

| FCC TEST REPORT                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Co-Location                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Report Reference No                | G0M-1909-8479-TFCCOLOC-V01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Testing Laboratory                 | Eurofins Product Service GmbH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Address                            | Storkower Str. 38c<br>15526 Reichenwalde<br>Germany                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Accreditation                      |     <p>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</p> |
| Applicant                          | pei tel Communications GmbH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Address                            | Rheinstraße 15 A<br>14513 Teltow<br>GERMANY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| Test Specification                 | 47 CFR Part 22H, 47 CFR Part 24E<br>RSS-132, Issue 3: 2013-01, RSS-133, Issue 6:2013-01<br>47 CFR Part 15C<br>RSS-247, Issue 2, 2017-02                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Non-Standard Test Method           | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Equipment under Test (EUT):</b> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| Product Description                | PTCarPhone                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Model(s)                           | PTCarPhone 6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Additional Model(s)                | None                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Brand Name(s)                      | PEI TEL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Hardware Version(s)                | 01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Software Version(s)                | V.6.01.01                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| FCC-ID                             | 2AU9JPTC6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| IC                                 | 25691-PTC6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Test Result                        | <b>PASSED</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |                                                                                       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------------------------------------------------------------------------|
| <b>Possible test case verdicts:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                            |                 |                                                                                       |
| 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)         |                                                                                       |
| <b>Testing:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                 |                                                                                       |
| Test Lab Temperature                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 20 - 23 °C      |                                                                                       |
| Test Lab Humidity                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 32 – 38 %       |                                                                                       |
| Date of receipt of test item                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 2019-11-18      |                                                                                       |
| <b>Report:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                 |                                                                                       |
| Compiled by                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Toralf Jahn     |                                                                                       |
| Tested by (+ signature)<br>(Responsible for Test)                                                                                                                                                                                                                                                                                                                                                                                                                              | Toralf Jahn     |   |
| Approved by (+ signature)<br>(Head of Lab)                                                                                                                                                                                                                                                                                                                                                                                                                                     | Christian Weber |  |
| Date of Issue                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 2020-02-06      |                                                                                       |
| Total number of pages                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 36              |                                                                                       |
| <b>General Remarks:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                 |                                                                                       |
| <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> |                 |                                                                                       |
| <b>Additional Comments:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                 |                                                                                       |
| <p><b>Additional Comments:</b></p> <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),</p> <p>6507-002-100-51 (A58), 6601-011-000-51 (KL18), 6098-024-000-51 Versorgungskabel),</p> <p>6098-260-005-51 (Verlängerungskabel)</p>                                                                                                                                                                         |                 |                                                                                       |

## VERSION HISTORY

| Version History |            |                 |            |
|-----------------|------------|-----------------|------------|
| Version         | Issue Date | Remarks         | Revised By |
| 01              | 2020-02-06 | Initial Release |            |

## 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                              |

## REPORT INDEX

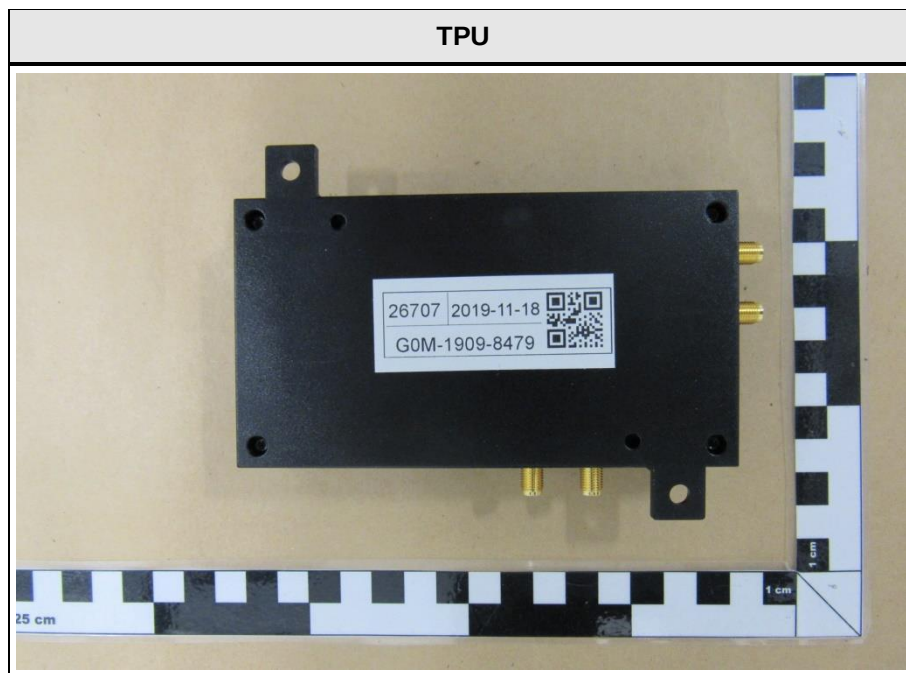
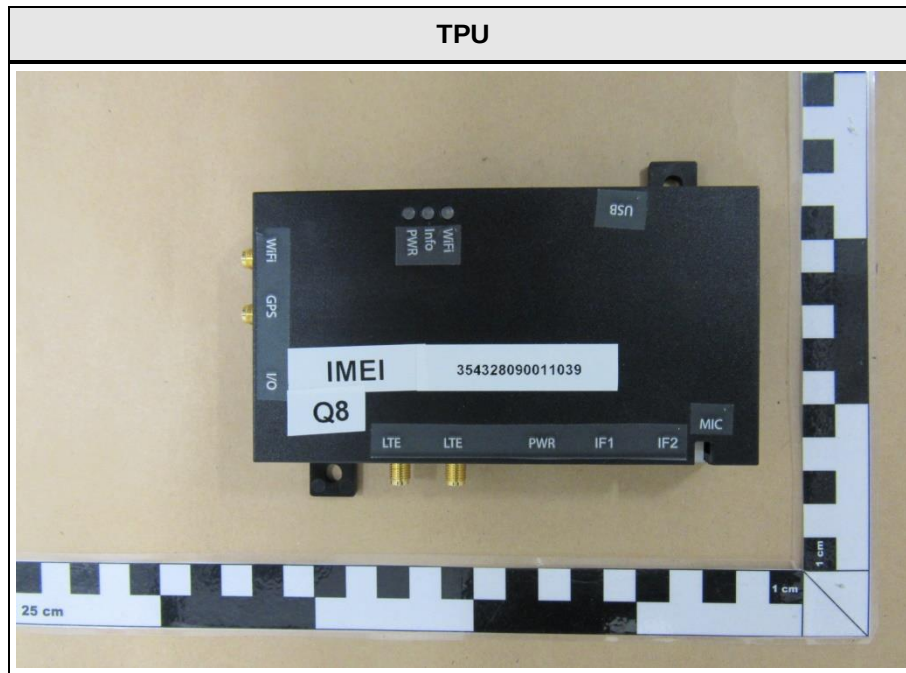
|          |                                                                    |           |
|----------|--------------------------------------------------------------------|-----------|
| <b>1</b> | <b>Equipment (Test Item) Under Test.....</b>                       | <b>6</b>  |
| 1.1      | Photos – Equipment External .....                                  | 8         |
| 1.2      | Photos – Equipment Internal .....                                  | 15        |
| 1.3      | Photos – Test Setup.....                                           | 16        |
| 1.4      | Support Equipment.....                                             | 17        |
| 1.5      | Test Modes .....                                                   | 18        |
| 1.6      | Test Frequencies.....                                              | 19        |
| 1.7      | Sample emission level calculation.....                             | 20        |
| <b>2</b> | <b>Result Summary.....</b>                                         | <b>21</b> |
| <b>3</b> | <b>Test Conditions and Results.....</b>                            | <b>22</b> |
| 3.1      | Test Conditions and Results - Transmitter radiated emissions ..... | 22        |
| ANNEX A  | Transmitter spurious emissions .....                               | 25        |

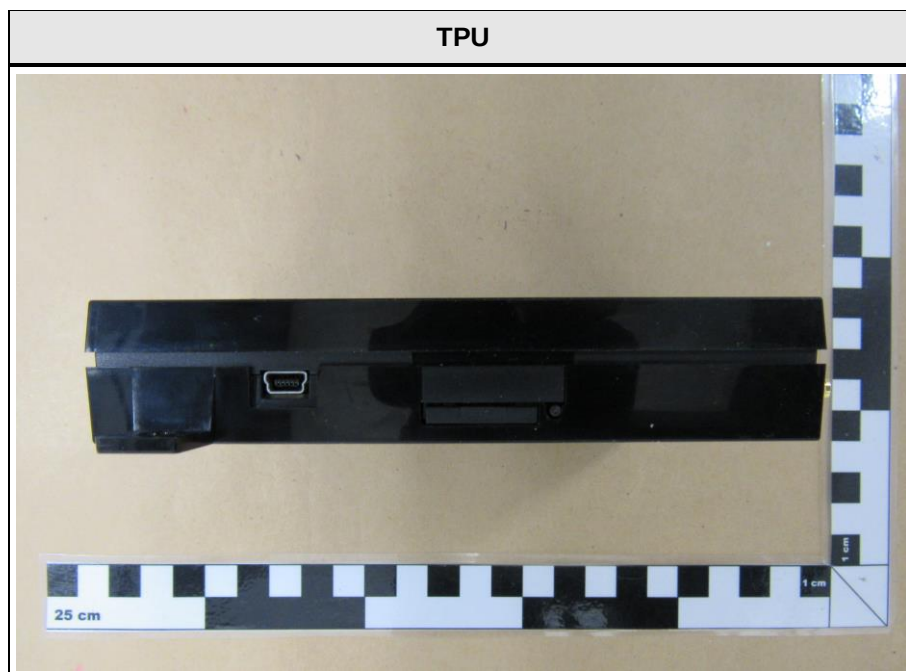
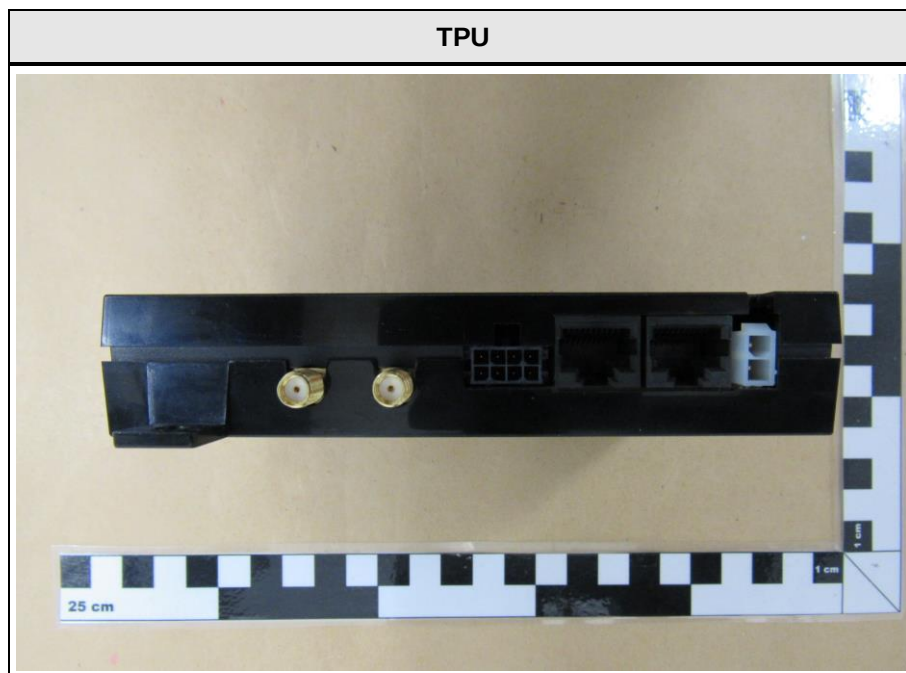
## 1 Equipment (Test Item) Under Test

|                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                      |
|--------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|
| 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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                      |
| FCC-ID                   | 2AU9JPTC6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |
| IC                       | 25691-PTC6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                      |
| Equipment type           | End Product                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                      |
| Radio type               | Transceiver                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                      |
| Assigned frequency bands | IEEE 802.11 = 2400 - 2483.5 MHz<br>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<br>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 |                      |
| Radio technologies       | UMTS / LTE / IEEE 802.11 b/g/n (HT20 + HT40)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                      |
| Operating modes          | UMTS + IEEE 802.11                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                      |
| Number of modules        | 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                      |
| Radio Module IEEE 802.11 | Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | IEEE 802.11          |
|                          | Model                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | WE866C3-P            |
|                          | Manufacturer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Telit                |
|                          | HW Version                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | unspecified          |
|                          | SW Version                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | unspecified          |
|                          | FCC-ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | RI7WE866C3           |
|                          | IC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 5131A-WE866C3        |
| Radio Module UMTS / LTE  | Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | UMTS / LTE           |
|                          | Model                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | LE910C4-NF           |
|                          | Manufacturer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Telit                |
|                          | HW Version                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | unspecified          |
|                          | SW Version                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | unspecified          |
|                          | FCC-ID                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | RI7LE910CXNF         |
|                          | IC                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | 5131A-LE910CXNF      |
| Antenna IEEE 802.11      | Type                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | external             |
|                          | Model                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | ANT-2/5-HDP-2000-SMA |
|                          | Manufacturer                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Linx Technologies    |
|                          | Gain                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 4.0 dBi              |

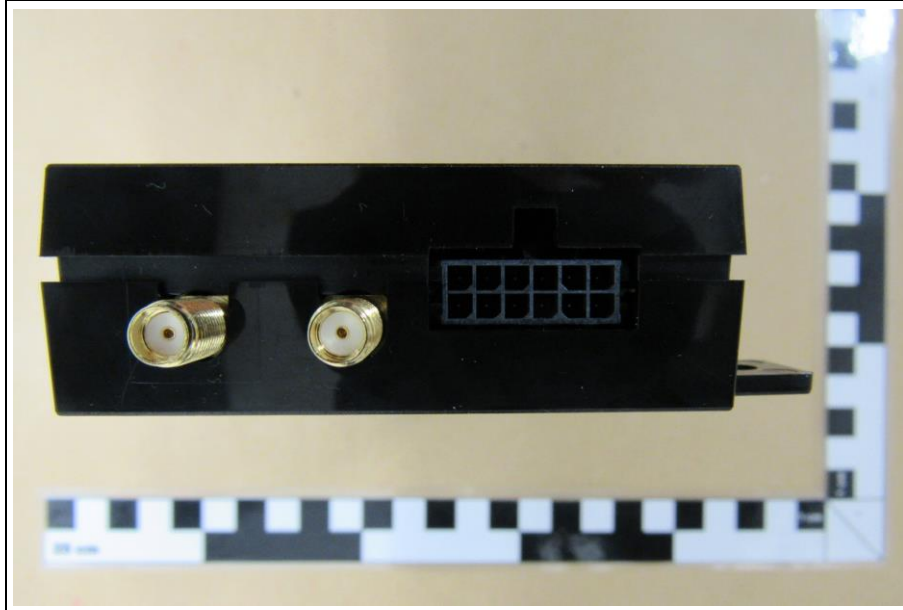
|                    |                                                                            |                        |
|--------------------|----------------------------------------------------------------------------|------------------------|
| Antenna UMTS / LTE | Type                                                                       | 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

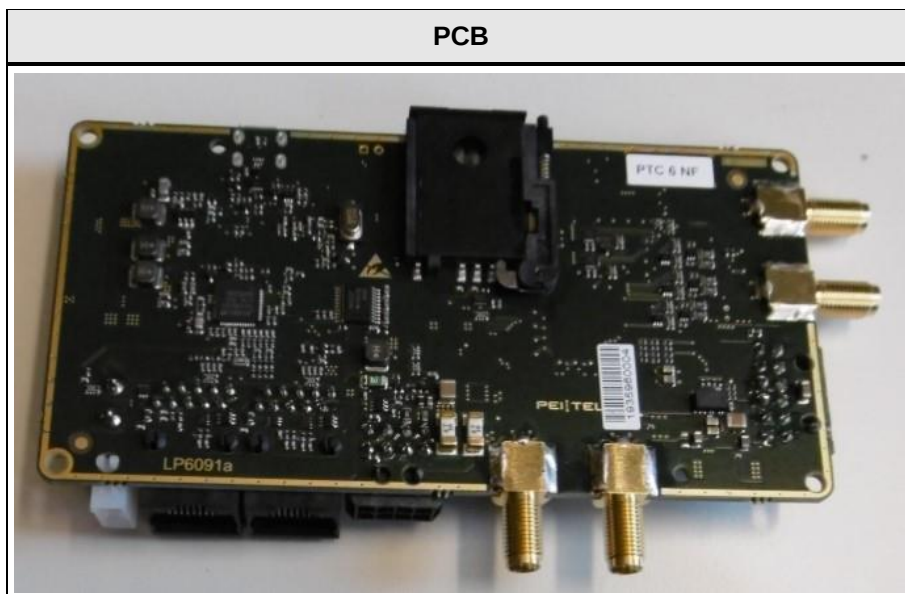


### MICROPHONE



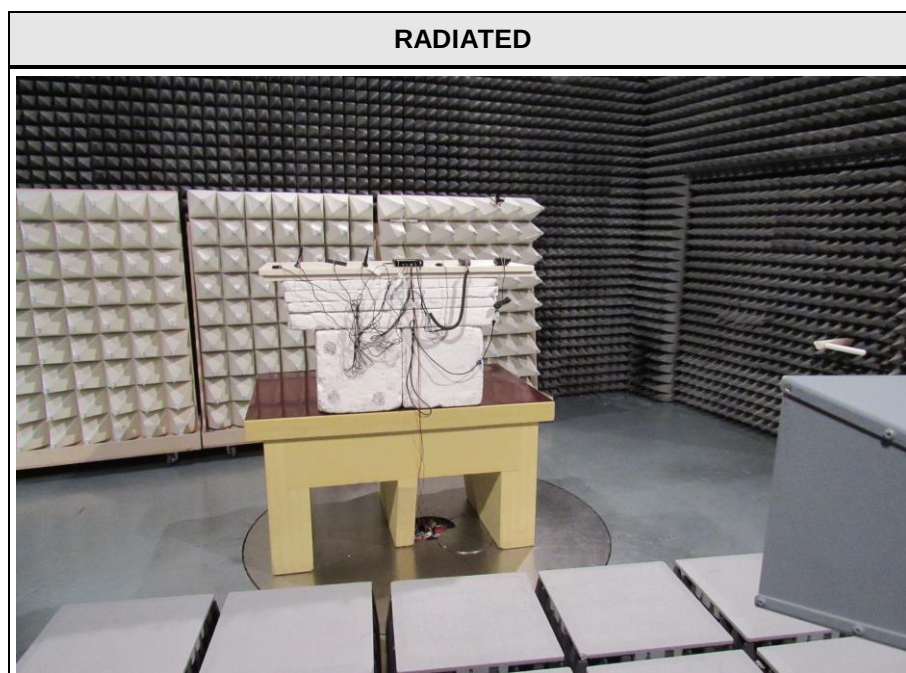
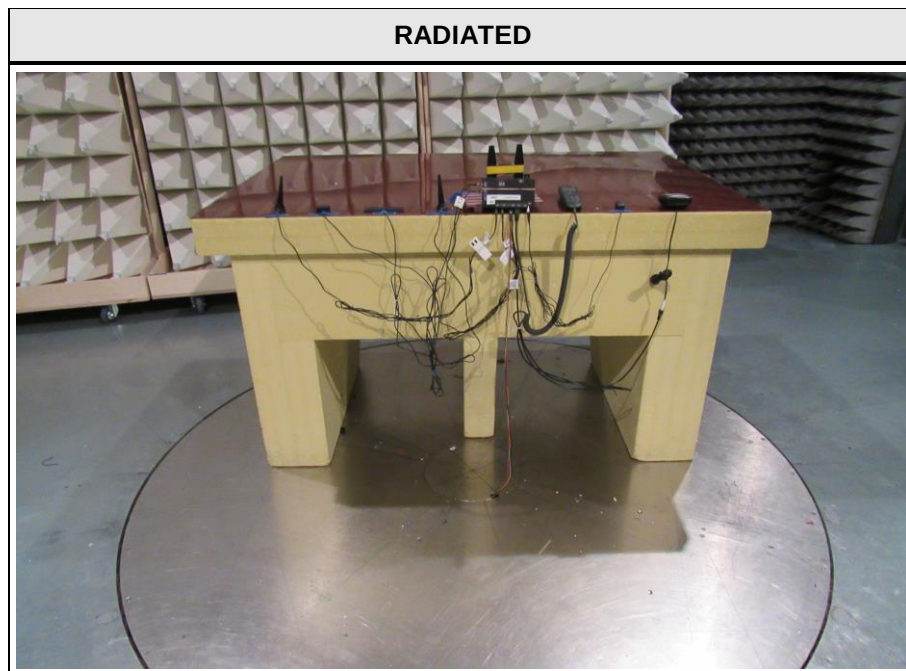


## 1.2 Photos – Equipment Internal



Note: Internal photos provided by manufacturer.

### 1.3 Photos – Test Setup



#### 1.4 Support Equipment

| Product Type | Device               | Manufacturer | Model  | Comment    |
|--------------|----------------------|--------------|--------|------------|
| SIM          | Communication Tester | R&S          | CMW500 | GSM-Tester |
| 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 %                                                              |
| DSSS<br>(IEEE 802.11b)                                                    | Mode = Transmit<br>Modulation = BPSK<br>Spreading = DSSS<br>Bandwidth = 20 MHz<br>Duty cycle = 99%<br>Power setting = TxPowerAuto<br>Data rate = 1 Mbps |
| Comment: The above combination of co-location was found during pre-tests. |                                                                                                                                                         |

## 1.6 Test Frequencies

| Designator | Mode           | Channel | Frequency [MHz] |
|------------|----------------|---------|-----------------|
| F1         | Tx UMTS        | 9400    | 1880            |
| F2         | Tx IEEE 802.11 | 6       | 2437            |

## 1.7 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:

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

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/m | = 47.5 dBμV/m | : | 47.5 dBμV/m - 57.0 dBμV/m | = -9.5 dB |

## 2 Result Summary

| FCC 47 CFR Part 22H, 24E, 27, 90<br>ISED RSS-132, 133, 139, 130, 140                                                                                                         |                                |                           |        |         |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|---------------------------|--------|---------|
| Product Standard Reference                                                                                                                                                   | Requirement                    | Reference Method          | Result | Remarks |
| 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   |         |
| 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 - Transmitter radiated emissions

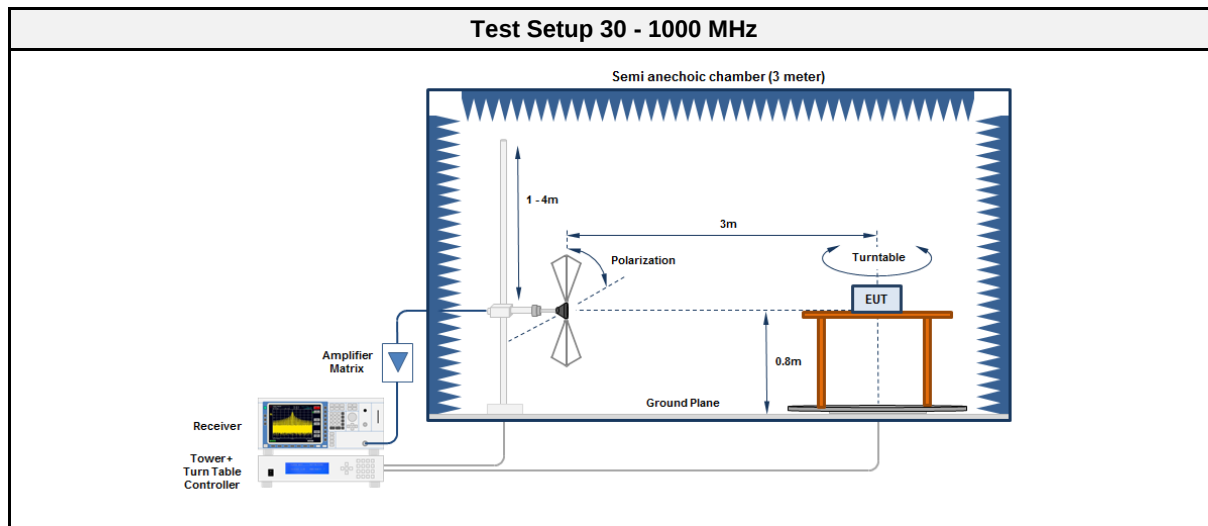
##### 3.1.1 Information

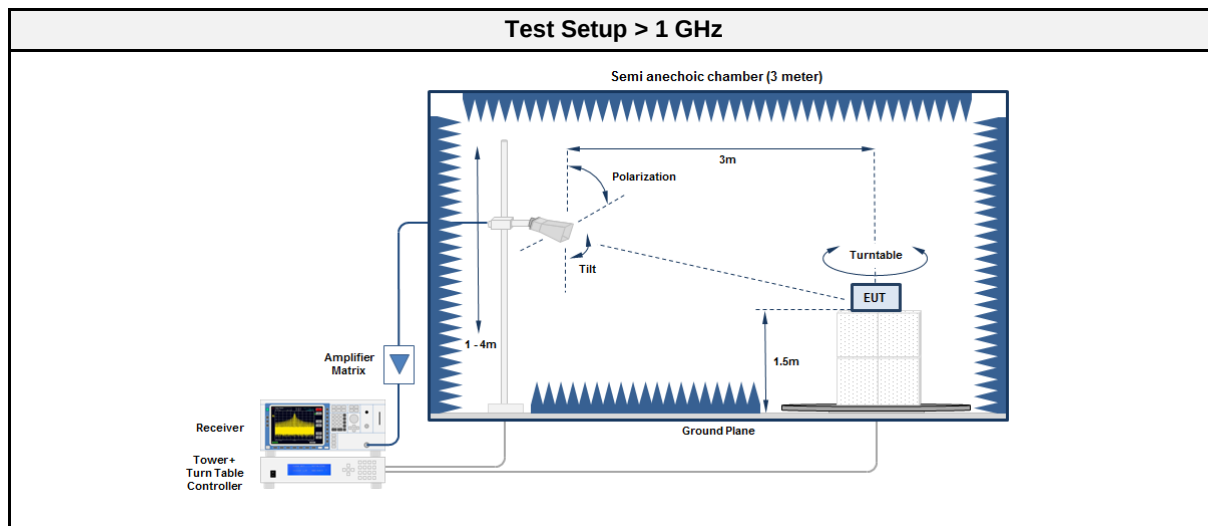
| Test Information   |                                                                                                                                                                              |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 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               | 2020-01-30                                                                                                                                                                   |

##### 3.1.2 Limits

| Limits                        |                                                                                      |
|-------------------------------|--------------------------------------------------------------------------------------|
| Carrier frequency range [MHz] | Limit                                                                                |
| 30 - 22000                    | Attenuation below transmitter power $\geq 43 + 10 \cdot \log_{10}(P)$ [dB] = -13 dBm |

##### 3.1.3 Setup





### 3.1.4 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  |

### 3.1.5 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> |

### 3.1.6 Results

| Test Results - GSM1900 |                                                     |                                         |                |      |                |                |
|------------------------|-----------------------------------------------------|-----------------------------------------|----------------|------|----------------|----------------|
| Frequency<br>[MHz]     | Mode                                                | Emission<br>[MHz]                       | Level<br>[dBm] | Pol. | Limit<br>[dBm] | Margin<br>[dB] |
| 1880 +<br>2437         | UMTS FDDII<br>/ QPSK +<br>DSSS<br>(IEEE<br>802.11b) | No significant spurious emissions found |                |      |                |                |

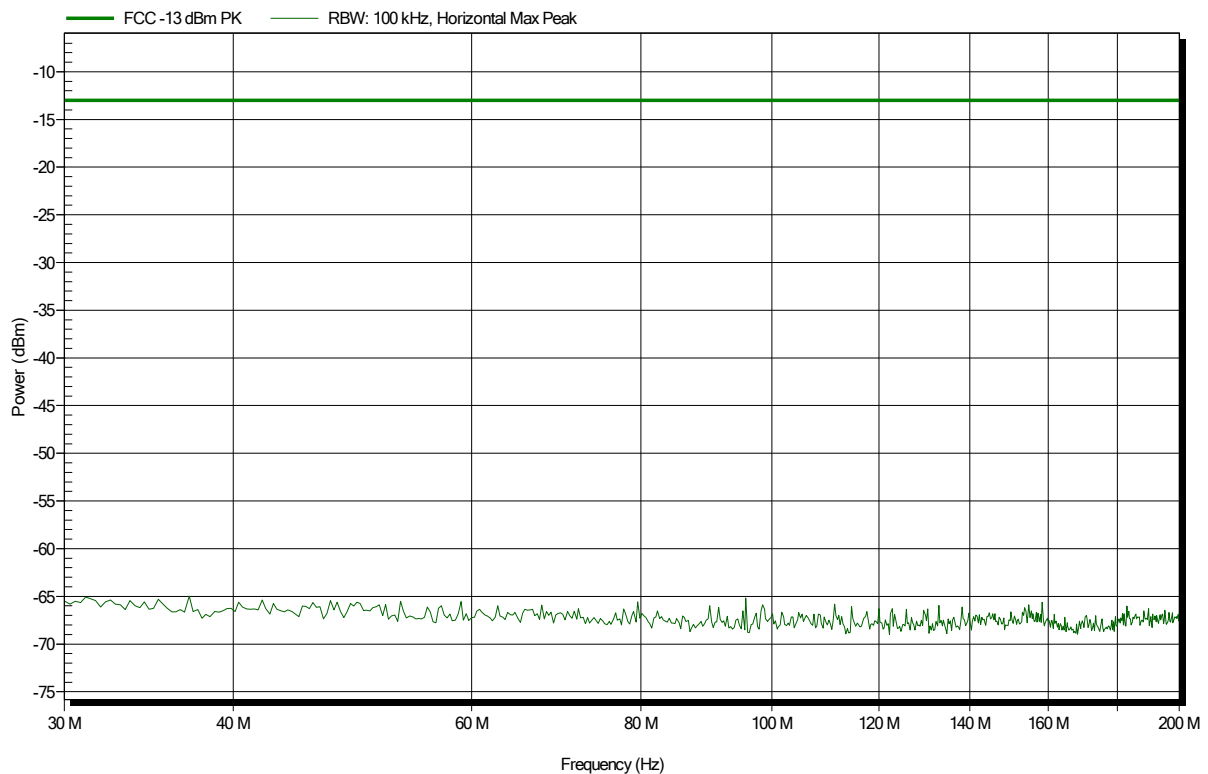
## ANNEX A Transmitter sprurious emissions

### Spurious emissions according to FCC

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarPhone  
Model: PTCarPhone 6  
Test Site: Eurofins Product Service GmbH  
Operator: Toralf Jahn  
Test Conditions: Tnom: 23°C, Vnom: 14.0 VDC  
Antenna: Rohde & Schwarz HK 116, Horizontal  
Measurement distance: 3 m  
Mode: TX; UMTS II 1880 MHz + WLAN 2437 MHz  
Test Date: 2020-01-30  
Note:

Index 15

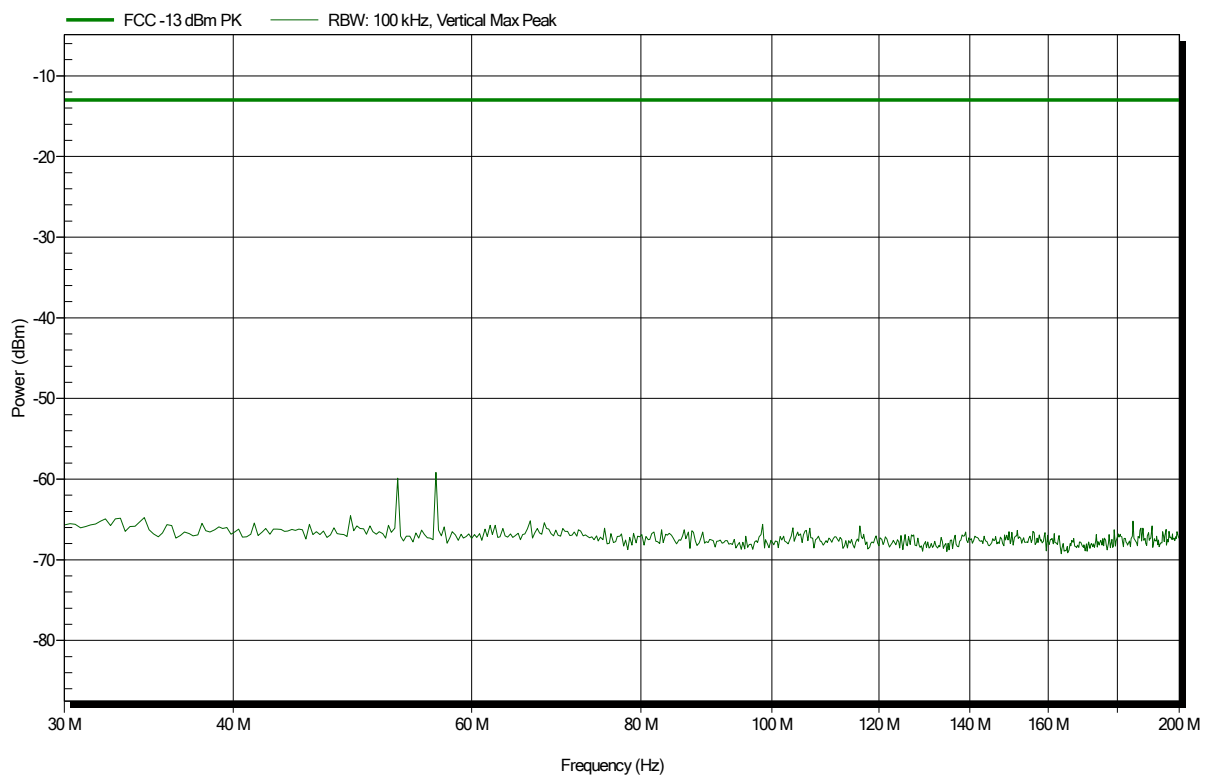


## Spurious emissions according to FCC

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
 EUT Name: PTCarPhone  
 Model: PTCarPhone 6  
 Test Site: Eurofins Product Service GmbH  
 Operator: Toralf Jahn  
 Test Conditions: Tnom: 23°C, Vnom: 14.0 VDC  
 Antenna: Rohde & Schwarz HK 116, Vertical  
 Measurement distance: 3 m  
 Mode: TX; UMTS II 1880 MHz + WLAN 2437 MHz  
 Test Date: 2020-01-30  
 Note:

Index 16

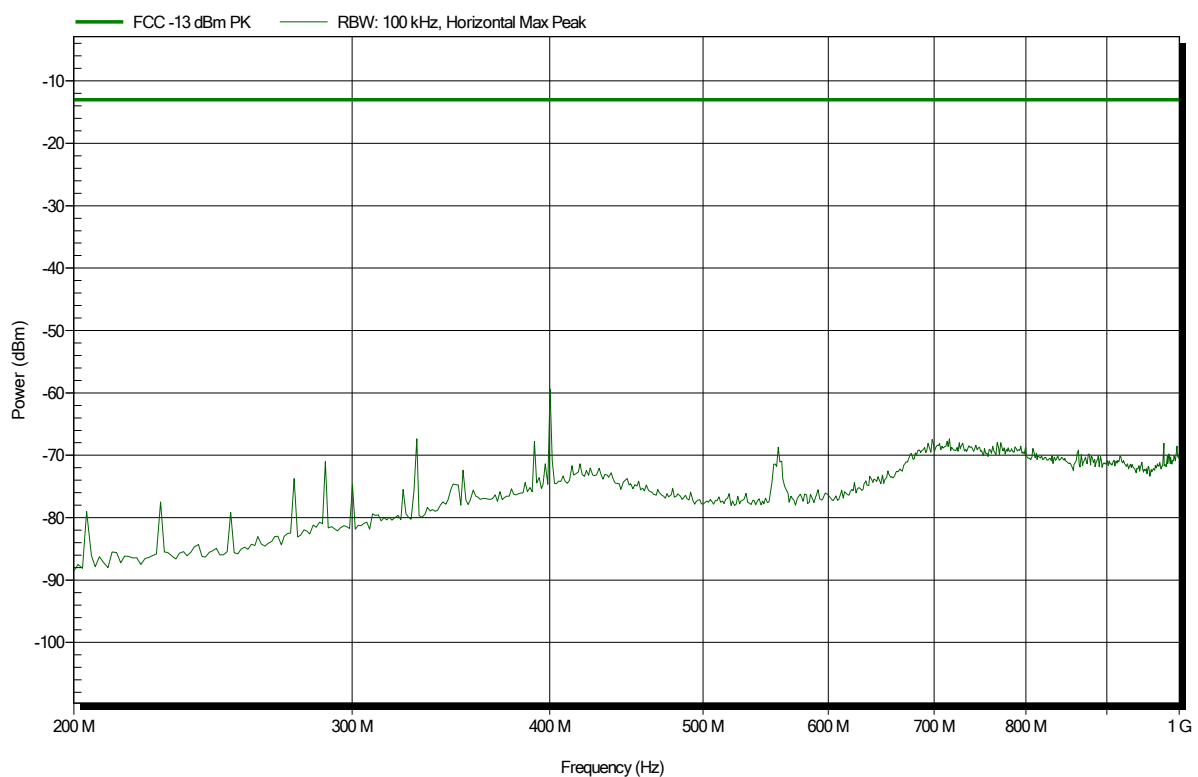


## Spurious emissions according to FCC

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarPhone  
Model: PTCarPhone 6  
Test Site: Eurofins Product Service GmbH  
Operator: Toralf Jahn  
Test Conditions: Tnom: 23°C, Vnom: 14.0 VDC  
Antenna: Rohde & Schwarz HL 223, Horizontal  
Measurement distance: 3 m  
Mode: TX; UMTS II 1880 MHz + WLAN 2437 MHz  
Test Date: 2020-01-30  
Note:

Index 14

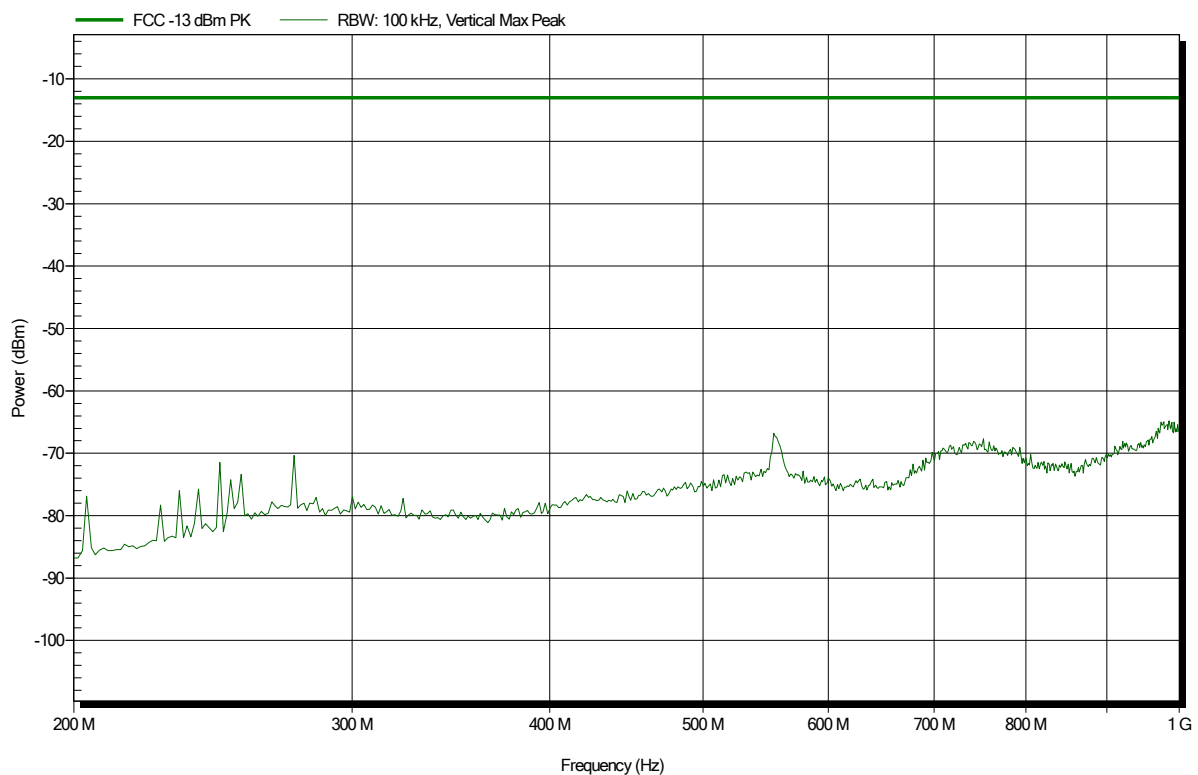


## Spurious emissions according to FCC

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarPhone  
Model: PTCarPhone 6  
Test Site: Eurofins Product Service GmbH  
Operator: Toralf Jahn  
Test Conditions: Tnom: 23°C, Vnom: 14.0 VDC  
Antenna: Rohde & Schwarz HL 223, Vertical  
Measurement distance: 3 m  
Mode: TX; UMTS II 1880 MHz + WLAN 2437 MHz  
Test Date: 2020-01-30  
Note:

Index 13

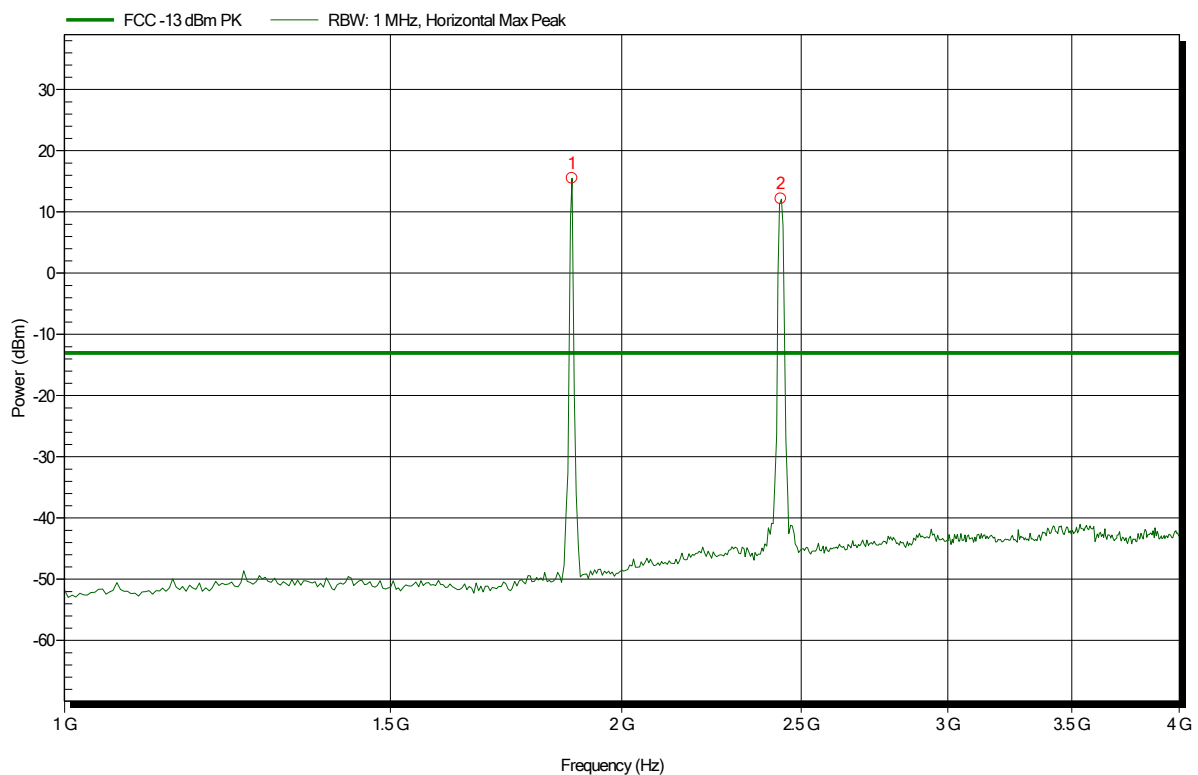


## Spurious emissions according to FCC

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarPhone  
Model: PTCarPhone 6  
Test Site: Eurofins Product Service GmbH  
Operator: Toralf Jahn  
Test Conditions: Tnom: 23°C, Vnom: 14.0 VDC  
Antenna: Schwarzbeck BBHA 9120D, Horizontal  
Measurement distance: 1 m  
Mode: TX; UMTS II 1880 MHz + WLAN 2437 MHz  
Test Date: 2020-01-30  
Note:

Index 17



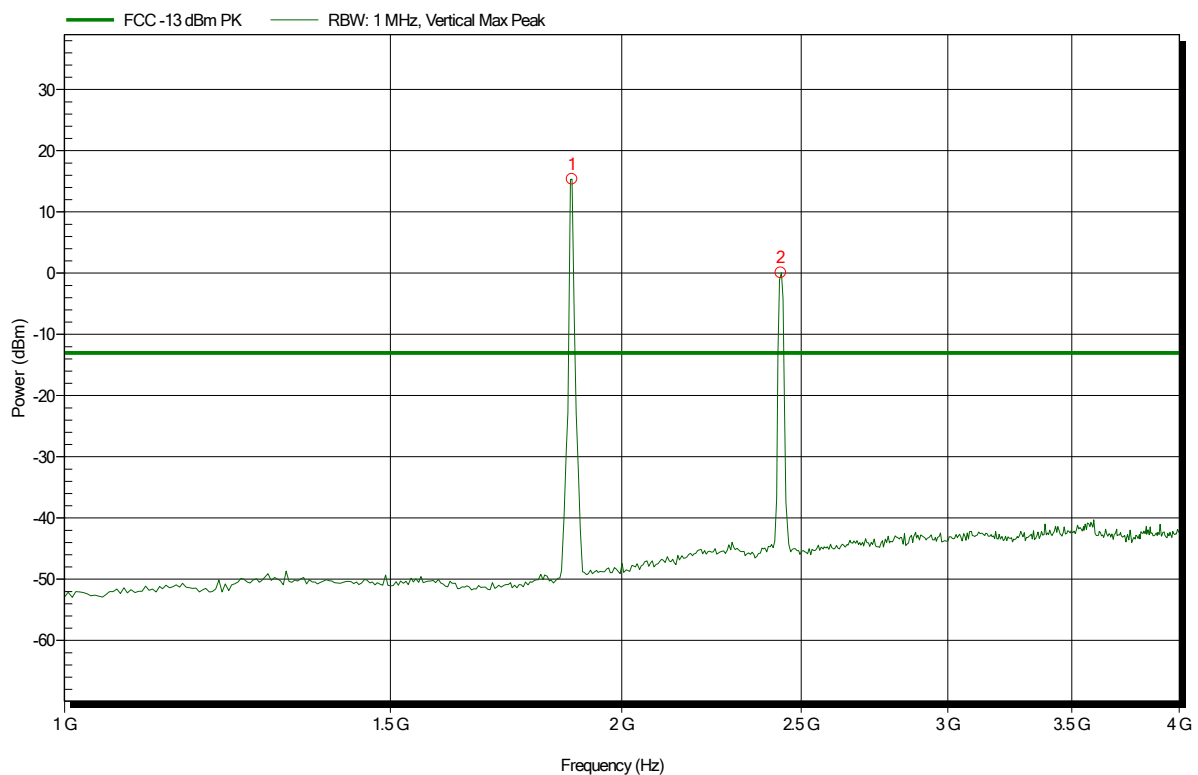
| Frequency | Peak     | Peak Limit | Peak Difference | Peak Status |
|-----------|----------|------------|-----------------|-------------|
| 1.88 GHz  | 15.5 dBm |            |                 | UMTS        |
| 2.438 GHz | 12.1 dBm |            |                 | WLAN        |

## Spurious emissions according to FCC

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarPhone  
Model: PTCarPhone 6  
Test Site: Eurofins Product Service GmbH  
Operator: Toralf Jahn  
Test Conditions: Tnom: 23°C, Vnom: 14.0 VDC  
Antenna: Schwarzbeck BBHA 9120D, Vertical  
Measurement distance: 1 m  
Mode: TX; UMTS II 1880 MHz + WLAN 2437 MHz  
Test Date: 2020-01-30  
Note:

Index 24



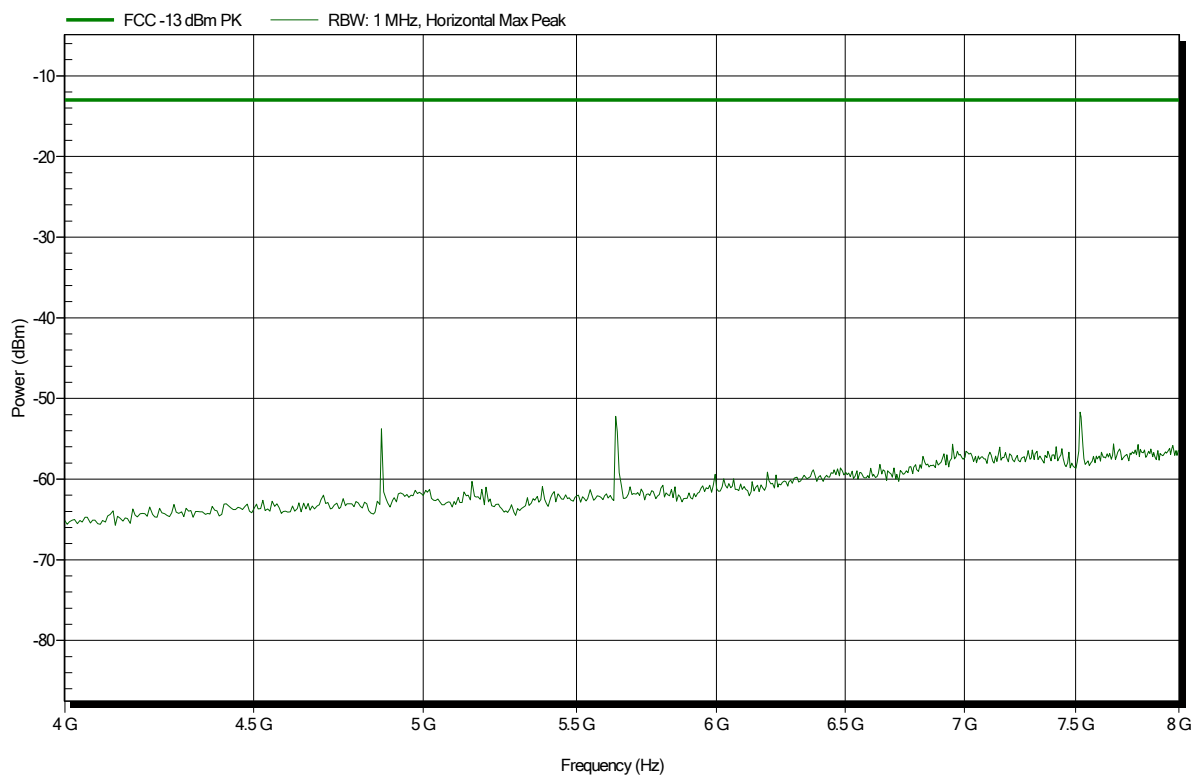
| Frequency | Peak     | Peak Limit | Peak Difference | Peak Status |
|-----------|----------|------------|-----------------|-------------|
| 1.88 GHz  | 15.4 dBm |            |                 | UMTS        |
| 2.438 GHz | 0.1 dBm  |            |                 | WLAN        |

## Spurious emissions according to FCC

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
 EUT Name: PTCarPhone  
 Model: PTCarPhone 6  
 Test Site: Eurofins Product Service GmbH  
 Operator: Toralf Jahn  
 Test Conditions: Tnom: 23°C, Vnom: 14.0 VDC  
 Antenna: Schwarzbeck BBHA 9120D, Horizontal  
 Measurement distance: 1 m  
 Mode: TX; UMTS II 1880 MHz + WLAN 2437 MHz  
 Test Date: 2020-01-30  
 Note:

Index 18

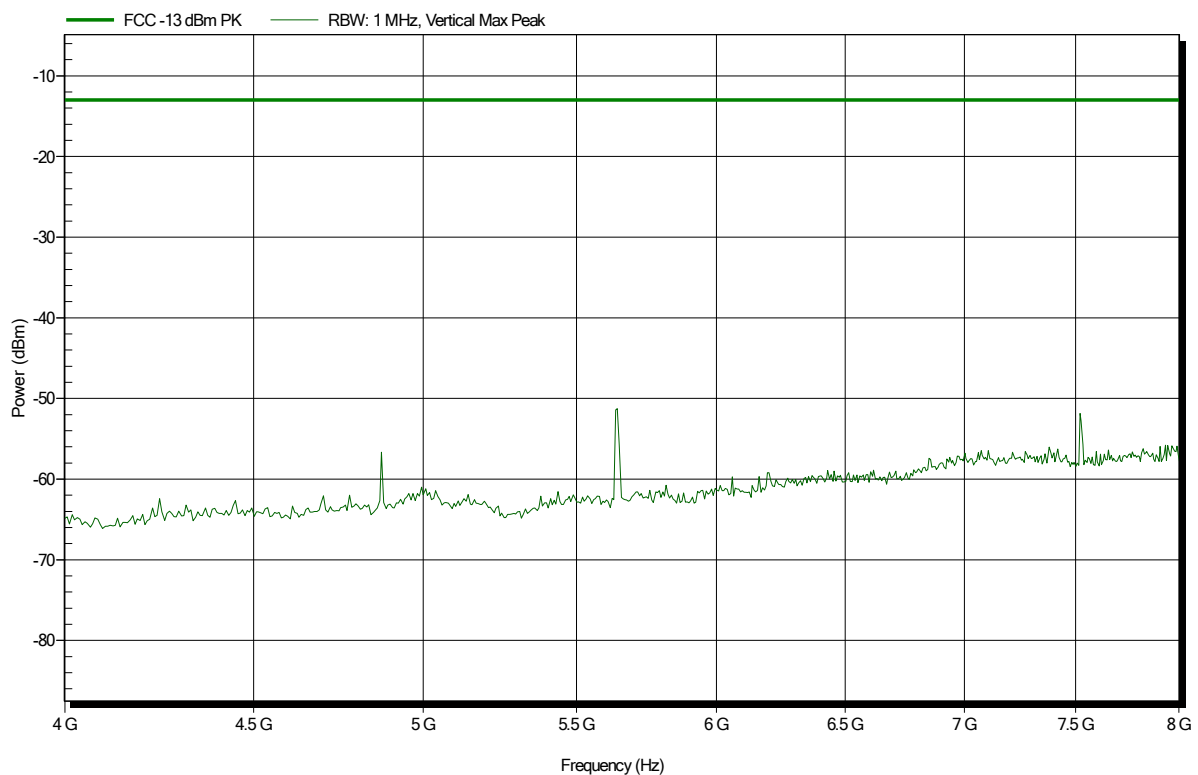


## Spurious emissions according to FCC

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
 EUT Name: PTCarPhone  
 Model: PTCarPhone 6  
 Test Site: Eurofins Product Service GmbH  
 Operator: Toralf Jahn  
 Test Conditions: Tnom: 23°C, Vnom: 14.0 VDC  
 Antenna: Schwarzbeck BBHA 9120D, Vertical  
 Measurement distance: 1 m  
 Mode: TX; UMTS II 1880 MHz + WLAN 2437 MHz  
 Test Date: 2020-01-30  
 Note:

Index 23

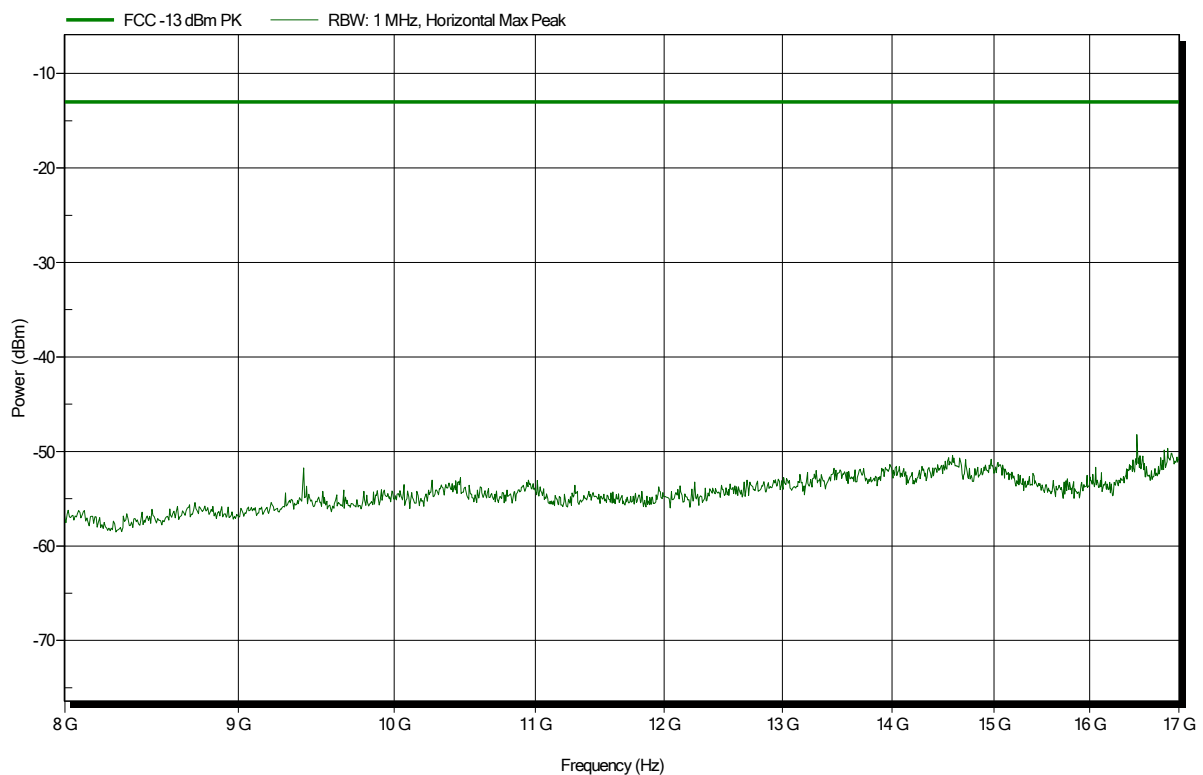


## Spurious emissions according to FCC

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
 EUT Name: PTCarPhone  
 Model: PTCarPhone 6  
 Test Site: Eurofins Product Service GmbH  
 Operator: Toralf Jahn  
 Test Conditions: Tnom: 23°C, Vnom: 14.0 VDC  
 Antenna: Schwarzbeck BBHA 9120D, Horizontal  
 Measurement distance: 3 m  
 Mode: TX; UMTS II 1880 MHz + WLAN 2437 MHz  
 Test Date: 2020-01-30  
 Note:

Index 19

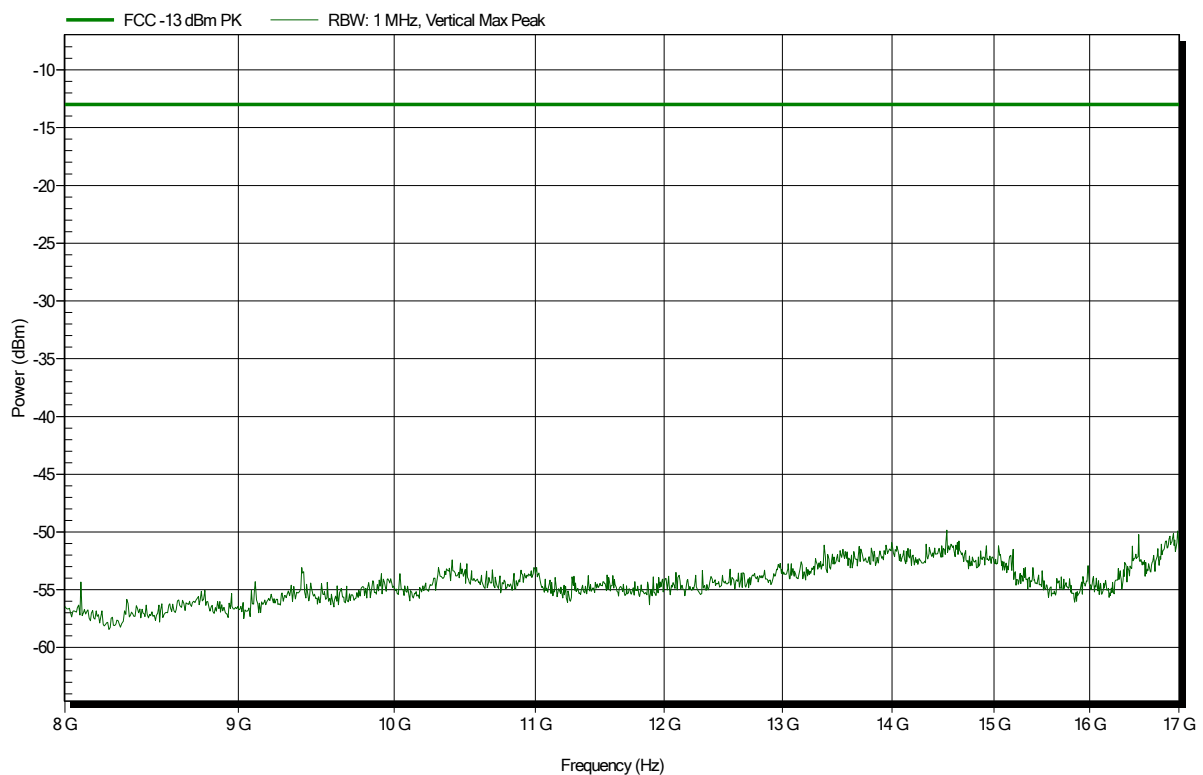


## Spurious emissions according to FCC

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
 EUT Name: PTCarPhone  
 Model: PTCarPhone 6  
 Test Site: Eurofins Product Service GmbH  
 Operator: Toralf Jahn  
 Test Conditions: Tnom: 23°C, Vnom: 14.0 VDC  
 Antenna: Schwarzbeck BBHA 9120D, Vertical  
 Measurement distance: 1 m  
 Mode: TX; UMTS II 1880 MHz + WLAN 2437 MHz  
 Test Date: 2020-01-30  
 Note:

Index 22

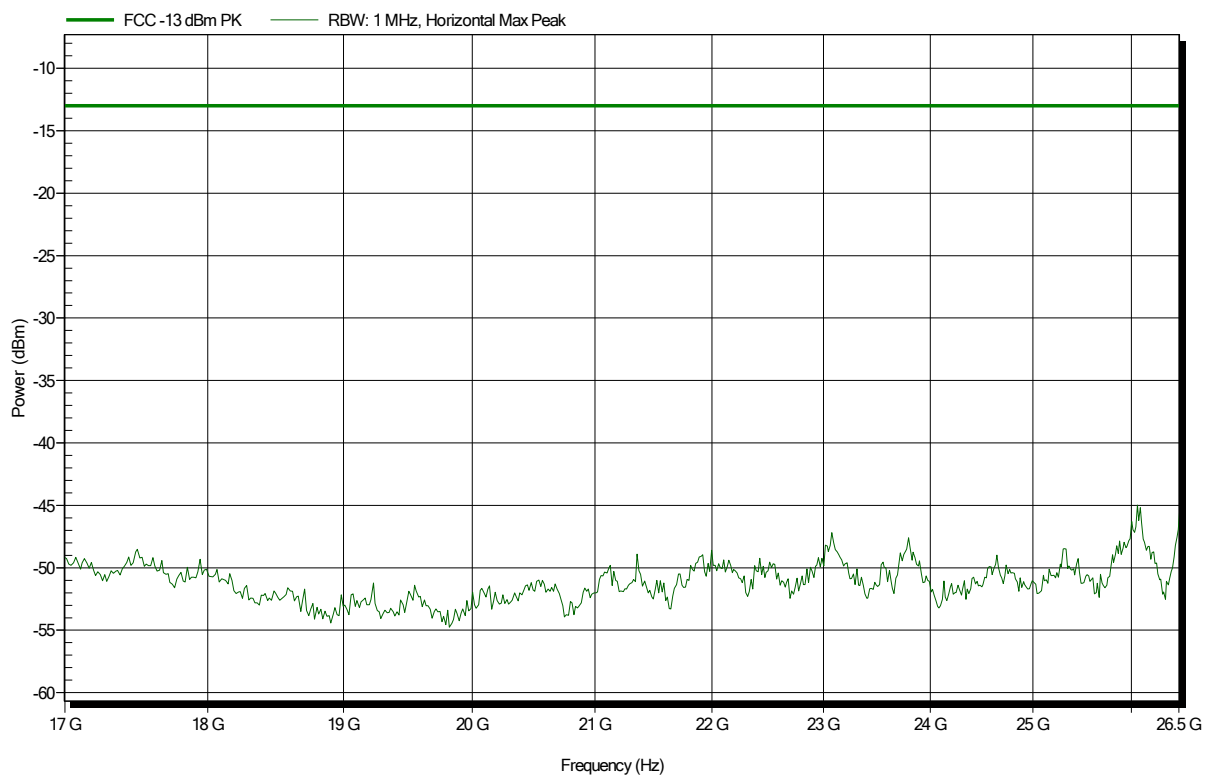


## Spurious emissions according to FCC

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
EUT Name: PTCarPhone  
Model: PTCarPhone 6  
Test Site: Eurofins Product Service GmbH  
Operator: Toralf Jahn  
Test Conditions: Tnom: 23°C, Vnom: 14.0 VDC  
Antenna: Amplifier Research AT4560, Horizontal  
Measurement distance: 1 m  
Mode: TX; UMTS II 1880 MHz + WLAN 2437 MHz  
Test Date: 2020-01-30  
Note:

Index 20



## Spurious emissions according to FCC

Project number: G0M-1909-8479

Applicant: pei tel Communications GmbH  
 EUT Name: PTCarPhone  
 Model: PTCarPhone 6  
 Test Site: Eurofins Product Service GmbH  
 Operator: Toralf Jahn  
 Test Conditions: Tnom: 23°C, Vnom: 14.0 VDC  
 Antenna: Amplifier Research AT4560, Vertical  
 Measurement distance: 1 m  
 Mode: TX; UMTS II 1880 MHz + WLAN 2437 MHz  
 Test Date: 2020-01-30  
 Note:

Index 21

