

# TEST REPORT

No.: 18-1-0002701T04a-C2

According to:  
**FCC Regulations**  
Part 1.1310  
Part 2.1091

for

**Agilion GmbH**

**WIRELESS TAG EPAPER 3 PULSE | PHASE**

FCC ID: SCF6032704

| Laboratory Accreditation                                                                                                                                                                                                                                                                                                                   |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <div><p>Deutsche<br/>Akkreditierungsstelle<br/>D-PL-12047-01-01<br/>D-PL-12047-01-03<br/>D-PL-12047-01-04</p></div>                                                  |
| accredited according to DIN EN ISO/IEC 17025                                                                                                                                                                                                                                                                                               |
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| Laboratory Accreditation                                                                                                                                                                                                                                                                                                                   |

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Annex 1: Separate document applicant's document "MPE-SIEMENS-102-200107\_EPaper3"

01

The listed attachments are an integral part of this report.

## 1. Summary of test results

The test results apply exclusively to the test samples as presented in this Report. The CETECOM GmbH does not assume responsibility for any conclusions and generalizations taken in conjunction with other specimens or samples of the type of the item presented to tests.

The presented Equipment Under Test (in this report, hereinafter referred as EUT) integrates a BT 2.4 GHz RF Transceiver. Other implemented wireless technologies were not considered within this test report. Following tests have been performed to show compliance with applicable FCC Part 2.1091 and FCC Part 1.1310 of the FCC CFR 47 Rules.

### 1.1. Summary of tests results

| RF-Exposure Evaluation (separation distance user to RF-radiating element greater 20cm) |         |                               |                                                                                        |            |              |        |
|----------------------------------------------------------------------------------------|---------|-------------------------------|----------------------------------------------------------------------------------------|------------|--------------|--------|
| Test cases                                                                             | Port    | References & Limits           |                                                                                        | EUT set-up | EUT op. mode | Result |
|                                                                                        |         | FCC Standard                  | Test Limit                                                                             |            |              |        |
| Radio frequency radiation exposure Requirements                                        | Cabinet | §1.1310<br>§2.1091<br>§2.1093 | RF-Field Strength Limits:<br>FCC: "general population/<br>uncontrolled"<br>environment | 1          | 1-2          | Pass   |

**Remark:** Calculations based on Datasheet delivered by applicant

The current version of the Test Report CETECOM\_TR18-1-0002701T04a-C1 replaces the Test Report CETECOM\_TR18-1-0002701T04a dated 2018-06-20. The replaced test report is herewith invalid.

### 1.2. Attestation:

I declare that all measurements were performed by me or under my supervision and that all measurements have been performed and are correct to my best knowledge and belief to Industry Canada standards. All requirements as shown in above table are met in accordance with enumerated standards.

.....  
Volker Wittmann  
Responsible for test section

.....  
Ninovic Perez  
Responsible for test report

## 2. Administrative Data

### 2.1. Identification of the testing laboratory

|                                     |                                                      |
|-------------------------------------|------------------------------------------------------|
| Company name:                       | CETECOM GmbH                                         |
| Address:                            | Im Teelbruch 116<br>45219 Essen - Kettwig<br>Germany |
| Responsible for testing laboratory: | Volker Wittmann                                      |
| Deputy:                             | Dipl.-Ing. Niels Jeß                                 |

### 2.2. Test location

#### 2.2.1. Test laboratory "CTC"

|               |                                                           |
|---------------|-----------------------------------------------------------|
| Company name: | see chapter 2.1. Identification of the testing laboratory |
|---------------|-----------------------------------------------------------|

### 2.3. Organizational items

|                              |               |
|------------------------------|---------------|
| Responsible for test report: | Ninovic Perez |
| Receipt of EUT:              | --            |
| Date(s) of test:             | --            |
| Date of report:              | 2020-01-07    |

### 2.4. Applicant's details

|                   |                                                  |
|-------------------|--------------------------------------------------|
| Applicant's name: | Agilion GmbH                                     |
| Address:          | Blankenauer Str. 74<br>09113 Chemnitz<br>Germany |
| Contact person:   | Sven Sieber                                      |

### 2.5. Manufacturer's details

|                      |                                |
|----------------------|--------------------------------|
| Manufacturer's name: | please see applicant's details |
| Address:             | please see applicant's details |

### 3. Equipment under test (EUT)

#### 3.1. Summary of product description

|                     |                                                                                                                                                                                                                                                                                 |                                                                                                            |  |
|---------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|--|
| FCC ID:             | SCF6032704                                                                                                                                                                                                                                                                      |                                                                                                            |  |
| Product name        | WIRELESS TAG EPAPER 3 PULSE   PHASE                                                                                                                                                                                                                                             |                                                                                                            |  |
| Exposure category   | <input checked="" type="checkbox"/> General population/uncontrolled environment<br><input type="checkbox"/> Occupational exposure/controlled environment                                                                                                                        |                                                                                                            |  |
| Output power        | <input type="checkbox"/> Conducted<br><input type="checkbox"/> ERP<br><input checked="" type="checkbox"/> EIRP<br><input type="checkbox"/> Peak<br><input checked="" type="checkbox"/> Source-based time-averaging                                                              |                                                                                                            |  |
| Antenna gain        | details refer to: "2018-06-18_Erklaerung_MPE"                                                                                                                                                                                                                                   |                                                                                                            |  |
| Technology          | <input type="checkbox"/> MIMO                                                                                                                                                                                                                                                   | <input type="checkbox"/> 2T2R<br><input type="checkbox"/> 3T3R<br><input type="checkbox"/> 4T4R            |  |
|                     | <input checked="" type="checkbox"/> non-MIMO                                                                                                                                                                                                                                    | <input checked="" type="checkbox"/> 1T1R<br><input type="checkbox"/> 1T2R<br><input type="checkbox"/> 2T1R |  |
| Evaluation type     | <input checked="" type="checkbox"/> Standalone<br><input type="checkbox"/> Simultaneous transmission                                                                                                                                                                            |                                                                                                            |  |
| Evaluation distance | <input type="checkbox"/> 20 cm                                                                                                                                                                                                                                                  |                                                                                                            |  |
|                     | <input checked="" type="checkbox"/> 0 mm                                                                                                                                                                                                                                        | declares by manufacturer                                                                                   |  |
| EUT type            | <input checked="" type="checkbox"/> Production Unit<br><input type="checkbox"/> Pre-Production Unit<br><input type="checkbox"/> Engineering Unit                                                                                                                                |                                                                                                            |  |
| Device type         | <input checked="" type="checkbox"/> Mobile device<br><input type="checkbox"/> Fixed device                                                                                                                                                                                      |                                                                                                            |  |
| Refer rules         | <input checked="" type="checkbox"/> CFR 47 FCC Part 2.1091<br><input checked="" type="checkbox"/> CFR 47 FCC Part 1.1310<br><input checked="" type="checkbox"/> KDB 447497 D01v06 October 23, 2015<br><input checked="" type="checkbox"/> KDB 865664 D01v01r02 October 23, 2015 |                                                                                                            |  |

#### 3.2. EUT Technologies

| Wireless Technologies                      | Frequency bands                             | Operation mode        |
|--------------------------------------------|---------------------------------------------|-----------------------|
| <input checked="" type="checkbox"/> ZigBee | <input checked="" type="checkbox"/> 2.4 GHz | normal operation mode |
| <input checked="" type="checkbox"/> UWB    | <input checked="" type="checkbox"/> 4 GHz   | normal operation mode |

#### 3.3. Antenna Information

| Wireless Technologies                      | Frequency bands                             | Antenna type                                                             | Maximum antenna gain                          |                |
|--------------------------------------------|---------------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------|----------------|
| <input checked="" type="checkbox"/> ZigBee | <input checked="" type="checkbox"/> 2.4 GHz | <input type="checkbox"/> PIFA<br><input checked="" type="checkbox"/> PCB | <input checked="" type="checkbox"/> Antenna 0 | 2 dBi gain max |
| <input checked="" type="checkbox"/> UWB    | <input checked="" type="checkbox"/> 4 GHz   | <input type="checkbox"/> PIFA<br><input checked="" type="checkbox"/> PCB | <input checked="" type="checkbox"/> Antenna 1 | 2 dBi gain max |

### 3.4. EUT: Type, S/N etc. and short descriptions used in this test report

| Short description*) | EUT                                       | Type    | S/N serial number | HW hardware status | SW software status |
|---------------------|-------------------------------------------|---------|-------------------|--------------------|--------------------|
| EUT A               | WIRELESS TAG<br>EPAPER 3 PULSE  <br>PHASE | 6032704 | A48307            | 100010615          | 2.0.19             |

\*) EUT short description is used to simplify the identification of the EUT in this test report.

### 3.5. Auxiliary Equipment (AE): Type, S/N etc. and short descriptions

| AE short description *) | Auxiliary Equipment | Type | S/N serial number | HW hardware status | SW software status |
|-------------------------|---------------------|------|-------------------|--------------------|--------------------|
| AE 1                    | --                  | --   | --                | --                 | --                 |

\*) AE short description is used to simplify the identification of the auxiliary equipment in this test report.

### 3.6. EUT set-ups

| EUT set-up no. *) | Combination of EUT and AE | Remarks |
|-------------------|---------------------------|---------|
| set. 1            | EUT A                     | --      |

\*) EUT set-up no. is used to simplify the identification of the EUT set-up in this test report.

### 3.7. EUT operating modes

| EUT operating mode no. *) | Description of operating modes | Additional information         |
|---------------------------|--------------------------------|--------------------------------|
| op. 1                     | ZigBee                         | Only theoretically calculation |
| op. 2                     | UWB                            | Only theoretically calculation |

\*) EUT operating mode no. is used to simplify the test report.

## 4. Measurements

### 4.1. Radio Frequency Exposure Evaluation §2.1091

#### 4.1.1. Test location and equipment (for reference numbers please see chapter 'List of test equipment')

|               |                                                                                                                                   |                                                    |                                                    |
|---------------|-----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------|----------------------------------------------------|
| test location | <input checked="" type="checkbox"/> CETECOM Essen (Chapter. 2.2.1)                                                                | <input type="checkbox"/> Please see Chapter. 2.2.2 | <input type="checkbox"/> Please see Chapter. 2.2.3 |
|               | For Evaluation instruments are not needed. Results are determined by calculation based on applicants delivered Tune-Up procedure. |                                                    |                                                    |

#### 4.1.2. Requirements

|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|--------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FCC: §1.1310 | <i>The criteria used for the evaluation of human exposure to radio frequency radiation is table 1 according FCC §1.1310 and table chapter 4.2 of RSS-102 standard and it is subject for evaluation of the RF exposure prior to equipment authorization.<br/>As the mobile equipment is authorized under Part 22 (Subpart H) and Part 24 of the FCC Rules, it is subject for evaluation of the RF exposure prior to equipment authorization.</i>                                                                                                                                                                                                                                                           |
| FCC § 2.1091 | <i>Further information on evaluating compliance with these limits can be found in the FCC's OST/OET Bulletin Number 65, "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radiofrequency Radiation."<br/>For purposes of these requirements mobile devices are defined by the FCC as transmitters designed to be used in other than fixed locations and to generally be used in such a way that a separation distance of at least 20 centimeters is normally maintained between radiating structures and the body of the user or nearby persons. These devices are normally evaluated for exposure potential with relation to the MPE limits given in Table 1 of Appendix A.</i> |

#### 4.1.2.1. Valid for FCC

| Table 1: LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)    |                               |                               |                                     |                          |
|-----------------------------------------------------------|-------------------------------|-------------------------------|-------------------------------------|--------------------------|
| Frequency range [MHz]                                     | Electric field strength [V/m] | Magnetic field strength [A/m] | Power density [mW/cm <sup>2</sup> ] | Averaging time [minutes] |
| 30 - 300                                                  | 61.4                          | 0.163                         | 1.0                                 | 6                        |
| 300 - 1500                                                | -                             | -                             | f/300                               | 6                        |
| 1500 - 100,000                                            | -                             | -                             | 5                                   | 6                        |
| (B) Limits for General Population / Uncontrolled Exposure |                               |                               |                                     |                          |
| 0.3 - 1.34                                                | 614                           | 1.63                          | *(100)                              | 30                       |
| 1.34 - 30                                                 | 824/f                         | 2.19/f                        | *(180/f <sup>2</sup> )              | 30                       |
| 30 - 300                                                  | 27.5                          | 0.073                         | 0.2                                 | 30                       |
| 300 - 1500                                                | -                             | -                             | f/1500                              | 30                       |
| 1500 - 100,000                                            | -                             | -                             | 1.0                                 | 30                       |

f=frequency in MHz

\*Plane-wave equivalent power density

NOTE1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure. These limits apply to amateur station licensees and members of their immediate household as discussed in the text.

NOTE2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure. As discussed in the text, these limits apply to neighbors living near amateur radio stations.

#### 4.1.3 General Limits:

|                        |                                                                                                                                                                                                                                                       |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FCC: §1.1307           | Cellular Radiotelephone Service (subpart H of part 22)<br>Non-building-mounted antennas: height above ground level to lowest point of antenna < 10 m and total power of all channels > 1000 W ERP (1640 W EIRP)                                       |
| FCC §1.1307            | Personal Communications Services (part 24)<br>Broadband PCS (subpart E): non-building-mounted antennas: height above ground level to lowest point of antenna < 10 m and total power of all channels > 2000 W ERP (3280 W EIRP)                        |
| FCC §1.1310            | LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)<br>Table 1(B) Limits for General Population/Uncontrolled Exposure<br>300–1500 MHz: $f/1500 \text{ mW/cm}^2$<br>1500–100.000 MHz: $1.0 \text{ mW/cm}^2$                                                  |
| FCC §2.1091            | Subject to routine evaluation is required when the device operate at frequencies of 1.5 GHz or below and their effective radiated power (ERP) is 1.5 watts or more, or if they operate at frequencies above 1.5 GHz and their ERP is 3 watts or more. |
| FCC §24.232            | (a) Base stations are limited to 1640 watts peak equivalent isotropically radiated power (e.i.r.p.) with an antenna height up to 300 meters HAAT.<br>b) Mobile/portable stations are limited to 2 watts e.i.r.p. peak power, ...                      |
| FCC §22.913            | (a) Maximum ERP. The effective radiated power (ERP) of base transmitters and cellular repeaters must not exceed 500 Watts. The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.                                    |
| FCC §27.50<br>(C )(10) | (10) Portable stations (hand-held devices) are limited to 3 watts ERP; and                                                                                                                                                                            |
| FCC §27.50(d)          | (4) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band are limited to 1 watt EIRP.                                                                                                                                  |
| KDBs                   | No. 447498 D01 v06                                                                                                                                                                                                                                    |



### 4.3. General SAR test exclusion guidance

#### 4.3.1 Standalone SAR test exclusion considerations

For 100 MHz to 6 GHz and test separation distances  $\leq 50$  mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0$$
 for 1-g SAR, and  $\leq 7.5$  for 10-g extremity SAR,  
where  $f(\text{GHz})$  is the RF channel transmit frequency in GHz

#### 4.3.2 Simultaneous transmission SAR test exclusion considerations

Simultaneous transmission SAR test exclusion is determined for each operating configuration and exposure condition according to the reported standalone SAR of each applicable simultaneously transmitting antenna. When the sum of 1-g or 10-g SAR of all simultaneously transmitting antennas in an operating mode and exposure condition combination is within the SAR limit, SAR test exclusion applies to that simultaneous transmission configuration.

### 4.4. Evaluation Method

#### 4.4.1. Standalone

**Valid for ZigBee Mode:**

- The peak power was checked on 3 frequencies (lowest/middle/highest) within the ZigBee band and the results compared to applicant's declared power values (datasheet).
- No duty-cycle correction factor is applicable

**Valid for UWB Mode:**

- The peak power was checked on 3 frequencies (lowest/middle/highest) within the UWB bands and the results compared to applicant's declared power values (datasheet).
- No duty-cycle correction factor is applicable

Please find in the following tables the calculations based on applicants datasheet for the power values.

## 4.5. Results for fixed and mobile

### 4.5.1. Results for FCC Standard

#### 4.5.1.1. Test exclusion for ZigBee 2.4 GHz

Maximum Rated Conducted Output Power = 4 dBm  
Production Tune Up Tolerance = 2 dBm  
Maximum Antenna Gain = 2 dBi

Declared Maximum EIRP = 8 dBm  
Declared Maximum EIRP (mW) = 6.309573

Minimum Separation Distance = 0 mm\*

Transmit Frequency 2.483 GHz

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] = \mathbf{1.99}$

Note \* When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.

The result is rounded to one decimal place for comparison

**$2.0 \leq 3.0$  for 1-g SAR, and  $\leq 7.5$  for 10-g extremity SAR**

#### 4.5.1.2. Test exclusion for UWB 4GHz

Maximum Rated Conducted Output Power = -14.31 dBm  
Production Tune Up Tolerance = 2 dBm  
Maximum Antenna Gain = 2 dBi

Declared Maximum EIRP = -10.31 dBm  
Declared Maximum EIRP (mW) = 0.093111

Minimum Separation Distance = 0 mm\*

Transmit Frequency 4.2085 GHz

$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] = \mathbf{0.038}$

Note \* When the minimum test separation distance is < 5 mm, a distance of 5 mm according to 4.1 f) is applied to determine SAR test exclusion.

The result is rounded to one decimal place for comparison

**$0.0 \leq 3.0$  for 1-g SAR, and  $\leq 7.5$  for 10-g extremity SAR**

**4.5.1.3. Simultaneous transmission SAR test exclusion considerations**

Following table shows calculations with ZigBee and UWB technology active in the device.

**Test exclusion for ZigBee 2.4 GHz + Test exclusion for UWB 4 GHz**

$$1.99 + 0.038 = 2.028$$

The result is rounded to one decimal place for comparison

**$2.0 \leq 3.0$  for 1-g SAR, and  $\leq 7.5$  for 10-g extremity SAR**

**4.6. Conclusion**

The measurement results comply with the FCC Limit per 47 CFR 2.1091 for the uncontrolled RF Exposure of mobile device.

#### 4.7. Measurement uncertainties

The reported uncertainties are calculated based on the standard uncertainty multiplied with the appropriate coverage factor **k**, such that a confidence level of approximately 95% is achieved.

For uncertainty determination, each component used in the concrete measurement set-up was taken in account and its contribution to the overall uncertainty according to its statistical distribution calculated.

Following table shows expectable uncertainties for each measurement type performed.

| RF-Measurement                            | Reference    | Frequency range                     | Calculated uncertainty based on a confidence level of 95% |        |     |    |    |  |                      | Remarks                                   |
|-------------------------------------------|--------------|-------------------------------------|-----------------------------------------------------------|--------|-----|----|----|--|----------------------|-------------------------------------------|
| Conducted emissions (U <sub>CISPR</sub> ) | CISPR 16-2-1 | 9 kHz - 150 kHz<br>150 kHz - 30 MHz | 4.0 dB<br>3.6 dB                                          |        |     |    |    |  |                      | -                                         |
| Radiated emissions Enclosure              | CISPR 16-2-3 | 30 MHz - 1 GHz<br>1 GHz - 18 GHz    | 4.2 dB<br>5.1 dB                                          |        |     |    |    |  |                      | E-Field                                   |
| Disturbance power                         | CISPR 16-2-2 | 30 MHz - 300 MHz                    | -                                                         |        |     |    |    |  |                      | -                                         |
| Power Output radiated                     | -            | 30 MHz - 4 GHz                      | 3.17 dB                                                   |        |     |    |    |  |                      | Substitution method                       |
| Power Output conducted                    | -            | Set-up No.                          | Cel-C1                                                    | Cel-C2 | BT1 | W1 | W2 |  | -                    |                                           |
|                                           |              | 9 kHz - 12.75 GHz                   | N/A                                                       | 0.60   | --  | -- | -- |  |                      |                                           |
|                                           |              | 12.75 GHz - 26.5GHz                 | N/A                                                       | 0.82   | --  | -- | -- |  |                      |                                           |
| Conducted emissions on RF-port            | -            | 9 kHz - 2.8 GHz                     | 0.70                                                      | N/A    | --  | -- | -- |  | N/A - not applicable |                                           |
|                                           |              | 2.8 GHz - 12.75 GHz                 | 1.48                                                      | N/A    | --  | -- | -- |  |                      |                                           |
|                                           |              | 12.75 GHz – 18 GHz                  | 1.81                                                      | N/A    | --  | -- | -- |  |                      |                                           |
|                                           |              | 18 GHz - 26.5 GHz                   | 1.83                                                      | N/A    | --  | -- | -- |  |                      |                                           |
| Occupied bandwidth                        | -            | 9 kHz - 4 GHz                       | 0.1272 ppm (Delta Marker)                                 |        |     |    |    |  |                      | Frequency error                           |
|                                           |              |                                     | 1.0 dB                                                    |        |     |    |    |  |                      | Power                                     |
| Emission bandwidth                        | -            | 9 kHz - 4 GHz                       | 0.1272 ppm (Delta Marker)                                 |        |     |    |    |  |                      | Frequency error                           |
|                                           | -            |                                     | See above: 0.70 dB                                        |        |     |    |    |  |                      | Power                                     |
| Frequency stability                       | -            | 9 kHz - 20 GHz                      | 0.0636 ppm                                                |        |     |    |    |  |                      | -                                         |
| Radiated emissions Enclosure              | -            | 150 kHz - 30 MHz                    | 5.0 dB                                                    |        |     |    |    |  |                      | Magnetic field<br>E-field<br>Substitution |
|                                           |              | 30 MHz - 1 GHz                      | 4.2 dB                                                    |        |     |    |    |  |                      |                                           |
|                                           |              | 1 GHz - 20 GHz                      | 3.17 dB                                                   |        |     |    |    |  |                      |                                           |

**Table: measurement uncertainties, valid for conducted/radiated measurements**

## 5. Abbreviations used in this report

| The abbreviations |                                                                                   |
|-------------------|-----------------------------------------------------------------------------------|
| ANSI              | American National Standards Institute                                             |
| AV , AVG, CAV     | Average detector                                                                  |
| EIRP              | Equivalent isotropically radiated power, determined within a separate measurement |
| EGPRS             | Enhanced General Packet Radio Service                                             |
| EUT               | Equipment Under Test                                                              |
| FCC               | Federal Communications Commission, USA                                            |
| IC                | Industry Canada                                                                   |
| n.a.              | not applicable                                                                    |
| Op-Mode           | Operating mode of the equipment                                                   |
| PK                | Peak                                                                              |
| RBW               | resolution bandwidth                                                              |
| RF                | Radio frequency                                                                   |
| RSS               | Radio Standards Specification, Documents from Industry Canada                     |
| Rx                | Receiver                                                                          |
| TCH               | Traffic channel                                                                   |
| Tx                | Transmitter                                                                       |
| QP                | Quasi peak detector                                                               |
| VBW               | Video bandwidth                                                                   |
| ERP               | Effective radiated power                                                          |

## 6. Accreditation details of CETECOM's laboratories and test sites

| Ref.-No.                                                                        | Accreditation Certificate                | Valid for laboratory area or test site                                                                                                                                                                                                                                      | Accreditation Body                                                                          |
|---------------------------------------------------------------------------------|------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| -                                                                               | D-PL-12047-01-01                         | All laboratories and test sites of CETECOM GmbH, Essen                                                                                                                                                                                                                      | DAkkS, Deutsche Akkreditierungsstelle GmbH                                                  |
| 337<br>487<br>558<br>348<br>348                                                 | MRA US-EU 0003                           | Radiated Measurements 30 MHz to 1 GHz, 3 m / 10 m (OATS)<br>Radiated Measurements 30 MHz to 1 GHz, 3 m (SAR)<br>Radiated Measurements above 1 GHz, 3 m (FAR)<br>Mains Ports Conducted Interference Measurements<br>Telecommunication Ports Conducted Interference Measurem. | FCC, Federal Communications Commission<br>Laboratory Division, USA                          |
| 337<br>487<br>550<br>558                                                        | 3462D-1<br>3462D-2<br>3462D-2<br>3462D-3 | Radiated Measurements 30 MHz to 1 GHz, 3 m / 10 m (OATS)<br>Radiated Measurements 30 MHz to 1 GHz, 3 m (SAR)<br>Radiated Measurements 1 GHz to 6 GHz, 3 m (SAR)<br>Radiated Measurements above 1 GHz, 3 m (FAR)                                                             | IC, Industry Canada Certification and Engineering Bureau                                    |
| 487<br>550<br>348<br>348                                                        | R-2666<br>G-301<br>C-2914<br>T-1967      | Radiated Measurements 30 MHz to 1 GHz, 3 m (SAR)<br>Radiated Measurements 1 GHz to 6 GHz, 3 m (SAR)<br>Mains Ports Conducted Interference Measurements<br>Telecommunication Ports Conducted Interference Measurem.                                                          | VCCI, Voluntary Control Council for Interference by Information Technology Equipment, Japan |
| OATS = Open Area Test Site, SAR = Semi Anechoic Room, FAR = Fully Anechoic Room |                                          |                                                                                                                                                                                                                                                                             |                                                                                             |

**8. Versions of test reports (change history)**

| Version | Applied changes                                | Date of release |
|---------|------------------------------------------------|-----------------|
| --      | Initial release                                | 2018-06-20      |
| C1      | KDB 447497 D01v06 Test Exclusion applied       | 2019-12-17      |
| C2      | Highest frequency for UWB changed to 4.2085GHz | 2020-01-07      |

# END OF TEST REPORT