



RADIO TEST REPORT

Test Report No. : 10003588H-A

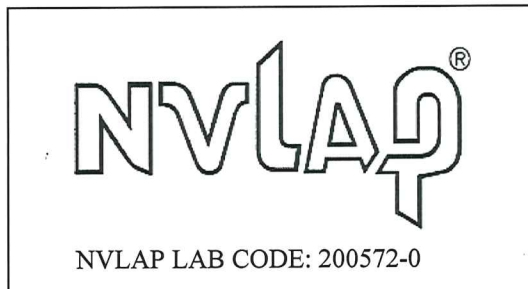
Applicant : silex technology, Inc.
Type of Equipment : SX-DS-3000WN
Model No. : SX-DS-3000WN
FCC ID : N6C-SXDS3000WN
Test regulation : FCC Part 15 Subpart C: 2013
*Conducted Emission and Radiated Spurious
Emission tests only
Test Result : Complied

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2. The results in this report apply only to the sample tested.
3. This sample tested is in compliance with the above regulation.
4. The test results in this report are traceable to the national or international standards.
5. This test report must not be used by the customer to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government.

Date of test: May 28 to 30, 2013

Representative test engineer: H. Kukita
Hiroshi Kukita
Engineer of WiSE Japan,
UL Verification Service

Approved by: T. Hatakeda
Takahiro Hatakeda
Leader of WiSE Japan,
UL Verification Service



This laboratory is accredited by the NVLAP LAB CODE 200572-0, U.S.A. The tests reported herein have been performed in accordance with its terms of accreditation. *As for the range of Accreditation in NVLAP, you may refer to the WEB address, <http://www.ul.com/japan/jpn/pages/services/emc/about/mark1/index.jsp#nvlap>

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SECTION 1: Customer information

Company Name : silex technology, Inc.
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Telephone Number : +81-774-98-3878
Facsimile Number : +81-774-98-3758
Contact Person : Toshiro Kometani

SECTION 2: Equipment under test (E.U.T.)

2.1 Identification of E.U.T.

Type of Equipment : SX-DS-3000WN
Model No. : SX-DS-3000WN
Serial No. : Refer to Section 4, Clause 4.2
Rating : DC 4.75 to 5.355V
Receipt Date of Sample : February 20, 2013
Country of Mass-production : Japan
Condition of EUT : Production prototype
(Not for Sale: This sample is equivalent to mass-produced items.)
Modification of EUT : No Modification by the test lab

2.2 Product Description

Model No: SX-DS-3000WN (referred to as the EUT in this report) is the SX-DS-3000WN.

General Specification

Clock frequency(ies) in the system : 40MHz

Radio Specification

Radio Type : Transceiver
Method of Frequency Generation : Synthesizer
Power Supply (inner) : DC3.3V

Specification of Wireless LAN (IEEE802.11b/g/n-20/n-40)

Type of radio	IEEE802.11b	IEEE802.11g	IEEE802.11n (20 M band)	IEEE802.11n (40 M band)
Frequency of operation	2412-2462MHz	2412-2462MHz	2412 - 2462MHz	2422 - 2452MHz
Type of modulation	DSSS (CCK, DQPSK, DBPSK)	OFDM-CCK (64QAM, 16QAM, QPSK, BPSK)	OFDM (64QAM, 16QAM, QPSK, BPSK)	
Channel spacing	5MHz			
Antenna type	PIFA antenna			
Antenna Gain: G _{ANT}	2.0dBi (including cableloss)			
Antenna Connector type	U.FL connector			

*The EUT is the modified version of model: SX-DS-3000EWB (FCC ID: N6C-DS3000EW, IC Number: 4908A-SXDS3000WN).

Contents of the change from model: SX-DS-3000EWB as below.

1) Module was set in the case.

The radio specification is identical to the original. Therefore only Conducted Emission and Radiated Spurious Emission tests were performed in this report. Antenna terminal conducted tests were performed in previous test report. Please refer to UL Japan test report No. 32LE0279-HO-01-A-R1.

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SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification : FCC Part 15 Subpart C: 2013, final revised on June 11, 2013 and effective July 11, 2013

Title : FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators
Section 15.207 Conducted limits
Section 15.247 Operation within the bands 902-928MHz,
2400-2483.5MHz, and 5725-5850MHz

* The revision on June 11, 2013 does not affect the test specification applied to the EUT.

3.2 Procedures and results

Item	Test Procedure	Specification	Worst margin	Results	Remarks
Conducted Emission	FCC: ANSI C63.4:2003 7. AC powerline Conducted Emission measurements ----- IC: RSS-Gen 7.2.4	FCC: Section 15.207 ----- IC: RSS-Gen 7.2.4	QP 7.0dB, 0.15918MHz, L AV 15.5dB, 0.43730MHz, N	Complied	-
Spurious Emission Restricted Band Edges	FCC: "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247(issued on April 9, 2013)" ----- IC: RSS-Gen 4.9	FCC: Section15.247(d) ----- IC: RSS-210 A8.5 RSS-Gen 7.2.3	0.2dB 499.998MHz, QP, Vert.	Complied	Conducted /Radiated
Note: UL Japan, Inc.'s EMI Work Procedures No. 13-EM-W0420 and 13-EM-W0422. *Antenna terminal conducted tests were performed in previous test report. Please refer to UL Japan test report No. 32LE0279-HO-01-A-R1. In addition, this previous test data was confirmed to comply with the requirement of KDB558074 D01.					

FCC 15.31 (e)

This EUT provides stable voltage (DC3.3V) constantly to RF Module regardless of input voltage. Therefore, this EUT complies with the requirement.

FCC Part 15.203/212 Antenna requirement

It is impossible for end users to replace the antenna, because the antenna is mounted inside of the EUT. Therefore, the equipment complies with the antenna requirement of Section 15.203/212.

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3.3 Addition to standard

No addition, exclusion nor deviation has been made from the standard.

3.4 Uncertainty

EMI

The following uncertainties have been calculated to provide a confidence level of 95% using a coverage factor k=2.

Test room (semi-anechoic chamber)	Conducted emission (+dB)
	150kHz-30MHz
No.1	3.5dB
No.2	3.6dB
No.3	3.6dB
No.4	3.6dB

Test room (semi-anechoic chamber)	Radiated emission						
	(3m*)(+dB)				(1m*)(+dB)		(0.5m*)(+dB)
	9kHz -30MHz	30MHz -300MHz	300MHz -1GHz	1GHz -10GHz	10GHz -18GHz	18GHz -26.5GHz	26.5GHz -40GHz
No.1	4.3dB	5.0dB	5.1dB	4.9dB	5.8dB	4.4dB	4.3dB
No.2	4.3dB	5.2dB	5.1dB	5.0dB	5.7dB	4.3dB	4.2dB
No.3	4.6dB	5.0dB	5.1dB	5.0dB	5.7dB	4.5dB	4.2dB
No.4	4.8dB	5.2dB	5.0dB	5.0dB	5.7dB	5.2dB	4.2dB

*3m/1m/0.5m = Measurement distance

Conducted Emission test

The data listed in this test report has enough margin, more than the site margin.

Radiated emission test(3m)

The data listed in this report meets the limits unless the uncertainty is taken into consideration.

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3.5 Test Location

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	FCC Registration Number	IC Registration Number	Width x Depth x Height (m)	Size of reference ground plane (m) / horizontal conducting plane	Other rooms
No.1 semi-anechoic chamber	313583	2973C-1	19.2 x 11.2 x 7.7m	7.0 x 6.0m	No.1 Power source room
No.2 semi-anechoic chamber	655103	2973C-2	7.5 x 5.8 x 5.2m	4.0 x 4.0m	-
No.3 semi-anechoic chamber	148738	2973C-3	12.0 x 8.5 x 5.9m	6.8 x 5.75m	No.3 Preparation room
No.3 shielded room	-	-	4.0 x 6.0 x 2.7m	N/A	-
No.4 semi-anechoic chamber	134570	2973C-4	12.0 x 8.5 x 5.9m	6.8 x 5.75m	No.4 Preparation room
No.4 shielded room	-	-	4.0 x 6.0 x 2.7m	N/A	-
No.5 semi-anechoic chamber	-	-	6.0 x 6.0 x 3.9m	6.0 x 6.0m	-
No.6 shielded room	-	-	4.0 x 4.5 x 2.7m	4.75 x 5.4 m	-
No.6 measurement room	-	-	4.75 x 5.4 x 3.0m	4.75 x 4.15 m	-
No.7 shielded room	-	-	4.7 x 7.5 x 2.7m	4.7 x 7.5m	-
No.8 measurement room	-	-	3.1 x 5.0 x 2.7m	N/A	-
No.9 measurement room	-	-	8.0 x 4.5 x 2.8m	2.0 x 2.0m	-
No.10 measurement room	-	-	2.6 x 2.8 x 2.5m	2.4 x 2.4m	-
No.11 measurement room	-	-	3.1 x 3.4 x 3.0m	2.4 x 3.4m	-

* Size of vertical conducting plane (for Conducted Emission test) : 2.0 x 2.0m for No.1, No.2, No.3, and No.4 semi-anechoic chambers and No.3 and No.4 shielded rooms.

3.6 Data of EMI, Test instruments, and Test set up

Refer to APPENDIX.

SECTION 4: Operation of E.U.T. during testing

4.1 Operating Mode(s)

Test operating mode was determined as follows according to “Section 1 of 6 802.11 a/b/g/n testing- Managing Complex Regulatory Approvals - ” of TCB Council Workshop October 2009.

Mode	Remarks*
IEEE 802.11b (11b)	11Mbps (Long), PN9
IEEE 802.11g (11g)	6Mbps, PN9
IEEE 802.11n MIMO 20MHz BW (11n-20)	MCS 9 (Long GI, 2 Streams), PN9
IEEE 802.11n MIMO 40MHz BW (11n-40)	MCS 8 (Long GI, 2 Streams), PN9
*The worst condition was determined based on the test result of Maximum Peak Output Power (Mid Channel)	
*Power of the EUT was set by the software as follows; Power settings: Refer to the following table. Software: RT3883 QA Firmware Release Version : 0 RT3883 QA Release Version : 1.0.3.5	
Any conditions under the normal use do not exceed the condition of setting. In addition, end users cannot change the settings of the output power of the product.	

Tested power setting was tuned by software to produce a Target Power*.

Operation	Antenna	Rate	Frequency	Power Setting	Target Power* [dBm]
11b	Antenna 0	11Mbps(Long)	2412MHz	1A	15
			2437MHz	1F	17
			2462MHz	17	12
11g	Antenna 0	6Mbps	2412MHz	16	12
			2437MHz	1B	14
			2462MHz	13	9
11n MIMO 20Mband	Antenna 0&1	MCS9 (LongGI)	2412MHz	Ant0:14	14
				Ant1:13	
			2437MHz	Ant0:1A	16
				Ant1:18	
			2462MHz	Ant0:11	11
				Ant1:10	
11n MIMO 40Mband	Antenna 0&1	MCS8 (ShortGI)	2422MHz	Ant0:15	14
				Ant1:14	
			2437MHz	Ant0:1A	16
				Ant1:18	
			2452MHz	Ant0:11	11
				Ant1:10	

*Target Power (Target power = Maximum specification power (Average Power (on time only) from Antenna terminal))

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*The details of Operating mode(s)

Test Item	Operating Mode	Tested Antenna	Tested frequency
Conducted Emission	11n-40 Tx *3)	Antenna 0&1	2437MHz
Spurious Emission (Radiated)	11b Tx	Antenna 0 *2)	2412MHz
			2437MHz
			2462MHz
	11n-20 Tx *1)	Antenna 0&1	2412MHz
			2437MHz
			2462MHz
11n-40 Tx	Antenna 0&1	2422MHz	
		2437MHz	
		2452MHz	

*1) Since 11g and 11n-20 have the same modulation method and no differences in transmitting specification, test was performed on the representative mode that had the highest peak output power. Please refer to UL Japan test report No.32LE0279-HO-01-A-R1.

*2) After the comparison between Antenna port 1 and Antenna port 2, test was performed with the antenna that had higher power as a representative. Please refer to UL Japan test report No.32LE0279-HO-01-A-R1.

*3) The mode was tested as a representative, because it had the highest power at antenna terminal test. Please refer to UL Japan test report No.32LE0279-HO-01-A-R1.

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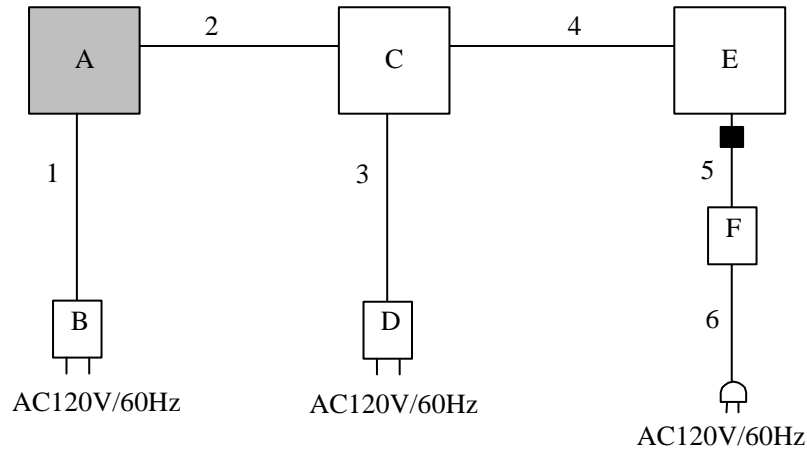
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4.2 Configuration and peripherals



■ : Standard Ferrite Core

* Cabling and setup(s) were taken into consideration and test data was taken under worse case conditions.

Description of EUT

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	SX-DS-3000WN	SX-DS-3000WN	B1220134700	silex technology, Inc.	EUT
B	AC Adapter	US115-05	A07-0392740	cosmos UNIFIVE	-
C	Air Station	WZR-HP-AG300H	26622310506683	Buffalo	-
D	AC Adapter	WA-24C12U	059414554	Buffalo	-
E	Laptop PC	2647-LJ3	97-ALT8N	IBM	-
F	AC Adapter	02K6750	11S02K6750Z1Z2UP29909J	IBM	-

List of cables used

No.	Name	Length (m)	Shield		Remarks
			Cable	Connector	
1	DC Cable	1.8	Unshielded	Unshielded	-
2	LAN Cable	1.4	Shielded	Shielded	-
3	DC Cable	1.8	Unshielded	Unshielded	-
4	LAN Cable	2.0	Unshielded	Unshielded	-
5	DC Cable	1.8	Unshielded	Unshielded	-
6	AC Cable	1.0	Unshielded	Unshielded	-

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SECTION 5: Conducted Emission

Test Procedure and conditions

EUT was placed on a urethane platform of nominal size, 1.0m by 1.5m, raised 0.8m above the conducting ground plane.

The rear of tabletop was located 40cm to the vertical conducting plane. The rear of EUT, including peripherals aligned and flushed with rear of tabletop. All other surfaces of tabletop were at least 80cm from any other grounded conducting surface. EUT was located 80cm from a Line Impedance Stabilization Network (LISN)/ Artificial mains Network (AMN) and excess AC cable was bundled in center.

For the tests on EUT with other peripherals (as a whole system)

I/O cables that were connected to the peripherals were bundled in center. They were folded back and forth forming a bundle 30cm to 40cm long and were hanged at a 40cm height to the ground plane. All unused 50ohm connectors of the LISN(AMN) were resistivity terminated in 50ohm when not connected to the measuring equipment.

The AC Mains Terminal Continuous disturbance Voltage has been measured with the EUT in a Semi Anechoic Chamber.

The EUT was connected to a LISN (AMN).

An overview sweep with peak detection has been performed.

The test results and limit are rounded off to one decimal place, so some differences might be observed.

Detector	: QP and CISPR AV
Measurement range	: 0.15-30MHz
Test data	: APPENDIX
Test result	: Pass

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SECTION 6: Radiated Spurious Emission

Test Procedure

It was measured based on "10.0 MAXIMUM UNWANTED EMISSION LEVELS" of "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247 (Issued on April 9, 2013)".

EUT was placed on a urethane platform of nominal size, 0.5m by 1.0m, raised 0.8m above the conducting ground plane.

The Radiated Electric Field Strength has been measured in a Semi Anechoic Chamber with a ground plane.

The height of the measuring antenna varied between 1 and 4m and EUT was rotated a full revolution in order to obtain the maximum value of the electric field strength.

The measurements were performed for both vertical and horizontal antenna polarization with the Test Receiver, or the Spectrum Analyzer.

The measurements were made with the following detector function of the test receiver and the Spectrum analyzer (in linear mode).

The test was made with the detector (RBW/VBW) in the following table.

When using Spectrum analyzer, the test was made with adjusting span to zero by using peak hold.

Test Antennas are used as below;

Frequency	30MHz to 300MHz	300MHz to 1GHz	Above 1GHz
Antenna Type	Biconical	Logperiodic	Horn

In any 100kHz bandwidth outside the restricted band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator confirmed 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on a radiated measurement.

20dBc was applied to the frequency over the limit of FCC 15.209 / Table 5 of RSS-Gen 7.2.5(IC) and outside the restricted band of FCC15.205 / Table 3 of RSS-Gen 7.2.2 (IC).

Frequency	Below 1GHz	Above 1GHz		20dBc
Instrument used	Test Receiver	Spectrum Analyzer		Spectrum Analyzer
Detector	QP	PK	AV *3)	PK
IF Bandwidth	BW 120kHz(T/R)	RBW: 1MHz VBW: 3MHz	RBW: 1MHz VBW: 1.1kHz 750Hz, 3kHz *1)	RBW: 100kHz VBW: 300kHz (S/A)
Test Distance	3m	3m (below 10GHz), 1m *2) (above 10GHz)		3m (below 10GHz), 1m *2) (above 10GHz)

*1) Used for the band edge of the carrier and the harmonics that can be measured. The VBW is based on the inverse of the Tx on (See Appendix).

*2) Distance Factor: $20 \times \log(3.0\text{m}/1.0\text{m}) = 9.5\text{dB}$

*3) Average Power Measurement was performed based on 6.0 & 12.2.5 of "Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247 (Issued on April 9, 2013)"

- The carrier level and noise levels were confirmed at each position of X, Y and Z axes of EUT to see the position of maximum noise, and the test was made at the position that has the maximum noise.

The test results and limit are rounded off to one decimal place, so some differences might be observed.

Measurement range : 30M-26.5GHz
Test data : APPENDIX
Test result : Pass

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APPENDIX 1: Data of EMI test

Conducted Emission

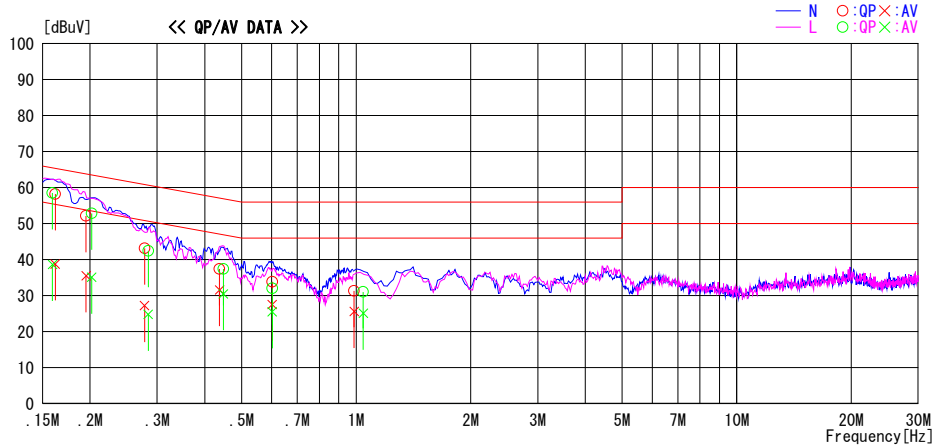
DATA OF CONDUCTED EMISSION TEST

UL Japan, Inc. Head Office EMC Lab. No.2 Semi Anechoic Chamber
05/30/2013

Report No. : 10003588H
Power : AC 120V / 60Hz
Temp./Humi. : 23deg. C / 55% RH
Engineer : Hiroshi Kukita

Mode / Remarks : 11n-40, MCS8 2437MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency [MHz]	Reading Level		Corr. Factor	Results		Limit		Margin		Phase	Comment
	QP [dBuV]	AV [dBuV]		QP [dBuV]	AV [dBuV]	QP [dBuV]	AV [dBuV]	QP [dB]	AV [dB]		
0.16186	44.9	25.5	13.3	58.2	38.8	65.4	55.4	7.2	16.6	N	
0.19500	38.8	22.2	13.3	52.1	35.5	63.8	53.8	11.7	18.3	N	
0.27790	29.8	13.9	13.3	43.1	27.2	60.9	50.9	17.8	23.7	N	
0.43730	24.1	18.3	13.3	37.4	31.6	57.1	47.1	19.7	15.5	N	
0.60200	20.5	14.1	13.4	33.9	27.5	56.0	46.0	22.1	18.5	N	
0.98740	17.9	12.2	13.4	31.3	25.6	56.0	46.0	24.7	20.4	N	
0.15918	45.2	25.3	13.3	58.5	38.6	65.5	55.5	7.0	16.9	L	
0.20180	39.5	21.8	13.3	52.8	35.1	63.5	53.5	10.7	18.4	L	
0.28420	29.1	11.5	13.3	42.4	24.8	60.7	50.7	18.3	25.9	L	
0.44800	24.1	17.2	13.3	37.4	30.5	56.9	46.9	19.5	16.4	L	
0.60155	18.6	12.1	13.4	32.0	25.5	56.0	46.0	24.0	20.5	L	
1.04400	17.6	11.7	13.4	31.0	25.1	56.0	46.0	25.0	20.9	L	

CHART: WITH FACTOR, Peak hold data. CALCULATION: RESULT=READING+C. F (LISN LOSS+ATT LOSS +CABLE LOSS)
Except for the above table : adequate margin data below the limits.

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.3 Semi Anechoic Chamber	
Report No.	10003588H	
Date	05/28/2013	05/30/2013
Temperature/ Humidity	23 deg. C / 59% RH	23 deg. C / 55% RH
Engineer	Hiroshi Kukita	Hiroshi Kukita
	(1-10GHz)	(10-26.5GHz)
Mode	11b Tx 2412MHz	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	1608.000	PK	58.4	25.4	1.9	36.0	49.7	73.9	24.2	
Hori	2390.000	PK	60.4	27.4	2.4	35.7	54.5	73.9	19.4	
Hori	4824.000	PK	48.4	31.7	4.3	34.9	49.5	73.9	24.4	
Hori	1608.000	AV	56.2	25.4	1.9	36.0	47.5	53.9	6.4	
Hori	2390.000	AV	50.0	27.4	2.4	35.7	44.1	53.9	9.8	
Hori	4824.000	AV	41.2	31.7	4.3	34.9	42.3	53.9	11.6	
Vert	1608.000	PK	57.0	25.4	1.9	36.0	48.3	73.9	25.6	
Vert	2390.000	PK	58.4	27.4	2.4	35.7	52.5	73.9	21.4	
Vert	4824.000	PK	48.5	31.7	4.3	34.9	49.6	73.9	24.3	
Vert	1608.000	AV	53.9	25.4	1.9	36.0	45.2	53.9	8.7	
Vert	2390.000	AV	47.8	27.4	2.4	35.7	41.9	53.9	12.0	
Vert	4824.000	AV	40.9	31.7	4.3	34.9	42.0	53.9	11.9	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Ant)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

*The 10th harmonic was not seen so the result was its base noise level.

Distance factor: 10GHz-26.5GHz $20\log(3.0m/1.0m) = 9.5dB$

20dBc Data Sheet

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2412.000	PK	110.5	27.5	2.4	35.7	104.7	-	-	Carrier
Hori	2400.000	PK	63.4	27.4	2.4	35.7	57.5	84.7	27.2	
Hori	3213.500	PK	53.4	29.0	2.8	35.0	50.2	84.7	34.5	
Vert	2412.000	PK	108.3	27.5	2.4	35.7	102.5	-	-	Carrier
Vert	2400.000	PK	58.9	27.4	2.4	35.7	53.0	82.5	29.5	
Vert	3213.500	PK	48.3	29.0	2.8	35.0	45.1	82.5	37.4	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

UL Japan, Inc.

Head Office EMC Lab.

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Radiated Spurious Emission

Test place : Head Office EMC Lab. No.2 Semi Anechoic Chamber
Report No. : 10003588H
Date : 05/30/2013
Temperature/ Humidity : 23 deg. C / 55% RH
Engineer : Hiroshi Kukita
Mode : 11b Tx 2437MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	1624.000	PK	54.3	25.5	2.0	36.0	45.8	73.9	28.1	
Hori	4874.000	PK	49.3	30.8	4.2	34.9	49.4	73.9	24.5	
Hori	1624.000	AV	50.8	25.5	2.0	36.0	42.3	53.9	11.6	
Hori	4874.000	AV	43.9	30.8	4.2	34.9	44.0	53.9	9.9	
Vert	1624.678	PK	58.4	25.5	2.0	36.0	49.9	73.9	24.0	
Vert	4874.000	PK	49.7	30.8	4.2	34.9	49.8	73.9	24.1	
Vert	1624.678	AV	54.9	25.5	2.0	36.0	46.4	53.9	7.5	
Vert	4874.000	AV	45.4	30.8	4.2	34.9	45.5	53.9	8.4	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Ant)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

*The 10th harmonic was not seen so the result was its base noise level.
Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2437.000	PK	113.1	26.8	2.4	35.7	106.6	-	-	Carrier
Hori	3249.314	PK	53.4	27.9	2.8	35.0	49.1	86.6	37.5	
Vert	2437.000	PK	108.3	26.8	2.4	35.7	101.8	-	-	Carrier
Vert	3249.317	PK	48.8	27.9	2.8	35.0	44.5	81.8	37.3	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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Radiated Spurious Emission

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber	
Report No.	10003588H	
Date	05/29/2013	05/30/2013
Temperature/ Humidity	23 deg. C / 55% RH	23 deg. C / 55% RH
Engineer	Hiroshi Kukita	Hiroshi Kukita
	(1-10GHz)	(10-26.5GHz)
Mode	11b Tx 2462MHz	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2483.500	PK	57.3	26.7	2.4	35.7	50.7	73.9	23.2	
Hori	4924.000	PK	44.6	31.0	4.2	34.9	44.9	73.9	29.0	
Hori	2483.500	AV	45.4	26.7	2.4	35.7	38.8	53.9	15.1	
Hori	4924.000	AV	36.5	31.0	4.2	34.9	36.8	53.9	17.1	
Vert	2483.500	PK	53.4	26.7	2.4	35.7	46.8	73.9	27.1	
Vert	4924.000	PK	48.6	31.0	4.2	34.9	48.9	73.9	25.0	
Vert	2483.500	AV	42.0	26.7	2.4	35.7	35.4	53.9	18.5	
Vert	4924.000	AV	42.0	31.0	4.2	34.9	42.3	53.9	11.6	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

*The 10th harmonic was not seen so the result was its base noise level.

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2462.000	PK	105.7	26.7	2.4	35.7	99.1	-	-	Carrier
Hori	1641.319	PK	54.5	25.6	2.0	36.0	46.1	79.1	33.0	
Hori	3282.655	PK	51.5	27.9	2.8	35.0	47.2	79.1	31.9	
Vert	2462.000	PK	102.9	26.7	2.4	35.7	96.3	-	-	Carrier
Vert	1641.326	PK	58.5	25.6	2.0	36.0	50.1	76.3	26.2	
Vert	3282.642	PK	46.0	27.9	2.8	35.0	41.7	76.3	34.6	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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Radiated Spurious Emission

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber	
Report No.	10003588H	
Date	05/29/2013	05/30/2013
Temperature/ Humidity	23 deg. C / 55% RH	23 deg. C / 55% RH
Engineer	Hiroshi Kukita	Hiroshi Kukita
	(1-10GHz)	(10-26.5GHz)
Mode	11n-20 Tx 2412MHz	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	1608.038	PK	58.3	25.5	1.9	36.0	49.7	73.9	24.2	
Hori	2390.000	PK	68.4	26.8	2.4	35.7	61.9	73.9	12.0	
Hori	4824.000	PK	46.3	30.7	4.3	34.9	46.4	73.9	27.5	
Hori	1608.038	AV	56.7	25.5	1.9	36.0	48.1	53.9	5.8	
Hori	2390.000	AV	53.5	26.8	2.4	35.7	47.0	53.9	6.9	
Hori	4824.000	AV	38.3	30.7	4.3	34.9	38.4	53.9	15.5	
Vert	1608.019	PK	58.5	25.5	1.9	36.0	49.9	73.9	24.0	
Vert	2390.000	PK	61.0	26.8	2.4	35.7	54.5	73.9	19.4	
Vert	4824.000	PK	43.6	30.7	4.3	34.9	43.7	73.9	30.2	
Vert	1608.019	AV	57.0	25.5	1.9	36.0	48.4	53.9	5.5	
Vert	2390.000	AV	46.7	26.8	2.4	35.7	40.2	53.9	13.7	
Vert	4824.000	AV	35.5	30.7	4.3	34.9	35.6	53.9	18.3	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Ampl)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

*The 10th harmonic was not seen so the result was its base noise level.

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2412.000	PK	106.0	26.8	2.4	35.7	99.5	-	-	Carrier
Hori	2400.000	PK	67.1	26.8	2.4	35.7	60.6	79.5	18.9	
Hori	3215.985	PK	55.5	27.8	2.8	35.0	51.1	79.5	28.4	
Vert	2412.000	PK	103.2	26.8	2.4	35.7	96.7	-	-	Carrier
Vert	2400.000	PK	60.2	26.8	2.4	35.7	53.7	76.7	23.0	
Vert	3215.974	PK	50.1	27.8	2.8	35.0	45.7	76.7	31.0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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Radiated Spurious Emission

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber	
Report No.	10003588H	
Date	05/29/2013	05/30/2013
Temperature/ Humidity	23 deg. C / 55% RH	23 deg. C / 55% RH
Engineer	Hiroshi Kukita	Hiroshi Kukita
	(1-10GHz)	(10-26.5GHz)
Mode	11n-20 Tx 2437MHz	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	1624.625	PK	59.0	25.5	2.0	36.0	50.5	73.9	23.4	
Hori	4874.000	PK	45.7	30.8	4.2	34.9	45.8	73.9	28.1	
Hori	1624.625	AV	56.9	25.5	2.0	36.0	48.4	53.9	5.5	
Hori	4874.000	AV	38.0	30.8	4.2	34.9	38.1	53.9	15.8	
Vert	1624.673	PK	58.7	25.5	2.0	36.0	50.2	73.9	23.7	
Vert	4874.000	PK	45.0	30.8	4.2	34.9	45.1	73.9	28.8	
Vert	1624.673	AV	56.2	25.5	2.0	36.0	47.7	53.9	6.2	
Vert	4874.000	AV	36.5	30.8	4.2	34.9	36.6	53.9	17.3	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amp)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

*The 10th harmonic was not seen so the result was its base noise level.

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2437.000	PK	108.2	26.8	2.4	35.7	101.7	-	-	Carrier
Hori	3249.317	PK	52.9	27.9	2.8	35.0	48.6	81.7	33.1	
Vert	2437.000	PK	105.0	26.8	2.4	35.7	98.5	-	-	Carrier
Vert	3249.320	PK	47.5	27.9	2.8	35.0	43.2	78.5	35.3	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amp)

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Radiated Spurious Emission

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber	
Report No.	10003588H	
Date	05/29/2013	05/30/2013
Temperature/ Humidity	23 deg. C / 55% RH	23 deg. C / 55% RH
Engineer	Hiroshi Kukita	Hiroshi Kukita
	(1-10GHz)	(10-26.5GHz)
Mode	11n-20 Tx 2462MHz	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2483.500	PK	60.0	26.7	2.4	35.7	53.4	73.9	20.5	
Hori	4924.000	PK	44.7	31.0	4.2	34.9	45.0	73.9	28.9	
Hori	2483.500	AV	48.2	26.7	2.4	35.7	41.6	53.9	12.3	
Hori	4924.000	AV	38.4	31.0	4.2	34.9	38.7	53.9	15.2	
Vert	2483.500	PK	56.6	26.7	2.4	35.7	50.0	73.9	23.9	
Vert	4924.000	PK	43.0	31.0	4.2	34.9	43.3	73.9	30.6	
Vert	2483.500	AV	45.2	26.7	2.4	35.7	38.6	53.9	15.3	
Vert	4924.000	AV	36.6	31.0	4.2	34.9	36.9	53.9	17.0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

*The 10th harmonic was not seen so the result was its base noise level.

Distance factor: 10GHz-26.5GHz $20\log(3.0m/1.0m) = 9.5dB$

20dBc Data Sheet

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2462.000	PK	105.3	26.7	2.4	35.7	98.7	-	-	Carrier
Hori	1641.319	PK	57.0	25.6	2.0	36.0	48.6	78.7	30.1	
Hori	3282.648	PK	51.5	27.9	2.8	35.0	47.2	78.7	31.5	
Vert	2462.000	PK	102.2	26.7	2.4	35.7	95.6	-	-	Carrier
Vert	1641.327	PK	59.0	25.6	2.0	36.0	50.6	75.6	25.0	
Vert	3282.649	PK	48.8	27.9	2.8	35.0	44.5	75.6	31.1	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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Radiated Spurious Emission

Test place Head Office EMC Lab. No.2 Semi Anechoic Chamber
Report No. 10003588H
Date 05/29/2013 05/30/2013
Temperature/ Humidity 23 deg. C / 55% RH 23 deg. C / 55% RH
Engineer Hiroshi Kukita Hiroshi Kukita
(1-10GHz) (10-26.5GHz)
Mode 11n-40 Tx 2422MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	1614.645	PK	61.8	25.4	1.9	36.0	53.1	73.9	20.8	
Hori	2390.000	PK	74.5	27.4	2.4	35.7	68.6	73.9	5.3	
Hori	4844.000	PK	44.0	31.7	4.2	34.9	45.0	73.9	28.9	
Hori	1614.645	AV	61.2	25.4	1.9	36.0	52.5	53.9	1.4	
Hori	2390.000	AV	59.4	27.4	2.4	35.7	53.5	53.9	0.4	
Hori	4844.000	AV	35.4	31.7	4.2	34.9	36.4	53.9	17.5	
Vert	1614.690	PK	62.5	25.4	1.9	36.0	53.8	73.9	20.1	
Vert	2390.000	PK	70.9	27.4	2.4	35.7	65.0	73.9	8.9	
Vert	4844.000	PK	47.7	31.7	4.2	34.9	48.7	73.9	25.2	
Vert	1614.690	AV	61.7	25.4	1.9	36.0	53.0	53.9	0.9	
Vert	2390.000	AV	58.0	27.4	2.4	35.7	52.1	53.9	1.8	
Vert	4844.000	AV	44.1	31.7	4.2	34.9	45.1	53.9	8.8	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Ampl)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

*The 10th harmonic was not seen so the result was its base noise level.

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2422.000	PK	104.4	27.5	2.4	35.7	98.6	-	-	Carrier
Hori	2400.000	PK	67.7	27.4	2.4	35.7	61.8	78.6	16.8	
Hori	3229.318	PK	54.4	28.9	2.8	35.0	51.1	78.6	27.5	
Vert	2422.000	PK	102.7	27.5	2.4	35.7	96.9	-	-	Carrier
Vert	2400.000	PK	63.4	27.4	2.4	35.7	57.5	76.9	19.4	
Vert	3232.500	PK	52.8	28.9	2.8	35.0	49.5	76.9	27.4	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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Radiated Spurious Emission

Test place Head Office EMC Lab. No.2 Semi Anechoic Chamber
Report No. 10003588H
Date 05/29/2013 05/30/2013
Temperature/ Humidity 23 deg. C / 55% RH 23 deg. C / 55% RH
Engineer Hiroshi Kukita Hiroshi Kukita
(1-10GHz) (30-1000MHz, 10-26.5GHz)
Mode 11n-40 Tx 2437MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	106.758	QP	36.2	11.1	7.5	28.3	26.5	43.5	17.0	
Hori	250.002	QP	29.8	17.2	8.5	27.5	28.0	46.0	18.0	
Hori	374.998	QP	43.0	16.6	9.2	28.2	40.6	46.0	5.4	
Hori	499.997	QP	45.8	18.0	9.7	28.8	44.7	46.0	1.3	
Hori	624.997	QP	38.3	19.5	10.3	28.7	39.4	46.0	6.6	
Hori	666.664	QP	35.2	19.9	10.5	28.5	37.1	46.0	8.9	
Hori	1624.627	PK	58.2	25.5	2.0	36.0	49.7	73.9	24.2	
Hori	4844.000	PK	42.4	30.8	4.2	34.9	42.5	73.9	31.4	
Hori	1624.627	AV	57.4	25.5	2.0	36.0	48.9	53.9	5.0	
Hori	4844.000	AV	32.0	30.8	4.2	34.9	32.1	53.9	21.8	
Vert	51.800	QP	45.9	10.2	7.0	28.6	34.5	40.0	5.5	
Vert	69.720	QP	49.6	6.6	7.2	28.5	34.9	40.0	5.1	
Vert	145.430	QP	42.0	14.7	7.8	28.2	36.3	43.5	7.2	
Vert	374.997	QP	43.7	16.6	9.2	28.2	41.3	46.0	4.7	
Vert	499.998	QP	46.9	18.0	9.7	28.8	45.8	46.0	0.2	
Vert	624.997	QP	39.3	19.5	10.3	28.7	40.4	46.0	5.6	
Vert	1624.688	PK	60.9	25.5	2.0	36.0	52.4	73.9	21.5	
Vert	4844.000	PK	43.4	30.8	4.2	34.9	43.5	73.9	30.4	
Vert	1624.688	AV	59.3	25.5	2.0	36.0	50.8	53.9	3.1	
Vert	4844.000	AV	32.7	30.8	4.2	34.9	32.8	53.9	21.1	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Ant)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

*The 10th harmonic was not seen so the result was its base noise level.

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2437.000	PK	105.6	26.8	2.4	35.7	99.1	-	-	Carrier
Hori	3251.500	PK	54.4	27.9	2.8	35.0	50.1	79.1	29.0	
Vert	2437.000	PK	103.5	26.8	2.4	35.7	97.0	-	-	Carrier
Vert	3249.295	PK	53.7	27.9	2.8	35.0	49.4	77.0	27.6	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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Radiated Spurious Emission

Test place Head Office EMC Lab. No.2 Semi Anechoic Chamber
Report No. 10003588H
Date 05/28/2013 05/30/2013
Temperature/ Humidity 23 deg. C / 59% RH 23 deg. C / 55% RH
Engineer Hiroshi Kukita Hiroshi Kukita
(1-10GHz) (10-26.5GHz)
Mode 11n-40 Tx 2452MHz

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2483.500	PK	68.3	26.7	2.4	35.7	61.7	73.9	12.2	
Hori	2485.500	PK	70.1	26.7	2.4	35.7	63.5	73.9	10.4	
Hori	4904.000	PK	42.8	30.9	4.2	34.9	43.0	73.9	30.9	
Hori	2483.500	AV	54.4	26.7	2.4	35.7	47.8	53.9	6.1	
Hori	2485.500	AV	54.0	26.7	2.4	35.7	47.4	53.9	6.5	
Hori	4904.000	AV	34.9	30.9	4.2	34.9	35.1	53.9	18.8	
Vert	2483.500	PK	61.1	26.7	2.4	35.7	54.5	73.9	19.4	
Vert	2484.350	PK	63.4	26.7	2.4	35.7	56.8	73.9	17.1	
Vert	4904.000	PK	48.5	30.9	4.2	34.9	48.7	73.9	25.2	
Vert	2483.500	AV	48.5	26.7	2.4	35.7	41.9	53.9	12.0	
Vert	2484.350	AV	47.0	26.7	2.4	35.7	40.4	53.9	13.5	
Vert	4904.000	AV	44.7	30.9	4.2	34.9	44.9	53.9	9.0	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Ant)

*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

*The 10th harmonic was not seen so the result was its base noise level.

Distance factor: 10GHz-26.5GHz 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2452.000	PK	101.4	26.8	2.4	35.7	94.9	-	-	Carrier
Hori	1636.500	PK	59.0	25.6	2.0	36.0	50.6	74.9	24.3	
Hori	3269.318	PK	52.9	27.9	2.8	35.0	48.6	74.9	26.3	
Vert	2452.000	PK	97.2	26.8	2.4	35.7	90.7	-	-	Carrier
Vert	1634.659	PK	62.8	25.6	2.0	36.0	54.4	70.7	16.3	
Vert	3269.321	PK	52.4	27.9	2.8	35.0	48.1	70.7	22.6	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz)) - Gain(Amplifier)

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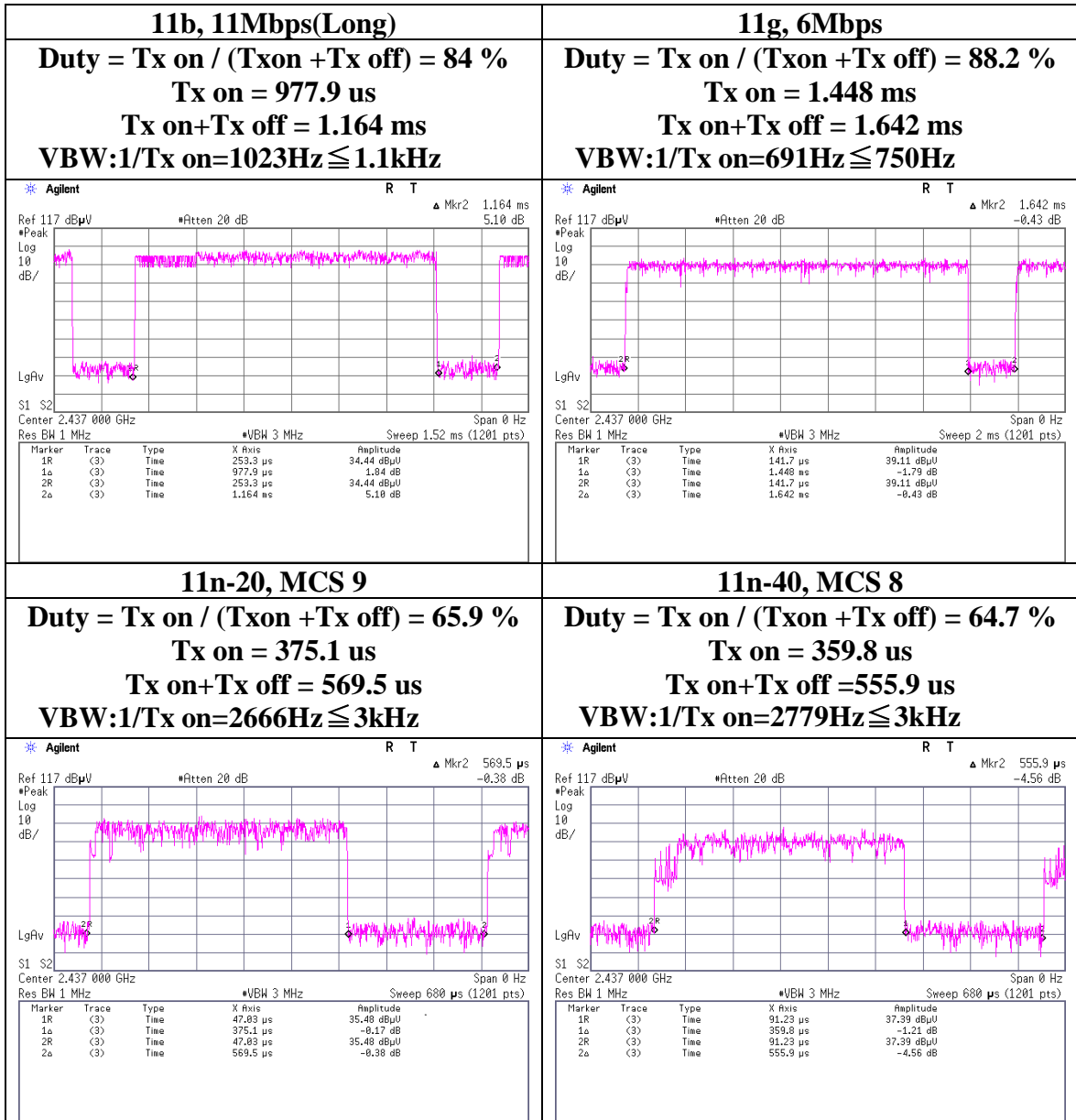
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Burst rate confirmation



APPENDIX 2: Test instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MAEC-03	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE	02/28/2013 * 12
MOS-13	Thermo-Hygrometer	Custom	CTH-180	-	RE	02/26/2013 * 12
MJM-16	Measure	KOMELON	KMC-36	-	RE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE	-
MSA-04	Spectrum Analyzer	Agilent	E4448A	US44300523	RE/CE	04/03/2013 * 12
MHA-20	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	258	RE	05/17/2013 * 12
MCC-132	Microwave Cable	HUBER+SUHNER	SUCOFLEX104	336161/4(1m) / 340639(5m)	RE	09/05/2012 * 12
MPA-10	Pre Amplifier	Agilent	8449B	3008A02142	RE	01/10/2013 * 12
MHF-06	High Pass Filter 3.5-24GHz	TOKIMEC	TF323DCA	601	RE	05/30/2012 * 12
MAEC-02	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-06902	RE/CE	06/29/2012 * 12
MOS-22	Thermo-Hygrometer	Custom	CTH-201	0003	RE/CE	02/26/2013 * 12
MJM-14	Measure	KOMELON	KMC-36	-	RE/CE	-
MHA-06	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	254	RE	02/15/2013 * 12
MHA-02	Horn Antenna 18-26.5GHz	EMCO	3160-09	1265	RE	02/15/2013 * 12
MTR-03	Test Receiver	Rohde & Schwarz	ESCI	100300	CE	04/10/2013 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	8127363	CE(EUT)	01/07/2013 * 12
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	8127364	CE(EUT)	01/07/2013 * 12
MTA-30	Terminator	TME	CT-01	-	CE	01/10/2013 * 12
MCC-13	Coaxial Cable	Fujikura	3D-2W(12m)/5D-2W(5m)/5D-2W(0.8m)/5D-2W(1m)	-	CE	02/06/2013 * 12
MAT-65	Attenuator(13dB)	JFW Industries, Inc.	50FP-013H2 N	-	CE	01/09/2013 * 12
MBA-02	Biconical Antenna	Schwarzbeck	BBA9106	VHA91032008	RE	10/08/2012 * 12
MLA-02	Logperiodic Antenna	Schwarzbeck	USLP9143	201	RE	10/08/2012 * 12
MCC-12	Coaxial Cable	Fujikura/Agilent	-	-	RE	02/06/2013 * 12
MAT-07	Attenuator(6dB)	Weinschel Corp	2	BK7970	RE	11/06/2012 * 12
MPA-09	Pre Amplifier	Agilent	8447D	2944A10845	RE	09/11/2012 * 12

The expiration date of the calibration is the end of the expired month.

All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards.

As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

**Test Item: CE: Conducted Emission
RE: Radiated Emission**

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