

SHEN ZHEN ZHIKE COMMUNICATION CO.,LTD

GSM Mobile Phone

Main Model: i9

Serial Model: i9 Pro

March 15, 2012

Report No.: 12070027-FCC-R3-V1

(This report supersedes NONE)



Modifications made to the product : None

This Test Report is Issued Under the Authority of:

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Deon Dai
Compliance Engineer

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Test result presented in this test report is applicable to the representative sample only.

RF Test Report

To: FCC Part 15.247: 2011

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| Country | Accreditation Body | Scope |
|-----------|--------------------|-----------------------|
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1 EXECUTIVE SUMMARY & EUT INFORMATION


The purpose of this test programme was to demonstrate compliance of the SHEN ZHEN ZHIKE COMMUNICATION CO.,LTD , GSM Mobile Phone and model: i9 against the current Stipulated Standards. The GSM Mobile Phone has demonstrated compliance with the FCC 15.247:2011.

EUT Information

EUT Description : GSM Mobile Phone
Model No : i9
Serial No : i9 Pro(Note)
 Powered by Power Adapter
 Input:100-240 VAC, 50/60 Hz, 0.15A
 Output: DC 5.0 V, 500 mA
Input Power : Li-ion Rechargeable battery
 Model : BL-4D
 Charging Voltage: 3.7 V 1200 mAh
 Restrictive Voltage: 4.2 V
Classification
Per Stipulated : FCC 15.247:2011
Test Standard

Note: There is no electrical change has been made to equipment that alters the compliance characteristics. The difference of these three models is for different logo and color.

2 TECHNICAL DETAILS

| | |
|--|--|
| Purpose | Compliance testing of GSM Mobile Phone with stipulated standard |
| Applicant / Client | SHEN ZHEN ZHIKE COMMUNICATION CO.,LTD 1805, Tower A , Phase I, Tianan High-Tech Plaza, Futian District, Shenzhen China |
| Manufacturer | SHENZHEN GSTAR TELECOMMUNICATION CO., LTD ROOM 501, NO.88 PAIBANG XINGWANG ROAD, SILIAN COMMUNITY, HENGANG STREET, LONGGANG DISTRICT, SHENZHEN, P. R. CHINA |
| Laboratory performing the tests | SIEMIC Nanjing (China) Laboratories NO.2-1,Longcang Dadao, Yuhua Economic Development Zone, Nanjing, China Tel:+86(25)86730128/86730129 Fax:+86(25)86730127 Email:info@siemic.com |
| Test report reference number | 12070027-FCC-R3-V1 |
| Date EUT received | March 1, 2012 |
| Standard applied | FCC 15.247:2011 |
| Dates of test (from – to) | March 13 to March 14,2012 |
| No of Units : | #1 |
| Equipment Category : | Spread Spectrum System/Device |
| Trade Name : |  |
| RF Operating Frequency (ies) | GSM850 TX : 824.2 ~ 848.8 MHz; RX :869.2 ~ 893.8 MHz PCS1900 TX : 1850.2 ~ 1909.8 MHz; RX :1930.2 ~ 1989.8 MHz Bluetooth: 2402 - 2480 MHz WiFi: 2412 – 2462 MHz |
| Number of Channels | 300CH (PCS1900) and 125CH (GSM850) Bluetooth: 79CH WiFi: 11 CH |
| Modulation | GSM/PCS: GMSK Bluetooth: GFSK WiFi: DSSS |
| FCC ID : | AODZKTXIPRO19 |

3 MODIFICATION

NONE

4 TEST SUMMARY

The product was tested in accordance with the following specifications.
 All testing has been performed according to below product classification:

Spread Spectrum System/Device Test Results Summary

| FCC Rules | Description of Test | Result |
|---------------------------------|---|------------|
| §15.247 (i), §2.1093 | RF Exposure | Compliance |
| §15.203 | Antenna Requirement | Compliance |
| §15.207 (a), | Conducted Emissions | Compliance |
| §15.247(d) | Spurious Emissions at Antenna Port | Compliance |
| §15.205, §15.209, §15.247(d) | Spurious Emissions & Restricted Bands | Compliance |
| §15.247 (a)(2) | 6 dB Bandwidth | Compliance |
| §15.247(b)(3) | Maximum Peak Output Power | Compliance |
| §15.247(d) | 100kHz Bandwidth of Frequency Band Edge | Compliance |
| §15.247(e) | Power Spectral Density | Compliance |

5 MEASUREMENTS, EXAMINATION AND DERIVED RESULTS

5.1 §15.247 (i) and §2.1093 – RF Exposure

Applicable Standard

According to §15.247 (i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Table 2 – Summary of SAR Evaluation Requirements for a Cell Phone with Multiple Transmitters

| | Individual Transmitter | Simultaneous Transmission |
|-------------------------|---|---|
| Licensed Transmitters | <u>Routine evaluation required</u> | SAR not required: <u>Unlicensed only</u> <ul style="list-style-type: none"> when stand-alone 1-g SAR is not required and antenna is ≥ 5 cm from other antennas Licensed & Unlicensed <ul style="list-style-type: none"> when the sum of the 1-g SAR is < 1.6 W/kg for all simultaneous transmitting antennas when SAR to peak location separation ratio of simultaneous transmitting antenna pair is < 0.3 SAR required: Licensed & Unlicensed antenna pairs with SAR to peak location separation ratio ≥ 0.3 ; test is only required for the configuration that results in the highest SAR in stand-alone configuration for each wireless mode and exposure condition Note: simultaneous transmission exposure conditions for head and body can be different for different style phones; therefore, different test requirements may apply |
| Unlicensed Transmitters | When there is no simultaneous transmission – <ul style="list-style-type: none"> output ≤ 60 f: SAR not required output > 60 f: stand-alone SAR required When there is simultaneous transmission – <u>Stand-alone SAR not required when</u> <ul style="list-style-type: none"> output $\leq 2 \cdot P_{Ref}$ and antenna is ≥ 5.0 cm from other antennas output $\leq P_{Ref}$ and antenna is ≥ 2.5 cm from other antennas output $\leq P_{Ref}$ and antenna is < 2.5 cm from other antennas, each with either output power $\leq P_{Ref}$ or 1-g SAR < 1.2 W/kg <u>Otherwise stand-alone SAR is required</u> When stand-alone SAR is required <ul style="list-style-type: none"> test SAR on highest output channel for each wireless mode and exposure condition if SAR for highest output channel is $> 50\%$ of SAR limit, evaluate all channels according to normal procedures | |
| Jaw, Mouth and Nose | <u>Flat phantom SAR required</u> <ul style="list-style-type: none"> when measurement is required in tight regions of SAM and it is not feasible or the results can be questionable due to probe tilt, calibration, positioning and orientation issues position rectangular and clam-shell phones according to flat phantom procedures and conduct SAR measurements for these specific locations | When simultaneous transmission SAR testing is required, contact the FCC Laboratory for interim guidance. |

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

Two antennas are available for the EUT, (GSM antenna, WiFi/Bluetooth antenna), The distance between WiFi/BT antenna and WWAN antenna is 7cm which is More than 5 cm, and the Max output power of WiFi is 12.97mW <2*Pref (24 mW), Max output power of BT is 0.97mW. So no stand-alone SAR is required for WiFi and BT antenna. According to KDB 648474, no simultaneous SAR measurement is required too.

Note: The WiFi and BT use the same antenna.

Result:

The SAR measurement is exempt.

5.2 §15.203 - ANTENNA REQUIREMENT

Applicable Standard

According to § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine compliance with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

- a. Antenna must be permanently attached to the unit.
- b. Antenna must use a unique type of connector to attach to the EUT.

Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

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

Antenna Connector Construction

The EUT has 2 antennas, one is a monopole antenna for Bluetooth and WIFI, the gain is 2.0dBi; one is a PIFA antenna for GSM, the gain are 1dBi for GSM and 0.5dBi for PCS which in accordance to section 15.203, please refer to the internal photos.

Result: Compliant.

5.3 §15.207 (a) - CONDUCTED EMISSIONS

Requirement:

| Frequency of emission (MHz) | Conducted limit (dBμV) | |
|-----------------------------|------------------------|-----------|
| | Quasi-peak | Average |
| 0.15–0.5 | 66 to 56* | 56 to 46* |
| 0.5–5 | 56 | 46 |
| 5–30 | 60 | 50 |

*Decreases with the logarithm of the frequency.

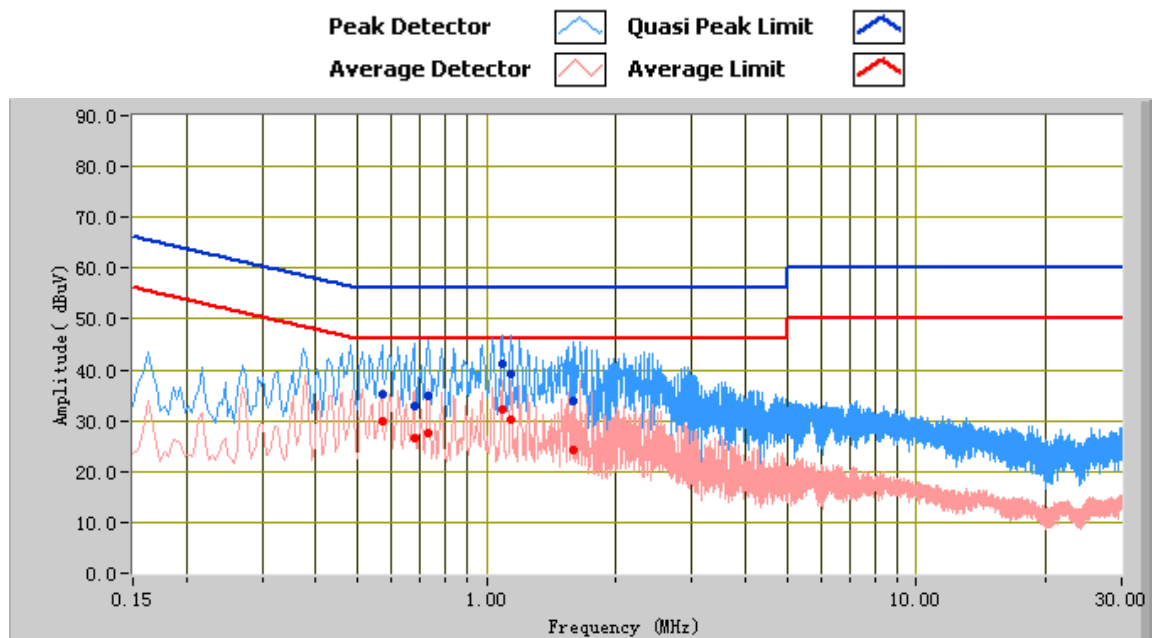
Procedures:

- All possible modes of operation were investigated. Only the 6 worst case emissions measured, using the correct CISPR and Average detectors, are reported. All other emissions were relatively insignificant.
- A "-ve" margin indicates a PASS as it refers to the margin present below the limit line at the particular frequency.
- Conducted Emissions Measurement Uncertainty
All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, in the range 9kHz – 30MHz (Average & Quasi-peak) is ± 3.5 dB.
- Environmental Conditions

| | |
|----------------------|----------|
| Temperature | 22°C |
| Relative Humidity | 50% |
| Atmospheric Pressure | 1019mbar |
- Test date : March 13, 2012
Tested By : Deon Dai

Test Mode: Transmitting

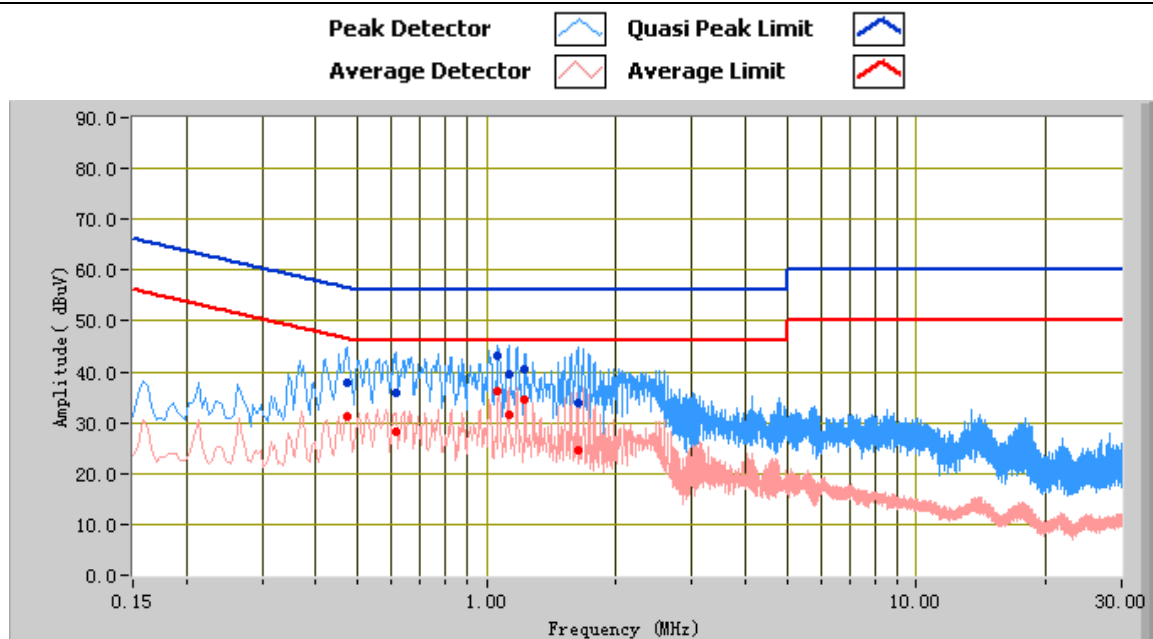
Mode: 802.11b



Test Data

Line

| Frequency (MHz) | Quasi Peak (dBμV) | Limit (dBμV) | Margin (dB) | Average (dBμV) | Limit (dBμV) | Margin (dB) | Factors (dB) |
|-----------------|-------------------|--------------|-------------|----------------|--------------|-------------|--------------|
| 1.08 | 41.22 | 56.00 | -14.78 | 32.12 | 46.00 | -13.88 | 10.16 |
| 1.14 | 39.10 | 56.00 | -16.90 | 30.15 | 46.00 | -15.85 | 10.17 |
| 0.73 | 34.98 | 56.00 | -21.02 | 27.47 | 46.00 | -18.53 | 10.13 |
| 1.59 | 33.78 | 56.00 | -22.22 | 24.23 | 46.00 | -21.77 | 10.18 |
| 0.68 | 32.75 | 56.00 | -23.25 | 26.62 | 46.00 | -19.38 | 10.13 |
| 0.57 | 35.14 | 56.00 | -20.86 | 29.82 | 46.00 | -16.18 | 10.15 |

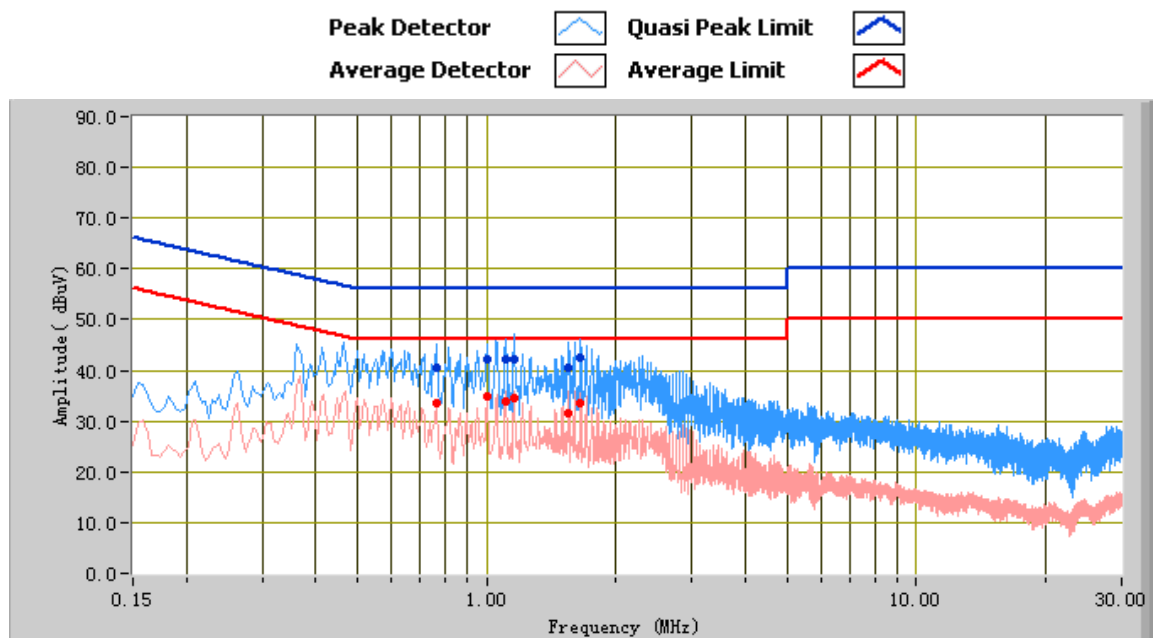


Test Data

Neutral

| Frequency (MHz) | Quasi Peak (dBμV) | Limit (dBμV) | Margin (dB) | Average (dBμV) | Limit (dBμV) | Margin (dB) | Factors (dB) |
|-----------------|-------------------|--------------|-------------|----------------|--------------|-------------|--------------|
| 1.06 | 43.10 | 56.00 | -12.90 | 36.30 | 46.00 | -9.70 | 10.16 |
| 1.12 | 39.40 | 56.00 | -16.60 | 31.44 | 46.00 | -14.56 | 10.16 |
| 1.63 | 33.72 | 56.00 | -22.28 | 24.44 | 46.00 | -21.56 | 10.19 |
| 0.47 | 37.97 | 56.45 | -18.47 | 31.35 | 46.45 | -15.10 | 10.17 |
| 0.61 | 35.96 | 56.00 | -20.04 | 28.32 | 46.00 | -17.68 | 10.14 |
| 1.22 | 40.56 | 56.00 | -15.44 | 34.40 | 46.00 | -11.60 | 10.17 |

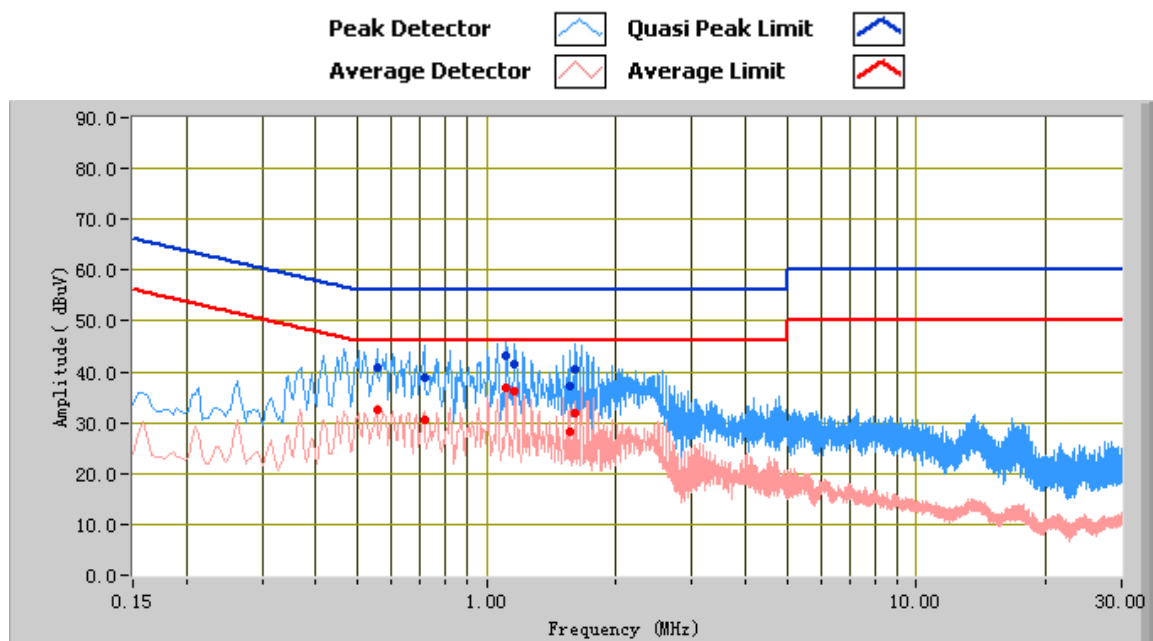
Mode: 802.11g



Test Data

Line

| Frequency (MHz) | Quasi Peak (dBμV) | Limit (dBμV) | Margin (dB) | Average (dBμV) | Limit (dBμV) | Margin (dB) | Factors (dB) |
|-----------------|-------------------|--------------|-------------|----------------|--------------|-------------|--------------|
| 1.16 | 42.19 | 56.00 | -13.81 | 34.44 | 46.00 | -11.56 | 10.17 |
| 1.11 | 42.17 | 56.00 | -13.83 | 33.97 | 46.00 | -12.03 | 10.16 |
| 1.65 | 42.51 | 56.00 | -13.49 | 33.53 | 46.00 | -12.47 | 10.19 |
| 1.55 | 40.41 | 56.00 | -15.59 | 31.48 | 46.00 | -14.52 | 10.18 |
| 1.00 | 42.30 | 56.00 | -13.70 | 34.94 | 46.00 | -11.06 | 10.16 |
| 0.76 | 40.41 | 56.00 | -15.59 | 33.48 | 46.00 | -12.52 | 10.14 |



Test Data

Neutral

| Frequency (MHz) | Quasi Peak (dBμV) | Limit (dBμV) | Margin (dB) | Average (dBμV) | Limit (dBμV) | Margin (dB) | Factors (dB) |
|-----------------|-------------------|--------------|-------------|----------------|--------------|-------------|--------------|
| 1.11 | 43.30 | 56.00 | -12.70 | 36.76 | 46.00 | -9.24 | 10.16 |
| 1.16 | 41.55 | 56.00 | -14.45 | 36.35 | 46.00 | -9.65 | 10.17 |
| 1.61 | 40.43 | 56.00 | -15.57 | 31.78 | 46.00 | -14.22 | 10.18 |
| 0.71 | 38.92 | 56.00 | -17.08 | 30.56 | 46.00 | -15.44 | 10.13 |
| 0.55 | 40.69 | 56.00 | -15.31 | 32.44 | 46.00 | -13.56 | 10.16 |
| 1.56 | 37.09 | 56.00 | -18.91 | 28.08 | 46.00 | -17.92 | 10.18 |

5.4 §15.209, §15.205 & §15.247(d) - Spurious Emissions

- All possible modes of operation were investigated. Only the 6 worst case emissions measured, using the correct CISPR detectors, are reported. All other emissions were relatively insignificant.
- A "-ve" margin indicates a PASS as it refers to the margin present below the limit line at the particular frequency.
- Radiated Emissions Measurement Uncertainty
All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, in the range 30MHz – 1GHz & 1GHz above (3m & 10m) is +/-6dB.
- | | | |
|--------------------------|----------------------|----------|
| Environmental Conditions | Temperature | 22°C |
| | Relative Humidity | 50% |
| | Atmospheric Pressure | 1019mbar |
- Test date : March 13, 2012
Tested By : Deon Dai

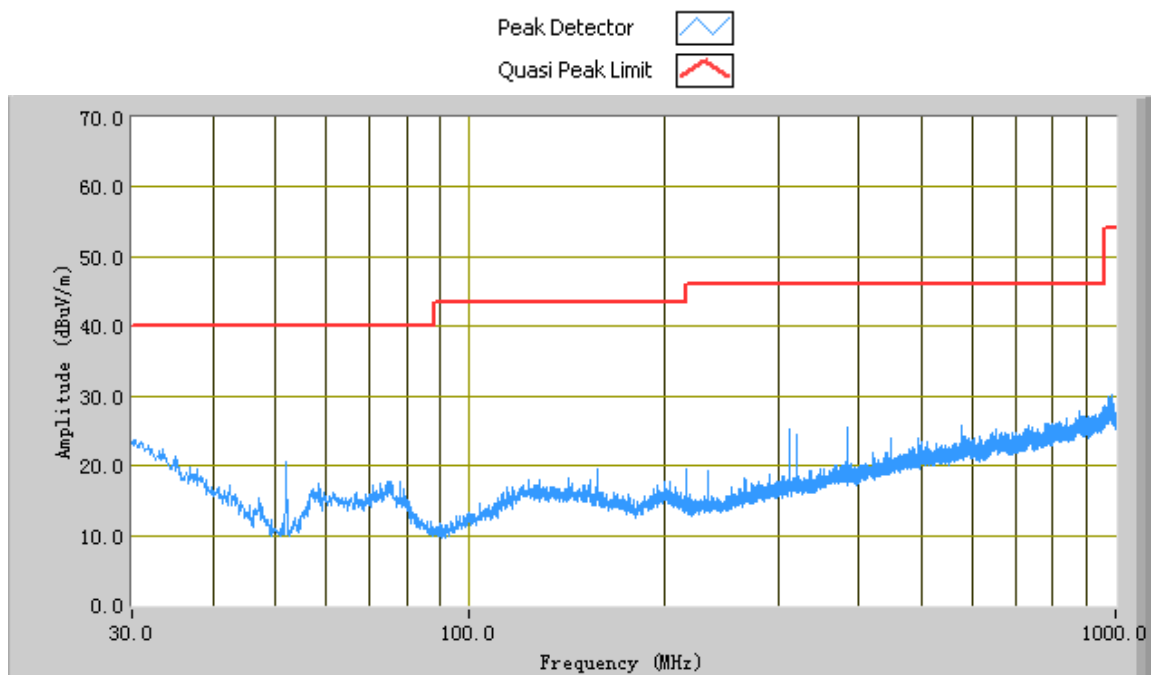
Standard Requirement: The emissions from the Low-power radio-frequency devices shall not exceed the field strength levels specified in the following table and the level of any unwanted emissions shall not exceed the level of the fundamental emission. The tighter limit applies at the band edges.

Test Result: Pass

30-1000 MHz:

Test Mode: Transmitting

Mode: 802.11b

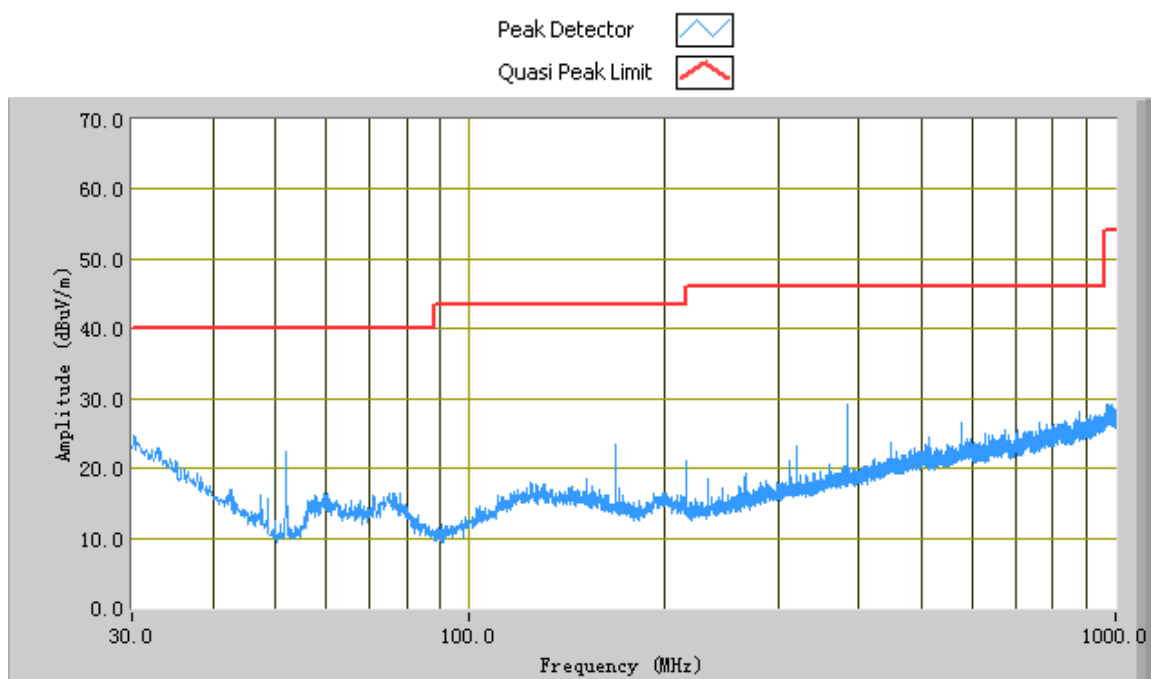


Test Data

| Frequency (MHz) | Peak (dBμV/m) | Azimuth | Polarity(H/V) | Height (cm) | Factors (dB) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------|---------|---------------|-------------|--------------|----------------|-------------|
| 30.48 | 23.69 | 184.70 | V | 200.00 | -22.81 | 40.00 | -16.31 |
| 957.08 | 28.33 | 246.00 | V | 300.00 | -20.02 | 46.00 | -17.67 |
| 877.17 | 27.79 | 37.30 | H | 400.00 | -21.36 | 46.00 | -18.21 |
| 948.23 | 27.59 | 0.60 | H | 400.00 | -20.44 | 46.00 | -18.41 |
| 929.67 | 27.43 | 205.30 | H | 200.00 | -20.77 | 46.00 | -18.57 |
| 932.95 | 27.33 | 105.80 | H | 300.00 | -20.79 | 46.00 | -18.67 |

Note: The Quasi peak data which below 20 dB to the limit was not recorded.

Mode: 802.11g



Test Data

| Frequency (MHz) | Peak (dBμV/m) | Azimuth | Polarity(H/V) | Height (cm) | Factors (dB) | Limit (dBμV/m) | Margin (dB) |
|-----------------|---------------|---------|---------------|-------------|--------------|----------------|-------------|
| 30.24 | 24.66 | 122.00 | V | 300.00 | -22.63 | 40.00 | -15.34 |
| 385.50 | 29.13 | 285.00 | V | 200.00 | -30.62 | 46.00 | -16.87 |
| 51.95 | 22.37 | 189.20 | V | 100.00 | -36.89 | 40.00 | -17.63 |
| 877.42 | 28.01 | 328.90 | V | 100.00 | -21.35 | 46.00 | -17.99 |
| 959.99 | 27.92 | 1.10 | V | 100.00 | -19.88 | 46.00 | -18.08 |
| 911.85 | 27.51 | 260.60 | H | 100.00 | -20.69 | 46.00 | -18.49 |

Note: The Quasi peak data which below 20 dB to the limit was not recorded.

Above 1 GHz:

Test Mode: Transmitting

Note: Other modes were verified, only the result of worst case basic rate mode was presented.

Mode: 802.11b

Low Channel (2412 MHz)

| Frequency (MHz) | Substituted level (dBμV) | Detector (PK/AV) | Direction (degree) | Height (m) | Polarity (H/V) | Ant. Factor (dB/m) | Cable Loss (dB) | Pre- Amp. Gain (dB) | Cord. Amp. (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|--------------------|--------------------------------|---------------------|-----------------------|---------------|-------------------|--------------------------|-----------------------|------------------------------|---------------------------|-------------------|----------------|
| 4824 | 38.32 | AV | 160 | 1.0 | V | 34 | 2.6 | 26.79 | 48.13 | 54 | -5.87 |
| 4824 | 37.37 | AV | 240 | 1.1 | H | 33.8 | 2.6 | 26.79 | 46.98 | 54 | -7.02 |
| 4824 | 50.25 | PK | 123 | 1.1 | V | 34 | 2.6 | 26.79 | 60.06 | 74 | -13.94 |
| 4824 | 49.77 | PK | 160 | 1.2 | H | 33.8 | 2.6 | 26.79 | 59.38 | 74 | -14.62 |
| 1087.41 | 33.46 | AV | 185 | 1.1 | V | 25.3 | 1.1 | 26.51 | 33.35 | 54 | -20.65 |
| 1087.41 | 32.71 | AV | 123 | 1.1 | H | 23.8 | 1.1 | 26.51 | 31.10 | 54 | -22.90 |
| 1087.41 | 41.81 | PK | 185 | 1.2 | V | 23.8 | 1.1 | 26.51 | 40.20 | 74 | -33.80 |
| 1087.41 | 42.96 | PK | 130 | 1.1 | H | 25.3 | 1.1 | 26.51 | 42.85 | 74 | -31.15 |

Middle Channel (2437 MHz)

| Frequency (MHz) | Substituted level (dBμV) | Detector (PK/AV) | Direction (degree) | Height (m) | Polarity (H/V) | Ant. Factor (dB/m) | Cable Loss (dB) | Pre- Amp. Gain (dB) | Cord. Amp. (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|--------------------|--------------------------------|---------------------|-----------------------|---------------|-------------------|--------------------------|-----------------------|------------------------------|---------------------------|-------------------|----------------|
| 4874 | 36.06 | AV | 125 | 1.0 | V | 33.6 | 2.6 | 26.78 | 45.48 | 54 | -8.52 |
| 4874 | 37.49 | AV | 256 | 1.1 | H | 33.8 | 2.6 | 26.78 | 47.11 | 54 | -6.89 |
| 4874 | 47.25 | PK | 125 | 1.0 | V | 33.6 | 2.6 | 26.78 | 56.67 | 74 | -17.33 |
| 4874 | 48.31 | PK | 256 | 1.0 | H | 33.8 | 2.6 | 26.78 | 57.93 | 74 | -16.07 |
| 1323.18 | 31.39 | AV | 40 | 1.0 | V | 25.1 | 1.3 | 26.65 | 31.14 | 54 | -22.86 |
| 1323.18 | 31.09 | AV | 78 | 1.0 | H | 25.1 | 1.3 | 26.65 | 30.84 | 54 | -23.16 |
| 1323.18 | 38.47 | PK | 40 | 1.1 | V | 25.3 | 1.3 | 26.65 | 38.42 | 74 | -35.58 |
| 1323.18 | 38.35 | PK | 78 | 1.0 | H | 25.3 | 1.3 | 26.65 | 38.3 | 74 | -35.70 |

High Channel (2462 MHz)

| Frequency (MHz) | Substituted level (dBμV) | Detector (PK/AV) | Direction (degree) | Height (m) | Polarity (H/V) | Ant. Factor (dB/m) | Cable Loss (dB) | Pre- Amp. Gain (dB) | Cord. Amp. (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|--------------------|--------------------------------|---------------------|-----------------------|---------------|-------------------|--------------------------|-----------------------|------------------------------|---------------------------|-------------------|----------------|
| 4924 | 36.22 | AV | 158 | 1.3 | V | 34.6 | 2.7 | 26.75 | 46.77 | 54 | -7.23 |
| 4924 | 36.31 | AV | 250 | 1.4 | H | 34.7 | 2.7 | 26.75 | 46.96 | 54 | -7.04 |
| 4924 | 49.42 | PK | 158 | 1.1 | V | 34.6 | 2.7 | 26.75 | 59.97 | 74 | -14.03 |
| 4924 | 47.14 | PK | 250 | 1.1 | H | 34.7 | 2.7 | 26.75 | 57.79 | 74 | -16.21 |
| 1458.13 | 30.06 | AV | 57 | 1.3 | V | 25.3 | 1.3 | 26.65 | 30.01 | 54 | -23.99 |
| 1458.13 | 29.2 | AV | 243 | 1.4 | H | 25.5 | 1.3 | 26.65 | 29.35 | 54 | -24.65 |
| 1458.13 | 38.55 | PK | 57 | 1.1 | V | 25.3 | 1.3 | 26.65 | 38.5 | 74 | -35.50 |
| 1458.13 | 38.32 | PK | 243 | 1.2 | H | 25.5 | 1.3 | 26.65 | 38.47 | 74 | -35.53 |

Spurious emission in restricted band:

| Frequency (MHz) | Substituted level (dBμV) | Detector (PK/AV) | Direction (degree) | Height (m) | Polarity (H/V) | Ant. Factor (dB/m) | Cable Loss (dB) | Pre- Amp. Gain (dB) | Cord. Amp. (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|--------------------|--------------------------------|---------------------|-----------------------|---------------|-------------------|--------------------------|-----------------------|------------------------------|---------------------------|-------------------|----------------|
| 2367.69 | 38.45 | AV | 60 | 1.2 | V | 30.1 | 1.8 | 26.83 | 43.52 | 54 | -10.48 |
| 2488.54 | 38.82 | AV | 120 | 1.1 | V | 30.6 | 1.8 | 26.83 | 44.39 | 54 | -9.61 |
| 2488.54 | 33.23 | AV | 60 | 1.3 | H | 30.6 | 1.8 | 26.83 | 38.80 | 54 | -15.20 |
| 2367.69 | 33.19 | AV | 120 | 1.2 | H | 30.1 | 1.8 | 26.83 | 38.26 | 54 | -15.74 |
| 2488.54 | 45.38 | PK | 165 | 1.1 | V | 30.6 | 1.8 | 26.83 | 50.95 | 74 | -23.05 |
| 2367.69 | 44.18 | PK | 240 | 1.2 | V | 30.1 | 1.8 | 26.83 | 49.25 | 74 | -24.75 |
| 2488.54 | 44.72 | PK | 165 | 1.3 | H | 30.6 | 1.8 | 26.83 | 50.29 | 74 | -23.71 |
| 2367.69 | 45.67 | PK | 240 | 1.2 | H | 30.1 | 1.8 | 26.83 | 50.74 | 74 | -23.26 |

Mode: 802.11g

Low Channel (2412 MHz)

| Frequency (MHz) | Substituted level (dBμV) | Detector (PK/AV) | Direction (degree) | Height (m) | Polarity (H/V) | Ant. Factor (dB/m) | Cable Loss (dB) | Pre- Amp. Gain (dB) | Cord. Amp. (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|--------------------|--------------------------------|---------------------|-----------------------|---------------|-------------------|--------------------------|-----------------------|------------------------------|---------------------------|-------------------|----------------|
| 4824 | 38.32 | AV | 133 | 1.1 | V | 34 | 2.6 | 26.79 | 48.13 | 54 | -5.87 |
| 4824 | 37.37 | AV | 320 | 1.1 | H | 33.8 | 2.6 | 26.79 | 46.98 | 54 | -7.02 |
| 4824 | 50.25 | PK | 133 | 1.1 | V | 34 | 2.6 | 26.79 | 60.06 | 74 | -13.94 |
| 4824 | 49.77 | PK | 320 | 1.1 | H | 33.8 | 2.6 | 26.79 | 59.38 | 74 | -14.62 |
| 1184.12 | 33.46 | AV | 120 | 1.2 | V | 25.3 | 1.1 | 26.51 | 33.35 | 54 | -20.65 |
| 1184.12 | 32.71 | AV | 133 | 1.1 | H | 23.8 | 1.1 | 26.51 | 31.1 | 54 | -22.90 |
| 1184.12 | 41.81 | PK | 120 | 1.2 | V | 23.8 | 1.1 | 26.51 | 40.2 | 74 | -33.80 |
| 1184.12 | 42.96 | PK | 133 | 1.1 | H | 25.3 | 1.1 | 26.51 | 42.85 | 74 | -31.15 |

Middle Channel (2437 MHz)

| Frequency (MHz) | Substituted level (dBμV) | Detector (PK/AV) | Direction (degree) | Height (m) | Polarity (H/V) | Ant. Factor (dB/m) | Cable Loss (dB) | Pre- Amp. Gain (dB) | Cord. Amp. (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|--------------------|--------------------------------|---------------------|-----------------------|---------------|-------------------|--------------------------|-----------------------|------------------------------|---------------------------|-------------------|----------------|
| 4874 | 36.06 | AV | 189 | 1.1 | V | 33.6 | 2.6 | 26.78 | 45.48 | 54 | -8.52 |
| 4874 | 37.49 | AV | 156 | 1.0 | H | 33.8 | 2.6 | 26.78 | 47.11 | 54 | -6.89 |
| 4874 | 47.25 | PK | 189 | 1.0 | V | 33.6 | 2.6 | 26.78 | 56.67 | 74 | -17.33 |
| 4874 | 48.31 | PK | 156 | 1.0 | H | 33.8 | 2.6 | 26.78 | 57.93 | 74 | -16.07 |
| 1387.88 | 31.39 | AV | 242 | 1.1 | V | 25.1 | 1.3 | 26.65 | 31.14 | 54 | -22.86 |
| 1387.88 | 31.09 | AV | 134 | 1.0 | H | 25.1 | 1.3 | 26.65 | 30.84 | 54 | -23.16 |
| 1387.88 | 38.47 | PK | 242 | 1.0 | V | 25.3 | 1.3 | 26.65 | 38.42 | 74 | -35.58 |
| 1387.88 | 38.35 | PK | 134 | 1.0 | H | 25.3 | 1.3 | 26.65 | 38.3 | 74 | -35.70 |

High Channel (2462 MHz)

| Frequency (MHz) | Substituted level (dBμV) | Detector (PK/AV) | Direction (degree) | Height (m) | Polarity (H/V) | Ant. Factor (dB/m) | Cable Loss (dB) | Pre- Amp. Gain (dB) | Cord. Amp. (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|--------------------|--------------------------------|---------------------|-----------------------|---------------|-------------------|--------------------------|-----------------------|------------------------------|---------------------------|-------------------|----------------|
| 4924 | 37.22 | AV | 253 | 1.1 | V | 34.6 | 2.7 | 26.75 | 47.77 | 54 | -6.23 |
| 4924 | 36.31 | AV | 35 | 1.3 | H | 34.7 | 2.7 | 26.75 | 46.96 | 54 | -7.04 |
| 4924 | 49.45 | PK | 253 | 1.1 | V | 34.6 | 2.7 | 26.75 | 60.00 | 74 | -14.00 |
| 4924 | 47.14 | PK | 35 | 1.3 | H | 34.7 | 2.7 | 26.75 | 57.79 | 74 | -16.21 |
| 1397.52 | 30.06 | AV | 268 | 1.1 | V | 25.3 | 1.3 | 26.65 | 30.01 | 54 | -23.99 |
| 1397.52 | 29.20 | AV | 287 | 1.1 | H | 25.5 | 1.3 | 26.65 | 29.35 | 54 | -24.65 |
| 1397.52 | 38.55 | PK | 268 | 1.1 | V | 25.3 | 1.3 | 26.65 | 38.50 | 74 | -35.50 |
| 1397.52 | 38.32 | PK | 187 | 1.1 | H | 25.5 | 1.3 | 26.65 | 38.47 | 74 | -35.53 |

Spurious emission in restricted band:

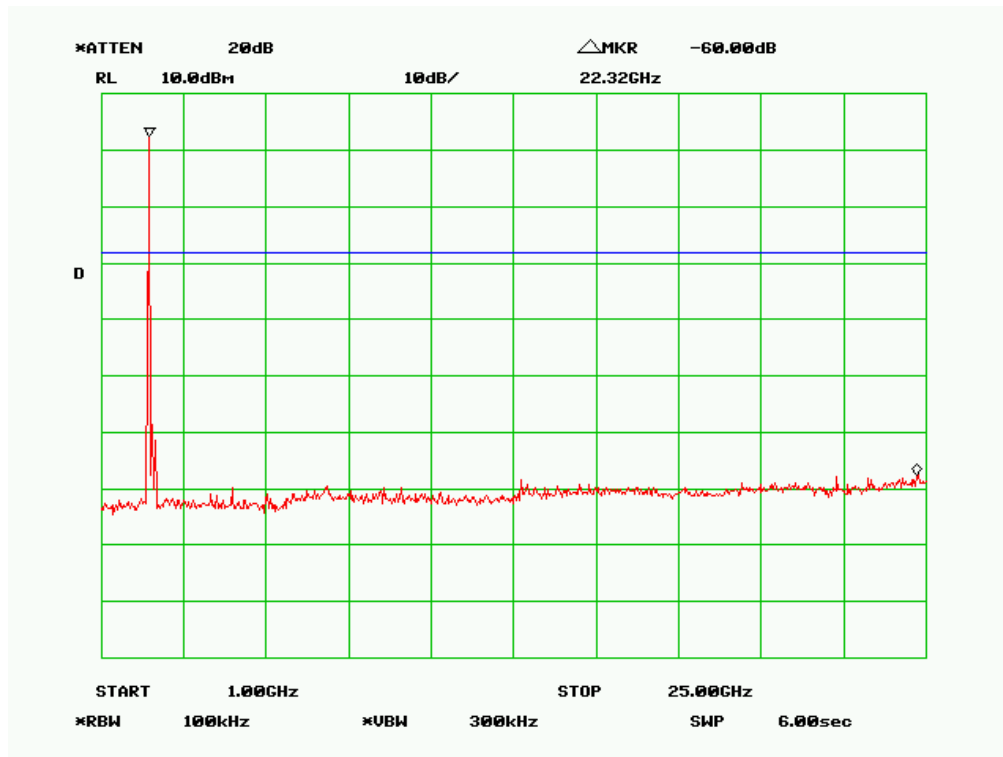
| Frequency (MHz) | Substituted level (dBμV) | Detector (PK/AV) | Direction (degree) | Height (m) | Polarity (H/V) | Ant. Factor (dB/m) | Cable Loss (dB) | Pre- Amp. Gain (dB) | Cord. Amp. (dBμV/m) | Limit (dBμV/m) | Margin (dB) |
|--------------------|--------------------------------|---------------------|-----------------------|---------------|-------------------|--------------------------|-----------------------|------------------------------|---------------------------|-------------------|----------------|
| 2363.86 | 37.85 | AV | 145 | 1.1 | V | 30.1 | 1.8 | 26.83 | 42.92 | 54 | -11.08 |
| 2485.42 | 36.58 | AV | 130 | 1.1 | V | 30.6 | 1.8 | 26.83 | 42.15 | 54 | -11.85 |
| 2485.42 | 33.48 | AV | 334 | 1.1 | H | 30.6 | 1.8 | 26.83 | 39.05 | 54 | -14.95 |
| 2363.86 | 33.18 | AV | 145 | 1.1 | H | 30.1 | 1.8 | 26.83 | 38.25 | 54 | -15.75 |
| 2485.42 | 45.79 | PK | 130 | 1.1 | V | 30.6 | 1.8 | 26.83 | 51.36 | 74 | -22.64 |
| 2363.86 | 45.69 | PK | 145 | 1.1 | V | 30.1 | 1.8 | 26.83 | 50.76 | 74 | -23.24 |
| 2485.42 | 45.08 | PK | 145 | 1.1 | H | 30.6 | 1.8 | 26.83 | 50.65 | 74 | -23.35 |
| 2363.86 | 45.22 | PK | 334 | 1.1 | H | 30.1 | 1.8 | 26.83 | 50.29 | 74 | -23.71 |

Antenna Port Conducted Spurious Emissions

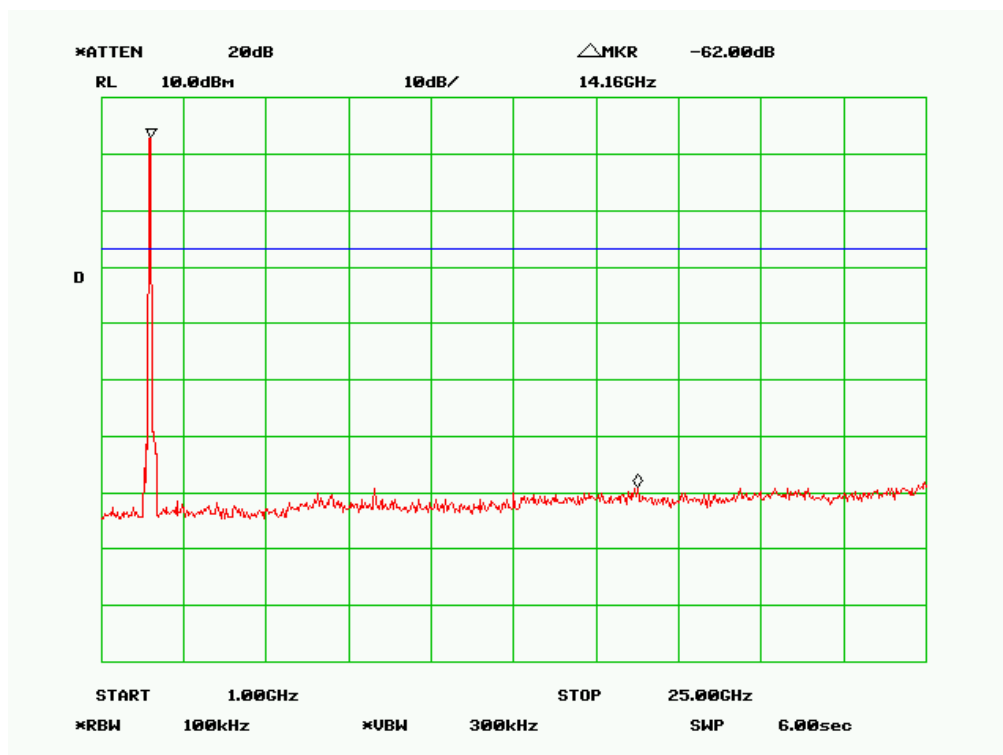
| Channel Frequency (MHz) | Delta Value (dBc) | Limit (dBc) | Ref. Plot | Result |
|-------------------------------|----------------------|----------------|--------------|--------|
| 802.11g mode | | | | |
| 2412 | 60.00 | 20 | PLOT1 | PASS |
| 2437 | 62.00 | 20 | PLOT2 | PASS |
| 2462 | 60.67 | 20 | PLOT3 | PASS |
| 802.11g mode | | | | |
| 2412 | 57.66 | 20 | PLOT4 | PASS |
| 2437 | 58.67 | 20 | PLOT5 | PASS |
| 2462 | 55.83 | 20 | PLOT6 | PASS |

Please refer to the following plots.

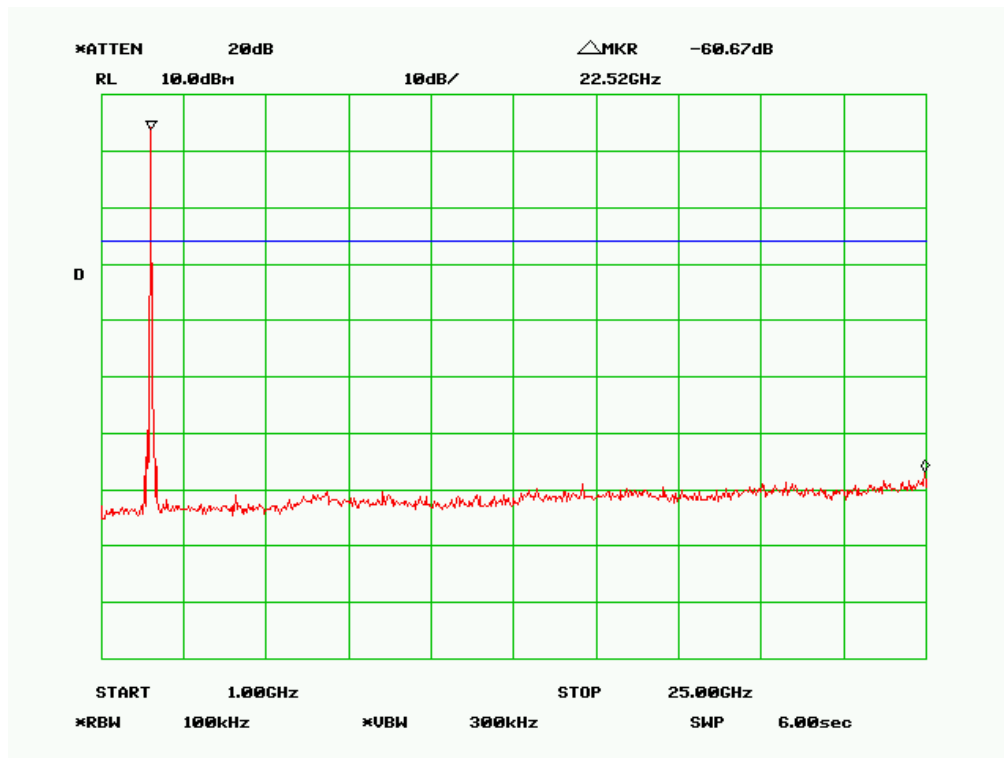
PLOT1- 802.11b Low Channel



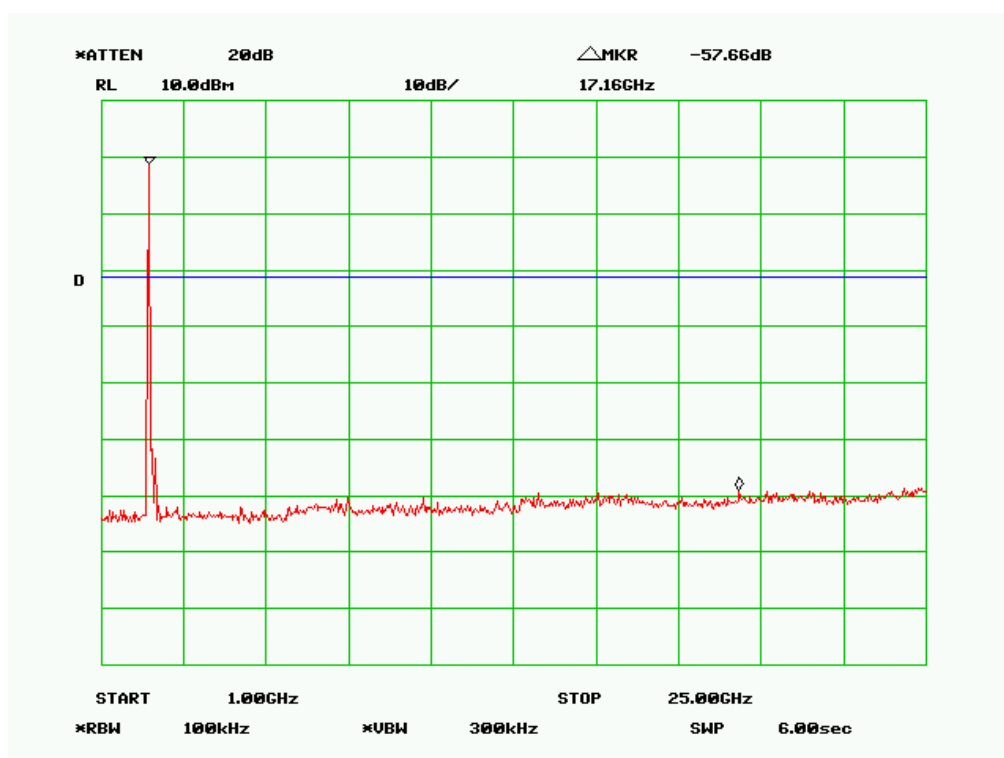
PLOT2- 802.11b Middle Channel



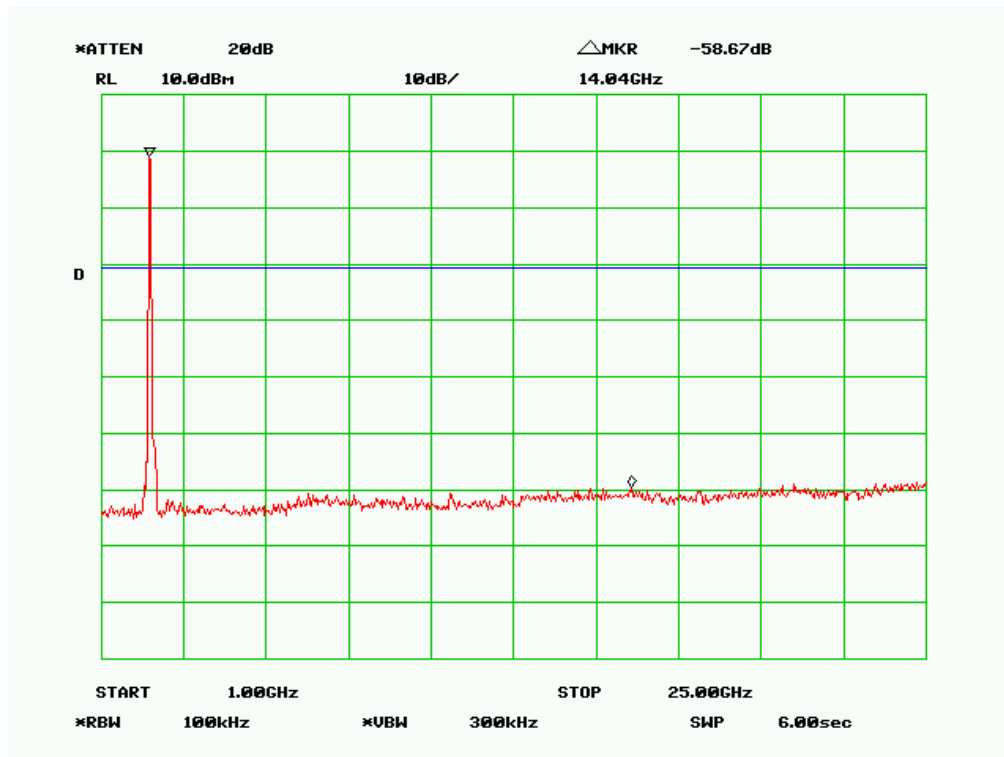
PLOT3- 802.11b High Channel



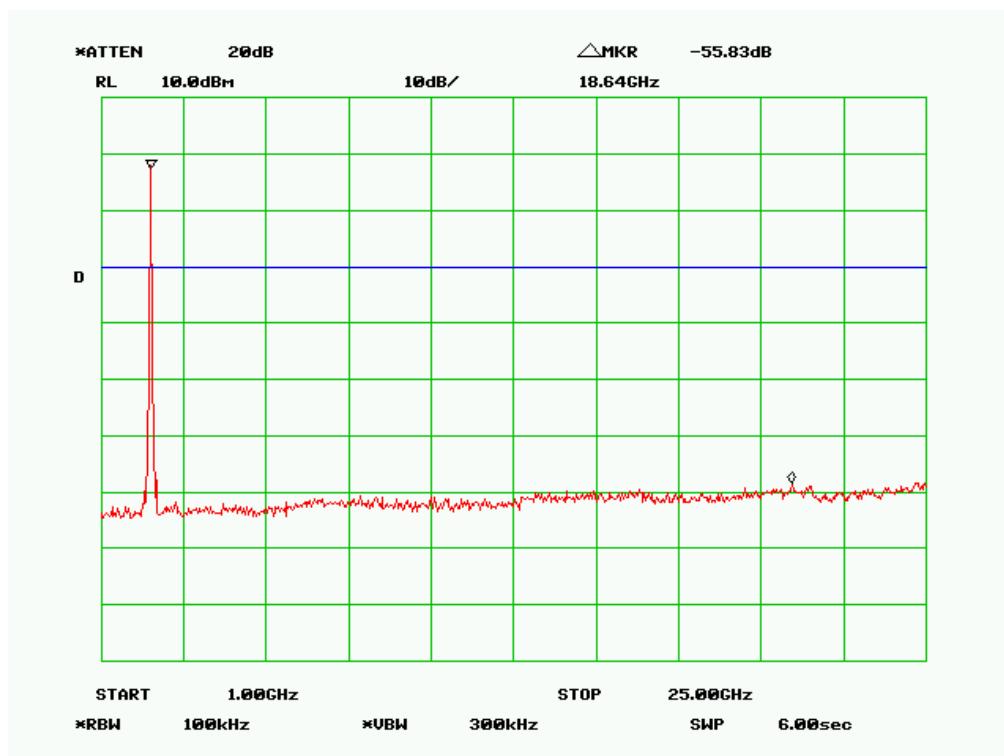
PLOT4- 802.11g Low Channel



PLOT5- 802.11g Middle Channel



PLOT6- 802.11g High Channel



5.5 §15.247(a) (2) – 6 dB BANDWIDTH TESTING

1. Conducted Measurement
EUT was set for low, mid, high channel with modulated mode and highest RF output power.
The spectrum analyzer was connected to the antenna terminal.
2. Environmental Conditions

| | |
|----------------------|----------|
| Temperature | 22°C |
| Relative Humidity | 50% |
| Atmospheric Pressure | 1019mbar |
3. Conducted Emissions Measurement Uncertainty
All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, in the range 30MHz – 40GHz is $\pm 1.5\text{dB}$.
4. Test date : March 13, 2012
Tested By : Deon Dai

Requirement(s): 47 CFR §15.247(a)(1)

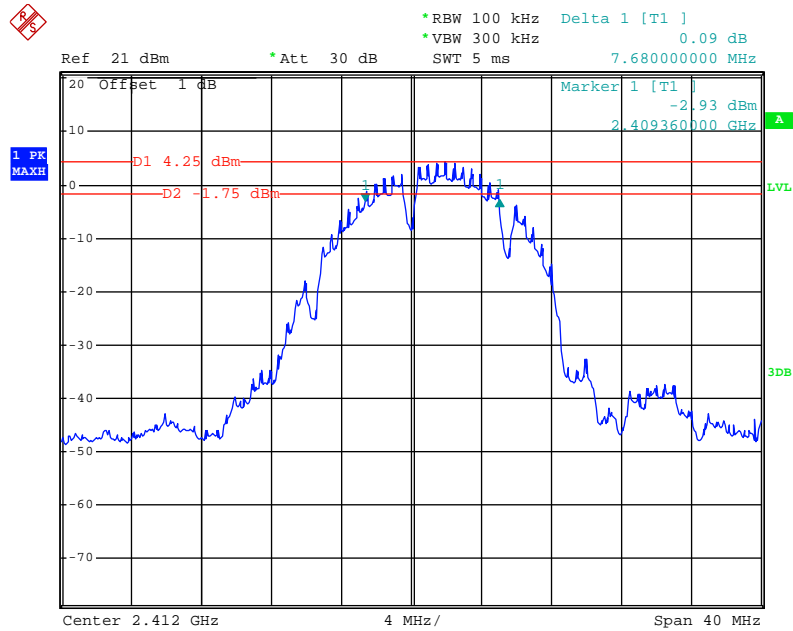
Procedures: The 6dB Bandwidths were measured conducted using a spectrum analyzer at low, middle, and high channels. 6dB Bandwidth Limit: $> 500\text{kHz}$.

Test Result: Pass.

Please refer to the following tables and plots.

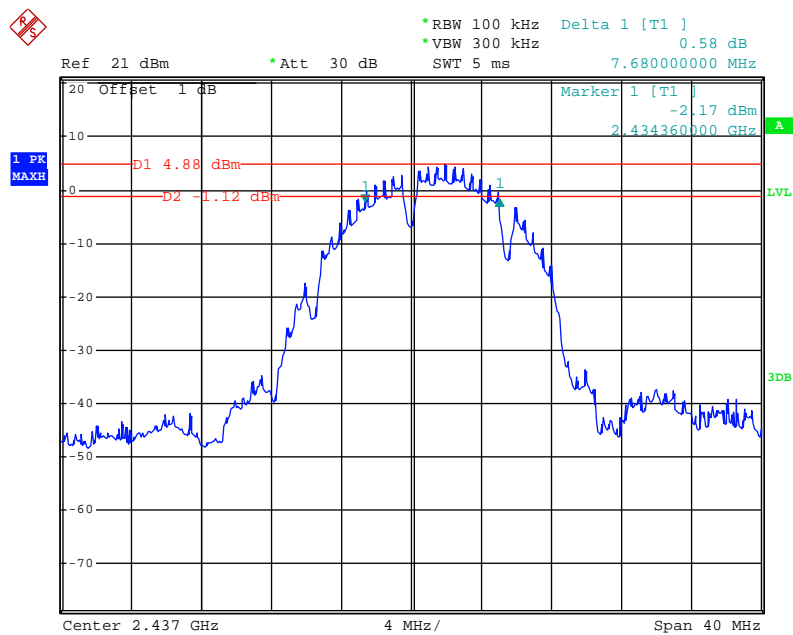
| Channel | Channel Frequency (MHz) | Measured 6dB Bandwidth (MHz) | FCC Part 15.247 Limit (kHz) |
|---------------------|-------------------------|------------------------------|-----------------------------|
| 802.11b mode | | | |
| Low | 2412 | 7.68 | > 500 |
| Middle | 2437 | 7.68 | > 500 |
| High | 2462 | 7.68 | > 500 |
| 802.11g mode | | | |
| Low | 2412 | 15.36 | > 500 |
| Middle | 2437 | 15.36 | > 500 |
| High | 2462 | 15.36 | > 500 |

802.11b Low Channel



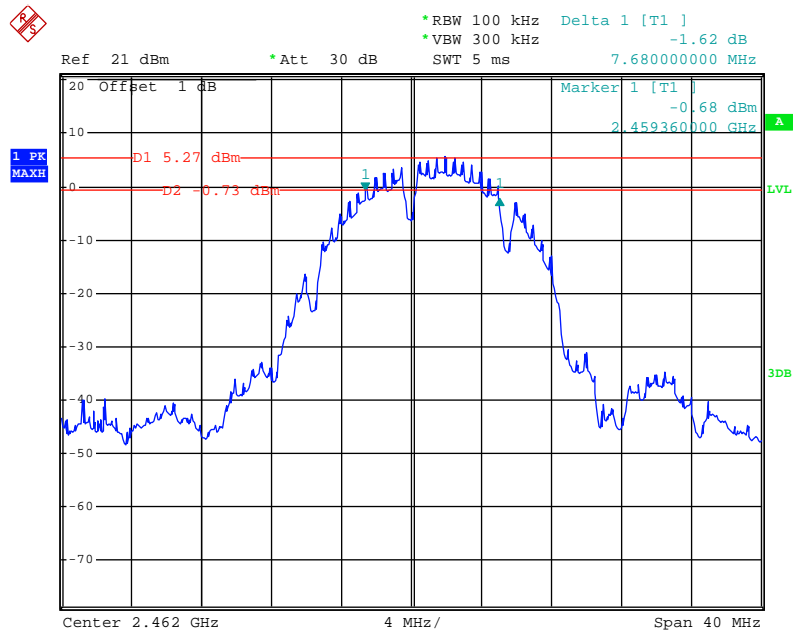
Date: 13.MAR.2012 22:32:04

802.11b Middle Channel



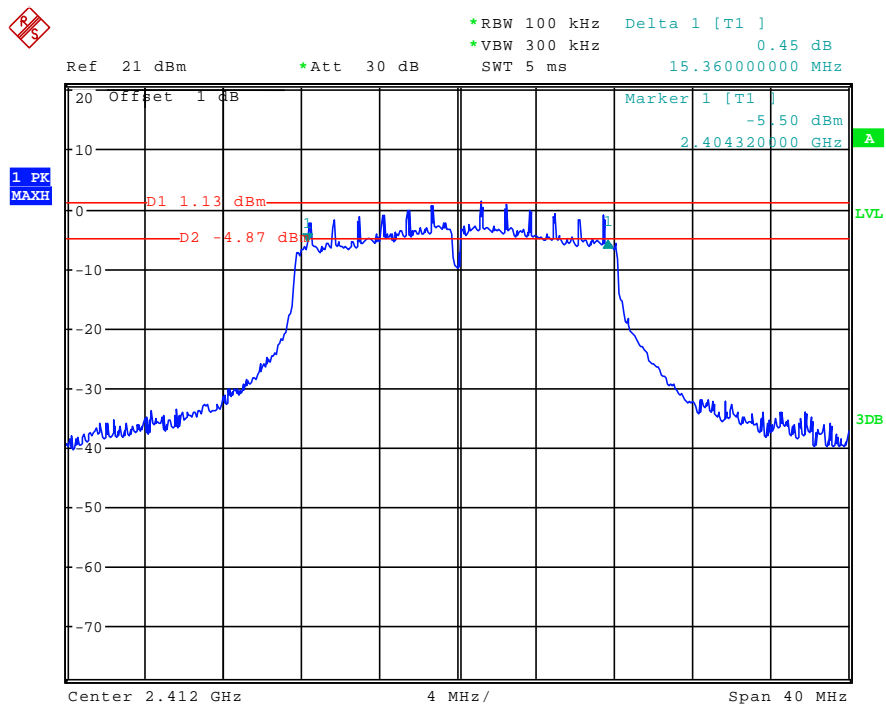
Date: 13.MAR.2012 22:34:13

802.11b High Channel



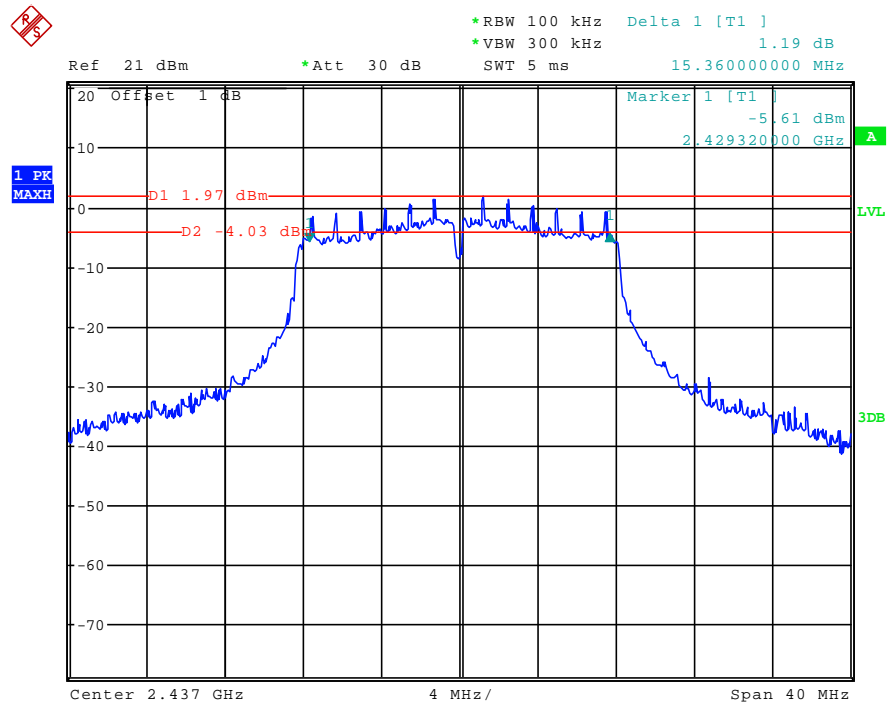
Date: 13.MAR.2012 22:29:00

802.11g Low Channel



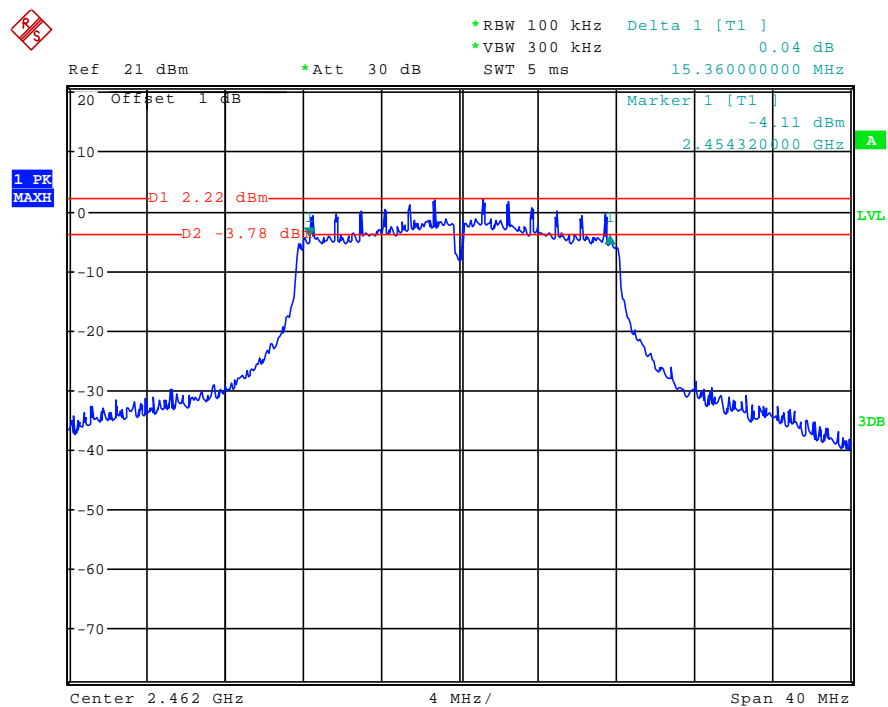
Date: 13.MAR.2012 22:57:06

802.11g Middle Channel



Date: 13.MAR.2012 23:01:02

802.11g High Channel



Date: 13.MAR.2012 22:53:33

5.6 §15.247(b) (3) - Maximum Peak Output Power

1. Conducted Measurement
EUT was set for low, mid, high channel with modulated mode and highest RF output power.
The spectrum analyzer was connected to the antenna terminal.
2. Conducted Emissions Measurement Uncertainty
All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, in the range 30MHz – 40GHz is $\pm 1.5\text{dB}$.
3. Environmental Conditions

| | |
|----------------------|----------|
| Temperature | 16°C |
| Relative Humidity | 50% |
| Atmospheric Pressure | 1019mbar |
4. Test date : March 13, 2012
Tested By : Deon Dai

Standard Requirement: 47 CFR §15.247(b)

Procedures: The peak output power was measured conducted using a spectrum analyzer at low, middle, and high channels. Peak detector was set to measure the power output. The power is converted from watt to dBm, therefore, 1 watt = 30 dBm. The highest antenna gain that will be used is 2dBi.

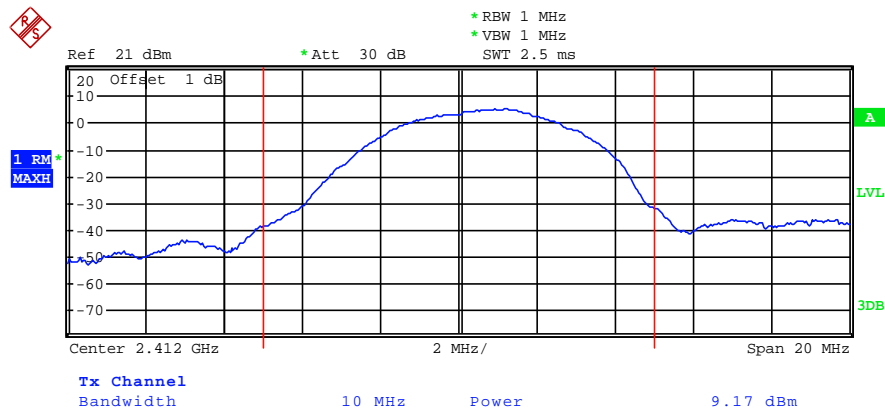
Test Result: Pass.

Please refer to the following tables and plots.

| Channel | Channel Frequency (MHz) | Data Rate (Mbps) | Output Power (dBm) | Limit (dBm) |
|---------------------|-------------------------|------------------|--------------------|-------------|
| 802.11b mode | | | | |
| Low | 2412 | 1 | 9.17 | 30 |
| Middle | 2437 | 1 | 10.48 | 30 |
| High | 2462 | 1 | 11.13 | 30 |
| 802.11g mode | | | | |
| Low | 2412 | 6 | 6.95 | 30 |
| Middle | 2437 | 6 | 7.50 | 30 |
| High | 2462 | 6 | 8.80 | 30 |

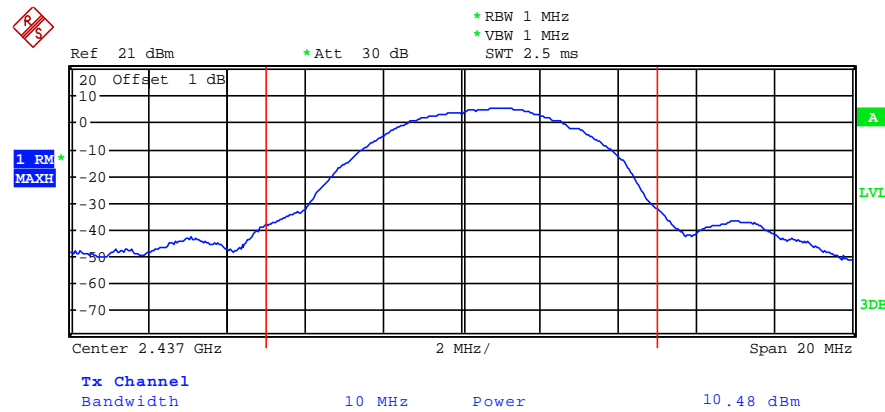
802.11b Mode:

802.11b RF Output Power, Low Channel



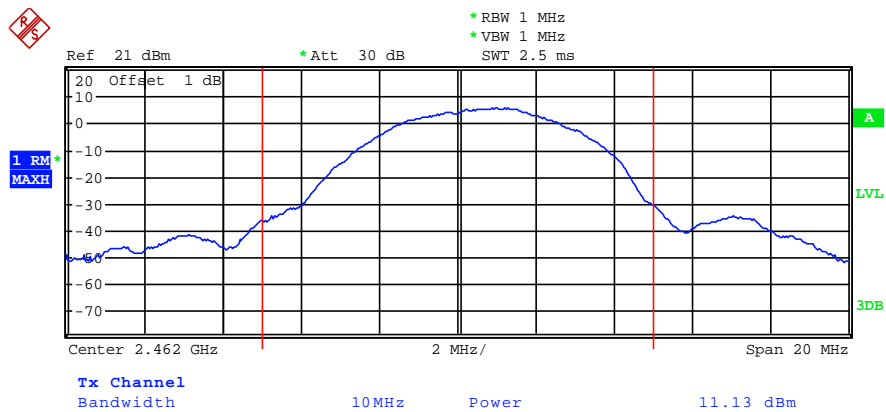
Date: 13.MAR.2012 22:19:14

802.11b RF Output Power, Middle Channel



Date: 13.MAR.2012 22:21:39

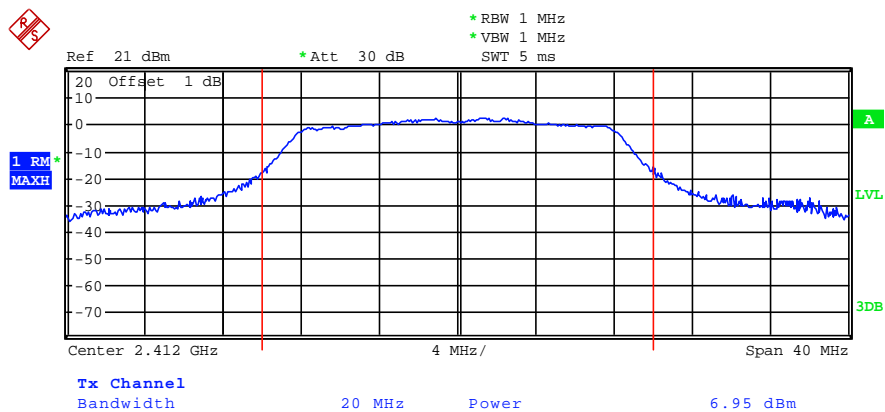
802.11b RF Output Power, High Channel



Date: 13.MAR.2012 22:23:04

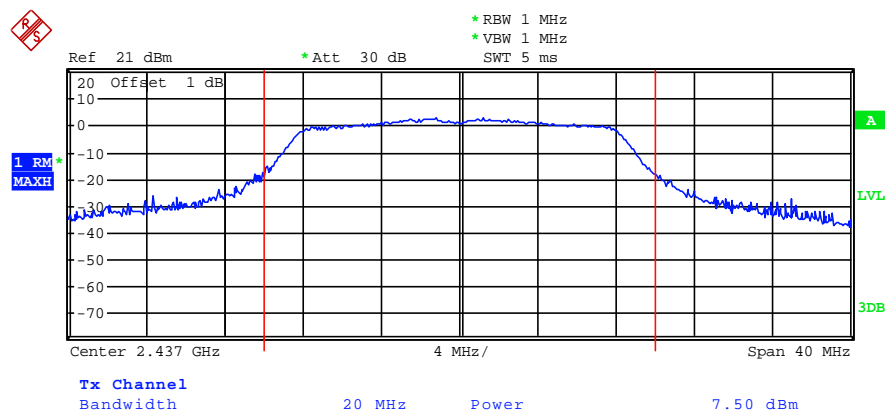
802.11g Mode:

802.11g RF Output Power, Low Channel



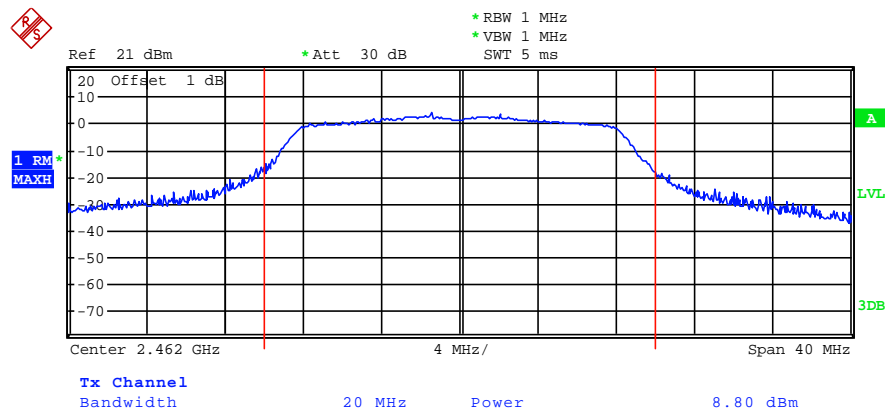
Date: 13.MAR.2012 22:48:38

802.11g RF Output Power, Middle Channel



Date: 13.MAR.2012 22:49:48

802.11g RF Output Power, High Channel



Date: 13.MAR.2012 22:50:21

5.7 §15.247(d) – 100 kHz Bandwidth of Frequency Band Edge

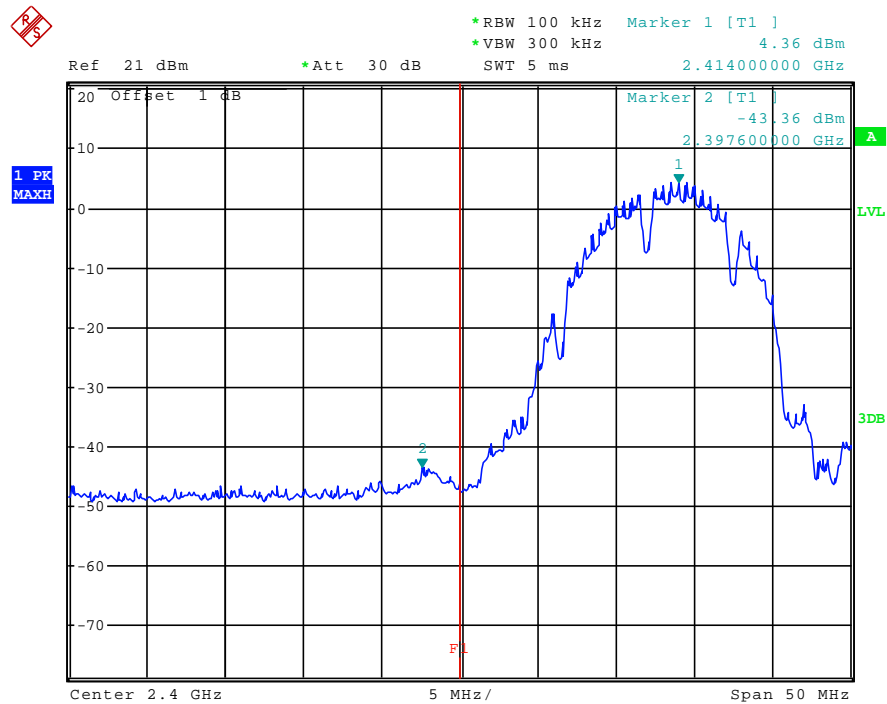
- In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c))
- | | | |
|--------------------------|----------------------|----------|
| Environmental Conditions | Temperature | 16oC |
| | Relative Humidity | 50% |
| | Atmospheric Pressure | 1019mbar |
- Test date : March 13, 2012
 Tested By : Deon Dai

Test Result: Pass.

Please refer to the following tables and plots.

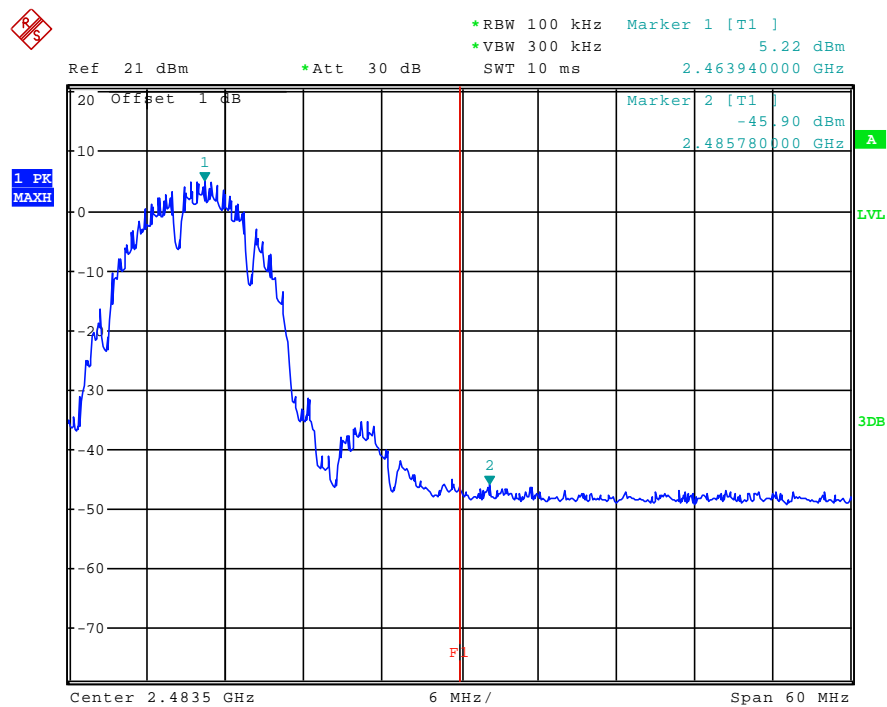
| Frequency (MHz) | Delta Peak to band emission (dBc) | Limit (dBc) |
|-----------------|-----------------------------------|-------------|
| 802.11b mode | | |
| 2397.60 | 47.72 | 20 |
| 2485.78 | 51.12 | 20 |
| 802.11g mode | | |
| 2399.80 | 33.48 | 20 |
| 2483.86 | 41.94 | 20 |

802.11b: Band Edge, Left Side

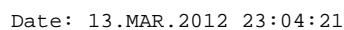


Date: 13.MAR.2012 22:40:35

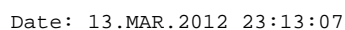
802.11b: Band Edge, Right Side



Date: 13.MAR.2012 22:43:53



802.11g: Band Edge, Right Side



5.8 §15.247(e) - Power Spectral Density

1. Conducted Measurement
EUT was set for low, mid, high channel with modulated mode and highest RF output power.
The spectrum analyzer was connected to the antenna terminal.
2. Environmental Conditions

| | |
|----------------------|----------|
| Temperature | 22°C |
| Relative Humidity | 50% |
| Atmospheric Pressure | 1019mbar |
3. Conducted Emissions Measurement Uncertainty
All test measurements carried out are traceable to national standards. The uncertainty of the measurement at a confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2, in the range 30MHz – 40GHz is $\pm 1.5\text{dB}$.
4. Test date : March 13 to March 14, 2012
Tested By : Deon Dai

Requirement(s): 47 CFR §15.247(e)

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

Procedures: The power spectral density measurement was taken conducted using a spectrum analyzer.

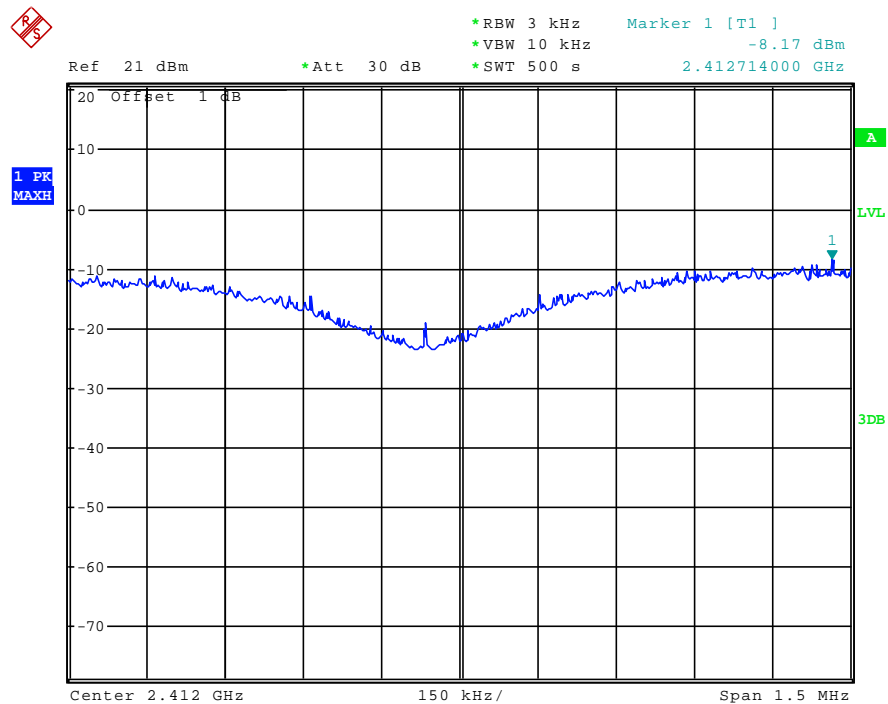
RBW=3KHz, VBW>RBW, Sweep time to SPAN/RBW(s).

Test Result: Pass.

Please refer to the following tables and plots.

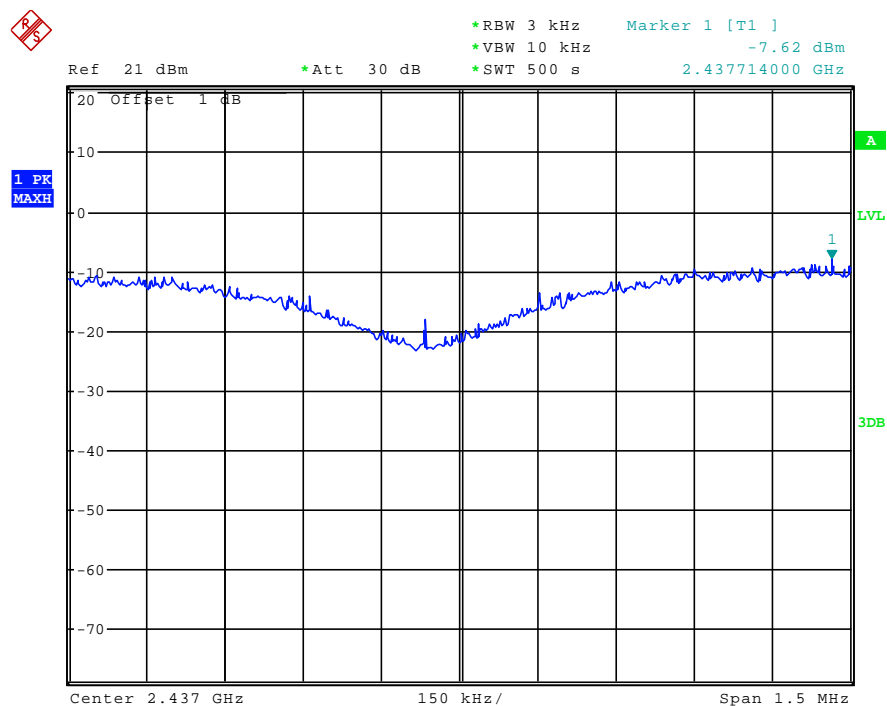
| Channel | Frequency (MHz) | Data Rate | PSD (dBm/3KHz) | Limit (dBm/3KHz) | Result |
|--------------|-----------------|-----------|----------------|------------------|--------|
| 802.11b mode | | | | | |
| Low | 2412 | 1 | -8.17 | 8 | Pass |
| Middle | 2437 | 1 | -7.62 | 8 | Pass |
| High | 2462 | 1 | -7.36 | 8 | Pass |
| 802.11g mode | | | | | |
| Low | 2412 | 6 | -13.26 | 8 | Pass |
| Middle | 2437 | 6 | -12.49 | 8 | Pass |
| High | 2462 | 6 | -12.42 | 8 | Pass |

Power Spectral Density, 802.11b Low Channel



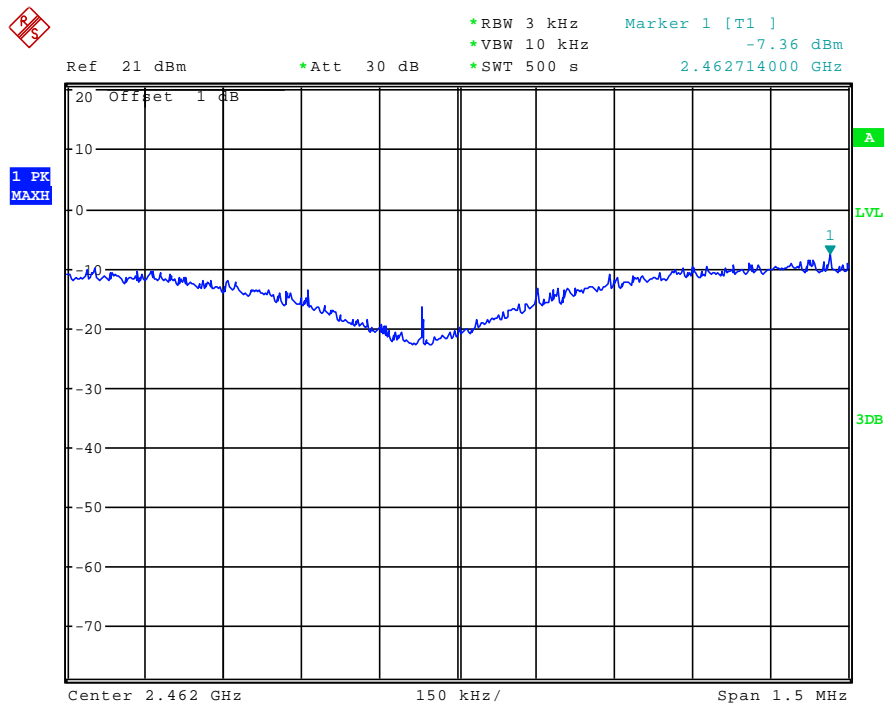
Date: 13.MAR.2012 23:26:50

Power Spectral Density, 802.11b Middle Channel



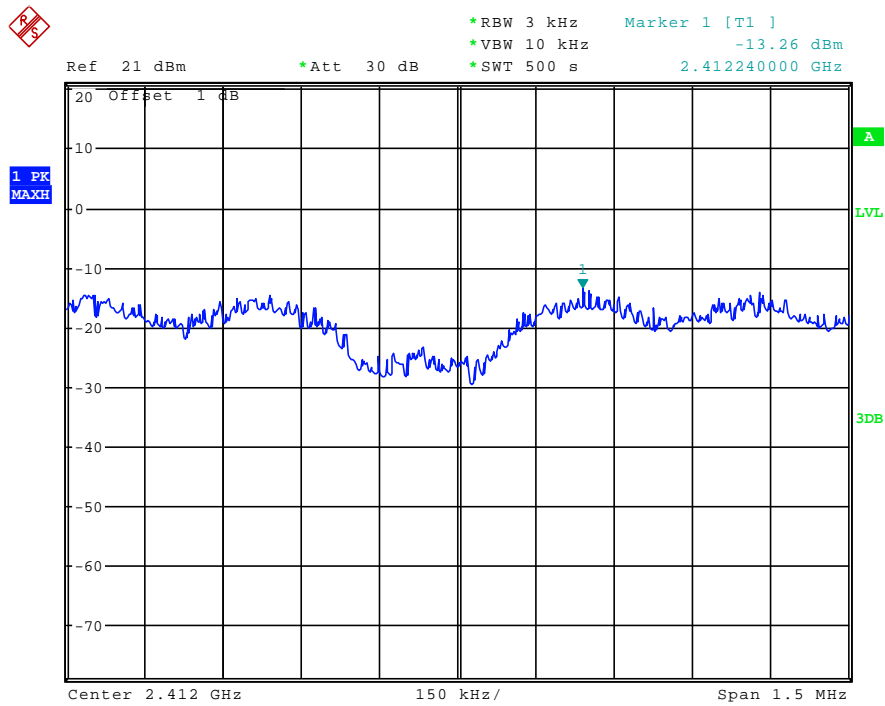
Date: 13.MAR.2012 23:36:10

Power Spectral Density, 802.11b High Channel



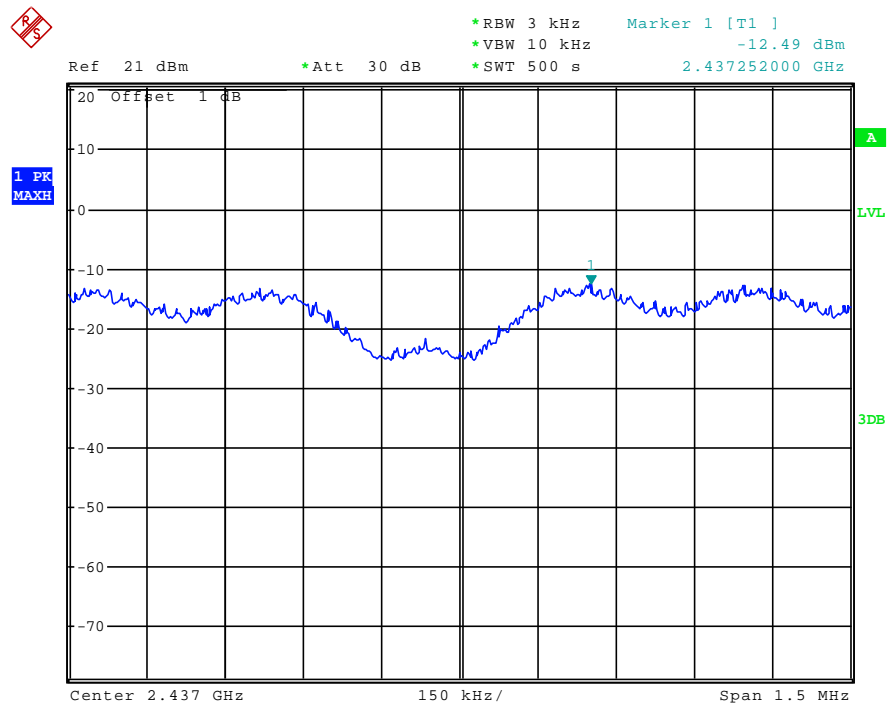
Date: 13.MAR.2012 23:47:23

Power Spectral Density, 802.11g Low Channel



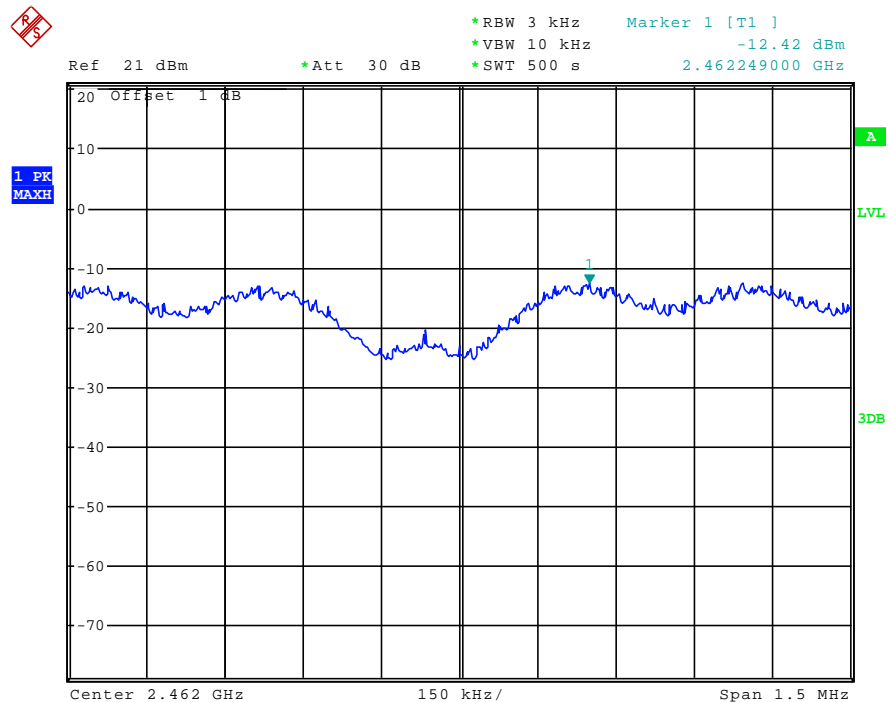
Date: 13.MAR.2012 23:57:28

Power Spectral Density, 802.11g Middle Channel



Date: 14.MAR.2012 00:08:35

Power Spectral Density, 802.11g High Channel



Date: 14.MAR.2012 00:18:39

Annex A. TEST INSTRUMENT & METHOD

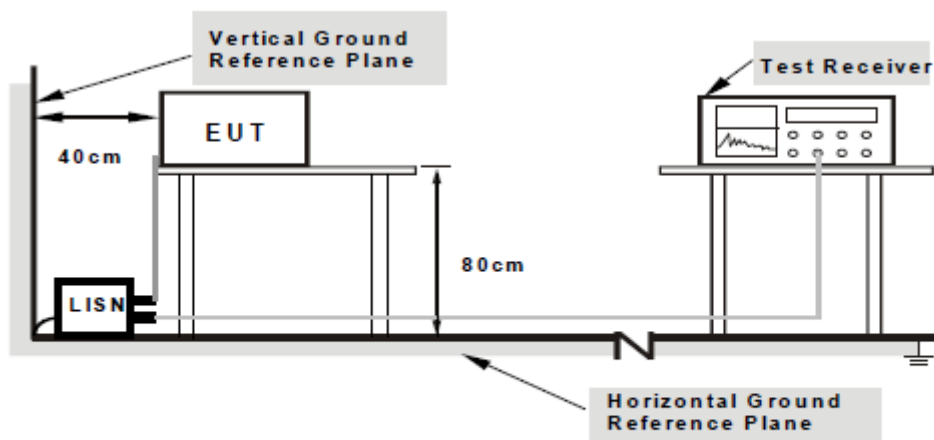
Annex A.i. TEST INSTRUMENTATION & GENERAL PROCEDURES

| Instrument | Model | Calibration Date | Calibration Due Date |
|-------------------------------|------------------------|------------------|----------------------|
| AC Conducted Emissions | | | |
| R&S EMI Test Receiver | ESPI3 | 05/25/2011 | 05/25/2012 |
| R&S LISN | LI-115 | 05/25/2011 | 05/25/2012 |
| Radiated Emissions | | | |
| Spectrum Analyzer | 8563E | 01/10/2011 | 01/10/2012 |
| EMI Receiver | ESPI3 | 05/18/2011 | 05/18/2012 |
| Antenna(1 ~18GHz) | 3115 | 06/02/2011 | 06/02/2012 |
| Antenna (30MHz~2GHz) | JB1 | 05/25/2011 | 05/25/2012 |
| Chamber | 3m | 04/13/2011 | 04/13/2012 |
| Pre-Amplifier(1 ~ 18GHz) | AMF-7D-00101800-30-10P | 05/25/2011 | 05/25/2012 |
| Horn Antenna (18~40GHz) | AH-840 | 07/23/2011 | 07/23/2013 |
| Microwave Pre-Amp (18~40GHz) | PA-840 | Every 2000 Hours | |
| Signal Analyzer | 8665B | 02/29/2012 | 02/29/2013 |
| Temperature/Humidity Chamber | 1007H | 06/08/2011 | 06/08/2012 |

Annex A.ii. CONDUCTED EMISSIONS TEST DESCRIPTION

Test Set-up

1. The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m x 1m x 0.8m high, non-metallic table, as shown in Annex B.
2. The power supply for the EUT was fed through a 50Ω/50μH EUT LISN, connected to filtered mains.
3. The RF OUT of the EUT LISN was connected to the EMI test receiver via a low-loss coaxial cable.
4. All other supporting equipments were powered separately from another main supply.



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) are 80cm from EUT and at least 80cm from other units and other metal planes support units.

For the actual test configuration, please refer to the related item – Photographs of the Test Configuration1.

Test Method

1. The EUT was switched on and allowed to warm up to its normal operating condition.
2. A scan was made on the NEUTRAL line (for AC mains) or Earth line (for DC power) over the required frequency range using an EMI test receiver.
3. High peaks, relative to the limit line, were then selected.
4. The EMI test receiver was then tuned to the selected frequencies and the necessary measurements made with a receiver bandwidth setting of 10 KHz. For FCC tests, only Quasi-peak measurements were made; while for CISPR/EN tests, both Quasi-peak and Average measurements were made.
5. Steps 2 to 4 were then repeated for the LIVE line (for AC mains) or DC line (for DC power).

Description of Conducted Emission Program

This EMC Measurement software run LabView automation software and offers a common user interface for electromagnetic interference (EMI) measurements. This software is a modern and powerful tool for controlling and monitoring EMI test receivers and EMC test systems. It guarantees reliable collection, evaluation, and documentation of measurement results. Basically, this program will run a pre-scan measurement before it proceeds with the final measurement. The pre-scan routine will run the common scan range from 150 kHz to 30 MHz; the program will first start a peak and average scan on selectable measurement time and step size. After the program complete the pre-scan, this program will perform the Quasi Peak and Average measurement, based on the pre-scan peak data reduction result.

Sample Calculation Example

At 20 MHz

limit = $250\text{ }\mu\text{V}$ = 47.96 dB μV

Transducer factor of LISN, pulse limiter & cable loss at 20 MHz = 11.20 dB

Q-P reading obtained directly from EMI Receiver = 40.00 dB μV
(Calibrated for system losses)

Therefore, Q-P margin = $47.96 - 40.00 = 7.96$ i.e. **7.96 dB below limit**

Annex A. iii RADIATED EMISSIONS TEST DESCRIPTION

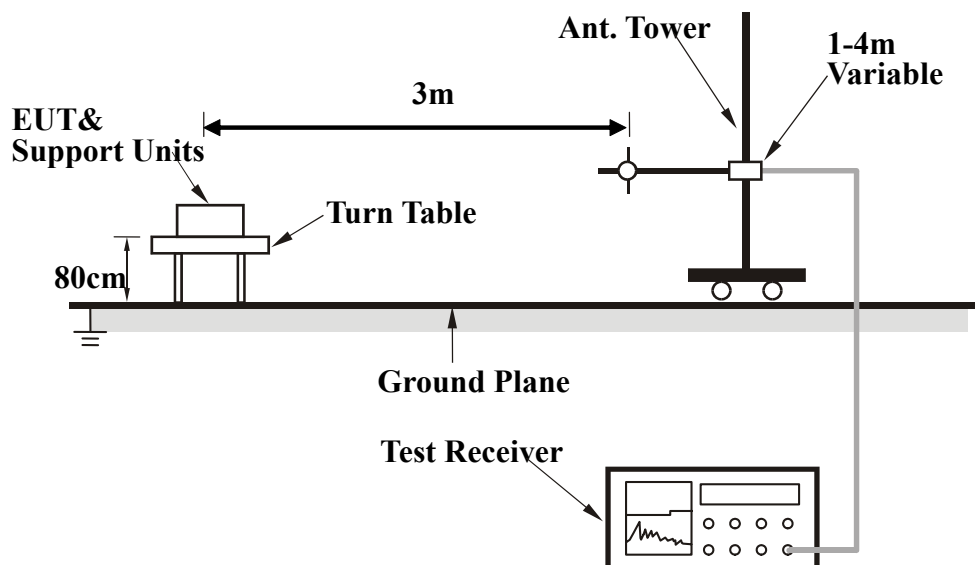
EUT Characterisation

EUT characterisation, over the frequency range from 30MHz to 10th Harmonic, was done in order to minimise radiated emissions testing time while still maintaining high confidence in the test results.

The EUT was placed in the chamber, at a height of about 0.8m on a turntable. Its radiated emissions frequency profile was observed, using a spectrum analyzer /receiver with the appropriate broadband antenna placed 3m away from the EUT. Radiated emissions from the EUT were maximised by rotating the turntable manually, changing the antenna polarisation and manipulating the EUT cables while observing the frequency profile on the spectrum analyzer / receiver. Frequency points at which maximum emissions occurred, clock frequencies and operating frequencies were then noted for the formal radiated emissions test at the Open Area Test Site (OATS).

Test Set-up

1. The EUT and supporting equipment were set up in accordance with the requirements of the standard on top of a 1.5m X 1.0m X 0.8m high, non-metallic table.
2. The filtered power supply for the EUT and supporting equipment were tapped from the appropriate power sockets located on the turntable.
3. The relevant broadband antenna was set at the required test distance away from the EUT and supporting equipment boundary.



Test Method

The following procedure was performed to determine the maximum emission axis of EUT:

1. With the receiving antenna is H polarization, rotate the EUT in turns with three orthogonal axes to determine the axis of maximum emission.
2. With the receiving antenna is V polarization, rotate the EUT in turns with three orthogonal axes to determine the axis of maximum emission.
3. Compare the results derived from above two steps. So, the axis of maximum emission from EUT was determined and the configuration was used to perform the final measurement.

Final Radiated Emission Measurement

1. Setup the configuration according to figure 1. Turn on EUT and make sure that it is in normal function.
2. For emission frequencies measured below 1 GHz, a pre-scan is performed in a shielded chamber to determine the accurate frequencies of higher emissions will be checked on a open test site. As the same purpose, for emission frequencies measured above 1 GHz, a pre-scan also be performed with a 1 meter measuring distance before final test.
3. For emission frequencies measured below and above 1 GHz, set the spectrum analyzer on a 100 kHz and 1 MHz resolution bandwidth respectively for each frequency measured in step 2.
4. The search antenna is to be raised and lowered over a range from 1 to 4 meters in horizontally polarized orientation. Position the highness when the highest value is indicated on spectrum analyzer, then change the orientation of EUT on test table over a range from 0 ° to 360 ° with a speed as slow as possible, and keep the azimuth that highest emission is indicated on the spectrum analyzer. Vary the antenna position again and record the highest value as a final reading.
5. Repeat step 4 until all frequencies need to be measured were complete.
6. Repeat step 5 with search antenna in vertical polarized orientations.

During the radiated emission test, the Spectrum Analyzer was set with the following configurations:

| Frequency Band (MHz) | Function | Resolution bandwidth | Video Bandwidth |
|----------------------|----------|----------------------|-----------------|
| 30 to 1000 | Peak | 100 kHz | 100 kHz |
| Above 1000 | Peak | 1 MHz | 1 MHz |
| | Average | 1 MHz | 10 Hz |

Sample Calculation Example

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. For the limit is employed average value, therefore the peak value can be transferred to average value by subtracting the duty factor. The basic equation with a sample calculation is as follows:

$$\text{Peak} = \text{Reading} + \text{Corrected Factor}$$

where

Corr. Factor = Antenna Factor + Cable Factor - Amplifier Gain (if any)

And the average value is

$$\text{Average} = \text{Peak Value} + \text{Duty Factor or}$$

$$\text{Set RBW} = 1\text{MHz, VBW} = 10\text{Hz.}$$

Note :

If the measured frequencies are fall in the restricted frequency band, the limit employed must be quasi peak value when frequencies are below or equal to 1 GHz. And the measuring instrument is set to quasi peak detector function.

Annex B. EUT AND TEST SETUP PHOTOGRAPHS

Please see attachment

Annex C. TEST SETUP AND SUPPORTING EQUIPMENT

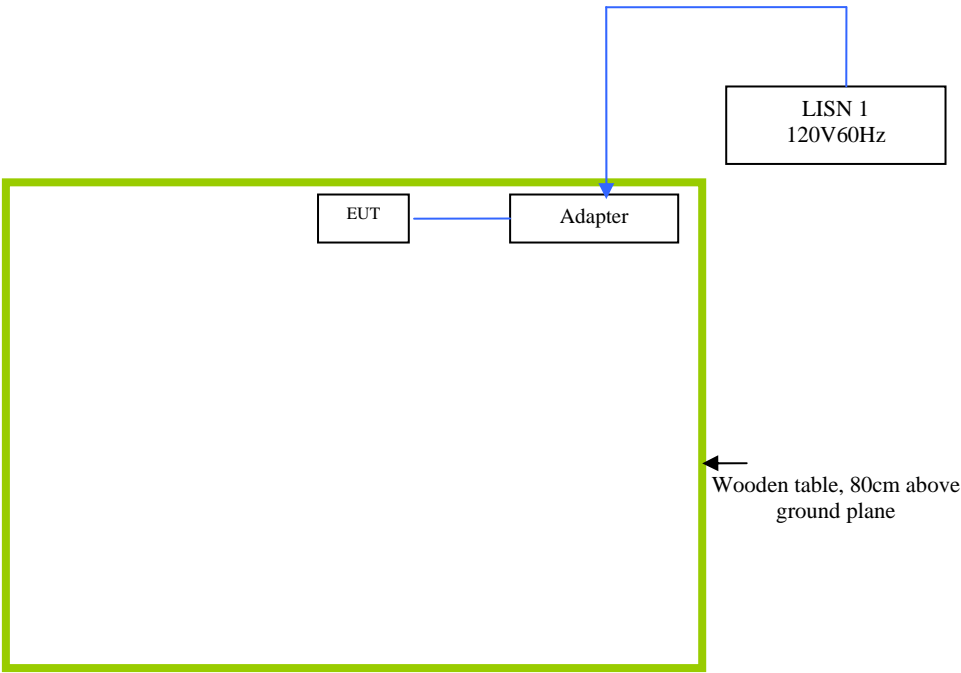
EUT TEST CONDITIONS

Annex C. i. SUPPORTING EQUIPMENT DESCRIPTION

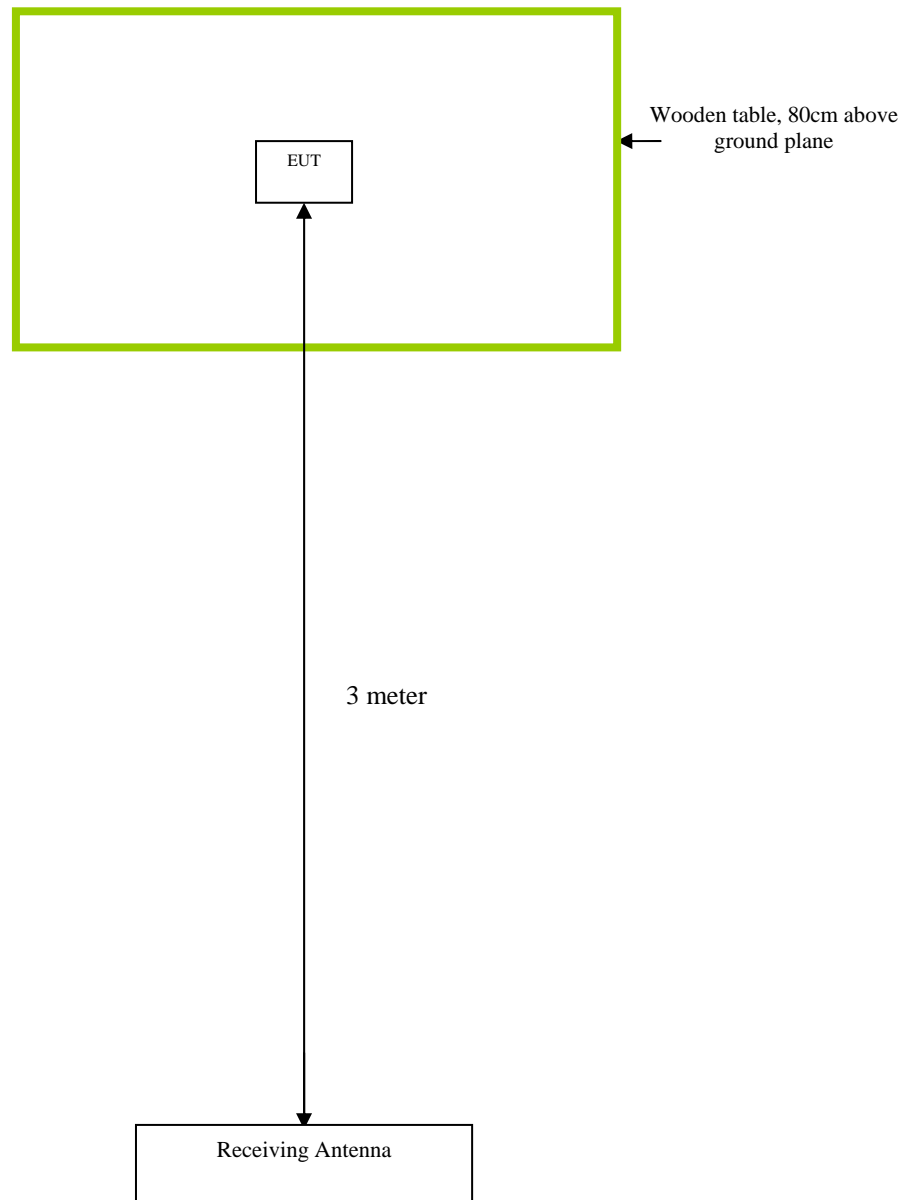
The following is a description of supporting equipment and details of cables used with the EUT.

| Equipment Description (Including Brand Name) | Model & Serial Number | Cable Description (List Length, Type & Purpose) |
|---|-----------------------|--|
| N/A | N/A | N/A |

Block Configuration Diagram for Conducted Emissions



Block Configuration Diagram for Radiated Emissions



Annex C.ii. EUT OPERATING CONDITIONS

The following is the description of how the EUT is exercised during testing.

| Test | Description Of Operation |
|-------------------|--|
| Emissions Testing | The EUT was continuously transmitting to stimulate the worst case. |

Annex D. USER MANUAL / BLOCK DIAGRAM / SCHEMATICS / PART LIST

Please see attachment

Annex E. SIEMIC ACCREDITATION CERTIFICATES

There is no electrical change has been made to equipment that alters the compliance characteristics. The difference of these three models is for different logo and color.