TEST REPORT

Report Number: HK11050035-1(R1)

Supersedes previous report with report number HK11050035-1 dated July 18, 2011

Application
for
Original Grant of 47 CFR Part 15 Certification
Single New of RSS-210 Issue 8 Equipment Certification

WiFi Camera

FCC ID: YM780-8373-00

IC: 9637A-80837300

Prepared and Checked by:	Approved by:
Signed of File	Digitally signed by Nip Ming Fung, Melvin Location: Intertek Testing Services Hong Kong Ltd
Koo Wai Ip Lead Engineer August 05, 2011	Nip Ming Fung, Melvin Senior Supervisor August 05, 2011

Intertek Testing Services Hong Kong Ltd.
2/F., Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong.
Tel: (852) 2173 8888 Fax: (852) 2785 5487 Website: www.hk.intertek-etlsemko.com

GENERAL INFORMATION

Applicant Name:	Stem Innovation, LLC
Applicant Address:	18459 Pines Blvd. Suite 401, Pembroke Pines, Florida 33029 United States.
FCC Specification Standard:	FCC Part 15, October 1, 2009 Edition
FCC ID:	YM780-8373-00
FCC Model(s):	iZON
IC Specification Standard:	RSS-210 Issue 8, December 2010 RSS-Gen Issue 3, December 2010 RSS-102 Issue 4, March 2010
IC:	9637A-80837300
IC Model(s):	iZON
Type of EUT:	Digital Transmission System
Description of EUT:	WiFi Camera
Serial Number:	N/A
Sample Receipt Date:	May 03, 2011
Date of Test:	May 09-June 30, 2011
Report Date:	August 05, 2011
Environmental Conditions:	Temperature: +10 to 40°C Humidity: 10 to 90%

Table of Contents

EXHIBIT 1
SUMMARY OF TEST RESULTS & STATEMENT OF COMPLIANCE

1.0 Summary of Test Results

Test Items	FCC Part 15 Section	RSS-210/ RSS-Gen# Section	Results	Details see section
Antenna Requirement	15.203	7.1.2#	Pass	2.1
Max. Conducted Output Power	15.247(b)(3)&(4)	A8.4(4)	Pass	4.1
Min. 6dB RF Bandwidth	15.247(a)(2)	A8.2(a)	Pass	4.2
Max. Power Density	15.247(e)	A8.2(b)	Pass	4.3
Out of Band Antenna Conducted Emission	15.247(d)	A8.5	Pass	4.4
Radiated Emission in Restricted Bands and Spurious Emissions	15.247(d) & 15.109	A8.5	Pass	4.6
Radiated Emission from Receiver	N/A	2.3	Pass	4.7
AC Power Line Conducted Emission	15.207 & 15.107	7.2.4#	Pass	4.8
Radio Frequency Radiation Exposure	15.247(i)	RSS-102	Pass	4.9 4.10

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.

1.1 Statement of Compliance

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

FCC Part 15: 2009
RSS-210 Issue 8, December 2010
RSS-Gen Issue 3, December 2010
RSS-102 Issue 4, March 2010

EXHIBIT 2
GENERAL DESCRIPTION

2.0 General Description

2.1 Product Description

The Equipment Under Test (EUT) is a WiFi Camera.

For 802.11b mode, it operates at frequency range of 2412.000MHz to 2462.000MHz with 11 channels. It transmits via direct-sequence spread spectrum (DSSS) modulation. Maximum bit rate can be up to 11Mbps. 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. For 802.11n (with 20MHz bandwidth) 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 support up to 65Mbps. For 802.11n (with 40MHz bandwidth) mode, it operates at frequency range of 2422.000MHz to 2452.000MHz with 7 channels. It transmits via Orthogonal Frequency Division Multiplexing (OFDM) modulation. Maximum bit rate can be up to 150Mbps.

EUT is powered by a 100-240VAC to 5VDC 1A switching AC adaptor or powered by PC through USB cable.

The antenna used in the EUT is integral, and the test sample is a prototype.

The circuit description is attached in the Appendix and saved with filename: descri.pdf.

2.2 Test Methodology

Both AC power line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (2003). Preliminary radiated scans and all radiated measurements were performed in Open Area 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 KDB Publication No. 558074. All other measurements were made in accordance with the procedures in 47 CFR Part 2.

2.3 Test Facility

The open area test site, AC Power Line conducted measurement facility, and antenna port conducted measurement facility used to collect the radiated data, AC Power Line conducted data, and conductive data are at Roof Top, 2nd Floor, and 5th Floor respectively of Intertek Testing Services Hong Kong Ltd., which is located at Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong. This test facility and site measurement data have been fully placed on file with the FCC and the Industry Canada.

EXHIBIT 3
SYSTEM TEST CONFIGURATION

3.0 System Test Configuration

3.1 Justification

For radiated emissions testing, the equipment under test (EUT) was setup to transmit under normal mode. 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 100-240VAC to 5VDC 1A adaptor or powered by PC through USB port.

For the measurements, the EUT was attached to a plastic stand if necessary and placed on the wooden turntable. If the EUT 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.

For transmitter radiated measurement, the spectrum analyzer resolution bandwidth was 100 kHz for frequencies below 1000 MHz. The resolution bandwidth was 1 MHz for frequencies above 1000 MHz.

For receiver radiated measurement, the spectrum analyzer resolution bandwidth was 1MHz for measurement above 1GHz while 100kHz for measurement from 30MHz to 1GHz.

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. Receiver was performed from 30MHz to the fifth harmonic of the highest frequency or 40GHz, 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 15.109.

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.

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 power cord connected to one LISN (Line impedance stabilization network), which provided 50ohm coupling impedance for measuring instrument. Meanwhile, the peripheral or support equipment power cords connected to a separate LISN. The ac power for all LISNs were obtained from the same power source. 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. Power cords of non-EUT equipment (peripherals) were not bundled. AC power cords of peripheral equipments draped over the rear edge of the table, and routed them down onto the floor of the ac powerline conducted emission test site to the second LISN.

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

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 & OFDM modulation types.

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.

3.3 Details of EUT and Description of Accessories

Details of EUT:

An AC adaptor and/or a battery (provided with the unit) were used to power the device. Their description are listed below.

(1) An AC adaptor (100-240VAC to 5VDC 1A, Model: SSA-0510US) (Supplied by Client)

Description of Accessories:

(1) Magnetic Base (Stand) (Supplied by Client)
(2) HP Notebook, Model: CPQNC2400, S/N: CNF638276D (Supplied by Intertek)
(3) Smartdrive External Hard Disk, Model: HD3-SU2FW, S/N: 0800261, DoC Product (Supplied by Intertek)
(4) 1 x USB cable with 2.4 meter long (Supplied by Client)
(5) 1 x USB to USB cable with 0.13 meter long (Supplied by Client)
(6) 1 x USB cable with 0.7 meter long (Supplied by Intertek)
(7) 1 x 1394 cable with 0.8 meter long (Supplied by Intertek)

3.4 Measurement Uncertainty

When determining of the test conclusion, the Measurement Uncertainty of test has been considered.

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.

EXHIBIT 4
TEST RESULTS

4.0 **Test Results**

4.1 Maximum Conducted Output Power at Antenna Terminals

☒ 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 obtain power at the EUT antenna terminals.

☐ The antenna port of the EUT was connected to the input of a spectrum analyzer. The analyzer was set for RBW>20dB bandwidth and power was read directly in dBm. External attenuation and cable loss were compensated for using the OFFSET function of the analyser.

IEEE 802.11b(DSSS, 11Mbps) Antenna Gain = 2dBi		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2412MHz	17.71	59.02
Middle Channel: 2437MHz	17.06	50.82
High Channel: 2462MHz	17.38	54.70

dBm max. output level = 17.71 dBm

IEEE 802.11g(OFDM, 54Mbps) Antenna Gain = 2dBi		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2412MHz	21.14	130.02
Middle Channel: 2437MHz	21.27	133.97
High Channel: 2462MHz	21.69	147.57

dBm max. output level = 21.69 dBm

4.1 Maximum Conducted Output Power at Antenna Terminals - Continued

IEEE 802.11n(OFDM, 65Mbps), 20MHz bandwidth, Antenna Gain = 2dBi		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2412MHz	21.39	137.72
Middle Channel: 2437MHz	20.79	119.95
High Channel: 2462MHz	21.68	147.23

dBm max. output level = 21.68 dBm

IEEE 802.11n(OFDM, 150Mbps), 40MHz bandwidth, * Antenna Gain = 2dBi		
Frequency (MHz)	Output in dBm	Output in mWatt
Low Channel: 2422MHz	21.64	145.88
Middle Channel: 2437MHz	21.60	144.54
High Channel: 2452MHz	21.81	151.71

dBm max. output level = 21.81 dBm

Cable loss : 0.5 dB External Attenuation : 0 dB

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

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

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

4.2 Minimum 6dB RF Bandwidth

The antenna port of the EUT was connected to the input of a spectrum analyzer. Analyzer RES BW was set to 100kHz. For each RF output channel investigated, the spectrum analyzer center frequency was set to the channel carrier. 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 802.11b(DSSS, 11Mbps)		
Frequency (MHz)		6dB Bandwidth (kHz)
Low Channel:	2412MHz	11700
Middle Channel:	2437MHz	11700
High Channel:	2462MHz	11800

IEEE 802.11g(OFDM, 54Mbps)		
Frequency (MHz)		6dB Bandwidth (kHz)
Low Channel:	2412MHz	16700
Middle Channel:	2437MHz	16700
High Channel:	2462MHz	16700

4.2 Minimum 6dB RF Bandwidth – Continued

IEEE 802.11n(OFDM, 65Mbps), 20MHz bandwidth		
Frequency (MHz)		6 dB Bandwidth (kHz)
Low Channel:	2412MHz	17760
Middle Channel:	2437MHz	17720
High Channel:	2462MHz	17720

IEEE 802.11n(OFDM, 150Mbps), 40MHz bandwidth		
Frequency (MHz)		6 dB Bandwidth (kHz)
Low Channel:	2422MHz	36480
Middle Channel:	2437MHz	36480
High Channel:	2452MHz	36560

Limits
at least 500kHz

The plots of 6dB RF bandwidth are attached in the Appendix and saved with filename: 6dB.pdf

4.3 Maximum Power Density

The spectrum analyzer RES BW was set to 3kHz. In order to look for a peak, the START and STOP frequencies were set to the band edges of the maximum output passband. If there is no clear maximum amplitude in any given portion of the band, it may be necessary to make measurements at a number of bands defined by several START and STOP frequency pairs.

Antenna output of the EUT was coupled directly to spectrum analyzer; if an external attenuator and/or cable was used, these losses are added to the analyzer raw readings.

IEEE 802.11b(DSSS, 11Mbps)	
Frequency (MHz)	Power Density (dBm/3kHz)
Low Channel: 2412	-9.58
Middle Channel: 2437	-10.02
High Channel: 2462	-10.05

Frequency Span = 500 kHz

Sweep Time = Frequency Span/3kHz
≈170 seconds

Cable Loss: 0.5 dB

Max. Peak Power Density (at 2412MHz) = -9.58dBm/3kHz

Limit:
8dBm/ 3kHz

4.3 Maximum Power Density – Continued:

IEEE 802.11g(OFDM, 54Mbps)	
Frequency (MHz)	Power Density (dBm/3kHz)
Low Channel: 2412 MHz	-15.68
Middle Channel: 2437 MHz	-15.71
High Channel: 2462 MHz	-15.71

Frequency Span = 500 kHz

Sweep Time = Frequency Span/3kHz
≈ 170 seconds

Cable Loss: 0.5 dB

Max. Peak Power Density (at 2412MHz) = -15.68dBm/3kHz

Limit:
8dBm/ 3kHz

IEEE 802.11n(OFDM, 65Mbps), 20M Bandwidth	
Frequency (MHz)	Power Density (dBm/3kHz)
Low Channel: 2412 MHz	-16.21
Middle Channel: 2437 MHz	-15.55
High Channel: 2462 MHz	-16.80

Frequency Span = 1.5MHz

Sweep Time = Frequency Span/3kHz
= 500 seconds

Cable Loss: 0.5 dB

Max. Peak Power Density (at 2437MHz) = -15.55dBm/3kHz

Limit:
8dBm/ 3kHz

4.3 Maximum Power Density – Continued:

IEEE 802.11n(OFDM, 300Mbps), 40M Bandwidth	
Frequency (MHz)	Power Density (dBm/3kHz)
Low Channel: 2422 MHz	-19.12
Middle Channel: 2437 MHz	-19.53
High Channel: 2452 MHz	-19.27

Frequency Span = 1.5MHz

Sweep Time = Frequency Span/3kHz
= 500 seconds

Cable Loss: 0.5 dB

Max. Peak Power Density (at 2422MHz) = -19.12dBm/3kHz

Limit:
8dBm/ 3kHz

The plots of number of power density are attached in the Appendix and saved with filename: maxpd.pdf

4.4 Out of Band Conducted Emissions

In any 100 kHz bandwidth outside the EUT passband, the RF power produced by the modulation products of the spreading sequence, the information sequence, and the carrier frequency shall be at least 20 dB below that of the maximum in-band 100 kHz emission.

Limits:
All spurious emission and up to the tenth harmonic was measured and they were found to be at least 20 dB below the highest level of the desired power in the passband.

The plots of out of band conducted emissions are attached in the Appendix and saved with filenames: obantcon.pdf

4.5 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CF - AG

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

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows:-

FS = RR + LF

where FS = Field Strength in dBμV/m
RR = RA - AG in dBμV
LF = CF + AF in dB

Assume a receiver reading of 52.0 dBμV is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted, giving a field strength of 32 dBμV/m. This value in dBμV/m was converted to its corresponding level in μV/m.

RA = 52.0 dBμV
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
FS = RR + LF
FS = 23 + 9 = 32 dBμV/m

RR = 23.0 dBμV
LF = 9.0 dB

Level in μV/m = Common Antilogarithm [(32 dBμV/m)/20] = 39.8 μV/m

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

2483.500 MHz

The worst case radiated emission configuration photographs are attached in the Appendix and saved with filename: config photos.pdf

4.6.2 Radiated Emission Data

The data in tables 1-15 list the significant emission frequencies, the limit and the margin of compliance.

Judgement -

Passed by 0.8 dB margin compare with average limit

Mode: TX-Channel 01

Table 1
IEEE 802.11b(DSSS, 11Mbps)

Radiated Emission Data

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	***4824.000***	***47.7***	***33***	***34.9***	***49.6***	***54.0***	***-4.4***
H	***12060.000***	***41.1***	***33***	***40.5***	***48.6***	***54.0***	***-5.4***
H	***14472.000***	***41.2***	***33***	***40.0***	***48.2***	***54.0***	***-5.8***

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
H	***4824.000***	***47.7***	***33***	***34.9***	***49.6***	***74.0***	***-24.4***
H	***12060.000***	***41.1***	***33***	***40.5***	***48.6***	***74.0***	***-25.4***
H	***14472.000***	***41.2***	***33***	***40.0***	***48.2***	***74.0***	***-25.8***

NOTES:
1. Peak detector is used for the emission measurement.
2. 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.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna is used for the emission over 1000MHz.
5. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

Mode: TX-Channel 06

Table 2
IEEE 802.11b(DSSS, 11Mbps)

Radiated Emission Data

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***	***47.6***	***33***	***34.9***	***49.5***	***54.0***	***-4.5***
H	***7311.000***	***43.6***	***33***	***37.9***	***48.5***	***54.0***	***-5.5***
H	***12185.000***	***41.0***	***33***	***40.5***	***48.5***	***54.0***	***-5.5***

Polari-zation	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBμV/m)	Peak Limit at 3m (dBμV/m)	Margin (dB)
H	***4874.000***	***47.6***	***33***	***34.9***	***49.5***	***74.0***	***-24.5***
H	***7311.000***	***43.6***	***33***	***37.9***	***48.5***	***74.0***	***-25.5***
H	***12185.000***	***41.0***	***33***	***40.5***	***48.5***	***74.0***	***-25.5***

NOTES:
1. Peak detector is used for the emission measurement.
2. 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.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna is used for the emission over 1000MHz.
5. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

Mode: TX-Channel 11

Table 3
IEEE 802.11b(DSSS, 11Mbps)

Radiated Emission Data

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	***4924.000***	***47.9***	***33***	***34.9***	***49.8***	***54.0***	***-4.2***
H	***7386.000***	***43.7***	***33***	***37.9***	***48.6***	***54.0***	***-5.4***
H	***12310.000***	***41.0***	***33***	***40.5***	***48.5***	***54.0***	***-5.5***

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	***2483.500***	***64.9***	***33***	***29.4***	***61.3***	***74.0***	***-12.7***
H	***4924.000***	***47.9***	***33***	***34.9***	***49.8***	***74.0***	***-24.2***
H	***7386.000***	***43.7***	***33***	***37.9***	***48.6***	***74.0***	***-25.4***
H	***12310.000***	***41.0***	***33***	***40.5***	***48.5***	***74.0***	***-25.5***

Remark: Peak detector is used for the emission measurement.

Polari-zation	Frequency (MHz)	Reading ($dB_\mu V$)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak ($dB_\mu V/m$)	Average Limit at 3m ($dB_\mu V/m$)	Margin (dB)
V	***2483.500***	***55.1***	***33***	***29.4***	***51.5***	***54.0***	***-2.5***

Remark: Video-average Method is used for the emission measurement.

NOTES:
1. 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.
2. Negative value in the margin column shows emission below limit.
3. Horn antenna is used for the emission over 1000MHz.
4. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

Mode: Talk

Table 4
IEEE 802.11b(DSSS, 11Mbps)

Radiated Emission Data

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-amp (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
V	38.408	39.6	16	10.0	33.6	40.0	-6.4
V	45.276	39.4	16	10.0	33.4	40.0	-6.6
H	54.498	39.6	16	11.0	34.6	40.0	-5.4
H	63.306	41.2	16	9.0	34.2	40.0	-5.8
H	***108.641***	***35.4***	***16***	***14.0***	***33.4***	***43.5***	***-10.1***
H	***135.592***	***35.1***	***16***	***14.0***	***33.1***	***43.5***	***-10.4***

NOTES:
1. Peak detector is used for the emission measurement.
2. 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.
3. Negative value in the margin column shows emission below limit.
4. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

Mode: TX-Channel 01

Table 5
IEEE 802.11g(OFDM, 54Mbps)

Radiated Emission Data

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	***4824.000***	***46.7***	***33***	***34.9***	***48.6***	***54.0***	***-5.4***
H	***12060.000***	***41.7***	***33***	***40.5***	***49.2***	***54.0***	***-4.8***
H	***14472.000***	***41.5***	***33***	***40.0***	***48.5***	***54.0***	***-5.5***

Polari-zation	Frequency (MHz)	Reading (dBμV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBμV/m)	Peak Limit at 3m (dBμV/m)	Margin (dB)
H	***4824.000***	***46.7***	***33***	***34.9***	***48.6***	***74.0***	***-25.4***
H	***12060.000***	***41.7***	***33***	***40.5***	***49.2***	***74.0***	***-24.8***
H	***14472.000***	***41.5***	***33***	***40.0***	***48.5***	***74.0***	***-25.5***

NOTES:
1. Peak detector is used for the emission measurement.
2. 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.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna is used for the emission over 1000MHz.
5. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

Mode: TX-Channel 06

Table 6
IEEE 802.11g (OFDM, 54Mbps)

Radiated Emission Data

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***	***47.5***	***33***	***34.9***	***49.4***	***54.0***	***-4.6***
H	***7311.000***	***44.1***	***33***	***37.9***	***49.0***	***54.0***	***-5.0***
H	***12185.000***	***41.5***	***33***	***40.5***	***49.0***	***54.0***	***-5.0***

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
H	***4874.000***	***47.5***	***33***	***34.9***	***49.4***	***74.0***	***-24.6***
H	***7311.000***	***44.1***	***33***	***37.9***	***49.0***	***74.0***	***-25.0***
H	***12185.000***	***41.5***	***33***	***40.5***	***49.0***	***74.0***	***-25.0***

NOTES:
1. Peak detector is used for the emission measurement.
2. 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.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna is used for the emission over 1000MHz.
5. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

Mode: TX-Channel 11

Table 7
IEEE 802.11g(OFDM, 54Mbps)

Radiated Emission Data

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	***4924.000***	***47.3***	***33***	***34.9***	***49.2***	***54.0***	***-4.8***
H	***7386.000***	***44.2***	***33***	***37.9***	***49.1***	***54.0***	***-4.9***
H	***12310.000***	***41.9***	***33***	***40.5***	***49.4***	***54.0***	***-4.6***

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	***2483.500***	***66.8***	***33***	***29.4***	***63.2***	***74.0***	***-10.8***
H	***4924.000***	***47.3***	***33***	***34.9***	***49.2***	***74.0***	***-24.8***
H	***7386.000***	***44.2***	***33***	***37.9***	***49.1***	***74.0***	***-24.9***
H	***12310.000***	***41.9***	***33***	***40.5***	***49.4***	***74.0***	***-24.6***

Remark: Peak detector is used for the emission measurement.

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	***2483.500***	***54.4***	***33***	***29.4***	***50.8***	***54.0***	***-3.2***

Remark: Video-average Method is used for the emission measurement.

NOTES:
1. 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.
2. Negative value in the margin column shows emission below limit.
3. Horn antenna is used for the emission over 1000MHz.
4. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

Mode: Talk

Table 8
IEEE 802.11g(OFDM, 54Mbps)

Radiated Emission Data

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-amp (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
V	38.408	39.6	16	10.0	33.6	40.0	-6.4
V	45.276	39.4	16	10.0	33.4	40.0	-6.6
H	54.498	39.9	16	11.0	34.9	40.0	-5.1
H	63.306	41.2	16	9.0	34.2	40.0	-5.8
H	***108.641***	***35.2***	***16***	***14.0***	***33.2***	***43.5***	***-10.3***
H	***135.592***	***34.6***	***16***	***14.0***	***32.6***	***43.5***	***-10.9***

NOTES: 1. Peak detector is used for the emission measurement.

2. 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.

3. Negative value in the margin column shows emission below limit.

4. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

Mode: TX-Channel 01

Table 9
IEEE 802.11n(OFDM, 65Mbps), 20MHz Bandwidth

Radiated Emission Data

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	***4824.000***	***48.7***	***33***	***34.9***	***50.6***	***54.0***	***-3.4***
H	***12060.000***	***41.3***	***33***	***40.5***	***48.8***	***54.0***	***-5.2***
H	***14472.000***	***41.4***	***33***	***40.0***	***48.4***	***54.0***	***-5.6***

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
H	***4824.000***	***48.7***	***33***	***34.9***	***50.6***	***74.0***	***-23.4***
H	***12060.000***	***41.3***	***33***	***40.5***	***48.8***	***74.0***	***-25.2***
H	***14472.000***	***41.4***	***33***	***40.0***	***48.4***	***74.0***	***-25.6***

NOTES:
1. Peak detector is used for the emission measurement.
2. 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.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna is used for the emission over 1000MHz.
5. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

Mode: TX-Channel 06

Table 10
IEEE 802.11n(OFDM, 65Mbps), 20MHz Bandwidth

Radiated Emission Data

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	***4874.000***	***48.9***	***33***	***34.9***	***50.8***	***54.0***	***-3.2***
H	***7311.000***	***44.7***	***33***	***37.9***	***49.6***	***54.0***	***-4.4***
H	***12185.000***	***40.9***	***33***	***40.5***	***48.4***	***54.0***	***-5.6***

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	***4874.000***	***48.9***	***33***	***34.9***	***50.8***	***74.0***	***-23.2***
H	***7311.000***	***44.7***	***33***	***37.9***	***49.6***	***74.0***	***-24.4***
H	***12185.000***	***40.9***	***33***	***40.5***	***48.4***	***74.0***	***-25.6***

NOTES:
1. Peak detector is used for the emission measurement.
2. 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.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna is used for the emission over 1000MHz.
5. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

Mode: TX-Channel 11

Table 11
IEEE 802.11n(OFDM, 65Mbps), 20MHz Bandwidth

Radiated Emission Data

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	***4924.000***	***49.0***	***33***	***34.9***	***50.9***	***54.0***	***-3.1***
H	***7386.000***	***45.3***	***33***	***37.9***	***50.2***	***54.0***	***-3.8***
H	***12310.000***	***41.7***	***33***	***40.5***	***49.2***	***54.0***	***-4.8***

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	***2483.500***	***64.8***	***33***	***29.4***	***61.2***	***74.0***	***-12.8***
H	***4924.000***	***49.0***	***33***	***34.9***	***50.9***	***74.0***	***-23.1***
H	***7386.000***	***45.3***	***33***	***37.9***	***50.2***	***74.0***	***-23.8***
H	***12310.000***	***41.7***	***33***	***40.5***	***49.2***	***74.0***	***-24.8***

Remark: Peak detector is used for the emission measurement.

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m - Peak (dBµV/m)	Average Limit at 3m (dBµV/m)	Margin (dB)
V	***2483.500***	***55.0***	***33***	***29.4***	***51.4***	***54.0***	***-2.6***

Remark: Video-average Method is used for the emission measurement.

NOTES:
1. 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.
2. Negative value in the margin column shows emission below limit.
3. Horn antenna is used for the emission over 1000MHz.
4. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

Mode: TX-Channel 03

Table 12
IEEE 802.11n(OFDM, 150Mbps) , 40MHz Bandwidth

Radiated Emission Data

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	***4844.000***	***47.7***	***33***	***34.9***	***49.6***	***54.0***	***-4.4***
H	***7266.000***	***43.6***	***33***	***37.9***	***48.5***	***54.0***	***-5.5***
H	***12110.000***	***40.7***	***33***	***40.5***	***48.2***	***54.0***	***-5.8***

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
H	***4844.000***	***47.7***	***33***	***34.9***	***49.6***	***74.0***	***-24.4***
H	***7266.000***	***43.6***	***33***	***37.9***	***48.5***	***74.0***	***-25.5***
H	***12110.000***	***40.7***	***33***	***40.5***	***48.2***	***74.0***	***-25.8***

NOTES:
1. Peak detector is used for the emission measurement.
2. 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.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna is used for the emission over 1000MHz.
5. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

Mode: TX-Channel 06

Table 13
IEEE 802.11n(OFDM, 150Mbps) , 40MHz Bandwidth

Radiated Emission Data

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	***4874.000***	***47.7***	***33***	***34.9***	***49.6***	***54.0***	***-4.4***
H	***7311.000***	***44.1***	***33***	***37.9***	***49.0***	***54.0***	***-5.0***
H	***12185.000***	***40.7***	***33***	***40.5***	***48.2***	***54.0***	***-5.8***

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	***4874.000***	***47.7***	***33***	***34.9***	***49.6***	***74.0***	***-24.4***
H	***7311.000***	***44.1***	***33***	***37.9***	***49.0***	***74.0***	***-25.0***
H	***12185.000***	***40.7***	***33***	***40.5***	***48.2***	***74.0***	***-25.8***

NOTES:
1. Peak detector is used for the emission measurement.
2. 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.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna is used for the emission over 1000MHz.
5. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205.

Mode: TX-Channel 09

Table 14
IEEE 802.11n(OFDM, 150Mbps) , 40MHz Bandwidth

Radiated Emission Data

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	***4904.000***	***48.0***	***33***	***34.9***	***49.9***	***54.0***	***-4.1***
H	***7356.000***	***44.3***	***33***	***37.9***	***49.2***	***54.0***	***-4.8***
H	***12260.000***	***41.0***	***33***	***40.5***	***48.5***	***54.0***	***-5.5***

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-Amp Gain (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Peak Limit at 3m (dBµV/m)	Margin (dB)
V	***2483.500***	***68.0***	***33***	***29.4***	***64.4***	***74.0***	***-9.6***
H	***4904.000***	***48.0***	***33***	***34.9***	***49.9***	***74.0***	***-24.1***
H	***7356.000***	***44.3***	***33***	***37.9***	***49.2***	***74.0***	***-24.8***
H	***12260.000***	***41.0***	***33***	***40.5***	***48.5***	***74.0***	***-25.5***

Remark: Peak detector is used for the emission measurement.

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***	***56.8***	***33***	***29.4***	***53.2***	***54.0***	***-0.8***

Remark: Video-average Method is used for the emission measurement.

NOTES:
1. 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.
2. Negative value in the margin column shows emission below limit.
3. Horn antenna is used for the emission over 1000MHz.
4. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

Mode: Talk

Table 15
IEEE 802.11n(OFDM, 150Mbps)

Radiated Emission Data

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-amp (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
V	38.409	39.6	16	10.0	33.6	40.0	-6.4
V	45.629	39.9	16	10.0	33.9	40.0	-6.1
H	54.476	39.5	16	11.0	34.5	40.0	-5.5
H	63.308	41.8	16	9.0	34.8	40.0	-5.2
H	***108.642***	***35.2***	***16***	***14.0***	***33.2***	***43.5***	***-10.3***
H	***135.596***	***35.1***	***16***	***14.0***	***33.1***	***43.5***	***-10.4***

NOTES:
1. Peak detector is used for the emission measurement.
2. 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.
3. Negative value in the margin column shows emission below limit.
4. Emission (the row indicated by ***bold italic***) within the restricted band meets the requirement of FCC Part 15 Section 15.205 / RSS-210 Section 2.2.

4.7 Radiated Emissions from Receiver

4.7.1 Radiated Emission Configuration Photograph

Worst Case Radiated Emission
at

3249.330 MHz

The worst case radiated emission configuration photographs are attached in the Appendix and saved with filename: config photos.pdf

4.7.2 Radiated Emission Data

The data in tables 16-19 list the significant emission frequencies, the limit and the margin of compliance.

Judgement –

Passed by 13.1 dB margin

Mode: Receiving – Middle Channel

Table 16
IEEE 802.11b (DSSS, 11Mbps)

Radiated Emissions Data

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-amp (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
V	3249.330	42.0	33	31.9	40.9	54.0	-13.1
V	6498.660	36.3	33	36.9	40.2	54.0	-13.8
V	9747.990	32.1	33	40.4	39.5	54.0	-14.5
V	12997.320	30.6	33	41.7	39.3	54.0	-14.7
V	16246.650	31.8	33	40.2	39.0	54.0	-15.0

NOTES:

1. Peak detector is used for the emission measurement.

2. 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.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

Mode: Receiving – Middle Channel

Table 17
IEEE 802.11g(OFDM, 54Mbps)

Radiated Emissions Data

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-amp (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
V	3249.330	41.9	33	31.9	40.8	54.0	-13.2
V	6498.660	36.3	33	36.9	40.2	54.0	-13.8
V	9747.990	32.2	33	40.4	39.6	54.0	-14.4
V	12997.320	30.7	33	41.7	39.4	54.0	-14.6
V	16246.650	31.8	33	40.2	39.0	54.0	-15.0

NOTES:

1. Peak detector is used for the emission measurement.

2. 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.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

Mode: Receiving – Middle Channel

Table 18
IEEE 802.11n(OFDM, 65Mbps), 20MHz Bandwidth

Radiated Emissions Data

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-amp (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
V	3249.330	41.9	33	31.9	40.8	54.0	-13.2
V	6498.660	36.7	33	36.9	40.6	54.0	-13.4
V	9747.990	32.8	33	40.4	40.2	54.0	-13.8
V	12997.320	31.2	33	41.7	39.9	54.0	-14.1
V	16246.650	31.8	33	40.2	39.0	54.0	-15.0

NOTES:

1. Peak detector is used for the emission measurement.

2. 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.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

Mode: Receiving – Middle Channel

Table 19
IEEE 802.11n(OFDM, 150Mbps), 40MHz Bandwidth

Radiated Emissions Data

Polari-zation	Frequency (MHz)	Reading (dBµV)	Pre-amp (dB)	Antenna Factor (dB)	Net at 3m (dBµV/m)	Limit at 3m (dBµV/m)	Margin (dB)
V	3249.330	41.9	33	31.9	40.8	54.0	-13.2
V	6498.660	36.6	33	36.9	40.5	54.0	-13.5
V	9747.990	32.9	33	40.4	40.3	54.0	-13.7
V	12997.320	31.0	33	41.7	39.7	54.0	-14.3
V	16246.650	31.9	33	40.2	39.1	54.0	-14.9

NOTES:

1. Peak detector is used for the emission measurement.

2. 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.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna is used for the emission over 1000MHz.

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.

4.8.1 AC Power Line Conducted Emission Configuration Photograph

Worst Case Line-Conducted Configuration
at

24.000 MHz

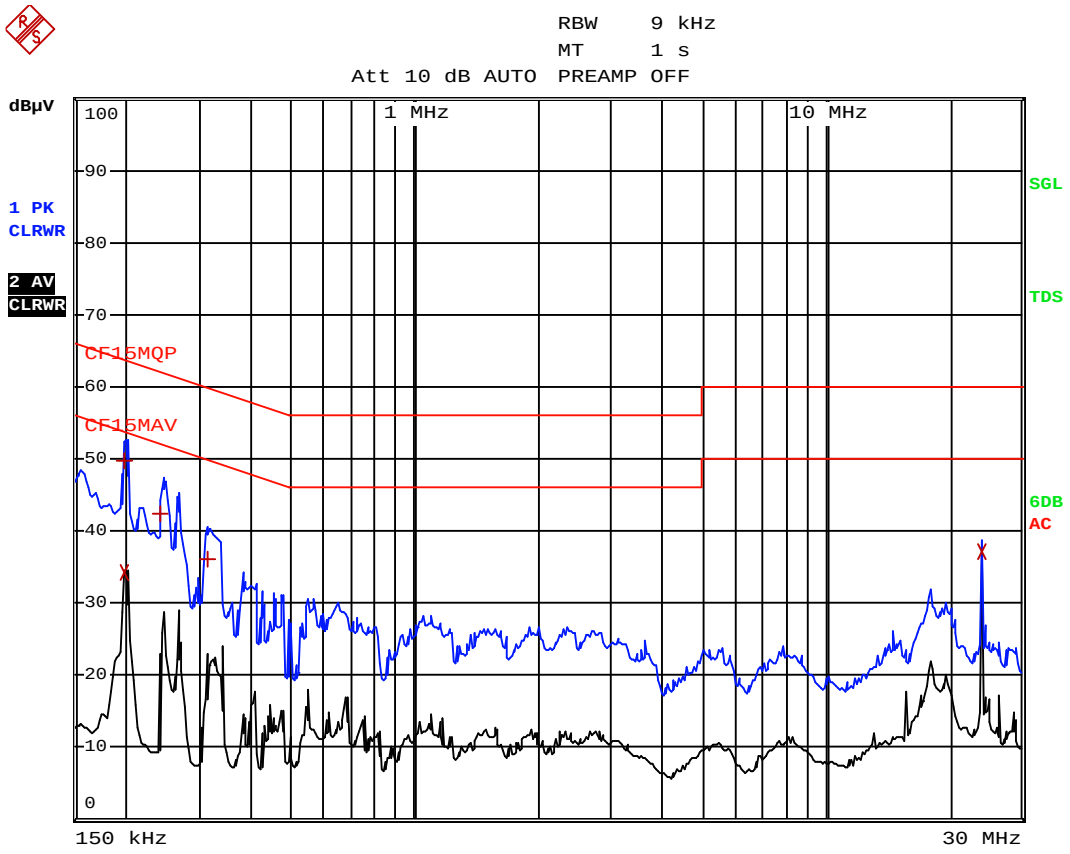
The worst case line conducted configuration photographs are attached in the Appendix and saved with filename: config photos.pdf

4.8.2 AC Power Line Conducted Emission Data

The plot(s) and data in the following pages list the significant emission frequencies, the limit and the margin of compliance

Passed by 12.81 dB margin compare with average limit

Model No.: iZON
Worst Case: WiFi Transmission (Powered by PC through USB Port)
PC's AC Mains



Date: 24.MAY.2011 21:34:53

Model No.: iZON
Worst Case: WiFi Transmission (Powered by PC through USB Port)
PC's AC Mains

EDIT PEAK LIST (Final Measurement Results)

Trace1: CF15MQP
Trace2: CF15MAV
Trace3: ---

	TRACE	FREQUENCY	LEVEL dBµV		DELTA LIMIT dB
1	Quasi Peak	199.5 kHz	49.70	L1	-13.93
2	CISPR Average	199.5 kHz	34.16	N	-19.46
1	Quasi Peak	244.5 kHz	42.38	N	-19.55
1	Quasi Peak	312 kHz	36.04	N	-23.86
2	CISPR Average	24 MHz	37.18	L1	-12.81

Date: 24.MAY.2011 21:34:43

4.9 Radio Frequency Radiation Exposure

EUT is subject to the radio frequency exposure requirements specified in FCC Rule §§ 1.1307. It shall be considered to operate in a “general population / uncontrolled” environment.

☐ Output power is less than the applicable low threshold from SAR evaluation. The evaluation calculation results are saved as filename: RF exposure info.pdf

☒ EUT was evaluated for Maximum Permissible Exposure (MPE) evaluation compliance according to OET Bulletin 65, Supplement C (Edition 01-01). The evaluation calculation results are attached in the Appendix and saved as filename: RF exposure info.pdf

☐ EUT was evaluated for Specific Absorption Rate (SAR) evaluation compliance according to OET Bulletin 65, Supplement C (Edition 01-01). It is in compliance with the SAR evaluation requirements. A SAR test report was submitted at same time and saved as SAR Report.pdf

4.10 Radio Frequency Exposure Compliance

The Routine RF Exposure Evaluation, Routine SAR Evaluation and Declaration of RF Exposure Compliance are saved as filename: RF exposure.pdf

EXHIBIT 5
EQUIPMENT LIST

5.0 **Equipment List**

1) Radiated Emissions Test

Equipment	Biconical Antenna	Log Periodic Antenna	Spectrum Analyzer	EMI Test Receiver
Registration No.	EW-0954	EW-0446	EW-2188	EW-2500
Manufacturer	EMCO	EMCO	AGILENTTECH	R&S
Model No.	3104C	3146	E4407B	ESCI
Calibration Date	Apr. 14, 2010	Apr. 26, 2010	Dec. 27, 2010	Jan. 25, 2011
Calibration Due Date	Oct. 14, 2011	Oct. 26, 2011	Dec. 31, 2011	Jan. 25, 2012

Equipment	Broad-Band Horn Antenna with frequency range 14G - 40GHz	Double Ridged Guide Antenna	Spectrum Analyzer 40GHz
Registration No.	EW-1679	EW-1015	EW-2253
Manufacturer	SCHWARZBECK	EMCO	ROHDESCHWARZ
Model No.	BBHA9170	3115	ROHDESCHWARZ
Calibration Date	Mar. 03. 2011	Feb. 09, 2010	Nov. 23, 2010
Calibration Due Date	Sep. 03, 2012	Aug. 09. 2011	Nov. 23, 2011

2) Conducted Emissions Test

Equipment	Pulse Limiter	Artificial Mains Network
Registration No.	EW-0698	EW-2501
Manufacturer	R&S	R&S
Model No.	ESH3-Z2	ENV-216
Calibration Date	Mar.11, 2011	Mar. 30, 2011
Calibration Due Date	Mar.11, 2012	Mar. 30, 2012

Equipment	EMI Test Receiver	LISN
Registration No.	EW-2666	EW-0192
Manufacturer	R&S	R&S
Model No.	ESCI7	ESH3-Z5
Calibration Date	Oct. 12, 2010	Nov.30, 2010
Calibration Due Date	Oct. 12, 2011	Nov.30, 2011

3) Conductive Measurement Test

Equipment	Spectrum Analyzer	RF Power Sensor	RF Power Meter
Registration No.	EW-2253	EW-2270a	EW-2270b
Manufacturer	R&S	AGILENTTECH	AGILENTTECH
Model No.	FSP40	N1921A	N1911A
Calibration Date	Nov. 23, 2010	Dec. 03, 2010	Dec. 03, 2010
Calibration Due Date	Nov. 23, 2011	Dec. 03, 2011	Dec. 03, 2011

END OF TEST REPORT