FCC CFR47 PART 15 SUBPART C
INDUSTRY CANADA RSS-210 ISSUE 8

CERTIFICATION TEST REPORT

FOR

BCA-L UNIT

MODEL NUMBER: LO(BCA)B

FCC ID: UI3LOBCA
IC: 140L-LOBCA

REPORT NUMBER: 32LE0191-HO-01

ISSUE DATE: August 23, 2012

Prepared for
NEC Corporation of America
6365 NORTH STATE HIGHWAY 161
IRVING, TEXAS 75039, USA

Prepared by
UL Japan, Inc.
Head Office EMC Lab.
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NVLAP LAB CODE: 200572-0

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

Revision History

Rev.	Issue Date	Revisions	Revised By
-	08/23/12	Initial Issue	T. Hatakeda

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: NEC Corporation of America
6365 NORTH STATE HIGHWAY 161
IRVING, TEXAS 75039, USA

EUT DESCRIPTION: BCA-L UNIT

MODEL: LO(BCA)B

SERIAL NUMBER: No. 10 (Radiated and Conducted tests),
No. 8 (Antenna Terminal Conducted test)

DATE TESTED: July 31 to August 8, 2012

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
CFR 47 Part 15 Subpart C	Pass
INDUSTRY CANADA RSS-210 Issue 8 Annex 8	Pass
INDUSTRY CANADA RSS-GEN Issue 3	Pass

UL Japan, Inc. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Japan, Inc based on interpretations and/or observations of test results. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Japan, Inc. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Japan, Inc. will constitute fraud and shall nullify the document. No part of this report may be used to claim product certification, approval, or endorsement by any government agency.

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2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4-2003, FCC CFR 47 Part 2, FCC CFR 47 Part 15, RSS-GEN Issue 3, and RSS-210 Issue 8.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 4383-326 Asama-cho, Ise-shi, Mie-ken 516-0021 JAPAN.

UL Japan, Inc. is accredited by NVLAP, Laboratory Code 200572-0
The full scope of accreditation can be viewed at
http://www.ul.com/japan/jpn/pages/services/emc/about/mark1/index.jsp#nvlap

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Field Strength (dBuV/m) = Measured Voltage (dBuV) + Antenna Factor (dB/m) + Cable Loss (dB) – Preamp Gain (dB)
36.5 dBuV + 18.7 dB/m + 0.6 dB – 26.9 dB = 28.9 dBuV/m

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4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

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

Power meter (±dB)	
Below 1GHz	Above 1GHz
1.0dB	1.0dB

Antenna terminal conducted emission and Power density (±dB)			**Antenna terminal conducted emission (±dB)**		**Channel power (±dB)**
Below 1GHz	1GHz-3GHz	3GHz-18GHz	18GHz-26.5GHz	26.5GHz-40GHz	
1.0dB	1.1dB	2.7dB	3.2dB	3.3dB	1.5dB

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5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a Bluetooth Adapter.

The radio module is manufactured by SMK Corporation, model: VRB4126-0101F.

5.2. MAXIMUM OUTPUT POWER

The transmitter has a maximum peak conducted output power as follows:

Frequency range (MHz)	Mode	Output Power (dBm)	Output Power (mW)
2402 - 2480	Basic GFSK	2.61	1.82
2402 - 2480	Enhanced 8PSK	2.49	1.77

* Refer to Section 7.5.

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes chip multilayer antenna, with a maximum gain of +0.7 dBi.

5.4. SOFTWARE AND FIRMWARE

The test utility software used during testing: RF Test Tool for Bluetooth Device ver.1.2.4

5.5. WORST-CASE CONFIGURATION AND MODE

The fundamental and spurious was measured in three different orientations X, Y and Z to find worst-case orientation, and final testing for radiated emissions was performed with EUT in following orientation.

	Horizontal	Vertical
Carrier	X	Z
Spurious (above 1GHz)	X	Z
Spurious (below 1GHz)	X	Z

The worst-case channel is determined as the channel with the highest output power, radiated emissions below 1 GHz and power line conducted emissions were performed with the EUT set to the channel with highest output power.

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5.6. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

PERIPHERAL SUPPORT EQUIPMENT LIST			
Description	**Manufacturer**	**Model**	**Serial Number**
N/A	N/A	N/A	N/A

I/O CABLES

I/O CABLE LIST						
Cable No.	**Port**	**# of Identic Ports**	**Connector Type**	**Cable Type**	**Cable Length**	**Remarks**
1	DC	1	DC	Un-Shielded	1.2m	N/A
2	USB	1	USB	Un-Shielded	0.4m	N/A

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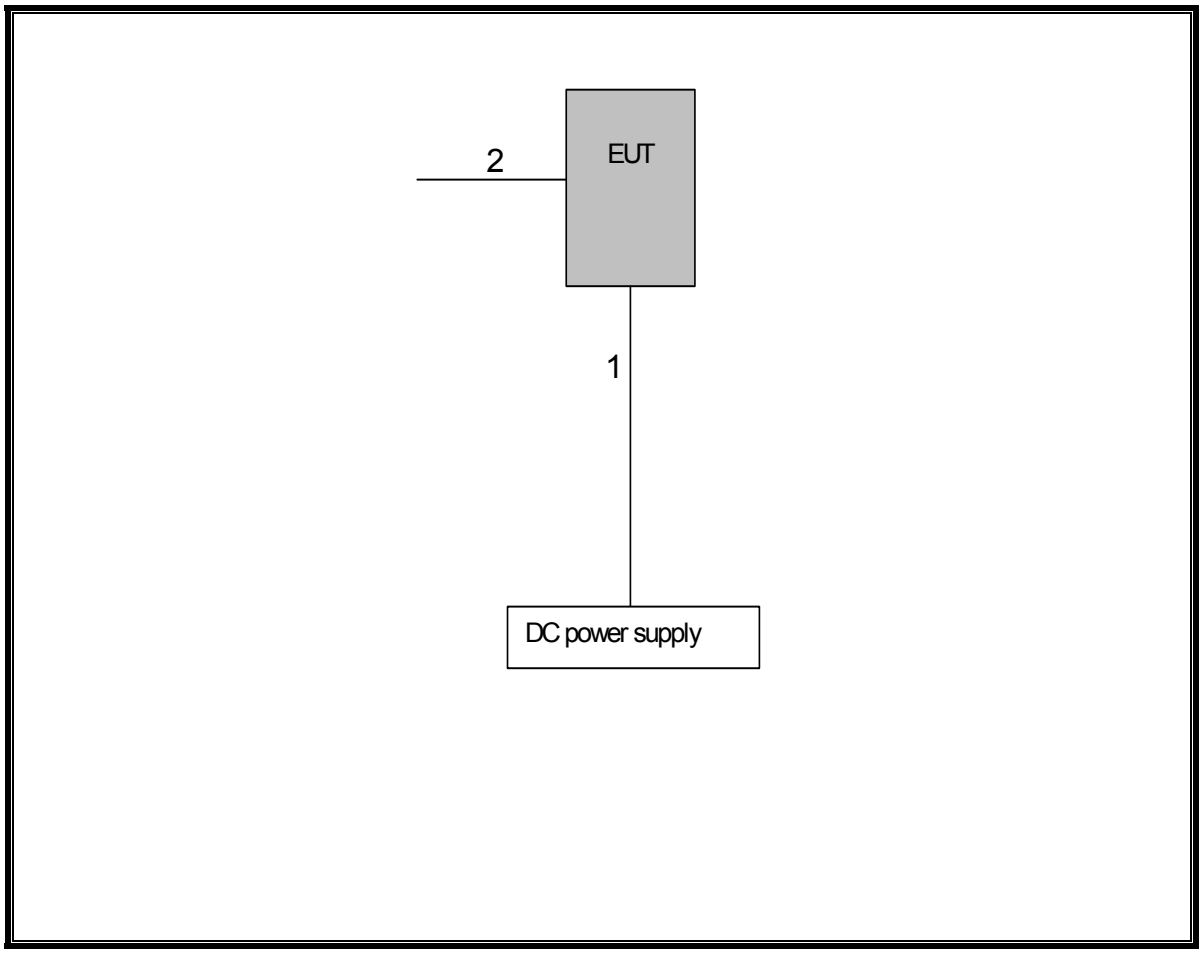
SETUP DIAGRAM



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6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MAEC-01	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 10m	DA-06881	RE	2012/08/01 * 12
MOS-27	Thermo-Hygrometer	CUSTOM	CTH-201	A08Q26	RE	2012/02/08 * 12
MJM-01	Measure	KDS	ES19-55	-	RE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE/CE	-
MHA-05	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	253	RE	2012/06/27 * 12
MHA-01	Horn Antenna 18-26.5GHz	EMCO	3160-09	1266	RE	2012/06/27 * 12
MCC-134	Microwave Cable	HUBER+SUHNER	SUCOFLEX104	336167/4(1m) / 340641(5m)	RE	2011/09/07 * 12
MPA-01	Pre Amplifier	Agilent	8449B	3008A01671	RE	2012/02/28 * 12
MHF-06	High Pass Filter 3.5-24GHz	TOKIMEC	TF323DCA	601	RE	2012/05/30 * 12
MAEC-02	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-06902	RE/CE	2012/06/29 * 12
MOS-22	Thermo-Hygrometer	Custom	CTH-201	0003	RE/CE	2012/02/06 * 12
MJM-14	Measure	KOMELON	KMC-36	-	RE/CE	-
MSA-04	Spectrum Analyzer	Agilent	E4448A	US44300523	RE/CE	2012/04/06 * 12
MHA-06	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	254	RE	2012/02/22 * 12
MPA-10	Pre Amplifier	Agilent	8449B	3008A02142	RE	2012/01/25 * 12
MHA-02	Horn Antenna 18-26.5GHz	EMCO	3160-09	1265	RE	2012/02/22 * 12
MCC-132	Microwave Cable	HUBER+SUHNER	SUCOFLEX104	336161/4(1m) / 340639(5m)	RE	2011/09/06 * 12
MHF-06	High Pass Filter 3.5-24GHz	TOKIMEC	TF323DCA	601	RE	2012/05/30 * 12
MTR-03	Test Receiver	Rohde & Schwarz	ESCI	100300	RE/CE	2012/04/03 * 12
MBA-02	Biconical Antenna	Schwarzbeck	BBA9106	VHA91032008	RE	2011/10/23 * 12
MLA-02	Logperiodic Antenna	Schwarzbeck	USLP9143	201	RE	2011/10/23 * 12
MCC-12	Coaxial Cable	Fujikura/Agilent	-	-	RE	2012/02/16 * 12
MAT-07	Attenuator(6dB)	Weinschel Corp	2	BK7970	RE	2011/11/02 * 12
MPA-09	Pre Amplifier	Agilent	8447D	2944A10845	RE	2011/09/26 * 12
MLS-06	LISN(AMN)	Schwarzbeck	NSLK8127	8127363	CE(EUT)	2012/02/06 * 12
MTA-31	Terminator	TME	CT-01	-	CE	2012/01/11 * 12
MCC-13	Coaxial Cable	Fujikura	3D-2W(12m)/ 5D-2W(5m)/ 5D-2W(0.8m)/ 5D-2W(1m)	-	CE	2012/02/16 * 12
MAT-65	Attenuator(13dB)	JFW Industries, Inc.	50FP-013H2 N	-	CE	2012/01/28 * 12
MSA-11	Spectrum Analyzer	Agilent	E4408B	MY45106562	AT	2012/07/31 * 12
MPSE-12	Power sensor	Anritsu	MA2411B	011598	AT	2011/09/12 * 12
MPM-09	Power Meter	Anritsu	ML2495A	6K00003348	AT	2011/09/12 * 12
MAT-22	Attenuator(10dB) 1-18GHz	Orient Microwave	BX10-0476-00	-	AT	2012/03/27 * 12
MCC-66	Microwave Cable 1G-40GHz	Suhner	SUCOFLEX102	28636/2	AT	2012/04/25 * 12
MCC-36	Microwave Cable	Hirose Electric	U.FL-2LP-066-A-(200)	-	AT	2011/09/30 * 12

The expiration date of the calibration is the end of the expired month.
As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

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

Test Item:

RE: Radiated emission
CE: Conducted emission
AT: Antenna Terminal Conducted test

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7. ANTENNA PORT TEST RESULTS

7.1. 20 dB AND 99% BANDWIDTH

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The RBW is set to ≥ 1% of the 20 dB bandwidth. The VBW is set to ≥ RBW. The sweep time is coupled.

RESULTS

DH5

Channel	Frequency (MHz)	20 dB Bandwidth (kHz)	99% Bandwidth (kHz)
Low	2402	936.988	870.8066
Middle	2441	936.211	856.3083
High	2480	960.100	879.5216

3DH5

Channel	Frequency (MHz)	20dB Bandwidth (MHz)	99% Bandwidth (MHz)
Low	2402	1.272	1.1579
Middle	2441	1.273	1.1600
High	2480	1.274	1.1563

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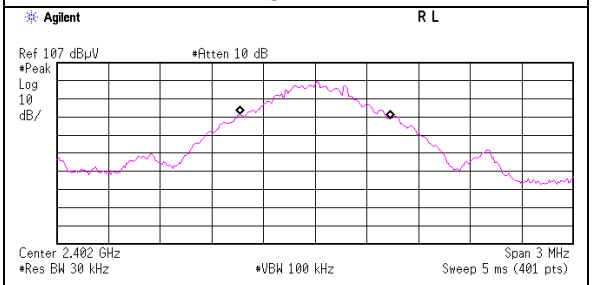
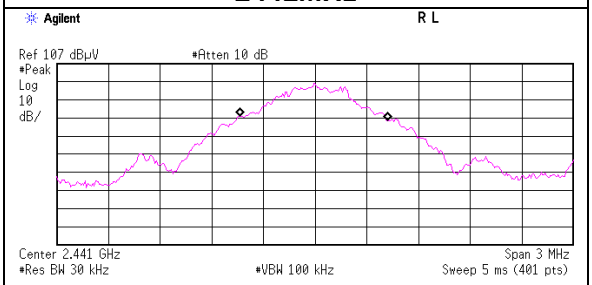
20 dB AND 99% BANDWIDTH

DH5

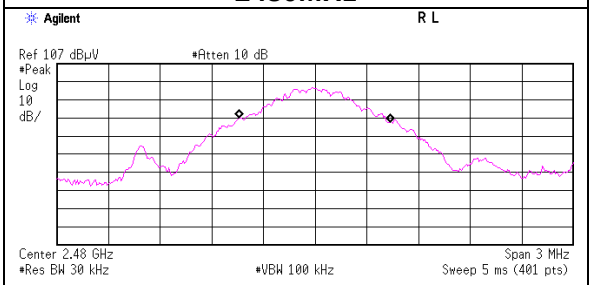
2402MHz



2441MHz

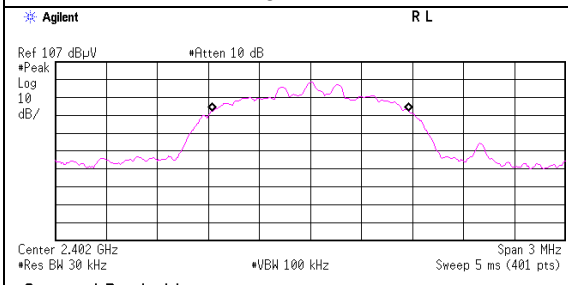


2480MHz

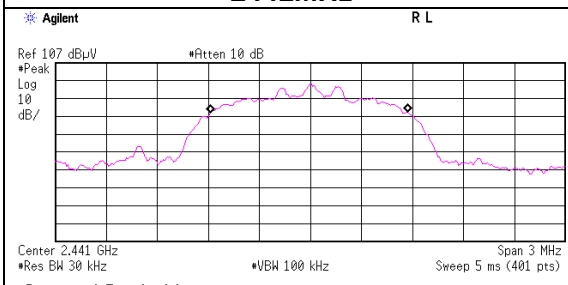


3DH5

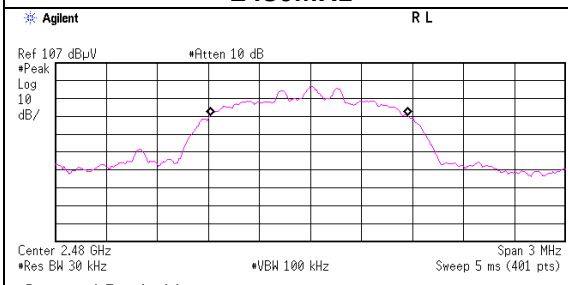
2402MHz



2441MHz



2480MHz



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7.2. HOPPING FREQUENCY SEPARATION

LIMIT

FCC §15.247 (a) (1)

IC RSS-210 A8.1 (b)

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hoping channel, whichever is greater.

Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer.

DH5:The RBW is set to 30 kHz and the VBW is set to 100 kHz.
3DH5:The RBW is set to 30 kHz and the VBW is set to 100 kHz.

The sweep time is coupled.

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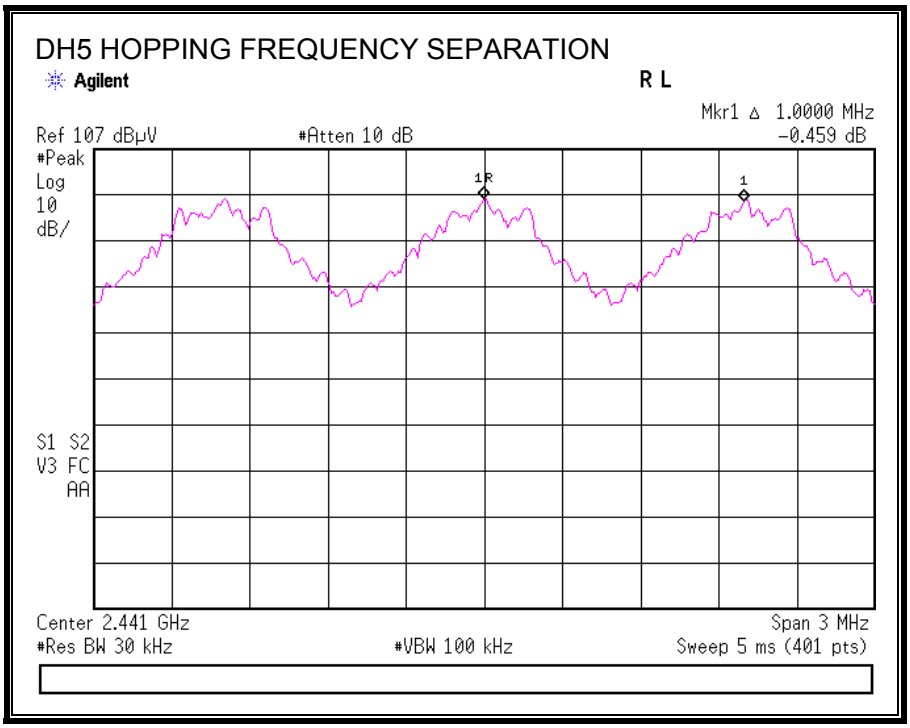
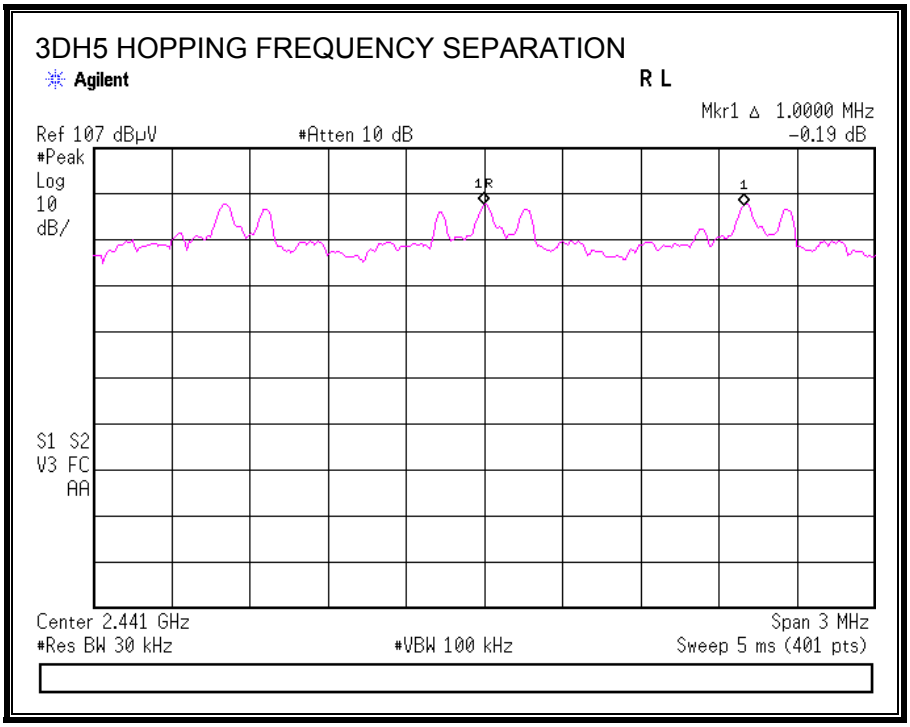
RESULTS

HOPPING FREQUENCY SEPARATION





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7.3. NUMBER OF HOPPING CHANNELS

LIMIT

FCC §15.247 (a) (1) (iii)

IC RSS-210 A8.1 (d)

Frequency hopping systems in the 2400 – 2483.5 MHz band shall use at least 15 non-overlapping channels.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The span is set to cover the entire authorized band, in either a single sweep or in multiple contiguous sweeps. The RBW is set to a maximum of 1 % of the span. The analyzer is set to Max Hold.

RESULTS

79 Channels observed.

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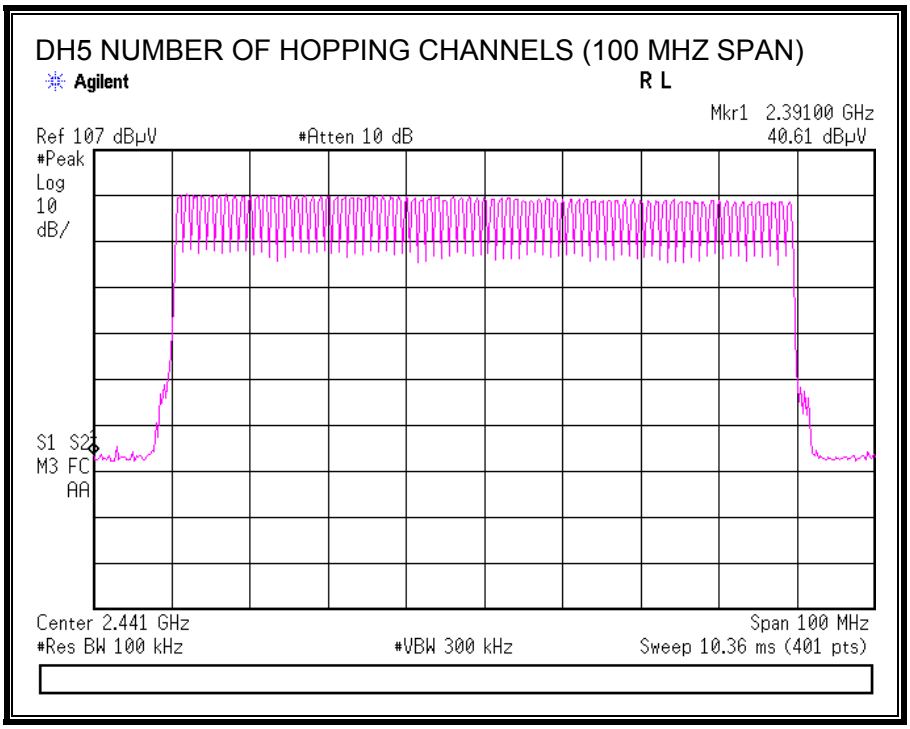
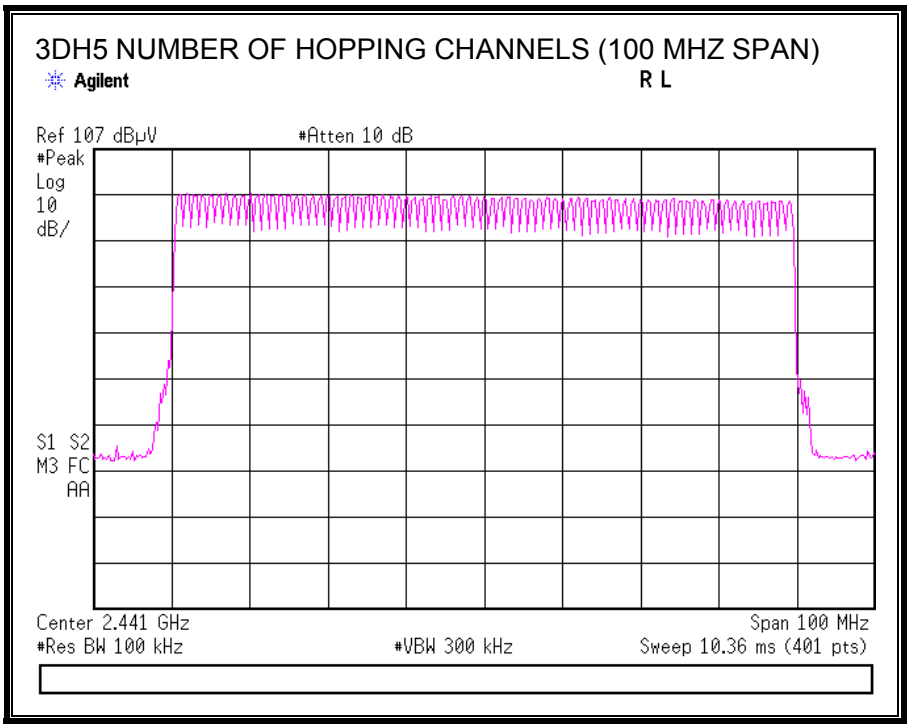
NUMBER OF HOPPING CHANNELS





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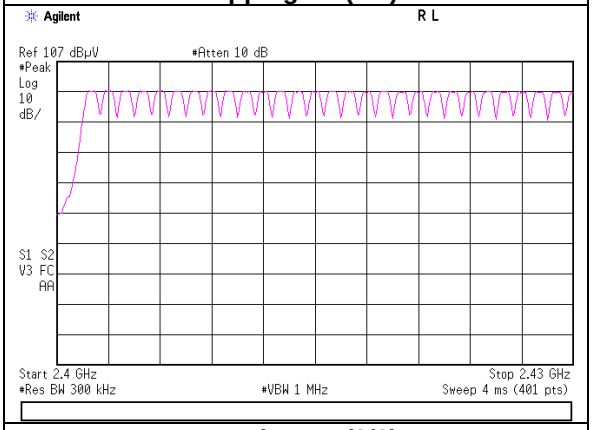
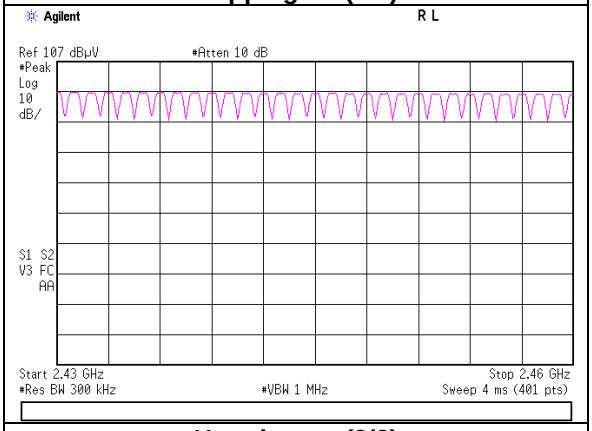
DH5

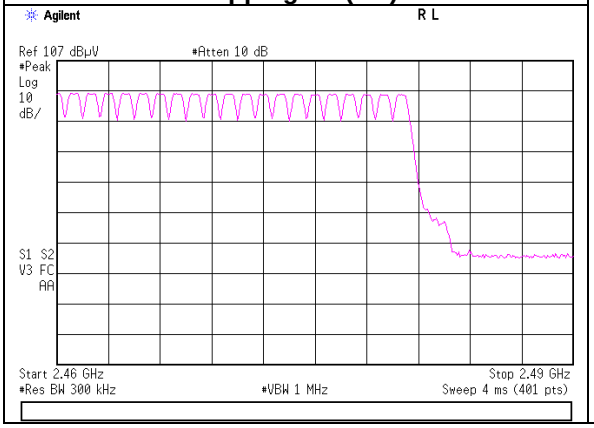
Hopping on (1/3)



Hopping on (2/3)

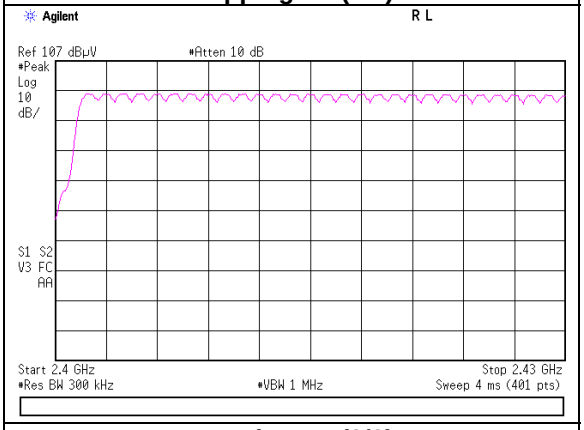


Hopping on (3/3)

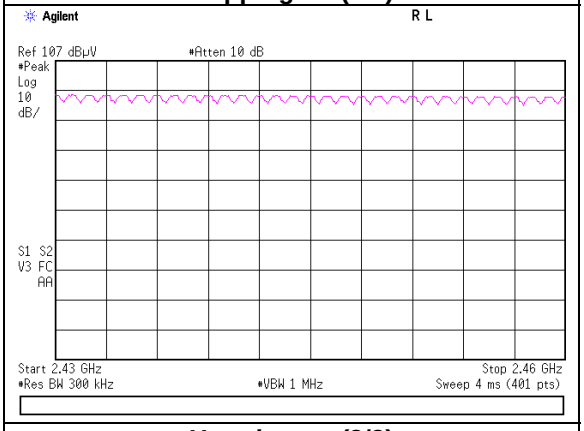


3DH5

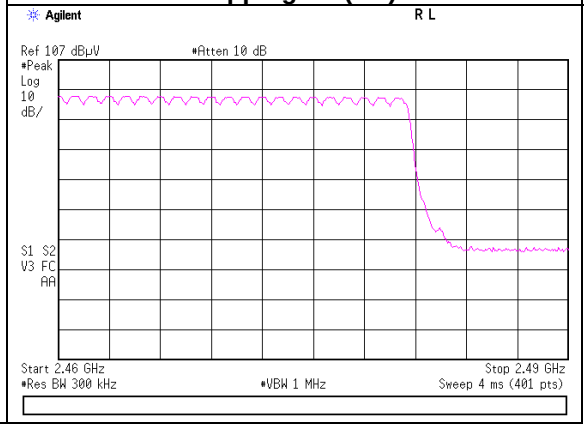
Hopping on (1/3)



Hopping on (2/3)



Hopping on (3/3)



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7.4. AVERAGE TIME OF OCCUPANCY

LIMIT

FCC §15.247 (a) (1) (iii)

IC RSS-210 A8.1 (d)

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The span is set to 0 Hz, centered on a single, selected hopping channel. The width of a single pulse is measured in a fast scan. The number of pulses is measured in a 3.16 second scan, to enable resolution of each occurrence.

The average time of occupancy in the specified 31.6 second period (79 channels * 0.4 s) is equal to 10 * (# of pulses in 3.16 s) * pulse width.

RESULTS

DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of (sec)	Limit (sec)	Margin (sec)
DH1	0.390	32	0.125	0.4	0.275
DH3	1.637	16	0.262	0.4	0.138
DH5	2.900	11	0.319	0.4	0.081

DH Packet	Pulse Width (msec)	Number of Pulses in 3.16 seconds	Average Time of (sec)	Limit (sec)	Margin (sec)
3DH1	0.400	32	0.128	0.4	0.272
3DH3	1.663	16	0.266	0.4	0.134
3DH5	2.900	11	0.319	0.4	0.081

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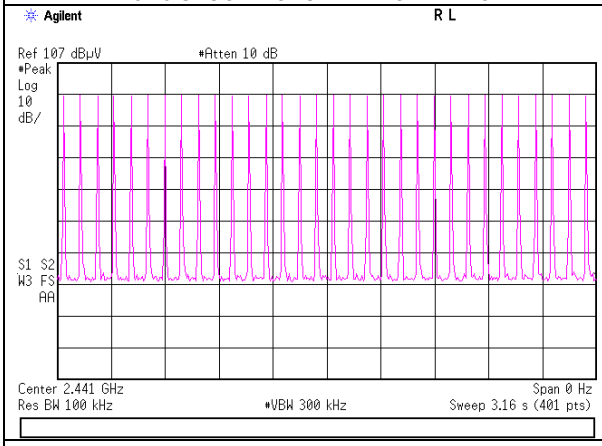
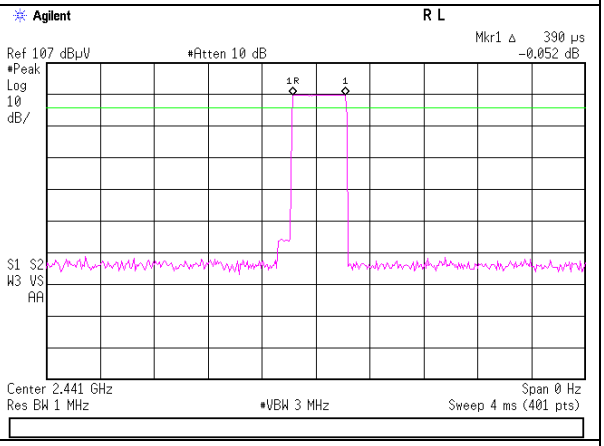
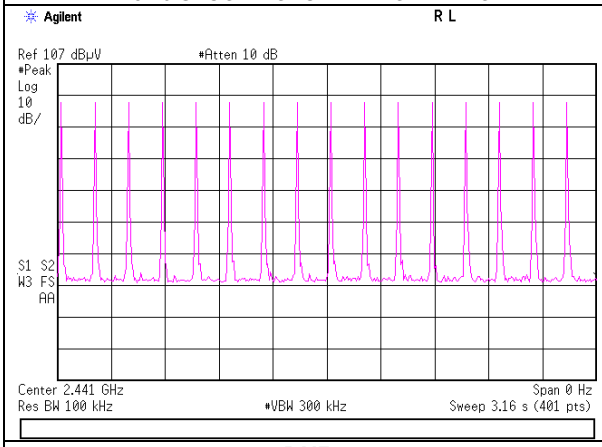
DH1
NUMBER OF PULSES
IN 3.16 SECOND OBSERVATION PERIOD



DH1
PULSE WIDTH



DH3
NUMBER OF PULSES
IN 3.16 SECOND OBSERVATION PERIOD



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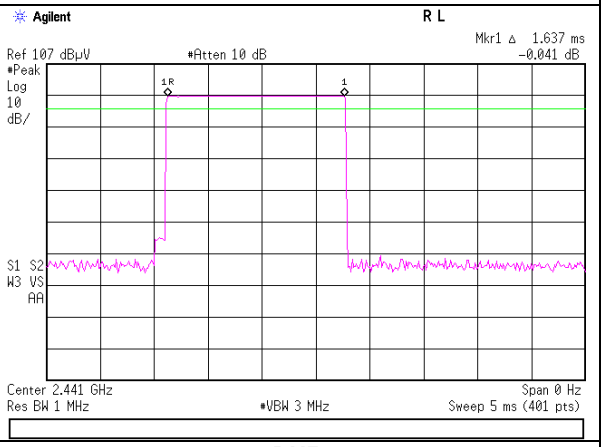
PULSE WIDTH



DH5
NUMBER OF PULSES
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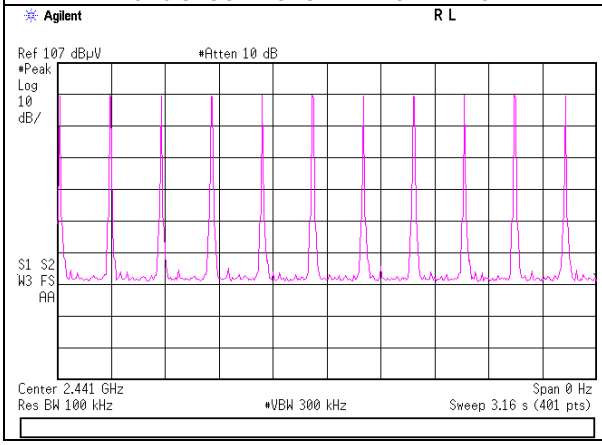
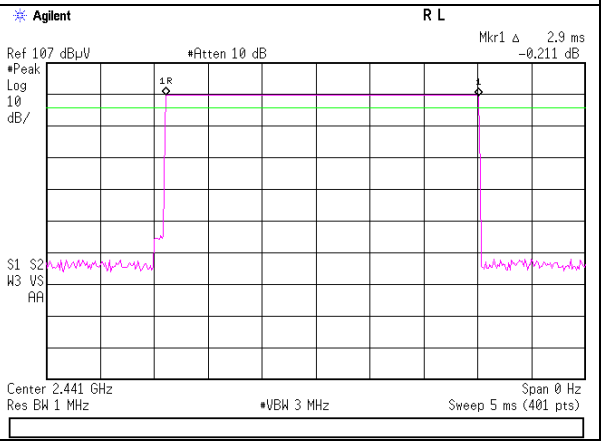


DH5
PULSE WIDTH



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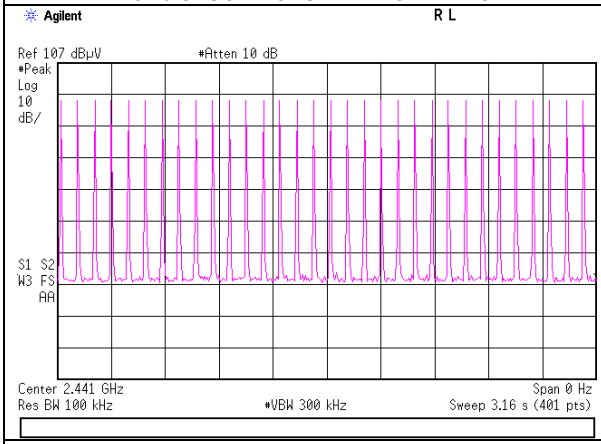
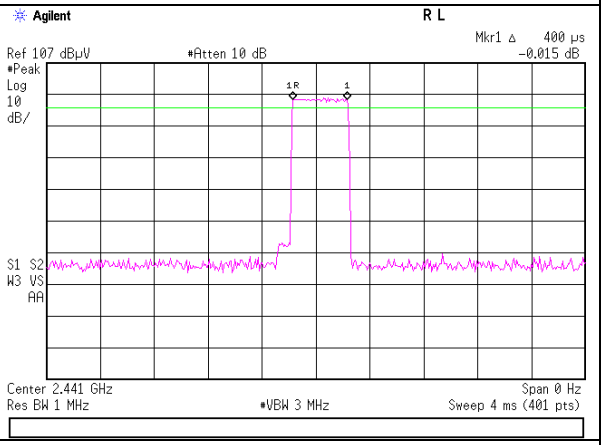
3DH1
NUMBER OF PULSES
IN 3.16 SECOND OBSERVATION PERIOD



3DH1
PULSE WIDTH



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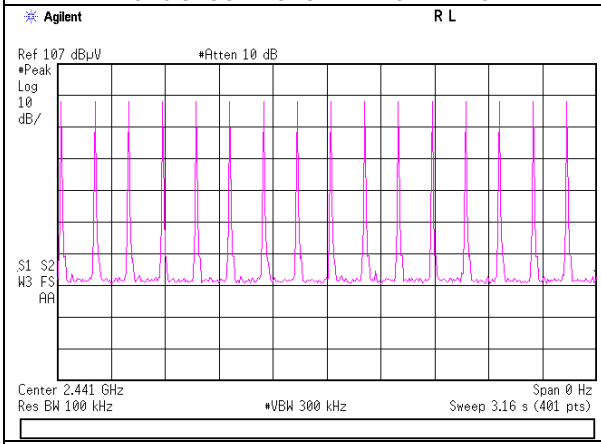
NUMBER OF PULSES
IN 3.16 SECOND OBSERVATION PERIOD



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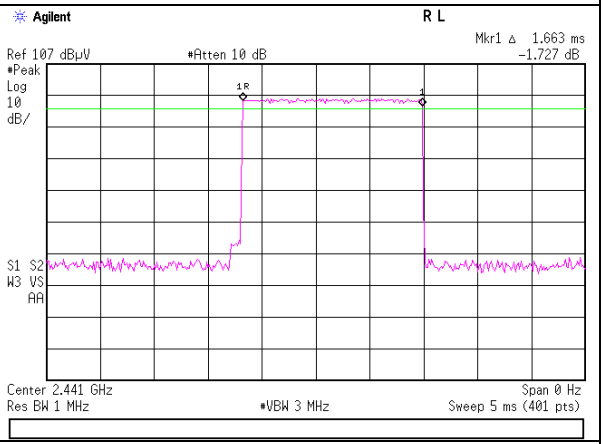
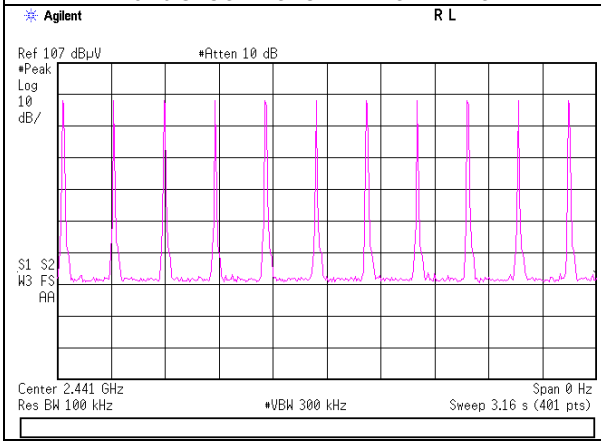
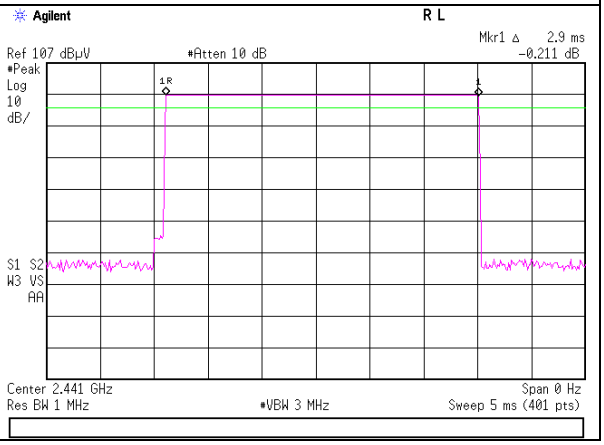
PULSE WIDTH



3DH5
NUMBER OF PULSES
IN 3.16 SECOND OBSERVATION PERIOD



3DH5
PULSE WIDTH



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7.5. OUTPUT POWER

LIMIT

§15.247 (b) (1)

RSS-210 Issue 7 Clause A8.4

As the EUT had AFH mode and frequency separation could not meet the requirement of over 20dB BW without 2/3 relaxation, 125mW power limit was applied to it.

TEST PROCEDURE

The transmitter output is connected to a power meter and a spectrum analyzer. The analyzer bandwidth is set to a value greater than the 20 dB bandwidth of the EUT.

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RESULTS

(Spectrum analyzer measurement)

Mode	Channel	Frequency (MHz)	Output Power (dBm)	Limit (dBm)	Margin (dB)
DH5	Low	2402	2.14	20.97	-18.83
DH5	Middle	2441	1.51	20.97	-19.46
DH5	High	2480	0.64	20.97	-20.33
3DH5	Low	2402	1.99	20.97	-18.99
3DH5	Middle	2441	1.25	20.97	-19.72
3DH5	High	2480	0.23	20.97	-20.74

(Power meter measurement)

Mode	Channel	Frequency (MHz)	Output Power Reading (dBm)	factor (cable ,ATT) (dB)	Output Power Result (dBm)	Limit (dBm)	Margin (dB)
DH5	Low	2402	-9.33	11.94	2.61	20.97	-18.36
DH5	Middle	2441	-9.98	11.96	1.98	20.97	-18.99
DH5	High	2480	-10.86	11.97	1.11	20.97	-19.86
3DH5	Low	2402	-9.45	11.94	2.49	20.97	-18.48
3DH5	Middle	2441	-10.24	11.96	1.72	20.97	-19.25
3DH5	High	2480	-11.21	11.97	0.76	20.97	-20.21

Sample calculation: Output Power Reading [dBm] + factor [dB]

Test was not performed at AFH mode, because the decrease of number of channel (min: 20ch) at AFH mode does not influence on the output power and bandwidth of the EUT.

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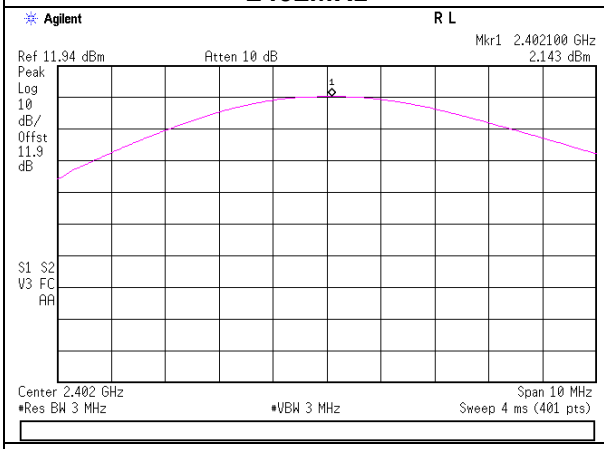
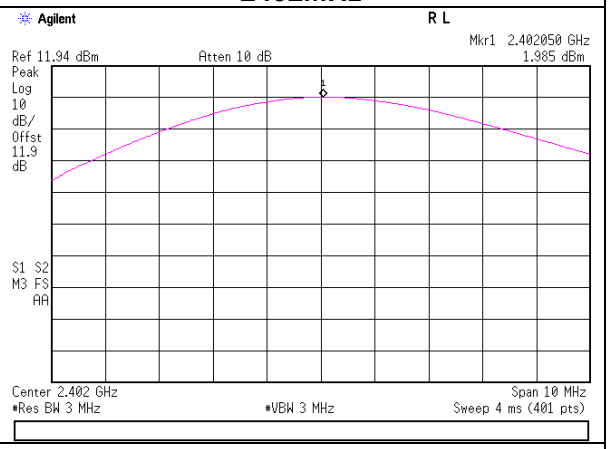
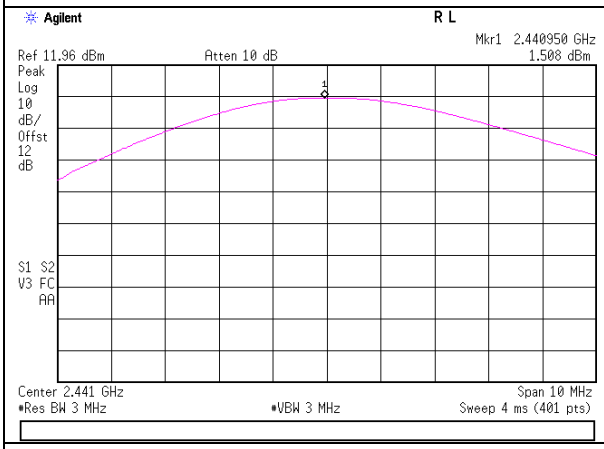
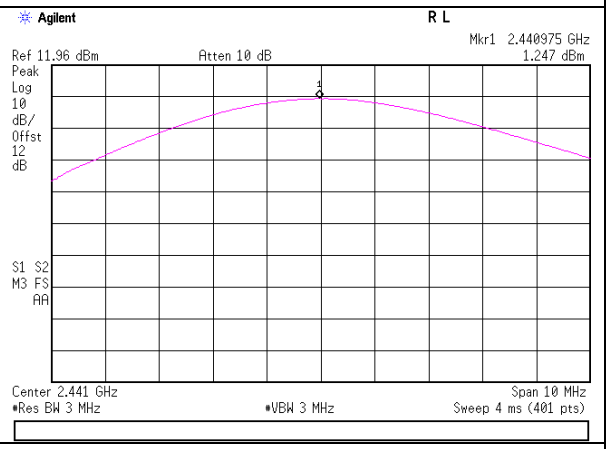
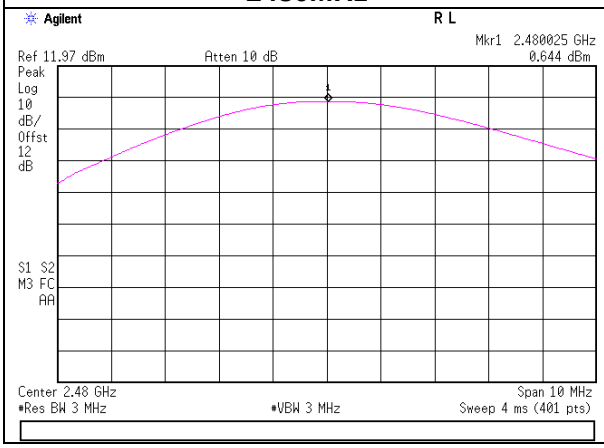
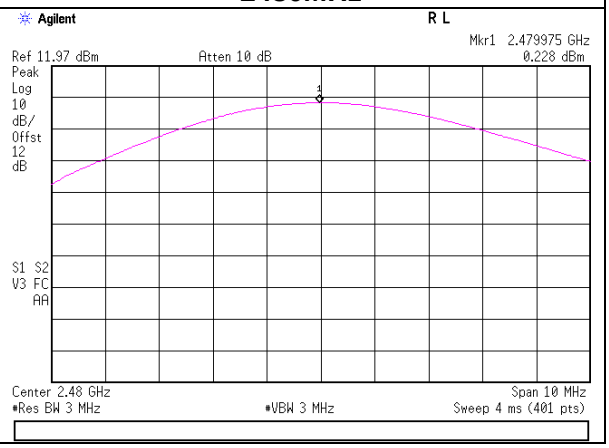
OUTPUT POWER

DH5	3DH5
2402MHz	2402MHz
	
2441MHz	2441MHz
	
2480MHz	2480MHz
	

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7.6. AVERAGE POWER

LIMIT

None; for reporting purposes only.

TEST PROCEDURE

The transmitter output is connected to a power meter.

RESULTS

The cable assembly insertion loss of 11.94/11.96/11.97 dB(Low/Mid/High Channel) (including 10.00 dB pad and 1.94/1.96/1.97 dB(Low/Mid/High Channel) cable) was entered as an offset in the power meter to allow for direct reading of power.

Mode	Channel	Frequency (MHz)	Average Power (dBm)
DH5	Low	2402	1.29
DH5	Middle	2441	0.64
DH5	High	2480	-0.28
3DH5	Low	2402	-0.16
3DH5	Middle	2441	-1.96
3DH5	High	2480	-3.00

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7.7. CONDUCTED SPURIOUS EMISSIONS

LIMITS

FCC §15.247 (d)

IC RSS-210 A8.5

Limit = -20 dBc

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels.

The bandedges at 2.4 and 2.4835 GHz are investigated with the transmitter set to the normal hopping mode.

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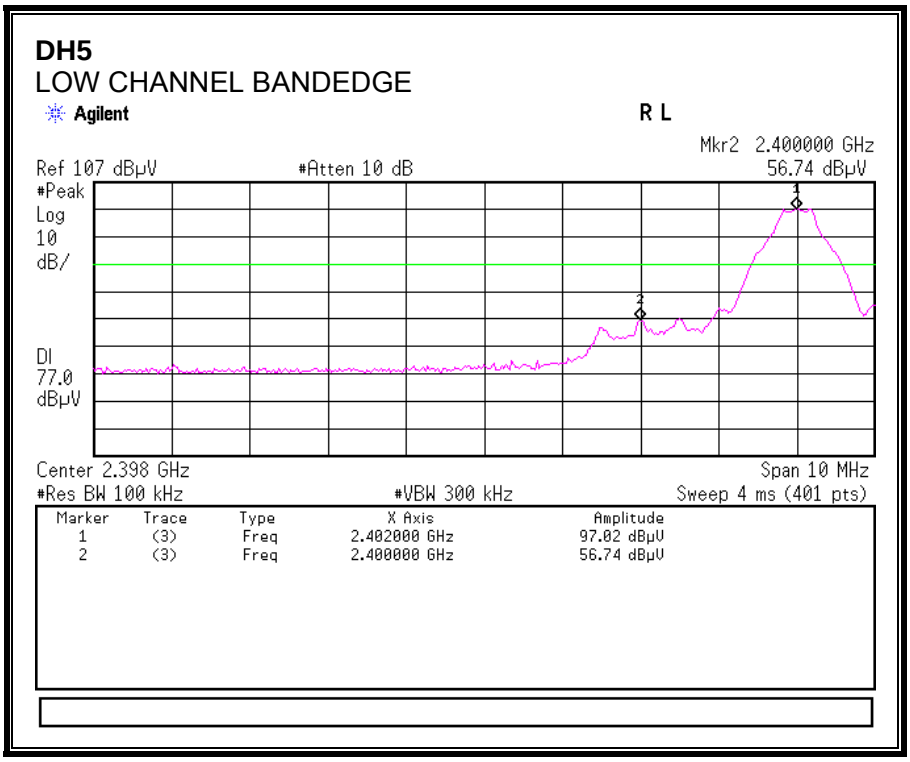
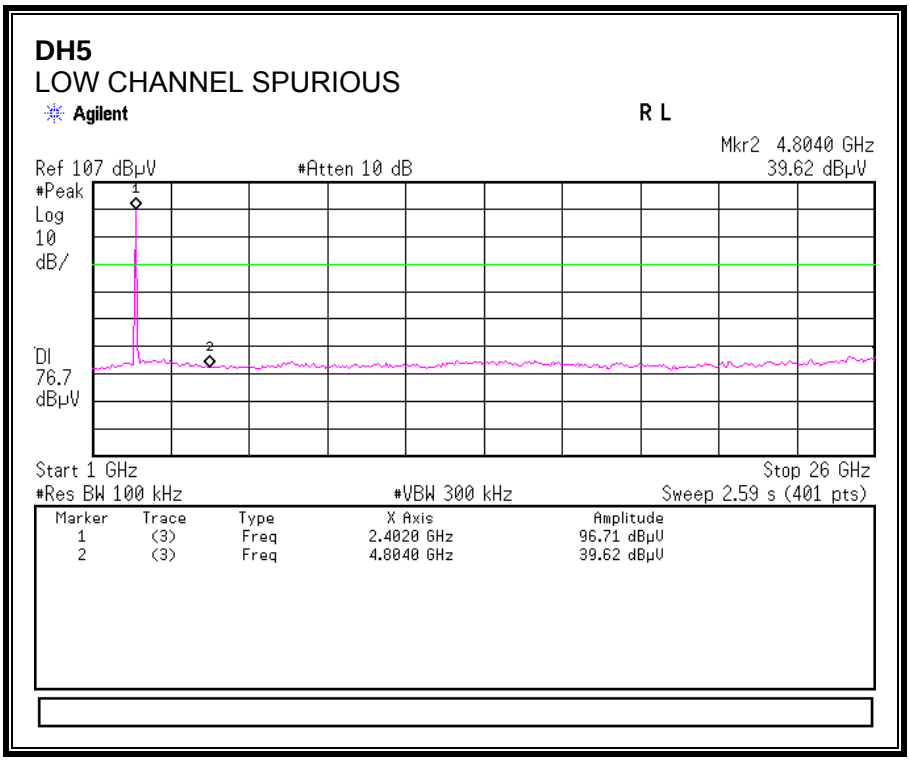
RESULTS

SPURIOUS EMISSIONS, LOW CHANNEL





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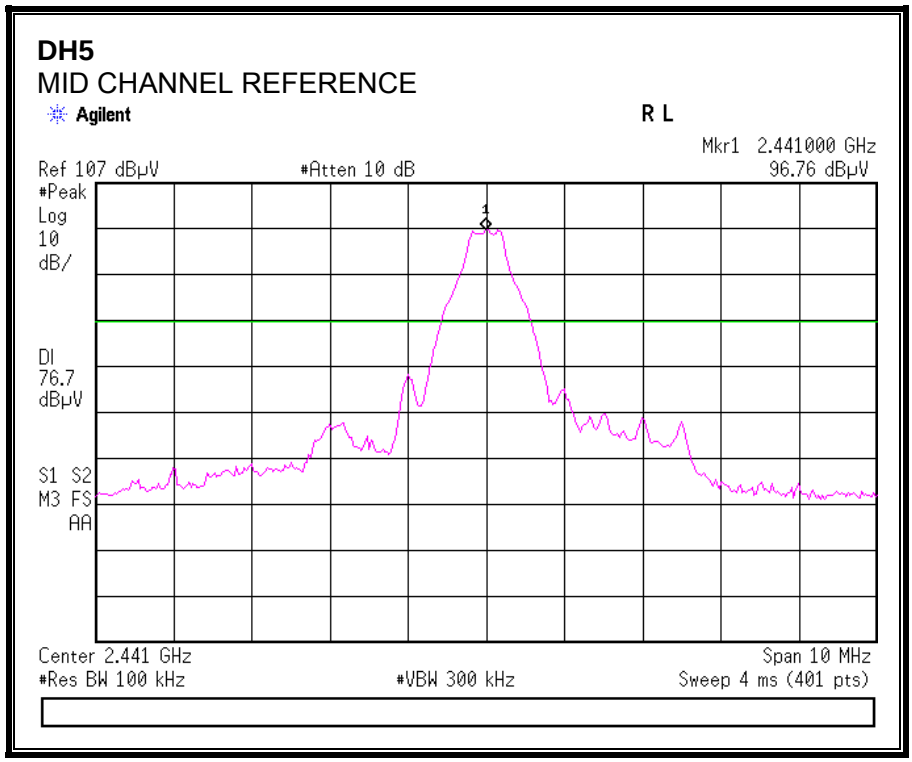
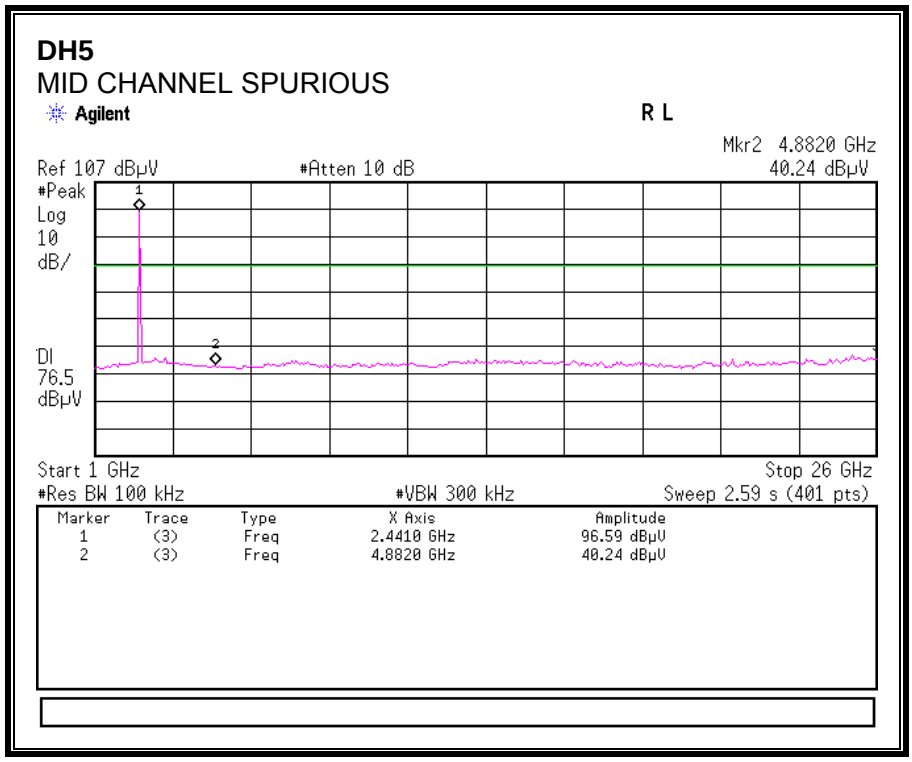
SPURIOUS EMISSIONS, MID CHANNEL





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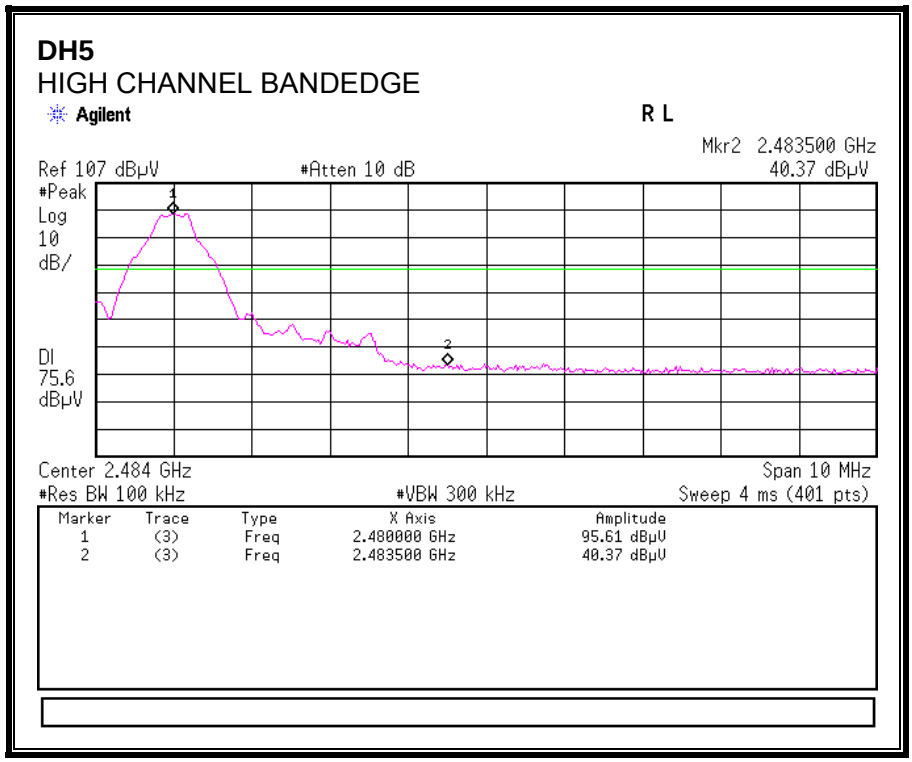
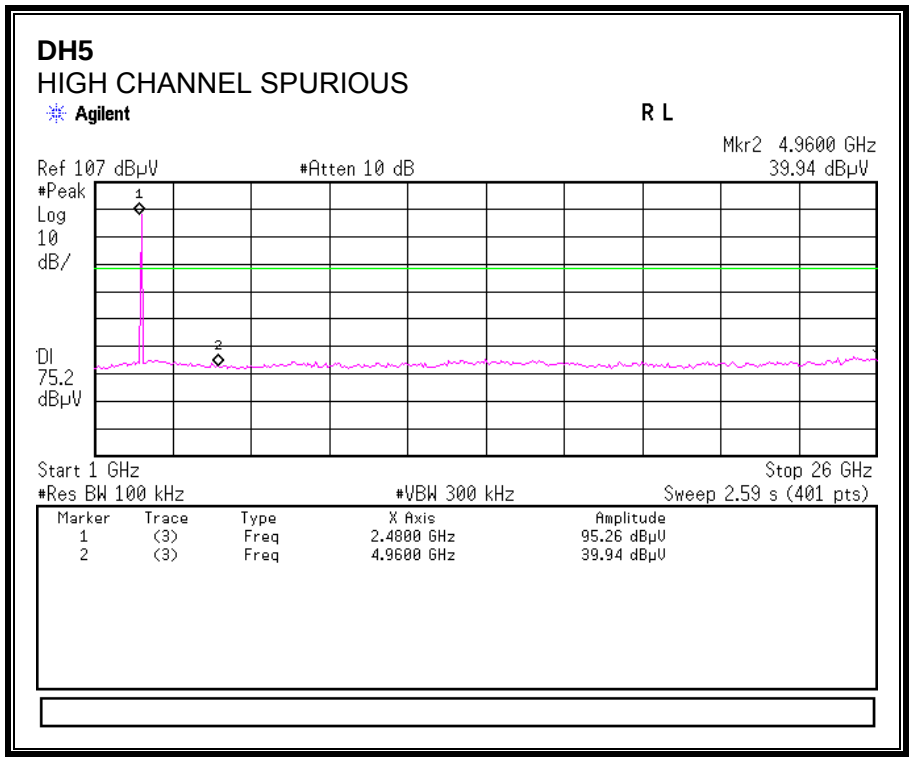
SPURIOUS EMISSIONS, HIGH CHANNEL

DH5
HIGH CHANNEL BANDEDGE



DH5
HIGH CHANNEL SPURIOUS



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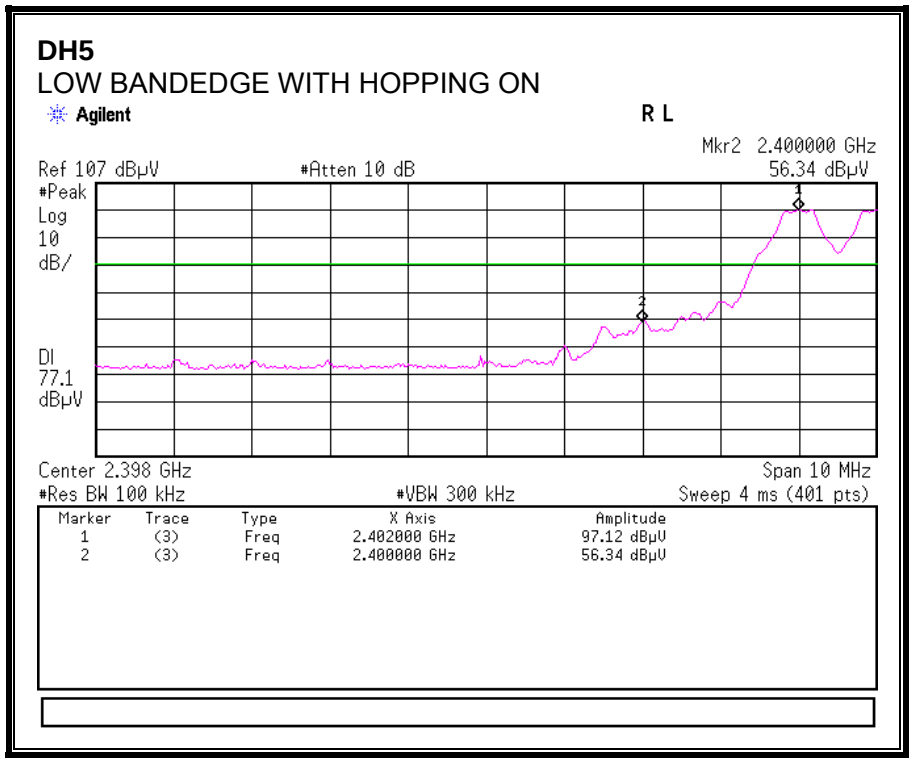
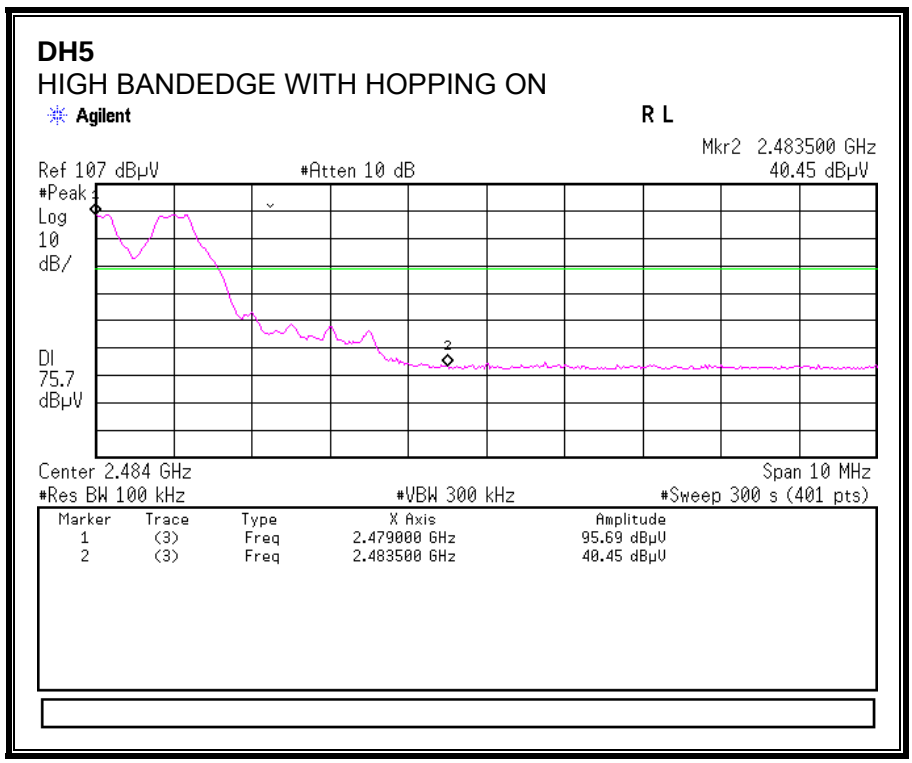
SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON

DH5
LOW BANDEDGE WITH HOPPING ON



DH5
HIGH BANDEDGE WITH HOPPING ON



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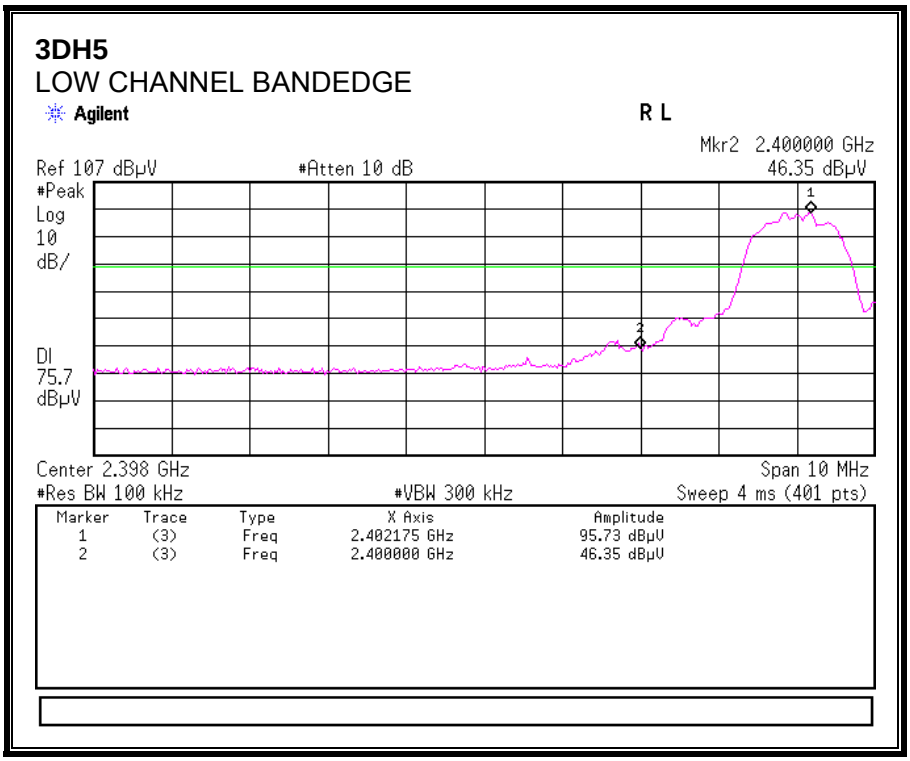
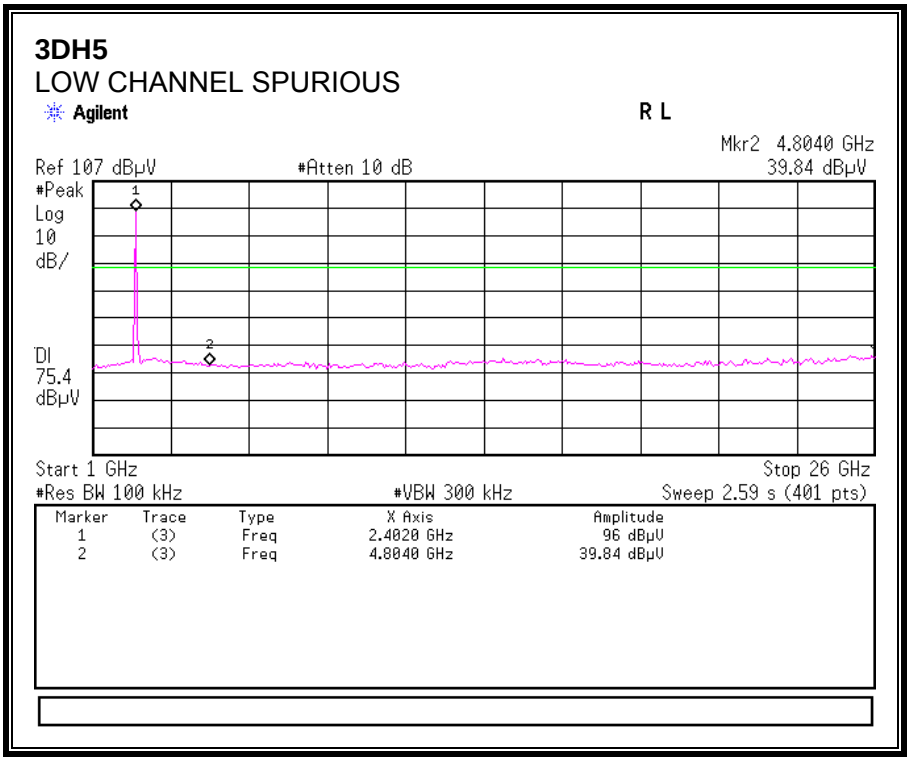
SPURIOUS EMISSIONS, LOW CHANNEL





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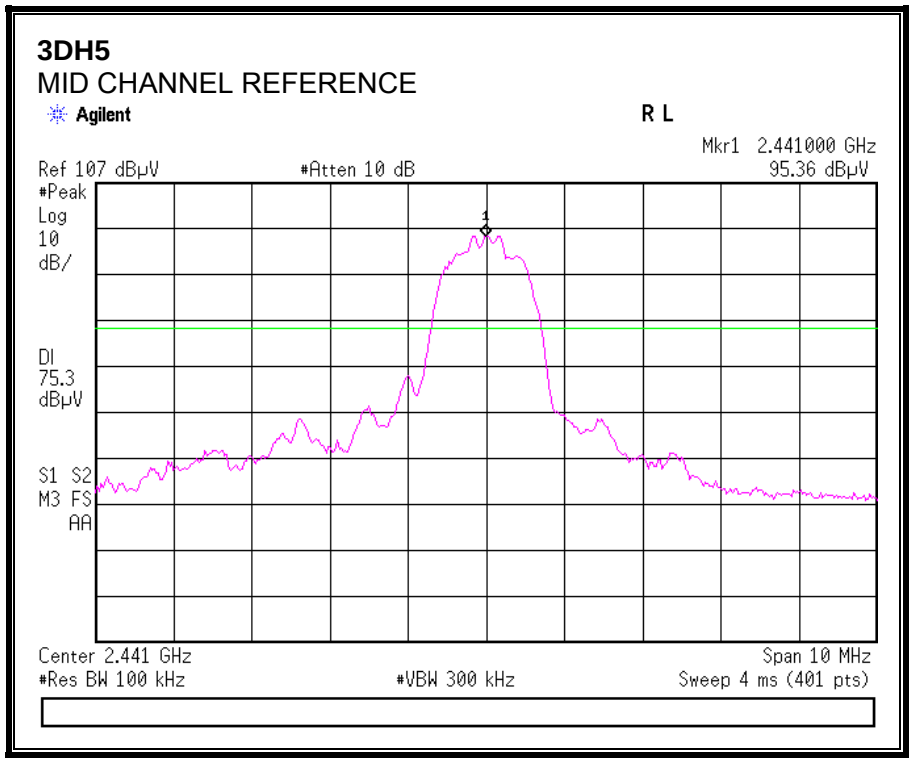
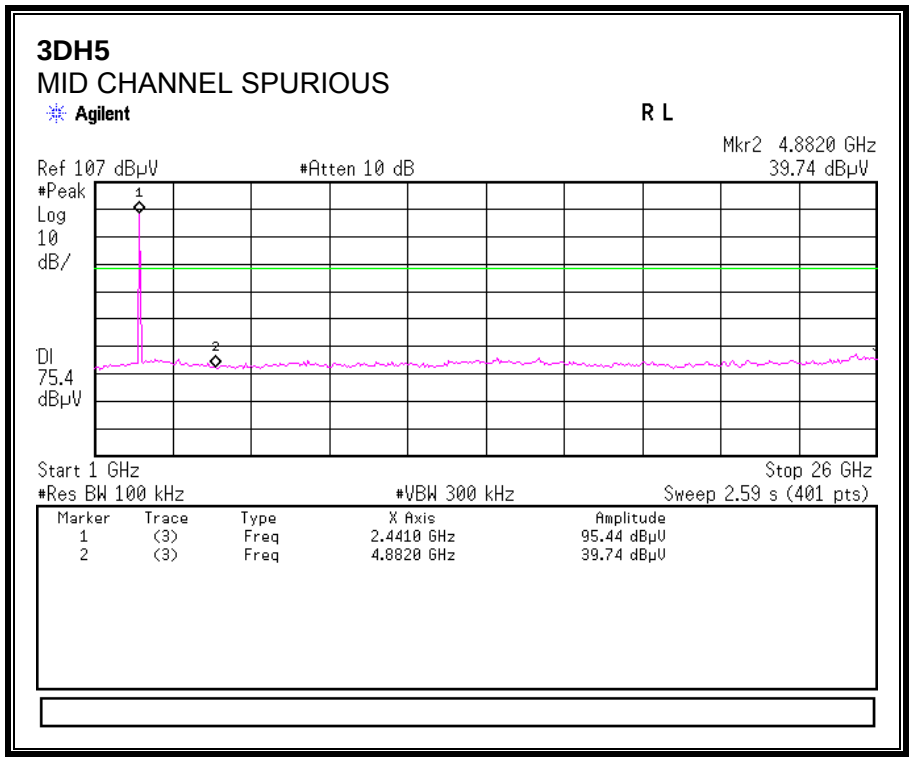
SPURIOUS EMISSIONS, MID CHANNEL





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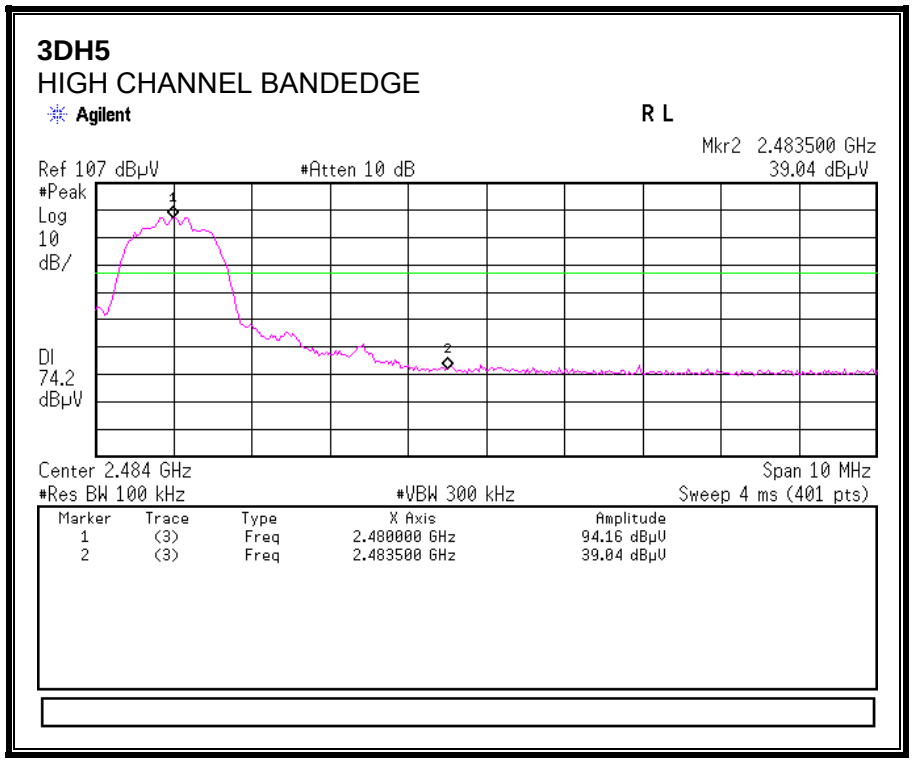
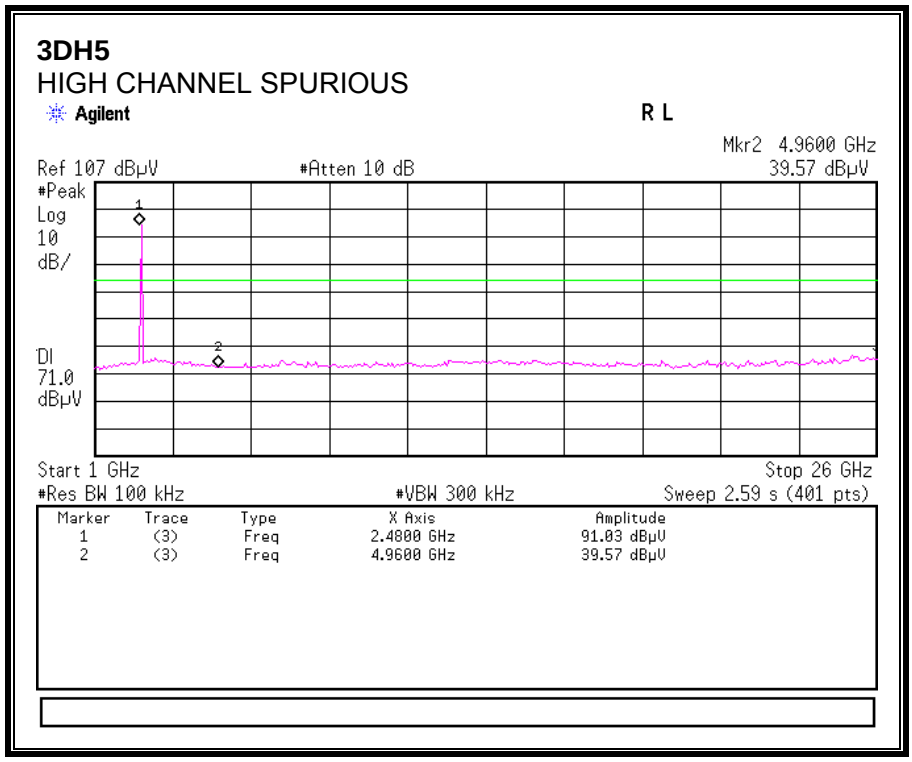
SPURIOUS EMISSIONS, HIGH CHANNEL

3DH5
HIGH CHANNEL BANDEDGE



3DH5
HIGH CHANNEL SPURIOUS



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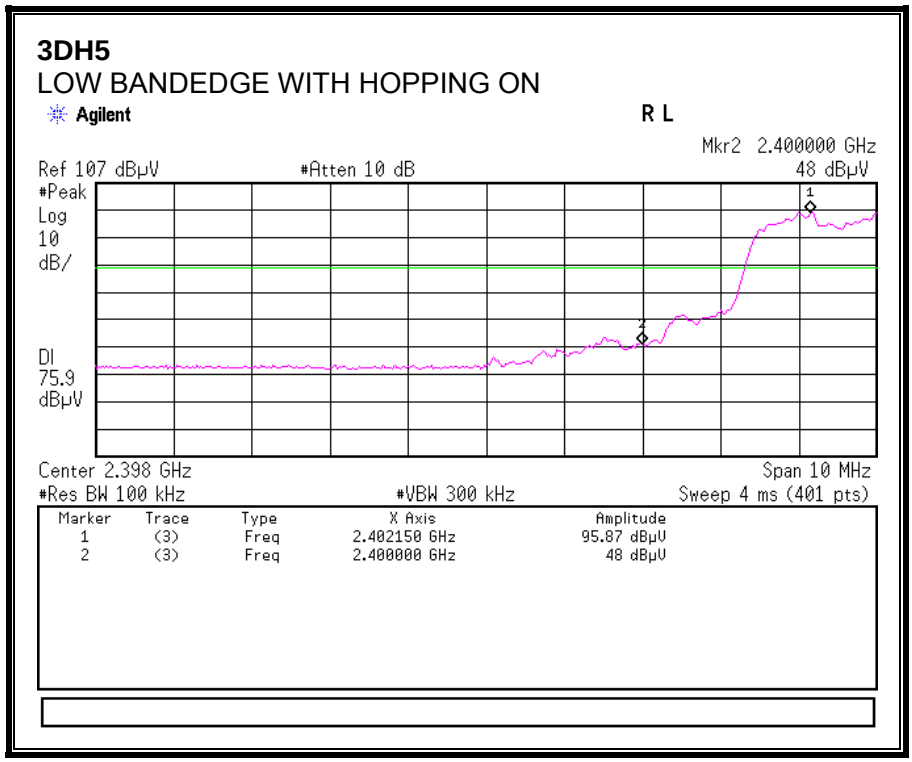
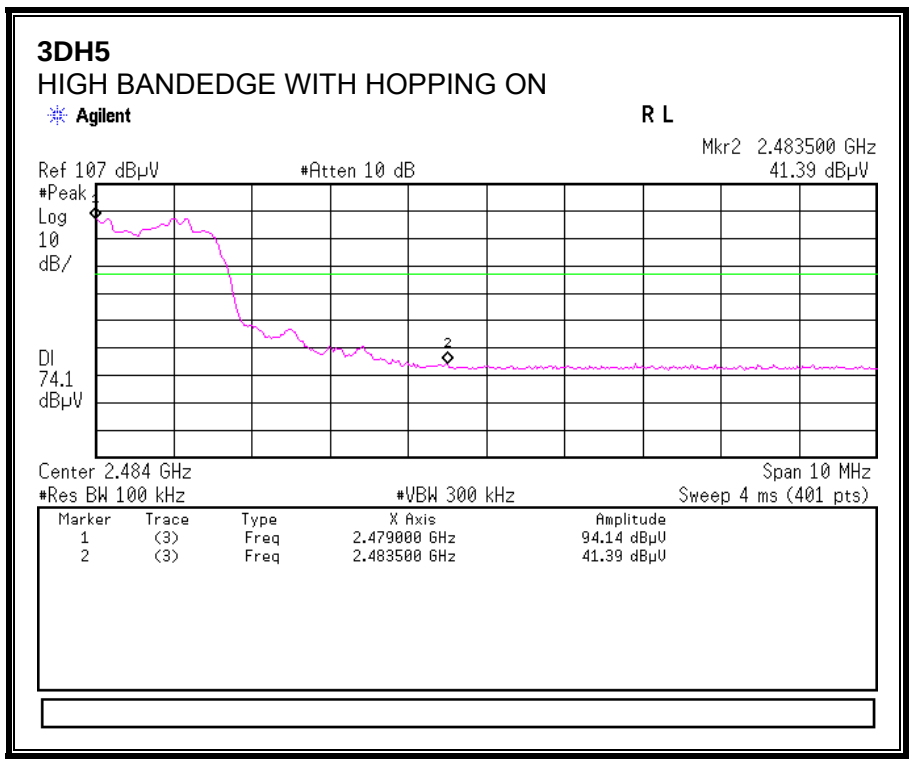
SPURIOUS BANDEDGE EMISSIONS WITH HOPPING ON

3DH5
LOW BANDEDGE WITH HOPPING ON



3DH5
HIGH BANDEDGE WITH HOPPING ON



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8. RADIATED TEST RESULTS

8.1 LIMITS AND PROCEDURE

LIMITS

FCC §15.205, §15.209 and §15.247(d)

IC RSS-210 Clause 2.5 (Transmitter)

IC RSS-GEN Clause 6 (Receiver)

Frequency Range (MHz)	Field Strength Limit (uV/m) at 3 m	Field Strength Limit (dBuV/m) at 3 m
30 - 88	100	40
88 - 216	150	43.5
216 - 960	200	46
Above 960	500	54

TEST PROCEDURE

The EUT is placed on a non-conducting table 80 cm above the ground plane. The antenna to EUT distance is 3 meters. The EUT is configured in accordance with ANSI C63.4. The EUT is set to transmit in a continuous mode.

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements or 120 kHz for quasi-peak detection measurements. Peak detection is used unless otherwise noted as quasi-peak.

For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 10 Hz for average measurements.

The spectrum from 30 MHz to 26 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

The frequency range of interest is monitored at a fixed antenna height and EUT azimuth. The EUT is rotated through 360 degrees to maximize emissions received. The antenna is scanned from 1 to 4 meters above the ground plane to further maximize the emission. Measurements are made with the antenna polarized in both the vertical and the horizontal positions.

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.

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8.2 TRANSMITTER TEST RESULTS

8.2.1 BASIC DATA RATE GFSK MODULATION

HARMONICS AND SPURIOUS EMISSIONS

Test place	Head Office EMC Lab. No.1 and No.2 Semi Anechoic Chamber		
Report No.	32LE0191-HO-01		
Date	07/31/2012	08/01/2012	08/02/2012
Temperature/ Humidity	24 deg.C/ 54% RH	21 deg.C/ 61% RH	20 deg.C/ 68% RH
Engineer	Tomohisa Nakagawa (1-10GHz)	Keisuke Kawamura 10G-26.5GHz	Keisuke Kawamura Below 1GHz
Mode	Tx, DH5 2402MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	72.152	QP	24.3	6.6	7.2	28.5	9.6	40.0	30.4	
Hori	79.997	QP	22.5	6.2	7.3	28.5	7.5	40.0	32.5	NS
Hori	88.188	QP	23.5	7.3	7.4	28.4	9.8	43.5	33.7	
Hori	159.149	QP	22.3	15.3	7.9	28.1	17.4	43.5	26.1	NS
Hori	467.999	QP	22.1	18.0	9.6	28.6	21.1	46.0	24.9	NS
Hori	630.167	QP	21.9	20.1	10.3	28.7	23.6	46.0	22.4	NS
Hori	1602.009	PK	57.8	25.8	1.8	36.6	48.8	73.9	25.1	
Hori	2390.000	PK	48.6	27.4	2.2	36.5	41.7	73.9	32.3	
Hori	4804.000	PK	52.3	31.4	4.0	36.1	51.6	73.9	22.3	
Hori	1602.009	AV	56.8	25.8	1.8	36.6	47.8	53.9	6.1	
Hori	2390.000	AV	34.1	27.4	2.2	36.5	27.2	53.9	26.7	
Hori	4804.000	AV	35.8	31.4	4.0	36.1	35.1	53.9	18.8	
Vert	72.152	QP	30.3	6.6	7.2	28.5	15.6	40.0	24.4	
Vert	79.997	QP	28.1	6.2	7.3	28.5	13.1	40.0	26.9	
Vert	88.188	QP	27.5	7.3	7.4	28.4	13.8	43.5	29.7	
Vert	159.149	QP	22.0	15.3	7.9	28.1	17.1	43.5	26.4	NS
Vert	465.665	QP	22.1	18.0	9.6	28.6	21.1	46.0	24.9	NS
Vert	630.167	QP	21.9	20.1	10.3	28.7	23.6	46.0	22.4	NS
Vert	1602.009	PK	58.5	25.8	1.8	36.6	49.5	73.9	24.5	
Vert	2390.000	PK	47.6	27.4	2.2	36.5	40.7	73.9	33.2	
Vert	4804.000	PK	58.6	31.4	4.0	36.1	57.9	73.9	16.0	
Vert	1602.009	AV	54.8	25.8	1.8	36.6	45.8	53.9	8.1	
Vert	2390.000	AV	33.2	27.4	2.2	36.5	26.3	53.9	27.6	
Vert	4804.000	AV	38.0	31.4	4.0	36.1	37.3	53.9	16.6	

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	2412.000	PK	107.6	27.4	2.2	36.5	100.7	-	-	Carrier
Hori	2400.000	PK	53.3	27.4	2.2	36.5	46.4	80.7	34.3	
Vert	2412.000	PK	104.6	27.4	2.2	36.5	97.7	-	-	Carrier
Vert	2400.000	PK	49.5	27.4	2.2	36.5	42.6	77.7	35.1	

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

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HARMONICS AND SPURIOUS EMISSIONS

Test place	Head Office EMC Lab. No.1 and No.2 Semi Anechoic Chamber		
Report No.	32LE0191-HO-01		
Date	07/31/2012	08/01/2012	08/02/2012
Temperature/ Humidity	24 deg.C/ 54% RH	21 deg.C/ 61% RH	20 deg.C/ 68% RH
Engineer	Tomohisa Nakagawa (1-10GHz)	Keisuke Kawamura 10G-26.5GHz	Keisuke Kawamura Below 1GHz
Mode	Tx, DH5 2441MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	72.152	QP	24.1	6.6	7.2	28.5	9.4	40.0	30.6	
Hori	79.997	QP	22.5	6.2	7.3	28.5	7.5	40.0	32.5	
Hori	88.188	QP	23.5	7.3	7.4	28.4	9.8	43.5	33.7	
Hori	159.149	QP	22.3	15.3	7.9	28.1	17.4	43.5	26.1	
Hori	467.999	QP	22.1	18.0	9.6	28.6	21.1	46.0	24.9	
Hori	630.167	QP	21.9	20.1	10.3	28.7	23.6	46.0	22.4	
Hori	1626.755	PK	58.3	25.9	1.8	36.6	49.4	73.9	24.5	
Hori	4882.000	PK	53.1	31.5	3.9	36.1	52.4	73.9	21.5	
Hori	1626.755	AV	55.8	25.9	1.8	36.6	46.9	53.9	7.0	
Hori	4882.000	AV	38.1	31.5	3.9	36.1	37.4	53.9	16.5	
Vert	72.152	QP	30.0	6.6	7.2	28.5	15.3	40.0	24.7	
Vert	79.997	QP	28.1	6.2	7.3	28.5	13.1	40.0	26.9	
Vert	88.188	QP	27.7	7.3	7.4	28.4	14.0	43.5	29.5	
Vert	159.149	QP	22.0	15.3	7.9	28.1	17.1	43.5	26.4	
Vert	465.665	QP	22.1	18.0	9.6	28.6	21.1	46.0	24.9	
Vert	630.167	QP	21.9	20.1	10.3	28.7	23.6	46.0	22.4	
Vert	1626.755	PK	58.2	25.9	1.8	36.6	49.3	73.9	24.6	
Vert	4882.000	PK	50.2	31.5	3.9	36.1	49.5	73.9	24.4	
Vert	1626.755	AV	55.6	25.9	1.8	36.6	46.7	53.9	7.2	
Vert	4882.000	AV	39.3	31.5	3.9	36.1	38.6	53.9	15.3	

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

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HARMONICS AND SPURIOUS EMISSIONS

Test place	Head Office EMC Lab. No.1 and No.2 Semi Anechoic Chamber		
Report No.	32LE0191-HO-01		
Date	07/31/2012	08/01/2012	08/02/2012
Temperature/ Humidity	24 deg.C/ 54% RH	21 deg.C/ 61% RH	20 deg.C/ 68% RH
Engineer	Tomohisa Nakagawa (1-10GHz)	Keisuke Kawamura 10G-26.5GHz	Keisuke Kawamura Below 1GHz
Mode	Tx, 3DH5 2480MHz		

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	72.152	QP	24.1	6.6	7.2	28.5	9.4	40.0	30.6	
Hori	79.997	QP	22.5	6.2	7.3	28.5	7.5	40.0	32.5	
Hori	88.188	QP	23.4	7.3	7.4	28.4	9.7	43.5	33.8	
Hori	159.149	QP	22.3	15.3	7.9	28.1	17.4	43.5	26.1	
Hori	467.999	QP	22.1	18.0	9.6	28.6	21.1	46.0	24.9	
Hori	630.167	QP	21.9	20.1	10.3	28.7	23.6	46.0	22.4	
Hori	1652.654	PK	59.6	26.0	1.8	36.6	50.8	73.9	23.1	
Hori	2483.500	PK	49.4	27.5	2.2	36.5	42.6	73.9	31.3	
Hori	4960.000	PK	50.1	31.6	3.9	36.1	49.5	73.9	24.4	
Hori	1652.654	AV	56.2	26.0	1.8	36.6	47.4	53.9	6.5	
Hori	2483.500	AV	34.2	27.5	2.2	36.5	27.4	53.9	26.5	
Hori	4960.000	AV	35.9	31.6	3.9	36.1	35.3	53.9	18.6	
Vert	72.152	QP	30.1	6.6	7.2	28.5	15.4	40.0	24.6	
Vert	79.997	QP	28.1	6.2	7.3	28.5	13.1	40.0	26.9	
Vert	88.188	QP	27.6	7.3	7.4	28.4	13.9	43.5	29.6	
Vert	159.149	QP	22.0	15.3	7.9	28.1	17.1	43.5	26.4	
Vert	465.665	QP	22.1	18.0	9.6	28.6	21.1	46.0	24.9	
Vert	630.167	QP	21.9	20.1	10.3	28.7	23.6	46.0	22.4	
Vert	1652.654	PK	59.9	26.0	1.8	36.6	51.1	73.9	22.9	
Vert	2483.500	PK	49.3	27.5	2.2	36.5	42.5	73.9	31.4	
Vert	4960.000	PK	52.0	31.6	3.9	36.1	51.4	73.9	22.5	
Vert	1652.654	AV	57.3	26.0	1.8	36.6	48.5	53.9	5.4	
Vert	2483.500	AV	35.2	27.5	2.2	36.5	28.4	53.9	25.5	
Vert	4960.000	AV	39.5	31.6	3.9	36.1	38.9	53.9	15.0	

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 20log(3.0m/1.0m)= 9.5dB

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8.2.2 ENHANCED DATA RATE 8PSK MODULATION

HARMONICS AND SPURIOUS EMISSIONS

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber	
Report No.	32LE0191-HO-01	
Date	08/01/2012	08/02/2012
Temperature/ Humidity	21 deg.C/ 61% RH	20 deg.C/ 68% RH
Engineer	Keisuke Kawamura	Keisuke Kawamura
	Above 1GHz	Below 1GHz
Mode	Tx, 3DH5 2402MHz	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	72.152	QP	24.3	6.6	7.2	28.5	9.6	40.0	30.4	
Hori	79.997	QP	22.5	6.2	7.3	28.5	7.5	40.0	32.5	
Hori	88.188	QP	23.5	7.3	7.4	28.4	9.8	43.5	33.7	
Hori	159.149	QP	22.3	15.3	7.9	28.1	17.4	43.5	26.1	
Hori	467.999	QP	22.1	18.0	9.6	28.6	21.1	46.0	24.9	
Hori	630.167	QP	21.9	20.1	10.3	28.7	23.6	46.0	22.4	
Hori	1602.014	PK	54.0	26.5	1.8	35.3	47.0	73.9	26.9	
Hori	2390.000	PK	46.5	27.4	2.2	34.8	41.3	73.9	32.6	
Hori	4804.000	PK	42.7	31.2	4.0	34.0	43.9	73.9	30.0	
Hori	1602.014	AV	50.9	26.5	1.8	35.3	43.9	53.9	10.0	
Hori	2390.000	AV	33.0	27.4	2.2	34.8	27.8	53.9	26.1	
Hori	4804.000	AV	31.6	31.2	4.0	34.0	32.8	53.9	21.1	
Vert	72.152	QP	30.0	6.6	7.2	28.5	15.3	40.0	24.7	
Vert	79.997	QP	28.3	6.2	7.3	28.5	13.3	40.0	26.7	
Vert	88.188	QP	27.6	7.3	7.4	28.4	13.9	43.5	29.6	
Vert	159.149	QP	22.0	15.3	7.9	28.1	17.1	43.5	26.4	
Vert	465.665	QP	22.1	18.0	9.6	28.6	21.1	46.0	24.9	
Vert	630.167	QP	21.9	20.1	10.3	28.7	23.6	46.0	22.4	
Vert	1602.014	PK	54.2	26.5	1.8	35.3	47.2	73.9	26.7	
Vert	2390.000	PK	46.0	27.4	2.2	34.8	40.8	73.9	33.1	
Vert	4804.000	PK	48.7	31.2	4.0	34.0	49.9	73.9	24.0	
Vert	1602.014	AV	51.2	26.5	1.8	35.3	44.2	53.9	9.7	
Vert	2390.000	AV	32.8	27.4	2.2	34.8	27.6	53.9	26.3	
Vert	4804.000	AV	32.3	31.2	4.0	34.0	33.5	53.9	20.4	

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).

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	102.8	27.5	2.2	34.8	97.7	-	-	Carrier
Hori	2400.000	PK	56.3	27.5	2.2	34.8	51.2	77.7	26.5	
Vert	2412.000	PK	101.1	27.5	2.2	34.8	96.0	-	-	Carrier
Vert	2400.000	PK	54.7	27.5	2.2	34.8	49.6	76.0	26.4	

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

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HARMONICS AND SPURIOUS EMISSIONS

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber	
Report No.	32LE0191-HO-01	
Date	08/01/2012	08/02/2012
Temperature/ Humidity	21 deg.C/ 61% RH	20 deg.C/ 68% RH
Engineer	Keisuke Kawamura	Keisuke Kawamura
	Above 1GHz	Below 1GHz
Mode	Tx, 3DH5 2441MHz	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	72.152	QP	24.3	6.6	7.2	28.5	9.6	40.0	30.4	
Hori	79.997	QP	22.5	6.2	7.3	28.5	7.5	40.0	32.5	
Hori	88.188	QP	23.5	7.3	7.4	28.4	9.8	43.5	33.7	
Hori	159.149	QP	22.3	15.3	7.9	28.1	17.4	43.5	26.1	
Hori	467.999	QP	22.1	18.0	9.6	28.6	21.1	46.0	24.9	
Hori	630.167	QP	21.9	20.1	10.3	28.7	23.6	46.0	22.4	
Hori	1626.681	PK	55.1	26.6	1.8	35.3	48.2	73.9	25.7	
Hori	4882.000	PK	43.0	31.4	3.9	34.0	44.3	73.9	29.7	
Hori	1626.681	AV	52.5	26.6	1.8	35.3	45.6	53.9	8.3	
Hori	4882.000	AV	31.7	31.4	3.9	34.0	33.0	53.9	20.9	
Vert	72.152	QP	30.1	6.6	7.2	28.5	15.4	40.0	24.6	
Vert	79.997	QP	28.1	6.2	7.3	28.5	13.1	40.0	26.9	
Vert	88.188	QP	27.6	7.3	7.4	28.4	13.9	43.5	29.6	
Vert	159.149	QP	22.0	15.3	7.9	28.1	17.1	43.5	26.4	
Vert	465.665	QP	22.1	18.0	9.6	28.6	21.1	46.0	24.9	
Vert	630.167	QP	21.9	20.1	10.3	28.7	23.6	46.0	22.4	
Vert	1626.681	PK	55.1	26.6	1.8	35.3	48.2	73.9	25.7	
Vert	4882.000	PK	49.3	31.4	3.9	34.0	50.6	73.9	23.3	
Vert	1626.681	AV	52.5	26.6	1.8	35.3	45.6	53.9	8.3	
Vert	4882.000	AV	32.9	31.4	3.9	34.0	34.2	53.9	19.7	

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).

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

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HARMONICS AND SPURIOUS EMISSIONS

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber	
Report No.	32LE0191-HO-01	
Date	08/01/2012	08/02/2012
Temperature/ Humidity	21 deg.C/ 61% RH	20 deg.C/ 68% RH
Engineer	Keisuke Kawamura	Keisuke Kawamura
	Above 1GHz	Below 1GHz
Mode	Tx, 3DH5 2480MHz	

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	72.152	QP	24.3	6.6	7.2	28.5	9.6	40.0	30.4	
Hori	79.997	QP	22.5	6.2	7.3	28.5	7.5	40.0	32.5	
Hori	88.188	QP	23.5	7.3	7.4	28.4	9.8	43.5	33.7	
Hori	159.149	QP	22.3	15.3	7.9	28.1	17.4	43.5	26.1	
Hori	467.999	QP	22.1	18.0	9.6	28.6	21.1	46.0	24.9	
Hori	630.167	QP	21.9	20.1	10.3	28.7	23.6	46.0	22.4	
Hori	1652.683	PK	54.5	26.6	1.8	35.3	47.6	73.9	26.3	
Hori	2483.500	PK	49.5	27.5	2.3	34.8	44.5	73.9	29.5	
Hori	4960.000	PK	47.2	31.6	4.0	34.0	48.8	73.9	25.1	
Hori	1652.683	AV	51.6	26.6	1.8	35.3	44.7	53.9	9.2	
Hori	2483.500	AV	34.5	27.5	2.3	34.8	29.5	53.9	24.5	
Hori	4960.000	AV	32.9	31.6	4.0	34.0	34.5	53.9	19.4	
Hori	7440.000	AV	31.8	36.2	4.1	34.3	37.8	53.9	16.1	
Hori	9920.000	AV	33.0	39.1	4.7	34.7	42.1	53.9	11.8	
Vert	72.152	QP	30.0	6.6	7.2	28.5	15.3	40.0	24.7	
Vert	79.997	QP	28.1	6.2	7.3	28.5	13.1	40.0	26.9	
Vert	88.188	QP	27.6	7.3	7.4	28.4	13.9	43.5	29.6	
Vert	159.149	QP	22.0	15.3	7.9	28.1	17.1	43.5	26.4	
Vert	465.665	QP	22.1	18.0	9.6	28.6	21.1	46.0	24.9	
Vert	630.167	QP	21.9	20.1	10.3	28.7	23.6	46.0	22.4	
Vert	1652.683	PK	55.6	26.6	1.8	35.3	48.7	73.9	25.2	
Vert	2483.500	PK	48.0	27.5	2.3	34.8	43.0	73.9	30.9	
Vert	4960.000	PK	48.6	31.6	4.0	34.0	50.2	73.9	23.7	
Vert	1652.683	AV	52.8	26.6	1.8	35.3	45.9	53.9	8.0	
Vert	2483.500	AV	33.8	27.5	2.3	34.8	28.8	53.9	25.1	
Vert	4960.000	AV	33.6	31.6	4.0	34.0	35.2	53.9	18.7	

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).

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

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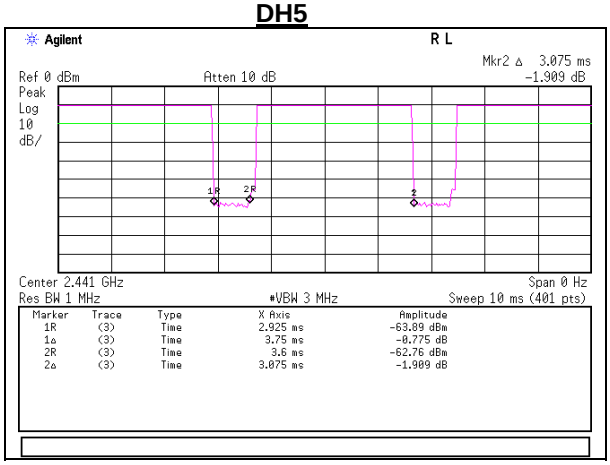
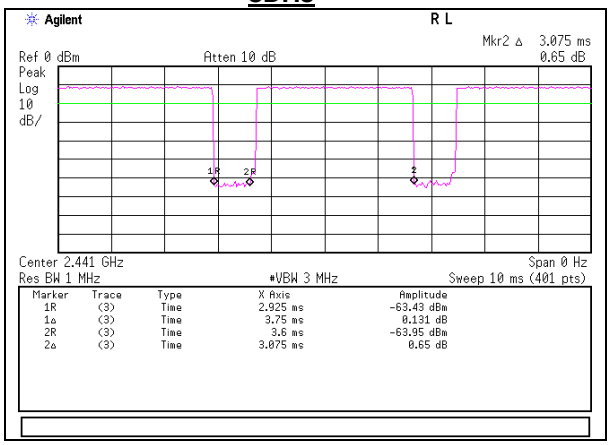
Duty Cycle

DH5



3DH5



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AC POWER LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207 (a)

RSS-Gen 7.2.4

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15-0.5	66 to 56 *	56 to 46 *
0.5-5	56	46
5-30	60	50

* Decreases with the logarithm of the frequency.

TEST PROCEDURE

ANSI C63.4

UL Japan, Inc. Head Office EMC Lab.
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RESULTS

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

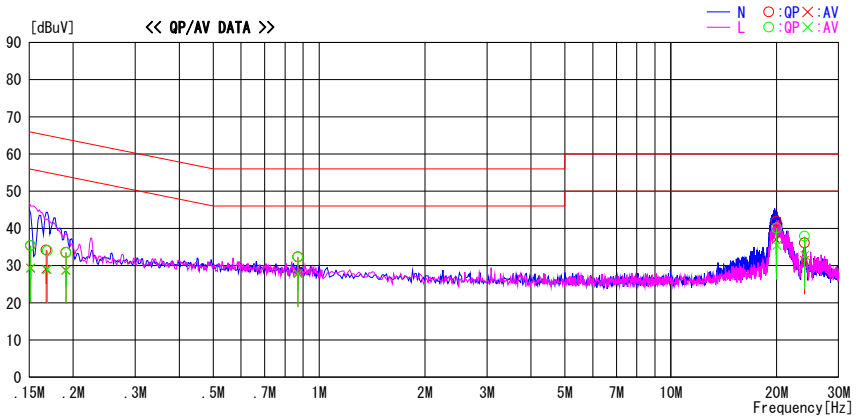
UL Japan, Inc. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2012/08/02

Report No. : 32LE0191-HO-01

Temp./Humi. : 20deg. C / 68% RH
Engineer : Keisuke Kawamura

Mode / Remarks : Tx DH5 2441MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15145	22.2	16.1	13.2	35.4	29.3	65.9	55.9	30.5	26.6	N	
0.16741	21.0	15.9	13.2	34.2	29.1	65.1	55.1	30.9	26.0	N	
0.19061	20.4	15.6	13.2	33.6	28.8	64.0	54.0	30.4	25.2	N	
0.87065	19.1	14.7	13.3	32.4	28.0	56.0	46.0	23.6	18.0	N	
19.91844	26.7	21.9	15.2	41.9	37.1	60.0	50.0	18.1	12.9	N	
23.99603	20.7	16.0	15.4	36.1	31.4	60.0	50.0	23.9	18.6	N	
0.15145	22.2	16.2	13.2	35.4	29.4	65.9	55.9	30.5	26.5	L	
0.16885	20.8	15.8	13.2	34.0	29.0	65.0	55.0	31.0	26.0	L	
0.19061	20.3	15.5	13.2	33.5	28.7	64.0	54.0	30.5	25.3	L	
0.87065	19.0	14.6	13.3	32.3	27.9	56.0	46.0	23.7	18.1	L	
19.99964	24.9	20.2	15.2	40.1	35.4	60.0	50.0	19.9	14.6	L	
24.00103	22.5	17.4	15.4	37.9	32.8	60.0	50.0	22.1	17.2	L	

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

UL Japan, Inc. Head Office EMC Lab.
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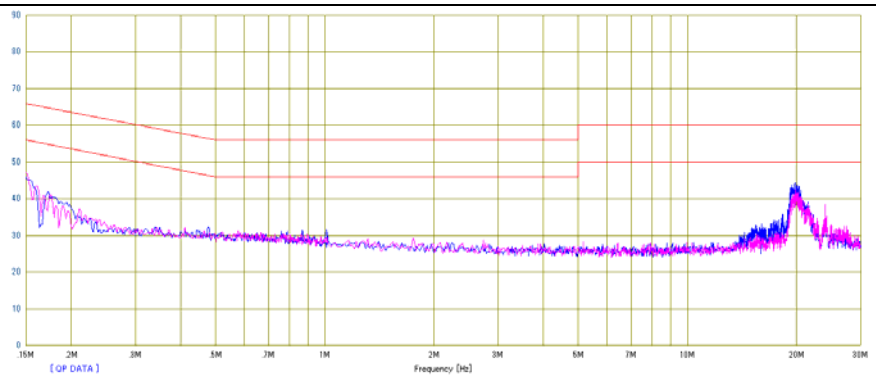
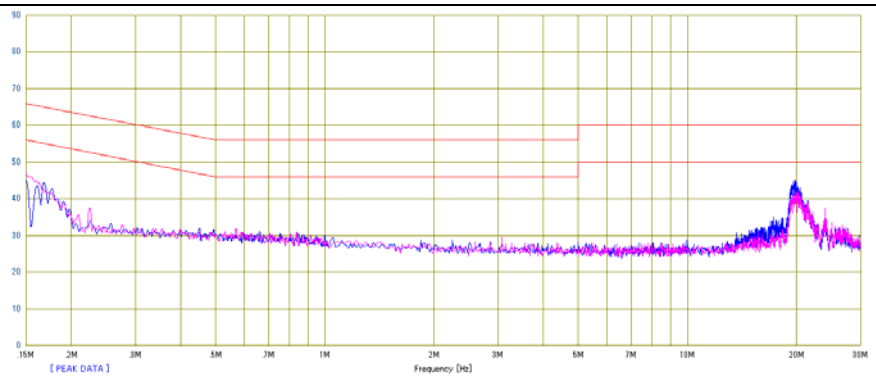
Conducted Emission

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber
Report No.	32LE0191-HO-01
Date	08/02/2012
Temperature/ Humidity	20 deg.C/ 68% RH
Engineer	Keisuke Kawamura
Mode	Tx DH5

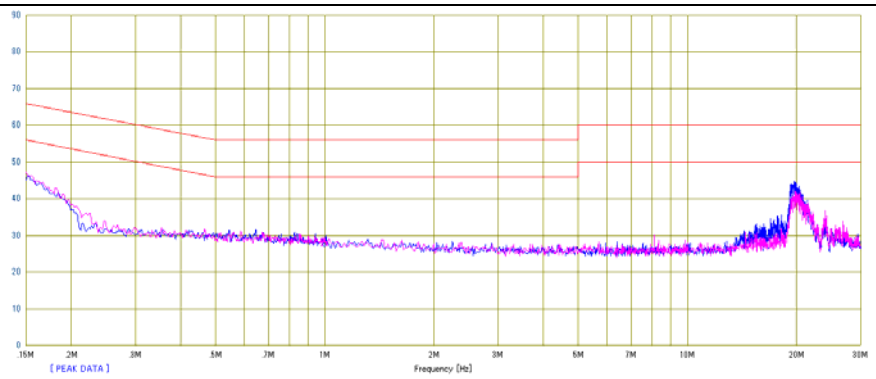
2402MHz



2441MHz



2480MHz



Y scale [dBuV] Chart — N — L

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Conducted Emission

DATA OF CONDUCTED EMISSION TEST

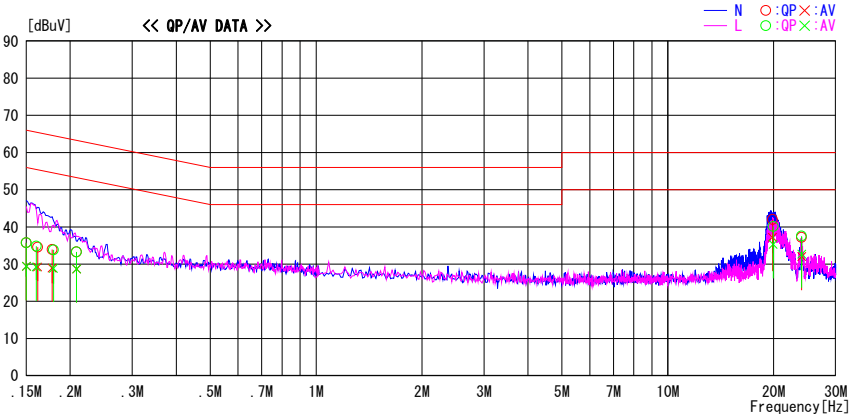
UL Japan, Inc. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2012/08/02

Report No. : 32LE0191-HO-01

Temp./Humi. : 20deg. C / 68% RH
Engineer : Keisuke Kawamura

Mode / Remarks : Tx 3DH5 2441MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15001	22.5	16.2	13.2	35.7	29.4	66.0	56.0	30.3	26.6	N	
0.16161	21.4	16.0	13.2	34.6	29.2	65.4	55.4	30.8	26.2	N	
0.17755	20.7	15.8	13.2	33.9	29.0	64.6	54.6	30.7	25.6	N	
0.20852	20.1	15.5	13.2	33.3	28.7	63.3	53.3	30.0	24.6	N	
19.83579	26.8	22.0	15.2	42.0	37.2	60.0	50.0	18.0	12.8	N	
24.00005	21.8	16.7	15.4	37.2	32.1	60.0	50.0	22.8	17.9	N	
0.15001	22.5	16.2	13.2	35.7	29.4	66.0	56.0	30.3	26.6	L	
0.16015	21.6	16.0	13.2	34.8	29.2	65.5	55.5	30.7	26.3	L	
0.17915	20.6	15.7	13.2	33.8	28.9	64.5	54.5	30.7	25.6	L	
0.20852	20.1	15.5	13.2	33.3	28.7	63.3	53.3	30.0	24.6	L	
19.91819	24.9	20.1	15.2	40.1	35.3	60.0	50.0	19.9	14.7	L	
24.00103	22.2	17.3	15.4	37.6	32.7	60.0	50.0	22.4	17.3	L	

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

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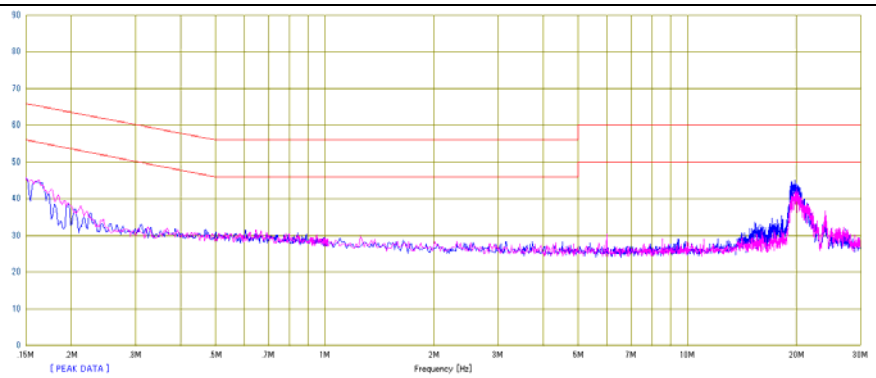
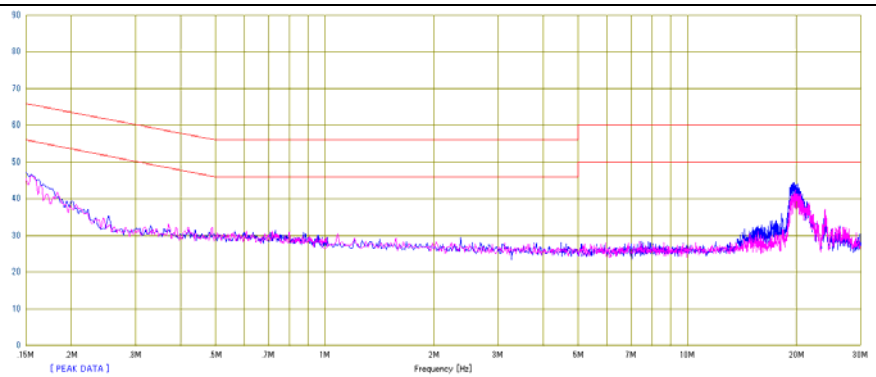
Conducted Emission

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber
Report No.	32LE0191-HO-01
Date	08/02/2012
Temperature/ Humidity	20 deg.C/ 68% RH
Engineer	Keisuke Kawamura
Mode	Tx 3DH5

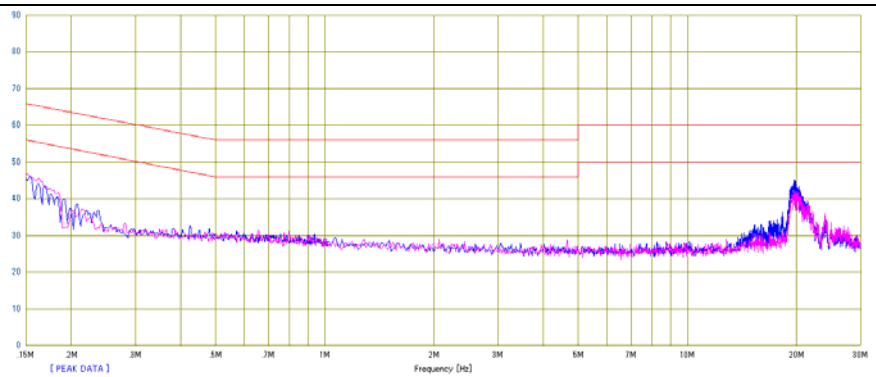
2402MHz



2441MHz



2480MHz



Y scale [dBuV] Chart — N — L

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