

ELECTROMAGNETIC EMISSIONS COMPLIANCE REPORT

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INTENTIONAL RADIATOR CERTIFICATION TO FCC PART 15 SUBPART E REQUIREMENT AND INDUSTRY CANADA RSS 210 **CLASS II PC REPORT**

| December of Name of Hands | Tablet Computer |
|---------------------------|--|
| Product Name of Host: | Tablet Computer |
| Brand Name of Host: | acer |
| Model No. of Host: | РОКСС |
| Marketing Name of Host: | SW3-013 |
| Product Name of Module: | 802.11abgn+BT4.0 module |
| Brand Name of Module: | FOXCONN |
| Model No. of Module: | T77H462 |
| Model Difference: | N/A |
| FCC ID: | MCLT77H462 |
| IC: | 2878D-T77H462 |
| Report No.: | E2/2015/10017 |
| Issue Date: | Mar. 06, 2015 |
| FCC Rule Part: | §15.407 |
| IC Rule Part: | RSS-210 issue 8:2010, Annex 9 |
| | HON HAI PRECISION IND. CO., LTD |
| Prepared for: | 5F-1, 5 Hsin-An Road, Hsinchu Science-Based |
| | Industrial Park, Taiwan, R.O.C. |
| | SGS Taiwan Ltd. |
| Prepared by: | Electronics & Communication Laboratory |
| Treparcu by. | No.2, Keji 1st Rd., Guishan Township, Taoyuan |
| | County, Taiwan 333 |
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and shall be noted in the revision section of the document.



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VERIFICATION OF COMPLIANCE

| Applicant: | HON HAI PRECISION IND. CO., LTD 5F-1, 5 Hsin-An Road, Hsinchu Science-Based Industrial Park, Taiwan, R.O.C. |
|-------------------------|---|
| Product Name of Host: | Tablet Computer |
| Brand Name of Host: | acer |
| Model No. of Host: | P0KCC |
| Marketing Name of Host: | SW3-013 |
| Product Name of Module: | 802.11abgn+BT4.0 module |
| Brand Name of Module: | FOXCONN |
| Model No. of Module: | T77H462 |
| Model Difference: | N/A |
| FCC ID: | MCLT77H462 |
| IC: | 2878D-T77H462 |
| File Number: | E2/2015/10017 |
| Date of test: | Jan. 15, 2015 ~ Mar. 03, 2015 |
| Date of EUT Received: | Jan. 15, 2015 |

We hereby certify that:

Unless

The above equipment was tested by SGS Taiwan Ltd. Electronics & Communication Laboratory The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4:2009 and the energy emitted by the sample EUT tested as described in this report is in compliance with conducted and radiated emission limits of FCC Rules Part 15.407 and RSS-210 issue 8: 2010 Annex 9. The test results of this report relate only to the tested sample identified in this report.

| Test By: | Jazz Huang | Date: | Mar. 06, 2015 |
|----------------|---|--------|---------------|
| | Jazz Huang / Sr. Engineer | | |
| Prepared By: | Tiffany Kao | Date: | Mar. 06, 2015 |
| Approved By: | Tiffany Kao / Clerk Tim Ch ang | Date: | Mar. 06, 2015 |
| 說明,此報告結果僅對測試之樣 | Jim Chang / Asst. Manager wn in this test report refer only to the sample(s) tested and such sam (品負責,同時此樣品僅保留90天。本報告未經本公司書面許可,不可 ny subject to its General Conditions of Service printed overleaf, ava | 丁部份複製。 | |

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|--------------|---------------------|---------------------|----------------|--|
| 台灣檢驗科技股份有限公司 | t (886-2) 2299-3279 | f (886-2) 2298-0488 | www.tw.sgs.com | |



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| 00 | Mar. 06, 2015 | Initial creation of document |
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GENERAL INFORMATION 1.

1.1. Product Description

| Product Name: | Tablet Comp | uter | | | |
|-----------------------------|--|---|--|--|--|
| Brand Name: | acer | | | | |
| Model No.: | РОКСС | | | | |
| Marketing Name of Host: | SW3-013 | | | | |
| Hardware Version: | R1.1 | | | | |
| Software Version: | Win8.1 | | | | |
| Model No. for Module: | Т77Н462 | | | | |
| Module FCC ID: | MCLT77H462 | | | | |
| Module IC: | 2878D-T77H462 | | | | |
| Scope: | The test report covers the radiated emissions requirements of the stand- ards referenced in the report to allow system level approval of the mod- ule in this specific host. | | | | |
| Class II Permissive change: | 802.11abgn+BT4.0 module (T77H462) card INSTALLED IN AN Tab- let Computer | | | | |
| Data Cable: | Model No.: N/A, Supplier: N/A | | | | |
| | 3.75Vdc form | n Rechargeable Li-ion Battery or 5.35Vdc from adapter | | | |
| Power Supply: | Battery: | Model No.: AP15A3R, Supplier: SANYO | | | |
| | Adapter:1. Model No.:PA-1100-25, Supplier: LITEON 2. Model No.: ADP-10HW A, Supplier: DELTA | | | | |

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WLAN 5GHz:

| Wi-Fi | Frequency Range | Channels | Rated Power (Avg.) / Average Rated Power(EIRP) | Modulation Technology | Type of Emission |
|-------|--------------------|----------|---|--------------------------|---------------------|
| | 5150~5250 | 4 | 13.44dBm (Avg.) 15.06dBm (EIRP) | | 16M7D1D |
| 11a | 5250~5350 | 4 | 13.45dBm (Avg.) 14.95dBm (EIRP) | | 30M5D1D |
| 11a | 5470~5600 | 5 | 11.78dBm (Avg.) 11.64dBm (EIRP) | OFDM | 30M8D1D |
| | 5650~5725 | 3 | 11.74dBm (Avg.) 11.60dBm (EIRP) | | 16M6D1D |
| | HT20 5150~5250 | 4 | Avg. Power: (MIMO Chain 0): 12.55dBm (MIMO Chain 1): 14.19dBm (MIMO Chain 0+1): 16.46dBm EIRP: (MIMO Chain 0+1): 21.21dBm | | 17M5D1D |
| | HT20 5250~5350 | 4 | Avg. Power: (MIMO Chain 0): 12.37dBm (MIMO Chain 1): 14.40dBm (MIMO Chain 0+1): 16.49dBm EIRP: (MIMO Chain 0+1): 21.01dBm | | 37M4D1D |
| 11n | HT20 5470~5600 | 5 | Avg. Power: HT 20:14.23dBm (MIMO Chain 0): 10.80dBm (MIMO Chain 1): 11.89dBm (MIMO Chain 0+1): 14.35dBm EIRP (MIMO Chain 0+1): 17.22dBm | OFDM | 34M2D1D |
| | HT20 5650~5725 | 3 | Avg. Power: (MIMO Chain 0): 10.29dBm (MIMO Chain 1): 12.38dBm (MIMO Chain 0+1): 14.47dBm EIRP (MIMO Chain 0+1): 17.34dBm | | 17M5D1D |

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| | HT40 5150-5250 | 2 | Avg. Power: (MIMO Chain 0): 9.61dBm (MIMO Chain 1): 11.95dBm (MIMO Chain 0+1): 13.95dBm EIRP (MIMO Chain 0+1): 18.70dBm | | 36M8D1D |
|-----|-------------------|---|--|------|---------|
| | HT40 5250-5350 | 2 | Avg. Power: (MIMO Chain 0): 9.42dBm (MIMO Chain 1): 12.12dBm (MIMO Chain 0+1): 13.92dBm EIRP (MIMO Chain 0+1): 18.44dBm | | 37M4D1D |
| 11n | HT40 5470-5600 | 2 | Avg. Power: (MIMO Chain 0):8.12dBm (MIMO Chain 1): 8.81dBm (MIMO Chain 0+1): 11.49dBm EIRP (MIMO Chain 0+1): 14.36dBm | OFDM | 70M4D1D |
| | HT40 5650-5725 | 1 | Avg. Power: (MIMO Chain 0):7.46dBm (MIMO Chain 1): 8.98dBm (MIMO Chain 0+1): 11.30dBm EIRP (MIMO Chain 0+1): 14.17dBm | | 37M2D1D |

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| Antenna Designation | PIFA Antenna 1. Main: 5GHz Gain: 1.74dBi (5150MHz-5250MHz) 5GHz Gain: 1.51dBi (5250MHz-5350MHz) 5GHz Gain: -0.38dBi (5470MHz-5725MHz) 2. Aux: 5GHz Gain: 1.40dBi (5150MHz-5250MHz) 5GHz Gain: 1.40dBi (5250MHz-5350MHz) |
|---------------------|--|
| Modulation type | 5GHz Gain: -0.14dBi (5470MHz-5725MHz) CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM |
| Transition Rate: | 802.11 a: 6/9/12/18/24/36/48/54 Mbps 802.11 n_20MHz: 6.5 – 144Mbps 802.11 n_40MHz: 13.5 – 300Mbps |

This report applies for frequency bands 5150MHz-5250MHz, 5250MHz-5350MHz and 5470MHz-5725MHz.

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IEEE 802.11n Spec:

| MCS | MCS Index Nss Modulation | | | NG | NORDA | | Datarate(Mbps) | | | | | |
|-------|-----------------------------|------------|-----|---------|----------------|-------|----------------|-------|---------|-------|---------|-------|
| Index | | Modulation | R | R NBPSC | NCBPS NBPSC | | NDBPS | | 800nsGI | | 400nsGI | |
| | | | | | 20MHz | 40MHz | 20MHz | 40MHz | 20MHz | 40MHz | 20MHz | 40MHz |
| 0 | 1 | BPSK | 1/2 | 1 | 52 | 108 | 26 | 54 | 6.5 | 13.5 | 7.200 | 15 |
| 1 | 1 | QPSK | 1/2 | 2 | 104 | 216 | 52 | 108 | 13.0 | 27.0 | 14.400 | 30 |
| 2 | 1 | QPSK | 3/4 | 2 | 104 | 216 | 78 | 162 | 19.5 | 40.5 | 21.700 | 45 |
| 3 | 1 | 16-QAM | 1/2 | 4 | 208 | 432 | 104 | 216 | 26.0 | 54.0 | 28.900 | 60 |
| 4 | 1 | 16-QAM | 3/4 | 4 | 208 | 432 | 156 | 324 | 39.0 | 81.0 | 43.300 | 90 |
| 5 | 1 | 64-QAM | 2/3 | 6 | 312 | 648 | 208 | 432 | 52.0 | 108.0 | 57.800 | 120 |
| 6 | 1 | 64-QAM | 3/4 | 6 | 312 | 648 | 234 | 486 | 58.5 | 121.5 | 65.000 | 135 |
| 7 | 1 | 64-QAM | 5/6 | 6 | 312 | 648 | 260 | 540 | 65.0 | 135.0 | 72.200 | 150 |

| Symbol | Explanation |
|--------|---|
| NSS | Number of spatial streams |
| R | Code rate |
| NBPSC | Number of coded bite per single carrier |
| NCBPS | Number of coded bite per symbol |
| NDBPS | Number of data bite per symbol |
| GI | Guard interval |

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| 100 | | | | | | | | Data ra | nte (Mb/s) |
|--------------|--------------------|--------|---------------------------------------|-----------------|-----------------|-------------------|-------------------|-----------|-------------------------|
| MCS Index | Modulation | R | N _{BPSCS} (i _{SS}) | N _{SD} | N _{SP} | N _{CBPS} | N _{DBPS} | 800 ns GI | 400 ns GI (see NOTE) |
| 8 | BPSK | 1/2 | 1 | 52 | 4 | 104 | 52 | 13.0 | 14.4 |
| 9 | QPSK | 1/2 | 2 | 52 | 4 | 208 | 104 | 26.0 | 28.9 |
| 10 | QPSK | 3/4 | 2 | 52 | 4 | 208 | 156 | 39.0 | 43.3 |
| 11 | 16-QAM | 1/2 | 4 | 52 | 4 | 416 | 208 | 52.0 | 57.8 |
| 12 | 16-QAM | 3/4 | 4 | 52 | 4 | 416 | 312 | 78.0 | 86.7 |
| 13 | 64-QAM | 2/3 | 6 | 52 | 4 | 624 | 416 | 104.0 | 115.6 |
| 14 | 64-QAM | 3/4 | 6 | 52 | 4 | 624 | 468 | 117.0 | 130.0 |
| 15 | 64-QAM | 5/6 | 6 | 52 | 4 | 624 | 520 | 130.0 | 144.4 |
| NOTE-T | The 400 ns GI rate | values | are rounded to 1 | decima | l place. | | | | |

SGS Taiwan Ltd. No.134,WuKungRoad,NewTaipeiIndustrialPark,WukuDistrict,NewTaipeiCity,Taiwan24803/新北市五股區新北產業園區五工路 134 號



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| MCS | Malalatian | dulation R | N G) | N | N | N | N | Data rate (Mb/s) | |
|-------|------------|------------|---------------------------------------|------------------|-----------------|-------------------|-------------------|------------------|-----------|
| Index | Modulation | ĸ | N _{BPSCS} (i _{SS}) | N _{.SD} | N _{SP} | N _{CBPS} | N _{DBPS} | 800 ns GI | 400 ns GI |
| 8 | BPSK | 1/2 | 1 | 108 | 6 | 216 | 108 | 27.0 | 30.0 |
| 9 | QPSK | 1/2 | 2 | 108 | 6 | 432 | 216 | 54.0 | 60.0 |
| 10 | QPSK | 3/4 | 2 | 108 | 6 | 432 | 324 | 81.0 | 90.0 |
| 11 | 16-QAM | 1/2 | 4 | 108 | 6 | 864 | 432 | 108.0 | 120.0 |
| 12 | 16-QAM | 3/4 | 4 | 108 | 6 | 864 | 648 | 162.0 | 180.0 |
| 13 | 64-QAM | 2/3 | 6 | 108 | 6 | 1296 | 864 | 216.0 | 240.0 |
| 14 | 64-QAM | 3/4 | 6 | 108 | 6 | 1296 | 972 | 243.0 | 270.0 |
| 15 | 64-QAM | 5/6 | 6 | 108 | 6 | 1296 | 1080 | 270.0 | 300.0 |



1.2. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for FCC ID: MCLT77H462 filing to comply with Section 15.407 of the FCC Part 15, Subpart C Rules. And IC: 2878D-T77H462 filing to comply with Industry Canada RSS-210 issue 8: 2010 Annex 9.

1.3. Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4:2009 & KDB 789033 D01published on 04, 08, 2013. Radiated testing was performed at an antenna to EUT distance 3 meters.

Tested in accordance with FCC KDB789033 D01 General UNII Test Procedures v01r03 for compliance to FCC 47CFR 15.407 requirements.

1.4. Test Facility

The measurement facilities used to collect the 3m Radiated Emission and AC power line conducted data are located on the address of SGS Taiwan Ltd. Electronics & Communication Laboratory No.2, Keji 1st Rd., Guishan Township, Taoyuan County, Taiwan 333 which are constructed and calibrated to meet the FCC requirements in documents ANSI C63.4:2009. FCC Registration Number is: 990257. Canada Registration Number: 4620A-4.

1.5. Special Accessories

There are no special accessories used while test was conducted.

1.6. Equipment Modifications

There was no modification incorporated into the EUT.

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2. SYSTEM TEST CONFIGURATION

2.1. EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2. EUT Exercise

An engineering test mode (software/firmware) that applicant provided was utilized to manipulate the EUT into transmit, selection of the test channel, and modulation scheme.

2.3. Test Procedure

2.3.1 Conducted Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. According to the general criterion in Section 7.1 of ANSI C63.4:2009.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz, and the measurement procedure 7.3 in ANSI 63.4:2009 & 6.2.2, is followed to carry out the test. The CISPR Quasi-Peak and Average detector mode is employed according to §15.107

2.3.2 Radiated Emissions

The EUT is a placed on as turn table which is 0.8 m above ground plane. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this hand-held transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made "while keeping the antenna in the 'cone of radiation' from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response." is still within the 3dB illumination BW of the measurement antenna according to the requirements in Section 8 and 13 and of ANSI C63.4:2009,.

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2.4. Configuration of Tested System

Fig. 2-1 Radiated Emission & Conducted (Antenna Port) Configuration

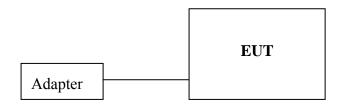


Table 2-1 Equipment Used in Tested System

| Item | Equipment | Mfr/Brand | Model/Type No. | Series No. | Data Cable | Power Cord |
|------|-----------------------|-----------|----------------|------------|------------|------------|
| 1. | WLAN Test Software | N/A | N/A | N/A | N/A | N/A |

3. SUMMARY OF TEST RESULT

| FCC/IC Rules | Description Of Test | Result |
|-------------------------------|---------------------------------|-----------|
| §15.407(a) (1) (2) | The Maximum Output Pow- | Compliant |
| RSS 210 A9.2(1)(2)(3) | er Measurement | |
| §15.407(b) (1) (2) (3)(6) (7) | Undesirable Emission – Radiated | Compliant |
| RSS 210 A9.2 (1) (2)(3) | Measurement | |
| RSS-Gen 7.2.5 | | |
| §15.203 | Antenna Requirement | Compliant |
| RSS-Gen 7.1.2 | | |

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4. DESCRIPTION OF TEST MODES

The EUT has been tested under operating condition. Test program used to control the EUT for staying in continuous transmitting mode is programmed.

a mode:

5150MHz-5250MHz: Channel lowest(5180MHz), Mid(5220MHz) and Highest(5240MHz).
5250MHz-5350MHz: Channel lowest(5260MHz), Mid(5300MHz) and Highest(5320MHz).
5470MHz-5725MHz: Channel lowest(5500MHz), Mid(5580MHz) and Highest(5700MHz) and with 6Mbps data rate are chosen for full testing.

n HT 20 mode:

5150MHz-5250MHz: Channel lowest(5180MHz), Mid(5220MHz) and Highest(5240MHz).
5250MHz-5350MHz: Channel lowest(5260MHz), Mid(5300MHz) and Highest(5320MHz).
5470MHz-5725MHz: Channel lowest(5500MHz), Mid(5580MHz) and Highest(5700MHz)with 6.5Mbps data rate are chosen for full testing

n HT 40 mode: 5150MHz-5250MHz: Channel lowest (5190MHz) and Highest (5230MHz). 5250MHz-5350MHz: Channel lowest (5270MHz) and Highest (5310MHz). 5470MHz-5725MHz: Channel lowest(5510MHz), Mid(5550MHz) and Highest(5670MHz)with 13.5Mbps data rate are chosen for full testing

The worst case is determined by the output power that generates the highest emission. As examined in the section of output power measurement, the section 7.5, the lowest data rate at $a/b/g/n_HT20/n_HT40$ resulted the highest level of fundamental emission, and therefore, the lowest data rate is chosen as the worst-case to conduct the remaining of other mandatory test cases.

The field strength of radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for 802.11a/n WLAN Transmitter for channel Low, Mid and High, the worst case E2 position was reported.

Pre-scanned was done on Antenna Main and Antenna Aux, and Antenna Main results higher emission at 5GHz. And Aux results higher emission at 5GHz 5470-5725MHz. Therefore, the completed set of measurement was done on Antenna Main to be presented 5150-5250MHz and 5250-5350MHz, and Antenna Aux to be presented for 5470-5725MHz on this test repot.

For radiation spurious emission test relevant n_HT20&HT40, MIMO mode that generates the higher emission is chosen to be tested in comparison with transmission at SISO mode.

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5. **MEASUREMENT UNCERTAINTY**

| Test Items | Uncertainty | |
|--|-------------------------|--|
| AC Power Line Conducted Emission | +/- 2.586 dB | |
| 26 dB and 99% Emission Bandwidth | +/- 123.36 Hz | |
| The Maximum Output Power Measurement | +/- 1.42 dB | |
| Peak Power Spectral Density Measurement | +/- 1.55 dB | |
| Peak Excursion Measurement | +/- 1.55 dB | |
| Undesirable Emission – | +/- 1.55 dB | |
| Conducted Measurement | | |
| Transmission in case of Absence of Information | +/- 1.55 dB | |
| Frequency Stability | +/- 123.36 Hz | |
| TPC and DFS Measurement | +/- 123.36 Hz | |
| Temperature | +/- 0.8 °C | |
| Humidity | +/- 4.7 % | |
| DC / AC Power Source | DC= +/- 1%, AC=+/- 0.2% | |

Radiated Spurious Emission:

| | 30MHz - 180MHz: +/- 3.37dB |
|---------------------------|----------------------------|
| Measurement uncertainty | 180MHz -417MHz: +/- 3.19dB |
| (Polarization : Vertical) | 0.417GHz-1GHz: +/- 3.19dB |
| | 1GHz - 18GHz: +/- 4.04dB |
| | 18GHz - 40GHz: +/- 4.04dB |

| | 30MHz - 167MHz: +/- 4.22dB |
|-----------------------------|----------------------------|
| Measurement uncertainty | 167MHz -500MHz: +/- 3.44dB |
| (Polarization : Horizontal) | 0.5GHz-1GHz: +/- 3.39dB |
| | 1GHz - 18GHz: +/- 4.08dB |
| | 18GHz - 40GHz: +/- 4.08dB |

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

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6. The MAXIMUM OUTPUT POWER MEASUREMENT

6.1 Standard Applicable:

According to §15.407(a)

- 1. For the band 5.15-5.25 GHz, the maximum conducted power over the frequency of operation shall not exceed the lesser of 50 mW (17dBm) or 4 dBm + 10log B.
- 2. For the band 5.25-5.35 GHz and 5.47-5.725GMHz, the maximum conducted power over the frequency of operation shall not exceed the lesser of 250 mW (24dBm) or 11 dBm + 10log B.
- 3. For the band 5.725-5.825 GHz, the maximum conducted power over the frequency of operation shall not exceed the lesser of 1W (30dBm) or 17 dBm + 10log B.

According to RSS-210 A9.2

- 1. For the band 5150-5250 MHz, the maximum equivalent isotropically radiated power (e.i.r.p.) shall not exceed 200 mW or 10 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz. The e.i.r.p. spectral density shall not exceed 10 dBm in any 1.0 MHz band.
- 2. For the bands 5250-5350 MHz and 5470-5725 MHz, the maximum conducted output power shall not exceed 250 mW or 11 + 10 log10 B, dBm, whichever power is less. The power spectral density shall not exceed 11 dBm in any 1.0 MHz band. The maximum e.i.r.p. shall not exceed 1.0 W or 17 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.

In addition, devices with maximum e.i.r.p. greater than 500 mW shall implement TPC in order to have the capability to operate at least 6 dB below the maximum permitted e.i.r.p. of 1 W.

In addition to the above requirements, devices operating in the band 5250-5350 MHz with maximum e.i.r.p. greater than 200 mW shall comply with the following e.i.r.p. elevation mask where θ is the angle above the local horizontal plane (of the earth) as shown below:

(i) -13 dB(W/MHz) for $0o \le \theta < 8o$ (ii) -13 - 0.716 (θ -8) dB(W/MHz) for 80 < θ < 400 (iii) -35.9 - 1.22 (0-40) dB(W/MHz) for 400 < θ < 450 (iv) -42 dB(W/MHz) for $\theta > 450$

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3. For the band 5725-5825 MHz, the maximum conducted output power shall not exceed 1.0 W or 17 + 10 log10 B, dBm, whichever power is less. The power spectral density shall not exceed 17 dBm in any 1.0 MHz band. The maximum e.i.r.p. shall not exceed 4.0 W or 23 + 10 log10 B, dBm, whichever power is less. B is the 99% emission bandwidth in MHz.

Fixed point-to-point systems for this band are permitted to have an e.i.r.p. greater than 4 W, provided that the higher e.i.r.p. is achieved by employing higher gain antennas, but not higher transmitter output powers. Point-to-multipoint systems, omni-directional applications and multiple co-located transmitters transmitting the same information are prohibited from exceeding 4 W e.i.r.p. However, remote stations of point-to-multipoint systems shall be permitted to operate at greater than 4 W e.i.r.p, under the same conditions as for point-to-point systems.

where B is the 26dB emission bandwidth in MHz.

Note: Directional gain = gain of antenna element + 10 log (# of TX antenna elements) Effective Legacy Gain = 1.74+3.01=4.75*dBi* (5150*MHz*-5250*MHz*) *Effective Legacy Gain* = 1.51+3.01=4.52*dBi* (5250*MHz*-5350*MHz*) *Effective Legacy Gain* = -0.14+3.01=2.87*dBi* (5470*MHz*-5725*MHz*)

6.2 Measurement Procedure

- Place the EUT on the table and set it in transmitting mode. 1.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter
- 3. Set the offset 10*log(1/x), n HT20=0.10, n HT40=0.12
- 4. Record the max. reading.
- Repeat above procedures until all frequency (low, middle, and high channel) measured were com-5. plete.
- Employing step 1 to4 obtaining per-chain basis in MIMO operation, and sum the power in linear to 6. result the output of MIMO operation at frequency of interest (, where MIMO is applicable).

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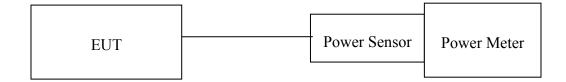


Note: For EIRP/ERP measurement complying with RSS-210 9.2, the formula as deduced in 1.3.2 of KDB 412172 D01 is used to calculate. ERP/EIRP = Pt + Gt - Lc, where Pt= transmitter output power measured directly at antenna port, expressing in dBm, and Gt = gain of the transmitting antenna in dBi that can be referred in antenna spec provided by the manufacturer in section 1.1, Lc = signal attenuation in the cable between the transmitting port and antenna.

6.3 Measurement Equipment Used:

| | SGS Conducted Room | | | | | | |
|--------------------|--------------------|--------------------|------------|------------|------------|--|--|
| EQUIPMENT | MFR | MODEL | SERIAL | LAST | CAL DUE. | | |
| TYPE | | NUMBER | NUMBER | CAL. | | | |
| Spectrum Analyzer | Agilent | N9010A | MY53400256 | 10/15/2014 | 10/14/2015 | | |
| Power Meter | Anritsu | ML2496A | 1326001 | 06/21/2014 | 06/20/2015 | | |
| Power Sensor | Anritsu | MA2411B | 1315048 | 06/21/2014 | 06/20/2015 | | |
| Power Sensor | Anritsu | MA2411B | 1315049 | 06/21/2014 | 06/20/2015 | | |
| Coaxial Cable 30cm | WOKEN | 00100A1F1A19 5C | RF01 | 12/19/2014 | 12/18/2015 | | |
| DC Block | PASTERNACK | PE8210 | RF29 | 12/19/2014 | 12/18/2015 | | |
| Splitter | RF-LAMBAD | RFLT2W1G18 G | RF35 | 12/19/2014 | 12/18/2015 | | |
| Attenuator | WOKEN | 218FS-10 | RF23 | 12/19/2014 | 12/18/2015 | | |
| DC Power Supply | Agilent | E3640A | MY53140006 | 05/31/2014 | 05/30/2015 | | |

6.4 Test Set-up:



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6.5 Measurement Result

802.11a (Antenna Main)

| Cał | ble loss = 0 | The Maximum (| Output Power |
|---------|--------------------|---------------|------------------------------|
| СН | Frequency (MHz) | Data Rate | Required Limit |
| | , , , | 6 | |
| | | | 16.99dBm or |
| 36 | 5180 | 13.25 | 4+10log(B) = 18.64dBm |
| | | | 16.99dBm or |
| 44 | 5220 | 13.28 | 4+10log(B) = 19.01dBm |
| | | | 16.99dBm or |
| 48 | 5240 | 13.32 | $4+10\log(B) =$ |
| | | | 18.15dBm |
| 52 | 5260 | 13.31 | 23.98dBm or 11+10log(B) = |
| 52 | 5200 | 15.51 | 27.63dBm |
| | | | 23.98dBm or |
| 60 | 5300 | 13.44 | $11+10\log(B) =$ |
| | | | 26.54dBm 23.98dBm or |
| 64 | 5320 | 13.25 | $11+10\log(B) =$ |
| 04 | 5520 | 15.25 | 24.59dBm |
| | | | 23.98dBm or |
| 100 | 5500 | 11.76 | $11+10\log(B) =$ |
| | | | 26.75dBm |
| 117 | 5500 | 11.77 | 23.98dBm or 11+10log(B) = |
| 116 | 5580 | 11.66 | 11+100g(B) = 27.60dBm |
| | | | 23.98dBm or |
| 140 | 5700 | 11.63 | 11+10log(B) = |
| | | | 24.61dBm |

Note: Limit is re-adjusted in terms of dBm

10*log(50mW) = 16.99dBm for the limit on the band of $5150\sim5250MHz$ 10*log(250mW)=23.98dBm for the limit on the band of 5260~5320Mz, &5470~5725MHz Note: Cable loss is 11.7dB is set as the offset on the spectrum to compensate the loss causing by cable

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802.11n HT20 - SISO (Antenna Main)

| | ble loss = 0 | The Maximum Output Power | | |
|----------|--------------------|--------------------------|---------------------------|--|
| СН | Frequency (MHz) | Data Rate | Required Limit | |
| | (11112) | MCS0 | Required Emili | |
| | | | 16.99dBm or | |
| 36 | 5180 | 13.44 | $4 + 10 \log(B) =$ | |
| | | | 17.45dBm | |
| | | | 16.99dBm or | |
| 44 | 5220 | 13.12 | $4+10\log(B) =$ | |
| | | | 17.30dBm | |
| | | | 16.99dBm or | |
| 48 | 5240 | 13.24 | $4+10\log(B) =$ | |
| | | | 17.49dBm | |
| | 5260 | 10.05 | 23.98dBm or | |
| 52 | | 13.25 | 11+10log(B) = 28.38dBm | |
| | | | 23.98dBm or | |
| 60 | 5200 | 13.32 | $11+10\log(B) =$ | |
| 00 | 5300 | | 25.94dBm | |
| <u> </u> | | | 23.98dBm or | |
| 64 | 4 5320 | 13.30 | $11+10\log(B) =$ | |
| 04 | 5520 | 15.50 | 24.59dBm | |
| | | | 23.98dBm or | |
| 100 | 5500 | 11.18 | $11+10\log(B) =$ | |
| | | | 26.84dBm | |
| | | | 23.98dBm or | |
| 116 | 5580 | 11.18 | 11+10log(B) = | |
| | | | 27.78dBm | |
| | | | 23.98dBm or | |
| 140 | 5700 | 11.08 | 11+10log(B) = | |
| | | | 25.14dBm | |

Note: Offset 11.7dB

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802.11n HT40 - SISO (Antenna Main)

| Cał | ble loss = 0 The Maximum Output Powe | | Output Power |
|-----|---|-----------|--------------------|
| СН | Frequency (MHz) | Data Rate | Required Limit |
| | (11112) | MCS0 | Required Linit |
| | | | 16.99dBm or |
| 38 | 5190 | 10.91 | $4+10\log(B) =$ |
| | | | 20.85dBm |
| | | | 16.99dBm or |
| 46 | 5230 | 10.81 | $4 + 10 \log(B) =$ |
| | | | 21.57dBm |
| | | | 23.98dBm or |
| 54 | 5270 | 10.95 | $11+10\log(B) =$ |
| | | | 30.33dBm |
| | | | 23.98dBm or |
| 62 | 5310 | 10.82 | $11+10\log(B) =$ |
| | | | 27.73dBm |
| | | | 23.98dBm or |
| 102 | 5510 | 8.20 | $11+10\log(B) =$ |
| | | | 30.27dBm |
| | | | 23.98dBm or |
| 110 | 5550 | 8.18 | $11+10\log(B) =$ |
| | | | 31.41dBm |
| | | | 23.98dBm or |
| 134 | 5670 | 8.12 | 11+10log(B) = |
| | | | 30.44dBm |

Note: Offset 14.5dB

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802.11a (Antenna Aux)

| Cal | Cable loss = 0The Maximum | | Output Power | | | | |
|-----|---------------------------|-----------|---------------------------|-------------|------|-------|----------|
| СН | Frequency (MHz) | Data Rate | Required Limit | | | | |
| | (11111) | 6 | noquir cu Linit | | | | |
| | | | 16.99dBm or | | | | |
| 36 | 5180 | 13.31 | $4 + 10 \log(B) =$ | | | | |
| | | | 18.64dBm | | | | |
| | | | 16.99dBm or | | | | |
| 44 | 5220 | 13.44 | $4 + 10 \log(B) =$ | | | | |
| | | | 19.01dBm | | | | |
| | | | 16.99dBm or | | | | |
| 48 | 5240 | 13.41 | $4+10\log(B) =$ | | | | |
| | | | 18.15dBm | | | | |
| | 5260 | 50(0) | 10.00 | 23.98dBm or | | | |
| 52 | | 13.33 | 11+10log(B) = 27.63dBm | | | | |
| | | | 27.050Bm 23.98dBm or | | | | |
| 60 | 5300 | 12 45 | $11+10\log(B) =$ | | | | |
| 00 | 5500 | 13.45 | 26.54dBm | | | | |
| | | | 23.98dBm or | | | | |
| 64 | 5320 | 13.44 | $11+10\log(B) =$ | | | | |
| 01 | 5520 | 5520 | 5520 | 5520 | 5520 | 15.11 | 24.59dBm |
| | | | 23.98dBm or | | | | |
| 100 | 5500 | 11.78 | $11+10\log(B) =$ | | | | |
| | | | 26.75dBm | | | | |
| | | | 23.98dBm or | | | | |
| 116 | 5580 | 11.72 | 11+10log(B) = | | | | |
| | | | 27.60dBm | | | | |
| | | | 23.98dBm or | | | | |
| 140 | 5700 | 11.74 | $11+10\log(B) =$ | | | | |
| | | | 24.61dBm | | | | |

Note: Limit is re-adjusted in terms of dBm

10*log(50mW) = 16.99dBm for the limit on the band of $5150\sim5250MHz$

10*log(250mW)=23.98dBm for the limit on the band of 5260~5320Mz, &5470~5725MHz

Note: Cable loss is 11.7dB is set as the offset on the spectrum to compensate the loss causing by cable

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802.11n HT20 - SISO (Antenna Aux)

| Cable loss = 0 | | The Maximum (| Output Power |
|------------------|--------------------|---------------|-------------------------------|
| СН | Frequency (MHz) | Data Rate | Required Limit |
| | (101112) | MCS0 | Kequireu Emine |
| | | | 16.99dBm or |
| 36 | 5180 | 13.49 | $4 + 10 \log(B) =$ |
| | | | 17.45dBm |
| | | | 16.99dBm or |
| 44 | 5220 | 13.34 | $4 + 10 \log(B) =$ |
| | | | 17.30dBm |
| | | | 16.99dBm or |
| 48 | 5240 | 13.35 | $4+10\log(B) =$ |
| | | | 17.49dBm |
| | | | 23.98dBm or |
| 52 | 5260 | 13.40 | $11+10\log(B) =$ |
| | | | 28.38dBm |
| | | | 23.98dBm or |
| 60 | 5300 | 13.45 | $11+10\log(B) =$ |
| | | | 25.94dBm |
| | | 23.98dBm or | |
| 64 | 5320 | 13.49 | $11+10\log(B) = 24.59dBm$ |
| | | | |
| 100 | 5500 | 11.26 | 23.98dBm or |
| 100 | 5500 | 11.36 | $11+10\log(B) = 26.84dBm$ |
| | | | 20.84dBm 23.98dBm or |
| 117 | 5500 | 11 40 | 23.980Bm or 11+10log(B) = |
| 116 | 5580 | 11.48 | 11+100g(B) = 27.78dBm |
| <u> </u> | | | 23.98dBm or |
| 1.40 | | 11 30 | 23.980Bm or 11+10log(B) = |
| 140 | 5700 | 11.30 | 11+100g(B) = 25.14dBm |
| | | | 25.14dBm |

Note: Offset 11.7dB

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802.11n HT40 - SISO (Antenna Aux)

| Cable loss $= 0$ | | The Maximum O | utput Power |
|------------------|--------------------|---------------|--------------------|
| СН | Frequency (MHz) | Data Rate | Required Limit |
| | (11112) | MCS0 | Kequireu Emit |
| | | | 16.99dBm or |
| 38 | 5190 | 10.99 | $4 + 10 \log(B) =$ |
| | | | 20.85dBm |
| | | | 16.99dBm or |
| 46 | 5230 | 10.86 | $4+10\log(B) =$ |
| | | | 21.57dBm |
| | | | 23.98dBm or |
| 54 | 5270 | 10.98 | $11+10\log(B) =$ |
| | | | 30.33dBm |
| | 5310 | | 23.98dBm or |
| 62 | | 10.90 | $11+10\log(B) =$ |
| | | | 27.73dBm |
| | | | 23.98dBm or |
| 102 | 5510 | 8.21 | $11+10\log(B) =$ |
| | | | 30.27dBm |
| | | | 23.98dBm or |
| 110 | 5550 | 8.25 | $11+10\log(B) =$ |
| | | | 31.41dBm |
| | | | 23.98dBm or |
| 134 | 5670 | 8.35 | $11+10\log(B) =$ |
| _ | | | 30.44dBm |

Note: Offset 11.7dB

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802.11n HT20 MIMO operation CH0

| Cable loss $= 0$ | | The Maximum (| Output Power CH 0 |
|------------------|--------------------|---------------|--------------------|
| СН | Frequency (MHz) | Data Rate | Required Limit |
| | (11112) | MCS8 | Kequireu Ellint |
| | | | 16.99dBm or |
| 36 | 5180 | 12.54 | $4 + 10 \log(B) =$ |
| | | | 17.45dBm |
| | | | 16.99dBm or |
| 44 | 5220 | 12.55 | 4+10log(B) = |
| | | | 17.30dBm |
| | | | 16.99dBm or |
| 48 | 5240 | 12.38 | $4+10\log(B) =$ |
| | | | 17.49dBm |
| | | | 23.98dBm or |
| 52 | 5260 | 12.37 | 11+10log(B) = |
| | | | 28.38dBm |
| | | | 23.98dBm or |
| 60 | 5300 | 12.32 | 11+10log(B) = |
| | | | 25.94dBm |
| | | | 23.98dBm or |
| 64 | 5320 | 11.91 | 11+10log(B) = |
| | | | 24.59dBm |
| | | | 23.98dBm or |
| 100 | 5500 | 10.80 | 11+10log(B) = |
| | | | 26.84dBm |
| | | | 23.98dBm or |
| 116 | 5580 | 10.72 | $11+10\log(B) =$ |
| | | | 27.78dBm |
| | | | 23.98dBm or |
| 140 | 5700 | 10.29 | $11+10\log(B) =$ |
| | | | 25.14dBm |

Note: Offset 11.7dB

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802.11n HT20 MIMO operation CH 1

| Cable loss $= 0$ | | Cable loss = 0The Maximum Output Power CH | |
|------------------|--------------------|---|---------------------------|
| СН | Frequency (MHz) | Data Rate | Required Limit |
| | (19112) | MCS8 | Required Emili |
| | | | 16.99dBm or |
| 36 | 5180 | 14.14 | 4+10log(B) = |
| | | | 17.45dBm |
| | | | 16.99dBm or |
| 44 | 5220 | 14.19 | $4+10\log(B) =$ |
| | | | 17.30dBm |
| | | | 16.99dBm or |
| 48 | 5240 | 14.13 | $4+10\log(B) =$ |
| | | | 17.49dBm |
| | | 14.27 | 23.98dBm or |
| 52 | 5260 | | $11+10\log(B) = 28.38dBm$ |
| | | | 23.98dBm or |
| 60 | 5300 14.40 | $11+10\log(B) =$ | |
| 00 | | 5500 14.40 | 25.94dBm |
| | | | 23.98dBm or |
| 64 | 5320 | 5320 14.29 | $11+10\log(B) =$ |
| 04 | 5520 | 17.27 | 24.59dBm |
| | | | 23.98dBm or |
| 100 | 5500 | 11.66 | $11+10\log(B) =$ |
| | | | 26.84dBm |
| | | | 23.98dBm or |
| 116 | 5580 | 11.89 | 11+10log(B) = |
| | | | 27.78dBm |
| | | | 23.98dBm or |
| 140 | 5700 | 12.38 | 11+10log(B) = |
| | | | 25.14dBm |

Note: Offset 11.7dB

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802.11n HT20 MIMO operation CH 0 + CH 1

| Cable loss $= 0$ | | | Im Output Power 0 +CH 1 |
|------------------|--------------------|-------------------|----------------------------|
| СН | Frequency (MHz) | Data Rate | Required Limit |
| | | MCS8 | |
| | | | 16.99dBm or |
| 36 | 5180 | 16.42 | $4+10\log(B) =$ |
| | | | 17.45dBm |
| | | | 16.99dBm or |
| 44 | 5220 | 16.46 | $4+10\log(B) =$ |
| | | | 17.30dBm |
| | | | 16.99dBm or |
| 48 | 5240 | 16.35 | $4 + 10 \log(B) =$ |
| | | | 17.49dBm |
| | | 5260 16.43 | 23.98dBm or |
| 52 | 5260 | | $11+10\log(B) =$ |
| | | | 28.38dBm |
| | | 5300 16.49 | 23.98dBm or |
| 60 | 5300 | | $11+10\log(B) =$ |
| | | | 25.94dBm |
| | | | 23.98dBm or |
| 64 | 5320 | 16.27 | $11+10\log(B) =$ |
| | | | 24.59dBm |
| | | | 23.98dBm or |
| 100 | 5500 | 14.26 | $11+10\log(B) =$ |
| | | | 26.84dBm |
| | | | 23.98dBm or |
| 116 | 5580 | 14.35 | $11+10\log(B) =$ |
| | | | 27.78dBm |
| | | | 23.98dBm or |
| 140 | 5700 | 14.47 | $11+10\log(B) =$ |
| | | | 25.14dBm |

Note: Offset 11.7dB

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802.11n HT40 MIMO operation CH 0

| Cable loss $= 0$ | | The Maximum O | Output Power CH 0 |
|------------------|--------------------|---------------|---------------------|
| СН | Frequency (MHz) | Data Rate | Required Limit |
| | (101112) | MCS8 | Required Linit |
| | | | 16.99dBm or |
| 38 | 5190 | 9.61 | $4 + 10 \log(B) =$ |
| | | | 20.85dBm |
| | | | 16.99dBm or |
| 46 | 5230 | 9.44 | $4 + 10 \log(B) =$ |
| | 0200 | | 21.57dBm |
| | | | 23.98dBm or |
| 54 | 5270 | 9.42 | $11 + 10 \log(B) =$ |
| | | | 30.33dBm |
| | 5310 | 9.15 | 23.98dBm or |
| 62 | | | $11+10\log(B) =$ |
| | | | 27.73dBm |
| | | | 23.98dBm or |
| 102 | 5510 | 8.07 | $11+10\log(B) =$ |
| | | | 30.27dBm |
| | | | 23.98dBm or |
| 110 | 5550 | 8.12 | 11+10log(B) = |
| | | | 31.41dBm |
| | | | 23.98dBm or |
| 134 | 5670 | 7.46 | $11+10\log(B) =$ |
| | | | 30.44dBm |

Note: Offset 11.7dB

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802.11n HT40 MIMO operation CH 1

| Cal | ble loss = 0 | The Maximum C | Output Power CH 1 | |
|-----|--------------------|---------------|--------------------|------------------|
| СН | Frequency (MHz) | Data Rate | Required Limit | |
| | (191112) | MCS8 | | |
| | | | 16.99dBm or | |
| 38 | 5190 | 11.95 | $4 + 10 \log(B) =$ | |
| | | | 20.85dBm | |
| | | | 16.99dBm or | |
| 46 | 5230 | 11.79 | $4 + 10 \log(B) =$ | |
| | 0200 | | 21.57dBm | |
| | | | 23.98dBm or | |
| 54 | 5270 | 12.01 | $11+10\log(B) =$ | |
| | | | 30.33dBm | |
| | 5310 | | 23.98dBm or | |
| 62 | | 5310 | 12.12 | $11+10\log(B) =$ |
| | | | | 27.73dBm |
| | | | 23.98dBm or | |
| 102 | 5510 | 8.78 | $11+10\log(B) =$ | |
| | | | | 30.27dBm |
| | | | 23.98dBm or | |
| 110 | 5550 | 8.81 | 11+10log(B) = | |
| | | | 31.41dBm | |
| | | | 23.98dBm or | |
| 134 | 5670 | 8.98 | 11+10log(B) = | |
| | | | 30.44dBm | |

Note: Offset 11.7dB

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802.11n HT40 MIMO operation CH 0 + CH 1

| Cable loss $= 0$ | | | n Output Power) +CH1 |
|------------------|--------------------|-----------|--|
| СН | Frequency (MHz) | Data Rate | Required Limit |
| | × , | MCS8 | |
| 38 | 5190 | 13.95 | 16.99dBm or 4+10log(B) = 20.85dBm |
| 46 | 5230 | 13.78 | 16.99dBm or 4+10log(B) = 21.57dBm |
| 54 | 5270 | 13.92 | 23.98dBm or 11+10log(B) = 30.33dBm |
| 62 | 5310 | 13.89 | 23.98dBm or 11+10log(B) = 27.73dBm |
| 102 | 5510 | 11.45 | 23.98dBm or 11+10log(B) = 30.27dBm |
| 110 | 5550 | 11.49 | 23.98dBm or 11+10log(B) = 31.41dBm |
| 134 | 5670 | 11.30 | 23.98dBm or 11+10log(B) = 30.44dBm |

Note: Offset 11.7dB

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ERP/EIRP Measurement:

802.11a (Antenna Main)

| Cat | Cable loss = 0 EIRP | | RP |
|-----|---------------------|-----------|--|
| СН | Frequency (MHz) | Data Rate | Required Limit |
| | · · · · | 6 | |
| 36 | 5180 | 14.99 | 23.01dBm or 10+10log(B) = 22.22dBm |
| 44 | 5220 | 15.02 | 23.01dBm or 10+10log(B) = 22.22dBm |
| 48 | 5240 | 15.06 | 23.01dBm or 10+10log(B) = 22.19dBm |
| 52 | 5260 | 14.82 | 30.00dBm or 17+10log(B) = 31.84dBm |
| 60 | 5300 | 14.95 | 30.00dBm or 17+10log(B) = 29.31dBm |
| 64 | 5320 | 14.76 | 30.00dBm or 17+10log(B) = 29.19dBm |
| 100 | 5500 | 11.38 | 30.00dBm or 17+10log(B) = 29.58dBm |
| 116 | 5580 | 11.28 | 30.00dBm or 17+10log(B) = 31.89dBm |
| 140 | 5700 | 11.25 | 30.00dBm or 17+10log(B) = 29.19dBm |

Note: Limit is re-adjusted in terms of dBm

10*log(50mW) = 16.99dBm for the limit on the band of 5150-5250MHz10*log(250mW)=23.98dBm for the limit on the band of 5260-5320Mz, &5470-5725MHzNote: Cable loss is 11.7dB is set as the offset on the spectrum to compensate the loss causing by cable

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802.11n HT20 - SISO (Antenna Main)

| Cable loss = 0 | | Cable loss = 0EIRP | | RP |
|----------------|--------------------|--------------------|--|----|
| CH | Frequency (MHz) | Data Rate | Required Limit | |
| | | MCS0 | | |
| 36 | 5180 | 15.18 | 23.01dBm or 10+10log(B) = 22.43dBm | |
| 44 | 5220 | 14.86 | 23.01dBm or 10+10log(B) = 22.43dBm | |
| 48 | 5240 | 14.98 | 23.01dBm or 10+10log(B) = 22.43dBm | |
| 52 | 5260 | 14.76 | 30.00dBm or 17+10log(B) = 31.53dBm | |
| 60 | 5300 | 14.83 | 30.00dBm or 17+10log(B) = 29.46dBm | |
| 64 | 5320 | 14.81 | 30.00dBm or 17+10log(B) = 29.43dBm | |
| 100 | 5500 | 10.80 | 30.00dBm or 17+10log(B) = 29.83dBm | |
| 116 | 5580 | 10.80 | 30.00dBm or 17+10log(B) = 32.23dBm | |
| 140 | 5700 | 10.70 | 30.00dBm or 17+10log(B) = 29.43dBm | |

Note: Offset 11.7dB

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802.11n HT40 - SISO (Antenna Main)

| Cable loss $= 0$ | | EI | RP |
|------------------|----------------------|-----------|---------------------|
| СН | I Frequency (MHz) | Data Rate | Required Limit |
| | (17112) | MCS0 | Required Limit |
| | | | 23.01dBm or |
| 38 | 5190 | 12.65 | $10+10\log(B) =$ |
| | | | 25.65dBm |
| | | | 23.01dBm or |
| 46 | 5230 | 12.55 | $10+10\log(B) =$ |
| | | | 25.63dBm |
| | | | 30.00dBm or |
| 54 | 5270 | 12.46 | $17+10\log(B) =$ |
| | | | 32.68dBm |
| | 5310 | | 30.00dBm or |
| 62 | | 12.33 | $17+10\log(B) =$ |
| | | | 32.65dBm |
| | | | 30.00dBm or |
| 102 | 5510 | 7.82 | $17 + 10 \log(B) =$ |
| | | | 32.68dBm |
| | | | 30.00dBm or |
| 110 | 5550 | 7.80 | $17+10\log(B) =$ |
| | | | 32.36dBm |
| | | | 30.00dBm or |
| 134 | 5670 | 7.74 | $17+10\log(B) =$ |
| | | | 32.68dBm |

Note: Offset 11.7dB

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802.11a (Antenna Aux)

| Cat | ble loss = 0 | Ι | EIRP |
|-----|--------------------|-------------------|-------------------------|
| СН | Frequency (MHz) | Data Rate | Required Limit |
| | | 6 | - |
| | | | 23.01dBm or |
| 36 | 5180 | 14.71 | $10+10\log(B) =$ |
| | | | 22.22dBm |
| | | | 23.01dBm or |
| 44 | 5220 | 14.84 | $10+10\log(B) =$ |
| | | | 22.22dBm |
| | | | 23.01dBm or |
| 48 | 5240 | 14.81 | $10+10\log(B) =$ |
| | | | 22.19dBm 30.00dBm or |
| 50 | 5260 | 14.72 | $17+10\log(B) =$ |
| 52 | | 14.73 | 31.84dBm |
| | | | 30.00dBm or |
| 60 | 5300 | 5300 14.85 | $17+10\log(B) =$ |
| 00 | | 14.03 | 29.31dBm |
| | | | 30.00dBm or |
| 64 | 5320 | 14.84 | $17+10\log(B) =$ |
| 0. | 0020 | 1 | 29.19dBm |
| | | | 30.00dBm or |
| 100 | 5500 | 11.64 | $17+10\log(B) =$ |
| | | | 29.58dBm |
| | | | 30.00dBm or |
| 116 | 5580 | 11.58 | $17+10\log(B) =$ |
| | | | 31.89dBm |
| | | | 30.00dBm or |
| 140 | 5700 | 11.60 | $17+10\log(B) =$ |
| | | | 29.19dBm |

Note: Limit is re-adjusted in terms of dBm

10*log(50mW) = 16.99dBm for the limit on the band of $5150\sim5250MHz$

10*log(250mW)=23.98dBm for the limit on the band of 5260~5320Mz, &5470~5725MHz

Note: Cable loss is 11.7dB is set as the offset on the spectrum to compensate the loss causing by cable

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802.11n HT20 – SISO (Antenna Aux)

| Cable loss = 0 | | EIRP | |
|------------------|--------------------|-------------------|--|
| СН | Frequency (MHz) | Data Rate MCS0 | Required Limit |
| | | | |
| 44 | 5220 | 14.74 | 23.01dBm or 10+10log(B) = 22.43dBm |
| 48 | 5240 | 14.75 | 23.01dBm or 10+10log(B) = 22.43dBm |
| 52 | 5260 | 14.80 | 30.00dBm or 17+10log(B) = 31.53dBm |
| 60 | 5300 | 14.85 | 30.00dBm or 17+10log(B) = 29.46dBm |
| 64 | 5320 | 14.89 | 30.00dBm or 17+10log(B) = 29.43dBm |
| 100 | 5500 | 11.22 | 30.00dBm or 17+10log(B) = 29.83dBm |
| 116 | 5580 | 11.34 | 30.00dBm or 17+10log(B) = 32.23dBm |
| 140 | 5700 | 11.16 | 30.00dBm or 17+10log(B) = 29.43dBm |

Note: Offset 11.7dB

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802.11n HT40 – SISO (Antenna Aux)

| Cable loss = 0 | | EIRP | |
|------------------|--------------------|-----------|--------------------|
| СН | Frequency (MHz) | Data Rate | Required Limit |
| | | MCS0 | |
| 38 | 5190 | | 23.01dBm or |
| | | 12.39 | $10+10\log(B) =$ |
| | | | 25.65dBm |
| 46 | 5230 | 12.26 | 23.01dBm or |
| | | | $10+10\log(B) =$ |
| | | | 25.63dBm |
| 54 | 5270 | 12.38 | 30.00dBm or |
| | | | $17+10\log(B) =$ |
| | | | 32.68dBm |
| 62 | 5310 | 12.30 | 30.00dBm or |
| | | | $17+10\log(B) =$ |
| | | | 32.65dBm |
| 102 | 5510 | 8.07 | 30.00dBm or |
| | | | $17+10\log(B) =$ |
| | | | 32.68dBm |
| 110 | 5550 | 8.11 | 30.00dBm or |
| | | | $17+10\log(B) =$ |
| | | | 32.36dBm |
| 134 | 5670 | 8.21 | 30.00dBm or |
| | | | $17+10\log(B) =$ |
| | | | 32.68dBm |

Note: Offset 11.7dB

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802.11n HT20 MIMO operation CH0

| Cable loss $= 0$ | | EIRP CH 0 | |
|------------------|--------------------|-----------|--|
| СН | Frequency (MHz) | Data Rate | Required Limit |
| | (11222) | MCS8 | Incquir cu Linne |
| 36 | 5180 | 17.29 | 23.01dBm or 10+10log(B) = 22.43dBm |
| 44 | 5220 | 17.30 | 23.01dBm or 10+10log(B) = 22.43dBm |
| 48 | 5240 | 17.13 | 23.01dBm or 10+10log(B) = 22.43dBm |
| 52 | 5260 | 16.89 | 30.00dBm or 17+10log(B) = 31.53dBm |
| 60 | 5300 | 16.84 | 30.00dBm or 17+10log(B) = 29.46dBm |
| 64 | 5320 | 16.43 | 30.00dBm or 17+10log(B) = 29.43dBm |
| 100 | 5500 | 13.67 | 30.00dBm or 17+10log(B) = 29.83dBm |
| 116 | 5580 | 13.59 | 30.00dBm or 17+10log(B) = 32.23dBm |
| 140 | 5700 | 13.16 | 30.00dBm or 17+10log(B) = 29.43dBm |

Note: Offset 11.7dB

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802.11n HT20 MIMO operation CH 1

| Cable loss = 0 | | EIR | P CH 1 |
|------------------|--------------------|-----------|------------------------------|
| СН | Frequency (MHz) | Data Rate | Required Limit |
| | 、 <i>,</i> | MCS8 | 1 |
| | | | 23.01dBm or |
| 36 | 5180 | 18.89 | $10+10\log(B) =$ |
| | | | 22.43dBm |
| | | | 23.01dBm or |
| 44 | 5220 | 18.94 | $10+10\log(B) =$ |
| | | | 22.43dBm |
| | | | 23.01dBm or |
| 48 | 5240 | 18.88 | $10+10\log(B) =$ |
| | | | 22.43dBm |
| | | | 30.00dBm or |
| 52 | 5260 | 18.79 | $17+10\log(B) =$ 31.53dBm |
| | | | 30.00dBm or |
| 60 | 5300 | 10.03 | $17+10\log(B) =$ |
| 60 | 5500 | 18.92 | 29.46dBm |
| | | | 30.00dBm or |
| 64 | 5320 | 18.81 | $17+10\log(B) =$ |
| 04 | 5520 | 10.01 | 29.43dBm |
| | | | 30.00dBm or |
| 100 | 5500 | 14.53 | $17+10\log(B) =$ |
| | | | 29.83dBm |
| | | | 30.00dBm or |
| 116 | 5580 | 14.76 | $17+10\log(B) =$ |
| | | | 32.23dBm |
| | | | 30.00dBm or |
| 140 | 5700 | 15.25 | $17+10\log(B) =$ |
| | | | 29.43dBm |

Note: Offset 11.7dB

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802.11n HT20 MIMO operation CH 0 + CH 1

| Cable loss $= 0$ | | EIRP CH 0 +CH 1 | |
|------------------|--------------------|-----------------|--|
| CH | Frequency (MHz) | Data Rate | Required Limit |
| | | MCS8 | |
| 36 | 5180 | 21.17 | 23.01dBm or 10+10log(B) = 22.43dBm |
| 44 | 5220 | 21.21 | 23.01dBm or 10+10log(B) = 22.43dBm |
| 48 | 5240 | 21.10 | 23.01dBm or 10+10log(B) = 22.43dBm |
| 52 | 5260 | 20.95 | 30.00dBm or 17+10log(B) = 31.53dBm |
| 60 | 5300 | 21.01 | 30.00dBm or 17+10log(B) = 29.46dBm |
| 64 | 5320 | 20.79 | 30.00dBm or 17+10log(B) = 29.43dBm |
| 100 | 5500 | 17.13 | 30.00dBm or 17+10log(B) = 29.83dBm |
| 116 | 5580 | 17.22 | 30.00dBm or 17+10log(B) = 32.23dBm |
| 140 | 5700 | 17.34 | 30.00dBm or 17+10log(B) = 29.43dBm |

Note: Offset 11.7dB

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802.11n HT40 MIMO operation CH 0

| Cable loss $= 0$ | | EIR | P CH 0 |
|------------------|--------------------|-------------|------------------|
| СН | Frequency (MHz) | Data Rate | Required Limit |
| | (101112) | MCS8 | Kequireu Emine |
| | | | 23.01dBm or |
| 38 | 5190 | 14.36 | $10+10\log(B) =$ |
| | | | 25.65dBm |
| | | | 23.01dBm or |
| 46 | 5230 | 14.19 | $10+10\log(B) =$ |
| | | | 25.63dBm |
| | | | 30.00dBm or |
| 54 | 5270 | 13.94 | 17+10log(B) = |
| | | | 32.68dBm |
| | | | 30.00dBm or |
| 62 | 5310 | 13.67 | 17+10log(B) = |
| | | | 32.65dBm |
| | | | 30.00dBm or |
| 102 | 5510 | 10.94 | 17+10log(B) = |
| | | | 32.68dBm |
| | | 30.00dBm or | |
| 110 | 5550 | 10.99 | $17+10\log(B) =$ |
| | | | 32.36dBm |
| | | | 30.00dBm or |
| 134 | 5670 | 10.33 | $17+10\log(B) =$ |
| | | | 32.68dBm |

Note: Offset 11.7dB

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802.11n HT40 MIMO operation CH 1

| Cable loss $= 0$ | | EIRP CH 1 | |
|------------------|--------------------|-----------|------------------|
| СН | Frequency (MHz) | Data Rate | Required Limit |
| | (11112) | MCS8 | Kequireu Linin |
| | | | 23.01dBm or |
| 38 | 5190 | 16.70 | $10+10\log(B) =$ |
| | | | 25.65dBm |
| | | | 23.01dBm or |
| 46 | 5230 | 16.54 | $10+10\log(B) =$ |
| | | | 25.63dBm |
| | | | 30.00dBm or |
| 54 | 5270 | 16.53 | $17+10\log(B) =$ |
| | | | 32.68dBm |
| | | | 30.00dBm or |
| 62 | 5310 | 16.64 | $17+10\log(B) =$ |
| | | | 32.65dBm |
| | | | 30.00dBm or |
| 102 | 5510 | 11.65 | $17+10\log(B) =$ |
| | | | 32.68dBm |
| | | | 30.00dBm or |
| 110 | 5550 | 11.68 | $17+10\log(B) =$ |
| | | | 32.36dBm |
| | | | 30.00dBm or |
| 134 | 5670 | 11.85 | $17+10\log(B) =$ |
| | | | 32.68dBm |

Note: Offset 11.7dB

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802.11n HT40 MIMO operation CH 0 + CH 1

| Cable loss $= 0$ | | EIRP CH 0 +CH1 | |
|------------------|--------------------|----------------|--------------------|
| СН | Frequency (MHz) | Data Rate | Required Limit |
| | (141112) | MCS8 | Kequireu Ellint |
| | | | 23.01dBm or |
| 38 | 5190 | 18.70 | $10+10\log(B) =$ |
| | | | 25.65dBm |
| | | | 23.01dBm or |
| 46 | 5230 | 18.53 | $10+10\log(B) =$ |
| | | | 25.63dBm |
| | | | 30.00dBm or |
| 54 | 5270 | 18.44 | $17+10\log(B) =$ |
| | | | 32.68dBm |
| | | | 30.00dBm or |
| 62 | 5310 | 18.41 | $17+10\log(B) =$ |
| | | | 32.65dBm |
| | | | 30.00dBm or |
| 102 | 5510 | 14.32 | $17+10\log(B) =$ |
| | | | 32.68dBm |
| | | | 30.00dBm or |
| 110 | 5550 | 14.36 | $17+10\log(B) =$ |
| | | | 32.36dBm |
| | | | 30.00dBm or |
| 134 | 5670 | 14.17 | $17+10\log(B) =$ |
| | | | 32.68dBm |

Note: Offset 14.50dB

* Note: EIRP = Average Power + Gain, where the nominal gain of the antenna:

1.74dBi for 5150-5250MHz for Antenna Main, 1.40dBi for 5150-5250MHz for Antenna Aux,

1.51dBi for 5250-5350MHz for Antenna Main, 1.40dBi for 5250-5350MHz for Antenna Aux,

-0.38dBi for 5470-5725MHz for Antenna Main, -0.14dBi for 5740-5725MHz for Antenna Aux

4.75dBi for 5150-5250MHz (MIMO), 4.52dBi for 5250-5350MHz(MIMO) and 2.87Bi for 5470-5725MHz (MIMO) where MIMO gain = directive gain + nominal gain.

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7. UNDESIRABLE EMISSION - RADIATED MEASUREMENT

7.1 Standard Applicable

According to §15.407(b) (6) (7),

(b) Undesirable Emission Limits: Except as shown in Paragraph (b)(6) of this section, the peak emissions outside of the frequency bands of operation shall be attenuated in accordance with the following limits:

- Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in Section 15.209. Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in Section 15.207.
- (2) The provisions of Section 15.205 of this part apply to intentional radiators operating under this section.
- (3) When measuring the emission limits, the nominal carrier frequency shall be adjusted as close to the upper and lower frequency block edges as the design of the equipment permits.

Procedure H1) a) b) c) are adopted, KDB 789033 D01, where the conducted measurement is being used to comply with out of emission requirement as per FCC 15.407 b) 6) 7), and RSS-Gen 7.2.2.

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§15.205- RESTRICTED BANDS OF OPERATIONS

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

| MHz MHz | | MHz | GHz | |
|----------------------------|------------------------------|-----------------|------------------|--|
| 0.090 - 0.110 | 0.090 - 0.110 16.42 - 16.423 | | 4.5 - 5.15 | |
| ¹ 0.495 - 0.505 | 16.69475 - 16.69525 | 608 - 614 | 5.35 - 5.46 | |
| 2.1735 - 2.1905 | 16.80425 - 16.80475 | 960 - 1240 | 7.25 - 7.75 | |
| 4.125 - 4.128 | 25.5 - 25.67 | 1300 - 1427 | 8.025 - 8.5 | |
| 4.17725 - 4.17775 | 37.5 - 38.25 | 1435 - 1626.5 | 9.0 - 9.2 | |
| 4.20725 - 4.20775 | 73 - 74.6 | 1645.5 - 1646.5 | 9.3 - 9.5 | |
| 6.215 - 6.218 | 74.8 - 75.2 | 1660 - 1710 | 10.6 - 12.7 | |
| 6.26775 - 6.26825 | 108 - 121.94 | 1718.8 - 1722.2 | 13.25 - 13.4 | |
| 6.31175 - 6.31225 | 123 - 138 | 2200 - 2300 | 14.47 - 14.5 | |
| 8.291 - 8.294 | 149.9 - 150.05 | 2310 - 2390 | 15.35 - 16.2 | |
| 8.362 - 8.366 | 156.52475 - | 2483.5 - 2500 | 17.7 - 21.4 | |
| 8.37625 - 8.38675 | 156.52525 | 2655 - 2900 | 22.01 - 23.12 | |
| 8.41425 - 8.41475 | 156.7 - 156.9 | 3260 - 3267 | 23.6 - 24.0 | |
| 12.29 - 12.293 | 162.0125 - 167.17 | 3332 - 3339 | 31.2 - 31.8 | |
| 12.51975 - 12.52025 | 167.72 - 173.2 | 3345.8 - 3358 | 36.43 - 36.5 | |
| 12.57675 - 12.57725 | 240 - 285 | 3600 - 4400 | (²) | |
| 13.36 - 13.41 | 322 - 335.4 | | | |

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

² Above 38.6

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

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| 1001/101/15.20) | | | | | |
|---|----------------|----------|--|--|--|
| MEASURING DISTANCE OF 3 METER | | | | | |
| FREQUENCY RANGE FIELD STRENGTH FIELD STRENGTH | | | | | |
| (MHz) | (Microvolts/m) | (dBuV/m) | | | |
| 30-88 | 100 | 40 | | | |
| 88-216 | 150 | 43.5 | | | |
| 216-960 | 200 | 46 | | | |
| Above 960 | 500 | 54 | | | |

FCC PART 15 209

§15.209- RADIATED EMISSION LIMITS: GENERAL REQUIREMENTS

According to RSS-Gen section 4.9 Transmitter Unwanted Emissions

The measurement method shall be described in the test report. When the applicable unwanted emissions limits are defined in relative terms, the same parameter, peak power or average power, used for the transmitter output power measurement, shall be used for unwanted emission measurements.

In measuring unwanted emissions, the spectrum shall be investigated from 30 MHz or the lowest radio frequency signal generated in the equipment, whichever is lower, without going below 9 kHz, up to at least the frequency given in (a) and (b):

(a) If the equipment operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

(b) If the equipment operates at or above 10 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.

Particular attention should be paid to harmonics and sub-harmonics of the carrier frequency, as well as to those frequencies removed from the carrier by multiples of the oscillator frequency. Radiation at the frequencies of multiplier stages should also be checked.

The amplitude of spurious emissions attenuated more than 20 dB below the permissible value need not be reported.

When limits are expressed in absolute terms, compliance with the emission limits shall be demonstrated using a CISPR quasi-peak detector and the related measurement bandwidth for emissions below1000MHz. As an alternative to CISPR quasi-peak measurement, compliance with the emission limits can be demonstrated using measuring equipment employing a peak detector function properly adjusted for factors such as pulse desensitization as required, with an equal or greater measurement bandwidth relative to the applicable CISPR quasi-peak bandwidth.

Above 1000 MHz, compliance with the emission limits shall be demonstrated using an average detector with a minimum resolution bandwidth of 1 MHz.

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According to RSS-Gen section 7.2.2 Emissions Falling Within Restricted Frequency Bands

Restricted bands, identified in Table 1, are designated primarily for safety-of-life services (distress calling and certain aeronautical bands), certain satellite downlinks, radio astronomy and some government uses. Except where otherwise indicated, the following restrictions apply:

(a) Fundamental components of modulation of licence-exempt radio apparatus shall not fall within the restricted bands of Table 1;

(b) Unwanted emissions falling into restricted bands of Table 1 shall comply with the limits specified in RSS-Gen;

(c) Unwanted emissions not falling within restricted frequency bands shall either comply with the limits specified in the applicable RSS, or with those specified in RSS-Gen.

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Table 3: Restricted Frequency Bands (Note)

| MHz |
|---------------------|
| 0.090-0.110 |
| 2.1735-2.1905 |
| 3.020-3.026 |
| 4.125-4.128 |
| 4.17725-4.17775 |
| 4.20725-4.20775 |
| 5.677-5.683 |
| 6.215-6.218 |
| 6.26775-6.26825 |
| 6.31175-6.31225 |
| 8.291-8.294 |
| 8.362-8.366 |
| 8.37625-8.38675 |
| 8.41425-8.41475 |
| 12.29-12.293 |
| 12.51975-12.52025 |
| 12.57675-12.57725 |
| 13.36-13.41 |
| 16.42-16.423 |
| 16.69475-16.69525 |
| 16.80425-16.80475 |
| 25.5-25.67 |
| 37.5-38.25 |
| 73-74.6 |
| 74.8-75.2 |
| 108-138 |
| 156.52475-156.52525 |
| 156.7-156.9 |

| MHz |
|---------------|
| 240-285 |
| 322-335.4 |
| 399.9-410 |
| 608-614 |
| 960-1427 |
| 1435-1626.5 |
| 1645.5-1646.5 |
| 1660-1710 |
| 1718.8-1722.2 |
| 2200-2300 |
| 2310-2390 |
| 2655-2900 |
| 3260-3267 |
| 3332-3339 |
| 3345.8-3358 |
| 3500-4400 |
| 4500-5150 |
| 5350-5460 |
| 7250-7750 |
| 8025-8500 |

| GHz |
|-------------|
| 9.0-9.2 |
| 9.3-9.5 |
| 10.6-12.7 |
| 13.25-13.4 |
| 14.47-14.5 |
| 15.35-16.2 |
| 17.7-21.4 |
| 22.01-23.12 |
| 23.6-24.0 |
| 31.2-31.8 |
| 36.43-36.5 |
| Above 38.6 |

Note: Certain frequency bands listed in Table 1 and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to the devices are set out in the 200- and 300- series RSSs, such as RSS-210 and RSS-310, which contain the requirements that apply to licence-exempt radio apparatus.

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7.1.1 Transmitter Spurious Emission Limits

Spurious emissions from licence-exempt transmitters shall comply with the field strength limits shown below. Additionally, the level of any transmitter spurious emission shall not exceed the level of the transmitter's fundamental emission.

| Table 5: 0 | General Fie | ld Strength | Limits for 7 | Fransmitters | at Frequenci | ies Above 30 Ml | Hz |
|------------|-------------|-------------|--------------|--------------|--------------|-----------------|----|
| | | | | | | | |

| Frequency (MHz) | Field Strength (microvolt/m at 3 metres) |
|--------------------|---|
| 30-88 | 100 |
| 88-216 | 150 |
| 216-960 | 200 |
| Above 960 | 500 |

Note: Transmitting devices are not permitted in Table 1 bands or, unless stated otherwise, in TV bands (54-72 MHz, 76-88 MHz, 174-216 MHz, 470-608 MHz and 614-806 MHz).

7.1.2 Unwanted Emission that complies with the undesirable emission ruling by 15.407 (b) (1) (2) (3), RSS-210 A9.2 (1) (2) (3)

| Frequencies (MHz) | EIRP Limit (dBm) | Equivalent Field Strength at |
|-------------------|------------------|------------------------------|
| | | 3m (dBuV/m) |
| 5150 - 5250 | -27 | 68.3 |
| 5250 - 5350 | -27 | 68.3 |
| 5470 - 5725 | -27 | 68.3 |

Limit derivation in terms of Field Strength:

EIRP = $((E^*d)^2) / 30$, where E is the field in V/m, d is the measurement distance (3m), EIRP is the equivalent isotropically radiated power in Watts.

E = 1000000* (30*EIRP)^(1/2) / 3 uV/m = 68.3dBuV/m

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7.2 EUT Setup

- The radiated emission tests were performed in the 3 meter open-test site, using the setup in ac-1 cordance with the ANSI C63.4:2009.
- 2. The EUT was put in the front of the test table. The host PC system was placed on the center of the back edge on the test table. The peripherals like modem, monitor printer, K/B, and mouse were placed on the side of the host PC system. The rear of the EUT and peripherals were placed flushed with the rear of the tabletop.
- The keyboard was placed directly in the front of the monitor, flushed with the front tabletop. The 3. mouse was placed next to the Keyboard, flushed with the back of keyboard.
- The spacing between the peripherals was 10 centimeters. 4.
- 5. External I/O cables were draped along the edge of the test table and bundle when necessary.
- The host PC system was connected with 120Vac/60Hz power source. 6.

7.3 Measurement Procedure

- The EUT was placed on a turn table which is 0.8m above ground plane. 1.
- 2. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
- 4. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
- And also, each emission was to be maximized by changing the polarization of receiving antenna 5. both horizontal and vertical.
- Repeat above procedures until all frequency measured were complete. 6.

For measurements below 1GHz, follow the KDB 789033 D01 requirements in section H)3), "General Requirements for Unwanted Emissions Measurements" Compliance shall be demonstrated using CISPR quasi-peak detection; however, peak detection is permitted as an alternative to quasi-peak detection.

For Measurement above 1GHz, for peak unwanted emission measurements follow the KDB 789033 D01 requirements in section H)5) b), for average unwanted emission measurements follow the KDB 789033 D01 requirements in section H)6) c) or d).

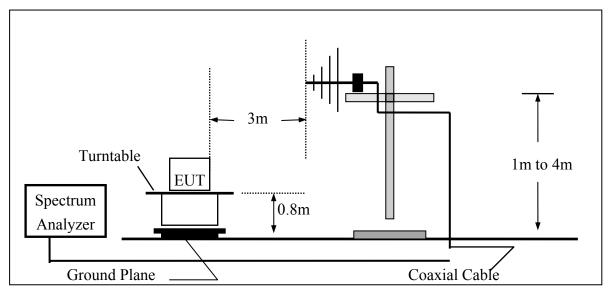
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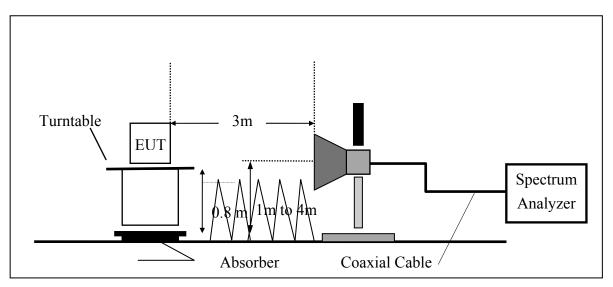


7.4 **Test SET-UP (Block Diagram of Configuration)**

(A) Radiated Emission Test Set-Up, Frequency Below 1000MHz



(B) Radiated Emission Test Set-UP Frequency Over 1 GHz



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7.5 Measurement Equipment Used:

| SGS 966 Chamber No.C | | | | | | | |
|----------------------|-----------------|--------------------------------|------------------|------------|------------|--|--|
| EQUIPMENT | MFR | MODEL | SERIAL | LAST | CAL DUE. | | |
| ТҮРЕ | | NUMBER | NUMBER | CAL. | | | |
| EMI Test Receiver | R&S | ESU 40 | 100363 | 04/12/2014 | 04/11/2015 | | |
| Loop Antenna | ETS-Lindgren | 6502 | 00143303 | 12/09/2014 | 12/08/2015 | | |
| Broadband Antenna | TESEQ | CBL 6112D | 35240 | 12/05/2014 | 12/04/2015 | | |
| Horn Antenna | ETS-Lindgren | 3117 | 00143272 | 12/08/2014 | 12/07/2015 | | |
| Horn Antenna | ETS-Lindgren | 3160-09 | 00117911 | 11/13/2014 | 11/12/2015 | | |
| Horn Antenna | ETS-Lindgren | 3160-10 | 00117783 | 11/13/2014 | 11/12/2015 | | |
| Pre Amplifier | EMC Instruments | EMC330 | 980096 | 12/19/2014 | 12/18/2015 | | |
| Pre Amplifier | EMC Instruments | EMC0011830 | 980199 | 12/19/2014 | 12/18/2015 | | |
| Pre Amplifier | R&S | SCU-18 | 10204 | 12/19/2014 | 12/18/2015 | | |
| Pre Amplifier | R&S | SCU-26 | 100780 | 12/19/2014 | 12/18/2015 | | |
| Pre Amplifier | R&S | SCU-40 | 100356 | 12/19/2014 | 12/18/2015 | | |
| Pre Amplifier | EMC Instruments | EMC184045B | 980135 | 12/19/2014 | 12/18/2015 | | |
| Coaxial Cable | Huber+Suhner | RG 214/U | 966Rx 9K-30M | 12/19/2014 | 12/18/2015 | | |
| Coaxial Cable | Huber+Suhner | RG 214/U SUCOFLEX 104 | 966Rx 30M-3G | 12/19/2014 | 12/18/2015 | | |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 104 | 966Rx 1G-18G | 12/19/2014 | 12/18/2015 | | |
| Coaxial Cable | Huber+Suhner | mini 141-12 SUCOFLEX 104 | 966Rx 18G-40G | 12/19/2014 | 12/18/2015 | | |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 104 | 966Tx 30M-18G | 12/19/2014 | 12/18/2015 | | |
| Coaxial Cable | Huber+Suhner | SUCOFLEX 102 | 966Tx 18G-40G | 12/19/2014 | 12/18/2015 | | |
| Attenuator | WOKEN | 218FS-10 | RF27 | 12/19/2014 | 12/18/2015 | | |
| Site NSA | SGS | 966 Chamber C | SAC-C | 03/04/2015 | 03/03/2016 | | |
| Site VSWR | SGS | 966 Chamber C | SAC-C | 03/04/2015 | 03/03/2016 | | |
| DC Power Supply | HOLA | DP-3003 | D7070035 | 05/31/2014 | 05/30/2015 | | |
| Controller | MF | MF-7802 | N/A | N.C.R. | N.C.R. | | |
| Antenna Master | MF | N/A | N/A | N.C.R. | N.C.R. | | |
| Turn Table | MF | N/A | N/A | N.C.R. | N.C.R. | | |
| Test Software | World-Pallas | Dr. E | V 3.0 Lite | N.C.R. | N.C.R. | | |

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7.6 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows: FS = PA + AF + CI

| | $\mathbf{FS} = \mathbf{KA} + \mathbf{AF} + \mathbf{CL} - \mathbf{AG}$ | |
|-------|---|--|
| Where | FS = Field Strength | CL = Cable Attenuation Factor (Cable Loss) |
| | RA = Reading Amplitude | AG = Amplifier Gain |
| | AF = Antenna Factor | |

7.7 Measurement Result

Refer to attach tabular data sheets.

NOTE:

The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 100kHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.

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| Radiated Spurious Emission Measurement Result 802.11a, 5150~5250 MHz (Main) | | | | | | | | |
|---|--------------------|-----------------|-------------------------|-----------------|------------|---------------------|--------|---|
| Operation Ba | | | | Test Date | | :2015-02-24 | | |
| Fundamental | | :5180 MHz | | Temp./Humi. | | :22.7 deg_C / 57 RH | | |
| Operation Mo | ode | :TX LOW | | Igineer | | :Vito | | |
| EUT Pol. | | :E2 Plane | | easurement An | tenna Pol. | :VERTICAL | | |
| • | · | - | $B\mu V$) + Factor(dB) | | | | | |
| | | • | ble Loss(dB) – Pre_ | - | · | | | |
| Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. | | | | | | | | |
| "Е" | ': denotes Band H | Edge Frequency. | ; "S" : denotes Spu | rious Frequency | | | | |
| دد | -" : denotes Noise | e Floor. | | | | | | |
| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin | |
| | Mode | | Reading Level | | FS | @3m | | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB | _ |
| | | | | | | | | |
| 40.67 | Peak | S | 49.24 | -19.43 | 29.81 | 40.00 | -10.19 | |
| 56.19 | Peak | S | 54.63 | -27.33 | 27.30 | 40.00 | -12.70 | |
| 142.52 | Peak | S | 58.19 | -21.92 | 36.27 | 43.50 | -7.23 | |
| 267.65 | Peak | S | 43.07 | -19.58 | 23.49 | 46.00 | -22.51 | |
| 329.73 | Peak | S | 41.63 | -18.30 | 23.32 | 46.00 | -22.68 | |
| 667.29 | Peak | S | 36.33 | -11.68 | 24.65 | 46.00 | -21.35 | |
| 10360.00 | Peak | Н | 31.85 | 18.94 | 50.78 | 68.30 | -17.52 | |
| 15540.00 | Peak | Н | | | | | | |
| 20720.00 | Peak | Н | | | | | | |
| 25900.00 | Peak | Н | | | | | | |
| 31080.00 | Peak | Н | | | | | | |
| 36260.00 | Peak | Н | | | | | | |
| | | | | | | | | |

Padiated Spurious Emission Massurement Posult 802 11a 5150, 5250 MHz (Main)

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| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|-----------|--------------------------|---------------------|
| Fundamental Frequency | :5180 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX LOW | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 69.77 | Peak | S | 53.48 | -27.80 | 25.68 | 40.00 | -14.32 |
| 155.13 | Peak | S | 45.92 | -22.82 | 23.10 | 43.50 | -20.40 |
| 190.05 | Peak | S | 49.29 | -24.16 | 25.12 | 43.50 | -18.38 |
| 226.91 | Peak | S | 51.78 | -22.53 | 29.25 | 46.00 | -16.75 |
| 667.29 | Peak | S | 34.57 | -11.68 | 22.89 | 46.00 | -23.11 |
| 834.13 | Peak | S | 36.96 | -9.14 | 27.82 | 46.00 | -18.18 |
| 10360.00 | Peak | Н | 30.64 | 18.94 | 49.58 | 68.30 | -18.72 |
| 15540.00 | Peak | Н | | | | | |
| 20720.00 | Peak | Н | | | | | |
| 25900.00 | Peak | Н | | | | | |
| 31080.00 | Peak | Н | | | | | |
| 36260.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|-----------|--------------------------|---------------------|
| Fundamental Frequency | :5220 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX MID | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 44.55 | Peak | S | 56.16 | -22.12 | 34.04 | 40.00 | -5.96 |
| 82.38 | Peak | S | 61.04 | -26.58 | 34.46 | 40.00 | -5.54 |
| 95.96 | Peak | S | 51.61 | -24.54 | 27.07 | 43.50 | -16.43 |
| 155.13 | Peak | S | 52.03 | -22.82 | 29.21 | 43.50 | -14.29 |
| 346.22 | Peak | S | 46.08 | -17.50 | 28.58 | 46.00 | -17.42 |
| 667.29 | Peak | S | 35.96 | -11.68 | 24.28 | 46.00 | -21.72 |
| 10440.00 | Peak | Н | 31.77 | 19.03 | 50.80 | 68.30 | -17.50 |
| 15660.00 | Peak | Н | | | | | |
| 20880.00 | Peak | Н | | | | | |
| 26100.00 | Peak | Н | | | | | |
| 31320.00 | Peak | Н | | | | | |
| 36540.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|-----------|--------------------------|---------------------|
| Fundamental Frequency | :5220 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX MID | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 69.77 | Peak | S | 54.46 | -27.80 | 26.66 | 40.00 | -13.34 |
| 155.13 | Peak | S | 47.55 | -22.82 | 24.73 | 43.50 | -18.77 |
| 224.97 | Peak | S | 52.30 | -22.67 | 29.63 | 46.00 | -16.37 |
| 535.37 | Peak | S | 31.31 | -13.16 | 18.15 | 46.00 | -27.85 |
| 667.29 | Peak | S | 33.67 | -11.68 | 21.99 | 46.00 | -24.01 |
| 834.13 | Peak | S | 35.15 | -9.14 | 26.01 | 46.00 | -19.99 |
| 10440.00 | Peak | Н | 31.46 | 19.03 | 50.49 | 68.30 | -17.81 |
| 15660.00 | Peak | Н | | | | | |
| 20880.00 | Peak | Н | | | | | |
| 26100.00 | Peak | Н | | | | | |
| 31320.00 | Peak | Н | | | | | |
| 36540.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|-----------|--------------------------|---------------------|
| Fundamental Frequency | :5240 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 39.70 | Peak | S | 48.62 | -18.79 | 29.83 | 40.00 | -10.17 |
| 55.22 | Peak | S | 54.94 | -27.06 | 27.88 | 40.00 | -12.12 |
| 102.75 | Peak | S | 46.47 | -23.39 | 23.08 | 43.50 | -20.42 |
| 155.13 | Peak | S | 52.98 | -22.82 | 30.16 | 43.50 | -13.34 |
| 190.05 | Peak | S | 48.48 | -24.16 | 24.32 | 43.50 | -19.18 |
| 745.86 | Peak | S | 41.69 | -9.93 | 31.76 | 46.00 | -14.24 |
| 10480.00 | Peak | Н | 33.09 | 19.13 | 52.22 | 68.30 | -16.08 |
| 15720.00 | Peak | Н | | | | | |
| 20960.00 | Peak | Н | | | | | |
| 26200.00 | Peak | Н | | | | | |
| 31440.00 | Peak | Н | | | | | |
| 36680.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|-----------|--------------------------|---------------------|
| Fundamental Frequency | :5240 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 68.80 | Peak | S | 51.12 | -27.88 | 23.25 | 40.00 | -16.75 |
| 151.25 | Peak | S | 45.61 | -22.79 | 22.82 | 43.50 | -20.68 |
| 224.97 | Peak | S | 51.77 | -22.67 | 29.10 | 46.00 | -16.90 |
| 298.69 | Peak | S | 40.30 | -19.27 | 21.03 | 46.00 | -24.97 |
| 746.83 | Peak | S | 35.76 | -9.95 | 25.81 | 46.00 | -20.19 |
| 834.13 | Peak | S | 37.11 | -9.14 | 27.98 | 46.00 | -18.03 |
| 10480.00 | Peak | Н | 31.39 | 19.13 | 50.52 | 68.30 | -17.78 |
| 15720.00 | Peak | Н | | | | | |
| 20960.00 | Peak | Н | | | | | |
| 26200.00 | Peak | Н | | | | | |
| 31440.00 | Peak | Н | | | | | |
| 36680.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------------------|---|--------------------------|---------------------|
| Fundamental Frequency | :5180 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :Bandedge LOW | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| Actual FS($dB\mu V/m$) = SPA. R | eading level($dB\mu V$) + Factor(d | IB) | |

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|---------|-----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5150.00 |) Peak | Е | 50.21 | 11.14 | 61.35 | 74.00 | -12.65 |
| 5150.00 |) Average | Е | 37.60 | 11.14 | 48.74 | 54.00 | -5.26 |
| | | | | | | | |

| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|---------------|--------------------------|---------------------|
| Fundamental Frequency | :5180 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :Bandedge LOW | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|---------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5150.00 | Peak | Е | 54.74 | 11.14 | 65.88 | 74.00 | -8.12 |
| 5150.00 | Average | Е | 38.97 | 11.14 | 50.11 | 54.00 | -3.89 |

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FCC ID: MCLT77H462 IC: 2878D-T77H462

| Radiated Spurious Emission Measurement Result 802.11n HT20, 5150~5250 WHz (MIMO)Operation Band:802.11 n20MTest Date:2015-02-24Fundamental Frequency:5180 MHzTemp./Humi.:22.7 deg_C / 57 RHOperation Mode:TX LOWEngineer:VitoEUT Pol.:E2 PlaneMeasurement Antenna Pol.:VERTICALActual FS(dB μ V/m) = SPA. Reading level(dB μ V) + Factor(dB):VERTICAL:VERTICAL | | | | | | | |
|---|--------------------|-----------------|----------------------|----------------|--------|--------|--------|
| Factor(dB) = Anter | na Factor(dBµV) | /m) + Cable I | Loss(dB) – Pre_Amp | lifier Gain(dE | 3) | | |
| Note : "F" : den | otes Fundamental | Frequency.; | "H" : denotes Harmor | ic Frequency. | | | |
| "E" : de | notes Band Edge l | Frequency. ; "S | ": denotes Spurious | Frequency. | | | |
| "" : C | lenotes Noise Floc | or. | | | | | |
| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 39.70 | Peak | S | 48.40 | -18.79 | 29.60 | 40.00 | -10.40 |
| 55.22 | Peak | S | 54.20 | -27.06 | 27.14 | 40.00 | -12.86 |
| 155.13 | Peak | S | 50.43 | -22.82 | 27.61 | 43.50 | -15.89 |
| 241.46 | Peak | S | 43.78 | -20.97 | 22.81 | 46.00 | -23.19 |
| 534.40 | Peak | S | 31.53 | -13.16 | 18.37 | 46.00 | -27.63 |
| 701.24 | Peak | S | 31.27 | -11.07 | 20.20 | 46.00 | -25.80 |
| 10360.00 | Peak | Н | 34.35 | 18.94 | 53.28 | 68.30 | -15.02 |
| 15540.00 | Peak | Н | | | | | |
| 20720.00 | Peak | Н | | | | | |
| 25900.00 | Peak | Н | | | | | |
| 31080.00 | Peak | Н | | | | | |
| 36260.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5180 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX LOW | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 68.80 | Peak | S | 55.08 | -27.88 | 27.20 | 40.00 | -12.80 |
| 155.13 | Peak | S | 47.06 | -22.82 | 24.24 | 43.50 | -19.26 |
| 190.05 | Peak | S | 50.49 | -24.16 | 26.33 | 43.50 | -17.17 |
| 225.94 | Peak | S | 52.57 | -22.60 | 29.97 | 46.00 | -16.03 |
| 667.29 | Peak | S | 33.50 | -11.68 | 21.82 | 46.00 | -24.18 |
| 834.13 | Peak | S | 35.73 | -9.14 | 26.59 | 46.00 | -19.41 |
| 10360.00 | Peak | Н | 29.77 | 18.94 | 48.71 | 68.30 | -19.59 |
| 15540.00 | Peak | Н | | | | | |
| 20720.00 | Peak | Н | | | | | |
| 25900.00 | Peak | Н | | | | | |
| 31080.00 | Peak | Н | | | | | |
| 36260.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5220 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX MID | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV∕m | dB |
| | | | | | | | |
| 32.91 | Peak | S | 45.20 | -14.69 | 30.50 | 40.00 | -9.50 |
| 39.70 | Peak | S | 48.50 | -18.79 | 29.70 | 40.00 | -10.30 |
| 55.22 | Peak | S | 54.82 | -27.06 | 27.76 | 40.00 | -12.24 |
| 155.13 | Peak | S | 51.52 | -22.82 | 28.70 | 43.50 | -14.80 |
| 343.31 | Peak | S | 40.92 | -17.68 | 23.23 | 46.00 | -22.77 |
| 667.29 | Peak | S | 36.26 | -11.68 | 24.58 | 46.00 | -21.42 |
| 10440.00 | Peak | Н | 39.16 | 19.06 | 58.22 | 68.30 | -10.08 |
| 15660.00 | Peak | Н | | | | | |
| 20880.00 | Peak | Н | | | | | |
| 26100.00 | Peak | Н | | | | | |
| 31320.00 | Peak | Н | | | | | |
| 36540.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5220 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX MID | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 41.64 | Peak | S | 44.77 | -20.09 | 24.68 | 40.00 | -15.32 |
| 61.04 | Peak | S | 53.33 | -28.42 | 24.91 | 40.00 | -15.09 |
| 68.80 | Peak | S | 54.35 | -27.88 | 26.48 | 40.00 | -13.52 |
| 155.13 | Peak | S | 47.61 | -22.82 | 24.79 | 43.50 | -18.71 |
| 218.18 | Peak | S | 52.80 | -22.97 | 29.83 | 46.00 | -16.17 |
| 834.13 | Peak | S | 35.50 | -9.14 | 26.36 | 46.00 | -19.64 |
| 10440.00 | Peak | Н | 32.53 | 19.03 | 51.56 | 68.30 | -16.74 |
| 15660.00 | Peak | Н | | | | | |
| 20880.00 | Peak | Н | | | | | |
| 26100.00 | Peak | Н | | | | | |
| 31320.00 | Peak | Н | | | | | |
| 36540.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5240 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 39.70 | Peak | S | 49.14 | -18.79 | 30.35 | 40.00 | -9.65 |
| 56.19 | Peak | S | 54.05 | -27.33 | 26.73 | 40.00 | -13.27 |
| 102.75 | Peak | S | 44.27 | -23.39 | 20.88 | 43.50 | -22.62 |
| 155.13 | Peak | S | 48.27 | -22.82 | 25.45 | 43.50 | -18.05 |
| 243.40 | Peak | S | 43.30 | -20.91 | 22.39 | 46.00 | -23.61 |
| 667.29 | Peak | S | 35.14 | -11.68 | 23.45 | 46.00 | -22.55 |
| 10480.00 | Peak | Н | 36.46 | 19.13 | 55.59 | 68.30 | -12.71 |
| 15720.00 | Peak | Н | | | | | |
| 20960.00 | Peak | Н | | | | | |
| 26200.00 | Peak | Н | | | | | |
| 31440.00 | Peak | Н | | | | | |
| 36680.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5240 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 69.77 | Peak | S | 54.26 | -27.80 | 26.45 | 40.00 | -13.55 |
| 151.25 | Peak | S | 46.01 | -22.79 | 23.22 | 43.50 | -20.28 |
| 190.05 | Peak | S | 50.03 | -24.16 | 25.87 | 43.50 | -17.63 |
| 224.97 | Peak | S | 52.75 | -22.67 | 30.08 | 46.00 | -15.92 |
| 667.29 | Peak | S | 34.27 | -11.68 | 22.59 | 46.00 | -23.41 |
| 834.13 | Peak | S | 35.69 | -9.14 | 26.55 | 46.00 | -19.45 |
| 10480.00 | Peak | Н | 32.68 | 19.13 | 51.80 | 68.30 | -16.50 |
| 15720.00 | Peak | Н | | | | | |
| 20960.00 | Peak | Н | | | | | |
| 26200.00 | Peak | Н | | | | | |
| 31440.00 | Peak | Н | | | | | |
| 36680.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n20M | Test Date | :2015-02-24 | | | | |
|--|---------------|--------------------------|---------------------|--|--|--|--|
| Fundamental Frequency | :5180 MHz | Temp./Humi. | :22.7 deg_C / 57 RH | | | | |
| Operation Mode | :Bandedge LOW | Engineer | :Vito | | | | |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL | | | | |
| Actual $FS(dBuV/m) = SPA$ Reading level($dBuV$) + Factor(dB) | | | | | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin | |
|--------|-----------|---------|---------------|--------|--------|--------|--------|---|
| | Mode | | Reading Level | | FS | @3m | | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB | - |
| 5150.0 | 0 Peak | Е | 52.56 | 11.14 | 63.70 | 74.00 | -10.30 | |
| 5150.0 | 0 Average | Е | 31.84 | 11.14 | 42.98 | 54.00 | -11.02 | |
| | | | | | | | | |

| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|-----------------------|---------------|--------------------------|---------------------|
| Fundamental Frequency | :5180 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :Bandedge LOW | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|---------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5150.00 | Peak | Е | 60.36 | 11.14 | 71.51 | 74.00 | -2.49 |
| 5150.00 | Average | Е | 39.29 | 11.14 | 50.43 | 54.00 | -3.57 |

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FCC ID: MCLT77H462 IC: 2878D-T77H462

| Radiated Spurious Emission Measurement Result 802.11 n HT40, 5150~5250 WHz (MIMO)Operation Band:802.11 n40MTest Date:2015-02-24Fundamental Frequency:5190 MHzTemp./Humi.:22.7 deg_C / 57 RHOperation Mode:TX LOWEngineer:VitoEUT Pol.:E2 PlaneMeasurement Antenna Pol.:VERTICALActual FS(dB μ V/m) = SPA.Evel(dB μ V) + Factor(dB) = Antenna Factor(dB μ V/m) + Cable Loss(dB) - Pre_Amplifier Gain(dB)State State | | | | | | | |
|--|--------------------|-----------------|----------------------|----------------|--------|--------|--------|
| Note : "F" : den | otes Fundamental | Frequency.; | "H" : denotes Harmor | nic Frequency. | | | |
| "E" : de | notes Band Edge I | Frequency. ; "S | ": denotes Spurious | Frequency. | | | |
| "" : č | lenotes Noise Floc | or. | | | | | |
| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 33.88 | Peak | S | 46.09 | -15.22 | 30.86 | 40.00 | -9.14 |
| 56.19 | Peak | S | 54.10 | -27.33 | 26.78 | 40.00 | -13.22 |
| 102.75 | Peak | S | 46.05 | -23.39 | 22.65 | 43.50 | -20.85 |
| 155.13 | Peak | S | 49.19 | -22.82 | 26.37 | 43.50 | -17.13 |
| 247.28 | Peak | S | 42.95 | -20.64 | 22.31 | 46.00 | -23.69 |
| 667.29 | Peak | S | 36.20 | -11.68 | 24.51 | 46.00 | -21.49 |
| 10380.00 | Peak | Н | 30.01 | 19.01 | 49.03 | 68.30 | -19.27 |
| 15570.00 | Peak | Н | | | | | |
| 20760.00 | Peak | Н | | | | | |
| 25950.00 | Peak | Н | | | | | |
| 31140.00 | Peak | Н | | | | | |
| 36330.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n40M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5190 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX LOW | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 68.80 | Peak | S | 54.22 | -27.88 | 26.34 | 40.00 | -13.66 |
| 155.13 | Peak | S | 46.86 | -22.82 | 24.04 | 43.50 | -19.46 |
| 225.94 | Peak | S | 53.33 | -22.60 | 30.74 | 46.00 | -15.27 |
| 308.39 | Peak | S | 42.27 | -18.88 | 23.39 | 46.00 | -22.61 |
| 667.29 | Peak | S | 34.49 | -11.68 | 22.81 | 46.00 | -23.19 |
| 834.13 | Peak | S | 36.29 | -9.14 | 27.16 | 46.00 | -18.84 |
| 10380.00 | Peak | Н | 29.75 | 19.01 | 48.76 | 68.30 | -19.54 |
| 15570.00 | Peak | Н | | | | | |
| 20760.00 | Peak | Н | | | | | |
| 25950.00 | Peak | Н | | | | | |
| 31140.00 | Peak | Н | | | | | |
| 36330.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n40M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5230 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 30.97 | Peak | S | 46.29 | -13.64 | 32.65 | 40.00 | -7.35 |
| 40.67 | Peak | S | 48.36 | -19.43 | 28.93 | 40.00 | -11.07 |
| 56.19 | Peak | S | 54.57 | -27.33 | 27.24 | 40.00 | -12.76 |
| 155.13 | Peak | S | 52.21 | -22.82 | 29.39 | 43.50 | -14.11 |
| 247.28 | Peak | S | 43.88 | -20.64 | 23.24 | 46.00 | -22.76 |
| 667.29 | Peak | S | 35.76 | -11.68 | 24.08 | 46.00 | -21.92 |
| 10460.00 | Peak | Н | 30.01 | 19.11 | 49.13 | 68.30 | -19.17 |
| 15690.00 | Peak | Н | | | | | |
| 20920.00 | Peak | Н | | | | | |
| 26150.00 | Peak | Н | | | | | |
| 31380.00 | Peak | Н | | | | | |
| 36610.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n40M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5230 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 69.77 | Peak | S | 54.97 | -27.80 | 27.17 | 40.00 | -12.83 |
| 155.13 | Peak | S | 46.78 | -22.82 | 23.96 | 43.50 | -19.54 |
| 226.91 | Peak | S | 52.39 | -22.53 | 29.87 | 46.00 | -16.13 |
| 474.26 | Peak | S | 35.34 | -14.18 | 21.17 | 46.00 | -24.83 |
| 667.29 | Peak | S | 33.48 | -11.68 | 21.79 | 46.00 | -24.21 |
| 834.13 | Peak | S | 38.33 | -9.14 | 29.19 | 46.00 | -16.81 |
| 10460.00 | Peak | Н | 30.44 | 19.11 | 49.55 | 68.30 | -18.75 |
| 15690.00 | Peak | Н | | | | | |
| 20920.00 | Peak | Н | | | | | |
| 26150.00 | Peak | Н | | | | | |
| 31380.00 | Peak | Н | | | | | |
| 36610.00 | Peak | Н | | | | | |

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| Operation Band Fundamental Frequency | :802.11 n40M :5190 MHz | | :2015-02-24 :22.7 deg C / 57 RH | | | |
|---|----------------------------|----------|------------------------------------|--|--|--|
| Operation Mode EUT Pol. | :Bandedge LOW :E2 Plane | Engineer | :Vito :VERTICAL | | | |
| Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB) | | | | | | |

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|---------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5150.00 | Peak | Е | 58.76 | 11.14 | 69.90 | 74.00 | -4.10 |
| 5150.00 | Average | Е | 39.45 | 11.14 | 50.59 | 54.00 | -3.41 |
| | | | | | | | |

| Operation Band | :802.11 n40M | Test Date | :2015-02-24 |
|-----------------------|---------------|--------------------------|---------------------|
| Fundamental Frequency | :5190 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :Bandedge LOW | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|---------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5150.00 | Peak | E | 61.19 | 11.14 | 72.33 | 74.00 | -1.67 |
| 5150.00 | Average | Е | 42.08 | 11.14 | 53.22 | 54.00 | -0.78 |

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| Radiated Spurious Emission Measurement Result 802.11a, 5250MHz-5350MHz (Main) | | | | | | | |
|---|-----------------------------------|-----------------|----------------------|------------------|----------|--------------------|--------|
| Operation Band | peration Band :802.11 a Test Date | | | :2015-02-24 | | | |
| Fundamental Free | | 60 MHz | Temp./ | | | :22.7 deg_C / : | 57 RH |
| Operation Mode EUT Pol. | | X LOW Plane | Engine | er ement Ante | nno Dol | :Vito :VERTICAL | |
| | | | | ement Ante | nna Pol. | .VEKTICAL | |
| Actual FS(dBµV/n | | | · · · · | | | | |
| Factor(dB) = Anter | nna Factor(dBµV) | /m) + Cable I | Loss(dB) – Pre_Amp | lifier Gain(dH | 3) | | |
| Note : "F" : den | otes Fundamental | Frequency.; | "H" : denotes Harmon | ic Frequency. | | | |
| "E" : de | enotes Band Edge | Frequency. ; "S | ": denotes Spurious | Frequency. | | | |
| ···· : (| denotes Noise Floo | or. | | | | | |
| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 39.70 | Peak | S | 55.31 | -18.79 | 36.52 | 40.00 | -3.48 |
| 84.32 | Peak | S | 62.38 | -26.34 | 36.05 | 40.00 | -3.95 |
| 107.60 | Peak | S | 58.31 | -22.68 | 35.63 | 43.50 | -7.87 |
| 155.13 | Peak | S | 51.68 | -22.82 | 28.86 | 43.50 | -14.64 |
| 224.97 | Peak | S | 45.57 | -22.67 | 22.90 | 46.00 | -23.10 |
| 667.29 | Peak | S | 35.17 | -11.68 | 23.49 | 46.00 | -22.52 |
| 10520.00 | Peak | Н | 33.17 | 19.25 | 52.42 | 68.30 | -15.88 |
| 15780.00 | Peak | Н | | | | | |
| 21040.00 | Peak | Н | | | | | |
| 26300.00 | Peak | Н | | | | | |
| 31560.00 | Peak | Н | | | | | |
| 36820.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|-----------|--------------------------|---------------------|
| Fundamental Frequency | :5260 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX LOW | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV∕m | dB |
| | | | | | | | |
| 69.77 | Peak | S | 53.79 | -27.80 | 25.98 | 40.00 | -14.02 |
| 155.13 | Peak | S | 47.52 | -22.82 | 24.70 | 43.50 | -18.81 |
| 224.97 | Peak | S | 52.73 | -22.67 | 30.06 | 46.00 | -15.94 |
| 314.21 | Peak | S | 41.78 | -18.62 | 23.15 | 46.00 | -22.85 |
| 667.29 | Peak | S | 34.19 | -11.68 | 22.50 | 46.00 | -23.50 |
| 834.13 | Peak | S | 36.53 | -9.14 | 27.39 | 46.00 | -18.61 |
| 10520.00 | Peak | Н | 30.39 | 19.25 | 49.64 | 68.30 | -18.66 |
| 15780.00 | Peak | Н | | | | | |
| 21040.00 | Peak | Н | | | | | |
| 26300.00 | Peak | Н | | | | | |
| 31560.00 | Peak | Н | | | | | |
| 36820.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|-----------|--------------------------|---------------------|
| Fundamental Frequency | :5300 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX MID | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 40.67 | Peak | S | 49.06 | -19.43 | 29.62 | 40.00 | -10.38 |
| 59.10 | Peak | S | 53.67 | -28.23 | 25.44 | 40.00 | -14.56 |
| 69.77 | Peak | S | 51.97 | -27.80 | 24.16 | 40.00 | -15.84 |
| 155.13 | Peak | S | 52.01 | -22.82 | 29.19 | 43.50 | -14.31 |
| 314.21 | Peak | S | 42.42 | -18.62 | 23.79 | 46.00 | -22.21 |
| 667.29 | Peak | S | 35.35 | -11.68 | 23.67 | 46.00 | -22.33 |
| 10600.00 | Peak | Н | 30.76 | 19.38 | 50.14 | 74.00 | -23.86 |
| 10600.00 | Average | Н | 20.18 | 19.38 | 39.56 | 54.00 | -14.44 |
| 15900.00 | Peak | Н | | | | | |
| 21200.00 | Peak | Н | | | | | |
| 26500.00 | Peak | Н | | | | | |
| 31800.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|-----------|--------------------------|---------------------|
| Fundamental Frequency | :5300 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX MID | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector Mode | Note | Spectrum Reading Level | Factor | Actual FS | Limit | Margin |
|----------|------------------|---------|---------------------------|--------|--------------|--------|--------|
| | | | Reading Level | | | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV∕m | dB |
| | | | | | | | |
| 69.77 | Peak | S | 54.20 | -27.80 | 26.39 | 40.00 | -13.61 |
| 119.24 | Peak | S | 40.69 | -21.51 | 19.18 | 43.50 | -24.32 |
| 151.25 | Peak | S | 45.67 | -22.79 | 22.88 | 43.50 | -20.62 |
| 221.09 | Peak | S | 52.58 | -22.91 | 29.66 | 46.00 | -16.34 |
| 311.30 | Peak | S | 42.46 | -18.71 | 23.75 | 46.00 | -22.25 |
| 834.13 | Peak | S | 37.66 | -9.14 | 28.52 | 46.00 | -17.48 |
| 10600.00 | Peak | Н | 30.28 | 19.38 | 49.66 | 74.00 | -24.34 |
| 10600.00 | Average | Н | 18.55 | 19.38 | 37.93 | 54.00 | -16.07 |
| 15900.00 | Peak | Н | | | | | |
| 21200.00 | Peak | Н | | | | | |
| 26500.00 | Peak | Н | | | | | |
| 31800.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|-----------|--------------------------|---------------------|
| Fundamental Frequency | :5320 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

| Freq. | Detector Mode | Note | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | <u> </u> | | · | | • | • | |
| 37.76 | Peak | S | 51.76 | -17.57 | 34.18 | 40.00 | -5.82 |
| 76.56 | Peak | S | 62.26 | -27.18 | 35.08 | 40.00 | -4.92 |
| 104.69 | Peak | S | 60.60 | -23.10 | 37.50 | 43.50 | -6.00 |
| 155.13 | Peak | S | 53.48 | -22.82 | 30.66 | 43.50 | -12.84 |
| 667.29 | Peak | S | 35.64 | -11.68 | 23.96 | 46.00 | -22.04 |
| 780.78 | Peak | S | 34.15 | -10.25 | 23.89 | 46.00 | -22.11 |
| 10640.00 | Peak | Н | 31.61 | 19.28 | 50.89 | 74.00 | -23.11 |
| 10640.00 | Average | Н | 20.24 | 19.28 | 39.52 | 54.00 | -14.48 |
| 15960.00 | Peak | Н | | | | | |
| 21280.00 | Peak | Н | | | | | |
| 26600.00 | Peak | Н | | | | | |
| 31920.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|-----------|--------------------------|---------------------|
| Fundamental Frequency | :5320 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 64.92 | Peak | S | 57.26 | -28.16 | 29.11 | 40.00 | -10.89 |
| 151.25 | Peak | S | 46.27 | -22.79 | 23.48 | 43.50 | -20.02 |
| 226.91 | Peak | S | 52.30 | -22.53 | 29.78 | 46.00 | -16.22 |
| 305.48 | Peak | S | 42.50 | -19.02 | 23.48 | 46.00 | -22.52 |
| 744.89 | Peak | S | 41.07 | -10.02 | 31.04 | 46.00 | -14.96 |
| 834.13 | Peak | S | 35.53 | -9.14 | 26.39 | 46.00 | -19.61 |
| 10640.00 | Peak | Н | 28.94 | 19.28 | 48.22 | 74.00 | -25.78 |
| 10640.00 | Average | Н | 18.63 | 19.28 | 37.91 | 54.00 | -16.09 |
| 15960.00 | Peak | Н | | | | | |
| 21280.00 | Peak | Н | | | | | |
| 26600.00 | Peak | Н | | | | | |
| 31920.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 a | Test Date | :2015-02-24 | | | | | |
|--|---|--------------------------|---------------------|--|--|--|--|--|
| Fundamental Frequency | :5320 MHz | Temp./Humi. | :22.7 deg_C / 57 RH | | | | | |
| Operation Mode | :Bandedge HIGH | Engineer | :Vito | | | | | |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL | | | | | |
| Actual FS($dB\mu V/m$) = SPA. R | eading level($dB\mu V$) + Factor($dB\mu V$) | 1B) | | | | | | |
| Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre_Amplifier Gain(dB) | | | | | | | | |
| Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. | | | | | | | | |

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|---------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5350.00 | Peak | Е | 51.21 | 11.30 | 62.51 | 74.00 | -11.49 |
| 5350.00 | Average | Е | 38.80 | 11.30 | 50.10 | 54.00 | -3.90 |

| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|----------------|--------------------------|---------------------|
| Fundamental Frequency | :5320 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :Bandedge HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|---------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5350.00 | Peak | Е | 55.37 | 11.30 | 66.67 | 74.00 | -7.33 |
| 5350.00 | Average | Е | 39.30 | 11.30 | 50.60 | 54.00 | -3.40 |

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| Operation Band | indamental Frequency :5260 MHz Temp./Humi. peration Mode :TX LOW Engineer | | | | Hz (MIMO) :2015-02-24 :22.7 deg_C / : :Vito :VERTICAL | | |
|--------------------|--|-----------------|----------------------|-----------------|--|--------|--------|
| Actual FS(dBµV/1 | <i>,</i> | • | , , , | | | | |
| Factor(dB) = Anter | nna Factor(dBµV) | /m) + Cable I | Loss(dB) – Pre_Amp | olifier Gain(dH | 3) | | |
| Note : "F" : den | otes Fundamental | Frequency.; | "H" : denotes Harmon | nic Frequency. | | | |
| "E" : de | enotes Band Edge | Frequency. ; "S | ": denotes Spurious | Frequency. | | | |
| "" : (| denotes Noise Floo | or. | | | | | |
| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 39.70 | Peak | S | 48.44 | -18.79 | 29.65 | 40.00 | -10.35 |
| 83.35 | Peak | S | 61.02 | -26.46 | 34.56 | 40.00 | -5.44 |
| 155.13 | Peak | S | 52.74 | -22.82 | 29.91 | 43.50 | -13.59 |
| 190.05 | Peak | S | 48.56 | -24.16 | 24.40 | 43.50 | -19.10 |
| 445.16 | Peak | S | 34.92 | -15.18 | 19.74 | 46.00 | -26.26 |
| 667.29 | Peak | S | 36.68 | -11.68 | 25.00 | 46.00 | -21.00 |
| 10520.00 | Peak | Н | 37.10 | 19.25 | 56.35 | 68.30 | -11.95 |
| 15780.00 | Peak | Н | | | | | |
| 21040.00 | Peak | Н | | | | | |
| 26300.00 | Peak | Н | | | | | |
| 31560.00 | Peak | Н | | | | | |
| 36820.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5260 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX LOW | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 68.80 | Peak | S | 54.73 | -27.88 | 26.86 | 40.00 | -13.14 |
| 155.13 | Peak | S | 46.25 | -22.82 | 23.43 | 43.50 | -20.07 |
| 190.05 | Peak | S | 51.28 | -24.16 | 27.12 | 43.50 | -16.38 |
| 224.97 | Peak | S | 52.51 | -22.67 | 29.84 | 46.00 | -16.16 |
| 667.29 | Peak | S | 34.15 | -11.68 | 22.46 | 46.00 | -23.54 |
| 712.88 | Peak | S | 34.44 | -10.70 | 23.75 | 46.00 | -22.25 |
| 10520.00 | Peak | Н | 30.76 | 19.25 | 50.01 | 68.30 | -18.29 |
| 15780.00 | Peak | Н | | | | | |
| 21040.00 | Peak | Н | | | | | |
| 26300.00 | Peak | Н | | | | | |
| 31560.00 | Peak | Н | | | | | |
| 36820.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5300 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX MID | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 30.00 | Peak | S | 43.55 | -13.11 | 30.44 | 40.00 | -9.56 |
| 59.10 | Peak | S | 58.07 | -28.23 | 29.84 | 40.00 | -10.16 |
| 77.53 | Peak | S | 53.03 | -27.08 | 25.95 | 40.00 | -14.05 |
| 102.75 | Peak | S | 46.35 | -23.39 | 22.96 | 43.50 | -20.54 |
| 155.13 | Peak | S | 52.62 | -22.82 | 29.80 | 43.50 | -13.70 |
| 667.29 | Peak | S | 35.36 | -11.68 | 23.68 | 46.00 | -22.32 |
| 10600.00 | Peak | Н | 35.28 | 19.38 | 54.66 | 74.00 | -19.34 |
| 10600.00 | Average | Н | 23.91 | 19.38 | 43.29 | 54.00 | -10.71 |
| 15900.00 | Peak | Н | | | | | |
| 21200.00 | Peak | Н | | | | | |
| 26500.00 | Peak | Н | | | | | |
| 31800.00 | Peak | Н | | | | | |
| 37100.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5300 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX MID | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

| Freq. | Detector Mode | Note | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|----------|------------------|---------|---------------------------|--------|--------------|--------------|--------|
| | | | e | ID | | Ŭ | 10 |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 68.80 | Peak | S | 54.50 | -27.88 | 26.63 | 40.00 | -13.37 |
| 155.13 | Peak | S | 47.04 | -22.82 | 24.22 | 43.50 | -19.28 |
| 226.91 | Peak | S | 52.49 | -22.53 | 29.96 | 46.00 | -16.04 |
| 307.42 | Peak | S | 42.25 | -18.94 | 23.31 | 46.00 | -22.69 |
| 667.29 | Peak | S | 34.14 | -11.68 | 22.46 | 46.00 | -23.54 |
| 834.13 | Peak | S | 32.73 | -9.14 | 23.59 | 46.00 | -22.41 |
| 10600.00 | Peak | Н | 30.89 | 19.38 | 50.27 | 74.00 | -23.73 |
| 10600.00 | Average | Н | 20.04 | 19.38 | 39.42 | 54.00 | -14.58 |
| 15900.00 | Peak | Н | | | | | |
| 21200.00 | Peak | Н | | | | | |
| 26500.00 | Peak | Н | | | | | |
| 31800.00 | Peak | Н | | | | | |
| 37100.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5320 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 34.85 | Peak | S | 46.81 | -15.75 | 31.06 | 40.00 | -8.94 |
| 58.13 | Peak | S | 54.51 | -27.92 | 26.60 | 40.00 | -13.40 |
| 69.77 | Peak | S | 52.43 | -27.80 | 24.62 | 40.00 | -15.38 |
| 155.13 | Peak | S | 51.78 | -22.82 | 28.96 | 43.50 | -14.54 |
| 667.29 | Peak | S | 35.26 | -11.68 | 23.57 | 46.00 | -22.43 |
| 752.65 | Peak | S | 31.37 | -9.81 | 21.56 | 46.00 | -24.44 |
| 10640.00 | Peak | Н | 33.69 | 19.28 | 52.97 | 74.00 | -21.03 |
| 10640.00 | Average | Н | 23.46 | 19.28 | 42.74 | 54.00 | -11.26 |
| 15960.00 | Peak | Н | | | | | |
| 21280.00 | Peak | Н | | | | | |
| 26600.00 | Peak | Н | | | | | |
| 31920.00 | Peak | Н | | | | | |
| 37240.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5320 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

| Freq. | Detector Mode | Note | Spectrum Reading Level | Factor | Actual FS | Limit | Margin |
|----------|------------------|---------|---------------------------|--------|--------------|--------|--------|
| | | | e | | | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 69.77 | Peak | S | 54.04 | -27.80 | 26.24 | 40.00 | -13.76 |
| 155.13 | Peak | S | 46.62 | -22.82 | 23.80 | 43.50 | -19.70 |
| 224.97 | Peak | S | 52.26 | -22.67 | 29.59 | 46.00 | -16.41 |
| 306.45 | Peak | S | 42.16 | -18.99 | 23.16 | 46.00 | -22.84 |
| 460.68 | Peak | S | 36.20 | -14.59 | 21.61 | 46.00 | -24.39 |
| 834.13 | Peak | S | 34.14 | -9.14 | 25.00 | 46.00 | -21.00 |
| 10640.00 | Peak | Н | 31.05 | 19.28 | 50.33 | 74.00 | -23.67 |
| 10640.00 | Average | Н | 19.41 | 19.28 | 38.69 | 54.00 | -15.31 |
| 15960.00 | Peak | Н | | | | | |
| 21280.00 | Peak | Н | | | | | |
| 26600.00 | Peak | Н | | | | | |
| 31920.00 | Peak | Н | | | | | |
| 37240.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|-----------------------|----------------|--------------------------|---------------------|
| Fundamental Frequency | :5320 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :Bandedge HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE (radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | r Note | Spectrum | Factor | Actual | Limit | Margin |
|--|----------|--|---|----------------------|--------|-----------------------------------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/A | V F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5350.00 | Peak | Е | 56.36 | 11.30 | 67.67 | 74.00 | -6.33 |
| 5350.00 | Average | e E | 38.18 | 11.30 | 49.48 | 54.00 | -4.52 |
| 5353.08 | Peak | S | 57.97 | 11.32 | 69.29 | 74.00 | -4.71 |
| 5353.08 | Average | e S | 38.12 | 11.32 | 49.44 | 54.00 | -4.56 |
| Operation Band Fundamental Fr Operation Mode EUT Pol. | equency | :802.11 n20M :5320 MHz :Bandedge HIGH :E2 Plane | Test Date Temp./Hum Engineer Measureme | ii. nt Antenna Po | :Vito | 02-24 leg_C / 57 RH IZONTAL | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE (radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|---------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5350.00 | Peak | Е | 61.03 | 11.30 | 72.33 | 74.00 | -1.67 |
| 5350.00 | Average | Е | 40.39 | 11.30 | 51.69 | 54.00 | -2.31 |
| 5351.40 | Peak | S | 61.56 | 11.32 | 72.88 | 74.00 | -1.12 |
| 5351.40 | Average | S | 40.24 | 11.32 | 51.56 | 54.00 | -2.44 |

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|--------------|---------------------|---------------------|----------------|--|
| | | | | |



| Radiated Spurious Emission Measurement Result 802.11n HT40, 5250~5350Operation Band:802.11 n40MTest DateFundamental Frequency:5270 MHzTemp./Humi.Operation Mode:TX LOWEngineerEUT Pol.:E2 PlaneMeasurement Antenna Pol. | | | | | | Hz (MIMO) :2015-02-24 :22.7 deg_C / : :Vito :VERTICAL | |
|---|--------------------|-----------------|----------------------|-----------------|--------|--|--------|
| Actual FS(dBµV/1 | m) = SPA. Readir | ng level(dBµV | (dB) + Factor(dB) | | | | |
| Factor(dB) = Anter | nna Factor(dBµV) | (m) + Cable I | Loss(dB) – Pre_Amp | olifier Gain(dE | 8) | | |
| Note : "F" : den | otes Fundamental | Frequency.; | "H" : denotes Harmon | nic Frequency. | | | |
| "E" : de | enotes Band Edge | Frequency. ; "S | ": denotes Spurious | s Frequency. | | | |
| ··":C | denotes Noise Floo | or. | | | | | |
| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 39.70 | Peak | S | 48.88 | -18.79 | 30.08 | 40.00 | -9.92 |
| 55.22 | Peak | S | 57.05 | -27.06 | 29.99 | 40.00 | -10.01 |
| 102.75 | Peak | S | 47.90 | -23.39 | 24.50 | 43.50 | -19.00 |
| 155.13 | Peak | S | 51.06 | -22.82 | 28.24 | 43.50 | -15.26 |
| 190.05 | Peak | S | 50.04 | -24.16 | 25.88 | 43.50 | -17.62 |
| 667.29 | Peak | S | 35.99 | -11.68 | 24.31 | 46.00 | -21.69 |
| 10540.00 | Peak | Н | 31.24 | 19.13 | 50.38 | 68.30 | -17.92 |
| 15810.00 | Peak | Н | | | | | |
| 21080.00 | Peak | Н | | | | | |
| 26350.00 | Peak | Н | | | | | |
| 31620.00 | Peak | Н | | | | | |
| 36890.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n40M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5270 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX LOW | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV∕m | dB |
| | | | | | | | |
| 69.77 | Peak | S | 54.13 | -27.80 | 26.33 | 40.00 | -13.67 |
| 99.84 | Peak | S | 43.58 | -23.84 | 19.75 | 43.50 | -23.75 |
| 155.13 | Peak | S | 47.27 | -22.82 | 24.45 | 43.50 | -19.05 |
| 227.88 | Peak | S | 52.40 | -22.45 | 29.95 | 46.00 | -16.05 |
| 667.29 | Peak | S | 34.26 | -11.68 | 22.58 | 46.00 | -23.42 |
| 834.13 | Peak | S | 38.64 | -9.14 | 29.50 | 46.00 | -16.50 |
| 10540.00 | Peak | Н | 29.27 | 19.13 | 48.41 | 68.30 | -19.89 |
| 15810.00 | Peak | Н | | | | | |
| 21080.00 | Peak | Н | | | | | |
| 26350.00 | Peak | Н | | | | | |
| 31620.00 | Peak | Н | | | | | |
| 36890.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n40M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5310 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector Mode | Note | Spectrum Reading Level | Factor | Actual FS | Limit @3m | Margin |
|-----------|------------------|---------|---------------------------|--------|--------------|--------------|--------|
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV∕m | dB |
| | | | · | | · | · | |
| 61.04 | Peak | S | 62.55 | -28.42 | 34.13 | 40.00 | -5.87 |
| 155.13 | Peak | S | 52.61 | -22.82 | 29.79 | 43.50 | -13.71 |
| 190.05 | Peak | S | 48.17 | -24.16 | 24.01 | 43.50 | -19.49 |
| 240.49 | Peak | S | 44.18 | -21.03 | 23.15 | 46.00 | -22.85 |
| 667.29 | Peak | S | 35.55 | -11.68 | 23.87 | 46.00 | -22.13 |
| 775.93 | Peak | S | 32.44 | -10.37 | 22.07 | 46.00 | -23.93 |
| 10620.00 | Peak | Н | 29.34 | 19.38 | 48.71 | 74.00 | -25.29 |
| 10620.00 | Average | Н | 19.61 | 19.38 | 38.99 | 54.00 | -15.01 |
| 159300.00 | Peak | Н | | | | | |
| 212400.00 | Peak | Н | | | | | |
| 265500.00 | Peak | Н | | | | | |
| 318600.00 | Peak | Н | | | | | |
| 371700.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n40M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5310 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|-----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 69.77 | Peak | S | 54.06 | -27.80 | 26.26 | 40.00 | -13.74 |
| 155.13 | Peak | S | 46.59 | -22.82 | 23.77 | 43.50 | -19.73 |
| 190.05 | Peak | S | 49.94 | -24.16 | 25.78 | 43.50 | -17.72 |
| 226.91 | Peak | S | 52.30 | -22.53 | 29.78 | 46.00 | -16.22 |
| 667.29 | Peak | S | 34.92 | -11.68 | 23.23 | 46.00 | -22.77 |
| 834.13 | Peak | S | 37.68 | -9.14 | 28.54 | 46.00 | -17.46 |
| 10620.00 | Peak | Н | 28.58 | 19.38 | 47.96 | 74.00 | -26.04 |
| 10620.00 | Average | Н | 19.57 | 19.38 | 38.95 | 54.00 | -15.05 |
| 159300.00 | Peak | Н | | | | | |
| 212400.00 | Peak | Н | | | | | |
| 265500.00 | Peak | Н | | | | | |
| 318600.00 | Peak | Н | | | | | |
| 371700.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n40M | Test Date | :2015-02-24 |
|-----------------------|----------------|--------------------------|---------------------|
| Fundamental Frequency | :5310 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :Bandedge HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE (radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|--|----------|---|------------------------------------|--------|----------------------------|------------------------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/A | V F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5350.00 | Peak | Е | 58.28 | 11.30 | 69.59 | 74.00 | -4.41 |
| 5350.00 | Average | E | 38.86 | 11.30 | 50.16 | 54.00 | -3.84 |
| 5356.28 | Peak | S | 59.18 | 11.31 | 70.49 | 74.00 | -3.51 |
| 5356.28 | Average | S | 38.44 | 11.31 | 49.75 | 54.00 | -4.25 |
| Operation Band Fundamental Fr Operation Mode | requency | :802.11 n40M :5310 MHz :Bandedge HIGH | Test Date Temp./Hum Engineer | ii. | :2015- :22.7 c :Vito | 02-24 leg_C / 57 RH | [|

| Operation Mode | :Bandedge HIGH | Engineer | : Vito |
|----------------|----------------|--------------------------|-------------|
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE (radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|---------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5350.00 | Peak | Е | 61.72 | 11.30 | 73.02 | 74.00 | -0.98 |
| 5350.00 | Average | Е | 40.14 | 11.30 | 51.44 | 54.00 | -2.56 |
| 5356.28 | Peak | S | 61.83 | 11.31 | 73.14 | 74.00 | -0.86 |
| 5356.28 | Average | S | 39.74 | 11.31 | 51.05 | 54.00 | -2.95 |

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| 台灣檢驗科技股份有限公司 | t (886-2) 2299-3279 | f (886-2) 2298-0488 | www.tw.sgs.com | |
|--------------|---------------------|---------------------|----------------|--|
| | | | | |



Radiated Spurious Emission Measurement Result 802.11a, 5470~5725 MHz (Aux)

| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|-----------|--------------------------|---------------------|
| Fundamental Frequency | :5500 MHz | Temp./Humi. | :22.7 deg C / 57 RH |
| Operation Mode | :TX LOW | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 48.43 | Peak | S | 58.36 | -24.55 | 33.80 | 40.00 | -6.20 |
| 54.25 | Peak | S | 59.41 | -26.79 | 32.61 | 40.00 | -7.39 |
| 159.98 | Peak | S | 54.97 | -23.14 | 31.83 | 43.50 | -11.67 |
| 231.76 | Peak | S | 45.06 | -22.08 | 22.98 | 46.00 | -23.02 |
| 667.29 | Peak | S | 35.65 | -11.68 | 23.96 | 46.00 | -22.04 |
| 745.86 | Peak | S | 38.99 | -9.93 | 29.06 | 46.00 | -16.94 |
| 11000.00 | Peak | Н | 29.96 | 20.02 | 49.98 | 74.00 | -24.02 |
| 11000.00 | Average | Н | 19.74 | 20.02 | 39.76 | 54.00 | -14.24 |
| 16500.00 | Peak | Н | | | | | |
| 22000.00 | Peak | Н | | | | | |
| 27500.00 | Peak | Н | | | | | |
| 33000.00 | Peak | Н | | | | | |
| 38500.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|-----------|--------------------------|---------------------|
| Fundamental Frequency | :5500 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX LOW | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 68.80 | Peak | S | 54.28 | -27.88 | 26.40 | 40.00 | -13.60 |
| 155.13 | Peak | S | 45.59 | -22.82 | 22.77 | 43.50 | -20.73 |
| 189.08 | Peak | S | 53.75 | -24.19 | 29.55 | 43.50 | -13.95 |
| 219.15 | Peak | S | 52.44 | -22.97 | 29.47 | 46.00 | -16.53 |
| 737.13 | Peak | S | 37.76 | -10.38 | 27.38 | 46.00 | -18.62 |
| 834.13 | Peak | S | 34.30 | -9.14 | 25.16 | 46.00 | -20.84 |
| 11000.00 | Peak | Н | 29.00 | 20.02 | 49.01 | 74.00 | -24.99 |
| 11000.00 | Average | Н | 20.12 | 20.02 | 40.14 | 54.00 | -13.86 |
| 16500.00 | Peak | Н | | | | | |
| 22000.00 | Peak | Н | | | | | |
| 27500.00 | Peak | Н | | | | | |
| 33000.00 | Peak | Н | | | | | |
| 38500.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|-----------|--------------------------|---------------------|
| Fundamental Frequency | :5580 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX MID | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV∕m | dB |
| | | | | | | | |
| 43.58 | Peak | S | 55.63 | -21.44 | 34.19 | 40.00 | -5.81 |
| 50.37 | Peak | S | 58.52 | -25.65 | 32.88 | 40.00 | -7.12 |
| 155.13 | Peak | S | 52.07 | -22.82 | 29.25 | 43.50 | -14.25 |
| 190.05 | Peak | S | 48.46 | -24.16 | 24.30 | 43.50 | -19.20 |
| 226.91 | Peak | S | 45.51 | -22.53 | 22.98 | 46.00 | -23.02 |
| 741.01 | Peak | S | 40.72 | -10.19 | 30.53 | 46.00 | -15.47 |
| 11160.00 | Peak | Н | 29.10 | 20.38 | 49.48 | 74.00 | -24.52 |
| 11160.00 | Average | Н | 20.53 | 20.38 | 40.91 | 54.00 | -13.09 |
| 16740.00 | Peak | Н | | | | | |
| 22320.00 | Peak | Н | | | | | |
| 27900.00 | Peak | Н | | | | | |
| 33480.00 | Peak | Н | | | | | |
| 39060.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|-----------|--------------------------|---------------------|
| Fundamental Frequency | :5580 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX MID | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 68.80 | Peak | S | 54.07 | -27.88 | 26.20 | 40.00 | -13.80 |
| 155.13 | Peak | S | 46.08 | -22.82 | 23.26 | 43.50 | -20.24 |
| 225.94 | Peak | S | 52.58 | -22.60 | 29.99 | 46.00 | -16.01 |
| 296.75 | Peak | S | 42.53 | -19.29 | 23.24 | 46.00 | -22.76 |
| 667.29 | Peak | S | 34.84 | -11.68 | 23.16 | 46.00 | -22.84 |
| 834.13 | Peak | S | 34.24 | -9.14 | 25.10 | 46.00 | -20.90 |
| 11160.00 | Peak | Н | 28.66 | 20.38 | 49.04 | 74.00 | -24.96 |
| 11160.00 | Average | Н | 19.25 | 20.38 | 39.63 | 54.00 | -14.37 |
| 16740.00 | Peak | Н | | | | | |
| 22320.00 | Peak | Н | | | | | |
| 27900.00 | Peak | Н | | | | | |
| 33480.00 | Peak | Н | | | | | |
| 39060.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|-----------|--------------------------|---------------------|
| Fundamental Frequency | :5700 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 39.70 | Peak | S | 48.69 | -18.79 | 29.89 | 40.00 | -10.11 |
| 56.19 | Peak | S | 53.91 | -27.33 | 26.59 | 40.00 | -13.41 |
| 87.23 | Peak | S | 55.52 | -25.98 | 29.54 | 40.00 | -10.46 |
| 155.13 | Peak | S | 52.22 | -22.82 | 29.40 | 43.50 | -14.10 |
| 190.05 | Peak | S | 49.09 | -24.16 | 24.93 | 43.50 | -18.57 |
| 667.29 | Peak | S | 35.71 | -11.68 | 24.03 | 46.00 | -21.97 |
| 11400.00 | Peak | Н | 30.12 | 20.81 | 50.93 | 74.00 | -23.07 |
| 11400.00 | Average | Н | 21.89 | 20.81 | 42.70 | 54.00 | -11.30 |
| 17100.00 | Peak | Н | | | | | |
| 22800.00 | Peak | Н | | | | | |
| 28500.00 | Peak | Н | | | | | |
| 34200.00 | Peak | Н | | | | | |
| 39900.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|-----------|--------------------------|---------------------|
| Fundamental Frequency | :5700 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV∕m | dBµV/m | dB |
| | | | | | | | |
| 68.80 | Peak | S | 54.62 | -27.88 | 26.74 | 40.00 | -13.26 |
| 155.13 | Peak | S | 47.42 | -22.82 | 24.60 | 43.50 | -18.90 |
| 220.12 | Peak | S | 52.89 | -22.96 | 29.92 | 46.00 | -16.08 |
| 309.36 | Peak | S | 42.91 | -18.82 | 24.09 | 46.00 | -21.91 |
| 667.29 | Peak | S | 33.98 | -11.68 | 22.29 | 46.00 | -23.71 |
| 834.13 | Peak | S | 37.74 | -9.14 | 28.60 | 46.00 | -17.40 |
| 11400.00 | Peak | Н | 29.49 | 20.81 | 50.30 | 74.00 | -23.70 |
| 11400.00 | Average | Н | 19.30 | 20.81 | 40.11 | 54.00 | -13.89 |
| 17100.00 | Peak | Н | | | | | |
| 22800.00 | Peak | Н | | | | | |
| 28500.00 | Peak | Н | | | | | |
| 34200.00 | Peak | Н | | | | | |
| 39900.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|---------------|--------------------------|---------------------|
| Fundamental Frequency | :5500 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :Bandedge LOW | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE (radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|--|--------------|--|---|-----------------------|--------|-----------------------------------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/A | V F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5460.00 | Peak | Е | 50.31 | 11.46 | 61.77 | 74.00 | -12.23 |
| 5460.00 | Average | Е | 37.65 | 11.46 | 49.11 | 54.00 | -4.89 |
| 5470.00 | Peak | Е | 52.04 | 11.46 | 63.49 | 74.00 | -10.51 |
| 5470.00 | Average | E | 37.81 | 11.46 | 49.27 | 54.00 | -4.73 |
| Operation Band Fundamental Fr Operation Mode EUT Pol. | equency e | :802.11 a :5500 MHz :Bandedge LOW :E2 Plane | Test Date Temp./Hum Engineer Measureme | ni. ent Antenna Po | :Vito | 02-24 leg_C / 57 RH IZONTAL | [|

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE (radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|---------|--------------------|---------|----------|--------|--------|--------|--------|
| | Mode Reading Level | | FS | @3m | | | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5460.00 | Peak | Е | 50.74 | 11.46 | 62.20 | 74.00 | -11.80 |
| 5460.00 | Average | Ε | 38.14 | 11.46 | 49.60 | 54.00 | -4.40 |
| 5470.00 | Peak | Е | 57.70 | 11.46 | 69.16 | 74.00 | -4.84 |
| 5470.00 | Average | Е | 38.48 | 11.46 | 49.94 | 54.00 | -4.06 |

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| 台灣檢驗科技股份有限公司 | t (886-2) 2299-3279 | f (886-2) 2298-0488 | www.tw.sgs.com | |
|--------------|---------------------|---------------------|----------------|--|
| | | | | |



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| Operation Band Fundamental Frequency Operation Mode EUT Pol. | :802.11 a :5700 MHz :Bandedge HIGH :E2 Plane | Test Date Temp./Humi. Engineer Measurement Anten | na Pol. | :2015-02-24 :22.7 deg_C / 5 :Vito :VERTICAL | 7 RH |
|---|---|---|----------------|--|--------|
| Actual FS($dB\mu V/m$) = SPA. | Reading level($dB\mu V$) + Factor(d | IB) | | | |
| Factor(dB) = Antenna Factor | $(dB\mu V/m) + Cable Loss(dB) - P$ | Pre_Amplifier Gain(dB) | | | |
| Note : "F" : denotes Funda | umental Frequency. ; "H" : denotes | Harmonic Frequency. | | | |
| "E" : denotes Ba | nd Edge Frequency. ; "S" : denotes | Spurious Frequency. | | | |
| "" : denotes Noise Floor. | | | | | |
| The trace on RE (ra | diation emission) plot is as colore | ed blue, and the detection manne | r we've employ | ed is peak detector. | |
| Frag Data | ctor Note Sn | ectrum Eactor | Actual | Limit | Margin |

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin | |
|---------|----------|---------|---------------|--------|--------|--------|--------|---|
| | Mode | | Reading Level | | FS | @3m | | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB | _ |
| 5725.00 | Peak | Е | 50.03 | 12.27 | 62.30 | 74.00 | -11.70 | |
| 5725.00 | Average | Е | 37.57 | 12.27 | 49.84 | 54.00 | -4.16 | |

| Operation Band | :802.11 a | Test Date | :2015-02-24 |
|-----------------------|----------------|--------------------------|---------------------|
| Fundamental Frequency | :5700 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :Bandedge HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|---------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5725.00 | Peak | Е | 51.60 | 12.27 | 63.87 | 74.00 | -10.13 |
| 5725.00 | Average | Е | 37.50 | 12.27 | 49.77 | 54.00 | -4.23 |
| 5725.64 | Peak | Е | 52.65 | 12.27 | 64.92 | 74.00 | -9.08 |
| 5725.64 | Average | Е | 37.67 | 12.27 | 49.94 | 54.00 | -4.06 |

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38500.00

Peak

FCC ID: MCLT77H462 IC: 2878D-T77H462

Radiated Spurious Emission Measurement Result 802.11n HT20, 5470~5725 MHz (MIMO) **Operation Band** :802.11 n20M Test Date :2015-02-24 **Fundamental Frequency** :5500 MHz Temp./Humi. :22.7 deg C / 57 RH **Operation Mode** :TX LOW Engineer :Vito EUT Pol. :E2 Plane Measurement Antenna Pol. :VERTICAL Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB) Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB) Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. "E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency. "---": denotes Noise Floor. Freq. Detector Note Spectrum Factor Actual Limit Margin FS Mode Reading Level @3m dBµV/m dBµV/m PK/QP/AV dBµV dB dB MHz F/H/E/S 30.97 Peak S 46.67 -13.64 33.03 40.00 -6.9761.04 S 63.63 40.00 Peak -28.42 35.21 -4.79 155.13 Peak S 51.92 -22.82 29.10 43.50 -14.40S 190.05 Peak 48.92 -24.16 24.75 43.50 -18.75 S 447.10 Peak 34.45 -15.12 19.33 46.00 -26.67 667.29 Peak S 35.98 -11.68 24.30 46.00 -21.70 11000.00 Peak Η 30.21 20.02 50.22 74.00 -23.78 11000.00 Average Η 20.62 20.02 40.64 54.00 -13.3616500.00 Peak Η ___ 22000.00 Peak Η 27500.00 Peak Η 33000.00 Peak Η

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only

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| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5500 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX LOW | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV∕m | dBµV∕m | dB |
| | | | | | | | |
| 36.79 | Peak | S | 49.10 | -16.96 | 32.14 | 40.00 | -7.86 |
| 69.77 | Peak | S | 54.98 | -27.80 | 27.17 | 40.00 | -12.83 |
| 155.13 | Peak | S | 47.16 | -22.82 | 24.34 | 43.50 | -19.16 |
| 226.91 | Peak | S | 52.47 | -22.53 | 29.95 | 46.00 | -16.05 |
| 667.29 | Peak | S | 34.15 | -11.68 | 22.46 | 46.00 | -23.54 |
| 834.13 | Peak | S | 33.74 | -9.14 | 24.61 | 46.00 | -21.39 |
| 11000.00 | Peak | Н | 31.12 | 20.02 | 51.13 | 74.00 | -22.87 |
| 11000.00 | Average | Н | 19.52 | 20.02 | 39.54 | 54.00 | -14.46 |
| 16500.00 | Peak | Н | | | | | |
| 22000.00 | Peak | Н | | | | | |
| 27500.00 | Peak | Н | | | | | |
| 33000.00 | Peak | Н | | | | | |
| 38500.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5580 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX MID | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV∕m | dB |
| | | | | | | | |
| 39.70 | Peak | S | 47.76 | -18.79 | 28.96 | 40.00 | -11.04 |
| 56.19 | Peak | S | 52.00 | -27.33 | 24.68 | 40.00 | -15.32 |
| 102.75 | Peak | S | 44.14 | -23.39 | 20.75 | 43.50 | -22.75 |
| 155.13 | Peak | S | 47.91 | -22.82 | 25.09 | 43.50 | -18.41 |
| 249.22 | Peak | S | 43.41 | -20.52 | 22.89 | 46.00 | -23.11 |
| 667.29 | Peak | S | 34.31 | -11.68 | 22.63 | 46.00 | -23.37 |
| 11160.00 | Peak | Н | 30.66 | 20.38 | 51.04 | 74.00 | -22.96 |
| 11160.00 | Average | Н | 20.44 | 20.38 | 40.82 | 54.00 | -13.18 |
| 16740.00 | Peak | Н | | | | | |
| 22320.00 | Peak | Н | | | | | |
| 27900.00 | Peak | Н | | | | | |
| 33480.00 | Peak | Н | | | | | |
| 39060.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5580 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX MID | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV∕m | dBµV/m | dB |
| | | | | | | | |
| 69.77 | Peak | S | 54.49 | -27.80 | 26.68 | 40.00 | -13.32 |
| 155.13 | Peak | S | 46.73 | -22.82 | 23.91 | 43.50 | -19.59 |
| 226.91 | Peak | S | 52.05 | -22.53 | 29.52 | 46.00 | -16.48 |
| 301.60 | Peak | S | 43.09 | -19.18 | 23.91 | 46.00 | -22.09 |
| 667.29 | Peak | S | 34.20 | -11.68 | 22.52 | 46.00 | -23.48 |
| 834.13 | Peak | S | 35.95 | -9.14 | 26.81 | 46.00 | -19.19 |
| 11160.00 | Peak | Н | 28.67 | 20.38 | 49.05 | 74.00 | -24.95 |
| 11160.00 | Average | Н | 19.02 | 20.38 | 39.40 | 54.00 | -14.60 |
| 16740.00 | Peak | Н | | | | | |
| 22320.00 | Peak | Н | | | | | |
| 27900.00 | Peak | Н | | | | | |
| 33480.00 | Peak | Н | | | | | |
| 39060.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5700 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 39.70 | Peak | S | 48.77 | -18.79 | 29.97 | 40.00 | -10.03 |
| 55.22 | Peak | S | 53.35 | -27.06 | 26.29 | 40.00 | -13.71 |
| 102.75 | Peak | S | 44.25 | -23.39 | 20.86 | 43.50 | -22.64 |
| 159.01 | Peak | S | 46.84 | -23.10 | 23.75 | 43.50 | -19.75 |
| 209.45 | Peak | S | 45.99 | -22.92 | 23.07 | 43.50 | -20.43 |
| 667.29 | Peak | S | 34.68 | -11.68 | 23.00 | 46.00 | -23.00 |
| 11400.00 | Peak | Н | 30.23 | 20.81 | 51.04 | 74.00 | -22.96 |
| 11400.00 | Average | Н | 20.71 | 20.81 | 41.52 | 54.00 | -12.48 |
| 17100.00 | Peak | Н | | | | | |
| 22800.00 | Peak | Н | | | | | |
| 28500.00 | Peak | Н | | | | | |
| 34200.00 | Peak | Н | | | | | |
| 39900.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5700 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV∕m | dBµV/m | dB |
| | | | | | | | |
| 68.80 | Peak | S | 53.74 | -27.88 | 25.87 | 40.00 | -14.13 |
| 155.13 | Peak | S | 46.55 | -22.82 | 23.73 | 43.50 | -19.77 |
| 225.94 | Peak | S | 52.43 | -22.60 | 29.83 | 46.00 | -16.17 |
| 475.23 | Peak | S | 34.58 | -14.12 | 20.46 | 46.00 | -25.54 |
| 667.29 | Peak | S | 35.08 | -11.68 | 23.40 | 46.00 | -22.60 |
| 834.13 | Peak | S | 32.46 | -9.14 | 23.32 | 46.00 | -22.68 |
| 11400.00 | Peak | Н | 29.37 | 20.81 | 50.18 | 74.00 | -23.82 |
| 11400.00 | Average | Н | 18.78 | 20.81 | 39.59 | 54.00 | -14.41 |
| 17100.00 | Peak | Н | | | | | |
| 22800.00 | Peak | Н | | | | | |
| 28500.00 | Peak | Н | | | | | |
| 34200.00 | Peak | Н | | | | | |
| 39900.00 | Peak | Н | | | | | |

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| Operation Band Fundamental Frequency | :802.11 n20M :5500 MHz | Test Date Temp./Humi. | :2015-02-24 :22.7 deg C / 57 RH |
|---|---------------------------|--------------------------|------------------------------------|
| Operation Mode | :Bandedge LOW | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE (radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|---------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5460.00 | Peak | Е | 56.93 | 11.46 | 68.39 | 74.00 | -5.61 |
| 5460.00 | Average | Е | 38.67 | 11.46 | 50.13 | 54.00 | -3.87 |
| 5467.04 | Peak | S | 60.87 | 11.46 | 72.33 | 74.00 | -1.67 |
| 5467.04 | Average | S | 38.85 | 11.46 | 50.31 | 54.00 | -3.69 |
| 5470.00 | Peak | Е | 60.48 | 11.46 | 71.94 | 74.00 | -2.06 |
| 5470.00 | Average | Е | 39.09 | 11.46 | 50.55 | 54.00 | -3.45 |
| | | | | | | | |

| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|-----------------------|---------------|--------------------------|---------------------|
| Fundamental Frequency | :5500 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :Bandedge LOW | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE(radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|---------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5460.00 | Peak | E | 58.31 | 11.46 | 69.77 | 74.00 | -4.23 |
| 5460.00 | Average | Е | 39.11 | 11.46 | 50.57 | 54.00 | -3.43 |
| 5470.00 | Peak | Е | 60.33 | 11.46 | 71.79 | 74.00 | -2.21 |
| 5470.00 | Average | E | 39.91 | 11.46 | 51.37 | 54.00 | -2.63 |

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| 台灣檢驗科技股份有限公司 | t (886-2) 2299-3279 | f (886-2) 2298-0488 | www.tw.sgs.com | |
|--------------|---------------------|---------------------|----------------|--|
|--------------|---------------------|---------------------|----------------|--|



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| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|---|-----------------------------|--------------------------|------------------------------|
| Fundamental Frequency Operation Mode | :5700 MHz :Bandedge HIGH | Temp./Humi. Engineer | :22.7 deg_C / 57 RH :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre_Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE (radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|---------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5725.00 | Peak | Е | 60.98 | 12.27 | 73.25 | 74.00 | -0.75 |
| 5725.00 | Average | Е | 39.60 | 12.27 | 51.87 | 54.00 | -2.13 |

| Operation Band | :802.11 n20M | Test Date | :2015-02-24 |
|-----------------------|----------------|--------------------------|---------------------|
| Fundamental Frequency | :5700 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :Bandedge HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---": denotes Noise Floor.

The trace on RE (radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|---------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV∕m | dBµV/m | dB |
| 5725.00 | Peak | Е | 60.41 | 12.27 | 72.68 | 74.00 | -1.32 |
| 5725.00 | Average | Е | 39.26 | 12.27 | 51.53 | 54.00 | -2.47 |

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38570.00

Peak

FCC ID: MCLT77H462 IC: 2878D-T77H462

Radiated Spurious Emission Measurement Result 802.11n HT40, 5470~5725 MHz (MIMO) **Operation Band** :802.11 n40M Test Date :2015-02-24 **Fundamental Frequency** :5510 MHz Temp./Humi. :22.7 deg C / 57 RH **Operation Mode** :TX LOW Engineer :Vito EUT Pol. :E2 Plane Measurement Antenna Pol. :VERTICAL Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB) Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB) Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. "E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency. "---": denotes Noise Floor. Freq. Detector Note Spectrum Factor Actual Limit Margin FS Mode Reading Level @3m dBµV/m dBµV/m PK/QP/AV dBµV dB dB MHz F/H/E/S 37.76 Peak S 52.55 -17.57 34.97 40.00 -5.0355.22 S 40.00 Peak 53.44 -27.06 26.38 -13.62 102.75 Peak S 45.69 -23.39 22.29 43.50 -21.21 S 155.13 Peak 51.33 -22.82 28.51 43.50 -14.99 S 22.24 361.74 Peak 39.37 -17.13 46.00 -23.76 667.29 Peak S 34.74 -11.68 23.06 46.00 -22.94 11020.00 Peak Η 29.34 20.04 49.39 74.00 -24.61 11020.00 Average Η 19.43 20.04 39.47 54.00 -14.53 16530.00 Peak Η --Peak Η 22040.00 Peak 27550.00 Η Peak Η 33060.00

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only

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| Operation Band | :802.11 n40M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5510 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX LOW | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 69.77 | Peak | S | 51.45 | -27.80 | 23.64 | 40.00 | -16.36 |
| 155.13 | Peak | S | 43.85 | -22.82 | 21.03 | 43.50 | -22.47 |
| 190.05 | Peak | S | 48.60 | -24.16 | 24.44 | 43.50 | -19.06 |
| 226.91 | Peak | S | 51.78 | -22.53 | 29.26 | 46.00 | -16.74 |
| 667.29 | Peak | S | 34.69 | -11.68 | 23.01 | 46.00 | -22.99 |
| 834.13 | Peak | S | 37.34 | -9.14 | 28.20 | 46.00 | -17.80 |
| 11020.00 | Peak | Н | 28.86 | 20.04 | 48.90 | 74.00 | -25.10 |
| 11020.00 | Average | Н | 19.46 | 20.04 | 39.50 | 54.00 | -14.50 |
| 16530.00 | Peak | Н | | | | | |
| 22040.00 | Peak | Н | | | | | |
| 27550.00 | Peak | Н | | | | | |
| 33060.00 | Peak | Н | | | | | |
| 38570.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n40M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5550 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX MID | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 39.70 | Peak | S | 48.33 | -18.79 | 29.54 | 40.00 | -10.46 |
| 56.19 | Peak | S | 53.52 | -27.33 | 26.20 | 40.00 | -13.80 |
| 102.75 | Peak | S | 47.18 | -23.39 | 23.79 | 43.50 | -19.71 |
| 155.13 | Peak | S | 51.04 | -22.82 | 28.22 | 43.50 | -15.28 |
| 344.28 | Peak | S | 42.32 | -17.60 | 24.72 | 46.00 | -21.28 |
| 667.29 | Peak | S | 35.96 | -11.68 | 24.28 | 46.00 | -21.72 |
| 11100.00 | Peak | Н | 28.94 | 20.21 | 49.15 | 74.00 | -24.85 |
| 11100.00 | Average | Н | 19.20 | 20.21 | 39.41 | 54.00 | -14.59 |
| 16650.00 | Peak | Н | | | | | |
| 22200.00 | Peak | Н | | | | | |
| 27750.00 | Peak | Н | | | | | |
| 33300.00 | Peak | Н | | | | | |
| 38850.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n40M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5550 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX MID | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV∕m | dBµV/m | dB |
| | | | | | | | |
| 68.80 | Peak | S | 54.45 | -27.88 | 26.58 | 40.00 | -13.42 |
| 151.25 | Peak | S | 45.82 | -22.79 | 23.03 | 43.50 | -20.47 |
| 190.05 | Peak | S | 49.62 | -24.16 | 25.46 | 43.50 | -18.04 |
| 225.94 | Peak | S | 52.65 | -22.60 | 30.05 | 46.00 | -15.95 |
| 667.29 | Peak | S | 33.68 | -11.68 | 22.00 | 46.00 | -24.00 |
| 834.13 | Peak | S | 37.41 | -9.14 | 28.27 | 46.00 | -17.73 |
| 11100.00 | Peak | Н | 28.66 | 20.21 | 48.86 | 74.00 | -25.14 |
| 11100.00 | Average | Н | 19.26 | 20.21 | 39.47 | 54.00 | -14.53 |
| 16650.00 | Peak | Н | | | | | |
| 22200.00 | Peak | Н | | | | | |
| 27750.00 | Peak | Н | | | | | |
| 33300.00 | Peak | Н | | | | | |
| 38850.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n40M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5670 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

"---": denotes Noise Floor.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|-----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 39.70 | Peak | S | 49.31 | -18.79 | 30.52 | 40.00 | -9.48 |
| 102.75 | Peak | S | 48.11 | -23.39 | 24.72 | 43.50 | -18.78 |
| 155.13 | Peak | S | 52.19 | -22.82 | 29.37 | 43.50 | -14.13 |
| 190.05 | Peak | S | 48.66 | -24.16 | 24.50 | 43.50 | -19.00 |
| 241.46 | Peak | S | 43.90 | -20.97 | 22.93 | 46.00 | -23.07 |
| 667.29 | Peak | S | 35.54 | -11.68 | 23.85 | 46.00 | -22.15 |
| 11340.00 | Peak | Н | 28.64 | 20.61 | 49.25 | 74.00 | -24.75 |
| 11340.00 | Average | Н | 19.65 | 20.61 | 40.26 | 54.00 | -13.74 |
| 170100.00 | Peak | Н | | | | | |
| 226800.00 | Peak | Н | | | | | |
| 283500.00 | Peak | Н | | | | | |
| 340200.00 | Peak | Н | | | | | |
| 396900.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n40M | Test Date | :2015-02-24 |
|-----------------------|--------------|--------------------------|---------------------|
| Fundamental Frequency | :5670 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :TX HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E" : denotes Band Edge Frequency. ; "S" : denotes Spurious Frequency.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|-----------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| | | | | | | | |
| 68.80 | Peak | S | 54.17 | -27.88 | 26.29 | 40.00 | -13.71 |
| 155.13 | Peak | S | 45.98 | -22.82 | 23.16 | 43.50 | -20.34 |
| 190.05 | Peak | S | 50.73 | -24.16 | 26.56 | 43.50 | -16.94 |
| 224.97 | Peak | S | 52.63 | -22.67 | 29.96 | 46.00 | -16.04 |
| 312.27 | Peak | S | 43.34 | -18.66 | 24.68 | 46.00 | -21.32 |
| 469.41 | Peak | S | 35.66 | -14.13 | 21.52 | 46.00 | -24.48 |
| 11340.00 | Peak | Н | 28.18 | 20.61 | 48.78 | 74.00 | -25.22 |
| 11340.00 | Average | Н | 18.75 | 20.61 | 39.36 | 54.00 | -14.64 |
| 170100.00 | Peak | Н | | | | | |
| 226800.00 | Peak | Н | | | | | |
| 283500.00 | Peak | Н | | | | | |
| 340200.00 | Peak | Н | | | | | |
| 396900.00 | Peak | Н | | | | | |

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| Operation Band | :802.11 n40M | Test Date | :2015-02-24 |
|-----------------------|---------------|--------------------------|---------------------|
| Fundamental Frequency | :5510 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :Bandedge LOW | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |
| | | | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

Note : "F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency.

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE (radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|--|----------|---|---|---------------------|--------|-----------------------------------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/A | V F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5460.00 | Peak | E | 50.47 | 11.46 | 61.93 | 74.00 | -12.07 |
| 5460.00 | Average | E | 37.58 | 11.46 | 49.04 | 54.00 | -4.96 |
| 5470.00 | Peak | Е | 52.05 | 11.46 | 63.51 | 74.00 | -10.49 |
| 5470.00 | Average | E | 37.90 | 11.46 | 49.36 | 54.00 | -4.64 |
| Operation Band Fundamental Fr Operation Mode EUT Pol. | requency | :802.11 n40M :5510 MHz :Bandedge LOW :E2 Plane | Test Date Temp./Hum Engineer Measureme | i. nt Antenna Po | :Vito | 02-24 leg_C / 57 RH IZONTAL | |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE (radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|---------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5460.00 | Peak | Е | 52.27 | 11.46 | 63.73 | 74.00 | -10.27 |
| 5460.00 | Average | Е | 38.66 | 11.46 | 50.12 | 54.00 | -3.88 |
| 5470.00 | Peak | Е | 56.53 | 11.46 | 67.98 | 74.00 | -6.02 |
| 5470.00 | Average | Е | 39.55 | 11.46 | 51.01 | 54.00 | -2.99 |

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| Operation Band | :802.11 n40M | Test Date | :2015-02-24 |
|---|-----------------------------|--------------------------|------------------------------|
| Fundamental Frequency Operation Mode | :5670 MHz :Bandedge HIGH | Temp./Humi. Engineer | :22.7 deg_C / 57 RH :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :VERTICAL |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre_Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---" : denotes Noise Floor.

The trace on RE (radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|---------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV/m | dBµV/m | dB |
| 5725.00 | Peak | Е | 50.33 | 12.27 | 62.59 | 74.00 | -11.41 |
| 5725.00 | Average | E | 37.36 | 12.27 | 49.63 | 54.00 | -4.37 |

| Operation Band | :802.11 n40M | Test Date | :2015-02-24 |
|-----------------------|----------------|--------------------------|---------------------|
| Fundamental Frequency | :5670 MHz | Temp./Humi. | :22.7 deg_C / 57 RH |
| Operation Mode | :Bandedge HIGH | Engineer | :Vito |
| EUT Pol. | :E2 Plane | Measurement Antenna Pol. | :HORIZONTAL |

Actual FS($dB\mu V/m$) = SPA. Reading level($dB\mu V$) + Factor(dB)

Factor(dB) = Antenna Factor($dB\mu V/m$) + Cable Loss(dB) – Pre Amplifier Gain(dB)

"F" : denotes Fundamental Frequency. ; "H" : denotes Harmonic Frequency. Note :

"E": denotes Band Edge Frequency.; "S": denotes Spurious Frequency.

"---": denotes Noise Floor.

The trace on RE (radiation emission) plot is as colored blue, and the detection manner we've employed is peak detector.

| Freq. | Detector | Note | Spectrum | Factor | Actual | Limit | Margin |
|---------|----------|---------|---------------|--------|--------|--------|--------|
| | Mode | | Reading Level | | FS | @3m | |
| MHz | PK/QP/AV | F/H/E/S | dBµV | dB | dBµV∕m | dBµV/m | dB |
| 5725.00 | Peak | Е | 50.68 | 12.27 | 62.95 | 74.00 | -11.05 |
| 5725.00 | Average | Е | 37.22 | 12.27 | 49.49 | 54.00 | -4.51 |

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8. ANTENNA REQUIREMENT

8.1 Standard Applicable

For intentional device, according to §15.203, an intentional radiator shall be designed to ensure that no antenna other than furnished by the responsible party shall be used with the device.

According to RSS-GEN 7.1.2, a transmitter can only be sold or operated with antennas with which it was certified. A transmitter may be certified with multiple antenna types. An antenna type comprises antennas having similar in-band and out-of-band radiation patterns. Testing shall be performed using the highest-gain antenna of each combination of transmitter and antenna type for which certification is being sought, with the transmitter output power set at the maximum level. Any antenna of the same type and having equal or lesser gain as an antenna that had been successfully tested for certification with the transmitter, will also be considered certified with the transmitter, and may be used and marketed with the transmitter. The manufacturer shall include with the application for certification a list of acceptable antenna types to be used with the transmitter.

8.2 Antenna Connected Construction

The directional gains of antenna used for transmitting is 1.74dBi for frequency band of 5150~5250MHz, 4.75dBi for 5150~5250MHz_MIMO gain; 1.51dBi for frequency band of 5250~5350MHz, 4.52dBi for 5250~5350MHz_MIMO gain; -0.14dBi for frequency band of 5470~5725MHz, 2.87dBi for 5470~5725MHz_MIMO gain; and the antenna connector is designed with unique type RF connector and no consideration of replacement. Please see EUT photo and antenna spec. for details.

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