: Rohde & Schwarz HK 116, Vertical  
 Measurement distance: 3 m  
 Mode: RX; UMTSII; 1960 MHz  
 Test Date: 2020-01-07  
 Note:

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| Frequency   | Peak        | Peak Limit | Peak Difference | Status | Angle    | Height |
|-------------|-------------|------------|-----------------|--------|----------|--------|
| 36.6655 MHz | 26.5 dBµV/m | 40 dBµV/m  | -13.48 dB       | Pass   | 0 Degree | 1 m    |

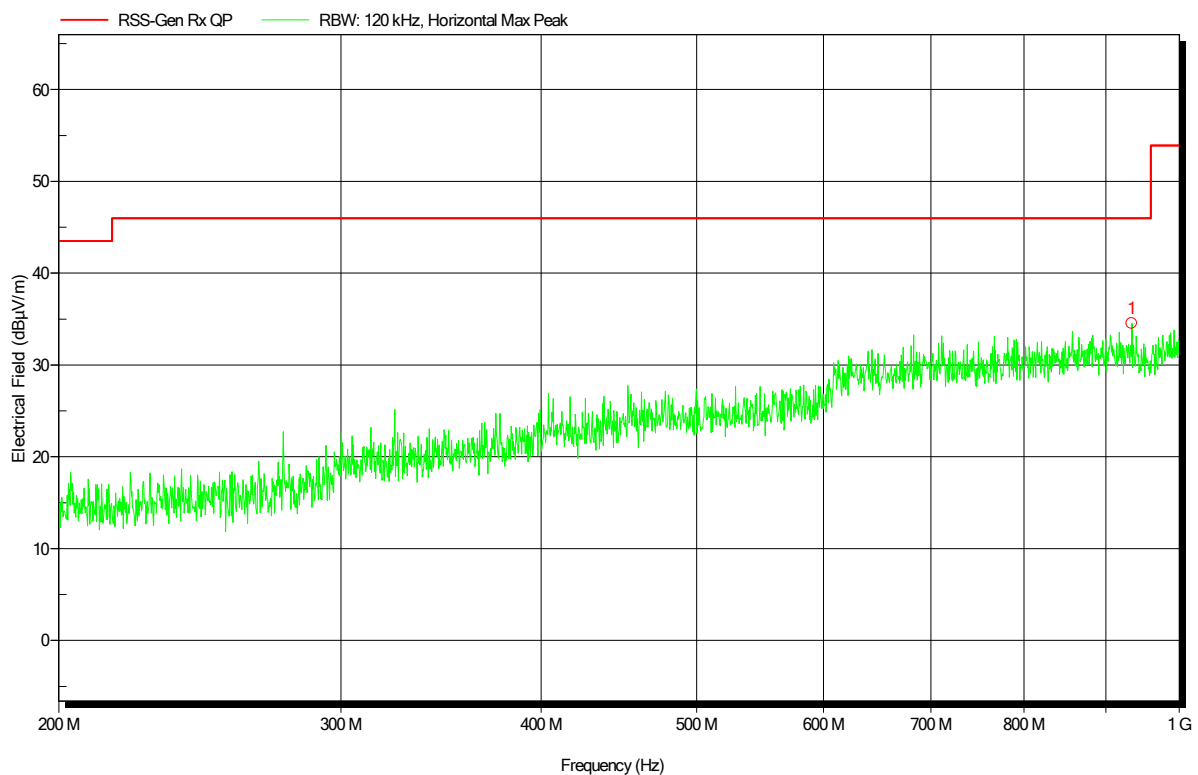
| Frequency   | Quasi-Peak  | Quasi-Peak Limit | Quasi-Peak Difference | Quasi-Peak Status | Angle    | Height |
|-------------|-------------|------------------|-----------------------|-------------------|----------|--------|
| 36.6655 MHz | 20.1 dBµV/m | 40 dBµV/m        | -19.88 dB             | Pass              | 0 Degree | 1 m    |

## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
 EUT Name: PTCarphone  
 Model: PTCarphone6 6609-006-101-51  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Jahn  
 Test Conditions: Tnom: 22°C, Vnom: 14.0 VDC  
 Antenna: Rohde & Schwarz HL 223, Horizontal  
 Measurement distance: 3 m  
 Mode: RX; UMTSII; 1960 MHz  
 Test Date: 2020-01-07  
 Note:

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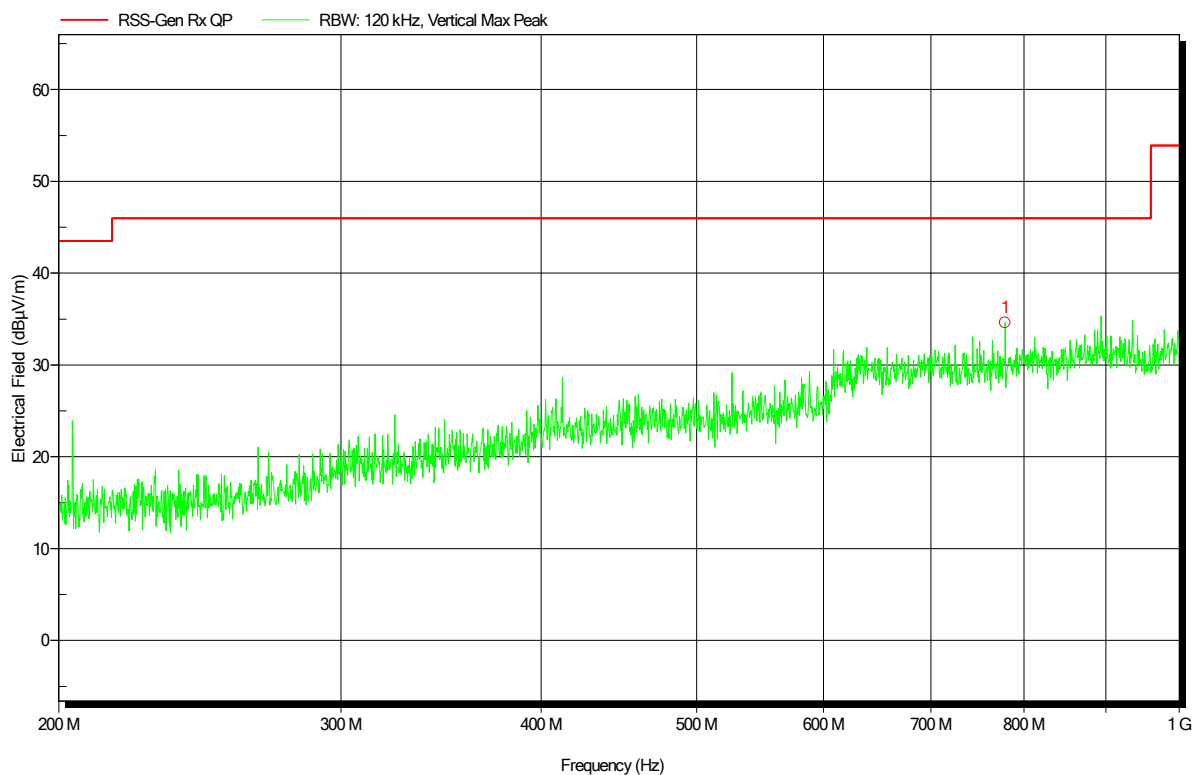
| Frequency    | Peak        | Peak Limit | Peak Difference | Status | Angle    | Height |
|--------------|-------------|------------|-----------------|--------|----------|--------|
| 934.0138 MHz | 34.5 dBµV/m | 46 dBµV/m  | -11.46 dB       | Pass   | 0 Degree | 1 m    |

## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
 EUT Name: PTCarphone  
 Model: PTCarphone6 6609-006-101-51  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Jahn  
 Test Conditions: Tnom: 22°C, Vnom: 14.0 VDC  
 Antenna: Rohde & Schwarz HL 223, Vertical  
 Measurement distance: 3 m  
 Mode: RX; UMTSII; 1960 MHz  
 Test Date: 2020-01-07  
 Note:

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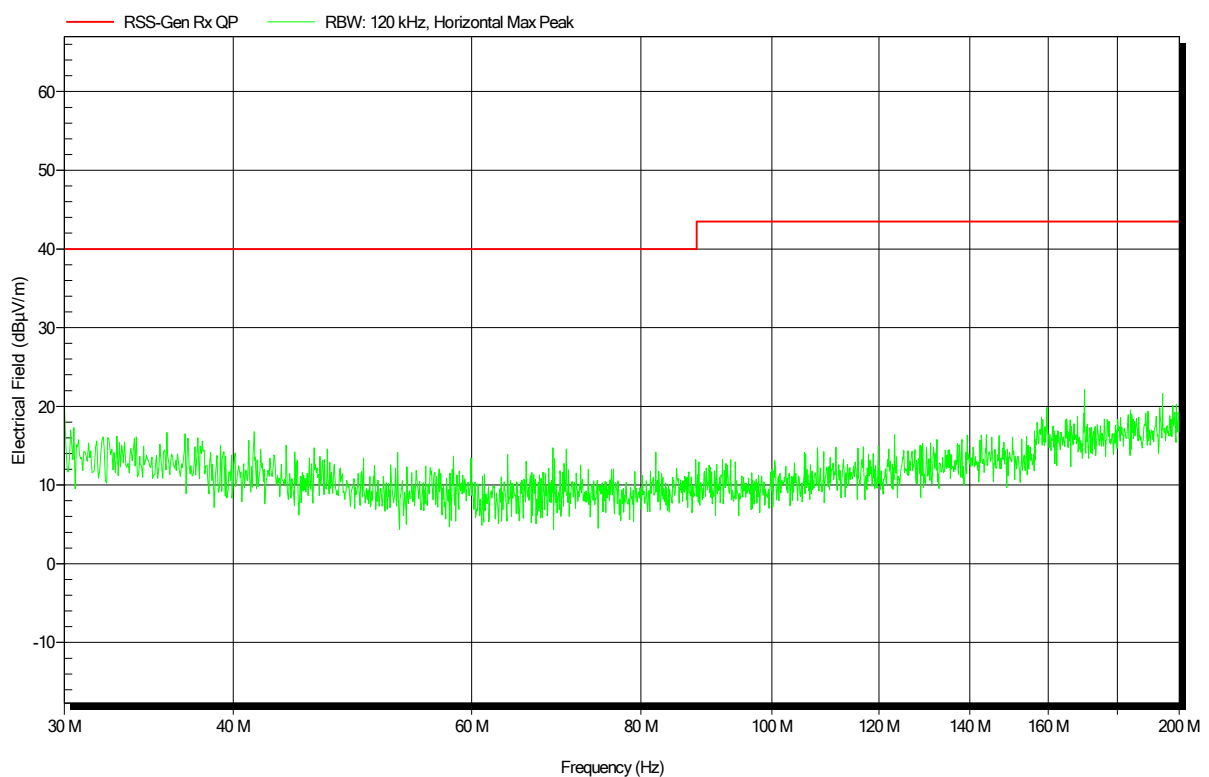
| Frequency    | Peak        | Peak Limit | Peak Difference | Status | Angle    | Height |
|--------------|-------------|------------|-----------------|--------|----------|--------|
| 778.8052 MHz | 34.6 dBμV/m | 46 dBμV/m  | -11.4 dB        | Pass   | 0 Degree | 1 m    |

## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
 EUT Name: PTCarphone  
 Model: PTCarphone6 6609-006-101-51  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Jahn  
 Test Conditions: Tnom: 22°C, Vnom: 14.0 VDC  
 Antenna: Rohde & Schwarz HK 116, Horizontal  
 Measurement distance: 3 m  
 Mode: RX; UMTSIV; 2112.4 MHz  
 Test Date: 2020-01-07  
 Note:

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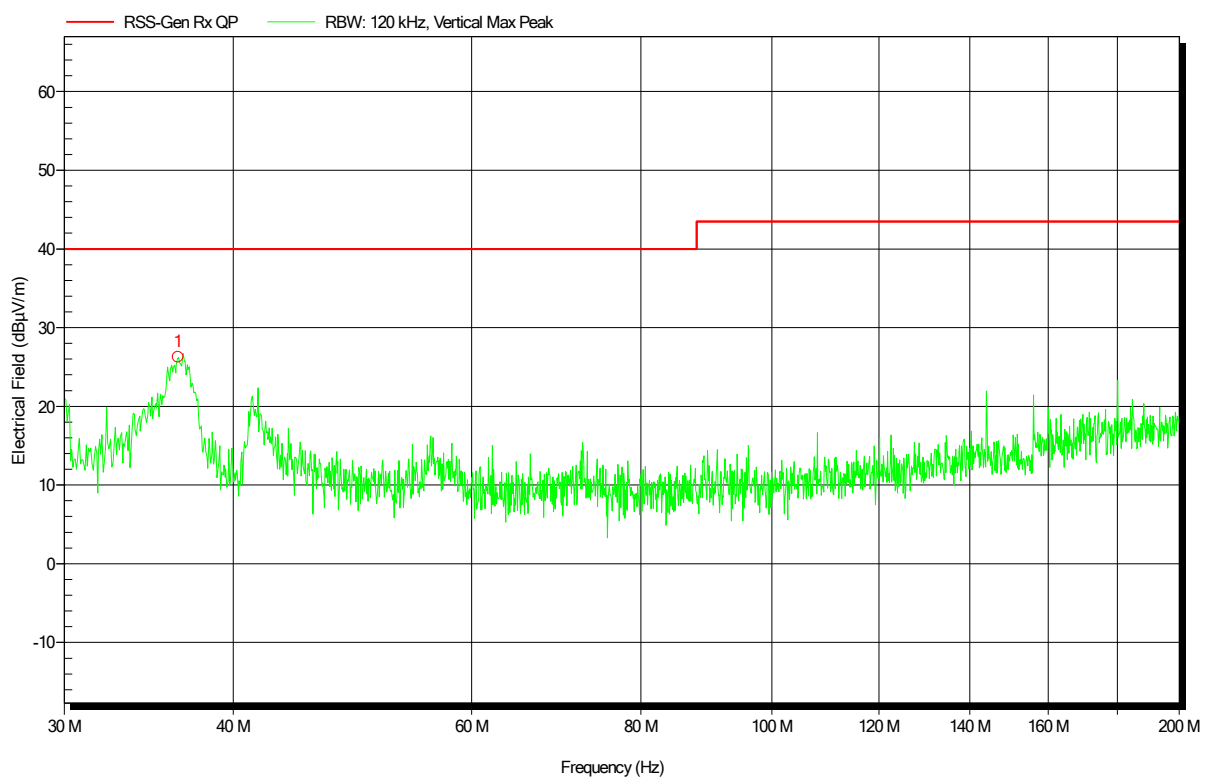


## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarphone  
Model: PTCarphone6 6609-006-101-51  
Test Site: Eurofins Product Service GmbH  
Operator: Mr. Jahn  
Test Conditions: Tnom: 22°C, Vnom: 14.0 VDC  
Antenna: Rohde & Schwarz HK 116, Vertical  
Measurement distance: 3 m  
Mode: RX; UMTSIV; 2112.4 MHz  
Test Date: 2020-01-07  
Note:

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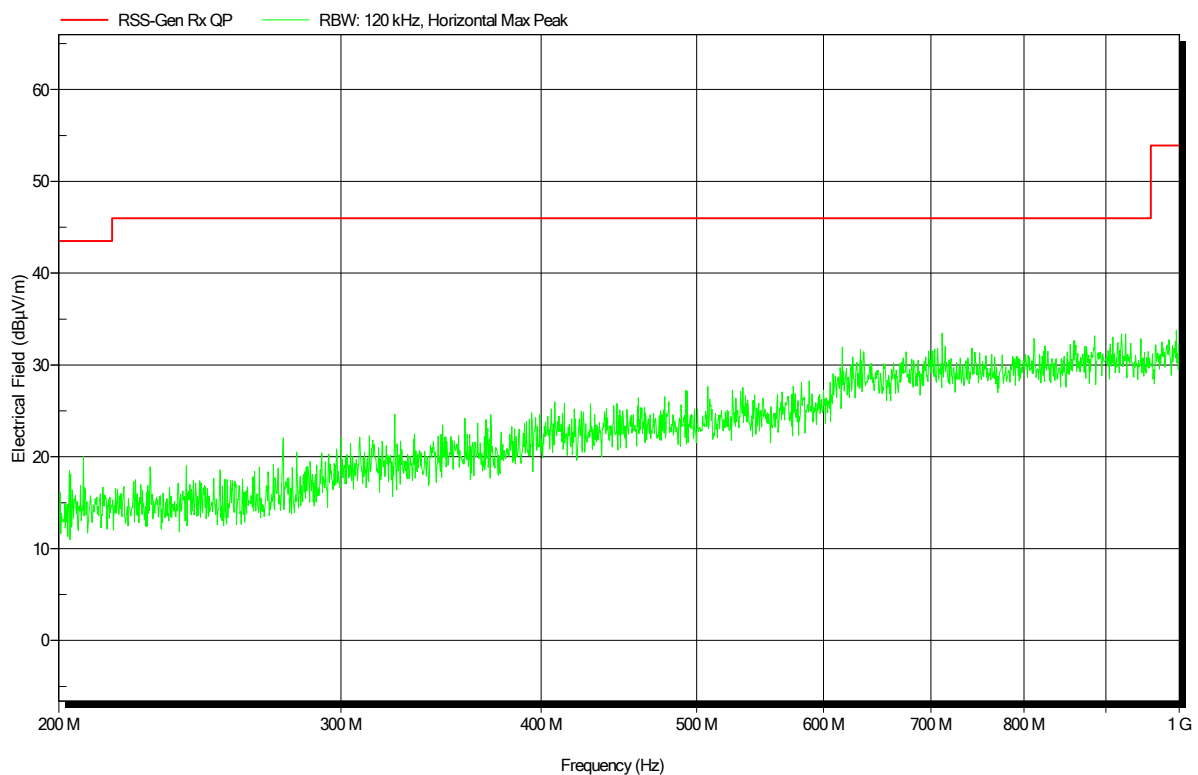
| Frequency   | Peak        | Peak Limit | Peak Difference | Status | Angle    | Height |
|-------------|-------------|------------|-----------------|--------|----------|--------|
| 36.4253 MHz | 26.2 dBµV/m | 40 dBµV/m  | -13.76 dB       | Pass   | 0 Degree | 1 m    |

## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
 EUT Name: PTCarphone  
 Model: PTCarphone6 6609-006-101-51  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Jahn  
 Test Conditions: Tnom: 22°C, Vnom: 14.0 VDC  
 Antenna: Rohde & Schwarz HL 223, Horizontal  
 Measurement distance: 3 m  
 Mode: RX; UMTSIV; 2112.4 MHz  
 Test Date: 2020-01-07  
 Note:

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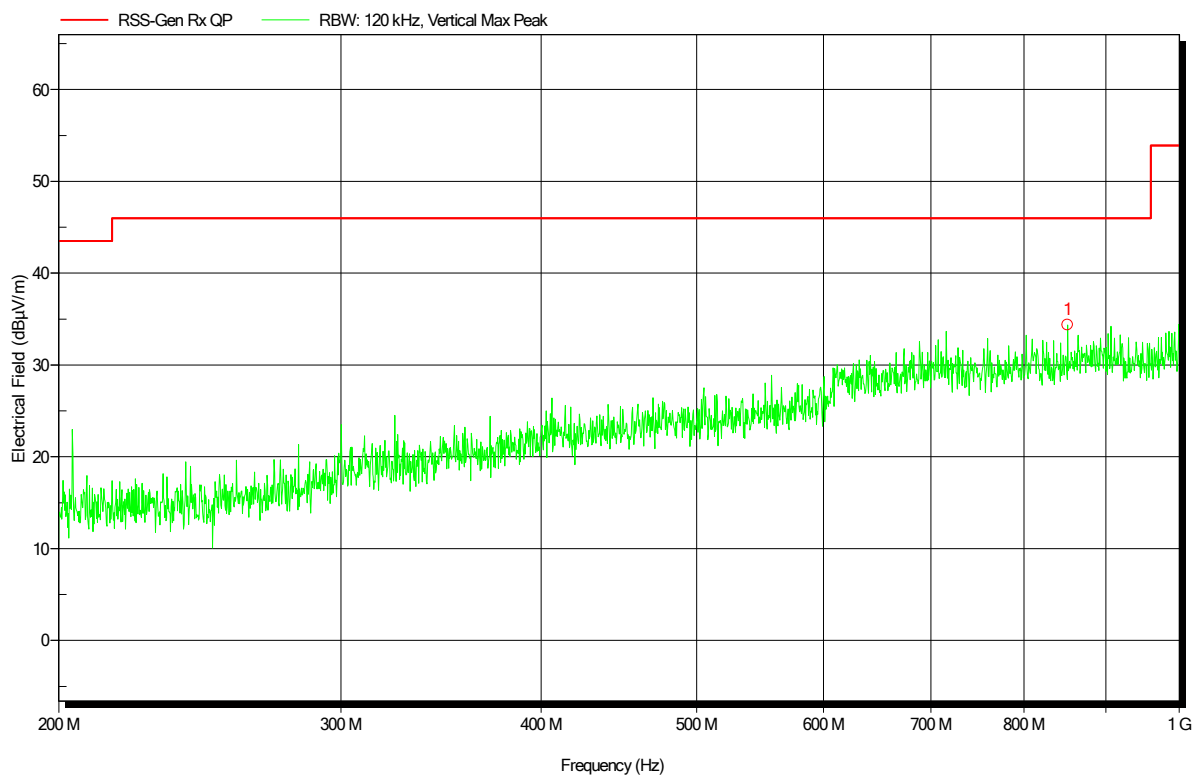


## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarphone  
Model: PTCarphone6 6609-006-101-51  
Test Site: Eurofins Product Service GmbH  
Operator: Mr. Jahn  
Test Conditions: Tnom: 22°C, Vnom: 14.0 VDC  
Antenna: Rohde & Schwarz HL 223, Vertical  
Measurement distance: 3 m  
Mode: RX; UMTSIV; 2112.4 MHz  
Test Date: 2020-01-07  
Note:

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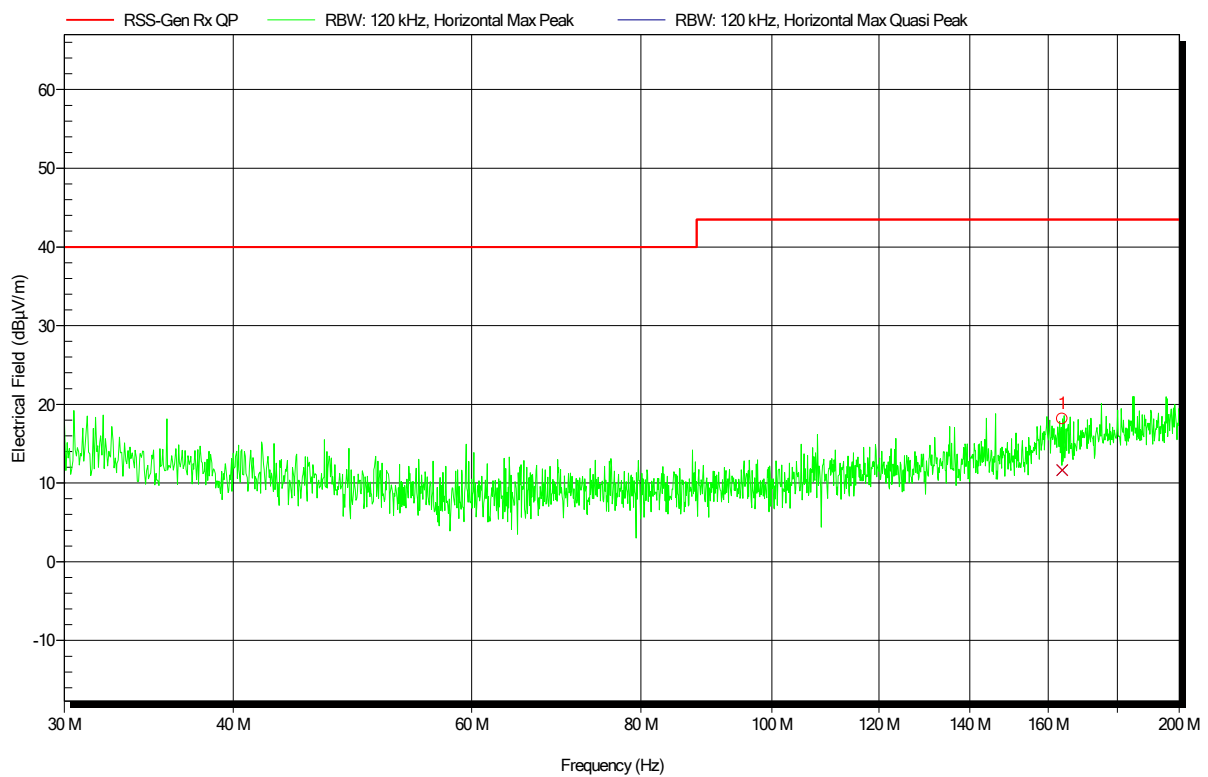
| Frequency    | Peak        | Peak Limit | Peak Difference | Status | Angle    | Height |
|--------------|-------------|------------|-----------------|--------|----------|--------|
| 851.8163 MHz | 34.4 dBμV/m | 46 dBμV/m  | -11.65 dB       | Pass   | 0 Degree | 1 m    |

## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
 EUT Name: PTCarphone  
 Model: PTCarphone6 6609-006-101-51  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Jahn  
 Test Conditions: Tnom: 22°C, Vnom: 14.0 VDC  
 Antenna: Rohde & Schwarz HK 116, Horizontal  
 Measurement distance: 3 m  
 Mode: RX; UMTSV; 891.6 MHz  
 Test Date: 2020-01-07  
 Note:

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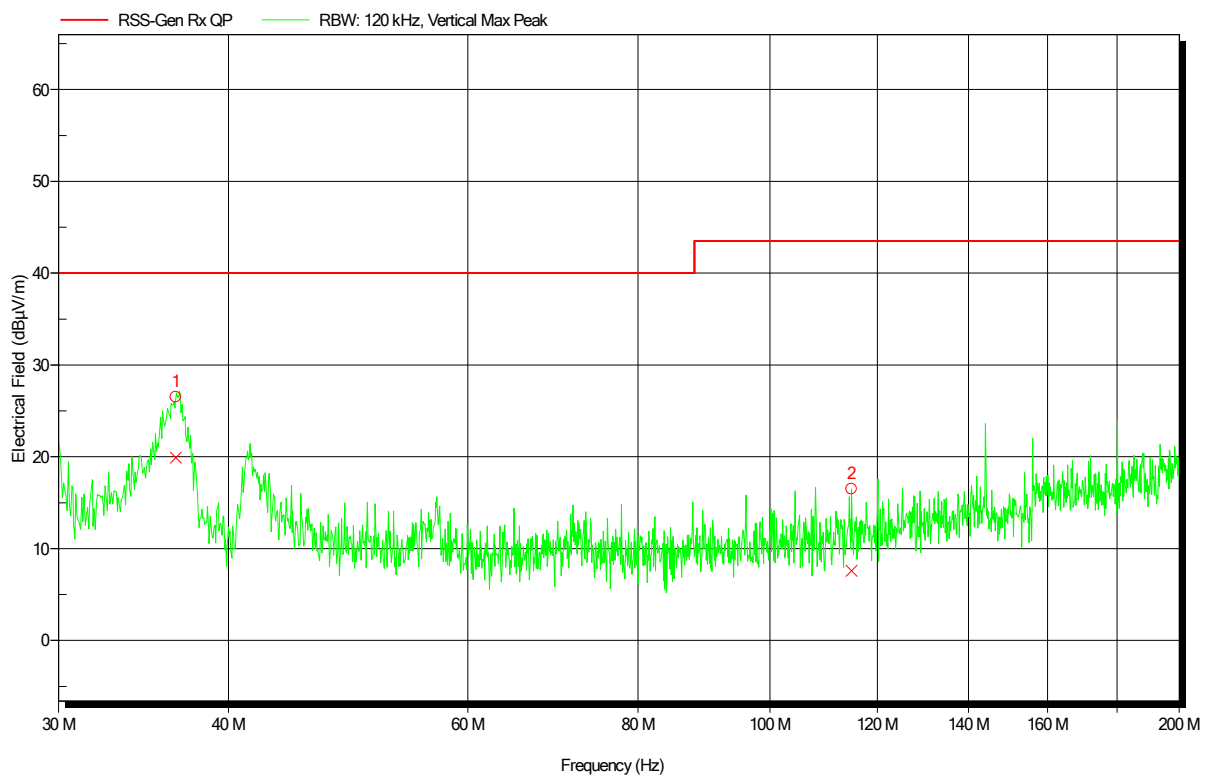
| Frequency    | Quasi-Peak  | Quasi-Peak Limit | Quasi-Peak Difference | Quasi-Peak Status | Angle    | Height |
|--------------|-------------|------------------|-----------------------|-------------------|----------|--------|
| 163.8982 MHz | 11.6 dBµV/m | 43.5 dBµV/m      | -31.85 dB             | Pass              | 0 Degree | 1 m    |

## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarphone  
Model: PTCarphone6 6609-006-101-51  
Test Site: Eurofins Product Service GmbH  
Operator: Mr. Jahn  
Test Conditions: Tnom: 22°C, Vnom: 14.0 VDC  
Antenna: Rohde & Schwarz HK 116, Vertical  
Measurement distance: 3 m  
Mode: RX; UMTSV; 891.6 MHz  
Test Date: 2020-01-07  
Note:

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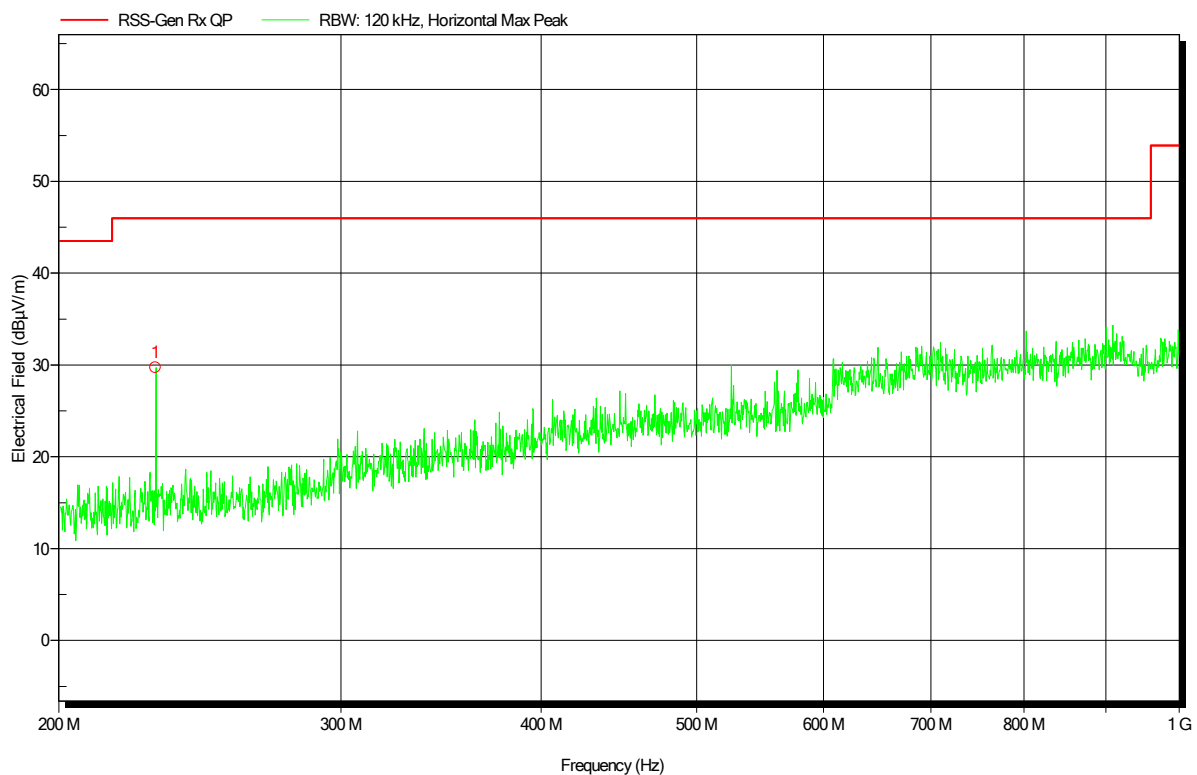
| Frequency    | Quasi-Peak  | Quasi-Peak Limit | Quasi-Peak Difference | Quasi-Peak Status | Angle    | Height |
|--------------|-------------|------------------|-----------------------|-------------------|----------|--------|
| 36.6054 MHz  | 19.9 dBµV/m | 40 dBµV/m        | -20.1 dB              | Pass              | 0 Degree | 1 m    |
| 114.8379 MHz | 7.6 dBµV/m  | 43.5 dBµV/m      | -35.9 dB              | Pass              | 0 Degree | 1 m    |

## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarphone  
Model: PTCarphone6 6609-006-101-51  
Test Site: Eurofins Product Service GmbH  
Operator: Mr. Jahn  
Test Conditions: Tnom: 22°C, Vnom: 14.0 VDC  
Antenna: Rohde & Schwarz HL 223, Horizontal  
Measurement distance: 3 m  
Mode: RX; UMTSV; 891.6 MHz  
Test Date: 2020-01-07  
Note:

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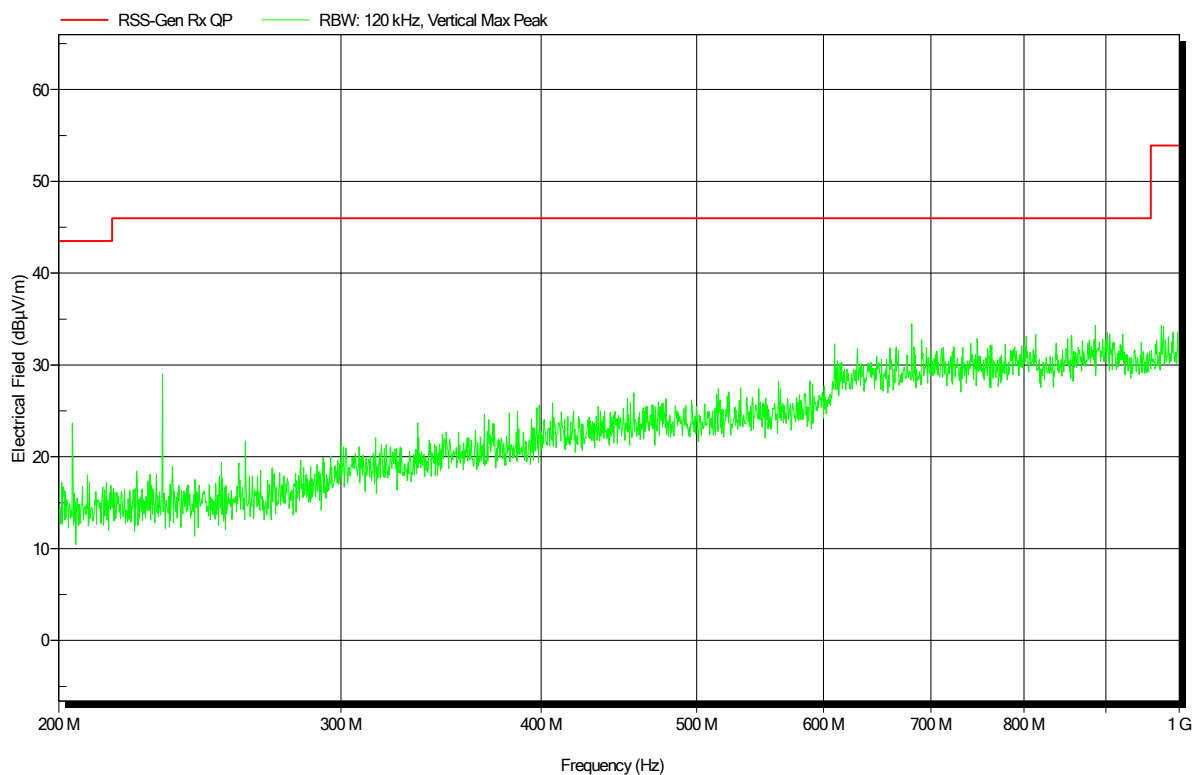
| Frequency    | Peak        | Peak Limit | Peak Difference | Status | Angle    | Height |
|--------------|-------------|------------|-----------------|--------|----------|--------|
| 229.9009 MHz | 29.7 dBµV/m | 46 dBµV/m  | -16.28 dB       | Pass   | 0 Degree | 1 m    |

## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
 EUT Name: PTCarphone  
 Model: PTCarphone6 6609-006-101-51  
 Test Site: Eurofins Product Service GmbH  
 Operator: Mr. Jahn  
 Test Conditions: Tnom: 22°C, Vnom: 14.0 VDC  
 Antenna: Rohde & Schwarz HL 223, Vertical  
 Measurement distance: 3 m  
 Mode: RX; UMTSV; 891.6 MHz  
 Test Date: 2020-01-07  
 Note:

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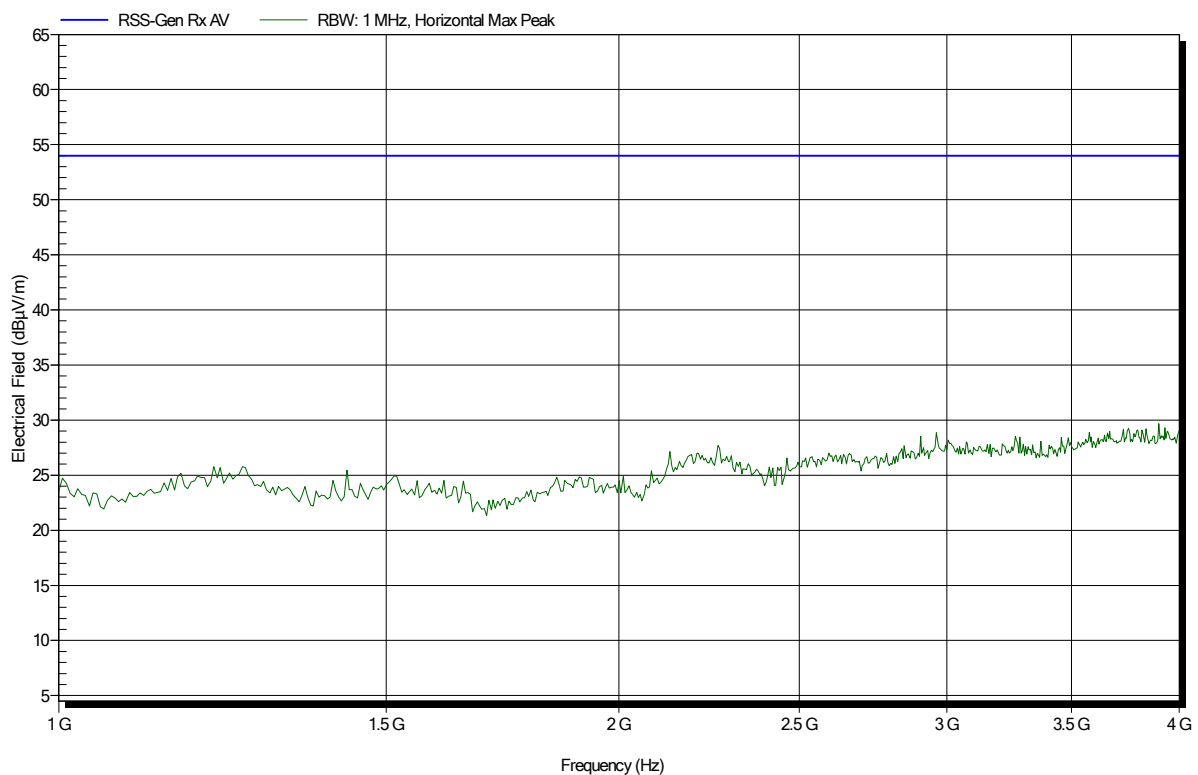


## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarphone  
Model: PTCarphone6 6609-006-101-51  
Test Site: Eurofins Product Service GmbH  
Operator: Toralf Jahn  
Test Conditions: Tnom: 24°C, Vnom: 14.0 VDC  
Antenna: Schwarzbeck BBHA 9120D, Horizontal  
Measurement distance: 1 m converted to 3m  
Mode: RX; UMTS Band V; 891.6 MHz  
Test Date: 2020-01-29  
Note:

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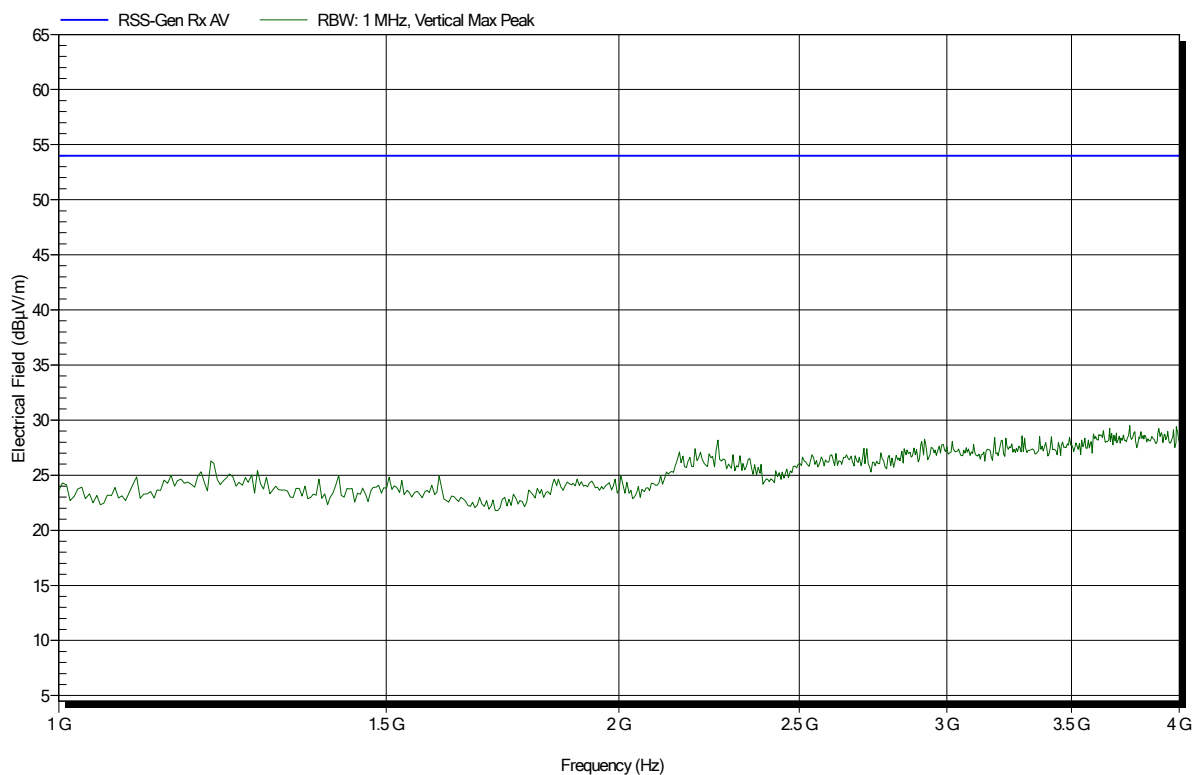


## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
 EUT Name: PTCarphone  
 Model: PTCarphone6 6609-006-101-51  
 Test Site: Eurofins Product Service GmbH  
 Operator: Toralf Jahn  
 Test Conditions: Tnom: 24°C, Vnom: 14.0 VDC  
 Antenna: Schwarzbeck BBHA 9120D, Vertical  
 Measurement distance: 1 m converted to 3m  
 Mode: RX; UMTS Band V; 891.6 MHz  
 Test Date: 2020-01-29  
 Note:

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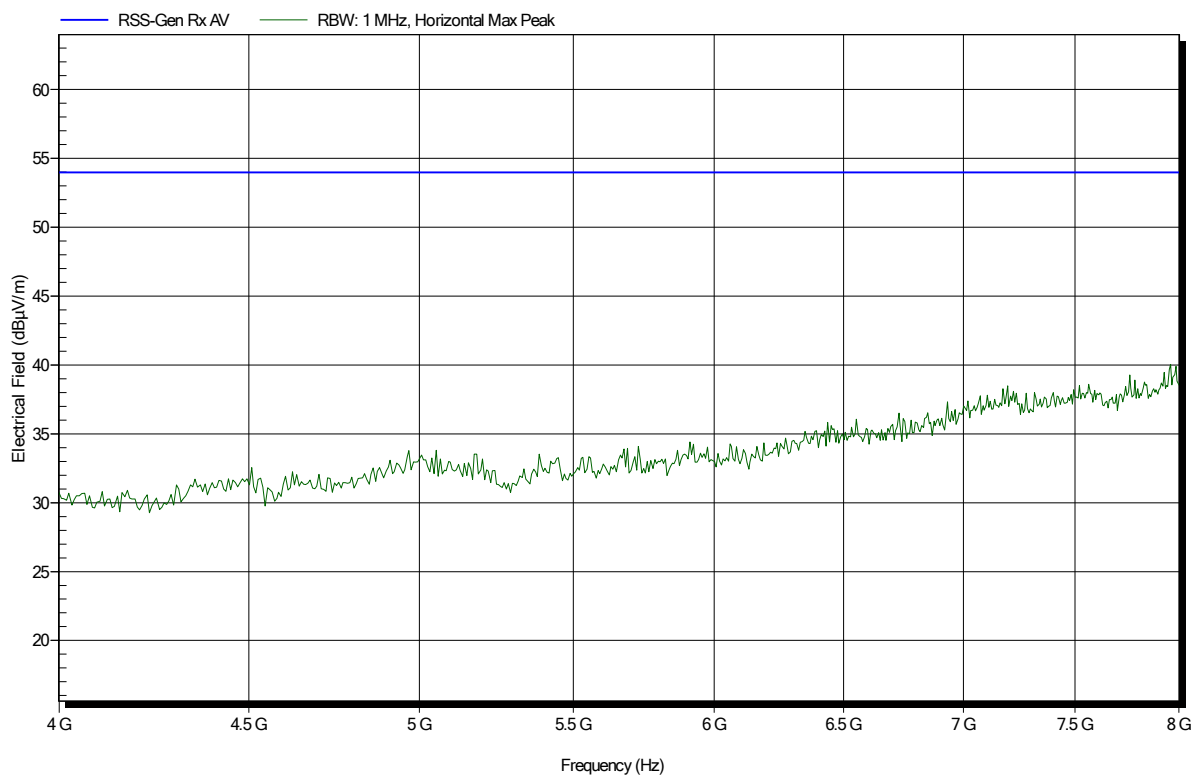


## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarphone  
Model: PTCarphone6 6609-006-101-51  
Test Site: Eurofins Product Service GmbH  
Operator: Toralf Jahn  
Test Conditions: Tnom: 24°C, Vnom: 14.0 VDC  
Antenna: Schwarzbeck BBHA 9120D, Horizontal  
Measurement distance: 1 m converted to 3m  
Mode: RX; UMTS Band V; 891.6 MHz  
Test Date: 2020-01-29  
Note:

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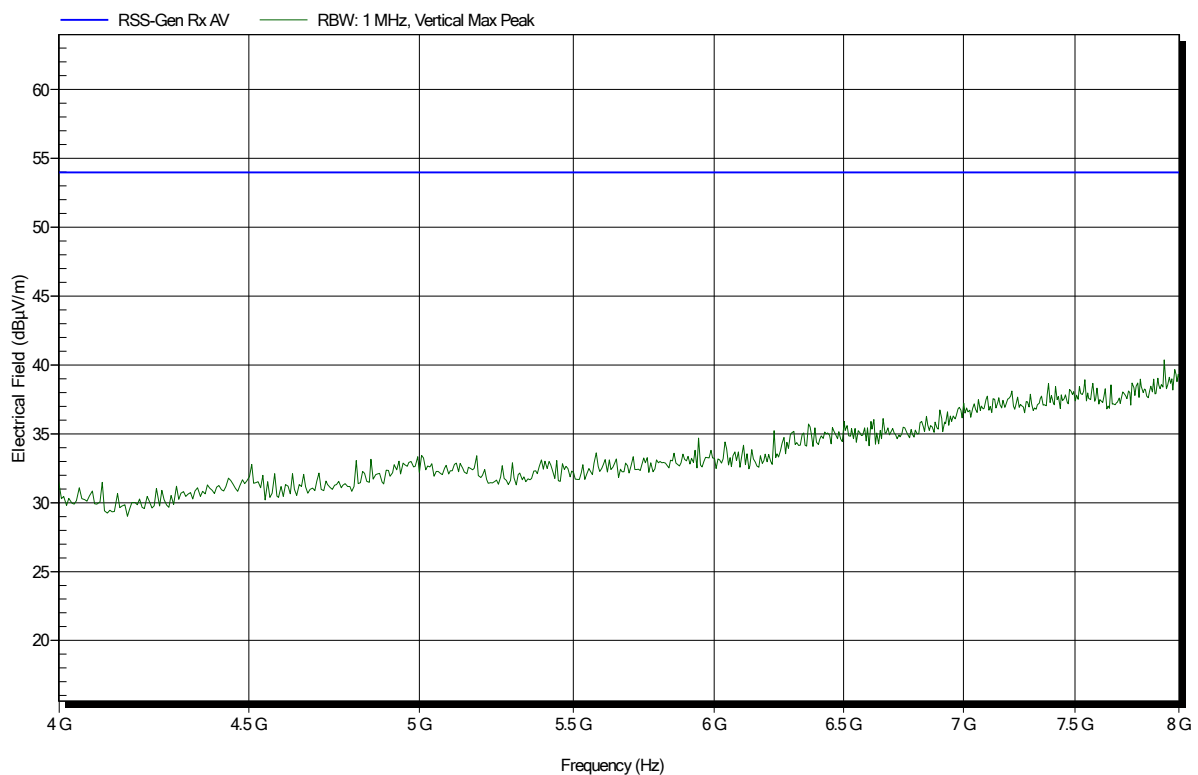


## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarphone  
Model: PTCarphone6 6609-006-101-51  
Test Site: Eurofins Product Service GmbH  
Operator: Toralf Jahn  
Test Conditions: Tnom: 24°C, Vnom: 14.0 VDC  
Antenna: Schwarzbeck BBHA 9120D, Vertical  
Measurement distance: 1 m converted to 3m  
Mode: RX; UMTS Band V; 891.6 MHz  
Test Date: 2020-01-29  
Note:

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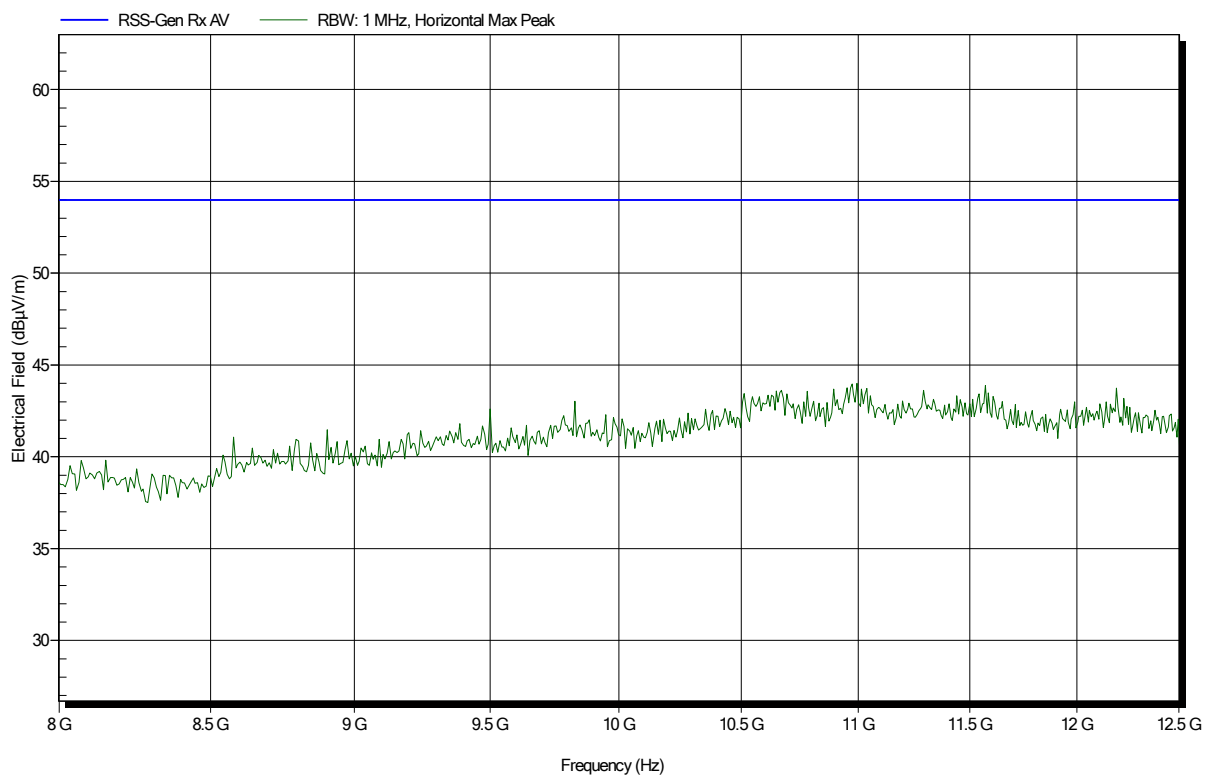


## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
 EUT Name: PTCarphone  
 Model: PTCarphone6 6609-006-101-51  
 Test Site: Eurofins Product Service GmbH  
 Operator: Toralf Jahn  
 Test Conditions: Tnom: 24°C, Vnom: 14.0 VDC  
 Antenna: Schwarzbeck BBHA 9120D, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: RX; UMTS Band V; 891.6 MHz  
 Test Date: 2020-01-29  
 Note:

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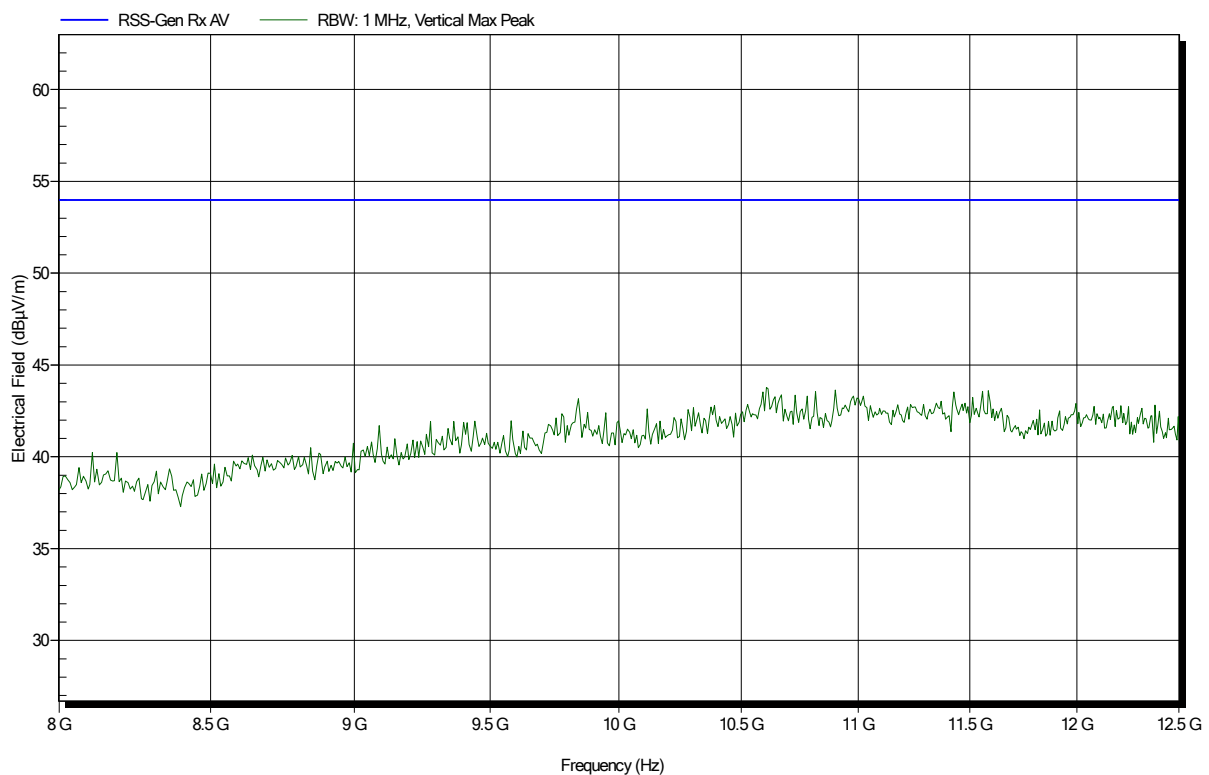


## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarphone  
Model: PTCarphone6 6609-006-101-51  
Test Site: Eurofins Product Service GmbH  
Operator: Toralf Jahn  
Test Conditions: Tnom: 24°C, Vnom: 14.0 VDC  
Antenna: Schwarzbeck BBHA 9120D, Vertical  
Measurement distance: 1 m converted to 3m  
Mode: RX; UMTS Band V; 891.6 MHz  
Test Date: 2020-01-29  
Note:

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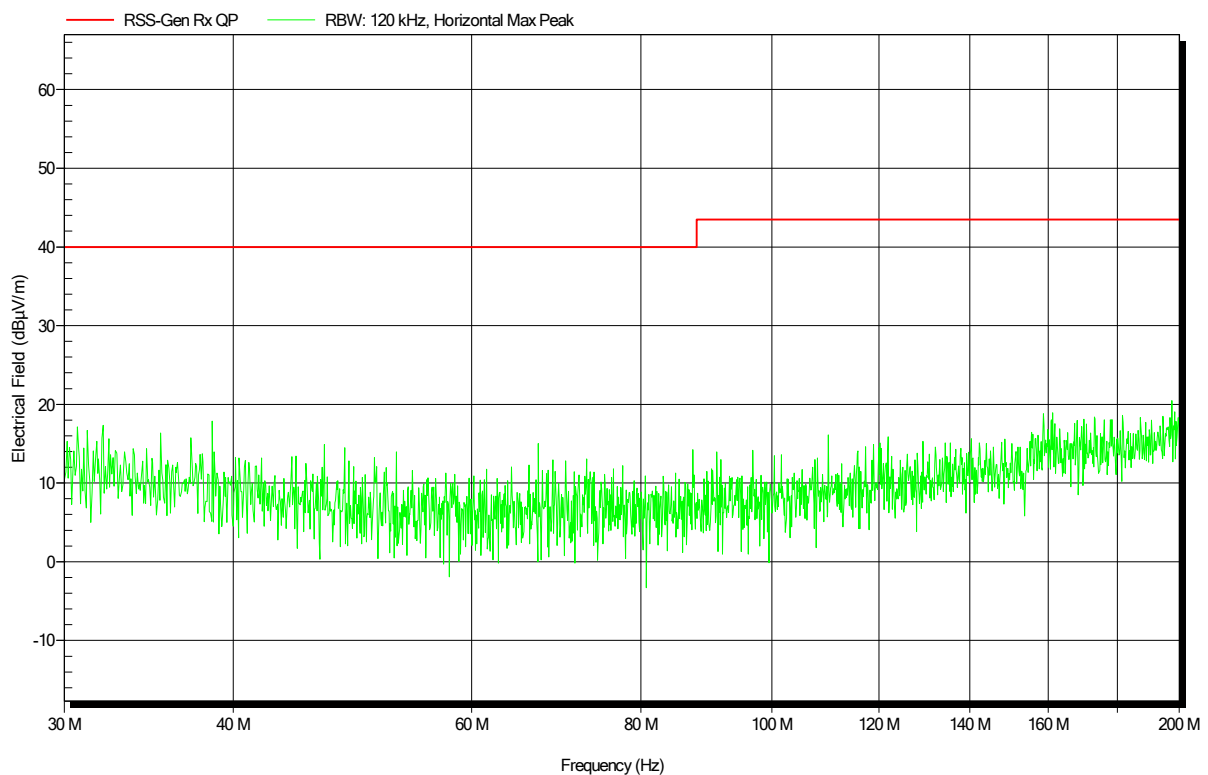


## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarphone  
Model: PTCarphone6 6609-006-101-51  
Test Site: Eurofins Product Service GmbH  
Operator: Mr. Jahn  
Test Conditions: Tnom: 22°C, Vnom: 14.0 VDC  
Antenna: Rohde & Schwarz HK 116, Horizontal  
Measurement distance: 3 m  
Mode: RX; Idle LTE 2; 1960 MHz  
Test Date: 2020-01-08  
Note:

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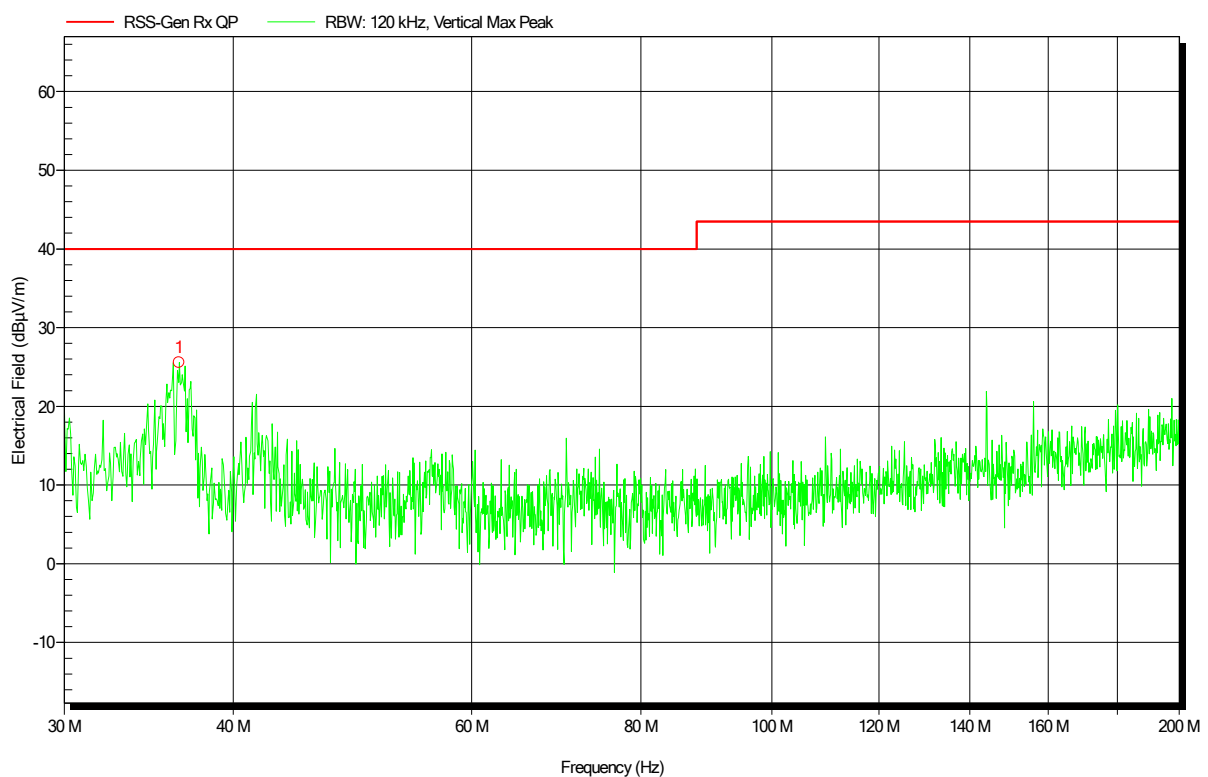


## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarphone  
Model: PTCarphone6 6609-006-101-51  
Test Site: Eurofins Product Service GmbH  
Operator: Mr. Jahn  
Test Conditions: Tnom: 22°C, Vnom: 14.0 VDC  
Antenna: Rohde & Schwarz HK 116, Vertical  
Measurement distance: 3 m  
Mode: RX; Idle LTE 2; 1960 MHz  
Test Date: 2020-01-08  
Note:

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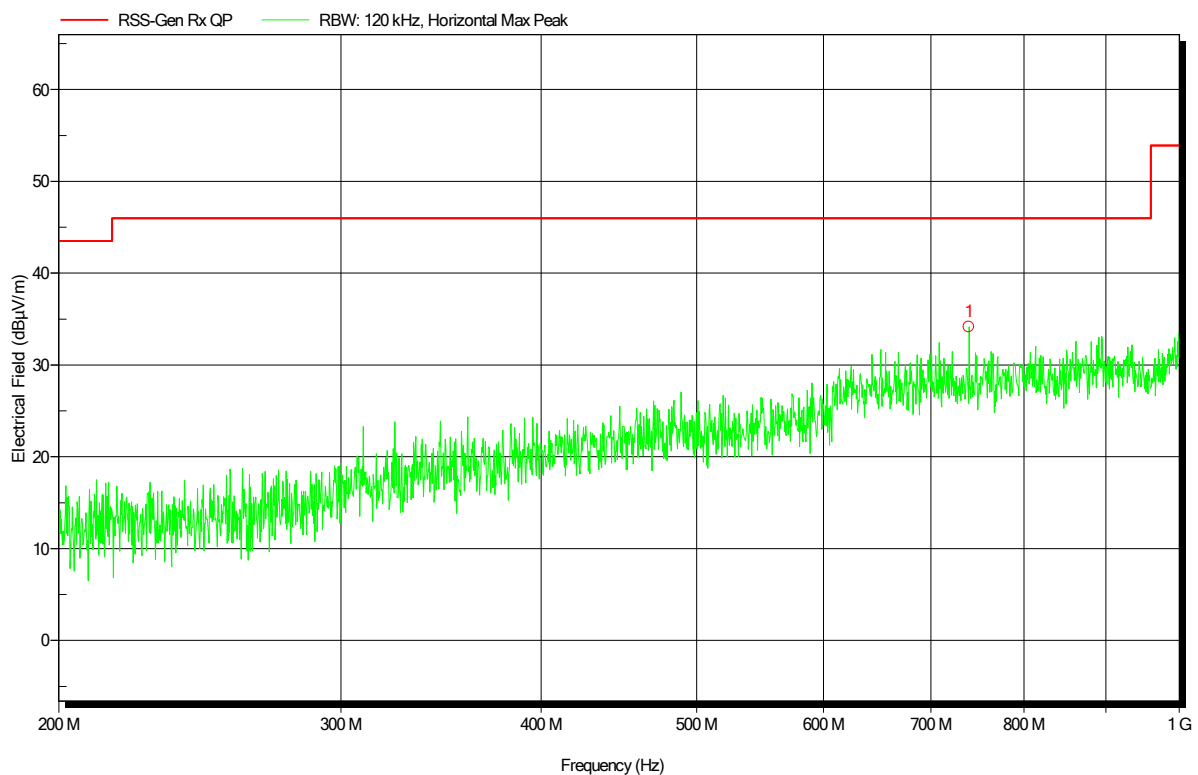
| Frequency   | Peak        | Peak Limit | Peak Difference | Status | Angle    | Height |
|-------------|-------------|------------|-----------------|--------|----------|--------|
| 36.4853 MHz | 25.6 dBµV/m | 40 dBµV/m  | -14.42 dB       | Pass   | 0 Degree | 1 m    |

## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarphone  
Model: PTCarphone6 6609-006-101-51  
Test Site: Eurofins Product Service GmbH  
Operator: Mr. Jahn  
Test Conditions: Tnom: 22°C, Vnom: 14.0 VDC  
Antenna: Rohde & Schwarz HL 223, Horizontal  
Measurement distance: 3 m  
Mode: RX; Idle LTE 2; 1960 MHz  
Test Date: 2020-01-08  
Note:

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| Frequency    | Peak        | Peak Limit | Peak Difference | Status | Angle    | Height |
|--------------|-------------|------------|-----------------|--------|----------|--------|
| 739.2375 MHz | 34.1 dBµV/m | 46 dBµV/m  | -11.86 dB       | Pass   | 0 Degree | 1 m    |

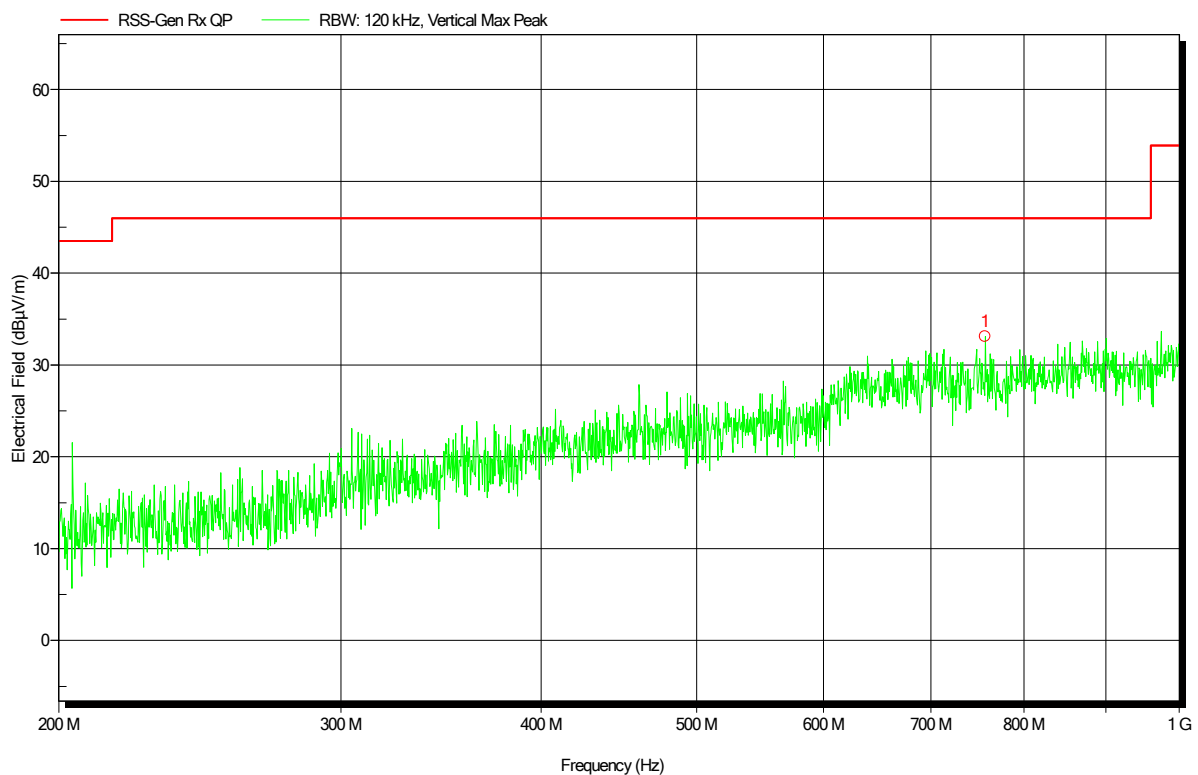


## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarphone  
Model: PTCarphone6 6609-006-101-51  
Test Site: Eurofins Product Service GmbH  
Operator: Mr. Jahn  
Test Conditions: Tnom: 22°C, Vnom: 14.0 VDC  
Antenna: Rohde & Schwarz HL 223, Vertical  
Measurement distance: 3 m  
Mode: RX; Idle LTE 2; 1960 MHz  
Test Date: 2020-01-08  
Note:

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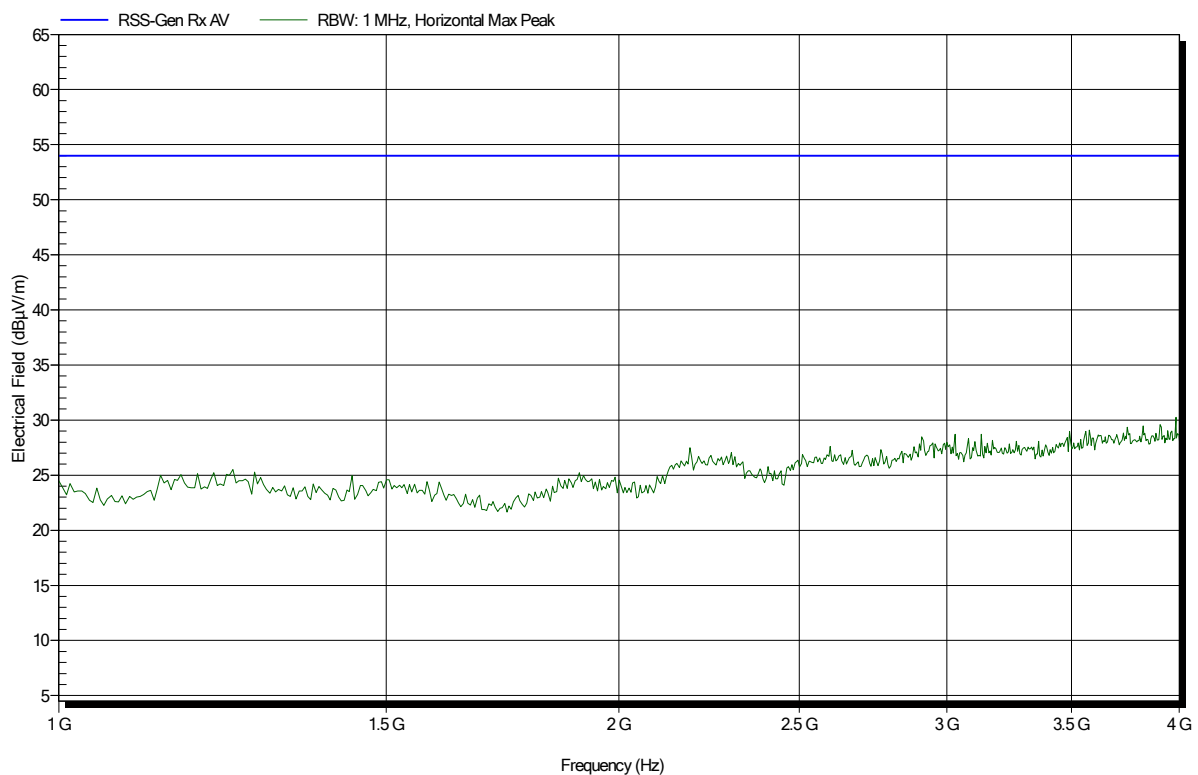
| Frequency    | Peak        | Peak Limit | Peak Difference | Status | Angle    | Height |
|--------------|-------------|------------|-----------------|--------|----------|--------|
| 756.7697 MHz | 33.1 dBµV/m | 46 dBµV/m  | -12.9 dB        | Pass   | 0 Degree | 1 m    |

## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarphone  
Model: PTCarphone6 6609-006-101-51  
Test Site: Eurofins Product Service GmbH  
Operator: Toralf Jahn  
Test Conditions: Tnom: 25°C, Vnom: 14.0 VDC  
Antenna: Schwarzbeck BBHA 9120D, Horizontal  
Measurement distance: 1 m converted to 3m  
Mode: RX; Idle LTE 2; 1960 MHz  
Test Date: 2020-01-28  
Note:

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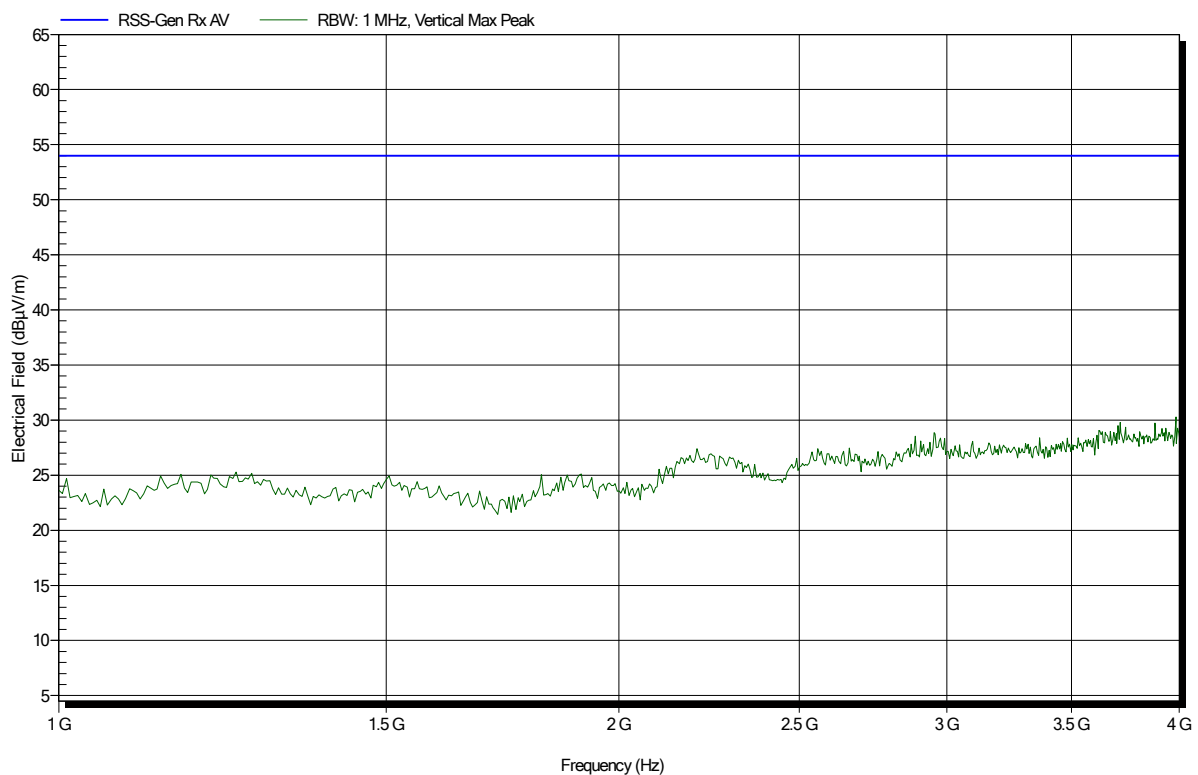


## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarphone  
Model: PTCarphone6 6609-006-101-51  
Test Site: Eurofins Product Service GmbH  
Operator: Toralf Jahn  
Test Conditions: Tnom: 25°C, Vnom: 14.0 VDC  
Antenna: Schwarzbeck BBHA 9120D, Vertical  
Measurement distance: 1 m converted to 3m  
Mode: RX; Idle LTE 2; 1960 MHz  
Test Date: 2020-01-28  
Note:

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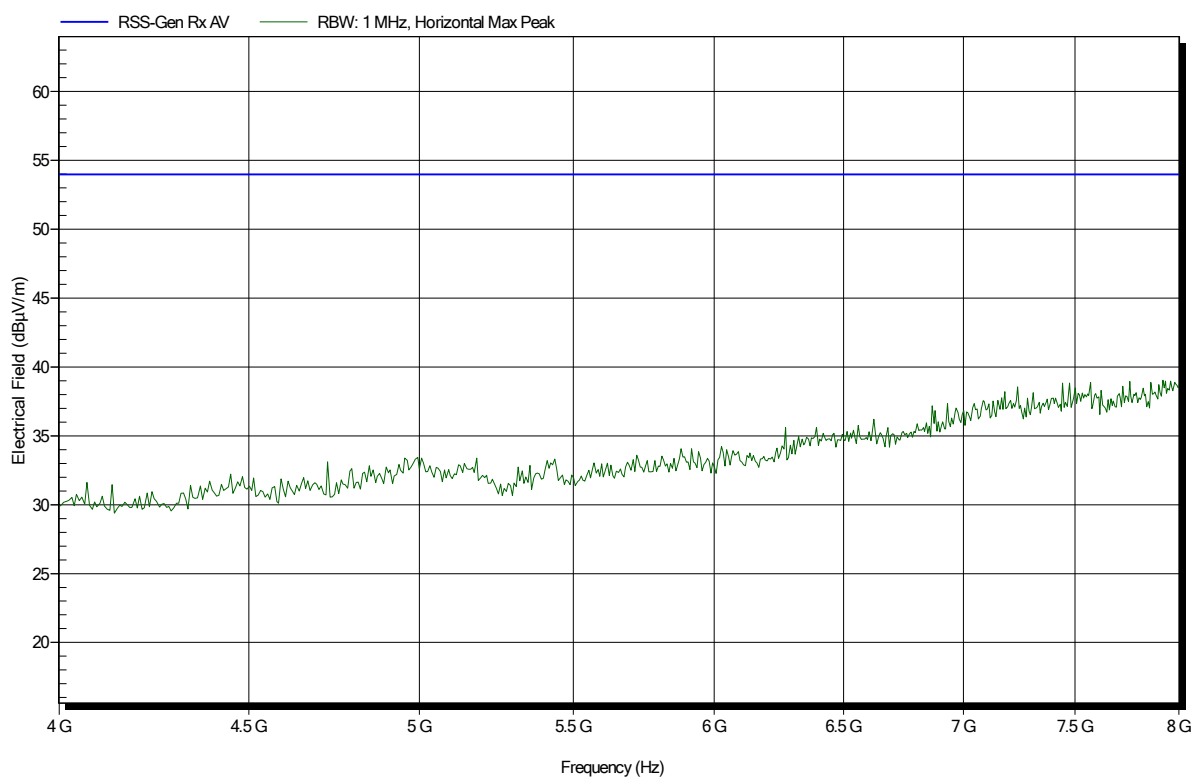


## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
 EUT Name: PTCarphone  
 Model: PTCarphone6 6609-006-101-51  
 Test Site: Eurofins Product Service GmbH  
 Operator: Toralf Jahn  
 Test Conditions: Tnom: 25°C, Vnom: 14.0 VDC  
 Antenna: Schwarzbeck BBHA 9120D, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: RX; Idle LTE 2; 1960 MHz  
 Test Date: 2020-01-28  
 Note:

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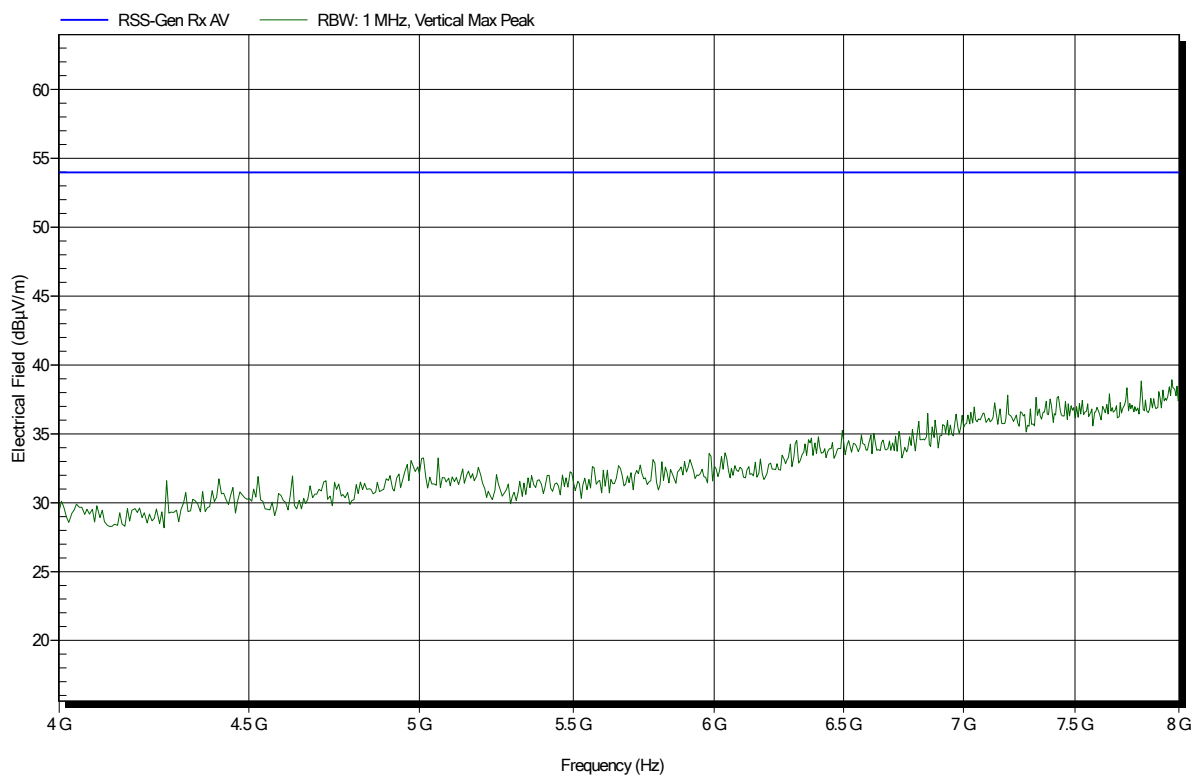


## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarphone  
Model: PTCarphone6 6609-006-101-51  
Test Site: Eurofins Product Service GmbH  
Operator: Toralf Jahn  
Test Conditions: Tnom: 25°C, Vnom: 14.0 VDC  
Antenna: Schwarzbeck BBHA 9120D, Vertical  
Measurement distance: 1 m converted to 3m  
Mode: RX; Idle LTE 2; 1960 MHz  
Test Date: 2020-01-28  
Note:

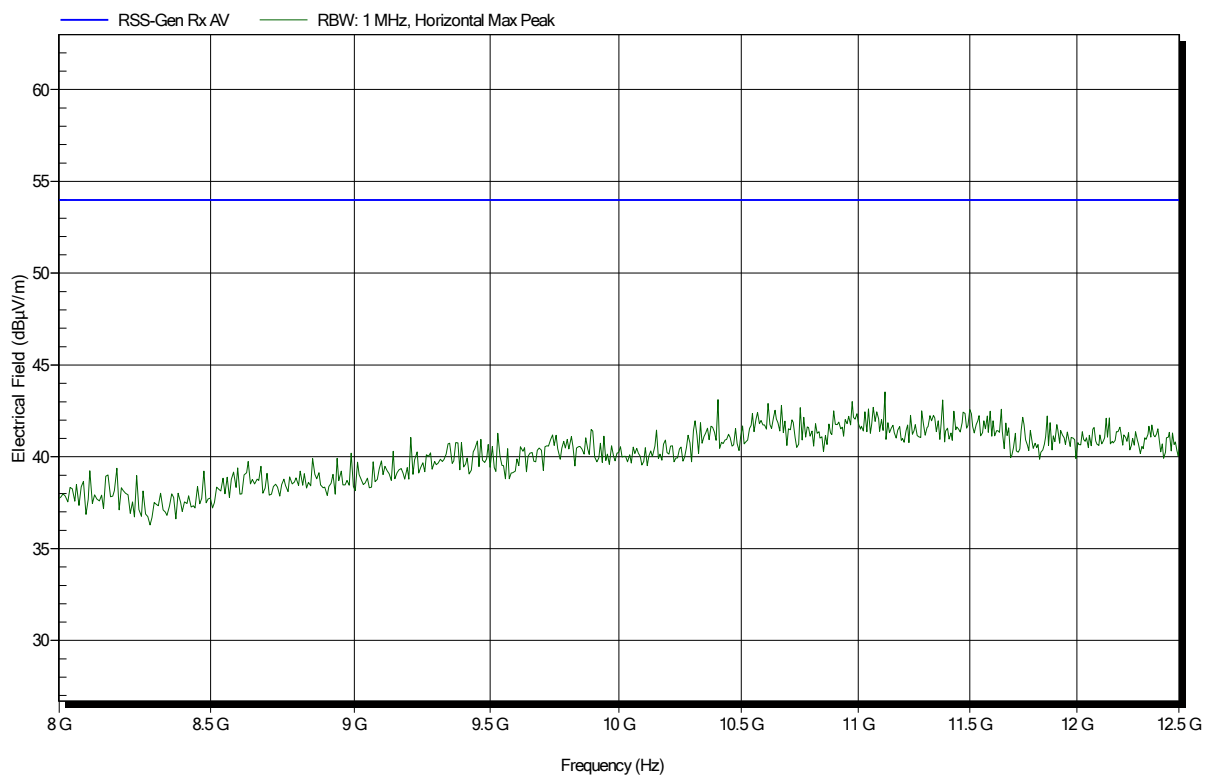
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## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479  
 Applicant: pei tel Communications GmbH  
 EUT Name: PTCarphone  
 Model: PTCarphone6 6609-006-101-51  
 Test Site: Eurofins Product Service GmbH  
 Operator: Toralf Jahn  
 Test Conditions: Tnom: 25°C, Vnom: 14.0 VDC  
 Antenna: Schwarzbeck BBHA 9120D, Horizontal  
 Measurement distance: 1 m converted to 3m  
 Mode: RX; Idle LTE 2; 1960 MHz  
 Test Date: 2020-01-28  
 Note:

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## Spurious emissions according to RSS-Gen

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarphone  
Model: PTCarphone6 6609-006-101-51  
Test Site: Eurofins Product Service GmbH  
Operator: Toralf Jahn  
Test Conditions: Tnom: 25°C, Vnom: 14.0 VDC  
Antenna: Schwarzbeck BBHA 9120D, Vertical  
Measurement distance: 1 m converted to 3m  
Mode: RX; Idle LTE 2; 1960 MHz  
Test Date: 2020-01-28  
Note:

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