



FCC LISTED, REGISTRATION  
NUMBER: 2764.01

ISED LISTED REGISTRATION  
NUMBER: 23595-1

Test report No:  
**2262ERM.005A1**

## Test report

**USA FCC Part 15.247, 15.209, 15.207  
CANADA RSS-247, RSS-Gen  
Radio Frequency Devices. Operation within the bands 902 - 928 MHz,  
2400 -2483.5 MHz, and 5725 - 5850 MHz.  
Digital Transmission Systems (DTSs), Frequency Hopping Systems  
(FHSs) and License-Exempt Local Area Network (LE-LAN) Devices.**

|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
|-------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Identification of item tested             | Wireless Module                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |
| Trademark                                 | Telit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| Model and /or type reference              | WL865E4-P                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
| Other identification of the product       | FCC: RI7WL865E4<br>IC ID: 5131A-WL865E4                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| Features                                  | BT LE +Wi-Fi 802.11 a/b/g/n/ac @ 2.4 GHz and @ 5GHz                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Manufacturer                              | Telit Communications S.p.A.<br>Viale Stazione di Prosecco 5/b<br>34010 Sgonico, Trieste, Italy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| Test method requested, standard           | USA FCC Part 15.247, 10-1-18 Edition: Operation within the bands 902 - 928 MHz, 2400 -2483.5 MHz, and 5725 - 5850 MHz.<br>USA FCC Part 15.209, 10-1-18 Edition: Radiated emission limits; general requirements<br>CANADA RSS-247 Issue 2 (February 2017).<br>CANADA RSS-Gen Issue 5 (April 2018).<br>558074 D01 15.247 Meas Guidance v05r02. Guidance for Compliance Measurements on Digital Transmission Systems, Frequency Hopping Spread Spectrum System, and Hybrid System Devices Operating Under section §15.247 of the FCC Rules<br>ANSI C63.10-2013: American National Standard for Testing Unlicensed Wireless Devices. |
| Summary                                   | IN COMPLIANCE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Approved by (name / position & signature) | Domingo Galvez<br>EMC&RF Lab Manager                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
| Date of issue                             | 2019-10-23                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
| Report template No                        | FDT08_21                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

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## Competences and guarantees

DEKRA Certification Inc. is a testing laboratory accredited by A2LA (The American Association for Laboratory Accreditation), to perform the tests indicated in the Certificate 2764.01

DEKRA Certification Inc. is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA Certification Inc. has a calibration and maintenance program for its measurement equipment.

DEKRA Certification Inc. guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at DEKRA Certification at the time of performance of the test.

DEKRA Certification Inc. is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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## General conditions

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA Certification Inc.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA Certification Inc. and the Accreditation Bodies.

## Uncertainty

Uncertainty (factor  $k=2$ ) was calculated according to the DEKRA Certification internal document PODT000.

| Frequency (MHz) | U(k=2) | Units |
|-----------------|--------|-------|
| 30-180          | 3.82   | dB    |
| 180-1000        | 2.61   | dB    |
| 1000-18000      | 2.92   | dB    |
| 18000-40000     | 2.15   | dB    |

## Data provided by the client

WiFi / BLE module.

DEKRA declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

## Usage of samples

Samples undergoing test have been selected by: The client.

Sample S/01 is composed of the following elements:

| Control N° | Description             | Model    | Serial N°    | Date of reception |
|------------|-------------------------|----------|--------------|-------------------|
| 2262.04    | WL865E-P on debug board | WL865E-P | 00217E249E8C | 05/07/2019        |
| 2262.05    | USB Cable               | --       | --           | 05/07/2019        |

1. Sample S/01 has undergone following test(s):

All conducted tests indicated in appendix A & B.

Sample S/02 is composed of the following elements:

| Control N° | Description             | Model    | Serial N°     | Date of reception |
|------------|-------------------------|----------|---------------|-------------------|
| 2262.03    | WL865E-P on debug board | WL865E-P | 00217E249E74  | 05/07/2019        |
| 2262.05    | USB Cable               | --       | --            | 05/07/2019        |
| 2323.04    | Antenna                 | T-AT9552 | 1RR0100174TLB | 05/07/2019        |
| 2323.03    | Antenna                 | T-AT9552 | 1RR0100174TLB | 05/07/2019        |

1. Sample S/02 has undergone following test(s):

All radiated tests indicated in appendix A & B.

## Test sample description

|                                               |                                     |                                |                          |                                     |                                     |                          |                          |
|-----------------------------------------------|-------------------------------------|--------------------------------|--------------------------|-------------------------------------|-------------------------------------|--------------------------|--------------------------|
| Ports..... :                                  | Port name and description           |                                | Cable                    |                                     |                                     |                          |                          |
|                                               |                                     |                                | Specified length [m]     | Attached during test                | Shielded                            |                          |                          |
|                                               | USB                                 |                                | 0.5                      | <input checked="" type="checkbox"/> | <input checked="" type="checkbox"/> |                          |                          |
|                                               |                                     |                                |                          | <input type="checkbox"/>            | <input type="checkbox"/>            |                          |                          |
|                                               |                                     |                                | <input type="checkbox"/> | <input type="checkbox"/>            |                                     |                          |                          |
| Supplementary information to the ports..... : | Not provided data                   |                                |                          |                                     |                                     |                          |                          |
| Rated power supply .....                      | Voltage and Frequency               |                                | Reference poles          |                                     |                                     |                          |                          |
|                                               |                                     |                                | L1                       | L2                                  | L3                                  | N                        | PE                       |
|                                               | <input type="checkbox"/>            | AC:                            | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
|                                               | <input type="checkbox"/>            | AC:                            | <input type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            | <input type="checkbox"/> | <input type="checkbox"/> |
|                                               | <input type="checkbox"/>            | DC                             |                          |                                     |                                     |                          |                          |
| <input checked="" type="checkbox"/>           | DC: 3.3V typ.                       |                                |                          |                                     |                                     |                          |                          |
| Rated Power .....                             | No Data Provided                    |                                |                          |                                     |                                     |                          |                          |
| Clock frequencies .....                       | 40 MHz                              |                                |                          |                                     |                                     |                          |                          |
| Other parameters.....                         | No provided data                    |                                |                          |                                     |                                     |                          |                          |
| Software version .....                        | M0G.000002                          |                                |                          |                                     |                                     |                          |                          |
| Hardware version.....                         | HW 0.0                              |                                |                          |                                     |                                     |                          |                          |
| Dimensions in cm (L x W x D) .....            | 2.44 x 0.29 x 2.44                  |                                |                          |                                     |                                     |                          |                          |
| Mounting position.....                        | <input type="checkbox"/>            | Table top equipment            |                          |                                     |                                     |                          |                          |
|                                               | <input type="checkbox"/>            | Wall/Ceiling mounted equipment |                          |                                     |                                     |                          |                          |
|                                               | <input type="checkbox"/>            | Floor standing equipment       |                          |                                     |                                     |                          |                          |
|                                               | <input type="checkbox"/>            | Hand-held equipment            |                          |                                     |                                     |                          |                          |
|                                               | <input checked="" type="checkbox"/> | Other:                         |                          |                                     |                                     |                          |                          |
| Modules/parts .....                           | Module/parts of test item           |                                | Type                     |                                     | Manufacturer                        |                          |                          |
|                                               | No provided data                    |                                |                          |                                     |                                     |                          |                          |
| Accessories (not part of the test item) ..... | Description                         |                                | Type                     |                                     | Manufacturer                        |                          |                          |
|                                               | WL865E4-P EVB IF                    |                                | Interface board          |                                     | Telit                               |                          |                          |
|                                               | Micro USB cable                     |                                | Cable                    |                                     |                                     |                          |                          |
|                                               | T-AT9552 external antenna           |                                | Antenna                  |                                     | ATEL-ANTENNAS                       |                          |                          |

| Documents as provided by the applicant.....:                                      | Description                | File name                             | Issue date |
|-----------------------------------------------------------------------------------|----------------------------|---------------------------------------|------------|
|                                                                                   | Equipment declaration Data | FDT30_14_FCC_TELI<br>T_WL865E4-P_rev0 | 2019-02-04 |
| <b>Copy of marking plate:</b>                                                     |                            |                                       |            |
|  |                            |                                       |            |

## Identification of the client

TELIT COMMUNICATIONS S.P.A  
VIALE STAZIONE DI PROSECCO 5/B,  
34010 SGONICO, TRIESTE, ITALY.

## Testing period and place

|                      |                          |
|----------------------|--------------------------|
| <b>Test Location</b> | DEKRA Certification Inc. |
| <b>Date (start)</b>  | 2019-05-07               |
| <b>Date (finish)</b> | 2019-05-17               |

## Document history

| Report number | Date       | Description    |
|---------------|------------|----------------|
| 2262ERM.005   | 2019-06-03 | First release  |
| 2262ERM.005A1 | 2019-10-23 | Second release |

## Modifications to the reference test report

It was introduced the following modifications in respect to the test report number 2262ERM.005 related with the same samples, in the next clauses and sub-clauses:

| Clauses/ Sub-Clauses                | Modification                  | Justification       |
|-------------------------------------|-------------------------------|---------------------|
| Page 122,135,145/Radiated Emissions | Removed co-location statement | Documentation error |

This modification test report cancels and replaces the test report 2262ERM.005

## Environmental conditions

In the control chamber, the following limits were not exceeded during the test:

|                          |                                     |
|--------------------------|-------------------------------------|
| <b>Temperature</b>       | Min. = 15 °C<br>Max. = 35 °C        |
| <b>Relative humidity</b> | Min. = 30 %<br>Max. = 75 %          |
| <b>Air pressure</b>      | Min. = 860 mbar<br>Max. = 1060 mbar |

In the semianechoic chamber, the following limits were not exceeded during the test.

|                          |                                     |
|--------------------------|-------------------------------------|
| <b>Temperature</b>       | Min. = 15 °C<br>Max. = 35 °C        |
| <b>Relative humidity</b> | Min. = 30 %<br>Max. = 75 %          |
| <b>Air pressure</b>      | Min. = 860 mbar<br>Max. = 1060 mbar |

In the chamber for conducted measurements, the following limits were not exceeded during the test:

|                          |                                     |
|--------------------------|-------------------------------------|
| <b>Temperature</b>       | Min. = 15 °C<br>Max. = 35 °C        |
| <b>Relative humidity</b> | Min. = 30 %<br>Max. = 60 %          |
| <b>Air pressure</b>      | Min. = 860 mbar<br>Max. = 1060 mbar |

## Remarks and comments

The tests have been performed by the technical personnel: Divya Adusumilli, Poojita Bhattu and Koji Nishimoto.

## Testing verdicts

|                  |     |
|------------------|-----|
| Not applicable : | N/A |
| Pass :           | P   |
| Fail :           | F   |
| Not measured :   | N/M |

## Summary

| FCC PART 15 PARAGRAPH / RSS-247 (Bluetooth Low Energy) |                    |                     |                                                      |         |        |
|--------------------------------------------------------|--------------------|---------------------|------------------------------------------------------|---------|--------|
| Section                                                | 15.247 Spec Clause | RSS Spec Clause     | Test Description                                     | Verdict | Remark |
| A.1                                                    | § 2.1049           | RSS-Gen 6.7         | 99% Occupied Bandwidth                               | P       | N/A    |
| A.2                                                    | § 15.247 (a) (2)   | RSS-247 5.2. (a)    | 6dB Emission Bandwidth                               | P       | N/A    |
| A.3                                                    | § 15.247 (b) (3)   | RSS-247 5.4. (d)    | Maximum peak conducted output power and antenna gain | P       | N/A    |
| A.4                                                    | § 15.247 (d)       | RSS-247 5.5.        | Band-edge emissions compliance (Transmitter)         | P       | N/A    |
| A.5                                                    | § 15.247 (e)       | RSS-247 5.2. (b)    | Power spectral density                               | P       | N/A    |
| A.6                                                    | §15.207 (a)        | RSS Gen 8.8         | Conducted Emission Limits                            | P       | N/A    |
| A.7                                                    | § 15.247 (d)       | RSS-Gen 8.9 & 8.10. | Emission limitations radiated (Transmitter)          | P       | N/A    |
| Supplementary information and remarks:                 |                    |                     |                                                      |         |        |
| N/A                                                    |                    |                     |                                                      |         |        |



| FCC PART 15 PARAGRAPH (WIFI 2.4GHz)                  |                            |                 |                                                        |         |        |
|------------------------------------------------------|----------------------------|-----------------|--------------------------------------------------------|---------|--------|
| Section                                              | 15.247 Spec Clause         | RSS Spec Clause | Test Description                                       | Verdict | Remark |
| C.1                                                  | § 2.1049 & §15.247 (a) (2) | RSS-247 5.2 (a) | 99% Occupied Bandwidth & 6dB Bandwidth                 | P       | N/A    |
| C.2                                                  | § 15.247 (b)               | RSS-247 5.4 (d) | Maximum Output Power and antenna gain                  | P       | N/A    |
| C.3                                                  | § 15.247 (d)               | RSS-247 5.5     | Band-edge conducted emissions compliance (Transmitter) | P       | N/A    |
| C.4                                                  | § 15.247 (e)               | RSS-247 5.2 (b) | Power Spectral Density                                 | P       | N/A    |
| C.5                                                  | §15.247(d)                 | RSS-247 5.5     | Emission limitations Conducted (Transmitter)           | P       | N/A    |
| C.6                                                  | §15.247 (d)                | RSS-247 5.5     | Emission limitations Radiated (Transmitter)            | P       | N/A    |
| <u>Supplementary information and remarks:</u><br>N/A |                            |                 |                                                        |         |        |

## List of equipment used during the test

### Conducted Measurements

Test system Rohde & Schwarz TS 8997:

| CONTROL NUMBER | DESCRIPTION                                                       | LAST CALIBRATION | NEXT CALIBRATION |
|----------------|-------------------------------------------------------------------|------------------|------------------|
| 1039           | Signal analyzer Rohde & Schwarz FSV40                             | 2017/03          | 2020/03          |
| 1040           | Switch unit Rohde & Schwarz with power detector OSP120 / OSP-B157 | 2017/03          | 2020/03          |
| 1041           | RF generator Rohde & Schwarz SMB100A                              | 2017/04          | 2020/04          |
| 1042           | RF generator Rohde & Schwarz SMBV100A                             | 2018/01          | 2020/01          |

### Radiated Measurements

| CONTROL NUMBER               | DESCRIPTION                                                   | LAST CALIBRATION | NEXT CALIBRATION |
|------------------------------|---------------------------------------------------------------|------------------|------------------|
| 1179                         | Semi anechoic Absorber Lined Chamber Frankonia SAC 3 plus "L" | N/A              | N/A              |
| 1064                         | BiconicalLog antenna ETS LINDGREN 3142E                       | 2017/03          | 2020/03          |
| 1057                         | Double-ridge Waveguide Horn antenna 1-18 GHz                  | 2017/03          | 2020/03          |
| 1056                         | Double-ridge Waveguide Horn antenna 18-40 GHz                 | 2017/03          | 2020/03          |
| 1014                         | Spectrum analyzer Rohde & Schwarz FSV40                       | 2017/03          | 2020/03          |
| 0980                         | RF pre-amplifier 30 MHz-6 GHz Bonn Elektronik BLMA 0360-01N   | 2017/05          | 2019/05          |
| 0981                         | RF pre-amplifier 1-18 GHz Bonn Elektronik BLMA 0118-2A        | 2017/05          | 2019/05          |
| 1015,<br>1017,<br>1019, 1020 | Rohde & Schwarz EMC32 software                                | N/A              | N/A              |

## Appendix A: Test results (Bluetooth Low Energy)

# Appendix A Content

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TEST A.7: EMISSION LIMITATIONS RADIATED (TRANSMITTER).....45

## PRODUCT INFORMATION

The following information is provided by the client

| Information                  | Description            |
|------------------------------|------------------------|
| Modulation                   | Other than FHSS        |
| Adaptive                     | Non-adaptive Equipment |
| Operation mode               |                        |
| - Operating Frequency Range  | 2402 – 24835 MHz       |
| - Nominal Channel Bandwidth  | 1 MHz & 2 MHz          |
| - RF Output Power            | 4 dBm                  |
| Extreme operating conditions |                        |
| - Temperature range          | -40 °C to +85 °C       |
| Antenna type                 | Dedicated Antenna      |
| Antenna gain                 | 2.5 dBi                |
| Nominal Voltage              |                        |
| - Supply Voltage             | 3.3 Vdc                |
| - Type of power source       | DC Voltage             |
| Equipment type               | Bluetooth Low Energy   |
| Geo-location capability      | No                     |

## DESCRIPTION OF TEST CONDITIONS

| TEST<br>CONDITIONS        | DESCRIPTION                                                                                                                                                                                                                                                                                                                                  |
|---------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>TC#01<br/>(1 Mbps)</p> | <p><u>Power supply (V):</u><br/> <math>V_{\text{nominal}} = 3.3 \text{ Vdc}</math><br/>           Data Rate: 1 Mbps<br/>           Bandwidth: 1 MHz<br/> <u>Test Frequencies for Conducted/ Radiated tests:</u><br/>           Lowest channel: 2402 MHz<br/>           Middle channel: 2440 MHz<br/>           Highest channel: 2480 MHz</p> |
| <p>TC#02<br/>(2 Mbps)</p> | <p><u>Power supply (V):</u><br/> <math>V_{\text{nominal}} = 3.3 \text{ Vdc}</math><br/>           Data Rate: 2 Mbps<br/>           Bandwidth: 2 MHz<br/> <u>Test Frequencies for Conducted/ Radiated tests:</u><br/>           Lowest channel: 2402 MHz<br/>           Middle channel: 2440 MHz<br/>           Highest channel: 2480 MHz</p> |

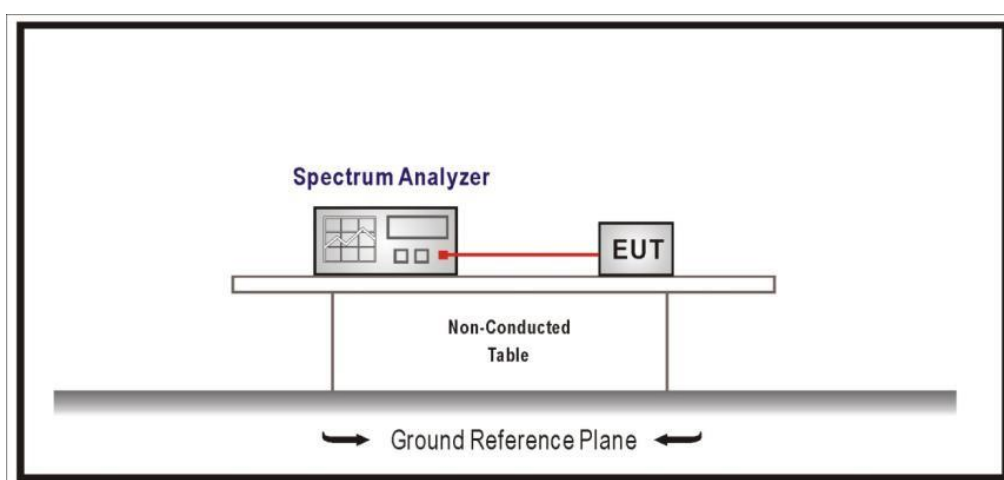
## TEST A.1: 99% OCCUPIED BANDWIDTH

|                |                   |                          |
|----------------|-------------------|--------------------------|
| <b>LIMITS:</b> | Product standard: | § 2.1049 and RSS-Gen     |
|                | Test standard:    | § 2.1049 and RSS-Gen 6.7 |

### LIMITS

The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs

### TEST SETUP

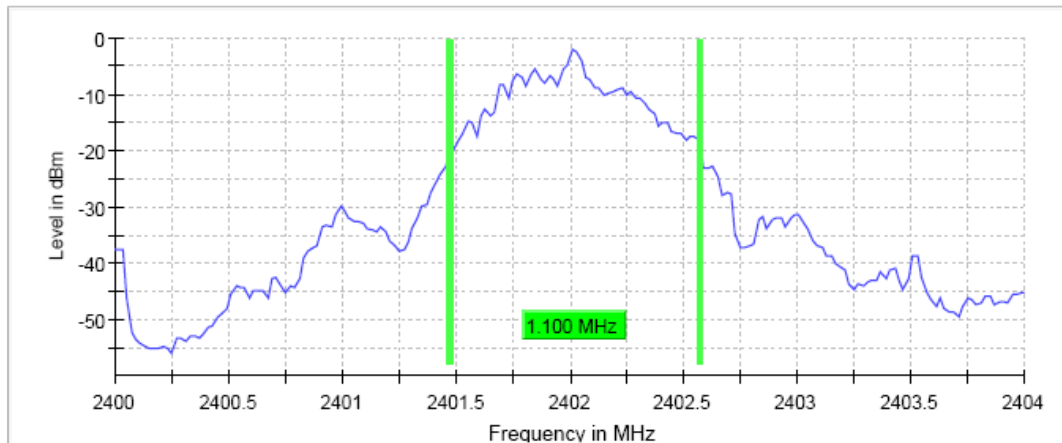


|                                 |       |
|---------------------------------|-------|
| <b>TESTED SAMPLES:</b>          | S/01  |
| <b>TESTED CONDITIONS MODES:</b> | TC#01 |
| <b>TEST RESULTS:</b>            | PASS  |

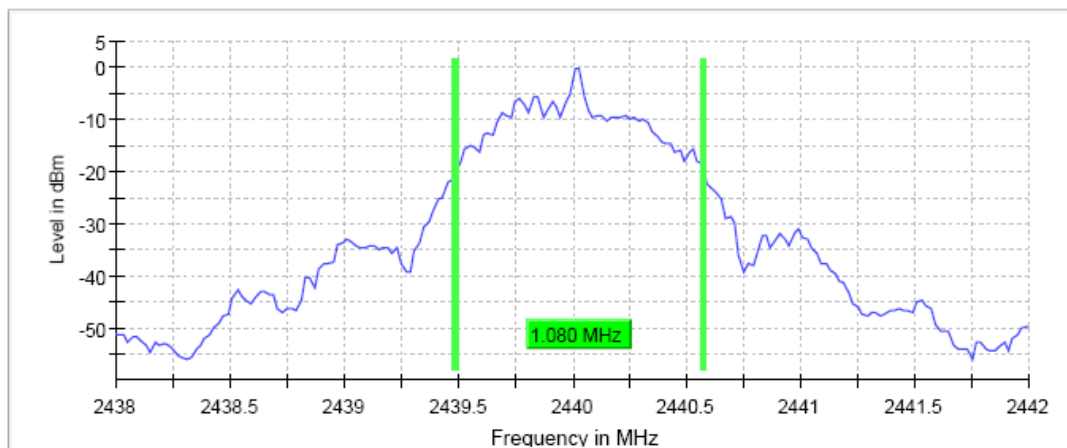
|                               | Lowest frequency<br>2402 MHz | Middle frequency<br>2440 MHz | Highest frequency<br>2480 MHz |
|-------------------------------|------------------------------|------------------------------|-------------------------------|
| 99% bandwidth (MHz)           | 1.10                         | 1.08                         | 1.08                          |
| Measurement uncertainty (kHz) | <± 8.33                      |                              |                               |

## TEST RESULTS (Cont.):

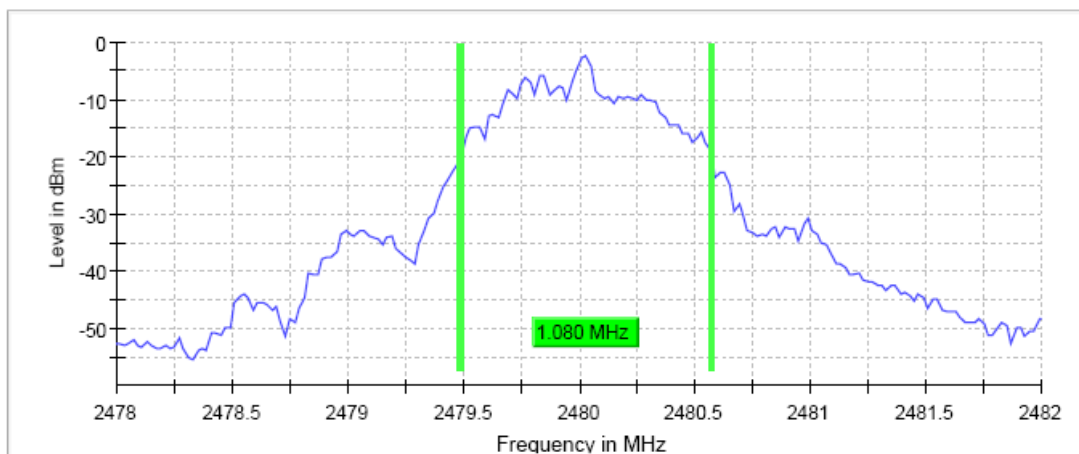
### Lowest Channel



### Middle Channel



### Highest Channel





## TEST RESULTS (Cont.):

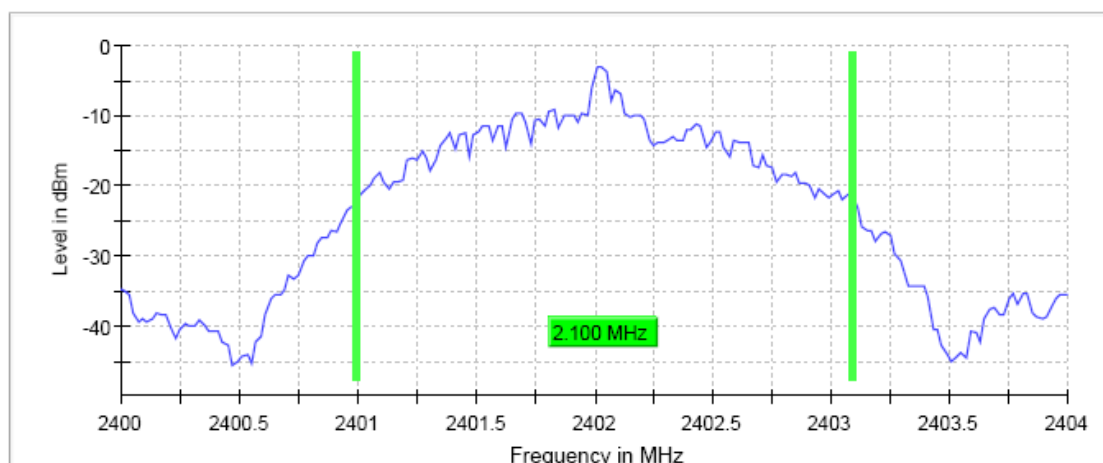
### Measurement

| Setting               | Instrument Value | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|------------------|
| Start Frequency       | 2.40000 GHz      | 2.43800 GHz      | 2.47800 GHz      |
| Stop Frequency        | 2.40400 GHz      | 2.44200 GHz      | 2.48200 GHz      |
| Span                  | 2.000 MHz        | 2.000 MHz        | 2.000 MHz        |
| RBW                   | 10.000 kHz       | 10.000 kHz       | 10.000 kHz       |
| VBW                   | 30.000 kHz       | 30.000 kHz       | 30.000 kHz       |
| Sweep Points          | 200              | 200              | 200              |
| Sweep time            | 189.620 $\mu$ s  | 189.620 $\mu$ s  | 189.620 $\mu$ s  |
| Reference Level       | 10.000 dBm       | 10.000 dBm       | 10.000 dBm       |
| Attenuation           | 30.000 dB        | 30.000 dB        | 30.000 dB        |
| Detector              | MaxPeak          | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              | 100              |
| Filter                | 3 dB             | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              | FFT              |
| Preamp                | off              | off              | off              |
| Stable mode           | Trace            | Trace            | Trace            |
| Stable value          | 0.30 dB          | 0.30 dB          | 0.30 dB          |
| Run                   | 4 / max. 150     | 8 / max. 150     | 6 / max. 150     |
| Stable                | 3 / 3            | 3 / 3            | 3 / 3            |
| Max Stable Difference | 0.18 dB          | 0.17 dB          | 0.23 dB          |

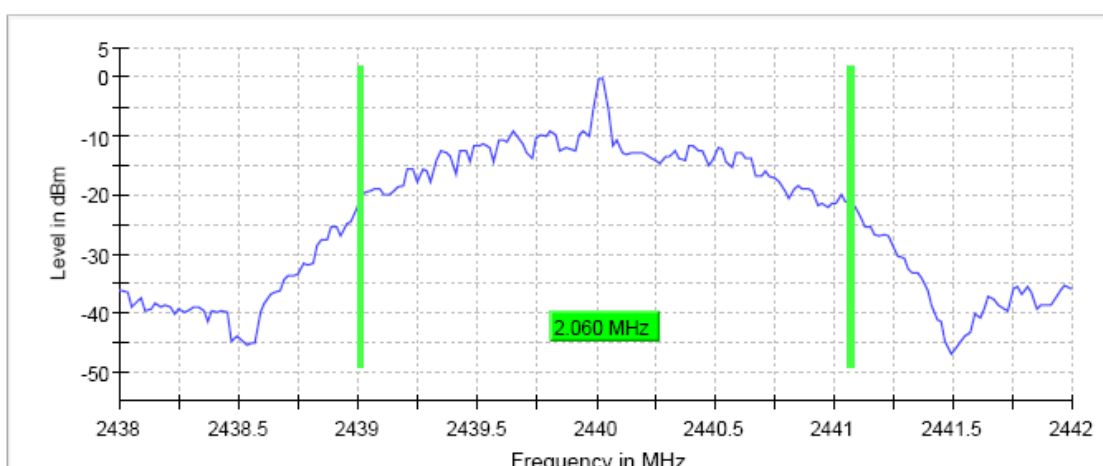
|                                 |               |
|---------------------------------|---------------|
| <b>TESTED SAMPLES:</b>          | S/01          |
| <b>TESTED CONDITIONS MODES:</b> | TC#02 (2Mbps) |
| <b>TEST RESULTS:</b>            | PASS          |

|                               | Lowest frequency<br>2402 MHz | Middle frequency<br>2440 MHz | Highest frequency<br>2480 MHz |
|-------------------------------|------------------------------|------------------------------|-------------------------------|
| 99% bandwidth (MHz)           | 2.10                         | 2.06                         | 2.10                          |
| Measurement uncertainty (kHz) | <± 8.33                      |                              |                               |

### Lowest Channel

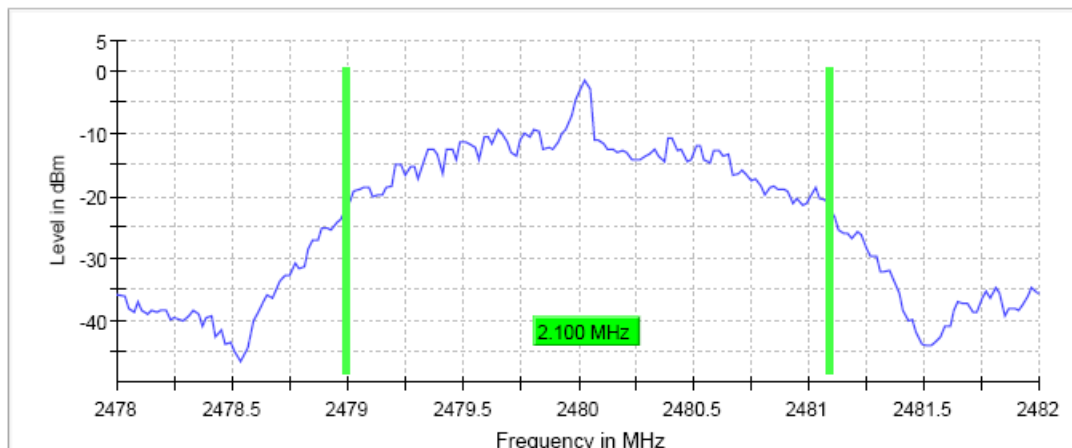


### Middle Channel



## TEST RESULTS (Cont.):

### Highest Channel



### Measurement

| Setting               | Instrument Value | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|------------------|
| Start Frequency       | 2.40000 GHz      | 2.43800 GHz      | 2.47800 GHz      |
| Stop Frequency        | 2.40400 GHz      | 2.44200 GHz      | 2.48200 GHz      |
| Span                  | 4.000 MHz        | 4.000 MHz        | 4.000 MHz        |
| RBW                   | 20.000 kHz       | 20.000 kHz       | 20.000 kHz       |
| VBW                   | 100.000 kHz      | 100.000 kHz      | 100.000 kHz      |
| Sweep Points          | 200              | 200              | 200              |
| Sweep time            | 94.810 $\mu$ s   | 94.810 $\mu$ s   | 94.810 $\mu$ s   |
| Reference Level       | 10.000 dBm       | 10.000 dBm       | 10.000 dBm       |
| Attenuation           | 30.000 dB        | 30.000 dB        | 30.000 dB        |
| Detector              | MaxPeak          | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              | 100              |
| Filter                | 3 dB             | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              | FFT              |
| Preamp                | off              | off              | off              |
| Stable mode           | Trace            | Trace            | Trace            |
| Stable value          | 0.30 dB          | 0.30 dB          | 0.30 dB          |
| Run                   | 11 / max. 150    | 12 / max. 150    | 14 / max. 150    |
| Stable                | 3 / 3            | 3 / 3            | 3 / 3            |
| Max Stable Difference | 0.15 dB          | 0.15 dB          | 0.23 dB          |

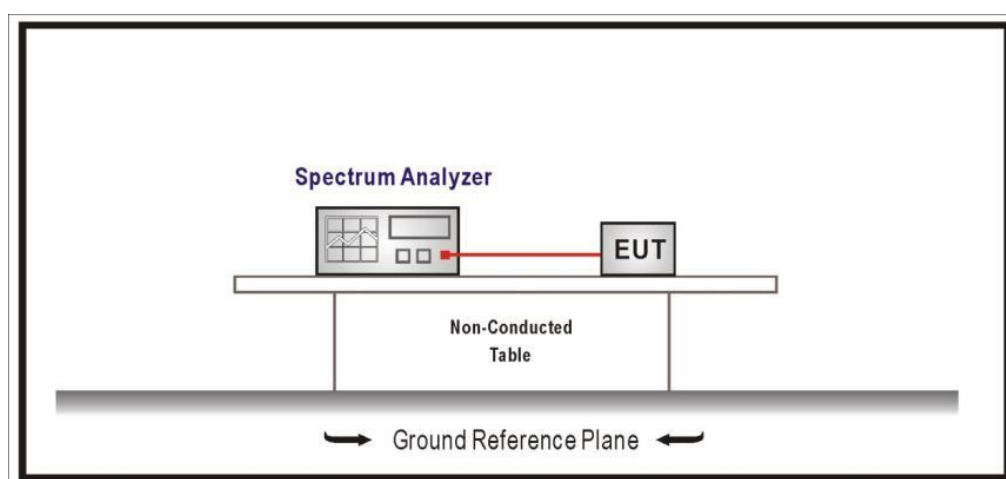
## TEST A.2: 6DB BANDWIDTH

|                |                   |                                                    |
|----------------|-------------------|----------------------------------------------------|
| <b>LIMITS:</b> | Product standard: | Part 15 Subpart C §15.247 and RSS-247              |
|                | Test standard:    | Part 15 Subpart C §15.247(a)(2) and RSS-247 5.2(a) |

### LIMITS

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

### TEST SETUP

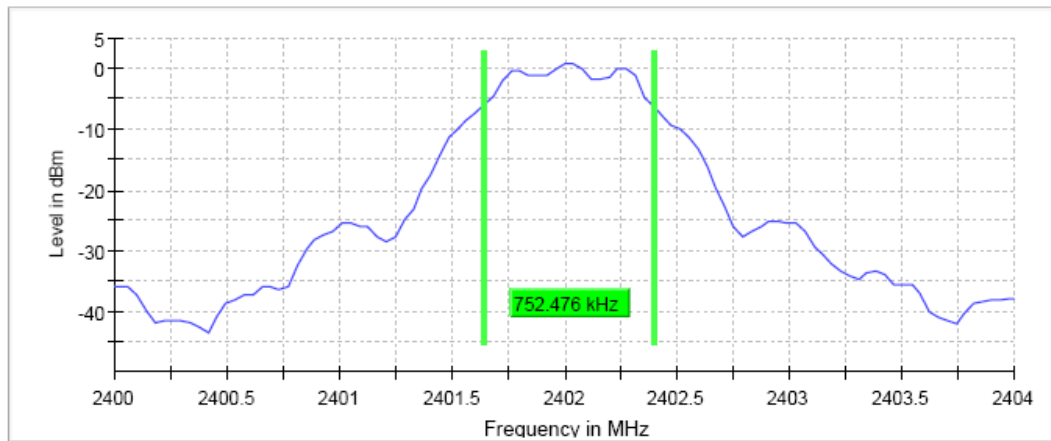


|                                 |       |
|---------------------------------|-------|
| <b>TESTED SAMPLES:</b>          | S/01  |
| <b>TESTED CONDITIONS MODES:</b> | TC#01 |
| <b>TEST RESULTS:</b>            | PASS  |

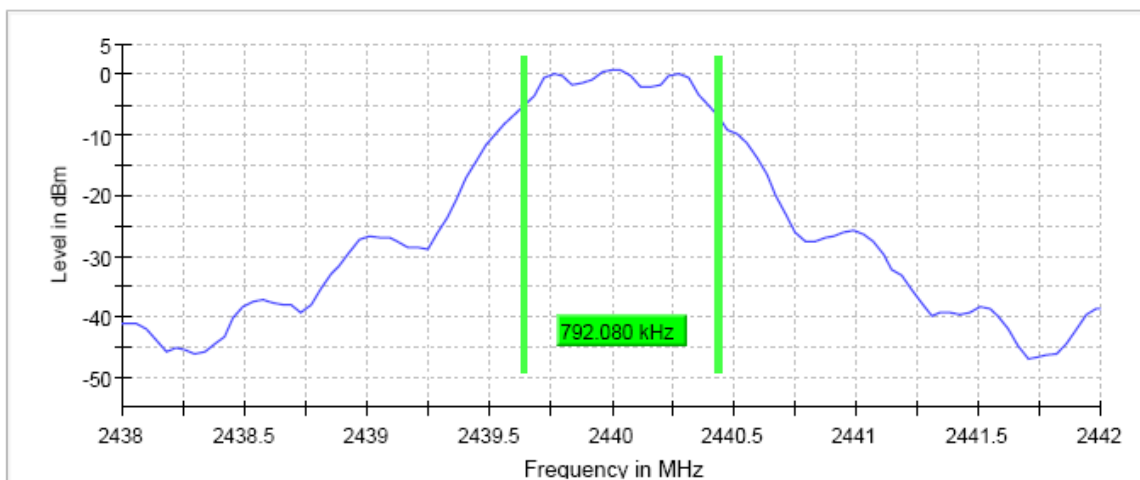
|                               | Lowest frequency<br>2402 MHz | Middle frequency<br>2440 MHz | Highest frequency<br>2480 MHz |
|-------------------------------|------------------------------|------------------------------|-------------------------------|
| 6 dB Spectrum bandwidth (kHz) | 752.476                      | 792.080                      | 831.684                       |
| Measurement uncertainty (kHz) | <±20.0                       |                              |                               |

**TEST RESULTS (Cont.):**

**Low Channel:**

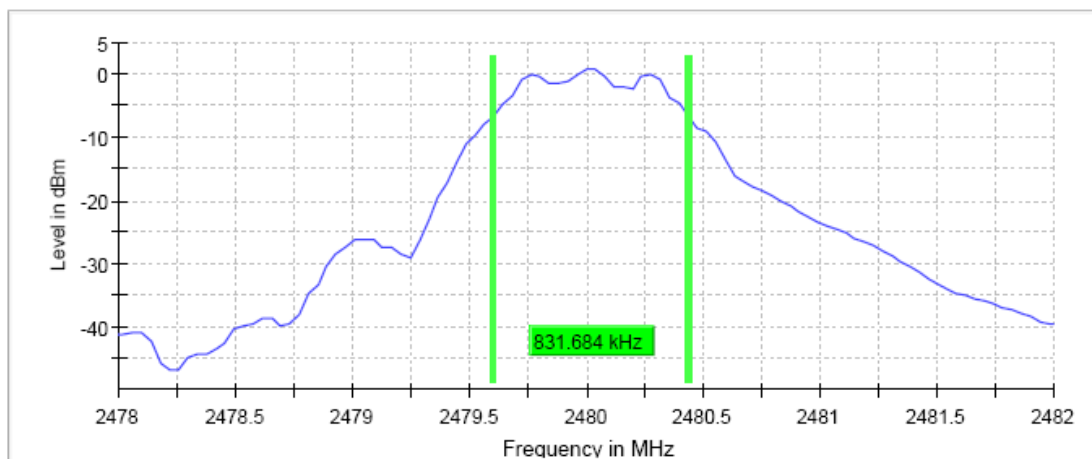


**Mid Channel:**



## TEST RESULTS (Cont.):

### High Channel:



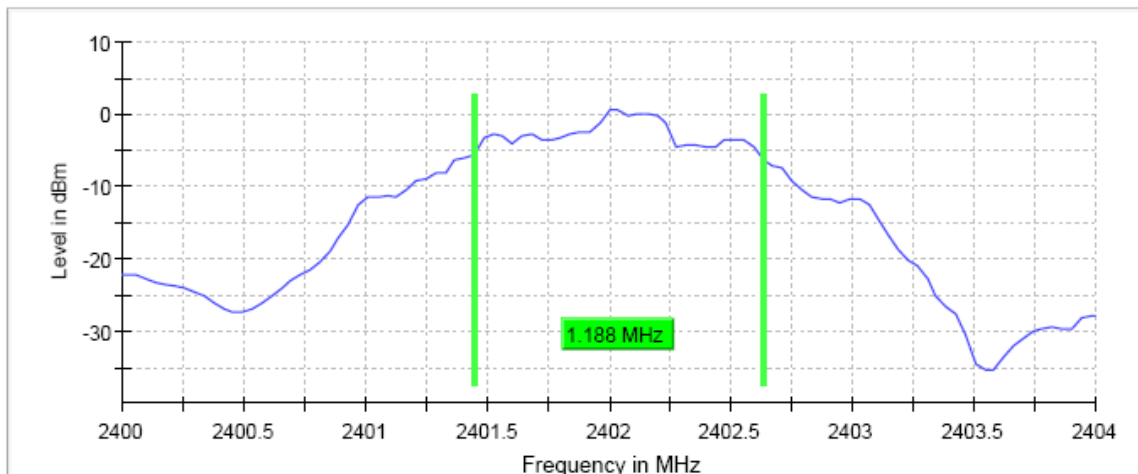
### Measurement

| Setting               | Instrument Value | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|------------------|
| Start Frequency       | 2.40000 GHz      | 2.43800 GHz      | 2.47800 GHz      |
| Stop Frequency        | 2.40400 GHz      | 2.44200 GHz      | 2.48200 GHz      |
| Span                  | 2.000 MHz        | 2.000 MHz        | 2.000 MHz        |
| RBW                   | 100.000 kHz      | 100.000 kHz      | 100.000 kHz      |
| VBW                   | 300.000 kHz      | 300.000 kHz      | 300.000 kHz      |
| Sweep Points          | 101              | 101              | 101              |
| Sweep time            | 18.938 $\mu$ s   | 18.938 $\mu$ s   | 18.938 $\mu$ s   |
| Reference Level       | 10.000 dBm       | 10.000 dBm       | 10.000 dBm       |
| Attenuation           | 30.000 dB        | 30.000 dB        | 30.000 dB        |
| Detector              | MaxPeak          | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              | 100              |
| Filter                | 3 dB             | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              | FFT              |
| Preamplifier          | off              | off              | off              |
| Stable mode           | Trace            | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          | 0.50 dB          |
| Run                   | 11 / max. 150    | 10 / max. 150    | 8 / max. 150     |
| Stable                | 5 / 5            | 5 / 5            | 5 / 5            |
| Max Stable Difference | 0.00 dB          | 0.00 dB          | 0.00 dB          |

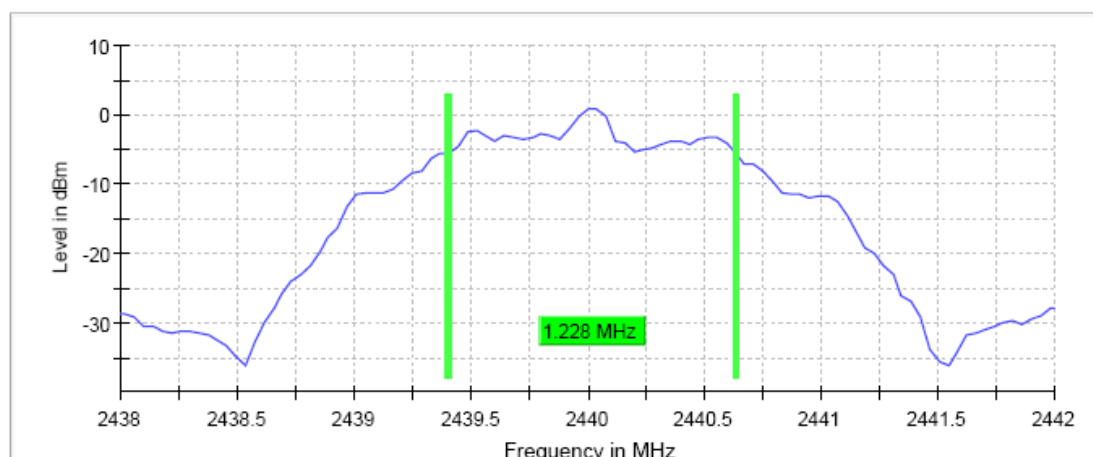
|                                 |                |
|---------------------------------|----------------|
| <b>TESTED SAMPLES:</b>          | S/01           |
| <b>TESTED CONDITIONS MODES:</b> | TC#02 (2 Mbps) |
| <b>TEST RESULTS:</b>            | PASS           |

|                               | Lowest frequency<br>2402 MHz | Middle frequency<br>2440 MHz | Highest frequency<br>2480 MHz |
|-------------------------------|------------------------------|------------------------------|-------------------------------|
| 6 dB Spectrum bandwidth (MHz) | 1.188                        | 1.228                        | 1.228                         |
| Measurement uncertainty (kHz) | <±20.0                       |                              |                               |

**Low Channel:**

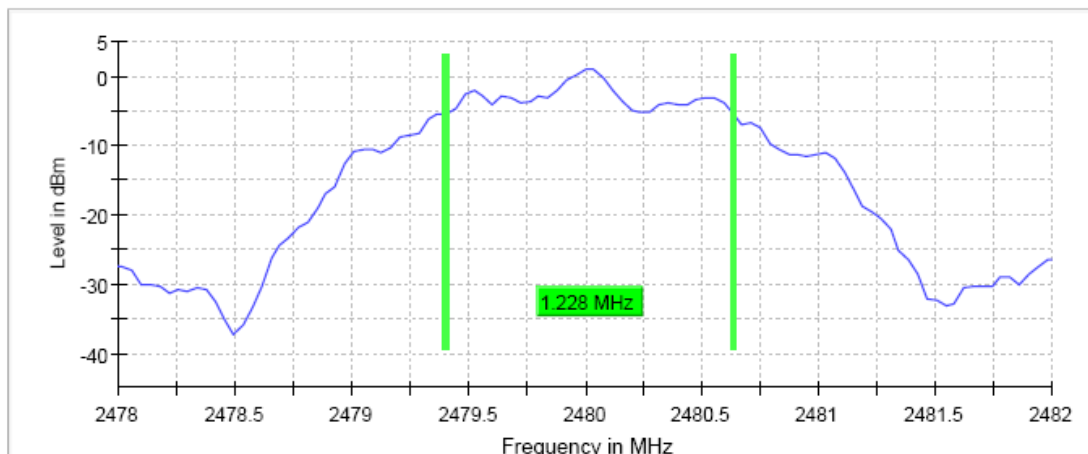


**Mid Channel:**



## TEST RESULTS (Cont.):

### High Channel:



### Measurement

| Setting               | Instrument Value | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|------------------|
| Start Frequency       | 2.40000 GHz      | 2.43800 GHz      | 2.47800 GHz      |
| Stop Frequency        | 2.40400 GHz      | 2.44200 GHz      | 2.48200 GHz      |
| Span                  | 4.000 MHz        | 4.000 MHz        | 4.000 MHz        |
| RBW                   | 100.000 kHz      | 100.000 kHz      | 100.000 kHz      |
| VBW                   | 300.000 kHz      | 300.000 kHz      | 300.000 kHz      |
| Sweep Points          | 101              | 101              | 101              |
| Sweep time            | 18.938 $\mu$ s   | 18.938 $\mu$ s   | 18.938 $\mu$ s   |
| Reference Level       | 10.000 dBm       | 10.000 dBm       | 10.000 dBm       |
| Attenuation           | 30.000 dB        | 30.000 dB        | 30.000 dB        |
| Detector              | MaxPeak          | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              | 100              |
| Filter                | 3 dB             | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              | FFT              |
| Preamp                | off              | off              | off              |
| Stable mode           | Trace            | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          | 0.50 dB          |
| Run                   | 14 / max. 150    | 13 / max. 150    | 13 / max. 150    |
| Stable                | 5 / 5            | 5 / 5            | 5 / 5            |
| Max Stable Difference | 0.43 dB          | 0.00 dB          | 0.00 dB          |



## TEST A.3: MAXIMUM PEAK CONDUCTED OUTPUT POWER AND ANTENNA GAIN

|                |                   |                                                    |
|----------------|-------------------|----------------------------------------------------|
| <b>LIMITS:</b> | Product standard: | Part 15 Subpart C §15.247 and RSS-247              |
|                | Test standard:    | Part 15 Subpart C §15.247(b)(3) and RSS-247 5.4(d) |

### LIMITS

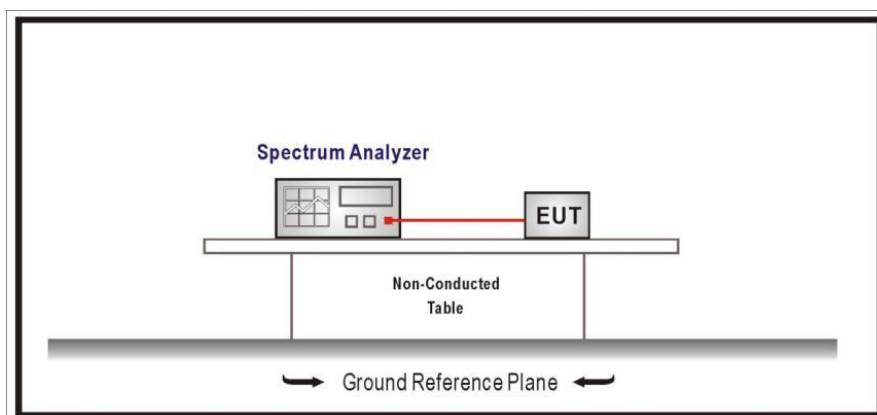
§15.247(b)(3) and RSS-247 5.4(d): For systems using digital modulation in the 2400-2483.5 MHz band: 1 watt (30 dBm).

RSS-247 5.4(d): The e.i.r.p. shall not exceed 4 W (36 dBm)

### TEST SETUP

The maximum peak conducted output power was measured using the method according to point 9.1.1. of Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247 558074 D01 DTS Meas Guidance v04 dated 05/04/2017.

The EIRP power (dBm) is calculated by adding the declared maximum antenna gain to the measured conducted power



|                                 |       |
|---------------------------------|-------|
| <b>TESTED SAMPLES:</b>          | S/01  |
| <b>TESTED CONDITIONS MODES:</b> | TC#01 |
| <b>TEST RESULTS:</b>            | PASS  |

|                               | Lowest frequency<br>2402 MHz | Middle frequency<br>2440 MHz | Highest frequency<br>2480 MHz |
|-------------------------------|------------------------------|------------------------------|-------------------------------|
| Maximum conducted power (dBm) | 0.7                          | 0.9                          | 0.9                           |
| Maximum EIRP power (dBm)      | 3.2                          | 3.4                          | 3.4                           |
| Measurement uncertainty (dB)  | <±0.78                       |                              |                               |

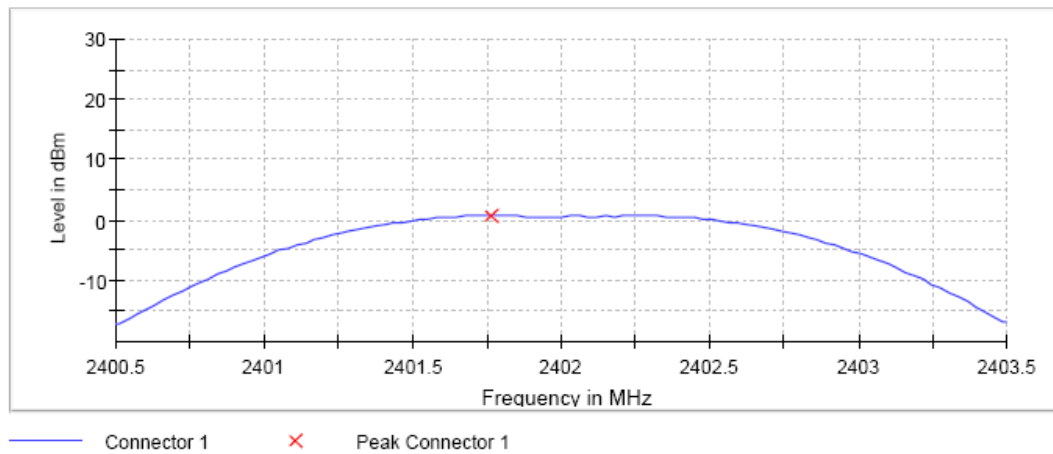
Maximum declared antenna gain: 2.5 dBi

The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

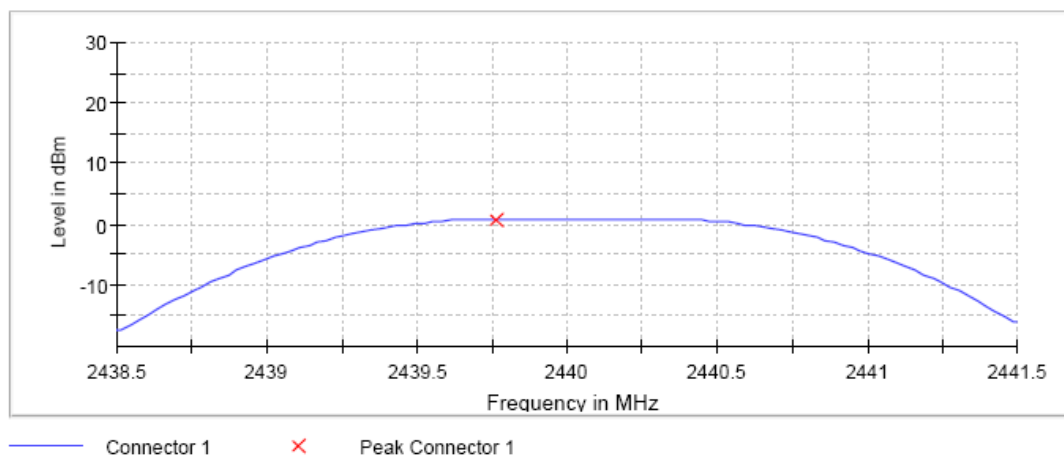
## TEST RESULTS (Cont.):

## CONDUCTED PEAK POWER

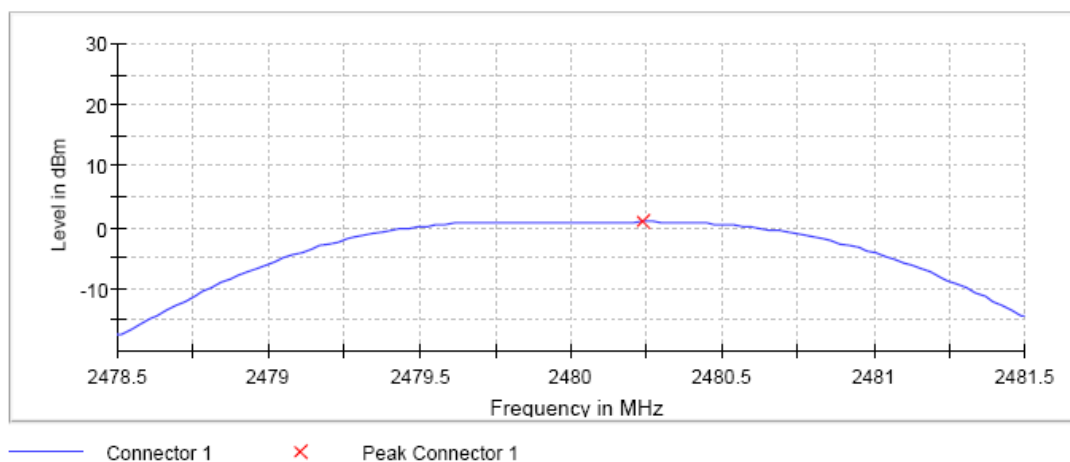
### Lowest Channel



### Middle Channel



### Highest Channel



**TEST RESULTS (Cont.):**

**Measurement**

| Setting               | Instrument Value | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|------------------|
| Start Frequency       | 2.40050 GHz      | 2.43850 GHz      | 2.47850 GHz      |
| Stop Frequency        | 2.40350 GHz      | 2.44150 GHz      | 2.48150 GHz      |
| Span                  | 3.000 MHz        | 3.000 MHz        | 3.000 MHz        |
| RBW                   | 1.000 MHz        | 1.000 MHz        | 1.000 MHz        |
| VBW                   | 3.000 MHz        | 3.000 MHz        | 3.000 MHz        |
| Sweep Points          | 101              | 101              | 101              |
| Sweep time            | 1.907 $\mu$ s    | 1.907 $\mu$ s    | 1.907 $\mu$ s    |
| Reference Level       | 20.000 dBm       | 20.000 dBm       | 20.000 dBm       |
| Attenuation           | 40.000 dB        | 40.000 dB        | 40.000 dB        |
| Detector              | MaxPeak          | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              | 100              |
| Filter                | 3 dB             | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              | FFT              |
| Preamplifier          | off              | off              | off              |
| Stable mode           | Trace            | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          | 0.50 dB          |
| Run                   | 4 / max. 150     | 4 / max. 150     | 5 / max. 150     |
| Stable                | 3 / 3            | 3 / 3            | 3 / 3            |
| Max Stable Difference | 0.03 dB          | 0.08 dB          | 0.04 dB          |

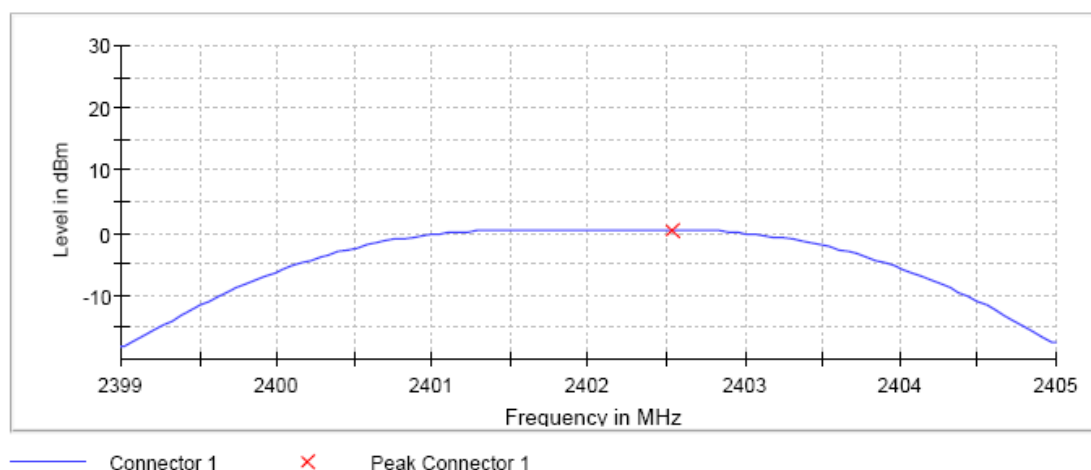
|                                 |                |
|---------------------------------|----------------|
| <b>TESTED SAMPLES:</b>          | S/01           |
| <b>TESTED CONDITIONS MODES:</b> | TC#02 (2 Mbps) |
| <b>TEST RESULTS:</b>            | PASS           |

|                               | Lowest frequency<br>2402 MHz | Middle frequency<br>2440 MHz | Highest frequency<br>2480 MHz |
|-------------------------------|------------------------------|------------------------------|-------------------------------|
| Maximum conducted power (dBm) | 0.6                          | 0.9                          | 1.0                           |
| Maximum EIRP power (dBm)      | 3.1                          | 3.4                          | 3.5                           |
| Measurement uncertainty (dB)  | <±0.78                       |                              |                               |

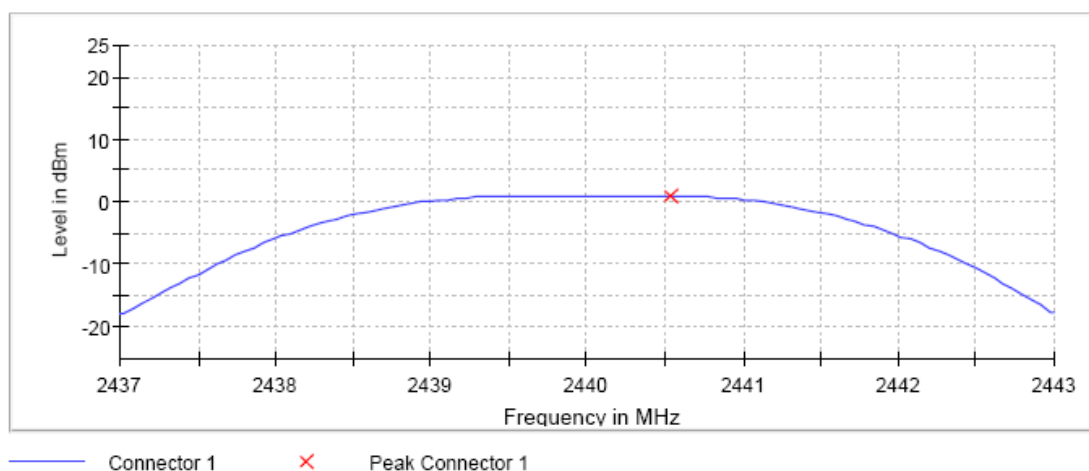
Maximum declared antenna gain: 2.5 dBi

The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

#### Lowest Channel



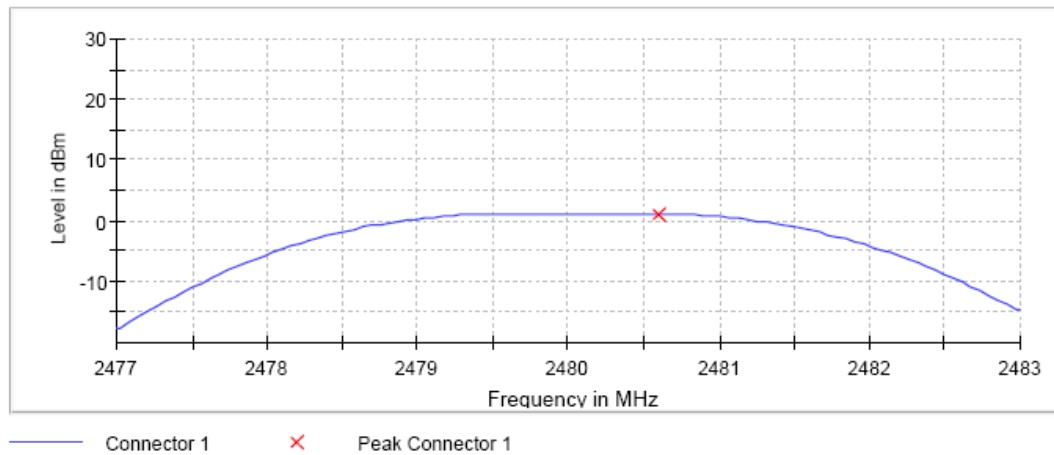
#### Middle Channel



## TEST RESULTS (Cont.):

## CONDUCTED PEAK POWER

### Highest Channel



### Measurement

| Setting               | Instrument Value | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|------------------|
| Start Frequency       | 2.39900 GHz      | 2.43700 GHz      | 2.47700 GHz      |
| Stop Frequency        | 2.40500 GHz      | 2.44300 GHz      | 2.48300 GHz      |
| Span                  | 6.000 MHz        | 6.000 MHz        | 6.000 MHz        |
| RBW                   | 2.000 MHz        | 2.000 MHz        | 2.000 MHz        |
| VBW                   | 10.000 MHz       | 10.000 MHz       | 10.000 MHz       |
| Sweep Points          | 101              | 101              | 101              |
| Sweep time            | 953.450 ns       | 953.450 ns       | 953.450 ns       |
| Reference Level       | 20.000 dBm       | 20.000 dBm       | 20.000 dBm       |
| Attenuation           | 40.000 dB        | 40.000 dB        | 40.000 dB        |
| Detector              | MaxPeak          | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              | 100              |
| Filter                | 3 dB             | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              | FFT              |
| Preamp                | off              | off              | off              |
| Stable mode           | Trace            | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          | 0.50 dB          |
| Run                   | 4 / max. 150     | 4 / max. 150     | 5 / max. 150     |
| Stable                | 3 / 3            | 3 / 3            | 3 / 3            |
| Max Stable Difference | 0.04 dB          | 0.03 dB          | 0.00 dB          |

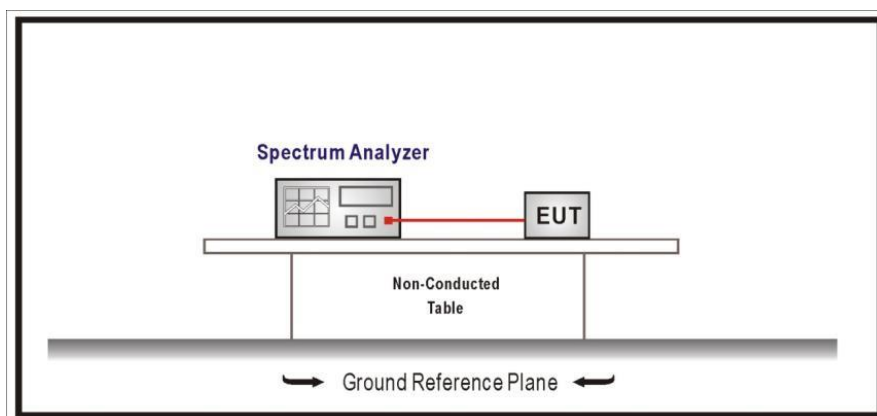
## TEST A.4: BAND-EDGE EMISSIONS COMPLIANCE (TRANSMITTER)

|                |                   |                                              |
|----------------|-------------------|----------------------------------------------|
| <b>LIMITS:</b> | Product standard: | Part 15 Subpart C §15.247 and RSS-247        |
|                | Test standard:    | Part 15 Subpart C §15.247(d) and RSS-247 5.5 |

### LIMITS

In any 100 kHz bandwidth outside the frequency band in which the digitally modulated 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. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required shall be 30 dB instead of 20 dB.

|                   |  |
|-------------------|--|
| <b>TEST SETUP</b> |  |
|-------------------|--|

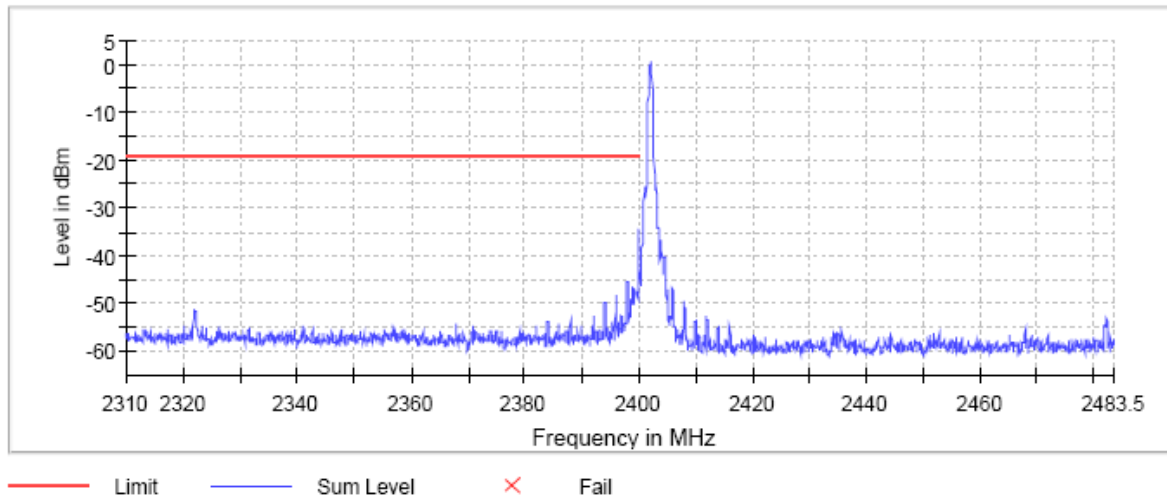


|                                 |       |
|---------------------------------|-------|
| <b>TESTED SAMPLES:</b>          | S/01  |
| <b>TESTED CONDITIONS MODES:</b> | TC#01 |
| <b>TEST RESULTS:</b>            | PASS  |

Note: Radiated measurements were used to show compliance with the limits in the restricted bands 2.31-2.39 GHz and 2.4835-2.5 GHz.

**TEST RESULTS (Cont.):**

**Lowest Channel**

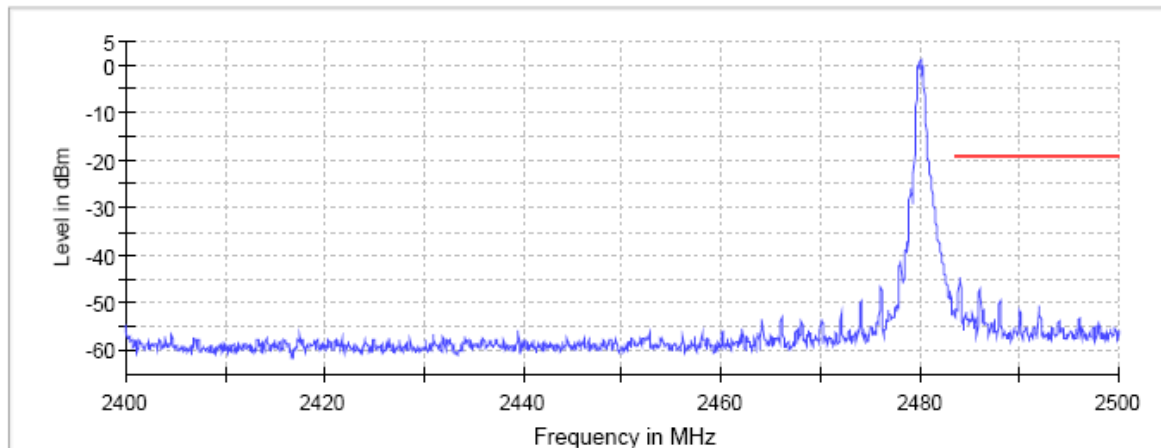


**Measurement**

| Setting               | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|
| Start Frequency       | 2.31000 GHz      | 2.40000 GHz      |
| Stop Frequency        | 2.40000 GHz      | 2.48350 GHz      |
| Span                  | 90.000 MHz       | 83.500 MHz       |
| RBW                   | 100.000 kHz      | 100.000 kHz      |
| VBW                   | 300.000 kHz      | 300.000 kHz      |
| Sweep Points          | 1800             | 1670             |
| Sweep time            | 113.672 $\mu$ s  | 94.727 $\mu$ s   |
| Reference Level       | 10.000 dBm       | 10.000 dBm       |
| Attenuation           | 30.000 dB        | 30.000 dB        |
| Detector              | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              |
| Filter                | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              |
| Preamp                | off              | off              |
| Stable mode           | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          |
| Run                   | 4 / max. 150     | 6 / max. 150     |
| Stable                | 3 / 3            | 3 / 3            |
| Max Stable Difference | 0.44 dB          | 0.22 dB          |

**TEST RESULTS (Cont.):**

**Highest Channel**



— Limit    — Sum Level    × Fail

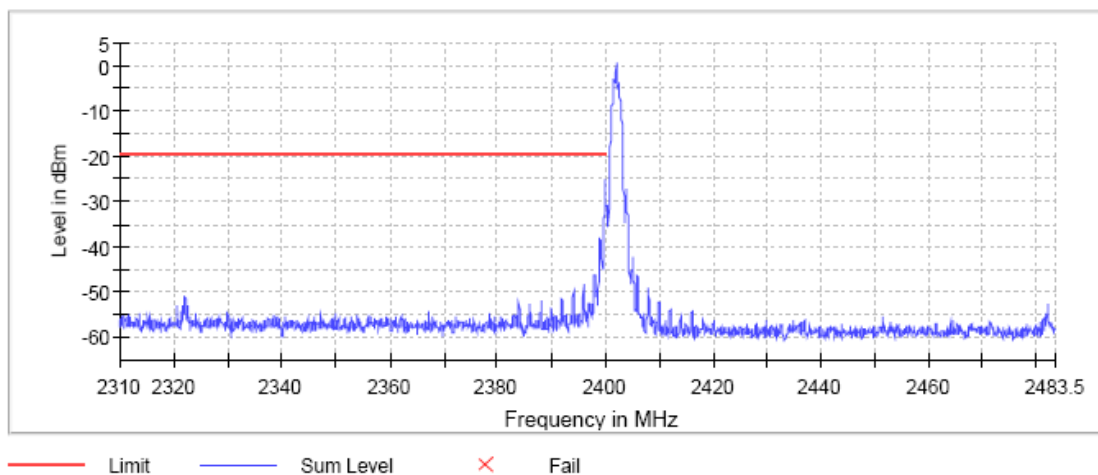
**Measurement**

| Setting               | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|
| Start Frequency       | 2.40000 GHz      | 2.48350 GHz      |
| Stop Frequency        | 2.48350 GHz      | 2.50000 GHz      |
| Span                  | 83.500 MHz       | 16.500 MHz       |
| RBW                   | 100.000 kHz      | 100.000 kHz      |
| VBW                   | 300.000 kHz      | 300.000 kHz      |
| Sweep Points          | 1670             | 330              |
| Sweep time            | 94.727 $\mu$ s   | 18.945 $\mu$ s   |
| Reference Level       | 10.000 dBm       | 10.000 dBm       |
| Attenuation           | 30.000 dB        | 30.000 dB        |
| Detector              | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              |
| Filter                | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              |
| Preamplifier          | off              | off              |
| Stable mode           | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          |
| Run                   | 8 / max. 150     | 6 / max. 150     |
| Stable                | 3 / 3            | 3 / 3            |
| Max Stable Difference | 0.14 dB          | 0.00 dB          |



|                          |                |
|--------------------------|----------------|
| TESTED SAMPLES:          | S/01           |
| TESTED CONDITIONS MODES: | TC#02 (2 Mbps) |
| TEST RESULTS             | PASS           |

#### Lowest Channel

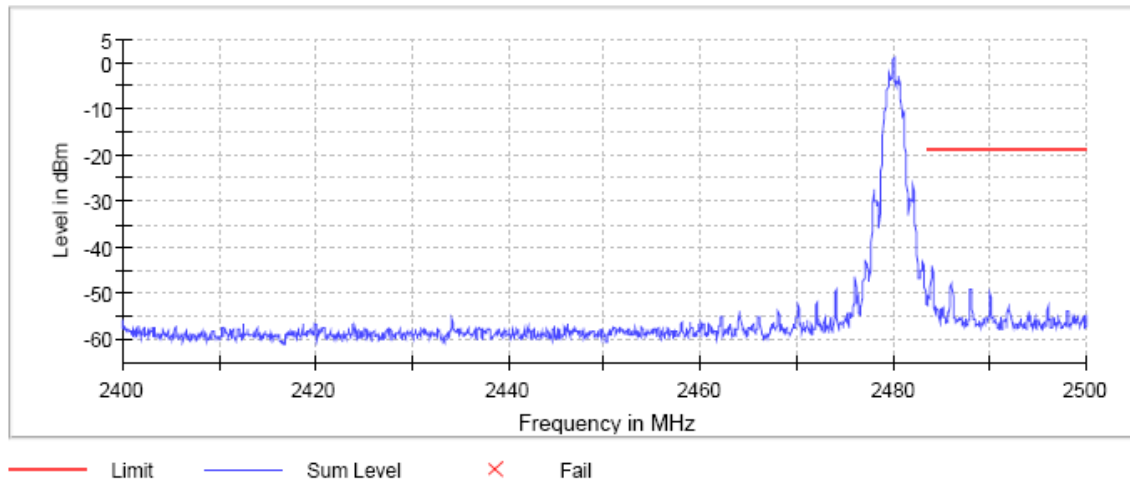


#### Measurement

| Setting               | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|
| Start Frequency       | 2.31000 GHz      | 2.40000 GHz      |
| Stop Frequency        | 2.40000 GHz      | 2.48350 GHz      |
| Span                  | 90.000 MHz       | 83.500 MHz       |
| RBW                   | 100.000 kHz      | 100.000 kHz      |
| VBW                   | 300.000 kHz      | 300.000 kHz      |
| Sweep Points          | 1800             | 1670             |
| Sweep time            | 113.672 $\mu$ s  | 94.727 $\mu$ s   |
| Reference Level       | 10.000 dBm       | 10.000 dBm       |
| Attenuation           | 30.000 dB        | 30.000 dB        |
| Detector              | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              |
| Filter                | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              |
| Preamplifier          | off              | off              |
| Stable mode           | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          |
| Run                   | 4 / max. 150     | 11 / max. 150    |
| Stable                | 3 / 3            | 3 / 3            |
| Max Stable Difference | 0.00 dB          | 0.35 dB          |

**TEST RESULTS (Cont.):**

**Highest Channel**



**Measurement**

| Setting               | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|
| Start Frequency       | 2.40000 GHz      | 2.48350 GHz      |
| Stop Frequency        | 2.48350 GHz      | 2.50000 GHz      |
| Span                  | 83.500 MHz       | 16.500 MHz       |
| RBW                   | 100.000 kHz      | 100.000 kHz      |
| VBW                   | 300.000 kHz      | 300.000 kHz      |
| Sweep Points          | 1670             | 330              |
| Sweep time            | 94.727 $\mu$ s   | 18.945 $\mu$ s   |
| Reference Level       | 10.000 dBm       | 10.000 dBm       |
| Attenuation           | 30.000 dB        | 30.000 dB        |
| Detector              | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              |
| Filter                | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              |
| Preamp                | off              | off              |
| Stable mode           | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          |
| Run                   | 11 / max. 150    | 7 / max. 150     |
| Stable                | 3 / 3            | 3 / 3            |
| Max Stable Difference | 0.06 dB          | 0.00 dB          |

## TEST A.5: POWER SPECTRAL DENSITY

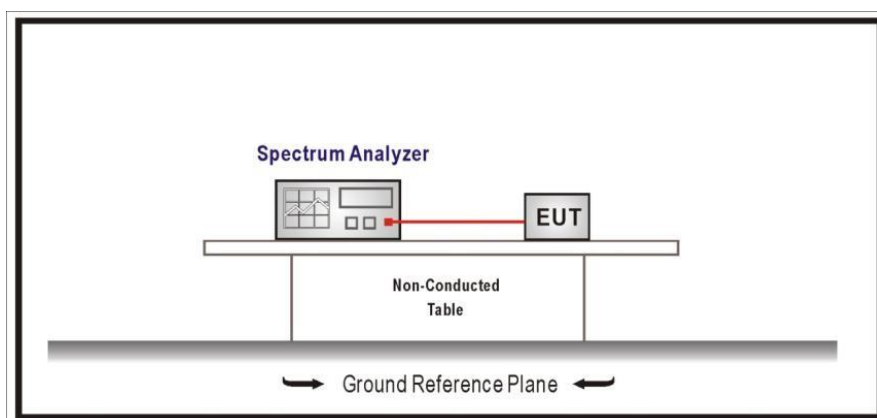
|                |                   |                                                  |
|----------------|-------------------|--------------------------------------------------|
| <b>LIMITS:</b> | Product standard: | Part 15 Subpart C §15.247 and RSS-247            |
|                | Test standard:    | Part 15 Subpart C §15.247(e) and RSS-247 5.2 (b) |

### LIMITS

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

### TEST SETUP

The maximum power spectral density level in the fundamental emission was measured using the method PKPSD (Peak PSD) according to point 10.2. of Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247 558074 D01 DTS Meas Guidance v04 dated 05/04/2017.

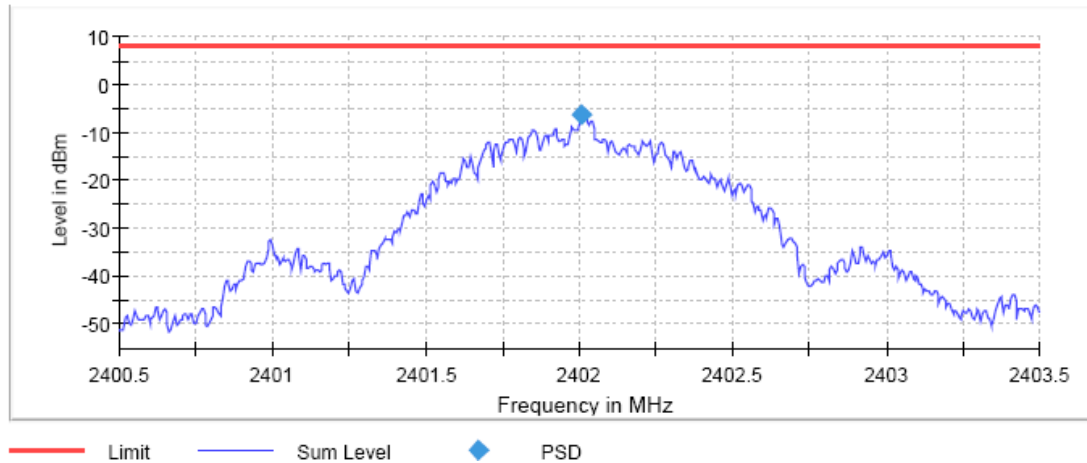


|                                 |       |
|---------------------------------|-------|
| <b>TESTED SAMPLES:</b>          | S/01  |
| <b>TESTED CONDITIONS MODES:</b> | TC#01 |
| <b>TEST RESULTS:</b>            | PASS  |

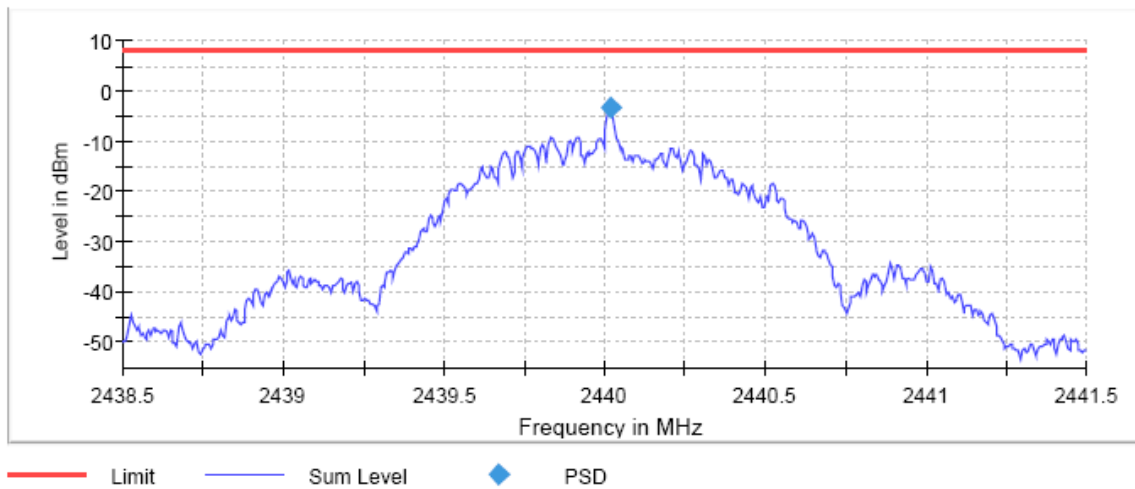
|                              | Lowest frequency<br>2402 MHz | Middle frequency<br>2440 MHz | Highest frequency<br>2480 MHz |
|------------------------------|------------------------------|------------------------------|-------------------------------|
| Power spectral density (dBm) | -6.108                       | -3.368                       | -6.020                        |
| Measurement uncertainty (dB) | <±0.78                       |                              |                               |

## TEST RESULTS (Cont.):

### Low Channel:

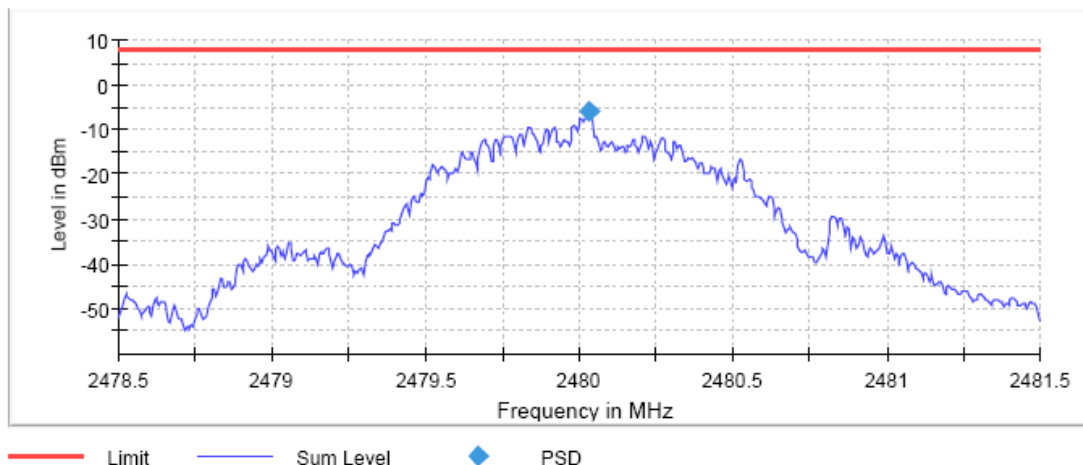


### Mid Channel:



## TEST RESULTS (Cont.):

### High Channel:



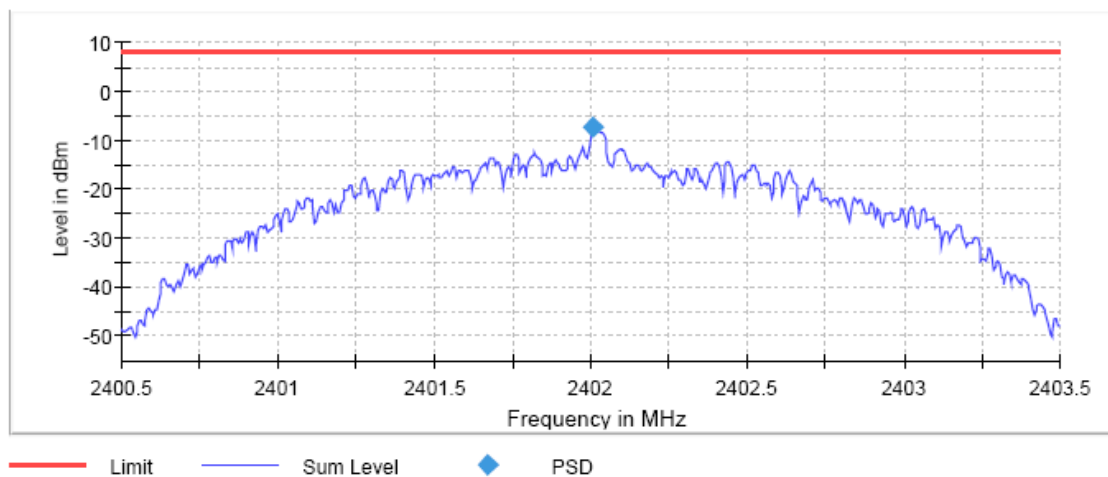
### Measurement

| Setting               | Instrument Value | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|------------------|
| Start Frequency       | 2.40050 GHz      | 2.43850 GHz      | 2.47850 GHz      |
| Stop Frequency        | 2.40350 GHz      | 2.44150 GHz      | 2.48150 GHz      |
| Span                  | 3.00 MHz         | 3.00 MHz         | 3.00 MHz         |
| RBW                   | 10.000 kHz       | 10.000 kHz       | 10.000 kHz       |
| VBW                   | 30.000 kHz       | 30.000 kHz       | 30.000 kHz       |
| Sweep Points          | 600              | 600              | 600              |
| Sweep time            | 3.000 ms         | 3.000 ms         | 3.000 ms         |
| Reference Level       | 10.000 dBm       | 10.000 dBm       | 10.000 dBm       |
| Attenuation           | 30.000 dB        | 30.000 dB        | 30.000 dB        |
| Detector              | MaxPeak          | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              | 100              |
| Filter                | 3 dB             | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         | Max Hold         |
| Sweep type            | Sweep            | Sweep            | Sweep            |
| Preamplifier          | off              | off              | off              |
| Stable mode           | Trace            | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          | 0.50 dB          |
| Run                   | 8 / max. 150     | 5 / max. 150     | 6 / max. 150     |
| Stable                | 2 / 2            | 2 / 2            | 2 / 2            |
| Max Stable Difference | 0.47 dB          | 0.32 dB          | 0.18 dB          |

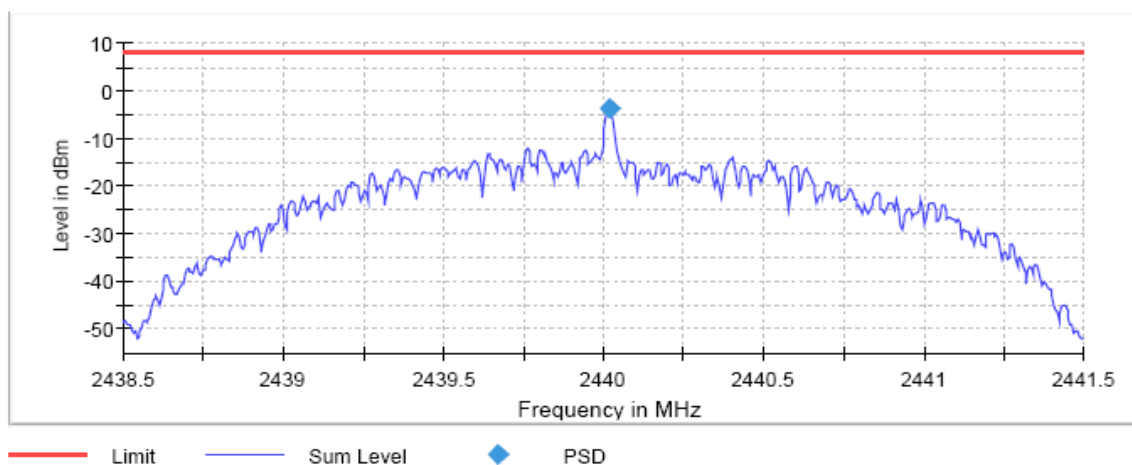
|                          |                |
|--------------------------|----------------|
| TESTED SAMPLES:          | S/01           |
| TESTED CONDITIONS MODES: | TC#02 (2 Mbps) |
| TEST RESULTS:            | PASS           |

|                              | Lowest frequency<br>2402 MHz | Middle frequency<br>2440 MHz | Highest frequency<br>2480 MHz |
|------------------------------|------------------------------|------------------------------|-------------------------------|
| Power spectral density (dBm) | -7.311                       | -3.509                       | -5.004                        |
| Measurement uncertainty (dB) | <±0.78                       |                              |                               |

#### Low Channel:

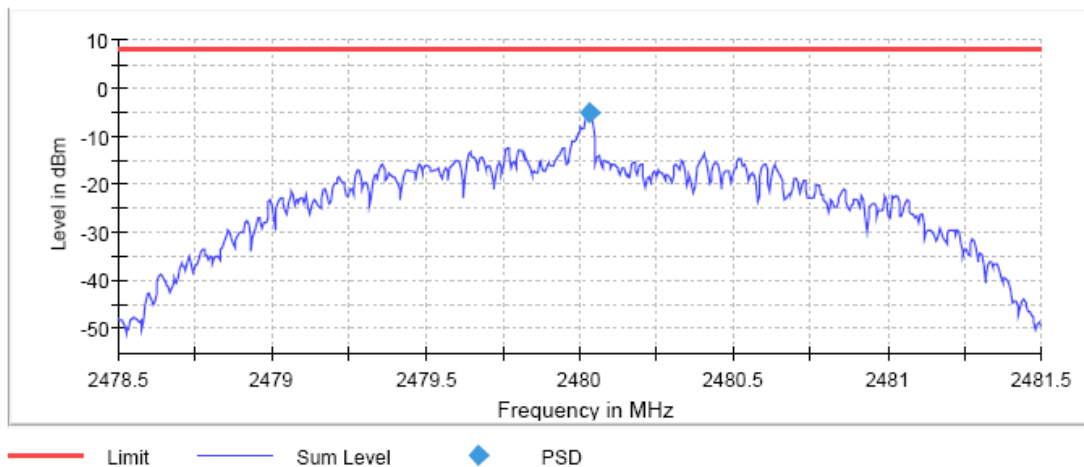


#### Mid Channel:



## TEST RESULTS (Cont.):

### High Channel:



### Measurement

| Setting               | Instrument Value | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|------------------|
| Start Frequency       | 2.40050 GHz      | 2.43850 GHz      | 2.47850 GHz      |
| Stop Frequency        | 2.40350 GHz      | 2.44150 GHz      | 2.48150 GHz      |
| Span                  | 3.00 MHz         | 3.00 MHz         | 3.00 MHz         |
| RBW                   | 10.000 kHz       | 10.000 kHz       | 10.000 kHz       |
| VBW                   | 30.000 kHz       | 30.000 kHz       | 30.000 kHz       |
| Sweep Points          | 600              | 600              | 600              |
| Sweep time            | 3.000 ms         | 3.000 ms         | 3.000 ms         |
| Reference Level       | 10.000 dBm       | 10.000 dBm       | 10.000 dBm       |
| Attenuation           | 30.000 dB        | 30.000 dB        | 30.000 dB        |
| Detector              | MaxPeak          | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              | 100              |
| Filter                | 3 dB             | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         | Max Hold         |
| Sweep type            | Sweep            | Sweep            | Sweep            |
| Preamplifier          | off              | off              | off              |
| Stable mode           | Trace            | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          | 0.50 dB          |
| Run                   | 10 / max. 150    | 5 / max. 150     | 8 / max. 150     |
| Stable                | 2 / 2            | 2 / 2            | 2 / 2            |
| Max Stable Difference | 0.32 dB          | 0.15 dB          | 0.35 dB          |

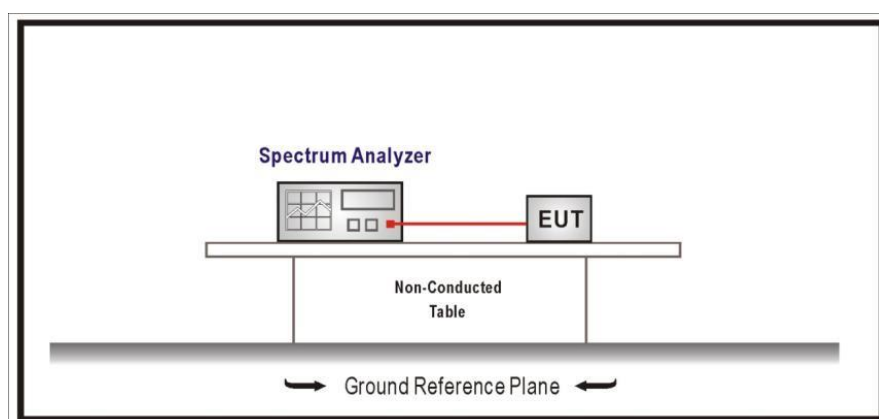
## TEST A.6: EMISSION LIMITATIONS CONDUCTED (TRANSMITTER)

|                |                   |                                                       |
|----------------|-------------------|-------------------------------------------------------|
| <b>LIMITS:</b> | Product standard: | Part 15 Subpart C §15.247 and RSS-247                 |
|                | Test standard:    | Part 15 Subpart C §15.247(d) and RSS-Gen 8.9 and 8.10 |

### SPECIFICATION

In any 100 kHz bandwidth outside the frequency band in which the digitally modulated 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. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required shall be 30 dB instead of 20 dB.

### TEST SETUP



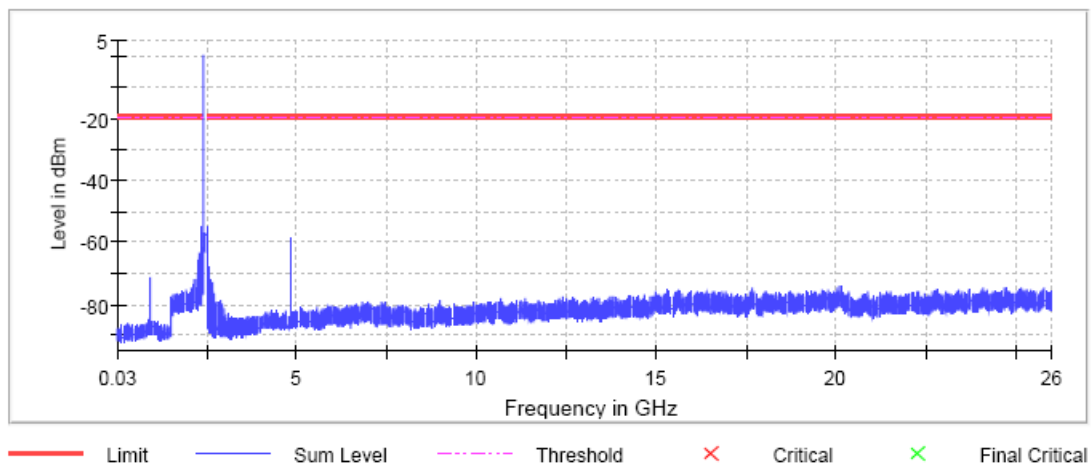


|                                 |       |
|---------------------------------|-------|
| <b>TESTED SAMPLES:</b>          | S/01  |
| <b>TESTED CONDITIONS MODES:</b> | TC#01 |
| <b>TEST RESULTS:</b>            | PASS  |

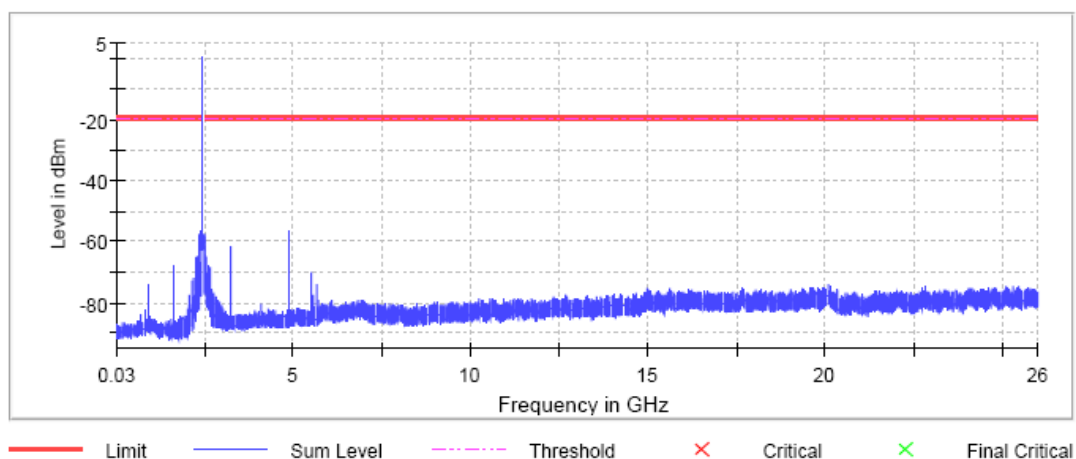
### Frequency range 30 MHz – 26 GHz

No conducted spurious signals were detected at less than 20 dB respect to the limit for low and high operating channels.

#### Low Channel:

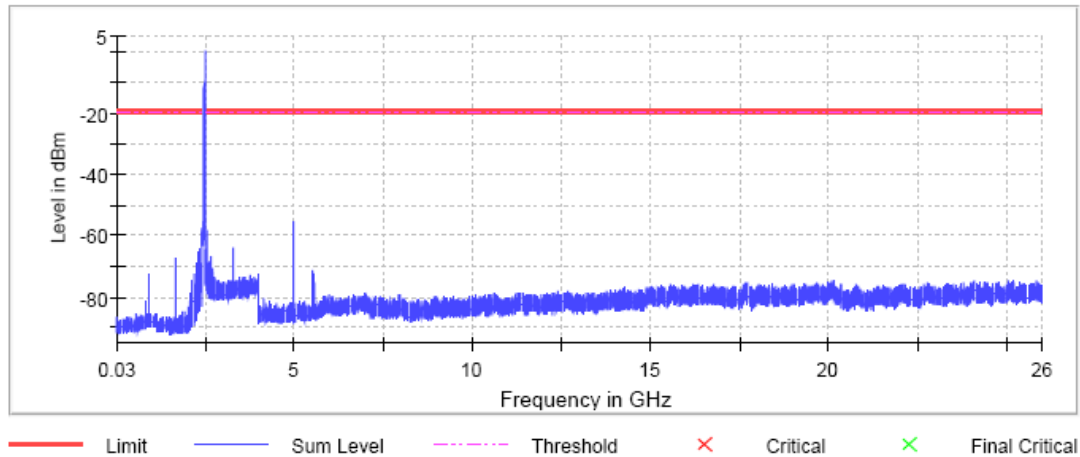


#### Mid Channel:



## TEST RESULTS (Cont.):

### High Channel:



### Measurement

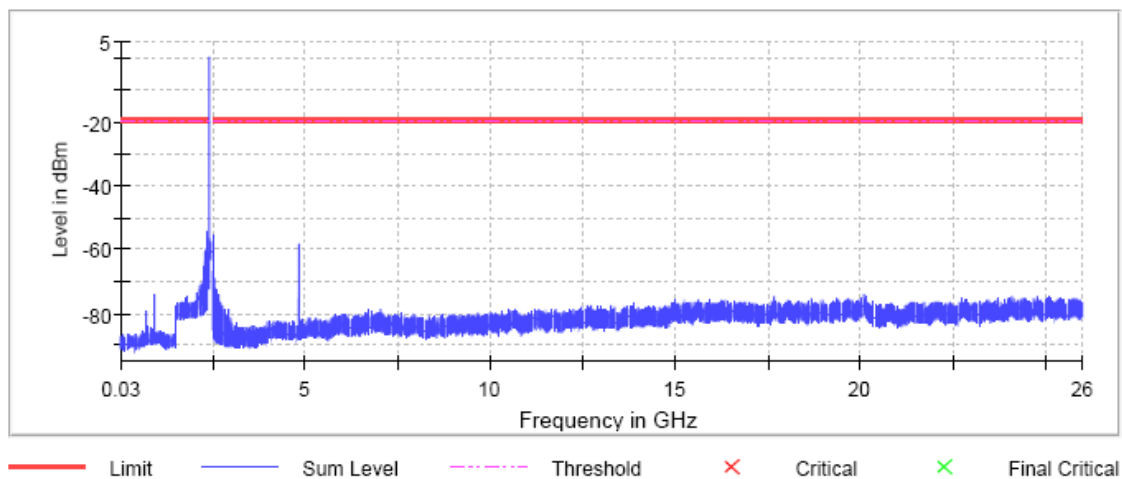
| Setting               | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|
| RBW                   | 100.000 kHz      | 1.000 MHz        |
| VBW                   | 300.000 kHz      | 3.000 MHz        |
| Sweep Points          | 29400            | 28010            |
| Sweep time            | 29.4 ms          | 2.800 ms         |
| Reference Level       | -30.000 dBm      | -30.000 dBm      |
| Attenuation           | 0.000 dB         | 0.000 dB         |
| Detector              | MaxPeak          | MaxPeak          |
| Sweep Count           | 30               | 30               |
| Filter                | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         |
| Sweep type            | FFT              | Sweep            |
| Preamp                | off              | off              |
| Stable mode           | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          |
| Run                   | 28 / max. 150    | 5 / max. 150     |
| Stable                | 3 / 3            | 3 / 3            |
| Max Stable Difference | 0.00 dB          | 0.00 dB          |

|                                 |                |
|---------------------------------|----------------|
| <b>TESTED SAMPLES:</b>          | S/01           |
| <b>TESTED CONDITIONS MODES:</b> | TC#02 (2 Mbps) |
| <b>TEST RESULTS:</b>            | PASS           |

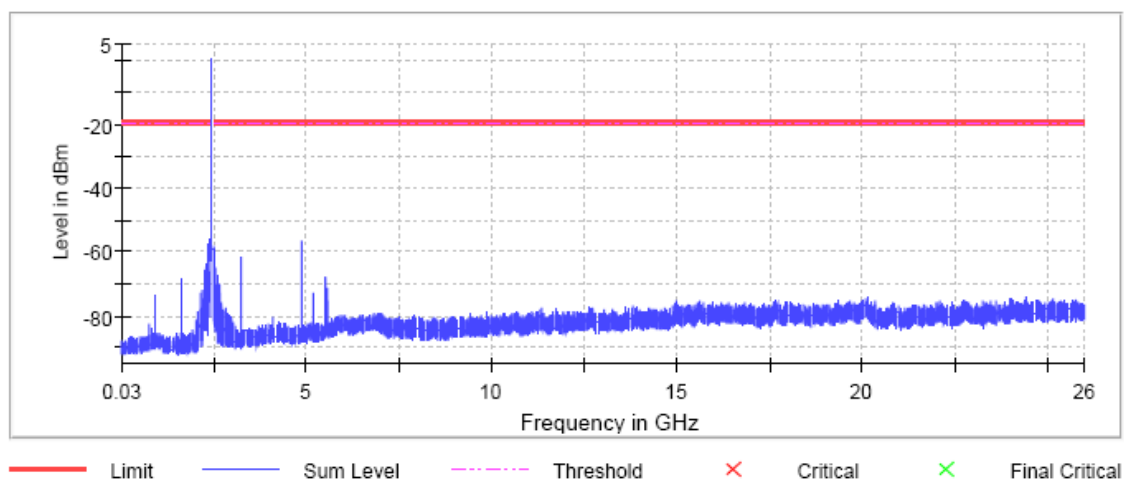
### Frequency range 30 MHz – 26 GHz

No conducted spurious signals were detected at less than 20 dB respect to the limit for low and high operating channels.

#### Low Channel:

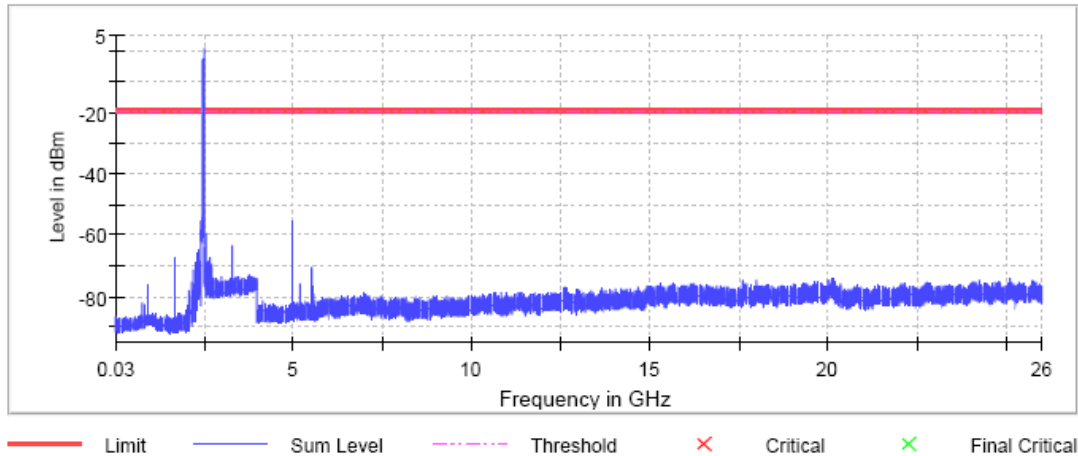


#### Mid Channel:



## TEST RESULTS (Cont.):

### High Channel:



### Measurement

| Setting               | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|
| RBW                   | 100.000 kHz      | 1.000 MHz        |
| VBW                   | 300.000 kHz      | 3.000 MHz        |
| Sweep Points          | 29400            | 28010            |
| Sweep time            | 29.4 ms          | 2.800 ms         |
| Reference Level       | -30.000 dBm      | -30.000 dBm      |
| Attenuation           | 0.000 dB         | 0.000 dB         |
| Detector              | MaxPeak          | MaxPeak          |
| Sweep Count           | 30               | 30               |
| Filter                | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         |
| Sweep type            | FFT              | Sweep            |
| Preamp                | off              | off              |
| Stable mode           | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          |
| Run                   | 60 / max. 150    | 5 / max. 150     |
| Stable                | 3 / 3            | 3 / 3            |
| Max Stable Difference | 0.00 dB          | 0.00 dB          |

## TEST A.7: EMISSION LIMITATIONS RADIATED (TRANSMITTER)

|                |                   |                                                       |
|----------------|-------------------|-------------------------------------------------------|
| <b>LIMITS:</b> | Product standard: | Part 15 Subpart C §15.247 and RSS-247                 |
|                | Test standard:    | Part 15 Subpart C §15.247(d) and RSS-Gen 8.9 and 8.10 |

### LIMITS

Radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c) / RSS-Gen):

| Frequency Range (MHz) | Field strength (μV/m) | Field strength (dBμV/m) | Measurement distance (m) |
|-----------------------|-----------------------|-------------------------|--------------------------|
| 0.009-0.490           | 2400/F(kHz)           | -                       | 300                      |
| 0.490-1.705           | 24000/F(kHz)          | -                       | 30                       |
| 1.705 - 30.0          | 30                    | -                       | 30                       |
| 30 - 88               | 100                   | 40                      | 3                        |
| 88 - 216              | 150                   | 43.5                    | 3                        |
| 216 - 960             | 200                   | 46                      | 3                        |
| 960 - 25000           | 500                   | 54                      | 3                        |

The emission limits shown in the above table are based on measurements employing CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.

For average radiated emission measurements above 1000 MHz, there is also a limit corresponding to 20 dB above the indicated values in the table is specified when measuring with peak detector function.

RSS-247. Attenuation below the general field strength limits specified in RSS-Gen is not required

## TEST SETUP

All radiated tests were performed in a semi-anechoic chamber. The measurement antenna is situated at a distance of 3 m for the frequency range 30-1000 MHz (Bilog antenna) and at a distance of 1m for the frequency range 1-26 GHz (1 GHz-18 GHz and 18 GHz-26 GHz Double ridge horn antennas).

For radiated emissions in the range 1-26 GHz that is performed at a distance closer than the specified distance, an inverse proportionality factor of 20 dB per decade is used to normalize the measured data for determining compliance.

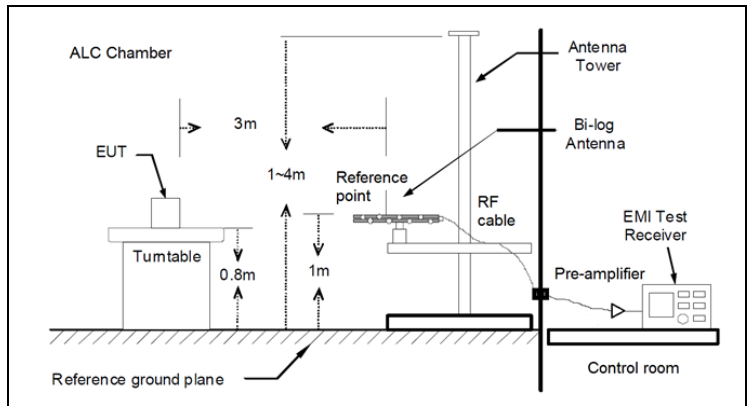
The equipment under test was set up on a non-conductive platform above the ground plane and the situation and orientation was varied to find the maximum radiated emission. It was also rotated 360° and the antenna height was varied from 1 to 4 meters to find the maximum radiated emission.

Measurements were made in both horizontal and vertical planes of polarization.

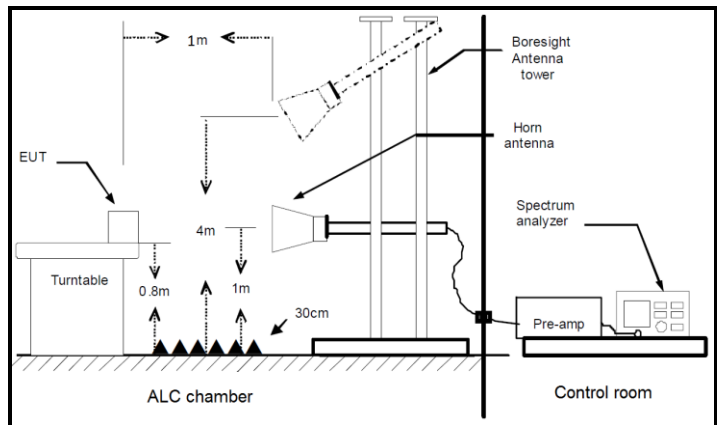
The field strength is calculated by adding correction factor to the measured level from the spectrum analyzer. This correction factor includes antenna factor, cable loss and pre-amplifiers gain.

## TEST SETUP (CONT.)

### Radiated measurements Setup $f < 1$ GHz



### Radiated measurements setup $f > 1$ GHz



|                          |       |
|--------------------------|-------|
| TESTED SAMPLES:          | S/02  |
| TESTED CONDITIONS MODES: | TC#01 |
| TEST RESULTS:            | PASS  |

### Frequency range 30 MHz – 1000 MHz

The spurious emissions below 1 GHz do not depend on the operating channel selected in the EUT.

The worst case selected was 1 Mbps at Middle Channel. The results in the following plots and tables shows the measured levels in this range at or above 20 dB below the limit.

### Frequency range 1 GHz – 26 GHz

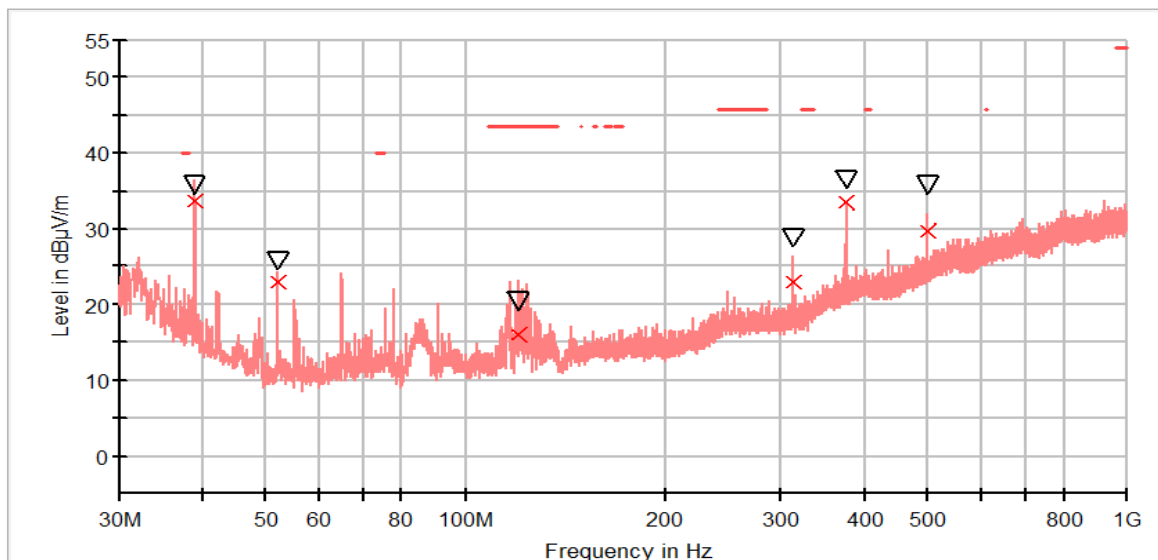
The results in the following plots and tables show the maximum measured levels in the 1-26 GHz range including restricted bands.

**TEST RESULTS (Cont.):**

**30-1000 MHz**

**Middle Channel**

RF\_FCC\_15.247\_E Field\_30MHz\_1GHz



— PK+\_MAXH  
— TX limits to Spurious Emission FCC15.247 (30MHz to 1GHz) Restricted Bands QPK Limit  
▽ MaxPeak-PK+ (Single)  
× QuasiPeak-QPK (Single)

**Result Table\_Single**

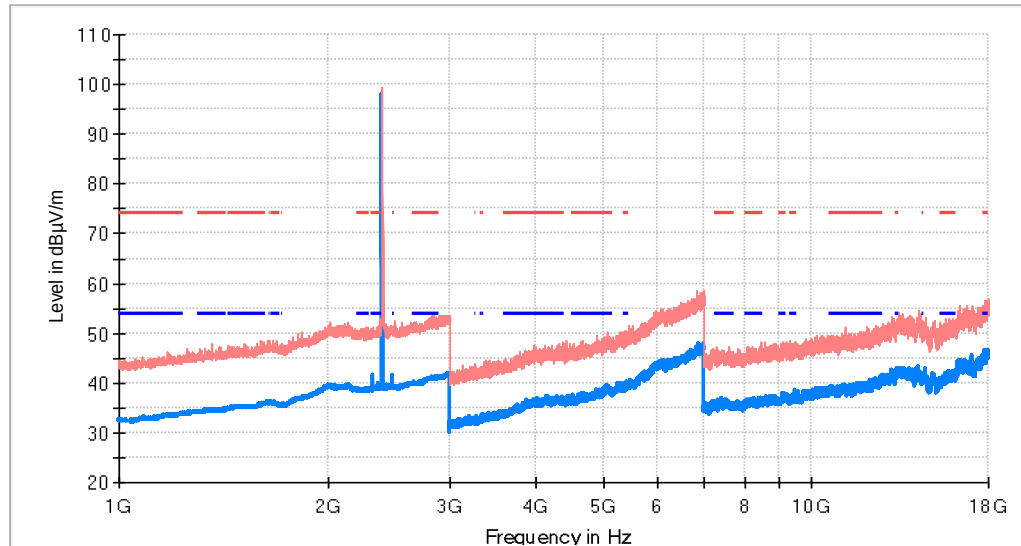
| Frequency (MHz) | MaxPeak (dBµV/m) | QuasiPeak (dBµV/m) | Pol |
|-----------------|------------------|--------------------|-----|
| 39.021000       | 35.84            | 33.70              | V   |
| 52.067500       | 25.73            | 23.04              | V   |
| 120.452500      | 20.37            | 15.95              | V   |
| 312.512500      | 28.87            | 22.91              | H   |
| 374.980500      | 36.55            | 33.54              | H   |
| 500.013500      | 35.89            | 29.88              | H   |



**TEST RESULTS (Cont.):**

**1-18 GHz (Lowest Channel)**

1GHz\_18GHz\_ HP & VP\_CH Low



- AVG\_MAXH
- PK+\_MAXH
- TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands PK Limit
- TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands AVG Limit

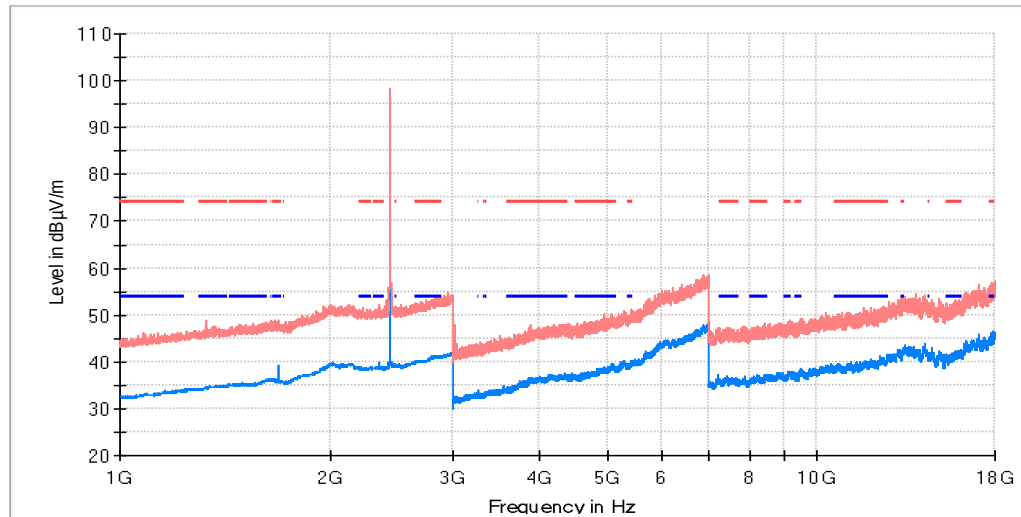
**Maximizations**

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Comment     |
|-----------------|-------------------|-------------------|-----|-------------|
| 2322.000000     | 51.10             | 41.66             | V   |             |
| 2402.000000     | 99.49             | 97.89             | V   | Fundamental |
| 17985.500000    | 56.88             | 45.35             | V   |             |

**TEST RESULTS (Cont.):**

**1-18 GHz (Middle Channel)**

1GHz\_18GHz\_HP & VP\_CH Mid



— AVG\_MAXH  
 — PK+\_MAXH  
 — TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands PK Limit  
 — TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands AVG Limit

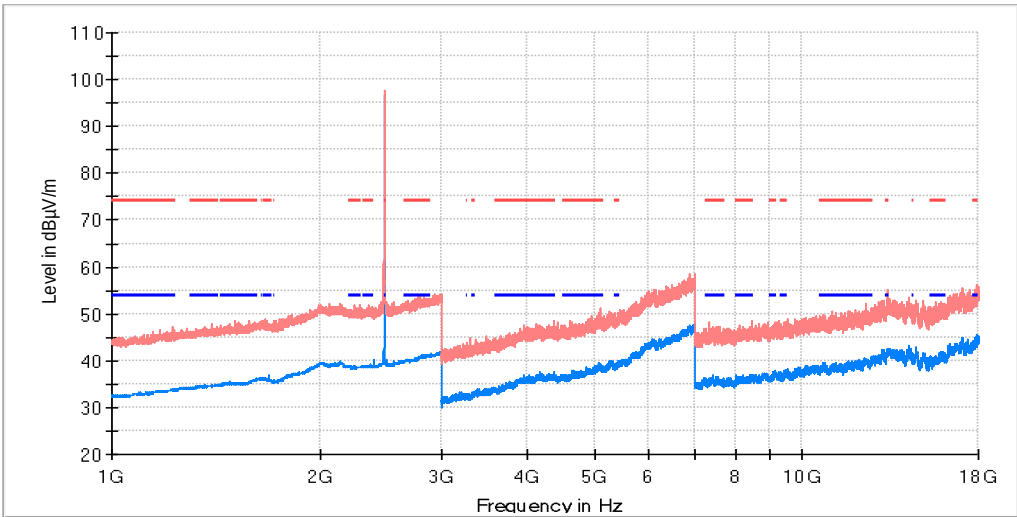
**Maximizations**

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Comment     |
|-----------------|-------------------|-------------------|-----|-------------|
| 1687.500000     | 48.01             | 39.11             | H   |             |
| 2440.000000     | 98.37             | 96.97             | H   | Fundamental |
| 14273.500000    | 53.95             | 43.86             | V   |             |
| 17021.000000    | 54.88             | 45.84             | V   |             |

**TEST RESULTS (Cont.):**

**1-18 GHz (Highest Channel)**

1GHz\_18GHz\_HP & VP\_CH High



— AVG\_MAXH  
— PK+\_MAXH  
— TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands PK Limit  
— TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands AVG Limit

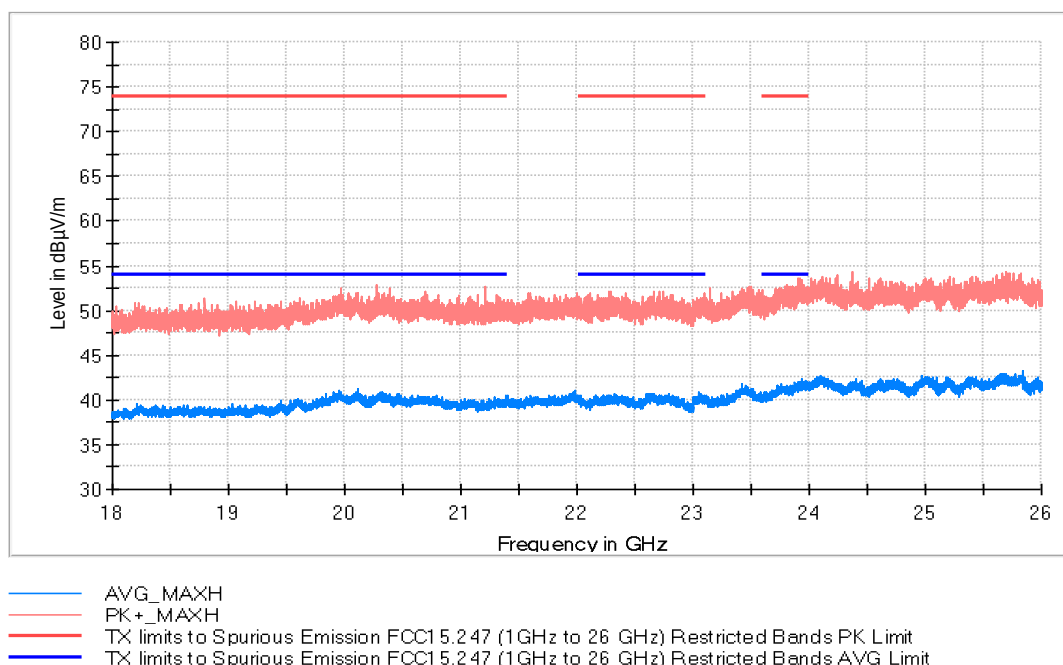
**Maximizations**

| Frequency (MHz) | PK+_MAXH (dBμV/m) | AVG_MAXH (dBμV/m) | PoI | Comment     |
|-----------------|-------------------|-------------------|-----|-------------|
| 2480.000000     | 97.8              | 96.8              | V   | Fundamental |
| 14259.000000    | 51.4              | 43.2              | V   |             |
| 17024.500000    | 53.3              | 44.9              | V   |             |

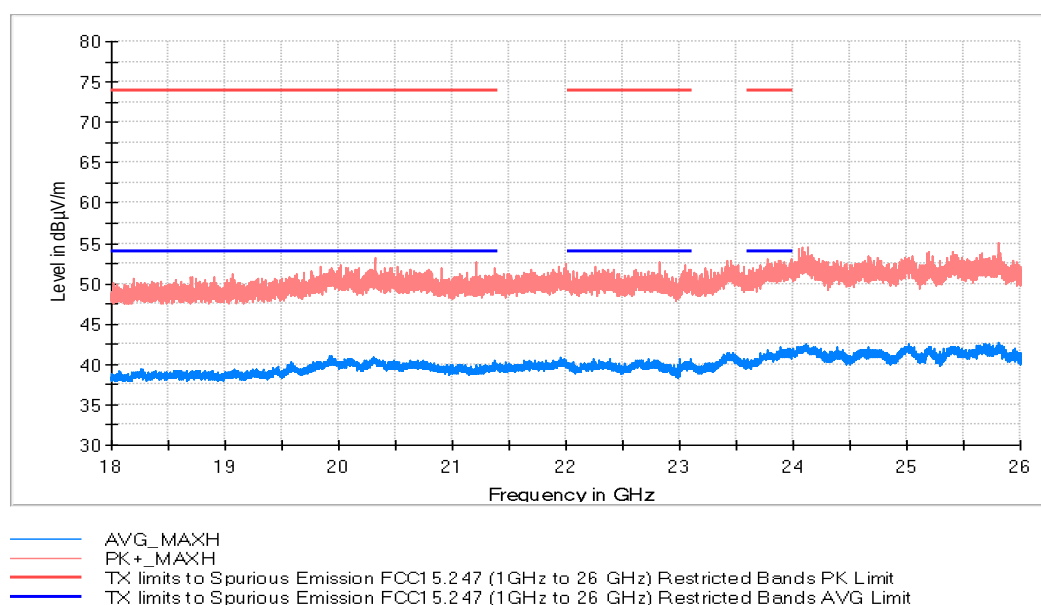
**TEST RESULTS (Cont.):**

**18 – 26 GHz**

**Low Channel**



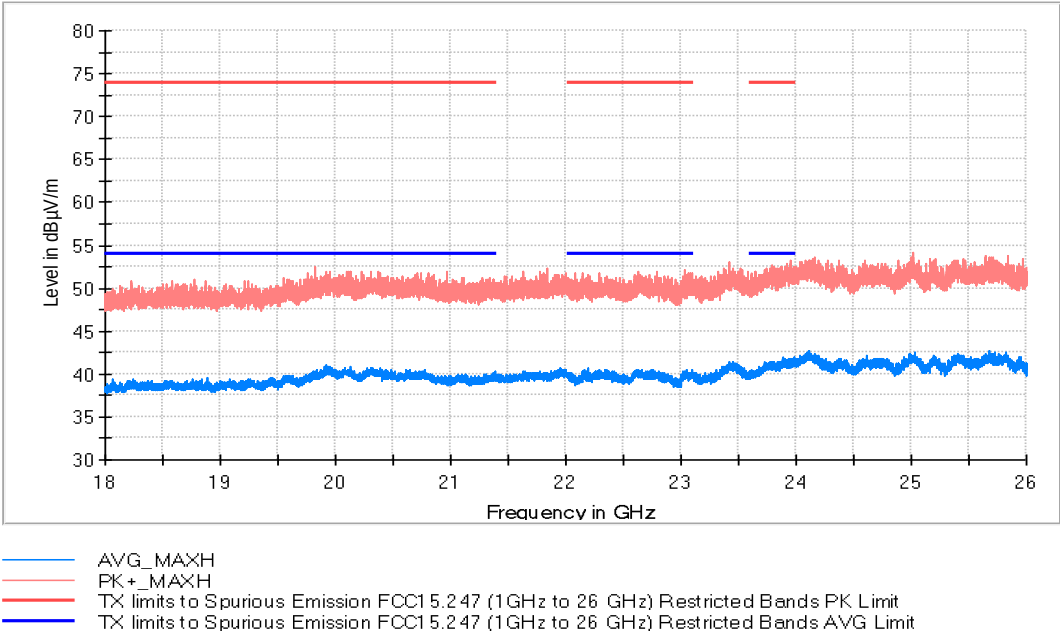
**Middle Channel**



**TEST RESULTS (Cont.):**

**18 – 26 GHz**

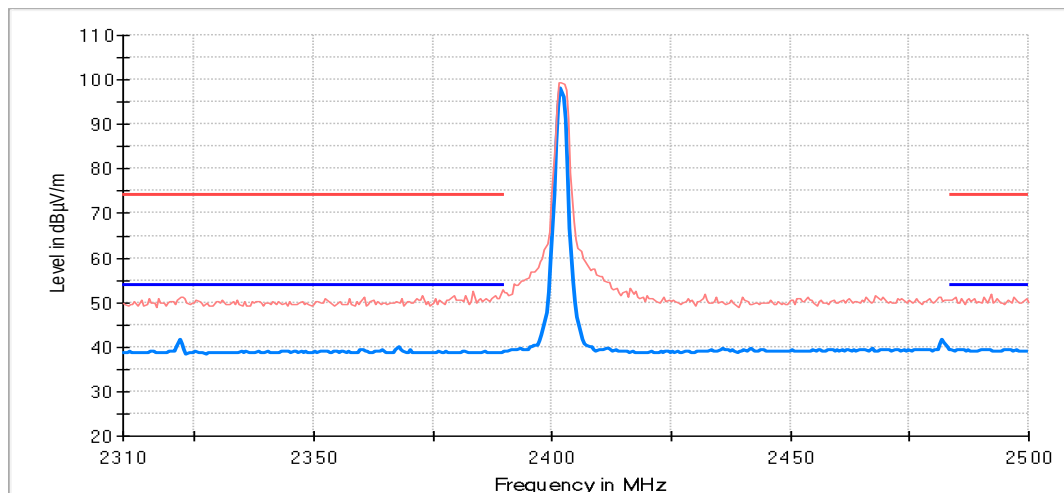
**Highest Channel**



**TEST RESULTS (Cont.):**

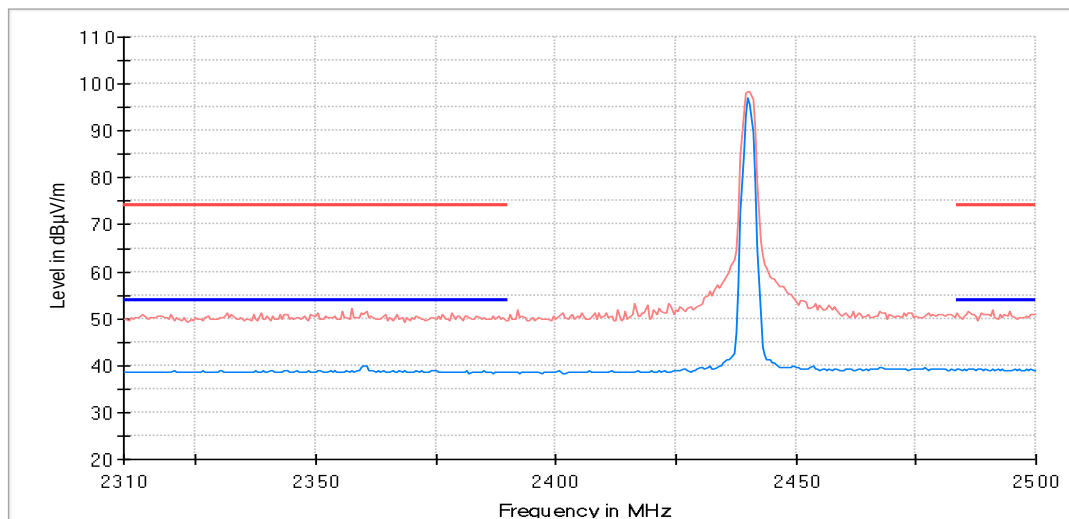
**Restricted Bands (2.31 GHz – 2.5 GHz)**

**Low Channel**



— AVG\_MAXH  
 — PK+\_MAXH  
 — TX limits to Spurious Emission FCC1 5.247 (1GHz to 26 GHz) Restricted Bands PK Limit  
 — TX limits to Spurious Emission FCC1 5.247 (1GHz to 26 GHz) Restricted Bands AVG Limit

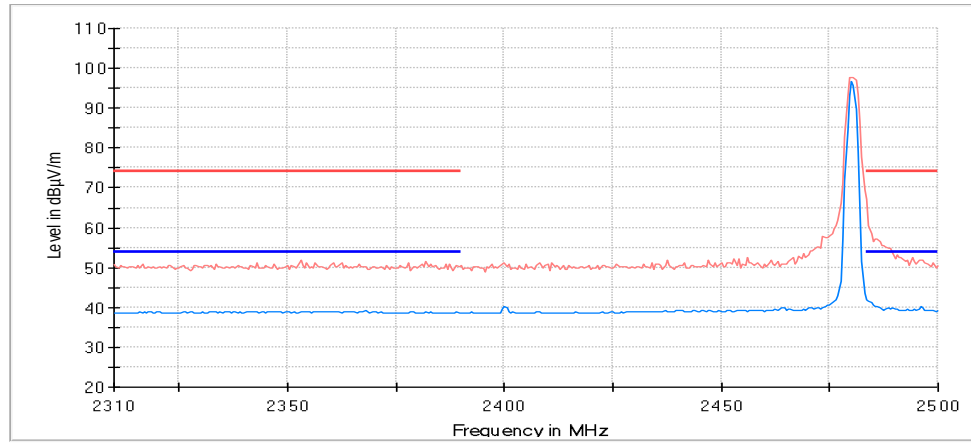
**Middle Channel**



— AVG\_MAXH  
 — PK+\_MAXH  
 — TX limits to Spurious Emission FCC1 5.247 (1GHz to 26 GHz) Restricted Bands PK Limit  
 — TX limits to Spurious Emission FCC1 5.247 (1GHz to 26 GHz) Restricted Bands AVG Limit

## TEST RESULTS (Cont.):

### Highest Channel



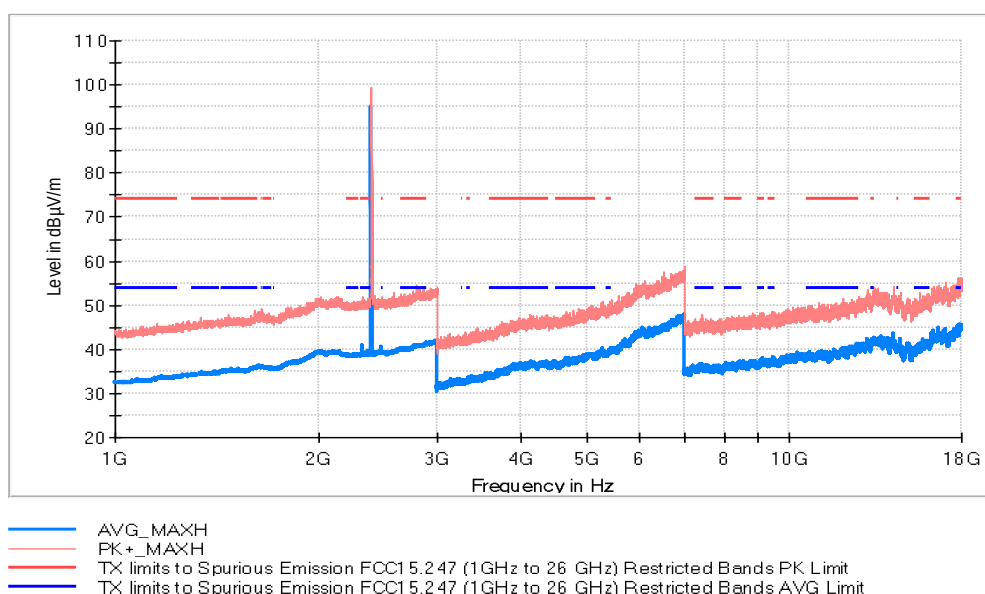
— AVG\_MAXH  
 — PK+\_MAXH  
 — TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands PK Limit  
 — TX limits to Spurious Emission FCC15.247 (1GHz to 26 GHz) Restricted Bands AVG Limit

|                                 |                |
|---------------------------------|----------------|
| <b>TESTED SAMPLES:</b>          | S/02           |
| <b>TESTED CONDITIONS MODES:</b> | TC#02 (2 Mbps) |
| <b>TEST RESULTS:</b>            | PASS           |

### Frequency range 1 GHz – 26 GHz

The results in the following plots and tables show the maximum measured levels in the 1-26 GHz range including restricted bands.

|                              |                                  |
|------------------------------|----------------------------------|
| <b>TEST RESULTS (Cont.):</b> | <b>1-18 GHz (Lowest Channel)</b> |
|------------------------------|----------------------------------|



### Maximizations

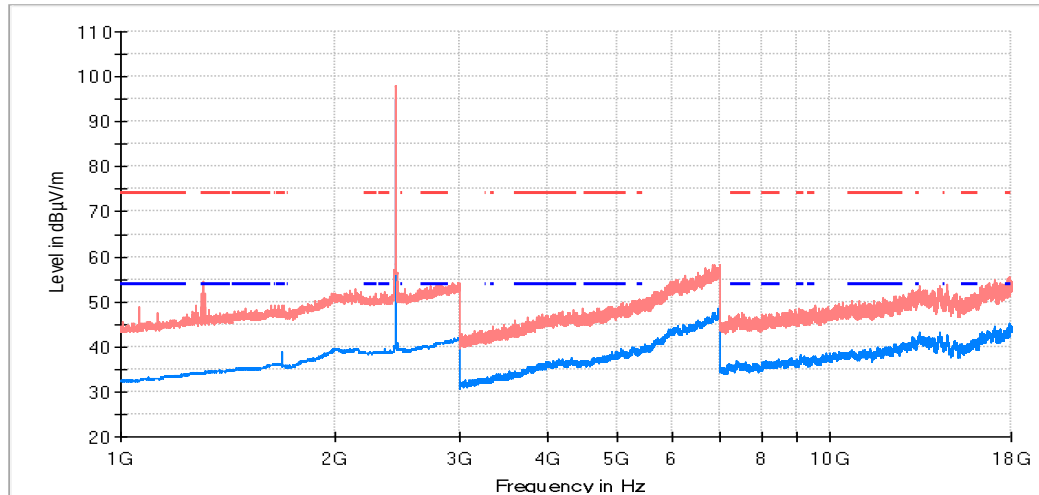
| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Comment     |
|-----------------|-------------------|-------------------|-----|-------------|
| 2322.000000     | 49.76             | 41.06             | V   |             |
| 2401.500000     | 99.29             | 92.45             | V   | Fundamental |
| 17957.000000    | 56.17             | 45.27             | V   |             |



**TEST RESULTS (Cont.):**

**1-18 GHz (Middle Channel)**

1GHz\_18GHz\_HP & VP\_CH Mid



— AVG\_MAXH  
 — PK+\_MAXH  
 — TX limits to Spurious Emission FCC1 5.2 47 (1GHz to 26 GHz) Restricted Bands PK Limit  
 — TX limits to Spurious Emission FCC1 5.2 47 (1GHz to 26 GHz) Restricted Bands AVG Limit

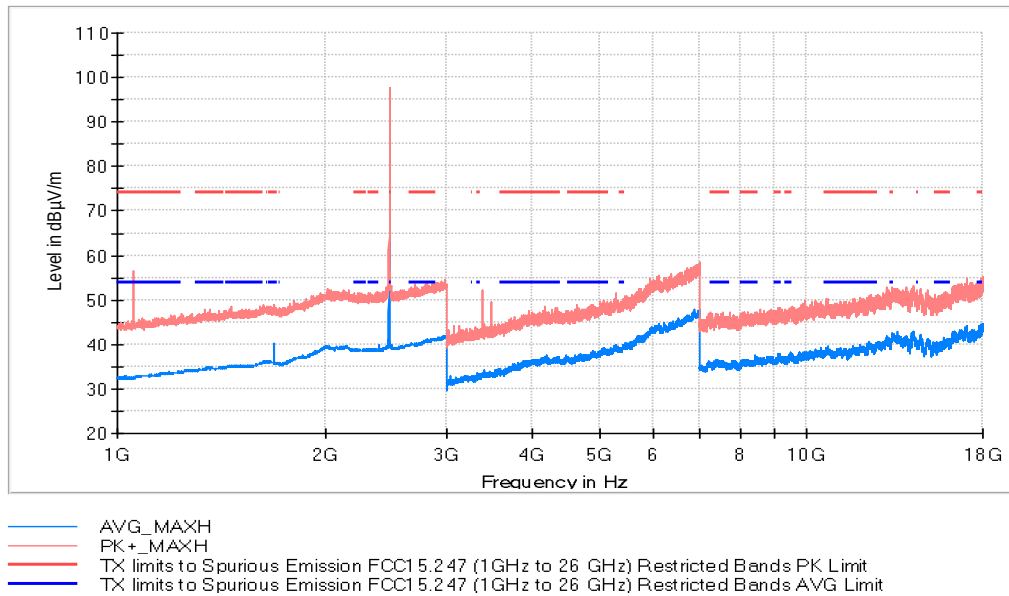
**Maximizations**

| Frequency (MHz) | PK+_MAXH (dBµV/m) | AVG_MAXH (dBµV/m) | Pol | Comment     |
|-----------------|-------------------|-------------------|-----|-------------|
| 1687.000000     | 47.66             | 38.41             | V   |             |
| 2440.000000     | 97.80             | 95.09             | V   | Fundamental |
| 14240.000000    | 50.98             | 42.73             | V   |             |

**TEST RESULTS (Cont.):**

**1-18 GHz (Highest Channel)**

1GHz\_18GHz\_HP & VP\_CH High



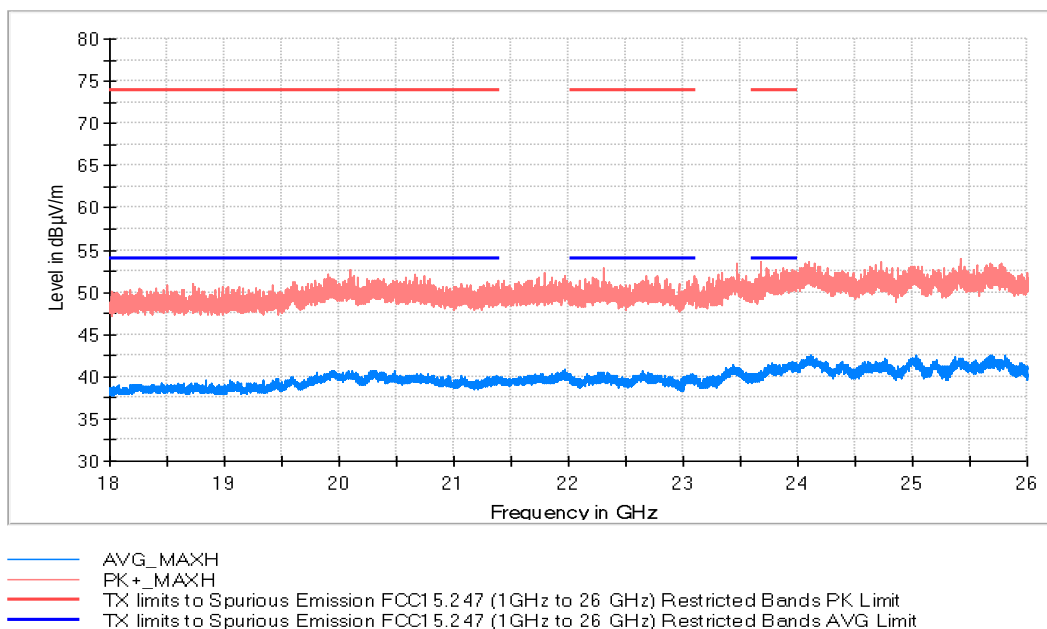
**Maximizations**

| Frequency (MHz) | PK+ MAXH (dBµV/m) | AVG MAXH (dBµV/m) | Pol | Comment     |
|-----------------|-------------------|-------------------|-----|-------------|
| 1687.500000     | 49.01             | 40.23             | V   |             |
| 2480.000000     | 97.68             | 94.89             | V   | Fundamental |
| 14275.500000    | 50.99             | 43.02             | V   |             |

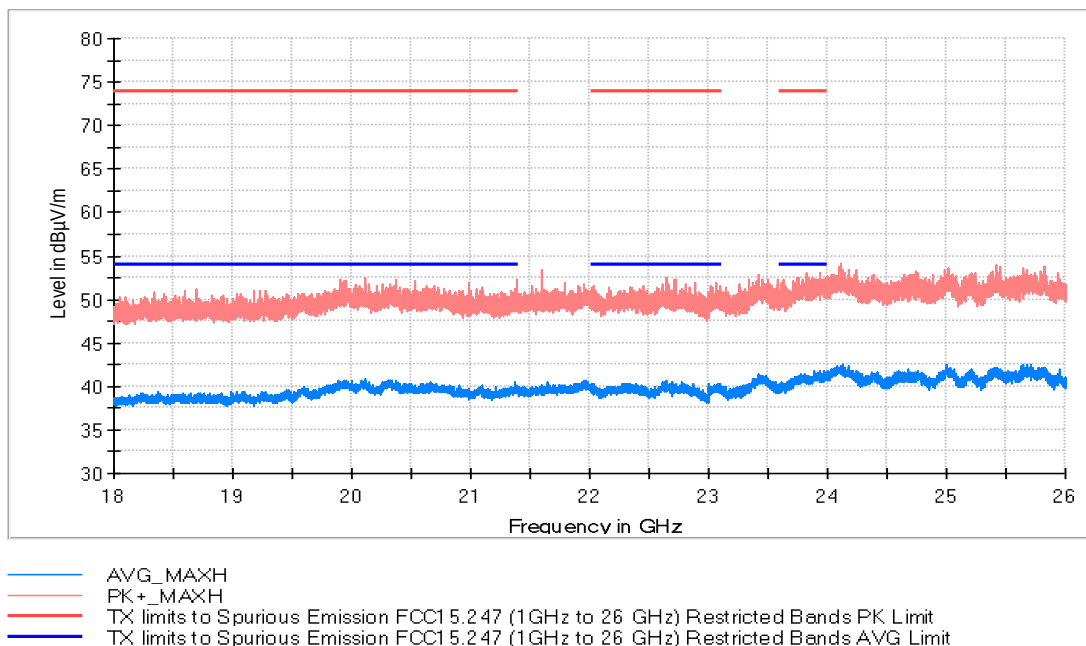
**TEST RESULTS (Cont.):**

**18 – 26 GHz**

**Low Channel**



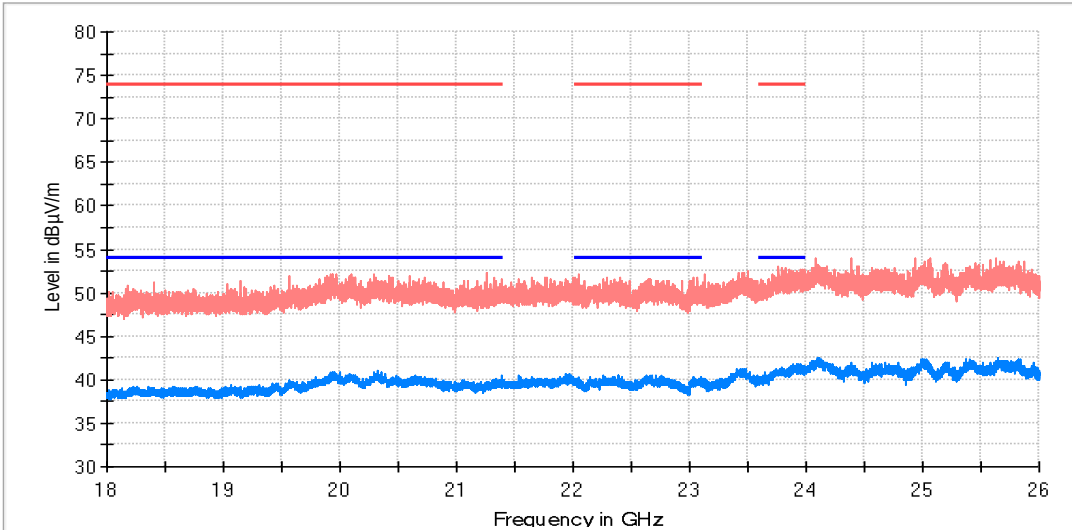
**Middle Channel**



**TEST RESULTS (Cont.):**

**18 – 26 GHz**

**Highest Channel**

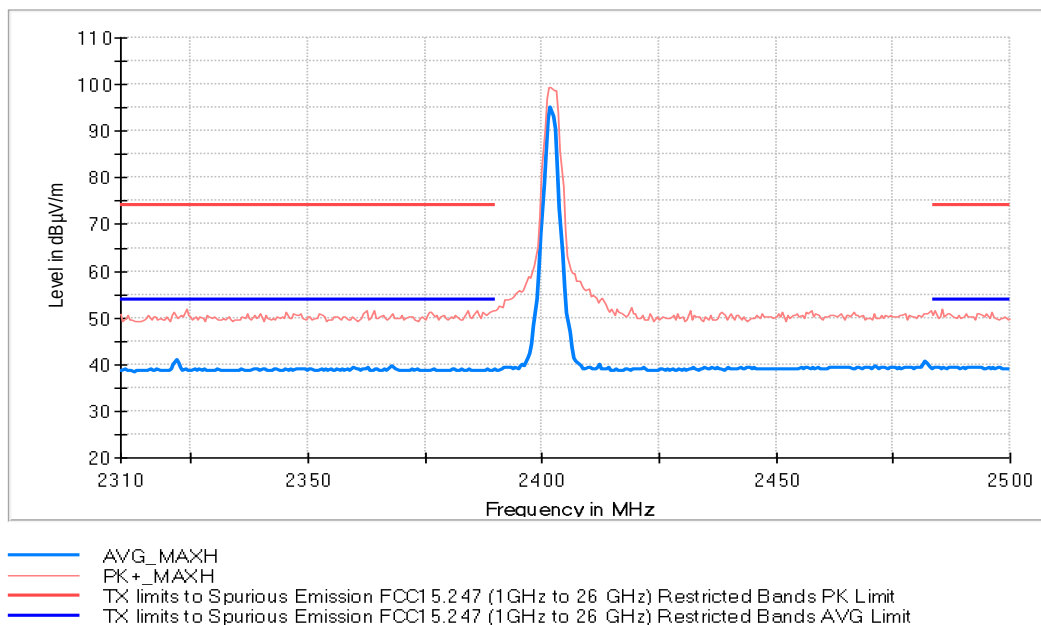


- AVG\_MAXH
- PK+\_MAXH
- TX limits to Spurious Emission FCC1 5.247 (1GHz to 26 GHz) Restricted Bands PK Limit
- TX limits to Spurious Emission FCC1 5.247 (1GHz to 26 GHz) Restricted Bands AVG Limit

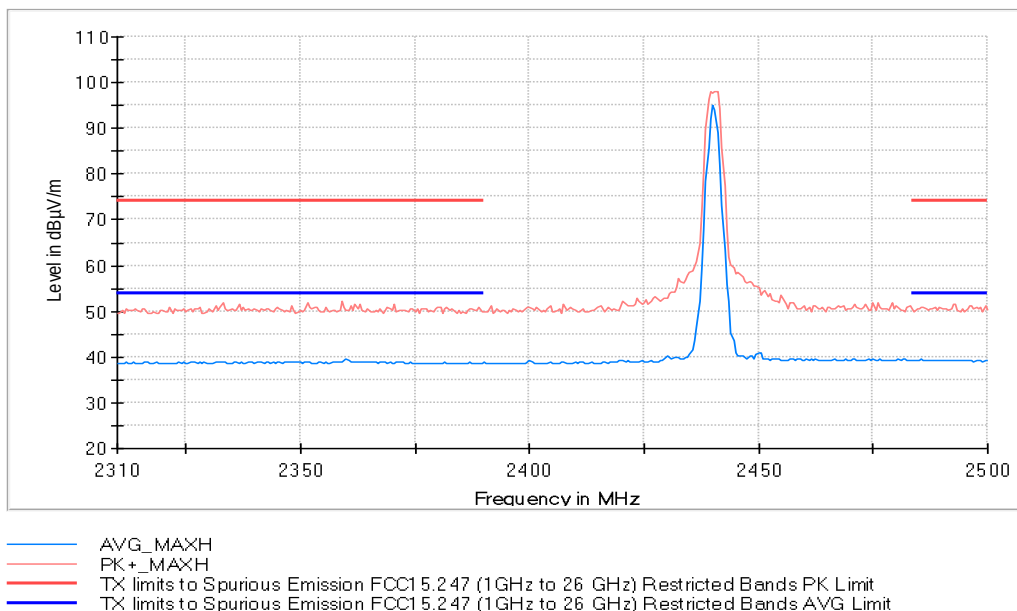
**TEST RESULTS (Cont.):**

**Restricted Bands (2.31 GHz – 2.5 GHz)**

**Low Channel**

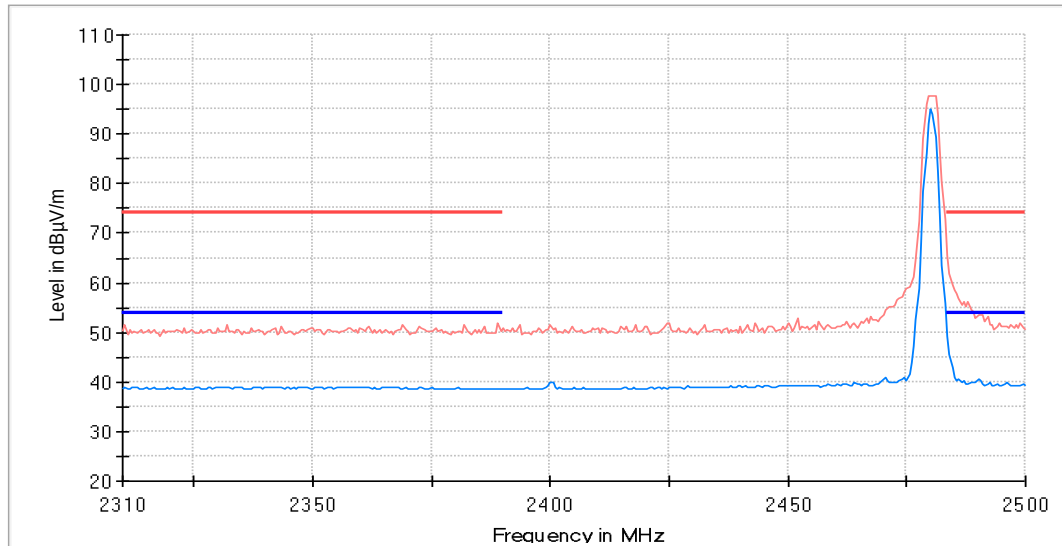


**Middle Channel**



## TEST RESULTS (Cont.):

### Highest Channel



## Appendix B: Test results (WIFI 2.4GHz b/g/n20)

# Appendix B Content

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## PRODUCT INFORMATION

The following information is provided by the supplier, in accordance with clause 5.4.1:

| Information                  | Description                                             |
|------------------------------|---------------------------------------------------------|
| Modulation                   | DSSS/OFDM                                               |
| Maximum RF Output Power      | b mode = 20 dBm<br>g mode = 19.5 dBm<br>n mode = 19 dBm |
| Operation mode               | Equipment with only one antenna                         |
| - Operating Frequency Range  | 2412 – 2472 MHz                                         |
| - Nominal Channel Bandwidth  | 20 MHz                                                  |
| Extreme operating conditions |                                                         |
| - Temperature range          | -40 °C to +85 °C                                        |
| Antenna type                 | Dedicated Antenna                                       |
| Antenna gain                 | +2.5 dBi                                                |
| Nominal Voltage              |                                                         |
| - Supply Voltage             | 3.3 Vdc                                                 |
| - Type of power source       | DC voltage                                              |
| Equipment type               | WIFI 2.4GHz b/g/n20                                     |
| Geo-location capability      | No                                                      |

## DESCRIPTION OF TEST CONDITIONS

During transmitter test the EUT was being controlled by the SW tool to operate in a continuous transmit mode on the test channel as required and in each of the different modulation modes.

| TEST CONDITIONS                  | DESCRIPTION                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TC#01 <sup>(1)</sup><br>(b mode) | <u>Power supply (V):</u><br>$V_{\text{nominal}} = 3.3 \text{ Vdc}$<br><u>Channel Bandwidth:</u> 20 MHz<br><u>Test Frequencies for Conducted/Radiated tests:</u><br>Lowest channel: 2412 MHz<br>Middle channel: 2437 MHz<br>Highest channel: 2462 MHz<br><u>Canada Test Frequency for Conducted/Radiated Tests:</u><br>Highest channel: 2472 MHz |
| TC#02 <sup>(1)</sup><br>(g mode) | <u>Power supply (V):</u><br>$V_{\text{nominal}} = 3.3 \text{ Vdc}$<br><u>Channel Bandwidth:</u> 20 MHz<br><u>Test Frequencies for Conducted/Radiated tests:</u><br>Lowest channel: 2412 MHz<br>Middle channel: 2437 MHz<br>Highest channel: 2462 MHz<br><u>Canada Test Frequency for Conducted/Radiated Tests:</u><br>Highest channel: 2472 MHz |
| TC#03 <sup>(1)</sup><br>(n mode) | <u>Power supply (V):</u><br>$V_{\text{nominal}} = 3.3 \text{ Vdc}$<br><u>Channel Bandwidth:</u> 20 MHz<br><u>Test Frequencies for Conducted:</u><br>Lowest channel: 2412 MHz<br>Middle channel: 2437 MHz<br>Highest channel: 2462 MHz<br><u>Canada Test Frequency for Conducted/Radiated Tests:</u><br>Highest channel: 2472 MHz                |

Note (1): For spurious emissions for OFDM modes 802.11g and 802.11n20 a preliminary scan was performed to determine the worst case. The following tables and plots show the results for the worst case in DSSS modulation (802.11b) and OFDM modulation (802.11g).

The data rates of 1Mb/s for 802.11b, 6Mb/s for 802.11g, MCS0 for 802.11n20/n40 were selected based on preliminary testing that identified those rates corresponding to the worst cases.

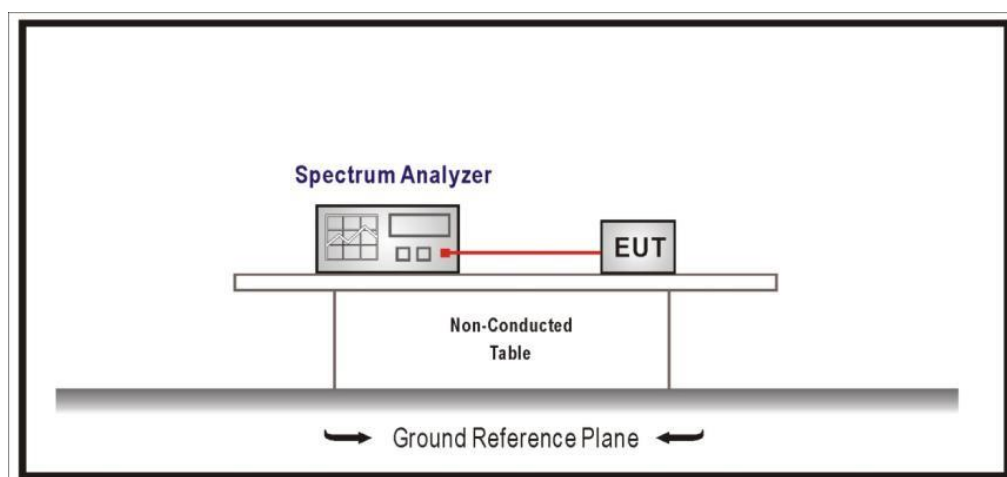
## TEST B.1: 99% OCCUPIED BANDWIDTH AND 6DB BANDWIDTH

|                |                   |                                                             |
|----------------|-------------------|-------------------------------------------------------------|
| <b>LIMITS:</b> | Product standard: | Part 15 Subpart C §15.247 and RSS-247                       |
|                | Test standard:    | §2.1049, Part 15 Subpart C §15.247(a)(2) and RSS-247 5.2(a) |

### LIMITS

Systems using digital modulation techniques may operate in the 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 KHz.

### TEST SETUP



|                                 |                |
|---------------------------------|----------------|
| <b>TESTED SAMPLES:</b>          | S/01           |
| <b>TESTED CONDITIONS MODES:</b> | TC#01 (b mode) |
| <b>TEST RESULTS:</b>            | PASS           |

Type of equipment: Adaptive equipment without the possibility to switch to a non-adaptive mode.

|                               | Lowest frequency<br>2412 MHz | Middle frequency<br>2437 MHz | Highest frequency<br>2462 MHz |
|-------------------------------|------------------------------|------------------------------|-------------------------------|
| 6dB Bandwidth (MHz)           | 10.30                        | 10.30                        | 10.30                         |
| Occupied bandwidth (MHz)      | 14.4                         | 14.2                         | 14.2                          |
| Measurement uncertainty (kHz) | <± 1.80                      |                              |                               |

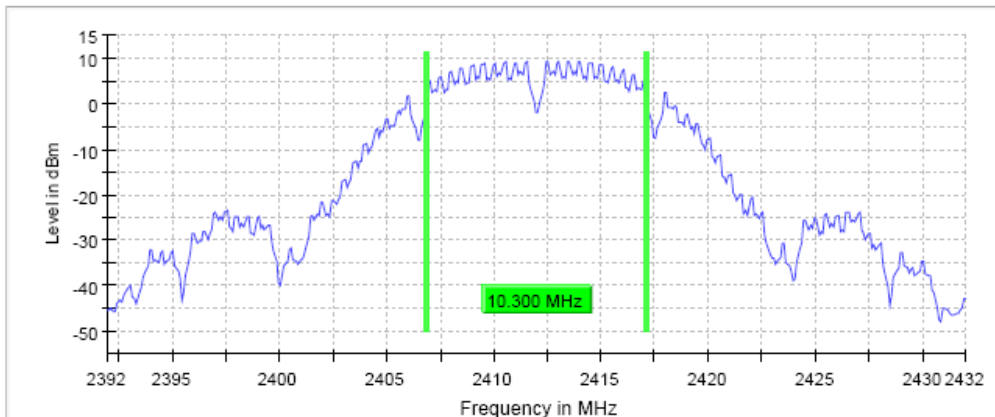
#### 6dB Measurement

| Setting               | Instrument Value | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|------------------|
| Start Frequency       | 2.39200 GHz      | 2.41700 GHz      | 2.44200 GHz      |
| Stop Frequency        | 2.43200 GHz      | 2.45700 GHz      | 2.48200 GHz      |
| Span                  | 40.00 MHz        | 40.000 MHz       | 40.000 MHz       |
| RBW                   | 100.000 kHz      | 100.000 kHz      | 100.000 kHz      |
| VBW                   | 300.000 kHz      | 300.000 kHz      | 300.000 kHz      |
| Sweep Points          | 400              | 800              | 400              |
| Sweep time            | 56.886 µs        | 56.836 µs        | 56.886 µs        |
| Reference Level       | 20.000 dBm       | 20.000 dBm       | 20.000 dBm       |
| Attenuation           | 40.000 dB        | 40.000 dB        | 40.000 dB        |
| Detector              | MaxPeak          | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              | 100              |
| Filter                | 3 dB             | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              | FFT              |
| Preamplifier          | off              | off              | off              |
| Stable mode           | Trace            | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          | 0.50 dB          |
| Run                   | 9 / max. 150     | 8 / max. 150     | 14 / max. 150    |
| Stable                | 5 / 5            | 5 / 5            | 5 / 5            |
| Max Stable Difference | 0.24 dB          | 0.11 dB          | 0.00 dB          |

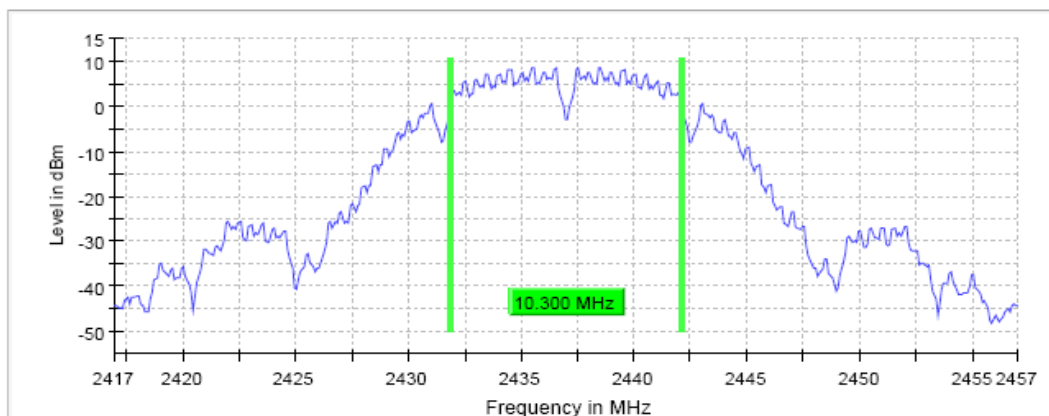
**TEST RESULTS (Cont.):**

**6 dB BANDWIDTH**

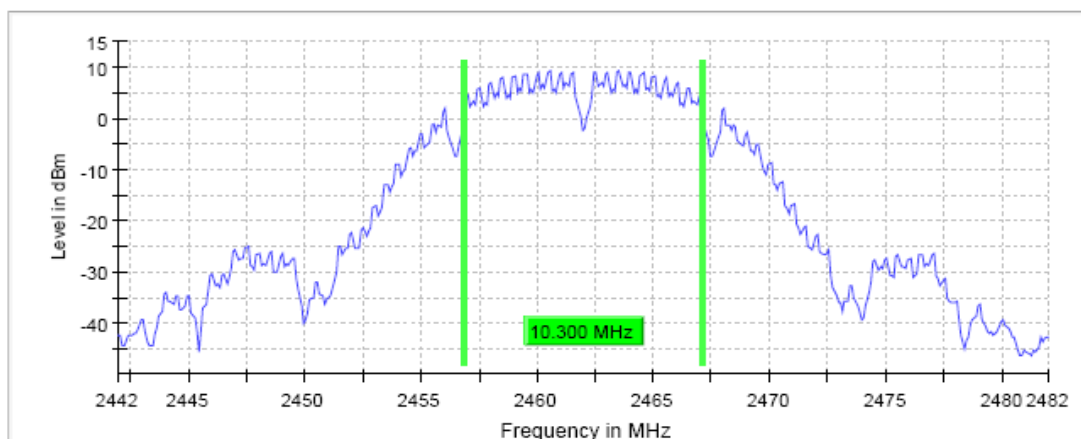
**Lowest Channel**



**Middle Channel**



**Highest Channel**



**TEST RESULTS (Cont.):**

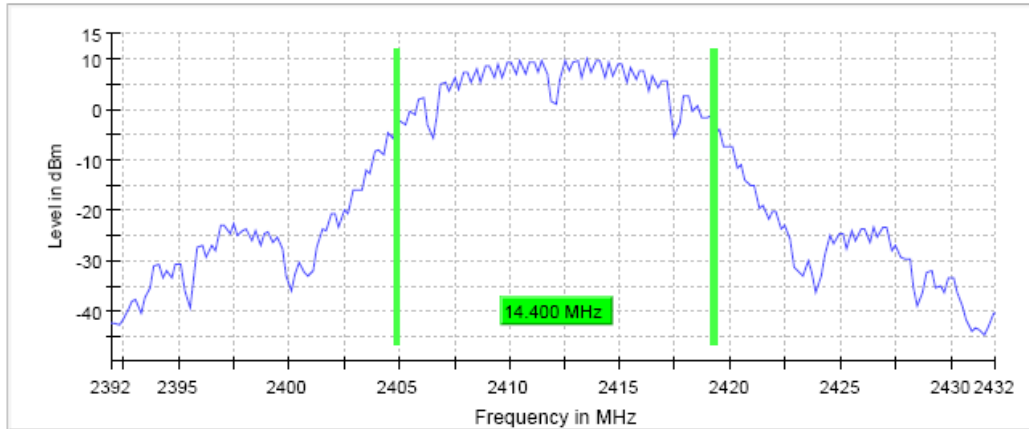
**OBW Measurement**

| Setting               | Instrument Value | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|------------------|
| Start Frequency       | 2.39200 GHz      | 2.41700 GHz      | 2.44200 GHz      |
| Stop Frequency        | 2.43200 GHz      | 2.45700 GHz      | 2.48200 GHz      |
| Span                  | 40.00 MHz        | 40.000 MHz       | 40.000 MHz       |
| RBW                   | 200.000 kHz      | 200.000 kHz      | 200.000 kHz      |
| VBW                   | 1.000 MHz        | 1.000 MHz        | 1.000 MHz        |
| Sweep Points          | 200              | 200              | 200              |
| Sweep time            | 28.443 $\mu$ s   | 28.443 $\mu$ s   | 28.443 $\mu$ s   |
| Reference Level       | 20.000 dBm       | 20.000 dBm       | 20.000 dBm       |
| Attenuation           | 40.000 dB        | 40.000 dB        | 40.000 dB        |
| Detector              | MaxPeak          | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              | 100              |
| Filter                | 3 dB             | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              | FFT              |
| Preamplifier          | off              | off              | off              |
| Stable mode           | Trace            | Trace            | Trace            |
| Stable value          | 0.30 dB          | 0.30 dB          | 0.30 dB          |
| Run                   | 4 / max. 150     | 6 / max. 150     | 9 / max. 150     |
| Stable                | 3 / 3            | 3 / 3            | 3 / 3            |
| Max Stable Difference | 0.28 dB          | 0.15 dB          | 0.02 dB          |

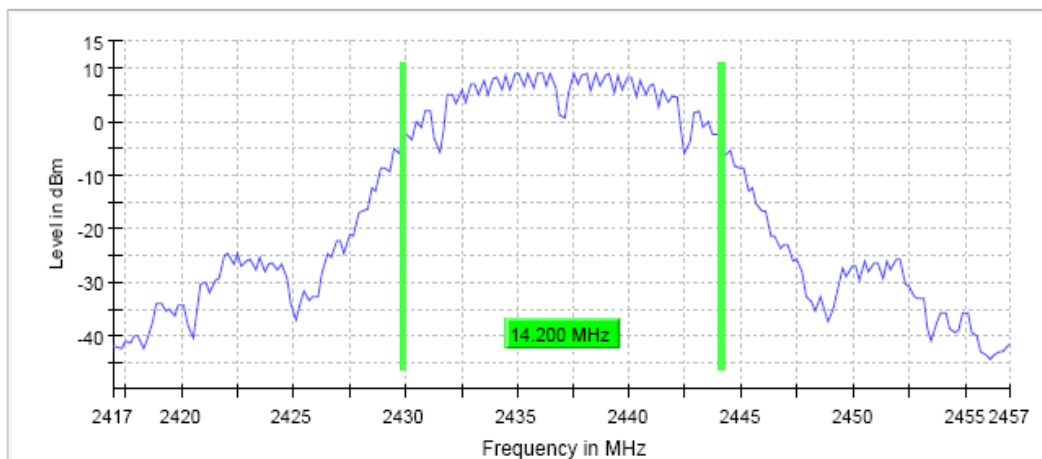
**TEST RESULTS (Cont.):**

**OCCUPIED BANDWIDTH**

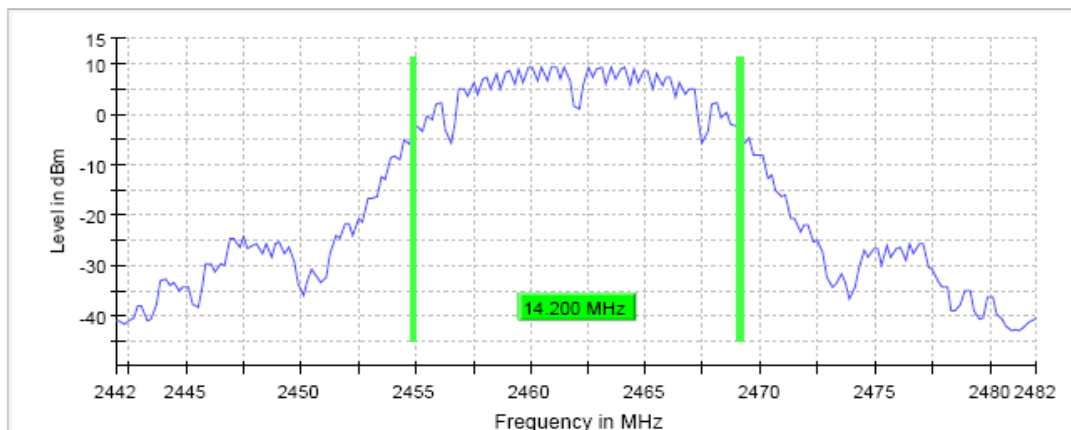
**Lowest Channel**



**Middle Channel**



**Highest Channel**



|                                 |                |
|---------------------------------|----------------|
| <b>TESTED SAMPLES:</b>          | S/01           |
| <b>TESTED CONDITIONS MODES:</b> | TC#02 (g mode) |
| <b>TEST RESULTS:</b>            | PASS           |

|                               |                              |                              |                               |
|-------------------------------|------------------------------|------------------------------|-------------------------------|
|                               | Lowest frequency<br>2412 MHz | Middle frequency<br>2437 MHz | Highest frequency<br>2462 MHz |
| 6dB bandwidth (MHz)           | 16.50                        | 16.5                         | 16.5                          |
| Occupied bandwidth (MHz)      | 17.2                         | 17                           | 17                            |
| Measurement uncertainty (kHz) | <± 1.80                      |                              |                               |

#### 6dB Measurement

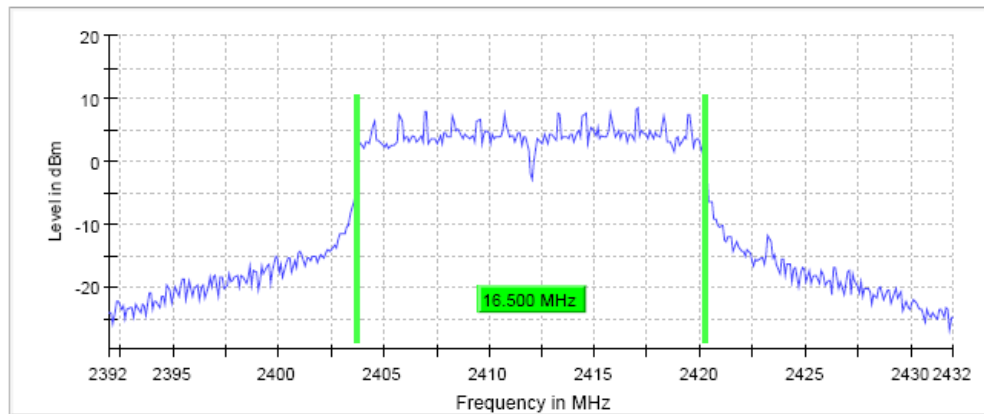
| Setting               | Instrument Value | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|------------------|
| Start Frequency       | 2.39200 GHz      | 2.41700 GHz      | 2.44200 GHz      |
| Stop Frequency        | 2.43200 GHz      | 2.45700 GHz      | 2.48200 GHz      |
| Span                  | 40.00 MHz        | 40.000 MHz       | 40.000 MHz       |
| RBW                   | 100.000 kHz      | 100.000 kHz      | 100.000 kHz      |
| VBW                   | 300.000 kHz      | 300.000 kHz      | 300.000 kHz      |
| Sweep Points          | 800              | 800              | 400              |
| Sweep time            | 56.836 µs        | 56.836 µs        | 56.886 µs        |
| Reference Level       | 20.000 dBm       | 20.000 dBm       | 10.000 dBm       |
| Attenuation           | 40.000 dB        | 40.000 dB        | 30.000 dB        |
| Detector              | MaxPeak          | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              | 100              |
| Filter                | 3 dB             | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              | FFT              |
| Preamp                | off              | off              | off              |
| Stable mode           | Trace            | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          | 0.50 dB          |
| Run                   | 34 / max. 150    | 37 / max. 150    | 39 / max. 150    |
| Stable                | 5 / 5            | 5 / 5            | 5 / 5            |
| Max Stable Difference | 0.47 dB          | 0.13 dB          | 0.08 dB          |



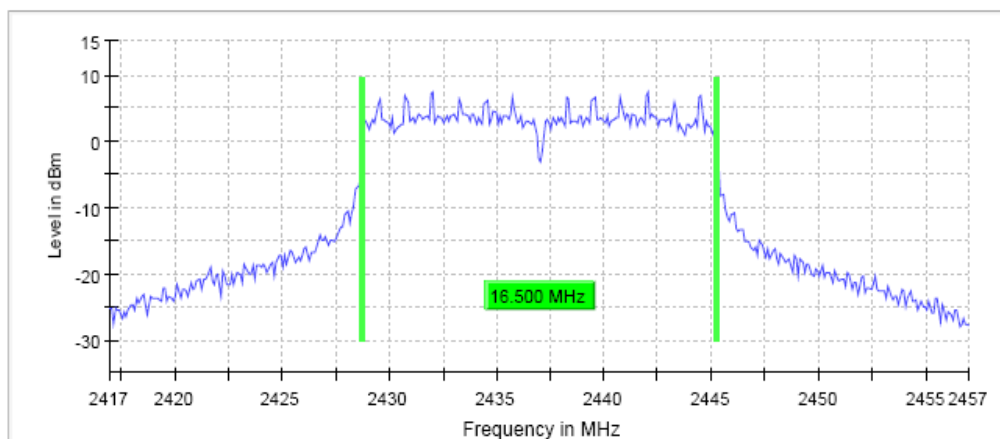
**TEST RESULTS (Cont.):**

**6 dB BANDWIDTH**

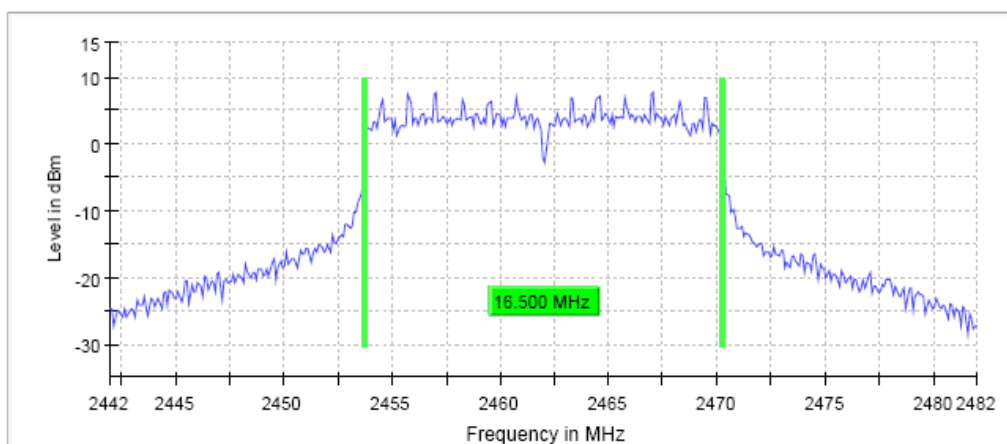
**Lowest Channel**



**Middle Channel**



**Highest Channel**



**TEST RESULTS (Cont.):**

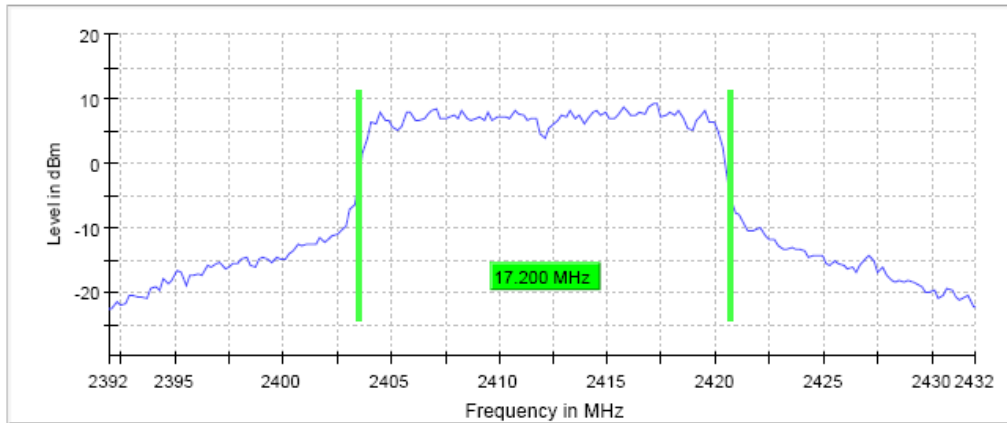
**OBW Measurement**

| Setting               | Instrument Value | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|------------------|
| Start Frequency       | 2.39200 GHz      | 2.41700 GHz      | 2.44200 GHz      |
| Stop Frequency        | 2.43200 GHz      | 2.45700 GHz      | 2.48200 GHz      |
| Span                  | 40.00 MHz        | 40.000 MHz       | 40.000 MHz       |
| RBW                   | 200.000 kHz      | 200.000 kHz      | 200.000 kHz      |
| VBW                   | 1.000 MHz        | 1.000 MHz        | 1.000 MHz        |
| Sweep Points          | 200              | 200              | 200              |
| Sweep time            | 28.443 $\mu$ s   | 28.443 $\mu$ s   | 28.443 $\mu$ s   |
| Reference Level       | 20.000 dBm       | 20.000 dBm       | 20.000 dBm       |
| Attenuation           | 40.000 dB        | 40.000 dB        | 40.000 dB        |
| Detector              | MaxPeak          | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              | 100              |
| Filter                | 3 dB             | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              | FFT              |
| Preamplifier          | off              | off              | off              |
| Stable mode           | Trace            | Trace            | Trace            |
| Stable value          | 0.30 dB          | 0.30 dB          | 0.30 dB          |
| Run                   | 38 / max. 150    | 39 / max. 150    | 41 / max. 150    |
| Stable                | 3 / 3            | 3 / 3            | 3 / 3            |
| Max Stable Difference | 0.09 dB          | 0.07 dB          | 0.00 dB          |

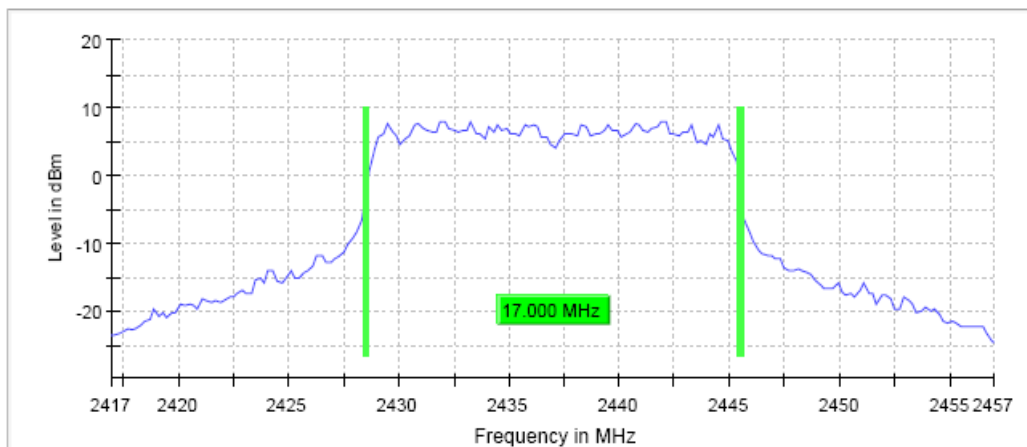
**TEST RESULTS (Cont.):**

**OCCUPIED BANDWIDTH**

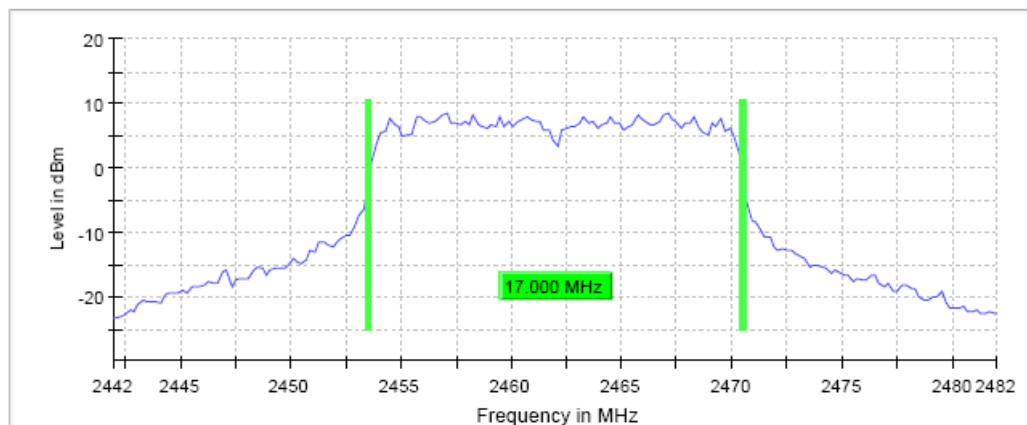
**Lowest Channel**



**Middle Channel**



**Highest Channel**



|                                 |                  |
|---------------------------------|------------------|
| <b>TESTED SAMPLES:</b>          | S/01             |
| <b>TESTED CONDITIONS MODES:</b> | TC#03 (n20 mode) |
| <b>TEST RESULTS:</b>            | PASS             |

|                               | Lowest frequency<br>2412 MHz | Middle frequency<br>2437 MHz | Highest frequency<br>2462 MHz |
|-------------------------------|------------------------------|------------------------------|-------------------------------|
| 6dB bandwidth (MHz)           | 17.7                         | 17.7                         | 17.1                          |
| Occupied bandwidth (MHz)      | 18.2                         | 17.8                         | 17.8                          |
| Measurement uncertainty (kHz) | <± 1.80                      |                              |                               |

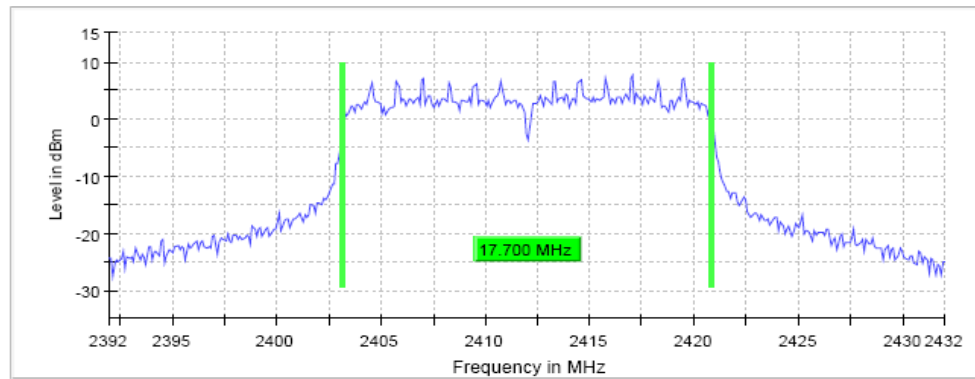
#### 6dB Measurement

| Setting               | Instrument Value | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|------------------|
| Start Frequency       | 2.39200 GHz      | 2.41700 GHz      | 2.44200 GHz      |
| Stop Frequency        | 2.43200 GHz      | 2.45700 GHz      | 2.48200 GHz      |
| Span                  | 40.00 MHz        | 40.000 MHz       | 40.000 MHz       |
| RBW                   | 100.000 kHz      | 100.000 kHz      | 100.000 kHz      |
| VBW                   | 300.000 kHz      | 300.000 kHz      | 300.000 kHz      |
| Sweep Points          | 400              | 400              | 400              |
| Sweep time            | 56.886 µs        | 56.886 µs        | 56.886 µs        |
| Reference Level       | 20.000 dBm       | 20.000 dBm       | 10.000 dBm       |
| Attenuation           | 40.000 dB        | 40.000 dB        | 30.000 dB        |
| Detector              | MaxPeak          | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              | 100              |
| Filter                | 3 dB             | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              | FFT              |
| Preamp                | off              | off              | off              |
| Stable mode           | Trace            | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          | 0.50 dB          |
| Run                   | 33 / max. 150    | 36 / max. 150    | 34 / max. 150    |
| Stable                | 5 / 5            | 5 / 5            | 5 / 5            |
| Max Stable Difference | 0.38 dB          | 0.49 dB          | 0.31 dB          |

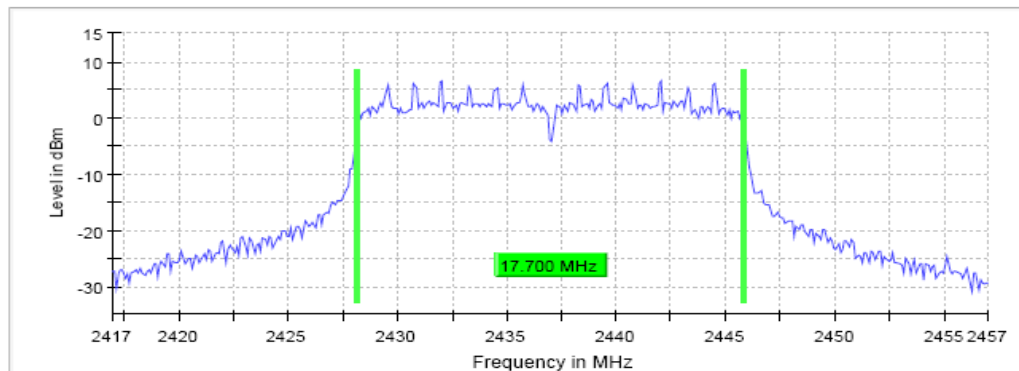
**TEST RESULTS (Cont.):**

**6 dB BANDWIDTH**

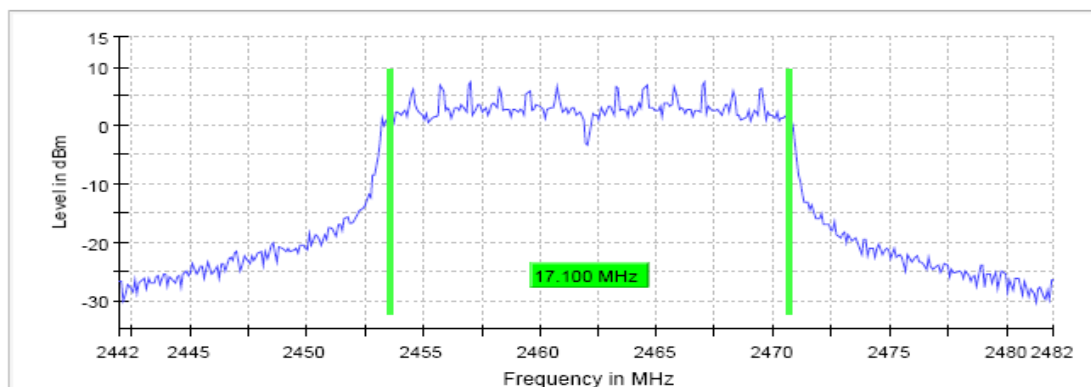
**Lowest Channel**



**Middle Channel**



**Highest Channel**



## TEST RESULTS (Cont.):

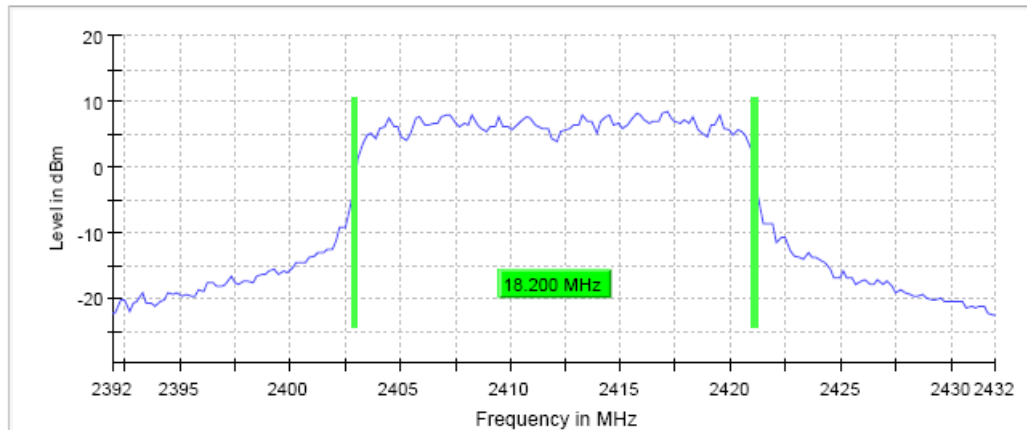
### OBW Measurement

| Setting               | Instrument Value | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|------------------|
| Start Frequency       | 2.39200 GHz      | 2.41700 GHz      | 2.44200 GHz      |
| Stop Frequency        | 2.43200 GHz      | 2.45700 GHz      | 2.48200 GHz      |
| Span                  | 40.00 MHz        | 40.000 MHz       | 40.000 MHz       |
| RBW                   | 200.000 kHz      | 200.000 kHz      | 200.000 kHz      |
| VBW                   | 1.000 MHz        | 1.000 MHz        | 1.000 MHz        |
| Sweep Points          | 200              | 200              | 200              |
| Sweep time            | 28.443 $\mu$ s   | 28.443 $\mu$ s   | 28.443 $\mu$ s   |
| Reference Level       | 20.000 dBm       | 20.000 dBm       | 20.000 dBm       |
| Attenuation           | 40.000 dB        | 40.000 dB        | 40.000 dB        |
| Detector              | MaxPeak          | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              | 100              |
| Filter                | 3 dB             | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              | FFT              |
| Preamp                | off              | off              | off              |
| Stable mode           | Trace            | Trace            | Trace            |
| Stable value          | 0.30 dB          | 0.30 dB          | 0.30 dB          |
| Run                   | 56 / max. 150    | 36 / max. 150    | 56 / max. 150    |
| Stable                | 3 / 3            | 3 / 3            | 3 / 3            |
| Max Stable Difference | 0.00 dB          | 0.27 dB          | 0.00 dB          |

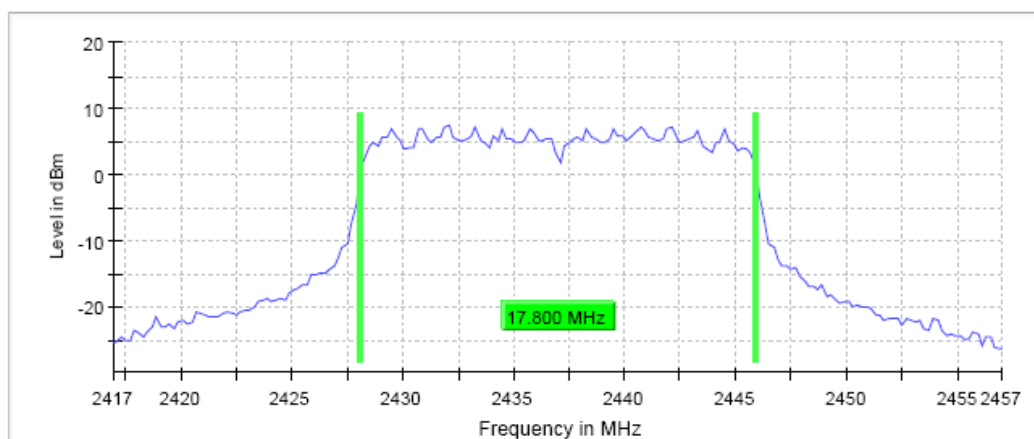
**TEST RESULTS (Cont.):**

**OCCUPIED BANDWIDTH**

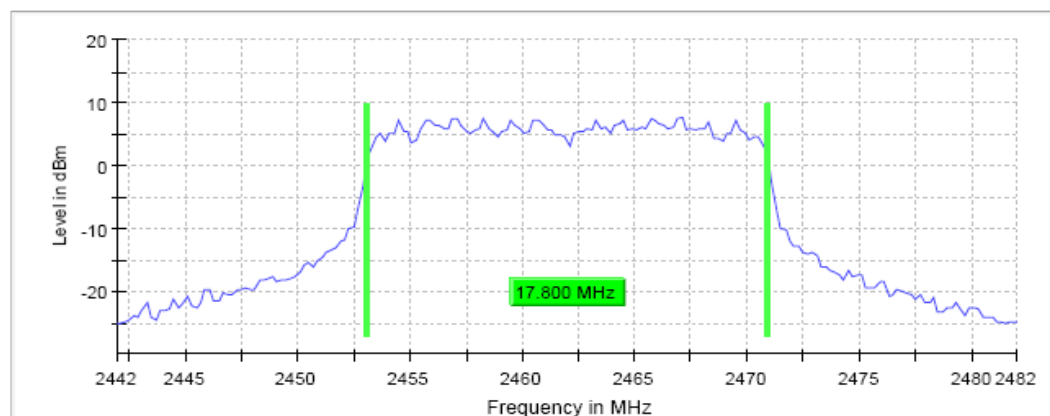
**Lowest Channel**



**Middle Channel**



**Highest Channel**



## TEST B.2: MAXIMUM CONDUCTED OUTPUT POWER AND ANTENNA GAIN

|                |                   |                                                 |
|----------------|-------------------|-------------------------------------------------|
| <b>LIMITS:</b> | Product standard: | Part 15 Subpart C §15.247 and RSS-247           |
|                | Test standard:    | Part 15 Subpart C §15.247(b) and RSS-247 5.4(d) |

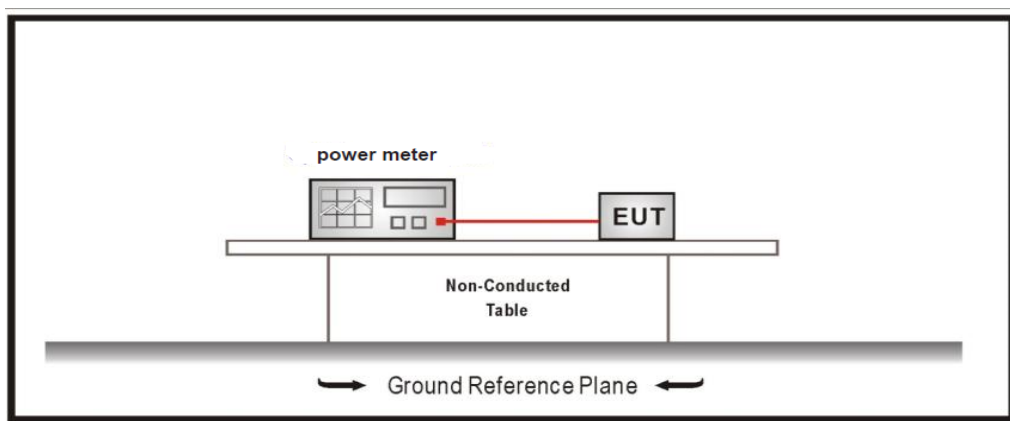
### LIMITS

For systems using digital modulation in the 2400 -2483.5 MHz band: 1 watt (30 dBm).

The e.i.r.p. shall not exceed 4 W (RSS-247).

### **TEST SETUP**

The EIRP power (dBm) is calculated by adding the declared maximum antenna gain to the measured conducted power





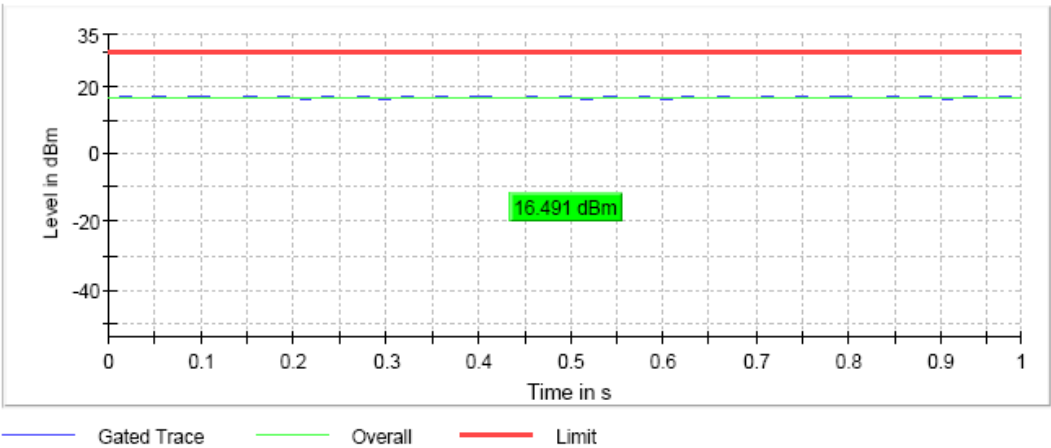
|                                 |                |
|---------------------------------|----------------|
| <b>TESTED SAMPLES:</b>          | S/01           |
| <b>TESTED CONDITIONS MODES:</b> | TC#01 (b mode) |
| <b>TEST RESULTS:</b>            | PASS           |

Maximum declared antenna gain: 2.5 dBi

|                               | Lowest frequency<br>2412 MHz | Middle frequency<br>2437 MHz | Highest frequency<br>2462 MHz |
|-------------------------------|------------------------------|------------------------------|-------------------------------|
| Maximum conducted power (dBm) | 16.5                         | 16.4                         | 16.4                          |
| Maximum EIRP power (dBm)      | 19                           | 18.9                         | 18.9                          |
| Measurement uncertainty (dB)  | <±0.78                       |                              |                               |

The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

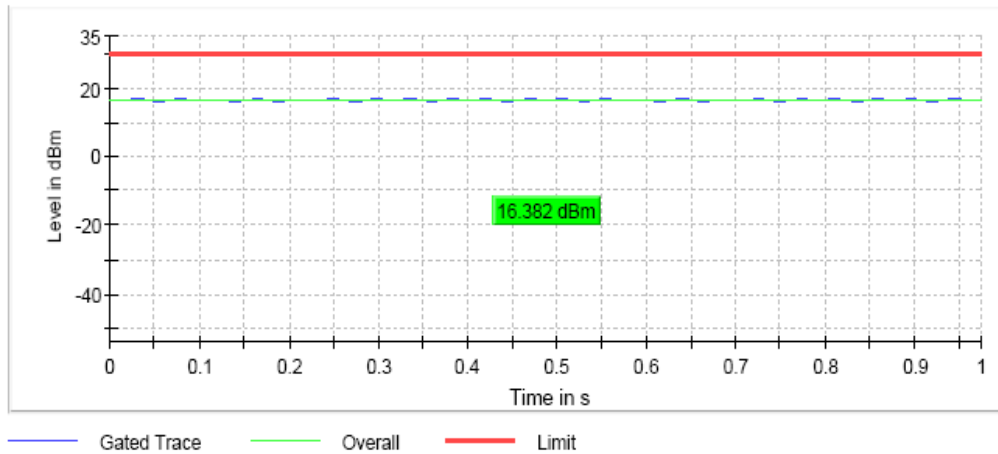
**Lowest Channel**



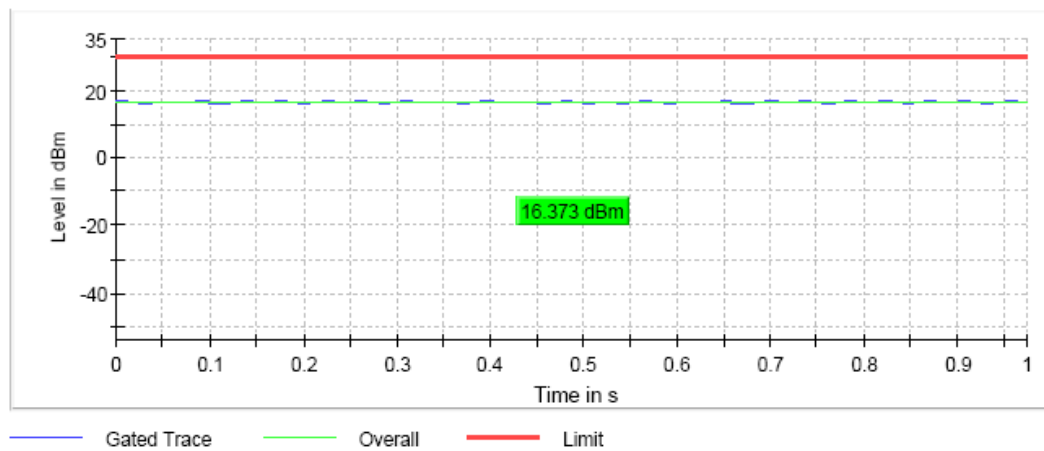
**TEST RESULTS (Cont.):**

**CONDUCTED OUTPUT POWER**

**Middle Channel**



**Highest Channel**



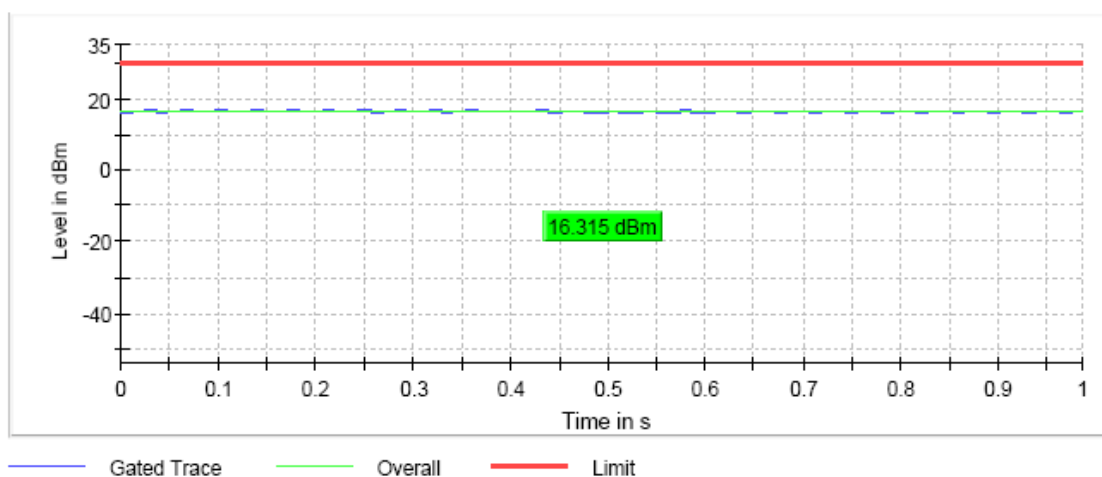
|                                 |                            |
|---------------------------------|----------------------------|
| <b>TESTED SAMPLES:</b>          | S/01                       |
| <b>TESTED CONDITIONS MODES:</b> | TC#01 (b mode) RSS Channel |
| <b>TEST RESULTS:</b>            | PASS                       |

Maximum declared antenna gain: 2.5 dBi

|                               |                               |
|-------------------------------|-------------------------------|
|                               | Highest frequency<br>2472 MHz |
| Maximum conducted power (dBm) | 16.3                          |
| Maximum EIRP power (dBm)      | 18.8                          |
| Measurement uncertainty (dB)  | <±0.78                        |

The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

#### Highest Channel



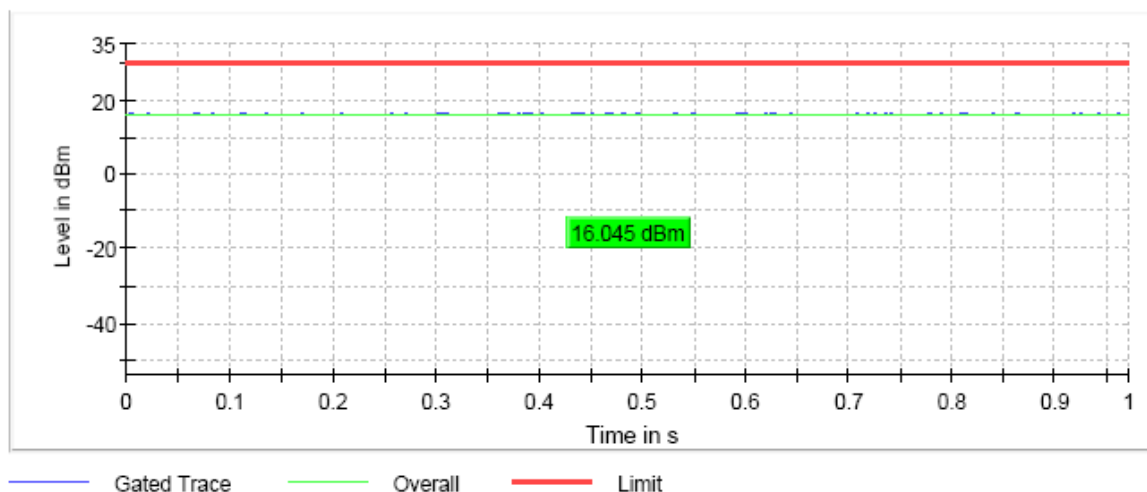
|                                 |                |
|---------------------------------|----------------|
| <b>TESTED SAMPLES:</b>          | S/01           |
| <b>TESTED CONDITIONS MODES:</b> | TC#02 (g mode) |
| <b>TEST RESULTS:</b>            | PASS           |

Maximum declared antenna gain: 2.5 dBi

|                               | Lowest frequency<br>2412 MHz | Middle frequency<br>2437 MHz | Highest frequency<br>2462 MHz |
|-------------------------------|------------------------------|------------------------------|-------------------------------|
| Maximum conducted power (dBm) | 16                           | 15.9                         | 15.9                          |
| Maximum EIRP power (dBm)      | 18.5                         | 18.4                         | 18.4                          |
| Measurement uncertainty (dB)  | <±0.78                       |                              |                               |

The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

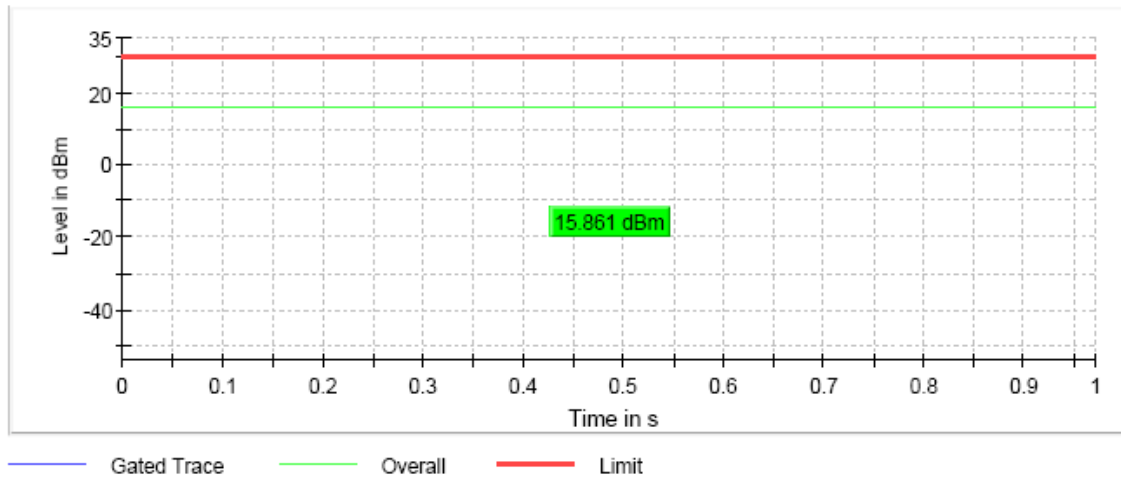
#### Lowest Channel



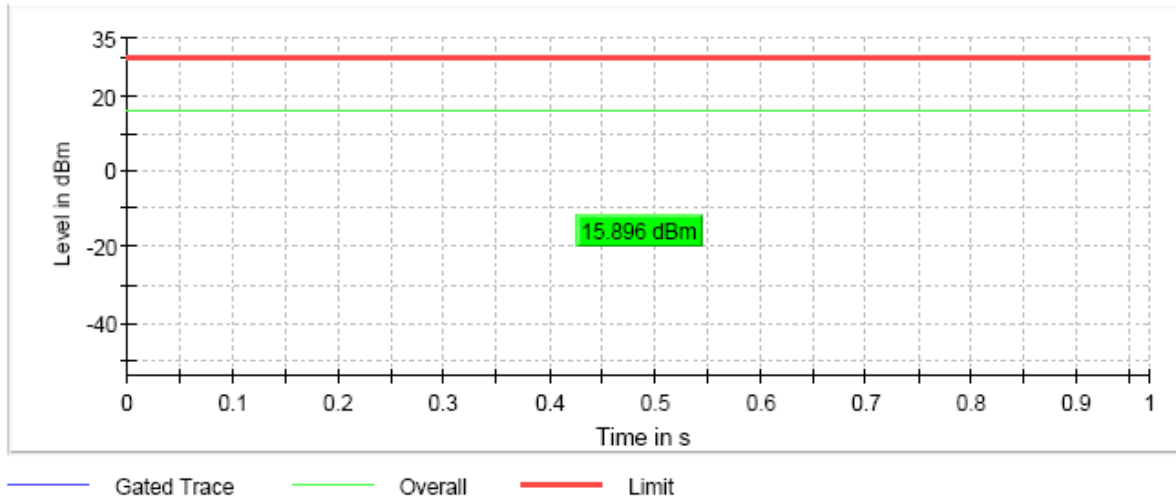
**TEST RESULTS (Cont.):**

**CONDUCTED OUTPUT POWER**

**Middle Channel**



**Highest Channel**



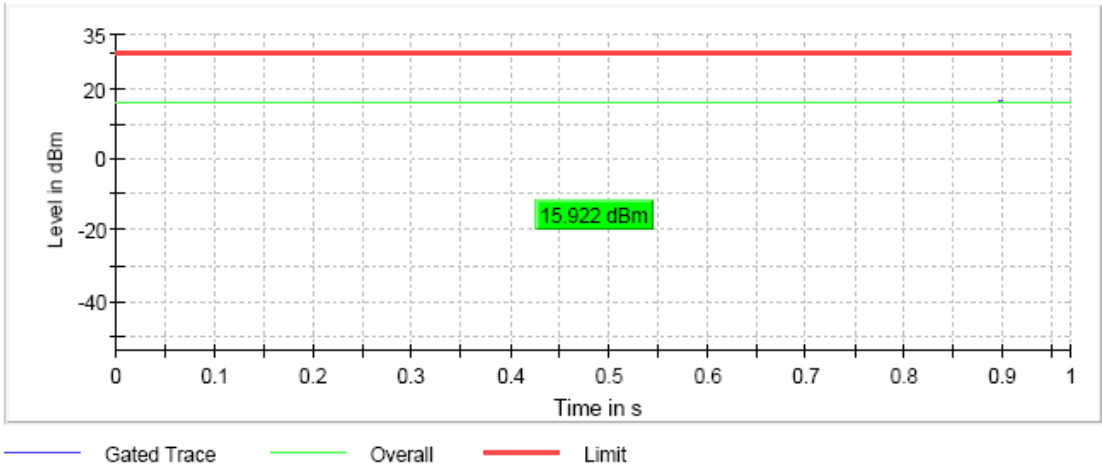
|                          |                            |
|--------------------------|----------------------------|
| TESTED SAMPLES:          | S/01                       |
| TESTED CONDITIONS MODES: | TC#02 (g mode) RSS Channel |
| TEST RESULTS:            | PASS                       |

Maximum declared antenna gain: 2.5 dBi

|                               |                               |
|-------------------------------|-------------------------------|
|                               | Highest frequency<br>2472 MHz |
| Maximum conducted power (dBm) | 15.9                          |
| Maximum EIRP power (dBm)      | 18.4                          |
| Measurement uncertainty (dB)  | <±0.78                        |

The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

Highest Channel



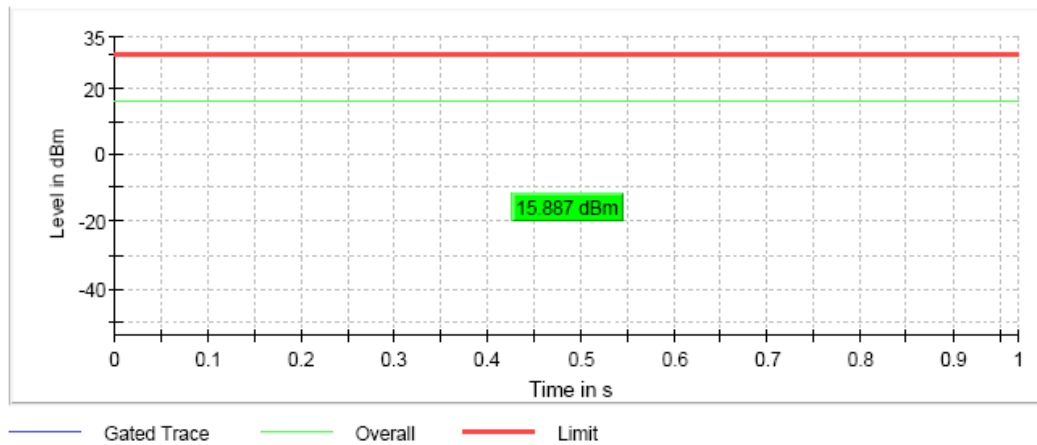
|                                 |                  |
|---------------------------------|------------------|
| <b>TESTED SAMPLES:</b>          | S/01             |
| <b>TESTED CONDITIONS MODES:</b> | TC#03 (n20 mode) |
| <b>TEST RESULTS:</b>            | PASS             |

Maximum declared antenna gain: 2.5 dBi

|                               | Lowest frequency<br>2412 MHz | Middle frequency<br>2437 MHz | Highest frequency<br>2462 MHz |
|-------------------------------|------------------------------|------------------------------|-------------------------------|
| Maximum conducted power (dBm) | 15.9                         | 15.5                         | 15.6                          |
| Maximum EIRP power (dBm)      | 18.4                         | 18.0                         | 18.1                          |
| Measurement uncertainty (dB)  | <±0.78                       |                              |                               |

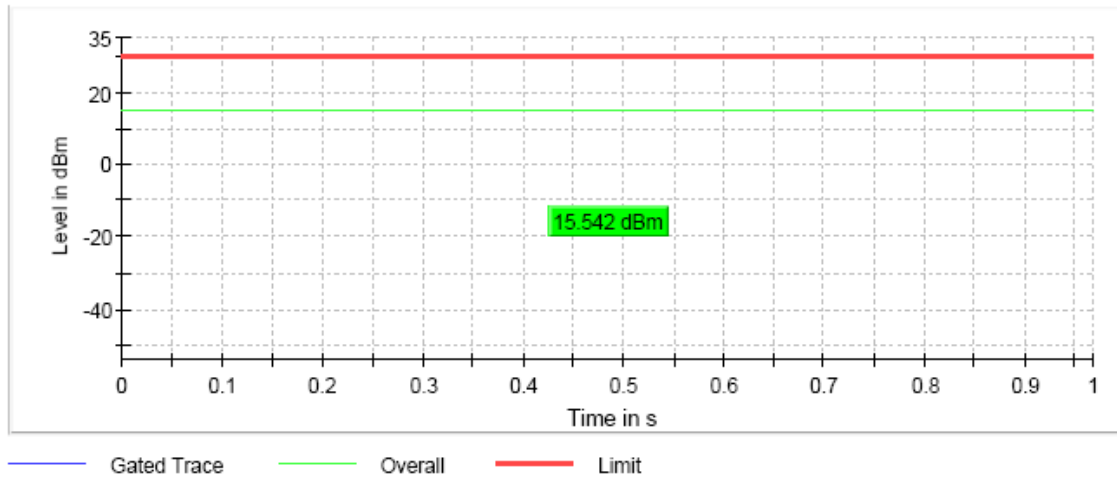
The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

#### Lowest Channel

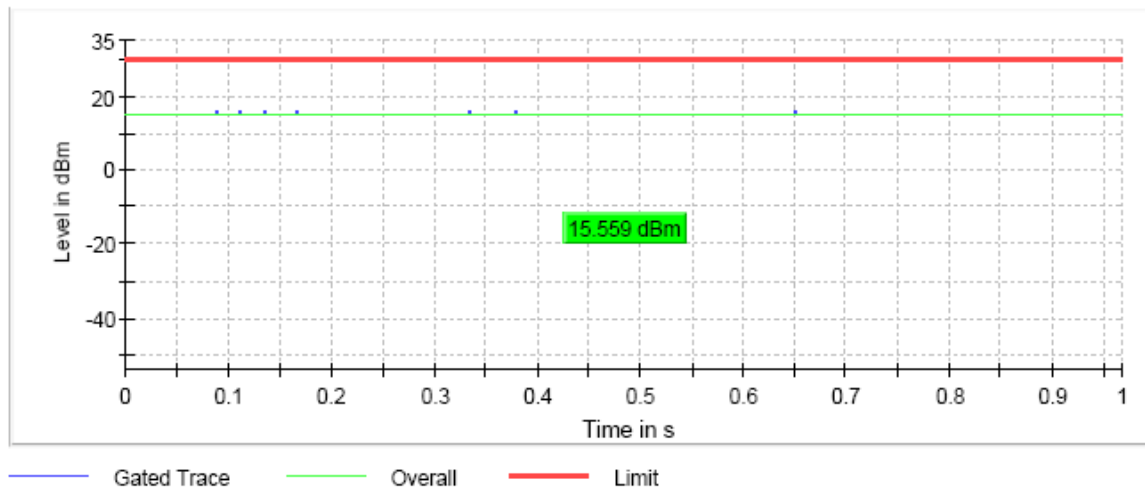


## TEST RESULTS (Cont.)

### Middle Channel



### Highest Channel





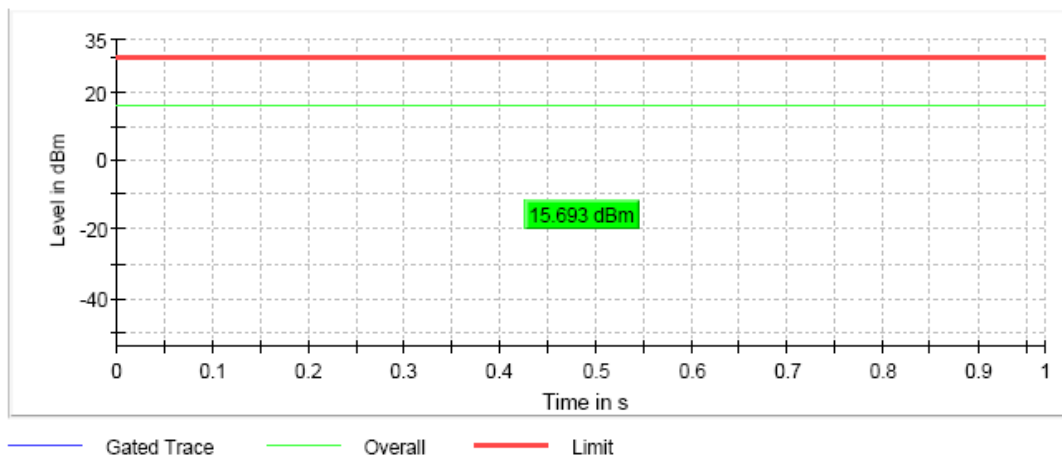
|                                 |                            |
|---------------------------------|----------------------------|
| <b>TESTED SAMPLES:</b>          | S/01                       |
| <b>TESTED CONDITIONS MODES:</b> | TC#03 (n mode) RSS Channel |
| <b>TEST RESULTS:</b>            | PASS                       |

Maximum declared antenna gain: 2.5 dBi

|                               |                               |
|-------------------------------|-------------------------------|
|                               | Highest frequency<br>2472 MHz |
| Maximum conducted power (dBm) | 15.7                          |
| Maximum EIRP power (dBm)      | 18.2                          |
| Measurement uncertainty (dB)  | <±0.78                        |

The maximum directional gain of the antenna is less than 6 dBi and therefore the maximum output power is not required to be reduced from the stated values.

#### Highest Channel



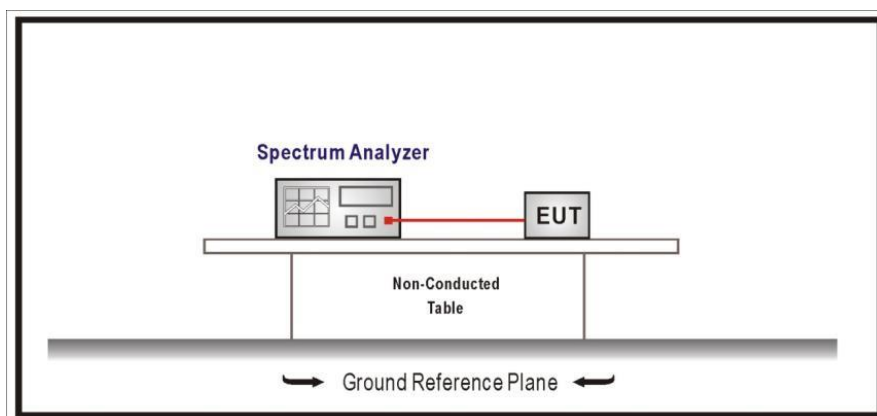
## TEST B.3: BAND-EDGE EMISSIONS COMPLIANCE (TRANSMITTER)

|                |                   |                                              |
|----------------|-------------------|----------------------------------------------|
| <b>LIMITS:</b> | Product standard: | Part 15 Subpart C §15.247 and RSS-247        |
|                | Test standard:    | Part 15 Subpart C §15.247(d) and RSS-247 5.5 |

### LIMITS

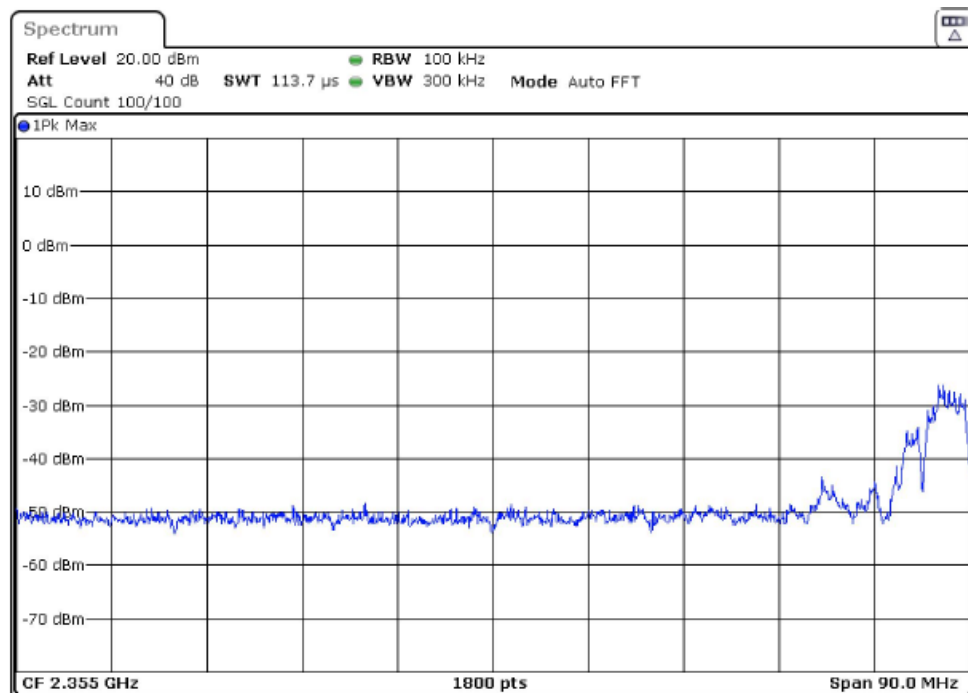
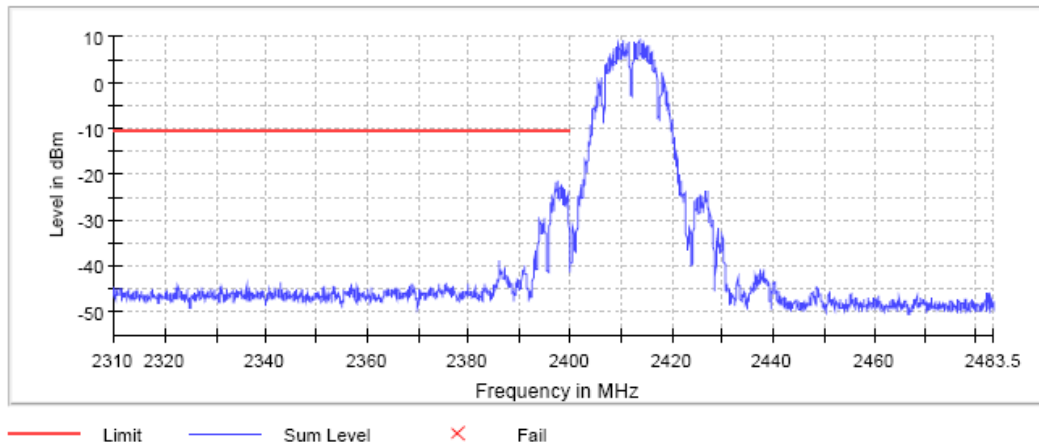
In any 100 kHz bandwidth outside the frequency band in which the digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required shall be 30 dB instead of 20 dB.

### TEST SETUP



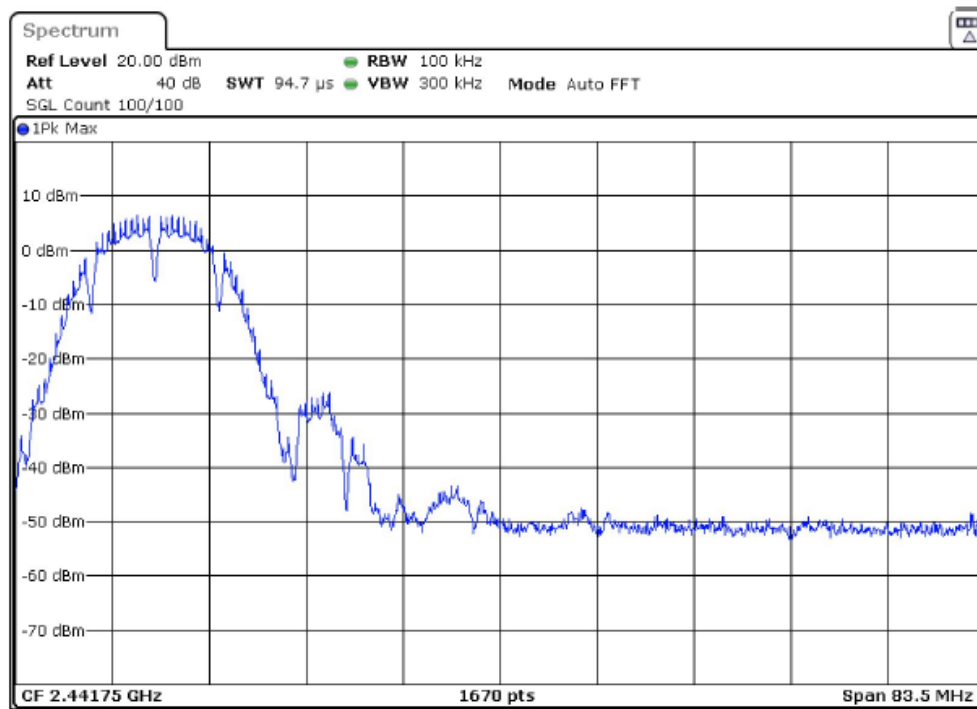
|                                 |                |
|---------------------------------|----------------|
| <b>TESTED SAMPLES:</b>          | S/01           |
| <b>TESTED CONDITIONS MODES:</b> | TC#01 (b mode) |
| <b>TEST RESULTS:</b>            | PASS           |

#### Lowest Channel



**TEST RESULTS (Cont.):**

**Lowest Channel**



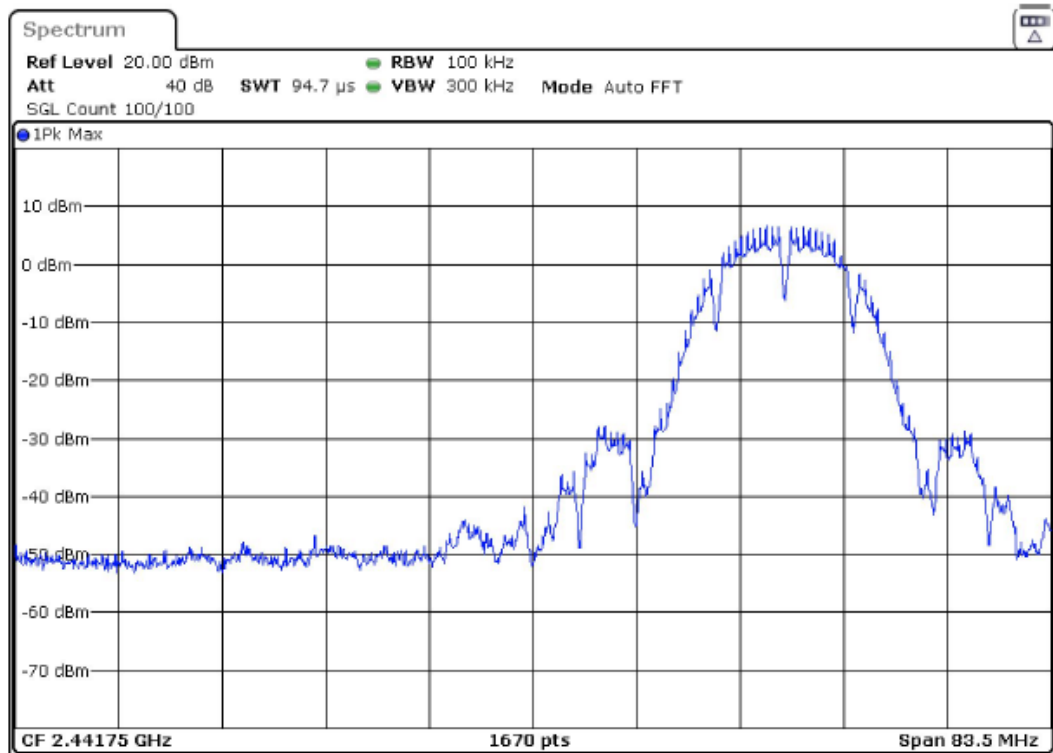
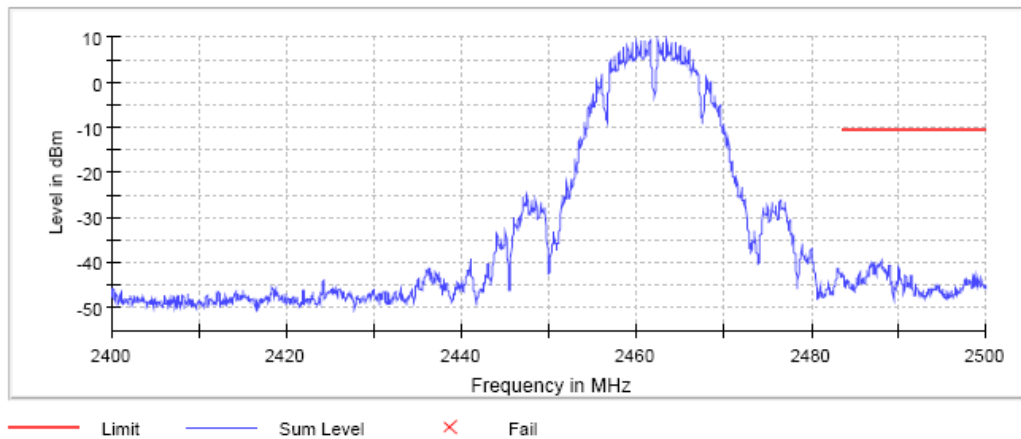
**Measurement**

| Setting               | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|
| Start Frequency       | 2.31000 GHz      | 2.40000 GHz      |
| Stop Frequency        | 2.40000 GHz      | 2.48350 GHz      |
| Span                  | 90.000 MHz       | 83.500 MHz       |
| RBW                   | 100.000 kHz      | 100.000 kHz      |
| VBW                   | 300.000 kHz      | 300.000 kHz      |
| Sweep Points          | 1800             | 1670             |
| Sweep time            | 113.672 $\mu$ s  | 94.727 $\mu$ s   |
| Reference Level       | 20.000 dBm       | 20.000 dBm       |
| Attenuation           | 40.000 dB        | 40.000 dB        |
| Detector              | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              |
| Filter                | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              |
| Preamp                | off              | off              |
| Stable mode           | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          |
| Run                   | 11 / max. 150    | 7 / max. 150     |
| Stable                | 3 / 3            | 3 / 3            |
| Max Stable Difference | 0.14 dB          | 0.14 dB          |

**TEST RESULTS (Cont.):**

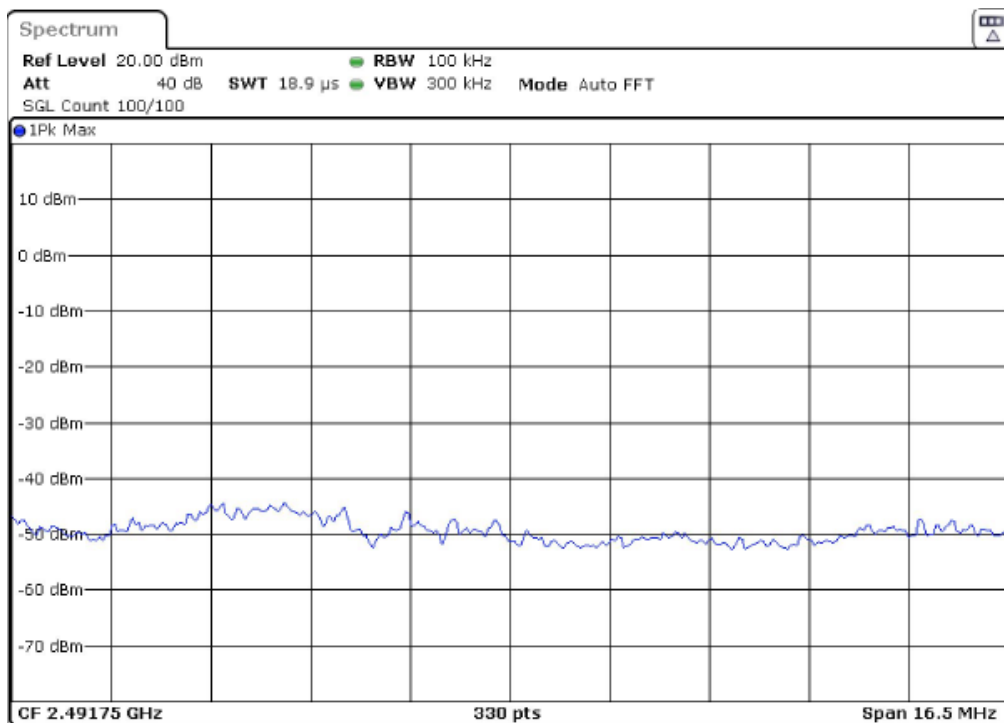
**Highest Channel**

**Highest Channel**



**TEST RESULTS (Cont.):**

**Highest Channel**

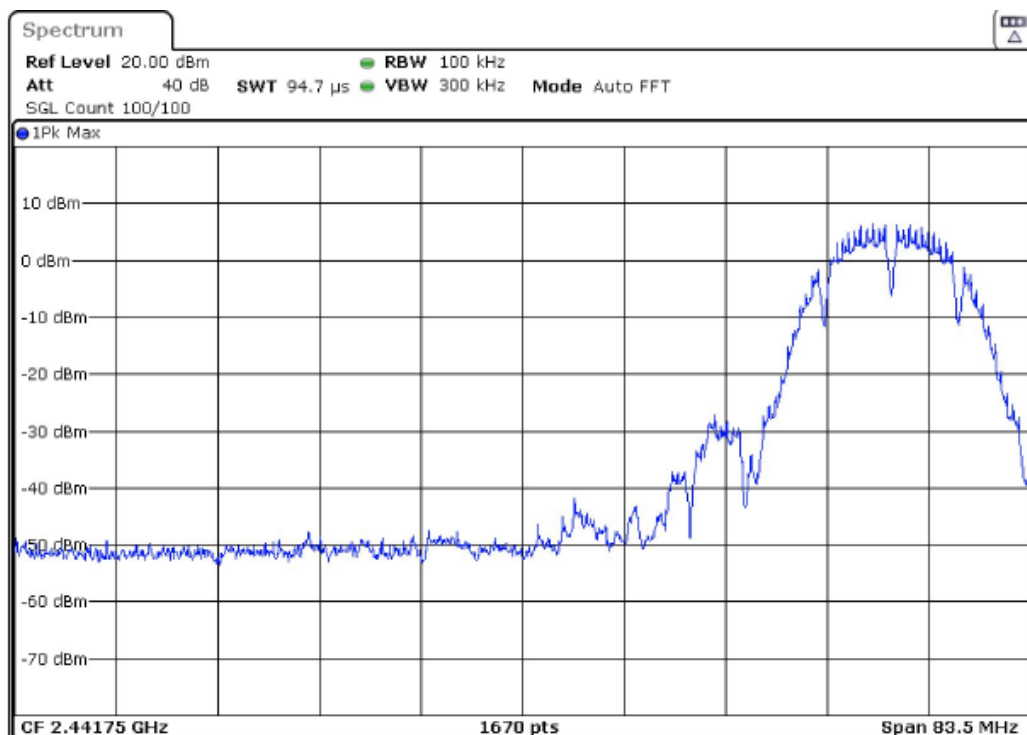
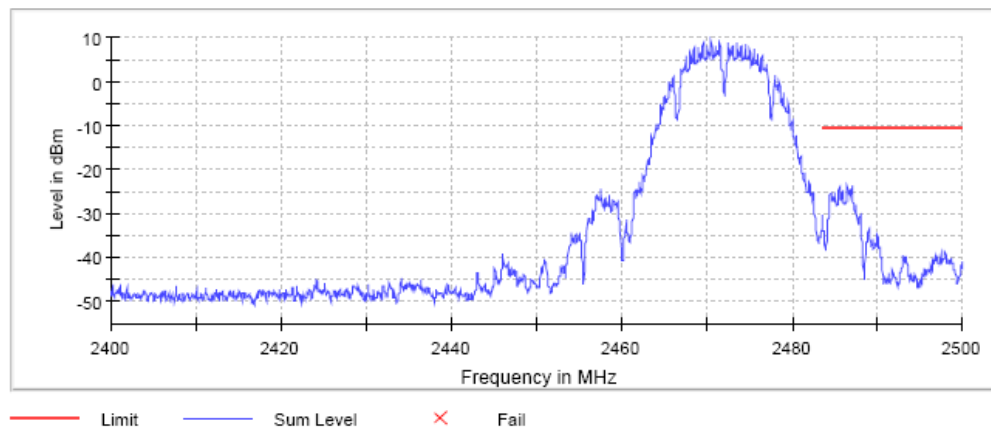


**Measurement**

| Setting               | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|
| Start Frequency       | 2.40000 GHz      | 2.48350 GHz      |
| Stop Frequency        | 2.48350 GHz      | 2.50000 GHz      |
| Span                  | 83.500 MHz       | 16.500 MHz       |
| RBW                   | 100.000 kHz      | 100.000 kHz      |
| VBW                   | 300.000 kHz      | 300.000 kHz      |
| Sweep Points          | 1670             | 330              |
| Sweep time            | 94.727 $\mu$ s   | 18.945 $\mu$ s   |
| Reference Level       | 20.000 dBm       | 20.000 dBm       |
| Attenuation           | 40.000 dB        | 40.000 dB        |
| Detector              | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              |
| Filter                | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              |
| Preamp                | off              | off              |
| Stable mode           | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          |
| Run                   | 12 / max. 150    | 4 / max. 150     |
| Stable                | 3 / 3            | 3 / 3            |
| Max Stable Difference | 0.33 dB          | 0.00 dB          |

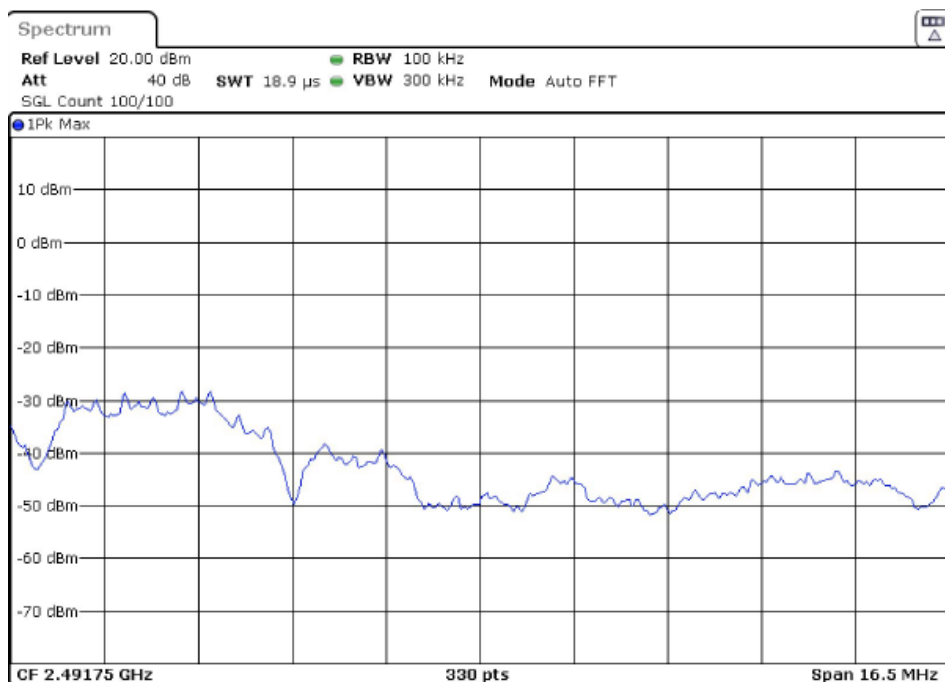
|                                 |                            |
|---------------------------------|----------------------------|
| <b>TESTED SAMPLES:</b>          | S/01                       |
| <b>TESTED CONDITIONS MODES:</b> | TC#01 (b mode) RSS Channel |
| <b>TEST RESULTS:</b>            | PASS                       |

### Highest Channel



## TEST RESULTS (Cont.):

## Highest Channel



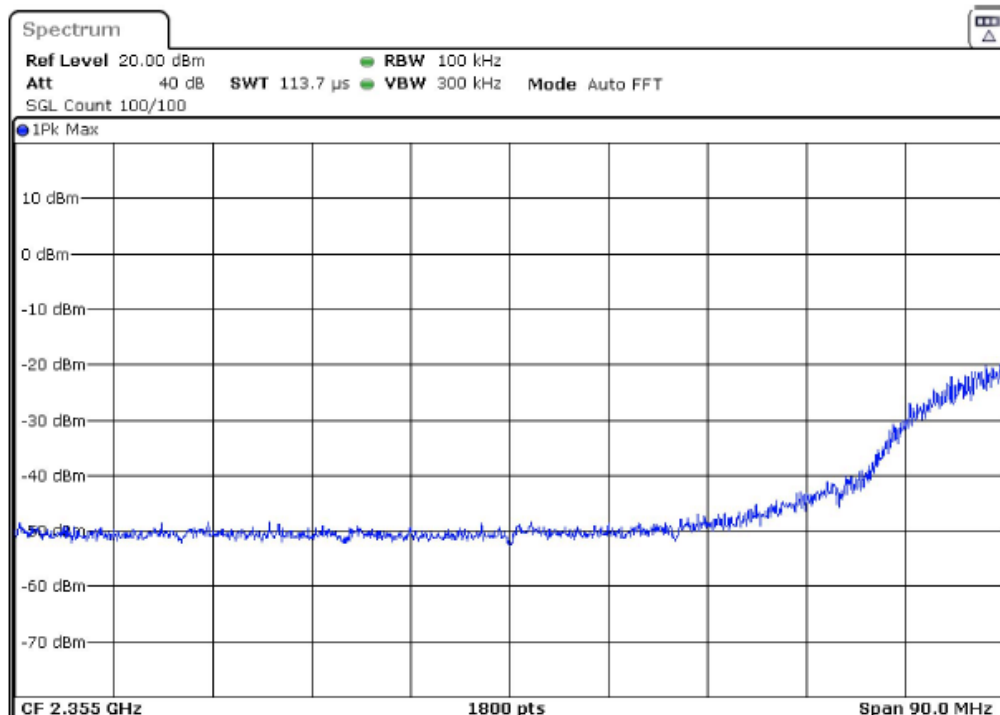
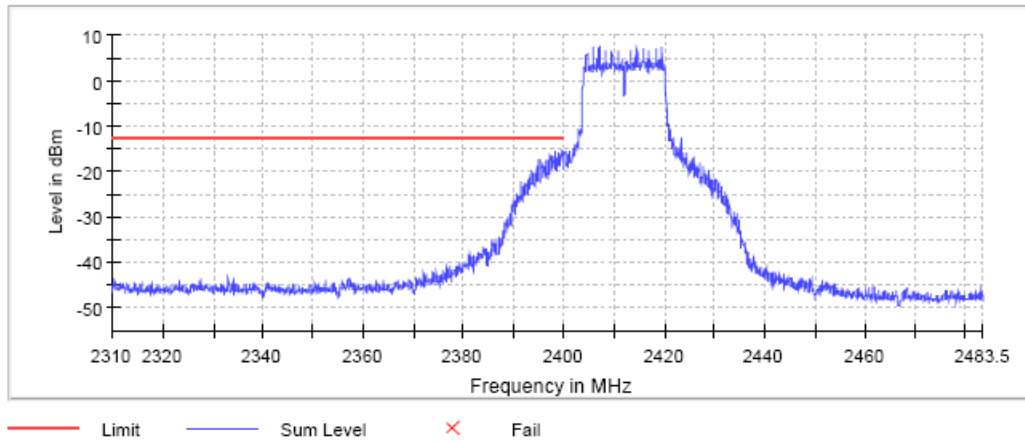
### Measurement

| Setting               | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|
| Start Frequency       | 2.40000 GHz      | 2.48350 GHz      |
| Stop Frequency        | 2.48350 GHz      | 2.50000 GHz      |
| Span                  | 83.500 MHz       | 16.500 MHz       |
| RBW                   | 100.000 kHz      | 100.000 kHz      |
| VBW                   | 300.000 kHz      | 300.000 kHz      |
| Sweep Points          | 1670             | 330              |
| Sweep time            | 94.727 $\mu$ s   | 18.945 $\mu$ s   |
| Reference Level       | 20.000 dBm       | 20.000 dBm       |
| Attenuation           | 40.000 dB        | 40.000 dB        |
| Detector              | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              |
| Filter                | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              |
| Preamp                | off              | off              |
| Stable mode           | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          |
| Run                   | 10 / max. 150    | 8 / max. 150     |
| Stable                | 3 / 3            | 3 / 3            |
| Max Stable Difference | 0.06 dB          | 0.37 dB          |

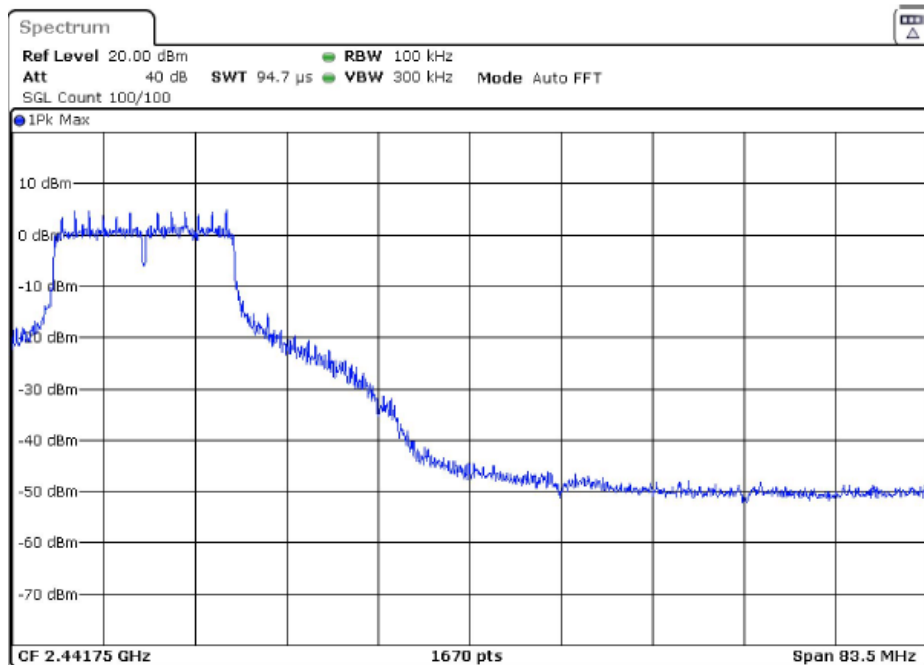


|                                 |                |
|---------------------------------|----------------|
| <b>TESTED SAMPLES:</b>          | S/01           |
| <b>TESTED CONDITIONS MODES:</b> | TC#02 (g mode) |
| <b>TEST RESULTS:</b>            | PASS           |

#### Lowest Channel



## TEST RESULTS (Cont.):



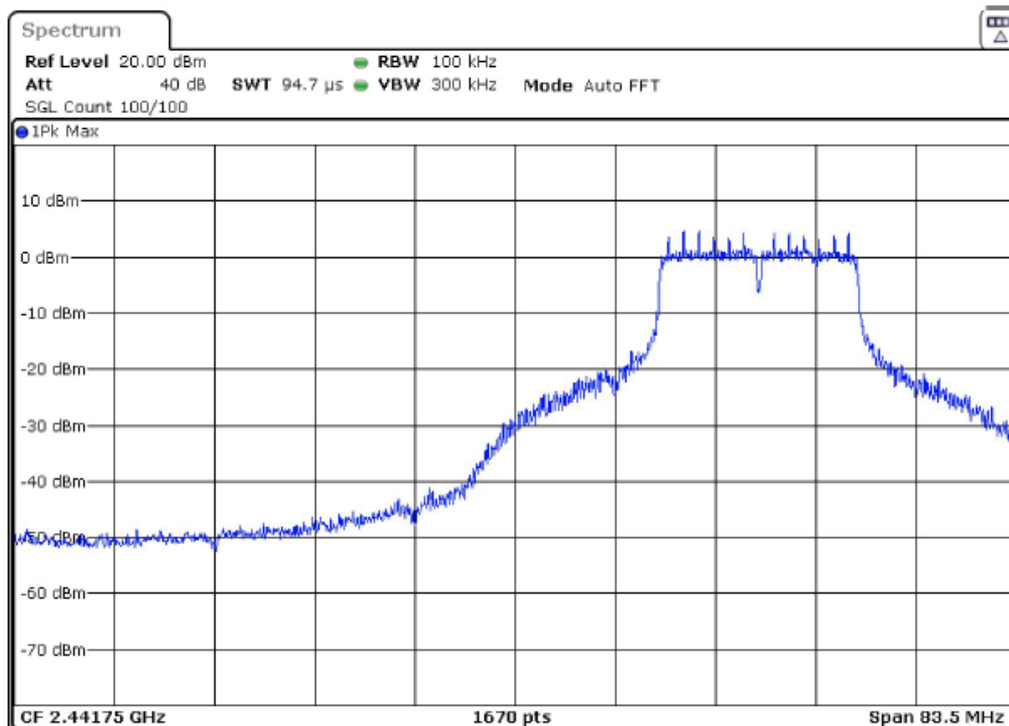
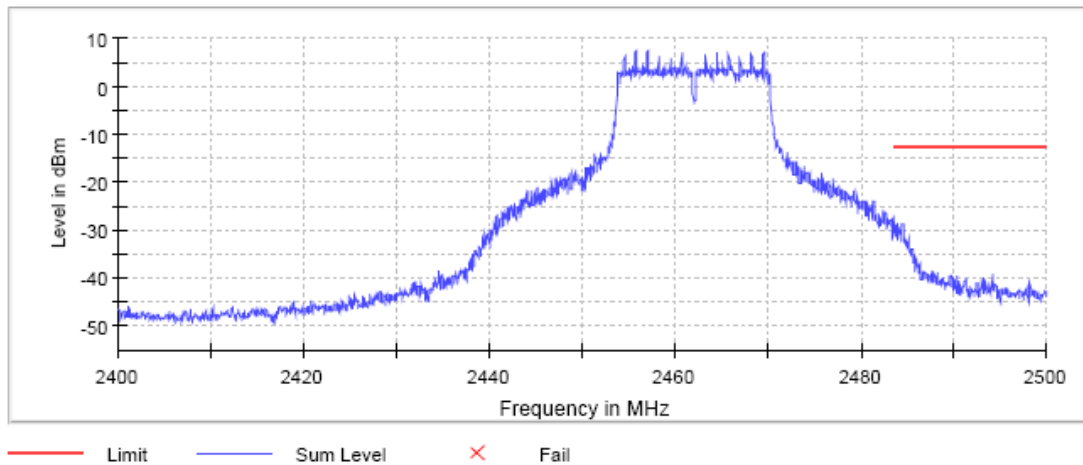
Measurement

| Setting               | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|
| Start Frequency       | 2.31000 GHz      | 2.40000 GHz      |
| Stop Frequency        | 2.40000 GHz      | 2.48350 GHz      |
| Span                  | 90.000 MHz       | 83.500 MHz       |
| RBW                   | 100.000 kHz      | 100.000 kHz      |
| VBW                   | 300.000 kHz      | 300.000 kHz      |
| Sweep Points          | 1800             | 1670             |
| Sweep time            | 113.672 $\mu$ s  | 94.727 $\mu$ s   |
| Reference Level       | 20.000 dBm       | 20.000 dBm       |
| Attenuation           | 40.000 dB        | 40.000 dB        |
| Detector              | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              |
| Filter                | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              |
| Preamp                | off              | off              |
| Stable mode           | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          |
| Run                   | 33 / max. 150    | 41 / max. 150    |
| Stable                | 3 / 3            | 3 / 3            |
| Max Stable Difference | 0.26 dB          | 0.36 dB          |

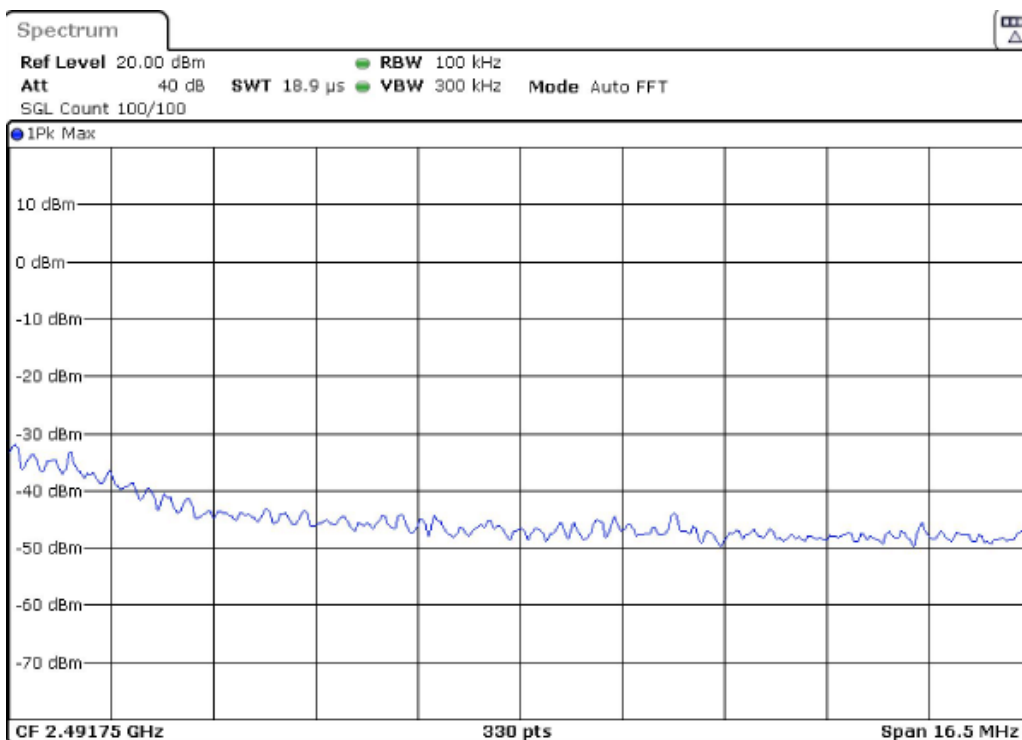
**TEST RESULTS (Cont.):**

**Highest Channel**

**Highest Channel**



## TEST RESULTS (Cont.):



Measurement

| Setting               | Instrument Value | Instrument Value |
|-----------------------|------------------|------------------|
| Start Frequency       | 2.40000 GHz      | 2.48350 GHz      |
| Stop Frequency        | 2.48350 GHz      | 2.50000 GHz      |
| Span                  | 83.500 MHz       | 16.500 MHz       |
| RBW                   | 100.000 kHz      | 100.000 kHz      |
| VBW                   | 300.000 kHz      | 300.000 kHz      |
| Sweep Points          | 1670             | 330              |
| Sweep time            | 94.727 $\mu$ s   | 18.945 $\mu$ s   |
| Reference Level       | 20.000 dBm       | 20.000 dBm       |
| Attenuation           | 40.000 dB        | 40.000 dB        |
| Detector              | MaxPeak          | MaxPeak          |
| Sweep Count           | 100              | 100              |
| Filter                | 3 dB             | 3 dB             |
| Trace Mode            | Max Hold         | Max Hold         |
| Sweep type            | FFT              | FFT              |
| Preamp                | off              | off              |
| Stable mode           | Trace            | Trace            |
| Stable value          | 0.50 dB          | 0.50 dB          |
| Run                   | 30 / max. 150    | 19 / max. 150    |
| Stable                | 3 / 3            | 3 / 3            |
| Max Stable Difference | 0.20 dB          | 0.00 dB          |