verify No.492964551000

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# TEST REPORT

| Eurofins KCTL Co.,Ltd.<br>65, Sinwon-ro, Yeongtong-gu,<br>Suwon-si, Gyeonggi-do, 16677, Korea<br>TEL: 82-31-285-0894 FAX: 82-505-299-8311<br>www.kctl.co.kr | Report No.:<br>KR23-SRF0026-A<br>Page (1) of (21) | eurofins KCTL |
|---|---|---|

**1. Client**

- Name : Samsung Electronics Co., Ltd.
- Address : 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea
- Date of Receipt : 2022-10-17

**2. Use of Report** : Certification

**3. Name of Product / Model** : Mobile phone / SM-A346B/DSN

**4. Manufacturer / Country of Origin** : Samsung Electronics Co., Ltd. / Vietnam

**5. FCC ID** : A3LSMA346B

**6. Date of Test** : 2022-11-09 to 2023-01-04

**7. Location of Test** : ■ Permanent Testing Lab ☐ On Site Testing
(Address:65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea)

**8. Test method used** : FCC Part 15 Subpart C, 15.247

**9. Test Result** : Refer to the test result in the test report

| | | |
|---|---|---|
| Affirmation | Tested by<br><br>Name : Sunghyun Yoon (Signature) | Technical Manager<br><br>Name : Seungyong Kim (Signature) |

2023-01-20

**Eurofins KCTL Co.,Ltd.**

As a test result of the sample which was submitted from the client, this report does not guarantee the whole product quality. This test report should not be used and copied without a written agreement by Eurofins KCTL Co.,Ltd.

## REPORT REVISION HISTORY

| Date | Revision | Page No |
|---|---|---|
| 2023-01-17 | Originally issued | - |
| 2023-01-20 | Updated to TCB comment | 9 ~ 10 |
| | | |
| | | |
| | | |

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Note. The report No. KR23-SRF0026 is superseded by the report No. KR23-SRF0026-A.

## General remarks for test reports

**Statement concerning the uncertainty of the measurement systems used for the tests**

(may be required by the product standard or client)

☐ **Internal procedure used for type testing through which traceability of the measuring uncertainty has been established:**

**Procedure number, issue date and title:**

Calculations leading to the reported values are on file with the testing laboratory that conducted the testing.

☒ **Statement not required by the standard or client used for type testing**

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# 1. General information

| | | |
|---|---|---|
| Client | : | Samsung Electronics Co., Ltd. |
| Address | : | 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea |
| Manufacturer | : | Samsung Electronics Co., Ltd. |
| Address | : | 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Rep. of Korea |
| Factory | : | Samsung Electronics Vietnam Thai Nguyen Co., Ltd |
| Address | : | Yen Binh Industrial Park, Dong Tien Ward, Pho Yen Town, Thai Nguyen Province, Vietnam |
| Laboratory | : | Eurofins KCTL Co.,Ltd. |
| Address | : | 65, Sinwon-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16677, Korea |
| Accreditations | : | FCC Site Designation No: KR0040, FCC Site Registration No: 687132 |
| | | VCCI Registration No. : R-20080, G-20078, C-20059, T-20056 |
| | | CAB Identifier: KR0040 |
| | | ISED Number: 8035A |
| | | KOLAS No.: KT231 |

# 2. Device information

| | | |
|---|---|---|
| Equipment under test | : | Mobile phone |
| Model | : | SM-A346B/DSN |
| Modulation technique | : | GFSK (Bluetooth Low Energy) |
| Number of channels | : | 40 ch |
| Power source | : | DC 3.88 V |
| Antenna specification | : | Metal+LDS Antenna (Antenna 1) |
| Antenna gain | : | -9.43 dBi |
| Frequency range | : | 2 402 ㎒ ~ 2 480 ㎒ |
| Software version | : | A346B.001 |
| Hardware version | : | REV1.0 |
| Test device serial No. | : | Conducted : R3CTA0N813K |
| | | Radiated : R3CTA0N84EX |
| Operation temperature | : | -20 ℃ ~ 60 ℃ |

## 2.1. Frequency/channel operations

This device contains the following capabilities:
WLAN (11a/b/g/n/ac), Bluetooth (BDR/EDR/BLE), LTE B2/4/5/12/17/26/41/66, GSM 850/1900, WCDMA 850/1700/1900, NFC

| Ch. | Frequency (㎒) |
|---|---|
| 00 | 2 402 |
| . . | . . |
| 19 | 2 440 |
| . . | . . |
| 39 | 2 480 |

Table 2.1-1. Bluetooth Low Energy

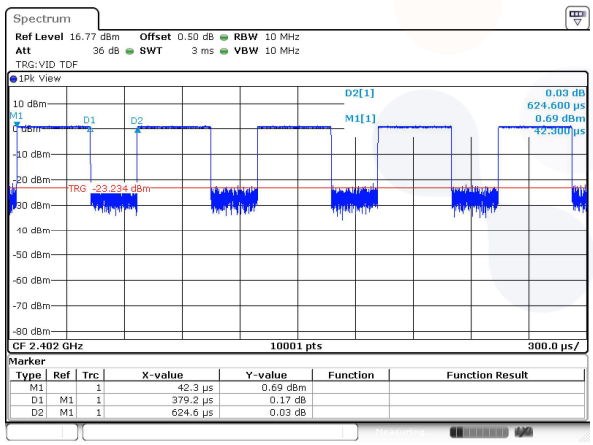
## 2.2. Duty Cycle Factor

| Test mode | Period (ms) | On time (ms) | Duty cycle | | Duty Cycle Factor (dB) |
|---|---|---|---|---|---|
| | | | (Linear) | (%) | |
| 1M Bits/s, 37 Packet | 0.625 | 0.379 | 0.606 4 | 60.64 | 2.17 |
| 1M Bits/s, 255 Packet | 2.499 | 2.122 | 0.849 1 | 84.91 | 0.71 |
| 2M Bits/s, 37 Packet | 0.625 | 0.195 | 0.312 0 | 31.20 | 5.06 |
| 2M Bits/s, 255 Packet | 1.864 | 1.062 | 0.569 7 | 56.97 | 2.44 |
| 125k Bits/s, 37 Packet | 3.749 | 3.091 | 0.824 5 | 82.45 | 0.84 |
| 125k Bits/s, 255 Packet | 17.504 | 17.035 | 0.973 2 | 97.32 | 0.12 |
| 500k Bits/s, 37 Packet | 1.863 | 1.050 | 0.563 6 | 56.36 | 2.49 |
| 500k Bits/s, 255 Packet | 5.001 | 4.547 | 0.909 2 | 90.92 | 0.41 |

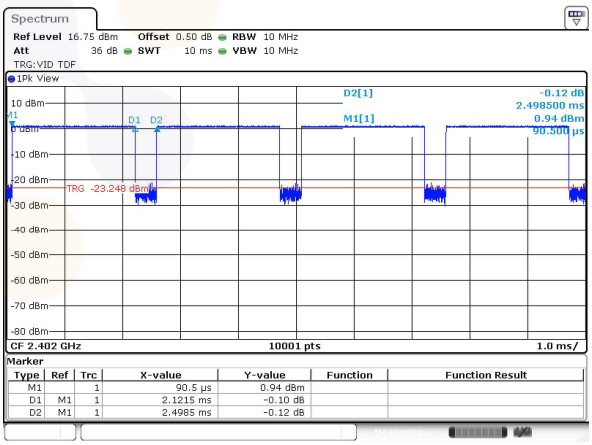
**Notes.**

1. Duty cycle (Linear) = Ton time / Period
2. DCF(Duty cycle factor) = 10log(1/duty cycle)
3. DCF is not compensated to average result if the duty cycle is more than 98%

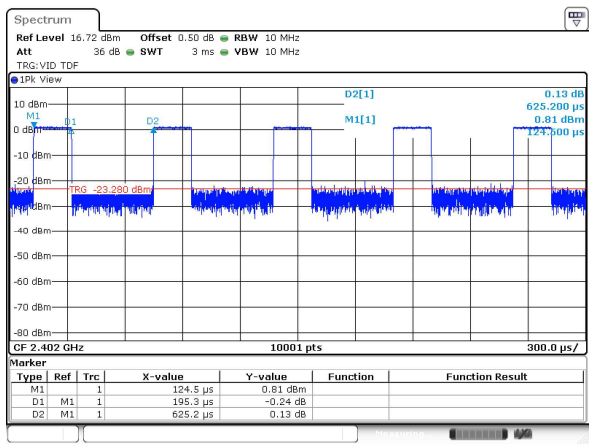
**1M Bits/s, 37 Packet**



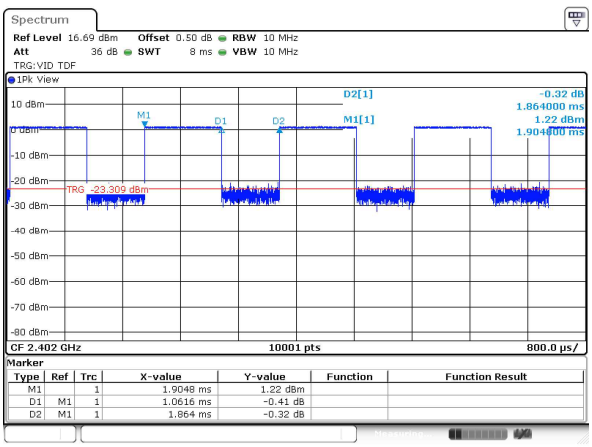

**1M Bits/s, 255 Packet**



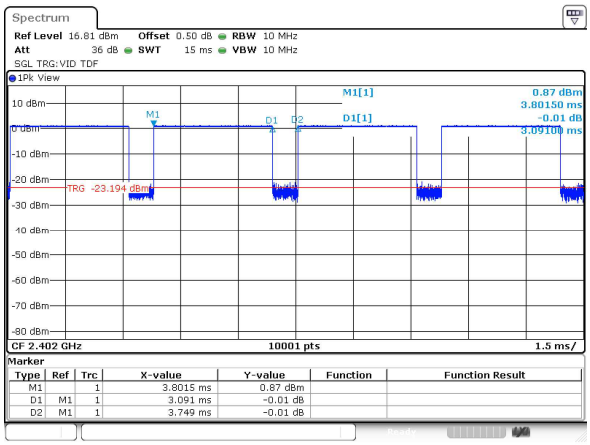

**2M Bits/s, 37 Packet**



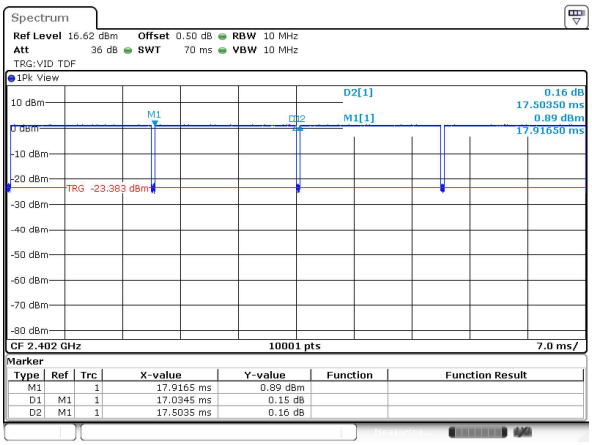

**2M Bits/s, 255 Packet**



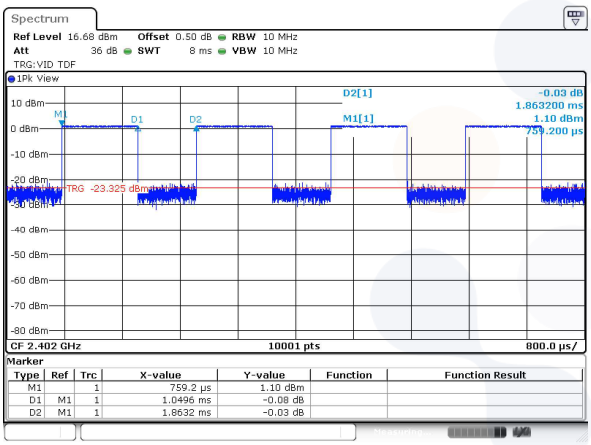
## 125k Bits/s, 37 Packet



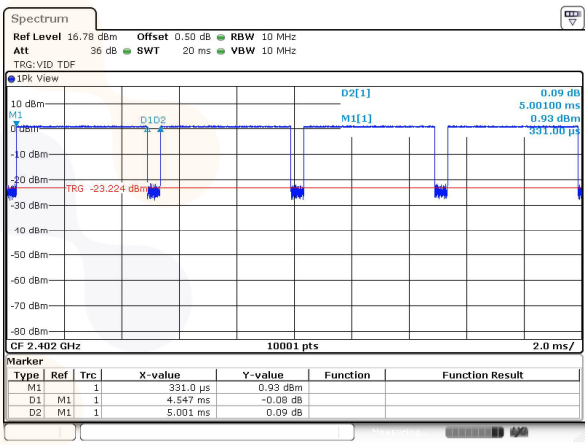

## 125k Bits/s, 255 Packet




## 500k Bits/s, 37 Packet




## 500k Bits/s, 255 Packet



# 3. Antenna requirement

**Requirement of FCC part section 15.203:**

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

- The transmitter has permanently attached Metal+LDS Antenna (Internal antenna) on board.
- The E.U.T Complies with the requirement of §15.203, §15.247.

# 4. Introduction

This report referenced from the FCC ID: A3LSMA346M
Based on their similarity, the FCC Part 15C (equipment class: DTS) reuse the original model's result and do spot-check, following the FCC KDB 484596 D01 v01.
And the applicant takes full responsibility that the test data as referenced in this report represent compliance for this FCC ID.

## 4.1 Difference

The FCC ID: A3LSMA346B shares the same enclosure and circuit board as FCC ID: A3LSMA346M. The WIFI/BT/BLE/NFC/WCDMA/GSM/LTE antenna and surrounding circuitry and layout are identical between these two units.
As for all bands, they have been verified and the parent model test results under FCC ID: A3LSMA346M shall remain representative of FCC ID: A3LSMA346B.

**Note.** The difference between the parent and variant is that the RF circuit for NR/LTE Bands (13/n5/n66), ULCA Band 4 and EN-DC for Band 2/66 in the parent model A3LSMA346M is removed from the variant model A3LSMA346B.

## 4.2 Spot check verification data (Band-edge & Spurious emission)

| Test band | Test item | Test mode | Channel | Measured frequency (MHz) | SM-A346M/DSN (dBμV) | | SM-A346B/DSN (dBμV) | | Deviation (dB) | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | Avg. | Peak | Avg. | Peak | Avg. | Peak |
| BLE | Band edge | 1Mbps Packet 37 | 39 | 2 483.5 ~ 2 500 | 46.62 | 55.03 | 45.92 | 53.83 | -0.70 | -1.20 |
| | RSE | | 0 | 7 215.17 | - | 46.21 | - | 46.51 | - | 0.30 |
| | Band edge | 2Mbps Packet 37 | 39 | 2 483.5 ~ 2 500 | 50.89 | 56.16 | 49.55 | 54.84 | -1.34 | -1.32 |
| | RSE | | 0 | 7 183.00 | - | 45.69 | - | 45.63 | - | -0.06 |

**Notes:**
1. FCC ID: A3LSMA346B has been verified the performance as for Bluetooth LE identical with the FCC ID: A3LSMA346M.
2. Comparison of two models, the variant model emissions are less than 3 dB higher than the parent model, and all test results are under FCC technical limits.
3. The test procedure(s) in this report were performed in accordance as following.
   - KDB 484596 D01 v01

## 4.3 Reference Detail

Reference application that contains the reused reference data in the individual test reports.

| Equipment Class | Reference FCC ID | Application Type | Reference Test report Number | Exhibit Type | Variant Test Report Number | Date Re-used |
|---|---|---|---|---|---|---|
| DTS | A3LSMA346M | Original | KR23-SRF0005 (802.11b/g/n) | Test report | KR23-SRF0027 | All |
| | | | KR23-SRF0004 (Bluetooth LE) | Test report | KR23-SRF0026 | All |
| DSS | A3LSMA346M | Original | KR23-SRF0003 (Bluetooth) | Test report | KR23-SRF0025 | All |
| NII | A3LSMA346M | Original | KP23-SRF0006 (802.11a/n/ac) | Test report | KR23-SRF0028 | All |
| DXX | A3LSMA346M | Original | KP23-SRF0012 (NFC) | Test report | KR23-SRF0033 | All |
| PCE | A3LSMA346M | Original | KR23-SRF0008 (2G, 3G) | Test report | KR23-SRF0030 | All |
| | | | KR23-SRF0009 (LTE) | Test report | KR23-SRF0031 | Partial[1),2)] |
| | | | KR23-SRF0010 (LTE Part90) | Test report | KR23-SRF0032 | All |

**Notes:**

1. This device does not support the LTE Band 13.
2. This device does not support sub antenna for usage of ULCA (LTE B4) and EN-DC (LTE B2/66).
3. This device does not support the 5GNR Bands of n5/n66.

# 5. Summary of tests

| FCC Part section(s) | Parameter | Test Condition | Test results |
|---|---|---|---|
| 15.205(a), 15.209(a) | Spurious emission | Radiated | Pass |
| | Band-edge, restricted band | | Pass |

**Notes:**

1. All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
2. According to exploratory test no any obvious emission were detected from 9 ㎑ to 30 ㎒. Although these tests were performed other than open field site, adequate comparison measurements were confirmed against 30 m open field site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.
3. The fundamental of the EUT was investigated in three orthogonal orientations X, Y and Z. It was determined that **X** orientation was worst-case orientation. Therefore, all final radiated testing was performed with the EUT in **X** orientation
4. The maximum production power and tolerance are not impacted by the change. So only spot-check test was done against the worst case from the original model.
5. All the radiated tests have been performed several case. (Stand-alone, with accessories (DLC Cable etc.))
   - Worst case: stand-alone
6. The test procedure(s) in this report were performed in accordance as following.
   - ANSI C63.10-2013
   - KDB 558074 D01 v05r02
7. The worst-case data rate were: 1M Bits/s, Packet length 37 Bytes
   2M Bits/s, Packet length 37 Bytes

# 6. Measurement uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.10-2013.

All measurement uncertainty values are shown with a coverage factor of $k$=2 to indicated a 95 % level of confidence. The measurement data shown herein meets of exceeds the $U_{CISPR}$ measurement uncertainty values specified in CISPR 16-4-2 and thus, can be compared directly to specified limits to determine compliance.

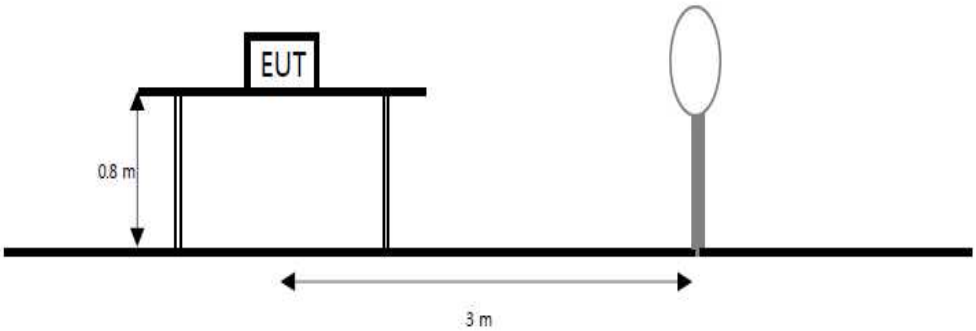
| Parameter | Expanded uncertainty (±) | |
|---|---|---|
| Radiated spurious emissions | 9 ㎑ ~ 30 ㎒: | 2.4 ㏈ |
| | 30 ㎒ ~ 1 000 ㎒ | 2.3 ㏈ |
| | 1 000 ㎒ ~ 18 000 ㎒ | 5.6 ㏈ |
| | Above 18 000 ㎒ | 5.7 ㏈ |

# 7. Test results

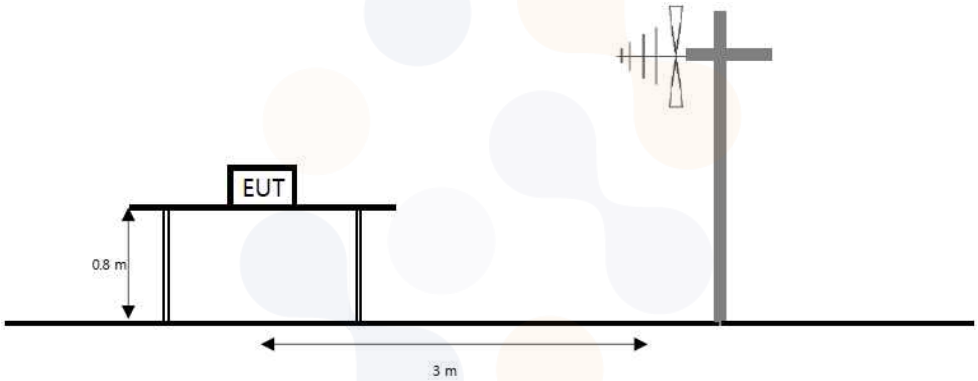
## 7.1. Spurious Emission, Band Edge and Restricted bands

**Test setup**

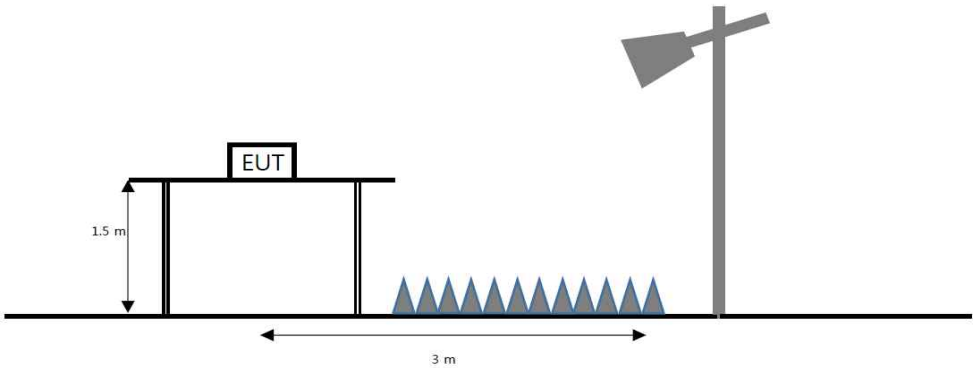
The diagram below shows the test setup that is utilized to make the measurements for emission from 9 ㎑ to 30 ㎒ Emissions




The diagram below shows the test setup that is utilized to make the measurements for emission from 30 ㎒ to 1 ㎓ emissions.




The diagram below shows the test setup that is utilized to make the measurements for emission from 1 ㎓ to the tenth harmonic of the highest fundamental frequency or to 40 ㎓ emissions, whichever is lower.



**Limit**

**FCC**

According to section 15.209(a), except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

| Frequency (㎒) | Field strength (㎛/m) | Measurement distance (m) |
|---|---|---|
| 0.009 - 0.490 | 2 400/F(㎑) | 300 |
| 0.490 - 1.705 | 24 000/F(㎑) | 30 |
| 1.705 - 30 | 30 | 30 |
| 30 - 88 | 100** | 3 |
| 88 - 216 | 150** | 3 |
| 216 - 960 | 200** | 3 |
| Above 960 | 500 | 3 |

**Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54–72 ㎒, 76–88 ㎒, 174–216 ㎒ or 470–806 ㎒. However, operation within these frequency bands is permitted under other sections of this part, e.g., Section15.231 and 15.241.

According to section 15.205(a) and (b), only spurious emissions are permitted in any of the frequency bands listed below:

| ㎒ | ㎒ | ㎒ | ㎓ |
|---|---|---|---|
| 0.009 - 0.110 | 16.42 - 16.423 | 399.9 - 410 | 4.5 - 5.15 |
| 0.495 - 0.505 | 16.694 75 - 16.695 25 | 608 - 614 | 5.35 - 5.46 |
| 2.173 5 - 2.190 5 | 16.804 25 - 16.804 75 | 960 – 1 240 | 7.25 - 7.75 |
| 4.125 - 4.128 | 25.5 - 25.67 | 1 300 – 1 427 | 8.025 - 8.5 |
| 4.177 25 - 4.177 75 | 37.5 - 38.25 | 1 435 – 1 626.5 | 9.0 - 9.2 |
| 4.207 25 - 4.207 75 | 73 - 74.6 | 1 645.5 – 1 646.5 | 9.3 - 9.5 |
| 6.215 - 6.218 | 74.8 - 75.2 | 1 660 – 1 710 | 10.6 - 12.7 |
| 6.267 75 - 6.268 25 | 108 - 121.94 | 1 718.8 – 1 722.2 | 13.25 - 13.4 |
| 6.311 75 - 6.312 25 | 123 - 138 | 2 200 – 2 300 | 14.47 - 14.5 |
| 8.291 - 8.294 | 149.9 - 150.05 | 2 310 – 2 390 | 15.35 - 16.2 |
| 8.362 - 8.366 | 156.524 75 - 156.525 25 | 2 483.5 – 2 500 | 17.7 - 21.4 |
| 8.376 25 - 8.386 75 | | 2 690 – 2 900 | 22.01 - 23.12 |
| 8.414 25 - 8.414 75 | 156.7 - 156.9 | 3 260 – 3 267 | 23.6 - 24.0 |
| 12.29 - 12.293 | 162.012 5 - 167.17 | 3 332 – 3 339 | 31.2 - 31.8 |
| 12.519 75 - 12.520 25 | 167.72 - 173.2 | 3 345.8 – 3 358 | 36.43 - 36.5 |
| 12.576 75 - 12.577 25 | 240 - 285 | 3 600 – 4 400 | Above 38.6 |
| 13.36 - 13.41 | 322 - 335.4 | | |

The field strength of emissions appearing within these frequency bands shall not exceed the limits shown in section 15.209. At frequencies equal to or less than 1 000 ㎒, compliance with the limits in section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1 000 ㎒, compliance with the emission limits in section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in section 15.35 apply to these measurements.

**Test procedure**
ANSI C63.10-2013

**Test settings**
**Peak field strength measurements**

1. Analyzer center frequency was set to the frequency of the radiated spurious emission of interest
2. RBW = as specified in table
3. VBW ≥ (3×RBW)
4. Detector = peak
5. Sweep time = auto
6. Trace mode = max hold
7. Allow sweeps to continue until the trace stabilizes

**Table. RBW as a function of frequency**

| Frequency | RBW |
|---|---|
| 9 ㎑ to 150 ㎑ | 200 ㎐ to 300 ㎐ |
| 0.15 ㎒ to 30 ㎒ | 9 ㎑ to 10 ㎑ |
| 30 ㎒ to 1 000 ㎒ | 100 ㎑ to 120 ㎑ |
| > 1 000 ㎒ | 1 ㎒ |

**Average field strength measurements**

**Trace averaging with continuous EUT transmission at full power**

If the EUT can be configured or modified to transmit continuously (D ≥ 98%), then the average emission levels shall be measured using the following method (with EUT transmitting continuously):

1. RBW = 1 ㎒ (unless otherwise specified).
2. VBW ≥ (3×RBW).
3. Detector = RMS (power averaging), if [span / (# of points in sweep)] ≤ (RBW / 2). Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.
4. Averaging type = power (i.e., rms):
   1) As an alternative, the detector and averaging type may be set for linear voltage averaging.
   2) Some instruments require linear display mode to use linear voltage averaging. Log or ㏈ averaging shall not be used.
5. Sweep time = auto.
6. Perform a trace average of at least 100 traces.

**Trace averaging across ON and OFF times of the EUT transmissions followed by duty cycle correction**

If continuous transmission of the EUT (D ≥ 98%) cannot be achieved and the duty cycle is constant (duty cycle variations are less than ±2%), then the following procedure shall be used:

1. The EUT shall be configured to operate at the maximum achievable duty cycle.
2. Measure the duty cycle D of the transmitter output signal as described in 11.6.
3. RBW = 1 ㎒ (unless otherwise specified).
4. VBW ≥ [3 × RBW].
5. Detector = RMS (power averaging), if [span / (# of points in sweep)] ≤ (RBW / 2). Satisfying this condition may require increasing the number of points in the sweep or reducing the span. If this condition cannot be satisfied, then the detector mode shall be set to peak.
6. Averaging type = power (i.e., rms):

1) As an alternative, the detector and averaging type may be set for linear voltage averaging.
2) Some instruments require linear display mode to use linear voltage averaging. Log or dB averaging shall not be used.

7. Sweep time = auto.
8. Perform a trace average of at least 100 traces.
9. A correction factor shall be added to the measurement results prior to comparing with the emission limit to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:
   1) If power averaging (rms) mode was used in step f), then the applicable correction factor is [10 log (1 / D)], where D is the duty cycle.
   2) If linear voltage averaging mode was used in step f), then the applicable correction factor is [20 log (1 / D)], where D is the duty cycle.
   3) If a specific emission is demonstrated to be continuous (D ≥ 98%) rather than turning ON and OFF with with the transmit cycle, then no duty cycle correction is required for that emission.

**Notes:**

1. $f$ <30 MHz, extrapolation factor of 40 dB/decade of distance. $F_d = 40\log(D_m/D_s)$
   $f$ ≥30 MHz, extrapolation factor of 20 dB/decade of distance. $F_d = 20\log(D_m/D_s)$
   Where:
   $F_d$= Distance factor in dB
   $D_m$= Measurement distance in meters
   $D_s$= Specification distance in meters
2. Factors(dB) = Antenna factor(dB/m) + Cable loss(dB) + or Amp. gain(dB) + or $F_d$(dB)
3. The worst-case emissions are reported however emissions whose levels were not within 20 dB of respective limits were not reported.
4. Average test would be performed if the peak result were greater than the average limit.
5. 1) means restricted band.
6. Below 30 MHz frequency range, In order to search for the worst result, all orientations about parallel, perpendicular, and ground-parallel were investigated then reported. when the emission level was higher than 20 dB of the limit, then the following statement shall be made: “No spurious emissions were detected within 20 dB of the limit.”

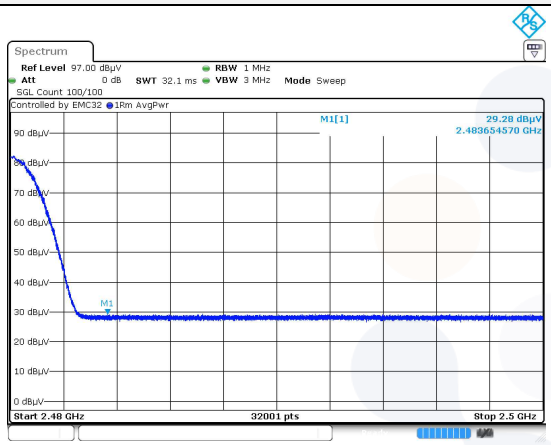
## Spot-check Test results

### 1 MBits/s(37 Bytes) / Band-edge

### Highest Channel

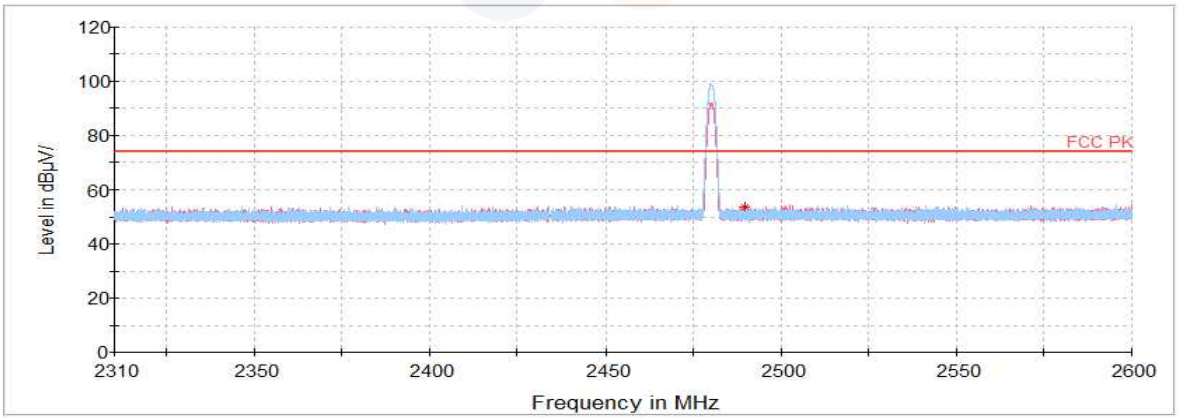
| Frequency | Pol. | Reading | Antenna Factor | Amp. + Cable | DCF | Result | Limit | Margin |
|---|---|---|---|---|---|---|---|---|
| [MHz] | [V/H] | [dB(μV)] | [dB] | [dB] | [dB] | [dB(μV/m)] | [dB(μV/m)] | [dB] |
| **Peak data** | | | | | | | | |
| 2 483.65[1)] | H | 39.36 | 32.36 | -17.89 | - | 53.83 | 74.00 | 20.17 |
| **Average Data** | | | | | | | | |
| 2 483.65[1)] | H | 29.28 | 32.36 | -17.89 | 2.17 | 45.92 | 54.00 | 8.08 |

**Average data**




Blank

**Horizontal/Vertical for Band-edge**

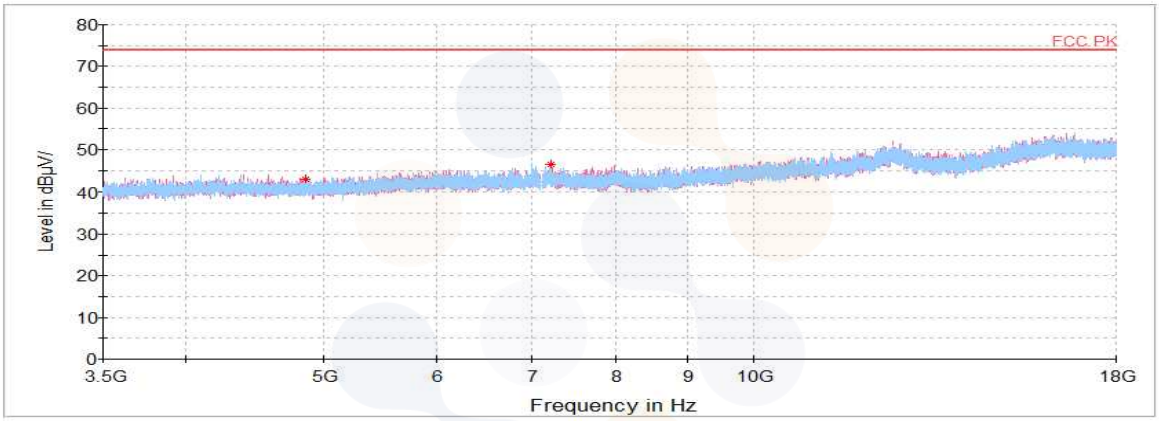


## 1 MBits/s(37 Bytes) / Harmonic

### Lowest Channel

| Frequency | Pol. | Reading | Antenna Factor | Amp. + Cable | DCF | Result | Limit | Margin |
|---|---|---|---|---|---|---|---|---|
| [MHz] | [V/H] | [dB(μV)] | [dB] | [dB] | [dB] | [dB(μV/m)] | [dB(μV/m)] | [dB] |
| **Peak data** | | | | | | | | |
| 4 860.28[1)] | V | 64.37 | 33.70 | -55.11 | - | 42.96 | 74.00 | 31.04 |
| 7 205.66 | V | 62.92 | 35.14 | -51.55 | - | 46.51 | 74.00 | 27.49 |
| **Average Data** | | | | | | | | |
| No spurious emissions were detected within 20 dB of the limit. | | | | | | | | |

**Horizontal/Vertical for 3.5 GHz ~ 18 GHz**

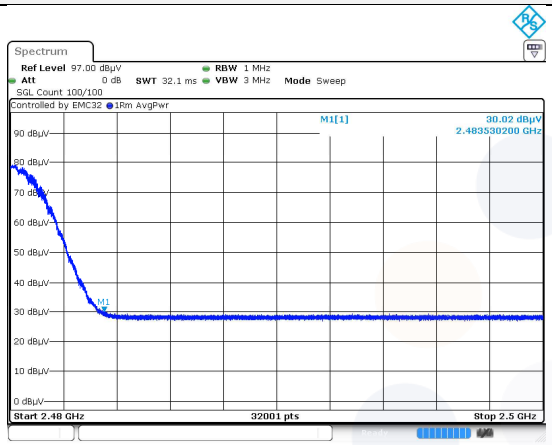


## 2 MBits/s(37 Bytes) / Band-edge

### Highest Channel

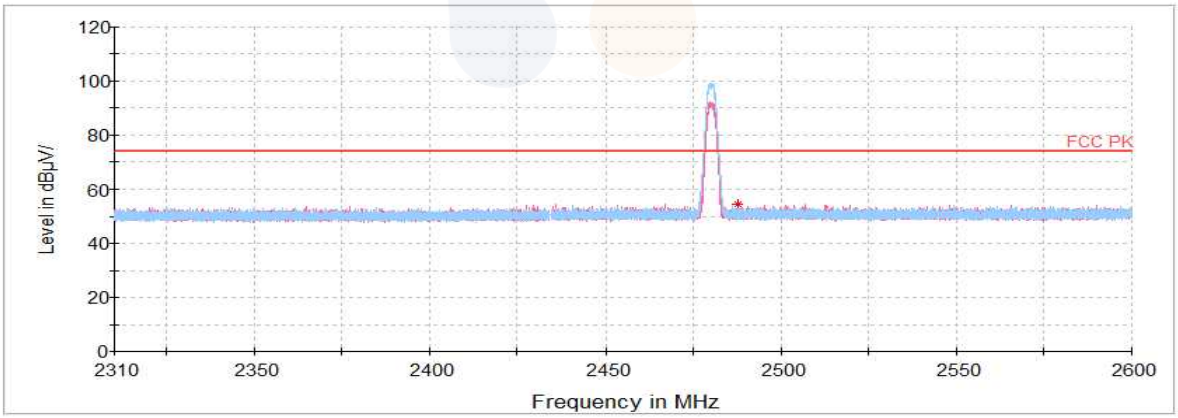
| Frequency | Pol. | Reading | Antenna Factor | Amp. + Cable | DCF | Result | Limit | Margin |
|---|---|---|---|---|---|---|---|---|
| [MHz] | [V/H] | [dB(μV)] | [dB] | [dB] | [dB] | [dB(μV/m)] | [dB(μV/m)] | [dB] |
| **Peak data** | | | | | | | | |
| 2 483.53[1)] | H | 40.37 | 32.36 | -17.89 | - | 54.84 | 74.00 | 19.16 |
| **Average Data** | | | | | | | | |
| 2 483.53[1)] | H | 30.02 | 32.36 | -17.89 | 5.06 | 49.55 | 54.00 | 4.45 |

**Average data**




Blank

**Horizontal/Vertical for Band-edge**

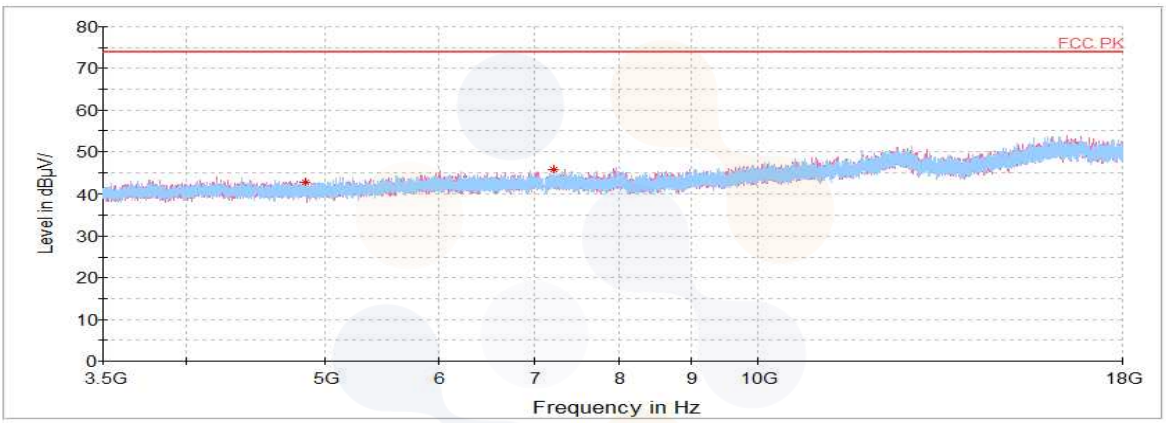


## 2 MBits/s(37 Bytes) / Harmonic

### Lowest Channel

| Frequency | Pol. | Reading | Antenna Factor | Amp. + Cable | DCF | Result | Limit | Margin |
|---|---|---|---|---|---|---|---|---|
| [MHz] | [V/H] | [dB(μV)] | [dB] | [dB] | [dB] | [dB(μV/m)] | [dB(μV/m)] | [dB] |
| **Peak data** | | | | | | | | |
| 4 843.06[1)] | H | 64.20 | 33.70 | -55.12 | - | 42.78 | 74.00 | 31.22 |
| 7 207.92 | H | 62.04 | 35.14 | -51.55 | - | 45.63 | 74.00 | 28.37 |
| **Average Data** | | | | | | | | |
| No spurious emissions were detected within 20 dB of the limit. | | | | | | | | |

**Horizontal/Vertical for 3.5 GHz ~ 18 GHz**



## 8. Measurement equipment

| Equipment Name | Manufacturer | Model No. | Serial No. | Next Cal. Date |
|---|---|---|---|---|
| Spectrum Analyzer | R&S | FSV40 | 100989 | 23.10.14 |
| Power Sensor | R&S | NRP-Z81 | 1137.9009.02-106225-JM | 23.05.02 |
| Horn antenna | ETS.lindgren | 3117 | 155787 | 23.09.29 |
| Horn antenna | ETS.lindgren | 3116 | 00086635 | 23.05.04 |
| Attenuator | API Inmet | 40AH2W-10 | 12 | 23.05.03 |
| AMPLIFIER | B&Z Technologies | BZRT-00504000-481055-382525 | 26299-27735 | 23.09.19 |
| AMPLIFIER | B&Z Technologies | BZR-0050400-551028-252525 | 27736 | 23.09.19 |
| Antenna Mast | Innco Systems | MA4640-XP-ET | - | - |
| Turn Table | Innco Systems | CO3000 | 1175/45850319/P | - |
| High pass Filter | WT | WT-A1698-HS | WT160411001 | 23.05.03 |
| Vector Signal Generator | R&S | SMBV100A | 257566 | 23.07.04 |
| Signal Generator | R&S | SMB100A | 176206 | 23.01.19 |

## End of test report