# FCC TEST REPORT

according to

## FCC Rules and Regulations Part 15 Subpart C

| | | |
|---|---|---|
| Applicant | : | GIGA-BYTE TECHNOLOGY CO., LTD. |
| Address | : | No.6, Bao Chiang Road, Hsin-Tien Dist., New Taipei City 231, Taiwan |
| Manufacturer | : | 1. G-STYLE Ltd.<br>2. GIGA-BYTE TECHNOLOGY CO., LTD. |
| Equipment | : | Slate PC |
| Model No. | : | S1082xx (x = 0~9, A~Z or Black) |
| Trade Name | : | GIGABYTE |
| Trade Name | : | JCK2230BNH |

- The test result refers exclusively to the test presented test model / sample.,
- Without written approval of ***Cerpass Technology Corp.*** the test report shall not be reproduced except in full.
- The EUT is also considered as a kind of computer peripheral, because the connection to computer is necessary for typical use. It has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.

# Contents

History of this test report

■ ORIGINAL.

☐ Additional attachment as following record:

| Attachment No. | Issue Date | Description |
|---|---|---|
| TEFB1209090 | Nov. 12, 2012 | Original. |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

# CERTIFICATE OF COMPLIANCE

according to

## FCC Rules and Regulations Part 15 Subpart C

| | | |
|---|---|---|
| Applicant | : | GIGA-BYTE TECHNOLOGY CO., LTD. |
| Address | : | No.6, Bao Chiang Road, Hsin-Tien Dist., New Taipei City 231, Taiwan |
| Manufacturer | : | 1. G-STYLE Ltd.<br>2. GIGA-BYTE TECHNOLOGY CO., LTD. |
| Equipment | : | Slate PC |
| Model No. | : | S1082xx (x = 0~9, A~Z or Black) |
| FCC ID | : | JCK2230BNH |

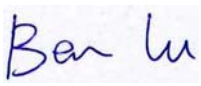
I **HEREBY** CERTIFY THAT :

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4** The equipment was ***passed*** the test performed according to **FCC Rules and Regulations Part 15 Subpart C (2010).**
The test was carried out on Nov. 12, 2012 at ***Cerpass Technology Corp.***

Approval by :

Hill Chen
EMC/RF B.U. Assistant Manager

Test Engineer:



Ben Lu
Engineer

# 1. Report of Measurements and Examinations

## 1.1 List of Measurements and Examinations

| FCC Rule | . Description of Test | Result |
|---|---|---|
| 15.203 | . Antenna Requirement | Pass |
| 15.209 | . Radiated Emission | Pass |
| 15.247(b) | . Peak Output Power Measurement Data | Pass |

# 2. Test Configuration of Equipment under Test

## 2.1 Feature of Equipment under Test

- WLAN Card + BT Module: Intel® Centrino® Wireless-N 2230
- Others please refer to user manual.

## 2.2 Carrier Frequency of Channels

| Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) | Channel | Frequency (MHz) |
|---|---|---|---|---|---|---|---|
| 00 | 2402 | 20 | 2422 | 40 | 2442 | 60 | 2462 |
| 01 | 2403 | 21 | 2423 | 41 | 2443 | 61 | 2463 |
| 02 | 2404 | 22 | 2424 | 42 | 2444 | 62 | 2464 |
| 03 | 2405 | 23 | 2425 | 43 | 2445 | 63 | 2465 |
| 04 | 2406 | 24 | 2426 | 44 | 2446 | 64 | 2466 |
| 05 | 2407 | 25 | 2427 | 45 | 2447 | 65 | 2467 |
| 06 | 2408 | 26 | 2428 | 46 | 2448 | 66 | 2468 |
| 07 | 2409 | 27 | 2429 | 47 | 2449 | 67 | 2469 |
| 08 | 2410 | 28 | 2430 | 48 | 2450 | 68 | 2470 |
| 09 | 2411 | 29 | 2431 | 49 | 2451 | 69 | 2471 |
| 10 | 2412 | 30 | 2432 | 50 | 2452 | 70 | 2472 |
| 11 | 2413 | 31 | 2433 | 51 | 2453 | 71 | 2473 |
| 12 | 2414 | 32 | 2434 | 52 | 2454 | 72 | 2474 |
| 13 | 2415 | 33 | 2435 | 53 | 2455 | 73 | 2475 |
| 14 | 2416 | 34 | 2436 | 54 | 2456 | 74 | 2476 |
| 15 | 2417 | 35 | 2437 | 55 | 2457 | 75 | 2477 |
| 16 | 2418 | 36 | 2438 | 56 | 2458 | 76 | 2478 |
| 17 | 2419 | 37 | 2439 | 57 | 2459 | 77 | 2479 |
| 18 | 2420 | 38 | 2440 | 58 | 2460 | 78 | 2480 |
| 19 | 2421 | 39 | 2441 | 59 | 2461 | --- | --- |

## 2.3 Test Mode & Test Software

a. During testing, the interface cables and equipment positions were varied according to ANSI C63.4

b. The complete test system included EUT for EMI test.

c. An executive program"Intel DRTU" under 7 was executed to keep transmitting and receiving data via Bluetooth.

d. The following test mode was performed for conduction and radiation test:
- GFSK: CH 00: 2402MHz, CH 39: 2441MHz, CH 78: 2480MHz.
- π/4-DQPSK: CH 00: 2402MHz, CH 39: 2441MHz, CH 78: 2480MHz.
- 8DPSK: CH 00: 2402MHz, CH 39: 2441MHz, CH 78: 2480MHz.

## 2.4 Description of Test System

There is no supporting system during the test.

## 2.5 General Information of Test

| | |
|---|---|
| Test Site : | Cerpass Technology Corp.<br>2F-11, No. 3, Yuan Qu St., (Nankang Software Park),<br>Taipei, Taiwan 115, R.O.C. |
| Test Site Location<br>(OATS2-SD) : | No.68-1, Shihbachongsi, Shihding Township,<br>Taipei City 223, Taiwan, R.O.C. |
| FCC Registration Number : | TW1049, TW1061, 390316, 488071 |
| IC Registration Number : | 4934B-1, 4934D-1 |
| VCCI Registration Number : | T-1173 for Telecommunication Test<br>C-4139 for Conducted emission test<br>R-3428 for Radiated emission test<br>G-97 for Radiated emission test above 1GHz |
| Frequency Range<br>Investigated: | Conducted: from 150kHz to 30 MHz<br>Radiation: from 30 MHz to 24800MHz |
| Test Distance: | The test distance of radiated emission from antenna to EUT is 3 M. |
| Laboratory Accreditation : | TAF<br>Testing Laboratory<br>1439 |

## 2.6 Measurement Uncertainty

| Measurement Item | Measurement Frequency | Polarization | Uncertainty |
|---|---|---|---|
| Radiated Emission | 30 MHz ~ 1,000 MHz | Vertical / Horizontal | 3.93 dB |
| | 1,000 MHz ~ 18,000 MHz | Vertical / Horizontal | 5.18dB |
| Maximum Peak Output Power | --- | --- | 1.4 dB |

# 3. Antenna Requirements

## 3.1 Standard Applicable

For intentional device, according to FCC 47 CFR 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.

And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

## 3.2 Antenna Construction and Directional Gain

Antenna type: PIFA Antenna

Antenna Gain: 0 dBi

# 4. Test of Radiated Emission

## 4.1 Test Limit

Radiated emissions from 30 MHz to 25 GHz were measured according to the methods defines in ANSI C63.4-2009. The EUT was placed, 0.8 meter above the ground plane, as shown in section 5.6.3. The interface cables and equipment positions were varied within limits of reasonable applications to determine the positions producing maximum radiated emissions
For unintentional device, according to § 15.109(a), except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the following values:

| Frequency (MHz) | Distance Meters | Radiated (μ V / M) | Radiated (dB μ V/ M) |
|---|---|---|---|
| 30-88 | 3 | 100 | 40.0 |
| 88-216 | 3 | 150 | 43.5 |
| 216-960 | 3 | 200 | 46.0 |
| Above 960 | 3 | 500 | 54.0 |

For unintentional device, according to CISPR PUB.22, for Class B digital devices, the general requirement of field strength of radiated emissions from intentional radiators at a distance of 10 meters shall not exceed the above table.

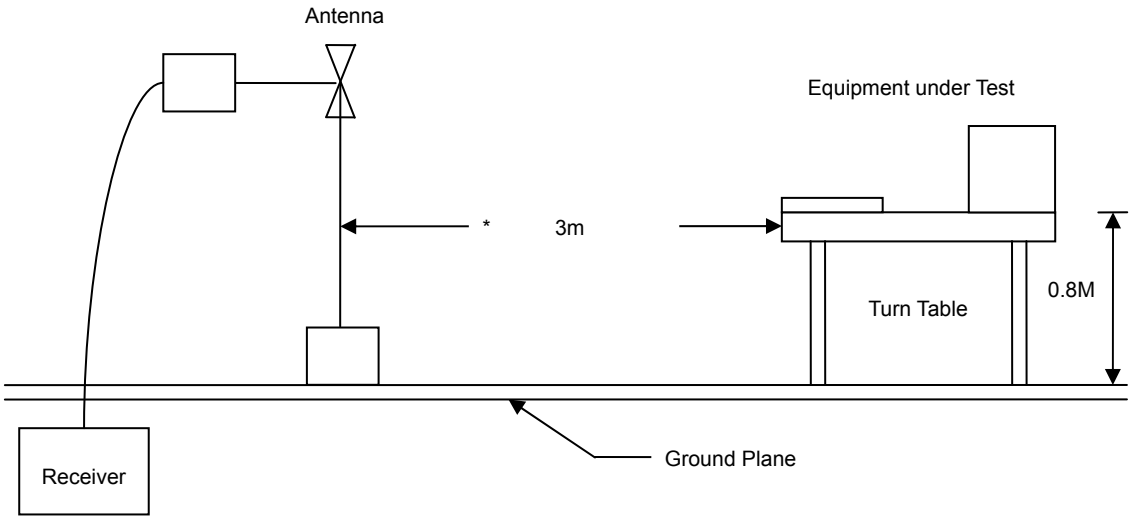
| Frequency (MHz) | Distance Meters | Radiated (dB μ V/ M) |
|---|---|---|
| 30-230 | 10 | 30 |
| 230-1000 | 10 | 37 |

## 4.2 Test Procedures

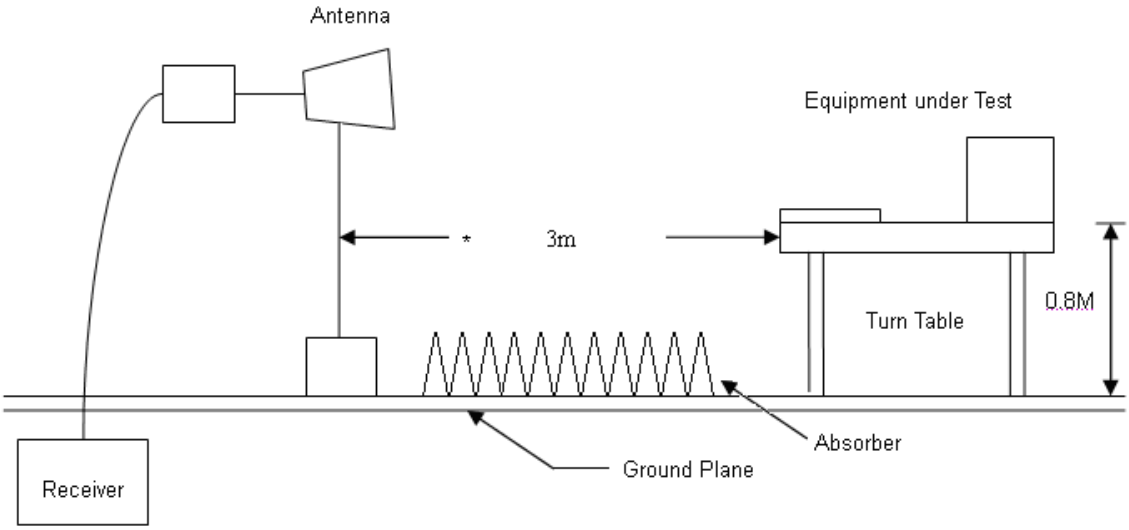
a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

## 4.3 Typical Test Setup

Below 1GHz Test Setup




Above 1GHz Test Setup




## 4.4 Measurement equipment

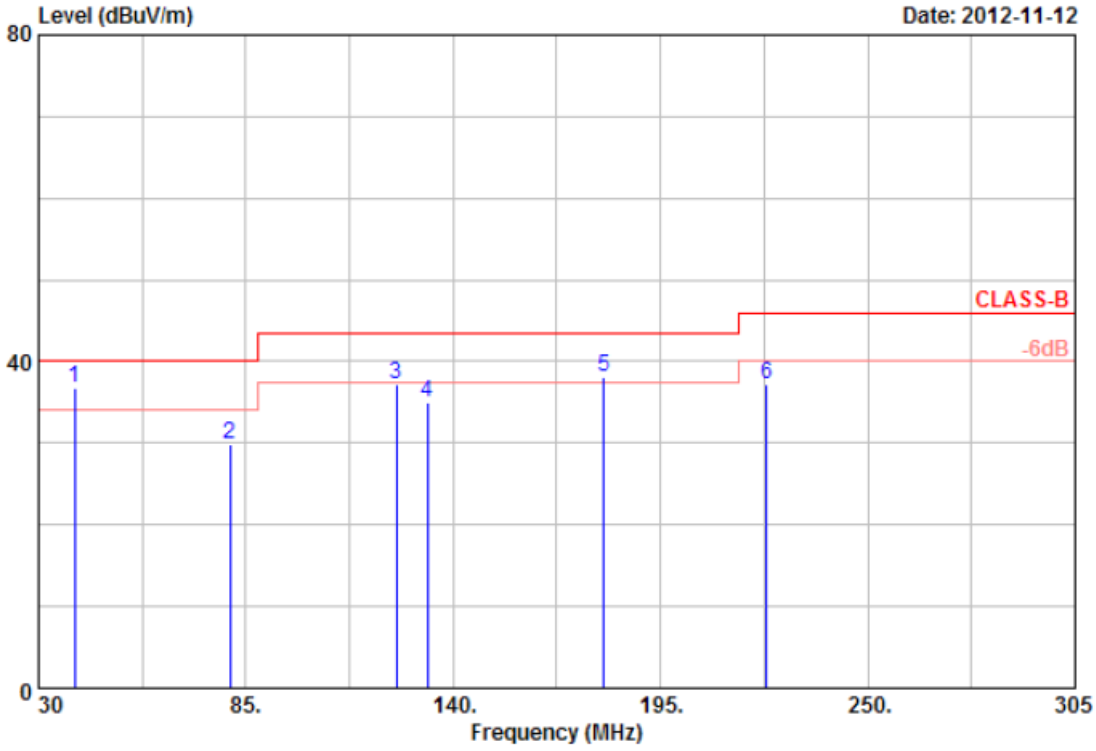
| Instrument/Ancillary | Manufacturer | Model No. | Serial No. | Calibration Date | Valid Date |
|---|---|---|---|---|---|
| EMI Receiver | R&S | ESCI | 100821 | 2012/01/31 | 2013/01/30 |
| Amplifier | QuieTek | AP/0100A | CHM0906075 | 2012/01/13 | 2013/01/12 |
| Signal Generator | HP | 8648B | 3629U00612 | 2012/01/11 | 2013/01/10 |
| Bilog Antenna | Schwarzbeck | VULB 9168 | 275 | 2012/03/23 | 2013/03/22 |
| Spectrum Analyzer | R&S | FSP40 | 100047 | 2012/03/01 | 2013/02/28 |
| Horn Antenna | EMCO | 3115 | 31589 | 2012/03/01 | 2013/02/28 |
| Preamplifier | Agilent | 8449B | 3008A01954 | 2012/02/29 | 2013/02/28 |
| Loop Antenna | EMCO | 6507 | 40855 | 2012/02/29 | 2013/02/28 |

## 4.5 Test Result and Data (9KHz ~ 30MHz)

The 9KHz-30MHz spurious emission is under limit 20dB more.

## 4.6 Test Result and Data (30MHz ~25000MHz)

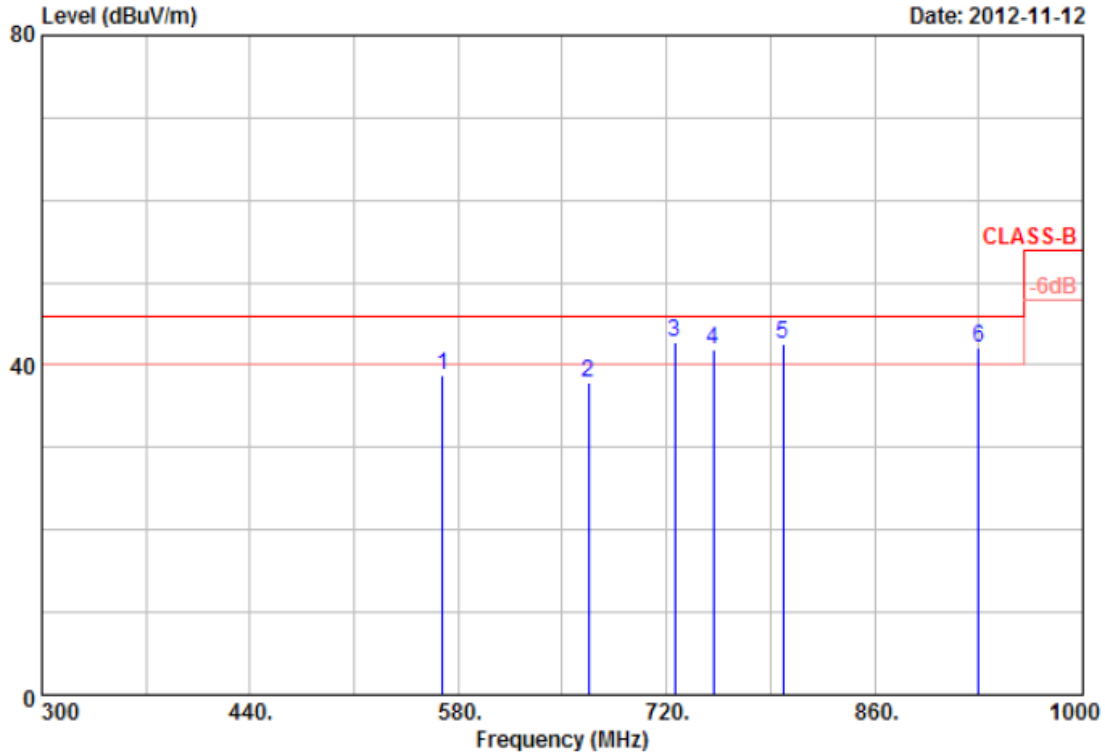
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 0 | Humidity | : | 68 % |
| Modulation Type | : | GFSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 1 Mbps | | | |




| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 39.63 | 38.27 | -1.60 | 36.67 | 40.00 | -3.33 | QP | 100 | 360 |
| 2 | 80.88 | 37.37 | -7.48 | 29.89 | 40.00 | -10.11 | Peak | 100 | 360 |
| 3 | 124.88 | 42.15 | -4.91 | 37.24 | 43.50 | -6.26 | Peak | 100 | 360 |
| 4 | 133.13 | 41.85 | -6.90 | 34.95 | 43.50 | -8.55 | Peak | 100 | 360 |
| 5 | 179.88 | 43.22 | -5.06 | 38.16 | 43.50 | -5.34 | QP | 100 | 360 |
| 6 | 223.05 | 43.79 | -6.49 | 37.30 | 46.00 | -8.70 | Peak | 100 | 360 |

Remarks: 1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. According to technical experiences, all spurious emission of BT mode at channel 0,39,78 are almost the same below 1GHz, so that the channel 0 was chosen as representative in final test.
4. The data is worst case.

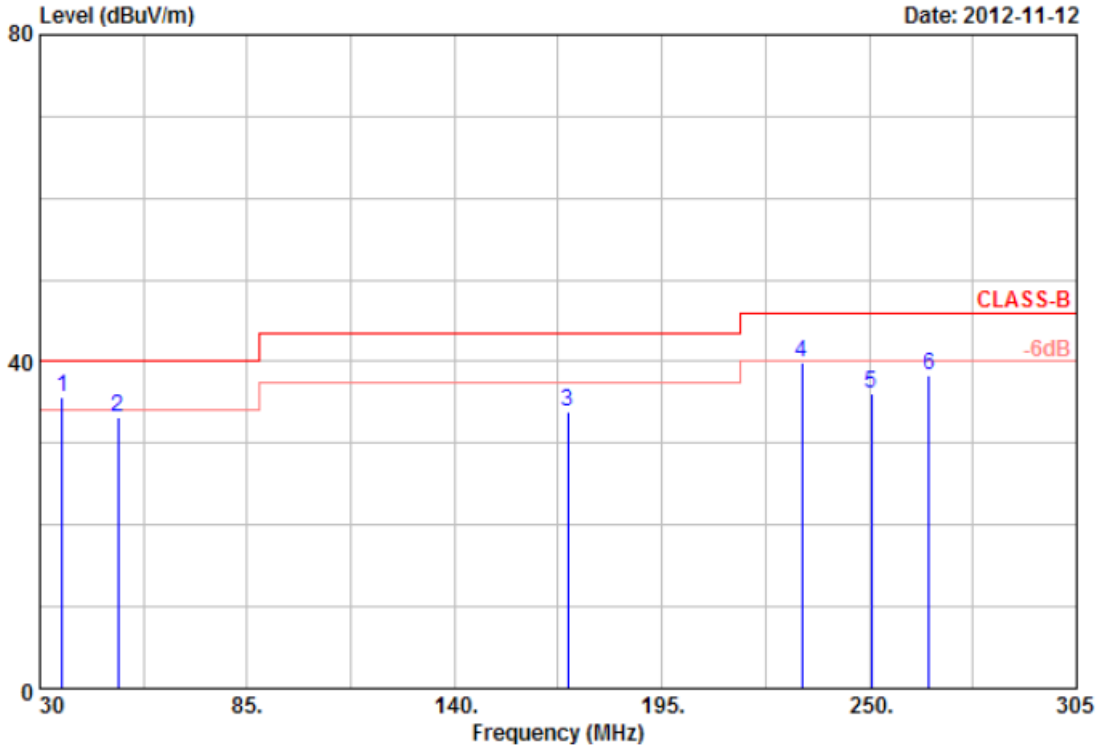
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 0 | Humidity | : | 68 % |
| Modulation Type | : | GFSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 1 Mbps | | | |




| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 569.50 | 31.21 | 7.60 | 38.81 | 46.00 | -7.19 | Peak | 100 | 0 |
| 2 | 667.50 | 39.47 | -1.54 | 37.93 | 46.00 | -8.07 | Peak | 100 | 0 |
| 3 | 725.60 | 36.67 | 6.12 | 42.79 | 46.00 | -3.21 | QP | 100 | 0 |
| 4 | 751.50 | 37.44 | 4.51 | 41.95 | 46.00 | -4.05 | QP | 100 | 0 |
| 5 | 798.40 | 36.66 | 5.82 | 42.48 | 46.00 | -3.52 | QP | 100 | 0 |
| 6 | 930.00 | 33.48 | 8.73 | 42.21 | 46.00 | -3.79 | QP | 100 | 0 |

Remarks: 1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. According to technical experiences, all spurious emission of BT mode at channel 0,39,78 are almost the same below 1GHz, so that the channel 0 was chosen as representative in final test.
4. The data is worst case.

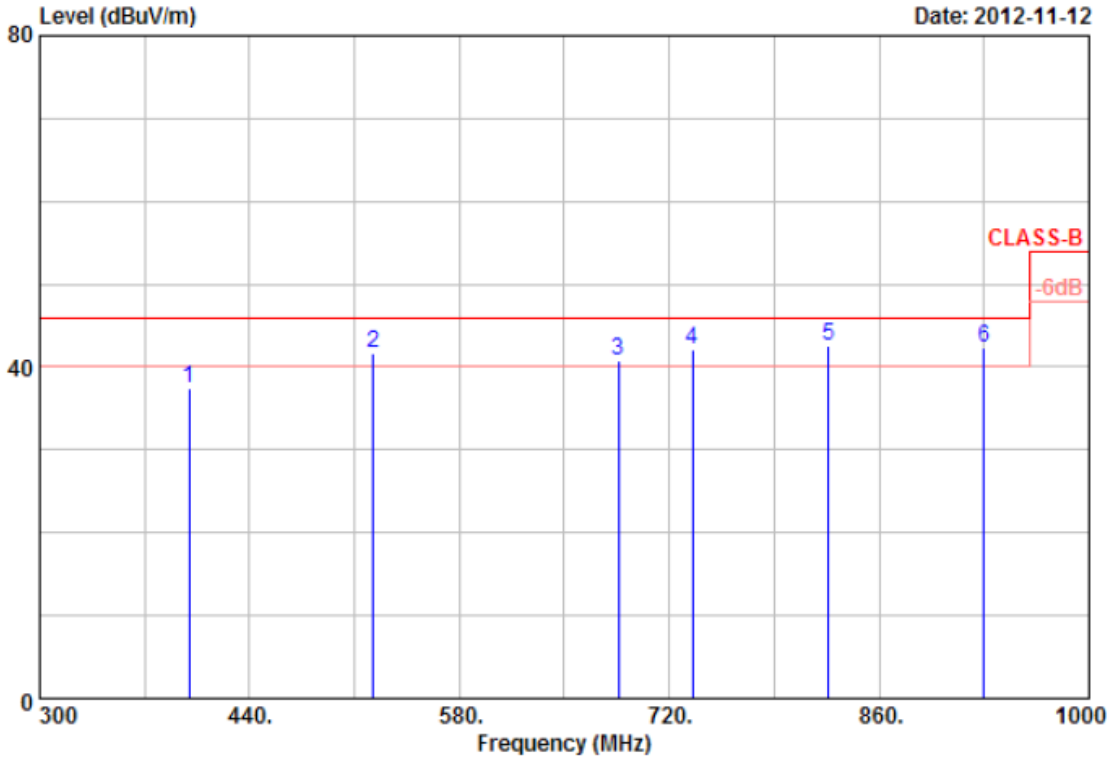
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 0 | Humidity | : | 68 % |
| Modulation Type | : | GFSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 1 Mbps | | | |




| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 36.05 | 42.36 | -6.78 | 35.58 | 40.00 | -4.42 | QP | 100 | 360 |
| 2 | 50.63 | 42.68 | -9.38 | 33.30 | 40.00 | -6.70 | Peak | 100 | 360 |
| 3 | 169.98 | 44.91 | -10.97 | 33.94 | 43.50 | -9.56 | Peak | 100 | 360 |
| 4 | 232.13 | 54.53 | -14.72 | 39.81 | 46.00 | -6.19 | Peak | 100 | 360 |
| 5 | 250.55 | 49.68 | -13.52 | 36.16 | 46.00 | -9.84 | Peak | 100 | 360 |
| 6 | 265.95 | 52.27 | -13.91 | 38.36 | 46.00 | -7.64 | Peak | 100 | 360 |

Remarks: 1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. According to technical experiences, all spurious emission of BT mode at channel 0,39,78 are almost the same below 1GHz, so that the channel 0 was chosen as representative in final test.
4. The data is worst case.

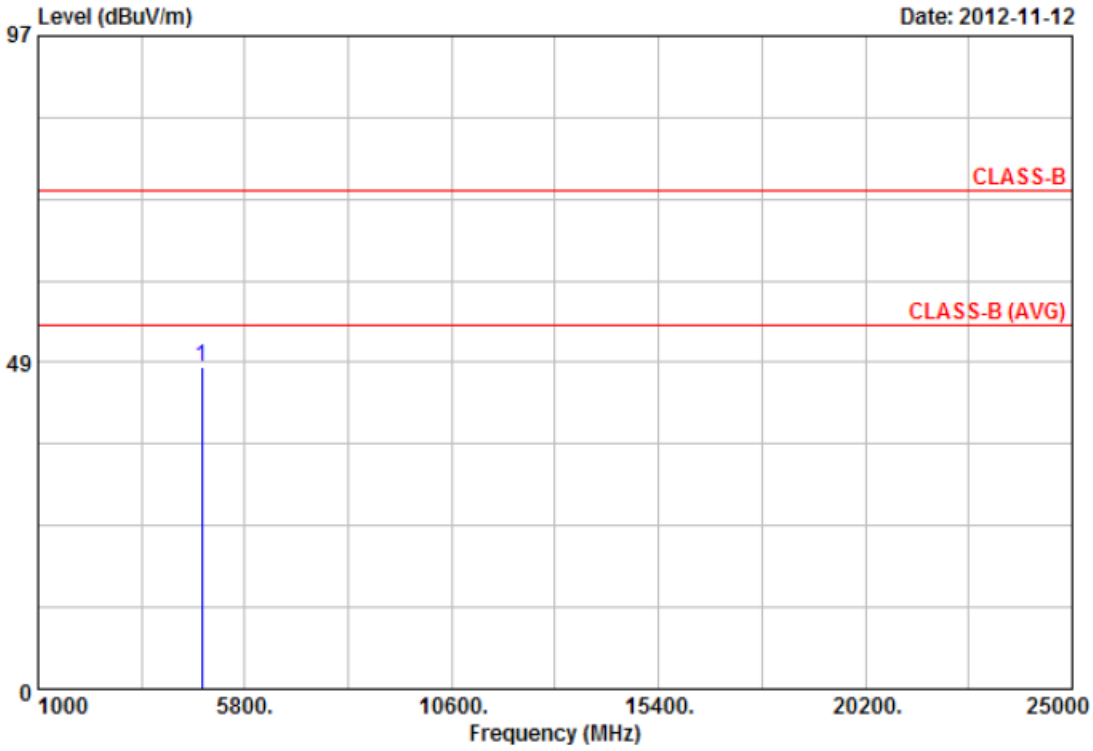
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 0 | Humidity | : | 68 % |
| Modulation Type | : | GFSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 1 Mbps | | | |




| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 399.40 | 46.61 | -9.28 | 37.33 | 46.00 | -8.67 | Peak | 100 | 0 |
| 2 | 522.60 | 40.44 | 1.30 | 41.74 | 46.00 | -4.26 | QP | 100 | 0 |
| 3 | 686.40 | 38.33 | 2.36 | 40.69 | 46.00 | -5.31 | QP | 100 | 0 |
| 4 | 735.40 | 38.24 | 3.83 | 42.07 | 46.00 | -3.93 | QP | 100 | 0 |
| 5 | 826.40 | 34.49 | 8.04 | 42.53 | 46.00 | -3.47 | QP | 100 | 0 |
| 6 | 930.00 | 35.60 | 6.82 | 42.42 | 46.00 | -3.58 | QP | 100 | 0 |

Remarks: 1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. According to technical experiences, all spurious emission of BT mode at channel 0,39,78 are almost the same below 1GHz, so that the channel 0 was chosen as representative in final test.
4. The data is worst case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 0 | Humidity | : | 68 % |
| Modulation Type | : | GFSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 1 Mbps | | | |

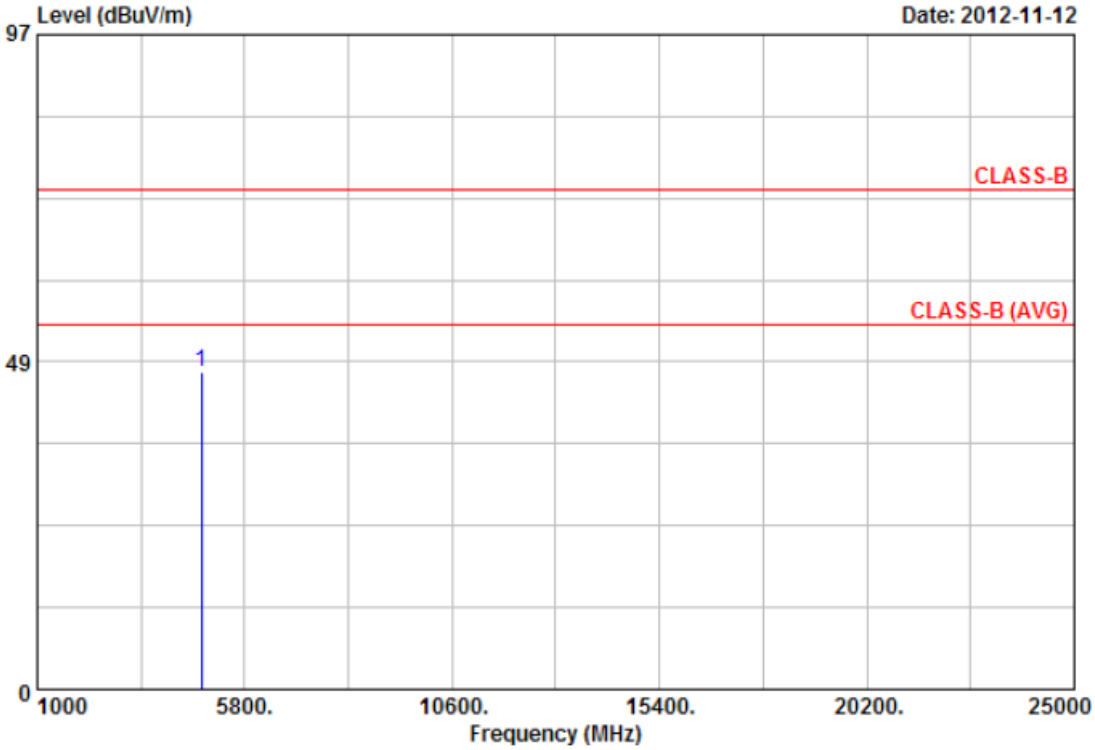



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4803.70 | 42.49 | 5.21 | 47.70 | 74.00 | -26.30 | Peak | 130 | 138 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 0 | Humidity | : | 68 % |
| Modulation Type | : | GFSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 1 Mbps | | | |

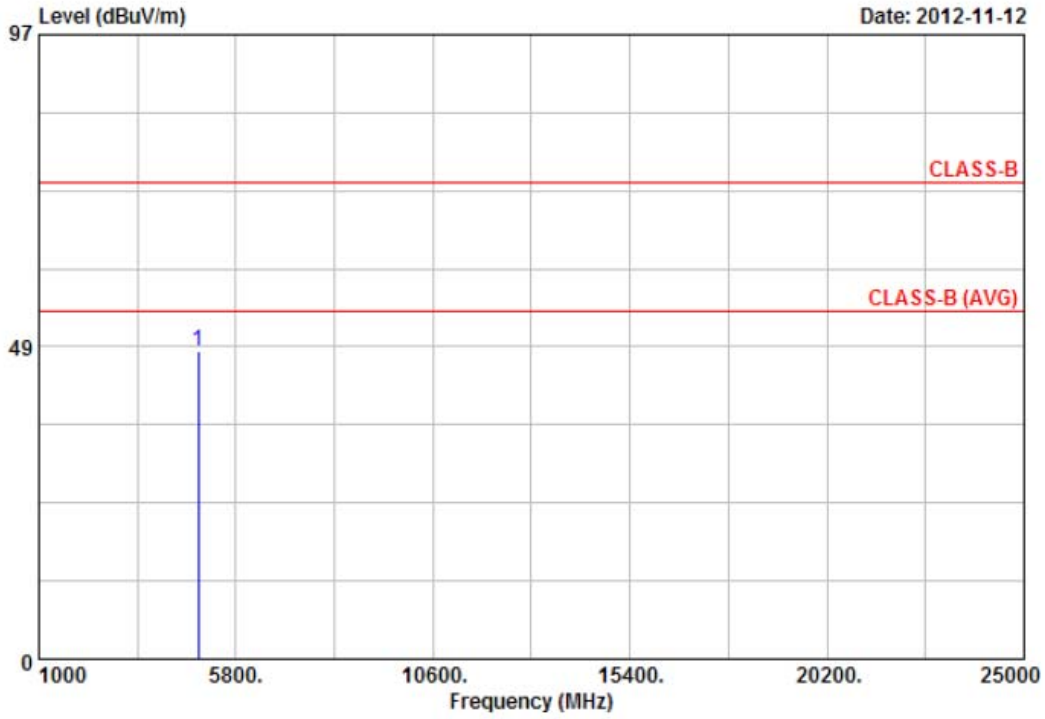



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4804.06 | 43.38 | 3.63 | 47.01 | 74.00 | -26.99 | Peak | 130 | 18 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 39 | Humidity | : | 68 % |
| Modulation Type | : | GFSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 1 Mbps | | | |

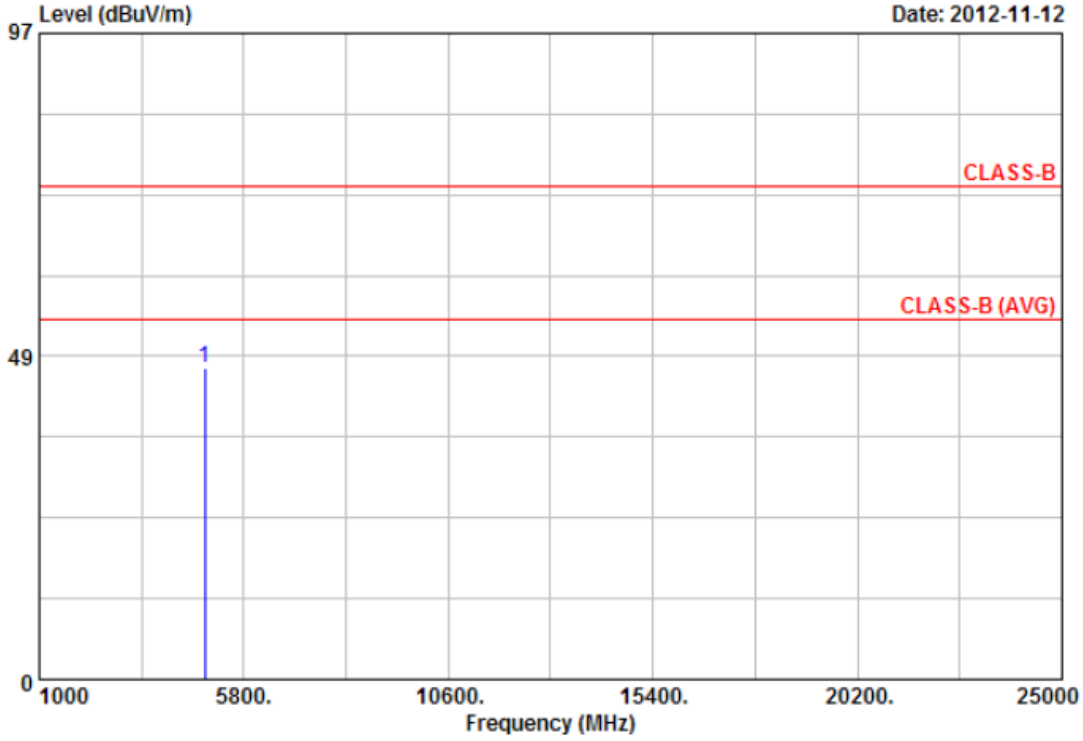



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4882.08 | 41.16 | 6.75 | 47.91 | 74.00 | -26.09 | Peak | 130 | 138 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 39 | Humidity | : | 68 % |
| Modulation Type | : | GFSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 1 Mbps | | | |

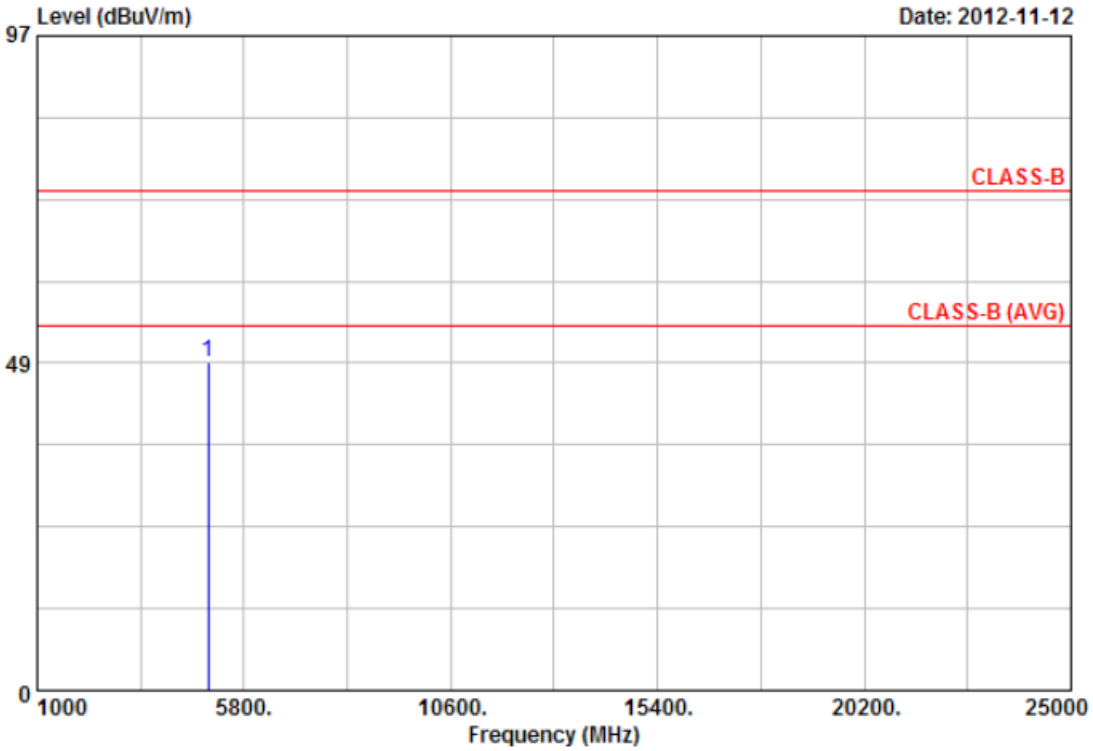



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4882.06 | 41.79 | 4.86 | 46.65 | 74.00 | -27.35 | Peak | 130 | 18 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 78 | Humidity | : | 68 % |
| Modulation Type | : | GFSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 1 Mbps | | | |

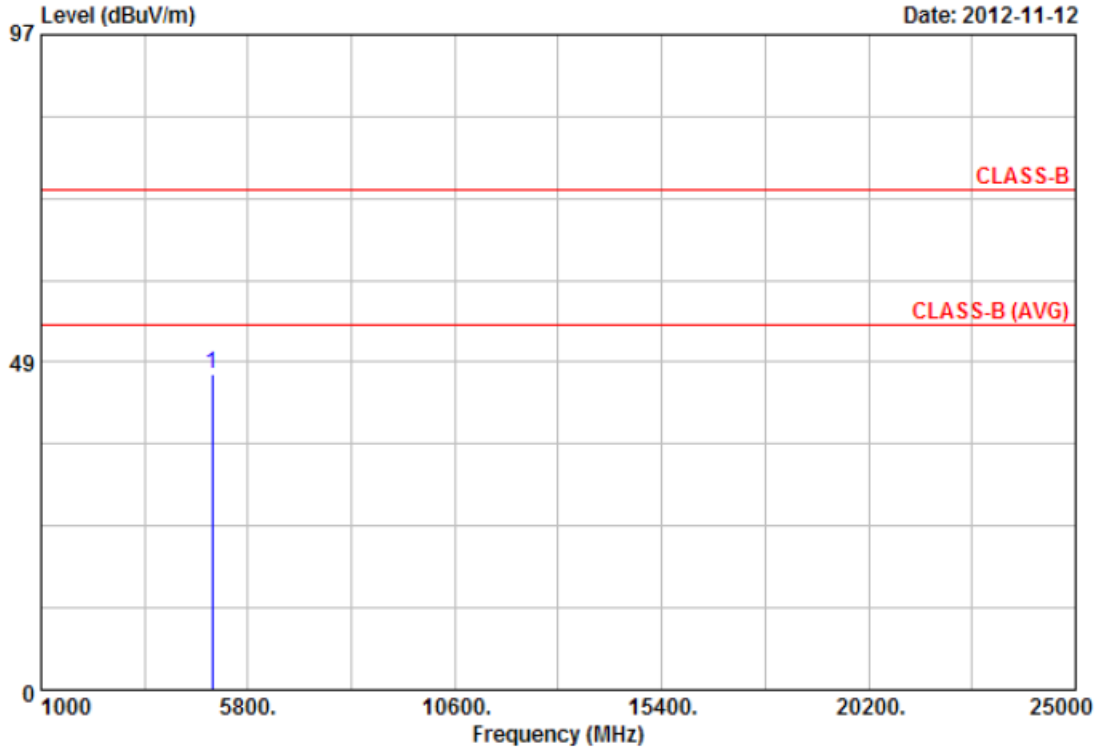



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4960.53 | 41.47 | 7.26 | 48.73 | 74.00 | -25.27 | Peak | 130 | 138 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 78 | Humidity | : | 68 % |
| Modulation Type | : | GFSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 1 Mbps | | | |

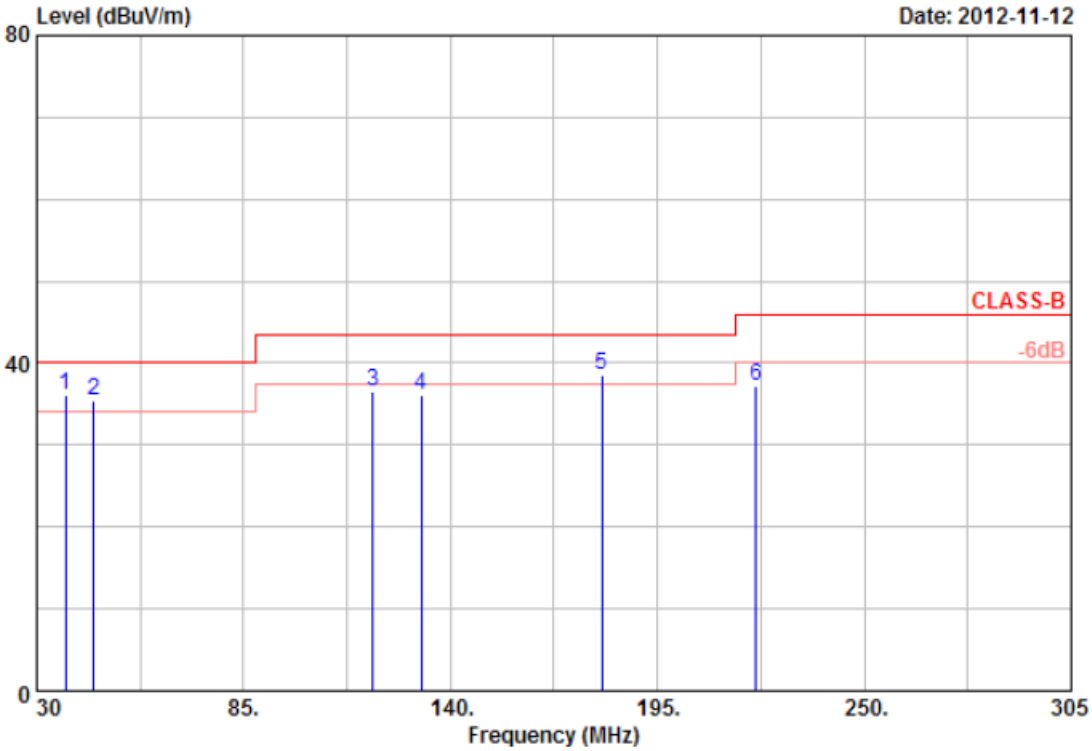



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4960.73 | 41.55 | 5.16 | 46.71 | 74.00 | -27.29 | Peak | 130 | 18 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

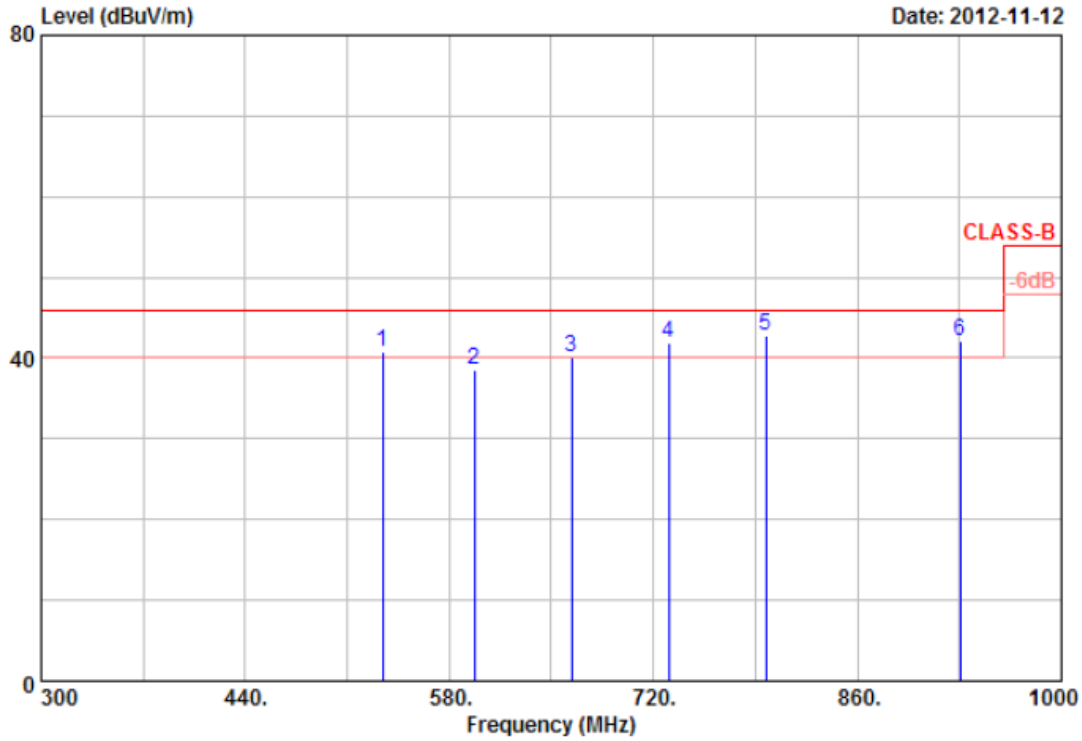
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 0 | Humidity | : | 68 % |
| Modulation Type | : | π/4-DQPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 2 Mbps | | | |




| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 37.70 | 37.89 | -1.78 | 36.11 | 40.00 | -3.89 | QP | 100 | 360 |
| 2 | 45.13 | 36.56 | -1.24 | 35.32 | 40.00 | -4.68 | QP | 100 | 360 |
| 3 | 119.38 | 41.36 | -4.92 | 36.44 | 43.50 | -7.06 | Peak | 100 | 360 |
| 4 | 132.30 | 43.23 | -7.24 | 35.99 | 43.50 | -7.51 | Peak | 100 | 360 |
| 5 | 180.15 | 43.64 | -5.15 | 38.49 | 43.50 | -5.01 | QP | 100 | 360 |
| 6 | 221.13 | 43.38 | -6.18 | 37.20 | 46.00 | -8.80 | Peak | 100 | 360 |

Remarks: 1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. According to technical experiences, all spurious emission of BT mode at channel 0,39,78 are almost the same below 1GHz, so that the channel 0 was chosen as representative in final test.
4. The data is worst case.

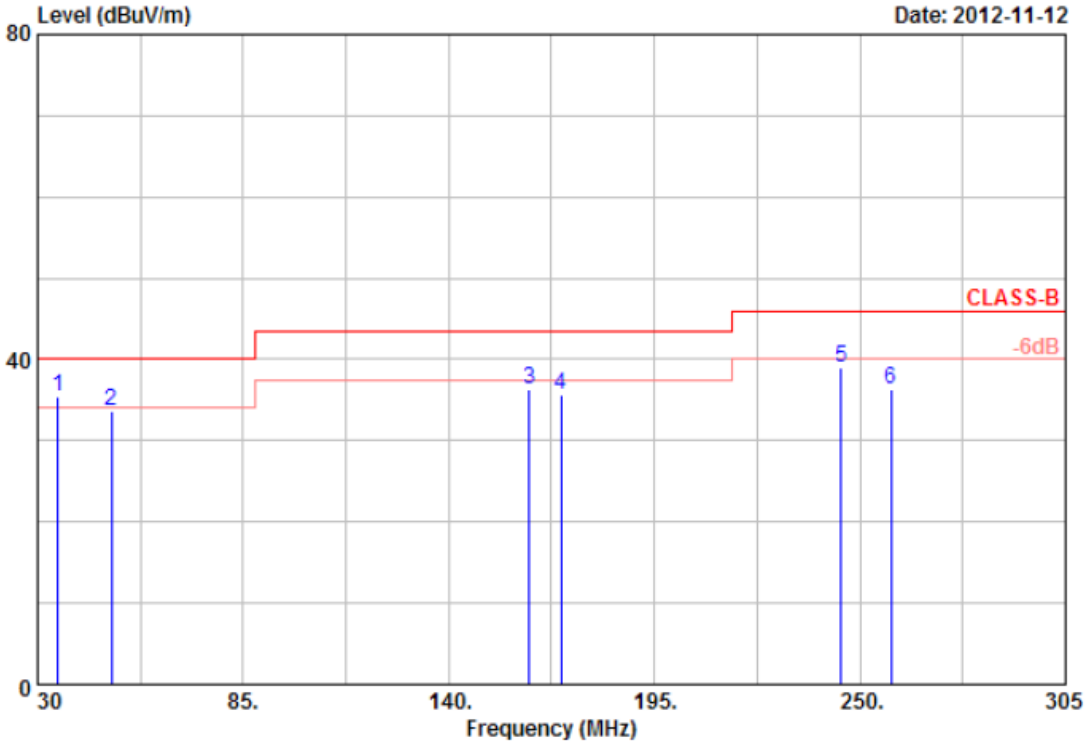
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 0 | Humidity | : | 68 % |
| Modulation Type | : | π/4-DQPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 2 Mbps | | | |




| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 534.50 | 37.49 | 3.30 | 40.79 | 46.00 | -5.21 | QP | 100 | 0 |
| 2 | 597.50 | 35.33 | 3.33 | 38.66 | 46.00 | -7.34 | Peak | 100 | 0 |
| 3 | 664.00 | 41.37 | -1.22 | 40.15 | 46.00 | -5.85 | QP | 100 | 0 |
| 4 | 730.50 | 34.76 | 7.18 | 41.94 | 46.00 | -4.06 | QP | 100 | 0 |
| 5 | 797.00 | 36.81 | 5.94 | 42.75 | 46.00 | -3.25 | QP | 100 | 0 |
| 6 | 930.70 | 33.34 | 8.87 | 42.21 | 46.00 | -3.79 | QP | 100 | 0 |

Remarks: 1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. According to technical experiences, all spurious emission of BT mode at channel 0,39,78 are almost the same below 1GHz, so that the channel 0 was chosen as representative in final test.
4. The data is worst case.

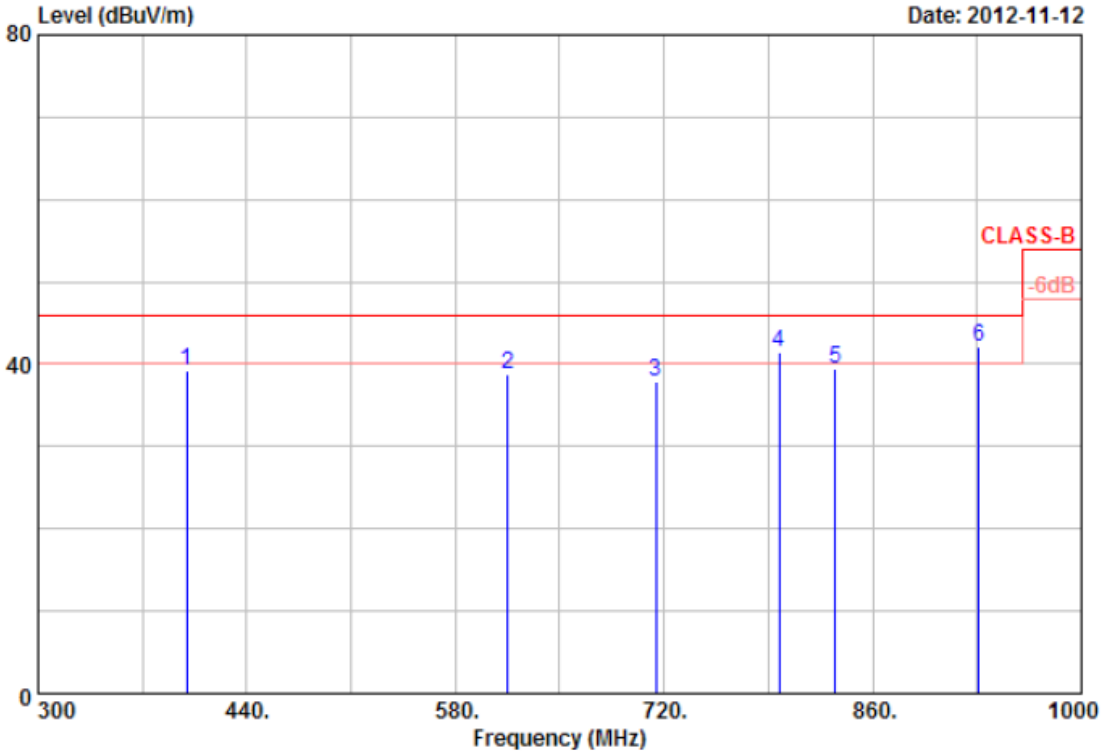
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 0 | Humidity | : | 68 % |
| Modulation Type | : | π/4-DQPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 2 Mbps | | | |




| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 35.50 | 42.23 | -6.69 | 35.54 | 40.00 | -4.46 | QP | 100 | 360 |
| 2 | 49.80 | 42.66 | -9.01 | 33.65 | 40.00 | -6.35 | Peak | 100 | 360 |
| 3 | 161.45 | 53.49 | -17.13 | 36.36 | 43.50 | -7.14 | Peak | 100 | 360 |
| 4 | 169.98 | 46.68 | -10.97 | 35.71 | 43.50 | -7.79 | Peak | 100 | 360 |
| 5 | 245.05 | 52.26 | -13.31 | 38.95 | 46.00 | -7.05 | Peak | 100 | 360 |
| 6 | 258.25 | 49.60 | -13.34 | 36.26 | 46.00 | -9.74 | Peak | 100 | 360 |

Remarks: 1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. According to technical experiences, all spurious emission of BT mode at channel 0,39,78 are almost the same below 1GHz, so that the channel 0 was chosen as representative in final test.
4. The data is worst case.

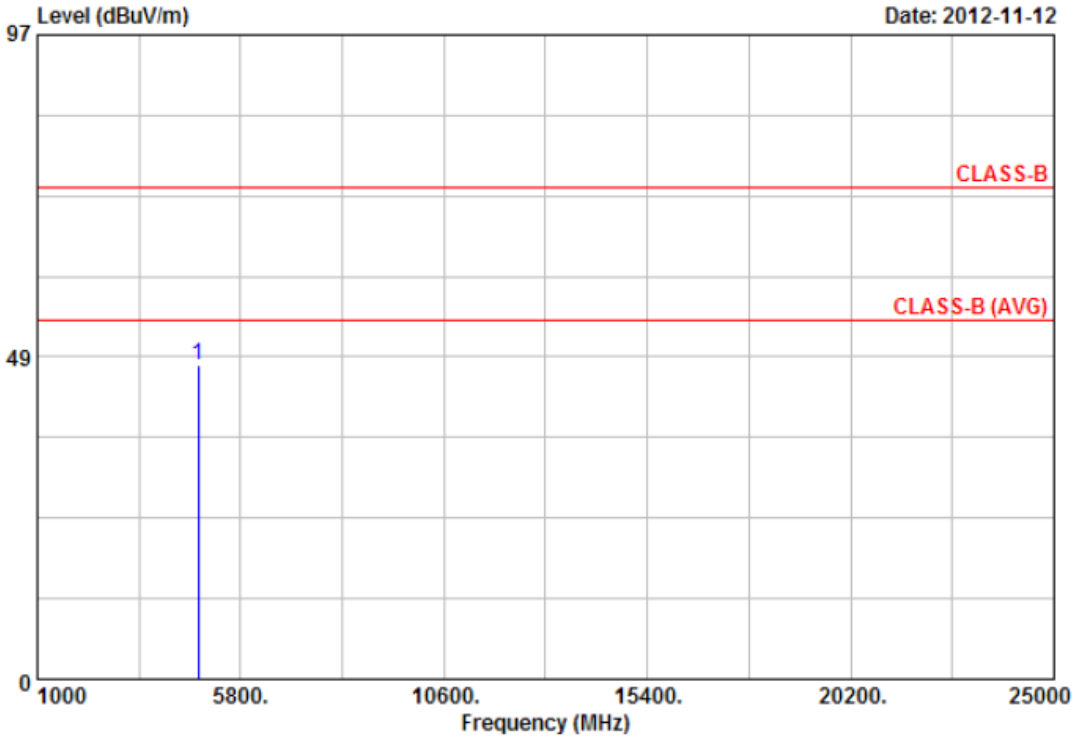
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 0 | Humidity | : | 68 % |
| Modulation Type | : | π/4-DQPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 2 Mbps | | | |




| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 399.40 | 48.46 | -9.28 | 39.18 | 46.00 | -6.82 | Peak | 100 | 0 |
| 2 | 615.00 | 34.95 | 3.76 | 38.71 | 46.00 | -7.29 | Peak | 100 | 0 |
| 3 | 714.40 | 34.56 | 3.26 | 37.82 | 46.00 | -8.18 | Peak | 100 | 0 |
| 4 | 797.00 | 35.54 | 5.98 | 41.52 | 46.00 | -4.48 | QP | 100 | 0 |
| 5 | 834.80 | 30.64 | 8.91 | 39.55 | 46.00 | -6.45 | Peak | 100 | 0 |
| 6 | 931.40 | 35.40 | 6.64 | 42.04 | 46.00 | -3.96 | QP | 100 | 0 |

Remarks: 1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. According to technical experiences, all spurious emission of BT mode at channel 0,39,78 are almost the same below 1GHz, so that the channel 0 was chosen as representative in final test.
4. The data is worst case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 0 | Humidity | : | 68 % |
| Modulation Type | : | π/4-DQPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 2 Mbps | | | |

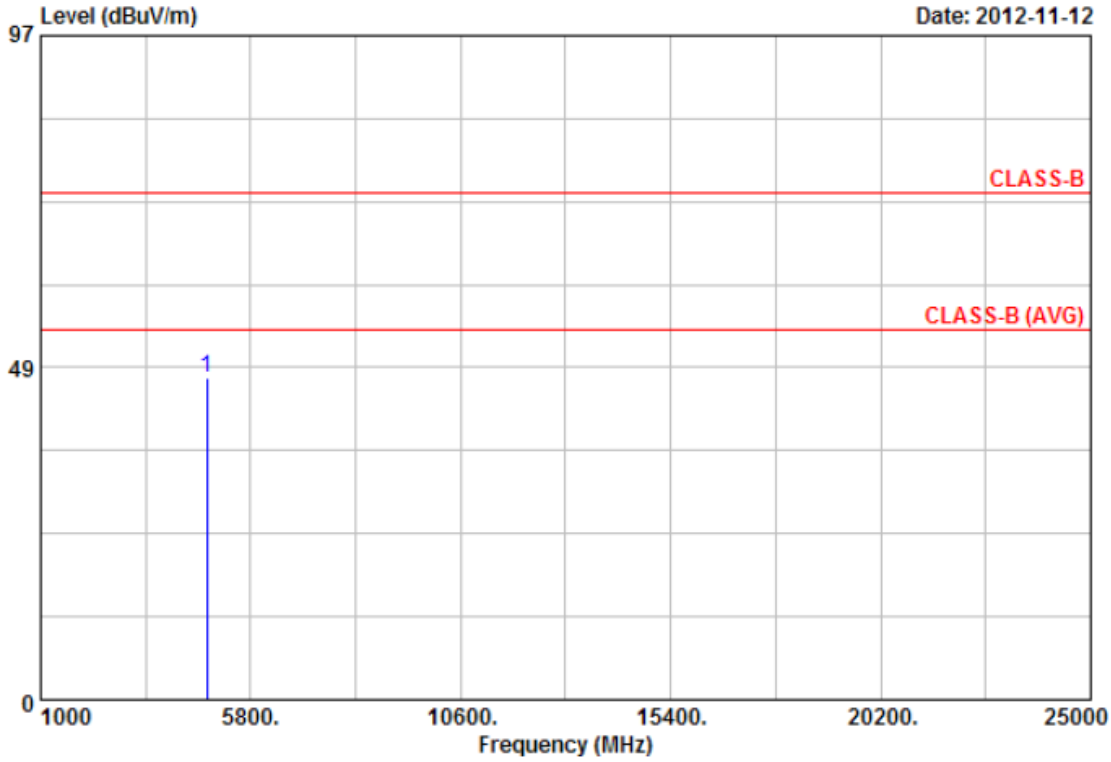



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4804.13 | 42.20 | 5.22 | 47.42 | 74.00 | -26.58 | Peak | 130 | 138 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 0 | Humidity | : | 68 % |
| Modulation Type | : | π/4-DQPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 2 Mbps | | | |

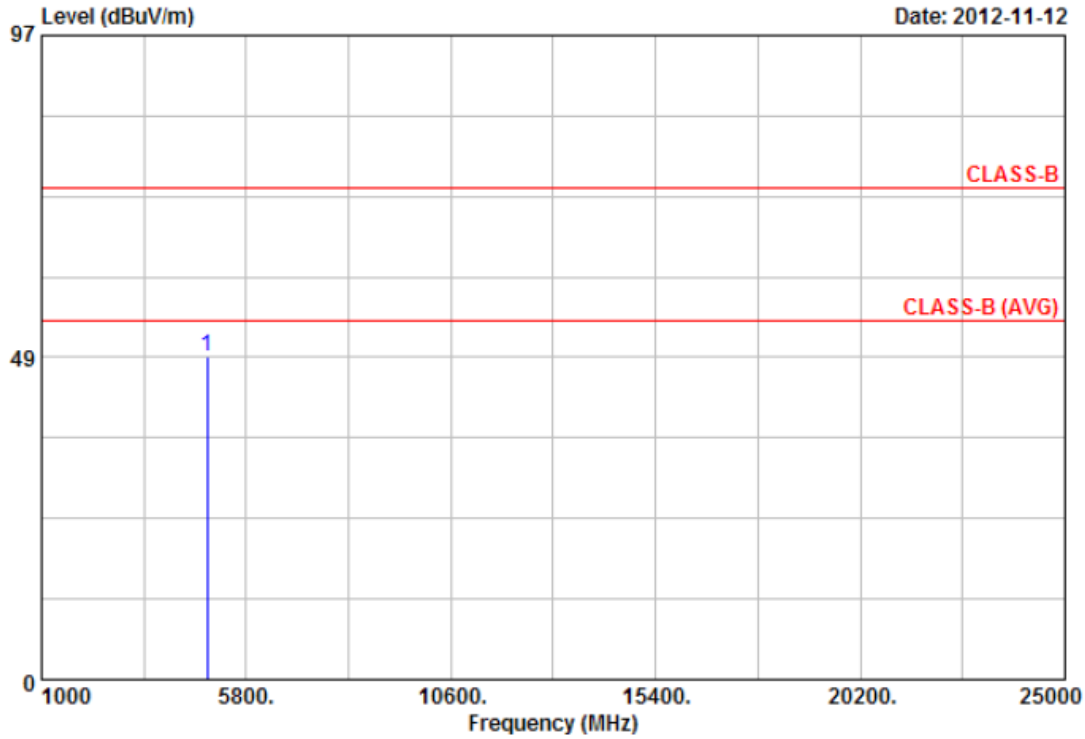



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4804.02 | 43.38 | 3.63 | 47.01 | 74.00 | -26.99 | Peak | 130 | 18 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 39 | Humidity | : | 68 % |
| Modulation Type | : | π/4-DQPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 2 Mbps | | | |

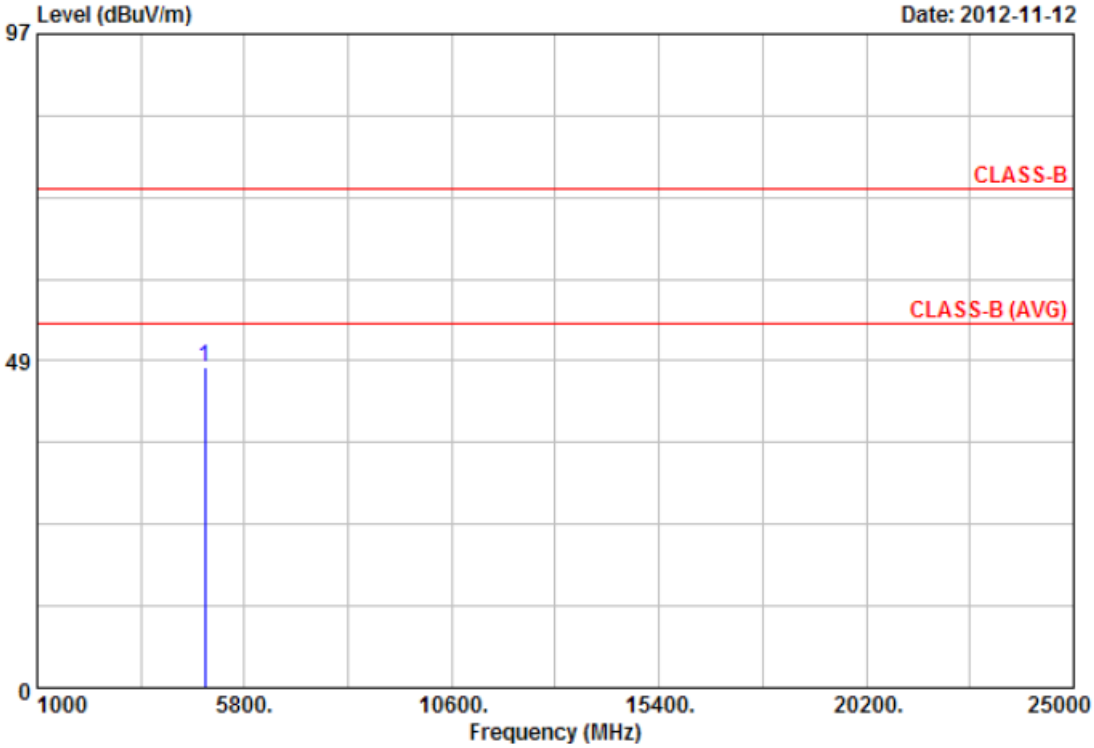



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4882.93 | 41.74 | 6.77 | 48.51 | 74.00 | -25.49 | Peak | 130 | 138 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 39 | Humidity | : | 68 % |
| Modulation Type | : | π/4-DQPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 2 Mbps | | | |

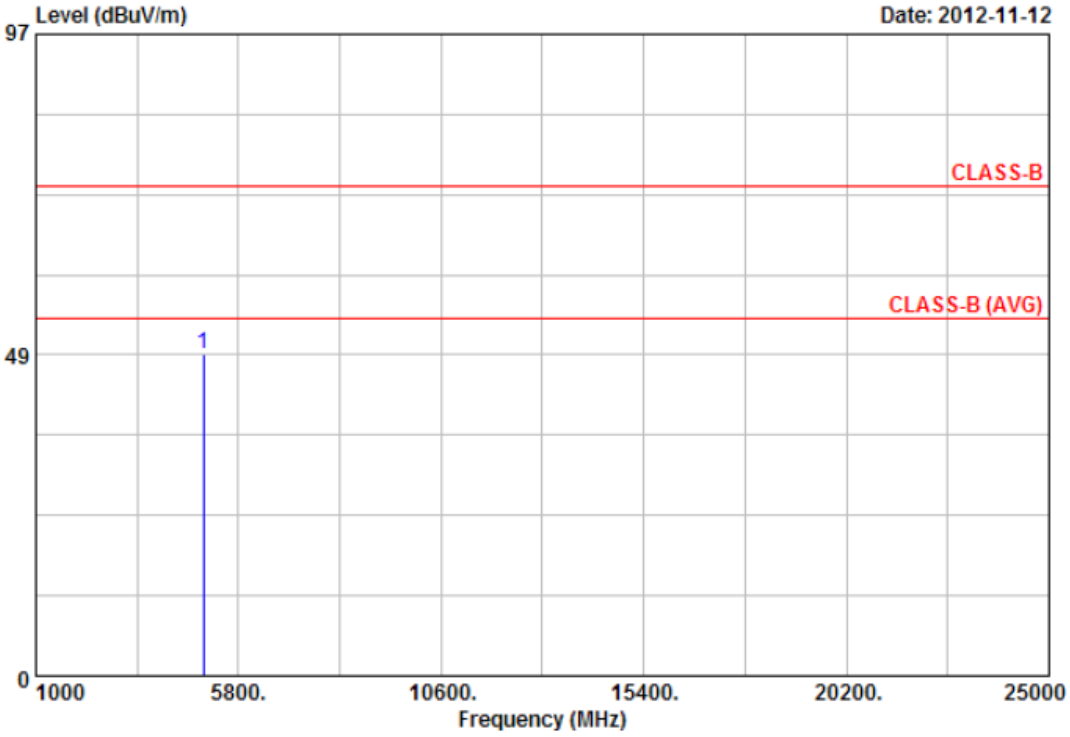



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4882.87 | 42.75 | 4.88 | 47.63 | 74.00 | -26.37 | Peak | 130 | 18 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 78 | Humidity | : | 68 % |
| Modulation Type | : | π/4-DQPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 2 Mbps | | | |

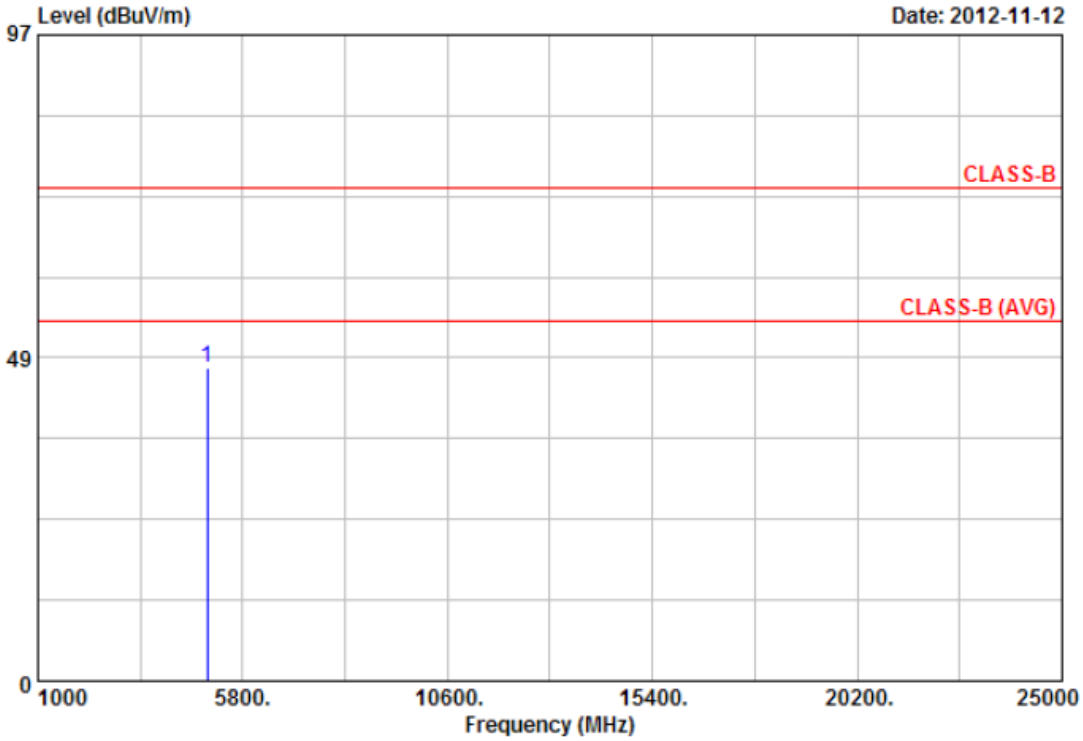



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4960.03 | 41.40 | 7.26 | 48.66 | 74.00 | -25.34 | Peak | 130 | 138 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 78 | Humidity | : | 68 % |
| Modulation Type | : | π/4-DQPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 2 Mbps | | | |

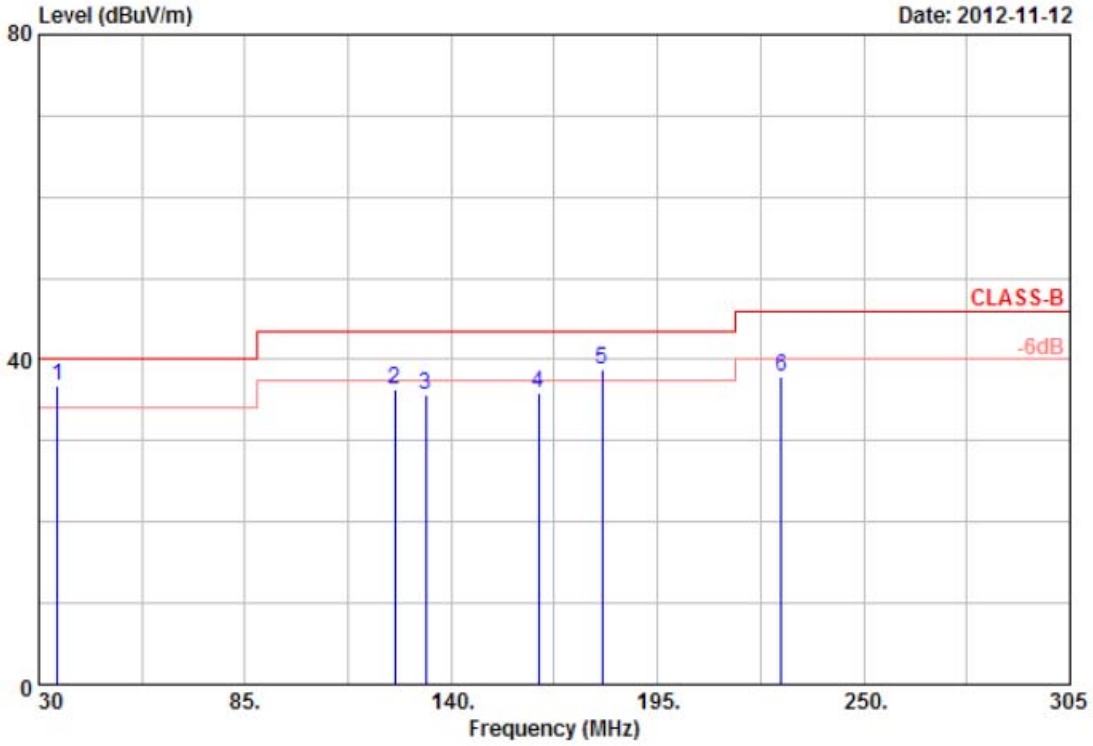



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4959.59 | 41.80 | 5.16 | 46.96 | 74.00 | -27.04 | Peak | 130 | 18 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

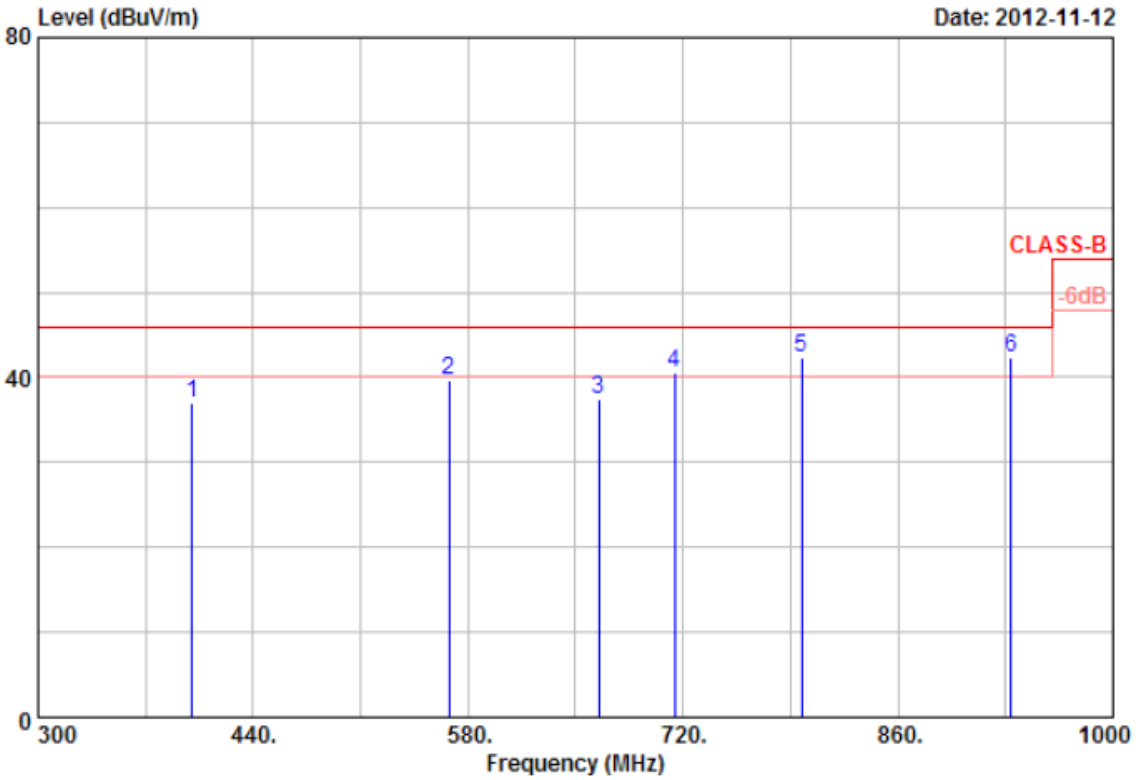
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 0 | Humidity | : | 68 % |
| Modulation Type | : | 8 DPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 3 Mbps | | | |




| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 34.95 | 38.70 | -2.04 | 36.66 | 40.00 | -3.34 | QP | 100 | 360 |
| 2 | 124.88 | 41.30 | -4.91 | 36.39 | 43.50 | -7.11 | Peak | 100 | 360 |
| 3 | 133.13 | 42.48 | -6.90 | 35.58 | 43.50 | -7.92 | Peak | 100 | 360 |
| 4 | 163.38 | 45.66 | -9.81 | 35.85 | 43.50 | -7.65 | Peak | 100 | 360 |
| 5 | 180.15 | 43.90 | -5.15 | 38.75 | 43.50 | -4.75 | QP | 100 | 360 |
| 6 | 228.00 | 45.30 | -7.43 | 37.87 | 46.00 | -8.13 | Peak | 100 | 360 |

Remarks: 1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. According to technical experiences, all spurious emission of BT mode at channel 0,39,78 are almost the same below 1GHz, so that the channel 0 was chosen as representative in final test.
4. The data is worst case.

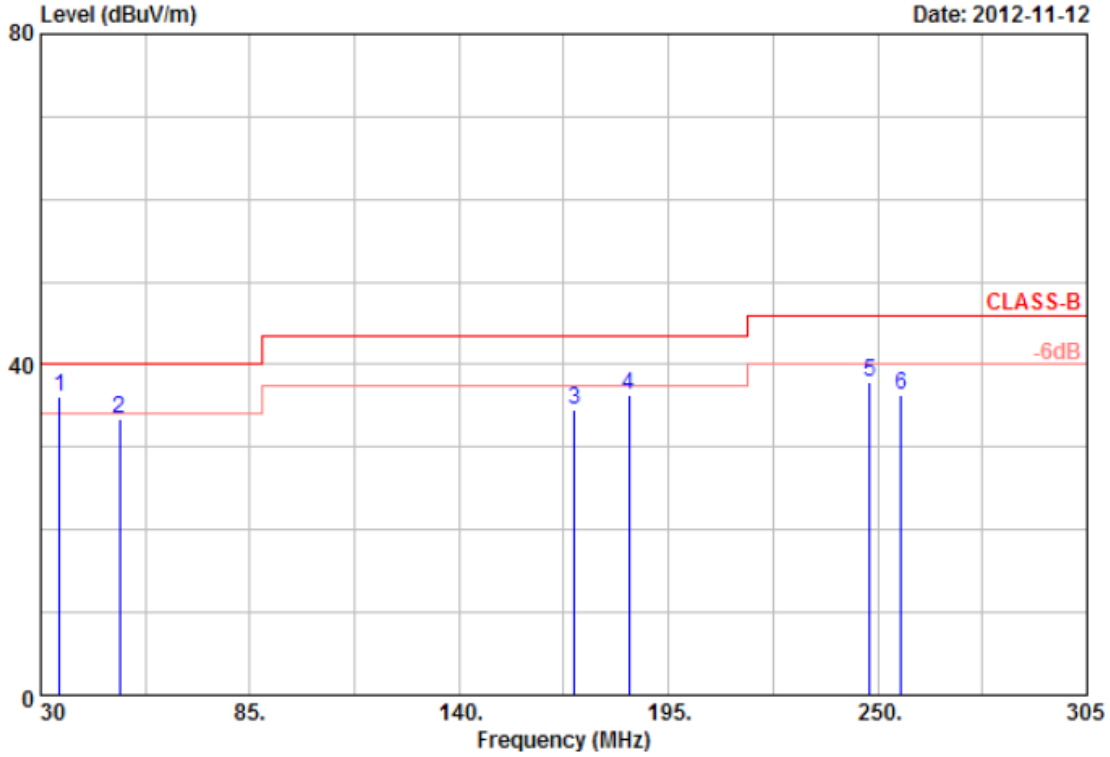
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 0 | Humidity | : | 68 % |
| Modulation Type | : | 8 DPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 3 Mbps | | | |




| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 400.10 | 42.32 | -5.39 | 36.93 | 46.00 | -9.07 | Peak | 100 | 0 |
| 2 | 567.40 | 32.46 | 7.11 | 39.57 | 46.00 | -6.43 | Peak | 100 | 0 |
| 3 | 665.40 | 38.68 | -1.31 | 37.37 | 46.00 | -8.63 | Peak | 100 | 0 |
| 4 | 714.40 | 36.92 | 3.68 | 40.60 | 46.00 | -5.40 | QP | 100 | 0 |
| 5 | 797.00 | 36.37 | 5.94 | 42.31 | 46.00 | -3.69 | QP | 100 | 0 |
| 6 | 933.50 | 32.87 | 9.44 | 42.31 | 46.00 | -3.69 | QP | 100 | 0 |

Remarks: 1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. According to technical experiences, all spurious emission of BT mode at channel 0,39,78 are almost the same below 1GHz, so that the channel 0 was chosen as representative in final test.
4. The data is worst case.

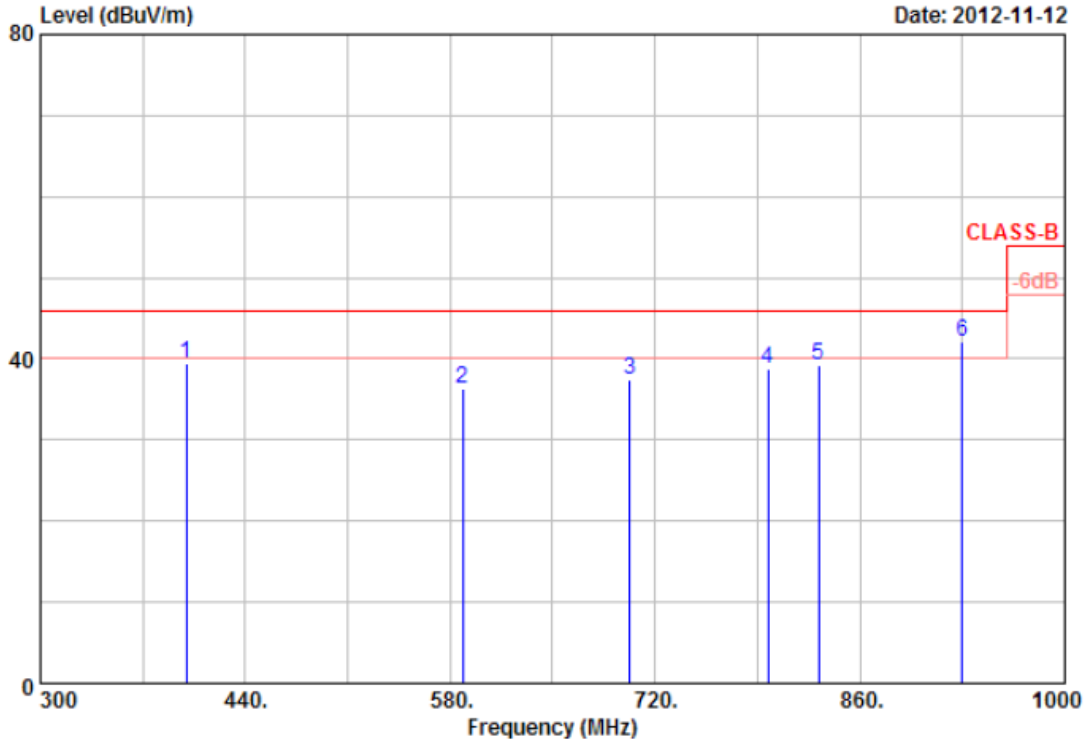
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 0 | Humidity | : | 68 % |
| Modulation Type | : | 8 DPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 3 Mbps | | | |




| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 34.95 | 42.65 | -6.60 | 36.05 | 40.00 | -3.95 | QP | 100 | 360 |
| 2 | 50.63 | 42.82 | -9.38 | 33.44 | 40.00 | -6.56 | Peak | 100 | 360 |
| 3 | 170.25 | 45.79 | -11.29 | 34.50 | 43.50 | -9.00 | Peak | 100 | 360 |
| 4 | 184.55 | 56.47 | -20.07 | 36.40 | 43.50 | -7.10 | Peak | 100 | 360 |
| 5 | 247.80 | 51.32 | -13.43 | 37.89 | 46.00 | -8.11 | Peak | 100 | 360 |
| 6 | 256.05 | 49.71 | -13.46 | 36.25 | 46.00 | -9.75 | Peak | 100 | 360 |

Remarks: 1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. According to technical experiences, all spurious emission of BT mode at channel 0,39,78 are almost the same below 1GHz, so that the channel 0 was chosen as representative in final test.
4. The data is worst case.

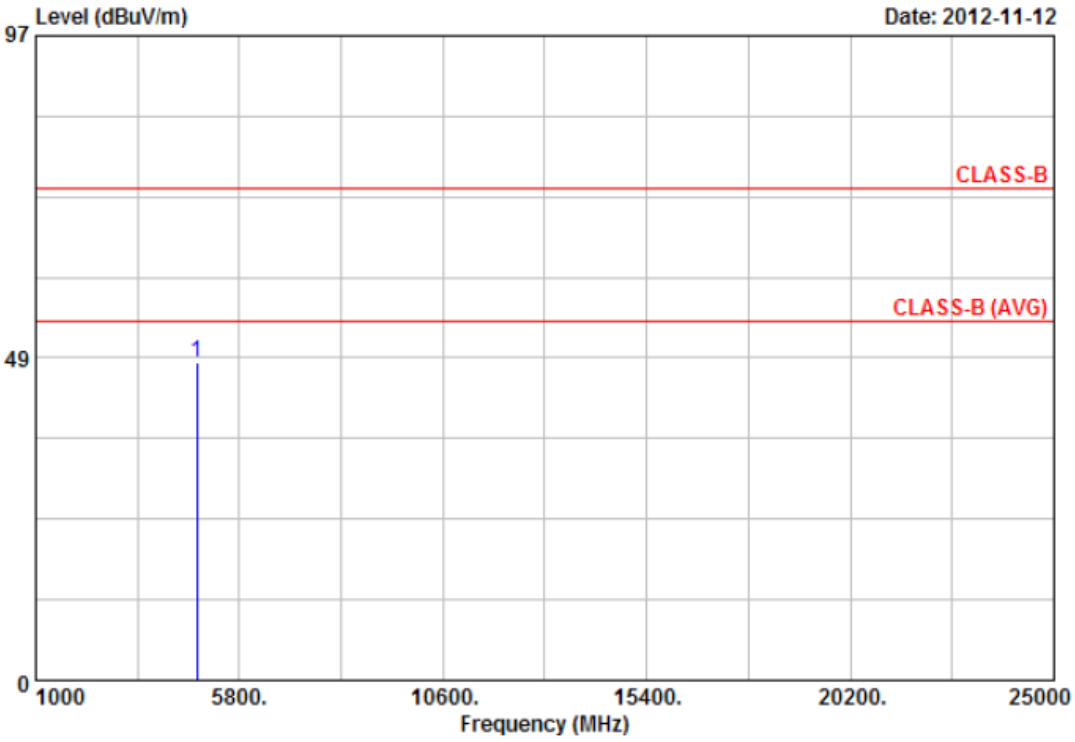
| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 0 | Humidity | : | 68 % |
| Modulation Type | : | 8 DPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 3 Mbps | | | |




| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 399.40 | 48.69 | -9.28 | 39.41 | 46.00 | -6.59 | Peak | 100 | 0 |
| 2 | 588.40 | 34.54 | 1.82 | 36.36 | 46.00 | -9.64 | Peak | 100 | 0 |
| 3 | 702.50 | 35.26 | 2.22 | 37.48 | 46.00 | -8.52 | Peak | 100 | 0 |
| 4 | 797.00 | 32.71 | 5.98 | 38.69 | 46.00 | -7.31 | Peak | 100 | 0 |
| 5 | 832.00 | 30.45 | 8.70 | 39.15 | 46.00 | -6.85 | Peak | 100 | 0 |
| 6 | 930.00 | 35.33 | 6.82 | 42.15 | 46.00 | -3.85 | QP | 100 | 0 |

Remarks: 1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. According to technical experiences, all spurious emission of BT mode at channel 0,39,78 are almost the same below 1GHz, so that the channel 0 was chosen as representative in final test.
4. The data is worst case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 0 | Humidity | : | 68 % |
| Modulation Type | : | 8 DPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 3 Mbps | | | |

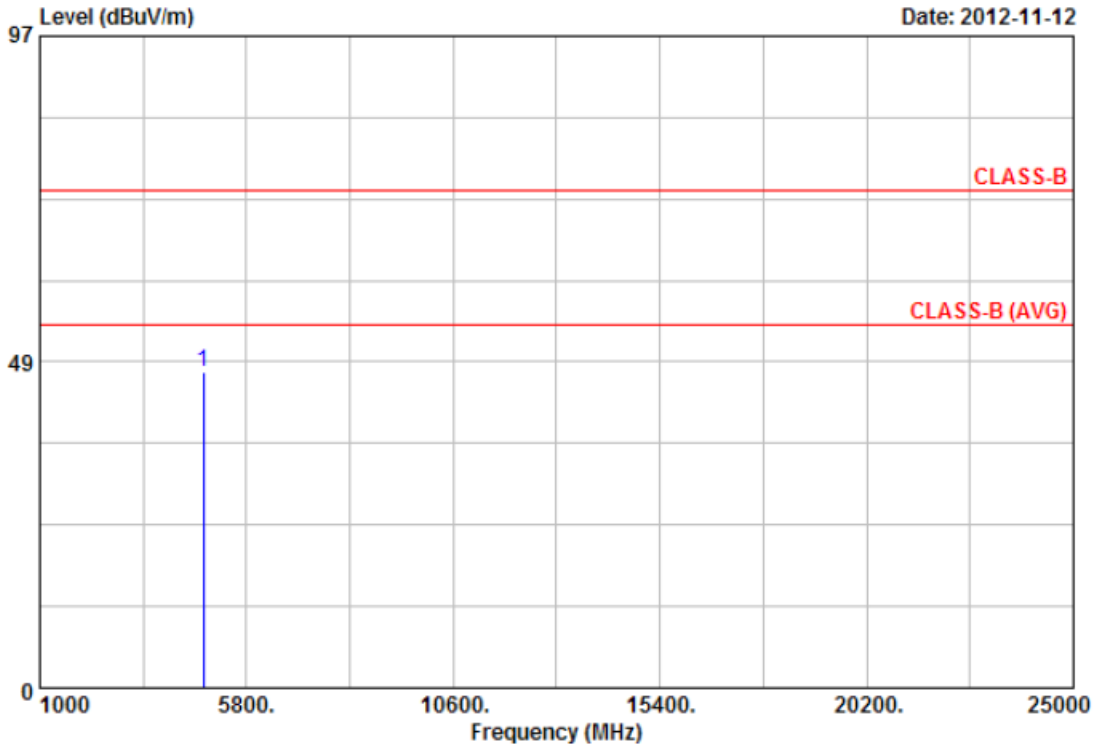



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4804.15 | 42.71 | 5.22 | 47.93 | 74.00 | -26.07 | Peak | 130 | 138 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 0 | Humidity | : | 68 % |
| Modulation Type | : | 8 DPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 3 Mbps | | | |

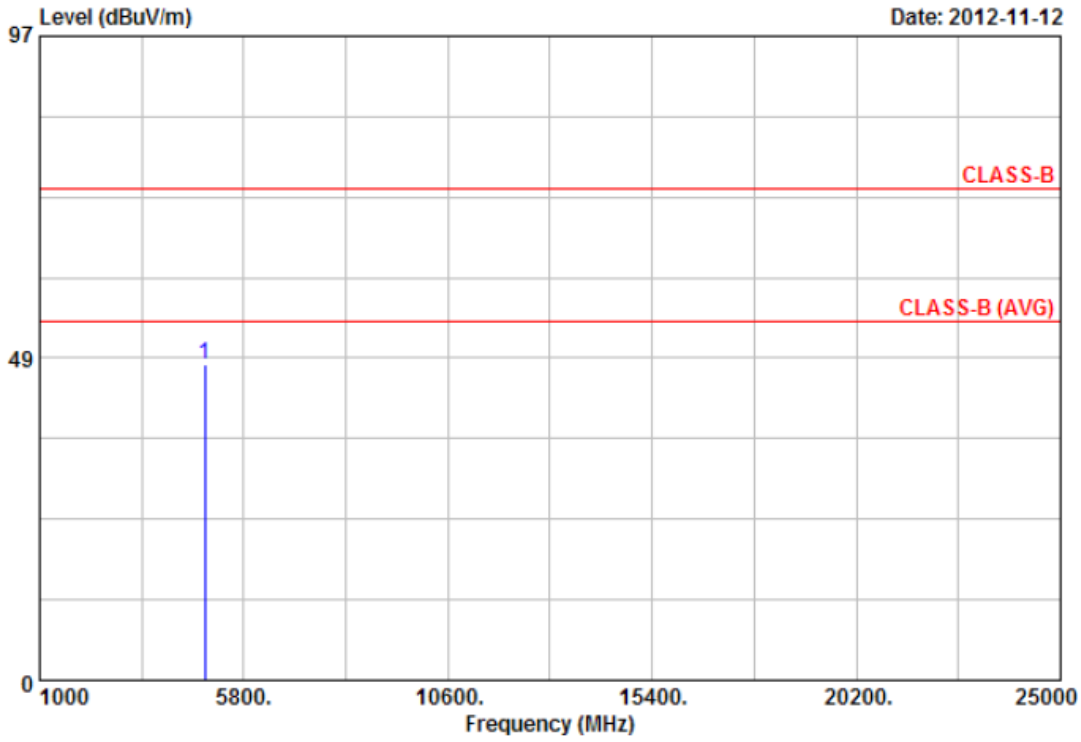



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4803.54 | 43.46 | 3.62 | 47.08 | 74.00 | -26.92 | Peak | 130 | 18 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 39 | Humidity | : | 68 % |
| Modulation Type | : | 8 DPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 3 Mbps | | | |

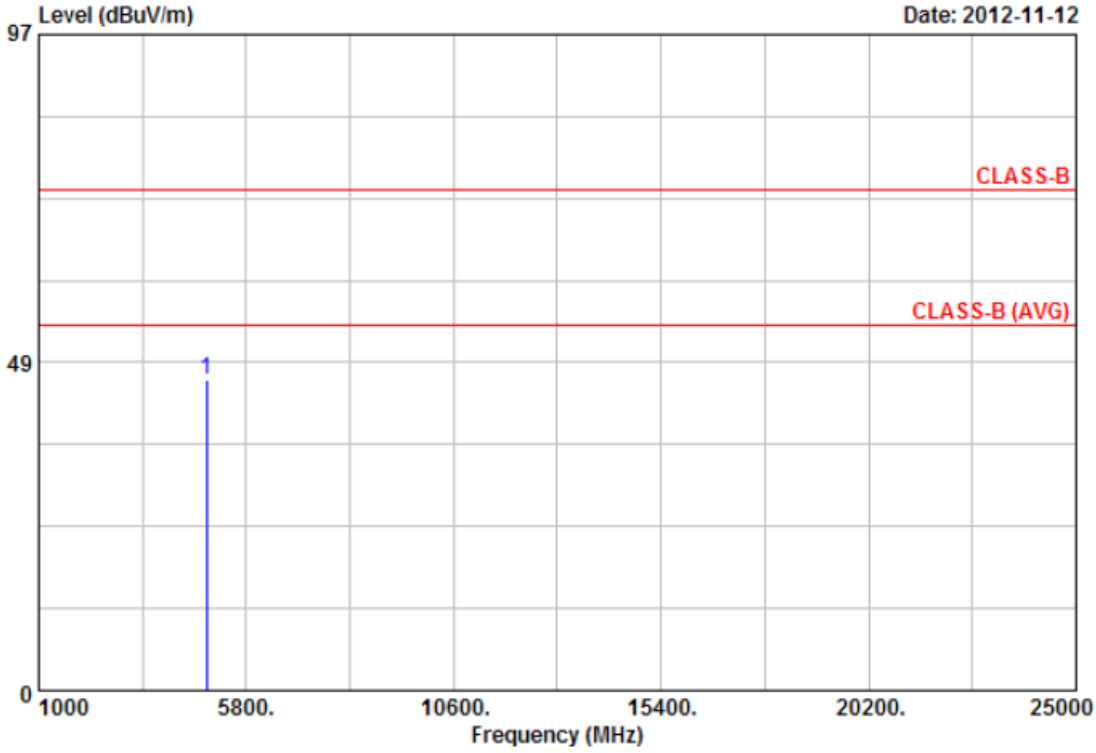



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4882.98 | 40.68 | 6.77 | 47.45 | 74.00 | -26.55 | Peak | 130 | 138 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 39 | Humidity | : | 68 % |
| Modulation Type | : | 8 DPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 3 Mbps | | | |

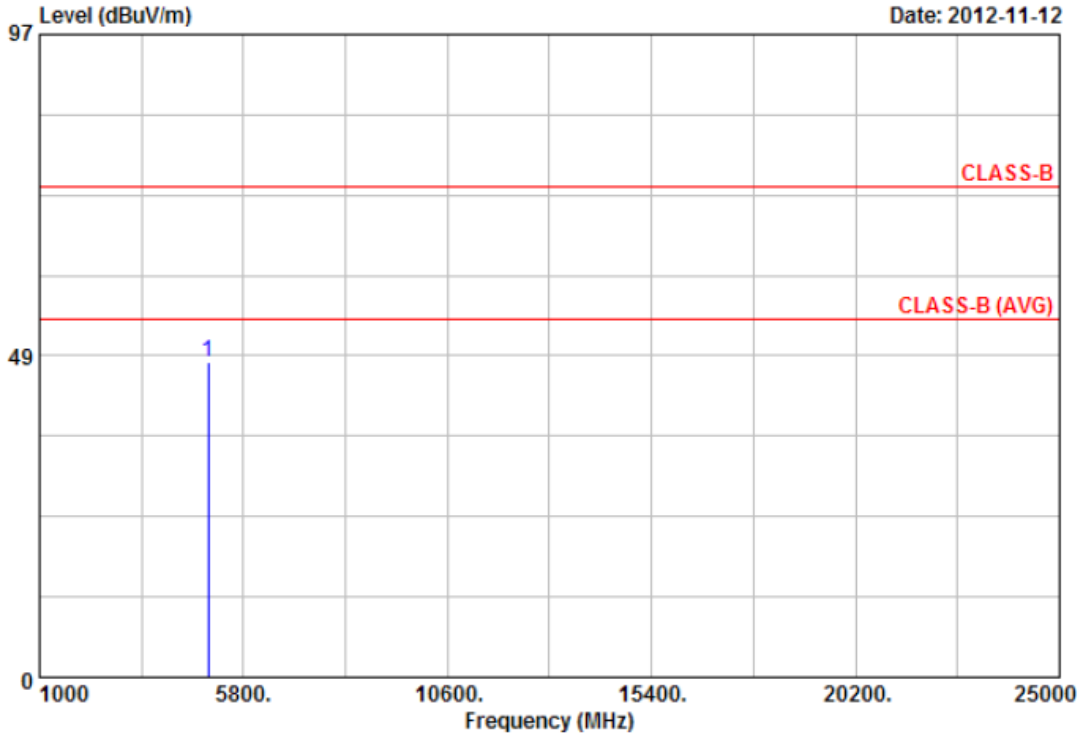



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4881.17 | 41.15 | 4.85 | 46.00 | 74.00 | -28.00 | Peak | 130 | 18 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | VERTICAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 78 | Humidity | : | 68 % |
| Modulation Type | : | 8 DPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 3 Mbps | | | |

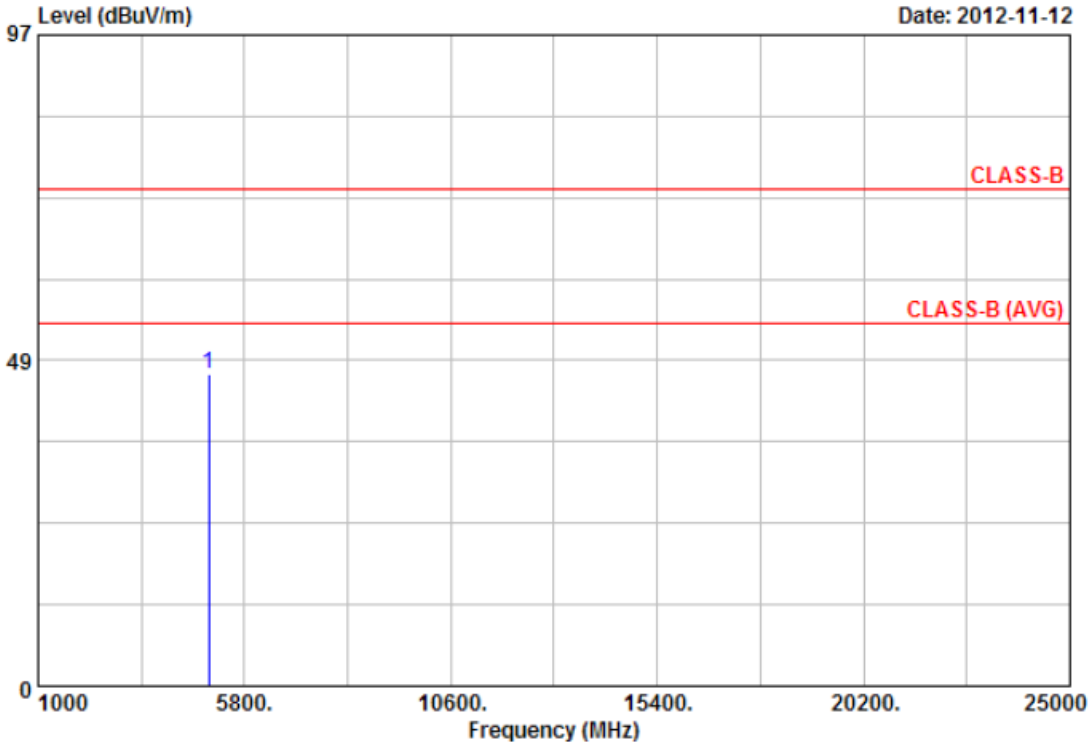



| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4959.68 | 40.33 | 7.26 | 47.59 | 74.00 | -26.41 | Peak | 130 | 138 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

| | | | | | |
|---|---|---|---|---|---|
| Power | : | AC 120V | Pol/Phase | : | HORIZONTAL |
| Test Mode | : | Transmit / Receive | Temperature | : | 20 °C |
| Operation Channel | : | 78 | Humidity | : | 68 % |
| Modulation Type | : | 8 DPSK | Atmospheric Pressure | : | 1020 hPa |
| Rate | : | 3 Mbps | | | |




| Item | Freq | Read Value | Factor | Result | Limit | Margin | Remark | Ant Pos | Tab Pos |
|---|---|---|---|---|---|---|---|---|---|
| | MHz | dBuV | dB/m | dBuV/m | dBuV/m | dB | | cm | Deg |
| 1 | 4960.23 | 41.37 | 5.16 | 46.53 | 74.00 | -27.47 | Peak | 130 | 18 |

Notes:

1. Result = Read Value + Factor
2. Factor = Antenna Factor + Cable Loss - Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 120KHz and video bandwidth is 300kHz for Peak detection and Quasi-peak detection at frequency below 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 3MHz for Peak detection at frequency above 1GHz.
5. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz.
6. The other emissions is too low to be measured.
7. The data is worse case.

# 5. Maximum Peak Output Power

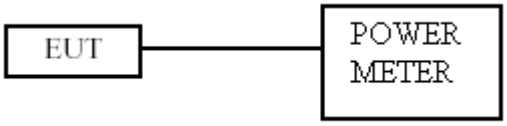
## 5.1 Test Limit

The Maximum Peak Output Power Measurement is 30dBm.

## 5.2 Test Procedures

a. The transmitter output was connected to the Power meter.
b. The maximum peak and average output power was measured and recorded.

## 5.3 Test Setup Layout




## 5.4 Measurement equipment

| Instrument/Ancillary | Model No. | Manufacturer | Serial No. | Calibration Date | Valid Date |
|---|---|---|---|---|---|
| SERIES POWER METER | Anritsu | ML2495A | 1224005 | 2012/06/22 | 2013/06/21 |
| POWER SENSOR | Anritsu | MA2411B | 1207295 | 2012/07/09 | 2013/07/08 |

## 5.5 Test Result and Data

Test Date: Nov. 12, 2012 Temperature: 24 ℃

Atmospheric pressure: 1020 hPa Humidity: 60 %

| Modulation Standard | Channel | Frequency (MHz) | Peak Power Output (dBm) | Peak Power Output (mW) |
|---|---|---|---|---|
| GFSK (1Mbps) | 00 | 2402 | -2.47 | 0.6 |
| | 39 | 2441 | -1.55 | 0.7 |
| | 78 | 2480 | -1.45 | 0.7 |
| π/4-DQPSK (2Mbps) | 00 | 2402 | -2.30 | 0.6 |
| | 39 | 2441 | -1.45 | 0.7 |
| | 78 | 2480 | -1.42 | 0.7 |
| 8DPSK (3Mbps) | 00 | 2402 | -2.22 | 0.6 |
| | 39 | 2441 | -1.43 | 0.7 |
| | 78 | 2480 | -1.40 | 0.7 |

# 6. Restrict band emission Measurement Data

| | | |
|---|---|---|
| Test Date | : | Nov. 12, 2012 |
| Temperature | : | 20 ℃ |
| Humidity | : | 68 % |
| Atmospheric Pressure | : | 1020 hPa |

Modulation Standard: GFSK

| Channel 0 | | | | | | | | | | Fundamental Frequency: 2402 MHz |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency (MHz) | Ant-Pol H/V | Meter Reading | Corrected Factor | Result (dBuV/m) | Remark | Limit@3m (dBuV/m) | | Margin (dB) | Table (Deg.) | Ant High (m) |
| | | | | | | Peak | Ave. | | | |
| 2318.37 | H | 50.50 | 1.91 | 52.41 | Peak | 74 | 54 | -21.59 | 64 | 1.30 |
| --- | H | --- | --- | --- | Ave | 74 | 54 | --- | --- | --- |
| 2316.51 | V | 49.78 | 3.47 | 53.25 | Peak | 74 | 54 | -20.75 | 35 | 1.30 |
| --- | V | --- | --- | --- | Ave | 74 | 54 | --- | --- | --- |
| Channel 78 | | | | | | | | | | Fundamental Frequency: 2480 MHz |
| 2483.93 | H | 51.22 | -2.37 | 48.85 | Peak | 74 | 54 | -25.15 | 75 | 1.30 |
| --- | H | --- | --- | --- | Ave | 74 | 54 | --- | --- | --- |
| 2483.51 | V | 51.24 | 0.30 | 51.54 | Peak | 74 | 54 | -22.46 | 16 | 1.30 |
| --- | V | --- | --- | --- | Ave | 74 | 54 | --- | --- | --- |

Modulation Standard: π/4-DQPSK

| Channel 0 | | | | | | | | | | Fundamental Frequency: 2402 MHz |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency (MHz) | Ant-Pol H/V | Meter Reading | Corrected Factor | Result (dBuV/m) | Remark | Limit@3m (dBuV/m) | | Margin (dB) | Table (Deg.) | Ant High (m) |
| | | | | | | Peak | Ave. | | | |
| 2347.20 | H | 49.33 | 1.79 | 51.12 | Peak | 74 | 54 | -22.88 | 65 | 1.30 |
| --- | H | --- | --- | --- | Ave | 74 | 54 | --- | --- | --- |
| 2325.99 | V | 50.20 | 3.31 | 53.51 | Peak | 74 | 54 | -20.49 | 0 | 1.30 |
| --- | V | --- | --- | --- | Ave | 74 | 54 | --- | --- | --- |
| Channel 78 | | | | | | | | | | Fundamental Frequency: 2480 MHz |
| 2483.93 | H | 51.22 | -2.37 | 48.85 | Peak | 74 | 54 | -25.15 | 75 | 1.30 |
| --- | H | --- | --- | --- | Ave | 74 | 54 | --- | --- | --- |
| 2483.51 | V | 51.24 | 0.30 | 51.54 | Peak | 74 | 54 | -22.46 | 16 | 1.30 |
| --- | V | --- | --- | --- | Ave | 74 | 54 | --- | --- | --- |

Notes:
1. Result = Meter Reading + Factor
2. Factor = Antenna Factor + Cable Loss – Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3 MHz for Peak detection at frequency above 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz

| | | |
|---|---|---|
| Test Date | : | Nov. 12, 2012 |
| Temperature | : | 20 ℃ |
| Humidity | : | 68 % |
| Atmospheric Pressure | : | 1020 hPa |

Modulation Standard: 8DPSK

| Channel 0 | | | | | | Fundamental Frequency: 2402 MHz | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| Frequency (MHz) | Ant-Pol H/V | Meter Reading | Corrected Factor | Result (dBuV/m) | Remark | Limit@3m (dBuV/m) | | Margin (dB) | Table (Deg.) | Ant High (m) |
| | | | | | | Peak | Ave. | | | |
| 2354.82 | H | 49.25 | 1.76 | 51.01 | Peak | 74 | 54 | -22.99 | 64 | 1.30 |
| --- | H | --- | --- | --- | Ave | 74 | 54 | --- | --- | --- |
| 2311.11 | V | 49.37 | 3.55 | 52.92 | Peak | 74 | 54 | -21.08 | 8 | 1.30 |
| --- | V | --- | --- | --- | Ave | 74 | 54 | --- | --- | --- |
| Channel 78 | | | | | | Fundamental Frequency: 2480 MHz | | | | |
| 2483.87 | H | 49.97 | -2.37 | 47.60 | Peak | 74 | 54 | -26.40 | 79 | 1.30 |
| --- | H | --- | --- | --- | Ave | 74 | 54 | --- | --- | --- |
| 2483.51 | V | 50.23 | 0.30 | 50.53 | Peak | 74 | 54 | -23.47 | 10 | 1.30 |
| --- | V | --- | --- | --- | Ave | 74 | 54 | --- | --- | --- |

Notes:
1. Result = Meter Reading + Factor
2. Factor = Antenna Factor + Cable Loss – Amplifier
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth is 3 MHz for Peak detection at frequency above 1GHz.
4. The resolution bandwidth of test receiver/spectrum analyzer is 1MHz and video bandwidth is 10Hz for Average detection at frequency above 1GHz

# 7. Restricted Bands of Operation

Only spurious emissions are permitted in any of the frequency bands listed below:

| MHz | MHz | MHz | GHz |
|---|---|---|---|
| 0.09000 – 0.11000 | 16.42000 – 16.42300 | 399.9 – 410.0 | 4.500 – 5.250 |
| 0.49500 – 0.505** | 16.69475 – 16.69525 | 608.0 – 614.0 | 5.350 – 5.460 |
| 2.17350 – 2.19050 | 16.80425 – 16.80475 | 960.0 – 1240.0 | 7.250 – 7.750 |
| 4.12500 – 4.12800 | 25.50000 – 25.67000 | 1300.0 – 1427.0 | 8.025 – 8.500 |
| 4.17725 – 4.17775 | 37.50000 – 38.25000 | 1435.0 – 1626.5 | 9.000 – 9.200 |
| 4.20725 – 4.20775 | 73.00000 – 74.60000 | 1645.5 – 1646.5 | 9.300 – 9.500 |
| 6.21500 – 6.21800 | 74.80000 – 75.20000 | 1660.0 – 1710.0 | 10.600 – 12.700 |
| 6.26775 – 6.26825 | 108.00000 – 121.94000 | 1718.8 – 1722.2 | 13.250 – 13.400 |
| 6.31175 – 6.31225 | 123.00000 – 138.00000 | 2200.0 – 2300.0 | 14.470 – 14.500 |
| 8.29100 – 8.29400 | 149.90000 – 150.05000 | 2310.0 – 2390.0 | 15.350 – 16.200 |
| 8.36200 – 8.36600 | 156.52475 – 156.52525 | 2483.5 – 2500.0 | 17.700 – 21.400 |
| 8.37625 – 8.38675 | 156.70000 – 156.90000 | 2655.0 – 2900.0 | 22.010 – 23.120 |
| 8.41425 – 8.41475 | 162.01250 – 167.17000 | 3260.0 – 3267.0 | 23.600 – 24.000 |
| 12.29000 – 12.29300 | 167.72000 – 173.20000 | 3332.0 – 3339.0 | 31.200 – 31.800 |
| 12.51975 – 12.52025 | 240.00000 – 285.00000 | 3345.8 – 3358.0 | 36.430 – 36.500 |
| 12.57675 – 12.57725 | 322.00000 – 335.40000 | 3600.0 – 4400.0 | Above 38.6 |
| 13.36000 – 13.41000 | | | |

**: Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

## 7.1 Labeling Requirement

The device shall bear the following statement in a conspicuous location on the device:
This device complies with part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.