# FCC REPORT
## (WIFI)

**Applicant:** Interglobe Connection Corp

**Address of Applicant:** 8228 NW 30th Terrace. Doral, Miami, FL 33122

**Equipment Under Test (EUT)**

Product Name: Mobile Phone

Model No.: EKO Star 6.0 G65

Trade mark: EKO

**FCC ID:** 2AC7IEKONG65

**Applicable standards:** FCC CFR Title 47 Part 15 Subpart C Section 15.247

**Date of sample receipt:** 30 Nov., 2018

**Date of Test:** 03 Dec.,2018 to 02 Jan., 2019

**Date of report issued:** 03 Jan., 2019

**Test Result:** PASS*

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:

Bruce Zhang
Laboratory Manager

This report details the results of the testing carried out on one sample. The results contained in this test report do not relate to other samples of the same product and does not permit the use of the CCIS product certification mark. The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report.

This report may only be reproduced and distributed in full. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards.

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# 2 Version

| Version No. | Date | Description |
|---|---|---|
| *00* | *03 Jan., 2019* | *Original* |
| | | |
| | | |
| | | |
| | | |

***Tested by:*** Carey Chen ***Date:*** *03 Jan., 2019*

***Test Engineer***

***Reviewed by:*** Winner Zhang ***Date:*** *03 Jan., 2019*

***Project Engineer***

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# 4 Test Summary

| Test Items | Section in CFR 47 | Result |
|---|---|---|
| Antenna requirement | 15.203 & 15.247 (c) | Pass |
| AC Power Line Conducted Emission | 15.207 | Pass |
| Conducted Peak Output Power | 15.247 (b)(3) | Pass |
| 6dB Emission Bandwidth<br>99% Occupied Bandwidth | 15.247 (a)(2) | Pass |
| Power Spectral Density | 15.247 (e) | Pass |
| Band Edge | 15.247 (d) | Pass |
| Spurious Emission | 15.205 & 15.209 | Pass |
| *Pass: The EUT complies with the essential requirements in the standard.*<br>*N/A: N/A: Not Applicable.* | | |

# 5 General Information

## 5.1 Client Information

| | |
|---|---|
| Applicant: | Interglobe Connection Corp |
| Address: | 8228 NW 30th Terrace. Doral, Miami, FL 33122 |
| Manufacturer/Factory: | INTERGLOBE CONNECTION LTD |
| Address: | RM 1101 11F SAN TOI BLDG 139 CONNAUGHT RD CENTRAL HK |

## 5.2 General Description of E.U.T.

| | |
|---|---|
| Product Name: | Mobile Phone |
| Model No.: | EKO Star 6.0 G65 |
| Operation Frequency: | 2412MHz~2462MHz (802.11b/802.11g/802.11n(H20))<br>2422MHz~2452MHz (802.11n(H40)) |
| Channel numbers: | 11 for 802.11b/802.11g/802.11(H20)<br>7 for 802.11n(H40) |
| Channel separation: | 5MHz |
| Modulation technology:<br>(IEEE 802.11b) | Direct Sequence Spread Spectrum (DSSS) |
| Modulation technology:<br>(IEEE 802.11g/802.11n) | Orthogonal Frequency Division Multiplexing(OFDM) |
| Data speed (IEEE 802.11b): | 1Mbps, 2Mbps, 5.5Mbps, 11Mbps |
| Data speed (IEEE 802.11g): | 6Mbps, 9Mbps, 12Mbps, 18Mbps, 24Mbps, 36Mbps, 48Mbps, 54Mbps |
| Data speed (IEEE 802.11n): | Up to 150Mbps |
| Antenna Type: | External Antenna |
| Antenna gain: | 1.2dBi |
| Power supply: | Rechargeable Li-ion Battery DC3.85V-3150mAh |
| AC adapter: | Model: Ara 5.7 B5719<br>Input: AC100-240V, 50/60Hz, 0.15A<br>Output: DC 5.0V, 1000mA |
| Test Sample Condition: | The test samples were provided in good working order with no visible defects. |

| **Operation Frequency each of channel for 802.11b/g/n(H20)** | | | | | | | |
|---|---|---|---|---|---|---|---|
| Channel | Frequency | Channel | Frequency | Channel | Frequency | Channel | Frequency |
| 1 | 2412MHz | 4 | 2427MHz | 7 | 2442MHz | 10 | 2457MHz |
| 2 | 2417MHz | 5 | 2432MHz | 8 | 2447MHz | 11 | 2462MHz |
| 3 | 2422MHz | 6 | 2437MHz | 9 | 2452MHz | | |

Note:
1. For 802.11n-HT40 mode, the channel number is from 3 to 9;
2. Channel 1, 6 & 11 selected for 802.11b/g/n-HT20 as Lowest, Middle and Highest channel. Channel 3, 6 & 9 selected for 802.11n-HT40 as Lowest, Middle and Highest channel, Channel.

## 5.3 Test environment and test mode

| **Operating Environment:** | |
|---|---|
| Temperature: | 24.0 °C |
| Humidity: | 54 % RH |
| Atmospheric Pressure: | 1010 mbar |
| **Test mode:** | |
| Transmitting mode | Keep the EUT in continuous transmitting with modulation |

The sample was placed 0.8m (below 1GHz)/1.5m (above 1GHz) above the ground plane of 3m chamber. Measurements in both horizontal and vertical polarities were performed. During the test, each emission was maximized by: having the EUT continuously working, investigated all operating modes, rotated about all 3 axis (X, Y & Z) and considered typical configuration to obtain worst position, manipulating interconnecting cables, rotating the turntable, varying antenna height from 1m to 4m in both horizontal and vertical polarizations. The emissions worst-case are shown in Test Results of the following pages.
We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in transmitting operation, which was shown in this test report and defined as follows:

**Per-scan all kind of data rate, the follow list were the worst case.**

| Mode | Data rate |
|---|---|
| 802.11b | 1Mbps |
| 802.11g | 6Mbps |
| 802.11n(H20) | 6.5Mbps |
| 802.11n(H40) | 13.5Mbps |

## 5.4 Description of Support Units

The EUT has been tested as an independent unit.

## 5.5 Measurement Uncertainty

| Parameters | Expanded Uncertainty |
|---|---|
| Conducted Emission (9kHz ~ 30MHz) | ±2.22 dB (k=2) |
| Radiated Emission (9kHz ~ 30MHz) | ±2.76 dB (k=2) |
| Radiated Emission (30MHz ~ 1000MHz) | ±4.28 dB (k=2) |
| Radiated Emission (1GHz ~ 18GHz) | ±5.72 dB (k=2) |
| Radiated Emission (18GHz ~ 40GHz) | ±2.88 dB (k=2) |

## 5.6 Laboratory Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **FCC - Registration No.: 727551**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been accredited as a testing laboratory by FCC (Federal Communications Commission). The Registration No. is 727551.

- **IC - Registration No.: 10106A-1**

The 3m Semi-anechoic chamber of Shenzhen Zhongjian Nanfang Testing Co., Ltd. has been Registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 10106A-1.

- **CNAS - Registration No.: CNAS L6048**

Shenzhen Zhongjian Nanfang Testing Co., Ltd. is accredited to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration laboratories for the competence of testing. The Registration No. is CNAS L6048.

- **A2LA - Registration No.: 4346.01**

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 General requirements for the competence of testing and calibration laboratories. The test scope can be found as below link: https://portal.a2la.org/scopepdf/4346-01.pdf

## 5.7 Laboratory Location

Shenzhen Zhongjian Nanfang Testing Co., Ltd.
Address: No. B-C, 1/F., Building 2, Laodong No.2 Industrial Park, Xixiang Road,
Bao'an District, Shenzhen, Guangdong, China
Tel: +86-755-23118282, Fax: +86-755-23116366
Email: info@ccis-cb.com, Website: http://www.ccis-cb.com

## 5.8 Test Instruments list

**Radiated Emission:**

| Test Equipment | Manufacturer | Model No. | Serial No. | Cal. Date (mm-dd-yy) | Cal. Due date (mm-dd-yy) |
|---|---|---|---|---|---|
| 3m SAC | SAEMC | 9m*6m*6m | 966 | 07-22-2017 | 07-21-2020 |
| Loop Antenna | SCHWARZBECK | FMZB1519B | 00044 | 03-16-2018 | 03-15-2019 |
| BiConiLog Antenna | SCHWARZBECK | VULB9163 | 497 | 03-16-2018 | 03-15-2019 |
| Horn Antenna | SCHWARZBECK | BBHA9120D | 916 | 03-16-2018 | 03-15-2019 |
| Horn Antenna | SCHWARZBECK | BBHA9120D | 1805 | 06-22-2017 | 06-21-2020 |
| Horn Antenna | SCHWARZBECK | BBHA 9170 | BBHA9170582 | 11-21-2018 | 11-20-2019 |
| EMI Test Software | AUDIX | E3 | Version: 6.110919b | | |
| Pre-amplifier | HP | 8447D | 2944A09358 | 03-07-2018 | 03-06-2019 |
| Pre-amplifier | CD | PAP-1G18 | 11804 | 03-07-2018 | 03-06-2019 |
| Spectrum analyzer | Rohde & Schwarz | FSP30 | 101454 | 03-07-2018 | 03-06-2019 |
| Spectrum analyzer | Rohde & Schwarz | FSP40 | 100363 | 11-21-2018 | 11-20-2019 |
| EMI Test Receiver | Rohde & Schwarz | ESRP7 | 101070 | 03-07-2018 | 03-06-2019 |
| Cable | ZDECL | Z108-NJ-NJ-81 | 1608458 | 03-07-2018 | 03-06-2019 |
| Cable | MICRO-COAX | MFR64639 | K10742-5 | 03-07-2018 | 03-06-2019 |
| Cable | SUHNER | SUCOFLEX100 | 58193/4PE | 03-07-2018 | 03-06-2019 |
| RF Switch Unit | MWRFTEST | MW200 | N/A | N/A | N/A |
| Test Software | MWRFTEST | MTS8200 | Version: 2.0.0.0 | | |

**Conducted Emission:**

| Test Equipment | Manufacturer | Model No. | Serial No. | Cal. Date (mm-dd-yy) | Cal. Due date (mm-dd-yy) |
|---|---|---|---|---|---|
| EMI Test Receiver | Rohde & Schwarz | ESCI | 101189 | 03-07-2018 | 03-06-2019 |
| Pulse Limiter | SCHWARZBECK | OSRAM 2306 | 9731 | 03-07-2018 | 03-06-2019 |
| LISN | CHASE | MN2050D | 1447 | 03-19-2018 | 03-18-2019 |
| LISN | Rohde & Schwarz | ESH3-Z5 | 8438621/010 | 07-21-2018 | 07-20-2019 |
| Cable | HP | 10503A | N/A | 03-07-2018 | 03-06-2019 |
| EMI Test Software | AUDIX | E3 | Version: 6.110919b | | |

# 6 Test results and Measurement Data

## 6.1 Antenna requirement

| Standard requirement: | FCC Part 15 C Section 15.203 /247(b) |
|---|---|
| 15.203 requirement:<br>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, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.<br>15.247(b) (4) requirement:<br>(4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi. | |
| **E.U.T Antenna:** | |
| The WiFi antenna is an Internal antenna which cannot replace by end-user, the best case gain of the antenna is 1.2 dBi. | |

## 6.2 Conducted Emission

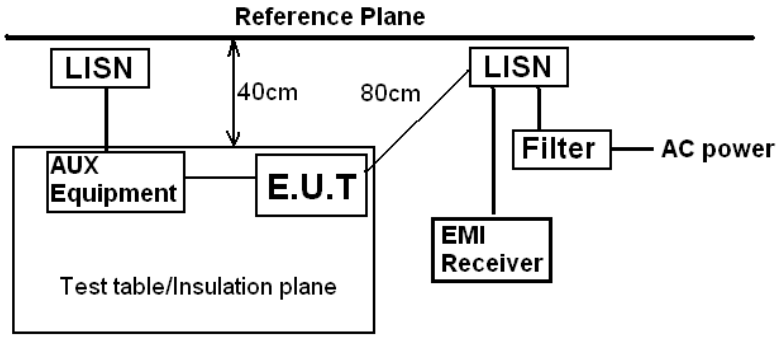
| | |
|---|---|
| Test Requirement: | FCC Part 15 C Section 15.207 |
| Test Method: | ANSI C63.10: 2013 |
| Test Frequency Range: | 150 kHz to 30 MHz |
| Class / Severity: | Class B |
| Receiver setup: | RBW=9 kHz, VBW=30 kHz |
| Limit: | |

| Frequency range (MHz) | Limit (dBuV) | |
|---|---|---|
| | Quasi-peak | Average |
| 0.15-0.5 | 66 to 56* | 56 to 46* |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |
| * Decreases with the logarithm of the frequency. | | |

**Test procedure**

1. The E.U.T and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.), which provides a 50ohm/50uH coupling impedance for the measuring equipment.
2. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refer to the block diagram of the test setup and photographs).
3. Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2014 on conducted measurement.

**Test setup:**

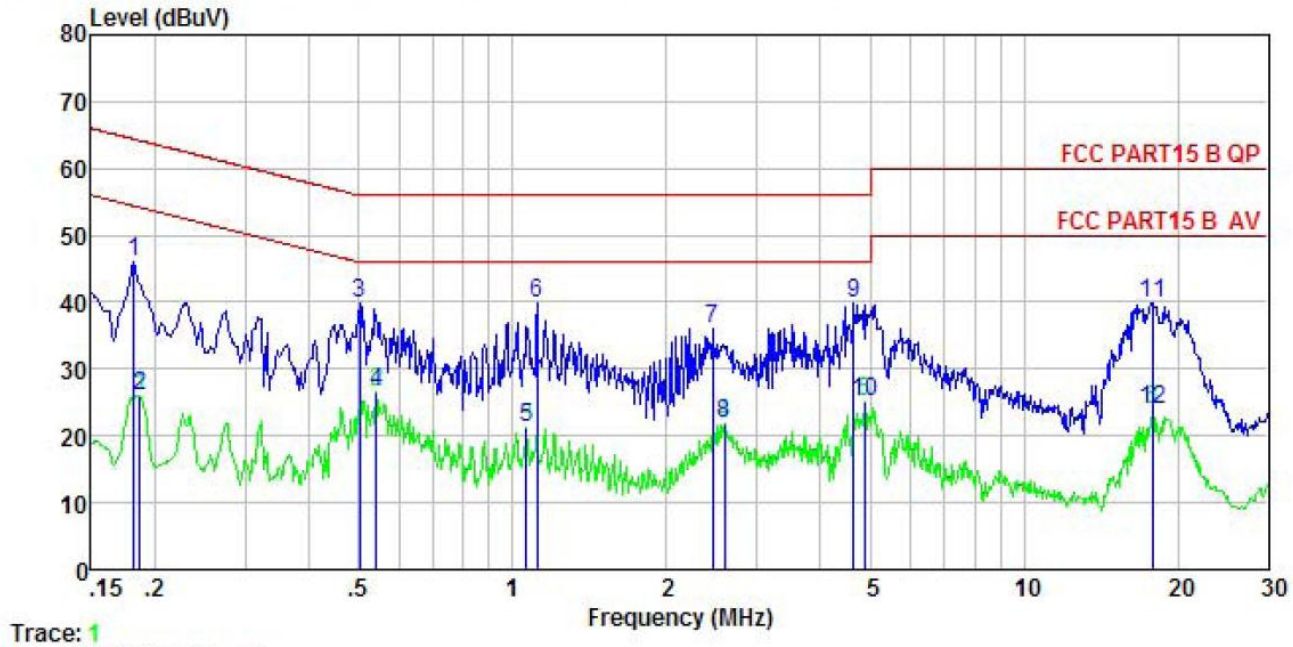



*Remark:*
*E.U.T: Equipment Under Test*
*LISN: Line Impedence Stabilization Network*
*Test table height=0.8m*

| | |
|---|---|
| Test Instruments: | Refer to section 5.8 for details |
| Test mode: | Refer to section 5.3 for details |
| Test results: | Passed |

**Measurement Data:**

| | | | |
|---|---|---|---|
| **Product name:** | Mobile Phone | **Product model:** | EKO Star 6.0 G65 |
| **Test by:** | Mike | **Test mode:** | Wi-Fi Tx mode |
| **Test frequency:** | 150 kHz ~ 30 MHz | **Phase:** | Line |
| **Test voltage:** | AC 120 V/60 Hz | **Environment:** | Temp: 22.5℃ Huni: 55% |

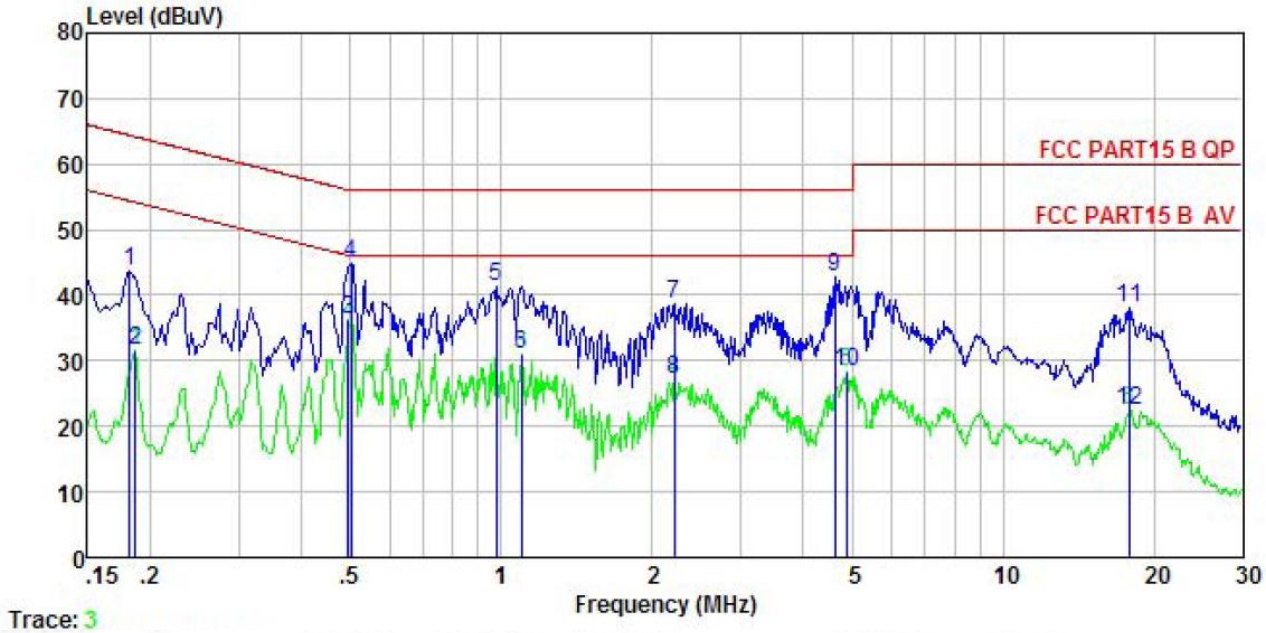



| | Freq | Read Level | LISN Factor | Cable Loss | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dB | dBuV | dBuV | dB | |
| 1 | 0.182 | 34.43 | 0.73 | 10.77 | 45.93 | 64.42 | -18.49 | QP |
| 2 | 0.186 | 14.59 | 0.73 | 10.76 | 26.08 | 54.20 | -28.12 | Average |
| 3 | 0.502 | 28.37 | 0.76 | 10.76 | 39.89 | 56.00 | -16.11 | QP |
| 4 | 0.541 | 14.95 | 0.76 | 10.76 | 26.47 | 46.00 | -19.53 | Average |
| 5 | 1.065 | 9.73 | 0.78 | 10.88 | 21.39 | 46.00 | -24.61 | Average |
| 6 | 1.117 | 28.08 | 0.78 | 10.88 | 39.74 | 56.00 | -16.26 | QP |
| 7 | 2.461 | 24.43 | 0.78 | 10.94 | 36.15 | 56.00 | -19.85 | QP |
| 8 | 2.594 | 10.11 | 0.78 | 10.93 | 21.82 | 46.00 | -24.18 | Average |
| 9 | 4.647 | 28.29 | 0.76 | 10.86 | 39.91 | 56.00 | -16.09 | QP |
| 10 | 4.874 | 13.38 | 0.76 | 10.85 | 24.99 | 46.00 | -21.01 | Average |
| 11 | 17.849 | 28.32 | 0.70 | 10.92 | 39.94 | 60.00 | -20.06 | QP |
| 12 | 17.849 | 12.18 | 0.70 | 10.92 | 23.80 | 50.00 | -26.20 | Average |

*Notes:*

1. *An initial pre-scan was performed on the line and neutral lines with peak detector.*
2. *Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.*
3. *Final Level =Receiver Read level + LISN Factor + Cable Loss.*

| | | | |
|---|---|---|---|
| **Product name:** | Mobile Phone | **Product model:** | EKO Star 6.0 G65 |
| **Test by:** | Mike | **Test mode:** | Wi-Fi Tx mode |
| **Test frequency:** | 150 kHz ~ 30 MHz | **Phase:** | Neutral |
| **Test voltage:** | AC 120 V/60 Hz | **Environment:** | Temp: 22.5℃ Huni: 55% |

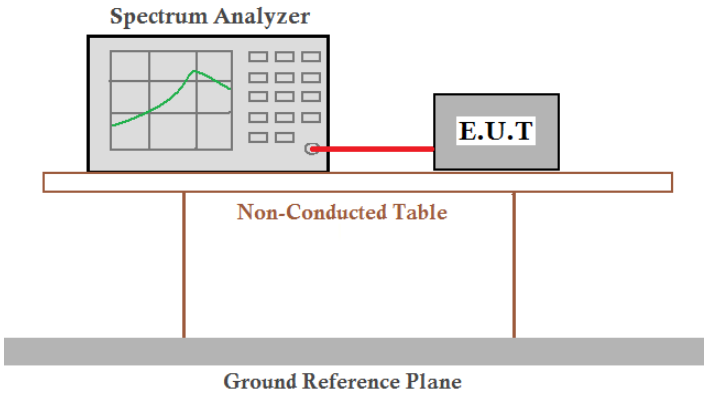



| | Freq | Read Level | LISN Factor | Cable Loss | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB | dB | dBuV | dBuV | dB | |
| 1 | 0.182 | 32.21 | 0.66 | 10.77 | 43.64 | 64.42 | -20.78 | QP |
| 2 | 0.186 | 20.12 | 0.66 | 10.76 | 31.54 | 54.20 | -22.66 | Average |
| 3 | 0.497 | 24.95 | 0.61 | 10.76 | 36.32 | 46.05 | -9.73 | Average |
| 4 | 0.502 | 33.40 | 0.61 | 10.76 | 44.77 | 56.00 | -11.23 | QP |
| 5 | 0.979 | 29.86 | 0.67 | 10.86 | 41.39 | 56.00 | -14.61 | QP |
| 6 | 1.100 | 19.39 | 0.67 | 10.88 | 30.94 | 46.00 | -15.06 | Average |
| 7 | 2.213 | 27.00 | 0.67 | 10.95 | 38.62 | 56.00 | -17.38 | QP |
| 8 | 2.213 | 15.52 | 0.67 | 10.95 | 27.14 | 46.00 | -18.86 | Average |
| 9 | 4.622 | 31.39 | 0.70 | 10.86 | 42.95 | 56.00 | -13.05 | QP |
| 10 | 4.874 | 16.79 | 0.70 | 10.85 | 28.34 | 46.00 | -17.66 | Average |
| 11 | 17.849 | 26.47 | 0.69 | 10.92 | 38.08 | 60.00 | -21.92 | QP |
| 12 | 17.849 | 10.77 | 0.69 | 10.92 | 22.38 | 50.00 | -27.62 | Average |

*Notes:*

1. *An initial pre-scan was performed on the line and neutral lines with peak detector.*
2. *Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission.*
3. *Final Level =Receiver Read level + LISN Factor + Cable Loss.*

## 6.3 Conducted Output Power

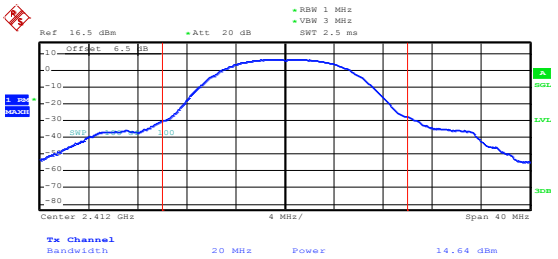
| | |
|---|---|
| Test Requirement: | FCC Part 15 C Section 15.247 (b)(3) |
| Test Method: | ANSI C63.10:2013 and KDB 558074 |
| Limit: | 30dBm |
| Test setup: |  |
| Test Instruments: | Refer to section 5.8 for details |
| Test mode: | Refer to section 5.3 for details |
| Test results: | Passed |

**Measurement Data:**

| Test CH | Maximum Conducted Output Power (dBm) | | | | Limit(dBm) | Result |
|---|---|---|---|---|---|---|
| | 802.11b | 802.11g | 802.11n(H20) | 802.11n(H40) | | |
| Lowest | 14.64 | 12.39 | 11.94 | 11.19 | 30.00 | Pass |
| Middle | 14.49 | 13.67 | 13.68 | 11.44 | | |
| Highest | 14.26 | 13.97 | 13.28 | 11.31 | | |

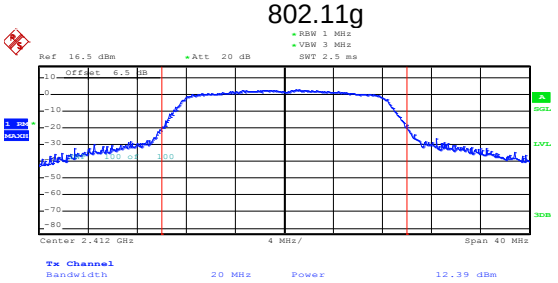
**Test plot as follows:**

802.11b



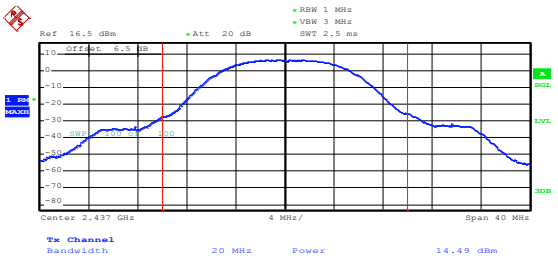

Date: 14.DEC.2018 07:38:35

802.11g



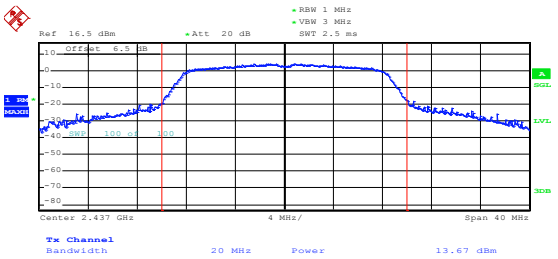

Date: 14.DEC.2018 07:38:52

Lowest channel



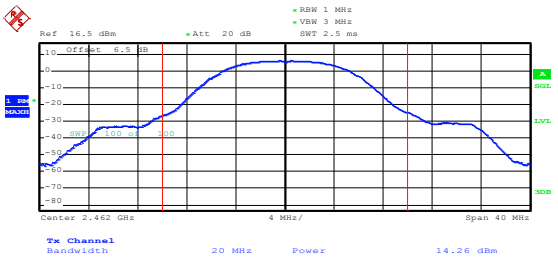

Date: 14.DEC.2018 07:38:21

Lowest channel



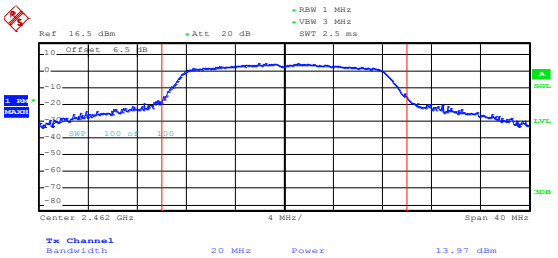

Date: 14.DEC.2018 07:39:05

Middle channel




Date: 14.DEC.2018 07:38:07

Middle channel

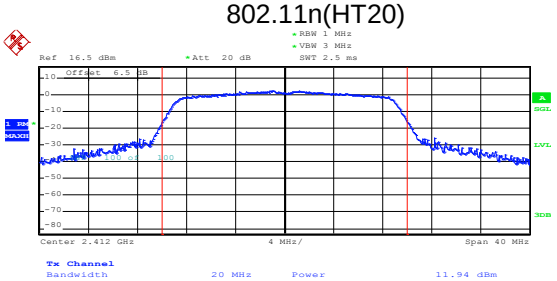



Date: 14.DEC.2018 07:39:27

Highest channel

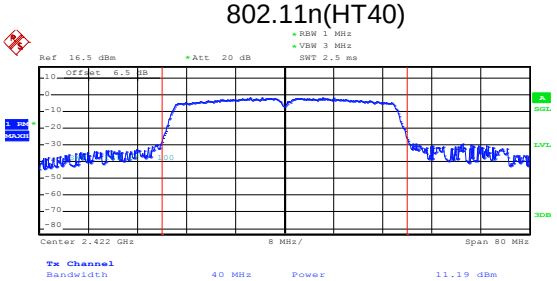
Highest channel

802.11n(HT20)



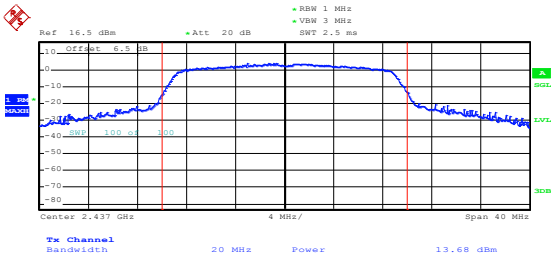

Date: 14.DEC.2018 07:39:47

802.11n(HT40)



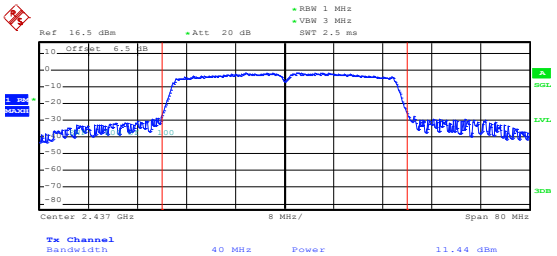

Date: 14.DEC.2018 07:41:33

Lowest channel



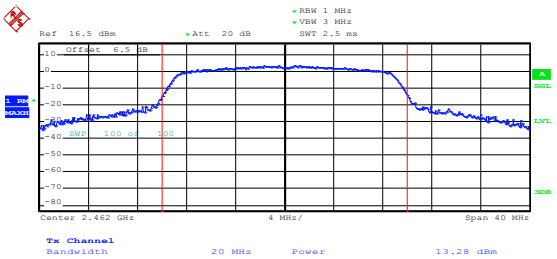

Date: 14.DEC.2018 07:40:04

Lowest channel



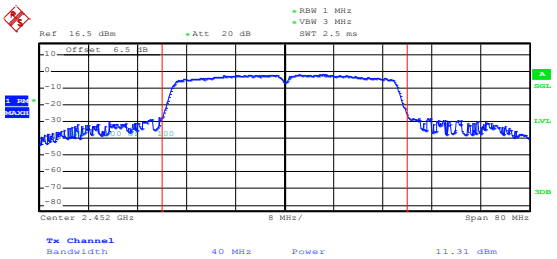

Date: 14.DEC.2018 07:42:01

Middle channel




Date: 14.DEC.2018 07:40:22

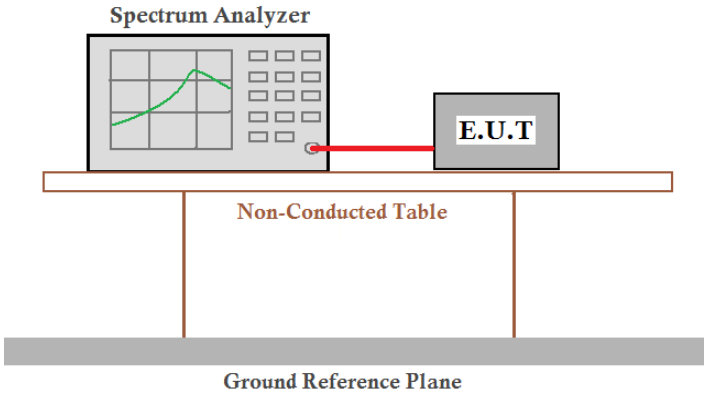
Middle channel




Date: 14.DEC.2018 07:42:24

Highest channel

## 6.4 Occupy Bandwidth

| | |
|---|---|
| Test Requirement: | FCC Part 15 C Section 15.247 (a)(2) |
| Test Method: | ANSI C63.10:2013 and KDB 558074 |
| Limit: | >500kHz |
| Test setup: |  |
| Test Instruments: | Refer to section 5.8 for details |
| Test mode: | Refer to section 5.3 for details |
| Test results: | Passed |

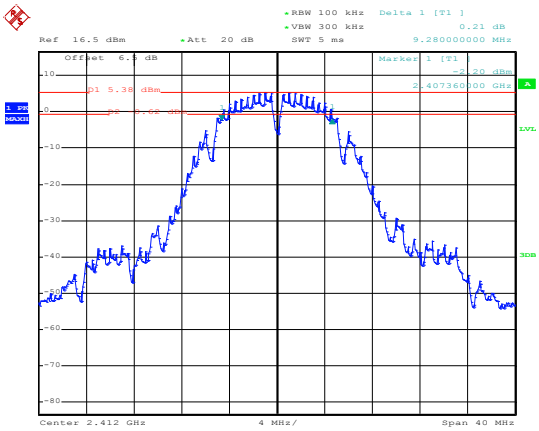
**Measurement Data:**

| Test CH | 6dB Emission Bandwidth (MHz) | | | | Limit(kHz) | Result |
|---|---|---|---|---|---|---|
| | 802.11b | 802.11g | 802.11n(H20) | 802.11n(H40) | | |
| Lowest | 9.28 | 15.68 | 16.32 | 35.52 | >500 | Pass |
| Middle | 10.24 | 15.28 | 15.28 | 35.52 | | |
| Highest | 10.24 | 15.28 | 15.60 | 35.52 | | |
| Test CH | 99% Occupy Bandwidth (MHz) | | | | Limit(kHz) | Result |
| | 802.11b | 802.11g | 802.11n(H20) | 802.11n(H40) | | |
| Lowest | 12.72 | 16.48 | 17.60 | 35.84 | N/A | N/A |
| Middle | 12.72 | 16.48 | 17.68 | 35.84 | | |
| Highest | 13.04 | 16.56 | 17.68 | 35.84 | | |

**Test plot as follows:**

**802.11b**

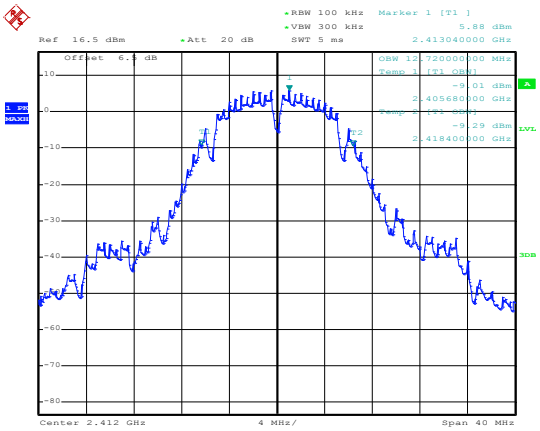
**6dB EBW**




Date: 14.DEC.2018 08:20:24

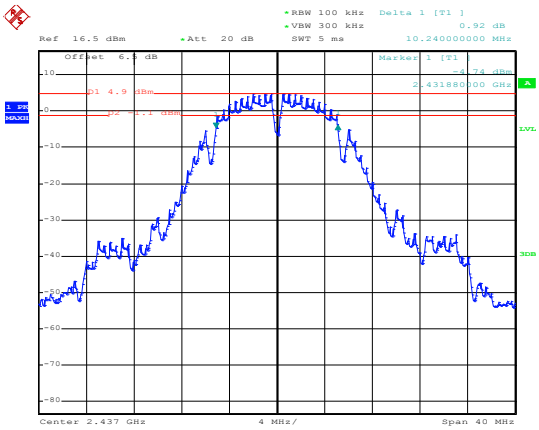
Lowest channel

**99% OBW**



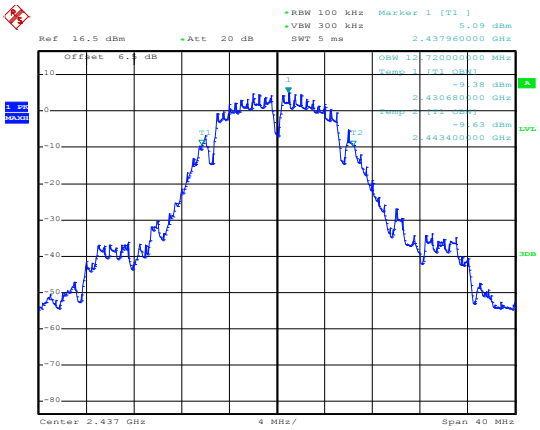

Date: 14.DEC.2018 08:07:28

Lowest channel



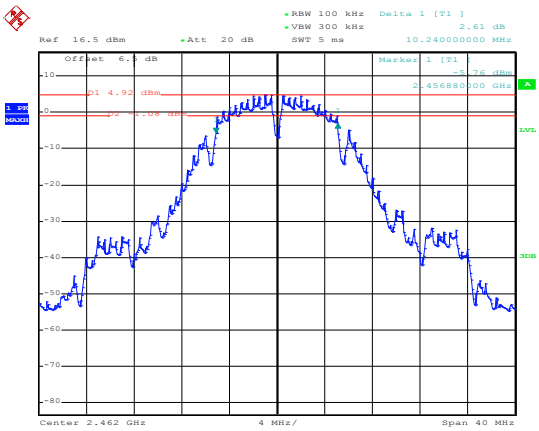

Date: 14.DEC.2018 08:21:41

Middle channel



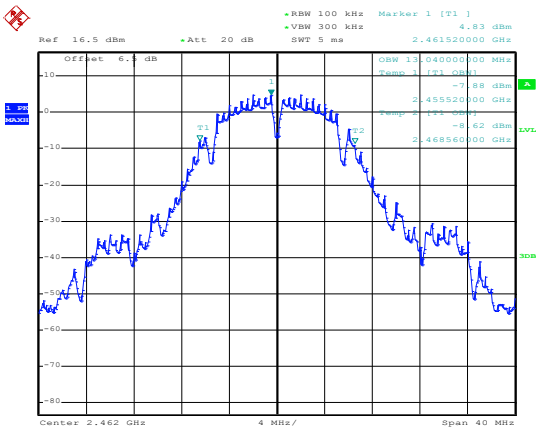

Date: 14.DEC.2018 08:07:06

Middle channel




Date: 14.DEC.2018 08:22:19

Highest channel

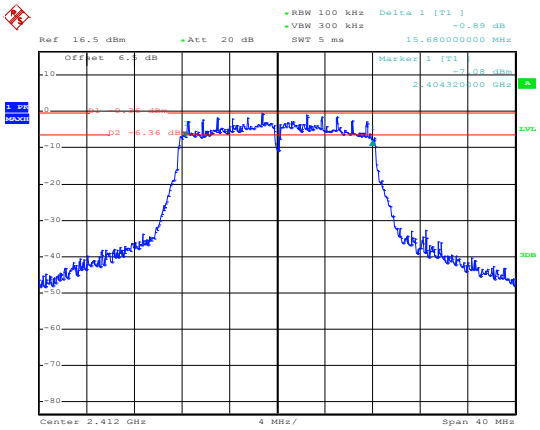



Date: 14.DEC.2018 08:06:49

Highest channel

## 802.11g

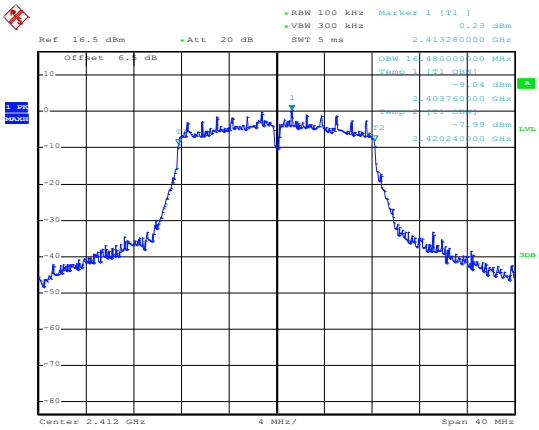
### 6dB EBW




Date: 14.DEC.2018 08:17:48

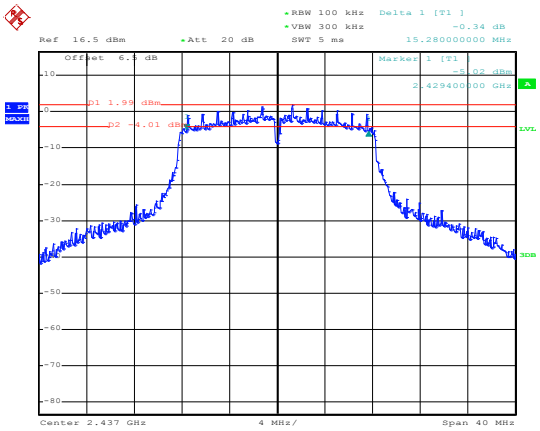
Lowest channel

### 99% OBW



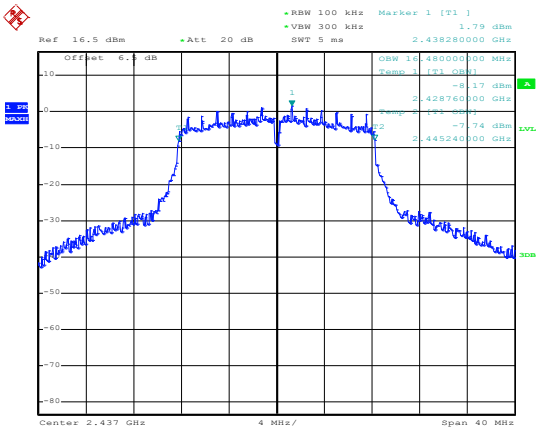

Date: 14.DEC.2018 08:07:54

Lowest channel



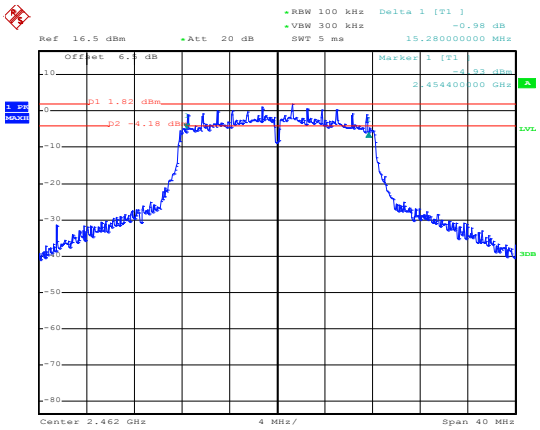

Date: 14.DEC.2018 08:18:54

Middle channel



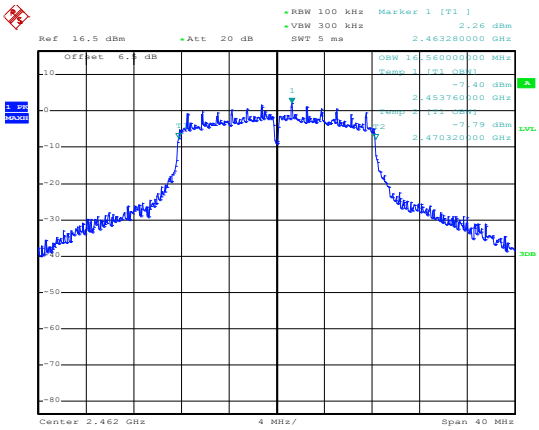

Date: 14.DEC.2018 08:08:14

Middle channel




Date: 14.DEC.2018 08:19:44

Highest channel

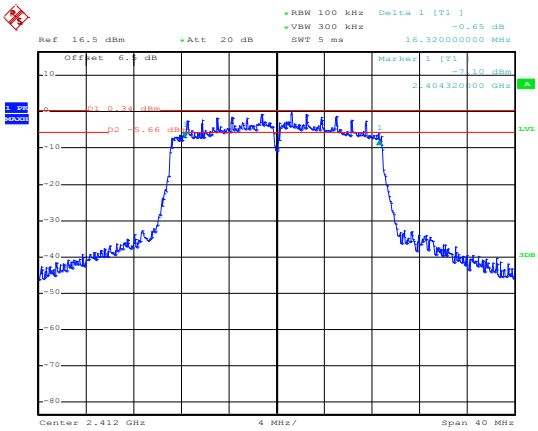



Date: 14.DEC.2018 08:08:40

Highest channel

## 802.11n(H20)

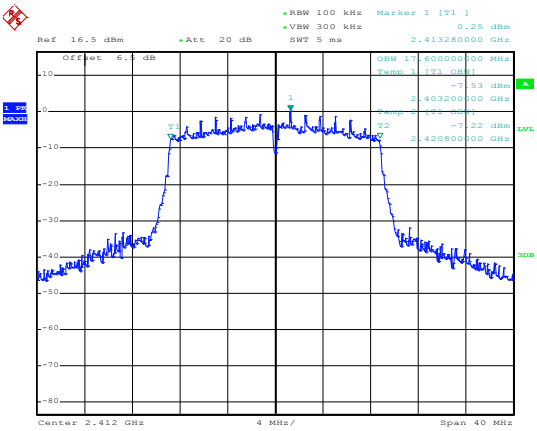
### 6dB EBW




Date: 14.DEC.2018 08:14:44

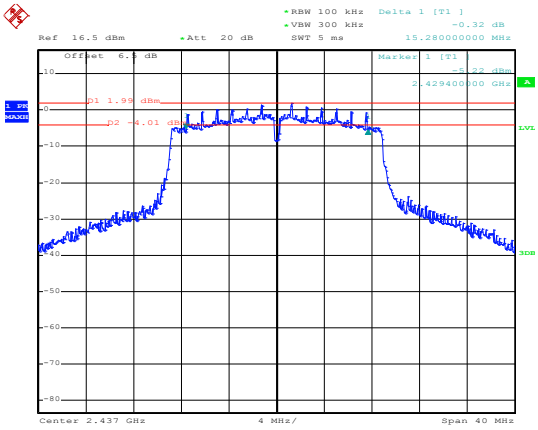
Lowest channel

### 99% OBW



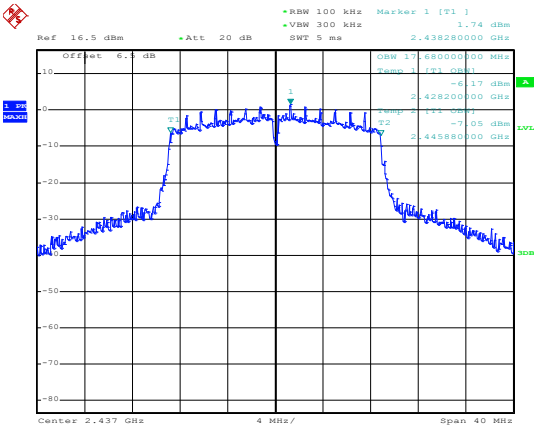

Date: 14.DEC.2018 08:08:57

Lowest channel



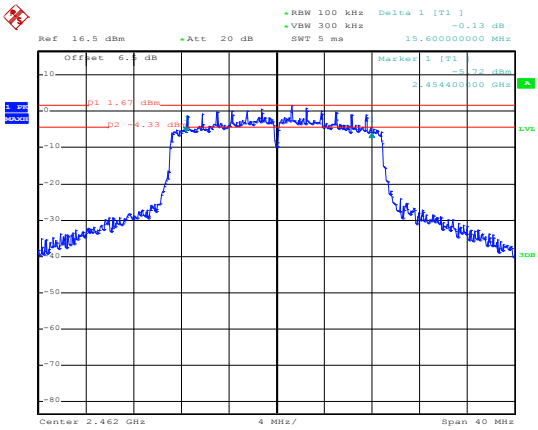

Date: 14.DEC.2018 08:16:04

Middle channel



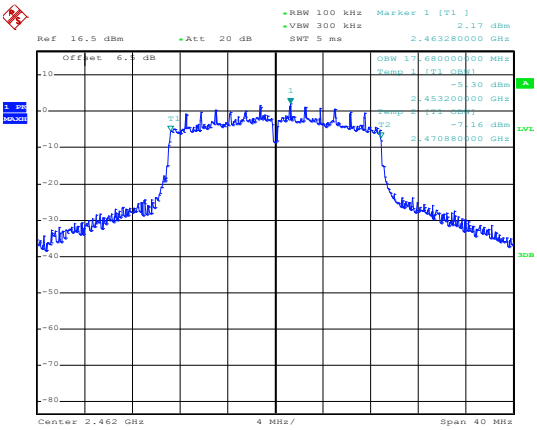

Date: 14.DEC.2018 08:09:21

Middle channel




Date: 14.DEC.2018 08:16:58

Highest channel

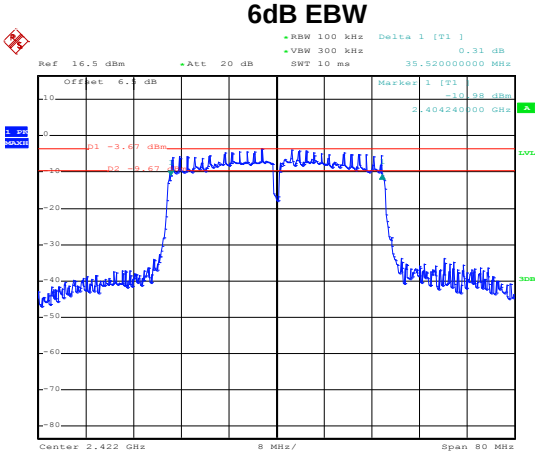



Date: 14.DEC.2018 08:09:42

Highest channel

## 802.11n(H40)

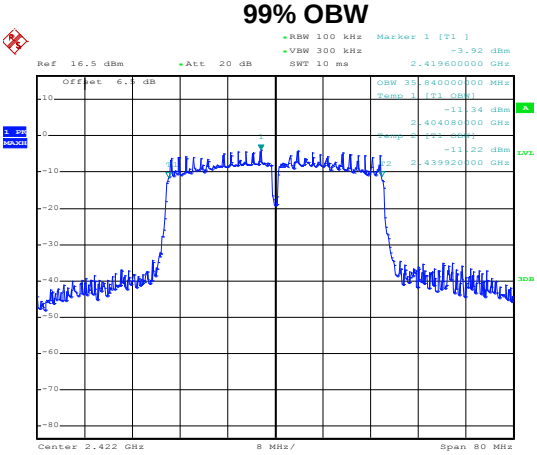
### 6dB EBW




Date: 14.DEC.2018 08:13:41

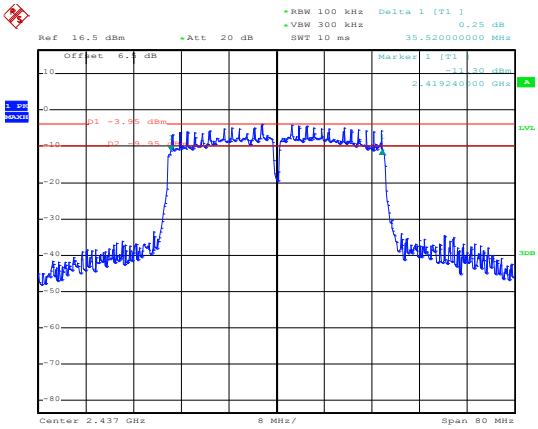
Lowest channel

### 99% OBW



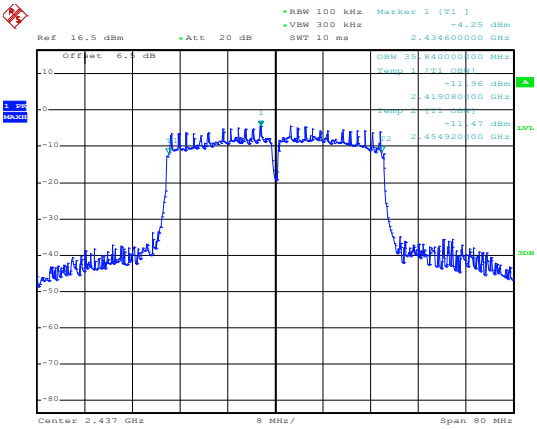

Date: 14.DEC.2018 08:10:04

Lowest channel



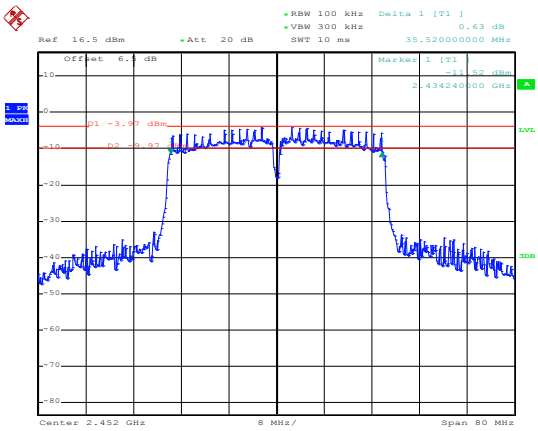

Date: 14.DEC.2018 08:37:49

Middle channel



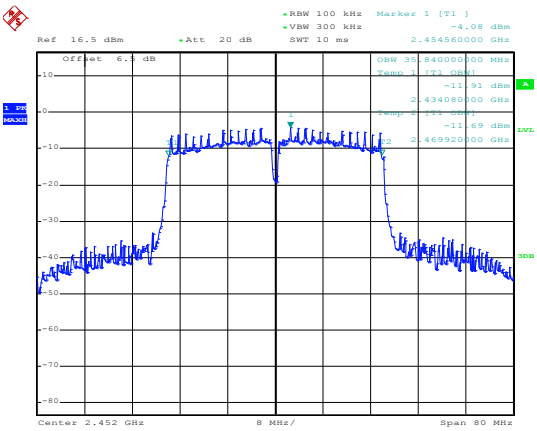

Date: 14.DEC.2018 08:10:34

Middle channel




Date: 14.DEC.2018 08:38:40

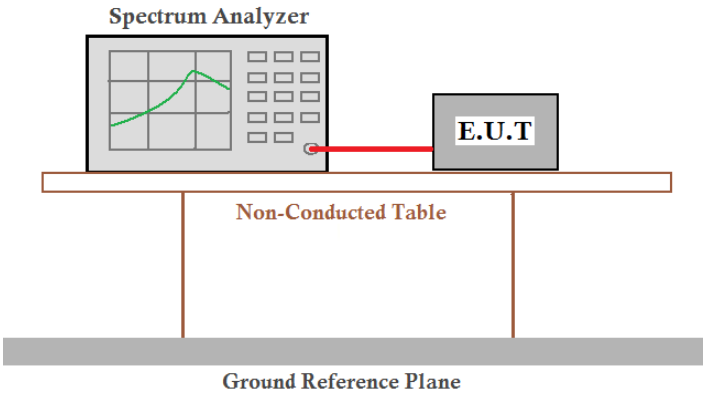
Highest channel




Date: 14.DEC.2018 08:11:12

Highest channel

## 6.5 Power Spectral Density

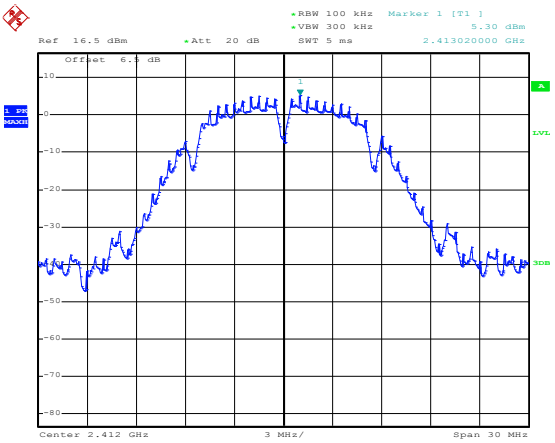
| | |
|---|---|
| Test Requirement: | FCC Part 15 C Section 15.247 (e) |
| Test Method: | ANSI C63.10:2013 and KDB 558074 |
| Limit: | 8dBm |
| Test setup: |  |
| Test Instruments: | Refer to section 5.8 for details |
| Test mode: | Refer to section 5.3 for details |
| Test results: | Passed |

**Measurement Data:**

| Test CH | Power Spectral Density (dBm) | | | | Limit(dBm) | Result |
|---|---|---|---|---|---|---|
| | 802.11b | 802.11g | 802.11n(H20) | 802.11n(H40) | | |
| Lowest | 5.30 | 0.26 | 0.21 | -4.05 | 8.00 | Pass |
| Middle | 5.42 | 1.47 | 1.87 | -3.90 | | |
| Highest | 4.89 | 1.76 | 1.76 | -4.50 | | |

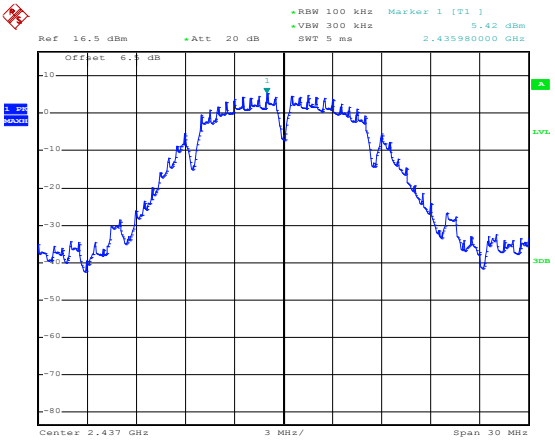
**Test plot as follows:**

Test mode: 802.11b



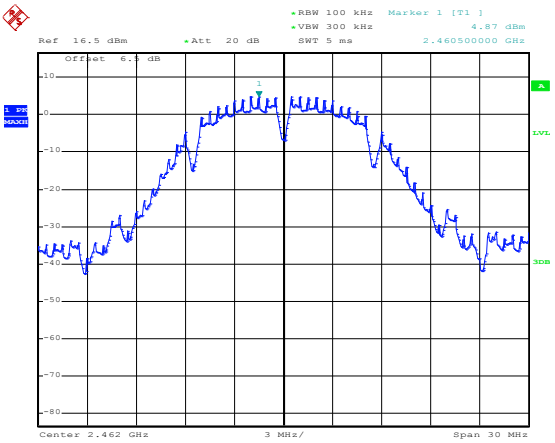

Date: 14.DEC.2018 07:47:02

Lowest channel




Date: 14.DEC.2018 07:47:17

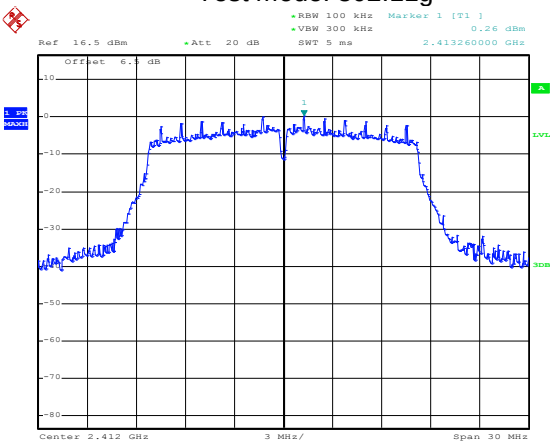
Middle channel




Date: 14.DEC.2018 07:47:35

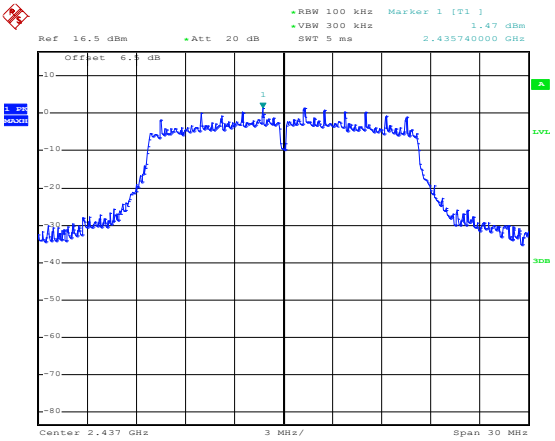
Highest channel

Test mode: 802.11g



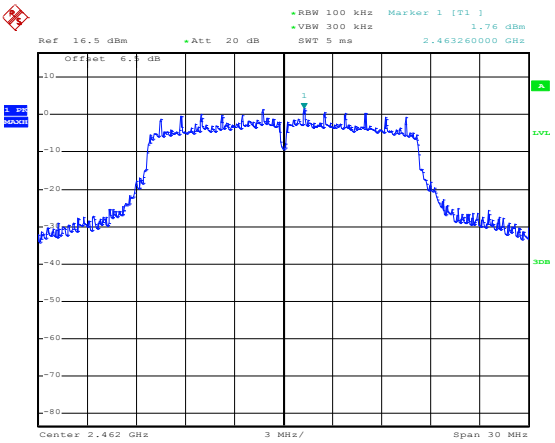

Date: 14.DEC.2018 07:46:14

Lowest channel




Date: 14.DEC.2018 07:46:31

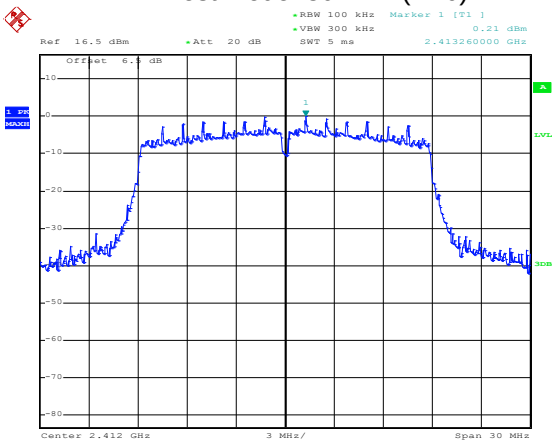
Middle channel




Date: 14.DEC.2018 07:46:48

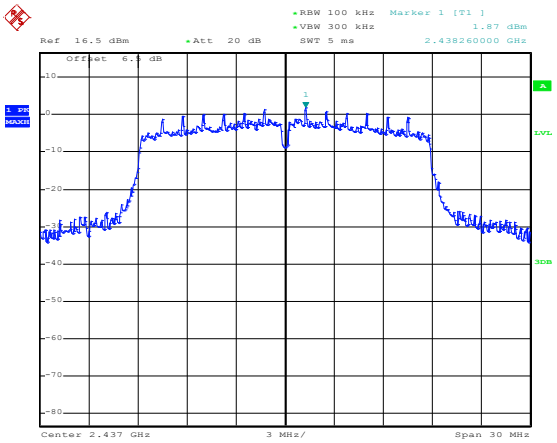
Highest channel

Test mode: 802.11n(H20)



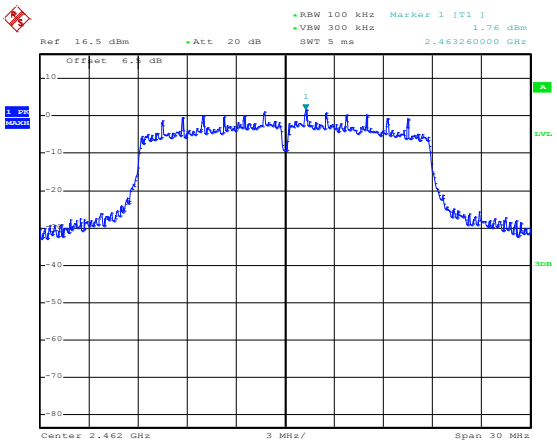

Date: 14.DEC.2018 07:45:15

Lowest channel




Date: 14.DEC.2018 07:45:33

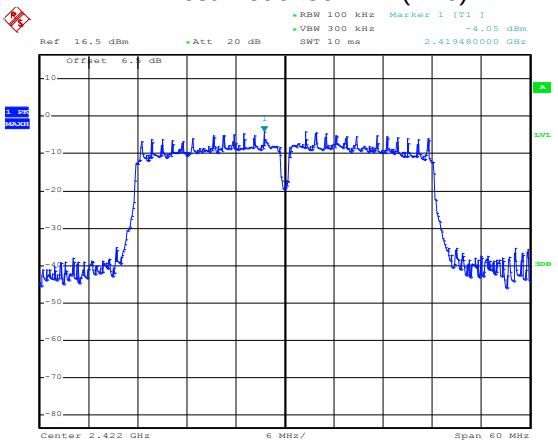
Middle channel




Date: 14.DEC.2018 07:45:52

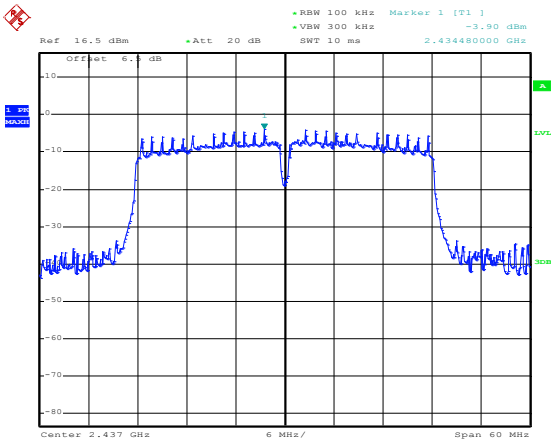
Highest channel

Test mode: 802.11n(H40)



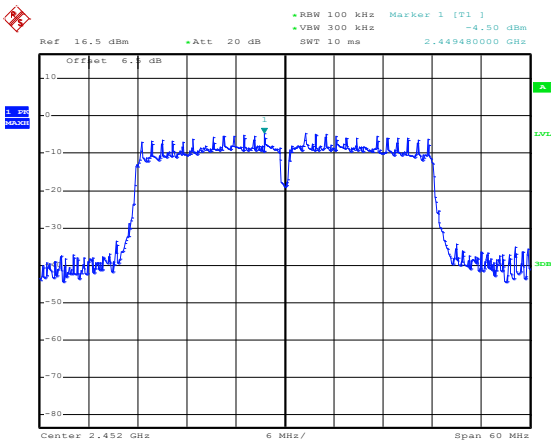

Date: 14.DEC.2018 07:44:36

Lowest channel




Date: 14.DEC.2018 07:44:12

Middle channel

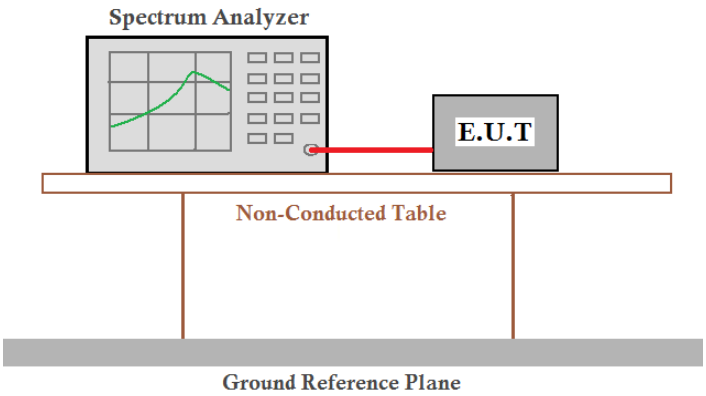



Date: 14.DEC.2018 07:43:37

Highest channel

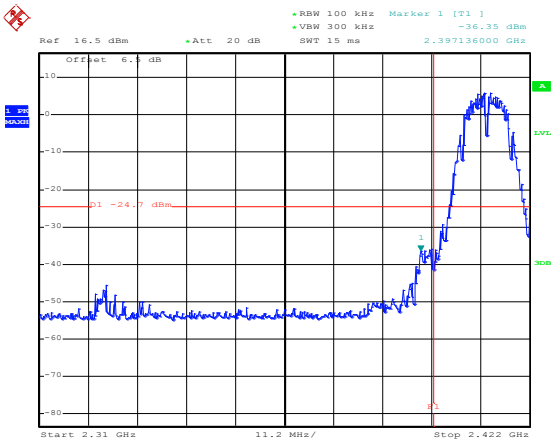
## 6.6 Band Edge

### 6.6.1 Conducted Emission Method

| | |
|---|---|
| Test Requirement: | FCC Part 15 C Section 15.247 (d) |
| Test Method: | ANSI C63.10:2013 and KDB 558074 |
| Limit: | In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. |
| Test setup: |  |
| Test Instruments: | Refer to section 5.8 for details |
| Test mode: | Refer to section 5.3 for details |
| Test results: | Passed |

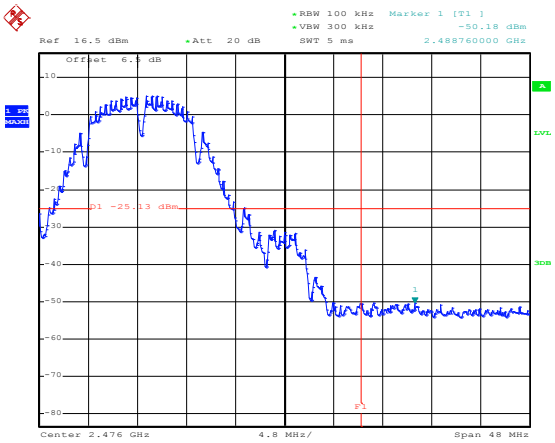
**Test plot as follows:**

802.11b




Date: 14.DEC.2018 07:59:17

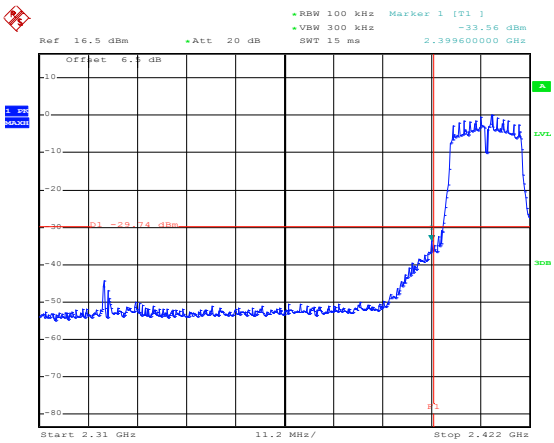
Lowest channel




Date: 14.DEC.2018 08:05:59

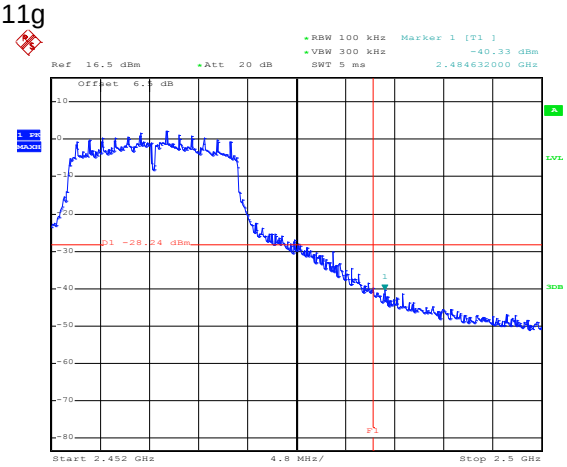
Highest channel

802.11g




Date: 14.DEC.2018 07:59:43

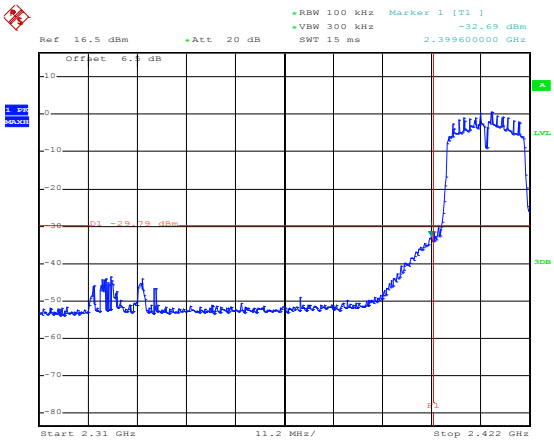
Lowest channel




Date: 14.DEC.2018 08:04:46

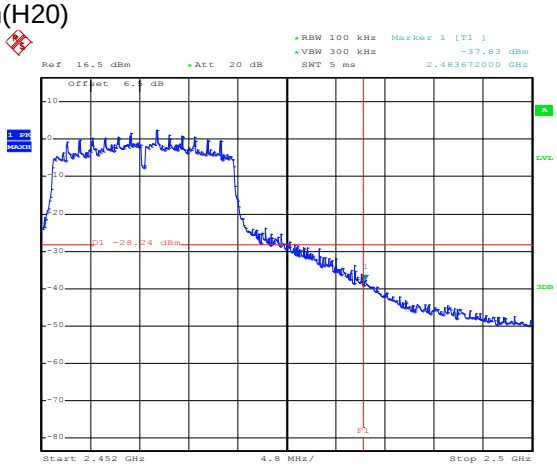
Highest channel

802.11n(H20)




Date: 14.DEC.2018 08:00:49

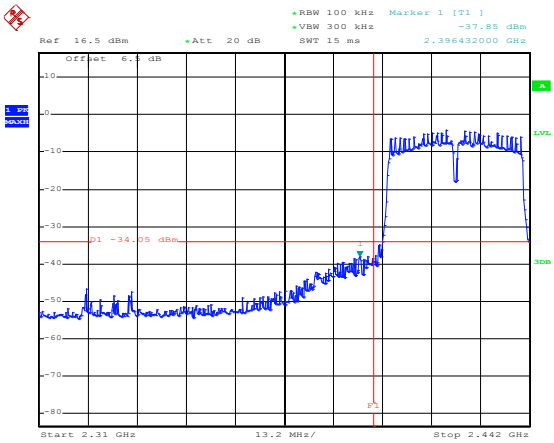
Lowest channel




Date: 14.DEC.2018 08:03:51

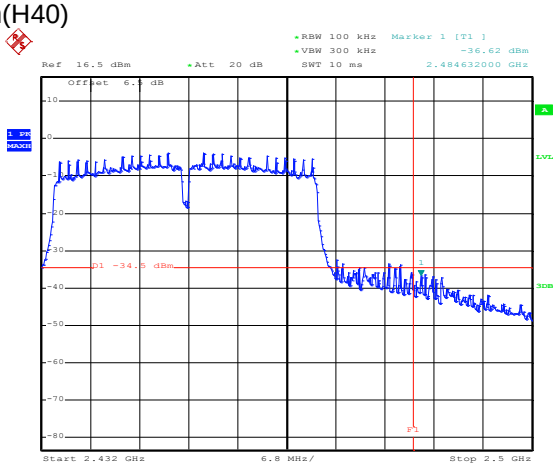
Highest channel

802.11n(H40)




Date: 14.DEC.2018 08:02:00

Lowest channel




Date: 14.DEC.2018 08:02:47

Highest channel

### 6.6.2 Radiated Emission Method

| | |
|---|---|
| Test Requirement: | FCC Part 15 C Section 15.209 and 15.205 |
| Test Method: | ANSI C63.10: 2013 and KDB 558074 |
| Test Frequency Range: | 2.3GHz to 2.5GHz |
| Test Distance: | 3m |

**Receiver setup:**

| Frequency | Detector | RBW | VBW | Remark |
|---|---|---|---|---|
| Above 1GHz | Peak | 1MHz | 3MHz | Peak Value |
| | RMS | 1MHz | 3MHz | Average Value |

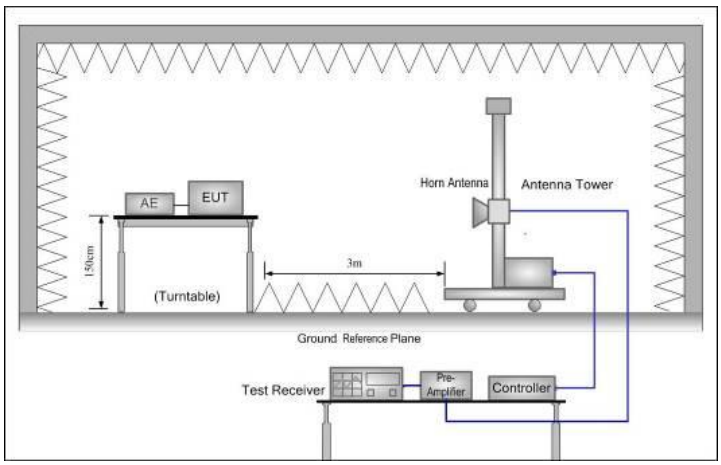
**Limit:**

| Frequency | Limit (dBuV/m @3m) | Remark |
|---|---|---|
| Above 1GHz | 54.00 | Average Value |
| | 74.00 | Peak Value |

**Test Procedure:**

1. The EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter camber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

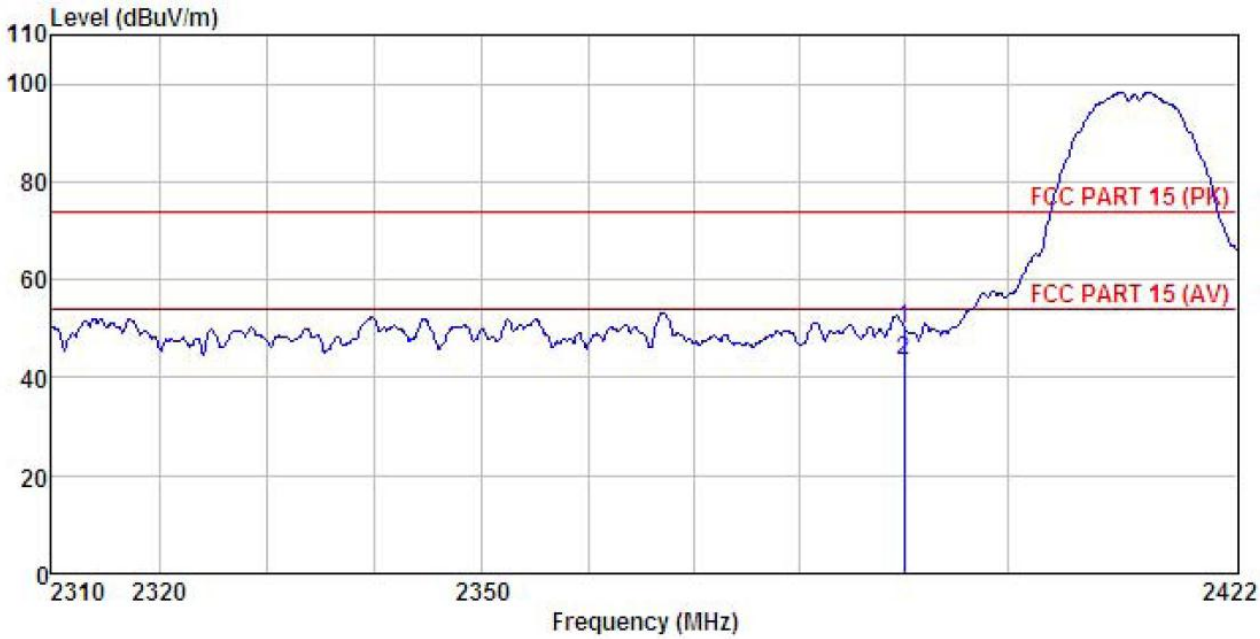
**Test setup:**




| | |
|---|---|
| Test Instruments: | Refer to section 5.8 for details |
| Test mode: | Refer to section 5.3 for details |
| Test results: | Passed |

**802.11b mode:**

| | | | |
|---|---|---|---|
| **Product Name:** | Mobile Phone | **Product Model:** | EKO Star 6.0 G65 |
| **Test By:** | Mike | **Test mode:** | 802.11b Tx mode |
| **Test Channel:** | Lowest channel | **Polarization:** | Vertical |
| **Test Voltage:** | AC 120/60Hz | **Environment:** | Temp: 24℃ Huni: 57% |

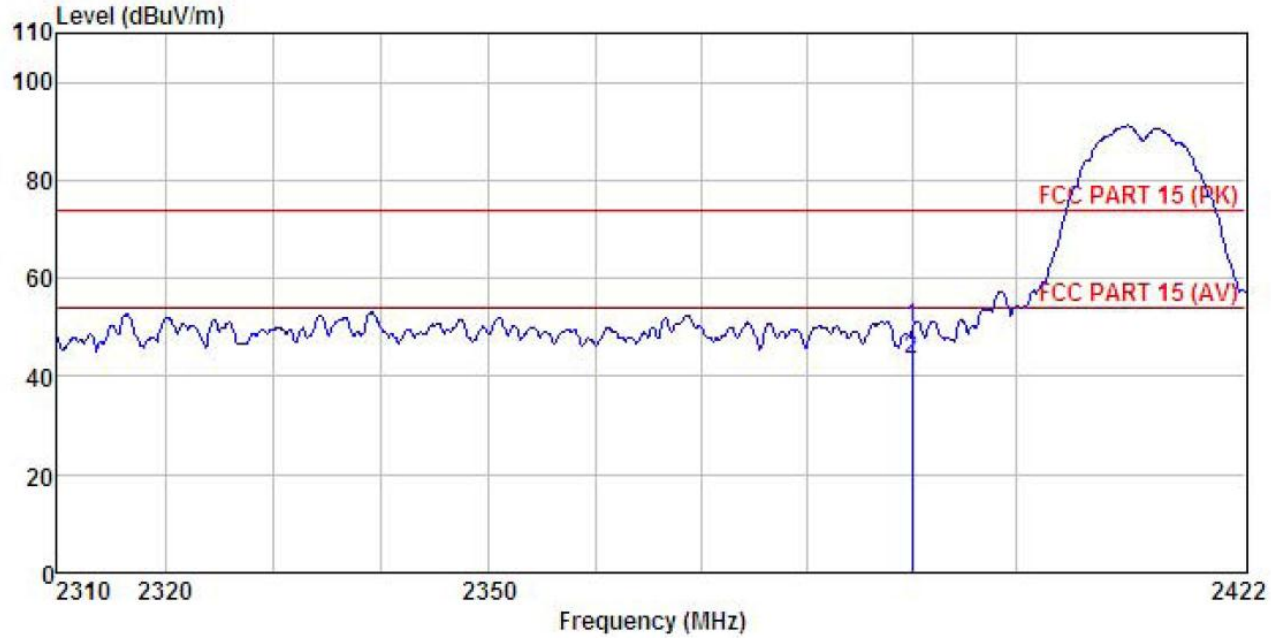



| | Freq | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2390.000 | 16.31 | 27.37 | 4.69 | 0.00 | 50.05 | 74.00 | -23.95 | Peak |
| 2 | 2390.000 | 9.86 | 27.37 | 4.69 | 0.00 | 43.60 | 54.00 | -10.40 | Average |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

| | | | |
|---|---|---|---|
| **Product Name:** | Mobile Phone | **Product Model:** | EKO Star 6.0 G65 |
| **Test By:** | Mike | **Test mode:** | 802.11b Tx mode |
| **Test Channel:** | Lowest channel | **Polarization:** | Horizontal |
| **Test Voltage:** | AC 120/60Hz | **Environment:** | Temp: 24℃ Huni: 57% |

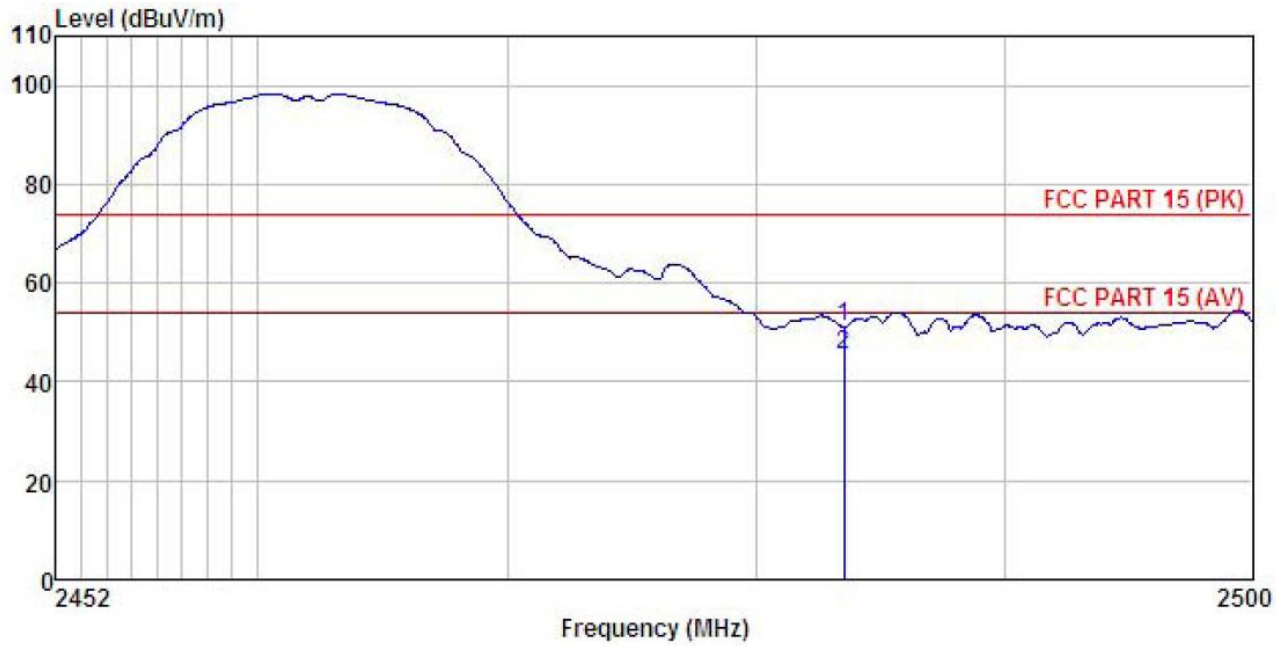



| | Freq | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2390.000 | 16.31 | 27.37 | 4.69 | 0.00 | 50.05 | 74.00 | -23.95 | Peak |
| 2 | 2390.000 | 9.83 | 27.37 | 4.69 | 0.00 | 43.57 | 54.00 | -10.43 | Average |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

| | | | |
|---|---|---|---|
| **Product Name:** | Mobile Phone | **Product Model:** | EKO Star 6.0 G65 |
| **Test By:** | Mike | **Test mode:** | 802.11b Tx mode |
| **Test Channel:** | Highest channel | **Polarization:** | Vertical |
| **Test Voltage:** | AC 120/60Hz | **Environment:** | Temp: 24℃ Huni: 57% |

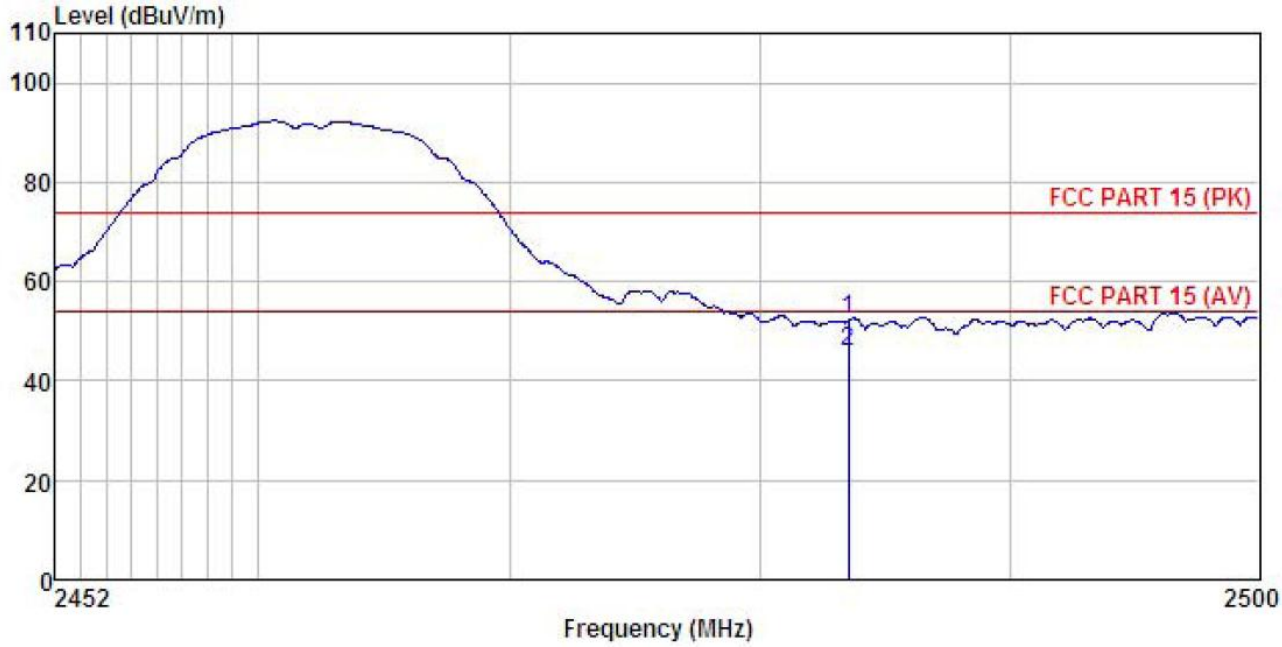



| | Freq | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2483.500 | 17.13 | 27.57 | 4.81 | 0.00 | 51.21 | 74.00 | -22.79 | Peak |
| 2 | 2483.500 | 11.28 | 27.57 | 4.81 | 0.00 | 45.36 | 54.00 | -8.64 | Average |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

| | | | |
|---|---|---|---|
| **Product Name:** | Mobile Phone | **Product Model:** | EKO Star 6.0 G65 |
| **Test By:** | Mike | **Test mode:** | 802.11b Tx mode |
| **Test Channel:** | Highest channel | **Polarization:** | Horizontal |
| **Test Voltage:** | AC 120/60Hz | **Environment:** | Temp: 24℃ Huni: 57% |



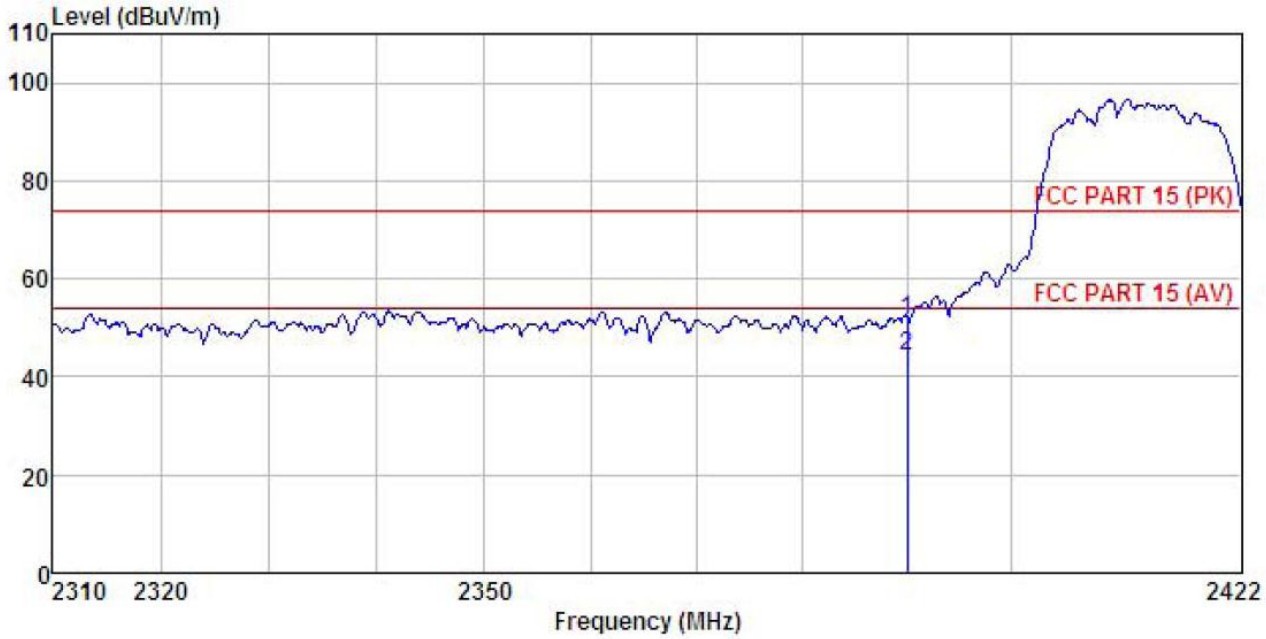

| | Freq | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2483.500 | 18.25 | 27.57 | 4.81 | 0.00 | 52.33 | 74.00 | -21.67 | Peak |
| 2 | 2483.500 | 11.71 | 27.57 | 4.81 | 0.00 | 45.79 | 54.00 | -8.21 | Average |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

**802.11g mode:**

| | | | |
|---|---|---|---|
| **Product Name:** | Mobile Phone | **Product Model:** | EKO Star 6.0 G65 |
| **Test By:** | Mike | **Test mode:** | 802.11g Tx mode |
| **Test Channel:** | Lowest channel | **Polarization:** | Vertical |
| **Test Voltage:** | AC 120/60Hz | **Environment:** | Temp: 24℃ Huni: 57% |

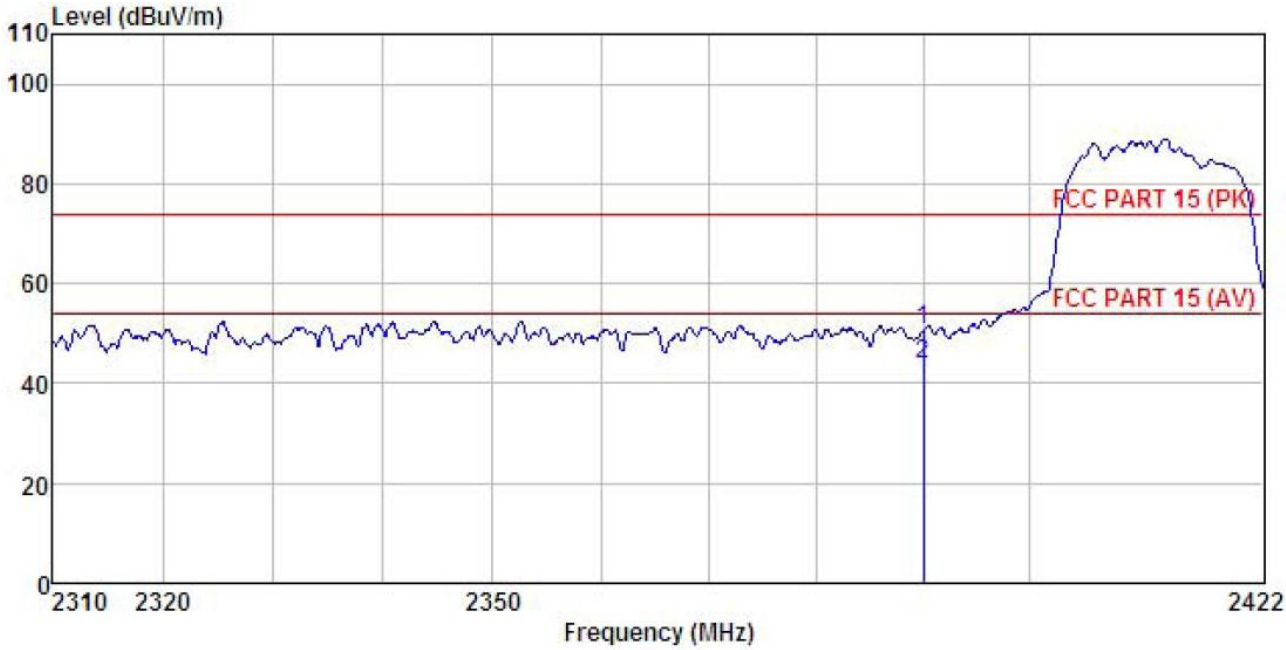



| | Freq | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2390.000 | 17.98 | 27.37 | 4.69 | 0.00 | 51.72 | 74.00 | -22.28 | Peak |
| 2 | 2390.000 | 10.61 | 27.37 | 4.69 | 0.00 | 44.35 | 54.00 | -9.65 | Average |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

| | | | |
|---|---|---|---|
| **Product Name:** | Mobile Phone | **Product Model:** | EKO Star 6.0 G65 |
| **Test By:** | Mike | **Test mode:** | 802.11g Tx mode |
| **Test Channel:** | Lowest channel | **Polarization:** | Horizontal |
| **Test Voltage:** | AC 120/60Hz | **Environment:** | Temp: 24℃ Huni: 57% |

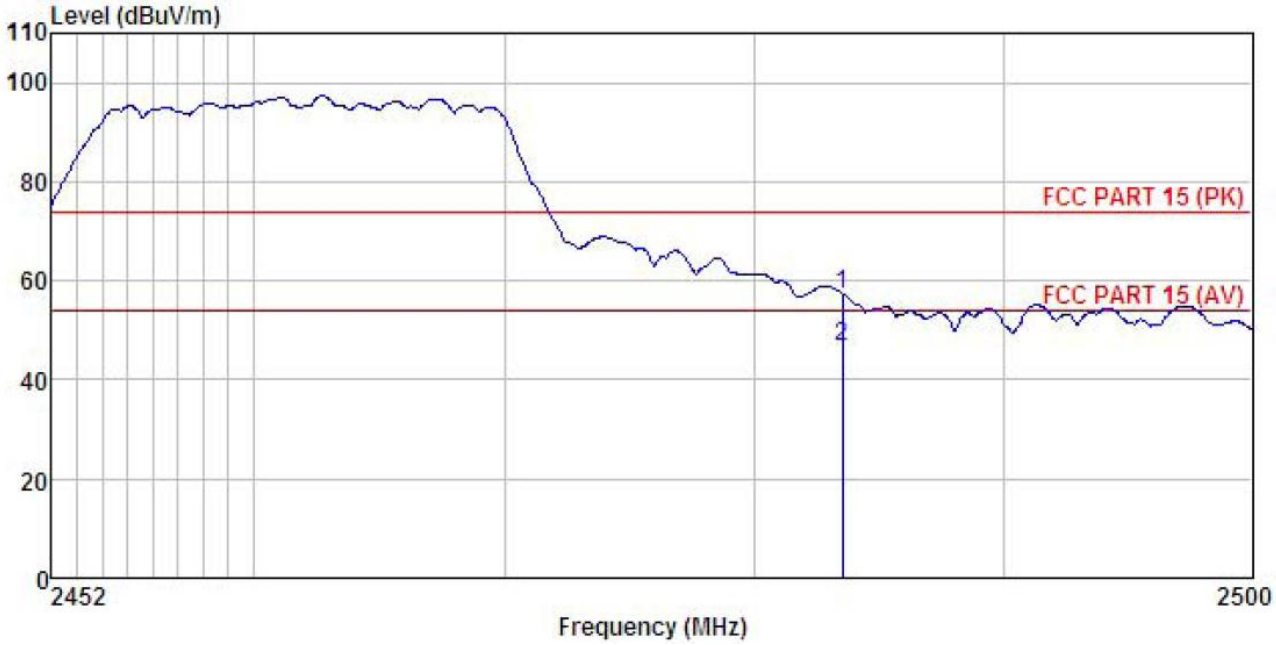



| | Freq | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2390.000 | 17.01 | 27.37 | 4.69 | 0.00 | 50.75 | 74.00 | -23.25 | Peak |
| 2 | 2390.000 | 10.23 | 27.37 | 4.69 | 0.00 | 43.97 | 54.00 | -10.03 | Average |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

| | | | |
|---|---|---|---|
| **Product Name:** | Mobile Phone | **Product Model:** | EKO Star 6.0 G65 |
| **Test By:** | Mike | **Test mode:** | 802.11g Tx mode |
| **Test Channel:** | Highest channel | **Polarization:** | Vertical |
| **Test Voltage:** | AC 120/60Hz | **Environment:** | Temp: 24℃ Huni: 57% |

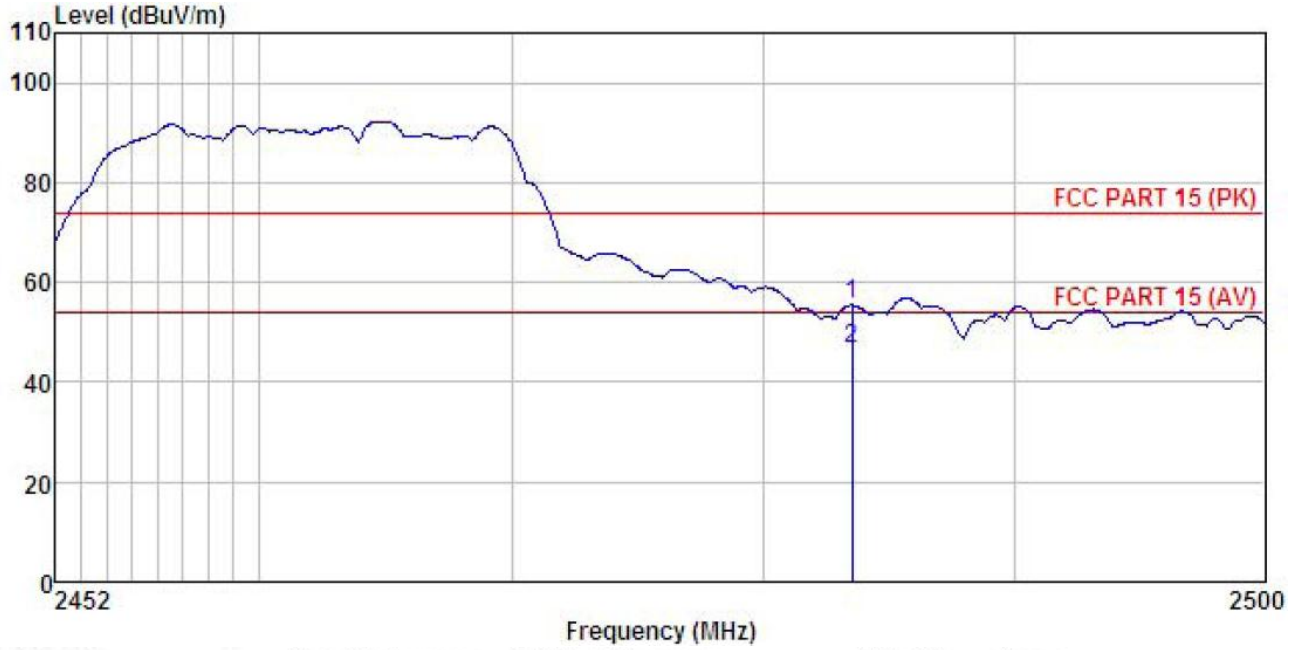



| | Freq | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2483.500 | 23.34 | 27.57 | 4.81 | 0.00 | 57.42 | 74.00 | -16.58 | Peak |
| 2 | 2483.500 | 12.49 | 27.57 | 4.81 | 0.00 | 46.57 | 54.00 | -7.43 | Average |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

| | | | |
|---|---|---|---|
| **Product Name:** | Mobile Phone | **Product Model:** | EKO Star 6.0 G65 |
| **Test By:** | Mike | **Test mode:** | 802.11g Tx mode |
| **Test Channel:** | Highest channel | **Polarization:** | Horizontal |
| **Test Voltage:** | AC 120/60Hz | **Environment:** | Temp: 24℃ Huni: 57% |



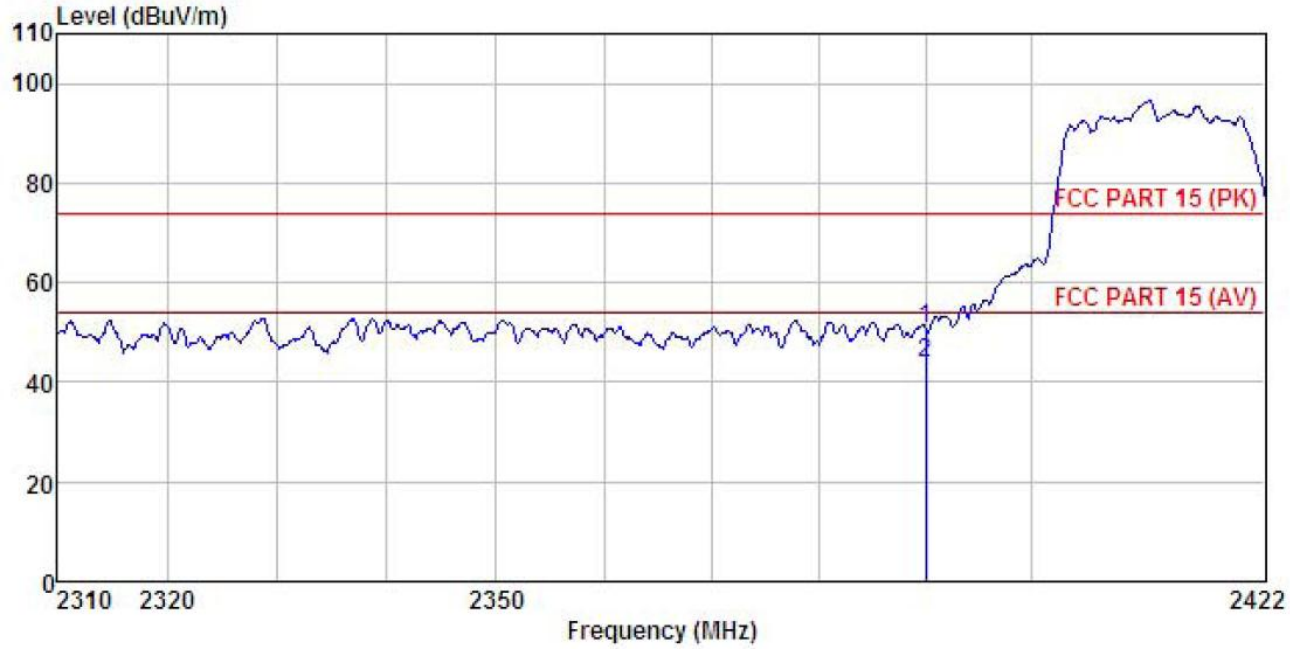

| | Freq | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2483.500 | 21.38 | 27.57 | 4.81 | 0.00 | 55.46 | 74.00 | -18.54 | Peak |
| 2 | 2483.500 | 12.71 | 27.57 | 4.81 | 0.00 | 46.79 | 54.00 | -7.21 | Average |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

**802.11n(HT20):**

| | | | |
|---|---|---|---|
| **Product Name:** | Mobile Phone | **Product Model:** | EKO Star 6.0 G65 |
| **Test By:** | Mike | **Test mode:** | 802.11n(HT20) Tx mode |
| **Test Channel:** | Lowest channel | **Polarization:** | Vertical |
| **Test Voltage:** | AC 120/60Hz | **Environment:** | Temp: 24℃ Huni: 57% |

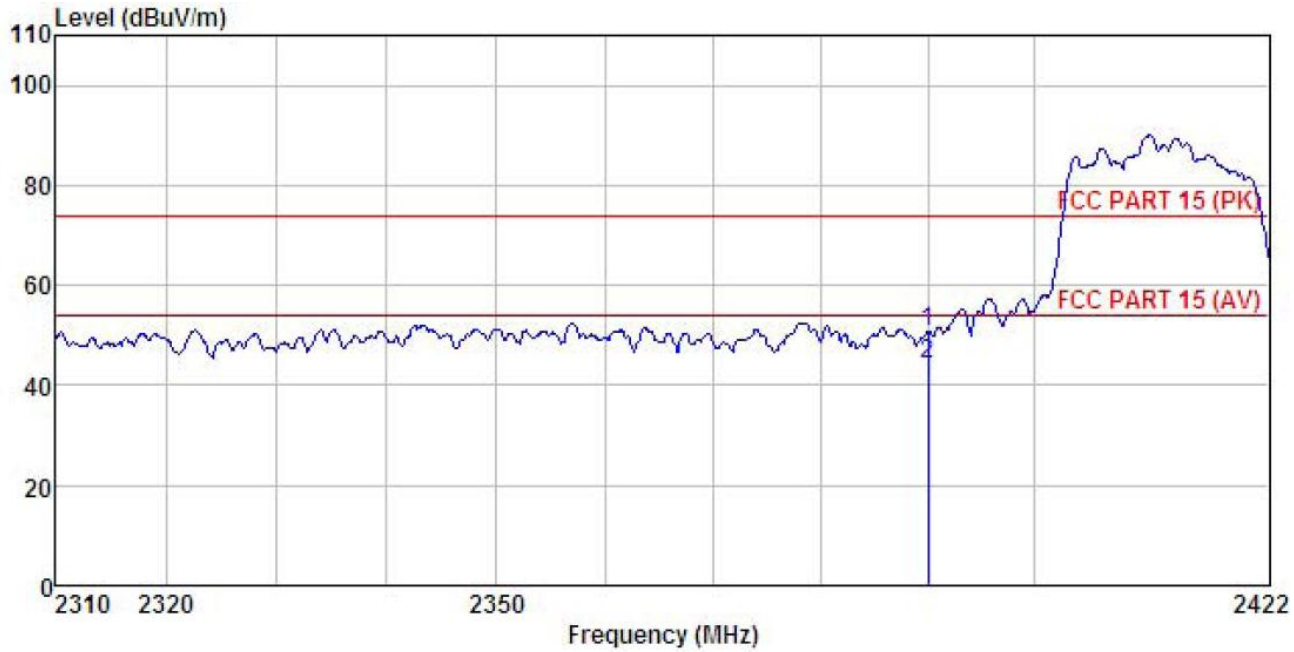



| | Freq | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2390.000 | 16.81 | 27.37 | 4.69 | 0.00 | 50.55 | 74.00 | -23.45 | Peak |
| 2 | 2390.000 | 10.20 | 27.37 | 4.69 | 0.00 | 43.94 | 54.00 | -10.06 | Average |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

| | | | |
|---|---|---|---|
| **Product Name:** | Mobile Phone | **Product Model:** | EKO Star 6.0 G65 |
| **Test By:** | Mike | **Test mode:** | 802.11n(HT20) Tx mode |
| **Test Channel:** | Lowest channel | **Polarization:** | Horizontal |
| **Test Voltage:** | AC 120/60Hz | **Environment:** | Temp: 24℃ Huni: 57% |

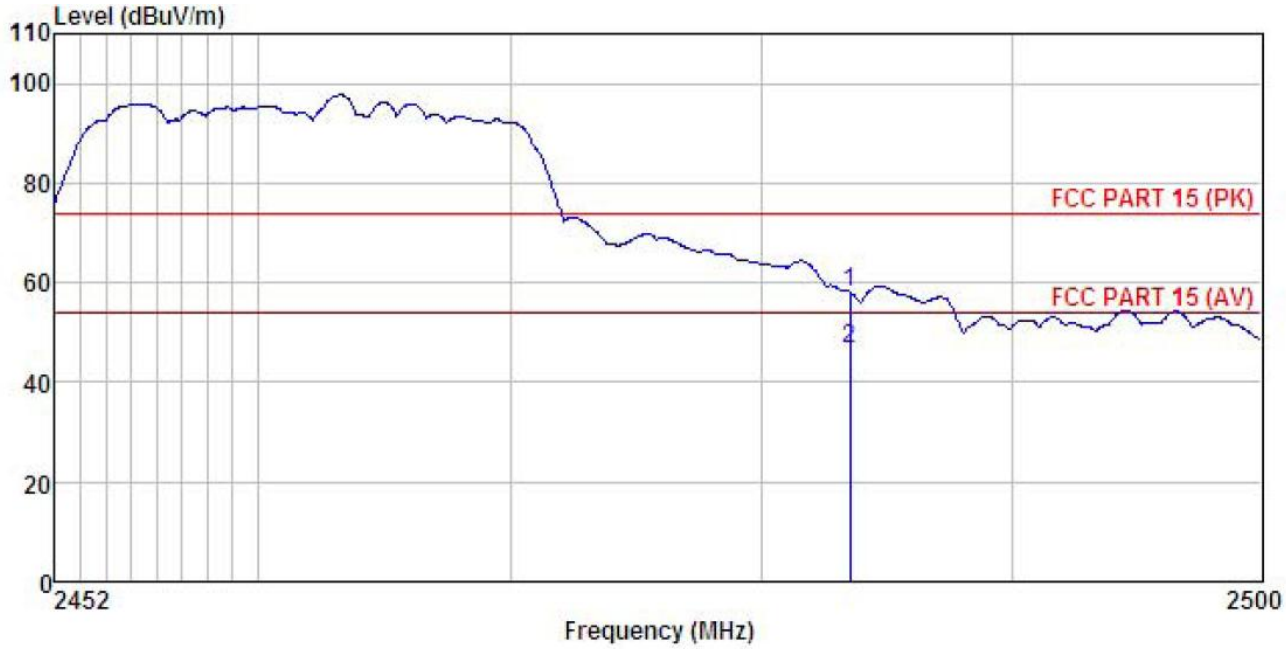



| | Freq | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2390.000 | 17.03 | 27.37 | 4.69 | 0.00 | 50.77 | 74.00 | -23.23 | Peak |
| 2 | 2390.000 | 10.56 | 27.37 | 4.69 | 0.00 | 44.30 | 54.00 | -9.70 | Average |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

| | | | |
|---|---|---|---|
| **Product Name:** | Mobile Phone | **Product Model:** | EKO Star 6.0 G65 |
| **Test By:** | Mike | **Test mode:** | 802.11n(HT20) Tx mode |
| **Test Channel:** | Highest channel | **Polarization:** | Vertical |
| **Test Voltage:** | AC 120/60Hz | **Environment:** | Temp: 24℃ Huni: 57% |

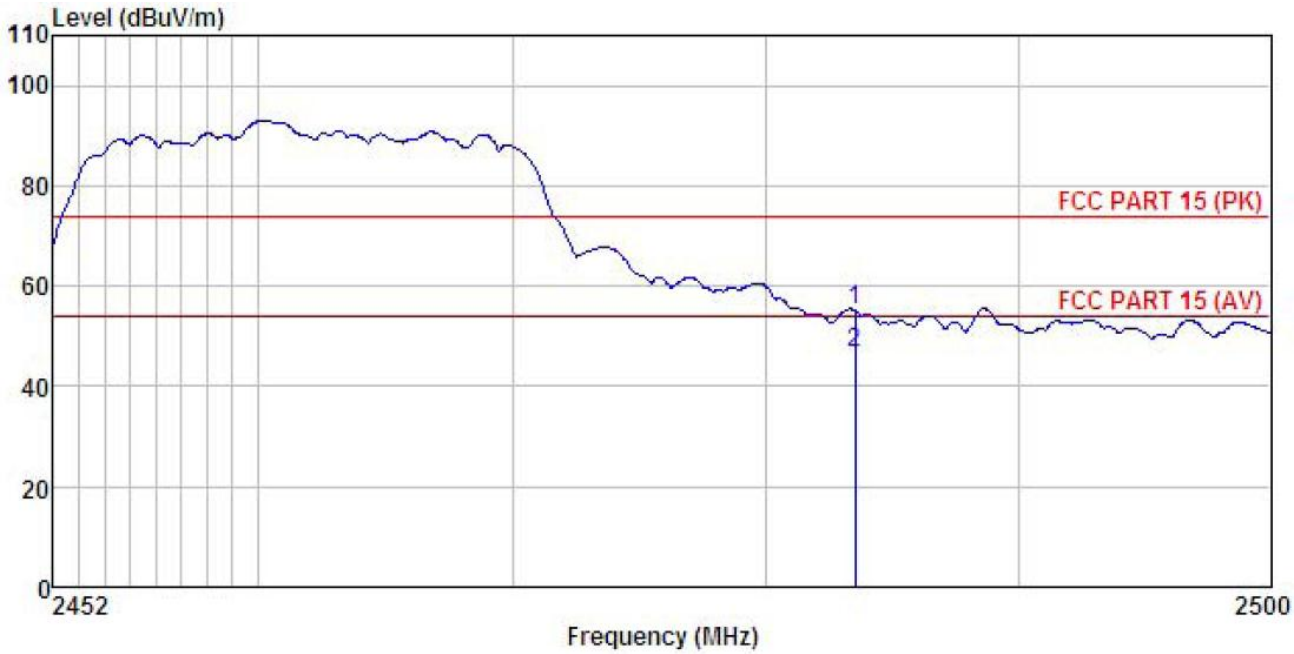



| | Freq | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2483.500 | 24.03 | 27.57 | 4.81 | 0.00 | 58.11 | 74.00 | -15.89 | Peak |
| 2 | 2483.500 | 12.41 | 27.57 | 4.81 | 0.00 | 46.49 | 54.00 | -7.51 | Average |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

| | | | |
|---|---|---|---|
| **Product Name:** | Mobile Phone | **Product Model:** | EKO Star 6.0 G65 |
| **Test By:** | Mike | **Test mode:** | 802.11n(HT20) Tx mode |
| **Test Channel:** | Highest channel | **Polarization:** | Horizontal |
| **Test Voltage:** | AC 120/60Hz | **Environment:** | Temp: 24℃ Huni: 57% |



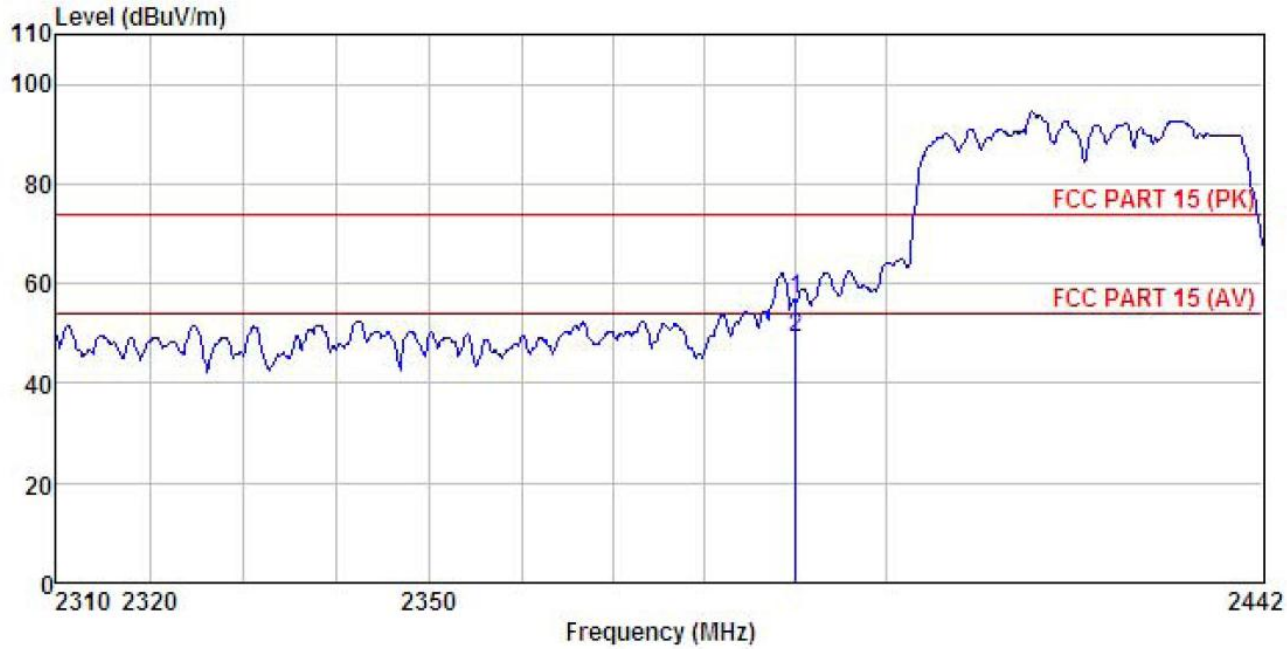

| | Freq | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2483.500 | 20.99 | 27.57 | 4.81 | 0.00 | 55.07 | 74.00 | -18.93 | Peak |
| 2 | 2483.500 | 12.57 | 27.57 | 4.81 | 0.00 | 46.65 | 54.00 | -7.35 | Average |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

**802.11n(HT40):**

| | | | |
|---|---|---|---|
| **Product Name:** | Mobile Phone | **Product Model:** | EKO Star 6.0 G65 |
| **Test By:** | Mike | **Test mode:** | 802.11n(HT40) Tx mode |
| **Test Channel:** | Lowest channel | **Polarization:** | Vertical |
| **Test Voltage:** | AC 120/60Hz | **Environment:** | Temp: 24℃ Huni: 57% |

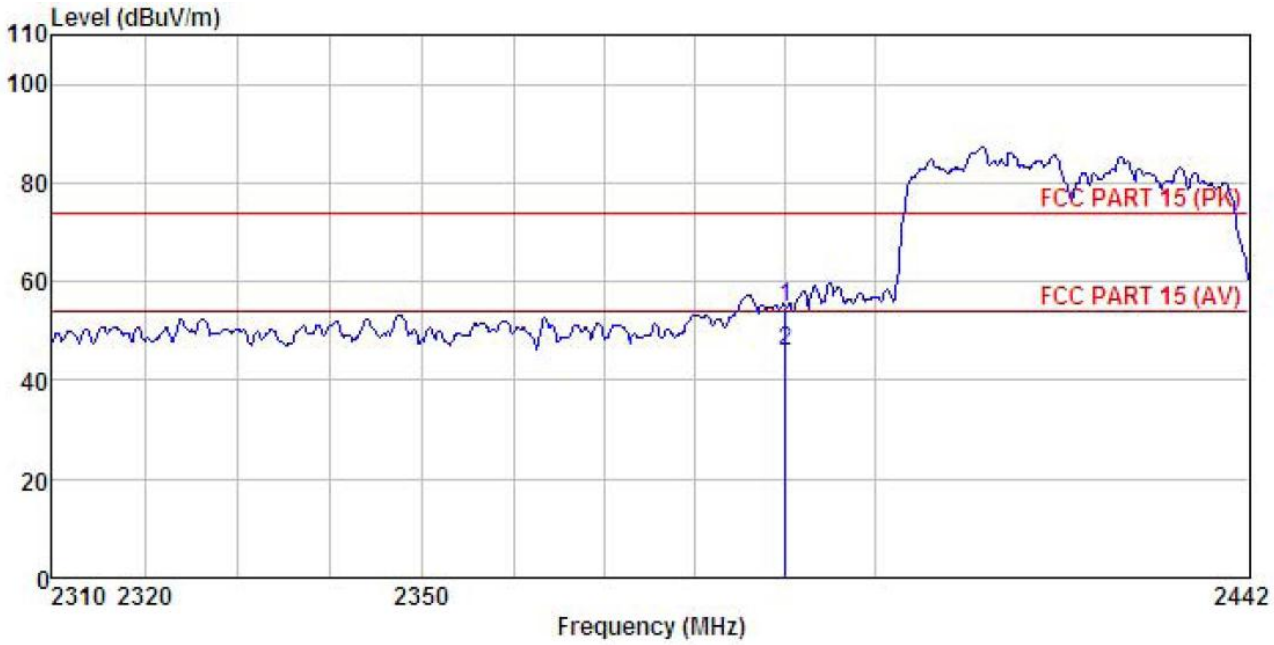



| | Freq | ReadAntenna Level | Antenna Factor | Cable Loss | Preamp Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2390.000 | 23.09 | 27.37 | 4.69 | 0.00 | 56.83 | 74.00 | -17.17 | Peak |
| 2 | 2390.000 | 15.26 | 27.37 | 4.69 | 0.00 | 49.00 | 54.00 | -5.00 | Average |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

| | | | |
|---|---|---|---|
| **Product Name:** | Mobile Phone | **Product Model:** | EKO Star 6.0 G65 |
| **Test By:** | Mike | **Test mode:** | 802.11n(HT40) Tx mode |
| **Test Channel:** | Lowest channel | **Polarization:** | Horizontal |
| **Test Voltage:** | AC 120/60Hz | **Environment:** | Temp: 24℃ Huni: 57% |

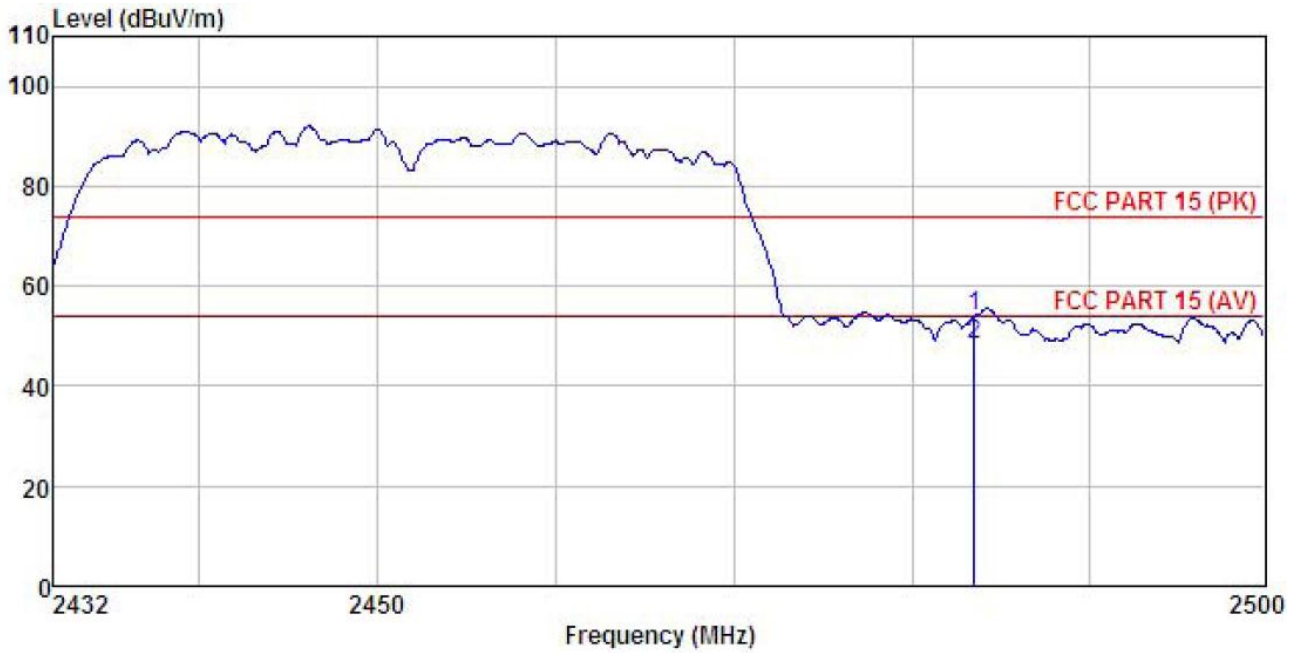



| | Freq | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2390.000 | 21.17 | 27.37 | 4.69 | 0.00 | 54.91 | 74.00 | -19.09 | Peak |
| 2 | 2390.000 | 12.16 | 27.37 | 4.69 | 0.00 | 45.90 | 54.00 | -8.10 | Average |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

| | | | |
|---|---|---|---|
| **Product Name:** | Mobile Phone | **Product Model:** | EKO Star 6.0 G65 |
| **Test By:** | Mike | **Test mode:** | 802.11n(HT40) Tx mode |
| **Test Channel:** | Highest channel | **Polarization:** | Vertical |
| **Test Voltage:** | AC 120/60Hz | **Environment:** | Temp: 24℃ Huni: 57% |

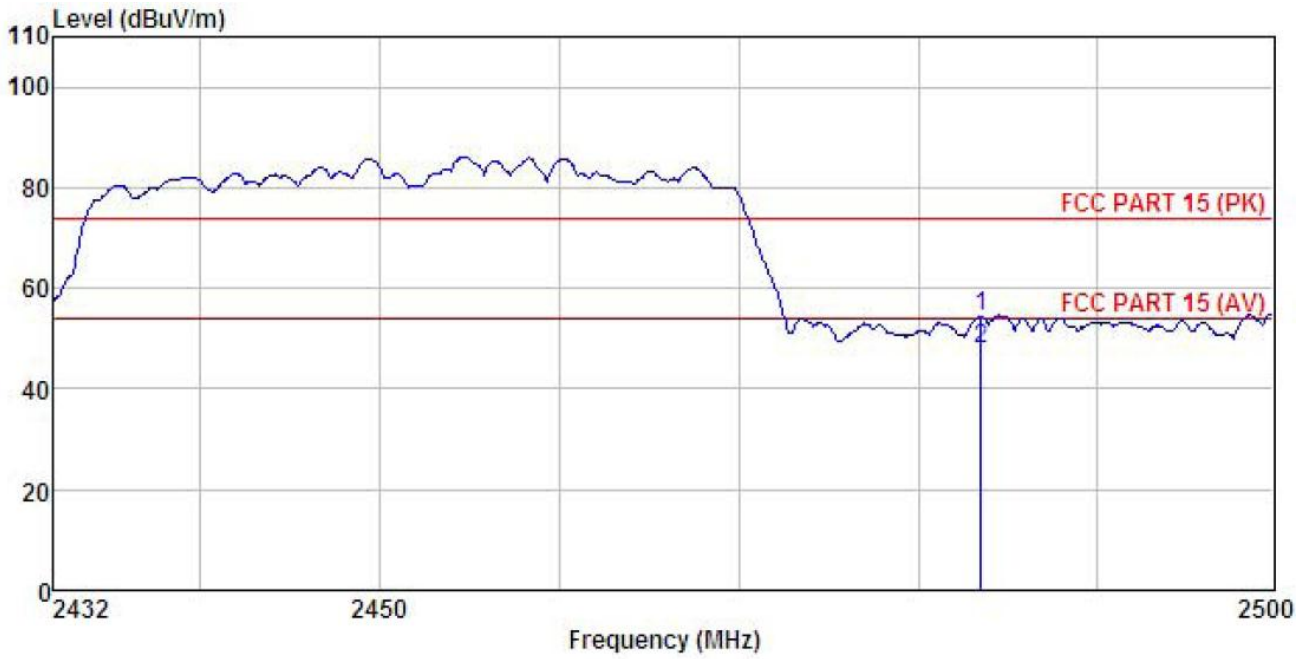



| | Freq | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2483.500 | 19.86 | 27.57 | 4.81 | 0.00 | 53.94 | 74.00 | -20.06 | Peak |
| 2 | 2483.500 | 14.29 | 27.57 | 4.81 | 0.00 | 48.37 | 54.00 | -5.63 | Average |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

| | | | |
|---|---|---|---|
| **Product Name:** | Mobile Phone | **Product Model:** | EKO Star 6.0 G65 |
| **Test By:** | Mike | **Test mode:** | 802.11n(HT40) Tx mode |
| **Test Channel:** | Highest channel | **Polarization:** | Horizontal |
| **Test Voltage:** | AC 120/60Hz | **Environment:** | Temp: 24℃ Huni: 57% |



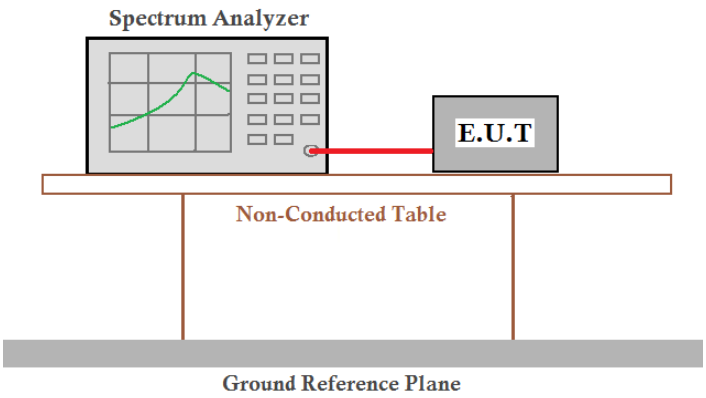

| | Freq | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | |
| 1 | 2483.500 | 20.24 | 27.57 | 4.81 | 0.00 | 54.32 | 74.00 | -19.68 | Peak |
| 2 | 2483.500 | 13.96 | 27.57 | 4.81 | 0.00 | 48.04 | 54.00 | -5.96 | Average |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

## 6.7 Spurious Emission

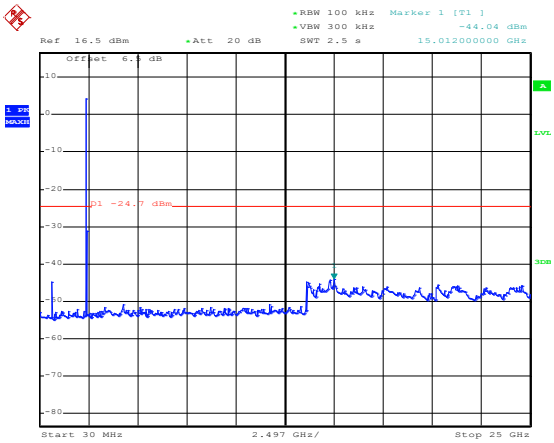
### 6.7.1 Conducted Emission Method

| | |
|---|---|
| Test Requirement: | FCC Part 15 C Section 15.247 (d) |
| Test Method: | ANSI C63.10:2013 and KDB 558074 |
| Limit: | In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph(b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. |
| Test setup: |  |
| Test Instruments: | Refer to section 5.8 for details |
| Test mode: | Refer to section 5.3 for details |
| Test results: | Passed |

**Test plot as follows:**

**Test mode: 802.11b**

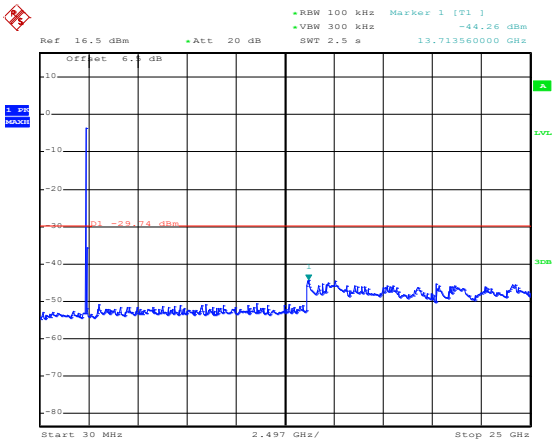
Lowest channel




Date: 14.DEC.2018 08:26:07

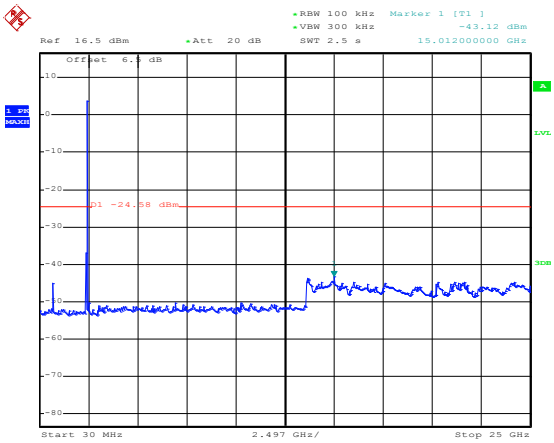
**Test mode: 802.11g**

Lowest channel



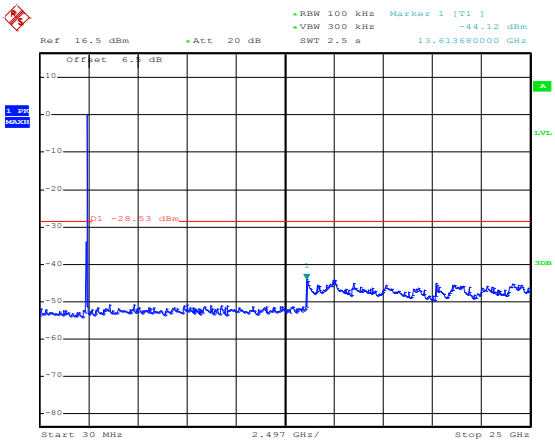

Date: 14.DEC.2018 08:26:39

Middle channel



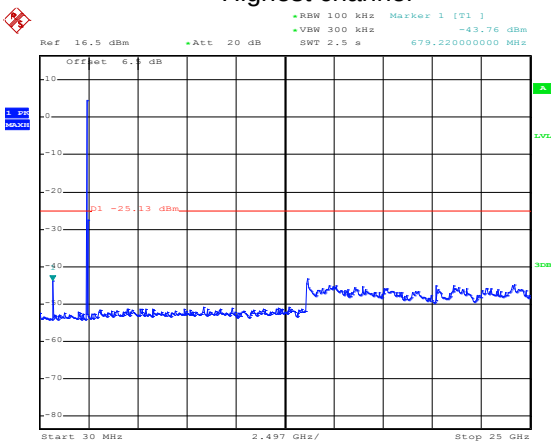

Date: 14.DEC.2018 08:25:45

Middle channel



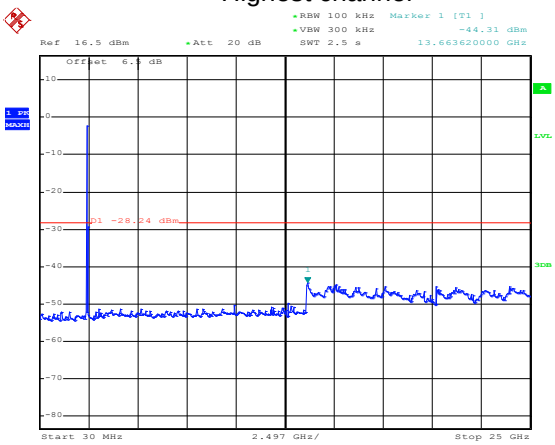

Date: 14.DEC.2018 08:27:31

Highest channel




Date: 14.DEC.2018 08:23:15

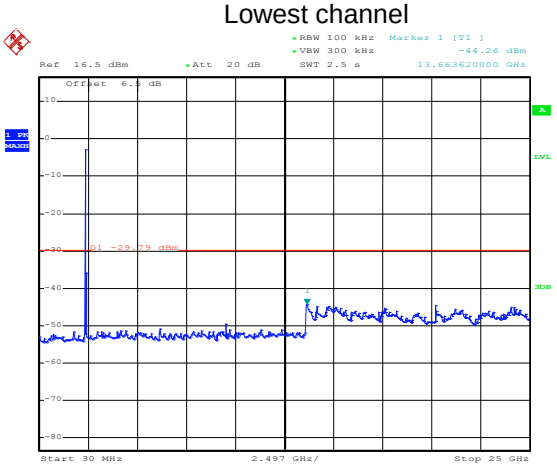
Highest channel




Date: 14.DEC.2018 08:28:11

**Test mode: 802.11n(H20)**

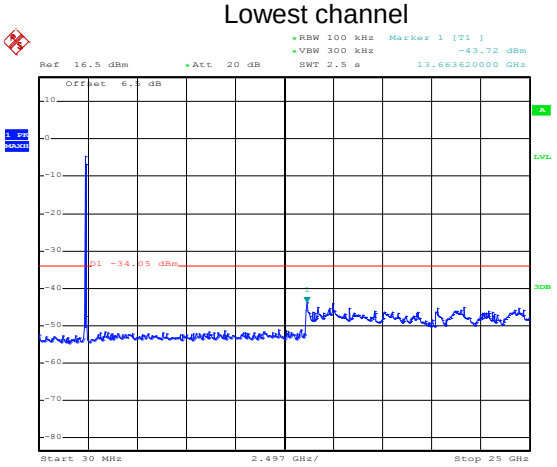
Lowest channel




Date: 14.DEC.2018 08:28:51

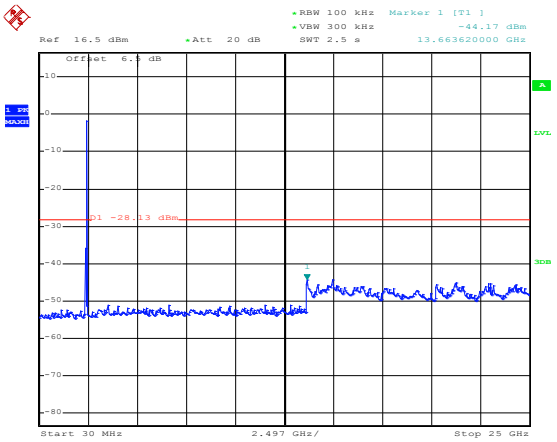
**Test mode: 802.11n(H40)**

Lowest channel



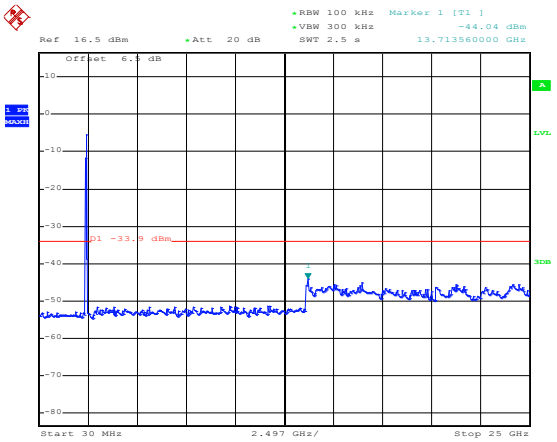

Date: 14.DEC.2018 08:32:34

Middle channel



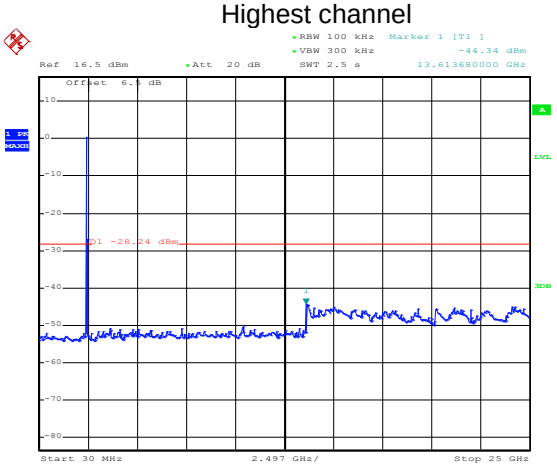

Date: 14.DEC.2018 08:29:12

Middle channel



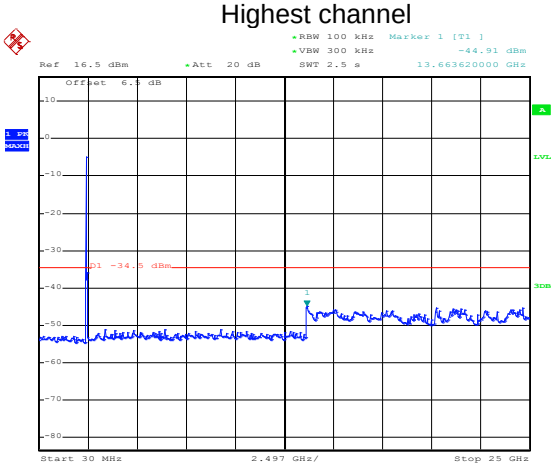

Date: 14.DEC.2018 08:32:04

Highest channel




Date: 14.DEC.2018 08:29:54

Highest channel




Date: 14.DEC.2018 08:31:35

### 6.7.2 Radiated Emission Method

| | |
|---|---|
| Test Requirement: | FCC Part 15 C Section 15.209 and 15.205 |
| Test Method: | ANSI C63.10:2013 |
| Test Frequency Range: | 9kHz to 25GHz |
| Test Distance: | 3m |

**Receiver setup:**

| Frequency | Detector | RBW | VBW | Remark |
|---|---|---|---|---|
| 30MHz-1GHz | Quasi-peak | 120KHz | 300KHz | Quasi-peak Value |
| Above 1GHz | Peak | 1MHz | 3MHz | Peak Value |
| | RMS | 1MHz | 3MHz | Average Value |

**Limit:**

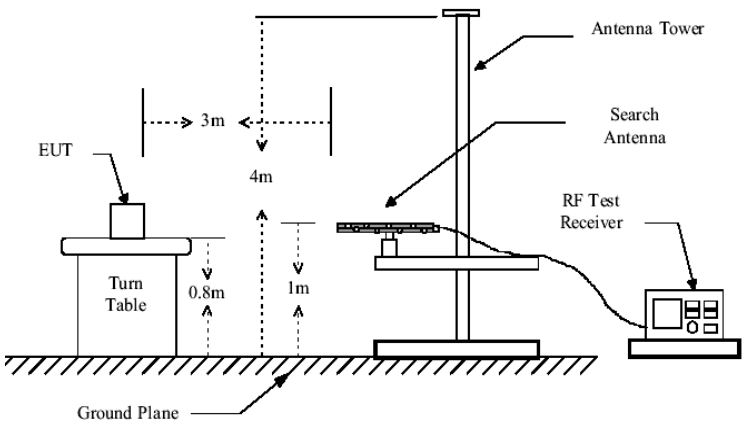
| Frequency | Limit (dBuV/m @3m) | Remark |
|---|---|---|
| 30MHz-88MHz | 40.0 | Quasi-peak Value |
| 88MHz-216MHz | 43.5 | Quasi-peak Value |
| 216MHz-960MHz | 46.0 | Quasi-peak Value |
| 960MHz-1GHz | 54.0 | Quasi-peak Value |
| Above 1GHz | 54.0 | Average Value |
| | 74.0 | Peak Value |

**Test Procedure:**

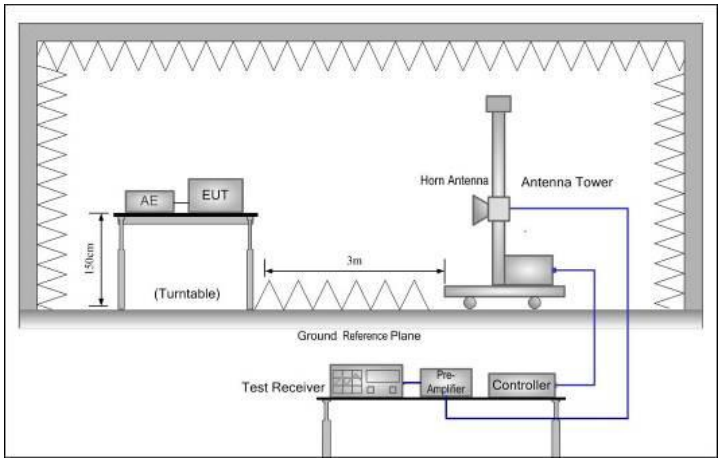
1. The EUT was placed on the top of a rotating table 0.8m(below 1GHz)/1.5m(above 1GHz) above the ground at a 3 meter chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
2. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
3. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rota table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
6. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

**Test setup:**

Below 1GHz



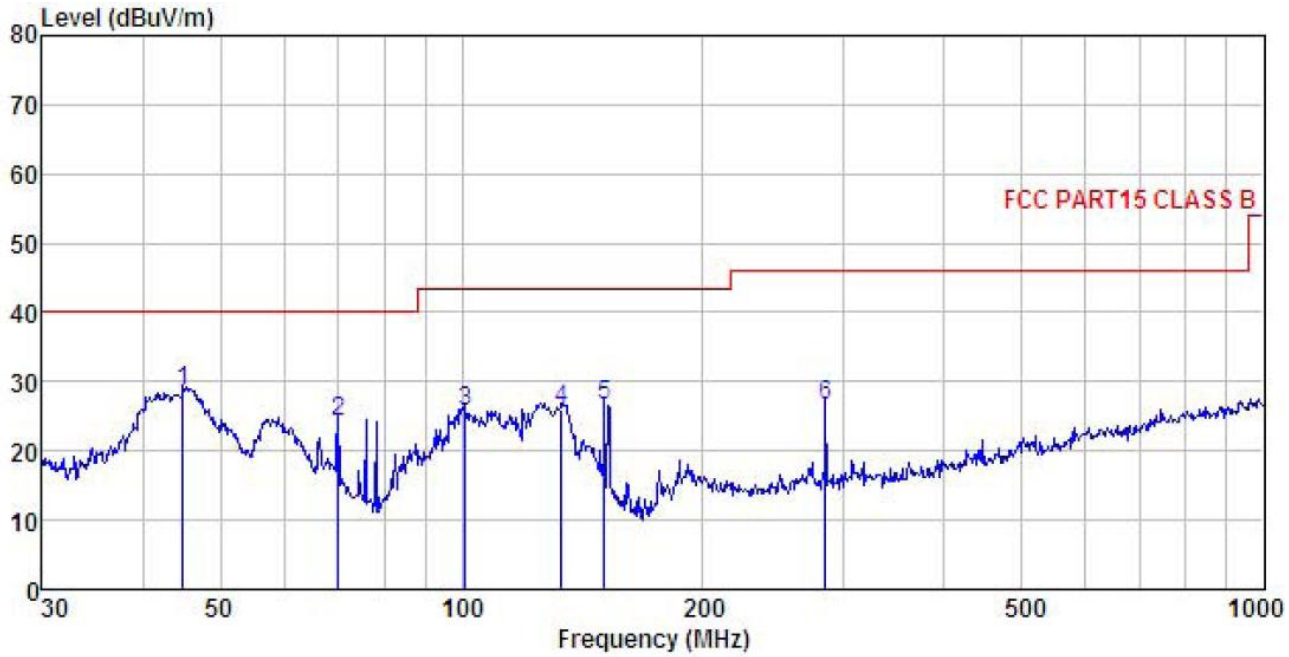

Above 1GHz

| | |
|---|---|
| |  |
| Test Instruments: | Refer to section 5.8 for details |
| Test mode: | Refer to section 5.3 for details |
| Test results: | Passed |
| Remark: | 1. Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the Y-axis is the worst case.<br>2. 9 kHz to 30MHz is too low, so only shows the data of above 30MHz in this report. |

**Measurement Data (worst case):**

**Below 1GHz:**

| | | | |
|---|---|---|---|
| **Product Name:** | Mobile Phone | **Product Model:** | EKO Star 6.0 G65 |
| **Test By:** | Mike | **Test mode:** | Wi-Fi Tx mode |
| **Test Frequency:** | 30 MHz ~ 1 GHz | **Polarization:** | Vertical |
| **Test Voltage:** | AC 120/60Hz | **Environment:** | Temp: 24℃ Huni: 57% |

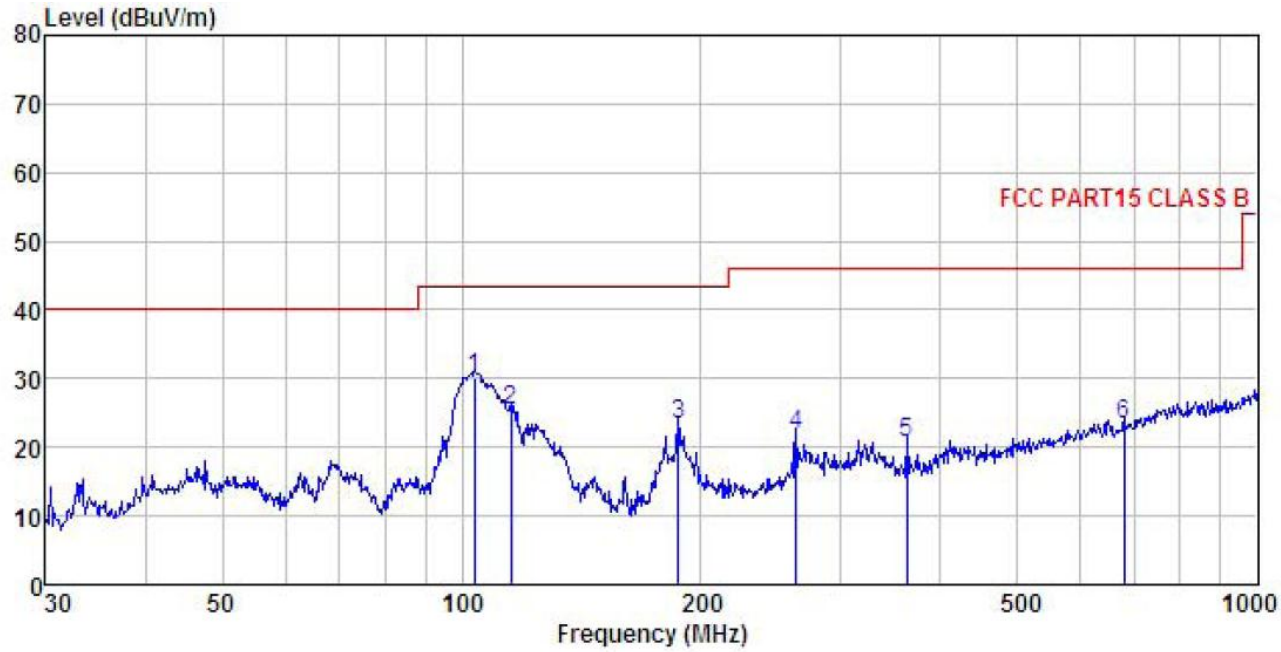



| | Freq | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | |
| 1 | 44.901 | 43.46 | 13.68 | 1.28 | 29.86 | 28.56 | 40.00 | -11.44 | QP |
| 2 | 70.090 | 43.27 | 9.09 | 1.52 | 29.72 | 24.16 | 40.00 | -15.84 | QP |
| 3 | 100.934 | 41.50 | 11.76 | 1.95 | 29.52 | 25.69 | 43.50 | -17.81 | QP |
| 4 | 133.151 | 44.44 | 8.51 | 2.32 | 29.31 | 25.96 | 43.50 | -17.54 | QP |
| 5 | 150.538 | 44.61 | 8.63 | 2.52 | 29.22 | 26.54 | 43.50 | -16.96 | QP |
| 6 | 283.979 | 38.55 | 13.51 | 2.90 | 28.48 | 26.48 | 46.00 | -19.52 | QP |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

| | | | |
|---|---|---|---|
| **Product Name:** | Mobile Phone | **Product Model:** | EKO Star 6.0 G65 |
| **Test By:** | Mike | **Test mode:** | Wi-Fi Tx mode |
| **Test Frequency:** | 30 MHz ~ 1 GHz | **Polarization:** | Horizontal |
| **Test Voltage:** | AC 120/60Hz | **Environment:** | Temp: 24℃ Huni: 57% |




| | Freq | Read Level | Antenna Factor | Cable Loss | Preamp Factor | Level | Limit Line | Over Limit | Remark |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dB | dB | dBuV/m | dBuV/m | dB | |
| 1 | 103.806 | 45.81 | 11.94 | 1.99 | 29.50 | 30.24 | 43.50 | -13.26 | QP |
| 2 | 115.321 | 41.63 | 11.16 | 2.11 | 29.42 | 25.48 | 43.50 | -18.02 | QP |
| 3 | 187.096 | 38.70 | 10.80 | 2.78 | 28.92 | 23.36 | 43.50 | -20.14 | QP |
| 4 | 262.896 | 34.10 | 13.38 | 2.84 | 28.52 | 21.80 | 46.00 | -24.20 | QP |
| 5 | 362.985 | 31.37 | 14.85 | 3.09 | 28.62 | 20.69 | 46.00 | -25.31 | QP |
| 6 | 679.960 | 28.06 | 19.80 | 4.05 | 28.71 | 23.20 | 46.00 | -22.80 | QP |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

**Above 1GHz**

| 802.11b | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Test channel: Lowest channel | | | | | | | | |
| Detector: Peak Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4824.00 | 47.42 | 36.06 | 6.81 | 41.82 | 48.47 | 74.00 | -25.53 | Vertical |
| 4824.00 | 47.04 | 36.06 | 6.81 | 41.82 | 48.09 | 74.00 | -25.91 | Horizontal |
| Detector: Average Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4824.00 | 38.51 | 36.06 | 6.81 | 41.82 | 39.56 | 54.00 | -14.44 | Vertical |
| 4824.00 | 37.19 | 36.06 | 6.81 | 41.82 | 38.24 | 54.00 | -15.76 | Horizontal |
| | | | | | | | | |
| Test channel: Middle channel | | | | | | | | |
| Detector: Peak Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4874.00 | 46.78 | 36.32 | 6.85 | 41.84 | 48.11 | 74.00 | -25.89 | Vertical |
| 4874.00 | 47.32 | 36.32 | 6.85 | 41.84 | 48.65 | 74.00 | -25.35 | Horizontal |
| Detector: Average Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4874.00 | 38.47 | 36.32 | 6.85 | 41.84 | 39.80 | 54.00 | -14.20 | Vertical |
| 4874.00 | 37.59 | 36.32 | 6.85 | 41.84 | 38.92 | 54.00 | -15.08 | Horizontal |
| | | | | | | | | |
| Test channel: Highest channel | | | | | | | | |
| Detector: Peak Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4924.00 | 47.12 | 36.58 | 6.89 | 41.86 | 48.73 | 74.00 | -25.27 | Vertical |
| 4924.00 | 47.40 | 36.58 | 6.89 | 41.86 | 49.01 | 74.00 | -24.99 | Horizontal |
| Detector: Average Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4924.00 | 37.29 | 36.58 | 6.89 | 41.86 | 38.90 | 54.00 | -15.10 | Vertical |
| 4924.00 | 37.61 | 36.58 | 6.89 | 41.86 | 39.22 | 54.00 | -14.78 | Horizontal |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

| 802.11g | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Test channel: Lowest channel | | | | | | | | |
| Detector: Peak Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4824.00 | 47.18 | 36.06 | 6.81 | 41.82 | 48.23 | 74.00 | -25.77 | Vertical |
| 4824.00 | 47.26 | 36.06 | 6.81 | 41.82 | 48.31 | 74.00 | -25.69 | Horizontal |
| Detector: Average Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4824.00 | 38.91 | 36.06 | 6.81 | 41.82 | 39.96 | 54.00 | -14.04 | Vertical |
| 4824.00 | 37.46 | 36.06 | 6.81 | 41.82 | 38.51 | 54.00 | -15.49 | Horizontal |
| | | | | | | | | |
| Test channel: Middle channel | | | | | | | | |
| Detector: Peak Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4874.00 | 46.83 | 36.32 | 6.85 | 41.84 | 48.16 | 74.00 | -25.84 | Vertical |
| 4874.00 | 47.18 | 36.32 | 6.85 | 41.84 | 48.51 | 74.00 | -25.49 | Horizontal |
| Detector: Average Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4874.00 | 38.94 | 36.32 | 6.85 | 41.84 | 40.27 | 54.00 | -13.73 | Vertical |
| 4874.00 | 37.85 | 36.32 | 6.85 | 41.84 | 39.18 | 54.00 | -14.82 | Horizontal |
| | | | | | | | | |
| Test channel: Highest channel | | | | | | | | |
| Detector: Peak Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4924.00 | 47.96 | 36.58 | 6.89 | 41.86 | 49.57 | 74.00 | -24.43 | Vertical |
| 4924.00 | 47.64 | 36.58 | 6.89 | 41.86 | 49.25 | 74.00 | -24.75 | Horizontal |
| Detector: Average Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4924.00 | 37.93 | 36.58 | 6.89 | 41.86 | 39.54 | 54.00 | -14.46 | Vertical |
| 4924.00 | 37.47 | 36.58 | 6.89 | 41.86 | 39.08 | 54.00 | -14.92 | Horizontal |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

| 802.11n(HT20) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Test channel: Lowest channel | | | | | | | | |
| Detector: Peak Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4824.00 | 48.29 | 36.06 | 6.81 | 41.82 | 49.34 | 74.00 | -24.66 | Vertical |
| 4824.00 | 47.61 | 36.06 | 6.81 | 41.82 | 48.66 | 74.00 | -25.34 | Horizontal |
| Detector: Average Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4824.00 | 38.64 | 36.06 | 6.81 | 41.82 | 39.69 | 54.00 | -14.31 | Vertical |
| 4824.00 | 37.29 | 36.06 | 6.81 | 41.82 | 38.34 | 54.00 | -15.66 | Horizontal |
| | | | | | | | | |
| Test channel: Middle channel | | | | | | | | |
| Detector: Peak Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4874.00 | 47.26 | 36.32 | 6.85 | 41.84 | 48.59 | 74.00 | -25.41 | Vertical |
| 4874.00 | 46.83 | 36.32 | 6.85 | 41.84 | 48.16 | 74.00 | -25.84 | Horizontal |
| Detector: Average Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4874.00 | 38.46 | 36.32 | 6.85 | 41.84 | 39.79 | 54.00 | -14.21 | Vertical |
| 4874.00 | 37.14 | 36.32 | 6.85 | 41.84 | 38.47 | 54.00 | -15.53 | Horizontal |
| | | | | | | | | |
| Test channel: Highest channel | | | | | | | | |
| Detector: Peak Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4924.00 | 47.26 | 36.58 | 6.89 | 41.86 | 48.87 | 74.00 | -25.13 | Vertical |
| 4924.00 | 47.61 | 36.58 | 6.89 | 41.86 | 49.22 | 74.00 | -24.78 | Horizontal |
| Detector: Average Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4924.00 | 37.45 | 36.58 | 6.89 | 41.86 | 39.06 | 54.00 | -14.94 | Vertical |
| 4924.00 | 37.67 | 36.58 | 6.89 | 41.86 | 39.28 | 54.00 | -14.72 | Horizontal |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*

| 802.11n(HT40) | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Test channel: Lowest channel | | | | | | | | |
| Detector: Peak Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4844.00 | 48.91 | 36.06 | 6.81 | 41.82 | 49.96 | 74.00 | -24.04 | Vertical |
| 4844.00 | 47.26 | 36.06 | 6.81 | 41.82 | 48.31 | 74.00 | -25.69 | Horizontal |
| Detector: Average Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4844.00 | 38.46 | 36.06 | 6.81 | 41.82 | 39.51 | 54.00 | -14.49 | Vertical |
| 4844.00 | 37.29 | 36.06 | 6.81 | 41.82 | 38.34 | 54.00 | -15.66 | Horizontal |
| | | | | | | | | |
| Test channel: Middle channel | | | | | | | | |
| Detector: Peak Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4874.00 | 47.92 | 36.32 | 6.85 | 41.84 | 49.25 | 74.00 | -24.75 | Vertical |
| 4874.00 | 46.17 | 36.32 | 6.85 | 41.84 | 47.50 | 74.00 | -26.50 | Horizontal |
| Detector: Average Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4874.00 | 38.91 | 36.32 | 6.85 | 41.84 | 40.24 | 54.00 | -13.76 | Vertical |
| 4874.00 | 37.56 | 36.32 | 6.85 | 41.84 | 38.89 | 54.00 | -15.11 | Horizontal |
| | | | | | | | | |
| Test channel: Highest channel | | | | | | | | |
| Detector: Peak Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4904.00 | 47.52 | 36.45 | 6.87 | 41.85 | 48.99 | 74.00 | -25.01 | Vertical |
| 4904.00 | 47.43 | 36.45 | 6.87 | 41.85 | 48.90 | 74.00 | -25.10 | Horizontal |
| Detector: Average Value | | | | | | | | |
| Frequency (MHz) | Read Level (dBuV) | Antenna Factor (dB/m) | Cable Loss (dB) | Preamp Factor (dB) | Level (dBuV/m) | Limit Line (dBuV/m) | Over Limit (dB) | Polarization |
| 4904.00 | 37.62 | 36.45 | 6.87 | 41.85 | 39.09 | 54.00 | -14.91 | Vertical |
| 4904.00 | 37.11 | 36.45 | 6.87 | 41.85 | 38.58 | 54.00 | -15.42 | Horizontal |

*Remark:*

1. *Final Level = Receiver Read level + Antenna Factor + Cable Loss – Preamplifier Factor.*
2. *The emission levels of other frequencies are very lower than the limit and not show in test report.*