



FCC TEST REPORT (15.247)

REPORT NO.: RF980406H01E R1

MODEL NO.: AP-7131N

FCC ID: UZ7AP7131N

RECEIVED: Nov. 06, 2012

TESTED: Nov. 15 to Dec. 13, 2012

ISSUED: Mar. 15, 2013

APPLICANT: Motorola Solutions, Inc.

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ISSUED BY: Bureau Veritas Consumer Products Services
(H.K.) Ltd., Taoyuan Branch Hsin Chu Laboratory

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RELEASE CONTROL RECORD

| ISSUE NO. | REASON FOR CHANGE | DATE ISSUED |
|-----------------|------------------------------------|---------------|
| RF980406H01E | Original release | Jan. 24, 2013 |
| RF980406H01E R1 | Modified section 3.1 output power. | Mar. 15, 2013 |

1. CERTIFICATION

PRODUCT: 11n Access-Point
BRAND NAME: Motorola
MODEL NO.: AP-7131N
TEST SAMPLE: R&D SAMPLE
APPLICANT: Motorola Solutions, Inc.
TESTED: Nov. 15 to Dec. 13, 2012
STANDARDS: **FCC Part 15, Subpart C (Section 15.247)**
ANSI C63.10-2009

The above equipment (Model: AP-7131N) has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY :  , **DATE:** Mar. 15, 2013
(Elsie Hsu, Specialist)

APPROVED BY :  , **DATE:** Mar. 15, 2013
(May Chen, Manager)



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2. SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

For 2.4GHz, 2400~2483.5MHz Band

| APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247) | | | |
|---|-----------------------------|--------|--|
| STANDARD SECTION | TEST TYPE | RESULT | REMARK |
| 15.207 | AC Power Conducted Emission | PASS | Meet the requirement of limit. Minimum passing margin is -6.56dB at 6.37500MHz |
| 15.247(d) 15.209 | Radiated Emissions | PASS | Meet the requirement of limit. Minimum passing margin is -0.6dB at 2390.0MHz |
| 15.247(d) | Band Edge Measurement | PASS | Meet the requirement of limit. |
| 15.247(a)(2) | 6dB bandwidth | PASS | Meet the requirement of limit. |
| 15.247(b) | Conducted Output power | PASS | Meet the requirement of limit. |
| 15.247(e) | Power Spectral Density | PASS | Meet the requirement of limit. |
| 15.203 | Antenna Requirement | PASS | No antenna connector is used. |

For 5GHz, 5725~5850MHz Band

| APPLIED STANDARD: FCC PART 15, SUBPART C (SECTION 15.247) | | | |
|---|-----------------------------|--------|--|
| STANDARD SECTION | TEST TYPE | RESULT | REMARK |
| 15.207 | AC Power Conducted Emission | PASS | Meet the requirement of limit. Minimum passing margin is -6.73dB at 6.91016MHz |
| 15.247(d) 15.209 | Radiated Emissions | PASS | Meet the requirement of limit. Minimum passing margin is -2.4dB at 37.54MHz |
| 15.247(d) | Band Edge Measurement | PASS | Meet the requirement of limit. |
| 15.247(a)(2) | 6dB bandwidth | PASS | Meet the requirement of limit. |
| 15.247(b) | Conducted Output power | PASS | Meet the requirement of limit. |
| 15.247(e) | Power Spectral Density | PASS | Meet the requirement of limit. |
| 15.203 | Antenna Requirement | PASS | No antenna connector is used. |

NOTE:

1. The EUT was operating in 2.400 ~ 2.4835GHz, 5.15~5.35GHz, 5.47~5.6GHz & 5.65~5.725GHz and 5.725~5.850GHz frequencies band. This report was recorded the RF parameters including 2.400 ~ 2.4835GHz and 5.725~5.850GHz. For the 5.15~5.35GHz and 5.47~5.6GHz & 5.65~5.725GHz RF parameters was recorded in another test report.
2. This report is prepared for FCC class II change. All of test items need to be performed were presented in this test report.



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2.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

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

| Measurement | Value |
|-----------------------------------|---------|
| Conducted emissions | 2.98 dB |
| Radiated emissions (30MHz-1GHz) | 5.59 dB |
| Radiated emissions (1GHz -6GHz) | 3.56 dB |
| Radiated emissions (6GHz -18GHz) | 4.10 dB |
| Radiated emissions (18GHz -40GHz) | 4.24 dB |



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3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

| | |
|------------------------------|---|
| PRODUCT | 11n Access-Point |
| MODEL NO. | AP-7131N |
| POWER SUPPLY | DC 48V from Power Adapter or DC 55V from POE |
| MODULATION TYPE | CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM |
| MODULATION TECHNOLOGY | DSSS,OFDM |
| TRANSFER RATE | 802.11b: up to 11Mbps 802.11a / g: up to 54Mbps 802.11n: up to 300Mbps |
| OPERATING FREQUENCY | For 15.407 802.11a/n: 5.18 ~ 5.24GHz, 5.26 ~ 5.32GHz, 5.50 ~ 5.58GHz, 5.66GHz ~ 5.70GHz For 15.247 802.11b/g/n: 2.412 ~ 2.462GHz 802.11a/n: 5.745 ~ 5.825GHz |
| NUMBER OF CHANNEL | For 15.407 16 for 802.11a, 802.11n (HT20) 7 for 802.11n (HT40) For 15.247 (2.4GHz) 11 for 802.11b, 802.11g, 802.11n (HT20) 7 for 802.11n (HT40) For 15.247 (5GHz) 5 for 802.11a, 802.11n (HT20) 2 for 802.11n (HT40) |
| MAXIMUM OUTPUT POWER | Please see NOTE |
| ANTENNA TYPE | Please see NOTE |
| DATA CABLE | NA |
| I/O PORTS | Refer to user's manual |
| ASSOCIATED DEVICES | Adapter × 1 |



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NOTE:

1. This report is prepared for FCC class II permissive change. The difference compared with the Report No.: RF980406H01 design is as the following information

u Modify applicant and address of applicant

u Add three new antennas.

| Original Antennas | | | | | | |
|-------------------|----------|--------------------|--------------|--|-------------------------|--------------------------------------|
| No | Brand | Model | Antenna Type | Connector Type (External only) | Frequency range (MHz) | Indoor or Outdoor |
| 1 | Symbol | ML-2499-BYGA2-01R | YAGI | Type N-Female | 2400~2500 | Indoor |
| 2 | Symbol | ML-2499-11PNA2-01R | Panel | RP-BNC-Female | 2400~2500 | Indoor |
| 3 | Symbol | ML-2452-APA2-01 | Dipole | RP-SMA MALE | 2400-2500, 5150-5850 | Indoor |
| 4 | Motolora | ML-2452-PTA2M3X3-1 | Embedded | RP-SMA-Male | 2400-2500, 4900-5990 | Indoor |
| 5 | Symbol | ML-5299-WPNA1-01R | Panel | RP-SMA-Female | 5150-5875 | Indoor |
| 6 | Symbol | ML-2499-HPA3-01R | Dipole | RP-BNC FEMALE | 2400-2500 | Indoor |
| 7 | Symbol | ML-5299-HPA1-01R | Dipole | RP-SMA FEMALE | 5150-5875 | Indoor |
| 8 | Motolora | ML-2452-PTA3M3-036 | Patch | RP-SMA-Male | 2400-2500, 4900-5990 | Indoor |
| 9 | WHA YU | ML-2452-APA6J-01 | Dipole | SMA Plug Reverse | 2400-2500, 4900-5990 | Indoor |
| 10 | Motolora | ML-2452-PNL9M3-036 | Panel | Reverse SMA | 2400-2500, 5150-5875 | Indoor |
| 11 | Motolora | ML-5299-BYGA15-012 | YAGI | Type N Female connector | 4900-5800 | Indoor |
| 12 | WHA YU | M25.90002.S01 | Dipole | I-PEX | 2400-2500, 5150-5850 | Indoor |
| Original Antennas | | | | | | |
| No | Brand | Model | Gain (dBi) | Cable Loss(dB) (External only, if any) | Net Gain (dB) | Cable Length (External only, if any) |
| 1 | Symbol | ML-2499-BYGA2-01R | 14.2 | 0.3 | 13.9 | 12 inch |
| 2 | Symbol | ML-2499-11PNA2-01R | 11.2 | 2.7 | 8.5 | 96 inch |
| 3 | Symbol | ML-2452-APA2-01 | 3 / 4 | N/A | 3 / 4 | N/A |
| 4 | Motolora | ML-2452-PTA2M3X3-1 | 1 / 2 | N/A | 1 / 2 | N/A |
| 5 | Symbol | ML-5299-WPNA1-01R | 14.2 | 1.2 | 13 | 36 inch |
| 6 | Symbol | ML-2499-HPA3-01R | 4.6 | 1.3 | 3.3 | 48 inch |
| 7 | Symbol | ML-5299-HPA1-01R | 5.9 | 0.84 | 5.06 | 36 inch |
| 8 | Motolora | ML-2452-PTA3M3-036 | 6 / 7 | 0.92 / 1.97 | 5.08 / 5.03 | 36 inch |



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| | | | | | | |
|----|----------|--------------------|-------------|-----|--|---------|
| 9 | WHA YU | ML-2452-APA6J-01 | -6 / -6 | N/A | 2.4GHz Peak gain : -5.76dBi 5GHz Peak gain : band 1: -3.77dBi band 2: -3.38dBi band 3: -2.84dBi band 4: -2.94dBi | N/A |
| 10 | Motolora | ML-2452-PNL9M3-036 | 8 / 10.7 | N/A | 8 / 10.7 | 36 inch |
| 11 | Motolora | ML-5299-BYGA15-012 | 14.5 | N/A | 14.5 | 3 ft |
| 12 | WHA YU | M25.90002.S01 | 3.03 / 4.06 | N/A | 3.03 / 4.06 | 63mm |

Note :

1. For the original test report - Radio card 1: The antennas 1~4, 6 & 8-10 will be used, therefore antenna 1, 2, 4, 6, 8, were chosen for final test.
2. For the original test report - Radio card 2: The antennas 3~5 & 7-11 will be used, therefore antenna 4, 5, 7, 8, 11, were chosen for final test.
3. For the original test report - Radio card 3: The antenna 12 will be used only, therefore antenna 12 was chosen for final test.

Newly Antennas

| No | Brand | Model | Antenna Type | Connecter Type (External only) | Frequency range (MHz) | Indoor or Outdoor |
|----|----------|-------------------|-------------------|--|-----------------------|--------------------------------------|
| 13 | Motorola | ML-2499-BPNA3-01R | Directional Panel | N-Type Female | 2400~2500 | Outdoor |
| 14 | Motorola | ML-2499-FHPA9-01R | Dipole Omni | Type-N-Male | 2400~2500 | Outdoor |
| 15 | Motorola | ML-5299-FHPA6-01R | Omni-Directional | N male | 5150-5875 | Outdoor |
| No | Brand | Model | Gain (dBi) | Cable Loss(dB) (External only, if any) | Net Gain (dB) | Cable Length (External only, if any) |
| 13 | Motorola | ML-2499-BPNA3-01R | 15.5 | 0.88 | 14.62 | 30.5cm |
| 14 | Motorola | ML-2499-FHPA9-01R | 10.5 | 0.88 | 9.62 | 30.5cm |
| 15 | Motorola | ML-5299-FHPA6-01R | 8.25 | 1.54 | 6.71 | 30.5cm |

Note :

1. For Radio card 1: The antennas 13~14 will be used, therefore antenna 13,14, were chosen for final test.
2. For Radio card 2: The antennas 15 will be used, therefore antenna 15, was chosen for final test.



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2. The maximum output power (Unit : mW) :

| No. | Model No. | Operating Frequency (MHz) | | | |
|-----|-------------------|---------------------------------|----------------|----------------|----------------|
| | | 2412MHz ~ 2462MHz | | | |
| | | 802.11b | 802.11g | 802.11n (HT20) | 802.11n (HT40) |
| 13 | ML-2499-BPNA3-01R | 97.920 | 110.694 | 105.673 | 104.902 |
| 14 | ML-2499-FHPA9-01R | 344.994 | 329.707 | 315.605 | 319.354 |
| No. | Model No. | Operating Frequency (MHz) | | | |
| | | 5180 ~ 5320 MHz | | | |
| | | 802.11a | 802.11n (HT20) | 802.11n (HT40) | |
| 15 | ML-5299-FHPA6-01R | 45.053 | 45.318 | 44.726 | |
| No. | Model No. | Operating Frequency (MHz) | | | |
| | | 5500 ~ 5700 MHz< Radio card 2 > | | | |
| | | 802.11a | 802.11n (HT20) | 802.11n (HT40) | |
| 15 | ML-5299-FHPA6-01R | 44.435 | 44.177 | 42.302 | |
| No. | Model No. | Operating Frequency (MHz) | | | |
| | | 5745 ~ 5825 MHz< Radio card 2 > | | | |
| | | 802.11a | 802.11n (HT20) | 802.11n (HT40) | |
| 15 | ML-5299-FHPA6-01R | 579.528 | 577.833 | 575.285 | |

3. Radiated and conducted emission of the simultaneous operation (2.4GHz & 5GHz) has been evaluated and no non-compliance was found.

4. The EUT must be supplied with a power adapter or POE as below :

| Adapter | | |
|--|-------------------|--|
| Brand | Model No. | Spec. |
| MOTOROLA | 50-14000-247R | AC Input : 100-240V, 1A, 50-60Hz DC Output : 48V, 0.75A DC output cable : 1.9m, unshielded with one core |
| POE | | |
| Brand | Model No. | Spec. |
| MOTOROLA | AP-PSBIAS-1P3-AFR | AC Input : 100-240V, 0.8A, 50 / 60Hz DC Output : 55V, 0.57A |
| For the original test report: From the above modes, the radiated emission worse case was found in POE . Therefore only the test data of the mode was recorded in this report. | | |

5. The EUT has three radio cards inside the device.
Radio 1 operates all the time, with 3Tx MIMO, at 2.4 GHz.
Radio 2 operates all the time, with 3Tx MIMO at 5 GHz.
Radio 3 does not operate in 11n mode. In the 2.4GHz band, the radio 3 only transmits at 1Mbps which is 802.11b DSSS rate. In the 5GHz band, the radio 3 only transmits in 6Mbps which is 802.11a OFDM rate.

6. During normal operation, only radio 1 and 2 will transmit data, radio 3 will work as a sensor radio. Radio 3 is mostly Rx-only, though it does also transmit a low duty cycle signal at 2.4 GHz and 5 GHz. The radio 1 or radio 2 will transmit simultaneously with radio 3 when radio 3 detects signals.



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7. Radio 1 and radio 2 will reduce 1dB automatically from maximum power when radio 3 detect signals and transmit signals.
8. The EUT incorporates CDD function with 802.11a, 802.11b, 802.11g and MIMO function with 802.11n.
9. The radio 1 and radio 2 are 3 * 3 spatial MIMO (3Tx & 3Rx) without beam forming function. The antenna configurations are three transmitter antennas and three receiver antennas. Spatial multiplexing modes for simultaneous transmission using 3 antennas, and for simultaneous receiver using 3 antennas.
10. The EUT have MIMO power save mode, one transmitter may be active (chain 0) while others is inactive (chain 1 and chain 2) or two transmitters may be active (chain 0 and 1) while others is inactive (chain 2). Output power is no different compared to operation when all of transmitter chains are active. Transmitter power is not increased or decreased for chain 0 or chain 0 and chain 1 when is single chain or dual chain mode, compared to three chain active mode.
11. When the EUT operating in 802.11n, the software operation, which is defined by manufacturer, MCS (Modulation and Coding Schemes) from 0 to 15.
12. The above EUT information was declared by the manufacturer and for more detailed features description, please refer to the manufacturer's specifications or User's Manual.



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3.2 DESCRIPTION OF TEST MODES

Operated in 2400 ~ 2483.5MHz band:

11 channels are provided for 802.11b, 802.11g, 802.11n (HT20):

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 1 | 2412MHz | 7 | 2442MHz |
| 2 | 2417MHz | 8 | 2447MHz |
| 3 | 2422MHz | 9 | 2452MHz |
| 4 | 2427MHz | 10 | 2457MHz |
| 5 | 2432MHz | 11 | 2462MHz |
| 6 | 2437MHz | | |

7 channels are provided for 802.11n (HT40):

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 3 | 2422MHz | 7 | 2442MHz |
| 4 | 2427MHz | 8 | 2447MHz |
| 5 | 2432MHz | 9 | 2452MHz |
| 6 | 2437MHz | | |

Operated in 5725 ~ 5850MHz band:

5 channels are provided for 802.11a, 802.11n (HT20):

| CHANNEL | FREQUENCY | CHANNEL | FREQUENCY |
|---------|-----------|---------|-----------|
| 149 | 5745 MHz | 161 | 5805 MHz |
| 153 | 5765 MHz | 165 | 5825 MHz |
| 157 | 5785 MHz | | |

2 channels are provided for 802.11n (HT40):

| CHANNEL | FREQUENCY |
|---------|-----------|
| 151 | 5755 MHz |
| 159 | 5795 MHz |



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3.2.1 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

For 2400 ~ 2483.5MHz band:

| EUT CONFIGURE MODE | APPLICABLE TO | | | | | DESCRIPTION |
|--------------------|---------------|---------|---------|------|----|---------------------------|
| | PLC | RE < 1G | RE ≥ 1G | APCM | OB | |
| 1 | √ | √ | √ | √ | √ | Antenna 13 + With POE |
| 2 | √ | - | - | - | - | Antenna 13 + With Adapter |
| | - | √ | √ | √ | √ | Antenna 14 + With POE |

For 5725 ~ 5850MHz band:

| EUT CONFIGURE MODE | APPLICABLE TO | | | | | DESCRIPTION |
|--------------------|---------------|---------|---------|------|----|---------------------------|
| | PLC | RE < 1G | RE ≥ 1G | APCM | OB | |
| 1 | √ | √ | √ | √ | √ | Antenna 15 + With POE |
| 2 | √ | - | - | - | - | Antenna 15 + With Adapter |

Where **PLC**: Power Line Conducted Emission **RE < 1G**: Radiated Emission below 1GHz
RE ≥ 1G: Radiated Emission above 1GHz **APCM**: Antenna Port Conducted Measurement
OB: Conducted Out-Band Emission Measurement

NOTE: “-” means no effect.

POWER LINE CONDUCTED EMISSION TEST:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

| MODE | AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY | MODULATION TYPE | DATA RATE (Mbps) |
|---------|-------------------|----------------|-----------------------|-----------------|------------------|
| 802.11g | 1 to 11 | 1 | OFDM | BPSK | 6 |
| 802.11a | 149 to 165 | 165 | OFDM | BPSK | 6 |

RADIATED EMISSION TEST (BELOW 1 GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

| MODE | AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY | MODULATION TYPE | DATA RATE (Mbps) |
|-----------------------------|-------------------|----------------|-----------------------|-----------------|------------------|
| 802.11g (Antenna 13) | 1 to 11 | 1 | OFDM | BPSK | 6 |
| 802.11b (Antenna 14) | 1 to 11 | 6 | OFDM | BPSK | 6 |
| For 5 GHz 802.11n (HT20) | 149 to 165 | 149 | OFDM | BPSK | 6.5 |

RADIATED EMISSION TEST (ABOVE 1 GHz):

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

| MODE | AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY | MODULATION TYPE | DATA RATE (Mbps) |
|-------------------------------|-------------------|----------------|-----------------------|-----------------|------------------|
| 802.11b | 1 to 11 | 1, 6, 11 | DSSS | DBPSK | 1 |
| 802.11g | 1 to 11 | 1, 6, 11 | OFDM | BPSK | 6 |
| For 2.4 GHz 802.11n (HT20) | 1 to 11 | 1, 6, 11 | OFDM | BPSK | 6.5 |
| For 2.4 GHz 802.11n (HT40) | 3 to 9 | 3, 6, 9 | OFDM | BPSK | 13.5 |
| 802.11a | 149 to 165 | 149, 157, 165 | OFDM | BPSK | 6 |
| For 5 GHz 802.11n (HT20) | 149 to 165 | 149, 157, 165 | OFDM | BPSK | 6.5 |
| For 5 GHz 802.11n (HT40) | 151 to 159 | 151, 159 | OFDM | BPSK | 13.5 |



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ANTENNA PORT CONDUCTED MEASUREMENT:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

| MODE | AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY | MODULATION TYPE | DATA RATE (Mbps) |
|-------------------------------|-------------------|----------------|-----------------------|-----------------|------------------|
| 802.11b | 1 to 11 | 1, 6, 11 | DSSS | DBPSK | 1 |
| 802.11g | 1 to 11 | 1, 6, 11 | OFDM | BPSK | 6 |
| For 2.4 GHz 802.11n (HT20) | 1 to 11 | 1, 6, 11 | OFDM | BPSK | 6.5 |
| For 2.4 GHz 802.11n (HT40) | 3 to 9 | 3, 6, 9 | OFDM | BPSK | 13.5 |
| 802.11a | 149 to 165 | 149, 157, 165 | OFDM | BPSK | 6 |
| For 5 GHz 802.11n (HT20) | 149 to 165 | 149, 157, 165 | OFDM | BPSK | 6.5 |
| For 5 GHz 802.11n (HT40) | 151 to 159 | 151, 159 | OFDM | BPSK | 13.5 |

CONDUCTED OUT-BAND EMISSION MEASUREMENT:

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- Following channel(s) was (were) selected for the final test as listed below.

| MODE | AVAILABLE CHANNEL | TESTED CHANNEL | MODULATION TECHNOLOGY | MODULATION TYPE | DATA RATE (Mbps) |
|-------------------------------|-------------------|----------------|-----------------------|-----------------|------------------|
| 802.11b | 1 to 11 | 1, 6, 11 | DSSS | DBPSK | 1 |
| 802.11g | 1 to 11 | 1, 6, 11 | OFDM | BPSK | 6 |
| For 2.4 GHz 802.11n (HT20) | 1 to 11 | 1, 6, 11 | OFDM | BPSK | 6.5 |
| For 2.4 GHz 802.11n (HT40) | 3 to 9 | 3, 6, 9 | OFDM | BPSK | 13.5 |
| 802.11a | 149 to 165 | 149, 157, 165 | OFDM | BPSK | 6 |
| For 5 GHz 802.11n (HT20) | 149 to 165 | 149, 157, 165 | OFDM | BPSK | 6.5 |
| For 5 GHz 802.11n (HT40) | 151 to 159 | 151, 159 | OFDM | BPSK | 13.5 |

TEST CONDITION:

| APPLICABLE TO | ENVIRONMENTAL CONDITIONS | INPUT POWER | TESTED BY |
|--------------------|--------------------------|--------------|--------------|
| PLC | 26deg. C, 75%RH | 120Vac, 60Hz | Scott Chen |
| RE<1G | 25deg. C, 75%RH | 120Vac, 60Hz | Robert Cheng |
| RE ³ 1G | 25deg. C, 67%RH | 120Vac, 60Hz | Amos Chuang |
| | 22deg. C, 64%RH | 120Vac, 60Hz | Amos Chuang |
| APCM | 25deg. C, 60%RH | 120Vac, 60Hz | Amos Chuang |
| OB | 25deg. C, 60%RH | 120Vac, 60Hz | Amos Chuang |

3.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C (15.247)

ANSI C63.10-2009

All test items have been performed and recorded as per the above standards.

Note: The EUT has been verified to comply with the requirements of FCC Part 15, Subpart B, Class B (DoC). The test report has been issued separately.



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3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

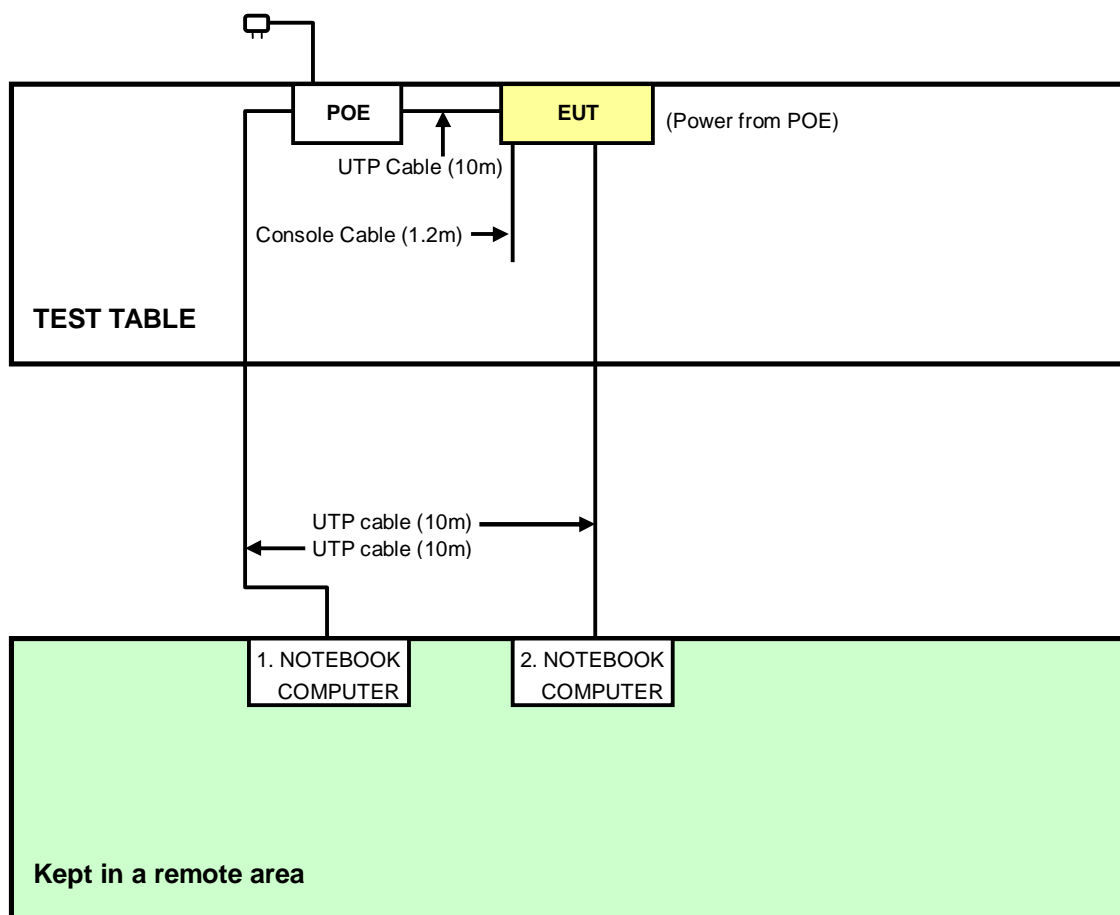
| NO. | PRODUCT | BRAND | MODEL NO. | SERIAL NO. | FCC ID |
|-----|-------------------|-------|-----------|------------|---------|
| 1 | NOTEBOOK COMPUTER | DELL | PP32LA | FSLB32S | FCC DoC |
| 2 | NOTEBOOK COMPUTER | DELL | PP32LA | GSLB32S | FCC DoC |

| NO. | SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS |
|-----|---|
| 1 | UTP cable, 10m |
| 2 | UTP cable, 10m |

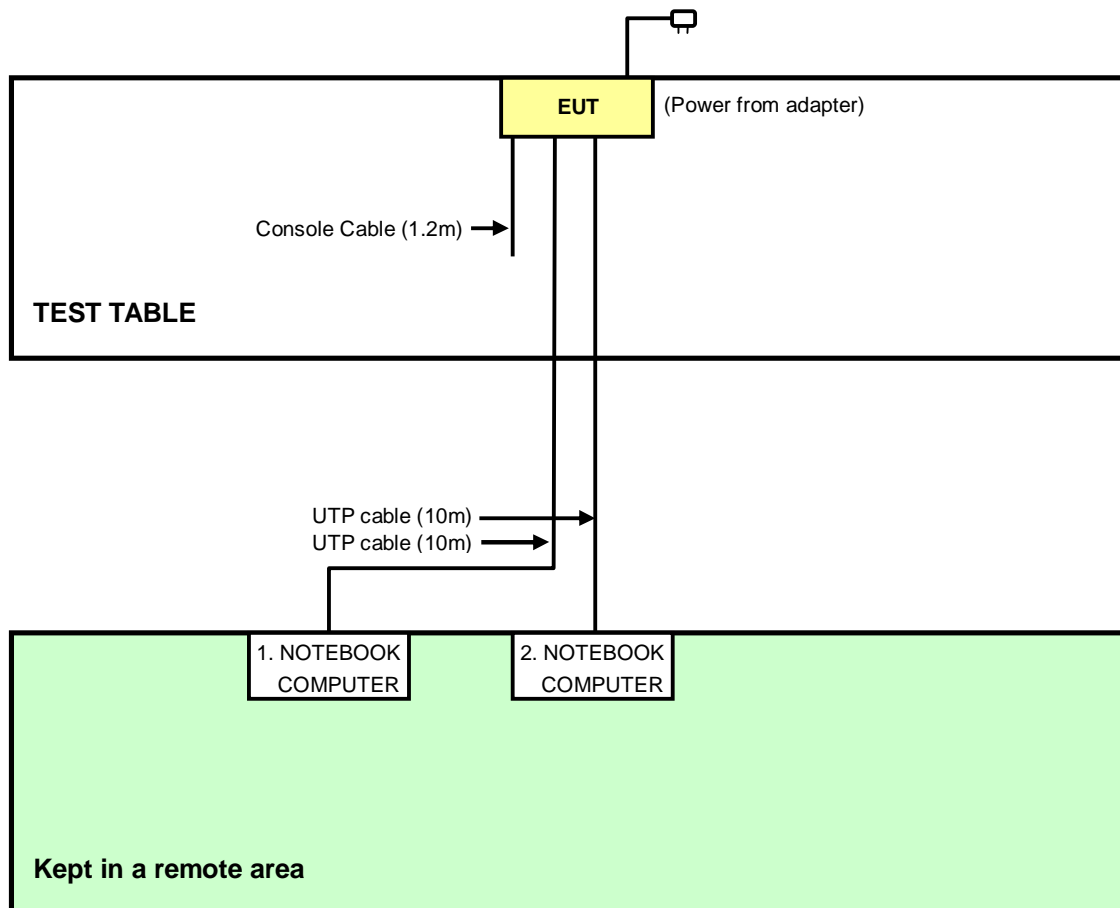
NOTE: All power cords of the above support units are non shielded (1.8m).

3.5 CONFIGURATION OF SYSTEM UNDER TEST

For Conducted Mode 1 / Radiated test:



For Conducted Mode 2 / test:





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4. TEST TYPES AND RESULTS (FOR 2.4GHz, 2.400 ~ 2.4835GHz Band)

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

| FREQUENCY OF EMISSION (MHz) | CONDUCTED LIMIT (dB μ V) | |
|-----------------------------|------------------------------|----------|
| | Quasi-peak | Average |
| 0.15-0.5 | 66 to 56 | 56 to 46 |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |

- NOTE:**
1. The lower limit shall apply at the transition frequencies.
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

4.1.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|---|-------------------------|------------|-----------------|------------------|
| Test Receiver | ESCS 30 | 100375 | Mar. 12, 2012 | Mar.11, 2013 |
| Line-Impedance Stabilization Network (for EUT) SCHWARZBECK | NSLK8127 | 8127-522 | Sep. 06, 2012 | Sep. 05, 2013 |
| Line-Impedance Stabilization Network (for Peripheral) | ENV216 | 100072 | June 08,2012 | June 07,2013 |
| RF Cable (JYEBAO) | 5DFB | COCCAB-001 | Aug. 28, 2012 | Aug. 27, 2013 |
| 50 ohms Terminator | 50 | EMC-3 | Sep. 25, 2012 | Sep. 24, 2013 |
| Software ADT | BV ADT_Cond_V7.3.7.3 | NA | NA | NA |

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
3. The VCCI Con C Registration No. is C-3611.
4. Tested Date: Nov. 23, 2012

4.1.3 TEST PROCEDURES

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN.
- b. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- c. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- d. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded.

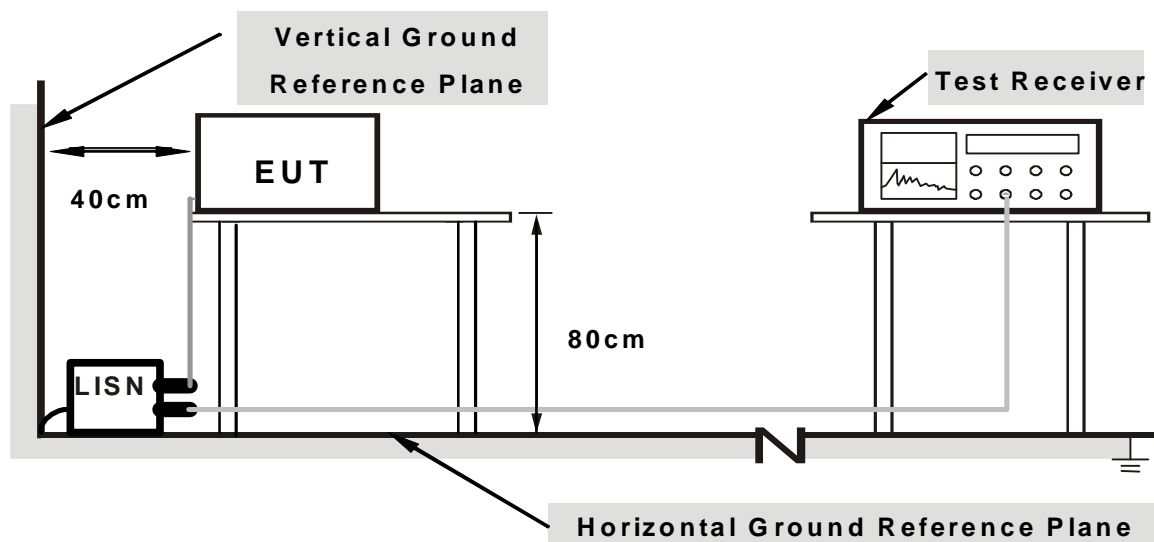
NOTE:

1. The resolution bandwidth of test receiver is 9kHz for Quasi-peak detection (QP) & Average detection (AV).

4.1.4 DEVIATION FROM TEST STANDARD

No deviation

4.1.5 TEST SETUP



Note: 1. Support units were connected to second LISN.

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



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4.1.6 EUT OPERATING CONDITIONS

1. Connect the EUT with the support unit 1 (Notebook Computer) which is placed on a testing table.
2. The communication partner run test program “WinPrius Radio Diagnostic Test Version 2.0.2x.exe” to enable EUT under transmission/receiving condition continuously at specific channel frequency.



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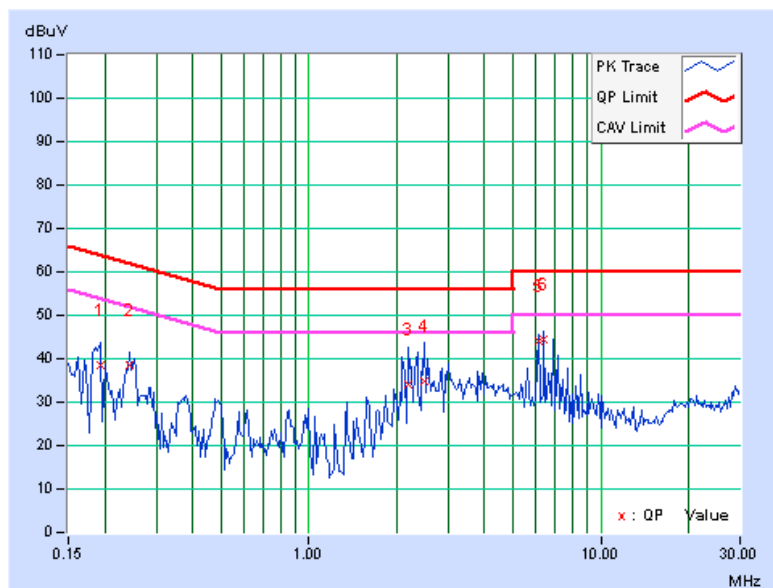
4.1.7 TEST RESULTS (MODE 1)

| | | | |
|--------------|----------|--------------------------|--------------------------------|
| PHASE | Line (L) | DETECTOR FUNCTION | Quasi-Peak (QP) / Average (AV) |
|--------------|----------|--------------------------|--------------------------------|

| No | Freq. [MHz] | Corr. Factor (dB) | Reading Value | | Emission Level | | Limit | | Margin | |
|----------|----------------|-------------------------|---------------|--------------|----------------|--------------|--------------|--------------|---------------|--------------|
| | | | [dB (uV)] | | [dB (uV)] | | [dB (uV)] | | (dB) | |
| | | | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| 1 | 0.19297 | 0.12 | 38.54 | 24.60 | 38.66 | 24.72 | 63.91 | 53.91 | -25.25 | -29.19 |
| 2 | 0.24375 | 0.13 | 38.56 | 30.74 | 38.69 | 30.87 | 61.97 | 51.97 | -23.28 | -21.10 |
| 3 | 2.18359 | 0.23 | 33.80 | 21.78 | 34.03 | 22.01 | 56.00 | 46.00 | -21.97 | -23.99 |
| 4 | 2.50000 | 0.24 | 34.60 | 24.68 | 34.84 | 24.92 | 56.00 | 46.00 | -21.16 | -21.08 |
| 5 | 6.10938 | 0.37 | 43.58 | 42.22 | 43.95 | 42.59 | 60.00 | 50.00 | -16.05 | -7.41 |
| 6 | 6.37500 | 0.38 | 44.20 | 43.06 | 44.58 | 43.44 | 60.00 | 50.00 | -15.42 | -6.56 |

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

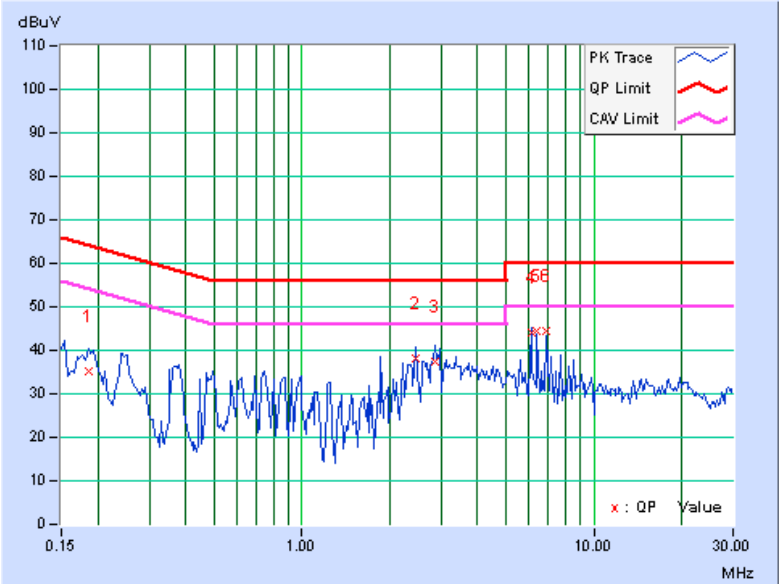


| | | | |
|--------------|-------------|--------------------------|--------------------------------|
| PHASE | Neutral (N) | DETECTOR FUNCTION | Quasi-Peak (QP) / Average (AV) |
|--------------|-------------|--------------------------|--------------------------------|

| No | Freq. [MHz] | Corr. Factor (dB) | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|----|----------------|-------------------------|----------------------------|-------|-----------------------------|-------|--------------------|-------|----------------|--------|
| | | | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| | 1 | 0.18516 | 0.10 | 35.10 | 25.24 | 35.20 | 25.34 | 64.25 | 54.25 | -29.06 |
| 2 | 2.46875 | 0.22 | 37.84 | 28.42 | 38.06 | 28.64 | 56.00 | 46.00 | -17.94 | -17.36 |
| 3 | 2.86328 | 0.22 | 37.18 | 29.08 | 37.40 | 29.30 | 56.00 | 46.00 | -18.60 | -16.70 |
| 4 | 6.10938 | 0.30 | 43.66 | 42.30 | 43.96 | 42.60 | 60.00 | 50.00 | -16.04 | -7.40 |
| 5 | 6.37500 | 0.31 | 44.18 | 43.02 | 44.49 | 43.33 | 60.00 | 50.00 | -15.51 | -6.67 |
| 6 | 6.90625 | 0.33 | 44.06 | 42.92 | 44.39 | 43.25 | 60.00 | 50.00 | -15.61 | -6.75 |

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.





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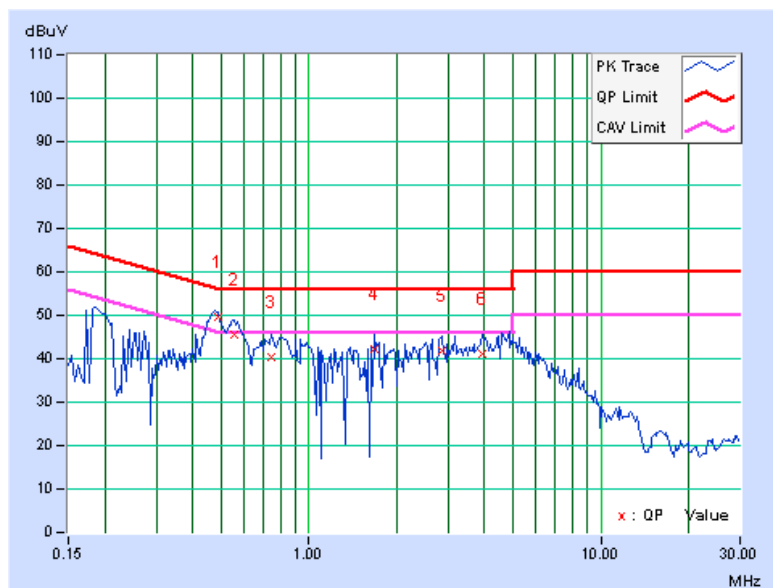
4.1.8 TEST RESULTS (MODE 2)

| | | | |
|--------------|----------|--------------------------|--------------------------------|
| PHASE | Line (L) | DETECTOR FUNCTION | Quasi-Peak (QP) / Average (AV) |
|--------------|----------|--------------------------|--------------------------------|

| No | Freq. [MHz] | Corr. Factor (dB) | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|----|----------------|-------------------------|----------------------------|---------|-----------------------------|-------|--------------------|-------|----------------|--------|
| | | | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| | | | 1 | 0.48881 | 0.16 | 49.32 | 37.72 | 49.48 | 37.88 | 56.19 |
| 2 | 0.55625 | 0.17 | 45.32 | 34.44 | 45.49 | 34.61 | 56.00 | 46.00 | -10.51 | -11.39 |
| 3 | 0.74766 | 0.18 | 40.24 | 27.40 | 40.42 | 27.58 | 56.00 | 46.00 | -15.58 | -18.42 |
| 4 | 1.67188 | 0.22 | 41.88 | 29.56 | 42.10 | 29.78 | 56.00 | 46.00 | -13.90 | -16.22 |
| 5 | 2.85847 | 0.25 | 41.50 | 30.86 | 41.75 | 31.11 | 56.00 | 46.00 | -14.25 | -14.89 |
| 6 | 3.94141 | 0.27 | 40.82 | 30.56 | 41.09 | 30.83 | 56.00 | 46.00 | -14.91 | -15.17 |

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

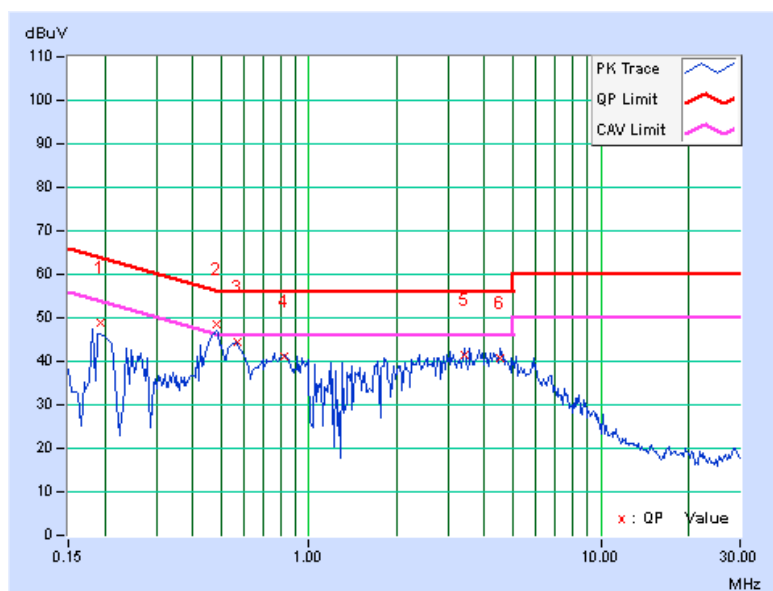


| | | | |
|--------------|-------------|--------------------------|--------------------------------|
| PHASE | Neutral (N) | DETECTOR FUNCTION | Quasi-Peak (QP) / Average (AV) |
|--------------|-------------|--------------------------|--------------------------------|

| No | Freq. [MHz] | Corr. Factor (dB) | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|----|----------------|-------------------------|----------------------------|-------|-----------------------------|-------|--------------------|-------|----------------|--------|
| | | | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| | 1 | 0.19297 | 0.10 | 48.78 | 34.32 | 48.88 | 34.42 | 63.91 | 53.91 | -15.03 |
| 2 | 0.48303 | 0.15 | 48.22 | 38.20 | 48.37 | 38.35 | 56.29 | 46.29 | -7.91 | -7.93 |
| 3 | 0.56797 | 0.16 | 44.34 | 27.40 | 44.50 | 27.56 | 56.00 | 46.00 | -11.50 | -18.44 |
| 4 | 0.82578 | 0.16 | 40.94 | 28.62 | 41.10 | 28.78 | 56.00 | 46.00 | -14.90 | -17.22 |
| 5 | 3.41016 | 0.23 | 41.22 | 31.16 | 41.45 | 31.39 | 56.00 | 46.00 | -14.55 | -14.61 |
| 6 | 4.52344 | 0.26 | 40.52 | 31.70 | 40.78 | 31.96 | 56.00 | 46.00 | -15.22 | -14.04 |

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.



4.2 RADIATED EMISSION AND BANDEGE MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION AND BANDEGE MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 20dB below the highest level of the desired power:

| Frequencies (MHz) | Field strength (microvolts/meter) | Measurement distance (meters) |
|-------------------|-----------------------------------|-------------------------------|
| 0.009-0.490 | 2400/F(kHz) | 300 |
| 0.490-1.705 | 24000/F(kHz) | 30 |
| 1.705-30.0 | 30 | 30 |
| 30-88 | 100 | 3 |
| 88-216 | 150 | 3 |
| 216-960 | 200 | 3 |
| Above 960 | 500 | 3 |

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.



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4.2.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|---|--------------------------|-------------------------------------|-----------------|------------------|
| Spectrum Analyzer Agilent | E4446A | MY48250254 | July 09, 2012 | July 08, 2013 |
| Pre-Selector Agilent | N9039A | MY46520311 | July 09, 2012 | July 08, 2013 |
| Signal Generator Agilent | N5181A | MY49060517 | July 09, 2012 | July 08, 2013 |
| Pre-Amplifier Mini-Circuits | ZFL-1000VH2 B | AMP-ZFL-03 | Nov. 14, 2012 | Nov. 13, 2013 |
| Pre-Amplifier Agilent | 8449B | 3008A02578 | June 26, 2012 | June 25, 2013 |
| Pre-Amplifier SPACEK LABS | SLKKa-48-6 | 9K16 | Nov. 14, 2012 | Nov. 13, 2013 |
| Trilog Broadband Antenna SCHWARZBECK | VULB 9168 | 9168-360 | Apr. 09, 2012 | Apr. 08, 2013 |
| Horn Antenna SCHWARZBECK | BBHA 9120 | 9120D-783 | Sep. 20, 2012 | Sep. 19, 2013 |
| Horn_Antenna SCHWARZBECK | BBHA 9170 | 9170-424 | Oct. 12, 2012 | Oct. 11, 2013 |
| RF Cable | NA | RF104-201 RF104-203 RF104-204 | Dec. 26, 2011 | Dec. 25, 2012 |
| RF Cable | NA | CHGCAB_001 | Oct. 06, 2012 | Oct. 05, 2013 |
| Software | ADT_Radiated _V8.7.05 | NA | NA | NA |
| Antenna Tower & Turn Table CT | NA | NA | NA | NA |

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
- 3 The test was performed in 966 Chamber No. G.
4. The FCC Site Registration No. is 966073.
- 5 The VCCI Site Registration No. is G-137.
- 6 The CANADA Site Registration No. is IC 7450H-2.
- 7 Tested Date: Nov 15 to Dec. 11, 2012

4.2.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

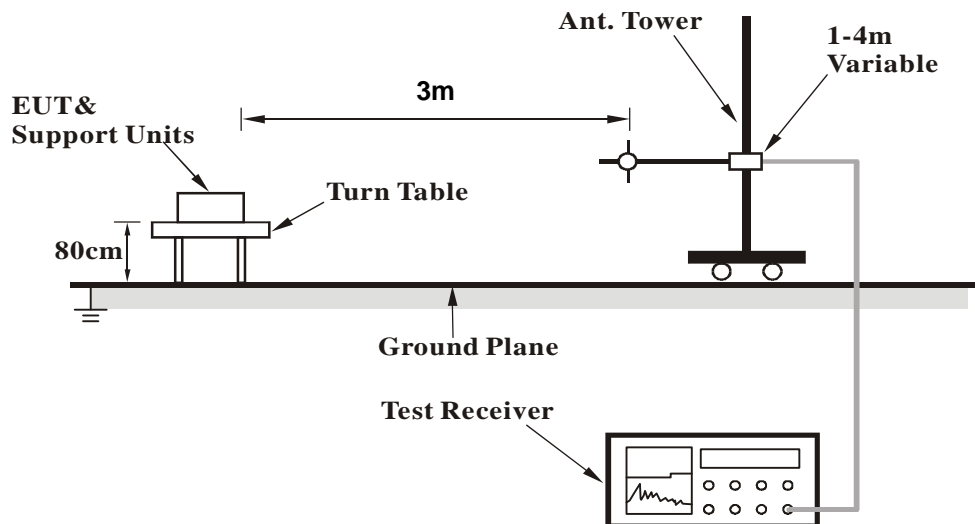
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

4.2.4 DEVIATION FROM TEST STANDARD

No deviation

4.2.5 TEST SETUP



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

4.2.6 EUT OPERATING CONDITIONS

Same as 4.1.6

4.2.7 TEST RESULTS (MODE 1)

BELOW 1GHz WORST-CASE DATA

802.11g

| | | | |
|------------------------|--------------|--------------------------|-----------------|
| CHANNEL | TX Channel 1 | DETECTOR FUNCTION | Quasi-Peak (QP) |
| FREQUENCY RANGE | Below 1GHz | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 98.00 | 37.7 QP | 43.5 | -5.8 | 2.00 H | 32 | 28.09 | 9.62 |
| 2 | 145.15 | 39.4 QP | 43.5 | -4.1 | 2.00 H | 72 | 24.92 | 14.48 |
| 3 | 214.45 | 40.0 QP | 43.5 | -3.5 | 1.50 H | 305 | 28.19 | 11.79 |
| 4 | 253.42 | 40.1 QP | 46.0 | -5.9 | 1.00 H | 271 | 26.60 | 13.49 |
| 5 | 269.15 | 34.6 QP | 46.0 | -11.4 | 1.00 H | 97 | 20.51 | 14.08 |
| 6 | 352.15 | 36.4 QP | 46.0 | -9.6 | 1.00 H | 114 | 19.74 | 16.64 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 37.85 | 37.3 QP | 40.0 | -2.7 | 2.00 V | 0 | 23.82 | 13.51 |
| 2 | 74.13 | 33.3 QP | 40.0 | -6.7 | 1.53 V | 360 | 21.89 | 11.42 |
| 3 | 191.00 | 38.6 QP | 43.5 | -4.9 | 1.00 V | 310 | 26.63 | 11.97 |
| 4 | 359.56 | 37.4 QP | 46.0 | -8.6 | 1.50 V | 76 | 20.56 | 16.82 |
| 5 | 391.66 | 34.5 QP | 46.0 | -11.5 | 1.50 V | 197 | 16.84 | 17.65 |
| 6 | 672.86 | 34.4 QP | 46.0 | -11.6 | 1.50 V | 243 | 10.77 | 23.60 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.



A D T

ABOVE 1GHz DATA

802.11b

| | | | |
|------------------------|--------------|--------------------------|--------------|
| CHANNEL | TX Channel 1 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | 2390.00 | 56.8 PK | 74.0 | -17.2 | 1.13 H | 297 | 24.42 | 32.38 |
| 2 | 2390.00 | 44.3 AV | 54.0 | -9.7 | 1.13 H | 297 | 11.92 | 32.38 |
| 3 | *2412.00 | 99.1 PK | | | 1.13 H | 297 | 66.66 | 32.44 |
| 4 | *2412.00 | 95.1 AV | | | 1.13 H | 297 | 62.66 | 32.44 |
| 5 | 2483.50 | 56.7 PK | 74.0 | -17.3 | 1.13 H | 297 | 24.07 | 32.63 |
| 6 | 2483.50 | 44.4 AV | 54.0 | -9.6 | 1.13 H | 297 | 11.77 | 32.63 |
| 7 | 4824.00 | 47.2 PK | 74.0 | -26.8 | 1.53 H | 211 | 5.26 | 41.94 |
| 8 | 4824.00 | 35.9 AV | 54.0 | -18.1 | 1.53 H | 211 | -6.04 | 41.94 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | 2390.00 | 64.3 PK | 74.0 | -9.7 | 1.18 V | 0 | 31.92 | 32.38 |
| 2 | 2390.00 | 52.8 AV | 54.0 | -1.2 | 1.18 V | 0 | 20.42 | 32.38 |
| 3 | *2412.00 | 117.7 PK | | | 1.18 V | 0 | 85.26 | 32.44 |
| 4 | *2412.00 | 114.8 AV | | | 1.18 V | 0 | 82.36 | 32.44 |
| 5 | 2483.50 | 63.8 PK | 74.0 | -10.2 | 1.18 V | 0 | 31.17 | 32.63 |
| 6 | 2483.50 | 51.3 AV | 54.0 | -2.7 | 1.18 V | 0 | 18.67 | 32.63 |
| 7 | 4824.00 | 48.1 PK | 74.0 | -25.9 | 1.23 V | 15 | 6.16 | 41.94 |
| 8 | 4824.00 | 36.8 AV | 54.0 | -17.2 | 1.23 V | 15 | -5.14 | 41.94 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



A D T

| | | | |
|------------------------|--------------|--------------------------|--------------|
| CHANNEL | TX Channel 6 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | *2437.00 | 99.8 PK | | | 1.19 H | 290 | 67.29 | 32.51 |
| 2 | *2437.00 | 95.6 AV | | | 1.19 H | 290 | 63.09 | 32.51 |
| 3 | 2483.50 | 57.3 PK | 74.0 | -16.7 | 1.11 H | 284 | 24.67 | 32.63 |
| 4 | 2483.50 | 44.7 AV | 54.0 | -9.3 | 1.11 H | 284 | 12.07 | 32.63 |
| 5 | 4874.00 | 47.5 PK | 74.0 | -26.5 | 1.52 H | 224 | 5.51 | 41.99 |
| 6 | 4874.00 | 36.0 AV | 54.0 | -18.0 | 1.52 H | 224 | -5.99 | 41.99 |
| 7 | 7311.00 | 55.2 PK | 74.0 | -18.8 | 1.21 H | 321 | 8.67 | 46.53 |
| 8 | 7311.00 | 43.9 AV | 54.0 | -10.1 | 1.21 H | 321 | -2.63 | 46.53 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | 2390.00 | 63.7 PK | 74.0 | -10.3 | 1.00 V | 5 | 31.32 | 32.38 |
| 2 | 2390.00 | 52.3 AV | 54.0 | -1.7 | 1.00 V | 5 | 19.92 | 32.38 |
| 3 | *2437.00 | 118.1 PK | | | 1.10 V | 5 | 85.59 | 32.51 |
| 4 | *2437.00 | 114.9 AV | | | 1.10 V | 5 | 82.39 | 32.51 |
| 5 | 2483.50 | 63.6 PK | 74.0 | -10.4 | 1.00 V | 5 | 30.97 | 32.63 |
| 6 | 2483.50 | 50.8 AV | 54.0 | -3.2 | 1.00 V | 5 | 18.17 | 32.63 |
| 7 | 4874.00 | 48.0 PK | 74.0 | -26.0 | 1.25 V | 24 | 6.01 | 41.99 |
| 8 | 4874.00 | 36.5 AV | 54.0 | -17.5 | 1.25 V | 24 | -5.49 | 41.99 |
| 9 | 7311.00 | 54.8 PK | 74.0 | -19.2 | 1.36 V | 215 | 8.27 | 46.53 |
| 10 | 7311.00 | 43.5 AV | 54.0 | -10.5 | 1.36 V | 215 | -3.03 | 46.53 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



A D T

| | | | |
|------------------------|---------------|------------------------------|--------------|
| CHANNEL | TX Channel 11 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 56.9 PK | 74.0 | -17.1 | 1.11 H | 275 | 24.52 | 32.38 |
| 2 | 2390.00 | 44.5 AV | 54.0 | -9.5 | 1.11 H | 275 | 12.12 | 32.38 |
| 3 | *2462.00 | 99.8 PK | | | 1.22 H | 288 | 67.23 | 32.57 |
| 4 | *2462.00 | 95.4 AV | | | 1.22 H | 288 | 62.83 | 32.57 |
| 5 | 2483.50 | 56.5 PK | 74.0 | -17.5 | 1.13 H | 273 | 23.87 | 32.63 |
| 6 | 2483.50 | 44.1 AV | 54.0 | -9.9 | 1.13 H | 273 | 11.47 | 32.63 |
| 7 | 4924.00 | 46.8 PK | 74.0 | -27.2 | 1.58 H | 214 | 4.79 | 42.01 |
| 8 | 4924.00 | 35.6 AV | 54.0 | -18.4 | 1.58 H | 214 | -6.41 | 42.01 |
| 9 | 7386.00 | 54.8 PK | 74.0 | -19.2 | 1.23 H | 322 | 8.07 | 46.73 |
| 10 | 7386.00 | 43.7 AV | 54.0 | -10.3 | 1.23 H | 322 | -3.03 | 46.73 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 64.9 PK | 74.0 | -9.1 | 1.00 V | 2 | 32.52 | 32.38 |
| 2 | 2390.00 | 52.3 AV | 54.0 | -1.7 | 1.00 V | 2 | 19.92 | 32.38 |
| 3 | *2462.00 | 118.3 PK | | | 1.15 V | 2 | 85.73 | 32.57 |
| 4 | *2462.00 | 115.1 AV | | | 1.15 V | 2 | 82.53 | 32.57 |
| 5 | 2483.50 | 63.9 PK | 74.0 | -10.1 | 1.00 V | 2 | 31.27 | 32.63 |
| 6 | 2483.50 | 50.9 AV | 54.0 | -3.1 | 1.00 V | 2 | 18.27 | 32.63 |
| 7 | 4924.00 | 47.6 PK | 74.0 | -26.4 | 1.58 V | 220 | 5.59 | 42.01 |
| 8 | 4924.00 | 36.1 AV | 54.0 | -17.9 | 1.58 V | 220 | -5.91 | 42.01 |
| 9 | 7386.00 | 55.3 PK | 74.0 | -18.7 | 1.32 V | 204 | 8.57 | 46.73 |
| 10 | 7386.00 | 43.8 AV | 54.0 | -10.2 | 1.32 V | 204 | -2.93 | 46.73 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



A D T

802.11g

| | | | |
|------------------------|--------------|--------------------------|--------------|
| CHANNEL | TX Channel 1 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | 2390.00 | 57.2 PK | 74.0 | -16.8 | 1.17 H | 293 | 24.82 | 32.38 |
| 2 | 2390.00 | 44.5 AV | 54.0 | -9.5 | 1.17 H | 293 | 12.12 | 32.38 |
| 3 | *2412.00 | 98.7 PK | | | 1.13 H | 290 | 66.26 | 32.44 |
| 4 | *2412.00 | 84.9 AV | | | 1.13 H | 290 | 52.46 | 32.44 |
| 5 | 2483.50 | 56.2 PK | 74.0 | -17.8 | 1.13 H | 296 | 23.57 | 32.63 |
| 6 | 2483.50 | 44.0 AV | 54.0 | -10.0 | 1.13 H | 296 | 11.37 | 32.63 |
| 7 | 4824.00 | 47.2 PK | 74.0 | -26.8 | 1.48 H | 202 | 5.26 | 41.94 |
| 8 | 4824.00 | 36.1 AV | 54.0 | -17.9 | 1.48 H | 202 | -5.84 | 41.94 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | 2390.00 | 65.7 PK | 74.0 | -8.3 | 1.20 V | 2 | 33.32 | 32.38 |
| 2 | 2390.00 | 53.4 AV | 54.0 | -0.6 | 1.20 V | 2 | 21.02 | 32.38 |
| 3 | *2412.00 | 115.3 PK | | | 1.20 V | 2 | 82.86 | 32.44 |
| 4 | *2412.00 | 104.1 AV | | | 1.20 V | 2 | 71.66 | 32.44 |
| 5 | 2483.50 | 64.3 PK | 74.0 | -9.7 | 1.20 V | 2 | 31.67 | 32.63 |
| 6 | 2483.50 | 51.5 AV | 54.0 | -2.5 | 1.20 V | 2 | 18.87 | 32.63 |
| 7 | 4824.00 | 48.0 PK | 74.0 | -26.0 | 1.55 V | 223 | 6.06 | 41.94 |
| 8 | 4824.00 | 36.5 AV | 54.0 | -17.5 | 1.55 V | 223 | -5.44 | 41.94 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



A D T

| | | | |
|------------------------|--------------|------------------------------|--------------|
| CHANNEL | TX Channel 6 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 56.1 PK | 74.0 | -17.9 | 1.19 H | 279 | 23.72 | 32.38 |
| 2 | 2390.00 | 43.9 AV | 54.0 | -10.1 | 1.19 H | 279 | 11.52 | 32.38 |
| 3 | *2437.00 | 98.7 PK | | | 1.12 H | 305 | 66.19 | 32.51 |
| 4 | *2437.00 | 84.8 AV | | | 1.12 H | 305 | 52.29 | 32.51 |
| 5 | 2483.50 | 57.3 PK | 74.0 | -16.7 | 1.08 H | 297 | 24.67 | 32.63 |
| 6 | 2483.50 | 44.9 AV | 54.0 | -9.1 | 1.08 H | 297 | 12.27 | 32.63 |
| 7 | 4874.00 | 47.3 PK | 74.0 | -26.7 | 1.46 H | 205 | 5.31 | 41.99 |
| 8 | 4874.00 | 36.3 AV | 54.0 | -17.7 | 1.46 H | 205 | -5.69 | 41.99 |
| 9 | 7311.00 | 55.6 PK | 74.0 | -18.4 | 1.16 H | 323 | 9.07 | 46.53 |
| 10 | 7311.00 | 44.2 AV | 54.0 | -9.8 | 1.16 H | 323 | -2.33 | 46.53 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 65.9 PK | 74.0 | -8.1 | 1.16 V | 358 | 33.52 | 32.38 |
| 2 | 2390.00 | 52.9 AV | 54.0 | -1.1 | 1.16 V | 358 | 20.52 | 32.38 |
| 3 | *2437.00 | 114.6 PK | | | 1.16 V | 358 | 82.09 | 32.51 |
| 4 | *2437.00 | 104.5 AV | | | 1.16 V | 358 | 71.99 | 32.51 |
| 5 | 2483.50 | 64.2 PK | 74.0 | -9.8 | 1.16 V | 358 | 31.57 | 32.63 |
| 6 | 2483.50 | 51.5 AV | 54.0 | -2.5 | 1.16 V | 358 | 18.87 | 32.63 |
| 7 | 4874.00 | 48.6 PK | 74.0 | -25.4 | 1.60 V | 219 | 6.61 | 41.99 |
| 8 | 4874.00 | 37.0 AV | 54.0 | -17.0 | 1.60 V | 219 | -4.99 | 41.99 |
| 9 | 7311.00 | 54.2 PK | 74.0 | -19.8 | 1.36 V | 222 | 7.67 | 46.53 |
| 10 | 7311.00 | 43.1 AV | 54.0 | -10.9 | 1.36 V | 222 | -3.43 | 46.53 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



A D T

| | | | |
|------------------------|---------------|------------------------------|--------------|
| CHANNEL | TX Channel 11 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 56.1 PK | 74.0 | -17.9 | 1.17 H | 282 | 23.72 | 32.38 |
| 2 | 2390.00 | 43.6 AV | 54.0 | -10.4 | 1.17 H | 282 | 11.22 | 32.38 |
| 3 | *2462.00 | 99.7 PK | | | 1.28 H | 275 | 67.13 | 32.57 |
| 4 | *2462.00 | 85.4 AV | | | 1.28 H | 275 | 52.83 | 32.57 |
| 5 | 2483.50 | 57.5 PK | 74.0 | -16.5 | 1.16 H | 284 | 24.87 | 32.63 |
| 6 | 2483.50 | 44.9 AV | 54.0 | -9.1 | 1.16 H | 284 | 12.27 | 32.63 |
| 7 | 4924.00 | 46.1 PK | 74.0 | -27.9 | 1.52 H | 225 | 4.09 | 42.01 |
| 8 | 4924.00 | 35.1 AV | 54.0 | -18.9 | 1.52 H | 225 | -6.91 | 42.01 |
| 9 | 7386.00 | 55.2 PK | 74.0 | -18.8 | 1.26 H | 317 | 8.47 | 46.73 |
| 10 | 7386.00 | 43.9 AV | 54.0 | -10.1 | 1.26 H | 317 | -2.83 | 46.73 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 63.7 PK | 74.0 | -10.3 | 1.20 V | 3 | 31.32 | 32.38 |
| 2 | 2390.00 | 52.6 AV | 54.0 | -1.4 | 1.20 V | 3 | 20.22 | 32.38 |
| 3 | *2462.00 | 114.1 PK | | | 1.20 V | 3 | 81.53 | 32.57 |
| 4 | *2462.00 | 103.7 AV | | | 1.20 V | 3 | 71.13 | 32.57 |
| 5 | 2483.50 | 63.4 PK | 74.0 | -10.6 | 1.20 V | 3 | 30.77 | 32.63 |
| 6 | 2483.50 | 51.8 AV | 54.0 | -2.2 | 1.20 V | 3 | 19.17 | 32.63 |
| 7 | 4924.00 | 47.3 PK | 74.0 | -26.7 | 1.59 V | 236 | 5.29 | 42.01 |
| 8 | 4924.00 | 36.0 AV | 54.0 | -18.0 | 1.59 V | 236 | -6.01 | 42.01 |
| 9 | 7386.00 | 55.7 PK | 74.0 | -18.3 | 1.29 V | 190 | 8.97 | 46.73 |
| 10 | 7386.00 | 44.1 AV | 54.0 | -9.9 | 1.29 V | 190 | -2.63 | 46.73 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * " : Fundamental frequency.



A D T

802.11n (HT20)

| | | | |
|-----------------|--------------|----------------------|--------------|
| CHANNEL | TX Channel 1 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 57.4 PK | 74.0 | -16.6 | 1.21 H | 282 | 25.02 | 32.38 |
| 2 | 2390.00 | 44.6 AV | 54.0 | -9.4 | 1.21 H | 282 | 12.22 | 32.38 |
| 3 | *2412.00 | 98.8 PK | | | 1.15 H | 287 | 66.36 | 32.44 |
| 4 | *2412.00 | 85.2 AV | | | 1.15 H | 287 | 52.76 | 32.44 |
| 5 | 2483.50 | 55.8 PK | 74.0 | -18.2 | 1.11 H | 297 | 23.17 | 32.63 |
| 6 | 2483.50 | 43.9 AV | 54.0 | -10.1 | 1.11 H | 297 | 11.27 | 32.63 |
| 7 | 4824.00 | 47.2 PK | 74.0 | -26.8 | 1.50 H | 209 | 5.26 | 41.94 |
| 8 | 4824.00 | 35.9 AV | 54.0 | -18.1 | 1.50 H | 209 | -6.04 | 41.94 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 64.7 PK | 74.0 | -9.3 | 1.16 V | 2 | 32.32 | 32.38 |
| 2 | 2390.00 | 53.2 AV | 54.0 | -0.8 | 1.16 V | 2 | 20.82 | 32.38 |
| 3 | *2412.00 | 114.9 PK | | | 1.16 V | 2 | 82.46 | 32.44 |
| 4 | *2412.00 | 103.2 AV | | | 1.16 V | 2 | 70.76 | 32.44 |
| 5 | 2483.50 | 62.9 PK | 74.0 | -11.1 | 1.16 V | 2 | 30.27 | 32.63 |
| 6 | 2483.50 | 51.3 AV | 54.0 | -2.7 | 1.16 V | 2 | 18.67 | 32.63 |
| 7 | 4824.00 | 47.7 PK | 74.0 | -26.3 | 1.54 V | 227 | 5.76 | 41.94 |
| 8 | 4824.00 | 36.4 AV | 54.0 | -17.6 | 1.54 V | 227 | -5.54 | 41.94 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



A D T

| | | | |
|------------------------|--------------|------------------------------|--------------|
| CHANNEL | TX Channel 6 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 55.9 PK | 74.0 | -18.1 | 1.22 H | 269 | 23.52 | 32.38 |
| 2 | 2390.00 | 43.8 AV | 54.0 | -10.2 | 1.22 H | 269 | 11.42 | 32.38 |
| 3 | *2437.00 | 99.1 PK | | | 1.09 H | 315 | 66.59 | 32.51 |
| 4 | *2437.00 | 85.0 AV | | | 1.09 H | 315 | 52.49 | 32.51 |
| 5 | 2483.50 | 56.7 PK | 74.0 | -17.3 | 1.06 H | 283 | 24.07 | 32.63 |
| 6 | 2483.50 | 44.4 AV | 54.0 | -9.6 | 1.06 H | 283 | 11.77 | 32.63 |
| 7 | 4874.00 | 47.2 PK | 74.0 | -26.8 | 1.51 H | 215 | 5.21 | 41.99 |
| 8 | 4874.00 | 36.4 AV | 54.0 | -17.6 | 1.51 H | 215 | -5.59 | 41.99 |
| 9 | 7311.00 | 55.3 PK | 74.0 | -18.7 | 1.15 H | 321 | 8.77 | 46.53 |
| 10 | 7311.00 | 43.7 AV | 54.0 | -10.3 | 1.15 H | 321 | -2.83 | 46.53 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 64.5 PK | 74.0 | -9.5 | 1.20 V | 2 | 32.12 | 32.38 |
| 2 | 2390.00 | 52.7 AV | 54.0 | -1.3 | 1.20 V | 2 | 20.32 | 32.38 |
| 3 | *2437.00 | 115.2 PK | | | 1.20 V | 2 | 82.69 | 32.51 |
| 4 | *2437.00 | 103.4 AV | | | 1.20 V | 2 | 70.89 | 32.51 |
| 5 | 2483.50 | 63.9 PK | 74.0 | -10.1 | 1.20 V | 2 | 31.27 | 32.63 |
| 6 | 2483.50 | 51.4 AV | 54.0 | -2.6 | 1.20 V | 2 | 18.77 | 32.63 |
| 7 | 4874.00 | 48.5 PK | 74.0 | -25.5 | 1.62 V | 217 | 6.51 | 41.99 |
| 8 | 4874.00 | 36.8 AV | 54.0 | -17.2 | 1.62 V | 217 | -5.19 | 41.99 |
| 9 | 7311.00 | 54.0 PK | 74.0 | -20.0 | 1.33 V | 230 | 7.47 | 46.53 |
| 10 | 7311.00 | 43.2 AV | 54.0 | -10.8 | 1.33 V | 230 | -3.33 | 46.53 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



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| | | | |
|------------------------|---------------|------------------------------|--------------|
| CHANNEL | TX Channel 11 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 56.0 PK | 74.0 | -18.0 | 1.16 H | 289 | 23.62 | 32.38 |
| 2 | 2390.00 | 43.5 AV | 54.0 | -10.5 | 1.16 H | 289 | 11.12 | 32.38 |
| 3 | *2462.00 | 99.9 PK | | | 1.29 H | 270 | 67.33 | 32.57 |
| 4 | *2462.00 | 85.3 AV | | | 1.29 H | 270 | 52.73 | 32.57 |
| 5 | 2483.50 | 57.5 PK | 74.0 | -16.5 | 1.18 H | 292 | 24.87 | 32.63 |
| 6 | 2483.50 | 45.0 AV | 54.0 | -9.0 | 1.18 H | 292 | 12.37 | 32.63 |
| 7 | 4924.00 | 46.6 PK | 74.0 | -27.4 | 1.57 H | 211 | 4.59 | 42.01 |
| 8 | 4924.00 | 35.2 AV | 54.0 | -18.8 | 1.57 H | 211 | -6.81 | 42.01 |
| 9 | 7386.00 | 55.0 PK | 74.0 | -19.0 | 1.29 H | 309 | 8.27 | 46.73 |
| 10 | 7386.00 | 44.0 AV | 54.0 | -10.0 | 1.29 H | 309 | -2.73 | 46.73 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 64.1 PK | 74.0 | -9.9 | 1.18 V | 1 | 31.72 | 32.38 |
| 2 | 2390.00 | 52.5 AV | 54.0 | -1.5 | 1.18 V | 1 | 20.12 | 32.38 |
| 3 | *2462.00 | 114.3 PK | | | 1.18 V | 1 | 81.73 | 32.57 |
| 4 | *2462.00 | 103.4 AV | | | 1.18 V | 1 | 70.83 | 32.57 |
| 5 | 2483.50 | 64.5 PK | 74.0 | -9.5 | 1.18 V | 1 | 31.87 | 32.63 |
| 6 | 2483.50 | 51.8 AV | 54.0 | -2.2 | 1.18 V | 1 | 19.17 | 32.63 |
| 7 | 4924.00 | 47.0 PK | 74.0 | -27.0 | 1.60 V | 205 | 4.99 | 42.01 |
| 8 | 4924.00 | 35.7 AV | 54.0 | -18.3 | 1.60 V | 205 | -6.31 | 42.01 |
| 9 | 7386.00 | 55.4 PK | 74.0 | -18.6 | 1.34 V | 177 | 8.67 | 46.73 |
| 10 | 7386.00 | 43.7 AV | 54.0 | -10.3 | 1.34 V | 177 | -3.03 | 46.73 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

802.11n (HT40)

| | | | |
|------------------------|--------------|--------------------------|--------------|
| CHANNEL | TX Channel 3 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 2390.00 | 57.5 PK | 74.0 | -16.5 | 1.54 H | 310 | 25.12 | 32.38 |
| 2 | 2390.00 | 44.8 AV | 54.0 | -9.2 | 1.54 H | 310 | 12.42 | 32.38 |
| 3 | *2422.00 | 91.7 PK | | | 1.09 H | 289 | 59.23 | 32.47 |
| 4 | *2422.00 | 80.0 AV | | | 1.09 H | 289 | 47.53 | 32.47 |
| 5 | 2483.50 | 57.0 PK | 74.0 | -17.0 | 1.10 H | 288 | 24.37 | 32.63 |
| 6 | 2483.50 | 43.8 AV | 54.0 | -10.2 | 1.10 H | 288 | 11.17 | 32.63 |
| 7 | 4844.00 | 48.0 PK | 74.0 | -26.0 | 1.51 H | 203 | 6.04 | 41.96 |
| 8 | 4844.00 | 36.4 AV | 54.0 | -17.6 | 1.51 H | 203 | -5.56 | 41.96 |
| 9 | 7386.00 | 55.2 PK | 74.0 | -18.8 | 1.23 H | 326 | 8.47 | 46.73 |
| 10 | 7386.00 | 43.8 AV | 54.0 | -10.2 | 1.23 H | 326 | -2.93 | 46.73 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
|---|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 2390.00 | 68.9 PK | 74.0 | -5.1 | 1.22 V | 1 | 36.52 | 32.38 |
| 2 | 2390.00 | 53.3 AV | 54.0 | -0.7 | 1.22 V | 1 | 20.92 | 32.38 |
| 3 | *2422.00 | 106.7 PK | | | 1.22 V | 1 | 74.23 | 32.47 |
| 4 | *2422.00 | 94.6 AV | | | 1.22 V | 1 | 62.13 | 32.47 |
| 5 | 2483.50 | 63.3 PK | 74.0 | -10.7 | 1.22 V | 1 | 30.67 | 32.63 |
| 6 | 2483.50 | 50.4 AV | 54.0 | -3.6 | 1.22 V | 1 | 17.77 | 32.63 |
| 7 | 4844.00 | 48.0 PK | 74.0 | -26.0 | 1.57 V | 231 | 6.04 | 41.96 |
| 8 | 4844.00 | 36.7 AV | 54.0 | -17.3 | 1.57 V | 231 | -5.26 | 41.96 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * " : Fundamental frequency.



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| | | | |
|------------------------|--------------|------------------------------|--------------|
| CHANNEL | TX Channel 6 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 57.2 PK | 74.0 | -16.8 | 1.56 H | 320 | 24.82 | 32.38 |
| 2 | 2390.00 | 44.3 AV | 54.0 | -9.7 | 1.56 H | 320 | 11.92 | 32.38 |
| 3 | *2437.00 | 92.0 PK | | | 1.14 H | 284 | 59.49 | 32.51 |
| 4 | *2437.00 | 80.1 AV | | | 1.14 H | 284 | 47.59 | 32.51 |
| 5 | 2483.50 | 56.7 PK | 74.0 | -17.3 | 1.07 H | 295 | 24.07 | 32.63 |
| 6 | 2483.50 | 43.6 AV | 54.0 | -10.4 | 1.07 H | 295 | 10.97 | 32.63 |
| 7 | 4874.00 | 47.4 PK | 74.0 | -26.6 | 1.49 H | 222 | 5.41 | 41.99 |
| 8 | 4874.00 | 36.6 AV | 54.0 | -17.4 | 1.49 H | 222 | -5.39 | 41.99 |
| 9 | 7311.00 | 56.1 PK | 74.0 | -17.9 | 1.18 H | 318 | 9.57 | 46.53 |
| 10 | 7311.00 | 44.2 AV | 54.0 | -9.8 | 1.18 H | 318 | -2.33 | 46.53 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 64.6 PK | 74.0 | -9.4 | 1.20 V | 2 | 32.22 | 32.38 |
| 2 | 2390.00 | 53.3 AV | 54.0 | -0.7 | 1.20 V | 2 | 20.92 | 32.38 |
| 3 | *2437.00 | 111.1 PK | | | 1.20 V | 2 | 78.59 | 32.51 |
| 4 | *2437.00 | 99.4 AV | | | 1.20 V | 2 | 66.89 | 32.51 |
| 5 | 2483.50 | 63.9 PK | 74.0 | -10.1 | 1.20 V | 2 | 31.27 | 32.63 |
| 6 | 2483.50 | 51.4 AV | 54.0 | -2.6 | 1.20 V | 2 | 18.77 | 32.63 |
| 7 | 4874.00 | 48.2 PK | 74.0 | -25.8 | 1.60 V | 222 | 6.21 | 41.99 |
| 8 | 4874.00 | 36.6 AV | 54.0 | -17.4 | 1.60 V | 222 | -5.39 | 41.99 |
| 9 | 7311.00 | 53.6 PK | 74.0 | -20.4 | 1.35 V | 241 | 7.07 | 46.53 |
| 10 | 7311.00 | 42.9 AV | 54.0 | -11.1 | 1.35 V | 241 | -3.63 | 46.53 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * " : Fundamental frequency.



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| | | | |
|------------------------|--------------|--------------------------|--------------|
| CHANNEL | TX Channel 9 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | 2390.00 | 57.3 PK | 74.0 | -16.7 | 1.55 H | 297 | 24.92 | 32.38 |
| 2 | 2390.00 | 44.6 AV | 54.0 | -9.4 | 1.55 H | 297 | 12.22 | 32.38 |
| 3 | *2452.00 | 91.4 PK | | | 1.15 H | 297 | 58.85 | 32.55 |
| 4 | *2452.00 | 79.9 AV | | | 1.15 H | 297 | 47.35 | 32.55 |
| 5 | 2483.50 | 57.6 PK | 74.0 | -16.4 | 1.15 H | 297 | 24.97 | 32.63 |
| 6 | 2483.50 | 44.2 AV | 54.0 | -9.8 | 1.15 H | 297 | 11.57 | 32.63 |
| 7 | 4904.00 | 46.8 PK | 74.0 | -27.2 | 1.57 H | 221 | 4.78 | 42.02 |
| 8 | 4904.00 | 35.5 AV | 54.0 | -18.5 | 1.57 H | 221 | -6.52 | 42.02 |
| 9 | 7356.00 | 54.7 PK | 74.0 | -19.3 | 1.24 H | 306 | 8.05 | 46.65 |
| 10 | 7356.00 | 43.9 AV | 54.0 | -10.1 | 1.24 H | 306 | -2.75 | 46.65 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | 2390.00 | 65.6 PK | 74.0 | -8.4 | 1.21 V | 4 | 33.22 | 32.38 |
| 2 | 2390.00 | 52.9 AV | 54.0 | -1.1 | 1.21 V | 4 | 20.52 | 32.38 |
| 3 | *2452.00 | 109.5 PK | | | 1.21 V | 4 | 76.95 | 32.55 |
| 4 | *2452.00 | 97.5 AV | | | 1.21 V | 4 | 64.95 | 32.55 |
| 5 | 2483.50 | 70.1 PK | 74.0 | -3.9 | 1.21 V | 4 | 37.47 | 32.63 |
| 6 | 2483.50 | 53.2 AV | 54.0 | -0.8 | 1.21 V | 4 | 20.57 | 32.63 |
| 7 | 4904.00 | 47.2 PK | 74.0 | -26.8 | 1.55 V | 214 | 5.18 | 42.02 |
| 8 | 4904.00 | 36.2 AV | 54.0 | -17.8 | 1.55 V | 214 | -5.82 | 42.02 |
| 9 | 7356.00 | 55.8 PK | 74.0 | -18.2 | 1.33 V | 181 | 9.15 | 46.65 |
| 10 | 7356.00 | 43.9 AV | 54.0 | -10.1 | 1.33 V | 181 | -2.75 | 46.65 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

4.2.8 TEST RESULTS (MODE 2)

BELOW 1GHz WORST-CASE DATA

802.11b

| | | | |
|------------------------|--------------|------------------------------|-----------------|
| CHANNEL | TX Channel 6 | DETECTOR FUNCTION | Quasi-Peak (QP) |
| FREQUENCY RANGE | Below 1GHz | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 95.21 | 38.0 QP | 43.5 | -5.6 | 2.00 H | 32 | 28.68 | 9.27 |
| 2 | 145.90 | 39.1 QP | 43.5 | -4.4 | 2.00 H | 72 | 24.57 | 14.56 |
| 3 | 209.13 | 40.1 QP | 43.5 | -3.4 | 1.50 H | 305 | 28.56 | 11.56 |
| 4 | 245.41 | 40.4 QP | 46.0 | -5.6 | 1.00 H | 271 | 27.22 | 13.15 |
| 5 | 273.15 | 34.8 QP | 46.0 | -11.2 | 1.00 H | 97 | 20.56 | 14.24 |
| 6 | 347.66 | 36.8 QP | 46.0 | -9.3 | 1.00 H | 114 | 20.23 | 16.52 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 39.66 | 37.1 QP | 40.0 | -2.9 | 2.00 V | 0 | 23.26 | 13.80 |
| 2 | 76.56 | 33.8 QP | 40.0 | -6.3 | 1.53 V | 360 | 23.04 | 10.71 |
| 3 | 184.00 | 38.9 QP | 43.5 | -4.6 | 1.00 V | 310 | 26.29 | 12.60 |
| 4 | 363.36 | 37.9 QP | 46.0 | -8.2 | 1.50 V | 76 | 20.93 | 16.92 |
| 5 | 397.64 | 34.1 QP | 46.0 | -11.9 | 1.50 V | 197 | 16.32 | 17.80 |
| 6 | 665.65 | 34.8 QP | 46.0 | -11.2 | 1.50 V | 243 | 11.30 | 23.50 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.



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ABOVE 1GHz DATA

802.11b

| | | | |
|------------------------|--------------|------------------------------|--------------|
| CHANNEL | TX Channel 1 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 56.9 PK | 74.0 | -17.1 | 1.37 H | 32 | 24.52 | 32.38 |
| 2 | 2390.00 | 44.2 AV | 54.0 | -9.8 | 1.37 H | 32 | 11.82 | 32.38 |
| 3 | *2412.00 | 96.4 PK | | | 1.37 H | 32 | 63.96 | 32.44 |
| 4 | *2412.00 | 92.4 AV | | | 1.37 H | 32 | 59.96 | 32.44 |
| 5 | 2483.50 | 57.2 PK | 74.0 | -16.8 | 1.37 H | 32 | 24.57 | 32.63 |
| 6 | 2483.50 | 44.1 AV | 54.0 | -9.9 | 1.37 H | 32 | 11.47 | 32.63 |
| 7 | 4824.00 | 48.9 PK | 74.0 | -25.1 | 1.53 H | 153 | 6.96 | 41.94 |
| 8 | 4824.00 | 35.6 AV | 54.0 | -18.4 | 1.53 H | 153 | -6.34 | 41.94 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 62.1 PK | 74.0 | -11.9 | 1.35 V | 324 | 29.72 | 32.38 |
| 2 | 2390.00 | 52.3 AV | 54.0 | -1.7 | 1.35 V | 324 | 19.92 | 32.38 |
| 3 | *2412.00 | 119.5 PK | | | 1.35 V | 324 | 87.06 | 32.44 |
| 4 | *2412.00 | 116.1 AV | | | 1.35 V | 324 | 83.66 | 32.44 |
| 5 | 2483.50 | 60.2 PK | 74.0 | -13.8 | 1.35 V | 324 | 27.57 | 32.63 |
| 6 | 2483.50 | 48.2 AV | 54.0 | -5.8 | 1.35 V | 324 | 15.57 | 32.63 |
| 7 | 4824.00 | 48.9 PK | 74.0 | -25.1 | 1.13 V | 177 | 6.96 | 41.94 |
| 8 | 4824.00 | 37.3 AV | 54.0 | -16.7 | 1.13 V | 177 | -4.64 | 41.94 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



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| | | | |
|------------------------|--------------|--------------------------|--------------|
| CHANNEL | TX Channel 6 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | 2390.00 | 57.4 PK | 74.0 | -16.6 | 1.40 H | 17 | 25.02 | 32.38 |
| 2 | 2390.00 | 44.5 AV | 54.0 | -9.5 | 1.40 H | 17 | 12.12 | 32.38 |
| 3 | *2437.00 | 96.1 PK | | | 1.37 H | 30 | 63.59 | 32.51 |
| 4 | *2437.00 | 92.0 AV | | | 1.37 H | 30 | 59.49 | 32.51 |
| 5 | 2483.50 | 57.1 PK | 74.0 | -16.9 | 1.36 H | 37 | 24.47 | 32.63 |
| 6 | 2483.50 | 44.0 AV | 54.0 | -10.0 | 1.36 H | 37 | 11.37 | 32.63 |
| 7 | 4874.00 | 48.6 PK | 74.0 | -25.4 | 1.53 H | 168 | 6.61 | 41.99 |
| 8 | 4874.00 | 35.2 AV | 54.0 | -18.8 | 1.53 H | 168 | -6.79 | 41.99 |
| 9 | 7311.00 | 55.4 PK | 74.0 | -18.6 | 1.00 H | 97 | 8.87 | 46.53 |
| 10 | 7311.00 | 43.7 AV | 54.0 | -10.3 | 1.00 H | 97 | -2.83 | 46.53 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | 2390.00 | 60.1 PK | 74.0 | -13.9 | 1.31 V | 326 | 27.72 | 32.38 |
| 2 | 2390.00 | 48.9 AV | 54.0 | -5.1 | 1.31 V | 326 | 16.52 | 32.38 |
| 3 | *2437.00 | 120.2 PK | | | 1.31 V | 326 | 87.69 | 32.51 |
| 4 | *2437.00 | 117.2 AV | | | 1.31 V | 326 | 84.69 | 32.51 |
| 5 | 2483.50 | 56.9 PK | 74.0 | -17.1 | 1.31 V | 326 | 24.27 | 32.63 |
| 6 | 2483.50 | 47.5 AV | 54.0 | -6.5 | 1.31 V | 326 | 14.87 | 32.63 |
| 7 | 4874.00 | 48.6 PK | 74.0 | -25.4 | 1.12 V | 183 | 6.61 | 41.99 |
| 8 | 4874.00 | 37.3 AV | 54.0 | -16.7 | 1.12 V | 183 | -4.69 | 41.99 |
| 9 | 7311.00 | 55.1 PK | 74.0 | -18.9 | 1.00 V | 53 | 8.57 | 46.53 |
| 10 | 7311.00 | 43.7 AV | 54.0 | -10.3 | 1.00 V | 53 | -2.83 | 46.53 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



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| | | | |
|------------------------|---------------|------------------------------|--------------|
| CHANNEL | TX Channel 11 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | *2462.00 | 95.7 PK | | | 1.34 H | 17 | 63.13 | 32.57 |
| 2 | *2462.00 | 91.8 AV | | | 1.34 H | 17 | 59.23 | 32.57 |
| 3 | 2483.50 | 57.1 PK | 74.0 | -16.9 | 1.38 H | 40 | 24.47 | 32.63 |
| 4 | 2483.50 | 44.0 AV | 54.0 | -10.0 | 1.38 H | 40 | 11.37 | 32.63 |
| 5 | 4924.00 | 47.5 PK | 74.0 | -26.5 | 1.48 H | 135 | 5.49 | 42.01 |
| 6 | 4924.00 | 34.7 AV | 54.0 | -19.3 | 1.48 H | 135 | -7.31 | 42.01 |
| 7 | 7386.00 | 55.7 PK | 74.0 | -18.3 | 1.00 H | 93 | 8.97 | 46.73 |
| 8 | 7386.00 | 43.9 AV | 54.0 | -10.1 | 1.00 H | 93 | -2.83 | 46.73 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | *2462.00 | 119.0 PK | | | 1.31 V | 321 | 86.43 | 32.57 |
| 2 | *2462.00 | 116.1 AV | | | 1.31 V | 321 | 83.53 | 32.57 |
| 3 | 2483.50 | 63.3 PK | 74.0 | -10.7 | 1.00 V | 321 | 30.67 | 32.63 |
| 4 | 2483.50 | 52.7 AV | 54.0 | -1.3 | 1.00 V | 321 | 20.07 | 32.63 |
| 5 | 4924.00 | 49.2 PK | 74.0 | -24.8 | 1.17 V | 175 | 7.19 | 42.01 |
| 6 | 4924.00 | 37.6 AV | 54.0 | -16.4 | 1.17 V | 175 | -4.41 | 42.01 |
| 7 | 7386.00 | 55.4 PK | 74.0 | -18.6 | 1.00 V | 54 | 8.67 | 46.73 |
| 8 | 7386.00 | 44.1 AV | 54.0 | -9.9 | 1.00 V | 54 | -2.63 | 46.73 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * " : Fundamental frequency.



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802.11g

| | | | |
|------------------------|--------------|--------------------------|--------------|
| CHANNEL | TX Channel 1 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | 2390.00 | 57.3 PK | 74.0 | -16.7 | 1.38 H | 20 | 24.92 | 32.38 |
| 2 | 2390.00 | 44.4 AV | 54.0 | -9.6 | 1.38 H | 20 | 12.02 | 32.38 |
| 3 | *2412.00 | 96.0 PK | | | 1.32 H | 20 | 63.56 | 32.44 |
| 4 | *2412.00 | 91.8 AV | | | 1.32 H | 20 | 59.36 | 32.44 |
| 5 | 2483.50 | 57.5 PK | 74.0 | -16.5 | 1.44 H | 43 | 24.87 | 32.63 |
| 6 | 2483.50 | 44.1 AV | 54.0 | -9.9 | 1.44 H | 43 | 11.47 | 32.63 |
| 7 | 4824.00 | 48.9 PK | 74.0 | -25.1 | 1.50 H | 142 | 6.96 | 41.94 |
| 8 | 4824.00 | 35.7 AV | 54.0 | -18.3 | 1.50 H | 142 | -6.24 | 41.94 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | 2390.00 | 64.2 PK | 74.0 | -9.8 | 1.33 V | 317 | 31.82 | 32.38 |
| 2 | 2390.00 | 50.7 AV | 54.0 | -3.3 | 1.33 V | 317 | 18.32 | 32.38 |
| 3 | *2412.00 | 114.6 PK | | | 1.33 V | 317 | 82.16 | 32.44 |
| 4 | *2412.00 | 103.7 AV | | | 1.33 V | 317 | 71.26 | 32.44 |
| 5 | 2483.50 | 59.9 PK | 74.0 | -14.1 | 1.33 V | 317 | 27.27 | 32.63 |
| 6 | 2483.50 | 47.7 AV | 54.0 | -6.3 | 1.33 V | 317 | 15.07 | 32.63 |
| 7 | 4824.00 | 48.5 PK | 74.0 | -25.5 | 1.16 V | 185 | 6.56 | 41.94 |
| 8 | 4824.00 | 37.3 AV | 54.0 | -16.7 | 1.16 V | 185 | -4.64 | 41.94 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



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| | | | |
|------------------------|--------------|------------------------------|--------------|
| CHANNEL | TX Channel 6 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 56.9 PK | 74.0 | -17.1 | 1.33 H | 11 | 24.52 | 32.38 |
| 2 | 2390.00 | 44.3 AV | 54.0 | -9.7 | 1.33 H | 11 | 11.92 | 32.38 |
| 3 | *2437.00 | 96.1 PK | | | 1.39 H | 21 | 63.59 | 32.51 |
| 4 | *2437.00 | 91.8 AV | | | 1.39 H | 21 | 59.29 | 32.51 |
| 5 | 2483.50 | 57.6 PK | 74.0 | -16.4 | 1.42 H | 43 | 24.97 | 32.63 |
| 6 | 2483.50 | 44.1 AV | 54.0 | -9.9 | 1.42 H | 43 | 11.47 | 32.63 |
| 7 | 4874.00 | 48.6 PK | 74.0 | -25.4 | 1.53 H | 174 | 6.61 | 41.99 |
| 8 | 4874.00 | 35.0 AV | 54.0 | -19.0 | 1.53 H | 174 | -6.99 | 41.99 |
| 9 | 7311.00 | 55.7 PK | 74.0 | -18.3 | 1.00 H | 101 | 9.17 | 46.53 |
| 10 | 7311.00 | 43.9 AV | 54.0 | -10.1 | 1.00 H | 101 | -2.63 | 46.53 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 62.4 PK | 74.0 | -11.6 | 1.35 V | 321 | 30.02 | 32.38 |
| 2 | 2390.00 | 50.3 AV | 54.0 | -3.7 | 1.35 V | 321 | 17.92 | 32.38 |
| 3 | *2437.00 | 115.9 PK | | | 1.35 V | 321 | 83.39 | 32.51 |
| 4 | *2437.00 | 105.3 AV | | | 1.35 V | 321 | 72.79 | 32.51 |
| 5 | 2483.50 | 61.5 PK | 74.0 | -12.5 | 1.35 V | 321 | 28.87 | 32.63 |
| 6 | 2483.50 | 49.3 AV | 54.0 | -4.7 | 1.35 V | 321 | 16.67 | 32.63 |
| 7 | 4874.00 | 48.8 PK | 74.0 | -25.2 | 1.14 V | 197 | 6.81 | 41.99 |
| 8 | 4874.00 | 37.7 AV | 54.0 | -16.3 | 1.14 V | 197 | -4.29 | 41.99 |
| 9 | 7311.00 | 55.5 PK | 74.0 | -18.5 | 1.00 V | 60 | 8.97 | 46.53 |
| 10 | 7311.00 | 43.9 AV | 54.0 | -10.1 | 1.00 V | 60 | -2.63 | 46.53 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



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|------------------------|---------------|--------------------------|--------------|
| CHANNEL | TX Channel 11 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | 2390.00 | 56.2 PK | 74.0 | -17.8 | 1.30 H | 16 | 23.82 | 32.38 |
| 2 | 2390.00 | 43.8 AV | 54.0 | -10.2 | 1.30 H | 16 | 11.42 | 32.38 |
| 3 | *2462.00 | 96.6 PK | | | 1.42 H | 28 | 64.03 | 32.57 |
| 4 | *2462.00 | 92.0 AV | | | 1.42 H | 28 | 59.43 | 32.57 |
| 5 | 2483.50 | 57.6 PK | 74.0 | -16.4 | 1.41 H | 42 | 24.97 | 32.63 |
| 6 | 2483.50 | 44.1 AV | 54.0 | -9.9 | 1.41 H | 42 | 11.47 | 32.63 |
| 7 | 4874.00 | 49.1 PK | 74.0 | -24.9 | 1.56 H | 184 | 7.11 | 41.99 |
| 8 | 4874.00 | 35.5 AV | 54.0 | -18.5 | 1.56 H | 184 | -6.49 | 41.99 |
| 9 | 7386.00 | 55.6 PK | 74.0 | -18.4 | 1.02 H | 85 | 8.87 | 46.73 |
| 10 | 7386.00 | 43.9 AV | 54.0 | -10.1 | 1.02 H | 85 | -2.83 | 46.73 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | 2390.00 | 62.9 PK | 74.0 | -11.1 | 1.33 V | 323 | 30.52 | 32.38 |
| 2 | 2390.00 | 51.6 AV | 54.0 | -2.4 | 1.33 V | 323 | 19.22 | 32.38 |
| 3 | *2462.00 | 115.9 PK | | | 1.33 V | 323 | 83.33 | 32.57 |
| 4 | *2462.00 | 105.7 AV | | | 1.33 V | 323 | 73.13 | 32.57 |
| 5 | 2483.50 | 64.9 PK | 74.0 | -9.1 | 1.33 V | 323 | 32.27 | 32.63 |
| 6 | 2483.50 | 53.1 AV | 54.0 | -0.9 | 1.33 V | 323 | 20.47 | 32.63 |
| 7 | 4924.00 | 49.0 PK | 74.0 | -25.0 | 1.12 V | 169 | 6.99 | 42.01 |
| 8 | 4924.00 | 37.4 AV | 54.0 | -16.6 | 1.12 V | 169 | -4.61 | 42.01 |
| 9 | 7386.00 | 56.0 PK | 74.0 | -18.0 | 1.00 V | 48 | 9.27 | 46.73 |
| 10 | 7386.00 | 44.3 AV | 54.0 | -9.7 | 1.00 V | 48 | -2.43 | 46.73 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

802.11n (HT20)

| | | | |
|------------------------|--------------|--------------------------|--------------|
| CHANNEL | TX Channel 1 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|--|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 2390.00 | 57.5 PK | 74.0 | -16.5 | 1.07 H | 353 | 25.12 | 32.38 |
| 2 | 2390.00 | 45.1 AV | 54.0 | -8.9 | 1.07 H | 353 | 12.72 | 32.38 |
| 3 | *2412.00 | 103.0 PK | | | 1.07 H | 353 | 70.56 | 32.44 |
| 4 | *2412.00 | 90.5 AV | | | 1.07 H | 353 | 58.06 | 32.44 |
| 5 | 4824.00 | 49.6 PK | 74.0 | -24.4 | 1.58 H | 178 | 7.66 | 41.94 |
| 6 | 4824.00 | 35.9 AV | 54.0 | -18.1 | 1.58 H | 178 | -6.04 | 41.94 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 2390.00 | 67.9 PK | 74.0 | -6.1 | 1.36 V | 329 | 35.52 | 32.38 |
| 2 | 2390.00 | 52.8 AV | 54.0 | -1.2 | 1.36 V | 329 | 20.42 | 32.38 |
| 3 | *2412.00 | 114.9 PK | | | 1.36 V | 329 | 82.46 | 32.44 |
| 4 | *2412.00 | 103.5 AV | | | 1.36 V | 329 | 71.06 | 32.44 |
| 5 | 4824.00 | 49.0 PK | 74.0 | -25.0 | 1.12 V | 169 | 7.06 | 41.94 |
| 6 | 4824.00 | 37.4 AV | 54.0 | -16.6 | 1.12 V | 169 | -4.54 | 41.94 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



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|------------------------|--------------|------------------------------|--------------|
| CHANNEL | TX Channel 6 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 55.9 PK | 74.0 | -18.1 | 1.32 H | 13 | 23.52 | 32.38 |
| 2 | 2390.00 | 43.4 AV | 54.0 | -10.6 | 1.32 H | 13 | 11.02 | 32.38 |
| 3 | *2437.00 | 96.9 PK | | | 1.46 H | 39 | 64.39 | 32.51 |
| 4 | *2437.00 | 92.4 AV | | | 1.46 H | 39 | 59.89 | 32.51 |
| 5 | 2483.50 | 57.1 PK | 74.0 | -16.9 | 1.36 H | 57 | 24.47 | 32.63 |
| 6 | 2483.50 | 43.8 AV | 54.0 | -10.2 | 1.36 H | 57 | 11.17 | 32.63 |
| 7 | 4874.00 | 48.6 PK | 74.0 | -25.4 | 1.53 H | 178 | 6.61 | 41.99 |
| 8 | 4874.00 | 35.1 AV | 54.0 | -18.9 | 1.53 H | 178 | -6.89 | 41.99 |
| 9 | 7311.00 | 55.8 PK | 74.0 | -18.2 | 1.00 H | 93 | 9.27 | 46.53 |
| 10 | 7311.00 | 43.9 AV | 54.0 | -10.1 | 1.00 H | 93 | -2.63 | 46.53 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 60.4 PK | 74.0 | -13.6 | 1.33 V | 324 | 28.02 | 32.38 |
| 2 | 2390.00 | 50.1 AV | 54.0 | -3.9 | 1.33 V | 324 | 17.72 | 32.38 |
| 3 | *2437.00 | 116.8 PK | | | 1.33 V | 324 | 84.29 | 32.51 |
| 4 | *2437.00 | 104.3 AV | | | 1.33 V | 324 | 71.79 | 32.51 |
| 5 | 2483.50 | 61.3 PK | 74.0 | -12.7 | 1.33 V | 324 | 28.67 | 32.63 |
| 6 | 2483.50 | 48.4 AV | 54.0 | -5.6 | 1.33 V | 324 | 15.77 | 32.63 |
| 7 | 4874.00 | 49.3 PK | 74.0 | -24.7 | 1.12 V | 163 | 7.31 | 41.99 |
| 8 | 4874.00 | 37.6 AV | 54.0 | -16.4 | 1.12 V | 163 | -4.39 | 41.99 |
| 9 | 7311.00 | 55.4 PK | 74.0 | -18.6 | 1.04 V | 68 | 8.87 | 46.53 |
| 10 | 7311.00 | 44.1 AV | 54.0 | -9.9 | 1.04 V | 68 | -2.43 | 46.53 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



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| | | | |
|------------------------|---------------|------------------------------|--------------|
| CHANNEL | TX Channel 11 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 55.8 PK | 74.0 | -18.2 | 1.31 H | 23 | 23.42 | 32.38 |
| 2 | 2390.00 | 43.0 AV | 54.0 | -11.0 | 1.31 H | 23 | 10.62 | 32.38 |
| 3 | *2462.00 | 97.1 PK | | | 1.52 H | 53 | 64.53 | 32.57 |
| 4 | *2462.00 | 92.8 AV | | | 1.52 H | 53 | 60.23 | 32.57 |
| 5 | 2483.50 | 56.7 PK | 74.0 | -17.3 | 1.31 H | 46 | 24.07 | 32.63 |
| 6 | 2483.50 | 43.5 AV | 54.0 | -10.5 | 1.31 H | 46 | 10.87 | 32.63 |
| 7 | 4924.00 | 48.5 PK | 74.0 | -25.5 | 1.55 H | 177 | 6.49 | 42.01 |
| 8 | 4924.00 | 34.7 AV | 54.0 | -19.3 | 1.55 H | 177 | -7.31 | 42.01 |
| 9 | 7386.00 | 55.3 PK | 74.0 | -18.7 | 1.03 H | 109 | 8.57 | 46.73 |
| 10 | 7386.00 | 43.6 AV | 54.0 | -10.4 | 1.03 H | 109 | -3.13 | 46.73 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 62.5 PK | 74.0 | -11.5 | 1.32 V | 322 | 30.12 | 32.38 |
| 2 | 2390.00 | 51.3 AV | 54.0 | -2.7 | 1.32 V | 322 | 18.92 | 32.38 |
| 3 | *2462.00 | 115.6 PK | | | 1.32 V | 322 | 83.03 | 32.57 |
| 4 | *2462.00 | 104.1 AV | | | 1.32 V | 322 | 71.53 | 32.57 |
| 5 | 2483.50 | 69.1 PK | 74.0 | -4.9 | 1.32 V | 322 | 36.47 | 32.63 |
| 6 | 2483.50 | 53.1 AV | 54.0 | -0.9 | 1.32 V | 322 | 20.47 | 32.63 |
| 7 | 4924.00 | 49.3 PK | 74.0 | -24.7 | 1.08 V | 166 | 7.29 | 42.01 |
| 8 | 4924.00 | 37.6 AV | 54.0 | -16.4 | 1.08 V | 166 | -4.41 | 42.01 |
| 9 | 7386.00 | 55.5 PK | 74.0 | -18.5 | 1.01 V | 83 | 8.77 | 46.73 |
| 10 | 7386.00 | 44.1 AV | 54.0 | -9.9 | 1.01 V | 83 | -2.63 | 46.73 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.

802.11n (HT40)

| | | | |
|------------------------|--------------|------------------------------|--------------|
| CHANNEL | TX Channel 3 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 2390.00 | 56.9 PK | 74.0 | -17.1 | 1.36 H | 56 | 24.52 | 32.38 |
| 2 | 2390.00 | 43.5 AV | 54.0 | -10.5 | 1.36 H | 56 | 11.12 | 32.38 |
| 3 | *2422.00 | 96.6 PK | | | 1.47 H | 48 | 64.13 | 32.47 |
| 4 | *2422.00 | 92.4 AV | | | 1.47 H | 48 | 59.93 | 32.47 |
| 5 | 2483.50 | 55.9 PK | 74.0 | -18.1 | 1.36 H | 38 | 23.27 | 32.63 |
| 6 | 2483.50 | 43.0 AV | 54.0 | -11.0 | 1.36 H | 38 | 10.37 | 32.63 |
| 7 | 4844.00 | 48.2 PK | 74.0 | -25.8 | 1.53 H | 187 | 6.24 | 41.96 |
| 8 | 4844.00 | 34.2 AV | 54.0 | -19.8 | 1.53 H | 187 | -7.76 | 41.96 |
| 9 | 7266.00 | 55.1 PK | 74.0 | -18.9 | 1.00 H | 95 | 8.70 | 46.40 |
| 10 | 7266.00 | 43.6 AV | 54.0 | -10.4 | 1.00 H | 95 | -2.80 | 46.40 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
|---|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 2390.00 | 71.1 PK | 74.0 | -2.9 | 1.32 V | 320 | 38.72 | 32.38 |
| 2 | 2390.00 | 53.1 AV | 54.0 | -0.9 | 1.32 V | 320 | 20.72 | 32.38 |
| 3 | *2422.00 | 108.8 PK | | | 1.32 V | 320 | 76.33 | 32.47 |
| 4 | *2422.00 | 97.2 AV | | | 1.32 V | 320 | 64.73 | 32.47 |
| 5 | 2483.50 | 60.4 PK | 74.0 | -13.6 | 1.32 V | 320 | 27.77 | 32.63 |
| 6 | 2483.50 | 47.6 AV | 54.0 | -6.4 | 1.32 V | 320 | 14.97 | 32.63 |
| 7 | 4844.00 | 49.5 PK | 74.0 | -24.5 | 1.08 V | 161 | 7.54 | 41.96 |
| 8 | 4844.00 | 37.9 AV | 54.0 | -16.1 | 1.08 V | 161 | -4.06 | 41.96 |
| 9 | 7266.00 | 55.4 PK | 74.0 | -18.6 | 1.00 V | 76 | 9.00 | 46.40 |
| 10 | 7266.00 | 43.7 AV | 54.0 | -10.3 | 1.00 V | 76 | -2.70 | 46.40 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



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| | | | |
|------------------------|--------------|------------------------------|--------------|
| CHANNEL | TX Channel 6 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 56.2 PK | 74.0 | -17.8 | 1.32 H | 26 | 23.82 | 32.38 |
| 2 | 2390.00 | 43.0 AV | 54.0 | -11.0 | 1.32 H | 26 | 10.62 | 32.38 |
| 3 | *2437.00 | 96.8 PK | | | 1.48 H | 39 | 64.29 | 32.51 |
| 4 | *2437.00 | 92.5 AV | | | 1.48 H | 39 | 59.99 | 32.51 |
| 5 | 2483.50 | 57.2 PK | 74.0 | -16.8 | 1.35 H | 53 | 24.57 | 32.63 |
| 6 | 2483.50 | 43.9 AV | 54.0 | -10.1 | 1.35 H | 53 | 11.27 | 32.63 |
| 7 | 4874.00 | 47.9 PK | 74.0 | -26.1 | 1.49 H | 181 | 5.91 | 41.99 |
| 8 | 4874.00 | 34.0 AV | 54.0 | -20.0 | 1.49 H | 181 | -7.99 | 41.99 |
| 9 | 7311.00 | 54.7 PK | 74.0 | -19.3 | 1.00 H | 94 | 8.17 | 46.53 |
| 10 | 7311.00 | 43.4 AV | 54.0 | -10.6 | 1.00 H | 94 | -3.13 | 46.53 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | 2390.00 | 63.8 PK | 74.0 | -10.2 | 1.34 V | 324 | 31.42 | 32.38 |
| 2 | 2390.00 | 52.9 AV | 54.0 | -1.1 | 1.34 V | 324 | 20.52 | 32.38 |
| 3 | *2437.00 | 112.8 PK | | | 1.34 V | 324 | 80.29 | 32.51 |
| 4 | *2437.00 | 101.3 AV | | | 1.34 V | 324 | 68.79 | 32.51 |
| 5 | 2483.50 | 64.6 PK | 74.0 | -9.4 | 1.34 V | 324 | 31.97 | 32.63 |
| 6 | 2483.50 | 51.7 AV | 54.0 | -2.3 | 1.34 V | 324 | 19.07 | 32.63 |
| 7 | 4874.00 | 49.4 PK | 74.0 | -24.6 | 1.11 V | 154 | 7.41 | 41.99 |
| 8 | 4874.00 | 38.1 AV | 54.0 | -15.9 | 1.11 V | 154 | -3.89 | 41.99 |
| 9 | 7311.00 | 55.1 PK | 74.0 | -18.9 | 1.00 V | 65 | 8.57 | 46.53 |
| 10 | 7311.00 | 43.3 AV | 54.0 | -10.7 | 1.00 V | 65 | -3.23 | 46.53 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.



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| | | | |
|------------------------|--------------|------------------------------|--------------|
| CHANNEL | TX Channel 9 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 25GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | *2452.00 | 96.3 PK | | | 1.54 H | 32 | 63.75 | 32.55 |
| 2 | *2452.00 | 92.2 AV | | | 1.54 H | 32 | 59.65 | 32.55 |
| 3 | 2483.50 | 57.0 PK | 74.0 | -17.0 | 1.31 H | 58 | 24.37 | 32.63 |
| 4 | 2483.50 | 43.9 AV | 54.0 | -10.1 | 1.31 H | 58 | 11.27 | 32.63 |
| 5 | 4904.00 | 48.3 PK | 74.0 | -25.7 | 1.46 H | 167 | 6.28 | 42.02 |
| 6 | 4904.00 | 34.1 AV | 54.0 | -19.9 | 1.46 H | 167 | -7.92 | 42.02 |
| 7 | 7356.00 | 55.0 PK | 74.0 | -19.0 | 1.00 H | 92 | 8.35 | 46.65 |
| 8 | 7356.00 | 43.6 AV | 54.0 | -10.4 | 1.00 H | 92 | -3.05 | 46.65 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | *2452.00 | 110.7 PK | | | 1.33 V | 321 | 78.15 | 32.55 |
| 2 | *2452.00 | 99.5 AV | | | 1.33 V | 321 | 66.95 | 32.55 |
| 3 | 2483.50 | 69.4 PK | 74.0 | -4.6 | 1.33 V | 321 | 36.77 | 32.63 |
| 4 | 2483.50 | 53.3 AV | 54.0 | -0.7 | 1.33 V | 321 | 20.67 | 32.63 |
| 5 | 4904.00 | 49.8 PK | 74.0 | -24.2 | 1.15 V | 163 | 7.78 | 42.02 |
| 6 | 4904.00 | 38.3 AV | 54.0 | -15.7 | 1.15 V | 163 | -3.72 | 42.02 |
| 7 | 7356.00 | 55.1 PK | 74.0 | -18.9 | 1.04 V | 54 | 8.45 | 46.65 |
| 8 | 7356.00 | 43.3 AV | 54.0 | -10.7 | 1.04 V | 54 | -3.35 | 46.65 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * " : Fundamental frequency.

4.3 6dB BANDWIDTH MEASUREMENT

4.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

4.3.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|----------------------------|-----------|------------|-----------------|------------------|
| R&S SPECTRUM ANALYZER | FSP40 | 100036 | May 09, 2012 | May 08, 2013 |

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Dec. 13, 2012

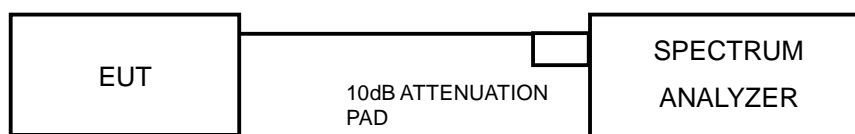
4.3.3 TEST PROCEDURE

1. Set resolution bandwidth (RBW) = approximately 1% of the emission bandwidth
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
3. Trace mode = max hold.
4. Sweep = auto couple.
5. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

4.3.4 DEVIATION FROM TEST STANDARD

No deviation

4.3.5 TEST SETUP



4.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



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4.3.7 TEST RESULTS (MODE 1)

802.11b

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | | | MINIMUM LIMIT (MHz) | PASS / FAIL |
|---------|-------------------------|---------------------|---------|---------|---------------------|-------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | |
| 1 | 2412 | 10.59 | 10.11 | 10.62 | 0.5 | PASS |
| 6 | 2437 | 9.73 | 11.18 | 10.22 | 0.5 | PASS |
| 11 | 2462 | 10.71 | 9.64 | 11.14 | 0.5 | PASS |

802.11g

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | | | MINIMUM LIMIT (MHz) | PASS / FAIL |
|---------|-------------------------|---------------------|---------|---------|---------------------|-------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | |
| 1 | 2412 | 16.45 | 16.44 | 16.43 | 0.5 | PASS |
| 6 | 2437 | 16.34 | 16.45 | 16.46 | 0.5 | PASS |
| 11 | 2462 | 16.43 | 16.43 | 16.49 | 0.5 | PASS |

802.11n (HT20)

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | | | MINIMUM LIMIT (MHz) | PASS / FAIL |
|---------|-------------------------|---------------------|---------|---------|---------------------|-------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | |
| 1 | 2412 | 17.66 | 17.64 | 17.71 | 0.5 | PASS |
| 6 | 2437 | 16.87 | 17.62 | 17.69 | 0.5 | PASS |
| 11 | 2462 | 17.65 | 17.64 | 17.64 | 0.5 | PASS |

802.11n (HT40)

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | | | MINIMUM LIMIT (MHz) | PASS / FAIL |
|---------|-------------------------|---------------------|---------|---------|---------------------|-------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | |
| 3 | 2422 | 36.51 | 36.49 | 36.52 | 0.5 | PASS |
| 6 | 2437 | 36.55 | 36.46 | 36.52 | 0.5 | PASS |
| 9 | 2452 | 36.50 | 36.50 | 36.52 | 0.5 | PASS |



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4.3.8 TEST RESULTS (MODE 2)

802.11b

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | | | MINIMUM LIMIT (MHz) | PASS / FAIL |
|---------|-------------------------|---------------------|---------|---------|---------------------|-------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | |
| 1 | 2412 | 9.79 | 9.00 | 9.77 | 0.5 | PASS |
| 6 | 2437 | 10.61 | 10.26 | 10.21 | 0.5 | PASS |
| 11 | 2462 | 10.23 | 9.11 | 10.42 | 0.5 | PASS |

802.11g

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | | | MINIMUM LIMIT (MHz) | PASS / FAIL |
|---------|-------------------------|---------------------|---------|---------|---------------------|-------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | |
| 1 | 2412 | 16.35 | 16.48 | 16.46 | 0.5 | PASS |
| 6 | 2437 | 16.46 | 16.57 | 16.45 | 0.5 | PASS |
| 11 | 2462 | 16.43 | 16.49 | 16.45 | 0.5 | PASS |

802.11n (HT20)

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | | | MINIMUM LIMIT (MHz) | PASS / FAIL |
|---------|-------------------------|---------------------|---------|---------|---------------------|-------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | |
| 1 | 2412 | 17.62 | 17.32 | 17.75 | 0.5 | PASS |
| 6 | 2437 | 17.68 | 17.69 | 17.65 | 0.5 | PASS |
| 11 | 2462 | 17.64 | 17.39 | 17.62 | 0.5 | PASS |

802.11n (HT40)

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | | | MINIMUM LIMIT (MHz) | PASS / FAIL |
|---------|-------------------------|---------------------|---------|---------|---------------------|-------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | |
| 3 | 2422 | 36.51 | 36.50 | 36.51 | 0.5 | PASS |
| 6 | 2437 | 36.47 | 36.43 | 36.54 | 0.5 | PASS |
| 9 | 2452 | 36.52 | 36.48 | 36.51 | 0.5 | PASS |

4.4 CONDUCTED OUTPUT POWER MEASUREMENT

4.4.1 LIMITS OF MAXIMUM PEAK OUTPUT POWER MEASUREMENT

For systems using digital modulation in the 2400–2483.5 MHz band: 1 Watt (30dBm)

4.4.2 INSTRUMENTS

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|----------------------------|-----------|------------|-----------------|------------------|
| Power Meter | ML2495A | 0824006 | May 10, 2012 | May 09, 2013 |
| Power Sensor | MA2411B | 0738172 | May 10, 2012 | May 09, 2013 |

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Dec. 13, 2012

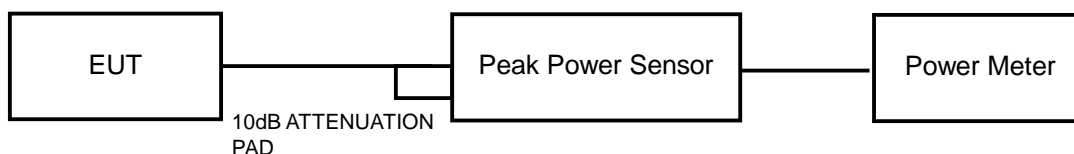
4.4.3 TEST PROCEDURES

A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the peak power level.

4.4.4 DEVIATION FROM TEST STANDARD

No deviation.

4.4.5 TEST SETUP



4.4.6 EUT OPERATING CONDITIONS

Same as Item 4.3.6



4.4.7 TEST RESULTS (MODE 1)

802.11b

| CHAN. | FREQUE NCY (MHz) | PEAK POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | LIMIT (dBm) | PASS / FAIL |
|-------|------------------------|------------------|---------|---------|------------------------|-------------------------|----------------|----------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 1 | 2412 | 15.20 | 14.20 | 14.70 | 88.928 | 19.49 | 21.38 | PASS |
| 6 | 2437 | 14.80 | 14.10 | 14.70 | 85.416 | 19.32 | 21.38 | PASS |
| 11 | 2462 | 15.10 | 14.40 | 15.80 | 97.920 | 19.91 | 21.38 | PASS |

The directional gain is 14.62dBi, therefore the limit needs to reduce.

802.11g

| CHAN. | FREQUE NCY (MHz) | PEAK POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | LIMIT (dBm) | PASS / FAIL |
|-------|------------------------|------------------|---------|---------|------------------------|-------------------------|----------------|----------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 1 | 2412 | 15.50 | 15.60 | 15.90 | 110.694 | 20.44 | 21.38 | PASS |
| 6 | 2437 | 15.80 | 15.90 | 15.20 | 110.037 | 20.42 | 21.38 | PASS |
| 11 | 2462 | 15.30 | 15.20 | 15.30 | 100.881 | 20.04 | 21.38 | PASS |

The directional gain is 14.62dBi, therefore the limit needs to reduce.

802.11n (HT20)

| CHAN. | FREQUE NCY (MHz) | PEAK POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | LIMIT (dBm) | PASS / FAIL |
|-------|------------------------|------------------|---------|---------|------------------------|-------------------------|----------------|----------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 1 | 2412 | 15.30 | 15.50 | 15.60 | 105.673 | 20.24 | 21.38 | PASS |
| 6 | 2437 | 15.30 | 15.50 | 15.30 | 103.249 | 20.14 | 21.38 | PASS |
| 11 | 2462 | 15.10 | 15.20 | 15.10 | 97.831 | 19.90 | 21.38 | PASS |

The directional gain is 14.62dBi, therefore the limit needs to reduce.

802.11n (HT40)

| CHAN. | FREQUE NCY (MHz) | PEAK POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | LIMIT (dBm) | PASS / FAIL |
|-------|------------------------|------------------|---------|---------|------------------------|-------------------------|----------------|----------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 3 | 2422 | 11.20 | 10.10 | 10.30 | 34.131 | 15.33 | 21.38 | PASS |
| 6 | 2437 | 15.60 | 15.50 | 15.20 | 104.902 | 20.21 | 21.38 | PASS |
| 9 | 2452 | 13.40 | 13.70 | 13.30 | 66.700 | 18.24 | 21.38 | PASS |

4.4.8 TEST RESULTS (MODE 2)

802.11b

| CHAN. | FREQUE NCY (MHz) | PEAK POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | LIMIT (dBm) | PASS / FAIL |
|-------|------------------------|------------------|---------|---------|------------------------|-------------------------|----------------|----------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 1 | 2412 | 20.90 | 19.30 | 20.60 | 322.956 | 25.09 | 26.38 | PASS |
| 6 | 2437 | 20.90 | 20.60 | 20.30 | 344.994 | 25.38 | 26.38 | PASS |
| 11 | 2462 | 20.10 | 19.50 | 19.70 | 284.779 | 24.55 | 26.38 | PASS |

The directional gain is 9.62dBi, therefore the limit needs to reduce.

802.11g

| CHAN. | FREQUE NCY (MHz) | PEAK POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | LIMIT (dBm) | PASS / FAIL |
|-------|------------------------|------------------|---------|---------|------------------------|-------------------------|----------------|----------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 1 | 2412 | 20.20 | 20.10 | 20.10 | 309.371 | 24.90 | 26.38 | PASS |
| 6 | 2437 | 20.50 | 20.20 | 20.10 | 319.244 | 25.04 | 26.38 | PASS |
| 11 | 2462 | 20.80 | 20.10 | 20.30 | 329.707 | 25.18 | 26.38 | PASS |

The directional gain is 9.62dBi, therefore the limit needs to reduce.

802.11n (HT20)

| CHAN. | FREQUE NCY (MHz) | PEAK POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | LIMIT (dBm) | PASS / FAIL |
|-------|------------------------|------------------|---------|---------|------------------------|-------------------------|----------------|----------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 1 | 2412 | 20.50 | 19.60 | 20.50 | 315.605 | 24.99 | 26.38 | PASS |
| 6 | 2437 | 20.20 | 20.10 | 20.00 | 307.042 | 24.87 | 26.38 | PASS |
| 11 | 2462 | 19.30 | 18.60 | 18.50 | 228.353 | 23.59 | 26.38 | PASS |

The directional gain is 9.62dBi, therefore the limit needs to reduce.

802.11n (HT40)

| CHAN. | FREQUE NCY (MHz) | PEAK POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | LIMIT (dBm) | PASS / FAIL |
|-------|------------------------|------------------|---------|---------|------------------------|-------------------------|----------------|----------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 3 | 2422 | 17.30 | 18.10 | 17.30 | 171.971 | 22.35 | 26.38 | PASS |
| 6 | 2437 | 20.50 | 20.30 | 20.00 | 319.354 | 25.04 | 26.38 | PASS |
| 9 | 2452 | 17.10 | 17.80 | 16.80 | 159.405 | 22.03 | 26.38 | PASS |

The directional gain is 9.62dBi, therefore the limit needs to reduce.

4.5 POWER SPECTRAL DENSITY MEASUREMENT

4.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

4.5.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|----------------------------|-----------|------------|-----------------|------------------|
| R&S Spectrum Analyzer | FSP40 | 100036 | May 09, 2012 | May 08, 2013 |

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Dec. 13, 2012

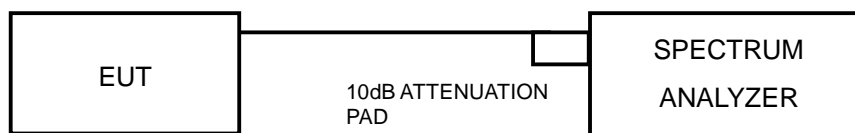
4.5.3 TEST PROCEDURE

1. Set the RBW = 3 kHz, VBW =10 kHz, Detector = peak.
2. Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
3. Use the peak marker function to determine the maximum amplitude level.

4.5.4 DEVIATION FROM TEST STANDARD

No deviation

4.5.5 TEST SETUP



4.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.5.7 TEST RESULTS (MODE 1)

802.11b

| TX chain | Channel | FREQ. (MHz) | PSD (dBm/3kHz) | 10 log (N=3) dB | Total PSD (dBm/3kHz) | Limit (dBm/3kHz) | PASS /FAIL |
|----------|---------|-------------|----------------|-----------------|----------------------|------------------|------------|
| 0 | 1 | 2412 | -12.48 | 4.77 | -7.71 | -0.62 | PASS |
| | 6 | 2437 | -11.90 | 4.77 | -7.13 | -0.62 | PASS |
| | 11 | 2462 | -10.65 | 4.77 | -5.88 | -0.62 | PASS |
| 1 | 1 | 2412 | -11.12 | 4.77 | -6.35 | -0.62 | PASS |
| | 6 | 2437 | -11.12 | 4.77 | -6.35 | -0.62 | PASS |
| | 11 | 2462 | -11.84 | 4.77 | -7.07 | -0.62 | PASS |
| 2 | 1 | 2412 | -11.69 | 4.77 | -6.92 | -0.62 | PASS |
| | 6 | 2437 | -12.35 | 4.77 | -7.58 | -0.62 | PASS |
| | 11 | 2462 | -10.72 | 4.77 | -5.95 | -0.62 | PASS |

The directional gain is 14.62dBi, therefore the limit needs to reduce.

802.11g

| TX chain | Channel | FREQ. (MHz) | PSD (dBm/3kHz) | 10 log (N=3) dB | Total PSD (dBm/3kHz) | Limit (dBm/3kHz) | PASS /FAIL |
|----------|---------|-------------|----------------|-----------------|----------------------|------------------|------------|
| 0 | 1 | 2412 | -20.61 | 4.77 | -15.84 | -0.62 | PASS |
| | 6 | 2437 | -20.66 | 4.77 | -15.89 | -0.62 | PASS |
| | 11 | 2462 | -20.25 | 4.77 | -15.48 | -0.62 | PASS |
| 1 | 1 | 2412 | -15.00 | 4.77 | -10.23 | -0.62 | PASS |
| | 6 | 2437 | -12.34 | 4.77 | -7.57 | -0.62 | PASS |
| | 11 | 2462 | -9.87 | 4.77 | -5.10 | -0.62 | PASS |
| 2 | 1 | 2412 | -16.46 | 4.77 | -11.69 | -0.62 | PASS |
| | 6 | 2437 | -16.72 | 4.77 | -11.95 | -0.62 | PASS |
| | 11 | 2462 | -13.94 | 4.77 | -9.17 | -0.62 | PASS |

The directional gain is 14.62dBi, therefore the limit needs to reduce.

802.11n (HT20)

| TX chain | Channel | FREQ. (MHz) | PSD (dBm/3kHz) | 10 log (N=3) dB | Total PSD (dBm/3kHz) | Limit (dBm/3kHz) | PASS /FAIL |
|----------|---------|-------------|----------------|-----------------|----------------------|------------------|------------|
| 0 | 1 | 2412 | -19.30 | 4.77 | -14.53 | -0.62 | PASS |
| | 6 | 2437 | -20.66 | 4.77 | -15.89 | -0.62 | PASS |
| | 11 | 2462 | -19.82 | 4.77 | -15.05 | -0.62 | PASS |
| 1 | 1 | 2412 | -13.51 | 4.77 | -8.74 | -0.62 | PASS |
| | 6 | 2437 | -12.78 | 4.77 | -8.01 | -0.62 | PASS |
| | 11 | 2462 | -11.51 | 4.77 | -6.74 | -0.62 | PASS |
| 2 | 1 | 2412 | -14.09 | 4.77 | -9.32 | -0.62 | PASS |
| | 6 | 2437 | -19.67 | 4.77 | -14.90 | -0.62 | PASS |
| | 11 | 2462 | -16.23 | 4.77 | -11.46 | -0.62 | PASS |

The directional gain is 14.62dBi, therefore the limit needs to reduce.



A D T

802.11n (HT40)

| TX chain | Channel | FREQ. (MHz) | PSD (dBm/3kHz) | 10 log (N=3) dB | Total PSD (dBm/3kHz) | Limit (dBm/3kHz) | PASS /FAIL |
|----------|---------|-------------|----------------|-----------------|----------------------|------------------|------------|
| 0 | 3 | 2422 | -22.93 | 4.77 | -18.16 | -0.62 | PASS |
| | 6 | 2437 | -16.30 | 4.77 | -11.53 | -0.62 | PASS |
| | 9 | 2452 | -20.99 | 4.77 | -16.22 | -0.62 | PASS |
| 1 | 1 | 2412 | -26.69 | 4.77 | -21.92 | -0.62 | PASS |
| | 6 | 2437 | -18.40 | 4.77 | -13.63 | -0.62 | PASS |
| | 11 | 2462 | -22.27 | 4.77 | -17.50 | -0.62 | PASS |
| 2 | 1 | 2412 | -17.23 | 4.77 | -12.46 | -0.62 | PASS |
| | 6 | 2437 | -10.85 | 4.77 | -6.08 | -0.62 | PASS |
| | 11 | 2462 | -10.14 | 4.77 | -5.37 | -0.62 | PASS |

The directional gain is 14.62dBi, therefore the limit needs to reduce.



A D T

4.5.8 TEST RESULTS (MODE 2)

802.11b

| TX chain | Channel | FREQ. (MHz) | PSD (dBm/3kHz) | 10 log (N=3) dB | Total PSD (dBm/3kHz) | Limit (dBm/3kHz) | PASS /FAIL |
|----------|---------|-------------|----------------|-----------------|----------------------|------------------|------------|
| 0 | 1 | 2412 | -5.00 | 4.77 | -0.23 | 4.38 | PASS |
| | 6 | 2437 | -5.78 | 4.77 | -1.01 | 4.38 | PASS |
| | 11 | 2462 | -5.85 | 4.77 | -1.08 | 4.38 | PASS |
| 1 | 1 | 2412 | -5.63 | 4.77 | -0.86 | 4.38 | PASS |
| | 6 | 2437 | -5.39 | 4.77 | -0.62 | 4.38 | PASS |
| | 11 | 2462 | -5.02 | 4.77 | -0.25 | 4.38 | PASS |
| 2 | 1 | 2412 | -5.52 | 4.77 | -0.75 | 4.38 | PASS |
| | 6 | 2437 | -5.32 | 4.77 | -0.55 | 4.38 | PASS |
| | 11 | 2462 | -6.26 | 4.77 | -1.49 | 4.38 | PASS |

The directional gain is 9.62dBi, therefore the limit needs to reduce.

802.11g

| TX chain | Channel | FREQ. (MHz) | PSD (dBm/3kHz) | 10 log (N=3) dB | Total PSD (dBm/3kHz) | Limit (dBm/3kHz) | PASS /FAIL |
|----------|---------|-------------|----------------|-----------------|----------------------|------------------|------------|
| 0 | 1 | 2412 | -14.22 | 4.77 | -9.45 | 4.38 | PASS |
| | 6 | 2437 | -15.68 | 4.77 | -10.91 | 4.38 | PASS |
| | 11 | 2462 | -15.38 | 4.77 | -10.61 | 4.38 | PASS |
| 1 | 1 | 2412 | -6.89 | 4.77 | -2.12 | 4.38 | PASS |
| | 6 | 2437 | -8.53 | 4.77 | -3.76 | 4.38 | PASS |
| | 11 | 2462 | -6.50 | 4.77 | -1.73 | 4.38 | PASS |
| 2 | 1 | 2412 | -12.89 | 4.77 | -8.12 | 4.38 | PASS |
| | 6 | 2437 | -13.73 | 4.77 | -8.96 | 4.38 | PASS |
| | 11 | 2462 | -6.78 | 4.77 | -2.01 | 4.38 | PASS |

The directional gain is 9.62dBi, therefore the limit needs to reduce.

802.11n (HT20)

| TX chain | Channel | FREQ. (MHz) | PSD (dBm/3kHz) | 10 log (N=3) dB | Total PSD (dBm/3kHz) | Limit (dBm/3kHz) | PASS /FAIL |
|----------|---------|-------------|----------------|-----------------|----------------------|------------------|------------|
| 0 | 1 | 2412 | -13.45 | 4.77 | -8.68 | 4.38 | PASS |
| | 6 | 2437 | -15.54 | 4.77 | -10.77 | 4.38 | PASS |
| | 11 | 2462 | -14.83 | 4.77 | -10.06 | 4.38 | PASS |
| 1 | 1 | 2412 | -11.53 | 4.77 | -6.76 | 4.38 | PASS |
| | 6 | 2437 | -8.77 | 4.77 | -4.00 | 4.38 | PASS |
| | 11 | 2462 | -3.95 | 4.77 | 0.82 | 4.38 | PASS |
| 2 | 1 | 2412 | -10.07 | 4.77 | -5.30 | 4.38 | PASS |
| | 6 | 2437 | -13.50 | 4.77 | -8.73 | 4.38 | PASS |
| | 11 | 2462 | -8.42 | 4.77 | -3.65 | 4.38 | PASS |

The directional gain is 9.62dBi, therefore the limit needs to reduce.



A D T

802.11n (HT40)

| TX chain | Channel | FREQ. (MHz) | PSD (dBm/3kHz) | 10 log (N=3) dB | Total PSD (dBm/3kHz) | Limit (dBm/3kHz) | PASS /FAIL |
|----------|---------|-------------|----------------|-----------------|----------------------|------------------|------------|
| 0 | 3 | 2422 | -14.21 | 4.77 | -9.44 | 4.38 | PASS |
| | 6 | 2437 | -3.45 | 4.77 | 1.32 | 4.38 | PASS |
| | 9 | 2452 | -19.39 | 4.77 | -14.62 | 4.38 | PASS |
| 1 | 1 | 2412 | -9.25 | 4.77 | -4.48 | 4.38 | PASS |
| | 6 | 2437 | -12.83 | 4.77 | -8.06 | 4.38 | PASS |
| | 11 | 2462 | -9.61 | 4.77 | -4.84 | 4.38 | PASS |
| 2 | 1 | 2412 | -11.14 | 4.77 | -6.37 | 4.38 | PASS |
| | 6 | 2437 | -6.40 | 4.77 | -1.63 | 4.38 | PASS |
| | 11 | 2462 | -7.39 | 4.77 | -2.62 | 4.38 | PASS |

The directional gain is 9.62dBi, therefore the limit needs to reduce.



A D T

4.6 CONDUCTED OUT-BAND EMISSION MEASUREMENT

4.6.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

Below 20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

4.6.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|----------------------------|-----------|------------|-----------------|------------------|
| R&S Spectrum Analyzer | FSP40 | 100036 | May 09, 2012 | May 08, 2013 |

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Dec. 13, 2012

4.6.3 TEST PROCEDURE

Measurement Procedure - Reference Level

1. Set the RBW = 100 kHz.
2. Set the VBW \geq 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

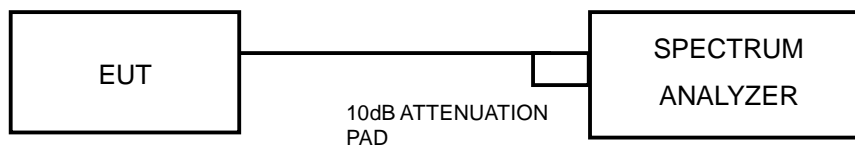
Measurement Procedure –Unwanted Emission Level

1. Set RBW = 100 kHz.
2. Set VBW \geq 300 kHz.
3. Set span to encompass the spectrum to be examined
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

4.6.4 DEVIATION FROM TEST STANDARD

No deviation

4.6.5 TEST SETUP



4.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

4.6.7 TEST RESULTS (MODE 1)

The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

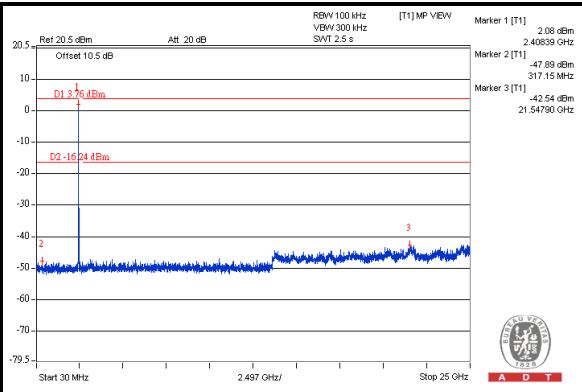
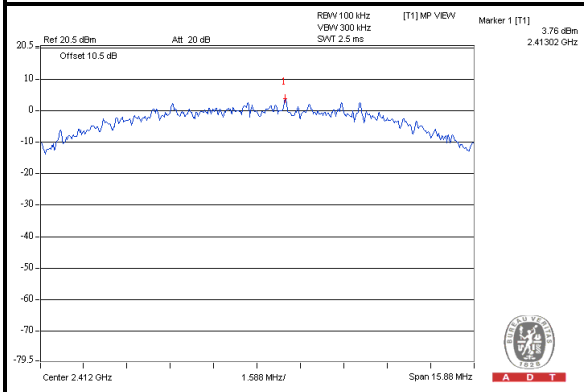


A D T

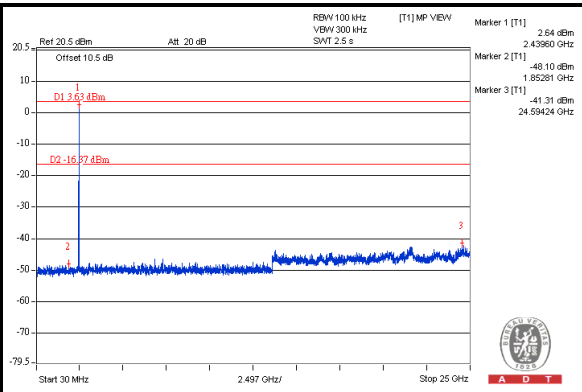
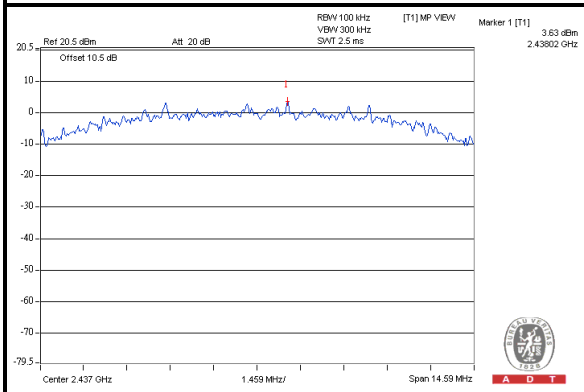
802.11b

Chain 0

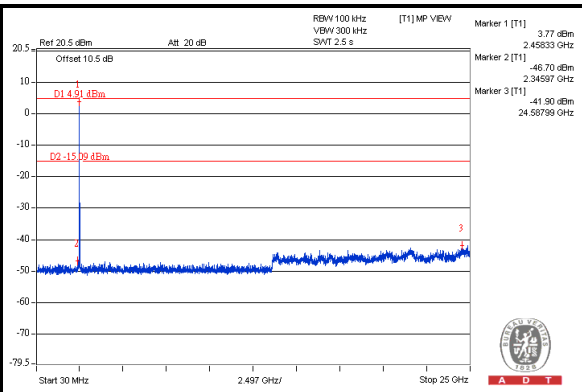
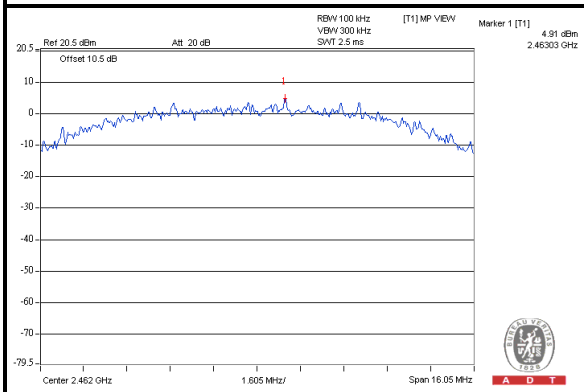
CH 1



CH 6



CH 11

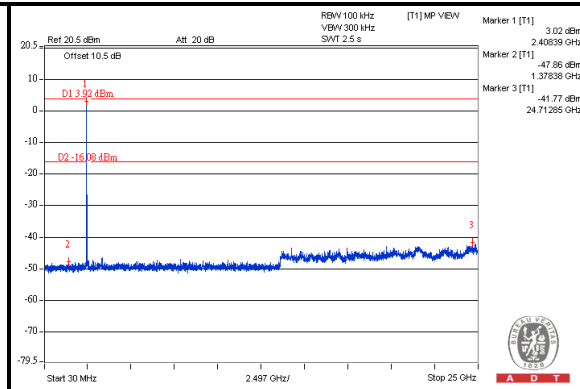
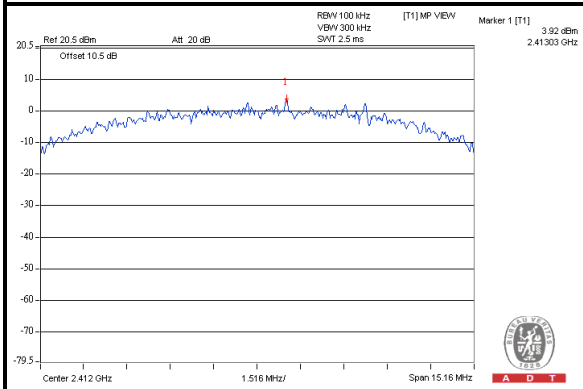




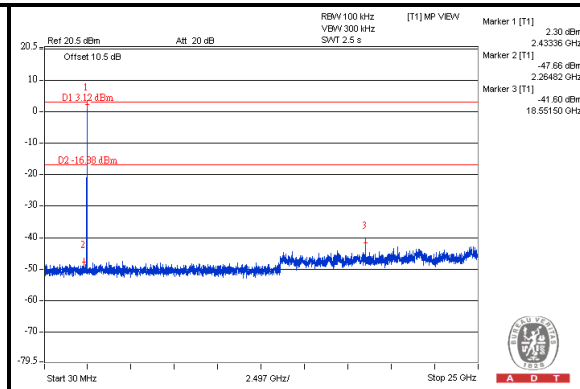
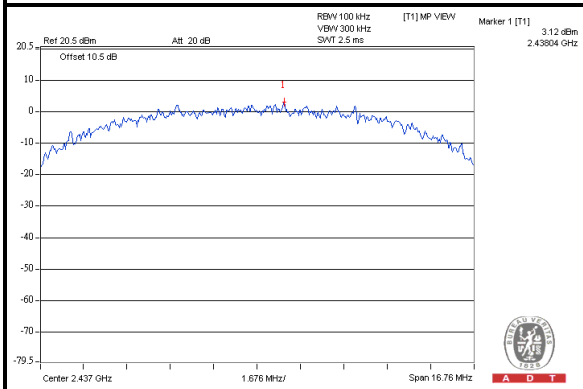
A D T

Chain 1

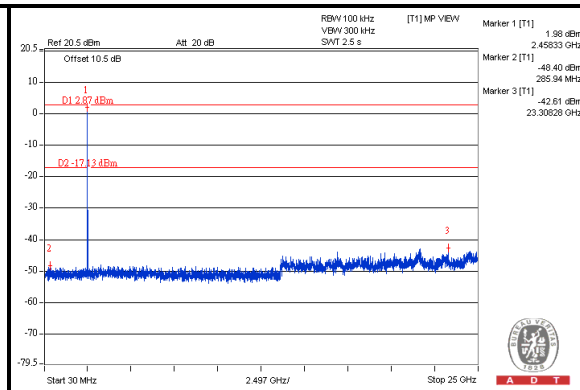
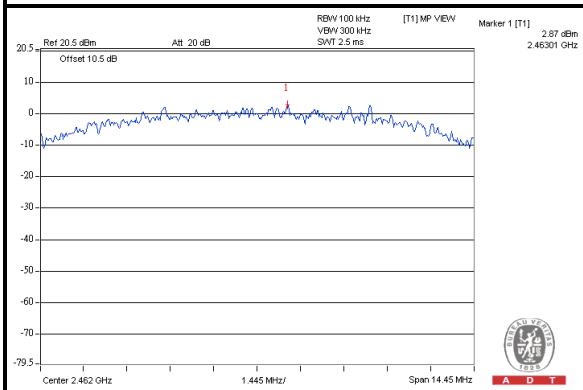
CH 1



CH 6



CH 11

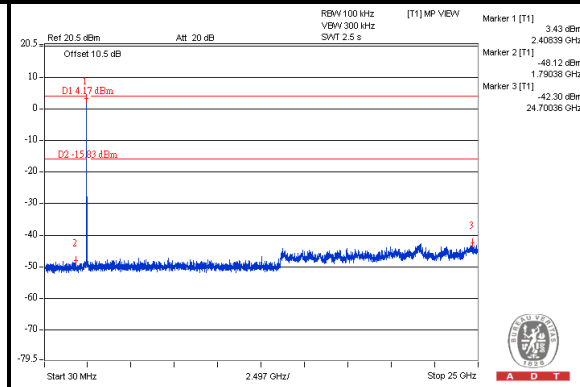
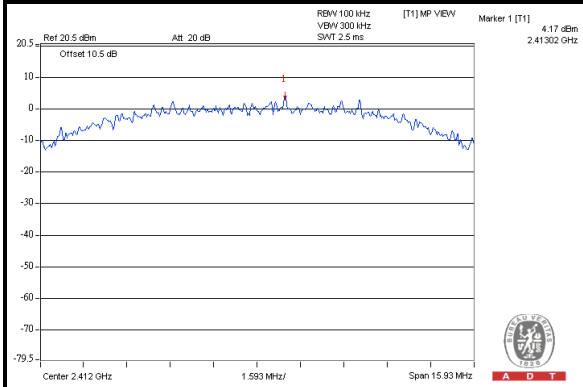




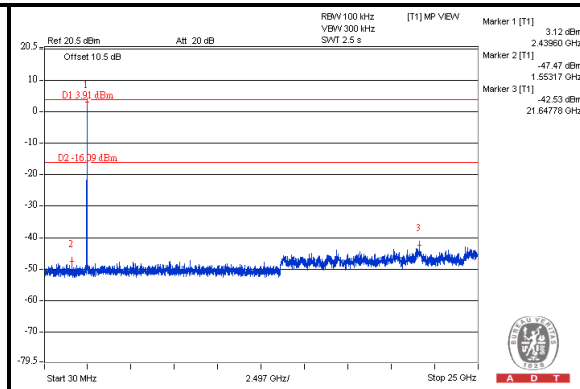
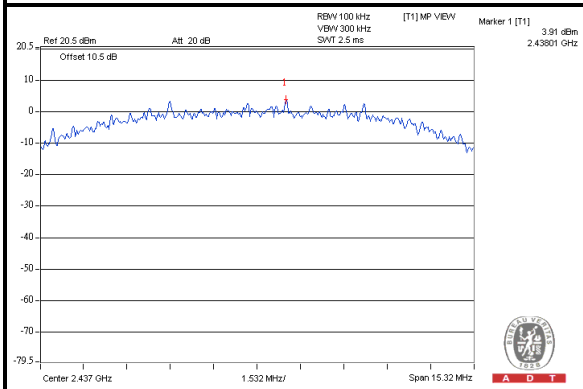
A D T

Chain 2

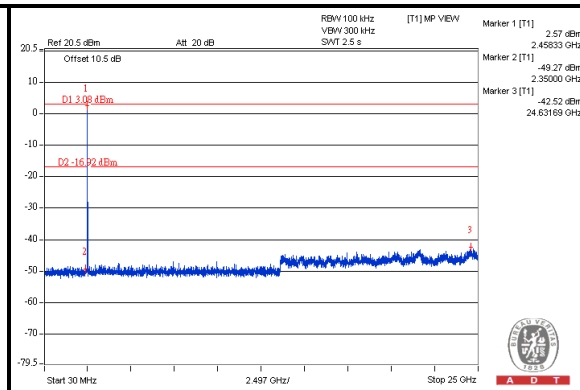
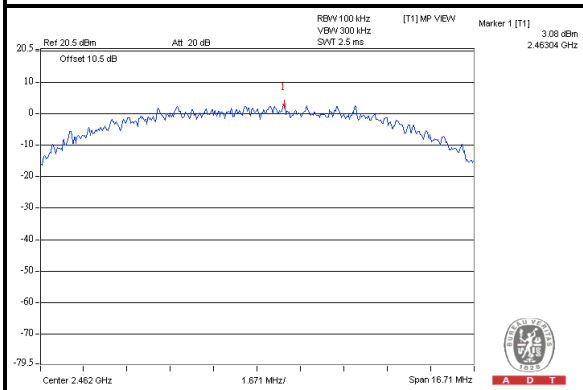
CH 1



CH 6



CH 11



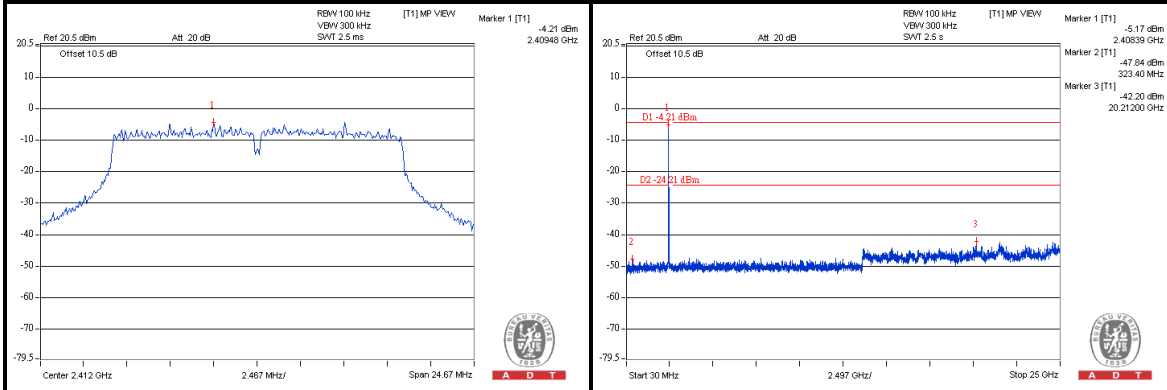


A D T

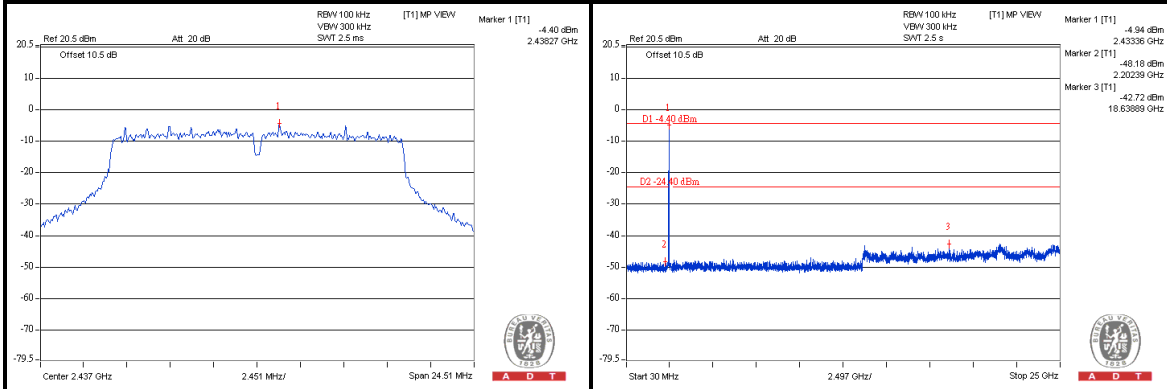
802.11g

Chain 0

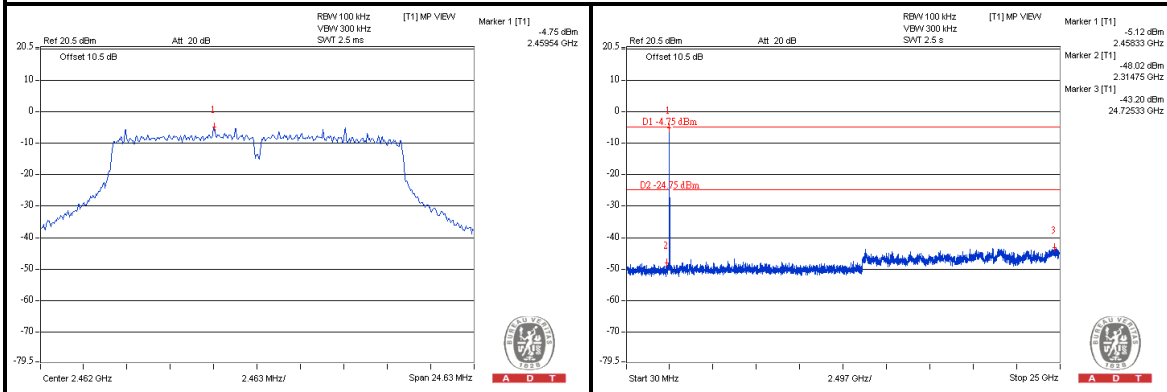
CH 1



CH 6



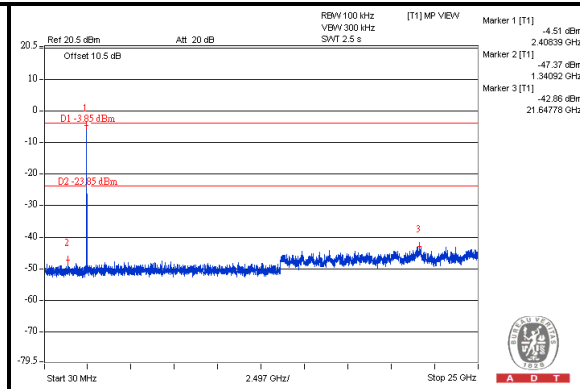
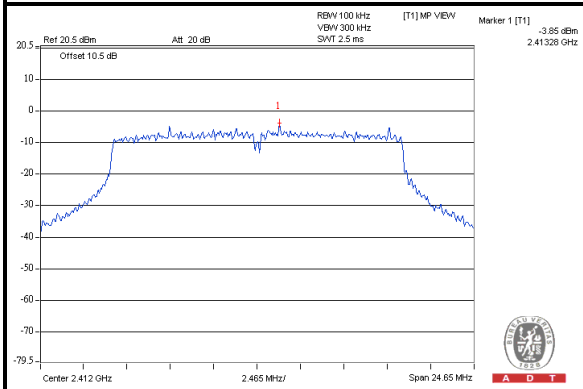
CH 11



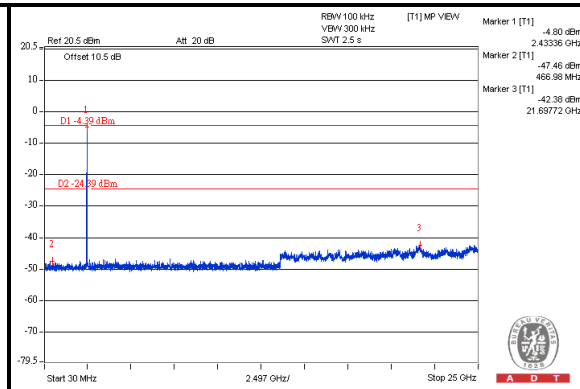
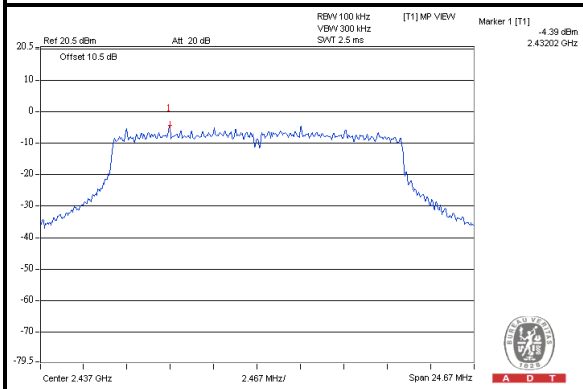


A D T

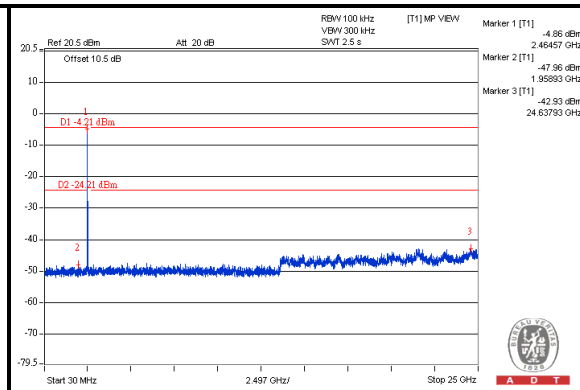
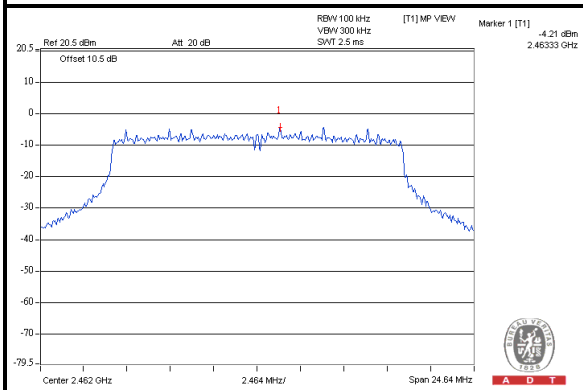
Chain 1 CH 1



CH 6



CH 11

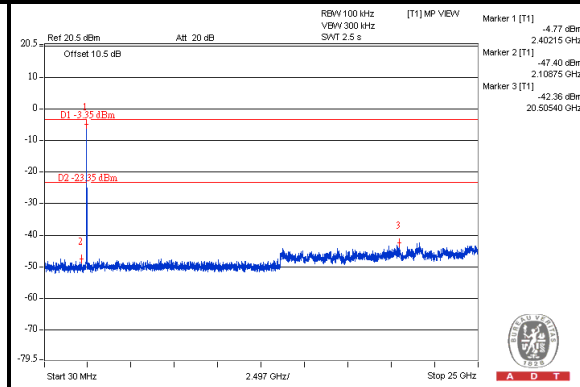
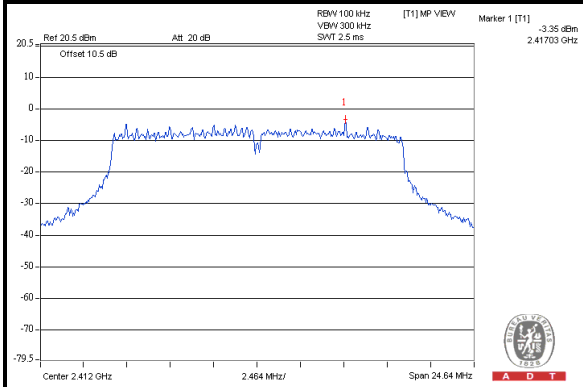




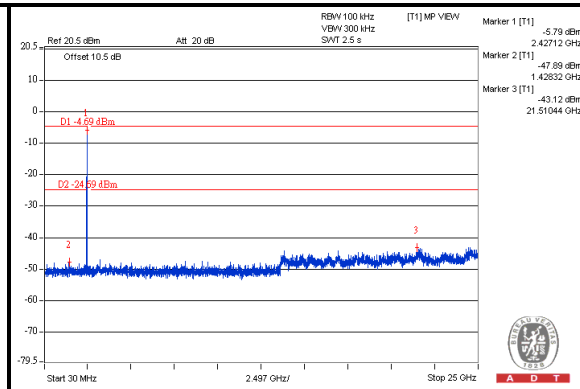
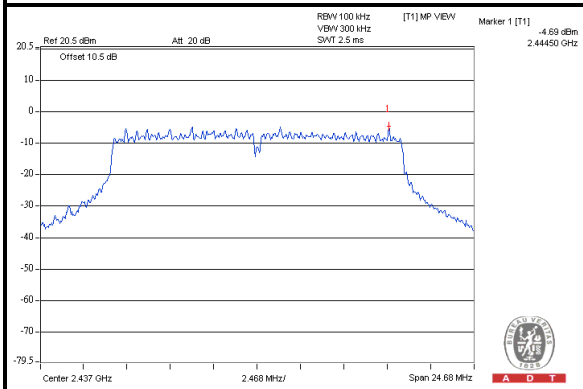
A D T

Chain 2

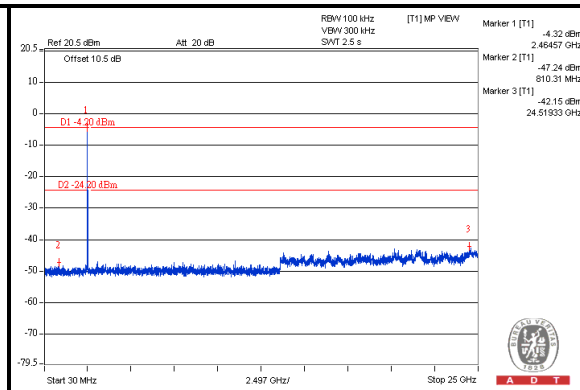
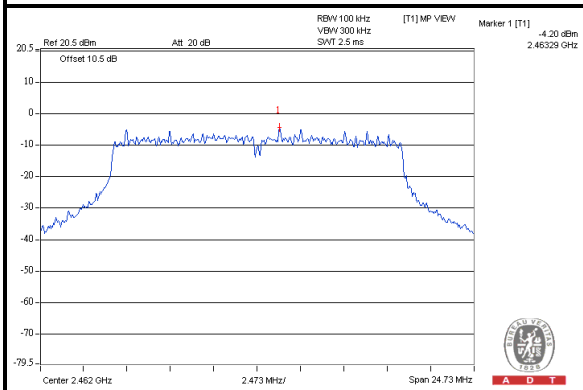
CH 1



CH 6



CH 11



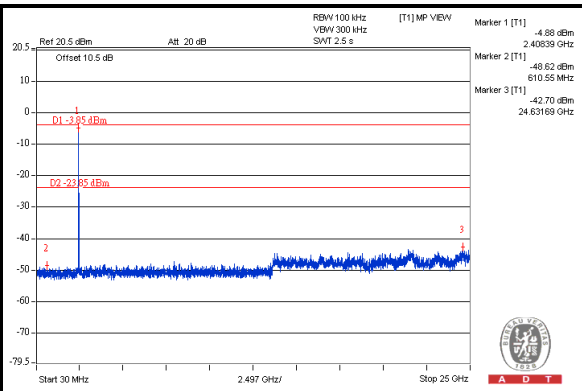
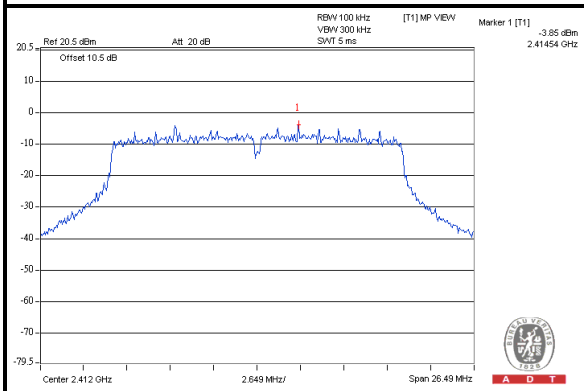


A D T

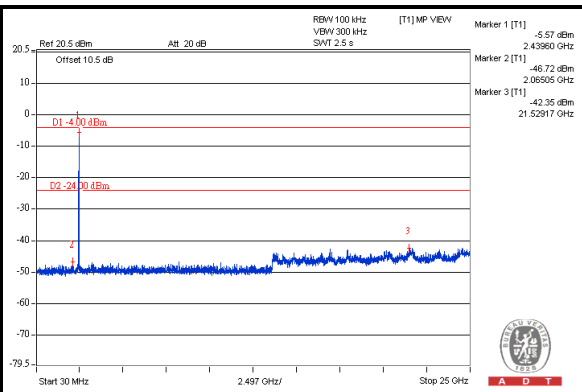
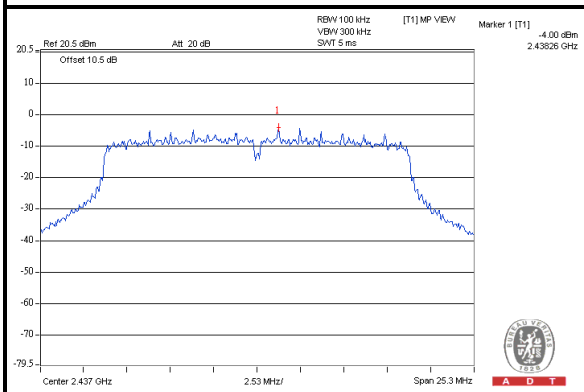
802.11n (HT20)

Chain 0

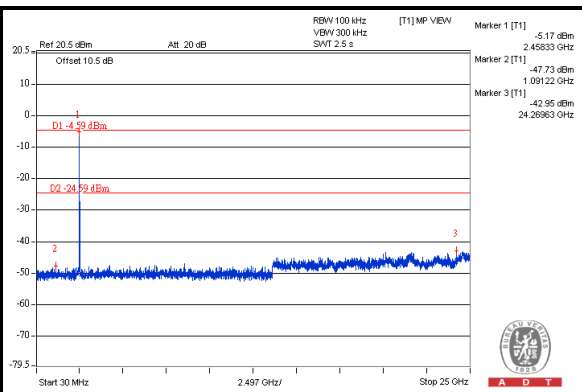
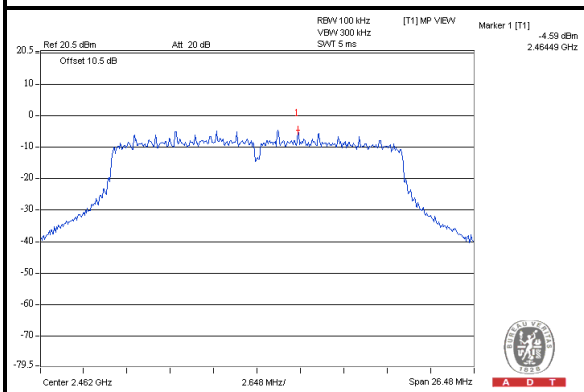
CH 1



CH 6



CH 11

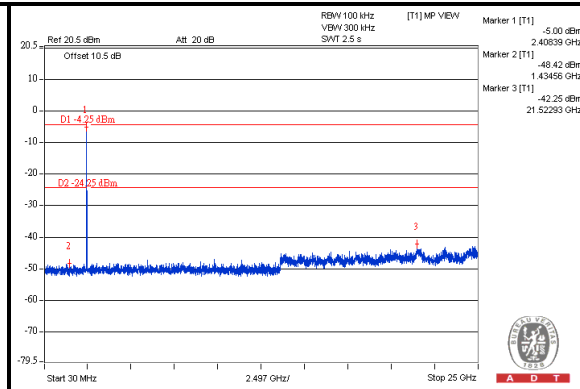
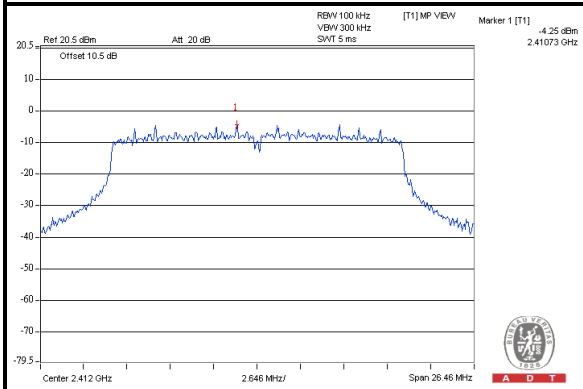




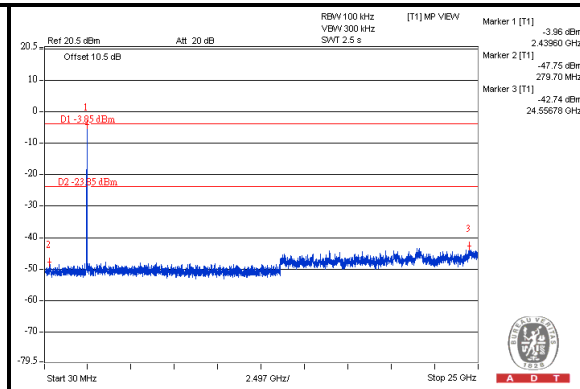
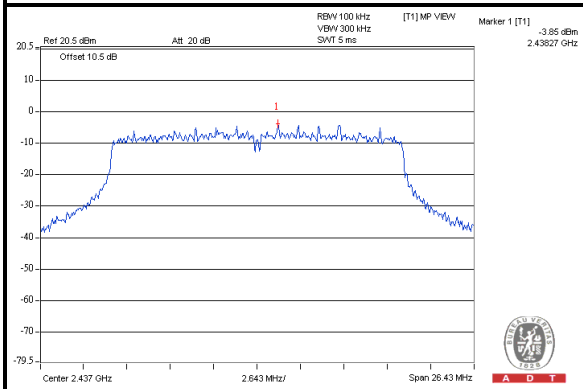
A D T

Chain 1

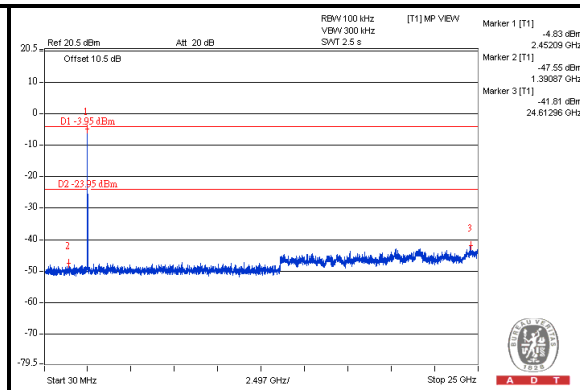
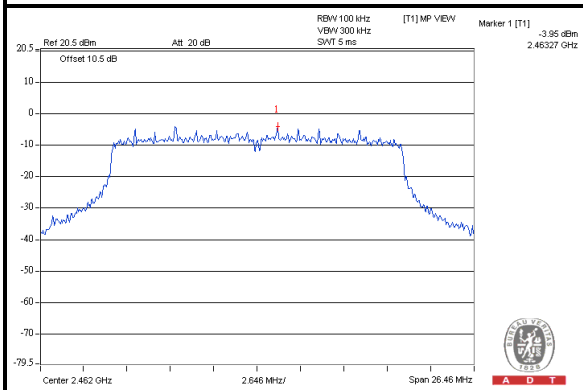
CH 1



CH 6



CH 11

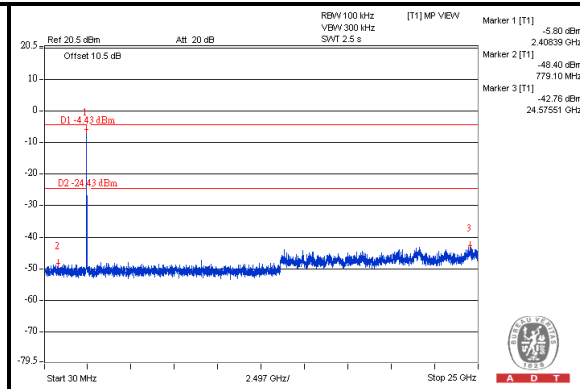
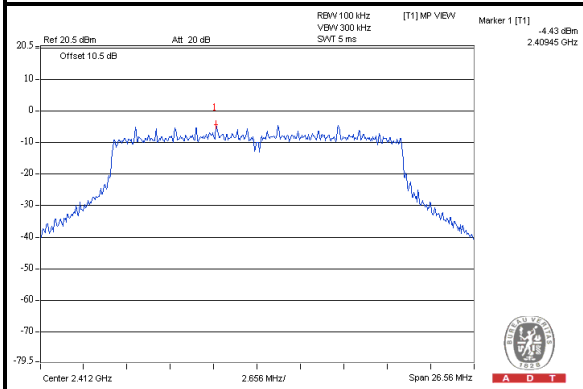




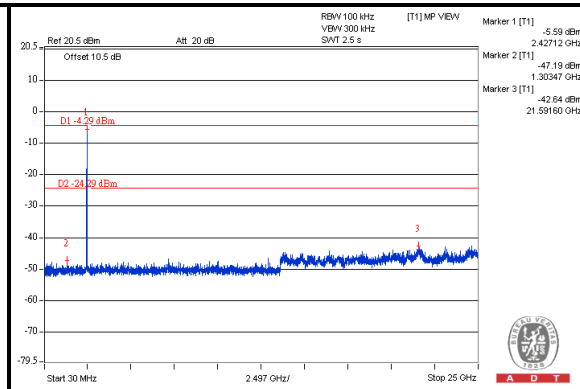
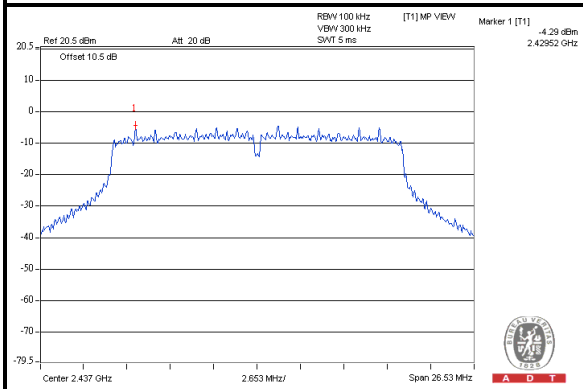
A D T

Chain 2

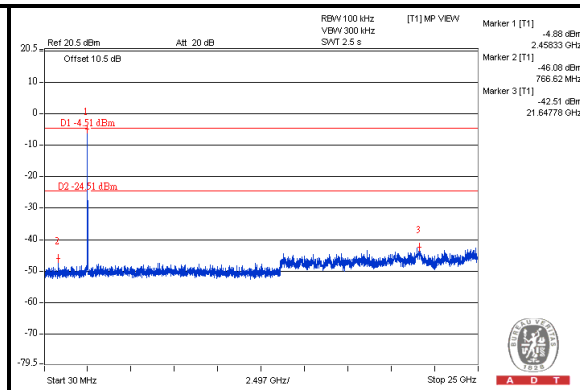
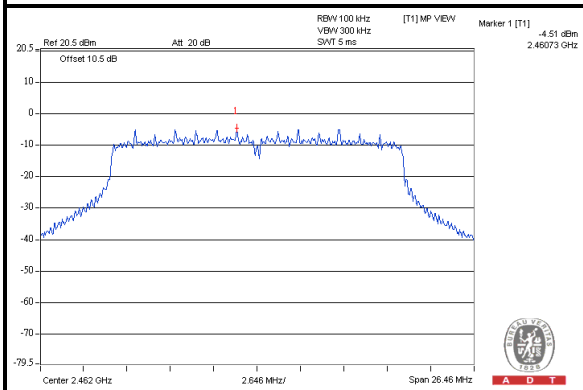
CH 1



CH 6



CH 11



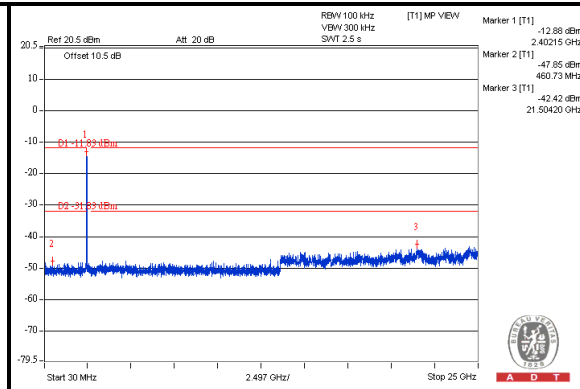
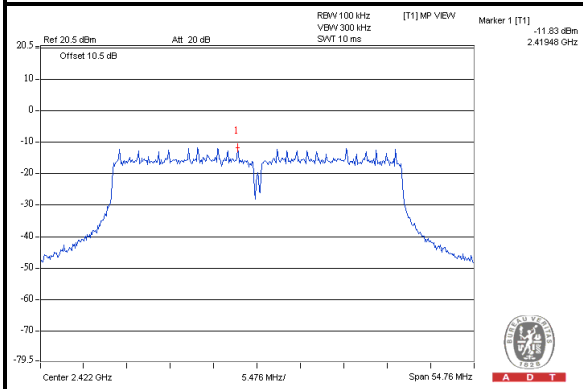


A D T

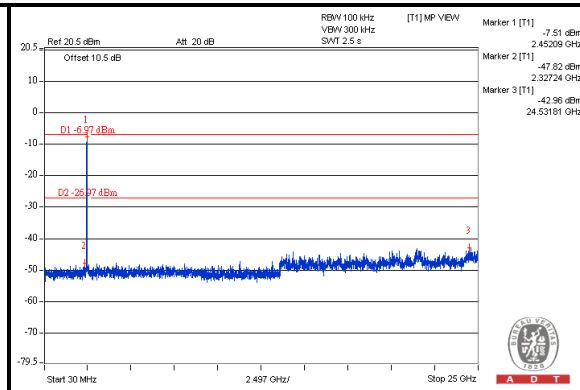
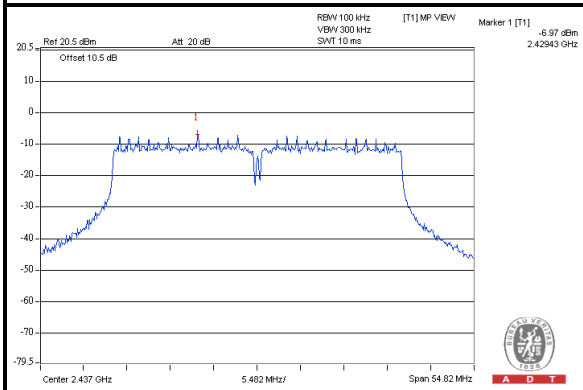
802.11n (HT40)

Chain 0

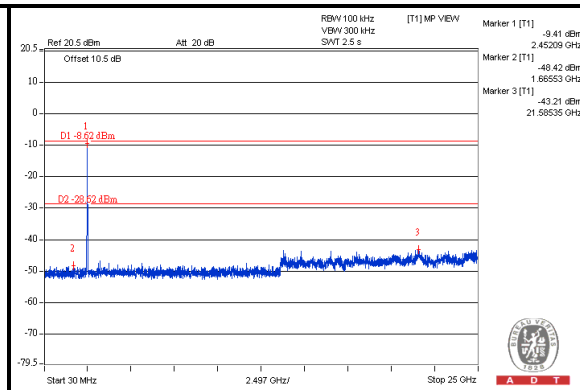
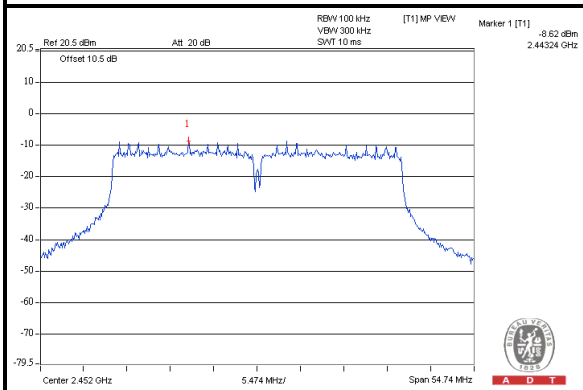
CH 3



CH 6



CH 9

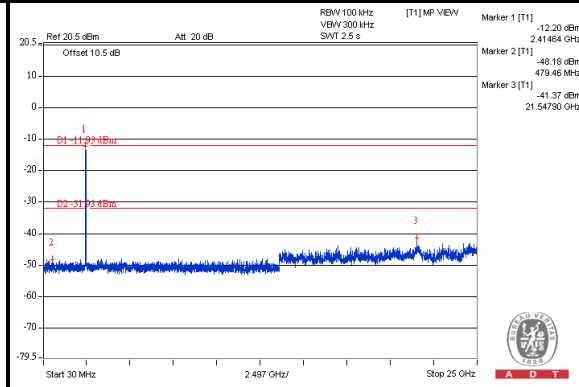
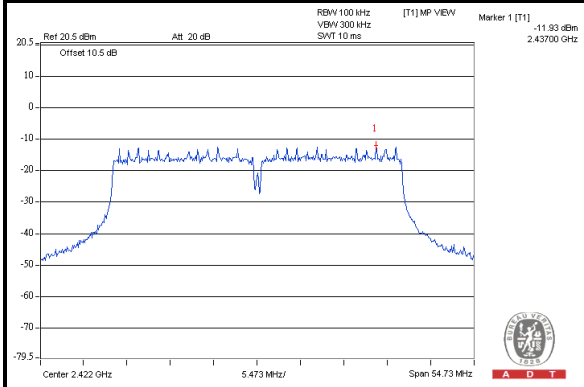




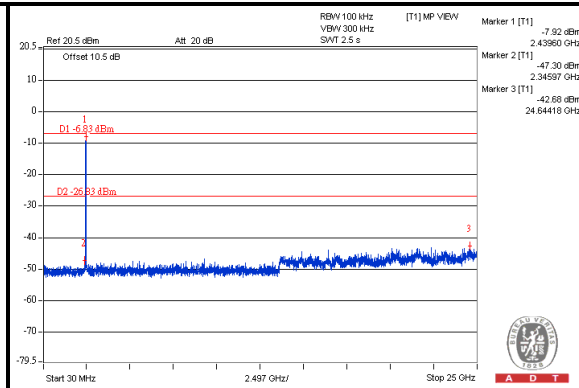
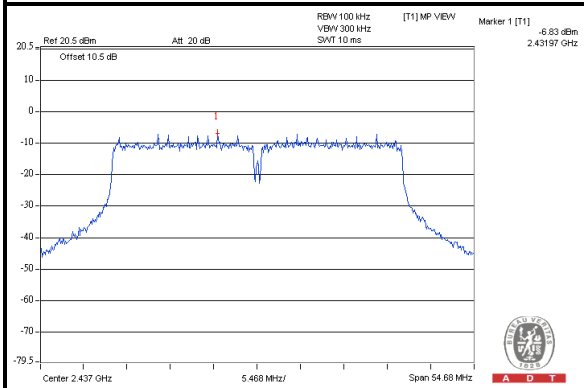
A D T

Chain 1

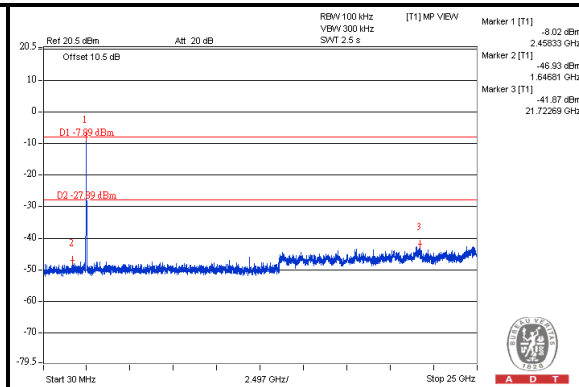
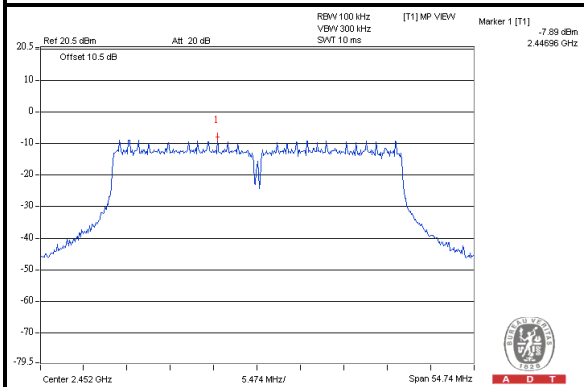
CH 3



CH 6



CH 9

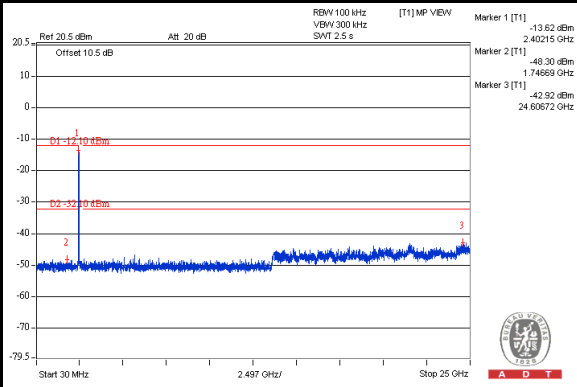
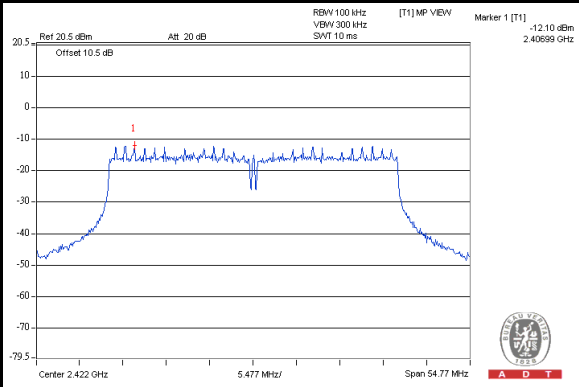




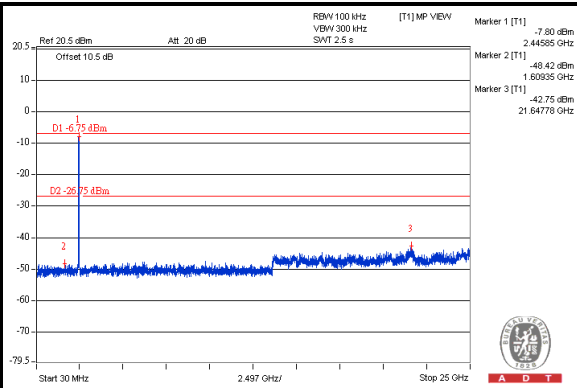
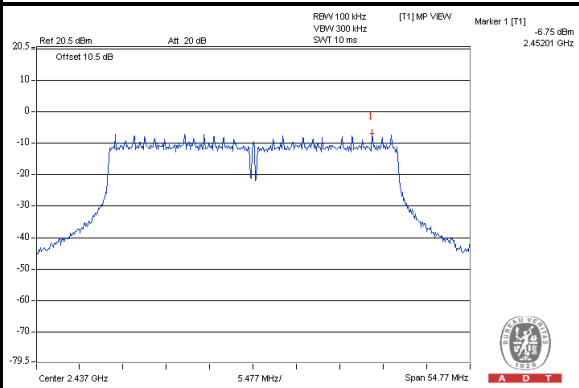
A D T

Chain 2

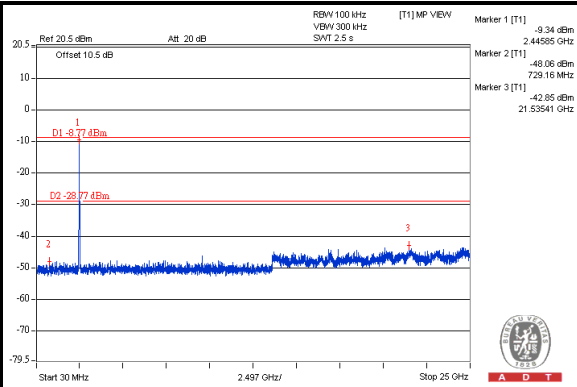
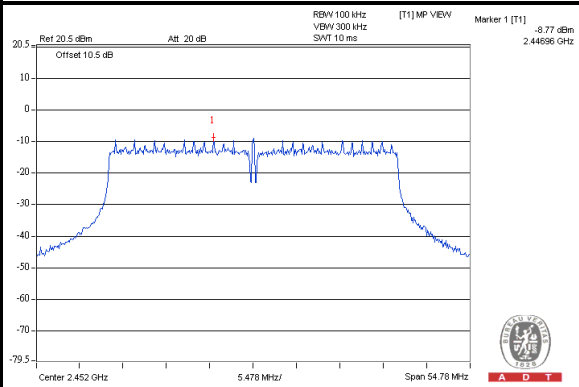
CH 3



CH 6



CH 9



4.6.8 TEST RESULTS (MODE 2)

The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

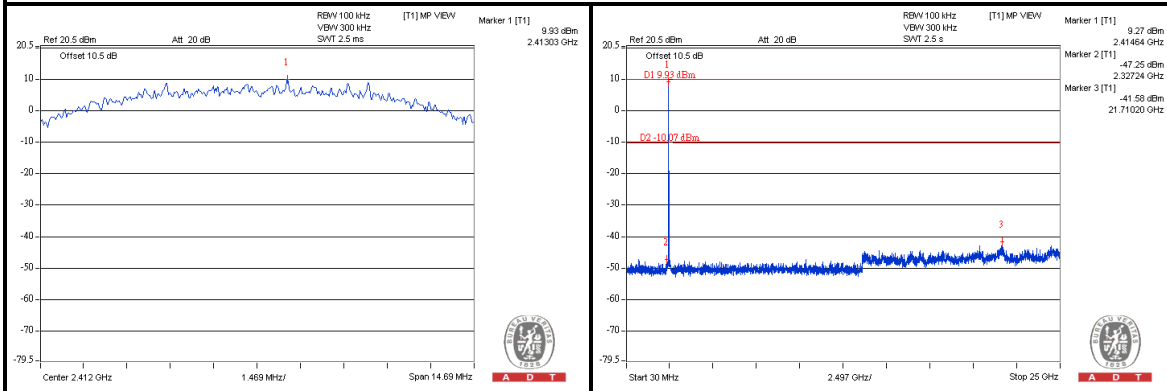


A D T

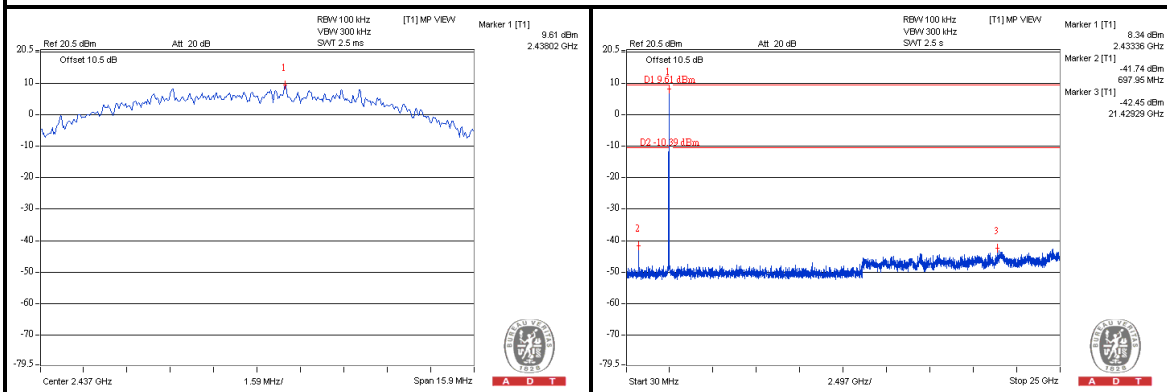
802.11b

Chain 0

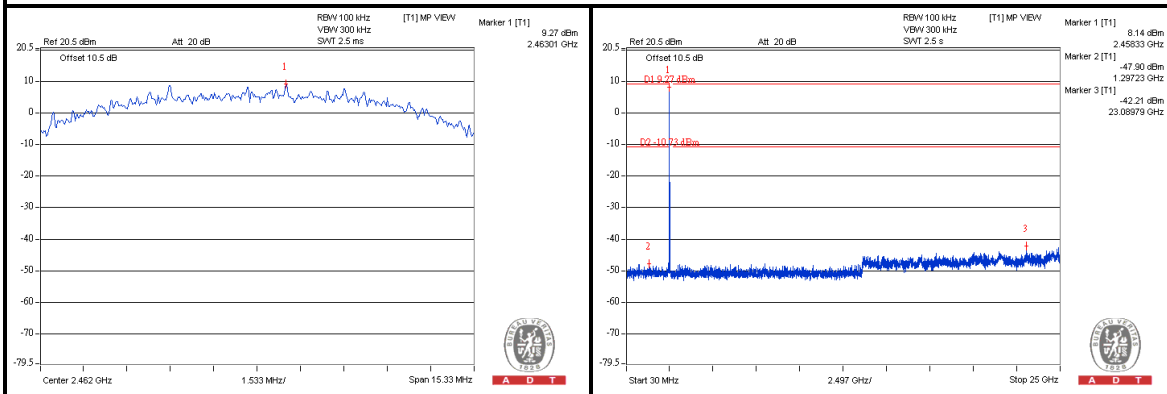
CH 1



CH 6



CH 11

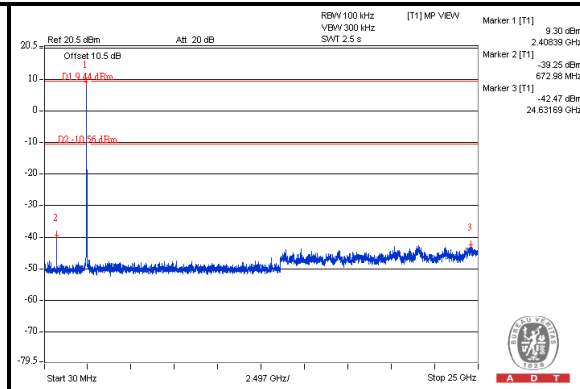
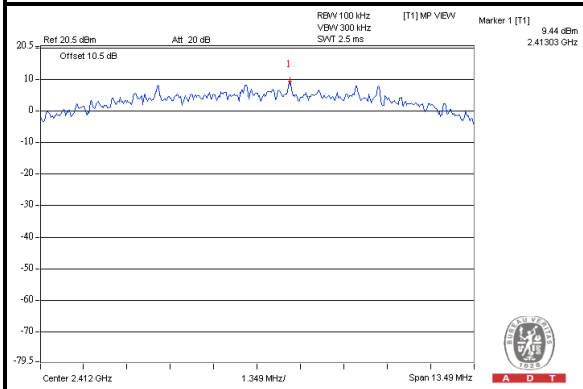




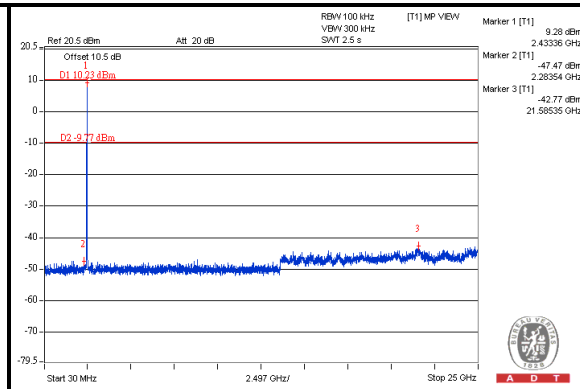
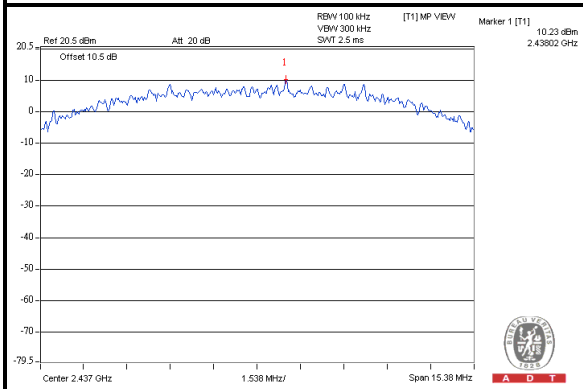
A D T

Chain 1

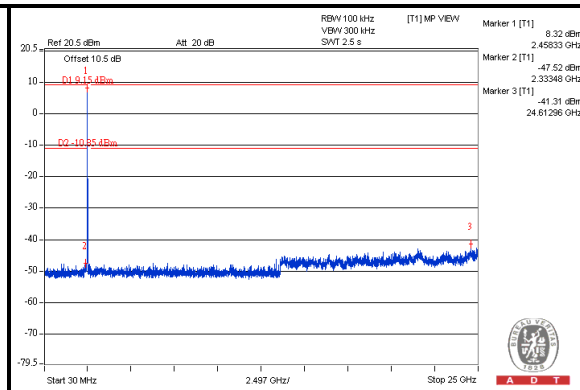
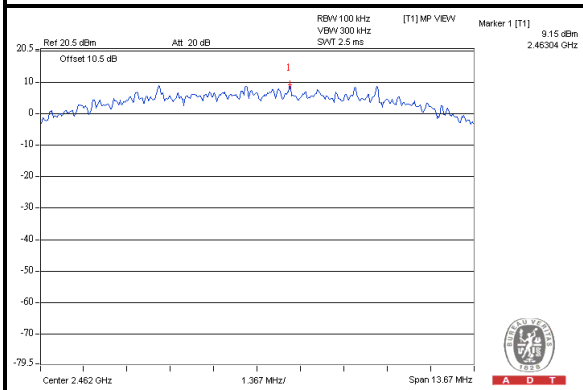
CH 1



CH 6



CH 11

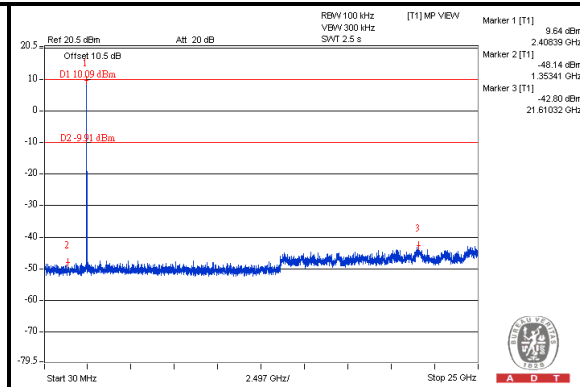
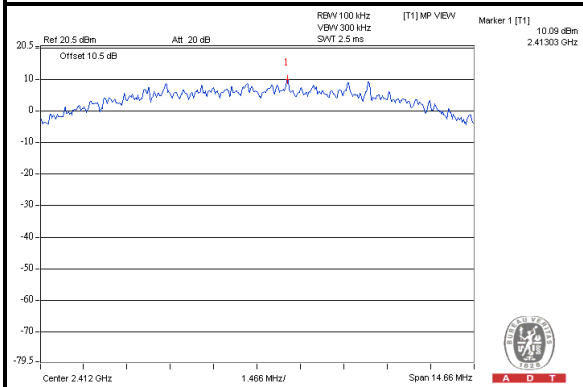




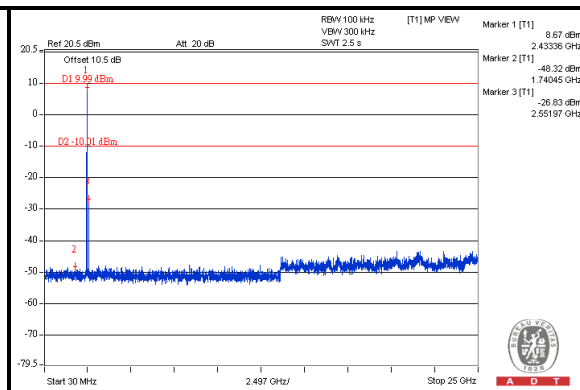
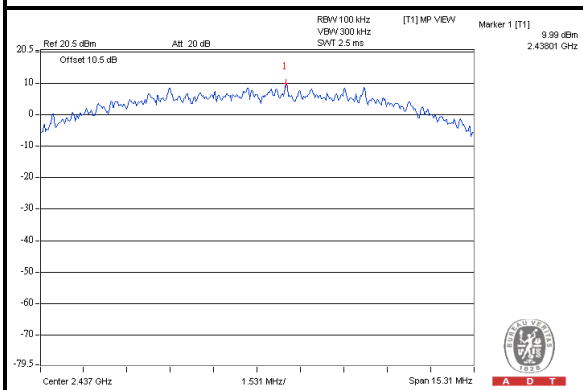
A D T

Chain 2

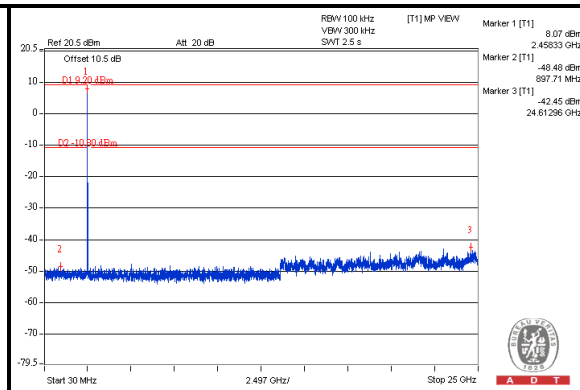
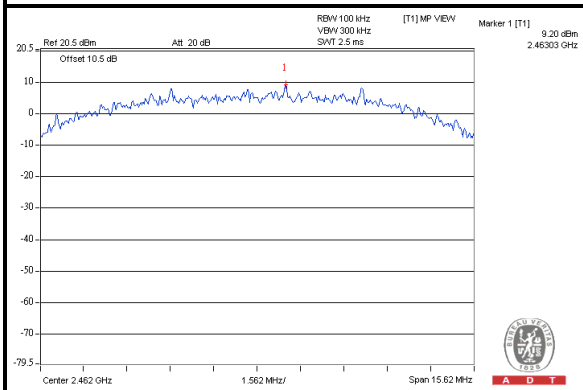
CH 1



CH 6



CH 11



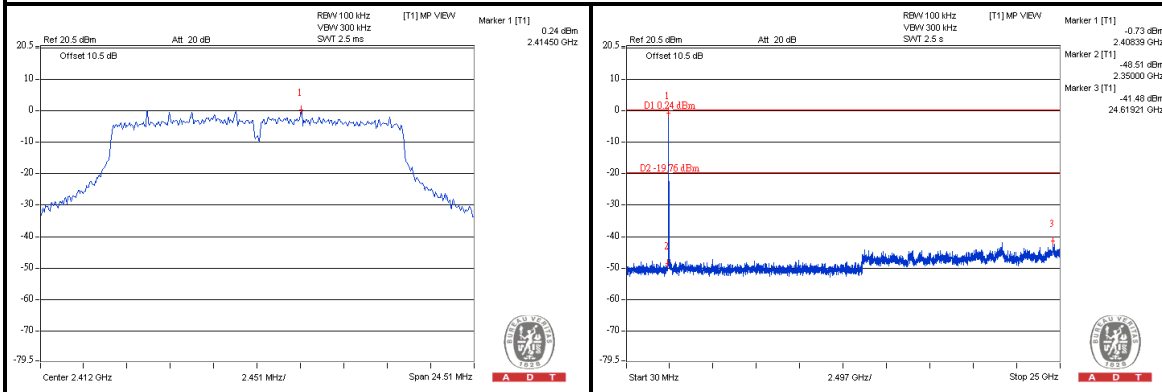


A D T

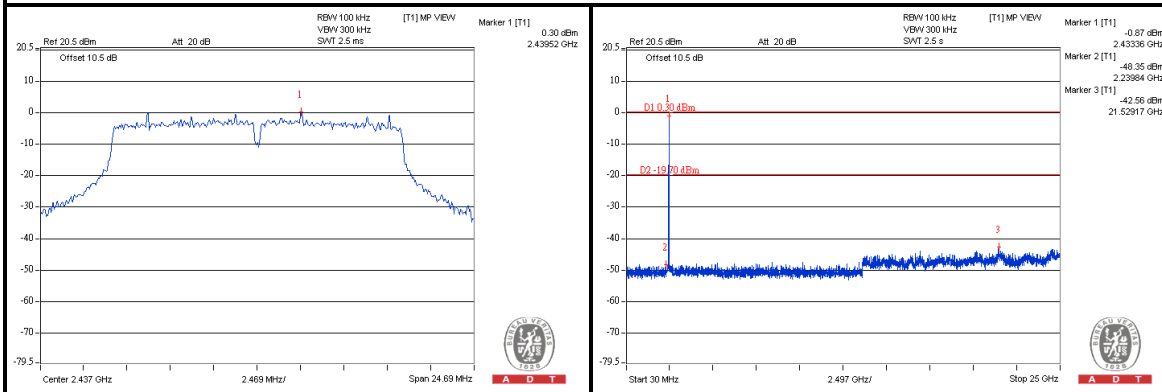
802.11g

Chain 0

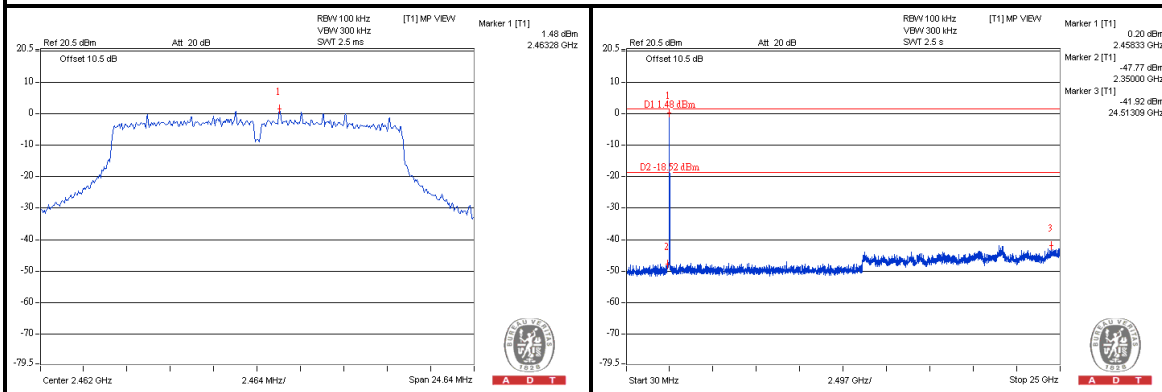
CH 1



CH 6



CH 11

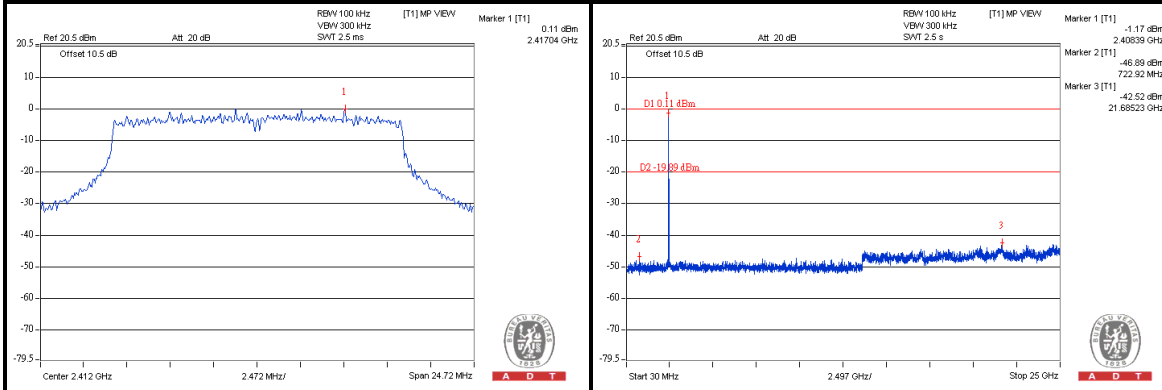




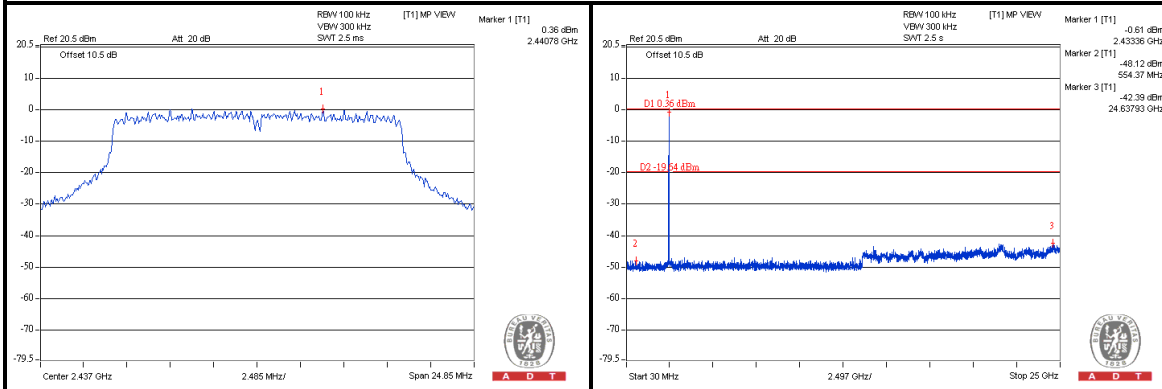
A D T

Chain 1

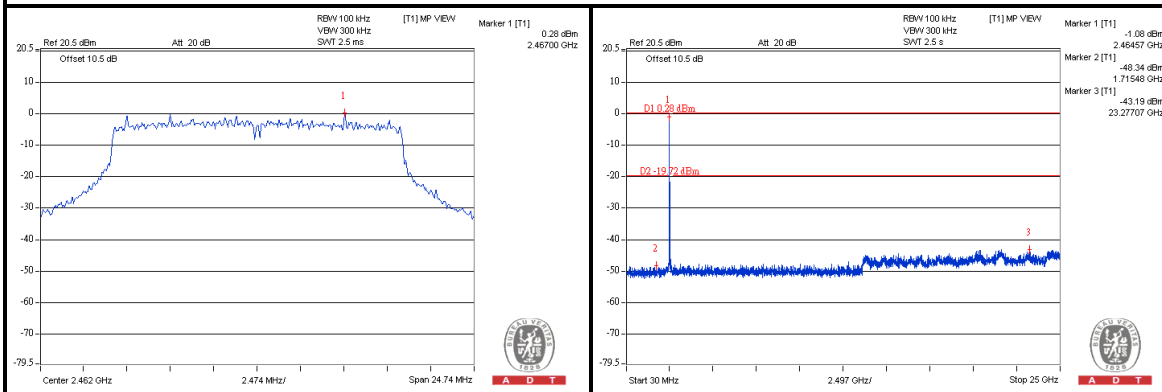
CH 1



CH 6



CH 11

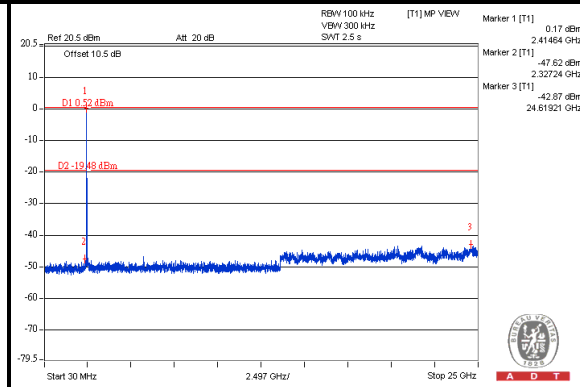
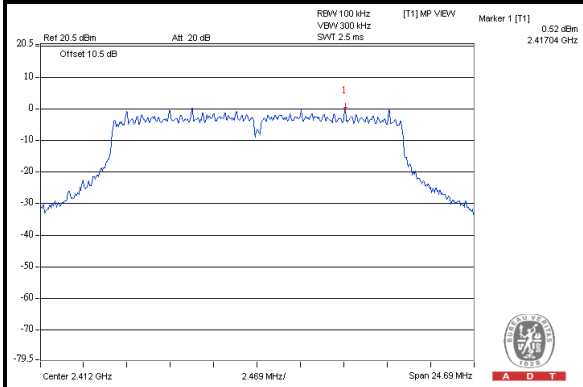




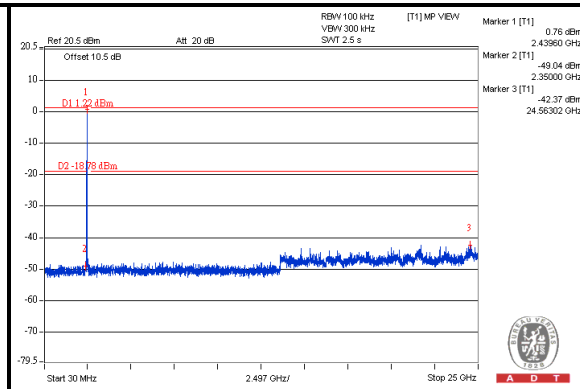
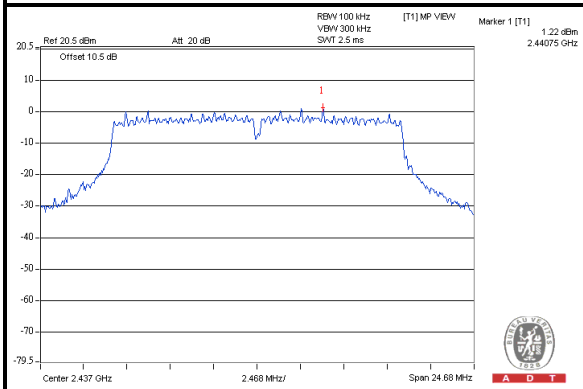
A D T

Chain 2

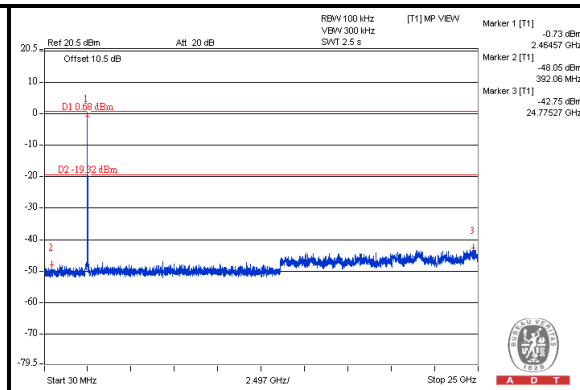
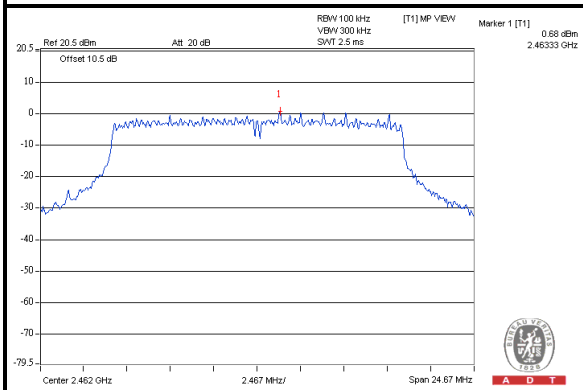
CH 1



CH 6



CH 11



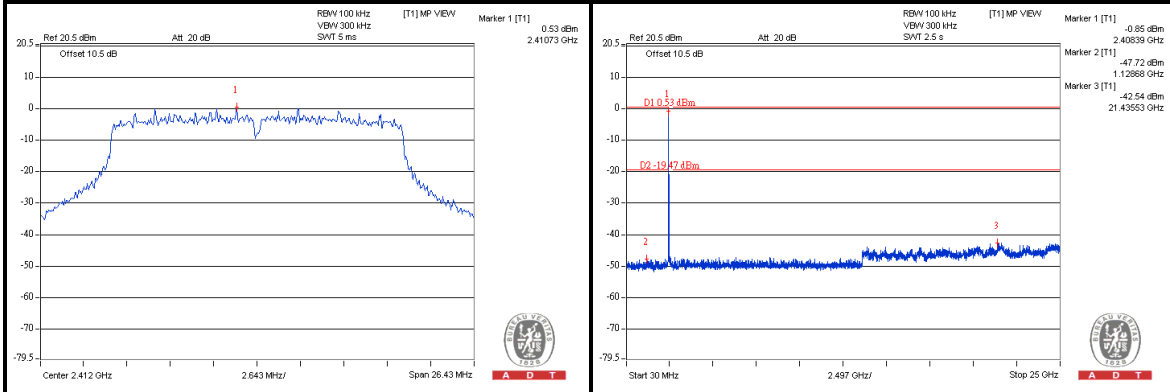


A D T

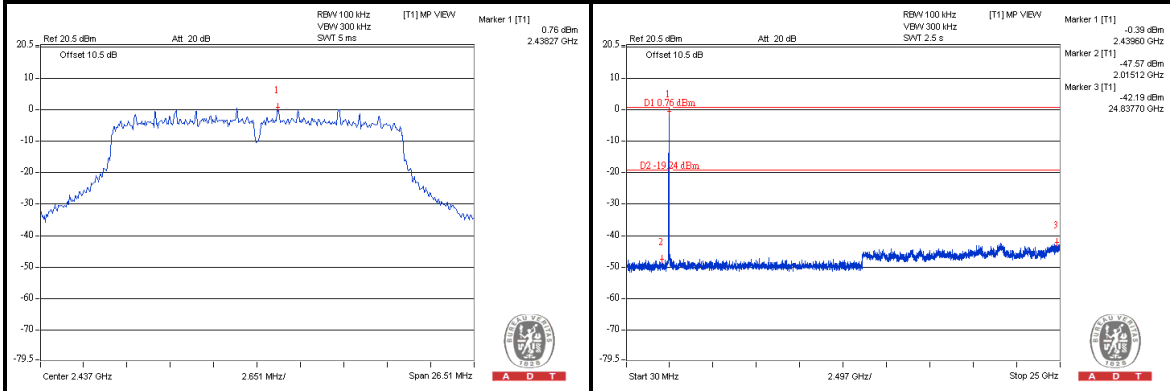
802.11n (HT20)

Chain 0

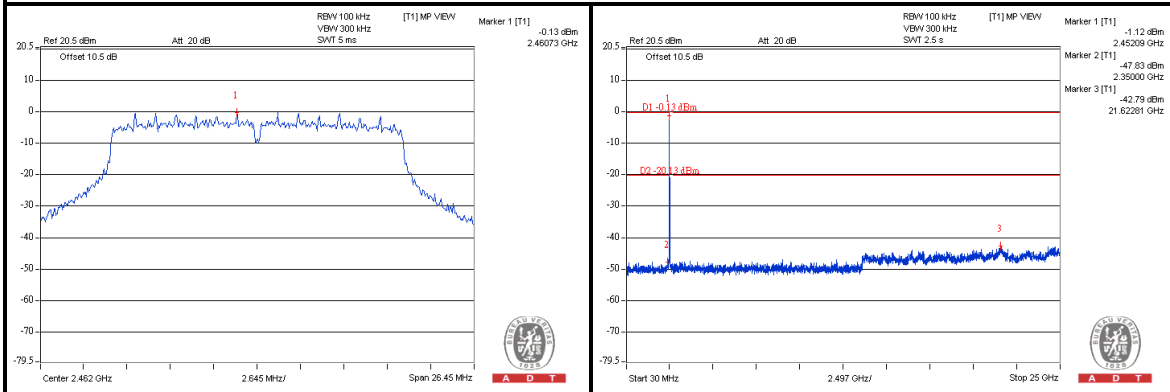
CH 1



CH 6



CH 11

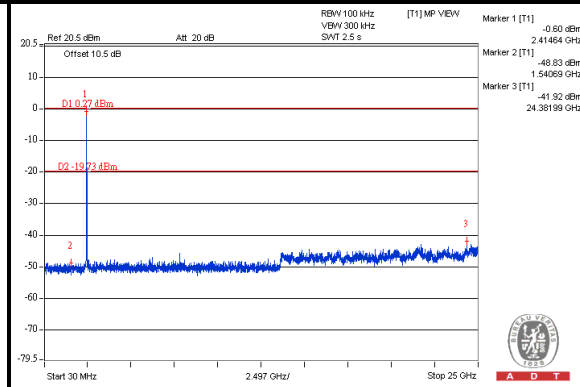
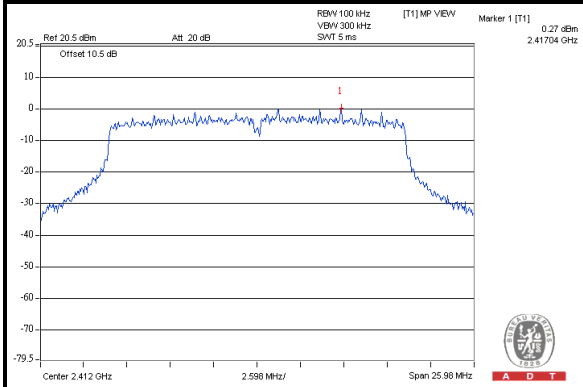




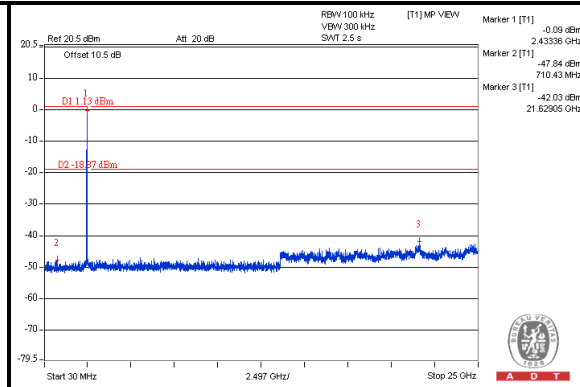
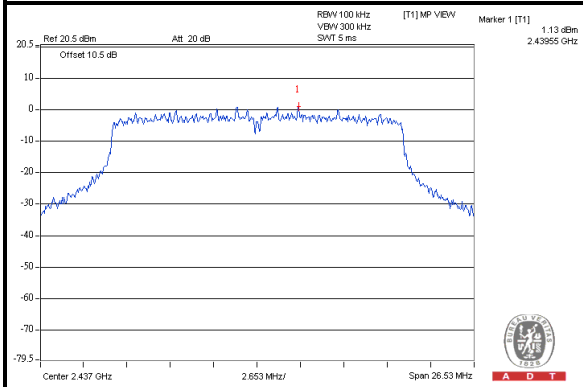
A D T

Chain 1

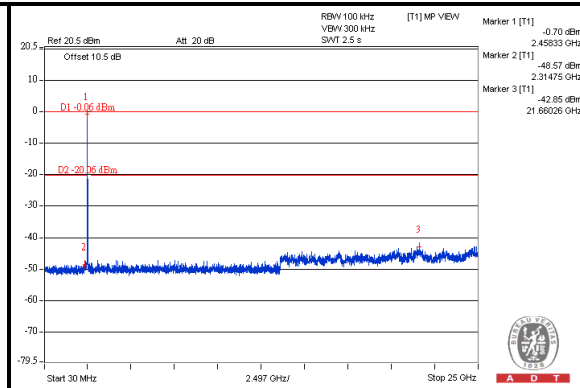
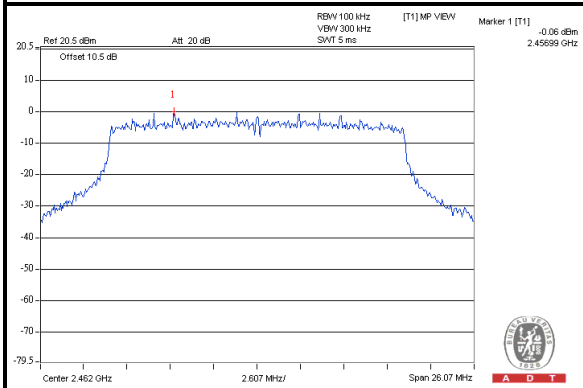
CH 1



CH 6



CH 11

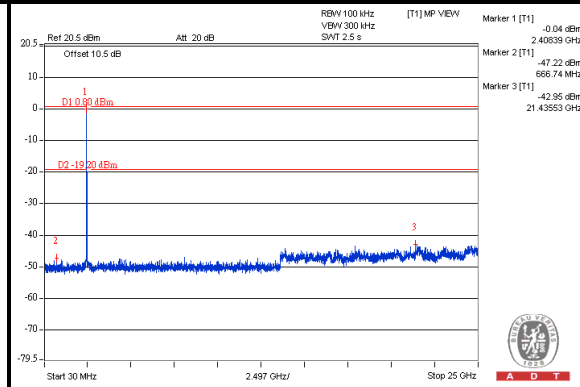
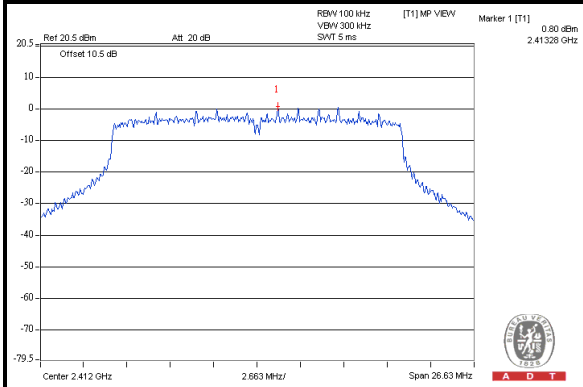




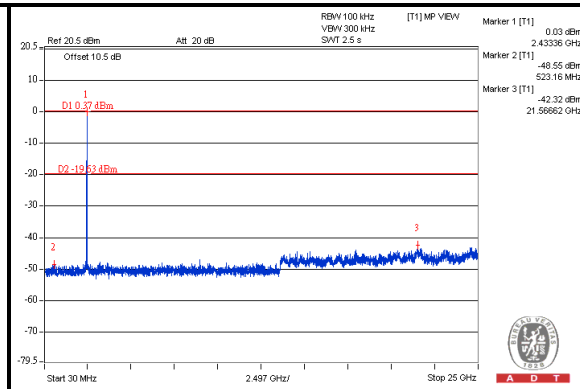
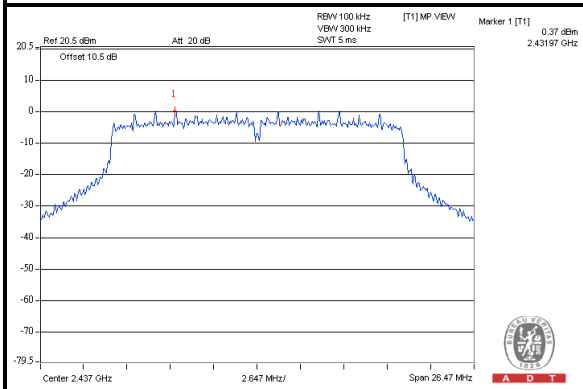
A D T

Chain 2

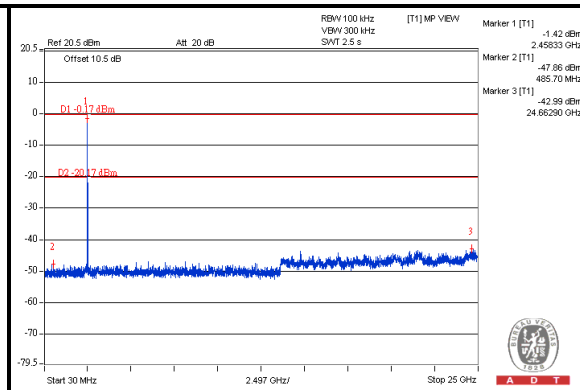
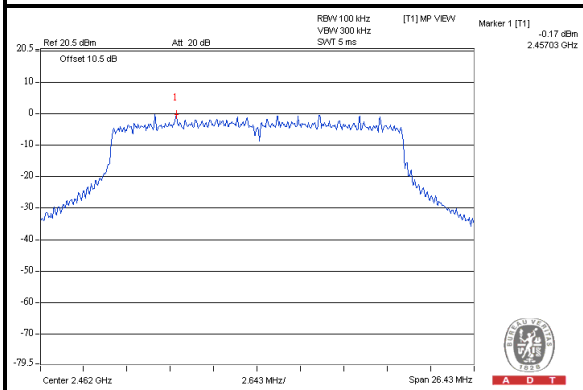
CH 1



CH 6



CH 11



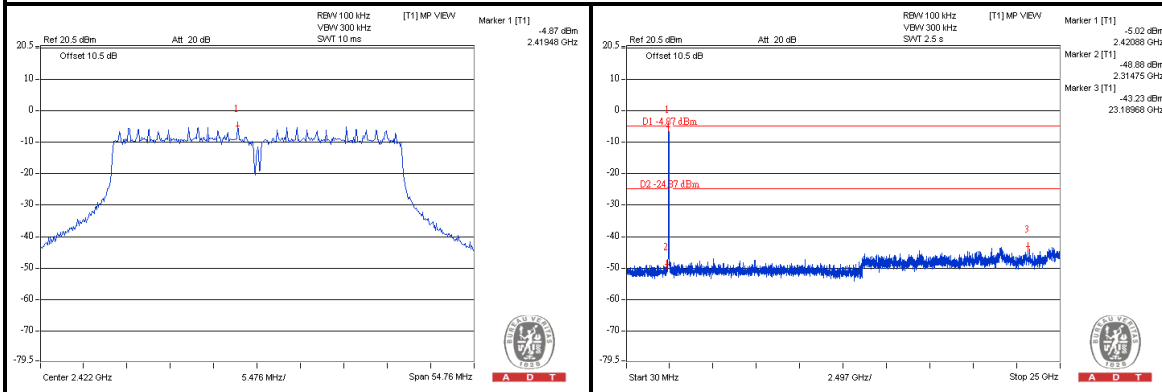


A D T

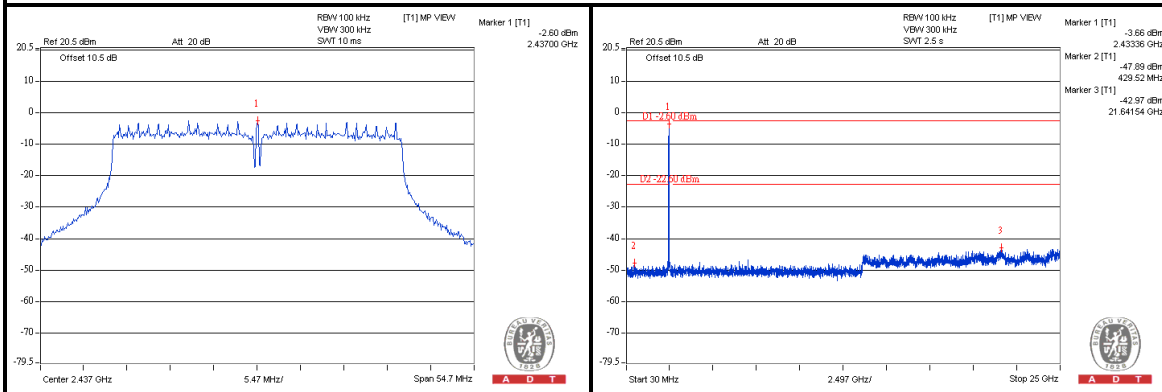
802.11n (HT40)

Chain 0

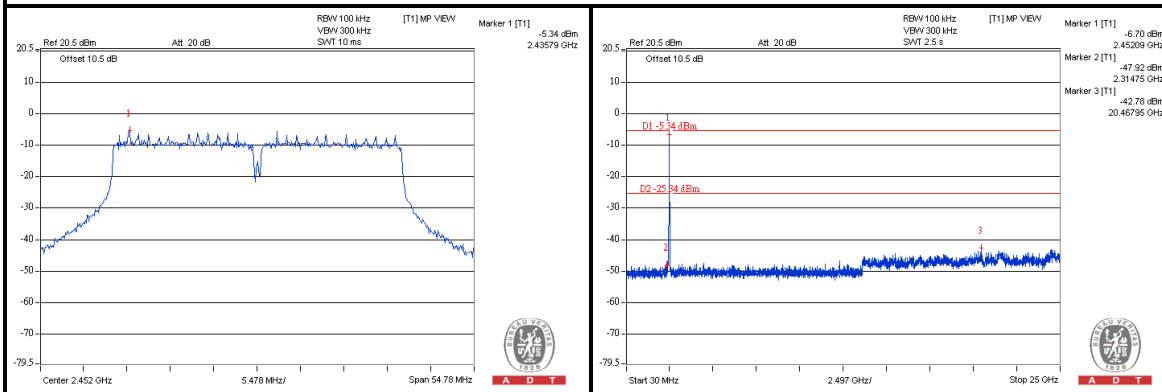
CH 3



CH 6



CH 9

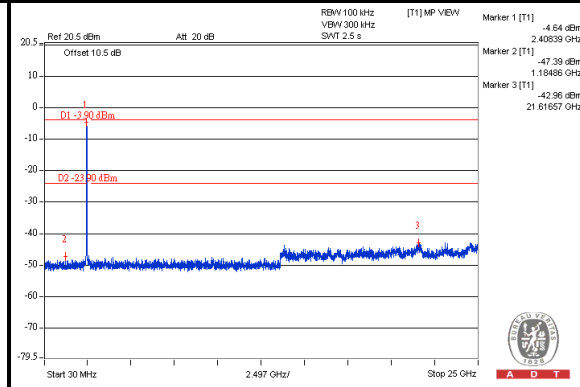
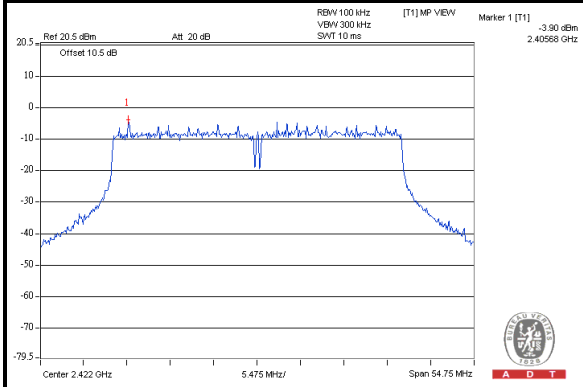




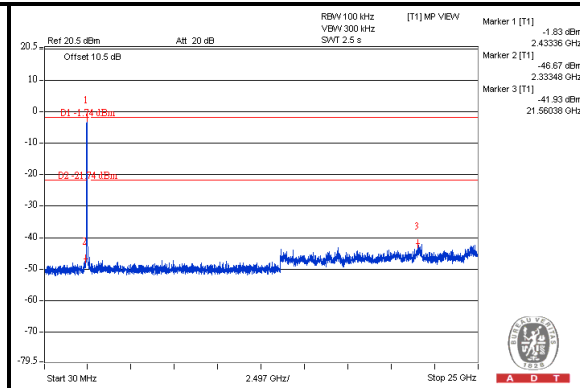
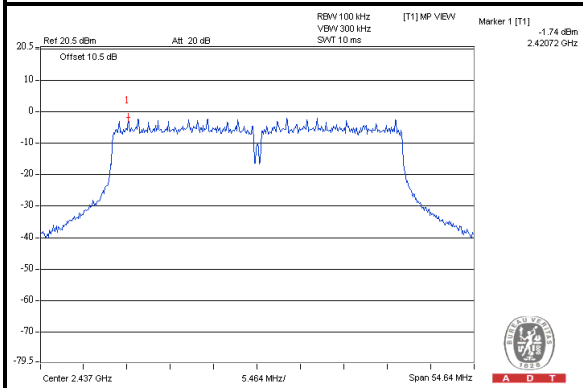
A D T

Chain 1

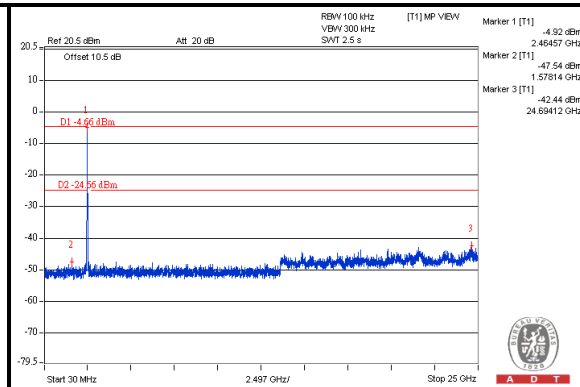
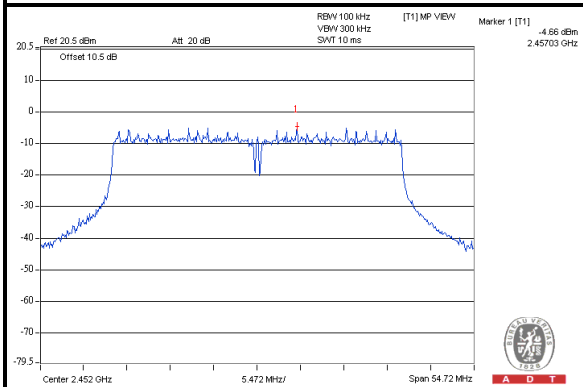
CH 3



CH 6



CH 9

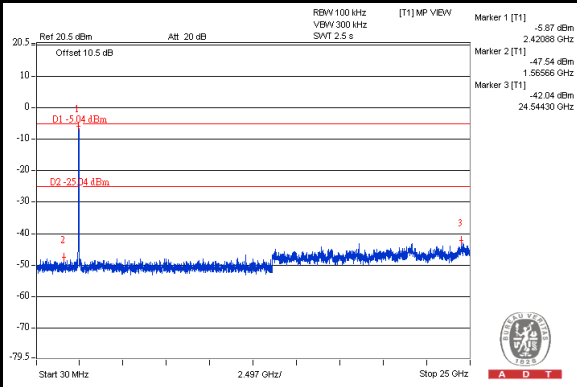
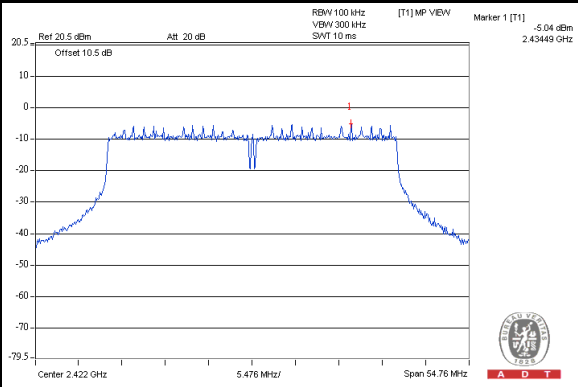




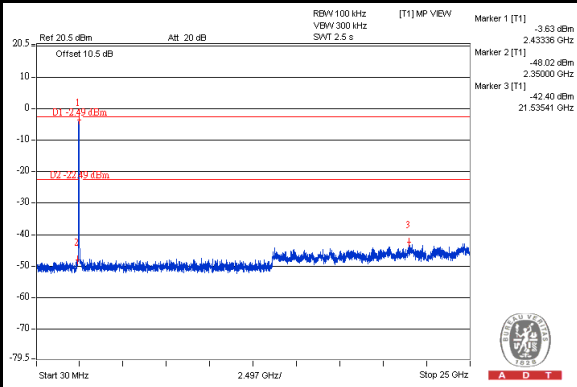
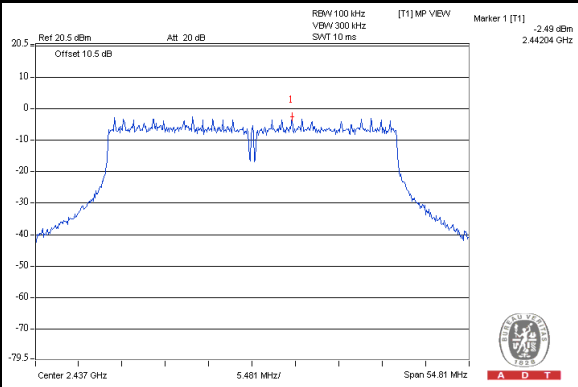
A D T

Chain 2

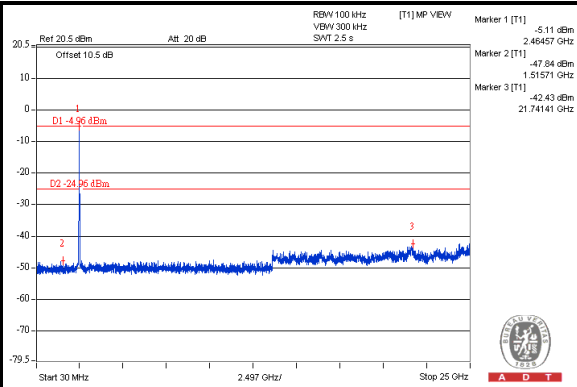
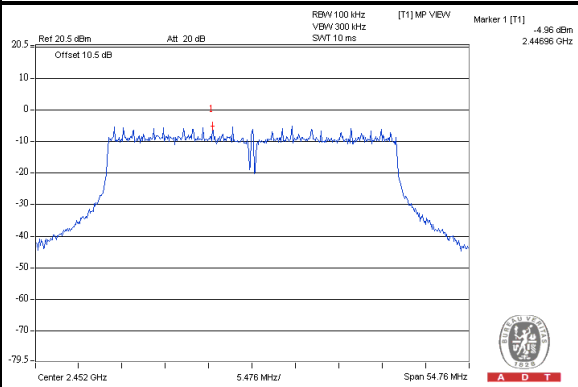
CH 3



CH 6



CH 9





A D T

5. TEST TYPES AND RESULTS (FOR 5GHz, 5.725~5.850GHz Band)

5.1 CONDUCTED EMISSION MEASUREMENT

5.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

| FREQUENCY OF EMISSION (MHz) | CONDUCTED LIMIT (dB μ V) | |
|-----------------------------|------------------------------|----------|
| | Quasi-peak | Average |
| 0.15-0.5 | 66 to 56 | 56 to 46 |
| 0.5-5 | 56 | 46 |
| 5-30 | 60 | 50 |

- NOTE:** 1. The lower limit shall apply at the transition frequencies.
2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50 MHz.

5.1.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|---|-------------------------|------------|-----------------|------------------|
| Test Receiver | ESCS 30 | 100375 | Mar. 12, 2012 | Mar.11, 2013 |
| Line-Impedance Stabilization Network (for EUT) SCHWARZBECK | NSLK8127 | 8127-522 | Sep. 06, 2012 | Sep. 05, 2013 |
| Line-Impedance Stabilization Network (for Peripheral) | ENV216 | 100072 | June 08,2012 | June 07,2013 |
| RF Cable (JYEBAO) | 5DFB | COCCAB-001 | Aug. 28, 2012 | Aug. 27, 2013 |
| 50 ohms Terminator | 50 | EMC-3 | Sep. 25, 2012 | Sep. 24, 2013 |
| Software ADT | BV ADT_Cond_V7.3.7.3 | NA | NA | NA |

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in Shielded Room No. C.
3. The VCCI Con C Registration No. is C-3611.
4. Tested Date: Nov. 23, 2012

5.1.3 TEST PROCEDURES

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN.
- b. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- c. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- d. The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit – 20dB) were not recorded.

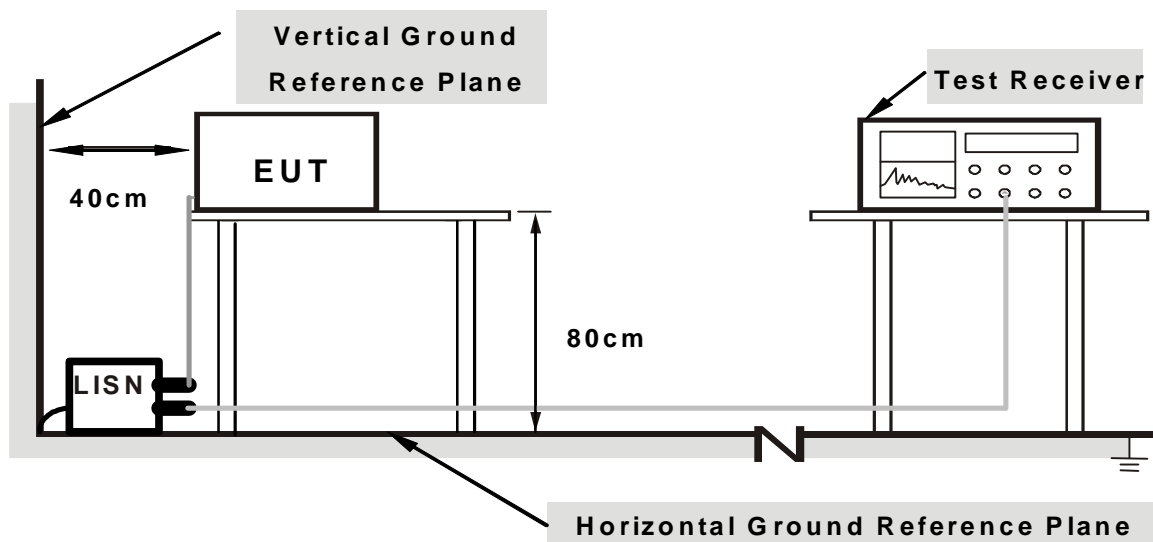
NOTE:

- 1. The resolution bandwidth of test receiver is 9kHz for Quasi-peak detection (QP) & Average detection (AV).

5.1.4 DEVIATION FROM TEST STANDARD

No deviation

5.1.5 TEST SETUP



Note: 1.Support units were connected to second LISN.

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



A D T

5.1.6 EUT OPERATING CONDITIONS

Same as the 4.1.6

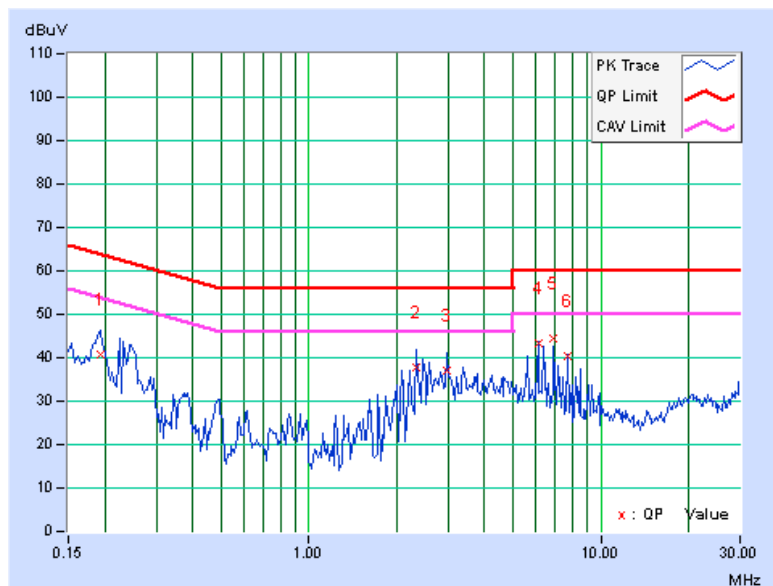
5.1.7 TEST RESULTS (MODE 1)

| | | | |
|-------|----------|-------------------|--------------------------------|
| PHASE | Line (L) | DETECTOR FUNCTION | Quasi-Peak (QP) / Average (AV) |
|-------|----------|-------------------|--------------------------------|

| No | Freq. [MHz] | Corr. Factor (dB) | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|----------|----------------|-------------------------|----------------------------|--------------|-----------------------------|--------------|--------------------|--------------|----------------|--------------|
| | | | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| | 1 | 0.19297 | 0.12 | 40.54 | 26.82 | 40.66 | 26.94 | 63.91 | 53.91 | -23.25 |
| 2 | 2.33984 | 0.24 | 37.44 | 26.84 | 37.68 | 27.08 | 56.00 | 46.00 | -18.32 | -18.92 |
| 3 | 2.98438 | 0.25 | 36.68 | 27.30 | 36.93 | 27.55 | 56.00 | 46.00 | -19.07 | -18.45 |
| 4 | 6.10938 | 0.37 | 43.00 | 41.94 | 43.37 | 42.31 | 60.00 | 50.00 | -16.63 | -7.69 |
| 5 | 6.91016 | 0.41 | 44.12 | 42.86 | 44.53 | 43.27 | 60.00 | 50.00 | -15.47 | -6.73 |
| 6 | 7.70703 | 0.45 | 40.04 | 38.86 | 40.49 | 39.31 | 60.00 | 50.00 | -19.51 | -10.69 |

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

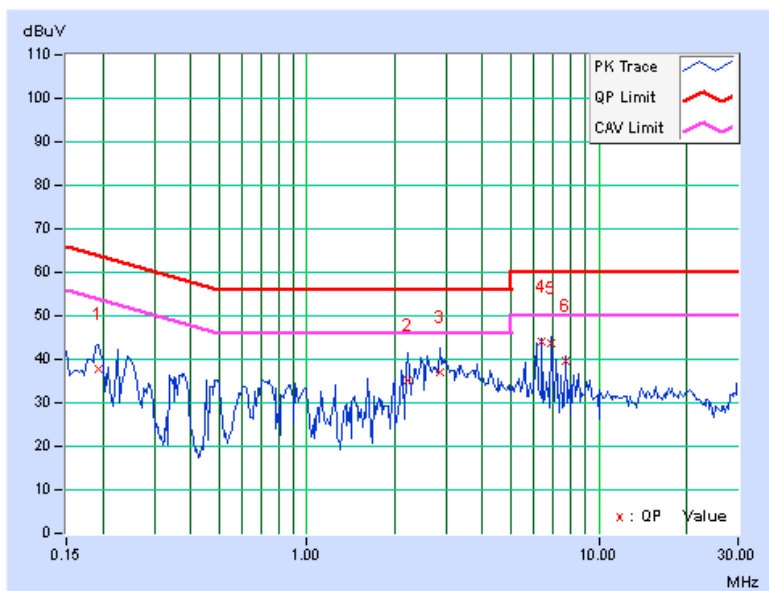


| | | | |
|--------------|-------------|--------------------------|--------------------------------|
| PHASE | Neutral (N) | DETECTOR FUNCTION | Quasi-Peak (QP) / Average (AV) |
|--------------|-------------|--------------------------|--------------------------------|

| No | Freq. [MHz] | Corr. Factor (dB) | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|----|----------------|-------------------------|----------------------------|-------|-----------------------------|-------|--------------------|-------|----------------|--------|
| | | | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| | 1 | 0.19297 | 0.10 | 37.68 | 27.62 | 37.78 | 27.72 | 63.91 | 53.91 | -26.13 |
| 2 | 2.23047 | 0.21 | 34.84 | 24.00 | 35.05 | 24.21 | 56.00 | 46.00 | -20.95 | -21.79 |
| 3 | 2.87500 | 0.22 | 36.70 | 28.32 | 36.92 | 28.54 | 56.00 | 46.00 | -19.08 | -17.46 |
| 4 | 6.37500 | 0.31 | 43.70 | 42.70 | 44.01 | 43.01 | 60.00 | 50.00 | -15.99 | -6.99 |
| 5 | 6.90625 | 0.33 | 43.52 | 42.38 | 43.85 | 42.71 | 60.00 | 50.00 | -16.15 | -7.29 |
| 6 | 7.70313 | 0.35 | 39.32 | 38.46 | 39.67 | 38.81 | 60.00 | 50.00 | -20.33 | -11.19 |

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.



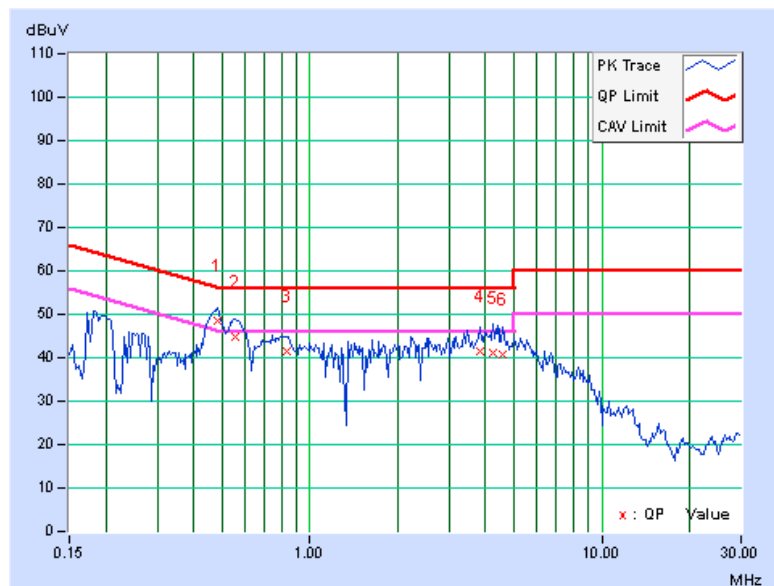
5.1.8 TEST RESULTS (MODE 2)

| | | | |
|--------------|----------|--------------------------|--------------------------------|
| PHASE | Line (L) | DETECTOR FUNCTION | Quasi-Peak (QP) / Average (AV) |
|--------------|----------|--------------------------|--------------------------------|

| No | Freq. [MHz] | Corr. Factor (dB) | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|----|----------------|-------------------------|----------------------------|---------|-----------------------------|-------|--------------------|-------|----------------|--------|
| | | | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| | | | 1 | 0.48403 | 0.16 | 48.44 | 38.28 | 48.60 | 38.44 | 56.27 |
| 2 | 0.55625 | 0.17 | 44.70 | 32.84 | 44.87 | 33.01 | 56.00 | 46.00 | -11.13 | -12.99 |
| 3 | 0.83359 | 0.18 | 41.22 | 29.12 | 41.40 | 29.30 | 56.00 | 46.00 | -14.60 | -16.70 |
| 4 | 3.80859 | 0.27 | 41.22 | 31.16 | 41.49 | 31.43 | 56.00 | 46.00 | -14.51 | -14.57 |
| 5 | 4.23428 | 0.28 | 40.94 | 30.84 | 41.22 | 31.12 | 56.00 | 46.00 | -14.78 | -14.88 |
| 6 | 4.57813 | 0.30 | 40.58 | 30.92 | 40.88 | 31.22 | 56.00 | 46.00 | -15.12 | -14.78 |

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.

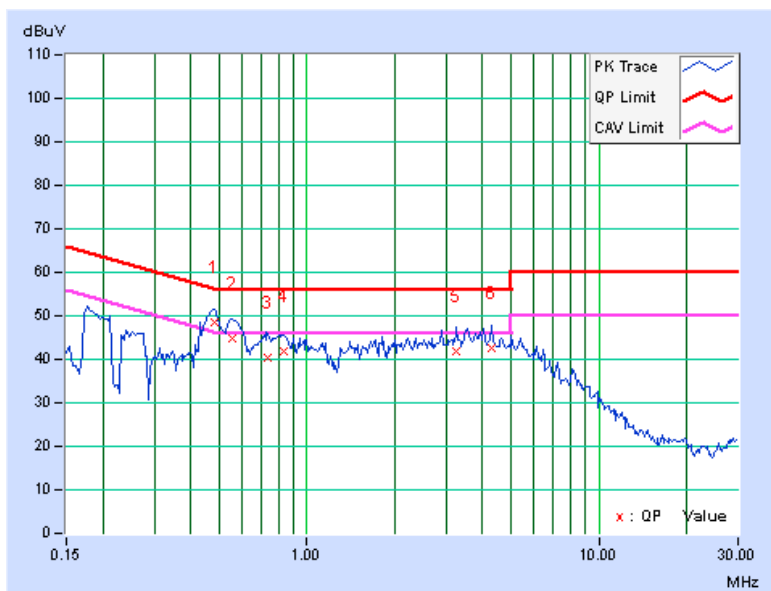


| | | | |
|--------------|-------------|--------------------------|--------------------------------|
| PHASE | Neutral (N) | DETECTOR FUNCTION | Quasi-Peak (QP) / Average (AV) |
|--------------|-------------|--------------------------|--------------------------------|

| No | Freq. [MHz] | Corr. Factor (dB) | Reading Value [dB (uV)] | | Emission Level [dB (uV)] | | Limit [dB (uV)] | | Margin (dB) | |
|----|----------------|-------------------------|----------------------------|-------|-----------------------------|-------|--------------------|-------|----------------|--------|
| | | | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. | Q.P. | AV. |
| | 1 | 0.48413 | 0.15 | 48.24 | 38.50 | 48.39 | 38.65 | 56.27 | 46.27 | -7.88 |
| 2 | 0.55625 | 0.16 | 44.82 | 32.74 | 44.98 | 32.90 | 56.00 | 46.00 | -11.02 | -13.10 |
| 3 | 0.73462 | 0.16 | 40.12 | 25.26 | 40.28 | 25.42 | 56.00 | 46.00 | -15.72 | -20.58 |
| 4 | 0.83359 | 0.16 | 41.80 | 30.02 | 41.96 | 30.18 | 56.00 | 46.00 | -14.04 | -15.82 |
| 5 | 3.26172 | 0.23 | 41.46 | 30.66 | 41.69 | 30.89 | 56.00 | 46.00 | -14.31 | -15.11 |
| 6 | 4.31759 | 0.25 | 42.46 | 31.26 | 42.71 | 31.51 | 56.00 | 46.00 | -13.29 | -14.49 |

REMARKS:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level - Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value.



5.2 RADIATED AND BANDEDGE EMISSION MEASUREMENT

5.2.1 LIMITS OF RADIATED AND BANDEDGE EMISSION MEASUREMENT

Radiated emissions which fall in the restricted bands must comply with the radiated emission limits specified as below table. Other emissions shall be at least 30dB below the highest level of the desired power:

| Frequencies (MHz) | Field strength (microvolts/meter) | Measurement distance (meters) |
|-------------------|-----------------------------------|-------------------------------|
| 0.009-0.490 | 2400/F(kHz) | 300 |
| 0.490-1.705 | 24000/F(kHz) | 30 |
| 1.705-30.0 | 30 | 30 |
| 30-88 | 100 | 3 |
| 88-216 | 150 | 3 |
| 216-960 | 200 | 3 |
| Above 960 | 500 | 3 |

NOTE:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.



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5.2.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|---|--------------------------|-------------------------------------|-----------------|------------------|
| Spectrum Analyzer Agilent | E4446A | MY48250254 | July 09, 2012 | July 08, 2013 |
| Pre-Selector Agilent | N9039A | MY46520311 | July 09, 2012 | July 08, 2013 |
| Signal Generator Agilent | N5181A | MY49060517 | July 09, 2012 | July 08, 2013 |
| Pre-Amplifier Mini-Circuits | ZFL-1000VH2 B | AMP-ZFL-03 | Nov. 14, 2012 | Nov. 13, 2013 |
| Pre-Amplifier Agilent | 8449B | 3008A02578 | June 26, 2012 | June 25, 2013 |
| Pre-Amplifier SPACEK LABS | SLKKa-48-6 | 9K16 | Nov. 14, 2012 | Nov. 13, 2013 |
| Trilog Broadband Antenna SCHWARZBECK | VULB 9168 | 9168-360 | Apr. 09, 2012 | Apr. 08, 2013 |
| Horn Antenna SCHWARZBECK | BBHA 9120 | 9120D-783 | Sep. 20, 2012 | Sep. 19, 2013 |
| Horn_Antenna SCHWARZBECK | BBHA 9170 | 9170-424 | Oct. 12, 2012 | Oct. 11, 2013 |
| RF Cable | NA | RF104-201 RF104-203 RF104-204 | Dec. 26, 2011 | Dec. 25, 2012 |
| RF Cable | NA | CHGCAB_001 | Oct. 06, 2012 | Oct. 05, 2013 |
| Software | ADT_Radiated _V8.7.05 | NA | NA | NA |
| Antenna Tower & Turn Table CT | NA | NA | NA | NA |

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The horn antenna, preamplifier (model: 8449B) are used only for the measurement of emission frequency above 1GHz if tested.
- 3 The test was performed in 966 Chamber No. G.
4. The FCC Site Registration No. is 966073.
- 5 The VCCI Site Registration No. is G-137.
- 6 The CANADA Site Registration No. is IC 7450H-2.
- 7 Tested Date: Nov 15 to Dec. 11, 2012

5.2.3 TEST PROCEDURES

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.
- f. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz. If the peak reading value also meets average limit, measurement with the average detector is unnecessary.

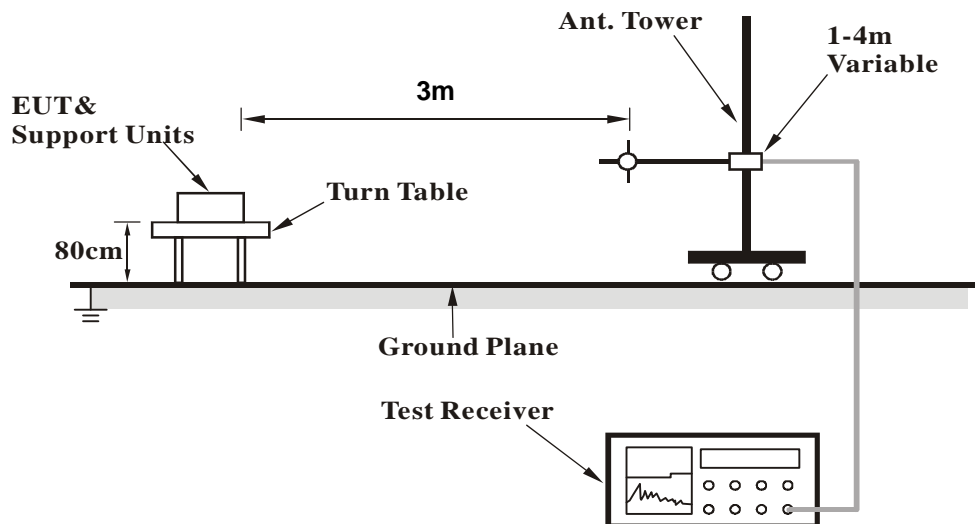
NOTE:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz for Peak detection (PK) at frequency above 1GHz.
3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.
4. All modes of operation were investigated and the worst-case emissions are reported.

5.2.4 DEVIATION FROM TEST STANDARD

No deviation

5.2.5 TEST SETUP



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

5.2.6 EUT OPERATING CONDITIONS

Same as the 4.1.6

5.2.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

802.11a

| | | | |
|------------------------|----------------|--------------------------|-----------------|
| CHANNEL | TX Channel 165 | DETECTOR FUNCTION | Quasi-Peak (QP) |
| FREQUENCY RANGE | Below 1GHz | | |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 97.04 | 37.6 QP | 43.5 | -5.9 | 2.00 H | 32 | 28.13 | 9.50 |
| 2 | 141.38 | 39.4 QP | 43.5 | -4.1 | 2.00 H | 72 | 25.34 | 14.08 |
| 3 | 202.79 | 40.2 QP | 43.5 | -3.3 | 1.50 H | 305 | 28.91 | 11.28 |
| 4 | 250.00 | 40.0 QP | 46.0 | -6.0 | 1.00 H | 271 | 26.64 | 13.35 |
| 5 | 273.70 | 34.8 QP | 46.0 | -11.2 | 1.00 H | 97 | 20.50 | 14.26 |
| 6 | 350.00 | 36.6 QP | 46.0 | -9.4 | 1.00 H | 114 | 19.98 | 16.58 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | 37.54 | 37.7 QP | 40.0 | -2.4 | 2.00 V | 0 | 24.19 | 13.46 |
| 2 | 73.13 | 33.6 QP | 40.0 | -6.4 | 1.53 V | 360 | 21.91 | 11.71 |
| 3 | 187.62 | 38.8 QP | 43.5 | -4.7 | 1.00 V | 310 | 26.52 | 12.27 |
| 4 | 349.98 | 37.1 QP | 46.0 | -8.9 | 1.50 V | 76 | 20.54 | 16.58 |
| 5 | 398.18 | 34.7 QP | 46.0 | -11.3 | 1.50 V | 197 | 16.91 | 17.81 |
| 6 | 663.44 | 34.2 QP | 46.0 | -11.9 | 1.50 V | 243 | 10.68 | 23.47 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.



A D T

ABOVE 1GHz DATA

802.11a

| | | | |
|------------------------|----------------|------------------------------|--------------|
| CHANNEL | TX Channel 149 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 40GHz | | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | *5745.00 | 97.2 PK | | | 1.18 H | 339 | 53.88 | 43.32 |
| 2 | *5745.00 | 87.1 AV | | | 1.18 H | 339 | 43.78 | 43.32 |
| 3 | 11490.00 | 57.2 PK | 74.0 | -16.8 | 1.10 H | 19 | 7.41 | 49.79 |
| 4 | 11490.00 | 45.3 AV | 54.0 | -8.7 | 1.10 H | 19 | -4.49 | 49.79 |

| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
|---|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | *5745.00 | 115.2 PK | | | 1.00 V | 315 | 71.88 | 43.32 |
| 2 | *5745.00 | 103.1 AV | | | 1.00 V | 315 | 59.78 | 43.32 |
| 3 | 11490.00 | 57.9 PK | 74.0 | -16.1 | 1.00 V | 159 | 8.11 | 49.79 |
| 4 | 11490.00 | 45.8 AV | 54.0 | -8.2 | 1.00 V | 159 | -3.99 | 49.79 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * " : Fundamental frequency.
6. The limit value is defined as per 15.247.



A D T

| | | | |
|------------------------|----------------|--------------------------|--------------|
| CHANNEL | TX Channel 157 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 40GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | *5785.00 | 97.4 PK | | | 1.21 H | 336 | 54.03 | 43.37 |
| 2 | *5785.00 | 87.0 AV | | | 1.21 H | 336 | 43.63 | 43.37 |
| 3 | 11570.00 | 57.0 PK | 74.0 | -17.0 | 1.11 H | 33 | 7.17 | 49.83 |
| 4 | 11570.00 | 45.0 AV | 54.0 | -9.0 | 1.11 H | 33 | -4.83 | 49.83 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | *5785.00 | 115.2 PK | | | 1.00 V | 304 | 71.83 | 43.37 |
| 2 | *5785.00 | 103.3 AV | | | 1.00 V | 304 | 59.93 | 43.37 |
| 3 | 11570.00 | 57.8 PK | 74.0 | -16.2 | 1.01 V | 165 | 7.97 | 49.83 |
| 4 | 11570.00 | 45.8 AV | 54.0 | -8.2 | 1.01 V | 165 | -4.03 | 49.83 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.



A D T

| | | | |
|------------------------|----------------|------------------------------|--------------|
| CHANNEL | TX Channel 165 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 40GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | *5825.00 | 98.0 PK | | | 1.27 H | 332 | 54.53 | 43.47 |
| 2 | *5825.00 | 87.4 AV | | | 1.27 H | 332 | 43.93 | 43.47 |
| 3 | 11650.00 | 57.5 PK | 74.0 | -16.5 | 1.08 H | 40 | 7.39 | 50.11 |
| 4 | 11650.00 | 45.4 AV | 54.0 | -8.6 | 1.08 H | 40 | -4.71 | 50.11 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| 1 | *5825.00 | 114.9 PK | | | 1.04 V | 296 | 71.43 | 43.47 |
| 2 | *5825.00 | 102.9 AV | | | 1.04 V | 296 | 59.43 | 43.47 |
| 3 | 11650.00 | 57.5 PK | 74.0 | -16.5 | 1.05 V | 164 | 7.39 | 50.11 |
| 4 | 11650.00 | 45.4 AV | 54.0 | -8.6 | 1.05 V | 164 | -4.71 | 50.11 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

802.11n (HT20)

| | | | |
|------------------------|----------------|------------------------------|--------------|
| CHANNEL | TX Channel 149 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 40GHz | | Average (AV) |

| ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M | | | | | | | | |
|---|----------------|-------------------------------|-------------------|----------------|--------------------------|----------------------------|------------------------|--------------------------------|
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | *5745.00 | 100.5 PK | | | 1.33 H | 337 | 57.18 | 43.32 |
| 2 | *5745.00 | 90.0 AV | | | 1.33 H | 337 | 46.68 | 43.32 |
| 3 | 11490.00 | 57.5 PK | 74.0 | -16.5 | 1.05 H | 21 | 7.71 | 49.79 |
| 4 | 11490.00 | 45.5 AV | 54.0 | -8.5 | 1.05 H | 21 | -4.29 | 49.79 |
| ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M | | | | | | | | |
| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
| 1 | *5745.00 | 116.7 PK | | | 1.01 V | 301 | 73.38 | 43.32 |
| 2 | *5745.00 | 105.1 AV | | | 1.01 V | 301 | 61.78 | 43.32 |
| 3 | 11490.00 | 57.8 PK | 74.0 | -16.2 | 1.00 V | 162 | 8.01 | 49.79 |
| 4 | 11490.00 | 45.7 AV | 54.0 | -8.3 | 1.00 V | 162 | -4.09 | 49.79 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.



A D T

| | | | |
|------------------------|----------------|--------------------------|--------------|
| CHANNEL | TX Channel 157 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 40GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | *5785.00 | 100.3 PK | | | 1.35 H | 340 | 56.93 | 43.37 |
| 2 | *5785.00 | 89.8 AV | | | 1.35 H | 340 | 46.43 | 43.37 |
| 3 | 11570.00 | 57.1 PK | 74.0 | -16.9 | 1.05 H | 35 | 7.27 | 49.83 |
| 4 | 11570.00 | 45.0 AV | 54.0 | -9.0 | 1.05 H | 35 | -4.83 | 49.83 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | *5785.00 | 114.2 PK | | | 1.00 V | 296 | 70.83 | 43.37 |
| 2 | *5785.00 | 102.7 AV | | | 1.00 V | 296 | 59.33 | 43.37 |
| 3 | 11570.00 | 57.8 PK | 74.0 | -16.2 | 1.01 V | 151 | 7.97 | 49.83 |
| 4 | 11570.00 | 45.8 AV | 54.0 | -8.2 | 1.01 V | 151 | -4.03 | 49.83 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.



A D T

| | | | |
|------------------------|----------------|--------------------------|--------------|
| CHANNEL | TX Channel 165 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 40GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | *5825.00 | 101.1 PK | | | 1.36 H | 342 | 57.63 | 43.47 |
| 2 | *5825.00 | 90.5 AV | | | 1.36 H | 342 | 47.03 | 43.47 |
| 3 | 11650.00 | 57.4 PK | 74.0 | -16.6 | 1.05 H | 28 | 7.29 | 50.11 |
| 4 | 11650.00 | 45.2 AV | 54.0 | -8.8 | 1.05 H | 28 | -4.91 | 50.11 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | *5825.00 | 114.4 PK | | | 1.00 V | 303 | 70.93 | 43.47 |
| 2 | *5825.00 | 102.7 AV | | | 1.00 V | 303 | 59.23 | 43.47 |
| 3 | 11650.00 | 58.2 PK | 74.0 | -15.8 | 1.06 V | 140 | 8.09 | 50.11 |
| 4 | 11650.00 | 46.0 AV | 54.0 | -8.0 | 1.06 V | 140 | -4.11 | 50.11 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.



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802.11n (HT40)

| | | | |
|------------------------|----------------|--------------------------|--------------|
| CHANNEL | TX Channel 151 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 40GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | *5755.00 | 100.6 PK | | | 1.39 H | 358 | 57.26 | 43.34 |
| 2 | *5755.00 | 88.1 AV | | | 1.39 H | 358 | 44.76 | 43.34 |
| 3 | 11510.00 | 57.5 PK | 74.0 | -16.5 | 1.00 H | 15 | 7.72 | 49.78 |
| 4 | 11510.00 | 45.2 AV | 54.0 | -8.8 | 1.00 H | 15 | -4.58 | 49.78 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | *5755.00 | 114.5 PK | | | 1.00 V | 316 | 71.16 | 43.34 |
| 2 | *5755.00 | 100.1 AV | | | 1.00 V | 316 | 56.76 | 43.34 |
| 3 | 11510.00 | 56.9 PK | 74.0 | -17.1 | 1.00 V | 155 | 7.12 | 49.78 |
| 4 | 11510.00 | 45.4 AV | 54.0 | -8.6 | 1.00 V | 155 | -4.38 | 49.78 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.



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| | | | |
|------------------------|----------------|--------------------------|--------------|
| CHANNEL | TX Channel 159 | DETECTOR FUNCTION | Peak (PK) |
| FREQUENCY RANGE | 1GHz ~ 40GHz | | Average (AV) |

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | *5795.00 | 100.6 PK | | | 1.40 H | 360 | 57.22 | 43.38 |
| 2 | *5795.00 | 88.0 AV | | | 1.40 H | 360 | 44.62 | 43.38 |
| 3 | 11590.00 | 57.8 PK | 74.0 | -16.2 | 1.00 H | 29 | 7.96 | 49.84 |
| 4 | 11590.00 | 45.4 AV | 54.0 | -8.6 | 1.00 H | 29 | -4.44 | 49.84 |

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

| NO. | FREQ. (MHz) | EMISSION LEVEL (dBuV/m) | LIMIT (dBuV/m) | MARGIN (dB) | ANTENNA HEIGHT (m) | TABLE ANGLE (Degree) | RAW VALUE (dBuV) | CORRECTION FACTOR (dB/m) |
|-----|-------------|-------------------------|----------------|-------------|--------------------|----------------------|------------------|--------------------------|
| 1 | *5795.00 | 114.3 PK | | | 1.01 V | 314 | 70.92 | 43.38 |
| 2 | *5795.00 | 99.8 AV | | | 1.01 V | 314 | 56.42 | 43.38 |
| 3 | 11590.00 | 56.4 PK | 74.0 | -17.6 | 1.00 V | 169 | 6.56 | 49.84 |
| 4 | 11590.00 | 45.1 AV | 54.0 | -8.9 | 1.00 V | 169 | -4.74 | 49.84 |

REMARKS:

1. Emission level (dBuV/m) = Raw Value (dBuV) + Correction Factor (dB/m).
2. Correction Factor (dB/m) = Antenna Factor (dB/m) + Cable Factor (dB).
3. The other emission levels were very low against the limit.
4. Margin value = Emission level – Limit value.
5. " * ": Fundamental frequency.
6. The limit value is defined as per 15.247.

5.3 6dB BANDWIDTH MEASUREMENT

5.3.1 LIMITS OF 6dB BANDWIDTH MEASUREMENT

The minimum of 6dB Bandwidth Measurement is 0.5 MHz.

5.3.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|----------------------------|-----------|------------|-----------------|------------------|
| R&S SPECTRUM ANALYZER | FSP40 | 100036 | May 09, 2012 | May 08, 2013 |

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Dec. 13, 2012

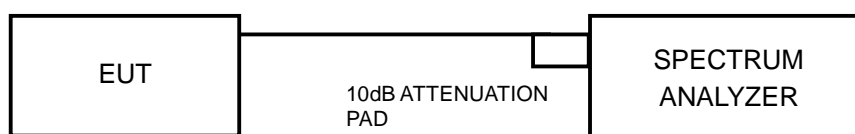
5.3.3 TEST PROCEDURE

1. Set resolution bandwidth (RBW) = approximately 1% of the emission bandwidth
2. Set the video bandwidth (VBW) $\geq 3 \times$ RBW, Detector = Peak.
3. Trace mode = max hold.
4. Sweep = auto couple.
5. Measure the maximum width of the emission that is constrained by the frequencies associated with the two amplitude points (upper and lower) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission

5.3.4 DEVIATION FROM TEST STANDARD

No deviation

5.3.5 TEST SETUP



5.3.6 EUT OPERATING CONDITIONS

The software provided by client to enable the EUT under transmission condition continuously at lowest, middle and highest channel frequencies individually.



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5.3.7 TEST RESULTS

802.11a

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | | | MINIMUM LIMIT (MHz) | PASS / FAIL |
|---------|-------------------------|---------------------|---------|---------|---------------------|-------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | |
| 149 | 5745 | 16.38 | 16.39 | 16.44 | 0.5 | PASS |
| 157 | 5785 | 16.38 | 16.39 | 16.43 | 0.5 | PASS |
| 165 | 5825 | 15.92 | 16.39 | 16.41 | 0.5 | PASS |

802.11n (HT20)

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | | | MINIMUM LIMIT (MHz) | PASS / FAIL |
|---------|-------------------------|---------------------|---------|---------|---------------------|-------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | |
| 149 | 5745 | 17.24 | 17.24 | 17.39 | 0.5 | PASS |
| 157 | 5785 | 16.99 | 17.26 | 17.65 | 0.5 | PASS |
| 165 | 5825 | 17.22 | 17.24 | 17.35 | 0.5 | PASS |

802.11n (HT40)

| CHANNEL | CHANNEL FREQUENCY (MHz) | 6dB BANDWIDTH (MHz) | | | MINIMUM LIMIT (MHz) | PASS / FAIL |
|---------|-------------------------|---------------------|---------|---------|---------------------|-------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | |
| 151 | 5755 | 36.46 | 36.46 | 36.45 | 0.5 | PASS |
| 159 | 5795 | 36.11 | 36.07 | 36.41 | 0.5 | PASS |

5.4 CONDUCTED OUTPUT POWER MEASUREMENT

5.4.1 LIMITS OF CONDUCTED OUTPUT POWER MEASUREMENT

For systems using digital modulation in the 5725 –5850 MHz band: 1 Watt (30dBm)

5.4.2 INSTRUMENTS

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|----------------------------|-----------|------------|-----------------|------------------|
| Power Meter | ML2495A | 0824006 | May 10, 2012 | May 09, 2013 |
| Power Sensor | MA2411B | 0738172 | May 10, 2012 | May 09, 2013 |

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Dec. 13, 2012

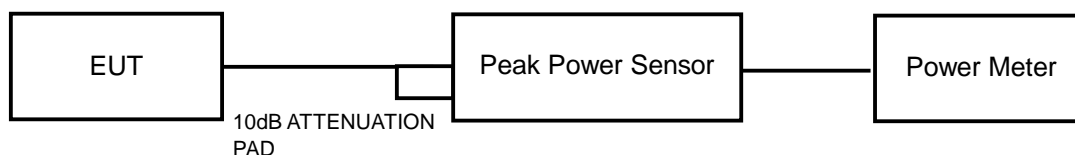
5.4.3 TEST PROCEDURES

A peak power sensor was used on the output port of the EUT. A power meter was used to read the response of the peak power sensor. Record the peak power level.

5.4.4 DEVIATION FROM TEST STANDARD

No deviation.

5.4.5 TEST SETUP



5.4.6 EUT OPERATING CONDITIONS

Same as Item 5.3.6



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5.4.7 TEST RESULTS

802.11a

| CHAN. | FREQUE NCY (MHz) | PEAK POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | LIMIT (dBm) | PASS / FAIL |
|-------|------------------------|------------------|---------|---------|------------------------|-------------------------|----------------|----------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 149 | 5745 | 22.90 | 23.20 | 22.40 | 577.694 | 27.62 | 29.29 | PASS |
| 157 | 5785 | 22.50 | 23.10 | 22.40 | 555.782 | 27.45 | 29.29 | PASS |
| 165 | 5825 | 22.50 | 23.50 | 22.50 | 579.528 | 27.63 | 29.29 | PASS |

The directional gain is 6.71dBi, therefore the limit needs to reduce.

802.11n (HT20)

| CHAN. | FREQUE NCY (MHz) | PEAK POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | LIMIT (dBm) | PASS / FAIL |
|-------|------------------------|------------------|---------|---------|------------------------|-------------------------|----------------|----------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 149 | 5745 | 22.50 | 23.30 | 22.70 | 577.833 | 27.62 | 29.29 | PASS |
| 157 | 5785 | 22.50 | 23.30 | 22.30 | 561.448 | 27.49 | 29.29 | PASS |
| 165 | 5825 | 22.20 | 23.30 | 21.80 | 531.111 | 27.25 | 29.29 | PASS |

The directional gain is 6.71dBi, therefore the limit needs to reduce.

802.11n (HT40)

| CHAN. | FREQUE NCY (MHz) | PEAK POWER (dBm) | | | TOTAL POWER (mW) | TOTAL POWER (dBm) | LIMIT (dBm) | PASS / FAIL |
|-------|------------------------|------------------|---------|---------|------------------------|-------------------------|----------------|----------------|
| | | CHAIN 0 | CHAIN 1 | CHAIN 2 | | | | |
| 151 | 5755 | 23.10 | 23.20 | 22.10 | 575.285 | 27.60 | 29.29 | PASS |
| 159 | 5795 | 23.10 | 23.20 | 22.10 | 575.285 | 27.60 | 29.29 | PASS |

The directional gain is 6.71dBi, therefore the limit needs to reduce.

5.5 POWER SPECTRAL DENSITY MEASUREMENT

5.5.1 LIMITS OF POWER SPECTRAL DENSITY MEASUREMENT

The Maximum of Power Spectral Density Measurement is 8dBm.

5.5.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|----------------------------|-----------|------------|-----------------|------------------|
| R&S Spectrum Analyzer | FSP40 | 100036 | May 09, 2012 | May 08, 2013 |

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Dec. 13, 2012

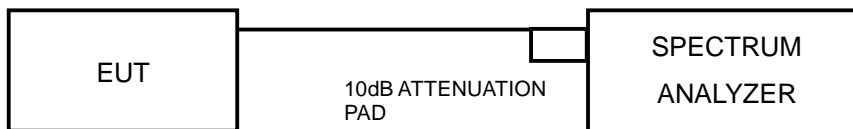
5.5.3 TEST PROCEDURE

1. Set the RBW = 3 kHz, VBW =10 kHz, Detector = peak.
2. Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
3. Use the peak marker function to determine the maximum amplitude level.

5.5.4 DEVIATION FROM TEST STANDARD

No deviation

5.5.5 TEST SETUP



5.5.6 EUT OPERATING CONDITION

Same as Item 4.3.6



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5.5.7 TEST RESULTS

802.11a

| TX chain | Channel | FREQ. (MHz) | PSD (dBm/3kHz) | 10 log (N=3) dB | Total PSD (dBm/3kHz) | Limit (dBm/3kHz) | PASS /FAIL |
|----------|---------|-------------|----------------|-----------------|----------------------|------------------|------------|
| 0 | 149 | 5745 | -11.86 | 4.77 | -7.09 | 7.29 | PASS |
| | 157 | 5785 | -11.96 | 4.77 | -7.19 | 7.29 | PASS |
| | 165 | 5825 | -12.47 | 4.77 | -7.70 | 7.29 | PASS |
| 1 | 149 | 5745 | -12.05 | 4.77 | -7.28 | 7.29 | PASS |
| | 157 | 5785 | -11.88 | 4.77 | -7.11 | 7.29 | PASS |
| | 165 | 5825 | -11.63 | 4.77 | -6.86 | 7.29 | PASS |
| 2 | 149 | 5745 | -12.00 | 4.77 | -7.23 | 7.29 | PASS |
| | 157 | 5785 | -11.83 | 4.77 | -7.06 | 7.29 | PASS |
| | 165 | 5825 | -10.33 | 4.77 | -5.56 | 7.29 | PASS |

The directional gain is 6.71dBi, therefore the limit needs to reduce.

802.11n (HT20)

| TX chain | Channel | FREQ. (MHz) | PSD (dBm/3kHz) | 10 log (N=3) dB | Total PSD (dBm/3kHz) | Limit (dBm/3kHz) | PASS /FAIL |
|----------|---------|-------------|----------------|-----------------|----------------------|------------------|------------|
| 0 | 149 | 5745 | -12.39 | 4.77 | -7.62 | 7.29 | PASS |
| | 157 | 5785 | -8.11 | 4.77 | -3.34 | 7.29 | PASS |
| | 165 | 5825 | -11.81 | 4.77 | -7.04 | 7.29 | PASS |
| 1 | 149 | 5745 | -11.18 | 4.77 | -6.41 | 7.29 | PASS |
| | 157 | 5785 | -10.34 | 4.77 | -5.57 | 7.29 | PASS |
| | 165 | 5825 | -11.06 | 4.77 | -6.29 | 7.29 | PASS |
| 2 | 149 | 5745 | -11.50 | 4.77 | -6.73 | 7.29 | PASS |
| | 157 | 5785 | -10.51 | 4.77 | -5.74 | 7.29 | PASS |
| | 165 | 5825 | -11.39 | 4.77 | -6.62 | 7.29 | PASS |

The directional gain is 6.71dBi, therefore the limit needs to reduce.

802.11n (HT40)

| TX chain | Channel | FREQ. (MHz) | PSD (dBm/3kHz) | 10 log (N=3) dB | Total PSD (dBm/3kHz) | Limit (dBm/3kHz) | PASS /FAIL |
|----------|---------|-------------|----------------|-----------------|----------------------|------------------|------------|
| 0 | 151 | 5755 | -15.71 | 4.77 | -10.94 | 7.29 | PASS |
| | 159 | 5795 | -11.39 | 4.77 | -6.62 | 7.29 | PASS |
| 1 | 151 | 5755 | -10.22 | 4.77 | -5.45 | 7.29 | PASS |
| | 159 | 5795 | -8.19 | 4.77 | -3.42 | 7.29 | PASS |
| 2 | 151 | 5755 | -16.83 | 4.77 | -12.06 | 7.29 | PASS |
| | 159 | 5795 | -12.53 | 4.77 | -7.76 | 7.29 | PASS |

The directional gain is 6.71dBi, therefore the limit needs to reduce.



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5.6 CONDUCTED OUT-BAND EMISSION MEASUREMENT

5.6.1 LIMITS OF CONDUCTED OUT-BAND EMISSION MEASUREMENT

Below 20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).

5.6.2 TEST INSTRUMENTS

| DESCRIPTION & MANUFACTURER | MODEL NO. | SERIAL NO. | CALIBRATED DATE | CALIBRATED UNTIL |
|----------------------------|-----------|------------|-----------------|------------------|
| R&S Spectrum Analyzer | FSP40 | 100036 | May 09, 2012 | May 08, 2013 |

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. Tested date : Dec. 13, 2012

5.6.3 TEST PROCEDURE

Measurement Procedure - Reference Level

1. Set the RBW = 100 kHz.
2. Set the VBW \geq 300 kHz.
3. Detector = peak.
4. Sweep time = auto couple.
5. Trace mode = max hold.
6. Allow trace to fully stabilize.
7. Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

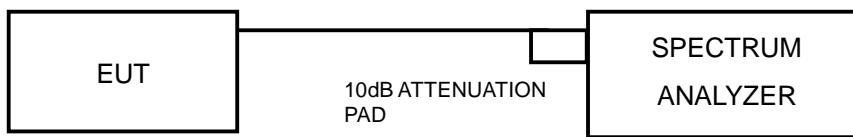
Measurement Procedure - Reference Level

1. Set RBW = 100 kHz.
2. Set VBW \geq 300 kHz.
3. Set span to encompass the spectrum to be examined
4. Detector = peak.
5. Trace Mode = max hold.
6. Sweep = auto couple.

5.6.4 DEVIATION FROM TEST STANDARD

No deviation

5.6.5 TEST SETUP



5.6.6 EUT OPERATING CONDITION

Same as Item 4.3.6

5.6.7 TEST RESULTS

The spectrum plots are attached on the following pages. D1 line indicates the highest level, and D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

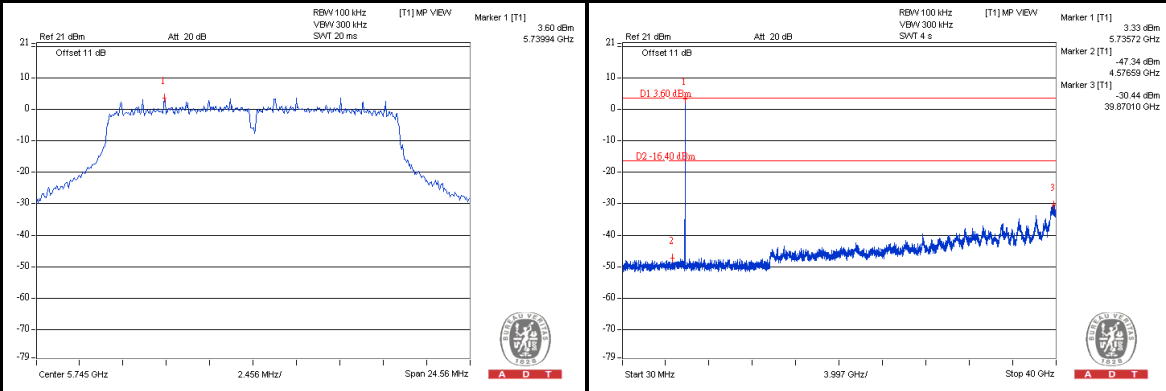


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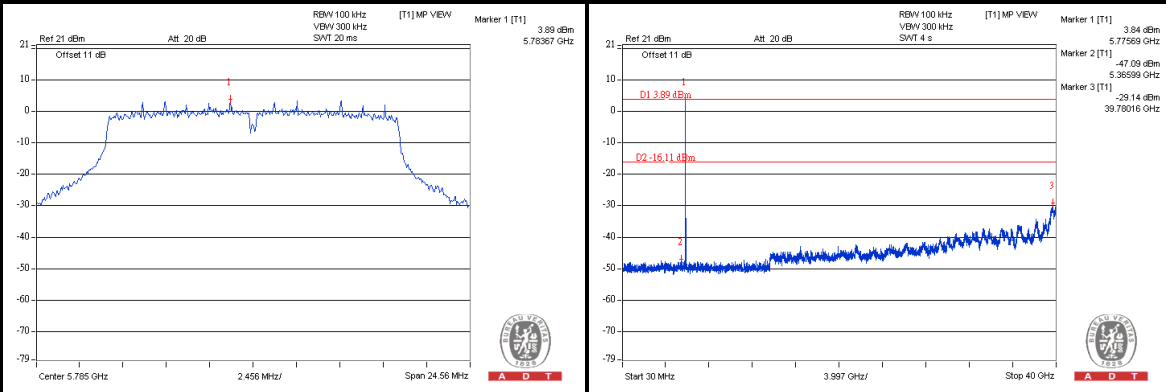
802.11a

Chain 0

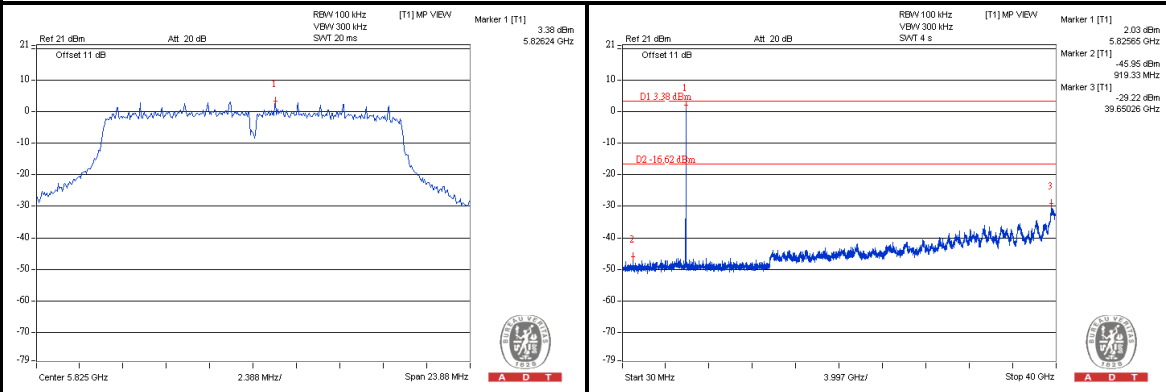
CH 149



CH 157



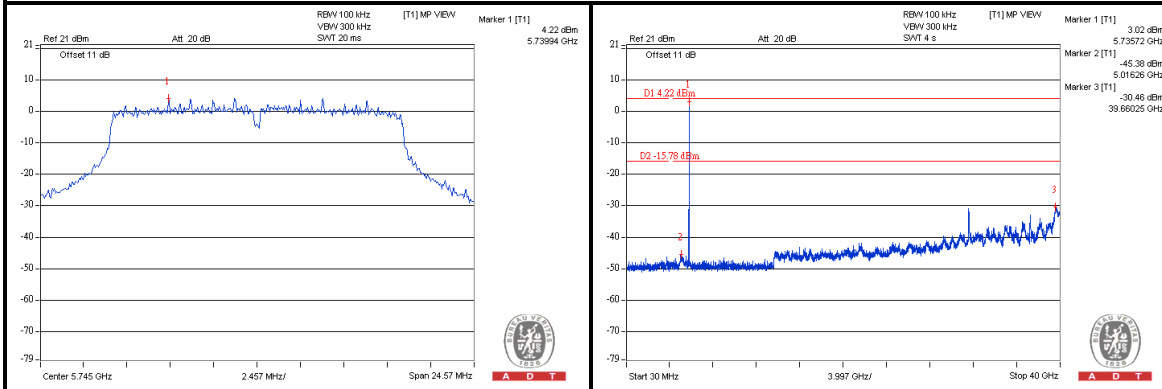
CH 165



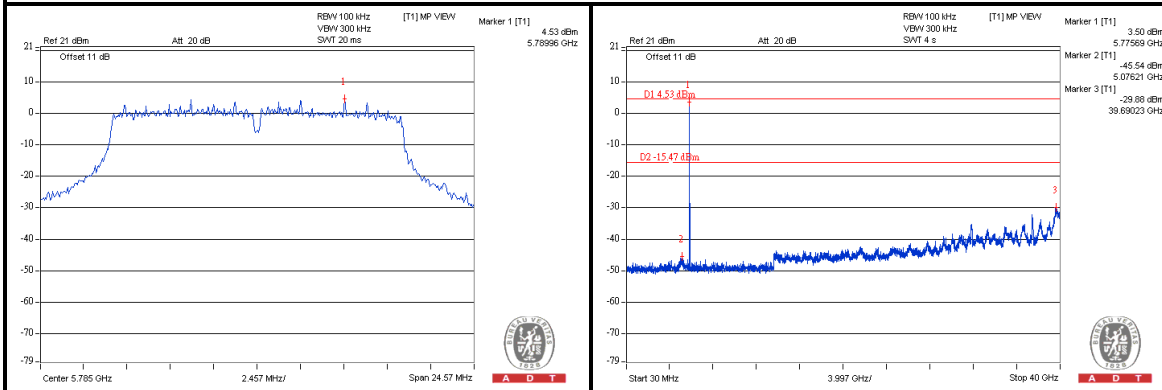


A D T

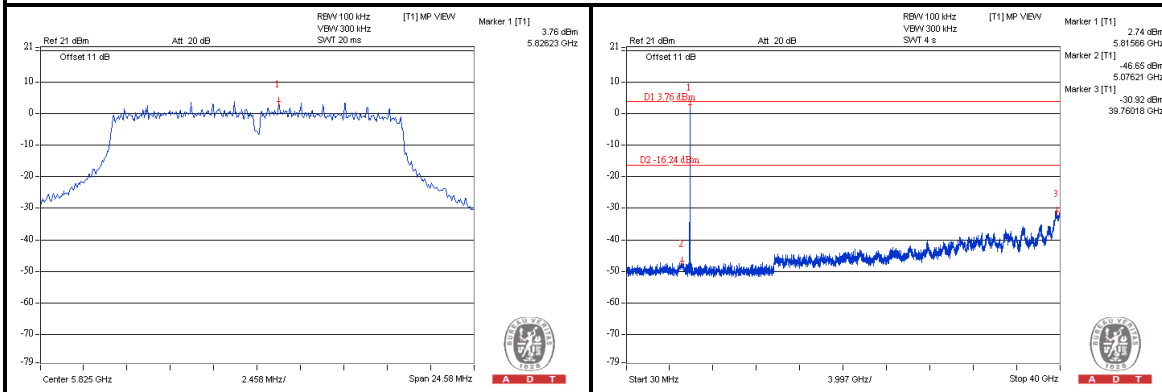
Chain 1 CH 149



CH 157



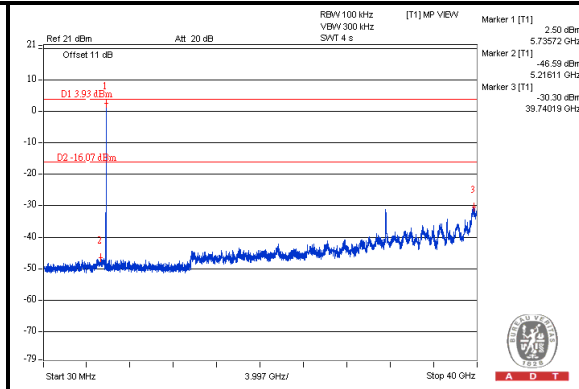
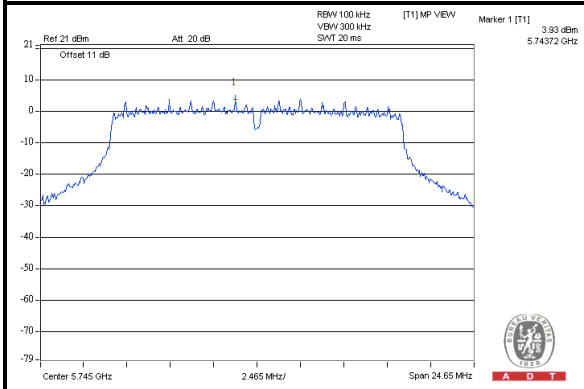
CH 165



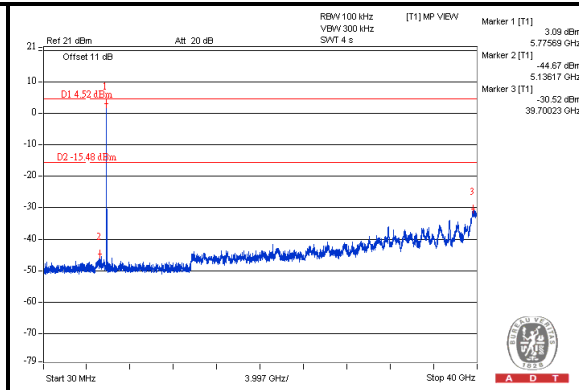
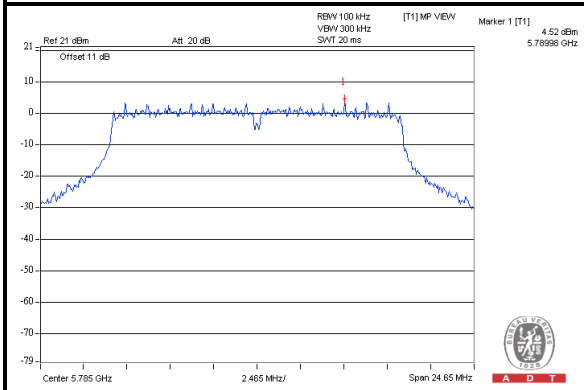


A D T

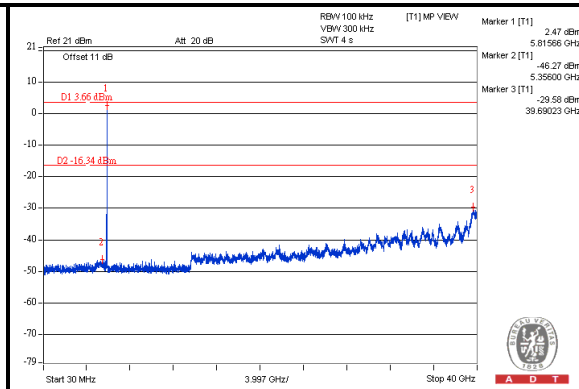
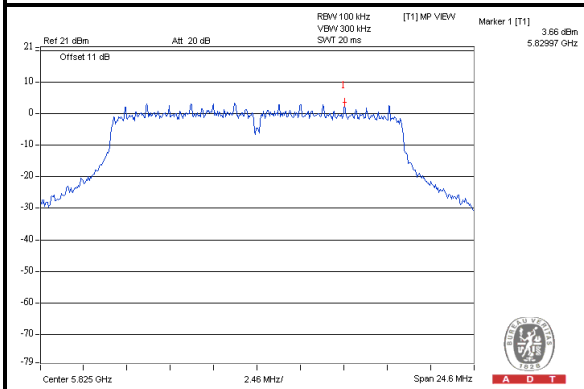
Chain 2 CH 149



CH 157



CH 165



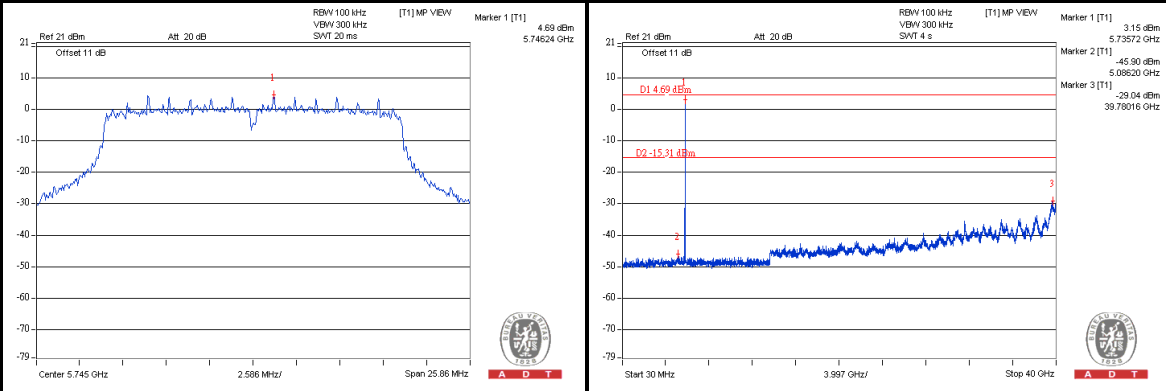


A D T

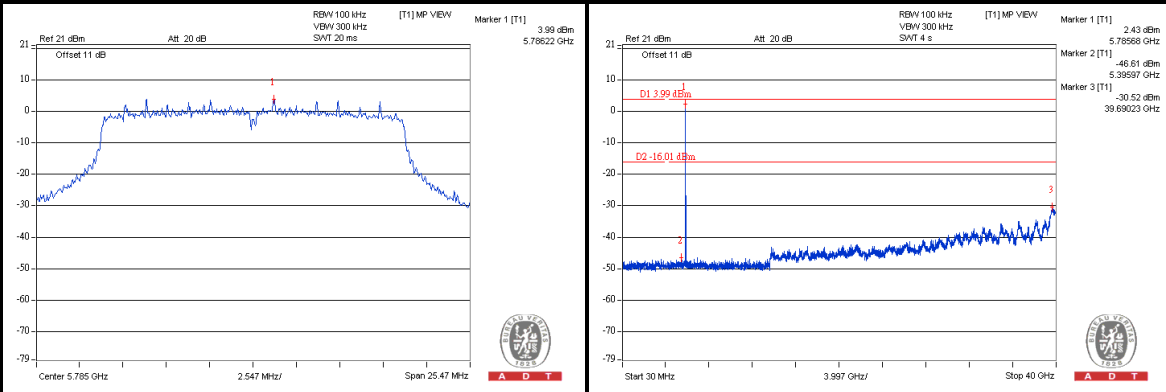
802.11n (HT20)

Chain 0

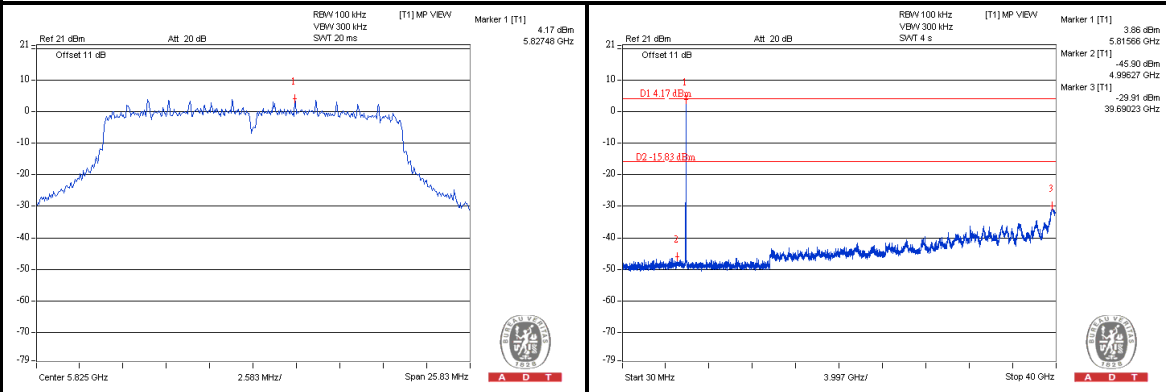
CH 149



CH 157



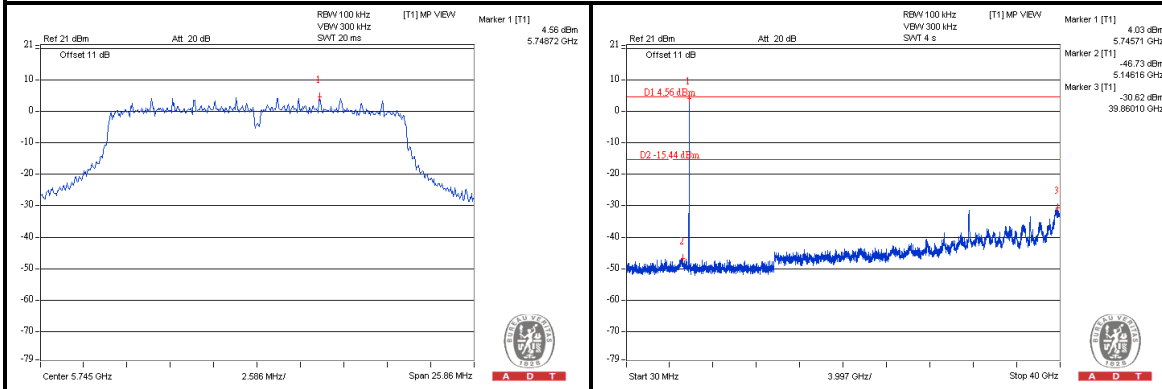
CH 165



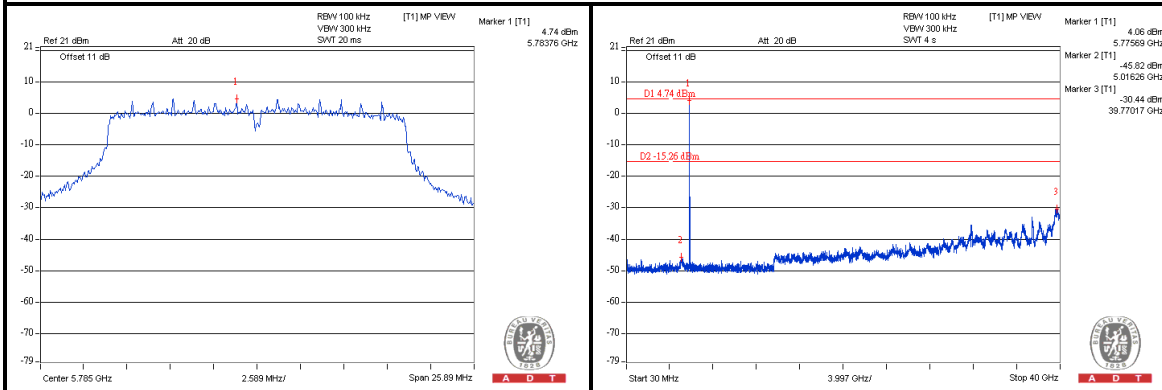


A D T

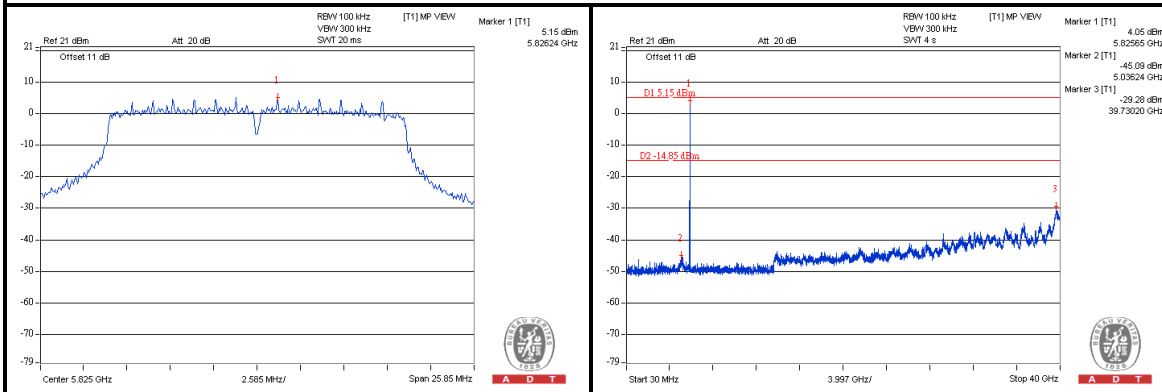
Chain 1 CH 149



CH 157



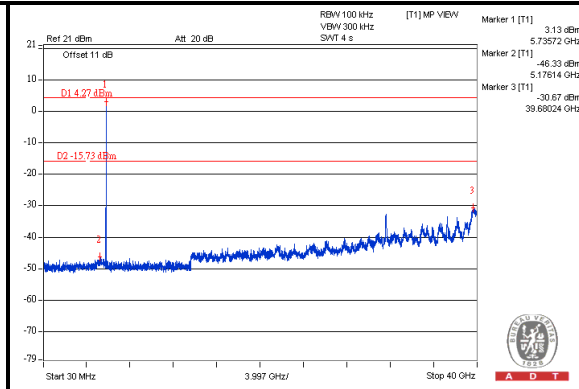
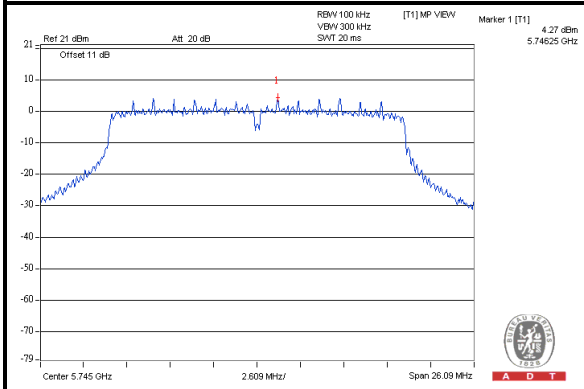
CH 165



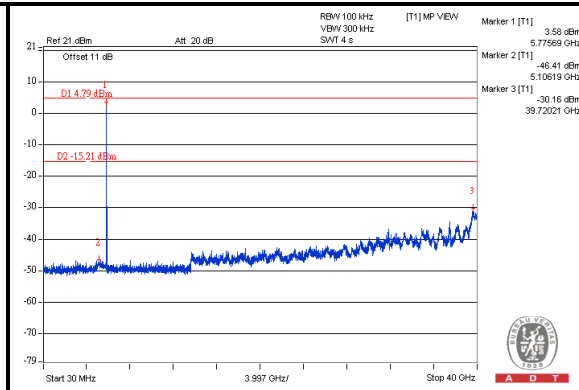
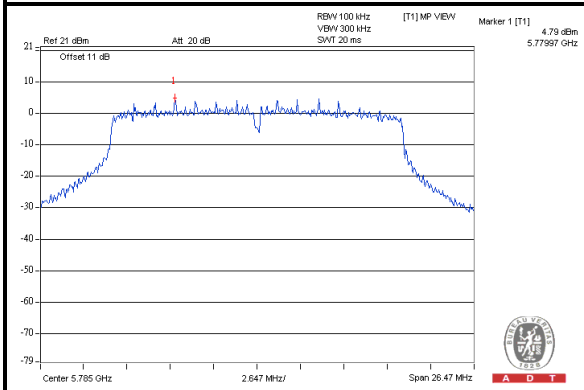


A D T

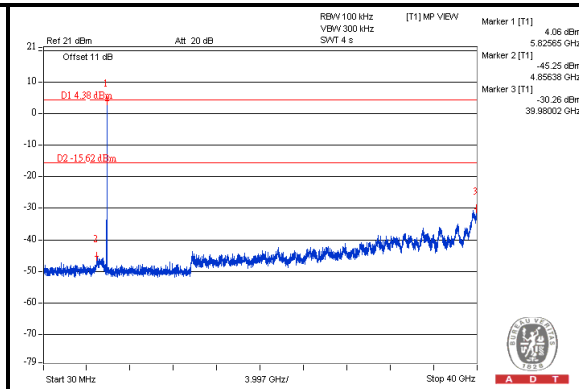
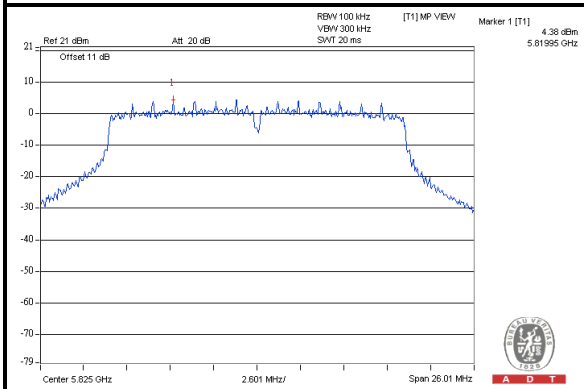
Chain 2 CH 149



CH 157



CH 165



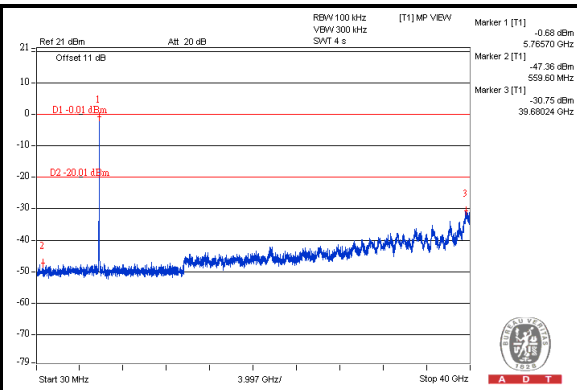
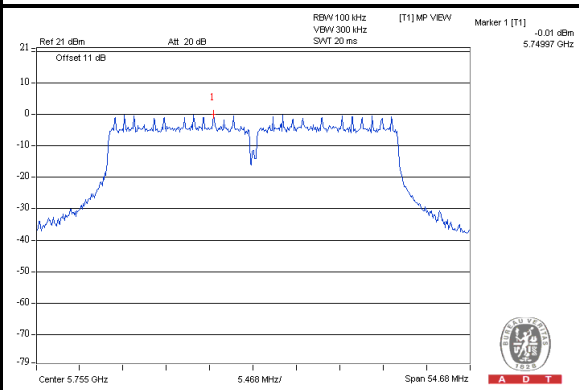


A D T

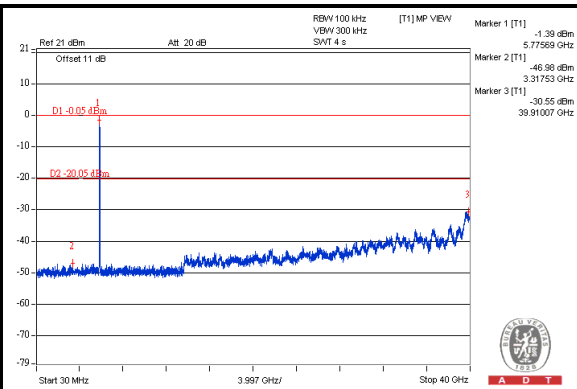
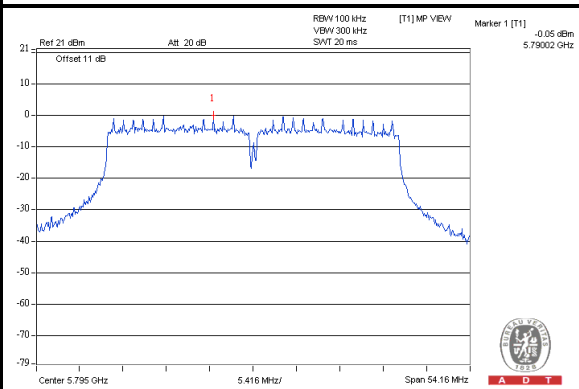
802.11n (HT40)

Chain 0

CH 151

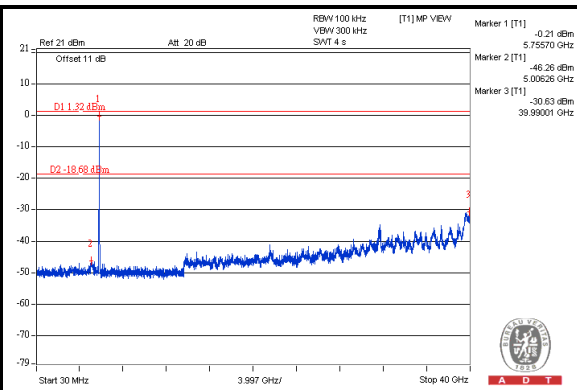
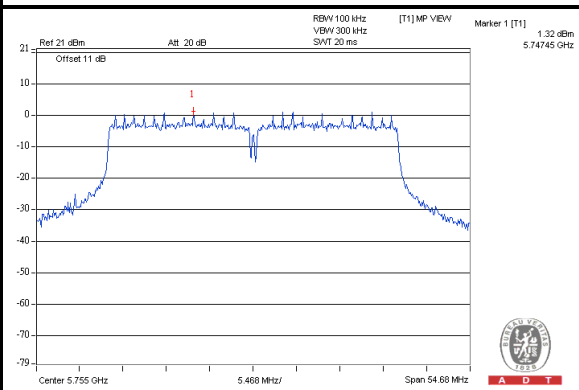


CH 159



Chain 1

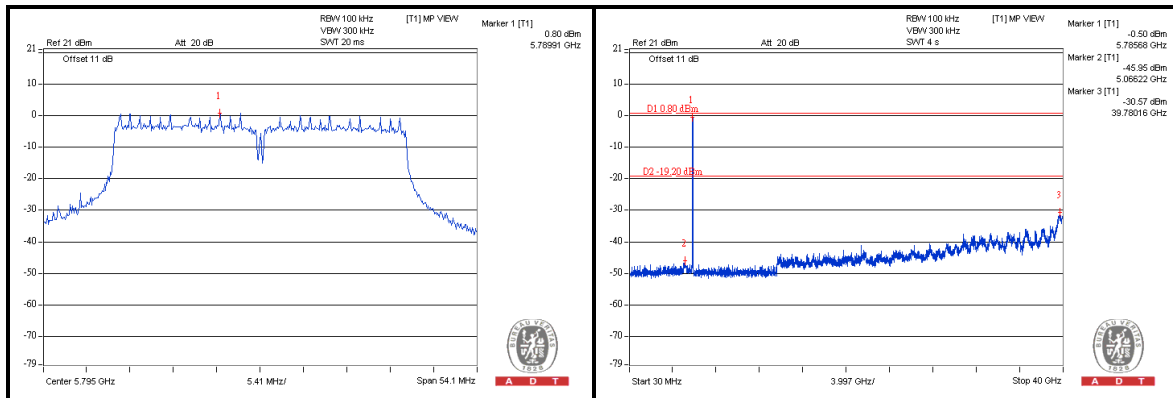
CH 151



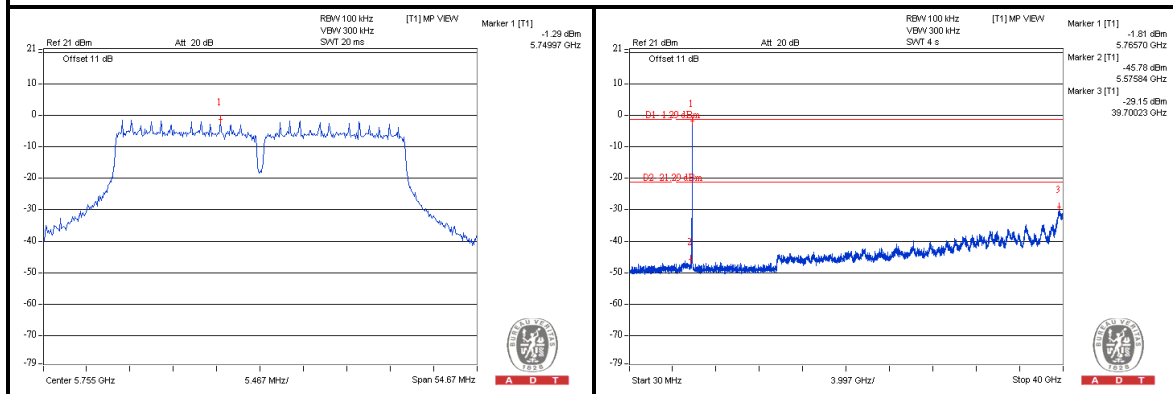
CH 159



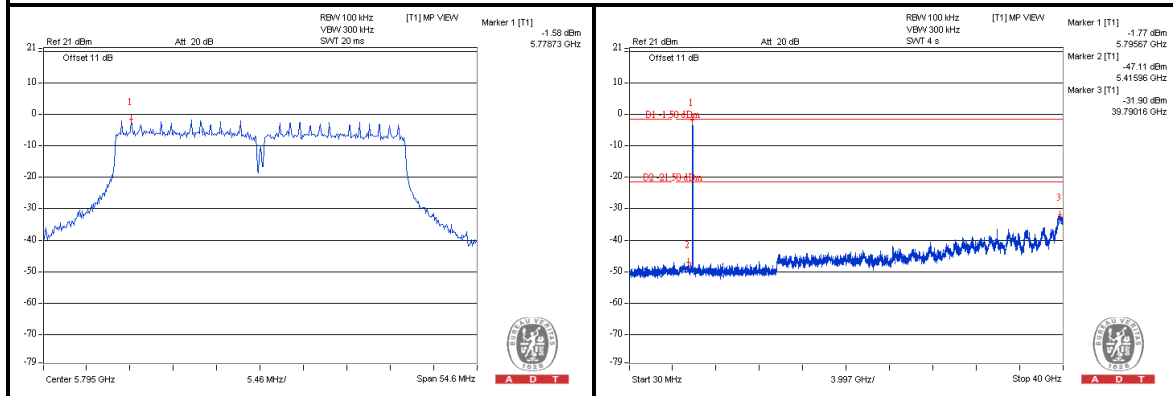
A D T



Chain 2 CH 151



CH 159





A D T

6. PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).





7. INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.



A D T

8. APPENDIX A - MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

--- END ---