

# **FCC Test Report**

Applicant : BROADCOM CORPORATION

Equipment : 802.11abgn WLAN + BLUETOOTH PCI-E MINICARD

Brand Name : Broadcom

Model No. : BCM943228HMB

FCC ID : QDS-BRCM1058

Standard : 47 CFR FCC Part 15.407

**CLASSIFICATION: (UNII) Unlicensed National Information Infrastructure** 

Filling Type : Class II Permissive Change

The product sample received on Dec. 19, 2013 and completely tested on Jan. 24, 2014. We, SPORTON, would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.10-2009 and shown compliance with the applicable technical standards.

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

Reviewed by:

Wayne Hst / Assistant Manager

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# **Summary of Test Result**

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|                  | Conformance Test Specifications |  |   |  |          |  |  |
|------------------|---------------------------------|--|---|--|----------|--|--|
| Report<br>Clause | Ref. Std.<br>Clause             | Description  | Measured  | Limit  | Result   |  |  |
| 1.1.3            | 15.203                          | Antenna Requirement                                    | Antenna connector mechanism complied  | FCC 15.203   | Complied |  |  |
| 3.1              | 15.407(a)                       | RF Output Power<br>(Maximum Conducted<br>Output Power) | Power [dBm]<br>5150-5250MHz:16.92<br>5250-5350MHz:22.03<br>5470-5725MHz:20.81                                   | Power [dBm]<br>5150-5250MHz:17<br>5250-5350MHz:24<br>5470-5725MHz:24         | Complied |  |  |
| 3.2              | 15.407(b)                       | Transmitter Bandedge<br>Emissions                      | Restricted Bands<br>[dBuV/m at 1.0m]:<br>5469.80MHz<br>83.12 (Margin 0.42dB) - PK<br>62.56 (Margin 0.98dB) - AV | Non-Restricted Bands: ≤ -27dBm (77.84dBuV/m@1m) Restricted Bands: FCC 15.209 | Complied |  |  |
| 3.3              | 15.407(b)                       | Transmitter Unwanted Emissions                         | Restricted Bands<br>[dBuV/m at 1.0m]:<br>30.000MHz<br>33.60 (Margin 6.40dB) - PK                                | Non-Restricted Bands: ≤ -27dBm (77.84dBuV/m@1m) Restricted Bands: FCC 15.209 | Complied |  |  |

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# **Revision History**

Report No.: FR3D1962-02AN

| Report No.    | Version | Description             | Issued Date   |
|---------------|---------|-------------------------|---------------|
| FR3D1962-02AN | Rev. 01 | Initial issue of report | Mar. 06, 2014 |
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**General Description** 1

#### 1.1 **Information**

### 1.1.1 Feature of Equipment Under Test

| Product Feature                 |  |  |  |  |
|---------------------------------|--|--|--|--|
| Equipment                       | 802.11abgn WLAN + BLUETOOTH PCI-E MINICARD                               |  |  |  |
| Brand Name                      | Broadcom   |  |  |  |
| Model Name.                     | BCM943228HMB   |  |  |  |
| FCC ID                          | QDS-BRCM1058   |  |  |  |
| Installed into host             | Equipment: Tablet PC Brand Name: Lenovo Marketing name: Lenovo Miix 2 11 |  |  |  |
| EUT supports Radios application | WLAN 11a/b/g/n HT20 HT40<br>Bluetooth v2.1 + EDR<br>Bluetooth v4.0       |  |  |  |
| EUT Stage                       | Production Unit  |  |  |  |

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### 1.1.2 RF General Information

| RF General Information   |                     |                 |                   |                                       |                          |
|--------------------------|---------------------|-----------------|-------------------|---------------------------------------|--------------------------|
| Frequency<br>Range (MHz) | IEEE Std.<br>802.11 | Ch. Freq. (MHz) | Channel<br>Number | Transmit<br>Chains (N <sub>TX</sub> ) | RF Output<br>Power (dBm) |
| 5150-5250                |                     | 5180-5240       | 36-48 [4]         | 1                                     | 13.49                    |
| 5250-5350                | а                   | 5260-5320       | 52-64 [4]         | 1                                     | 17.25                    |
| 5470-5725                |                     | 5500-5700       | 100-140 [8]       | 1                                     | 16.65                    |
| 5150-5250                |                     | 5180-5240       | 36-48 [3]         | 2                                     | 8.72                     |
| 5250-5350                | (HT20)              | 5260-5320       | 52-64 [4]         | 2                                     | 15.74                    |
| 5470-5725                |                     | 5500-5720       | 100-144 [4]       | 2                                     | 15.80                    |
| 5150-5250                |                     | 5190-5230       | 38-46 [2]         | 2                                     | 9.96                     |
| 5250-5350                | (HT40)              | 5270-5310       | 54-62 [2]         | 2                                     | 16.45                    |
| 5470-5725                |                     | 5510-5710       | 102-142 [4]       | 2                                     | 16.06                    |

Note 1: RF output power specifies that Maximum Conducted Output Power. Note 2: 802.11a/n uses a combination of OFDM-BPSK, QPSK, 16QAM, 64QAM modulation.

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### 1.1.3 Antenna Information

|             | Antenna Category                                |  |  |  |  |  |
|-------------|---|--|--|--|--|--|
| $\boxtimes$ | Integral antenna (antenna permanently attached) |  |  |  |  |  |
|             |   |  |  |  |  |  |
|             |   | No temporary RF connector provided Transmit chains bypass antenna and soldered temporary RF connector provided for connected measurement. In case of conducted measurements the transmitter shall be connected to the measuring equipment via a suitable attenuator and correct for all losses in the RF path. |  |  |  |  |

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|           | Antenna Information |                     |                      |  |  |  |
|-----------|---------------------|---------------------|----------------------|--|--|--|
|           | Manufacturer        | WNC                 |                      |  |  |  |
|           | P/N                 | Main:025.9000X.001  | Aux: 025.9000Y.001   |  |  |  |
|           | Antenna Type        | Main: PIFA Antenna  | Aux: PIFA Antenna    |  |  |  |
| Antenna 1 |                     | Main Antenna :      | Aux Antenna :        |  |  |  |
|           | Deals main          | WLAN(2.4G):1.87 dBi | Bluetooth:0.69 dBi   |  |  |  |
|           | Peak gain           | WLAN(5G):-0.16 dBi  | WLAN(2.4G):0.69 dBi  |  |  |  |
|           |                     |                     | WLAN(5G):2.73 dBi    |  |  |  |
|           | Manufacturer        | НТ                  |                      |  |  |  |
|           | P/N                 | Main:025.9000X.0011 | Aux:025.9000Y.0011   |  |  |  |
|           | Antenna Type        | Main:PIFA Antenna   | Aux:PIFA Antenna     |  |  |  |
| Antenna 2 |                     | Main Antenna :      | Aux Antenna :        |  |  |  |
|           | Dools noin          | WLAN(2.4G):-1.63dBi | Bluetooth:-0.35 dBi  |  |  |  |
|           | Peak gain           | WLAN(5G):1.84 dBi   | WLAN(2.4G):-0.35 dBi |  |  |  |
|           |                     |                     | WLAN(5G):1.07dBi     |  |  |  |

Note: Performed the worst configuration for higher gain was test in final test report.

| Directional Gain (DG) Result  |   |     |   |       |  |  |
|---|---|-----|---|-------|--|--|
| Modulation Mode N <sub>TX</sub> N <sub>SS</sub> Array Gain Power DG (dBi) |   |     |   |       |  |  |
| 11a,6-54Mbps  | 1 | 1   | 0 | -0.16 |  |  |
| HT20,M0-15  | 2 | 1/2 | 0 | 1.52  |  |  |
| HT40,M0-15  | 2 | 1/2 | 0 | 1.52  |  |  |

Note 2: For all transmitter outputs with unequal antenna gains, directional gain is to be computed as follows: Any transmit signals are correlated, Directional Gain =10 log[(10<sup>G1/20</sup> +... + 10<sup>GN/20</sup>)<sup>2</sup> /N<sub>TX</sub>] All transmit signals are completely uncorrelated, Directional Gain = 10 log[(10<sup>G1/10</sup> +... + 10<sup>GN/10)</sup>/N<sub>TX</sub>]

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# 1.1.4 Test Signal Duty Cycle

| Operated Mode for Worst Duty Cycle                                |   |  |  |  |  |
|---|---|--|--|--|--|
| Operated normally mode for worst duty cycle                       |   |  |  |  |  |
| Operated test mode for worst duty cycle                           | Operated test mode for worst duty cycle |  |  |  |  |
| Test Signal Duty Cycle (x)  Power Duty Factor [dB] – (10 log 1/x) |   |  |  |  |  |
| ☑ 95.03% - IEEE 802.11a   | 0.22                                    |  |  |  |  |
| ☑ 95.02% - IEEE 802.11n (HT20)                                    | 0.22                                    |  |  |  |  |
| ☑ 90.17% - IEEE 802.11n (HT40)                                    | 0.45                                    |  |  |  |  |

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# 1.1.5 EUT Operational Condition

| Supply Voltage    |                      | ☐ DC | System    |
|-------------------|----------------------|------|-----------|
| Type of DC Source | ☐ Internal DC supply |      | □ Battery |

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# 1.2 Testing Applied Standards

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

- 47 CFR FCC Part 15
- ANSI C63.10-2009
- FCC KDB 789033
- FCC KDB 644545 D01
- FCC KDB 644545 D02
- FCC KDB 662911

### 1.3 Testing Location Information

|                   | Testing Location   |               |      |   |                     |                  |  |
|-------------------|--|---------------|------|---|---------------------|------------------|--|
| $\boxtimes$       | HWA YA   | ADD           | :    | No. 52, Hwa Ya 1 <sup>st</sup> Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang,<br>Tao Yuan Hsien, Taiwan, R.O.C. |                     |                  |  |
|                   |  | TEL           | :    | 886-3-327-3456 F  | AX : 886-3-327-0973 |                  |  |
|                   | Test Condition Test Site No. Test Engineer Test Environmen |               |      |   |                     | Test Environment |  |
| RF Conducted      |  | TH02-HY       | Alex | 24~26°C / 45~49%  |                     |                  |  |
| Radiated Emission |  | 03CH03-HY Leo |      | 21.4°C / 35%  |                     |                  |  |

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# 1.4 Measurement Uncertainty

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

| Measurement Uncertainty       |               |             |  |  |  |
|-------------------------------|---------------|-------------|--|--|--|
| Test Item                     |               | Uncertainty |  |  |  |
| RF output power, conducted    |               | ±0.63 dB    |  |  |  |
| Unwanted emissions, conducted | 9 – 150 kHz   | ±0.38 dB    |  |  |  |
|                               | 0.15 – 30 MHz | ±0.42 dB    |  |  |  |
|                               | 30 – 1000 MHz | ±0.51 dB    |  |  |  |
|                               | 1 – 18 GHz    | ±0.67 dB    |  |  |  |
|                               | 18 – 40 GHz   | ±0.83 dB    |  |  |  |
|                               | 40 – 200 GHz  | N/A         |  |  |  |
| All emissions, radiated       | 9 – 150 kHz   | ±2.49 dB    |  |  |  |
|                               | 0.15 – 30 MHz | ±2.28 dB    |  |  |  |
|                               | 30 – 1000 MHz | ±2.56 dB    |  |  |  |
|                               | 1 – 18 GHz    | ±3.59 dB    |  |  |  |
|                               | 18 – 40 GHz   | ±3.82 dB    |  |  |  |
|                               | 40 – 200 GHz  | N/A         |  |  |  |
| Temperature                   |               | ±0.8 °C     |  |  |  |
| Humidity                      |               | ±3 %        |  |  |  |
| DC and low frequency voltages |               | ±3 %        |  |  |  |
| Time                          |               | ±1.42 %     |  |  |  |
| Duty Cycle                    |               | ±1.42 %     |  |  |  |

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2 Test Configuration of EUT

# 2.1 The Worst Case Modulation Configuration

|                 | Worst Modulation Used for Conformance Testing  |          |        |  |  |  |  |  |  |  |  |
|-----------------|--|----------|--------|--|--|--|--|--|--|--|--|
| Modulation Mode | Modulation Mode Transmit Chains (N <sub>TX</sub> ) Data Rate / MCS Worst Data Rate / MCS |          |        |  |  |  |  |  |  |  |  |
| 11a,6-54Mbps    | 1  | 6-54Mbps | 6 Mbps |  |  |  |  |  |  |  |  |
| HT20,M0-15      | 2  | M0-15    | MCS 0  |  |  |  |  |  |  |  |  |
| HT40,M0-15      | 2  | M0-15    | MCS 0  |  |  |  |  |  |  |  |  |

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## 2.2 The Worst Case Measurement Configuration

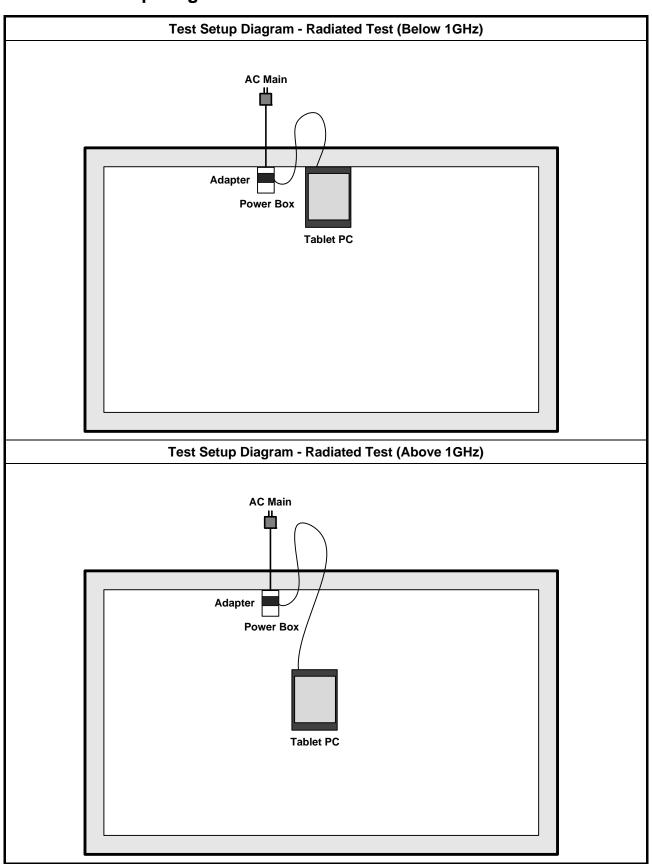
| Th              | ne Worst Case Mode for Following Conformance Tests |
|-----------------|--|
| Tests Item      | RF Output Power                                    |
| Test Condition  | Conducted measurement at transmit chains           |
| Modulation Mode | 11a, HT20, HT40                                    |

| Th                          | e Worst Case Mode for Fo   | ollowing Conformance Te | sts     |  |  |  |  |
|-----------------------------|--|-------------------------|---------|--|--|--|--|
| Tests Item                  | Transmitter Radiated Unwa<br>Transmitter Radiated Band   |                         |         |  |  |  |  |
| Test Condition              | Radiated measurement If EUT consist of multiple antenna assembly (multiple antenna are used in EUT regardless of spatial multiplexing MIMO configuration), the radiated test should be performed with highest antenna gain of each antenna type. |                         |         |  |  |  |  |
|                             | EUT will be placed in fixed position.  |                         |         |  |  |  |  |
| User Position               | EUT will be placed in mobile position and operating multiple positions. EUT shall be performed two orthogonal planes. The worst planes is Z.   |                         |         |  |  |  |  |
|                             | EUT will be a hand-held or body-worn battery-powered devices and operating multiple positions. EUT shall be performed two or three orthogonal planes.  |                         |         |  |  |  |  |
| Operating Mode              |  | o link (WLAN)           |         |  |  |  |  |
| Modulation Mode             | 11a, HT20, HT40  |                         |         |  |  |  |  |
|                             | X Plane  | Y Plane                 | Z Plane |  |  |  |  |
| Orthogonal Planes of<br>EUT |  |                         |         |  |  |  |  |

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# 2.3 Test Setup Diagram



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#### 3 **Transmitter Test Result**

#### 3.1 **RF Output Power**

#### **RF Output Power Limit** 3.1.1

|             | Maximum Conducted Output Power Limit   |
|-------------|--|
| UNI         | Il Devices   |
| $\boxtimes$ | For the 5.15-5.25 GHz band, the maximum conducted output power ( $P_{Out}$ ) shall not exceed the lesser of 50 mW or 4 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 17 - (G_{TX} - 6)$ .       |
| $\boxtimes$ | For the 5.25-5.35 GHz band, the maximum conducted output power ( $P_{Out}$ ) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 24 - (G_{TX} - 6)$ .     |
| $\boxtimes$ | For the 5.47-5.725 GHz band, the maximum conducted output power ( $P_{Out}$ ) shall not exceed the lesser of 250 mW or 11 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX}$ > 6 dBi, then $P_{Out}$ = 24 – ( $G_{TX}$ – 6).  |
|             | For the 5.725-5.825 GHz band:  |
|             | Point-to-multipoint systems (P2M): the maximum conducted output power ( $P_{Out}$ ) shall not exceed the lesser of 1 W or 17 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 6$ dBi, then $P_{Out} = 30 - (G_{TX} - 6)$ . |
|             | Point-to-point systems (P2P): the maximum conducted output power ( $P_{Out}$ ) shall not exceed the lesser of 1 W or 17 dBm + 10 log B, where B is the 26 dB emission bandwidth in MHz. If $G_{TX} > 23$ dBi, then $P_{Out} = 30 - (G_{TX} - 23)$ .    |
| LE-         | LAN Devices  |
| $\boxtimes$ | For the 5.15-5.25 GHz band, the maximum e.i.r.p. shall not exceed 200 mW or 10 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.   |
|             | For the 5.25-5.35 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz   |
|             | For the 5.47-5.6 GHz band and 5.65-5.725 GHz band, the maximum e.i.r.p. shall not exceed 1.0 W or $17 + 10 \log B$ , dBm, whichever power is less. B is the 99% emission bandwidth in MHz  |
|             | For the 5.725-5.825 GHz band, the maximum e.i.r.p. shall not exceed 4.0 W or 23 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.  |
|             | Point-to-multipoint systems (P2M): the maximum e.i.r.p. shall not exceed 4.0 W or 23 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.   |
|             | Point-to-point systems (P2P): the maximum e.i.r.p. shall not exceed 4.0 W or 23 + 10 log B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. If e.i.r.p. > 36 dBm, G <sub>TX</sub> ≤ P <sub>Out</sub>                             |
|             | t = maximum conducted output power in dBm,<br>= the maximum transmitting antenna directional gain in dBi.  |

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#### **Measuring Instruments** 3.1.2

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

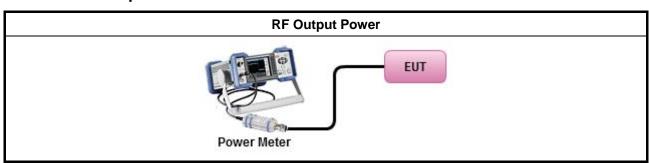
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### 3.1.3 Test Procedures

|             |             | Test Method   |
|-------------|-------------|---|
| $\boxtimes$ | Max         | imum Conducted Output Power   |
|             | [duty       | y cycle ≥ 98% or external video / power trigger]  |
|             |             | Refer as FCC KDB 789033, clause E Method SA-1 (spectral trace averaging).   |
|             |             | Refer as FCC KDB 789033, clause E Method SA-1 Alt. (RMS detection with slow sweep speed)  |
|             | duty        | cycle < 98% and average over on/off periods with duty factor  |
|             |             | Refer as FCC KDB 789033, clause E Method SA-2 (spectral trace averaging).   |
|             |             | Refer as FCC KDB 789033, clause E Method SA-2 Alt. (RMS detection with slow sweep speed)  |
|             | Wid         | eband RF power meter and average over on/off periods with duty factor   |
|             | $\boxtimes$ | Refer as FCC KDB 789033, clause E Method PM (using an RF average power meter).  |
| $\boxtimes$ | For         | conducted measurement.  |
|             |             | The EUT supports single transmit chain and measurements performed on this transmit chain.   |
|             | $\boxtimes$ | The EUT supports diversity transmitting and the results on transmit chain port 1 is the worst case.   |
|             |             | The EUT supports multiple transmit chains using options given below: Refer as FCC KDB 662911, In-band power measurements. Using the measure-and-sum approach, measured all transmit ports individually. Sum the power (in linear power units e.g., mW) of all ports for each individual sample and save them. |
|             |             | If multiple transmit chains, EIRP calculation could be following as methods: $P_{total} = P_1 + P_2 + + P_n$ (calculated in linear unit [mW] and transfer to log unit [dBm]) $EIRP_{total} = P_{total} + DG$  |

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# 3.1.4 Test Setup



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# 3.1.5 Test Result of Maximum Conducted (Average) Output Power

|                 |                 | waxiiiiuiii C         | onducted (F     | onducted (Average) Output Power (5150-5250MHz band) |              |                |          |               |            |  |  |  |  |
|-----------------|-----------------|-----------------------|-----------------|---|--------------|----------------|----------|---------------|------------|--|--|--|--|
| Condi           |                 | RF Output Power (dBm) |                 |   |              |                |          |               |            |  |  |  |  |
| Modulation Mode | N <sub>TX</sub> | Freq.<br>(MHz)        | Chain<br>Port 1 | Chain<br>Port 2                                     | Sum<br>Chain | Power<br>Limit | DG (dBi) | EIRP<br>Power | EIRP Limit |  |  |  |  |
| 11a             | 1               | 5180                  | 12.76           | -   | 12.76        | 17.00          | -0.16    | 12.60         | 23.00      |  |  |  |  |
| 11a             | 1               | 5200                  | 12.98           | -   | 12.98        | 17.00          | -0.16    | 12.82         | 23.00      |  |  |  |  |
| 11a             | 1               | 5240                  | 13.49           | -   | 13.49        | 17.00          | -0.16    | 13.33         | 23.00      |  |  |  |  |
| HT20            | 2               | 5180                  | 6.38            | 4.55  | 8.57         | 17.00          | 1.52     | 10.09         | 23.00      |  |  |  |  |
| HT20            | 2               | 5200                  | 7.02            | 3.82  | 8.72         | 17.00          | 1.52     | 10.24         | 23.00      |  |  |  |  |
| HT20            | 2               | 5240                  | 6.08            | 4.32  | 8.30         | 17.00          | 1.52     | 9.82          | 23.00      |  |  |  |  |
| HT40            | 2               | 5190                  | 6.43            | 4.35  | 8.52         | 17.00          | 1.52     | 10.04         | 23.00      |  |  |  |  |
| HT40            | 2               | 5230                  | 8.30            | 4.98  | 9.96         | 17.00          | 1.52     | 11.48         | 23.00      |  |  |  |  |
| Resu            | ılt             |                       |                 |   |              | Complied       |          |               | •          |  |  |  |  |

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|                 | ļ               | Maximum C      | onducted (A     | Average) Out    | put Power (           | 5250-5350MH    | z band)  |               |            |  |  |  |
|-----------------|-----------------|----------------|-----------------|-----------------|-----------------------|----------------|----------|---------------|------------|--|--|--|
| Condit          | Condition       |                |                 |                 | RF Output Power (dBm) |                |          |               |            |  |  |  |
| Modulation Mode | N <sub>TX</sub> | Freq.<br>(MHz) | Chain<br>Port 1 | Chain<br>Port 2 | Sum<br>Chain          | Power<br>Limit | DG (dBi) | EIRP<br>Power | EIRP Limit |  |  |  |
| 11a             | 1               | 5260           | 17.25           | -               | 17.25                 | 24.00          | -0.16    | 17.09         | 27.00      |  |  |  |
| 11a             | 1               | 5300           | 15.46           | -               | 15.46                 | 24.00          | -0.16    | 15.30         | 27.00      |  |  |  |
| 11a             | 1               | 5320           | 12.67           | -               | 12.67                 | 24.00          | -0.16    | 12.51         | 27.00      |  |  |  |
| HT20            | 2               | 5260           | 10.38           | 8.36            | 12.50                 | 24.00          | 1.52     | 14.02         | 27.00      |  |  |  |
| HT20            | 2               | 5300           | 13.43           | 11.88           | 15.74                 | 24.00          | 1.52     | 17.26         | 27.00      |  |  |  |
| HT20            | 2               | 5320           | 11.67           | 9.68            | 13.80                 | 24.00          | 1.52     | 15.32         | 27.00      |  |  |  |
| HT40            | 2               | 5270           | 14.28           | 12.41           | 16.45                 | 24.00          | 1.52     | 17.98         | 27.00      |  |  |  |
| HT40            | 2               | 5310           | 8.68            | 6.56            | 10.76                 | 24.00          | 1.52     | 12.28         | 27.00      |  |  |  |
| Resu            | ılt             |                |                 |                 |                       | Complied       |          |               |            |  |  |  |

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|                 | Ma              | aximum Co      | nducted (Av     | erage) Outp           | ut Power (St | raddle 5725    | MHz band) |               |            |  |  |  |
|-----------------|-----------------|----------------|-----------------|-----------------------|--------------|----------------|-----------|---------------|------------|--|--|--|
| Condit          | tion            |                |                 | RF Output Power (dBm) |              |                |           |               |            |  |  |  |
| Modulation Mode | N <sub>TX</sub> | Freq.<br>(MHz) | Chain<br>Port 1 | Chain<br>Port 2       | Sum<br>Chain | Power<br>Limit | DG (dBi)  | EIRP<br>Power | EIRP Limit |  |  |  |
| 11a             | 1               | 5500           | 13.77           | -                     | 13.77        | 24.00          | -0.16     | 13.61         | 27.00      |  |  |  |
| 11a             | 1               | 5580           | 16.65           | -                     | 16.65        | 24.00          | -0.16     | 16.49         | 27.00      |  |  |  |
| 11a             | 1               | 5700           | 9.60            | -                     | 9.60         | 24.00          | -0.16     | 9.44          | 27.00      |  |  |  |
| HT20            | 2               | 5500           | 13.20           | 11.79                 | 15.56        | 24.00          | 1.52      | 17.09         | 27.00      |  |  |  |
| HT20            | 2               | 5580           | 13.29           | 12.21                 | 15.80        | 24.00          | 1.52      | 17.32         | 27.00      |  |  |  |
| HT20            | 2               | 5700           | 9.29            | 7.24                  | 11.40        | 24.00          | 1.52      | 12.92         | 27.00      |  |  |  |
| HT40            | 2               | 5510           | 10.22           | 8.42                  | 12.42        | 24.00          | 1.52      | 13.94         | 27.00      |  |  |  |
| HT40            | 2               | 5550           | 10.76           | 9.10                  | 13.02        | 24.00          | 1.52      | 14.54         | 27.00      |  |  |  |
| HT40            | 2               | 5670           | 13.53           | 12.52                 | 16.06        | 24.00          | 1.52      | 17.59         | 27.00      |  |  |  |
| Resu            | ılt             |                |                 | •                     | •            | Complied       |           |               | •          |  |  |  |

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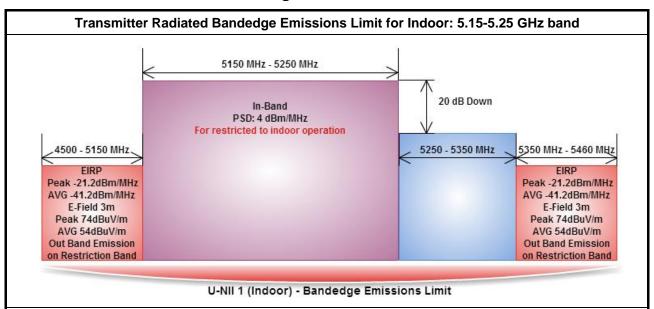
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<sup>=</sup> Band-crossing channel. The conducted output power within each band of operation shall comply with the limits for that band.

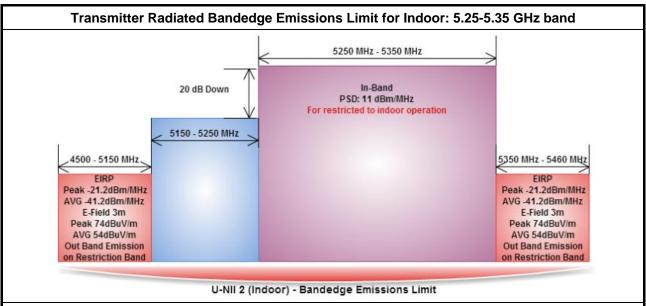


#### 3.2 Transmitter Bandedge Emissions

#### 3.2.1 **Transmitter Radiated Bandedge Emissions Limit**



Refer as FCC KDB 789033, G)2)c)(i) specifying that if a non-restricted-band out-of-band emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm or -17 dBm peak emission limit. Reason for change: to ensure that emission requirements in the non-restricted bands are not more stringent than those in the restricted bands.



Refer as FCC KDB 789033, G)2)c)(i) specifying that if a non-restricted-band out-of-band emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm or -17 dBm peak emission limit. Reason for change: to ensure that emission requirements in the non-restricted bands are not more stringent than those in the restricted bands.

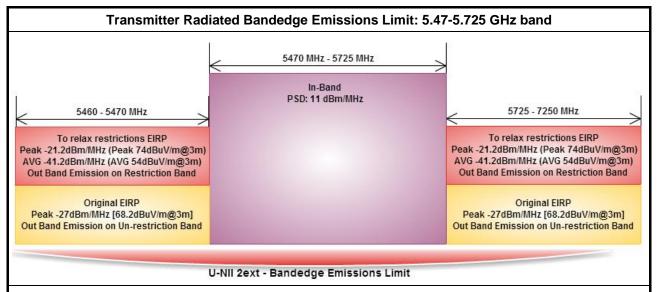
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Transmitter Radiated Bandedge Emissions Limit for indoor/outdoor: 5.25-5.35 GHz band 5250 MHz - 5350 MHz In-Band 4500 - 5150 MHz 5150 MHz - 5250 MHz PSD: 11 dBm/MHz 5350 MHz - 5460 MHz For not restricted to indoor operation To relax restrictions EIRP Peak -21.2dBm/MHz FIRP FIRP (Peak 74dBuV/m@3m) Peak -21.2dBm/MHz Peak -21.2dBm/MHz AVG -41.2dBm/MHz AVG -41.2dBm/MHz AVG -41.2dBm/MHz (AVG 54dBuV/m@3m) F-Field 3m E-Field 3m **Out Band Emission on** Peak 74dBuV/m Peak 74dBuV/m **Restriction Band** AVG 54dBuV/m AVG 54dBuV/m EIRP **Out Band Emission Out Band Emission** Peak -27dBm/MHz on Restriction Band on Restriction Band [68.2dBuV/m@3m] **Out Band Emission on Un-restriction Band** U-NII 2 - Bandedge Emissions Limit

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Refer as FCC KDB 789033, G)2)c)(i) specifying that if a non-restricted-band out-of-band emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm or -17 dBm peak emission limit. Reason for change: to ensure that emission requirements in the non-restricted bands are not more stringent than those in the restricted bands.



Refer as FCC KDB 789033, G)2)c)(i) specifying that if a non-restricted-band out-of-band emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm or -17 dBm peak emission limit. Reason for change: to ensure that emission requirements in the non-restricted bands are not more stringent than those in the restricted bands.

### 3.2.2 Measuring Instruments

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

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# 3.2.3 Test Procedures

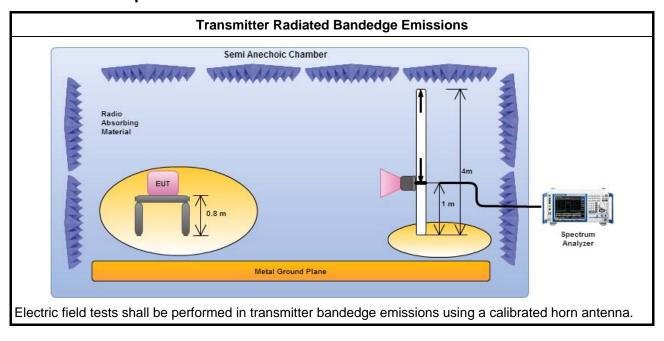
|             |  | Test Method   |
|-------------|--|---|
|             | perfe<br>equi<br>extra<br>dista<br>mea | surements may be performed at a distance other than the limit distance provided they are not ormed in the near field and the emissions to be measured can be detected by the measurement pment. When performing measurements at a distance other than that specified, the results shall be applated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear ance for field-strength measurements, inverse of linear distance-squared for power-density surements). Measurements in the bandedge are typically made at a closer distance 1.5m, because instrumentation noise floor is typically close to the radiated emission limit. |
| $\boxtimes$ | The                                    | average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].  |
| $\boxtimes$ |  | er as ANSI C63.10, clause 6.9.2.2 bandedge testing shall be performed at the lowest frequency nnel and highest frequency channel within the allowed operating band.   |
|             | char<br>will o                         | UT operate in adjacent contiguous bands, bandedge testing performed at the lowest frequency neel at lower-band and highest frequency channel at higher-band. Transmitter in-band emissions consist of adjacent contiguous bands (e.g., IEEE 802.11ac VHT160 The lowest frequency channel ower-band and highest frequency channel at higher-band in-band emissions will consist of two cent contiguous bands.)   |
|             |  | Operating in 5.15-5.25 GHz band (lower-band) and 5.25-5.35 GHz band (higher-band).  |
|             |  | Operating in 5.47-5.725 GHz band (lower-band) and 5.725-5.825 GHz band (higher-band).   |
|             | char                                   | JT operate in individual non-contiguous bands, bandedge testing performed at the lowest frequency nnel and highest frequency channel within lower-band and higher-band. (e.g., (e.g., IEEE 802.11ac 160)  |
|             |  | Operating in 5.25-5.35 GHz band (lower-band) and 5.47-5.725 GHz band (higher-band).   |
|             |  | Operating in 5.15-5.25 GHz band (lower-band) and 5.725-5.825 GHz band (higher-band).  |
| $\boxtimes$ | For                                    | the transmitter unwanted emissions shall be measured using following options below:   |
|             | $\boxtimes$                            | Refer as FCC KDB 789033, clause H)2) for unwanted emissions into non-restricted bands.  |
|             | $\boxtimes$                            | Refer as FCC KDB 789033, clause H)1) for unwanted emissions into restricted bands.  |
|             |  | Refer as FCC KDB 789033, H)6) Method AD (Trace Averaging).  |
|             |  | Refer as FCC KDB 789033, H)6) Method VB (Reduced VBW).  |
|             |  | Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.   |
|             |  | Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.   |
|             |  | Refer as FCC KDB 789033, clause H)5) measurement procedure peak limit.  |
|             |  | Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit.  |
| $\boxtimes$ | For                                    | the transmitter bandedge emissions shall be measured using following options below:   |
|             |  | Refer as FCC KDB 789033, clause H)3)d) for narrower resolution bandwidth (100kHz) using the band power and summing the spectral levels (i.e., 1 MHz).   |
|             | $\boxtimes$                            | Refer as ANSI C63.10, clause 6.9.2 for band-edge testing.   |
|             |  | Refer as ANSI C63.10, clause 6.9.3 for marker-delta method for band-edge measurements.  |
| $\boxtimes$ | For                                    | radiated measurement, refer as ANSI C63.10, clause 6.5 for radiated emissions from above 1 GHz.   |

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### 3.2.4 Test Setup



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# 3.2.5 Transmitter Radiated Bandedge Emissions (with Antenna)

| Modulation<br>Mode | N <sub>TX</sub> | Freq.<br>(MHz) | Measure<br>Distance<br>(m) | Freq.<br>(MHz)<br>PK | Level<br>(dBuV/m)<br>PK | Limit<br>(dBuV/m)<br>PK | Freq.<br>(MHz)<br>AV | Level<br>(dBuV/m)<br>AV | Limit<br>(dBuV/m)<br>AV | Pol. |
|--------------------|-----------------|----------------|----------------------------|----------------------|-------------------------|-------------------------|----------------------|-------------------------|-------------------------|------|
| 11a                | 1               | 5180           | 1                          | 5148.70              | 80.08                   | 83.54                   | 5149.90              | 61.35                   | 63.54                   | Н    |
| 11a                | 1               | 5240           | 1                          | 5393.70              | 73.17                   | 83.54                   | 5394.60              | 58.46                   | 63.54                   | Н    |
| HT20               | 1               | 5180           | 1                          | 5102.60              | 72.52                   | 83.54                   | 5149.40              | 58.46                   | 63.54                   | Н    |
| HT20               | 1               | 5240           | 1                          | 5370.60              | 72.12                   | 83.54                   | 5392.20              | 58.29                   | 63.54                   | Н    |
| HT40               | 1               | 5190           | 1                          | 5149.50              | 76.70                   | 83.54                   | 5149.61              | 59.75                   | 63.54                   | Н    |
| HT40               | 1               | 5230           | 1                          | 5376.90              | 72.32                   | 83.54                   | 5399.40              | 58.35                   | 63.54                   | Н    |

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| Modulation<br>Mode | N <sub>TX</sub> | Freq.<br>(MHz) | Measure<br>Distance<br>(m) | Freq.<br>(MHz)<br>PK | Level<br>(dBuV/m)<br>PK | Limit<br>(dBuV/m)<br>PK | Freq.<br>(MHz)<br>AV | Level<br>(dBuV/m)<br>AV | Limit<br>(dBuV/m)<br>AV | Pol. |
|--------------------|-----------------|----------------|----------------------------|----------------------|-------------------------|-------------------------|----------------------|-------------------------|-------------------------|------|
| 11a                | 1               | 5260           | 1                          | 5385.00              | 73.11                   | 83.54                   | 5397.30              | 58.57                   | 63.54                   | Н    |
| 11a                | 1               | 5320           | 1                          | 5351.09              | 80.53                   | 83.54                   | 5350.11              | 61.34                   | 63.54                   | Н    |
| HT20               | 1               | 5260           | 1                          | 5391.00              | 72.19                   | 83.54                   | 5396.10              | 58.36                   | 63.54                   | Н    |
| HT20               | 1               | 5320           | 1                          | 5351.37              | 77.25                   | 83.54                   | 5350.11              | 60.63                   | 63.54                   | Н    |
| HT40               | 1               | 5270           | 1                          | 5371.80              | 74.35                   | 83.54                   | 5351.70              | 58.91                   | 63.54                   | Н    |
| HT40               | 1               | 5310           | 1                          | 5351.47              | 77.58                   | 83.54                   | 5350.39              | 59.76                   | 63.54                   | Н    |

| Modulation<br>Mode | N <sub>TX</sub> | Freq.<br>(MHz) | Measure<br>Distance<br>(m) | Freq.<br>(MHz)<br>PK | Level<br>(dBuV/m)<br>PK | Limit<br>(dBuV/m)<br>PK | Freq.<br>(MHz)<br>AV | Level<br>(dBuV/m)<br>AV | Limit<br>(dBuV/m)<br>AV | Pol. |
|--------------------|-----------------|----------------|----------------------------|----------------------|-------------------------|-------------------------|----------------------|-------------------------|-------------------------|------|
| 11a                | 1               | 5500           | 1                          | 5469.92              | 81.90                   | 83.54                   | 5470.00              | 61.17                   | 63.54                   | Н    |
| 11a                | 1               | 5700           | 1                          | 5726.90              | 77.26                   | 77.84                   | -                    | -                       | -                       | Н    |
| HT20               | 1               | 5500           | 1                          | 5467.92              | 81.60                   | 83.54                   | 5470.00              | 61.53                   | 63.54                   | Н    |
| HT20               | 1               | 5700           | 1                          | 5726.90              | 76.55                   | 77.84                   | =                    | -                       | -                       | Н    |
| HT40               | 1               | 5510           | 1                          | 5469.90              | 83.12                   | 83.54                   | 5469.80              | 62.56                   | 63.54                   | Н    |
| HT40               | 1               | 5670           | 1                          | 5725.00              | 77.27                   | 77.84                   | -                    | -                       | -                       | Н    |

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3.3 Transmitter Unwanted Emissions

### 3.3.1 Transmitter Radiated Unwanted Emissions Limit

| Unwanted emissions below 1 GHz and restricted band emissions above 1GHz limit |                       |                         |                      |  |  |  |  |  |  |
|---|-----------------------|-------------------------|----------------------|--|--|--|--|--|--|
| Frequency Range (MHz)   | Field Strength (uV/m) | Field Strength (dBuV/m) | Measure Distance (m) |  |  |  |  |  |  |
| 0.009~0.490   | 2400/F(kHz)           | 48.5 - 13.8             | 300                  |  |  |  |  |  |  |
| 0.490~1.705   | 24000/F(kHz)          | 33.8 - 23               | 30                   |  |  |  |  |  |  |
| 1.705~30.0  | 1.705~30.0 30         |                         | 30                   |  |  |  |  |  |  |
| 30~88   | 100                   | 40                      | 3                    |  |  |  |  |  |  |
| 88~216  | 150                   | 43.5                    | 3                    |  |  |  |  |  |  |
| 216~960   | 200                   | 46                      | 3                    |  |  |  |  |  |  |
| Above 960   | 500                   | 54                      | 3                    |  |  |  |  |  |  |

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Note 1: Test distance for frequencies at or above 30 MHz, measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

Note 2: Test distance for frequencies at below 30 MHz, measurements may be performed at a distance closer than the EUT limit distance; however, an attempt should be made to avoid making measurements in the near field. When performing measurements below 30 MHz at a closer distance than the limit distance, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two or more distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). The test report shall specify the extrapolation method used to determine compliance of the EUT.

|                   | Un-restricted band emissions above 1GHz Limit  |  |  |  |  |  |  |  |  |
|-------------------|--|--|--|--|--|--|--|--|--|
| Operating Band    | Limit  |  |  |  |  |  |  |  |  |
| 5.15 - 5.25 GHz   | e.i.r.p27 dBm [68.2 dBuV/m@3m]   |  |  |  |  |  |  |  |  |
| 5.25 - 5.35 GHz   | e.i.r.p27 dBm [68.2 dBuV/m@3m]   |  |  |  |  |  |  |  |  |
| 5.47 - 5.725 GHz  | e.i.r.p27 dBm [68.2 dBuV/m@3m]   |  |  |  |  |  |  |  |  |
| 5.725 - 5.825 GHz | 5.715 5.725 GHz: e.i.r.p17 dBm [78.2 dBuV/m@3m]<br>5.825 5.835 GHz: e.i.r.p17 dBm [78.2 dBuV/m@3m]<br>Other un-restricted band: e.i.r.p27 dBm [68.2 dBuV/m@3m] |  |  |  |  |  |  |  |  |

Note 1: Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field and the emissions to be measured can be detected by the measurement equipment. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear distance for field-strength measurements, inverse of linear distance-squared for power-density measurements).

### 3.3.2 Measuring Instruments

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

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### 3.3.3 Test Procedures

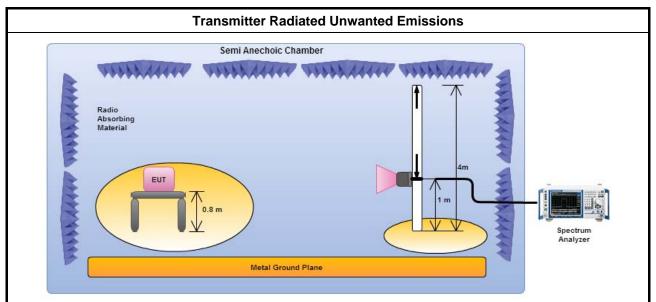
|             |   | Test Method  |
|-------------|---|--|
|             | perfo<br>equi<br>abov<br>are i<br>be e<br>dista | surements may be performed at a distance other than the limit distance provided they are not bring in the near field and the emissions to be measured can be detected by the measurement proment. Measurements shall not be performed at a distance greater than 30 m for frequencies of 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less impractical. When performing measurements at a distance other than that specified, the results shall extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse of linear noce for field-strength measurements, inverse of linear distance-squared for power-density surements). |
|             |   | Measurements in the frequency range 5 GHz - 10GHz are typically made at a closer distance 1.5m, because the instrumentation noise floor is typically close to the radiated emission limit.   |
|             |   | Measurements in the frequency range 10 GHz - 18GHz are typically made at a closer distance 1m, because the instrumentation noise floor is typically close to the radiated emission limit.  |
|             |   | Measurements in the frequency range above 18 GHz - 40GHz are typically made at a closer distance 0.5m, because the instrumentation noise floor is typically close to the radiated emission limit.  |
| $\boxtimes$ | The   | average emission levels shall be measured in [duty cycle ≥ 98 or duty factor].   |
| $\boxtimes$ | For t   | he transmitter unwanted emissions shall be measured using following options below:   |
|             | $\boxtimes$                                     | Refer as FCC KDB 789033, clause H)2) for unwanted emissions into non-restricted bands.   |
|             |   | Refer as FCC KDB 789033, clause H)1) for unwanted emissions into restricted bands.   |
|             |   | Refer as FCC KDB 789033, H)6) Method AD (Trace Averaging).   |
|             |   | Refer as FCC KDB 789033, H)6) Method VB (Reduced VBW).   |
|             |   | Refer as ANSI C63.10, clause 4.2.3.2.3 (Reduced VBW). VBW ≥ 1/T, where T is pulse time.  |
|             |   | Refer as ANSI C63.10, clause 4.2.3.2.4 average value of pulsed emissions.  |
|             |   | Refer as FCC KDB 789033, clause H)5) measurement procedure peak limit.   |
|             |   | Refer as ANSI C63.10, clause 4.2.3.2.2 measurement procedure peak limit.   |
|             | For   | adiated measurement.   |
|             |   | Refer as ANSI C63.10, clause 6.4 for radiated emissions from below 30 MHz.   |
|             | $\boxtimes$                                     | Refer as ANSI C63.10, clause 6.5 for radiated emissions from 30 MHz to 1000 MHz.   |
|             | $\boxtimes$                                     | Refer as ANSI C63.10, clause 6.6 for radiated emissions from above 1 GHz.  |

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3.3.4 Test Setup



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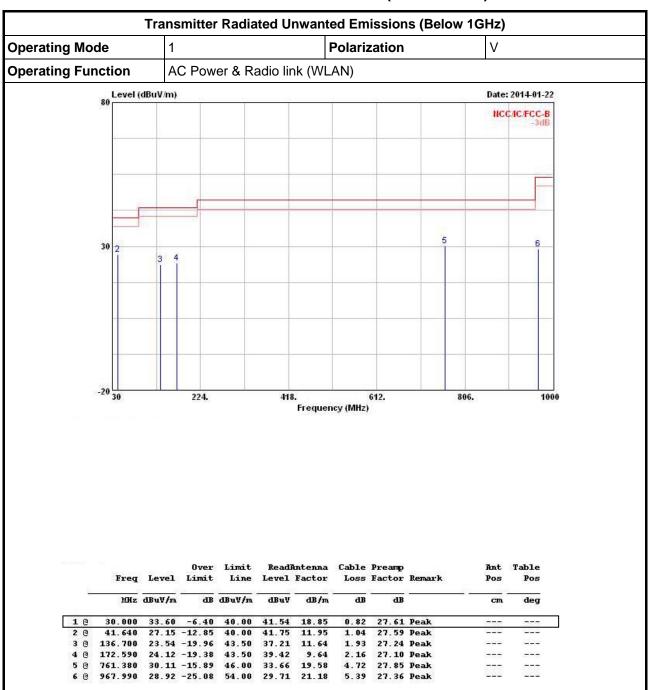
Magnetic field tests shall be performed in the frequency range of 9 kHz to 30 MHz using a calibrated loop antenna. Electric field tests shall be performed in the frequency range of 30 MHz to 1000 MHz using a calibrated bi-log antenna and the frequency range of 1 GHz to 40 GHz using a calibrated horn antenna.

### 3.3.5 Transmitter Radiated Unwanted Emissions-with Antenna (Below 30MHz)

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

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### 3.3.6 Transmitter Radiated Unwanted Emissions (Below 1GHz)



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Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

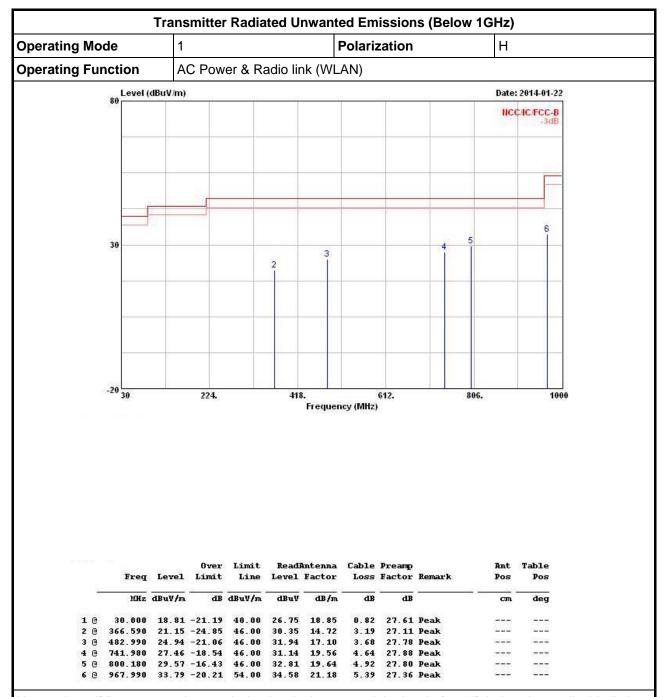
Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical).

Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.

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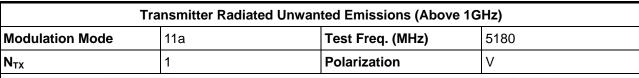
Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

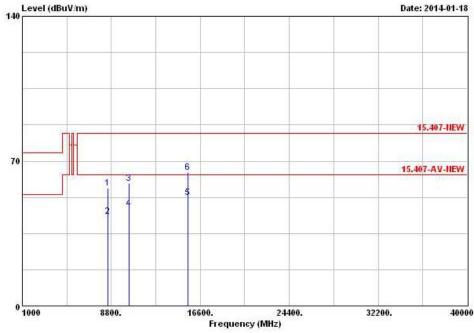
Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical).

Note 4: No level of unwanted emissions exceeds the level of the fundamental emission.

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Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5150-5250MHz



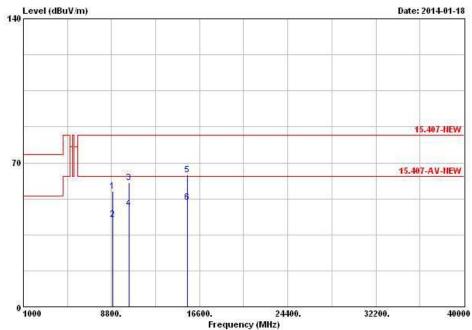
|              |        | 0ver   | Limit  | Read  | Antenna | Cable | Preamp |         | Ant | Table |
|--------------|--------|--------|--------|-------|---------|-------|--------|---------|-----|-------|
| Freg         | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos | Pos   |
| MHz          | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | ав    | dB     | t of    |     | deg   |
| 1 @ 8484.000 | 56.94  | -26.60 | 83.54  | 43.07 | 38.67   | 8.01  | 32.81  | Peak    |     |       |
| 2 @ 8484.000 | 43.21  | -20.33 | 63.54  | 29.34 | 38.67   | 8.01  | 32.81  | Average |     |       |
| 3 @10360.000 | 59.22  | -24.32 | 83.54  | 43.47 | 39.60   | 8.92  | 32.77  | Peak    |     |       |
| 4 @10360.000 | 47.01  | -16.53 | 63.54  | 31.26 | 39.60   | 8.92  | 32.77  | Average |     |       |
| 5 @15540.000 | 52.31  | -11.23 | 63.54  | 34.88 | 38.04   | 11.59 | 32.20  | Average |     |       |
| 6 @15540.000 | 64.46  | -19.08 | 83.54  | 47.03 | 38.04   | 11.59 | 32.20  | Peak    |     |       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Tra             | nsmitter Radiated Unwan | ted Emissions (Above 1G | Hz)  |
|-----------------|-------------------------|-------------------------|------|
| Modulation Mode | 11a                     | Test Freq. (MHz)        | 5180 |
| N <sub>TX</sub> | 1                       | Polarization            | Н    |



|              |        | 0ver   | Limit  | Read  | Antenna | Cable | Preamp |         | Ant | Table |
|--------------|--------|--------|--------|-------|---------|-------|--------|---------|-----|-------|
| Freq         | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos | Pos   |
| MKz          | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dВ    | dB     |         | cm. | deg   |
| 1 @ 8916.000 | 56.29  | -27.25 | 83.54  | 43.24 | 38.20   | 7.80  | 32.95  | Peak    |     |       |
| 2 @ 8916.000 | 42.40  | -21.14 | 63.54  | 29.35 | 38.20   | 7.80  | 32.95  | Average |     |       |
| 3 @10360.000 | 60.28  | -23.26 | 83.54  | 44.53 | 39.60   | 8.92  | 32.77  | Peak    |     | 2000  |
| 4 @10360.000 | 47.91  | -15.63 | 63.54  | 32.16 | 39.60   | 8.92  | 32.77  | Average |     |       |
| 5 @15540.000 | 64.02  | -19.52 | 83.54  | 46.59 | 38.04   | 11.59 | 32.20  | Peak    |     | 80000 |
| 6 @15540.000 | 51.02  | -12.52 | 63.54  | 33.59 | 38.04   | 11.59 | 32.20  | Average |     |       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

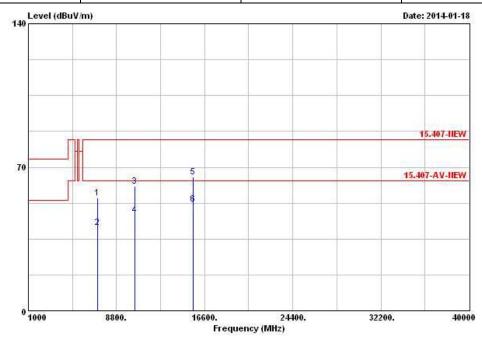
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Tra             | Transmitter Radiated Unwanted Emissions (Above 1GHz) |                  |      |  |  |  |  |  |  |  |
|-----------------|--|------------------|------|--|--|--|--|--|--|--|
| Modulation Mode | 11a  | Test Freq. (MHz) | 5200 |  |  |  |  |  |  |  |
| N <sub>TX</sub> | 1  | Polarization     | V    |  |  |  |  |  |  |  |



|   |            |        | 0ver   | Limit  | Read  | Antenna | Cable | Preamp |           | Ant    | Table |
|---|------------|--------|--------|--------|-------|---------|-------|--------|-----------|--------|-------|
|   | Freq       | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark    | Pos    | Pos   |
|   | Mtz        | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dB    | dB     | ž <u></u> |        | deg   |
| 1 | @ 7128.000 | 55.08  | -28.46 | 83.54  | 43.79 | 36.77   | 7.14  | 32.62  | Peak      |        |       |
| 2 | @ 7128.000 | 40.47  | -23.07 | 63.54  | 29.18 | 36.77   | 7.14  | 32.62  | Average   |        |       |
| 3 | @10400.000 | 60.69  | -22.85 | 83.54  | 44.88 | 39.60   | 8.94  | 32.73  | Peak      |        |       |
| 4 | @10400.000 | 46.71  | -16.83 | 63.54  | 30.90 | 39.60   | 8.94  | 32.73  | Average   |        |       |
| 5 | @15600.000 | 65.15  | -18.39 | 83.54  | 47.87 | 37.91   | 11.59 | 32.22  | Peak      | 50,000 | 8000  |
| 6 | @15600.000 | 52.03  | -11.51 | 63.54  | 34.75 | 37.91   | 11.59 | 32.22  | Average   |        |       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

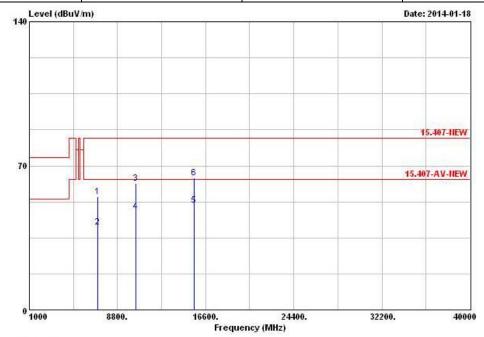
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Tra             | Transmitter Radiated Unwanted Emissions (Above 1GHz) |                  |      |  |  |  |  |  |  |  |
|-----------------|--|------------------|------|--|--|--|--|--|--|--|
| Modulation Mode | 11a  | Test Freq. (MHz) | 5200 |  |  |  |  |  |  |  |
| $N_{TX}$        | 1  | Polarization     | Н    |  |  |  |  |  |  |  |

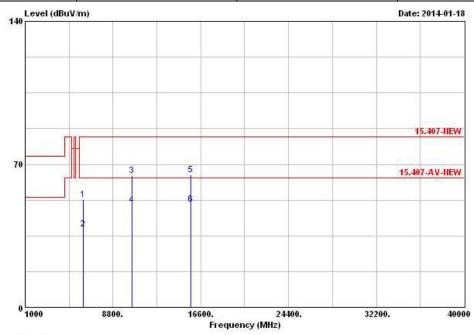


|   | Freq       | [ Level | Over<br>Limit |        |       | Antenna<br>Factor |       |       | Remark  | Ant<br>Pos | Table<br>Pos |
|---|------------|---------|---------------|--------|-------|-------------------|-------|-------|---------|------------|--------------|
|   | MH         | dBuV/m  | dB            | dBuV/m | dBuV  | dB/m              | - dB  | - dB  | 3       |            | deg          |
| 1 | @ 7038.000 | 55.09   | -28.45        | 83.54  | 43.95 | 36.65             | 7.08  | 32.59 | Peak    |            |              |
| 2 | @ 7038.000 | 40.10   | -23.44        | 63.54  | 28.96 | 36.65             | 7.08  | 32.59 | Average |            |              |
| 3 | @10400.000 | 61.46   | -22.08        | 83.54  | 45.65 | 39.60             | 8.94  | 32.73 | Peak    |            |              |
| 4 | @10400.000 | 47.97   | -15.57        | 63.54  | 32.16 | 39.60             | 8.94  | 32.73 | Average |            |              |
| 5 | @15600.000 | 50.97   | -12.57        | 63.54  | 33.69 | 37.91             | 11.59 | 32.22 | Average |            |              |
| 6 | @15600.000 | 64.23   | -19.31        | 83.54  | 46.95 | 37.91             | 11.59 | 32.22 | Peak    |            |              |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Tra             | nsmitter Radiated Unwan | ted Emissions (Above 1G | Hz)  |
|-----------------|-------------------------|-------------------------|------|
| Modulation Mode | 11a                     | Test Freq. (MHz)        | 5240 |
| $N_{TX}$        | 1                       | Polarization            | V    |

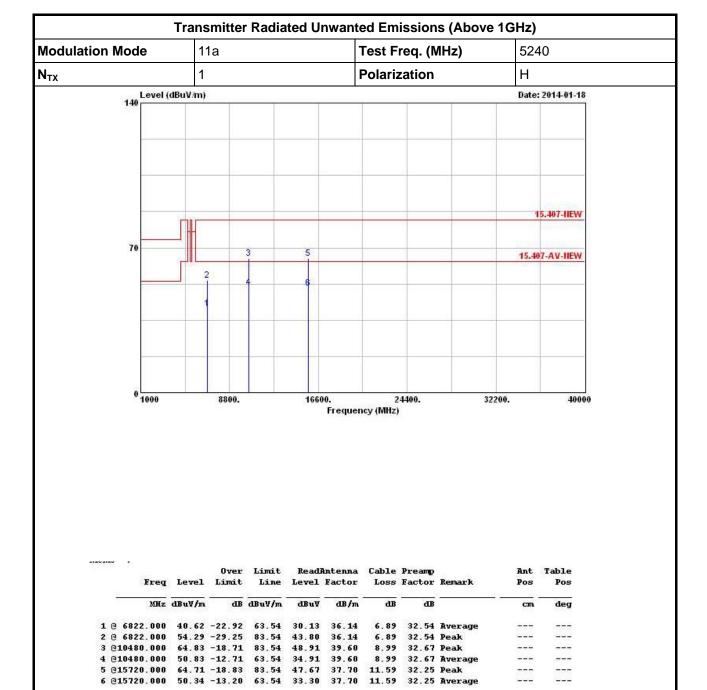


|   | Freg       | Level  | Over<br>Limit |        |       | Antenna<br>Factor |       |        | Remark  | Ant<br>Pos            | Table<br>Pos |
|---|------------|--------|---------------|--------|-------|-------------------|-------|--------|---------|-----------------------|--------------|
|   | rreq       | reser  | пинс          | DIME   | Dever | Factor            | LUSS  | Factor | Kenark  | FUS                   | rus          |
|   | MHz        | dBuV/m | dB            | dBuV/m | dBuV  | dB/m              | dB    | dB     | E       | cm                    | deg          |
| 1 | @ 6156.000 | 52.84  | -30.70        | 83.54  | 43.54 | 35.12             | 6.63  | 32.45  | Peak    |                       | 7777         |
| 2 | @ 6156.000 | 38.42  | -25.12        | 63.54  | 29.12 | 35.12             | 6.63  | 32.45  | Average |                       |              |
| 3 | @10480.000 | 64.45  | -19.09        | 83.54  | 48.53 | 39.60             | 8.99  | 32.67  | Peak    |                       |              |
| 4 | @10480.000 | 50.24  | -13.30        | 63.54  | 34.32 | 39.60             | 8.99  | 32.67  | Average |                       |              |
| 5 | @15720.000 | 64.80  | -18.74        | 83.54  | 47.76 | 37.70             | 11.59 | 32.25  | Peak    | TO THE REAL PROPERTY. | 75575        |
| 6 | @15720.000 | 50.43  | -13.11        | 63.54  | 33.39 | 37.70             | 11.59 | 32.25  | Average |                       |              |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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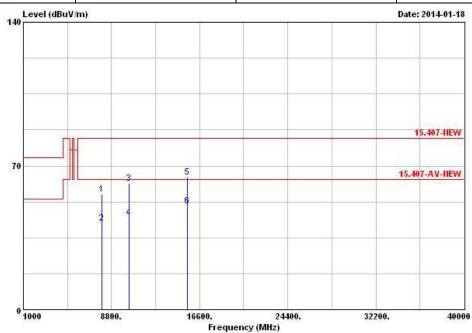
Report No.: FR3D1962-02AN



- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Transmitter Radiated Unwanted Emissions (Above 1GHz) |      |                  |      |  |  |  |  |  |  |
|--|------|------------------|------|--|--|--|--|--|--|
| Modulation Mode                                      | HT20 | Test Freq. (MHz) | 5180 |  |  |  |  |  |  |
| $N_{TX}$   | 2    | Polarization     | V    |  |  |  |  |  |  |

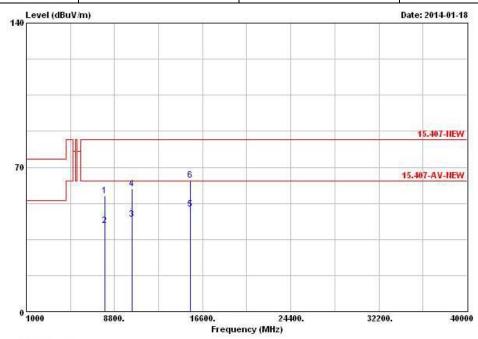


|       |          |        | 0ver   | Limit  | Readi | Antenna | Cable | Preamp |         | Ant | Table |
|-------|----------|--------|--------|--------|-------|---------|-------|--------|---------|-----|-------|
|       | Freq     | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos | Pos   |
| _     | MHz      | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dB    | dB     | 3       | cm. | deg   |
| 10    | 7938.000 | 56.19  | -27.35 | 83.54  | 43.04 | 37.73   | 8.21  | 32.79  | Peak    |     |       |
| 2 @ 1 | 7938.000 | 42.14  | -21.40 | 63.54  | 28.99 | 37.73   | 8.21  | 32.79  | Average |     |       |
| 3 @10 | 0360.000 | 61.48  | -22.06 | 83.54  | 45.73 | 39.60   | 8.92  | 32.77  | Peak    |     |       |
| 4 @10 | 0360.000 | 44.95  | -18.59 | 63.54  | 29.20 | 39.60   | 8.92  | 32.77  | Average | -   |       |
| 5 @15 | 5540.000 | 64.66  | -18.88 | 83.54  | 47.23 | 38.04   | 11.59 | 32.20  | Peak    |     |       |
| 6 @15 | 5540.000 | 50.50  | -13.04 | 63.54  | 33.07 | 38.04   | 11.59 | 32.20  | Average |     |       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Transmitter Radiated Unwanted Emissions (Above 1GHz) |      |                  |      |  |  |  |  |  |  |
|--|------|------------------|------|--|--|--|--|--|--|
| Modulation Mode                                      | HT20 | Test Freq. (MHz) | 5180 |  |  |  |  |  |  |
| $N_{TX}$   | 2    | Polarization     | Н    |  |  |  |  |  |  |

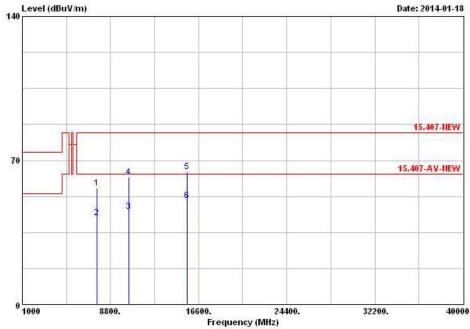


| Freq         | Level  | Over<br>Limit |        |       | Antenna<br>Factor |       |       |         | Ant<br>Pos | Table<br>Pos |
|--------------|--------|---------------|--------|-------|-------------------|-------|-------|---------|------------|--------------|
| MC           | dBuV/m | dB            | dBuV/m | dBuV  | dB/m              | dВ    | - dB  |         | - cm       | deg          |
| 1 @ 7938.000 | 56.10  | -27.44        | 83.54  | 42.95 | 37.73             | 8.21  | 32.79 | Peak    |            |              |
| 2 @ 7938.000 | 41.71  | -21.83        | 63.54  | 28.56 | 37.73             | 8.21  | 32.79 | Average |            |              |
| 3 @10360.000 | 44.96  | -18.58        | 63.54  | 29.21 | 39.60             | 8.92  | 32.77 | Average |            |              |
| 4 @10360.000 | 59.61  | -23.93        | 83.54  | 43.86 | 39.60             | 8.92  | 32.77 | Peak    |            |              |
| 5 @15540.000 | 49.85  | -13.69        | 63.54  | 32.42 | 38.04             | 11.59 | 32.20 | Average | -          | 17000        |
| 6 @15540.000 | 63.79  | -19.75        | 83.54  | 46.36 | 38.04             | 11.59 | 32.20 | Peak    |            |              |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Tra             | Transmitter Radiated Unwanted Emissions (Above 1GHz) |                  |      |  |  |  |  |  |  |
|-----------------|--|------------------|------|--|--|--|--|--|--|
| Modulation Mode | HT20   | Test Freq. (MHz) | 5200 |  |  |  |  |  |  |
| N <sub>TX</sub> | 2  | Polarization     | V    |  |  |  |  |  |  |



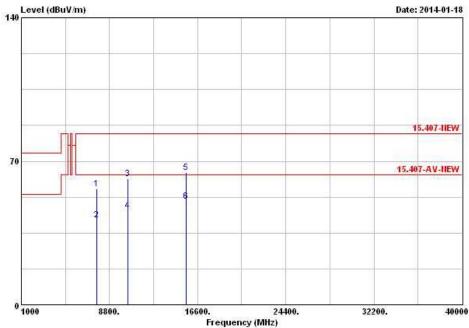
|   |            |        | Over   | Limit  | Read  | Antenna | Cable | Preamp |         | Ant | Table |
|---|------------|--------|--------|--------|-------|---------|-------|--------|---------|-----|-------|
|   | Freq       | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos | Pos   |
|   | MHz        | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dВ    | dB     | -       | cm  | deg   |
| 1 | @ 7632.000 | 56.65  | -26.89 | 83.54  | 44.32 | 37.43   | 7.64  | 32.74  | Peak    |     |       |
| 2 | @ 7632.000 | 42.00  | -21.54 | 63.54  | 29.67 | 37.43   | 7.64  | 32.74  | Average |     |       |
| 3 | @10400.000 | 45.12  | -18.42 | 63.54  | 29.31 | 39.60   | 8.94  | 32.73  | Average |     |       |
| 4 | @10400.000 | 61.69  | -21.85 | 83.54  | 45.88 | 39.60   | 8.94  | 32.73  | Peak    |     | 0.77  |
| 5 | @15600.000 | 64.51  | -19.03 | 83.54  | 47.23 | 37.91   | 11.59 | 32.22  | Peak    |     |       |
| 6 | @15600.000 | 50.41  | -13.13 | 63.54  | 33.13 | 37.91   | 11.59 | 32.22  | Average |     |       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Transmitter Radiated Unwanted Emissions (Above 1GHz) |      |                  |      |  |  |  |  |  |  |
|--|------|------------------|------|--|--|--|--|--|--|
| Modulation Mode                                      | HT20 | Test Freq. (MHz) | 5200 |  |  |  |  |  |  |
| N <sub>TX</sub>                                      | 2    | Polarization     | Н    |  |  |  |  |  |  |
|  |      |                  |      |  |  |  |  |  |  |

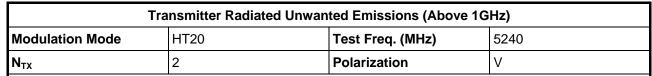


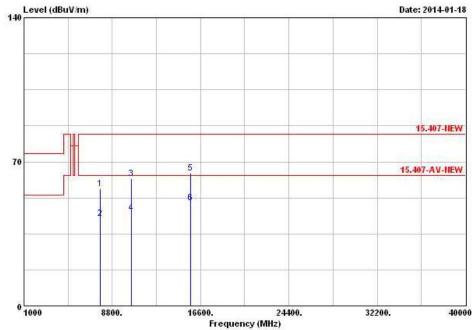
|      |           |        | 0ver   | Limit  | Readi | Antenna | Cable | Preamp |               | Ant    | Table |
|------|-----------|--------|--------|--------|-------|---------|-------|--------|---------------|--------|-------|
|      | Freq      | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark        | Pos    | Pos   |
|      | MKz       | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dВ    | - dB   | : <del></del> | cm.    | deg   |
| 1 0  | 7674.000  | 56.55  | -26.99 | 83.54  | 44.11 | 37.48   | 7.71  | 32.75  | Peak          |        |       |
| 2 @  | 7674.000  | 41.33  | -22.21 | 63.54  | 28.89 | 37.48   | 7.71  | 32.75  | Average       |        |       |
| 3 @  | 10400.000 | 61.43  | -22.11 | 83.54  | 45.62 | 39.60   | 8.94  | 32.73  | Peak          |        | 222   |
| 4 @  | 10400.000 | 45.76  | -17.78 | 63.54  | 29.95 | 39.60   | 8.94  | 32.73  | Average       |        |       |
| 5 @  | 15600.000 | 64.63  | -18.91 | 83.54  | 47.35 | 37.91   | 11.59 | 32.22  | Peak          | 50,000 | 8000  |
| 6 (3 | 15600.000 | 50.40  | -13.14 | 63.54  | 33.12 | 37.91   | 11.59 | 32.22  | Average       |        |       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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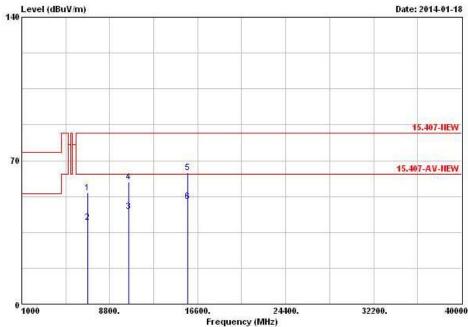


|   |   |       |       |        | 0ver   | Limit  | Read  | Antenna | Cable | Preamp |         | Ant | Table |
|---|---|-------|-------|--------|--------|--------|-------|---------|-------|--------|---------|-----|-------|
|   |   | 9     | Freq  | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos | Pos   |
|   | - | -     | MHz   | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dB    | - dB   |         | cm  | deg   |
| 1 | 0 | 7746  | . 000 | 57.03  | -26.51 | 83.54  | 44.38 | 37.55   | 7.86  | 32.76  | Peak    |     |       |
| 2 | 0 | 7746  | .000  | 42.67  | -20.87 | 63.54  | 30.02 | 37.55   | 7.86  | 32.76  | Average |     |       |
| 3 | 0 | 10480 | .000  | 61.78  | -21.76 | 83.54  | 45.86 | 39.60   | 8.99  | 32.67  | Peak    |     |       |
| 4 | 0 | 10480 | . 000 | 45.15  | -18.39 | 63.54  | 29.23 | 39.60   | 8.99  | 32.67  | Average | 777 | 17.00 |
| 5 | 0 | 15720 | .000  | 64.50  | -19.04 | 83.54  | 47.46 | 37.70   | 11.59 | 32.25  | Peak    |     |       |
| 6 | 0 | 15720 | .000  | 50.27  | -13.27 | 63.54  | 33.23 | 37.70   | 11.59 | 32.25  | Average |     |       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Tra             | nsmitter Radiated Unwan | ted Emissions (Above 1G | Hz)  |
|-----------------|-------------------------|-------------------------|------|
| Modulation Mode | HT20                    | Test Freq. (MHz)        | 5240 |
| N <sub>TX</sub> | 2                       | Polarization            | Н    |
|                 |                         |                         |      |

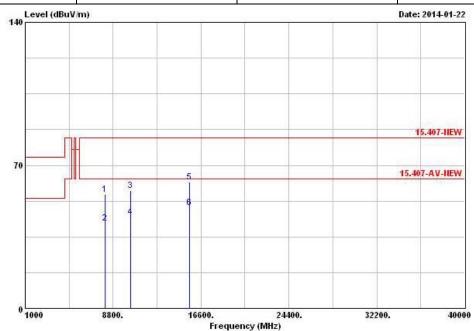


| 7            | 4007   | Over<br>Limit |        |       | Antenna<br>Factor |       |        |         | Ant<br>Pos | Table<br>Pos |
|--------------|--------|---------------|--------|-------|-------------------|-------|--------|---------|------------|--------------|
| rreq         | Level  | пппс          | rine   | rever | ractor            | ross  | ractor | Remark  | Pos        | Pos          |
| ж            | dBuV/m | dB            | dBuV/m | dBuV  | dB/m              | dB    | dB     | 3       | cm         | deg          |
| 1 @ 6852.000 | 54.28  | -29.26        | 83.54  | 43.68 | 36.23             | 6.92  | 32.55  | Peak    |            |              |
| 2 @ 6852.000 | 40.01  | -23.53        | 63.54  | 29.41 | 36.23             | 6.92  | 32.55  | Average |            |              |
| 3 @10480.000 | 45.19  | -18.35        | 63.54  | 29.27 | 39.60             | 8.99  | 32.67  | Average |            |              |
| 4 @10480.000 | 59.69  | -23.85        | 83.54  | 43.77 | 39.60             | 8.99  | 32.67  | Peak    |            | 45.50        |
| 5 @15720.000 | 64.25  | -19.29        | 83.54  | 47.21 | 37.70             | 11.59 | 32.25  | Peak    |            |              |
| 6 @15720.000 | 50.21  | -13.33        | 63.54  | 33.17 | 37.70             | 11.59 | 32.25  | Average |            |              |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Tra             | nsmitter Radiated Unwan | ted Emissions (Above 1G | Hz)  |
|-----------------|-------------------------|-------------------------|------|
| Modulation Mode | HT40                    | Test Freq. (MHz)        | 5190 |
| $N_{TX}$        | 2                       | Polarization            | V    |

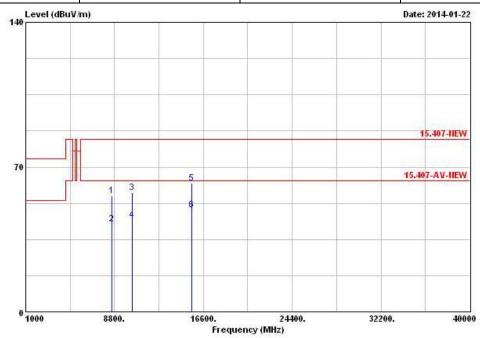


|   | Fı       | rea | Level  | Over<br>Limit |        |       | Antenna<br>Factor |       | Preamp | Remark  | Ant<br>Pos | Table<br>Pos |
|---|----------|-----|--------|---------------|--------|-------|-------------------|-------|--------|---------|------------|--------------|
|   | 100      | 4   | 2      | LLIII         |        | 20.00 | Luctor            | Loud  | Luctor | ALL A   |            |              |
|   |          | Mz  | dBuV/m | dB            | dBuV/m | dBuV  | dB/m              | dB    | dB     |         | cm.        | deg          |
| 1 | @ 8052.0 | 000 | 55.83  | -27.71        | 83.54  | 42.50 | 37.89             | 8.24  | 32.80  | Peak    |            |              |
| 2 | @ 8052.0 | 000 | 41.72  | -21.82        | 63.54  | 28.39 | 37.89             | 8.24  | 32.80  | Average |            |              |
| 3 | @10380.0 | 000 | 57.67  | -25.87        | 83.54  | 41.88 | 39.60             | 8.94  | 32.75  | Peak    |            |              |
| 4 | @10380.0 | 000 | 44.58  | -18.96        | 63.54  | 28.79 | 39.60             | 8.94  | 32.75  | Average |            |              |
| 5 | @15570.0 | 000 | 61.88  | -21.66        | 83.54  | 44.51 | 37.98             | 11.59 | 32.20  | Peak    |            |              |
| 6 | @15570.0 | 000 | 49.25  | -14.29        | 63.54  | 31.88 | 37.98             | 11.59 | 32.20  | Average |            |              |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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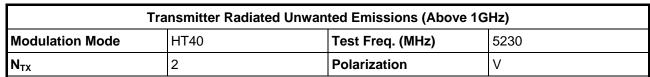
| Tra                                     | nsmitter Radiated Unwan | ted Emissions (Above 1G | Hz) |  |  |  |  |  |  |  |  |
|---|-------------------------|-------------------------|-----|--|--|--|--|--|--|--|--|
| Modulation ModeHT40Test Freq. (MHz)5190 |                         |                         |     |  |  |  |  |  |  |  |  |
| $N_{TX}$                                | 2                       | Polarization            | Н   |  |  |  |  |  |  |  |  |

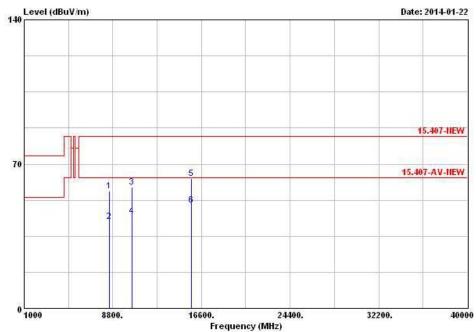


|            |    |        | 0ver   | Limit  | Readi | Antenna | Cable | Preamp |              | Ant | Table |
|------------|----|--------|--------|--------|-------|---------|-------|--------|--------------|-----|-------|
| Fr         | eq | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark       | Pos | Pos   |
| - м        | Hz | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dB    | dB     | <del>-</del> | cm. | deg   |
| 1 @ 8568.0 | 00 | 56.14  | -27.40 | 83.54  | 42.39 | 38.62   | 7.97  | 32.84  | Peak         |     |       |
| 2 @ 8568.0 | 00 | 42.39  | -21.15 | 63.54  | 28.64 | 38.62   | 7.97  | 32.84  | Average      | -   |       |
| 3 @10380.0 | 00 | 57.75  | -25.79 | 83.54  | 41.96 | 39.60   | 8.94  | 32.75  | Peak         |     |       |
| 4 @10380.0 | 00 | 44.47  | -19.07 | 63.54  | 28.68 | 39.60   | 8.94  | 32.75  | Average      | -   | 2000  |
| 5 @15570.0 | 00 | 62.30  | -21.24 | 83.54  | 44.93 | 37.98   | 11.59 | 32.20  | Peak         |     |       |
| 6 @15570.0 | 00 | 49.30  | -14.24 | 63.54  | 31.93 | 37.98   | 11.59 | 32.20  | Average      |     |       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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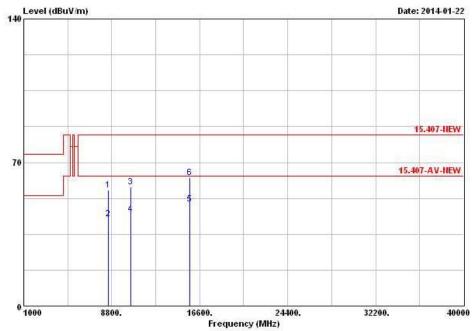


|   |            |        | 0ver   | Limit  | Read  | Antenna | Cable | Preamp |         | Ant     | Table |
|---|------------|--------|--------|--------|-------|---------|-------|--------|---------|---------|-------|
|   | Freq       | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos     | Pos   |
|   | MHz        | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dВ    | dB     | *       | cm.     | deg   |
| 1 | 8472.000   | 56.73  | -26.81 | 83.54  | 42.86 | 38.67   | 8.01  | 32.81  | Peak    |         |       |
| 2 | 8472.000   | 42.29  | -21.25 | 63.54  | 28.42 | 38.67   | 8.01  | 32.81  | Average | 100000  |       |
| 3 | 10460.000  | 58.62  | -24.92 | 83.54  | 42.72 | 39.60   | 8.99  | 32.69  | Peak    |         |       |
| 4 | 10460.000  | 44.87  | -18.67 | 63.54  | 28.97 | 39.60   | 8.99  | 32.69  | Average |         |       |
| 5 | 15690.000  | 62.87  | -20.67 | 83.54  | 45.76 | 37.76   | 11.59 | 32.24  | Peak    | 5570207 | 8555  |
| 6 | @15690.000 | 50.05  | -13.49 | 63.54  | 32.94 | 37.76   | 11.59 | 32.24  | Average |         |       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Tra             | nsmitter Radiated Unwan                   | ted Emissions (Above 1G | Hz) |  |  |  |  |  |  |  |  |  |  |
|-----------------|---|-------------------------|-----|--|--|--|--|--|--|--|--|--|--|
| Modulation Mode | odulation Mode HT40 Test Freq. (MHz) 5230 |                         |     |  |  |  |  |  |  |  |  |  |  |
| $N_{TX}$        | 2   | Polarization            | Н   |  |  |  |  |  |  |  |  |  |  |



|   |            |        | 0ver   | Limit  | Read  | Antenna | Cable | Preamp |         | Ant | Table |
|---|------------|--------|--------|--------|-------|---------|-------|--------|---------|-----|-------|
|   | Freq       | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos | Pos   |
|   | MHz        | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dB    | dB     |         | cm. | deg   |
| 1 | @ 8484.000 | 56.65  | -26.89 | 83.54  | 42.78 | 38.67   | 8.01  | 32.81  | Peak    |     | 757   |
| 2 | @ 8484.000 | 42.57  | -20.97 | 63.54  | 28.70 | 38.67   | 8.01  | 32.81  | Average |     |       |
| 3 | @10460.000 | 58.05  | -25.49 | 83.54  | 42.15 | 39.60   | 8.99  | 32.69  | Peak    |     |       |
| 4 | @10460.000 | 44.87  | -18.67 | 63.54  | 28.97 | 39.60   | 8.99  | 32.69  | Average |     |       |
| 5 | @15690.000 | 49.56  | -13.98 | 63.54  | 32.45 | 37.76   | 11.59 | 32.24  | Average |     | 77570 |
| 6 | @15690.000 | 62.51  | -21.03 | 83.54  | 45.40 | 37.76   | 11.59 | 32.24  | Peak    |     |       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

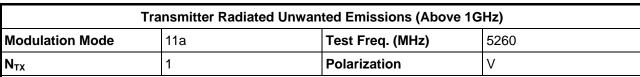
Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

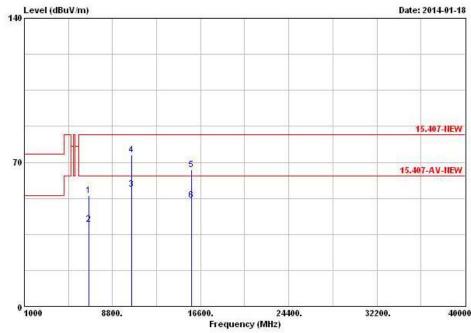
Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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## Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5250-5350MHz

Report No.: FR3D1962-02AN



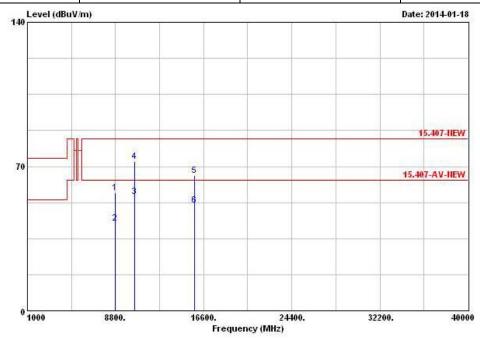


|              |        | 0ver   | Limit  | Readi | Antenna | Cable | Preamp |         | Ant | Table |
|--------------|--------|--------|--------|-------|---------|-------|--------|---------|-----|-------|
| Freq         | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos | Pos   |
| MHz          | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dB    | dB     |         |     | deg   |
| 1 @ 6732.000 | 53.85  | -29.69 | 83.54  | 43.61 | 35.94   | 6.83  | 32.53  | Peak    |     |       |
| 2 @ 6732.000 | 39.90  | -23.64 | 63.54  | 29.66 | 35.94   | 6.83  | 32.53  | Average | 222 |       |
| 3 @10520.000 | 56.92  | -6.62  | 63.54  | 40.96 | 39.59   | 9.02  | 32.65  | Average |     |       |
| 4 @10520.000 | 73.57  | -9.97  | 83.54  | 57.61 | 39.59   | 9.02  | 32.65  | Peak    | 200 | 1000  |
| 5 @15780.000 | 66.22  | -17.32 | 83.54  | 49.30 | 37.60   | 11.59 | 32.27  | Peak    |     |       |
| 6 @15780.000 | 51.69  | -11.85 | 63.54  | 34.77 | 37.60   | 11.59 | 32.27  | Average |     |       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Tra             | nsmitter Radiated Unwan | ted Emissions (Above 1G | Hz)  |
|-----------------|-------------------------|-------------------------|------|
| Modulation Mode | 11a                     | Test Freq. (MHz)        | 5260 |
| $N_{TX}$        | 1                       | Polarization            | Н    |

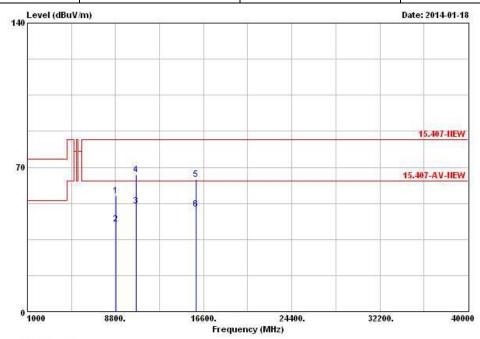


|   | Freq       | Level  | Over<br>Limit |        |       | Antenna<br>Factor |       |       |         | Ant<br>Pos | Table<br>Pos |
|---|------------|--------|---------------|--------|-------|-------------------|-------|-------|---------|------------|--------------|
|   | MHz        | dBuV/m | - dB          | dBuV/m | dBuV  | dB/m              | dB    | dB    | 3       |            | deg          |
| 1 | @ 8790.000 | 57.33  | -26.21        | 83.54  | 44.01 | 38.36             | 7.86  | 32.90 | Peak    |            |              |
| 2 | @ 8790.000 | 42.33  | -21.21        | 63.54  | 29.01 | 38.36             | 7.86  | 32.90 | Average |            |              |
| 3 | @10520.000 | 55.33  | -8.21         | 63.54  | 39.37 | 39.59             | 9.02  | 32.65 | Average |            |              |
| 4 | @10520.000 | 72.48  | -11.06        | 83.54  | 56.52 | 39.59             | 9.02  | 32.65 | Peak    | -515       | 4555         |
| 5 | @15780.000 | 65.76  | -17.78        | 83.54  | 48.84 | 37.60             | 11.59 | 32.27 | Peak    |            |              |
| 6 | @15780.000 | 51.39  | -12.15        | 63.54  | 34.47 | 37.60             | 11.59 | 32.27 | Average |            |              |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Transmitter Radiated Unwanted Emissions (Above 1GHz) |   |  |  |  |  |  |  |  |  |
|--|---|--|--|--|--|--|--|--|--|
| Modulation Mode                                      | Modulation Mode 11a Test Freq. (MHz) 5300 |  |  |  |  |  |  |  |  |
| N <sub>TX</sub> 1 Polarization V                     |   |  |  |  |  |  |  |  |  |

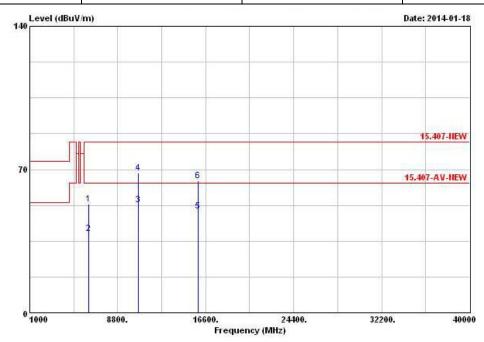


|      | Freq      | Level  | Over<br>Limit |        |       | Antenna<br>Factor |       |       |         | Ant<br>Pos | Table<br>Pos |
|------|-----------|--------|---------------|--------|-------|-------------------|-------|-------|---------|------------|--------------|
| _    | MHz       | dBuV/m | dB            | dBuV/m | dBuV  | dB/m              | dB    | dB    | 9       | cm         | deg          |
| 10   | 8838.000  | 56.05  | -27.49        | 83.54  | 42.83 | 38.30             | 7.84  | 32.92 | Peak    |            | 777          |
| 2 @  | 8838.000  | 42.31  | -21.23        | 63.54  | 29.09 | 38.30             | 7.84  | 32.92 | Average |            |              |
| 3 @1 | 10600.000 | 51.40  | -12.14        | 63.54  | 35.43 | 39.52             | 9.06  | 32.61 | Average |            |              |
| 4 @1 | 10600.000 | 66.47  | -17.07        | 83.54  | 50.50 | 39.52             | 9.06  | 32.61 | Peak    |            |              |
| 5 @1 | 5900.000  | 64.18  | -19.36        | 83.54  | 47.50 | 37.39             | 11.59 | 32.30 | Peak    |            | -7250        |
| 6 @1 | 5900.000  | 49.53  | -14.01        | 63.54  | 32.85 | 37.39             | 11.59 | 32.30 | Average |            |              |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Transmitter Radiated Unwanted Emissions (Above 1GHz) |   |  |  |  |  |  |  |  |  |
|--|---|--|--|--|--|--|--|--|--|
| Modulation Mode                                      | Modulation Mode 11a Test Freq. (MHz) 5300 |  |  |  |  |  |  |  |  |
| N <sub>TX</sub> 1 Polarization H                     |   |  |  |  |  |  |  |  |  |

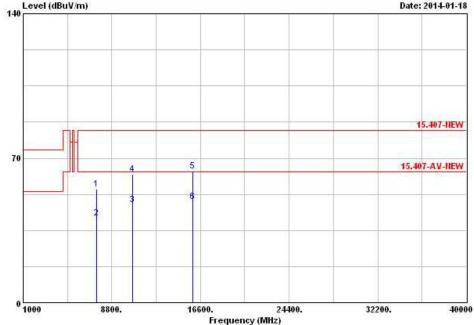


|   |     |     |      | Frea  | Level  | Over<br>Limit |        |       | Antenna<br>Factor |       |       |         | Ant<br>Pos | Table<br>Pos |
|---|-----|-----|------|-------|--------|---------------|--------|-------|-------------------|-------|-------|---------|------------|--------------|
|   |     | 9   |      |       |        |               |        |       | 10                |       | -     |         |            |              |
|   |     |     |      | MHz   | dBuV/m | dB            | dBuV/m | dBuV  | dB/m              | dB    | dB    |         | cm.        | deg          |
| 1 | . ( | 3 ( | 6198 | . 000 | 53.29  | -30.25        | 83.54  | 43.96 | 35.16             | 6.63  | 32.46 | Peak    |            |              |
| 2 | (   | 3 ( | 6198 | .000  | 38.59  | -24.95        | 63.54  | 29.26 | 35.16             | 6.63  | 32.46 | Average |            |              |
| 3 | (   | 310 | 0600 | .000  | 52.72  | -10.82        | 63.54  | 36.75 | 39.52             | 9.06  | 32.61 | Average |            | 2222         |
| 4 | (   | 310 | 0600 | . 000 | 68.30  | -15.24        | 83.54  | 52.33 | 39.52             | 9.06  | 32.61 | Peak    |            |              |
| 5 | (   | 31! | 5900 | . 000 | 49.70  | -13.84        | 63.54  | 33.02 | 37.39             | 11.59 | 32.30 | Average |            |              |
| 6 | (   | 31! | 5900 | .000  | 64.67  | -18.87        | 83.54  | 47.99 | 37.39             | 11.59 | 32.30 | Peak    |            |              |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Transmitter Radiated Unwanted Emissions (Above 1GHz) |   |  |  |  |  |  |  |  |  |  |
|--|---|--|--|--|--|--|--|--|--|--|
| Modulation Mode                                      | Modulation Mode 11a Test Freq. (MHz) 5320 |  |  |  |  |  |  |  |  |  |
| N <sub>TX</sub>                                      | N <sub>TX</sub> 1 Polarization V          |  |  |  |  |  |  |  |  |  |
| Level (dBuV/m) Date: 2014-01-18                      |   |  |  |  |  |  |  |  |  |  |

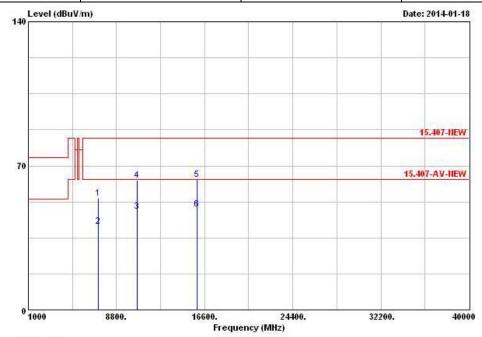


|   |            |        | 0ver   | Limit  | Read  | Antenna | Cable | Preamp |         | Ant | Table |
|---|------------|--------|--------|--------|-------|---------|-------|--------|---------|-----|-------|
|   | Freq       | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos | Pos   |
|   | MHz        | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | ав    | dB     | T       | cm  | deg   |
| 1 | @ 7452.000 | 55.18  | -28.36 | 83.54  | 43.27 | 37.25   | 7.37  | 32.71  | Peak    |     |       |
| 2 | @ 7452.000 | 40.90  | -22.64 | 63.54  | 28.99 | 37.25   | 7.37  | 32.71  | Average |     |       |
| 3 | @10640.000 | 47.57  | -15.97 | 63.54  | 31.59 | 39.49   | 9.07  | 32.58  | Average |     |       |
| 4 | @10640.000 | 62.36  | -21.18 | 83.54  | 46.38 | 39.49   | 9.07  | 32.58  | Peak    |     |       |
| 5 | @15960.000 | 63.61  | -19.93 | 83.54  | 47.08 | 37.26   | 11.59 | 32.32  | Peak    |     |       |
| 6 | @15960.000 | 48.82  | -14.72 | 63.54  | 32.29 | 37.26   | 11.59 | 32.32  | Average |     |       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Transmitter Radiated Unwanted Emissions (Above 1GHz) |   |  |  |  |  |  |  |  |  |
|--|---|--|--|--|--|--|--|--|--|
| Modulation Mode                                      | Modulation Mode 11a Test Freq. (MHz) 5320 |  |  |  |  |  |  |  |  |
| N <sub>TX</sub> 1 Polarization H                     |   |  |  |  |  |  |  |  |  |

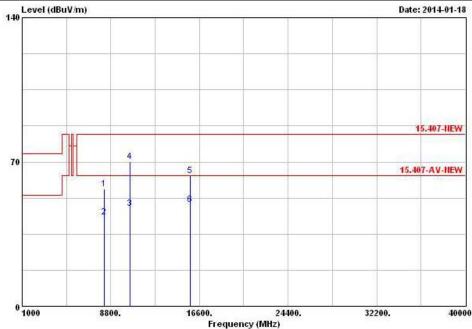


| NAME OF TAXABLE PARTY. | 2000   | 0ver   |        |       | Antenna |       |        |         | 30000 | Table |
|------------------------|--------|--------|--------|-------|---------|-------|--------|---------|-------|-------|
| Freq                   | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos   | Pos   |
| MHz                    | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dB    | dB     | 3)      | cm    | deg   |
| 1 @ 7164.000           | 54.36  | -29.18 | 83.54  | 42.98 | 36.84   | 7.17  | 32.63  | Peak    |       |       |
| 2 @ 7164.000           | 40.60  | -22.94 | 63.54  | 29.22 | 36.84   | 7.17  | 32.63  | Average |       |       |
| 3 @10640.000           | 47.90  | -15.64 | 63.54  | 31.92 | 39.49   | 9.07  | 32.58  | Average |       |       |
| 4 @10640.000           | 63.07  | -20.47 | 83.54  | 47.09 | 39.49   | 9.07  | 32.58  | Peak    |       | -     |
| 5 @15960.000           | 63.24  | -20.30 | 83.54  | 46.71 | 37.26   | 11.59 | 32.32  | Peak    |       |       |
| 6 @15960.000           | 48.87  | -14.67 | 63.54  | 32.34 | 37.26   | 11.59 | 32.32  | Average |       |       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Transmitter Radiated Unwanted Emissions (Above 1GHz) |      |                  |      |  |  |  |  |  |  |
|--|------|------------------|------|--|--|--|--|--|--|
| Modulation Mode                                      | HT20 | Test Freq. (MHz) | 5260 |  |  |  |  |  |  |
| N <sub>TX</sub> 2 Polarization V                     |      |                  |      |  |  |  |  |  |  |
|  |      |                  |      |  |  |  |  |  |  |



|             |         |        | 0ver   | Limit  | Read  | Antenna | Cable | Preamp |         | Ant  | Table |
|-------------|---------|--------|--------|--------|-------|---------|-------|--------|---------|------|-------|
|             | Freq    | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos  | Pos   |
| <del></del> | MKz     | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dВ    | dB     |         | - cm | deg   |
| 1 @ 82      | 230.000 | 56.73  | -26.81 | 83.54  | 43.17 | 38.20   | 8.16  | 32.80  | Peak    | 7.77 |       |
| 2 @ 82      | 230.000 | 43.11  | -20.43 | 63.54  | 29.55 | 38.20   | 8.16  | 32.80  | Average |      |       |
| 3 @105      | 520.000 | 47.33  | -16.21 | 63.54  | 31.37 | 39.59   | 9.02  | 32.65  | Average |      |       |
| 4 @105      | 20.000  | 70.23  | -13.31 | 83.54  | 54.27 | 39.59   | 9.02  | 32.65  | Peak    |      |       |
| 5 @157      | 780.000 | 63.46  | -20.08 | 83.54  | 46.54 | 37.60   | 11.59 | 32.27  | Peak    |      |       |
| 6 @157      | 780.000 | 49.40  | -14.14 | 63.54  | 32.48 | 37.60   | 11.59 | 32.27  | Average |      |       |

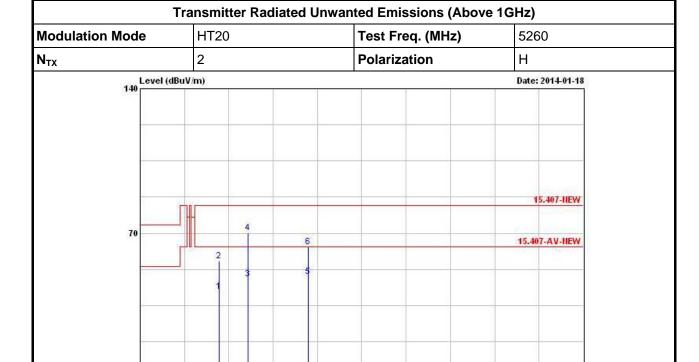
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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1000

8800.

Report No.: FR3D1962-02AN



24400.

Frequency (MHz)

32200.

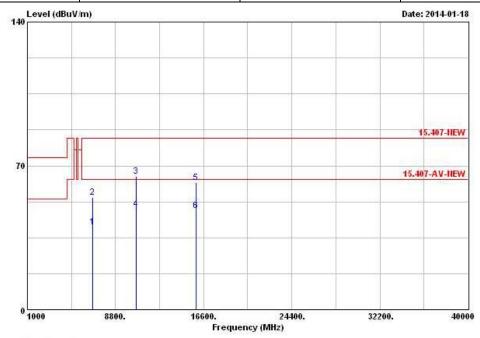
40000

|        | Freq   | Level  | Over<br>Limit |        |       | Antenna<br>Factor |       |       | Remark  | Ant<br>Pos | Table<br>Pos |
|--------|--------|--------|---------------|--------|-------|-------------------|-------|-------|---------|------------|--------------|
| -      | MHz    | dBuV/m | dB            | dBuV/m | dBuV  | dB/m              | dB    | dB    | 10      |            | deg          |
| 1 @ 79 | 80.000 | 41.71  | -21.83        | 63.54  | 28.45 | 37.78             | 8.28  | 32.80 | Average |            |              |
| 2 @ 79 | 80.000 | 56.58  | -26.96        | 83.54  | 43.32 | 37.78             | 8.28  | 32.80 | Peak    |            |              |
| 3 @105 | 10.000 | 47.89  | -15.65        | 63.54  | 31.92 | 39.60             | 9.02  | 32.65 | Average |            |              |
| 4 @105 | 10.000 | 70.34  | -13.20        | 83.54  | 54.37 | 39.60             | 9.02  | 32.65 | Peak    |            |              |
| 5 @157 | 80.000 | 49.04  | -14.50        | 63.54  | 32.12 | 37.60             | 11.59 | 32.27 | Average |            |              |
| 6 @157 | 80.000 | 63.29  | -20.25        | 83.54  | 46.37 | 37.60             | 11.59 | 32.27 | Peak    |            |              |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Transmitter Radiated Unwanted Emissions (Above 1GHz) |  |  |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|--|
| Modulation Mode                                      | Modulation Mode HT20 Test Freq. (MHz) 5300 |  |  |  |  |  |  |  |  |  |
| N <sub>TX</sub> 2 Polarization V                     |  |  |  |  |  |  |  |  |  |  |

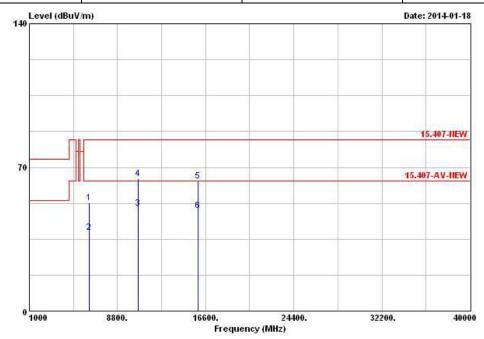


|          | Freq  | Level  | Over<br>Limit |        |       | Antenna<br>Factor |       |       |         | Ant<br>Pos | Table<br>Pos |
|----------|-------|--------|---------------|--------|-------|-------------------|-------|-------|---------|------------|--------------|
| -        | MHz   | dBuV/m | - dB          | dBuV/m | dBuV  | dB/m              | dB    | dB    | -       |            | deg          |
| 1 @ 6744 | . 000 | 40.37  | -23.17        | 63.54  | 30.09 | 35.98             | 6.83  | 32.53 | Average |            |              |
| 2 @ 6744 | . 000 | 54.79  | -28.75        | 83.54  |       |                   | 6.83  |       |         |            |              |
| 3 @10600 | . 000 | 64.81  | -18.73        | 83.54  | 48.84 | 39.52             | 9.06  | 32.61 | Peak    |            |              |
| 4 @10600 | . 000 | 49.01  | -14.53        | 63.54  | 33.04 | 39.52             | 9.06  | 32.61 | Average |            |              |
| 5 @15900 | . 000 | 61.75  | -21.79        | 83.54  | 45.07 | 37.39             | 11.59 | 32.30 | Peak    |            | - Tever      |
| 6 @15900 | . 000 | 48.34  | -15.20        | 63.54  | 31.66 | 37.39             | 11.59 | 32.30 | Average |            |              |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Tra                              | Transmitter Radiated Unwanted Emissions (Above 1GHz) |                  |      |  |  |  |  |  |  |
|----------------------------------|--|------------------|------|--|--|--|--|--|--|
| Modulation Mode                  | HT20   | Test Freq. (MHz) | 5300 |  |  |  |  |  |  |
| N <sub>TX</sub> 2 Polarization H |  |                  |      |  |  |  |  |  |  |



|     |  | Level  | Over<br>Limit | 635-68 |       | Antenna<br>Factor |       | 125 (F 125 ) A. | Remark   | Ant<br>Pos | Table<br>Pos |
|-----|--|--------|---------------|--------|-------|-------------------|-------|-----------------|----------|------------|--------------|
|     | —————————————————————————————————————— | dBuV/m | dB            | dBuV/m | dBuV  | dB/m              | dВ    | dB              | <u> </u> | cm.        | deg          |
| 1 6 | 6276.000                               | 52.56  | -30.98        | 83.54  | 43.18 | 35.21             | 6.63  | 32.46           | Peak     |            |              |
| 2 6 | 6276.000                               | 38.25  | -25.29        | 63.54  | 28.87 | 35.21             | 6.63  | 32.46           | Average  |            |              |
| 3 6 | 10600.000                              | 50.05  | -13.49        | 63.54  | 34.08 | 39.52             | 9.06  | 32.61           | Average  |            | -11          |
| 4 6 | 10600.000                              | 64.41  | -19.13        | 83.54  | 48.44 | 39.52             | 9.06  | 32.61           | Peak     |            |              |
| 5 6 | 15900.000                              | 63.40  | -20.14        | 83.54  | 46.72 | 37.39             | 11.59 | 32.30           | Peak     | 37,777     |              |
| 6 6 | 15900.000                              | 48.96  | -14.58        | 63.54  | 32.28 | 37.39             | 11.59 | 32.30           | Average  |            |              |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

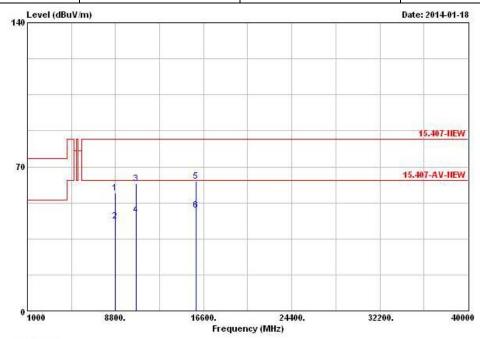
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Tra                              | Transmitter Radiated Unwanted Emissions (Above 1GHz) |                  |      |  |  |  |  |  |  |
|----------------------------------|--|------------------|------|--|--|--|--|--|--|
| Modulation Mode                  | HT20   | Test Freq. (MHz) | 5320 |  |  |  |  |  |  |
| N <sub>TX</sub> 2 Polarization V |  |                  |      |  |  |  |  |  |  |

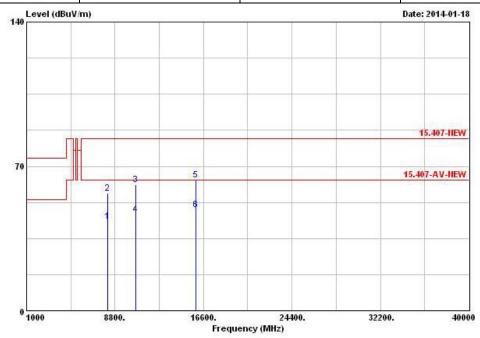


|   | Freq       | Level  | Over<br>Limit |        |       | Antenna<br>Factor |       |       |         | Ant<br>Pos | Table<br>Pos |
|---|------------|--------|---------------|--------|-------|-------------------|-------|-------|---------|------------|--------------|
|   | Mtz        | dBuV/m | dB            | dBuV/m | dBuV  | dB/m              | dB    | - dB  | 3       | cm.        | deg          |
| 1 | @ 8778.000 | 57.42  | -26.12        | 83.54  | 44.08 | 38.36             | 7.88  | 32.90 | Peak    |            |              |
| 2 | @ 8778.000 | 43.55  | -19.99        | 63.54  | 30.21 | 38.36             | 7.88  | 32.90 | Average |            |              |
| 3 | @10640.000 | 61.84  | -21.70        | 83.54  | 45.86 | 39.49             | 9.07  | 32.58 | Peak    |            |              |
| 4 | @10640.000 | 46.59  | -16.95        | 63.54  | 30.61 | 39.49             | 9.07  | 32.58 | Average | -555       | -            |
| 5 | @15960.000 | 62.89  | -20.65        | 83.54  | 46.36 | 37.26             | 11.59 | 32.32 | Peak    |            |              |
| 6 | @15960.000 | 48.80  | -14.74        | 63.54  | 32.27 | 37.26             | 11.59 | 32.32 | Average |            |              |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Tra             | Transmitter Radiated Unwanted Emissions (Above 1GHz) |                  |      |  |  |  |  |  |  |
|-----------------|--|------------------|------|--|--|--|--|--|--|
| Modulation Mode | HT20   | Test Freq. (MHz) | 5320 |  |  |  |  |  |  |
| $N_{TX}$        | 2  | Polarization     | Н    |  |  |  |  |  |  |

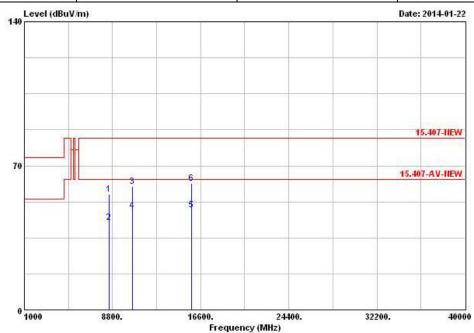


|   |      |       |         | 0ver   | Limit  | Read  | Antenna | Cable | Preamp |         | Ant | Table |
|---|------|-------|---------|--------|--------|-------|---------|-------|--------|---------|-----|-------|
|   |      | Free  | I Level | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos | Pos   |
|   | -    | мн    | dBuV/m  | dB     | dBuV/m | dBuV  | dB/m    | dB    | dB     |         | cm. | deg   |
| 1 | @ 81 | 66.00 | 43.36   | -20.18 | 63.54  | 29.87 | 38.11   | 8.18  | 32.80  | Average |     |       |
| 2 | @ 81 | 66.00 | 56.74   | -26.80 | 83.54  | 43.25 | 38.11   | 8.18  | 32.80  | Peak    |     |       |
| 3 | @106 | 40.00 | 61.07   | -22.47 | 83.54  | 45.09 | 39.49   | 9.07  | 32.58  | Peak    |     |       |
| 4 | @106 | 40.00 | 46.81   | -16.73 | 63.54  | 30.83 | 39.49   | 9.07  | 32.58  | Average |     | 0.77  |
| 5 | @159 | 60.00 | 63.51   | -20.03 | 83.54  | 46.98 | 37.26   | 11.59 | 32.32  | Peak    |     |       |
| 6 | @159 | 60.00 | 48.85   | -14.69 | 63.54  | 32.32 | 37.26   | 11.59 | 32.32  | Average |     |       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Tra                              | Transmitter Radiated Unwanted Emissions (Above 1GHz) |                  |      |  |  |  |  |  |  |
|----------------------------------|--|------------------|------|--|--|--|--|--|--|
| Modulation Mode                  | HT40   | Test Freq. (MHz) | 5270 |  |  |  |  |  |  |
| N <sub>TX</sub> 2 Polarization V |  |                  |      |  |  |  |  |  |  |

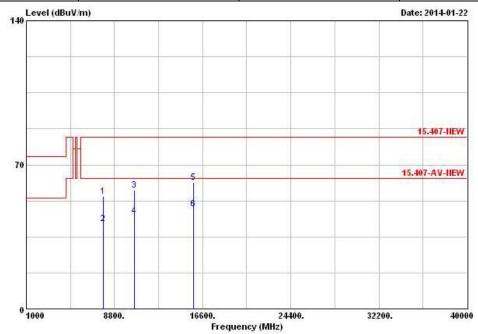


|   | Freq       | Level  | Over<br>Limit |        |       | Antenna<br>Factor |       |       |                | Ant<br>Pos | Table<br>Pos |
|---|------------|--------|---------------|--------|-------|-------------------|-------|-------|----------------|------------|--------------|
|   | MHz        | dBuV/m | dB            | dBuV/m | dBuV  | dB/m              | dB    | dB    | i <del>.</del> |            | deg          |
| 1 | 8484.000   | 56.07  | -27.47        | 83.54  | 42.20 | 38.67             | 8.01  | 32.81 | Peak           |            |              |
| 2 | 8484.000   | 42.34  | -21.20        | 63.54  | 28.47 | 38.67             | 8.01  | 32.81 | Average        |            |              |
| 3 | 10540.000  | 60.03  | -23.51        | 83.54  | 44.06 | 39.57             | 9.04  | 32.64 | Peak           |            |              |
| 4 | @10540.000 | 48.07  | -15.47        | 63.54  | 32.10 | 39.57             | 9.04  | 32.64 | Average        | -555       |              |
| 5 | @15810.000 | 48.70  | -14.84        | 63.54  | 31.85 | 37.54             | 11.59 | 32.28 | Average        |            |              |
| 6 | 15810.000  | 61.47  | -22.07        | 83.54  | 44.62 | 37.54             | 11.59 | 32.28 | Peak           |            |              |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Tra                              | Transmitter Radiated Unwanted Emissions (Above 1GHz) |                  |      |  |  |  |  |  |  |
|----------------------------------|--|------------------|------|--|--|--|--|--|--|
| Modulation Mode                  | HT40   | Test Freq. (MHz) | 5270 |  |  |  |  |  |  |
| N <sub>TX</sub> 2 Polarization H |  |                  |      |  |  |  |  |  |  |

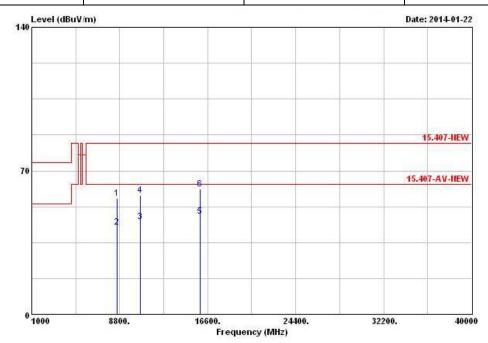


|   |   |     |      |       |        | 0ver   | Limit  | Read  | Antenna | Cable | Preamp |         | Ant  | Table |
|---|---|-----|------|-------|--------|--------|--------|-------|---------|-------|--------|---------|------|-------|
|   |   |     |      | Freq  | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos  | Pos   |
|   |   | -   |      | MHz   | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dВ    | dB     |         | cm   | deg   |
| 1 |   | 3 . | 7800 | . 000 | 54.77  | -28.77 | 83.54  | 42.01 | 37.60   | 7.93  | 32.77  | Peak    |      |       |
| 2 | ( | Э,  | 7800 | .000  | 41.18  | -22.36 | 63.54  | 28.42 | 37.60   | 7.93  | 32.77  | Average |      |       |
| 3 | ( | 31  | 0540 | .000  | 57.52  | -26.02 | 83.54  | 41.55 | 39.57   | 9.04  | 32.64  | Peak    |      |       |
| 4 | ( | 31  | 0540 | . 000 | 45.08  | -18.46 | 63.54  | 29.11 | 39.57   | 9.04  | 32.64  | Average | -555 |       |
| 5 | ( | 31  | 5810 | .000  | 61.56  | -21.98 | 83.54  | 44.71 | 37.54   | 11.59 | 32.28  | Peak    |      |       |
| 6 | ( | 31  | 5810 | . 000 | 48.67  | -14.87 | 63.54  | 31.82 | 37.54   | 11.59 | 32.28  | Average |      |       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Tra                              | Transmitter Radiated Unwanted Emissions (Above 1GHz) |                  |      |  |  |  |  |  |  |
|----------------------------------|--|------------------|------|--|--|--|--|--|--|
| Modulation Mode                  | HT40   | Test Freq. (MHz) | 5310 |  |  |  |  |  |  |
| N <sub>TX</sub> 2 Polarization V |  |                  |      |  |  |  |  |  |  |

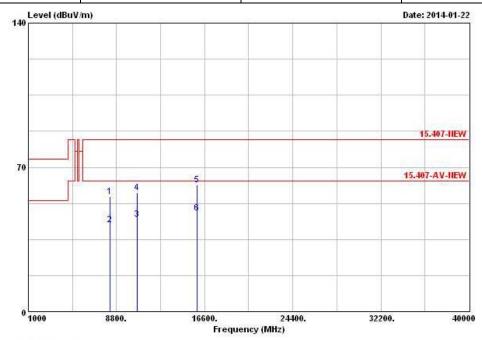


|   |            |        | Over   | Limit  | Read  | Antenna | Cable | Preamp |         | Ant | Table |
|---|------------|--------|--------|--------|-------|---------|-------|--------|---------|-----|-------|
|   | Freq       | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos | Pos   |
|   | MX         | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dB    | dB     |         | cm  | deg   |
| 1 | 8568.000   | 56.57  | -26.97 | 83.54  | 42.82 | 38.62   | 7.97  | 32.84  | Peak    |     |       |
| 2 | 8568.000   | 42.38  | -21.16 | 63.54  | 28.63 | 38.62   | 7.97  | 32.84  | Average |     |       |
| 3 | 10620.000  | 45.31  | -18.23 | 63.54  | 29.33 | 39.50   | 9.07  | 32.59  | Average |     | 222   |
| 4 | 10620.000  | 58.10  | -25.44 | 83.54  | 42.12 | 39.50   | 9.07  | 32.59  | Peak    |     |       |
| 5 | @15930.000 | 47.83  | -15.71 | 63.54  | 31.23 | 37.32   | 11.59 | 32.31  | Average |     |       |
| 6 | 15930.000  | 61.13  | -22.41 | 83.54  | 44.53 | 37.32   | 11.59 | 32.31  | Peak    |     |       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Tra             | Transmitter Radiated Unwanted Emissions (Above 1GHz) |                  |      |  |  |  |  |  |  |
|-----------------|--|------------------|------|--|--|--|--|--|--|
| Modulation Mode | HT40   | Test Freq. (MHz) | 5310 |  |  |  |  |  |  |
| $N_{TX}$        | 2  | Polarization     | Н    |  |  |  |  |  |  |

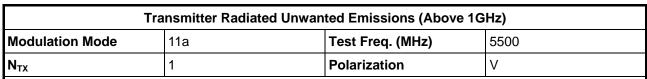


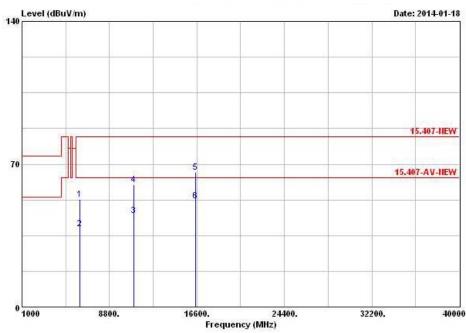
| Freq         | Level  | Over<br>Limit |        |       | Antenna<br>Factor |       |       |         | Ant<br>Pos | Table<br>Pos |
|--------------|--------|---------------|--------|-------|-------------------|-------|-------|---------|------------|--------------|
| MHz          | dBuV/m | dB            | dBuV/m | dBuV  | dB/m              | dB    | - dB  |         | cm         | deg          |
| 1 @ 8196.000 | 55.84  | -27.70        | 83.54  | 42.34 | 38.14             | 8.16  | 32.80 | Peak    |            |              |
| 2 @ 8196.000 | 42.14  | -21.40        | 63.54  | 28.64 | 38.14             | 8.16  | 32.80 | Average |            |              |
| 3 @10620.000 | 44.81  | -18.73        | 63.54  | 28.83 | 39.50             | 9.07  | 32.59 | Average |            |              |
| 4 @10620.000 | 57.85  | -25.69        | 83.54  | 41.87 | 39.50             | 9.07  | 32.59 | Peak    |            |              |
| 5 @15930.000 | 61.53  | -22.01        | 83.54  | 44.93 | 37.32             | 11.59 | 32.31 | Peak    |            | 77570        |
| 6 @15930.000 | 47.87  | -15.67        | 63.54  | 31.27 | 37.32             | 11.59 | 32.31 | Average |            |              |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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## 3.3.9 Transmitter Radiated Unwanted Emissions (Above 1GHz) for 5470-5725MHz





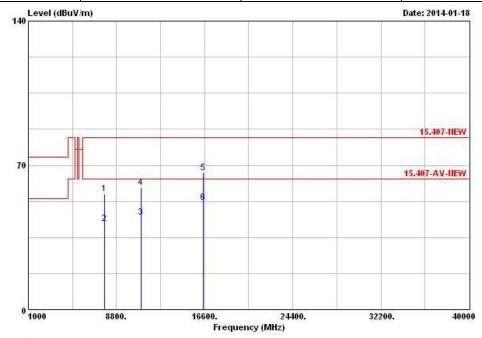
|      | Freq     | Level  | Over<br>Limit | 12/20/02 |       | Antenna<br>Factor |       | with the second |         | Ant<br>Pos | Table<br>Pos |
|------|----------|--------|---------------|----------|-------|-------------------|-------|-----------------|---------|------------|--------------|
| -    | Mtz      | dBuV/m | dB            | dBuV/m   | dBuV  | dB/m              | dВ    | dB              | -       | cm         | deg          |
| 10   | 6192.000 | 52.68  | -30.86        | 83.54    | 43.36 | 35.15             | 6.63  | 32.46           | Peak    |            | 1000         |
| 2 @  | 6192.000 | 38.36  | -25.18        | 63.54    | 29.04 | 35.15             | 6.63  | 32.46           | Average |            |              |
| 3 @1 | 1000.000 | 44.74  | -18.80        | 63.54    | 28.68 | 39.20             | 9.23  | 32.37           | Average |            |              |
| 4 @1 | 1000.000 | 59.91  | -23.63        | 83.54    | 43.85 | 39.20             | 9.23  | 32.37           | Peak    |            |              |
| 5 @1 | 6500.000 | 66.09  | -17.45        | 83.54    | 46.75 | 39.10             | 12.18 | 31.94           | Peak    |            |              |
| 6 @1 | 6500.000 | 52.16  | -11.38        | 63.54    | 32.82 | 39.10             | 12.18 | 31.94           | Average |            |              |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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FCC Test Report No.: FR3D1962-02AN

## Transmitter Radiated Unwanted Emissions (Above 1GHz) Modulation Mode 11a Test Freq. (MHz) 5500 N<sub>TX</sub> 1 Polarization H

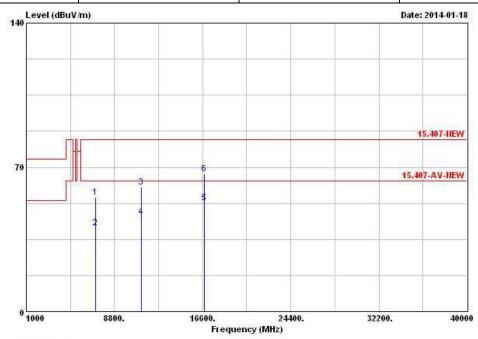


|              |        | 0ver   | Limit  | Read  | Antenna | Cable | Preamp |         | Ant | Table     |
|--------------|--------|--------|--------|-------|---------|-------|--------|---------|-----|-----------|
| Freq         | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos | Pos       |
| 10Ка         | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dB    | - dB   |         | cm  | deg       |
| 1 @ 7752.000 | 56.09  | -27.45 | 83.54  | 43.44 | 37.55   | 7.86  | 32.76  | Peak    |     |           |
| 2 @ 7752.000 | 41.71  | -21.83 | 63.54  | 29.06 | 37.55   | 7.86  | 32.76  | Average |     |           |
| 3 @11000.000 | 44.73  | -18.81 | 63.54  | 28.67 | 39.20   | 9.23  | 32.37  | Average |     |           |
| 4 @11000.000 | 59.10  | -24.44 | 83.54  | 43.04 | 39.20   | 9.23  | 32.37  | Peak    |     |           |
| 5 @16500.000 | 66.42  | -17.12 | 83.54  | 47.08 | 39.10   | 12.18 | 31.94  | Peak    |     | -75-75-75 |
| 6 @16500.000 | 52.11  | -11.43 | 63.54  | 32.77 | 39.10   | 12.18 | 31.94  | Average |     |           |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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TEL: 886-3-327-3456 Report Version : Rev. 01

| Tra             | nsmitter Radiated Unwan | ted Emissions (Above 1G | Hz)  |
|-----------------|-------------------------|-------------------------|------|
| Modulation Mode | 11a                     | Test Freq. (MHz)        | 5580 |
| $N_{TX}$        | 1                       | Polarization            | V    |



|   |            |        | 0ver   | Limit  | Readi | Antenna | Cable | Preamp |         | Ant | Table |
|---|------------|--------|--------|--------|-------|---------|-------|--------|---------|-----|-------|
|   | Freq       | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos | Pos   |
|   | MHz        | dBuV/m | dВ     | dBuV/m | dBuV  | dB/m    | dВ    | dB     |         | cm  | deg   |
| 1 | 7152.000   | 55.31  | -28.23 | 83.54  | 43.94 | 36.82   | 7.17  | 32.62  | Peak    |     |       |
| 2 | 7152.000   | 40.50  | -23.04 | 63.54  | 29.13 | 36.82   | 7.17  | 32.62  | Average |     |       |
| 3 | 11160.000  | 60.38  | -23.16 | 83.54  | 43.70 | 39.50   | 9.54  | 32.36  | Peak    |     |       |
| 4 | 11160.000  | 45.81  | -17.73 | 63.54  | 29.13 | 39.50   | 9.54  | 32.36  | Average |     |       |
| 5 | @16740.000 | 52.90  | -10.64 | 63.54  | 32.56 | 40.40   | 11.58 | 31.64  | Average |     | 7.500 |
| 6 | 16740.000  | 66.72  | -16 82 | 83.54  | 46.38 | 40.40   | 11.58 | 31 64  | Peak    |     |       |

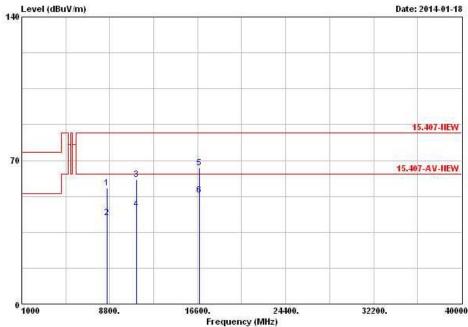
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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FCC Test Report

Report No.: FR3D1962-02AN

| -               | Transmitter Radiated Un | wanted Emissions (Above | e 1GHz) |
|-----------------|-------------------------|-------------------------|---------|
| Modulation Mode | 11a                     | Test Freq. (MHz)        | 5580    |
| N <sub>TX</sub> | 1                       | Polarization            | Н       |
|                 |                         |                         |         |



|   |            |        | 0ver   | Limit  | Read  | Antenna | Cable | Preamp |         | Ant | Table |
|---|------------|--------|--------|--------|-------|---------|-------|--------|---------|-----|-------|
|   | Freq       | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos | Pos   |
|   | MHz        | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dB    | dB     |         | cm. | deg   |
| 1 | @ 8574.000 | 56.35  | -27.19 | 83.54  | 42.62 | 38.60   | 7.97  | 32.84  | Peak    |     | 757   |
| 2 | @ 8574.000 | 42.30  | -21.24 | 63.54  | 28.57 | 38.60   | 7.97  | 32.84  | Average |     |       |
| 3 | @11160.000 | 60.67  | -22.87 | 83.54  | 43.99 | 39.50   | 9.54  | 32.36  | Peak    |     |       |
| 4 | @11160.000 | 46.36  | -17.18 | 63.54  | 29.68 | 39.50   | 9.54  | 32.36  | Average |     |       |
| 5 | @16740.000 | 66.48  | -17.06 | 83.54  | 46.14 | 40.40   | 11.58 | 31.64  | Peak    |     | 77570 |
| 6 | @16740.000 | 53.15  | -10.39 | 63.54  | 32.81 | 40.40   | 11.58 | 31.64  | Average |     |       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

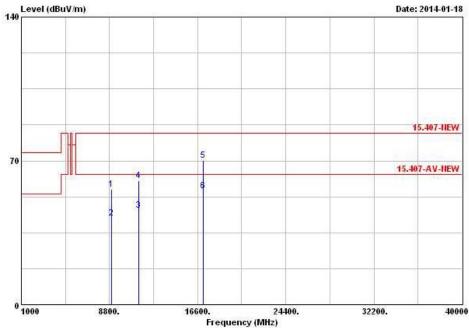
Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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FCC Test Report

Report No.: FR3D1962-02AN

| Tra             | nsmitter Radiated Unwan | ted Emissions (Above 1G | Hz)  |
|-----------------|-------------------------|-------------------------|------|
| Modulation Mode | 11a                     | Test Freq. (MHz)        | 5700 |
| N <sub>TX</sub> | 1                       | Polarization            | V    |

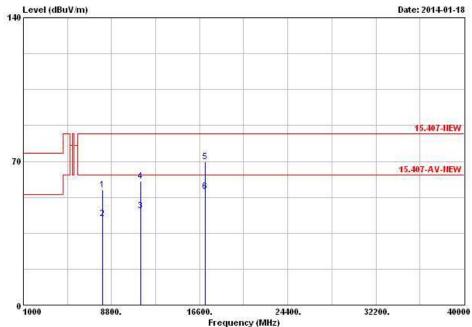


|       | 100000000000000000000000000000000000000 | 10000000 | 0ver   |        |       | Antenna |       |        |         | Ant | Table |
|-------|---|----------|--------|--------|-------|---------|-------|--------|---------|-----|-------|
|       | Freq                                    | Level    | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos | Pos   |
| -     | MHz                                     | dBuV/m   | dB     | dBuV/m | dBuV  | dB/m    | dВ    | dB     |         | cm. | deg   |
| 1 @ 8 | 3970.000                                | 56.19    | -27.35 | 83.54  | 43.24 | 38.14   | 7.78  | 32.97  | Peak    |     | 777   |
| 2 @ 8 | 3970.000                                | 42.01    | -21.53 | 63.54  | 29.06 | 38.14   | 7.78  | 32.97  | Average |     |       |
| 3 @11 | 1400.000                                | 46.03    | -17.51 | 63.54  | 28.54 | 39.92   | 9.92  | 32.35  | Average |     |       |
| 4 @11 | L400.000                                | 60.47    | -23.07 | 83.54  | 42.98 | 39.92   | 9.92  | 32.35  | Peak    |     |       |
| 5 017 | 100.000                                 | 70.20    | -13.34 | 83.54  | 47.55 | 42.66   | 11.33 | 31.34  | Peak    |     |       |
| 6 @17 | 100.000                                 | 55.35    | -8.19  | 63.54  | 32.70 | 42.66   | 11.33 | 31.34  | Average |     |       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Tra             | Transmitter Radiated Unwanted Emissions (Above 1GHz) |                  |      |  |  |  |  |  |
|-----------------|--|------------------|------|--|--|--|--|--|
| Modulation Mode | 11a  | Test Freq. (MHz) | 5700 |  |  |  |  |  |
| N <sub>TX</sub> | 1  | Polarization     | Н    |  |  |  |  |  |

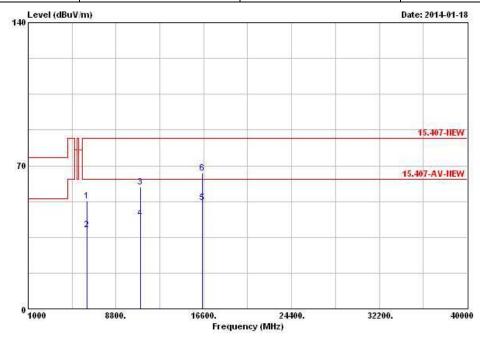


|          | Freq      | Level  | Over<br>Limit | 635-68 |       | Antenna<br>Factor |       | 125 (F 125 ) A. | Remark                                 | Ant<br>Pos | Table<br>Pos |
|----------|-----------|--------|---------------|--------|-------|-------------------|-------|-----------------|--|------------|--------------|
| <u>=</u> | MKz       | dBuV/m | dB            | dBuV/m | dBuV  | dB/m              | dВ    | dB              | ii———————————————————————————————————— |            | deg          |
| 1 @      | 8010.000  | 56.33  | -27.21        | 83.54  | 43.07 | 37.80             | 8.26  | 32.80           | Peak                                   |            |              |
| 2 @      | 8010.000  | 42.24  | -21.30        | 63.54  | 28.98 | 37.80             | 8.26  | 32.80           | Average                                |            |              |
| 3 @1     | 11400.000 | 45.97  | -17.57        | 63.54  | 28.48 | 39.92             | 9.92  | 32.35           | Average                                |            |              |
| 4 @1     | 11400.000 | 60.38  | -23.16        | 83.54  | 42.89 | 39.92             | 9.92  | 32.35           | Peak                                   |            |              |
| 5 @1     | 17100.000 | 69.68  | -13.86        | 83.54  | 47.03 | 42.66             | 11.33 | 31.34           | Peak                                   | -          | (5,5,5       |
| 6 @1     | 17100.000 | 55.43  | -8.11         | 63.54  | 32.78 | 42.66             | 11.33 | 31.34           | Average                                |            |              |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Transmitter Radiated Unwanted Emissions (Above 1GHz) |      |              |   |  |  |  |  |  |
|--|------|--------------|---|--|--|--|--|--|
| Modulation Mode                                      | 5500 |              |   |  |  |  |  |  |
| $N_{TX}$   | 2    | Polarization | V |  |  |  |  |  |

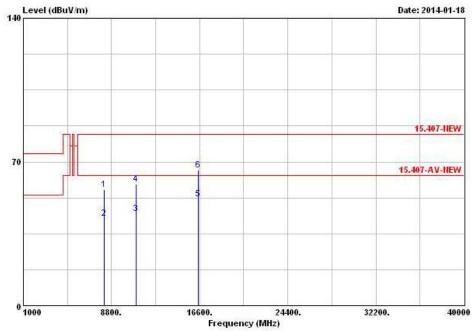


|      |           | 18 34  | Over<br>Limit | 68548  |       | Antenna<br>Factor |       | 200 Hill 188 | Remark  | 300    | Table    |
|------|-----------|--------|---------------|--------|-------|-------------------|-------|--------------|---------|--------|----------|
|      | Freq      | Level  | Limit         | Line   | rever | ractor            | ross  | ractor       | Kemark  | Pos    | Pos      |
| -    | MHz       | dBuV/m | dB            | dBuV/m | dBuV  | dB/m              | dB    | - дв         | ž       | cm     | deg      |
| 10   | 6198.000  | 52.87  | -30.67        | 83.54  | 43.54 | 35.16             | 6.63  | 32.46        | Peak    | 5.55   |          |
| 2 @  | 6198.000  | 38.67  | -24.87        | 63.54  | 29.34 | 35.16             | 6.63  | 32.46        | Average | 10000  |          |
| 3 @: | 11000.000 | 59.58  | -23.96        | 83.54  | 43.52 | 39.20             | 9.23  | 32.37        | Peak    |        |          |
| 4 @: | 11000.000 | 44.55  | -18.99        | 63.54  | 28.49 | 39.20             | 9.23  | 32.37        | Average | -      |          |
| 5 @: | 16500.000 | 52.12  | -11.42        | 63.54  | 32.78 | 39.10             | 12.18 | 31.94        | Average | 200000 | (60,000) |
| 6 @: | 16500.000 | 66.22  | -17.32        | 83.54  | 46.88 | 39.10             | 12.18 | 31.94        | Peak    |        |          |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Transmitter Radiated Unwanted Emissions (Above 1GHz) |   |              |   |  |  |  |  |  |
|--|---|--------------|---|--|--|--|--|--|
| Modulation Mode HT20 Test Freq. (MHz) 5500           |   |              |   |  |  |  |  |  |
| $N_{TX}$   | 2 | Polarization | Н |  |  |  |  |  |

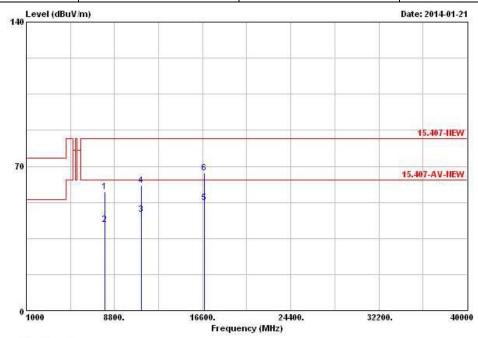


|   |            |        | 0ver   | Limit  | Read  | Antenna | Cable | Preamp |         | Ant | Table |
|---|------------|--------|--------|--------|-------|---------|-------|--------|---------|-----|-------|
|   | Freq       | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos | Pos   |
|   | MHz        | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dB    | dB     | ,       | cm. | deg   |
| 1 | @ 8166.000 | 56.68  | -26.86 | 83.54  | 43.19 | 38.11   | 8.18  | 32.80  | Peak    |     |       |
| 2 | @ 8166.000 | 42.59  | -20.95 | 63.54  | 29.10 | 38.11   | 8.18  | 32.80  | Average |     |       |
| 3 | @11000.000 | 44.76  | -18.78 | 63.54  | 28.70 | 39.20   | 9.23  | 32.37  | Average |     |       |
| 4 | @11000.000 | 59.34  | -24.20 | 83.54  | 43.28 | 39.20   | 9.23  | 32.37  | Peak    | -   | -     |
| 5 | @16500.000 | 52.06  | -11.48 | 63.54  | 32.72 | 39.10   | 12.18 | 31.94  | Average |     |       |
| 6 | @16500.000 | 65.99  | -17.55 | 83.54  | 46.65 | 39.10   | 12.18 | 31.94  | Peak    |     |       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Tra  | Transmitter Radiated Unwanted Emissions (Above 1GHz) |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|--|
| Modulation Mode HT20 Test Freq. (MHz) 5580 |  |  |  |  |  |  |  |  |  |
| N <sub>TX</sub> 2 Polarization V           |  |  |  |  |  |  |  |  |  |



| Freq         | Level  | Over<br>Limit |        |       | Antenna<br>Factor |       |       |         | Ant<br>Pos | Table<br>Pos |
|--------------|--------|---------------|--------|-------|-------------------|-------|-------|---------|------------|--------------|
| MKz          | dBuV/m | dB            | dBuV/m | dBuV  | dB/m              | дв    | - dB  | -       | cm.        | deg          |
| 1 @ 7938.000 | 57.72  | -25.82        | 83.54  | 44.57 | 37.73             | 8.21  | 32.79 | Peak    |            |              |
| 2 @ 7938.000 | 41.79  | -21.75        | 63.54  | 28.64 | 37.73             | 8.21  | 32.79 | Average |            |              |
| 3 @11160.000 | 46.54  | -17.00        | 63.54  | 29.86 | 39.50             | 9.54  | 32.36 | Average |            |              |
| 4 @11160.000 | 60.54  | -23.00        | 83.54  | 43.86 | 39.50             | 9.54  | 32.36 | Peak    |            |              |
| 5 @16740.000 | 52.42  | -11.12        | 63.54  | 32.08 | 40.40             | 11.58 | 31.64 | Average |            | 77570        |
| 6 @16740.000 | 66.59  | -16.95        | 83.54  | 46.25 | 40.40             | 11.58 | 31.64 | Peak    |            |              |

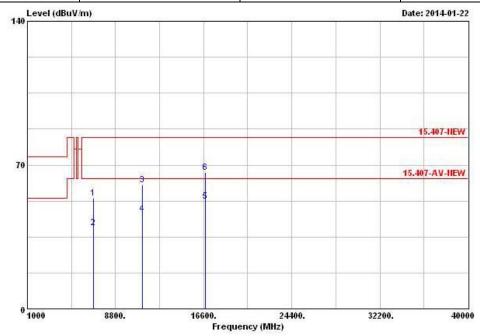
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Transmitter Radiated Unwanted Emissions (Above 1GHz) |   |              |   |  |  |  |  |  |
|--|---|--------------|---|--|--|--|--|--|
| Modulation Mode HT20 Test Freq. (MHz) 5580           |   |              |   |  |  |  |  |  |
| $N_{TX}$   | 2 | Polarization | Н |  |  |  |  |  |

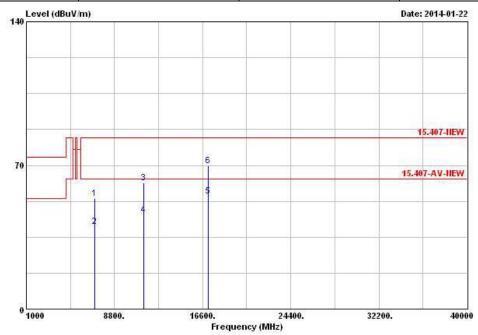


|     |                    |        | 0ver   | Limit  | Read  | Antenna | Cable | Preamp |         | Ant | Table |
|-----|--------------------|--------|--------|--------|-------|---------|-------|--------|---------|-----|-------|
|     | Freq               | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos | Pos   |
|     | MHz                | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dB    | dB     |         | cm. | deg   |
| 1 ( | @ 6822.000         | 53.71  | -29.83 | 83.54  | 43.22 | 36.14   | 6.89  | 32.54  | Peak    |     |       |
| 2 ( | @ 6822.000         | 39.43  | -24.11 | 63.54  | 28.94 | 36.14   | 6.89  | 32.54  | Average |     |       |
| 3 ( | @ <b>11160.000</b> | 60.31  | -23.23 | 83.54  | 43.63 | 39.50   | 9.54  | 32.36  | Peak    |     |       |
| 4 ( | @11160.000         | 46.14  | -17.40 | 63.54  | 29.46 | 39.50   | 9.54  | 32.36  | Average | -   | 1000  |
| 5 ( | @16740.000         | 52.32  | -11.22 | 63.54  | 31.98 | 40.40   | 11.58 | 31.64  | Average |     |       |
| 6 ( | <b>@16740.000</b>  | 66.33  | -17.21 | 83.54  | 45.99 | 40.40   | 11.58 | 31.64  | Peak    |     |       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Tra                                     | Transmitter Radiated Unwanted Emissions (Above 1GHz) |  |  |  |  |  |  |  |  |
|---|--|--|--|--|--|--|--|--|--|
| Modulation ModeHT20Test Freq. (MHz)5700 |  |  |  |  |  |  |  |  |  |
| N <sub>TX</sub> 2 Polarization V        |  |  |  |  |  |  |  |  |  |



|   |            | 18 32  | 0ver   | 685-68 |       | Antenna |       | 125 (F 125 ) A. |         | Ant | Table |
|---|------------|--------|--------|--------|-------|---------|-------|-----------------|---------|-----|-------|
|   | rreq       | Level  | Limit  | Line   | reaet | Factor  | ross  | ractor          | Remark  | Pos | Pos   |
|   | MX         | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dB    | - дв            | ÷       | cm  | deg   |
| 1 | @ 7086.000 | 53.93  | -29.61 | 83.54  | 42.71 | 36.72   | 7.11  | 32.61           | Peak    |     |       |
| 2 | @ 7086.000 | 40.10  | -23.44 | 63.54  | 28.88 | 36.72   | 7.11  | 32.61           | Average |     |       |
| 3 | @11400.000 | 61.62  | -21.92 | 83.54  | 44.13 | 39.92   | 9.92  | 32.35           | Peak    |     | 222   |
| 4 | @11400.000 | 45.76  | -17.78 | 63.54  | 28.27 | 39.92   | 9.92  | 32.35           | Average |     |       |
| 5 | @17100.000 | 55.16  | -8.38  | 63.54  | 32.51 | 42.66   | 11.33 | 31.34           | Average |     |       |
| 6 | @17100.000 | 69.88  | -13.66 | 83.54  | 47.23 | 42.66   | 11.33 | 31.34           | Peak    |     |       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

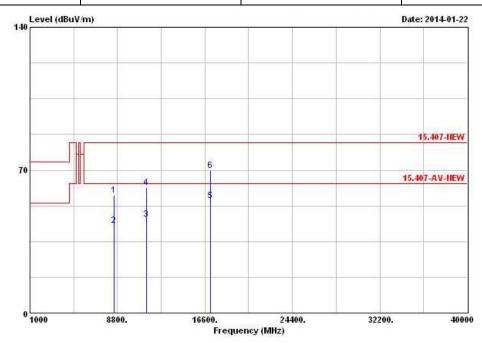
Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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FCC Test Report

Report No.: FR3D1962-02AN

| Transmitter Radiated Unwanted Emissions (Above 1GHz) |   |  |  |  |  |  |  |  |  |
|--|---|--|--|--|--|--|--|--|--|
| Modulation Mode                                      | Modulation ModeHT20Test Freq. (MHz)5700 |  |  |  |  |  |  |  |  |
| N <sub>TX</sub> 2 Polarization H                     |   |  |  |  |  |  |  |  |  |



|   |            |        | 0ver   | Limit  | Readi | Antenna | Cable | Preamp |         | Ant | Table |
|---|------------|--------|--------|--------|-------|---------|-------|--------|---------|-----|-------|
|   | Freq       | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos | Pos   |
|   | Mz         | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dВ    | dB     |         | cm  | deg   |
| 1 | @ 8502.000 | 57.62  | -25.92 | 83.54  | 43.72 | 38.70   | 8.01  | 32.81  | Peak    |     | -     |
| 2 | @ 8502.000 | 42.79  | -20.75 | 63.54  | 28.89 | 38.70   | 8.01  | 32.81  | Average |     |       |
| 3 | @11400.000 | 45.93  | -17.61 | 63.54  | 28.44 | 39.92   | 9.92  | 32.35  | Average |     | 2223  |
| 4 | @11400.000 | 61.37  | -22.17 | 83.54  | 43.88 | 39.92   | 9.92  | 32.35  | Peak    |     |       |
| 5 | @17100.000 | 55.17  | -8.37  | 63.54  | 32.52 | 42.66   | 11.33 | 31.34  | Average |     |       |
| 6 | @17100.000 | 69.67  | -13.87 | 83.54  | 47.02 | 42.66   | 11.33 | 31.34  | Peak    |     |       |

Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.

Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)

Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)

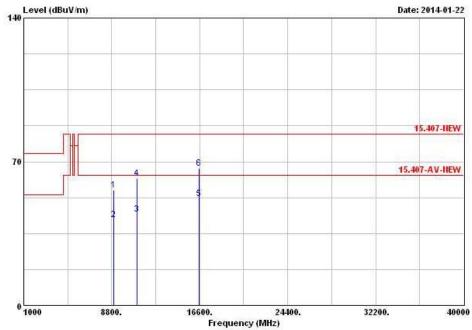
Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.

Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.

Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Transmitter Radiated Unwanted Emissions (Above 1GHz) |   |              |   |  |  |  |  |  |
|--|---|--------------|---|--|--|--|--|--|
| Modulation ModeHT40Test Freq. (MHz)5510              |   |              |   |  |  |  |  |  |
| $N_{TX}$   | 2 | Polarization | V |  |  |  |  |  |

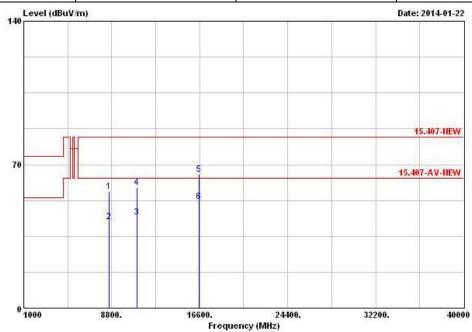


|      |           |        | Over   | Limit  | Read  | Antenna | Cable | Preamp |         | Ant | Table |
|------|-----------|--------|--------|--------|-------|---------|-------|--------|---------|-----|-------|
|      | Freq      | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos | Pos   |
| 2    | MHz       | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dВ    | dB     | -       | cm  | deg   |
| 10   | 8964.000  | 56.01  | -27.53 | 83.54  | 43.03 | 38.16   | 7.78  | 32.96  | Peak    |     | 777   |
| 2 @  | 8964.000  | 41.68  | -21.86 | 63.54  | 28.70 | 38.16   | 7.78  | 32.96  | Average |     |       |
| 3 @: | 11020.000 | 44.46  | -19.08 | 63.54  | 28.31 | 39.23   | 9.29  | 32.37  | Average |     |       |
| 4 @: | 11020.000 | 61.69  | -21.85 | 83.54  | 45.54 | 39.23   | 9.29  | 32.37  | Peak    |     |       |
| 5 @: | 16530.000 | 52.11  | -11.43 | 63.54  | 32.64 | 39.29   | 12.09 | 31.91  | Average |     | 77.77 |
| 6 @: | 16530.000 | 66.73  | -16.81 | 83.54  | 47.26 | 39.29   | 12.09 | 31.91  | Peak    |     |       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Transmitter Radiated Unwanted Emissions (Above 1GHz) |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|
| Modulation ModeHT40Test Freq. (MHz)5510              |  |  |  |  |  |  |  |  |
| N <sub>TX</sub> 2 Polarization H                     |  |  |  |  |  |  |  |  |



|      | Freq      | Level  | Over<br>Limit |        |       | Antenna<br>Factor |       |       | Remark  | Ant<br>Pos | Table<br>Pos |
|------|-----------|--------|---------------|--------|-------|-------------------|-------|-------|---------|------------|--------------|
| =    | MKz       | dBuV/m | dB            | dBuV/m | dBuV  | dB/m              | dB    | dB    | 3)      | cm.        | deg          |
| 1 @  | 8532.000  | 56.95  | -26.59        | 83.54  | 43.12 | 38.66             | 7.99  | 32.82 | Peak    |            |              |
| 2 @  | 8532.000  | 42.26  | -21.28        | 63.54  | 28.43 | 38.66             | 7.99  | 32.82 | Average |            |              |
| 3 @1 | 11020.000 | 44.45  | -19.09        | 63.54  | 28.30 | 39.23             | 9.29  | 32.37 | Average |            |              |
| 4 @1 | 11020.000 | 58.97  | -24.57        | 83.54  | 42.82 | 39.23             | 9.29  | 32.37 | Peak    | -          | 2000         |
| 5 @1 | 16530.000 | 65.26  | -18.28        | 83.54  | 45.79 | 39.29             | 12.09 | 31.91 | Peak    |            |              |
| 6 @1 | 16530.000 | 51.94  | -11.60        | 63.54  | 32.47 | 39.29             | 12.09 | 31.91 | Average |            |              |

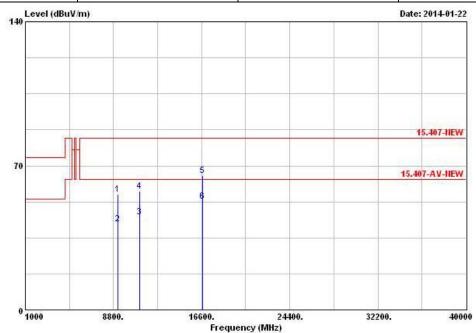
- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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FCC Test Report

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| Transmitter Radiated Unwanted Emissions (Above 1GHz) |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|
| Modulation Mode HT40 Test Freq. (MHz) 5550           |  |  |  |  |  |  |  |  |
| N <sub>TX</sub> 2 Polarization V                     |  |  |  |  |  |  |  |  |

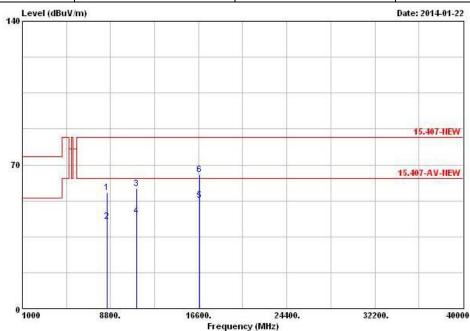


| Freq         | Level  | Over<br>Limit |        |       | Antenna<br>Factor |       |       |         | Ant<br>Pos | Table<br>Pos |
|--------------|--------|---------------|--------|-------|-------------------|-------|-------|---------|------------|--------------|
| MOKZ         | dBuV/m | dB            | dBuV/m | dBuV  | dB/m              | dВ    | dB    |         | - cm       | deg          |
| 1 @ 9156.000 | 56.08  | -27.46        | 83.54  | 42.66 | 38.35             | 8.09  | 33.02 | Peak    |            |              |
| 2 @ 9156.000 | 41.81  | -21.73        | 63.54  | 28.39 | 38.35             | 8.09  | 33.02 | Average |            |              |
| 3 @11100.000 | 44.96  | -18.58        | 63.54  | 28.52 | 39.38             | 9.42  | 32.36 | Average |            |              |
| 4 @11100.000 | 57.70  | -25.84        | 83.54  | 41.26 | 39.38             | 9.42  | 32.36 | Peak    | -          | 1000         |
| 5 @16650.000 | 65.19  | -18.35        | 83.54  | 45.15 | 39.94             | 11.84 | 31.74 | Peak    |            |              |
| 6 @16650.000 | 52.85  | -10.69        | 63.54  | 32.81 | 39.94             | 11.84 | 31.74 | Average |            |              |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Transmitter Radiated Unwanted Emissions (Above 1GHz) |   |              |   |  |  |  |  |  |
|--|---|--------------|---|--|--|--|--|--|
| Modulation ModeHT40Test Freq. (MHz)5550              |   |              |   |  |  |  |  |  |
| $N_{TX}$   | 2 | Polarization | Н |  |  |  |  |  |

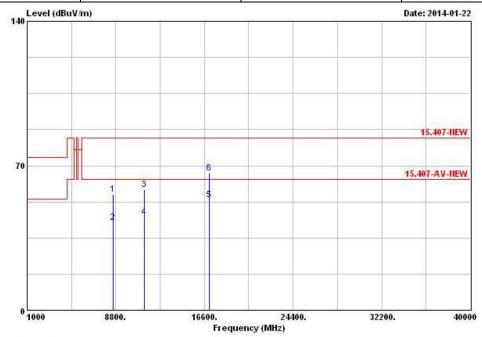


|   |            |        | 0ver   | Limit  | Read  | Antenna | Cable | Preamp |                 | Ant | Table |
|---|------------|--------|--------|--------|-------|---------|-------|--------|-----------------|-----|-------|
|   | Freq       | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark          | Pos | Pos   |
|   | MHz        | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dB    | dB     | ī <del></del> - | cm. | deg   |
| 1 | @ 8484.000 | 56.35  | -27.19 | 83.54  | 42.48 | 38.67   | 8.01  | 32.81  | Peak            |     |       |
| 2 | @ 8484.000 | 42.41  | -21.13 | 63.54  | 28.54 | 38.67   | 8.01  | 32.81  | Average         |     |       |
| 3 | @11100.000 | 58.35  | -25.19 | 83.54  | 41.91 | 39.38   | 9.42  | 32.36  | Peak            |     |       |
| 4 | @11100.000 | 45.04  | -18.50 | 63.54  | 28.60 | 39.38   | 9.42  | 32.36  | Average         | -   | 17.00 |
| 5 | @16650.000 | 52.85  | -10.69 | 63.54  | 32.81 | 39.94   | 11.84 | 31.74  | Average         |     |       |
| 6 | @16650.000 | 65.28  | -18.26 | 83.54  | 45.24 | 39.94   | 11.84 | 31.74  | Peak            |     |       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Transmitter Radiated Unwanted Emissions (Above 1GHz) |  |  |  |  |  |  |  |  |
|--|--|--|--|--|--|--|--|--|
| Modulation Mode HT40 Test Freq. (MHz) 5670           |  |  |  |  |  |  |  |  |
| N <sub>TX</sub> 2 Polarization V                     |  |  |  |  |  |  |  |  |

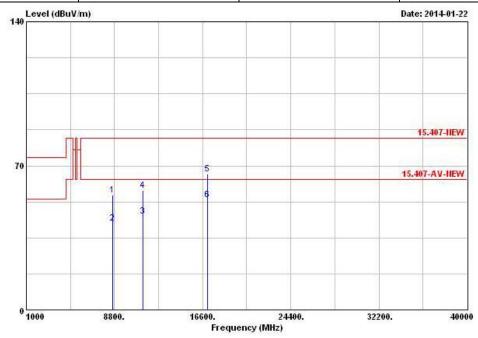


|              |        | 0ver   | Limit  | Read  | Antenna | Cable | Preamp |         | Ant | Table |
|--------------|--------|--------|--------|-------|---------|-------|--------|---------|-----|-------|
| Freq         | Level  | Limit  | Line   | Level | Factor  | Loss  | Factor | Remark  | Pos | Pos   |
| MHz          | dBuV/m | dB     | dBuV/m | dBuV  | dB/m    | dВ    | dB     | -       | cm. | deg   |
| 1 @ 8532.000 | 56.19  | -27.35 | 83.54  | 42.36 | 38.66   | 7.99  | 32.82  | Peak    |     |       |
| 2 @ 8532.000 | 42.38  | -21.16 | 63.54  | 28.55 | 38.66   | 7.99  | 32.82  | Average | 200 |       |
| 3 @11340.000 | 58.32  | -25.22 | 83.54  | 41.08 | 39.80   | 9.79  | 32.35  | Peak    |     |       |
| 4 @11340.000 | 45.24  | -18.30 | 63.54  | 28.00 | 39.80   | 9.79  | 32.35  | Average |     | 1000  |
| 5 @17010.000 | 53.42  | -10.12 | 63.54  | 31.64 | 41.94   | 11.16 | 31.32  | Average |     |       |
| 6 @17010.000 | 66.32  | -17.22 | 83.54  | 44.54 | 41.94   | 11.16 | 31.32  | Peak    |     |       |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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| Transmitter Radiated Unwanted Emissions (Above 1GHz) |   |              |   |  |  |  |  |  |
|--|---|--------------|---|--|--|--|--|--|
| Modulation Mode HT40 Test Freq. (MHz) 5670           |   |              |   |  |  |  |  |  |
| $N_{TX}$   | 2 | Polarization | Н |  |  |  |  |  |



|   | F        | req | Level  | Over<br>Limit |        |       | Antenna<br>Factor |       |       |         | Ant<br>Pos | Table<br>Pos |
|---|----------|-----|--------|---------------|--------|-------|-------------------|-------|-------|---------|------------|--------------|
|   | -        | MHz | dBuV/m | dB            | dBuV/m | dBuV  | dB/m              | dB    | - dB  | 3       |            | deg          |
| 1 | @ 8616.  | 000 | 55.78  | -27.76        | 83.54  | 42.12 | 38.56             | 7.95  | 32.85 | Peak    |            |              |
| 2 | @ 8616.  | 000 | 42.30  | -21.24        | 63.54  | 28.64 | 38.56             | 7.95  | 32.85 | Average |            |              |
| 3 | @11340.  | 000 | 45.64  | -17.90        | 63.54  | 28.40 | 39.80             | 9.79  | 32.35 | Average |            |              |
| 4 | @11340.  | 000 | 58.17  | -25.37        | 83.54  | 40.93 | 39.80             | 9.79  | 32.35 | Peak    |            |              |
| 5 | @17010.0 | 000 | 66.16  | -17.38        | 83.54  | 44.38 | 41.94             | 11.16 | 31.32 | Peak    |            |              |
| 6 | @17010   | 000 | 53.38  | -10 16        | 63.54  | 31.60 | 41 94             | 11.16 | 31 32 | Average |            |              |

- Note 1: ">20dB" means spurious emission levels that exceed the level of 20 dB below the applicable limit.
- Note 2: "N/F" means Nothing Found spurious emissions (No spurious emissions were detected.)
- Note 3: Measurement receive antenna polarization: H (Horizontal), V (Vertical)
- Note 4: For restricted bands, the peak measurement is fully sufficient, as the max field strength as measured with the Peak-Detector meets the AV-Limit so that the AV level does not need to be reported in addition.
- Note 5: For un-restricted bands emission satisfies both the average and peak limits of 15.209, it is not required to satisfy the -27 dBm peak emission limit of 15.407.
- Note 6: No level of unwanted emissions exceeds the level of the fundamental emission.

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4 Test Equipment and Calibration Data

| Instrument           | Manufacturer    | Model No. | Serial No. | Characteristics | Calibration Date | Remark                 |
|----------------------|-----------------|-----------|------------|-----------------|------------------|------------------------|
| Spectrum<br>Analyzer | Rohde & Schwarz | FSP40     | 100055     | 9KHz ~ 40GHz    | Jun. 07, 2013    | Conducted<br>(TH02-HY) |
| Power Meter          | Anritsu         | ML2495A   | 1036004    | 300MHz ~ 40GHz  | Aug. 17, 2013    | Conducted<br>(TH02-HY) |
| Power Sensor         | Anritsu         | MA2411B   | 1027253    | 300MHz ~ 40GHz  | Aug. 17, 2013    | Conducted<br>(TH02-HY) |

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Note: Calibration Interval of instruments listed above is one year.

| Instrument                     | Manufacturer   | Model No.      | Serial No.  | Characteristics    | Calibration Date | Remark                   |
|--------------------------------|----------------|----------------|-------------|--------------------|------------------|--------------------------|
| 3m Semi<br>Anechoic<br>Chamber | SIDT FRANKONIA | SAC-3M         | 03CH03-HY   | 30MHz ~ 1GHz<br>3m | Nov. 30, 2013    | Radiation<br>(03CH03-HY) |
| Amplifier                      | HP             | 8447D          | 2944A08033  | 10kHz ~ 1.3GHz     | May 03, 2013     | Radiation<br>(03CH03-HY) |
| Amplifier                      | Agilent        | 8449B          | 3008A02120  | 1GHz ~ 26.5GHz     | Aug. 20, 2013    | Radiation<br>(03CH03-HY) |
| Spectrum                       | R&S            | FSP40          | 100004      | 9kHz ~ 40GHz       | Mar. 11, 2013    | Radiation<br>(03CH03-HY) |
| Bilog Antenna                  | SCHAFFNER      | CBL 6112D      | 22237       | 30MHz ~ 1GHz       | Sep. 21, 2013    | Radiation<br>(03CH03-HY) |
| Horn Antenna                   | EMCO           | 3115           | 6741        | 1GHz ~ 18GHz       | May 31, 2013     | Radiation<br>(03CH03-HY) |
| Horn Antenna                   | SCHWARZBECK    | BBHA9170       | BBHA9170154 | 15GHz ~ 40GHz      | Jan. 10, 2014    | Radiation<br>(03CH03-HY) |
| RF Cable-R03m                  | Jye Bao        | RG142          | CB021       | 9kHz ~ 1GHz        | Nov. 16, 2013    | Radiation<br>(03CH03-HY) |
| RF Cable-high                  | SUHNER         | SUCOFLEX 106   | 03CH03-HY   | 1GHz ~ 40GHz       | Dec. 11, 2013    | Radiation<br>(03CH03-HY) |
| Turn Table                     | EM Electronics | EM Electronics | 060615      | 0 ~ 360 degree     | N/A              | Radiation<br>(03CH03-HY) |
| Antenna Mast                   | MF             | MF-7802        | MF780208179 | 1 ~ 4 m            | N/A              | Radiation<br>(03CH03-HY) |

Note: Calibration Interval of instruments listed above is one year.

| Instrument   | Manufacturer | Model No. | Serial No. | Characteristics | Calibration Date | Remark                   |
|--------------|--------------|-----------|------------|-----------------|------------------|--------------------------|
| Amplifier    | EM           | EM18G40G  | 060604     | 18GHz ~ 40GHz   | Oct. 17.2013     | Radiation<br>(03CH03-HY) |
| Loop Antenna | TESEQ        | HLA 6120  | 31244      | 9kHz ~ 30MHz    | Dec. 02, 2012    | Radiation<br>(03CH03-HY) |

Note: Calibration Interval of instruments listed above is two year.

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