

FCC Test Report

Equipment : Tire Pressure Monitoring System - Transmitter
Brand Name : Schrader Electronics
Model No. : CG64
FCC ID : MRXCG64
Standard : 47 CFR FCC Part 15.231
Operating Band : 433.92MHz
Operation : Periodic transmissions (lower field strength)
Applicant / Manufacturer : Schrader Electronics Ltd
11 Technology Park, Belfast Road, Antrim, N.
Ireland, BT41 1QS, United Kingdom

The product sample received on Jun. 15, 2017 and completely tested on Aug. 11, 2017. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2013 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC., the test report shall not be reproduced except in full.

Reviewed by:



Phoenix Chen / Assistant Manager





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APPENDIX A. TEST PHOTOS

PHOTOGRAPHS OF EUT v01



Summary of Test Result

| Conformance Test Specifications | | | | | |
|---------------------------------|------------------|---|--|--|----------|
| Report Clause | Ref. Std. Clause | Description | Measured | Limit | Result |
| 1.1.2 | 15.203 | Antenna Requirement | Antenna connector mechanism complied | FCC 15.203 | Complied |
| 3.1 | 15.207 | AC Power-line Conducted Emissions | N/A | FCC 15.207 | N/A |
| 3.2 | 15.231(c) | Emission Bandwidth | 26.80 kHz | Fc(70~900MHz): BW ≤ fc x 0.25% | Complied |
| 3.3 | 15.231(b)/(e) | Fundamental Emissions | [dBuV/m at 3m]: 60.72 (Margin 12.15 dB) - AV | [dBuV/m at 3m]: average: 72.87 | Complied |
| 3.4 | 15.231(b)/(e) | Transmitter Radiated Unwanted Emissions | [dBuV/m at 3m]: 470.380 MHz 38.64 (Margin 7.36 dB) - AV | FCC 15.231 (b)/(e) or FCC 15.209, whichever limit permits higher field strength. | Complied |
| 3.5 | 15.231(a)/(e) | Operation Restriction | Operated time and silent time are less than limits. | Periodic transmissions (lower field strength) | Complied |



1 General Description

1.1 Information

1.1.1 RF General Information

| RF General Information | | | | |
|------------------------|------------|---------------------|----------------|-------------------------------------|
| Frequency Range (MHz) | Modulation | Ch. Frequency (MHz) | Channel Number | Fundamental Field Strength (dBuV/m) |
| 433.92 | FSK | 433.92 | 1 | 60.72 |

Note 1: Field strength performed average level at 3m.

1.1.2 Antenna Information

| Antenna Category | |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | Integral antenna (antenna permanently attached) |
| <input type="checkbox"/> | External antenna (dedicated antennas) ; Unique antenna connector |

| Antenna General Information | |
|-----------------------------|------------------|
| No. | Ant. Cat. |
| 1 | Integral Antenna |

1.1.3 Type of EUT

| Identify EUT | |
|-------------------------------------|---|
| Presentation of Equipment | <input checked="" type="checkbox"/> Production ; <input type="checkbox"/> Pre-Production ; <input type="checkbox"/> Identical Prototype |
| Type of EUT | |
| <input checked="" type="checkbox"/> | Stand-alone |
| <input type="checkbox"/> | Combined (EUT where the radio part is fully integrated within another device) Combined Equipment - Brand Name / Model No.: ... |
| <input type="checkbox"/> | Plug-in radio (EUT intended for a variety of host systems) Host System - Brand Name / Model No.: ... |
| <input type="checkbox"/> | Other: |



1.1.4 EUT Operational Condition

| | | | |
|--------------------------|---|---|---|
| Supply Voltage | <input type="checkbox"/> AC mains | <input checked="" type="checkbox"/> DC | |
| Type of DC Source | <input type="checkbox"/> Internal DC supply | <input type="checkbox"/> External adapter | <input checked="" type="checkbox"/> Battery |

1.1.5 Declared Exemptions and Additional Product Notes

The EUT is permanently installed in a transportation vehicle. As such, digital emissions are exempt from US and Canadian digital emissions regulations (per FCC 15.103(a) and IC correspondence on ICES-003). The EUT also employs some modes of operation that alert the vehicle user of sudden changes in tire pressure. Such alert modes fall under FCC 15.231(a)(4), and may operate during the pendency of the alarm condition. A detailed list of all operating modes is included in the Description of Operation exhibit included in this application.

1.1.6 Test Signal Duty Cycle

| Operated Mode for Worst Duty Cycle | |
|---|--|
| <input checked="" type="checkbox"/> Operated normally mode for worst duty cycle | |
| Test Signal Duty Cycle (x) | Duty Cycle Correction Factor [dB] – (20 log x) |
| <input checked="" type="checkbox"/> 100% | 0 |

1.2 Testing Applied Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ 47 CFR FCC Part 15
- ♦ ANSI C63.10-2013

1.3 Testing Location Information

| Testing Location | | | | |
|--|---------------|---|----------------------|-------------|
| <input checked="" type="checkbox"/> | HWA YA | ADD : No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) | | |
| | | TEL : 886-3-327-3456 | FAX : 886-3-327-0973 | |
| Test Condition | Test Site No. | Test Engineer | Test Environment | Test Date |
| RF Conducted | TH06-HY | Lisa | 23.9°C / 64.9% | 11/Aug/2017 |
| Radiated Emission | 03CH02-HY | Andy | 23.2°C / 52.3% | 25/Jul/2017 |
| Test site Designation No. TW1190 with FCC. | | | | |

1.4 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

| Measurement Uncertainty | | |
|-----------------------------------|---------------|-------------|
| Test Item | | Uncertainty |
| AC power-line conducted emissions | | ±2.3 dB |
| Emission bandwidth, 6dB bandwidth | | ±0.6 % |
| RF output power, conducted | | ±0.1 dB |
| Power density, conducted | | ±0.6 dB |
| Unwanted emissions, conducted | 9 – 150 kHz | ±0.4 dB |
| | 0.15 – 30 MHz | ±0.4 dB |
| | 30 – 1000 MHz | ±0.6 dB |
| | 1 – 18 GHz | ±0.5 dB |
| | 18 – 40 GHz | ±0.5 dB |
| | 40 – 200 GHz | N/A |
| All emissions, radiated | 9 – 150 kHz | ±2.5 dB |
| | 0.15 – 30 MHz | ±2.3 dB |
| | 30 – 1000 MHz | ±2.6 dB |
| | 1 – 18 GHz | ±3.6 dB |
| | 18 – 40 GHz | ±3.8 dB |
| | 40 – 200 GHz | N/A |
| Temperature | | ±0.8 °C |
| Humidity | | ±5 % |
| DC and low frequency voltages | | ±0.9% |
| Time | | ±1.4 % |
| Duty Cycle | | ±0.6 % |



2 Test Configuration of EUT




2.1 The Worst Case Modulation Configuration

| Modulation Used for Conformance Testing | |
|---|--------------------------------|
| Test Mode | Field Strength (dBuV/m at 3 m) |
| FSK | 60.72 |

2.2 Test Channel Frequencies Configuration

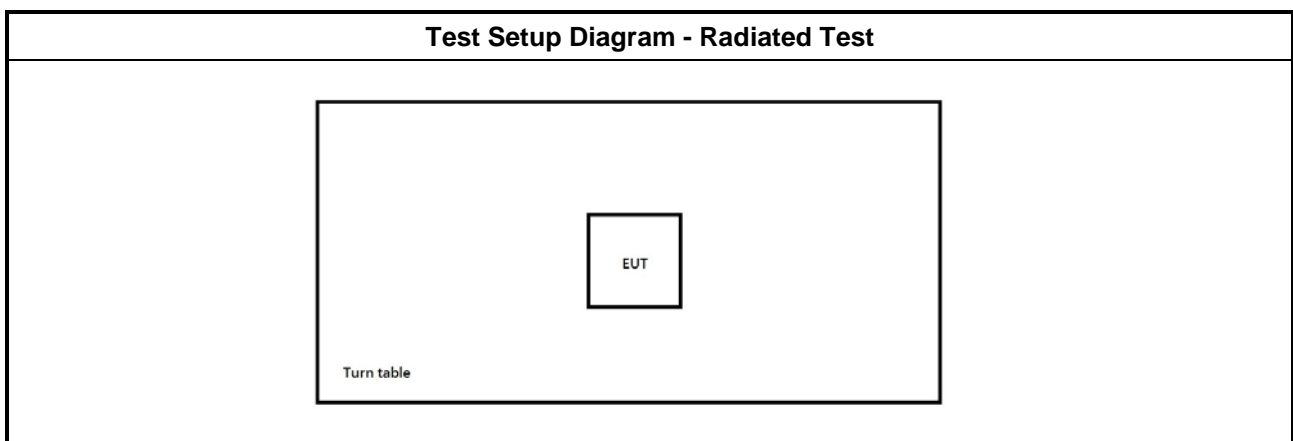
| Test Channel Frequencies Configuration | |
|--|--------------------------------|
| Test Mode | Test Channel Frequencies (MHz) |
| FSK | 433.92 |

2.3 The Worst Case Measurement Configuration

| The Worst Case Mode for Following Conformance Tests | | | |
|---|--|---|---|
| Tests Item | Emission Bandwidth, Fundamental Emissions, Radiated Unwanted Emissions | | |
| Test Condition | Radiated measurement | | |
| User Position | <input type="checkbox"/> EUT will be placed in fixed position. | | |
| | <input type="checkbox"/> EUT will be placed in mobile position and operating multiple positions. | | |
| | <input checked="" type="checkbox"/> EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions. | | |
| Operating Mode | <input checked="" type="checkbox"/> 1. Battery Mode | | |
| Test Mode | FSK | | |
| Orthogonal Planes of EUT | X Plane | Y Plane | Z Plane |
| |  |  |  |
| Worst Planes of EUT | | | V |

| The Worst Case Mode for Following Conformance Tests | |
|---|--|
| Tests Item | Operation Restriction (silent time and operated time) |
| Test Condition | Conducted measurement |
| Test Mode | Operated normally mode for worst duty cycle condition. |

2.4 Test Setup Diagram



3 Transmitter Test Result

3.1 AC Power-line Conducted Emissions

3.1.1 AC Power-line Conducted Emissions Limit

| AC Power-line Conducted Emissions Limit | | |
|---|------------|-----------|
| Frequency Emission (MHz) | Quasi-Peak | Average |
| 0.15-0.5 | 66 - 56 * | 56 - 46 * |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |

Note 1: * Decreases with the logarithm of the frequency.

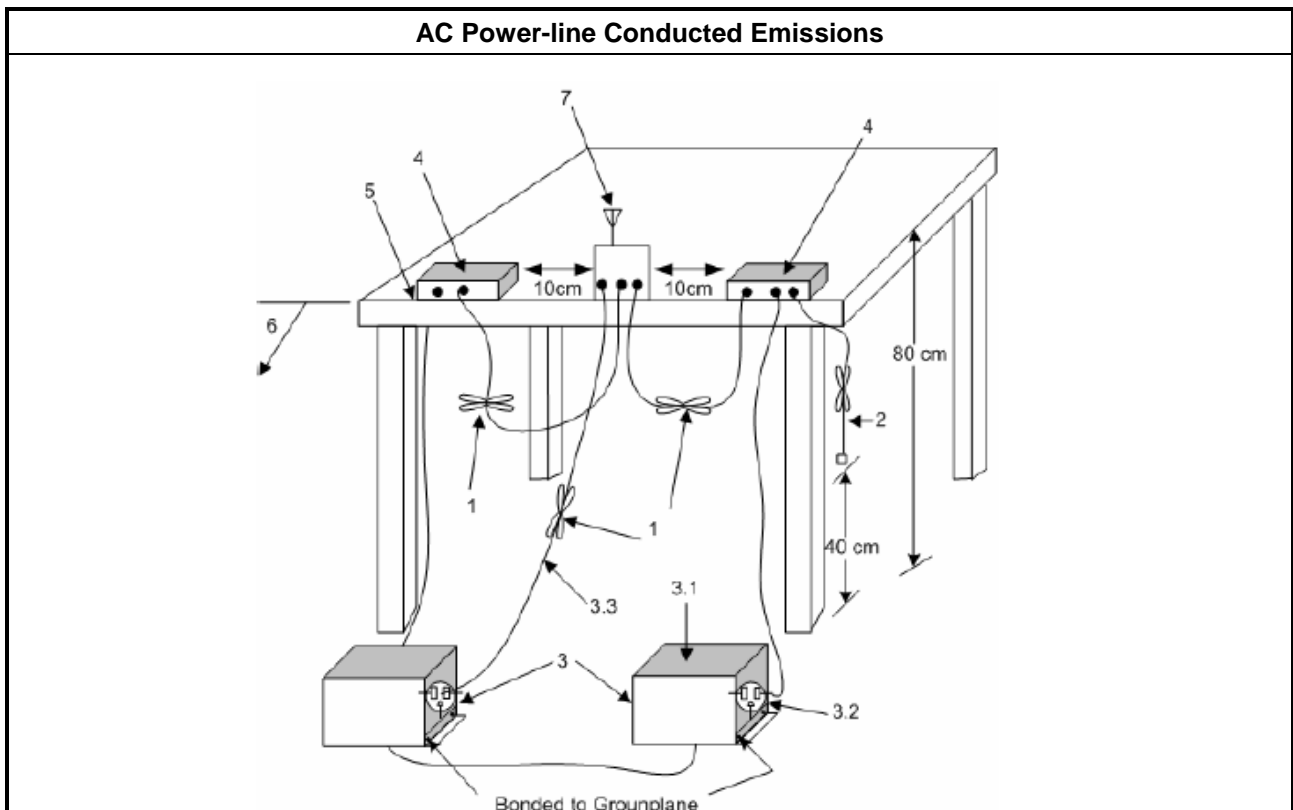
3.1.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.1.3 Test Procedures

| Test Method |
|--|
| <input checked="" type="checkbox"/> Refer as ANSI C63.10-2013, clause 6.2 for AC power-line conducted emissions. |

3.1.4 Test Setup





3.1.5 Test Result of AC Power-line Conducted Emissions

Please refer to Part 15.207(c) which states, "Measurements to demonstrate compliance with the conducted limits are not required for devices which only employ battery power for operation and which do not operate from the AC power lines or contain provisions for operation while connected to the AC power lines". Therefore, for this device, AC Power Line Conducted Emissions investigation is not required.

Therefore, for this device, AC Power Line Conducted Emissions investigation is not required.

3.2 Emission Bandwidth

3.2.1 Emission Bandwidth Limit

| Emission Bandwidth Limit | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Emission bandwidth falls completely within authorized band. |
| <input checked="" type="checkbox"/> | Fc(70~900MHz): $BW \leq fc \times 0.25\%$ |
| <input type="checkbox"/> | Fc(>900MHz): $BW \leq fc \times 0.5\%$ |

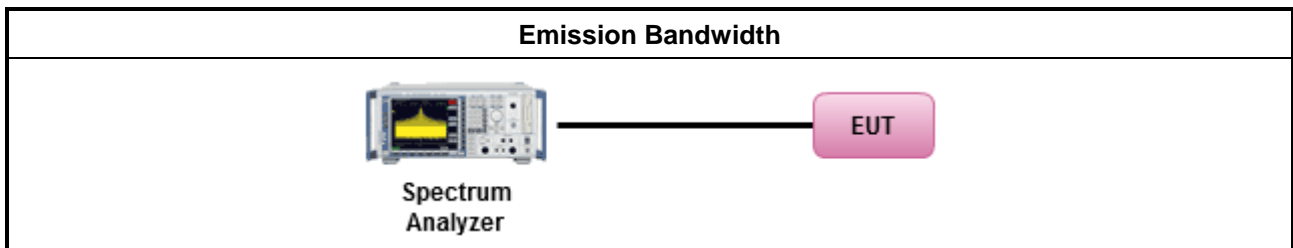
3.2.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.2.3 Test Procedures

| Test Method | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10, clause 6.9.3 for 20 dB emission bandwidth and 99% occupied bandwidth measurement. |

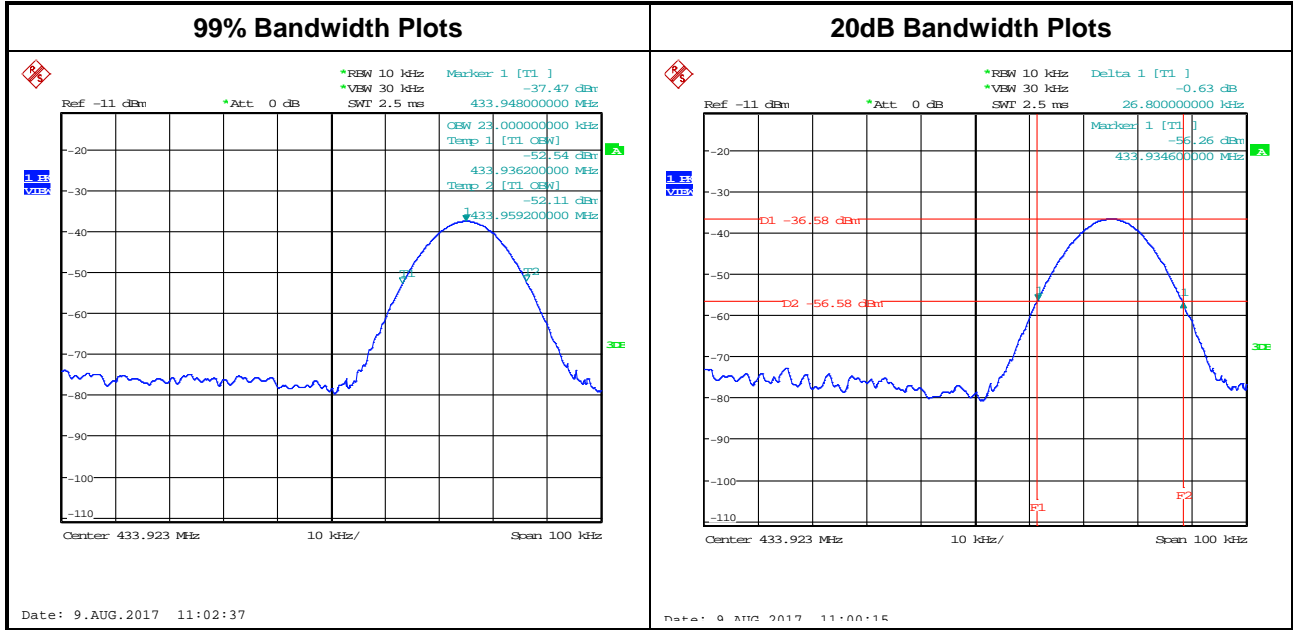
3.2.4 Test Setup





3.2.5 Test Result of Emission Bandwidth

| Emission Bandwidth Result | | | |
|---------------------------|-----------------|---------------------|---------------|
| Modulation Mode | Frequency (MHz) | 99% Bandwidth (kHz) | 20dB BW (kHz) |
| FSK | 433.92 | 23.00 | 26.80 |
| Limit | | N/A | 1.08 |
| Result | | Complied | |





3.3 Fundamental Emissions

3.3.1 Fundamental Emissions Limit

| For manually operated within 5 sec, activated automatically within 5 sec, periodic transmissions | | |
|--|--------------------------------|----------------------------------|
| Frequency Band (MHz) | Fundamental Limit (uV/m) at 3m | Fundamental Limit (dBuV/m) at 3m |
| 40.66-40.70 | 2250 | 67 |
| 70-130 | 1250 | 61.9 |
| 130-174 | 1250-3750(**) | 61.9-71.5 |
| 174-260 | 3750 | 71.5 |
| 260-470 | 3750-12500(**) | 71.5-81.9 |
| Above 470 | 12500 | 81.9 |

**1. Linear interpolations.
Based on the average value of the measured emissions.

| For periodic transmissions (lower field strength) | | |
|---|--------------------------------|----------------------------------|
| Frequency Band (MHz) | Fundamental Limit (uV/m) at 3m | Fundamental Limit (dBuV/m) at 3m |
| 40.66-40.70 | 1000 | 60 |
| 70-130 | 500 | 54 |
| 130-174 | 500-1500(**) | 54-63.5 |
| 174-260 | 1500 | 63.5 |
| 260-470 | 1500-5000(**) | 63.5-74 |
| Above 470 | 5000 | 74 |

** 1. Linear interpolations.
Based on the average value of the measured emissions.

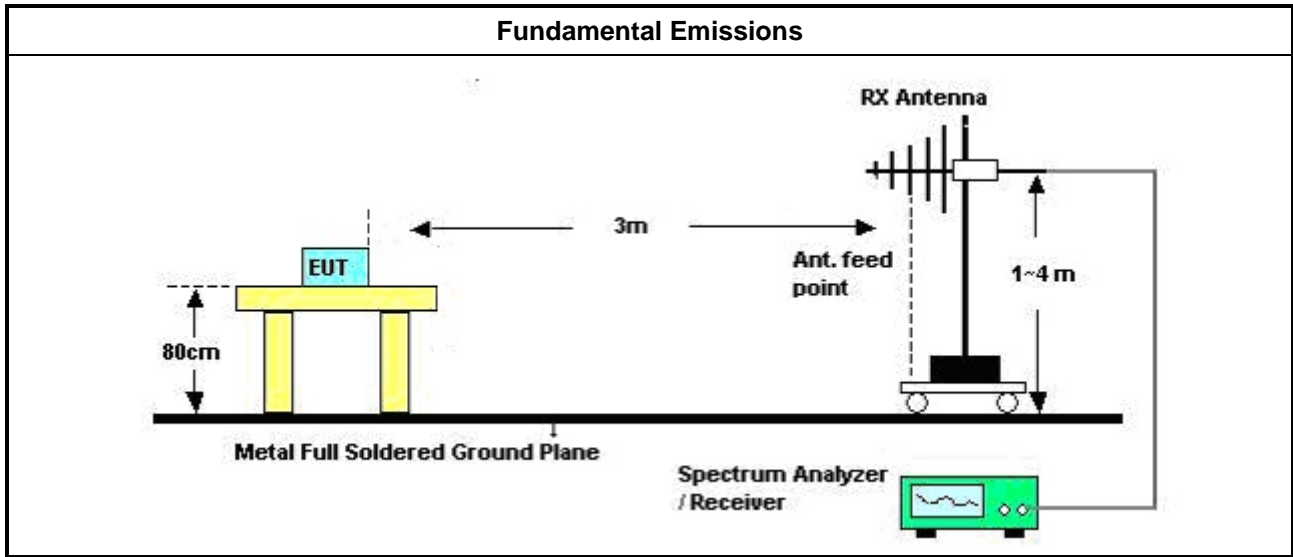
3.3.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.

3.3.3 Test Procedures

| | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | For the transmitter emissions shall be measured using following options below: |
| <input type="checkbox"/> | Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW) – Duty cycle \geq 100%. |
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions. Adjusted by a “duty cycle correction factor”, derived from $20 \log$ (dwell time/100 ms). Average emission = peak emission + 20 log (duty cycle). |
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit. |
| <input checked="" type="checkbox"/> | For radiated measurement, refer as ANSI C63.10, clause 6.5 for radiated emissions |

3.3.4 Test Setup



3.3.5 Test Result of Fundamental Emissions

| Field Strength of Fundamental Emissions Result | | | | | |
|---|-----------------|-------------------------|-------------|-------------------|---------|
| Modulation Mode | Frequency (MHz) | Fundamental (dBuV/m)@3m | Margin (dB) | Limit (dBuV/m)@3m | Type |
| FSK | 433.947 | 60.72 | 12.15 | 72.87 | Average |
| FSK | 433.947 | 80.21 | 12.66 | 92.87 | Peak |
| Result | | Complied | | | |
| Note 1: Measurement worst emissions of receive antenna polarization: Horizontal | | | | | |
| Note 2: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle). | | | | | |

3.4 Transmitter Radiated Unwanted Emissions

3.4.1 Transmitter Radiated Unwanted Emissions Limit

| For manually operated within 5 sec, activated automatically within 5 sec, periodic transmissions | | |
|---|-----------------------------|-------------------------------|
| Unwanted emissions limit follow this table or the general limits FCC 15.209, whichever limit permits higher field strength. | | |
| Frequency Band (MHz) | Spurious Limit (uV/m) at 3m | Spurious Limit (dBuV/m) at 3m |
| 40.66-40.70 | 225 | 47 |
| 70-130 | 125 | 41.9 |
| 130-174 | 125-375(**) | 41.9-51.5 |
| 174-260 | 375 | 51.5 |
| 260-470 | 375-1250(**) | 51.5-61.9 |
| Above 470 | 1250 | 61.9 |
| **1. Linear interpolations. Based on the average value of the measured emissions. | | |

| For periodic transmissions (lower field strength) | | |
|---|-----------------------------|-------------------------------|
| Unwanted emissions limit follow this table or the general limits FCC 15.209, whichever limit permits higher field strength. | | |
| Frequency Band (MHz) | Spurious Limit (uV/m) at 3m | Spurious Limit (dBuV/m) at 3m |
| 40.66-40.70 | 100 | 40 |
| 70-130 | 50 | 34 |
| 130-174 | 50-150(**) | 34-43.5 |
| 174-260 | 150 | 43.5 |
| 260-470 | 150-500(**) | 43.5-54 |
| Above 470 | 500 | 54 |
| ** 1. Linear interpolations Based on the average value of the measured emissions. | | |

3.4.2 Measuring Instruments

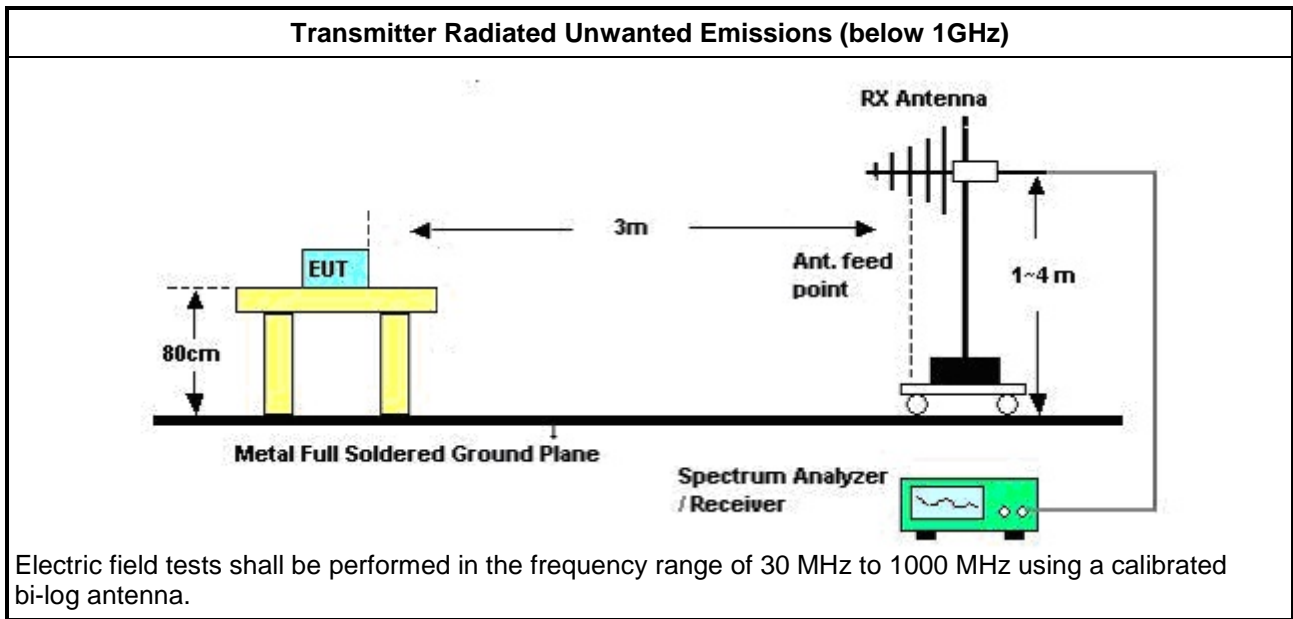
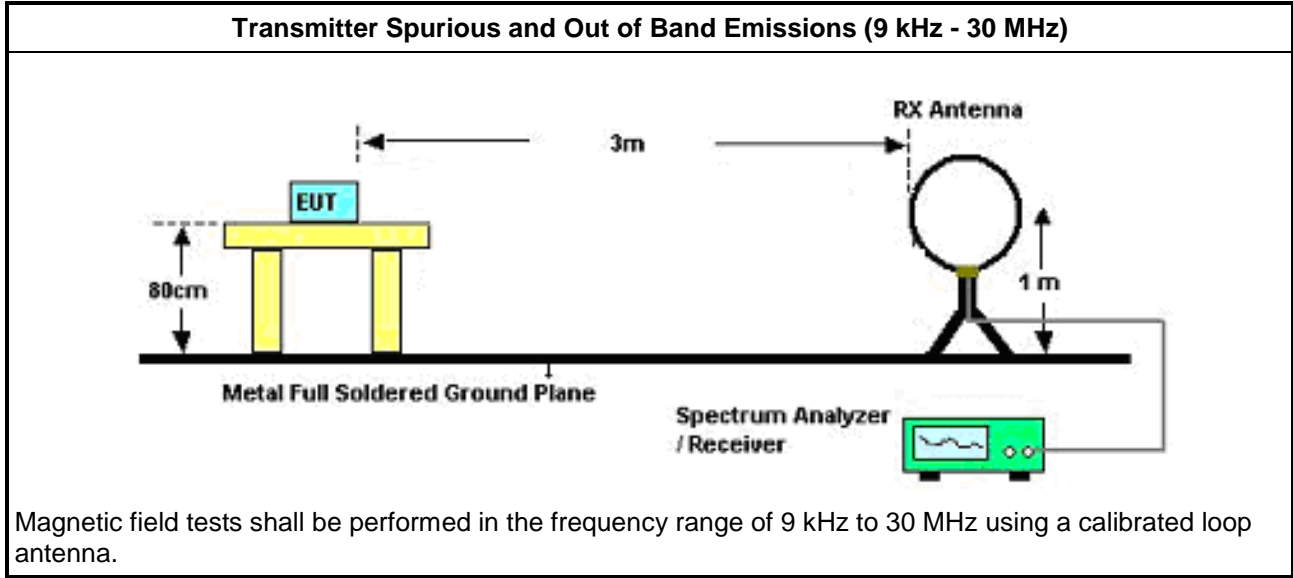
Refer a test equipment and calibration data table in this test report.

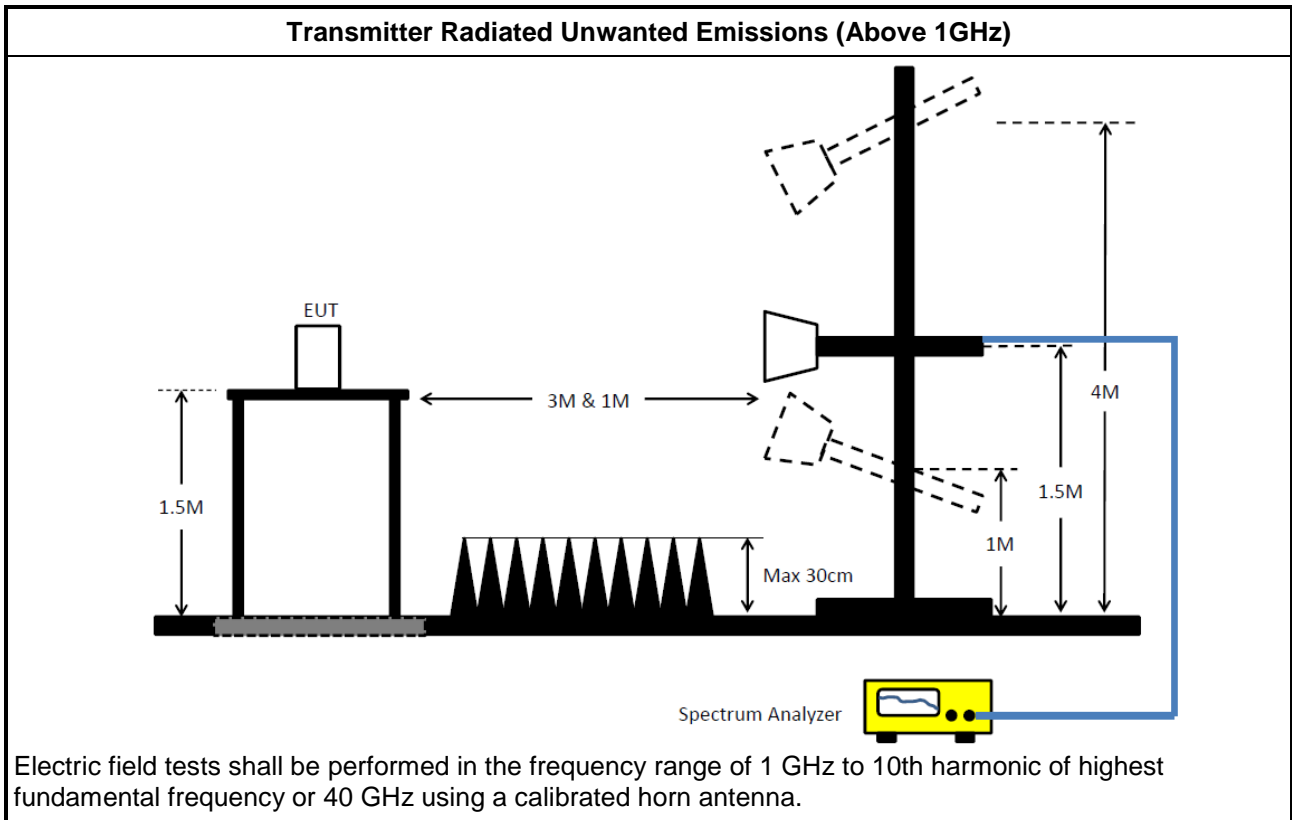


3.4.3 Test Procedures

| Test Method – General Information | |
|-------------------------------------|---|
| <input checked="" type="checkbox"/> | The average emission levels shall be measured in [duty cycle \geq 98 or duty factor]. |
| <input type="checkbox"/> | Refer as ANSI C63.10, clause 6.10.3 bandedge testing shall be performed at the lowest frequency channel and highest frequency channel within the allowed operating band. |
| <input checked="" type="checkbox"/> | For the transmitter unwanted emissions shall be measured using following options below: |
| <input type="checkbox"/> | Refer as ANSI C63.10, clause 4.1.4.2.3 (Reduced VBW) – Duty cycle \geq 100%. |
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10, clause 4.1.4.2.4 average value of pulsed emissions. Adjusted by a “duty cycle correction factor”, derived from $20\log(\text{dwell time}/100 \text{ ms})$. Average emission = peak emission + 20 log (duty cycle). |
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10, clause 4.1.4.2.2 measurement procedure peak limit. |
| <input checked="" type="checkbox"/> | For the transmitter bandedge emissions shall be measured using following options below: |
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10, clause 6.10 for band-edge testing. |
| <input type="checkbox"/> | Refer as ANSI C63.10, clause 6.10.6.2 for marker-delta method for band-edge measurements. |
| <input checked="" type="checkbox"/> | For radiated measurement. |
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10, clause 6.4 for radiated emissions below 30 MHz and test distance is 3m. |
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10, clause 6.5 for radiated emissions 30 MHz to 1 GHz and test distance is 3m. |
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10, clause 6.6 for radiated emissions above 1 GHz and test distance is 3m. |
| <input checked="" type="checkbox"/> | The any unwanted emissions level shall not exceed the fundamental emission level. |
| <input checked="" type="checkbox"/> | All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported. |

3.4.4 Test Setup



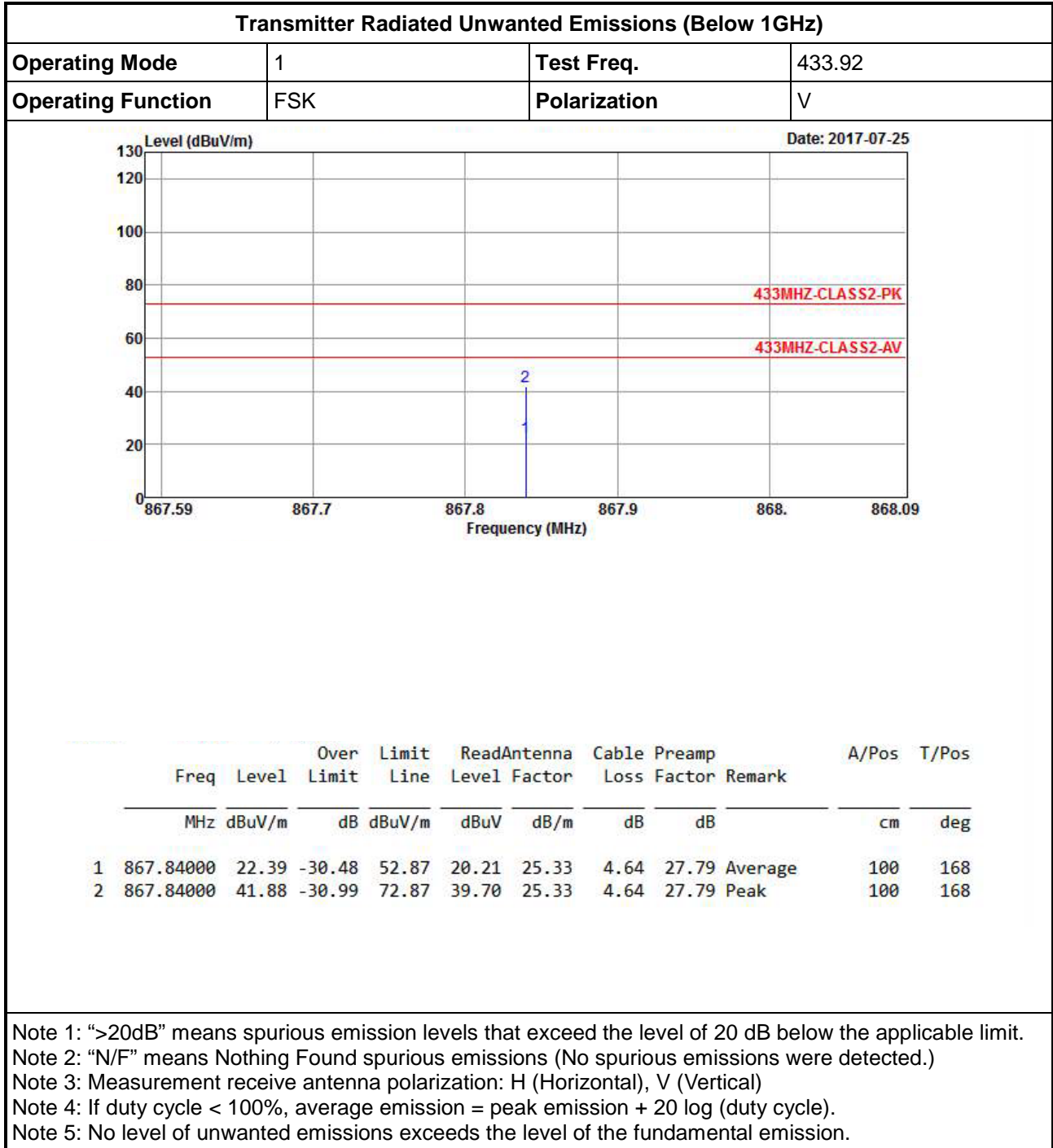


3.4.5 Transmitter Radiated Unwanted Emissions (Below 30MHz)

All amplitude of spurious emissions that are attenuated by more than 20 dB below the permissible value has no need to be reported.



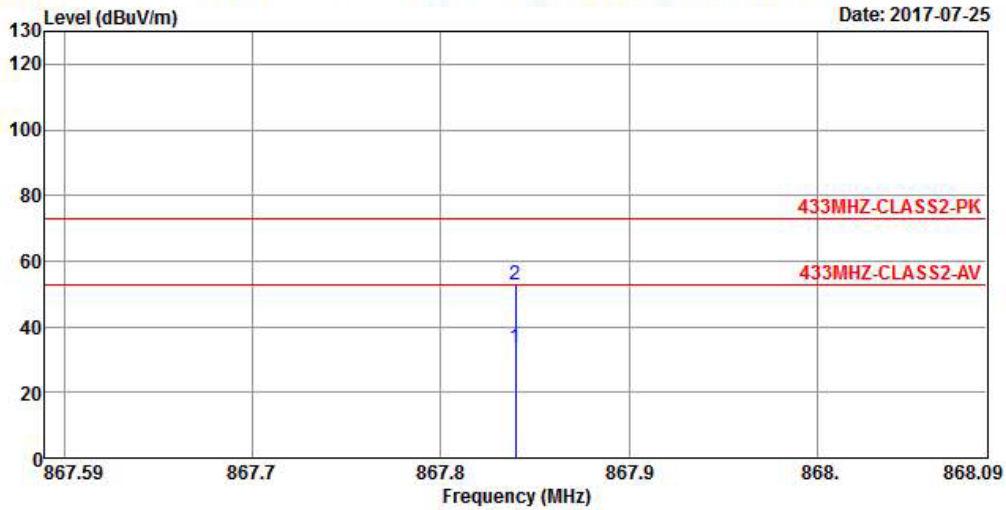
3.4.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)





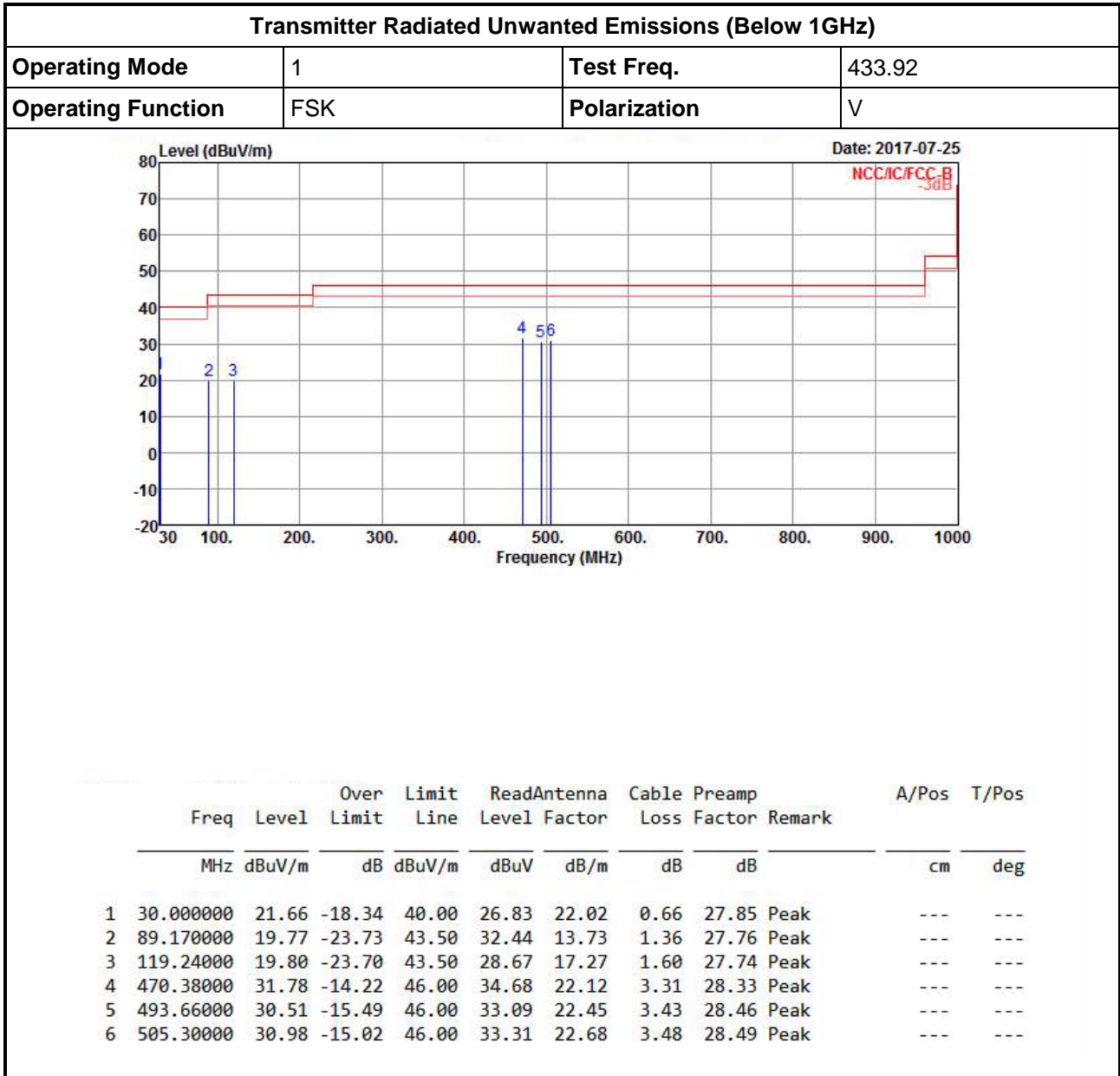
Transmitter Radiated Unwanted Emissions (Below 1GHz)

| | | | |
|---------------------------|-----|------------------------|--------|
| Operating Mode | 1 | Test Freq. (FX) | 433.92 |
| Operating Function | FSK | Polarization | H |



| | Freq | Level | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | A/Pos | T/Pos |
|---|-----------|--------|------------|------------|-------------------|----------------|------------|---------------|---------|-------|-------|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg |
| 1 | 867.84000 | 33.42 | -19.45 | 52.87 | 31.24 | 25.33 | 4.64 | 27.79 | Average | 100 | 77 |
| 2 | 867.84000 | 52.91 | -19.96 | 72.87 | 50.73 | 25.33 | 4.64 | 27.79 | Peak | 100 | 77 |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
 Note 4: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).
 Note 5: No level of unwanted emissions exceeds the level of the fundamental emission.

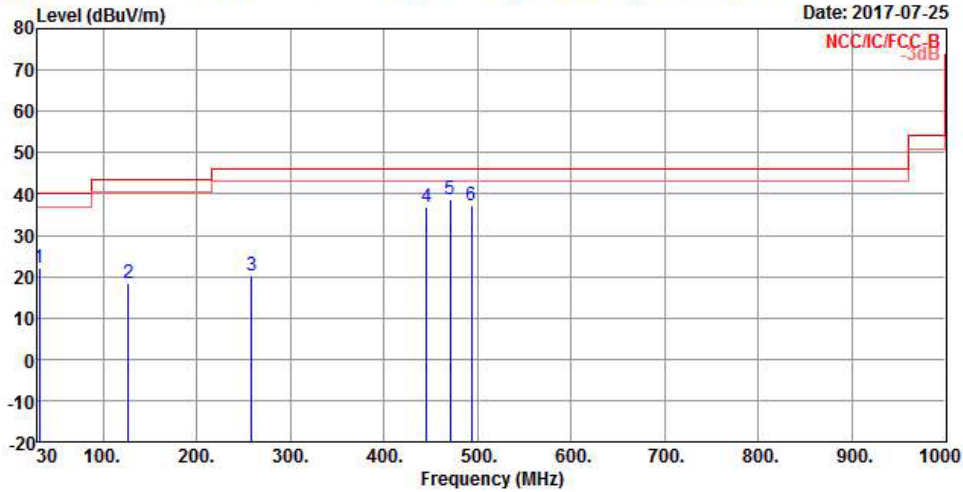


Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
 Note 4: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).
 Note 5: No level of unwanted emissions exceeds the level of the fundamental emission.



Transmitter Radiated Unwanted Emissions (Below 1GHz)

| | | | |
|--------------------|-----|--------------|--------|
| Operating Mode | 1 | Test Freq. | 433.92 |
| Operating Function | FSK | Polarization | H |

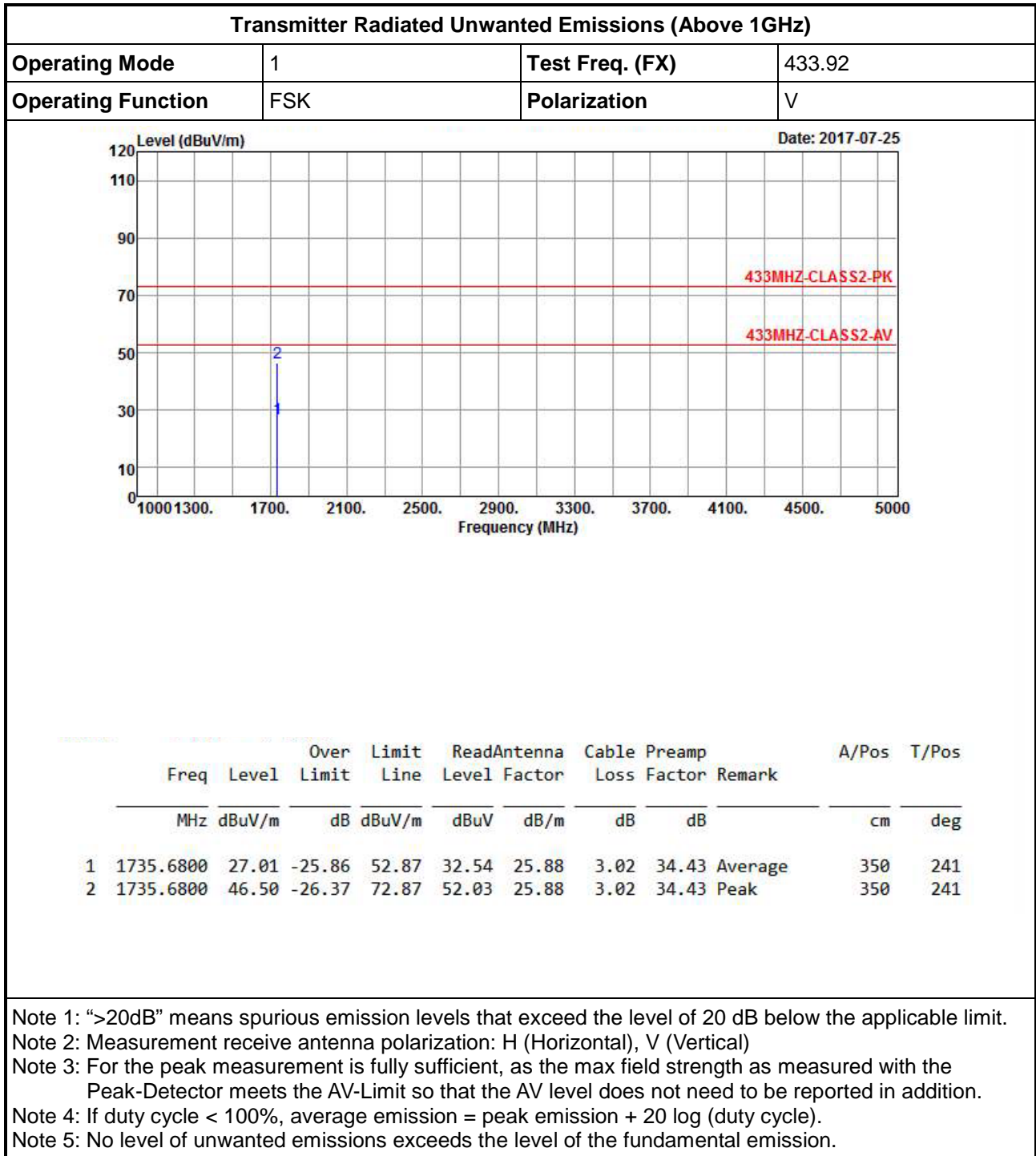


| | Freq | Level | Over Limit | Limit | ReadAntenna | Cable | Preamp | | A/Pos | T/Pos |
|---|------------|--------|------------|--------|-------------|-------|--------|-------|-------|-------|
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB | dB | dB | cm | deg |
| 1 | 31.940000 | 22.06 | -17.94 | 40.00 | 28.00 | 21.19 | 0.70 | 27.83 | Peak | --- |
| 2 | 127.000000 | 18.50 | -25.00 | 43.50 | 27.54 | 17.05 | 1.62 | 27.71 | Peak | --- |
| 3 | 258.920000 | 20.31 | -25.69 | 46.00 | 26.60 | 18.54 | 2.47 | 27.30 | Peak | --- |
| 4 | 445.160000 | 36.83 | -9.17 | 46.00 | 40.09 | 21.74 | 3.20 | 28.20 | Peak | --- |
| 5 | 470.380000 | 38.64 | -7.36 | 46.00 | 41.54 | 22.12 | 3.31 | 28.33 | Peak | --- |
| 6 | 493.660000 | 37.25 | -8.75 | 46.00 | 39.83 | 22.45 | 3.43 | 28.46 | Peak | --- |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
 Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
 Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
 Note 4: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle).
 Note 5: No level of unwanted emissions exceeds the level of the fundamental emission.



3.4.7 Transmitter Radiated Unwanted Emissions (Above 1GHz)





| Transmitter Radiated Unwanted Emissions (Above 1GHz) | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|-----------|--------|------------|-----------------|-------------------|----------------|------------|---------------|---------|-------|-------|------|-------|------------|------------|-------------------|----------------|------------|---------------|--------|-------|-------|--|-----|--------|----|--------|------|------|----|----|--|----|-----|---|-----------|-------|--------|-------|-------|-------|------|-------|---------|-----|-----|---|-----------|-------|--------|-------|-------|-------|------|-------|------|-----|-----|
| Operating Mode | 1 | | | Test Freq. (FX) | 433.92 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Operating Function | FSK | | | Polarization | H | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <div style="text-align: right;">Date: 2017-07-25</div> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <thead> <tr> <th></th> <th>Freq</th> <th>Level</th> <th>Over Limit</th> <th>Limit Line</th> <th>ReadAntenna Level</th> <th>Antenna Factor</th> <th>Cable Loss</th> <th>Preamp Factor</th> <th>Remark</th> <th>A/Pos</th> <th>T/Pos</th> </tr> <tr> <th></th> <th>MHz</th> <th>dBuV/m</th> <th>dB</th> <th>dBuV/m</th> <th>dBuV</th> <th>dB/m</th> <th>dB</th> <th>dB</th> <th></th> <th>cm</th> <th>deg</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>1735.6800</td> <td>33.82</td> <td>-19.05</td> <td>52.87</td> <td>39.35</td> <td>25.88</td> <td>3.02</td> <td>34.43</td> <td>Average</td> <td>352</td> <td>343</td> </tr> <tr> <td>2</td> <td>1735.6800</td> <td>53.31</td> <td>-19.56</td> <td>72.87</td> <td>58.84</td> <td>25.88</td> <td>3.02</td> <td>34.43</td> <td>Peak</td> <td>352</td> <td>343</td> </tr> </tbody> </table> | | | | | | | | | | | | Freq | Level | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | A/Pos | T/Pos | | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | 1 | 1735.6800 | 33.82 | -19.05 | 52.87 | 39.35 | 25.88 | 3.02 | 34.43 | Average | 352 | 343 | 2 | 1735.6800 | 53.31 | -19.56 | 72.87 | 58.84 | 25.88 | 3.02 | 34.43 | Peak | 352 | 343 |
| | Freq | Level | Over Limit | Limit Line | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Remark | A/Pos | T/Pos | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| | MHz | dBuV/m | dB | dBuV/m | dBuV | dB/m | dB | dB | | cm | deg | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 1735.6800 | 33.82 | -19.05 | 52.87 | 39.35 | 25.88 | 3.02 | 34.43 | Average | 352 | 343 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2 | 1735.6800 | 53.31 | -19.56 | 72.87 | 58.84 | 25.88 | 3.02 | 34.43 | Peak | 352 | 343 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <p>Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit. Note 2: Measurement receive antenna polarization: H (Horizontal), V (Vertical) Note 3: For the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition. Note 4: If duty cycle < 100%, average emission = peak emission + 20 log (duty cycle). Note 5: No level of unwanted emissions exceeds the level of the fundamental emission.</p> | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

3.5 Operation Restriction

3.5.1 Operation Restriction Limit

| Operation Restriction Limit | |
|-------------------------------------|---|
| <input type="checkbox"/> | Manually operated: manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 sec of being released. |
| <input type="checkbox"/> | Activated automatically: transmitter activated automatically shall cease transmission within 5 sec after activation. |
| <input type="checkbox"/> | Periodic transmissions: permitted with total transmission time of 2 sec per hour or less. |
| <input checked="" type="checkbox"/> | Periodic transmissions (lower field strength): each transmission is not greater than 1 sec and the silent period between transmissions is at least 30 times the duration of the transmission but in no case less than 10 sec. |

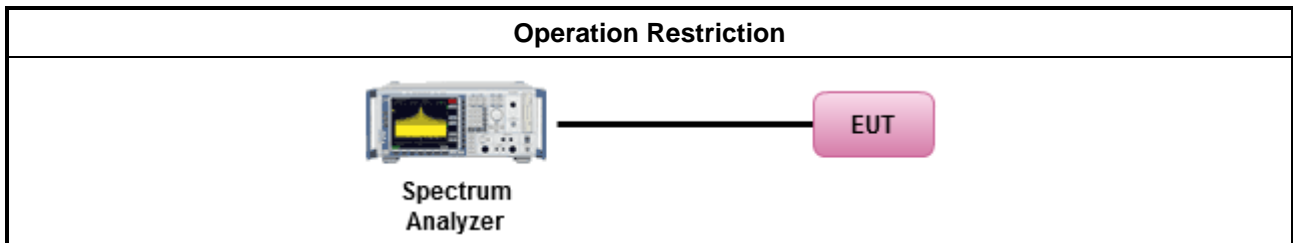
3.5.2 Measuring Instruments

Refer a test equipment and calibration data table in this test report.
 Periodic transmissions (lower field strength)

3.5.3 Test Procedures

| Test Method | |
|-------------------------------------|--|
| <input checked="" type="checkbox"/> | Refer as ANSI C63.10, clause 7.4 for periodic operation measurement. |

3.5.4 Test Setup



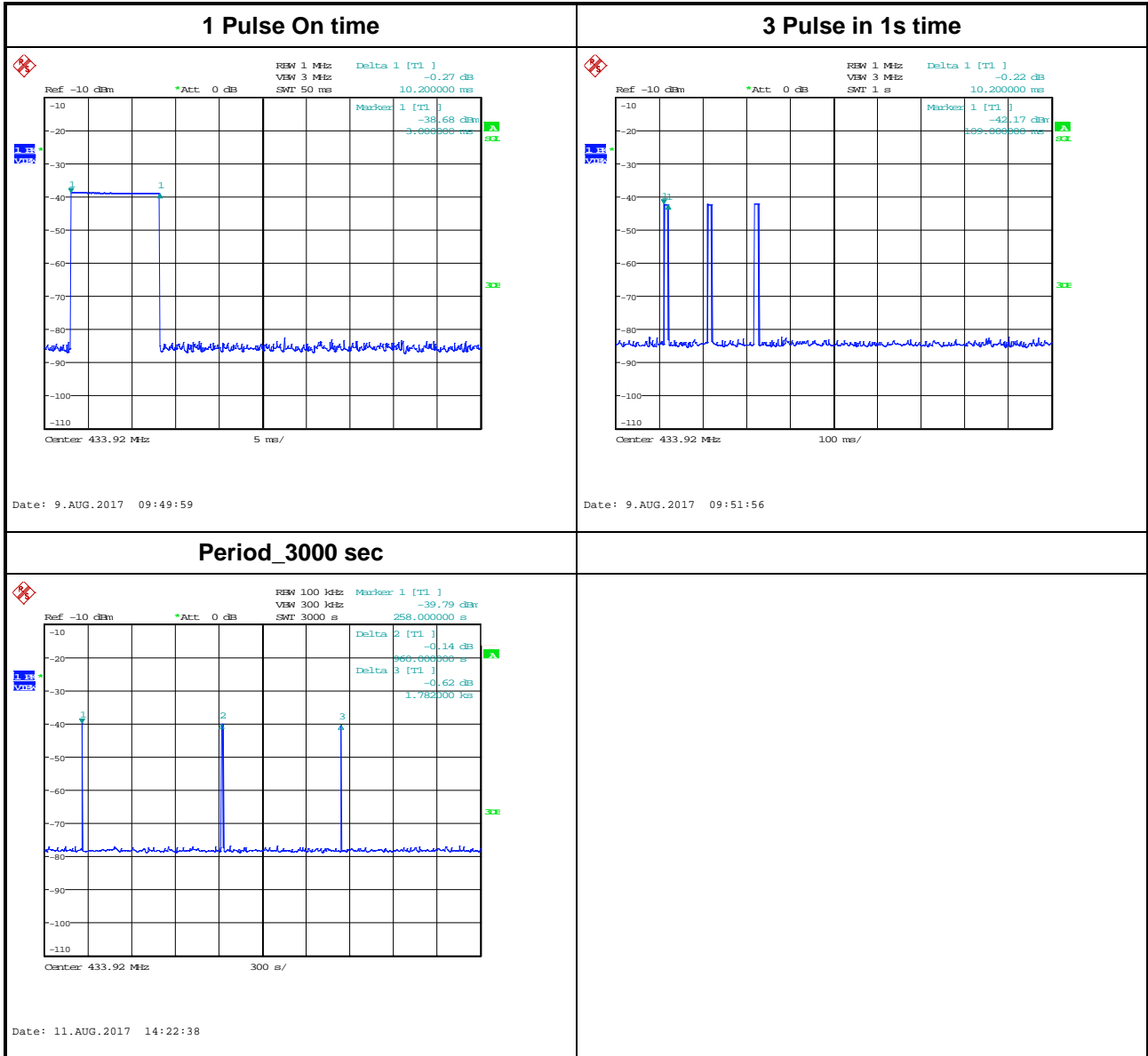


3.5.5 Test Result of Operation Restriction

| Operation Condition | Pulse Duration (s) | Limits (s) |
|--------------------------------|--------------------|------------|
| Transmission time (TX-on) | 0.306 | 1.00 |
| Silent duration (TX-on+TX-off) | 960.000 | 10.00 |

Note :

Note : Transmission time = 1 Pulse On time * 3 Pulse in 1s * 10 Pulse in 20s = 10.2ms * 3 * 10 = 306ms
 30 time limit : 0.306 sec*30=9.18 sec





4 Test Equipment and Calibration Data

< Conducted Test >

| Instrument | Manufacturer | Model No. | Serial No. | Spec. | Calibration Date | Calibration Due Date |
|-------------------|--------------|-----------|------------|------------|------------------|----------------------|
| Spectrum Analyzer | R&S | FSV 40 | 101013 | 9kHz~40GHz | 30/Dec/2016 | 29/Dec/2017 |

< Radiated Test >

| Instrument | Manufacturer | Model No. | Serial No. | Spec. | Calibration Date | Calibration Due Date |
|-------------------|----------------|-------------|--------------------|----------------|------------------|----------------------|
| 3m Semi Anechoic | SIDT FRANKONIA | SAC-3M | 03CH02-HY | 30MHz-1GHz | 21/Oct/2016 | 20/Oct/2017 |
| 3m Semi Anechoic | SIDT FRANKONIA | SAC-3M | 03CH02-HY | 1GHz ~ 18GHz | 12/Dec/2016 | 11/Dec/2017 |
| Amplifier | Agilent | 8447D | 2944A11149 | 100KHz-1.3GHz | 19/Apr/2017 | 18/Apr/2018 |
| Amplifier | Agilent | 8449B | 3008A02373 | 1GHz-26.5GHz | 02/Sep/2016 | 01/Sep/2017 |
| Spectrum Analyzer | R&S | FSP40 | 100593 | 9KHz - 40GHz | 26/Oct/2016 | 25/Oct/2017 |
| RF Cable-R03m | Jye Bao | RG142 | CB017 | 9kHz ~ 1GHz | 26/Jan/2017 | 25/Jan/2018 |
| RF Cable-high | SUHNER | SUCOFLEX104 | MY34918/4 | 1GHz ~ 40GHz | 26/Jan/2017 | 25/Jan/2018 |
| Bilog Antenna | SCHAFFNER | CBL6112B | 2723 | 30MHz-1GHz | 01/Oct/2016 | 30/Sep/2017 |
| Horn Antenna | SCHWARZBECK | BBHA9120D | BBHA9120D 01531 | 1GHz-18GHz | 25/Apr/2017 | 24/Apr/2018 |
| Loop Antenna | TESEQ | HLA 6120 | 31244 | 9 kHz~30 MHz | 02/Mar/2017 | 01/Mar/2018 |
| Receiver | R&S | ESU-26 | 100422/026 | 20Hz ~ 26.5GHz | 21/Sep/2016 | 20/Sep/2017 |