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TEST REPORT

Report Number: 17120263HKG-001

Application for Original Grant of 47 CFR Part 15 Certification

Single New of RSS-247 Issue 2 Equipment

FCC ID: OTM-8455118-24GRX

IC: 20978-845511824R

Prepared and Checked by:	Approved by:
Signed On File Tam Chu Kwong, Bismarck Assistant Engineer	Digitally signed by Kenneth Wong Location: Intertek Testing Services Hong Kong Ltd. Wong Kwok Yeung, Kenneth Senior Lead Engineer Date: April 16, 2018

TEST REPORT

GENERAL INFORMATION

Applicant Name:	Kidztech Toys Manufacturing Ltd.
Applicant Address:	Rm 1201, 12/F., Inter-Continental Plaza, 94 Granville Road, Tsim Sha Tsui East, Kowloon, Hong Kong.
FCC Specification Standard:	FCC Part 15, October 1, 2016 Edition
FCC ID:	OTM-8455118-24GRX
FCC Model(s):	84551, 84552
IC Specification Standard:	RSS-247 Issue 2, February 2017 RSS-Gen Issue 4, November 2014
IC:	20978-845511824R
PMN:	845511824R
HVIN:	845511824R
Type of EUT:	Spread Spectrum Transmitter
Description of EUT:	R/C Max Drive
Serial Number:	N/A
Sample Receipt Date:	December 08, 2017
Date of Test:	December 08, 2017 to February 28, 2018
Report Date:	April 16, 2018
Environmental Conditions:	Temperature: +10 to 40°C Humidity: 10 to 90%

TEST REPORT

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TEST REPORT

1.0 TEST RESULTS SUMMARY & STATEMENT OF COMPLIANCE

1.1 Summary of Test Results

Test Items	FCC Part 15 Section	RSS-247/ RSS-Gen# Section	Results	Details See Section
Antenna Requirement	15.203	7.1.2#	Pass	2.1
Max. Conducted Output Power (Peak)	15.247(b)(3)&(4)	5.4(4)	Pass	4.1
Min. 6dB RF Bandwidth	15.247(a)(2)	5.2(1)	Pass	4.2
Max. Power Density (average)	15.247(e)	5.2(2)	Pass	4.3
Out of Band Antenna Conducted Emission	15.247(d)	5.5	Pass	4.4
Radiated Emission in Restricted Bands and Spurious Emissions	15.247(d), 15.209 & 15.109	5.5	Pass	4.6
AC Power Line Conducted Emission	15.207 & 15.107	7.2.4#	N/A	4.8

Note: Pursuant to FCC Part 15 Section 15.215(c), the 20dB bandwidth of the emission was contained within the frequency band designated (mentioned as above) which the EUT operated. The effects, if any, from frequency sweeping, frequency hopping, other modulation techniques and frequency stability over expected variations in temperature and supply voltage were considered.

1.2 Statement of Compliance

The equipment under test is found to be complying with the following standard:

FCC Part 15, October 1, 2016 Edition
RSS-247 Issue 2, February 2017
RSS-Gen Issue 4, November 2014

TEST REPORT

2.0 GENERAL DESCRIPTION

2.1 Product Description

The Equipment-Under-Test (EUT) is a R/C Max Drive (e.g. Car) controlled by the corresponding controller. The EUT can be controlled forward or backward, turned left or right based on the switch pressed on the controlled. For the moving part, the car is a 2.4GHz pure receiver.

Besides, the EUT contains a WIFI (g) module only. The EUT is powered by a DC 6.4V rechargeable battery. The WIFI module is for the video streaming or transfer between the EUT and the mobile device. The Equipment Under Test (EUT) operates at frequency range of 2412MHz to 2462MHz with 11 channels.

For 802.11g mode, it operates at frequency range of 2412.000MHz to 2462.000MHz with 11 channels. It transmits via Orthogonal Frequency Division Multiplexing (OFDM) modulation. Maximum bit rate can be up to 54Mbps.

The EUT is power by a 6.4V rechargeable battery.

The antenna(s) used in the EUT is integral

For FCC, the Model(s): 84552 is the same as the Model: 84551 in electronics/electrical designs including software & firmware, PCB layout and construction design/physical design/enclosure. The only differences between these models are non-conductive outer casing to be sold for marketing purpose.

The circuit description is saved with filename: descri.pdf.

TEST REPORT

2.2 Test Methodology

Radiated emission measurements were performed according to the procedures in ANSI C63.10 (2013). Preliminary radiated scans and all radiated measurements were performed in radiated emission test sites. All Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section**" of this Application. Antenna port conducted measurements were performed according to ANSI C63.10 (2013) and KDB Publication No.558074 D01 v04 (05-April-2017) All other measurements were made in accordance with the procedures in 47 CFR Part 2 and RSS-Gen Issue 4 (2014).

2.3 Test Facility

The radiated emission test site facility used to collect the radiated data and conductive data are at Workshop No. 3, G/F., World-Wide Industrial Centre, 43-47 Shan Mei Street, Fo Tan, Sha Tin, N.T., Hong Kong. This test facility and site measurement data have been fully placed on file with the FCC and Industry Canada No.: 2042V-1.

2.4 Related Submittal(s) Grants

The Certification procedure of the transceiver (Controller) for this car set (with FCC ID: **OTM-8455118-24GTX**) is being processed as the same time of this application.

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3.0 SYSTEM TEST CONFIGURATION

3.1 Justification

For radiated emissions testing, the equipment under test (EUT) was setup to transmit / receive continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, all cables (if any) were manipulated to produce worst case emissions.

The EUT was powered by a 6.4V rechargeable battery.

For the measurements, the EUT was attached to a plastic stand if necessary and placed on the wooden turntable. If the base unit attached to peripherals, they were connected and operational (as typical as possible).

The signal was maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization were varied during the search for maximum signal level. The antenna height was varied from 1 to 4 meters. Radiated emissions were taken at three meters unless the signal level was too low for measurement at that distance. If necessary, a pre-amplifier was used and/or the test was conducted at a closer distance.

For any intentional radiator powered by AC power line, measurements of the radiated signal level of the fundamental frequency component of the emission was performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage.

Radiated emission measurement for transmitter were performed from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

Emission that are directly caused by digital circuits in the transmit path and transmitter portion were measured, and the limit are according to FCC Part 15 Section 15.209 / RSS-247 2.5. Digital circuitries used to control additional functions other than the operation of the transmitter are subject to FCC Part 15 Section 15.109 / RSS-247 Section 5.5 Limits.

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3.1 Justification – Cont'd

Detector function for radiated emissions was in peak mode. Average readings, when required, were taken by measuring the duty cycle of the equipment under test and subtracting the corresponding amount in dB from the measured peak readings. A detailed description for the calculation of the average factor can be found in section 4.8.3.

Determination of pulse desensitization was made according to *Hewlett Packard Application Note 150-2, Spectrum Analysis... Pulsed RF.* The effective period (Teff) was referred to Exhibit 4.8.3. With the resolution bandwidth 1MHz and spectrum analyzer IF bandwidth 3dB, the pulse desensitization factor was 0dB.

For AC line conducted emission test, the EUT along with its peripherals were placed on a 1.0m(W)x1.5m(L) and 0.8m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane. The EUT was connected to power mains through a line impedance stabilization network (LISN), which provided 50ohm coupling impedance for measuring instrument. The LISN housing, measuring instrument case, reference ground plane, and vertical ground plane were bounded together. The excess power cable between the EUT and the LISN was bundled.

All connecting cables of EUT and peripherals were manipulated to find the maximum emission.

Different data rates have been tested. Worst case is reported only.

All relevant operation modes have been tested, and the worst case data is included in this report.

All data rates were tested under normal mode of WiFi. Only the worst-case data is shown in the report for DSSS and OFDM

3.2 EUT Exercising Software

The EUT exercise program (if any) used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use.

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3.3 Details of EUT and Description of Accessories

Description of Accessories:

There are no accessories for compliance of this product.

3.4 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of test at a level of confidence of 95% has been considered. The values of the Measurement uncertainty for radiated emission test and RF conducted measurement test are ± 5.3dB and ±0.99dB respectively. The value of the Measurement uncertainty for conducted emission test is ±4.2dB.

Uncertainty and Compliance - Unless the standard specifically states that measured values are to be extended by the measurement uncertainty in determining compliance, all compliance determinations are based on the actual measured value.

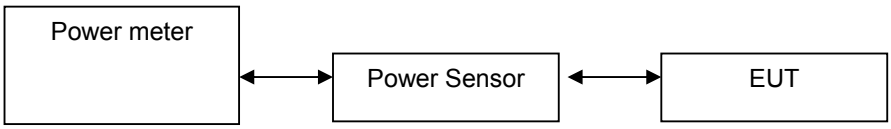
TEST REPORT

4.0 TEST RESULTS

4.1 Maximum Conducted (peak) Output Power at Antenna Terminals

RF Conduct Measurement Test Setup

The figure below shows the test setup, which is utilized to make these measurements.



The antenna port of the EUT was connected to the input of a spectrum analyzer.

☒ The antenna power of the EUT was connected to the input of a power meter. Power was read directly and cable loss correction was added to the reading to the obtain power at the EUT antenna terminals. The measurement procedure 9.1.2 is used

☐ The EUT should be configured to transmit continuously (at a minimum duty cycle of 98%) at full power over the measurement duration. The measurement procedure AVG1 was used.

IEEE 802.11g (DSSS, 1 Mbps) Antenna Gain = 0 dBi

Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2412	23.25	211.3
Middle Channel: 2437	23.68	233.3
High Channel: 2462	23.87	243.8

Cable loss : 0.5 dB External Attenuation : 0 dB

Cable loss, external attenuation: ☒ included in OFFSET function
☐ added to SA raw reading

IEEE 802.11g (DSSS, 1 Mbps)
max. conducted (peak) output level = 23.87 dBm

Limits:
☒ 1W (30dBm) for antennas with gains of 6dBi or less

☐ ___W (___dBm) for antennas with gains more than 6dBi

The plots of conducted output power are saved as below.

TEST REPORT

4.2 Minimum 6dB RF Bandwidth

The antenna port of the EUT was connected to the input of a spectrum analyzer. The EBW measurement procedure was used. A PEAK output reading was taken, a DISPLAY line was drawn 6dB lower than PEAK level. The 6dB bandwidth was determined from where the channel output spectrum intersected the display line.

IEEE 802.11g (DSSS, 1 Mbps)

Frequency (MHz)	6dB Bandwidth (MHz)
Low Channel: 2412	16.56
Middle Channel: 2437	16.56
High Channel: 2462	16.56

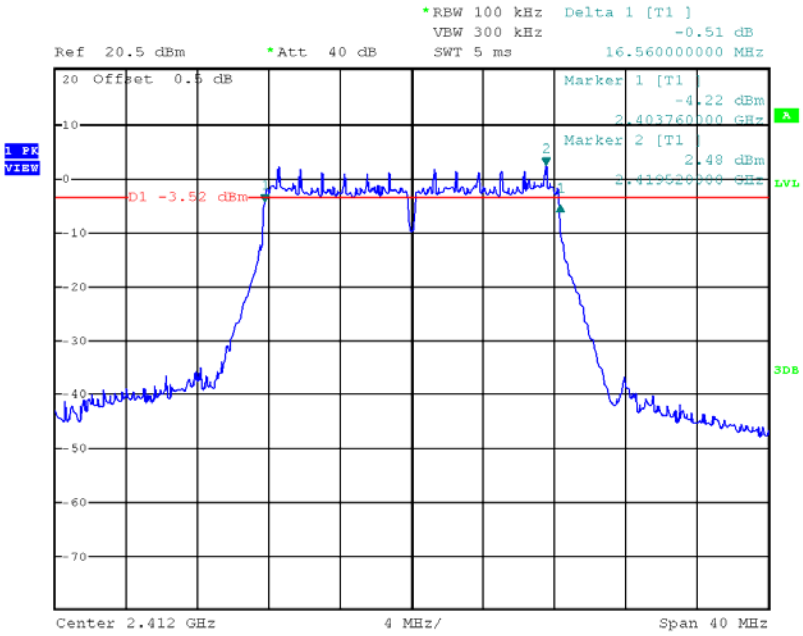
Limits
6 dB bandwidth shall be at least 500kHz

The plots of 6dB RF bandwidth are saved as below.

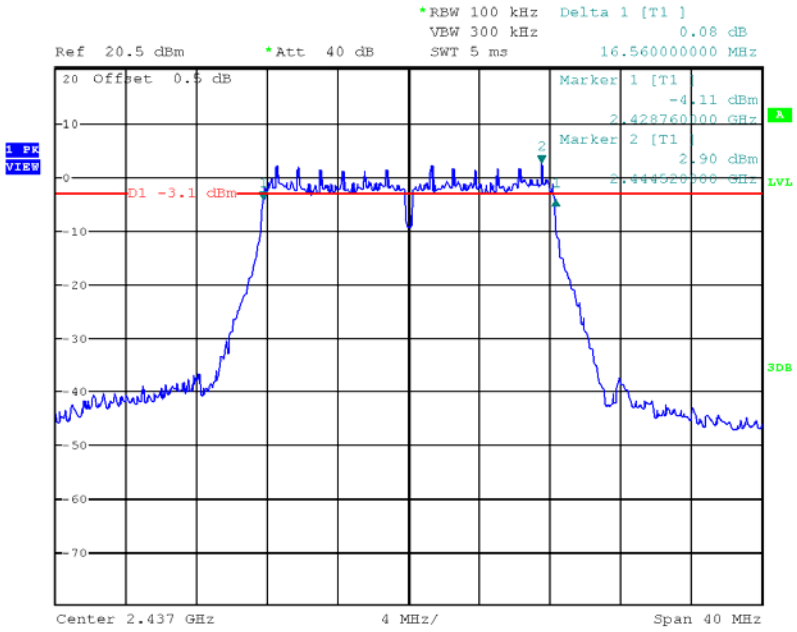
TEST REPORT

PLOTS OF 6dB RF BANDWIDTH

802.11g, Lowest Channel



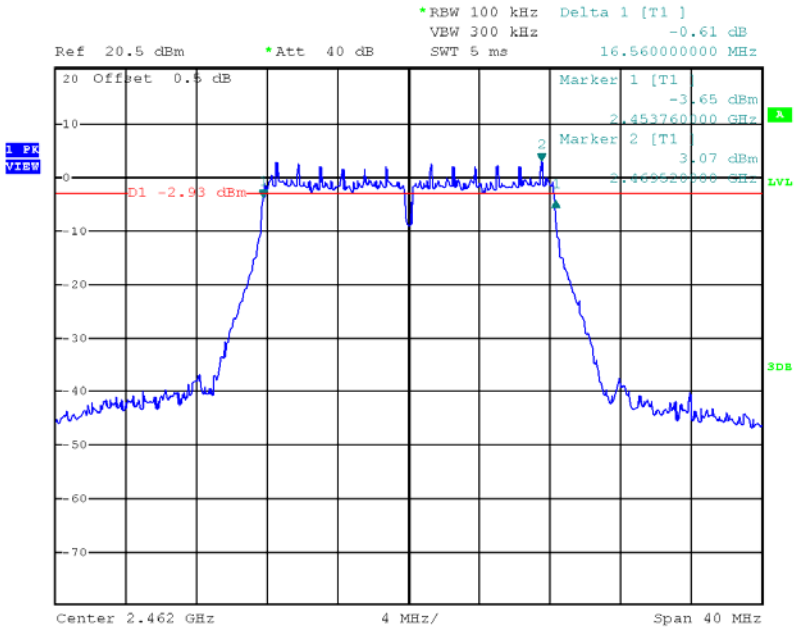
802.11g, Middle Channel



TEST REPORT

PLOTS OF 6dB RF BANDWIDTH

802.11g, Highest Channel



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4.3 Maximum Power Spectral Density

Antenna output of the EUT was coupled directly to spectrum analyzer. The measurement procedure 10.2 PKPSD was used. If an external attenuator and/or cable was used, these losses are compensated for using the OFFSET function of the analyser.

IEEE 802.11g (DSSS, 1 Mbps)

Frequency (MHz)	PSD in 100kHz (dBm)
Low Channel: 2412	2.37
Middle Channel: 2437	2.80
High Channel: 2462	3.02

Cable Loss: 0.5 dB

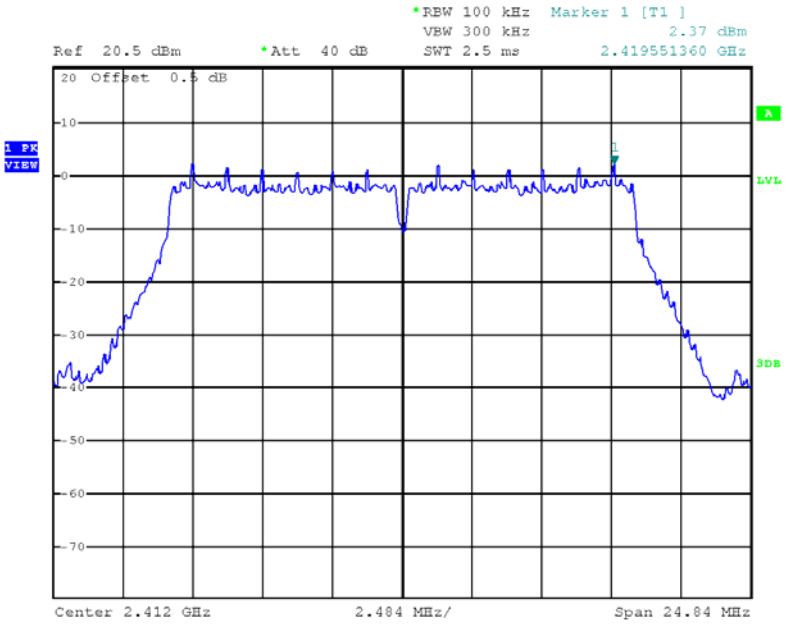
Limit:
8dBm

The plots of power spectral density are as below.

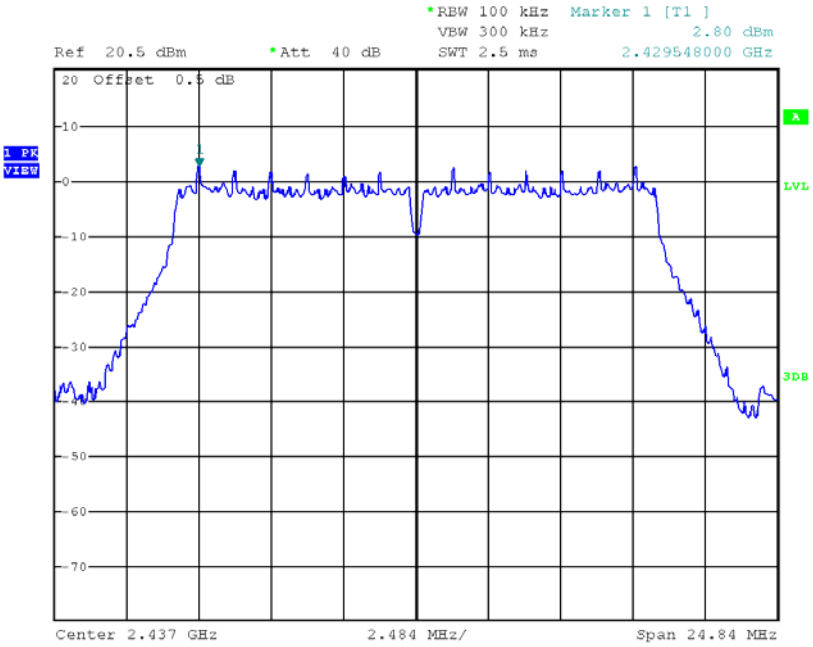
TEST REPORT

PLOTS OF POWER SPECTRAL DENSITY

802.11g, Lowest channel



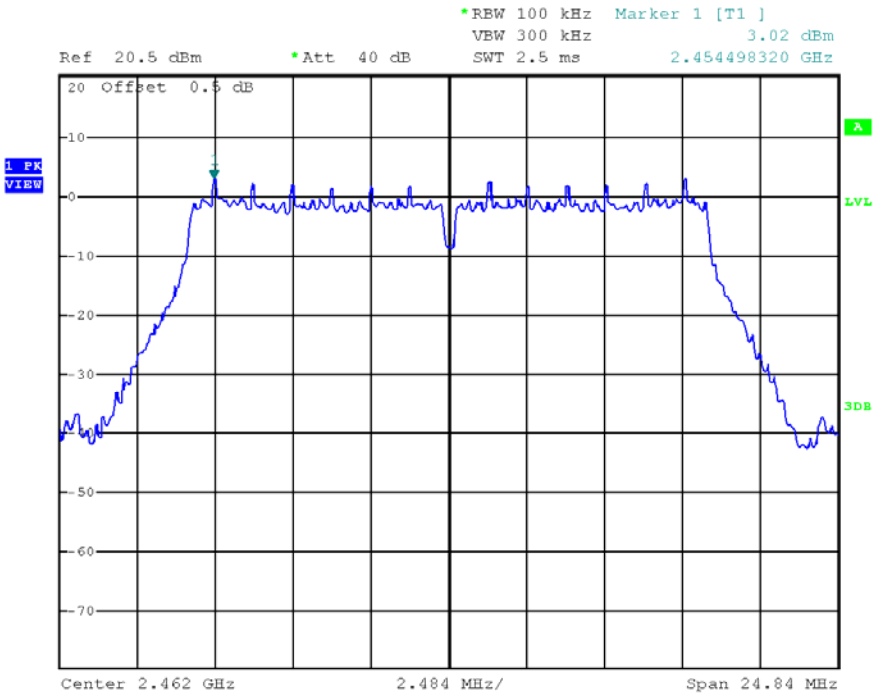
802.11g, Middle channel



TEST REPORT

PLOTS OF POWER SPECTRAL DENSITY

802.11g, Highest channel



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4.4 Out of Band Conducted Emissions

For 802.11g, the maximum conducted (peak) output power was used to demonstrate compliance as described in 9.1. Then the display line (in red) shown in the following plots denotes the limit at 20dB below maximum measured in-band peak PSD level in 100 KHz bandwidth for 802.11g.

The measurement procedures under sections 11 of KDB558074 D01 v04 (05-April-2017) were used.

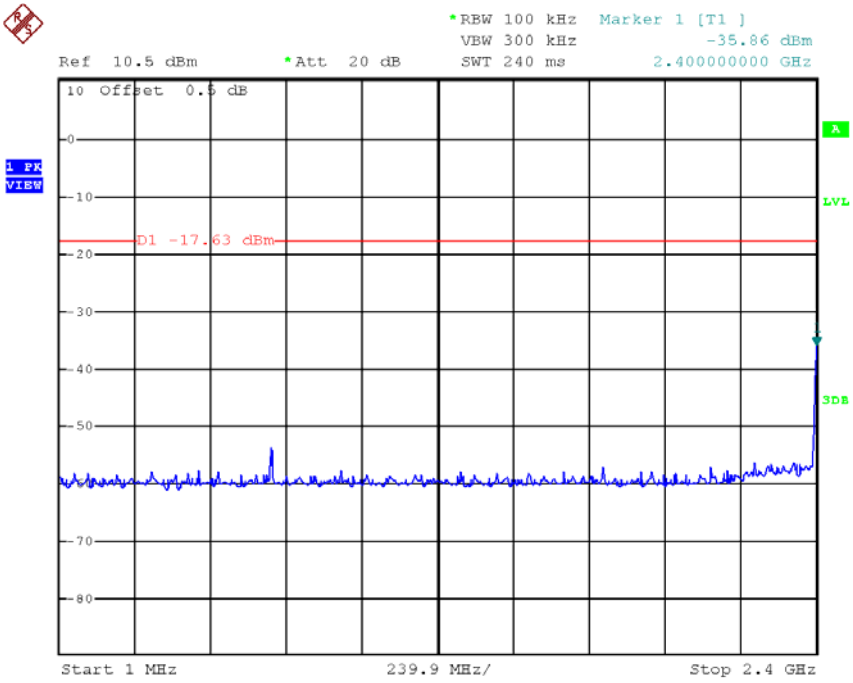
Furthermore, delta measurement technique for measuring bandedge emissions was incorporated in the test of the edge at 2483.5MHz.

Limits:
All spurious emission and up to the tenth harmonic was measured and they were found to be at least for 802.11g below the maximum measured in-band peak PSD level.

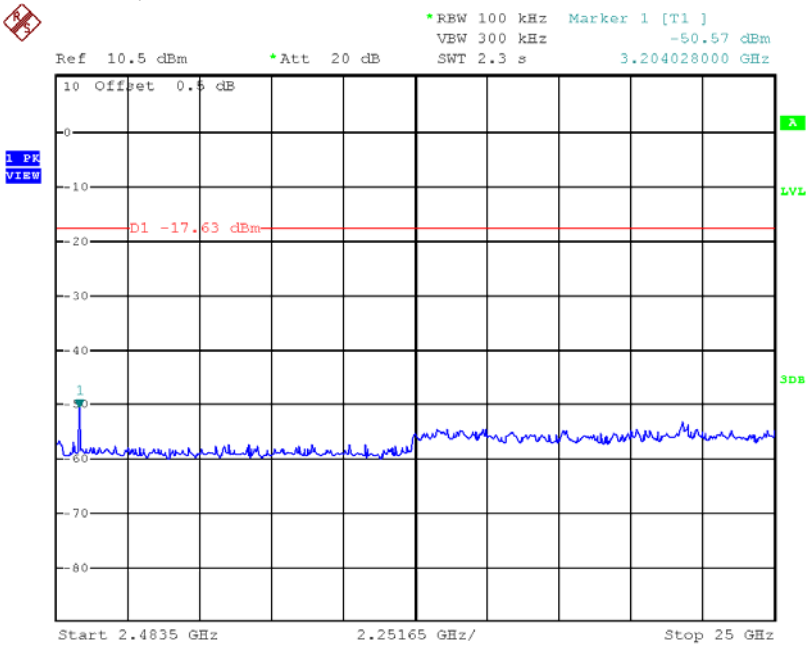
TEST REPORT

PLOTS OF OUT OF BAND CONDUCTED EMISSIONS

802.11g, Lowest Channel, Plot A



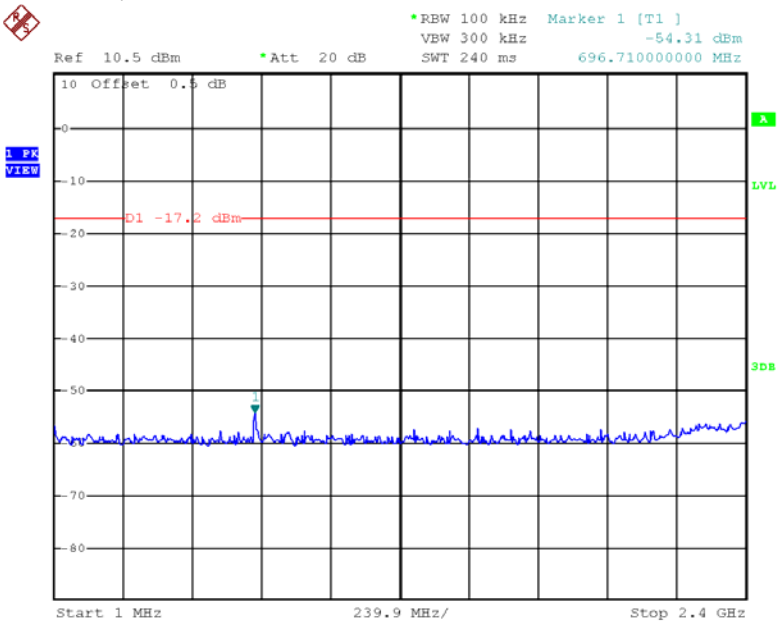
802.11g, Lowest Channel, Plot B



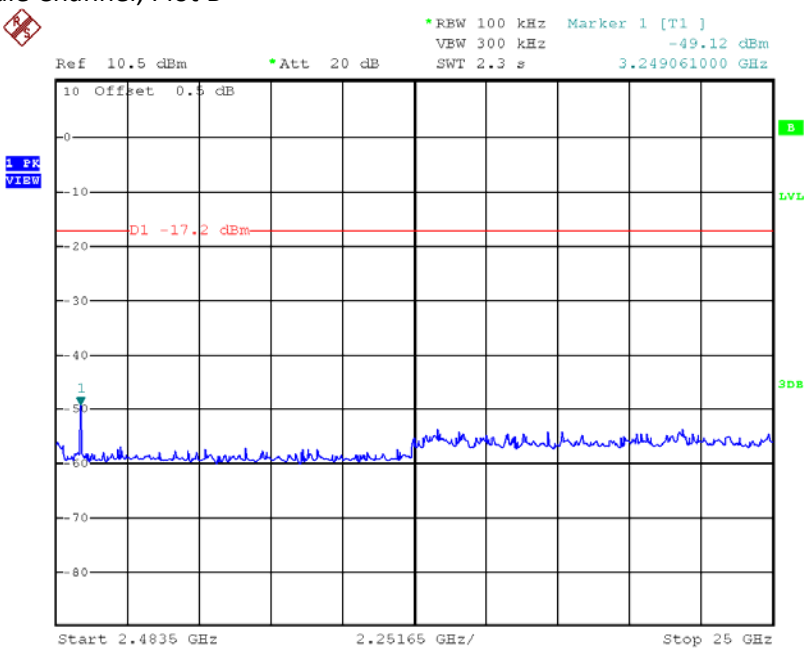
TEST REPORT

PLOTS OF OUT OF BAND CONDUCTED EMISSIONS

802.11g, Middle Channel, Plot A



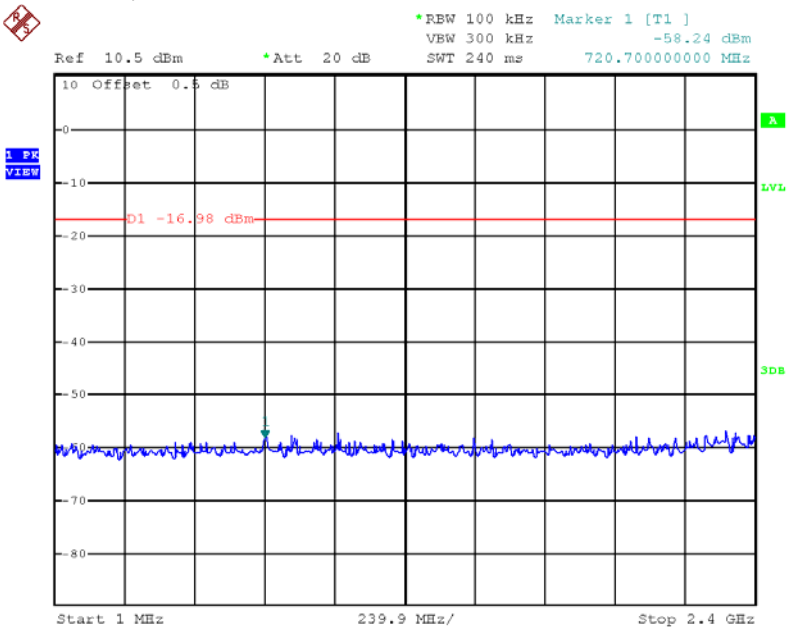
802.11g, Middle Channel, Plot B



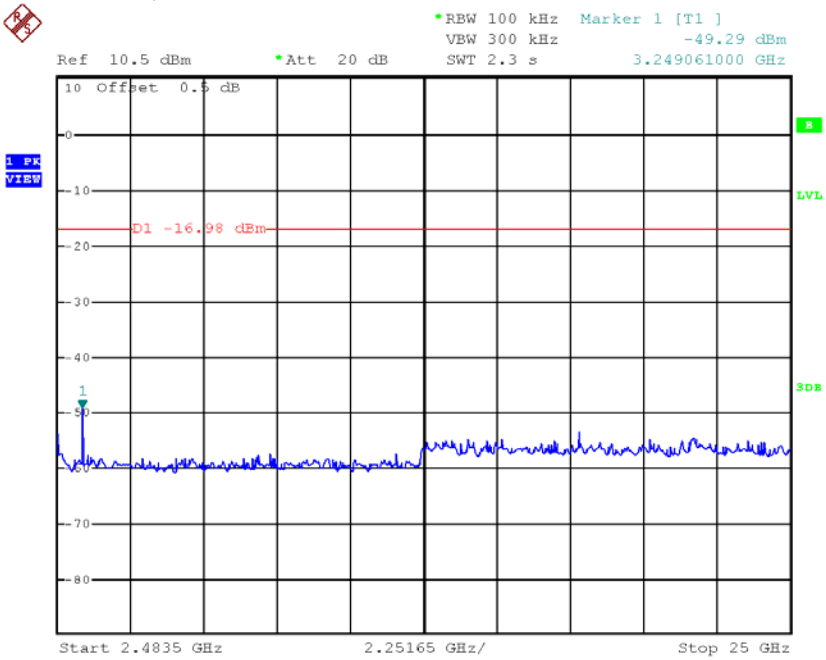
TEST REPORT

PLOTS OF OUT OF BAND CONDUCTED EMISSIONS

802.11g, Highest Channel, Plot A



802.11g, Highest Channel, Plot B



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4.5 Field Strength Calculation

The field strength is calculated by adding the reading on the Spectrum Analyzer to the factors associated with preamplifiers (if any), antennas, cables, pulse desensitization and average factors (when specified limit is in average and measurements are made with peak detectors). A sample calculation is included below.

FS = RA + AF + CF - AG + PD + AV

Where FS = Field Strength in dBμV/m
RA = Receiver Amplitude (including preamplifier) in dBμV
CF = Cable Attenuation Factor in dB
AF = Antenna Factor in dB
AG = Amplifier Gain in dB
PD = Pulse Desensitization in dB
AV = Average Factor in -dB

In the radiated emission table which follows, the reading shown on the data table may reflect the preamplifier gain. An example of the calculations, where the reading does not reflect the preamplifier gain, follows:

FS = RA + AF + CF - AG + PD + AV

Example
Assume a receiver reading of 62.0 dBμV is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29.0 dB is subtracted. The pulse desensitization factor of the spectrum analyzer is 0.0 dB, and the resultant average factor is -10.0 dB. The net field strength for comparison to the appropriate emission limit is 32.0 dBμV/m. This value in dBμV/m is converted to its corresponding level in μV/m.

RA = 62.0 dBμV
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
PD = 0.0 dB
AV = -10 dB

FS = 62.0 + 7.4 + 1.6 – 29.0 + 0.0 + (-10.0) = 32.0 dBμV/m

Level in μV/m = Common Antilogarithm [(32.0 dBμV/m)/20] = 39.8 μV/m

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4.6 Transmitter Radiated Emissions in Restricted Bands and Spurious Emissions

Data is included of the worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.

4.6.1 Radiated Emission Configuration Photograph

Worst Case Restricted Band Radiated Emission
at

2390 MHz

The worst case radiated emission configuration photographs are saved with filename: config photos.pdf

4.6.2 Radiated Emission Data

The data in tables 1-3 list the significant emission frequencies, the limit and the margin of compliance.

Judgement -

Passed by 6.2 dB margin

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RADIATED EMISSION DATA

Mode: TX-Channel 01

Table 1
IEEE 802.11g (DSSS, 1 Mbps)

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
H	***2390.000***	***50.6***	***33***	***29.4***	***47.0***	***54.0***	***-7.0***
H	***4824.000***	***26.7***	***33***	***34.9***	***28.6***	***54.0***	***-25.4***
V	***12060.000***	***29.5***	***33***	***40.5***	***37.0***	***54.0***	***-17.0***
V	***14472.000***	***32.4***	***33***	***40.0***	***39.4***	***54.0***	***-14.6***

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
H	***2390.000***	***71.4***	***33***	***29.4***	***67.8***	***74.0***	***-6.2***
H	***4824.000***	***46.2***	***33***	***34.9***	***48.1***	***74.0***	***-25.9***
V	***12060.000***	***43.0***	***33***	***40.5***	***50.5***	***74.0***	***-23.5***
V	***14472.000***	***45.3***	***33***	***40.0***	***52.3***	***74.0***	***-21.7***

NOTES:

1. Peak detector is used for the emission measurement.
2. Average detector is used for the average data of emission measurement.
3. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
4. Negative value in the margin column shows emission below limit.
5. Horn antenna is used for the emission over 1000MHz.
6. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-Gen Section 8.10.

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Mode: TX-Channel 06

Table 2
IEEE 802.11g (DSSS, 1 Mbps)

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
H	***4874.000***	***27.2***	***33***	***34.9***	***29.1***	***54.0***	***-24.9***
V	***7311.000***	***26.0***	***33***	***37.9***	***30.9***	***54.0***	***-23.1***
H	***12185.000***	***29.7***	***33***	***40.5***	***37.2***	***54.0***	***-16.8***

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
H	***4874.000***	***46.5***	***33***	***34.9***	***48.4***	***74.0***	***-25.6***
V	***7311.000***	***41.3***	***33***	***37.9***	***46.2***	***74.0***	***-27.8***
H	***12185.000***	***43.1***	***33***	***40.5***	***50.6***	***74.0***	***-23.4***

NOTES:

1. Peak detector is used for the emission measurement.
2. Average detector is used for the average data of emission measurement
3. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
4. Negative value in the margin column shows emission below limit.
5. Horn antenna is used for the emission over 1000MHz.
6. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-Gen Section 8.10.

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Mode: TX-Channel 11

Table 3
IEEE 802.11g (DSSS, 1 Mbps)

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	***2483.500***	***51.2***	***33***	***29.4***	***47.6***	***54.0***	***-6.4***
V	***4924.000***	***26.8***	***33***	***34.9***	***28.7***	***54.0***	***-25.3***
H	***7386.000***	***26.9***	***33***	***37.9***	***31.8***	***54.0***	***-22.2***
H	***12310.000***	***30.6***	***33***	***40.5***	***38.1***	***54.0***	***-15.9***

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	***2483.500***	***71.1***	***33***	***29.4***	***67.5***	***74.0***	***-6.5***
V	***4924.000***	***45.2***	***33***	***34.9***	***47.1***	***74.0***	***-26.9***
H	***7386.000***	***42.8***	***33***	***37.9***	***47.7***	***74.0***	***-26.3***
H	***12310.000***	***44.3***	***33***	***40.5***	***51.8***	***74.0***	***-22.2***

NOTES:

1. Peak detector is used for the emission measurement.
2. Average detector is used for the average data of emission measurement
3. All measurements were made at 3 meters. Radiated emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other radiated emissions than those reported were detected at a test distance of 0.3-meter.
4. Negative value in the margin column shows emission below limit.
5. Horn antenna is used for the emission over 1000MHz.
6. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-Gen Section 8.10.

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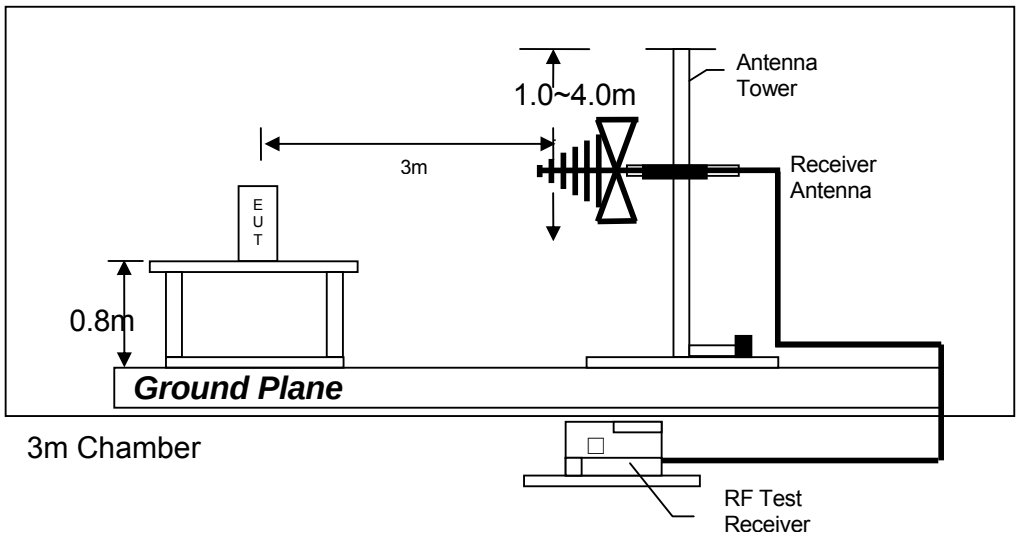
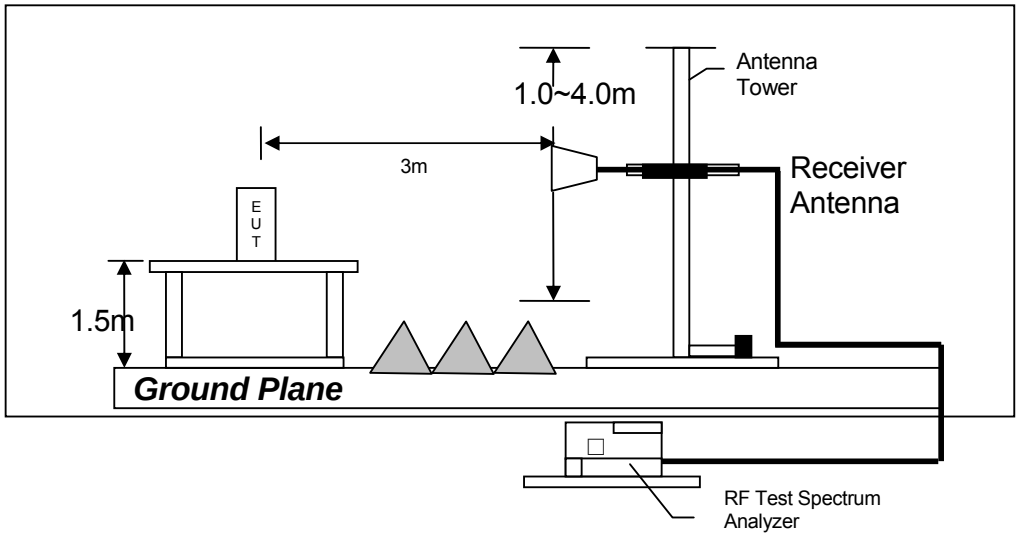
4.6.3 Radiated Emission Test Setup

The figure below shows the test setup, which is utilized to make these measurements.



Test setup of radiated emissions up to 1GHz



Test setup of radiated emissions above 1GHz

TEST REPORT

4.6.4 Transmitter Duty Cycle Calculation

Not applicable – No average factor is required.

TEST REPORT

4.7 Occupied Bandwidth

IEEE 802.11g (OFDM, 6 Mbps) Antenna Gain = 0 dBi

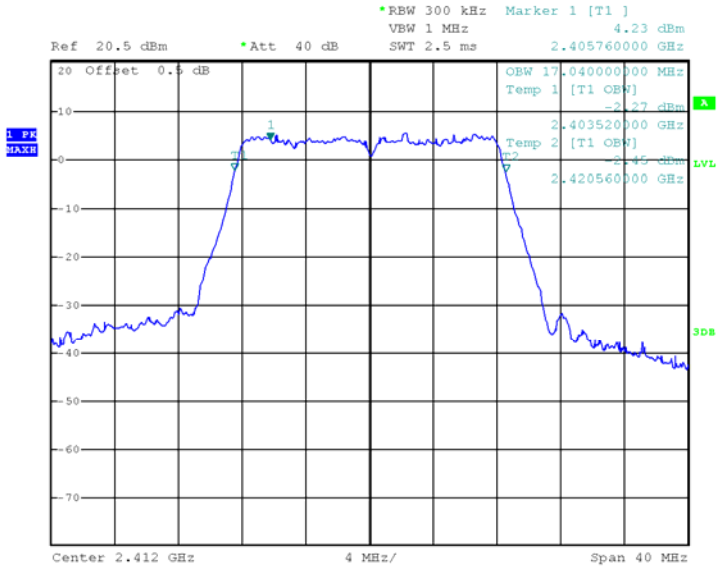
Frequency (MHz)	Occupied Bandwidth (MHz)
Low Channel: 2412	17.040
Middle Channel: 2437	17.040
High Channel: 2462	17.040

The plots of occupied bandwidth are saved as below.

TEST REPORT

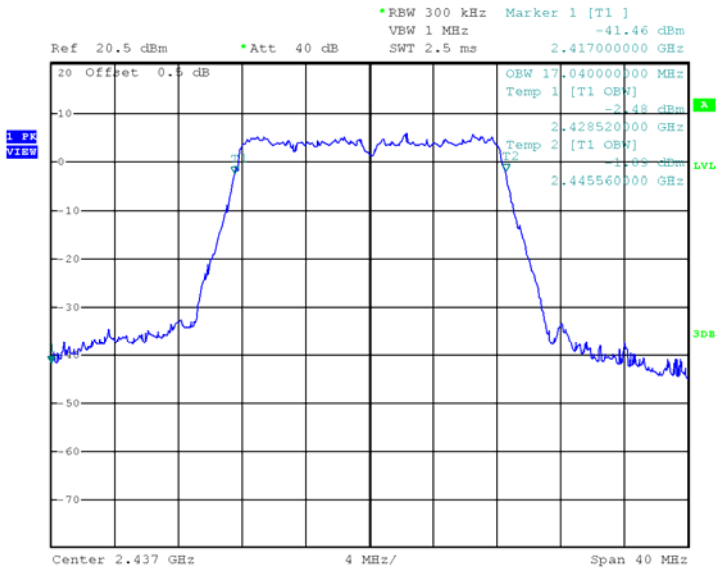
PLOTS OF OCCUPIED BANDWIDTH

802.11g, Lowest Channel



Date: 27.MAR.2018 10:08:42

802.11g, Middle Channel

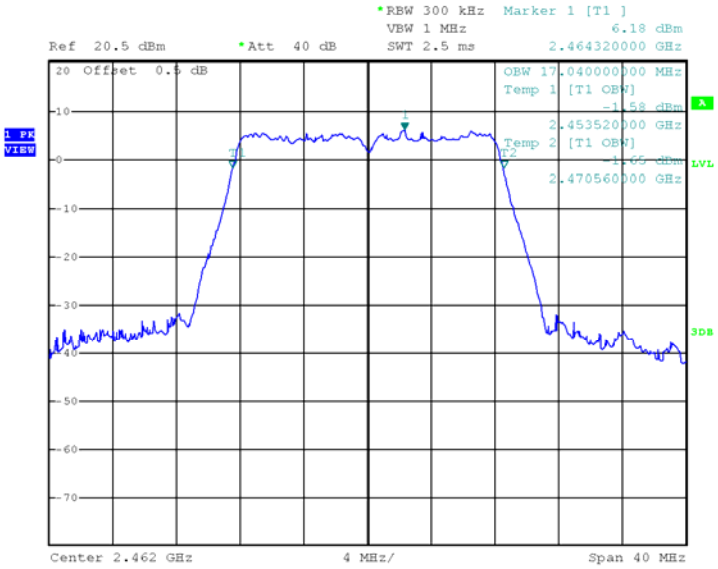


Date: 27.MAR.2018 10:10:14

TEST REPORT

PLOTS OF OCCUPIED BANDWIDTH

802.11g, Highest Channel



TEST REPORT

4.8 AC Power Line Conducted Emission

☒ Not applicable – EUT is only powered by battery for operation.

☐ EUT connects to AC power line. Emission Data is listed in following pages.

☐ Base Unit connects to AC power line and has transmission. Handset connects to AC power line but has no transmission. Emission Data of Base Unit is listed in following pages.

TEST REPORT

5.0 EQUIPMENT LIST

1) Radiated Emissions Test

Equipment	Emi Test Receiver	Spectrum Analyzer	Biconical Antenna
Registration No.	EW-3156	EW-3281	EW-2512
Manufacturer	R&S	R&S	EMCO
Model No.	ESR26	FSV40	3104C
Calibration Date	November 10, 2017	January 02, 2018	November 16, 2016
Calibration Due Date	November 10, 2018	January 02, 2019	May 16, 2018

Equipment	Log Periodic Antenna	Double Ridged Guide Antenna	14m Double Shield RF Cable (20MHz - 6GHz)
Registration No.	EW-1042	EW-1133	EW-2505
Manufacturer	EMCO	EMCO	RADIALL
Model No.	3148	3115	nm / br5d / sma 14m
Calibration Date	June 19, 2017	May 24, 2017	October 30, 2017
Calibration Due Date	December 19, 2018	November 24, 2018	October 30, 2018

Equipment	RF Cable 14m (1GHz to 26.5GHz)	Solid State Low Noise Preamplifier Assembly (1 - 18)GHz	RF Pre-amplifier 3 pcs (9kHz to 40GHz)
Registration No.	EW-2781	EW-3229	EW-3006
Manufacturer	GREATBILLION	BONN ELEKTRO	SCHWARZBECK
Model No.	SMA m/SHF5MPU /SMA m ra14m,26G	BLMA 0118-5G	BBV 9718 BBV9744 BBV 9721
Calibration Date	September 25, 2017	January 30, 2018	March 23, 2017
Calibration Due Date	September 25, 2018	January 30, 2019	March 23, 2018

END OF TEST REPORT