RADIO TEST REPORT

Test Report No. : 10488733S-A

Applicant	:	**Sony Corporation**
Type of Equipment	:	**Bluetooth Audio System**
Model No.	:	**MEX-N4100BT**
FCC ID	:	**AK8MEXN4100BT**
Test regulation	:	**FCC Part 15 Subpart C: 2014**
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 any agency of the Federal Government.
6. The opinions and the interpretations to the result of the description in this report are outside scopes where UL Kashima has been accredited.

Date of test: September 24, 29, 2014

Representative test engineer:
Shinya Watanabe
Engineer
EMC Testing Sec.

Approved by:
Go Ishiwata
Department Manager
Operation Dept.

TESTING
CERTIFICATE 1266.01

☐ The testing in which "Non-accreditation" is displayed is outside the accreditation scopes in UL Kashima.
☒ There is no testing item of "Non-accreditation".

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REVISION HISTORY

Original Test Report No. 10488733S-A

Revision	Date	Page revised	Revision Description
00	October 14, 2014	-	Original
01	October 31, 2014	P. 3	Change of the description of FCC 15.31 (e)

SECTION 1: Customer information

Company Name	:	Sony Corporation
Address	:	Sony City Osaki, 2-10-1 Osaki, Shinagawa-ku, Tokyo 141-8610 Japan
Telephone Number	:	+81- 50-3750-7634
Facsimile Number	:	+81- 50-3750-6574
Contact Person	:	Maeda Toshihiro

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

2.1 Identification of E.U.T.

Type of Equipment	:	Bluetooth Audio System
Model No.	:	MEX-N4100BT
Serial No.	:	Refer to Section 4, Clause 4.2
Rating	:	DC 12.0 V, 10 A, 220 W
Receipt Date of Sample	:	September 11, 2014
Country of Mass-production	:	Thailand
Condition of EUT	:	Engineering 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: MEX-N4100BT (referred to as the EUT in this report) is a Bluetooth Audio System (Car CD Player equipped with a FM/AM tuner).

General Specification

Clock frequency(ies) in the system	:	48.000 MHz, 26.000 MHz, 16.9344 MHz, 13.333 MHz, 12.000 MHz, 32.768 kHz

Radio Specification

Bluetooth specification:

Radio Type	:	Transceiver
Frequency of Operation	:	2402-2480 MHz
Modulation	:	FHSS
Transmit power or power range	:	<2.5 mW
Antenna type	:	Meander Monopole
Antenna Gain	:	0.929 dBi
Antenna Connector type	:	U-FL
Constantly Voltage	:	Few
Operating temperature range	:	-20 to +60 deg.C.
ITU code	:	F1D, G1D

FCC 15.31 (e)
The EUT provides stable voltage (DC3.3V) constantly to the wireless transmitter regardless of input voltage. Instead of a new battery, DC power supply was used for the test. That does not affect the test result; therefore the EUT complies with the requirement.

FCC 15.203
The equipment and its antenna comply with the requirement since the antenna is built in the equipment and it cannot be replaced by end users.

SECTION 3: Test specification, procedures & results

3.1 Test Specification

Test Specification	:	FCC Part 15 Subpart B(orC): 2014, , final revised on August 15, 2014 and effective October 14, 2014
Title	:	FCC 47CFR Part15 Radio Frequency Device Subpart C Intentional Radiators Section 15.207 Conducted limits Section 15.209 Radiated emission limits, general requirements Section 15.247 Operation within the bands 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz

* The revision on August 15, 2014 does not affect the test specification applied to the EUT.
The EUT has been tested for compliance with FCC Part 15 Subpart B. Refer to the test report 10488733S-C.

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	N/A	N/A *1)	-
Carrier Frequency Separation	**FCC:** FCC Public Notice DA 00-705 **IC:** -	**FCC:** Section15.247(a)(1) **IC:** RSS-210 A8.1 (b)	See data.	Complied	Conducted
20dB Bandwidth	**FCC:** FCC Public Notice DA 00-705 **IC:** -	**FCC:** Section15.247(a)(1) **IC:** RSS-210 A8.1 (a)		Complied	Conducted
Number of Hopping Frequency	**FCC:** FCC Public Notice DA 00-705 **IC:** -	**FCC:** Section15.247(a)(1)(iii) **IC:** RSS-210 A8.1 (d)		Complied	Conducted
Dwell time	**FCC:** FCC Public Notice DA 00-705 **IC:** -	**FCC:** Section15.247(a)(1)(iii) **IC:** RSS-210 A8.1 (d)		Complied	Conducted
Maximum Peak Output Power	**FCC:** FCC Public Notice DA 00-705 **IC:** RSS-Gen 4.8	**FCC:** Section15.247(a)(b)(1) **IC:** RSS-210 A8.4 (2)		Complied	Conducted
Spurious Emission & Band Edge Compliance	**FCC:** FCC Public Notice DA 00-705 **IC:** RSS-Gen 4.9	**FCC:** Section15.247(d) **IC:** RSS-210 A8.5 RSS-Gen 6 and 7.2.3	3.6 dB Freq.: 82.168 MHz Detection: QP Polarization: Horizontal Mode: Tx, 2480 MHz, Tx, Bluetooth, BDR, PRBS9	Complied	Conducted/ Radiated

Note: UL Kashima, Inc.'s EMI Work Procedures No. 13-EM-W0420 and 13-EM-W0422.
*1) The test is not applicable since the EUT is not the device that is designed to be connected to the public utility (AC) power line.

* In case any questions arise about test procedure, ANSI C63.4: 2009 is also referred.

3.3 Addition to standard

Item	Test Procedure	Specification	Remarks	Worst Margin	Results
Occupied Bandwidth (99%)	ANSI C63.4:2009 13. Measurement of intentional radiators, RSS-Gen 4.6.1	-	Conducted	-	-
Note: UL Kashima's Work Procedures No. 13-EM-W0420 and 13-EM-W0422					

Other than above, no addition, exclusion nor deviation has been made from the standard.

3.4 Confirmation

UL Kashima, Inc. hereby confirms the E.U.T., in the configuration tested, complies with the specifications FCC Part 15 Subpart C: 2014.

3.5 Uncertainty

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

Item	Frequency range	
Radiated emission	30 MHz-300 MHz	4.9 dB
	300 MHz-1 GHz	6.3 dB
	1 GHz-6 GHz	4.5 dB
	6 GHz-18 GHz	4.8 dB
	18 GHz-26.5 GHz	4.9 dB

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

Antenna port conducted test
Power measurement uncertainty above 1GHz for this test was: (±) 1.5dB
Spurious emission (Conducted) measurement (below 1GHz) uncertainty for this test was: (±) 1.6dB
Spurious emission (Conducted) measurement (1G-3GHz) uncertainty for this test was: (±) 1.4dB
Spurious emission (Conducted) measurement (3G-18GHz) uncertainty for this test was: (±) 2.8dB
Spurious emission (Conducted) measurement (18G-26.5GHz) uncertainty for this test was: (±) 2.5dB
Bandwidth measurement uncertainty for this test was: (±) 5.4%

3.6 Test Location

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A2LA Accreditation No. : 1266-01

	FCC Registration No.	Width x Depth x Height (m)	Size of reference ground plane/horizontal conducting plane (m)	Maximum measurement distance
No.1 Open site	90558	6.0 x 5.5 x 2.5	20 x 40	10 m
No.2 Open site	510504	4.4 x 4.4 x 2.15	18 x 20	10 m
No.5 Open site	99356	8.6 x 7.1 x 2.4	18 x 23	10 m
No.1 Shielded room	90558	5.4 x 4.5 x 2.3		-
No.2 Shielded room	510504	3.6 x 2.7 x 2.3		-
No.3 Shielded room	-	5.4 x 3.6 x 2.3		-
No.4 Shielded Room	-	6.1 x 6.1 x 3.1		-
No.5 Shielded Room	99356	4.2 x 3.1 x 2.5		-
No.1 Measurement room	-	5.0 x 3.7 x 2.6		-
No.3 Fully Anechoic Chamber	-	7.0 x 3.5 x 3.5		-
No.6 Semi-anechoic Chamber	372431	8.5 x 5.5 x 5.2		3 m
No.10 Semi-anechoic Chamber	682397	18.4 x 9.9 x 7.7		10 m
No.11 Semi-anechoic Chamber	718605	9.0 x 6.5 x 5.2		3 m

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

Refer to APPENDIX.

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

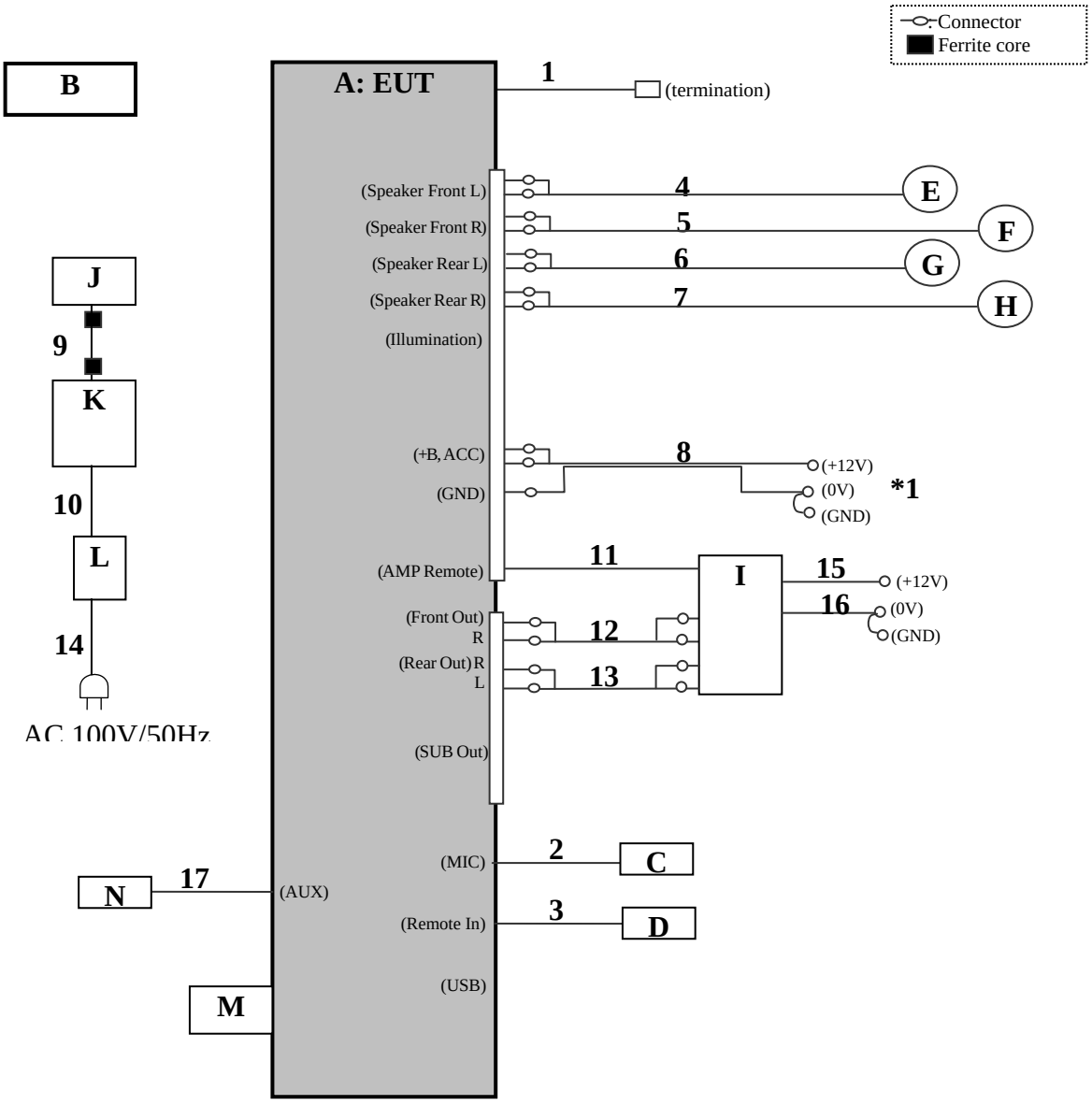
4.1 Operating Mode(s)

Details of Operating Mode(s)

Test Item	Mode	Tested frequency
Spurious Emission (Conducted/Radiated)	Tx, Bluetooh, BDR, EDR, PRBS9	2402MHz 2441MHz 2480MHz
Carrier Frequency Separation, 20dB Bandwidth	Tx (Hopping on) DH5, 3DH5 Inquiry	2402MHz 2441MHz 2480MHz
Number of Hopping Frequency	Tx (Hopping on) DH5, 3DH5 Inquiry	-
Dwell time	Tx (Hopping on), - DH1, DH3, DH5 -3DH1, 3DH3, 3DH5 -Inquiry	-
Maximum Peak Output Power	Tx (Hopping off) DH5, 3DH5 Inquiry	2402MHz 2441MHz 2480MHz
Band Edge Compliance (Conducted)	Tx DH5, 3DH5 -Hopping on -Hopping off	2402MHz 2480MHz
99% Occupied Bandwidth	Tx DH5, 3DH5 -Hopping on -Hopping off	2402MHz 2441MHz 2480MHz

*As a result of preliminary test, the formal test was performed with the above modes, which had the maximum payload length (except Dwell time test)
*2DH mode (2Mb/s EDR: pi/4DQPSK) was excluded for other tests than power measurement by using 3DH mode (3 Mb/s EDR: 8DPSK) as a representative.
*EUT has the power settings by the software as follows;
Power settings: [BDR] Ext: 23, Int: 39/ [EDR] Ext:73, Int:48
Software: CSR BlueTest3 ver. 2.5.0.93/ [Inquiry] BTCli Ctrl ver. 2.5.0.93
*This setting of software is the worst case.
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.

4.2 Configuration and peripherals



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

Description of EUT and support equipment

No.	Item	Model number	Serial number	Manufacturer	Remarks
A	Bluetooth Audio System	MEX-N4100BT	No.18 for RE* No. 19 for AT*	Sony	EUT
B	Remote Commander	RM-X231	-	Sony	-
C	MIC	-	-	Sony	-
D	Wired Remote Controller	RM-X2S	-	Sony	-
E	Speaker 1	XS-GTF1338	-	Sony	-
F	Speaker 2	XS-GTF1338	-	Sony	-
G	Speaker 3	XS-GTF1338	-	Sony	-
H	Speaker 4	XS-GTF1338	-	Sony	-
I	Stereo Power Amplifier	XM-4S	-	Sony	-
J	Contactless IC Card Reader/Writer	RC-S380	0100144	Sony	-
K	Personal Computer	PCG-4F2N	J00129D6	Sony	-
L	AC Adapter	VGP-AC16V11	0709 G	Sony	-
M	USB Memory	USM4GL	-	Sony	-
N	Digital Media Player	NW-A829	5017289	Sony	-

*Note: RE: Radiated Emission, AT: Antenna Terminal Conducted test

List of cables used

No.	Name	Length (m)	Shield (Cable)		Remarks
			Shielded	Shielded	
1	FM antenna	1.2	Shielded	Shielded	-
2	MIC	4.0	Shielded	Shielded	-
3	REMOTE IN	1.9	Shielded	Shielded	-
4	Speaker (1)	0.15+2.3	Unshielded	Unshielded	-
5	Speaker (2)	0.15+2.3	Unshielded	Unshielded	-
6	Speaker (3)	0.15+2.3	Unshielded	Unshielded	-
7	Speaker (4)	0.15+2.3	Unshielded	Unshielded	-
8	DC Power	0.15+1.0	Unshielded	Unshielded	-
9	USB	1.0	Shielded	Shielded	-
10	DC	1.8	Unshielded	Unshielded	-
11	AMP Remote	0.15+1.6	Unshielded	Unshielded	-
12	RCA (Front Audio Out)	0.1+4.9	Shielded	Shielded	-
13	RCA (Rear Audio Out)	0.1+4.9	Shielded	Shielded	-
14	AC	0.7	Unshielded	Unshielded	-
15	DC Power (+)	1.3	Unshielded	Unshielded	-
16	DC Power (-)	1.3	Unshielded	Unshielded	-
17	Audio	2.0	Shielded	Shielded	-

SECTION 5: Radiated Spurious Emission

Test Procedure
EUT was placed on a urethane platform of nominal size, 1.0m by 2.0m, 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	Logbicon	Logbicon	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	PK
IF Bandwidth	BW 120kHz(T/R)	RBW: 1MHz VBW: 3MHz	RBW: 1MHz VBW: 10Hz *1)	RBW: 100kHz VBW: 300kHz (S/A)
Test Distance	3m	3m (below 10GHz), 1m*2) (above 10GHz)		3m (below 10GHz), 1m*3) (above 10GHz)

*1) Although 00-705 accepts VBW=10Hz for AV measurements, it was confirmed that superfluous smoothing was not performed."
*2) Distance Factor: 20 x log (3.0m/1.0m) = 9.5dB

The test was made on EUT at the normal use position.

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

Measurement range **: 30M-25GHz**
Test data **: APPENDIX**
Test result **: Pass** No noise was detected above the 2th order harmonics.

Antenna polarization \ Test item	Carrier	Spurious emission (Below 1GHz)	Spurious emission (1-15GHz)	Spurious emission (Above 15GHz)
Horizontal	45 deg.	0 deg.	45 deg.	0 deg.
Vertical	45 deg.	0 deg.	45 deg.	0 deg.

SECTION 6: Antenna Terminal Conducted Tests

Test Procedure

The tests were made with below setting connected to the antenna port.

Test	Span	RBW	VBW	Sweep time	Detector	Trace	Instrument used
20dB Bandwidth	3MHz	30kHz	100kHz	Auto	Peak	Max Hold	Spectrum Analyzer
99% Occupied Bandwidth	Enough width to display 20dB Bandwidth	1 to 3% of Span	Three times of RBW	Auto	Peak	Max Hold *1)	Spectrum Analyzer
Maximum Peak Output Power	-	-	-	Auto	Peak Average *3)	-	Power Meter
Carrier Frequency Separation	5MHz or 3MHz	100kHz or 30kHz	300kHz or 100kHz	Auto	Peak	Max Hold	Spectrum Analyzer
Number of Hopping Frequency	30MHz	300kHz	1MHz	Auto	Peak	Max Hold	Spectrum Analyzer
Dwell Time	Zero Span	100kHz, 1MHz	300kHz, 3MHz	As necessary capture the entire dwell time per hopping channel	Peak	Max Hold	Spectrum Analyzer
Conducted Spurious Emission *2)	9kHz to 150kHz	200Hz	620Hz	Auto	Peak	Max Hold	Spectrum Analyzer
	150kHz to 30MHz	9.1kHz	27kHz				
	30MHz to 25GHz (Less or equal to 5GHz)	100kHz	300kHz				
Conducted Spurious Emission Band Edge compliance	10MHz	100kHz	300kHz	Auto	Peak	Max Hold	Spectrum Analyzer

*1) The measurement was performed with Max Hold since the duty cycle was not 100%.
*2) In the frequency range below 30MHz, RBW was narrowed to separate the noise contents.
Then, wide-band noise near the limit was checked separately, however the noise was not detected as shown in the chart.(9kHz-150kHz:RBW=200Hz, 150kHz-30MHz:RBW=9.1kHz)
*3) Reference data

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

Test data : APPENDIX
Test result : Pass

APPENDIX 1: Data of EMI test

20dB Bandwidth and Carrier Frequency Separation

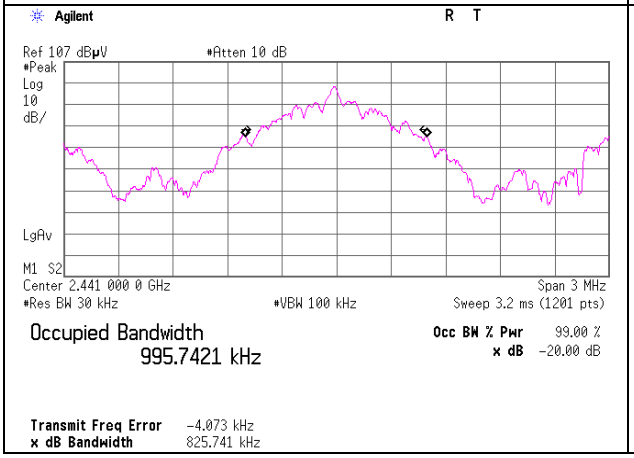
Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe
Mode	Tx (Hopping on) DH5/3DH5/Inquiry

Mode	Freq. [MHz]	20dB Bandwidth [MHz]	Carrier Frequency Separation [MHz]	Limit for Carrier Frequency separation [MHz]
DH5	2402.0	0.916	1.000	>= 0.611
DH5	2441.0	0.888	1.000	>= 0.592
DH5	2480.0	0.886	1.000	>= 0.591
3DH5	2402.0	1.297	1.000	>= 0.865
3DH5	2441.0	1.284	1.000	>= 0.856
3DH5	2480.0	1.289	1.000	>= 0.859
Inquiry	2441.0	0.826	2.000	>= 0.551

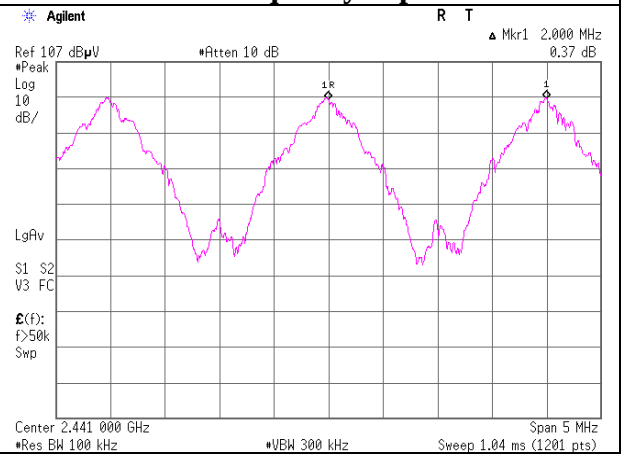
Limit: Two-thirds of 20dB Bandwidth or 25kHz (whichever is greater).
No limit applies to 20dB Bandwidth.

Inquiry

20dB Bandwidth



Carrier Frequency Separation



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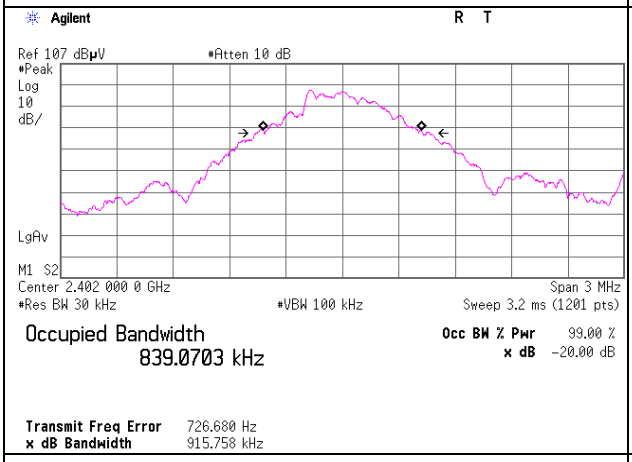
20dB Bandwidth and Carrier Frequency Separation

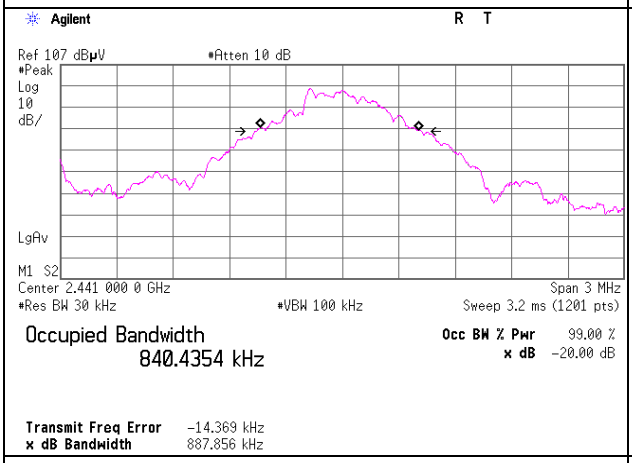
Tx DH5

20dB Bandwidth

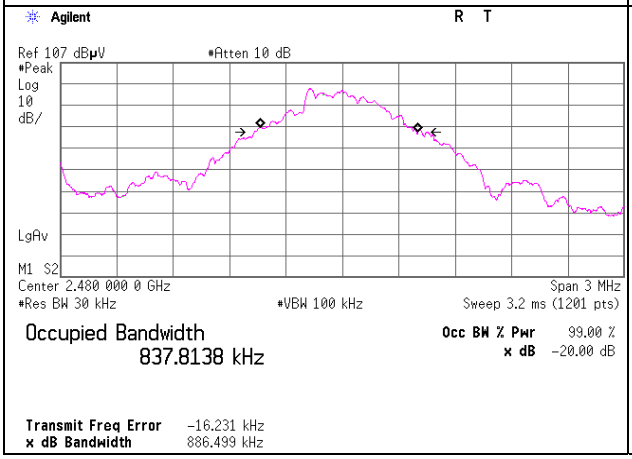
2402MHz



2441MHz

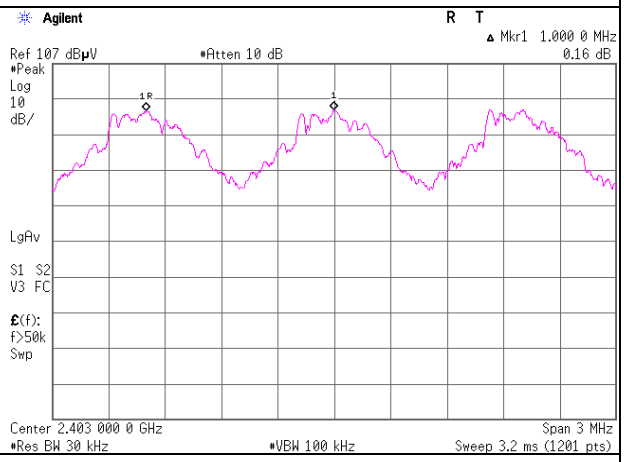


2480MHz



Carrier Frequency Separation

2402MHz



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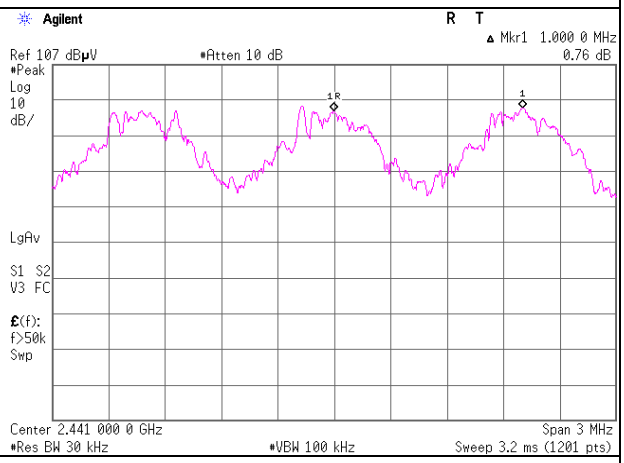
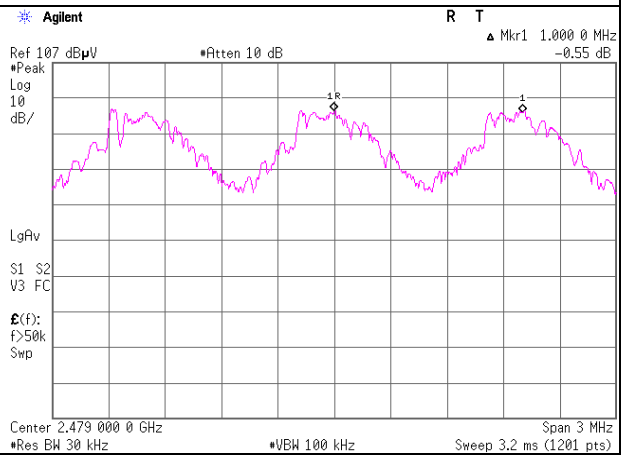


2480MHz



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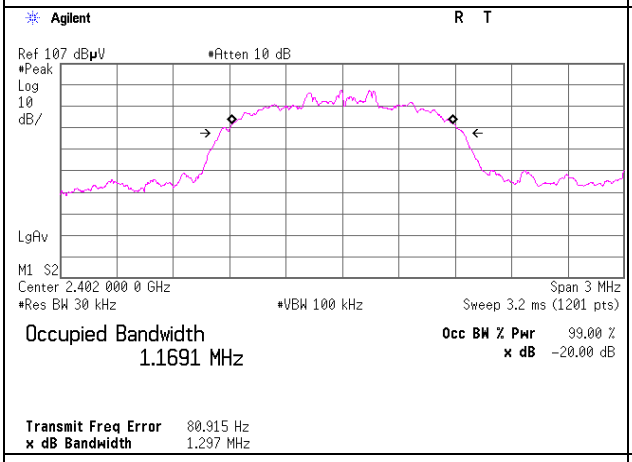
20dB Bandwidth and Carrier Frequency Separation

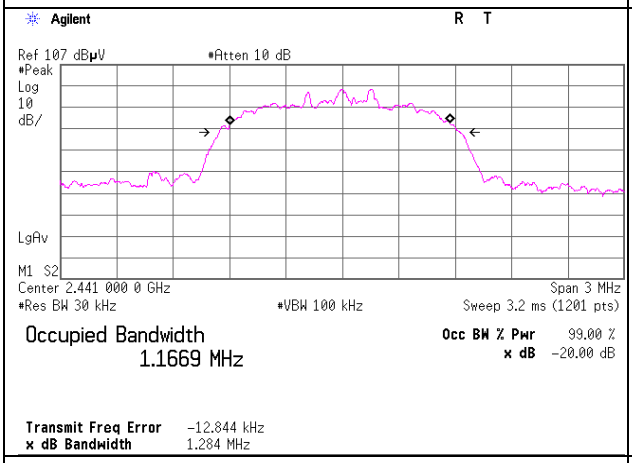
Tx 3DH5

20dB Bandwidth

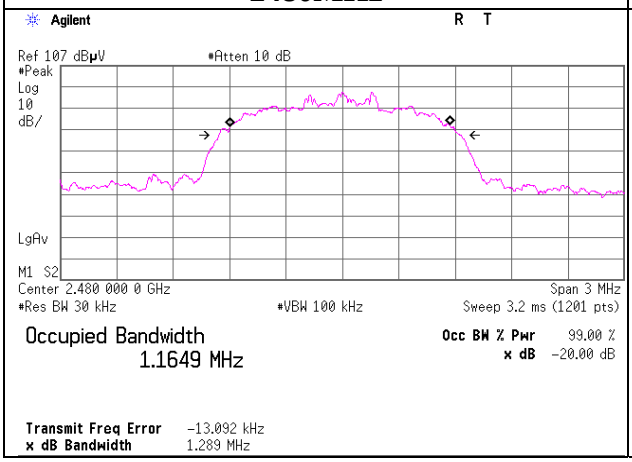
2402MHz



2441MHz

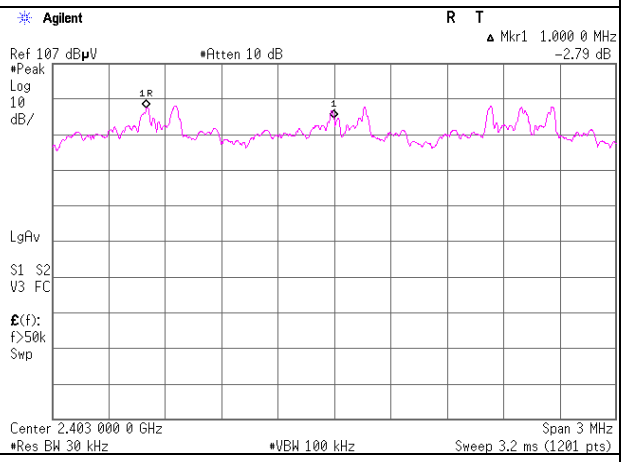


2480MHz

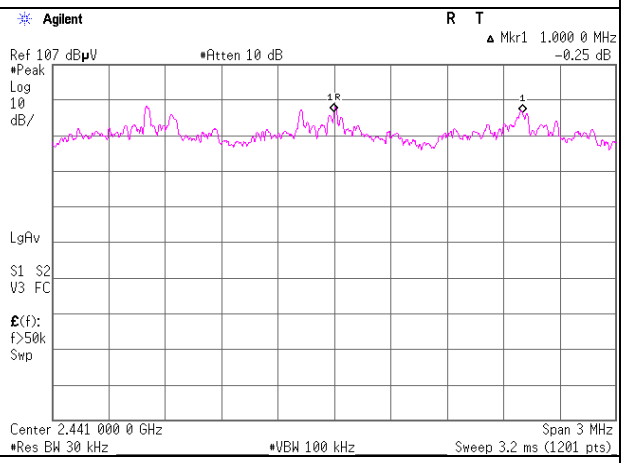


Carrier Frequency Separation

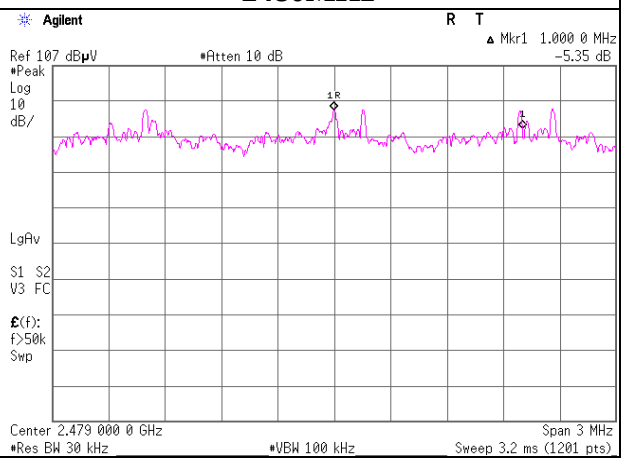
2402MHz



2441MHz



2480MHz



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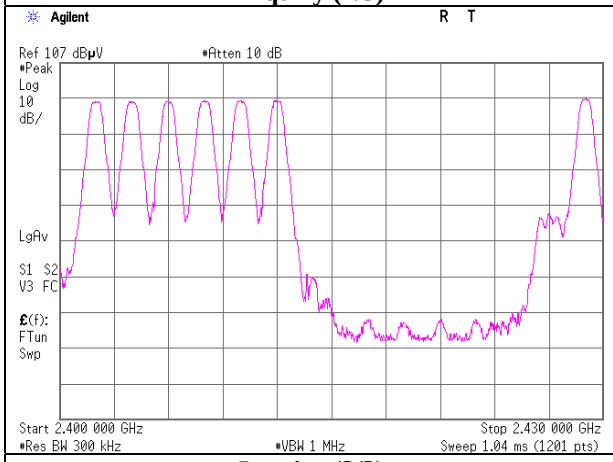
Number of Hopping Frequency

Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe
Mode	Tx (Hopping on) DH5/3DH5/Inquiry

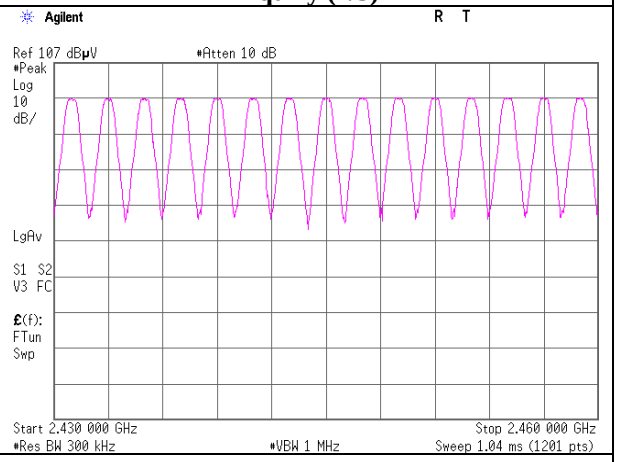
Mode	Number of channel [times]	Limit [times]
DH5	79	>= 15
3DH5	79	>= 15
Inquiry	32	>= 15

Test was not performed at AFH mode whose number of hopping channel is 20 channels because this Bluetooth radio is in compliance of Bluetooth Specification.

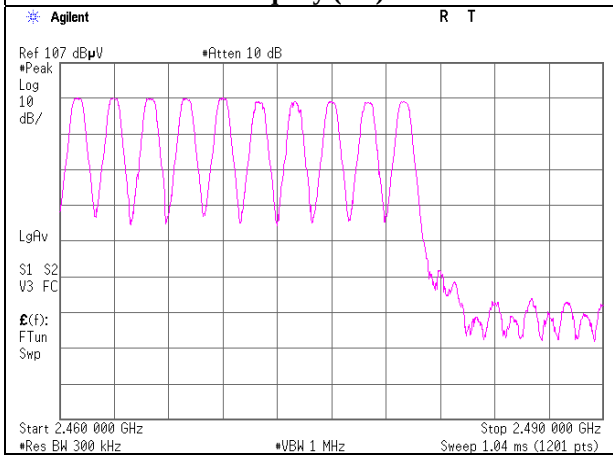
Inquiry (1/3)



Inquiry (2/3)



Inquiry (3/3)



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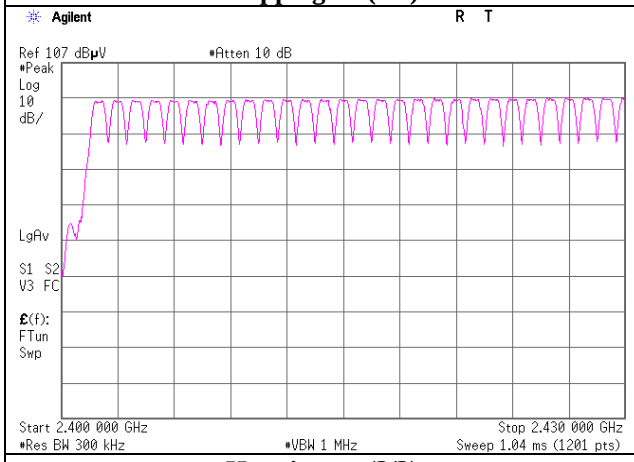
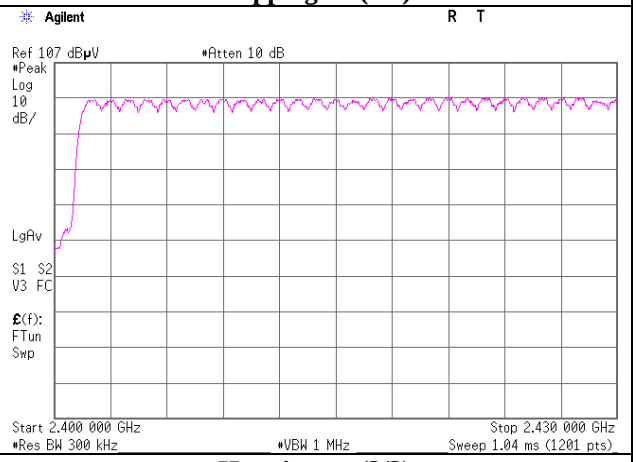
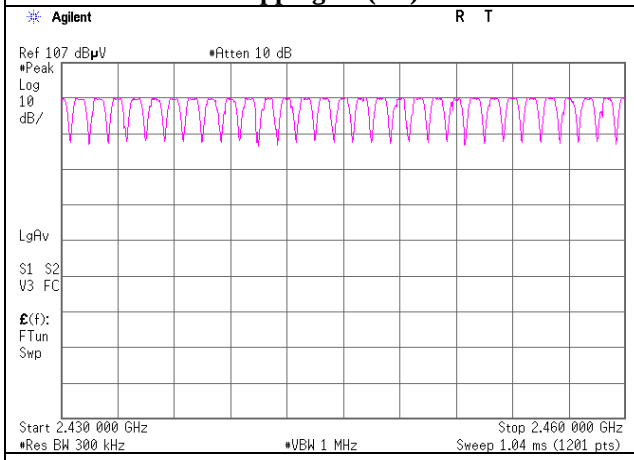
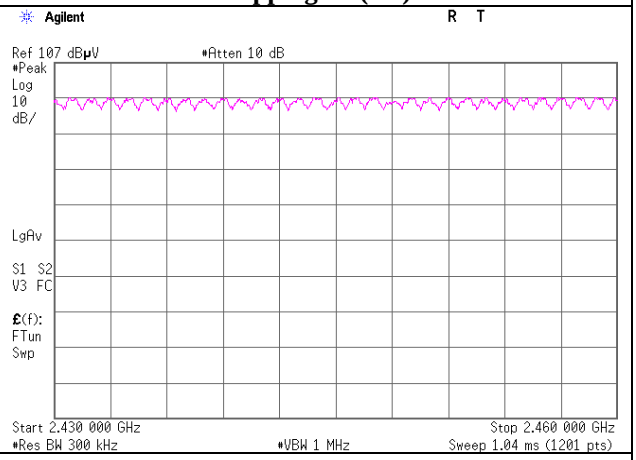
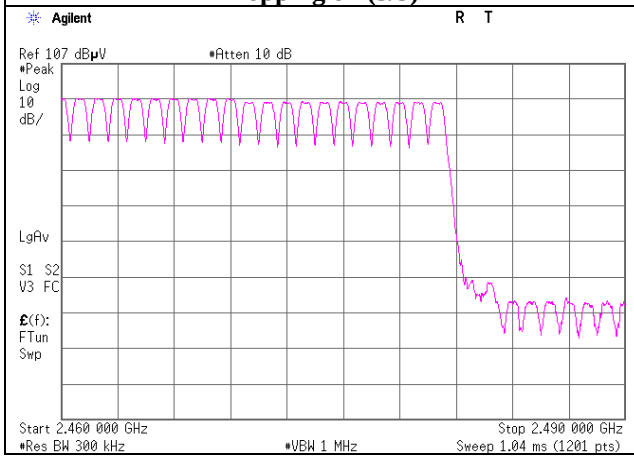
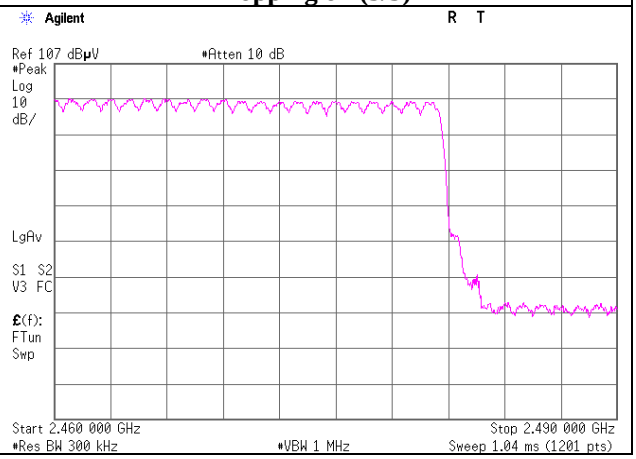
Number of Hopping Frequency

Tx DH5	Tx 3DH5
Hopping on (1/3)	**Hopping on (1/3)**
	
Hopping on (2/3)	**Hopping on (2/3)**
	
Hopping on (3/3)	**Hopping on (3/3)**
	

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Dwell time

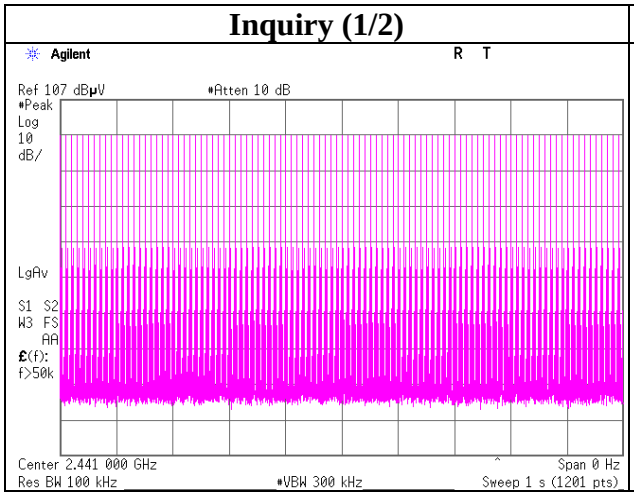
Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe
Mode	Tx (Hopping on) DH5/3DH5/Inquiry

Mode	Number of transmission in a 31.6(79 Hopping x 0.4) / 12.8(32 Hopping x 0.4)second period					Length of transmission time [msec]	Result [msec]	Limit [msec]
DH1	51.0 times	/	5 sec.	x	31.6 sec. = 323 times	0.411	133	400
DH3	26.0 times	/	5 sec.	x	31.6 sec. = 165 times	1.666	275	400
DH5	17.0 times	/	5 sec.	x	31.6 sec. = 108 times	2.913	315	400
3DH1	51.0 times	/	5 sec.	x	31.6 sec. = 323 times	0.423	137	400
3DH3	26.0 times	/	5 sec.	x	31.6 sec. = 165 times	1.675	276	400
3DH5	17.0 times	/	5 sec.	x	31.6 sec. = 108 times	2.923	316	400
Inquiry	100.0 times	/	1 sec.	x	12.8 sec. = 1280 times	0.111	142	400

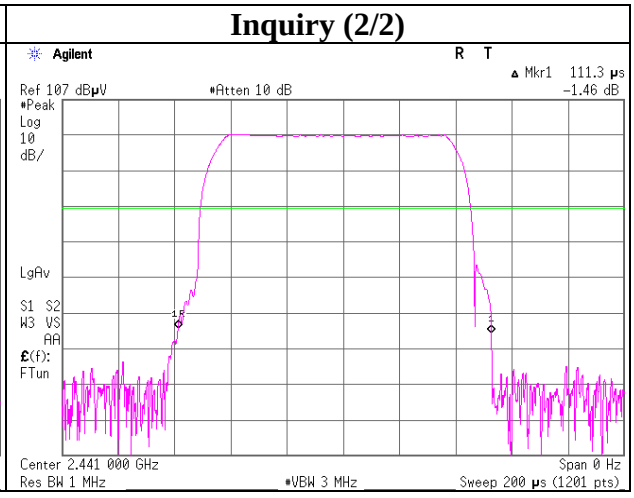
Sample Calculation
Result = Number of transmission x Length of transmition time

This device complies with the Bluetooth protocol for FHSS operation, employing a pseudo random channel selection and hopping rate to ensure that the occupancy time in N x 0.4s, where N is the number of channels being used in the hopping sequence ($20 \leq N \leq 79$), is always less than 0.4s regardless of packet size. This is confirmed in the test report for N=79.

Inquiry (1/2)

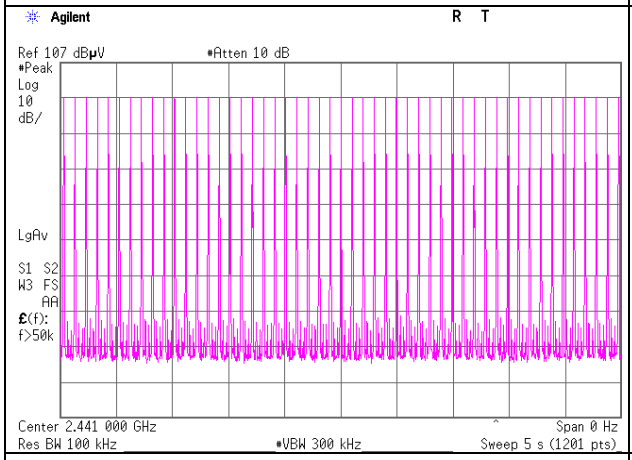


Inquiry (2/2)

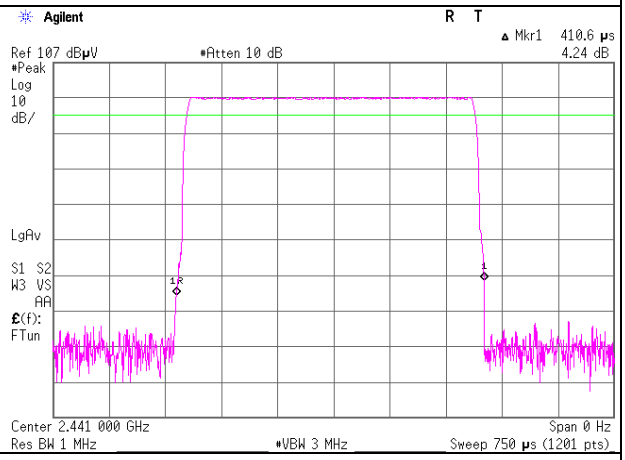


Dwell time

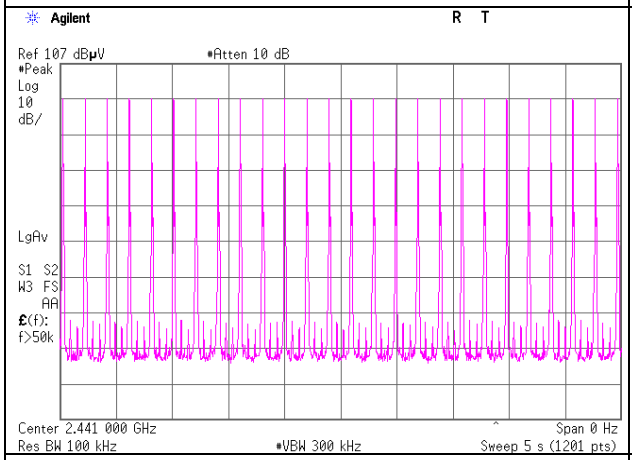
DH1 (1/2)



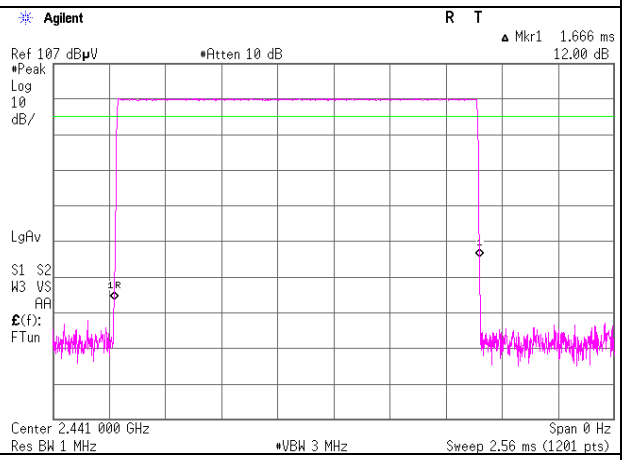
DH1 (2/2)



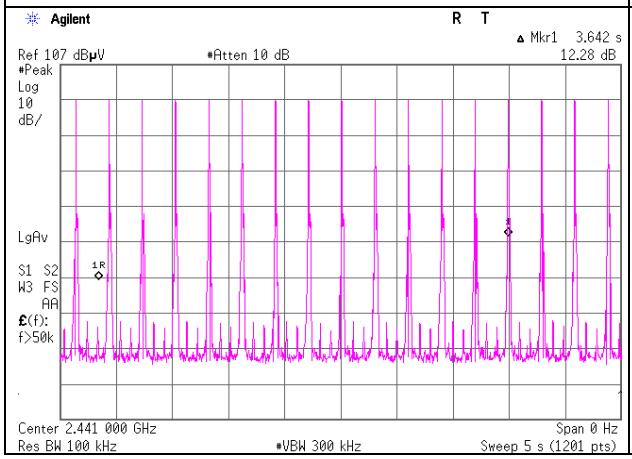
DH3 (1/2)



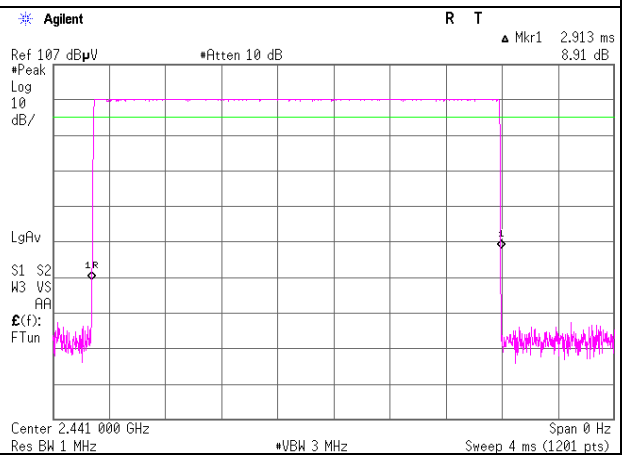
DH3 (2/2)



DH5 (1/2)



DH5 (2/2)



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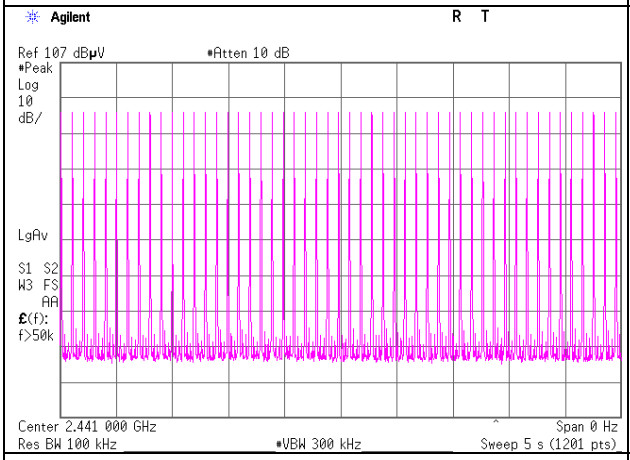
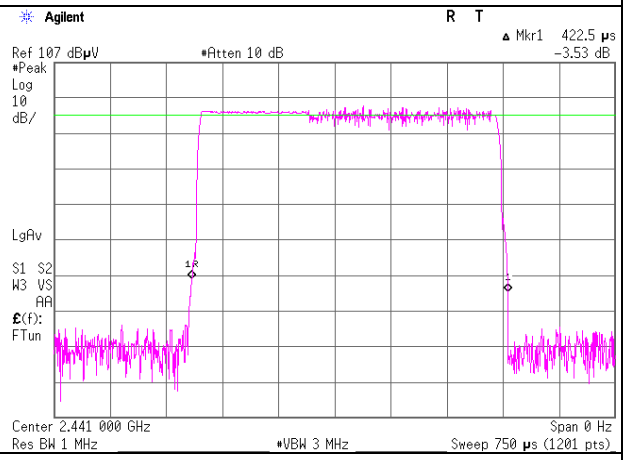
Dwell time

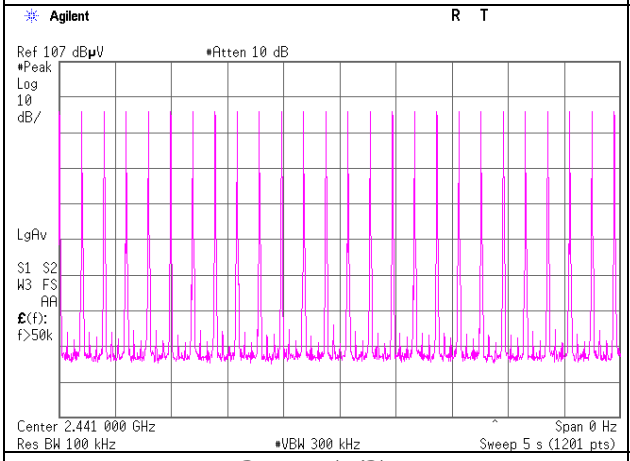
3DH1 (1/2)



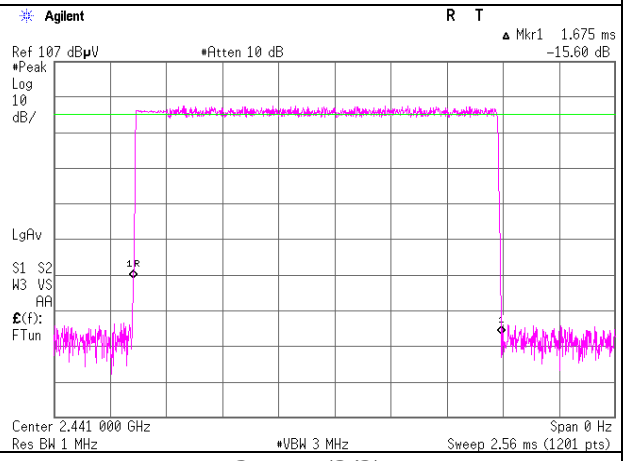
3DH1 (2/2)



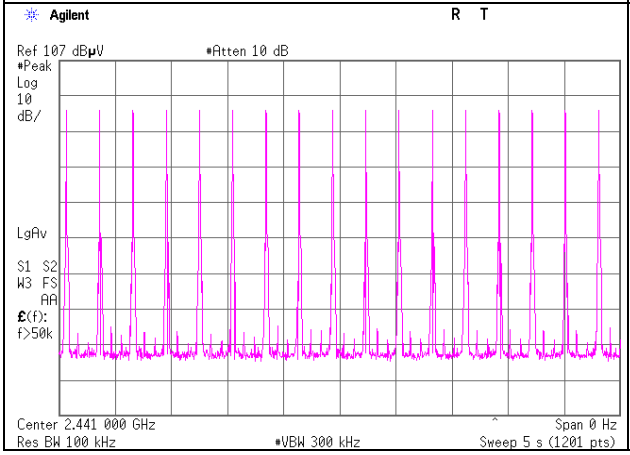
3DH3 (1/2)



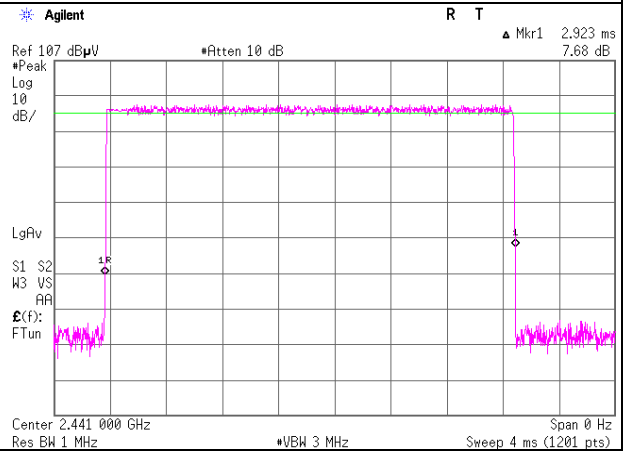
3DH3 (2/2)



3DH5 (1/2)



3DH5 (2/2)



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Maximum Peak Output Power

Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe
Mode	Tx (Hopping off) DH5/3DH5/Inquiry

Mode	Freq.	Reading	Cable Loss	Atten.	Result		Limit		Margin
	[MHz]	[dBm]	[dB]	[dB]	[dBm]	[mW]	[dBm]	[mW]	[dB]
DH5	2402.0	-10.38	1.11	10.07	0.80	1.20	20.96	125	20.16
DH5	2441.0	-9.44	1.11	10.07	1.74	1.49	20.96	125	19.22
DH5	2480.0	-10.30	1.11	10.07	0.88	1.22	20.96	125	20.08
2DH5	2402.0	-9.10	1.11	10.07	2.08	1.61	20.96	125	18.88
2DH5	2441.0	-8.46	1.11	10.07	2.72	1.87	20.96	125	18.24
2DH5	2480.0	-9.24	1.11	10.07	1.94	1.56	20.96	125	19.02
3DH5	2402.0	-8.71	1.11	10.07	2.47	1.77	20.96	125	18.49
3DH5	2441.0	-7.93	1.11	10.07	3.25	2.11	20.96	125	17.71
3DH5	2480.0	-8.81	1.11	10.07	2.37	1.73	20.96	125	18.59
Inquiry	2441.0	-7.16	1.11	10.07	4.02	2.52	20.96	125	16.94

Sample Calculation:
Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator

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.
As this device 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.

Average Output Power
(Reference data for SAR testing)

Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe
Mode	Tx (Hopping off) DH5/2DH5/3DH5

Mode	Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result [dBm]	Result [mW]
DH5	2402.0	-11.08	1.11	10.07	0.10	1.02
DH5	2441.0	-10.19	1.11	10.07	0.99	1.26
DH5	2480.0	-11.11	1.11	10.07	0.07	1.02
2DH5	2402.0	-11.89	1.11	10.07	-0.71	0.85
2DH5	2441.0	-11.22	1.11	10.07	-0.04	0.99
2DH5	2480.0	-12.04	1.11	10.07	-0.86	0.82
3DH5	2402.0	-11.87	1.11	10.07	-0.69	0.85
3DH5	2441.0	-11.22	1.11	10.07	-0.04	0.99
3DH5	2480.0	-12.05	1.11	10.07	-0.87	0.82

Sample Calculation:
Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator

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Radiated Emission

Test place No.11 Semi Anechoic Chamber
Date September 29, 2014
Temperature / Humidity 22 deg.C, 58 %RH
Engineer H.Tanabe
Mode Tx, 2402 MHz
Tx, Bluetooth, BDR, PRBS9

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	74.805	QP	46.7	10.3	7.4	32.2	32.2	40.0	7.8	276	91	
Hori.	79.456	QP	50.5	9.1	7.5	32.2	34.9	40.0	**5.1**	257	101	
Hori.	103.486	QP	52.0	9.3	7.7	32.2	36.8	43.5	6.7	290	80	
Hori.	366.917	QP	37.3	14.8	9.4	32.0	29.5	46.0	16.5	101	145	
Hori.	720.028	QP	33.0	21.0	10.9	32.1	32.8	46.0	13.2	108	177	
Hori.	959.999	QP	34.0	23.6	11.8	30.9	38.5	46.0	7.5	132	160	
Hori.	2390.000	PK	45.4	27.6	14.0	38.5	48.5	73.9	25.4	100	320	
Hori.	4804.000	PK	49.9	31.3	6.0	39.6	47.6	73.9	26.3	100	335	
Hori.	2390.000	AV	33.7	27.6	14.0	38.5	36.8	53.9	17.1	100	320	
Hori.	4804.000	AV	41.2	31.3	6.0	39.6	38.9	53.9	15.0	100	335	
Vert.	75.579	QP	44.4	10.1	7.4	32.2	29.7	40.0	10.3	100	237	
Vert.	82.169	QP	44.1	8.7	7.5	32.2	28.1	40.0	11.9	100	310	
Vert.	110.851	QP	46.3	10.2	7.8	32.2	32.1	43.5	11.4	100	104	
Vert.	366.917	QP	35.7	14.8	9.4	32.0	27.9	46.0	18.1	139	204	
Vert.	399.816	QP	33.0	15.5	9.5	32.0	26.0	46.0	20.0	118	205	
Vert.	959.999	QP	30.0	23.6	11.8	30.9	34.5	46.0	11.5	100	158	
Vert.	2390.000	PK	45.3	27.6	14.0	38.5	48.4	73.9	25.5	100	0	
Vert.	4804.000	PK	48.7	31.3	6.0	39.6	46.4	73.9	27.5	115	30	
Vert.	2390.000	AV	33.2	27.6	14.0	38.5	36.3	53.9	17.6	100	0	
Vert.	4804.000	AV	39.8	31.3	6.0	39.6	37.5	53.9	16.4	115	30	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter)(below 18GHz)-Distance factor(above 13GHz)) - Gain(Amprifier)
Distance factor : 13GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet **(RBW 100kHz, VBW 300kHz)**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2402.000	PK	84.1	27.5	14.0	38.5	87.1	-	-	
Hori.	2400.000	PK	35.4	27.5	14.0	38.5	38.4	67.1	28.7	
Vert.	2402.000	PK	86.8	27.5	14.0	38.5	89.8	-	-	
Vert.	2400.000	PK	35.1	27.5	14.0	38.5	38.1	69.8	31.7	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter)(below 18GHz)-Distance factor(above 13GHz)) - Gain(Amprifier)
Distance factor : 13GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

No noise was detected above the 3rd order harmonics.

Radiated Emission

Test place	No.11 Semi Anechoic Chamber
Date	September 29, 2014
Temperature / Humidity	22 deg.C, 58 %RH
Engineer	H.Tanabe
Mode	Tx, 2441 MHz
	Tx, Bluetooth, BDR, PRBS9

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	74.805	QP	47.1	10.3	7.4	32.2	32.6	40.0	7.4	241	109	
Hori.	81.006	QP	52.0	8.9	7.5	32.2	36.2	40.0	**3.8**	240	80	
Hori.	104.649	QP	51.5	9.4	7.7	32.2	36.4	43.5	7.1	281	83	
Hori.	399.860	QP	34.7	15.5	9.5	32.0	27.7	46.0	18.3	100	229	
Hori.	720.029	QP	32.7	21.0	10.9	32.1	32.5	46.0	13.5	100	186	
Hori.	959.999	QP	28.0	23.6	11.8	30.9	32.5	46.0	13.5	151	236	
Hori.	4882.000	PK	48.2	31.2	6.0	39.6	45.8	73.9	28.1	100	150	
Hori.	4882.000	AV	39.6	31.2	6.0	39.6	37.2	53.9	16.7	100	150	
Vert.	75.580	QP	45.5	10.1	7.4	32.2	30.8	40.0	9.2	100	210	
Vert.	84.494	QP	44.3	8.5	7.5	32.2	28.1	40.0	11.9	100	166	
Vert.	110.850	QP	42.8	10.2	7.8	32.2	28.6	43.5	14.9	100	103	
Vert.	372.562	QP	36.0	14.9	9.4	32.0	28.3	46.0	17.7	137	196	
Vert.	401.757	QP	34.5	15.5	9.5	32.0	27.5	46.0	18.5	102	194	
Vert.	959.999	QP	27.3	23.6	11.8	30.9	31.8	46.0	14.2	100	200	
Vert.	4882.000	PK	49.6	31.2	6.0	39.6	47.2	73.9	26.7	100	200	
Vert.	4882.000	AV	41.2	31.2	6.0	39.6	38.8	53.9	15.1	100	200	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter)(below 18GHz)-Distance factor(above 13GHz)) - Gain(Amprifier)
Distance factor : 13GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

No noise was detected above the 3rd order harmonics.

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Radiated Emission

Test place	No.11 Semi Anechoic Chamber
Date	September 29, 2014
Temperature / Humidity	22 deg.C, 58 %RH
Engineer	H.Tanabe
Mode	Tx, 2480 MHz
	Tx, Bluetooth, BDR, PRBS9

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	74.805	QP	49.7	10.3	7.4	32.2	35.2	40.0	4.8	273	87	
Hori.	82.168	QP	52.4	8.7	7.5	32.2	36.4	40.0	**3.6**	227	77	
Hori.	103.487	QP	53.8	9.3	7.7	32.2	38.6	43.5	4.9	300	82	
Hori.	342.240	QP	38.0	14.3	9.2	32.0	29.5	46.0	16.5	100	204	
Hori.	720.030	QP	32.3	21.0	10.9	32.1	32.1	46.0	13.9	100	189	
Hori.	959.999	QP	29.0	23.6	11.8	30.9	33.5	46.0	12.5	100	222	
Hori.	2483.500	PK	46.1	27.5	14.1	38.5	49.2	73.9	24.7	100	0	
Hori.	4960.000	PK	49.0	31.5	6.1	39.6	47.0	73.9	26.9	100	335	
Hori.	2483.500	AV	33.6	27.5	14.1	38.5	36.7	53.9	17.2	100	0	
Hori.	4960.000	AV	41.1	31.5	6.1	39.6	39.1	53.9	14.8	100	335	
Vert.	75.579	QP	45.7	10.1	7.4	32.2	31.0	40.0	9.0	100	227	
Vert.	83.332	QP	44.7	8.6	7.5	32.2	28.6	40.0	11.4	101	140	
Vert.	105.811	QP	46.1	9.6	7.7	32.2	31.2	43.5	12.3	117	120	
Vert.	366.917	QP	36.1	14.8	9.4	32.0	28.3	46.0	17.7	117	194	
Vert.	401.754	QP	35.7	15.5	9.5	32.0	28.7	46.0	17.3	100	210	
Vert.	959.999	QP	28.7	23.6	11.8	30.9	33.2	46.0	12.8	100	204	
Vert.	2483.500	PK	47.1	27.5	14.1	38.5	50.2	73.9	23.7	100	0	
Vert.	4960.000	PK	48.7	31.5	6.1	39.6	46.7	73.9	27.2	100	200	
Vert.	2483.500	AV	33.6	27.5	14.1	38.5	36.7	53.9	17.2	100	0	
Vert.	4960.000	AV	40.2	31.5	6.1	39.6	38.2	53.9	15.7	100	200	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter)(below 18GHz)-Distance factor(above 13GHz)) - Gain(Amprifier)
Distance factor : 13GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

No noise was detected above the 3rd order harmonics.

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Radiated Emission

Test place No.11 Semi Anechoic Chamber
Date September 29, 2014
Temperature / Humidity 22 deg.C, 58 %RH
Engineer H.Tanabe
Mode Tx, 2402 MHz
Tx, Bluetooth, EDR, PRBS9

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	75.580	QP	49.9	10.1	7.4	32.2	35.2	40.0	4.8	269	92	
Hori.	82.557	QP	52.3	8.7	7.5	32.2	36.3	40.0	**3.7**	243	100	
Hori.	103.098	QP	52.7	9.3	7.7	32.2	37.5	43.5	6.0	285	101	
Hori.	338.753	QP	38.0	14.2	9.2	32.0	29.4	46.0	16.6	100	204	
Hori.	720.029	QP	31.8	21.0	10.9	32.1	31.6	46.0	14.4	100	176	
Hori.	959.999	QP	28.5	23.6	11.8	30.9	33.0	46.0	13.0	100	321	
Hori.	2390.000	PK	46.6	27.6	14.0	38.5	49.7	73.9	24.2	100	0	
Hori.	4804.000	PK	51.0	31.3	6.0	39.6	48.7	73.9	25.2	100	335	
Hori.	2390.000	AV	33.6	27.6	14.0	38.5	36.7	53.9	17.2	100	0	
Hori.	4804.000	AV	43.7	31.3	6.0	39.6	41.4	53.9	12.5	100	335	
Vert.	76.355	QP	45.7	9.9	7.4	32.2	30.8	40.0	9.2	100	227	
Vert.	84.107	QP	44.4	8.5	7.5	32.2	28.2	40.0	11.8	100	134	
Vert.	106.586	QP	46.3	9.7	7.7	32.2	31.5	43.5	12.0	100	118	
Vert.	372.561	QP	36.3	14.9	9.4	32.0	28.6	46.0	17.4	132	191	
Vert.	401.758	QP	35.0	15.5	9.5	32.0	28.0	46.0	18.0	103	202	
Vert.	959.999	QP	28.0	23.6	11.8	30.9	32.5	46.0	13.5	102	204	
Vert.	2390.000	PK	45.7	27.6	14.0	38.5	48.8	73.9	25.1	100	200	
Vert.	4804.000	PK	50.0	31.3	6.0	39.6	47.7	73.9	26.2	115	120	
Vert.	2390.000	AV	32.4	27.6	14.0	38.5	35.5	53.9	18.4	100	200	
Vert.	4804.000	AV	42.8	31.3	6.0	39.6	40.5	53.9	13.4	115	120	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter)(below 18GHz)-Distance factor(above 13GHz)) - Gain(Amprifier)
Distance factor : 13GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

20dBc Data Sheet **(RBW 100kHz, VBW 300kHz)**

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori.	2402.000	PK	88.0	27.5	14.0	38.5	91.0	-	-	
Hori.	2400.000	PK	35.2	27.5	14.0	38.5	38.2	71.0	32.8	
Vert.	2402.000	PK	90.1	27.5	14.0	38.5	93.1	-	-	
Vert.	2400.000	PK	35.8	27.5	14.0	38.5	38.8	73.1	34.3	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter)(below 18GHz)-Distance factor(above 13GHz)) - Gain(Amprifier)
Distance factor : 13GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

No noise was detected above the 3rd order harmonics.

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Radiated Emission

Test place	No.11 Semi Anechoic Chamber
Date	September 29, 2014
Temperature / Humidity	22 deg.C, 58 %RH
Engineer	H.Tanabe
Mode	Tx, 2441 MHz
	Tx, Bluetooth, EDR, PRBS9

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	75.580	QP	47.0	10.1	7.4	32.2	32.3	40.0	7.7	208	256	
Hori.	82.556	QP	51.0	8.7	7.5	32.2	35.0	40.0	**5.0**	208	100	
Hori.	103.099	QP	53.5	9.3	7.7	32.2	38.3	43.5	5.2	298	78	
Hori.	341.466	QP	38.1	14.2	9.2	32.0	29.5	46.0	16.5	100	203	
Hori.	719.364	QP	27.1	21.0	10.9	32.1	26.9	46.0	19.1	139	359	
Hori.	959.999	QP	29.8	23.6	11.8	30.9	34.3	46.0	11.7	150	224	
Hori.	4882.000	PK	49.7	31.2	6.0	39.6	47.3	73.9	26.6	115	170	
Hori.	4882.000	AV	43.0	31.2	6.0	39.6	40.6	53.9	13.3	115	170	
Vert.	76.355	QP	45.0	9.9	7.4	32.2	30.1	40.0	9.9	100	192	
Vert.	82.557	QP	43.5	8.7	7.5	32.2	27.5	40.0	12.5	100	156	
Vert.	106.587	QP	46.3	9.7	7.7	32.2	31.5	43.5	12.0	100	107	
Vert.	366.917	QP	36.0	14.8	9.4	32.0	28.2	46.0	17.8	128	178	
Vert.	401.757	QP	35.8	15.5	9.5	32.0	28.8	46.0	17.2	103	215	
Vert.	959.999	QP	28.0	23.6	11.8	30.9	32.5	46.0	13.5	102	197	
Vert.	4882.000	PK	50.1	31.2	6.0	39.6	47.7	73.9	26.2	100	200	
Vert.	4882.000	AV	43.0	31.2	6.0	39.6	40.6	53.9	13.3	100	200	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter)(below 18GHz)-Distance factor(above 13GHz)) - Gain(Amprifier)
Distance factor : 13GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

No noise was detected above the 3rd order harmonics.

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Radiated Emission

Test place	No.11 Semi Anechoic Chamber
Date	September 29, 2014
Temperature / Humidity	22 deg.C, 58 %RH
Engineer	H.Tanabe
Mode	Tx, 2480 MHz
	Tx, Bluetooth, EDR, PRBS9

(* PK: Peak, AV: Average, QP: Quasi-Peak)

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant.Fac. [dB/m]	Loss [dB]	Gain [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Height [cm]	Angle [deg]	Remark
Hori.	75.192	QP	45.2	10.2	7.4	32.2	30.6	40.0	9.4	255	100	
Hori.	81.781	QP	52.0	8.8	7.5	32.2	36.1	40.0	**3.9**	224	93	
Hori.	103.099	QP	52.8	9.3	7.7	32.2	37.6	43.5	5.9	281	72	
Hori.	339.527	QP	37.3	14.2	9.2	32.0	28.7	46.0	17.3	100	222	
Hori.	720.029	QP	32.3	21.0	10.9	32.1	32.1	46.0	13.9	100	190	
Hori.	959.999	QP	32.9	23.6	11.8	30.9	37.4	46.0	8.6	132	170	
Hori.	2483.500	PK	46.8	27.5	14.1	38.5	49.9	73.9	24.0	100	0	
Hori.	4960.000	PK	50.0	31.5	6.1	39.6	48.0	73.9	25.9	100	335	
Hori.	2483.500	AV	33.7	27.5	14.1	38.5	36.8	53.9	17.1	100	0	
Hori.	4960.000	AV	43.6	31.5	6.1	39.6	41.6	53.9	12.3	100	335	
Vert.	75.580	QP	44.7	10.1	7.4	32.2	30.0	40.0	10.0	101	217	
Vert.	81.782	QP	43.7	8.8	7.5	32.2	27.8	40.0	12.2	100	177	
Vert.	106.587	QP	48.0	9.7	7.7	32.2	33.2	43.5	10.3	100	102	
Vert.	372.562	QP	35.7	14.9	9.4	32.0	28.0	46.0	18.0	123	204	
Vert.	401.756	QP	35.8	15.5	9.5	32.0	28.8	46.0	17.2	100	214	
Vert.	959.999	QP	27.7	23.6	11.8	30.9	32.2	46.0	13.8	185	0	
Vert.	2483.500	PK	46.3	27.5	14.1	38.5	49.4	73.9	24.5	100	0	
Vert.	4960.000	PK	49.2	31.5	6.1	39.6	47.2	73.9	26.7	100	200	
Vert.	2483.500	AV	33.7	27.5	14.1	38.5	36.8	53.9	17.1	100	0	
Vert.	4960.000	AV	41.3	31.5	6.1	39.6	39.3	53.9	14.6	100	200	

Result = Reading + Ant.Fac. + Loss (Cable+Attenuator+Filter)(below 18GHz)-Distance factor(above 13GHz)) - Gain(Amprifier)
Distance factor : 13GHz -40GHz : 20log(3.0m/1.0m)= 9.5dB

No noise was detected above the 3rd order harmonics.

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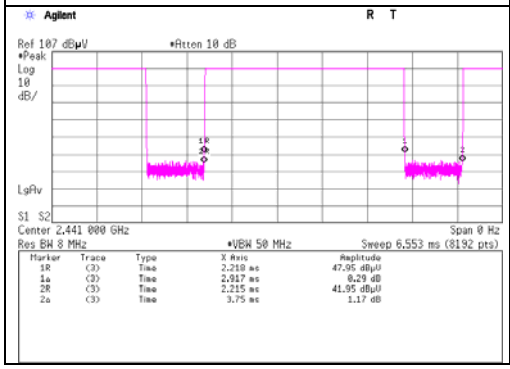
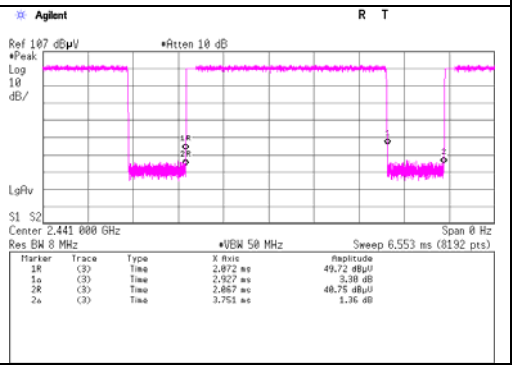
Burst Rate Confirmation

Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe
Mode	Tx (Hopping off) DH5/3DH5

DH5	3DH5
Duty rate = 77.8% **Tx on = 2.917ms** **Tx on+Tx off = 3.750ms**	**Duty rate = 78.0%** **Tx on = 2.927ms** **Tx on+Tx off = 3.751ms**
	

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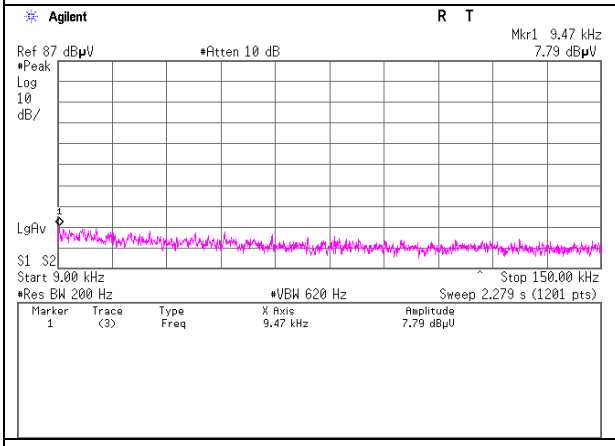
Conducted Spurious Emission

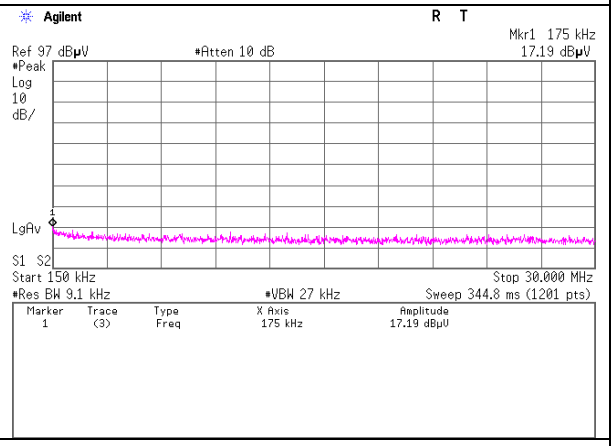
Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe

Tx DH5 2402MHz

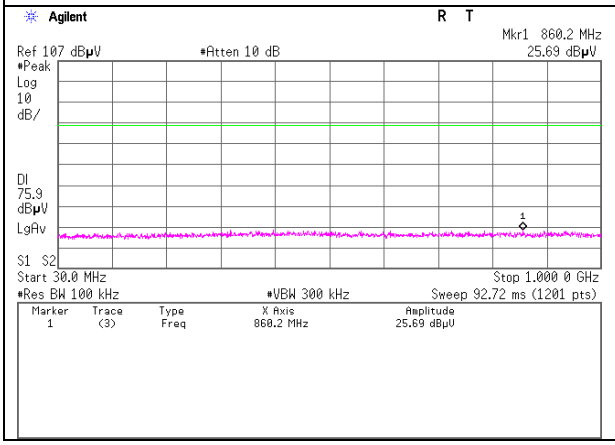
9kHz-150kHz



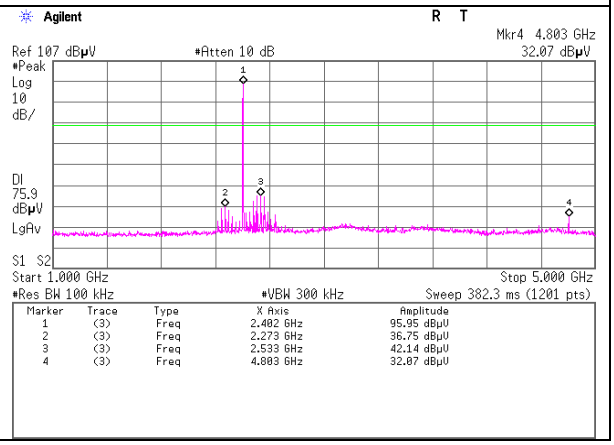
150kHz-30MHz



30MHz-1GHz



1GHz-5GHz



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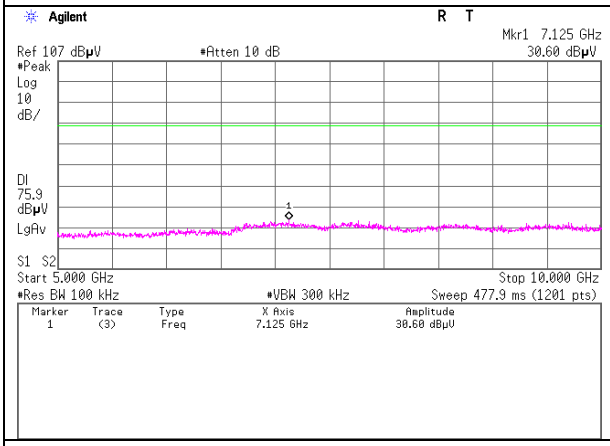
Conducted Spurious Emission

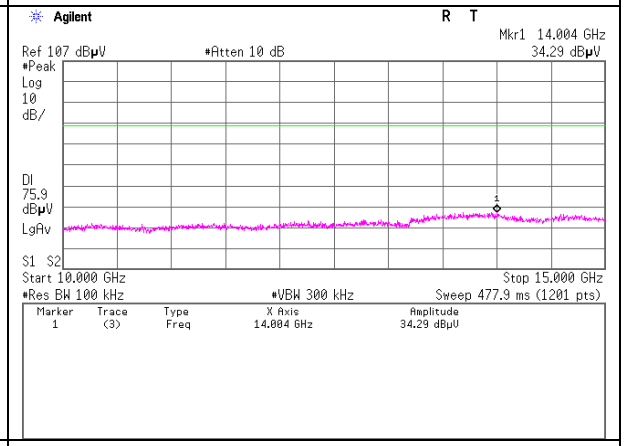
Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe

Tx DH5 2402MHz

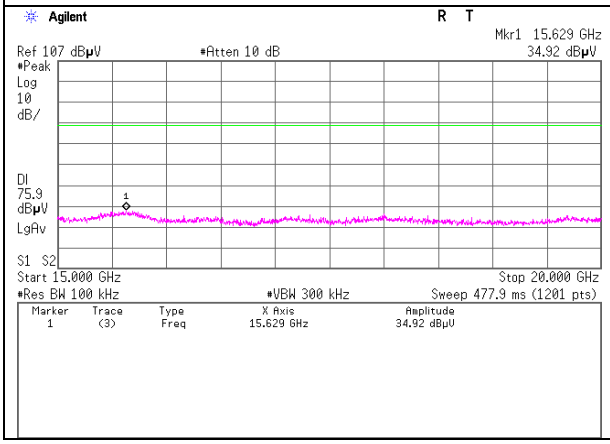
5GHz-10GHz



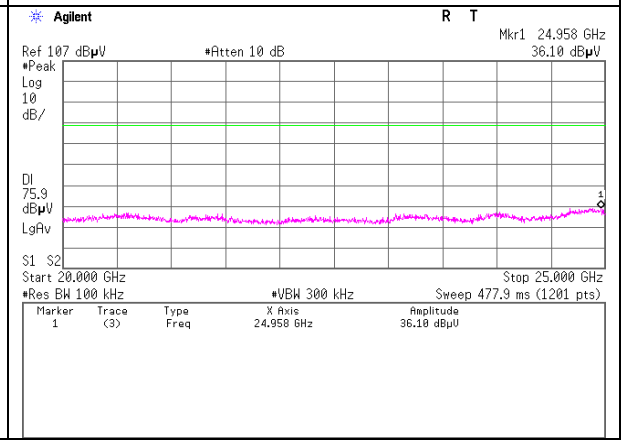
10GHz-15GHz



15GHz-20GHz



20GHz-25GHz



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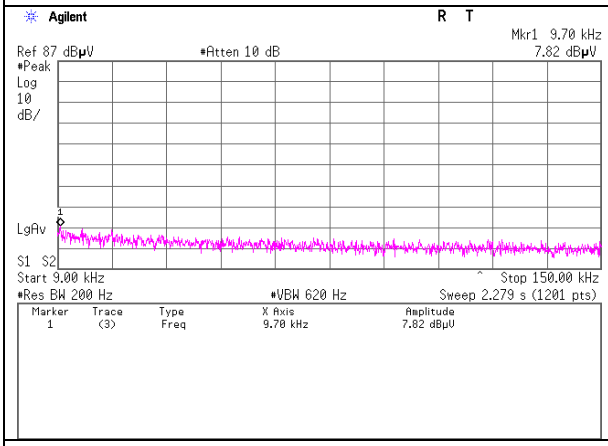
Conducted Spurious Emission

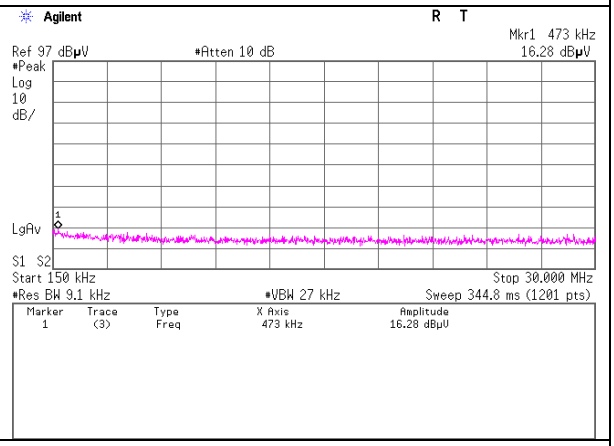
Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe

Tx DH5 2441MHz

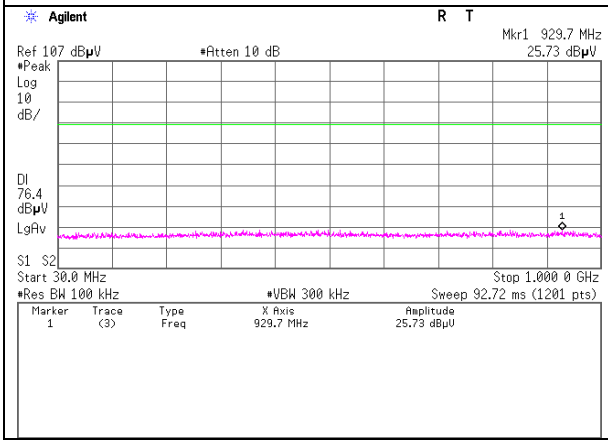
9kHz-150kHz



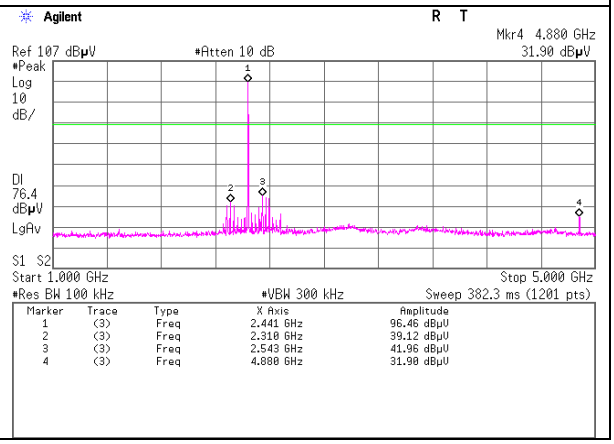
150kHz-30MHz



30MHz-1GHz



1GHz-5GHz



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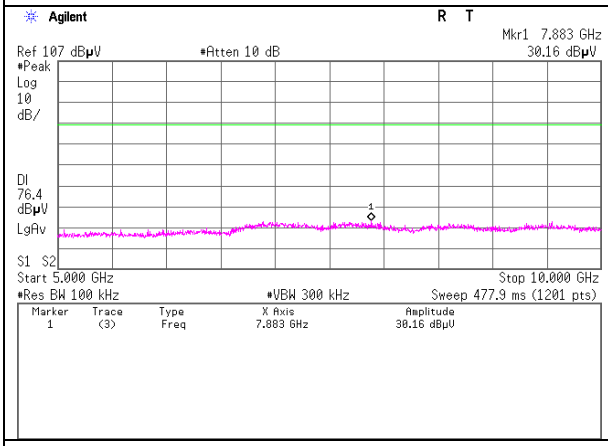
Conducted Spurious Emission

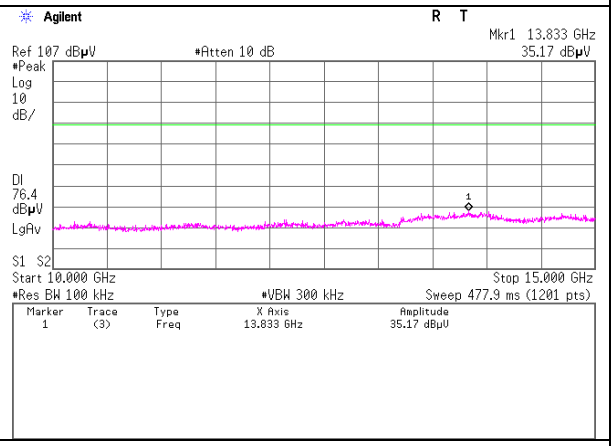
Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe

Tx DH5 2441MHz

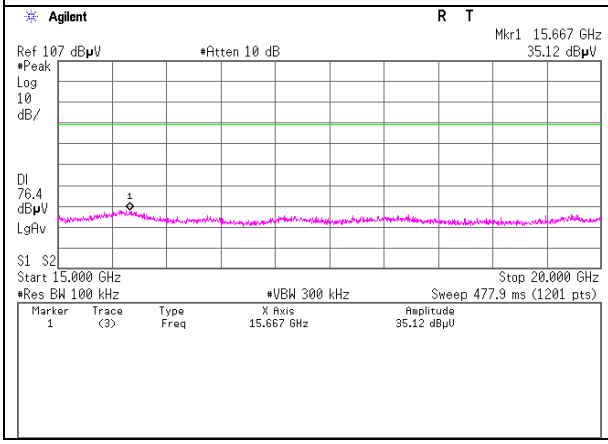
5GHz-10GHz



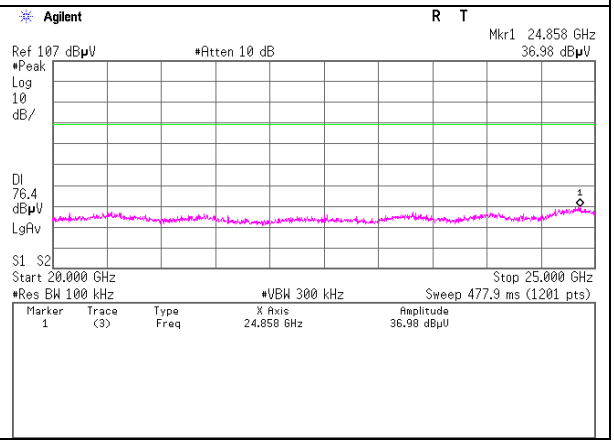
10GHz-15GHz



15GHz-20GHz



20GHz-25GHz



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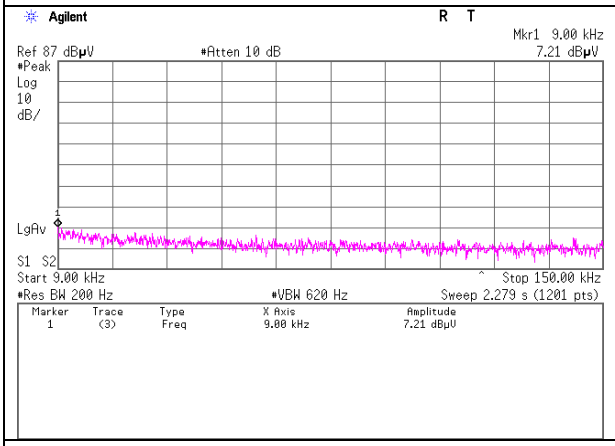
Conducted Spurious Emission

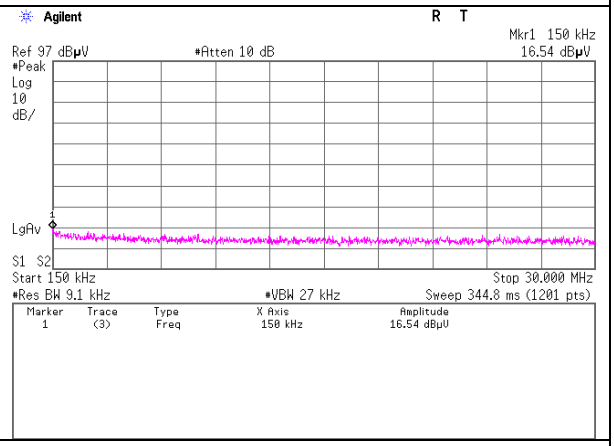
Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe

Tx DH5 2480MHz

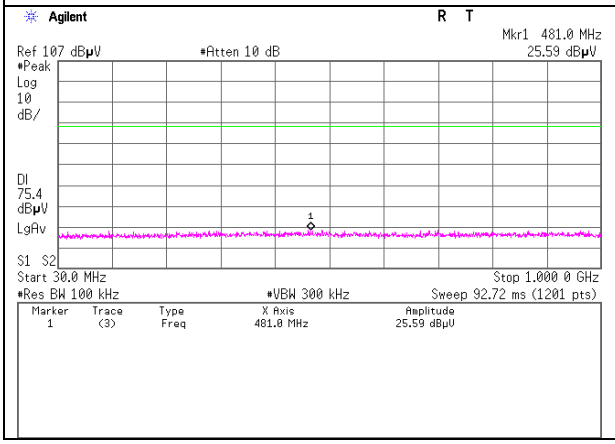
9kHz-150kHz



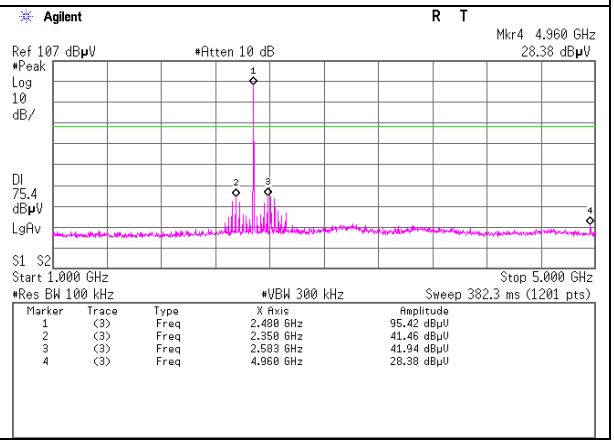
150kHz-30MHz



30MHz-1GHz



1GHz-5GHz

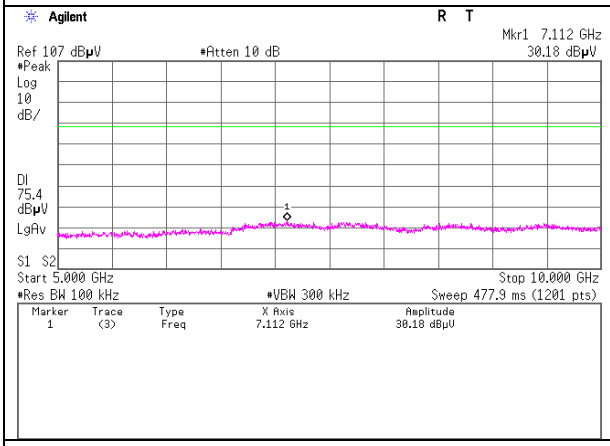


Conducted Spurious Emission

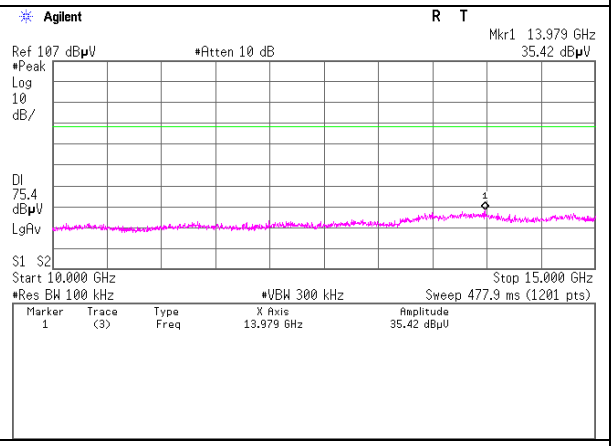
Test place	No. 1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe

Tx DH5 2480MHz

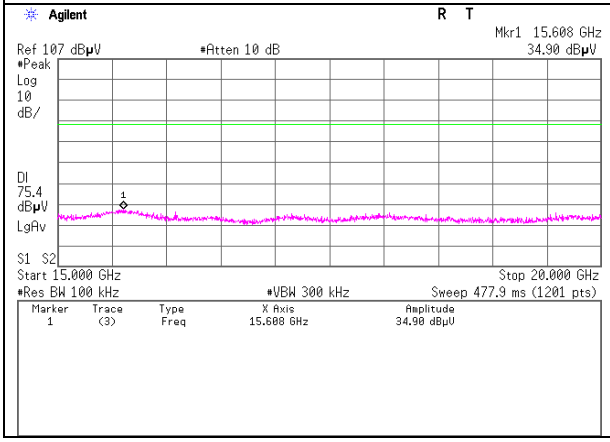
5GHz-10GHz



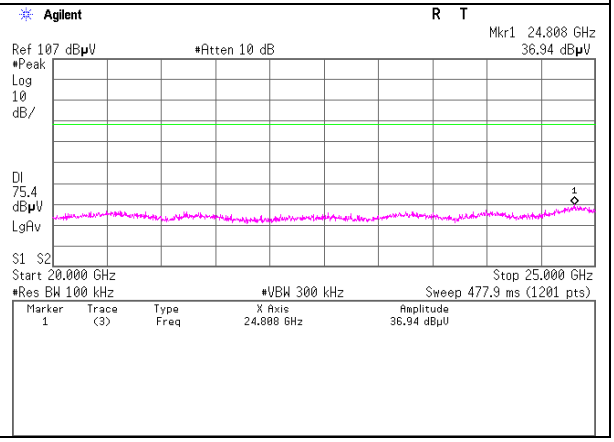
10GHz-15GHz



15GHz-20GHz



20GHz-25GHz



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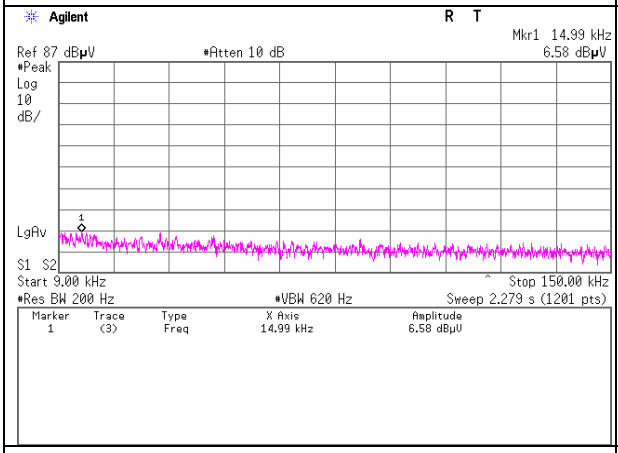
Telephone: +81-478-82-0963
Facsimile: +81-478-82-3373

Conducted Spurious Emission

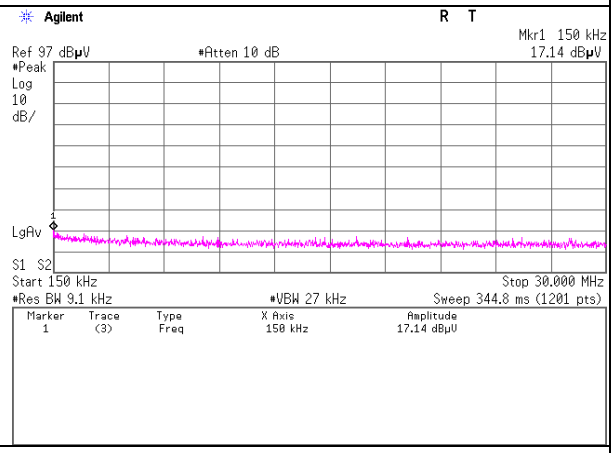
Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe

Tx 3DH5 2402MHz

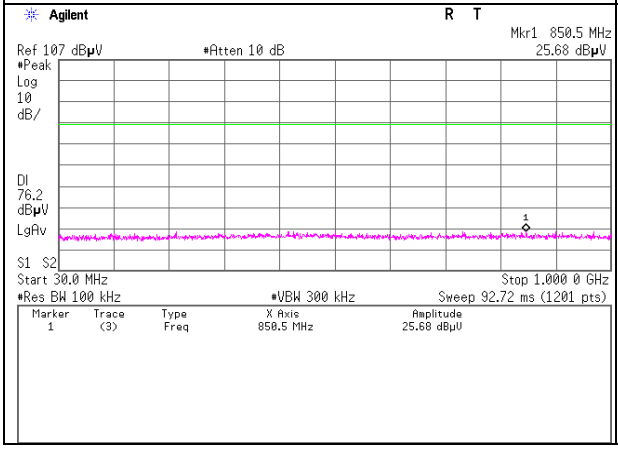
9kHz-150kHz



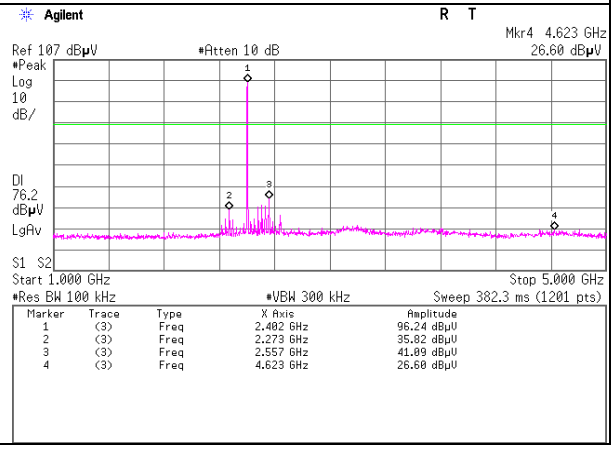
150kHz-30MHz



30MHz-1GHz



1GHz-5GHz



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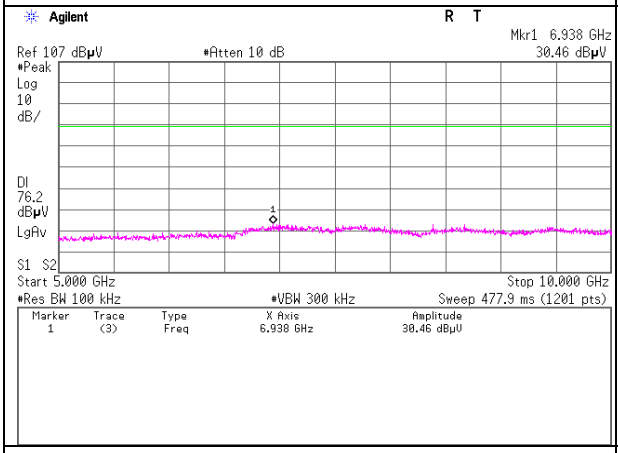
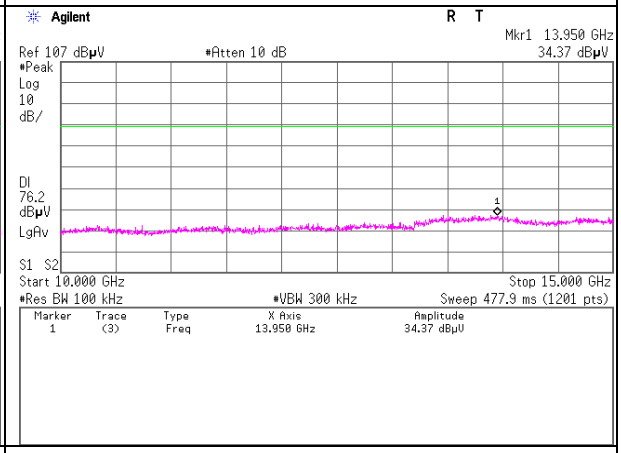
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe

Tx 3DH5 2402MHz

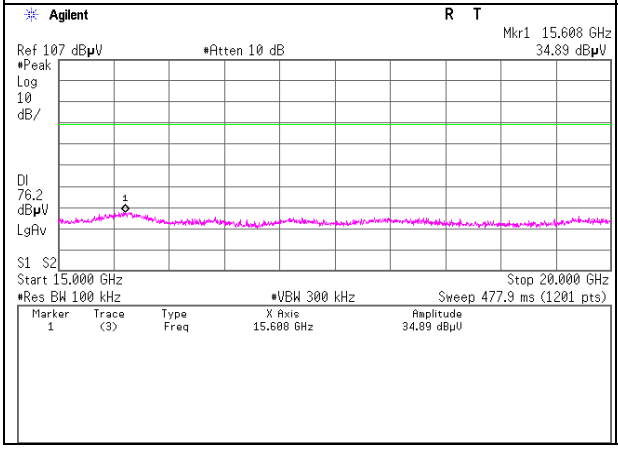
5GHz-10GHz



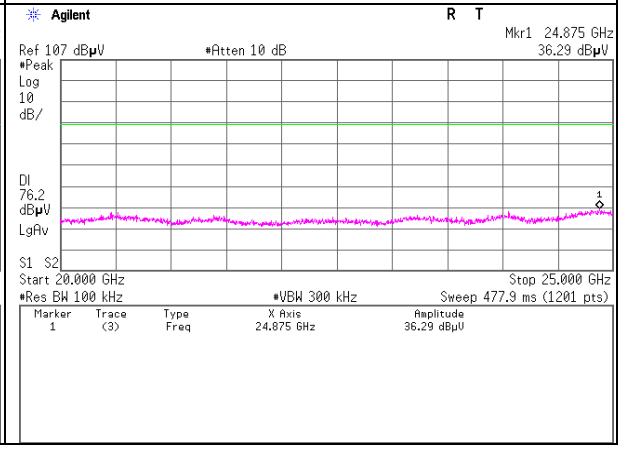
10GHz-15GHz



15GHz-20GHz



20GHz-25GHz



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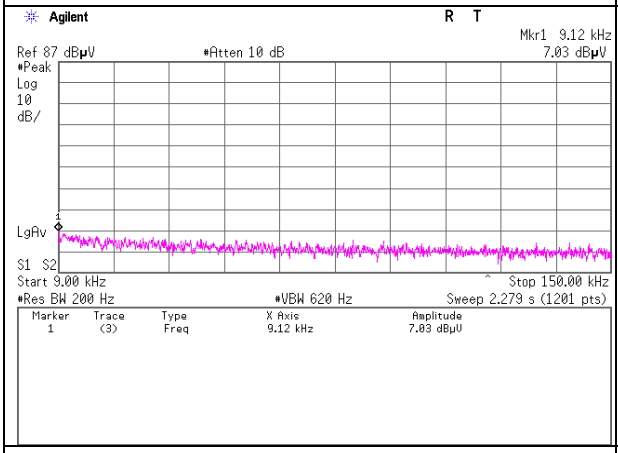
Conducted Spurious Emission

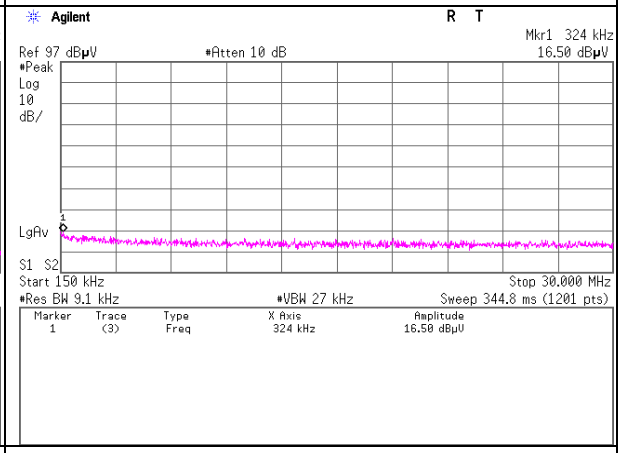
Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe

Tx 3DH5 2441MHz

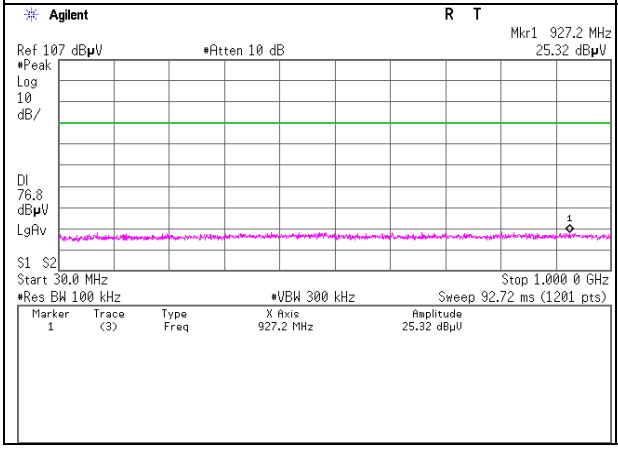
9kHz-150kHz



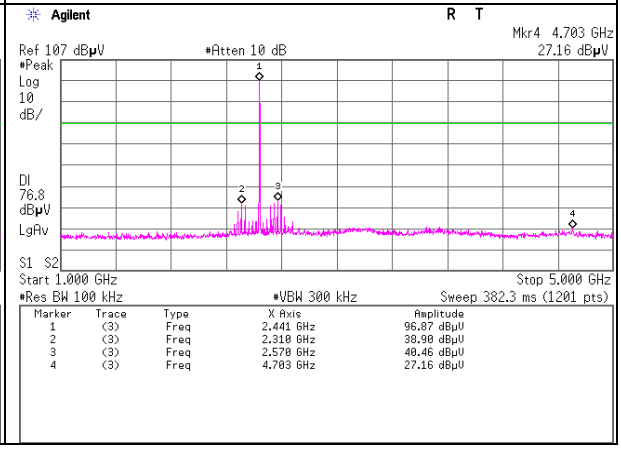
150kHz-30MHz



30MHz-1GHz



1GHz-5GHz



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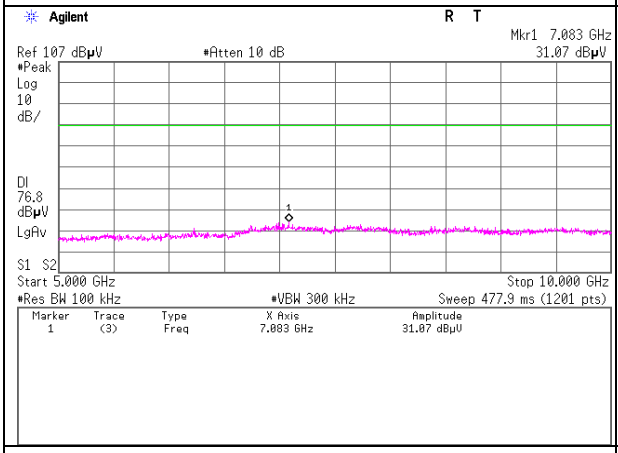
Conducted Spurious Emission

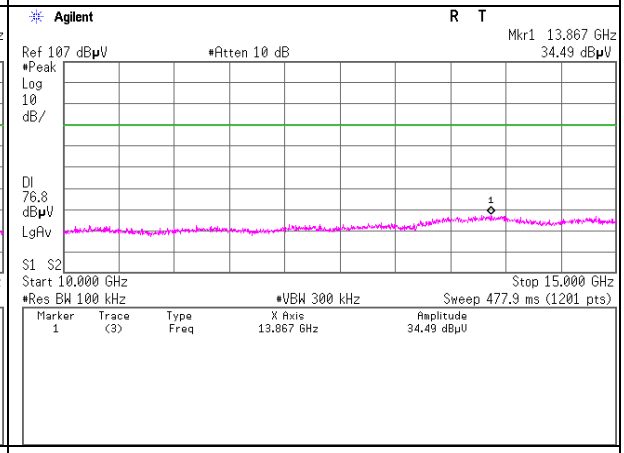
Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe

Tx 3DH5 2441MHz

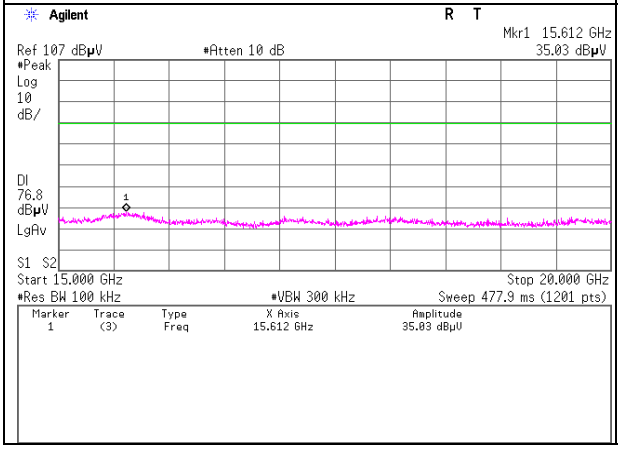
5GHz-10GHz



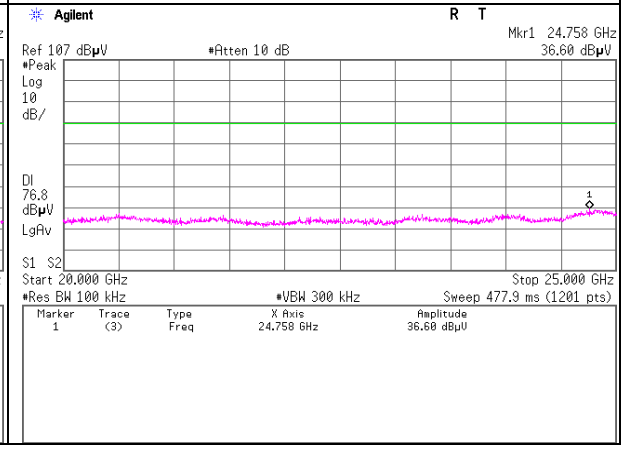
10GHz-15GHz



15GHz-20GHz



20GHz-25GHz



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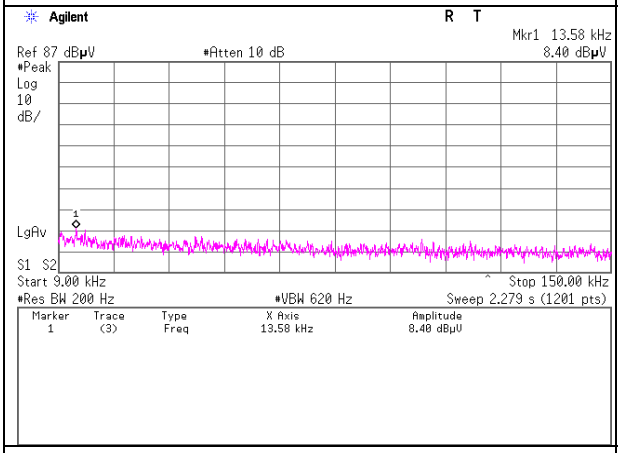
Conducted Spurious Emission

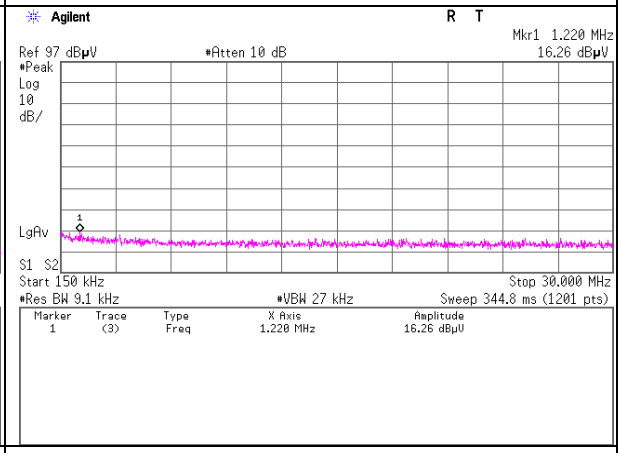
Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe

Tx 3DH5 2480MHz

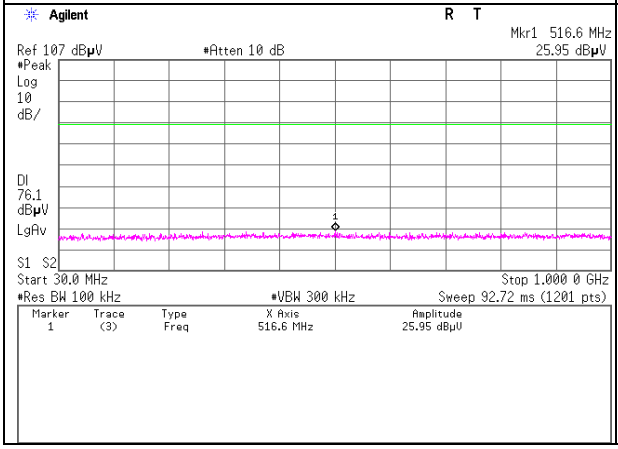
9kHz-150kHz



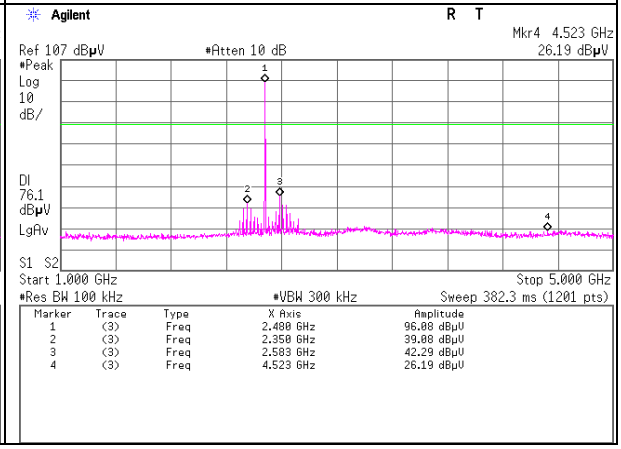
150kHz-30MHz



30MHz-1GHz



1GHz-5GHz



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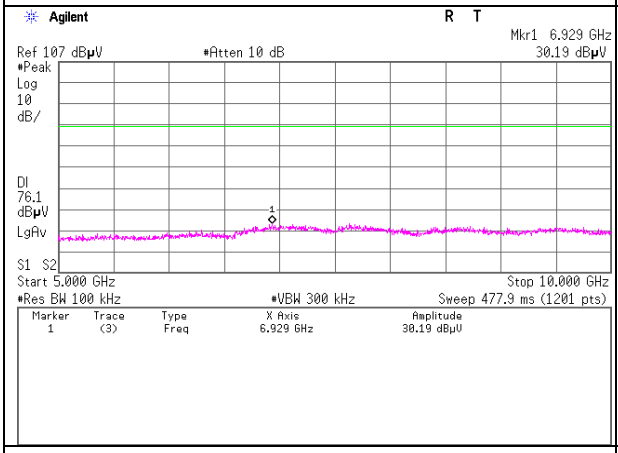
Conducted Spurious Emission

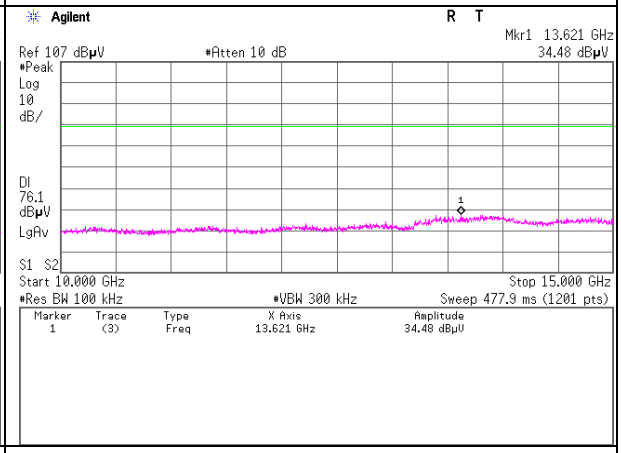
Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe

Tx 3DH5 2480MHz

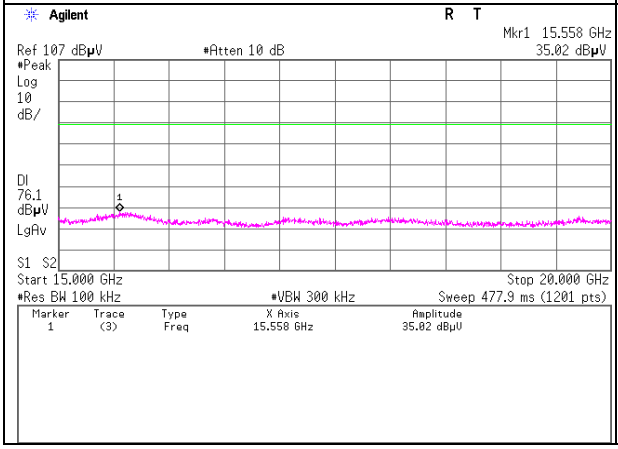
5GHz-10GHz



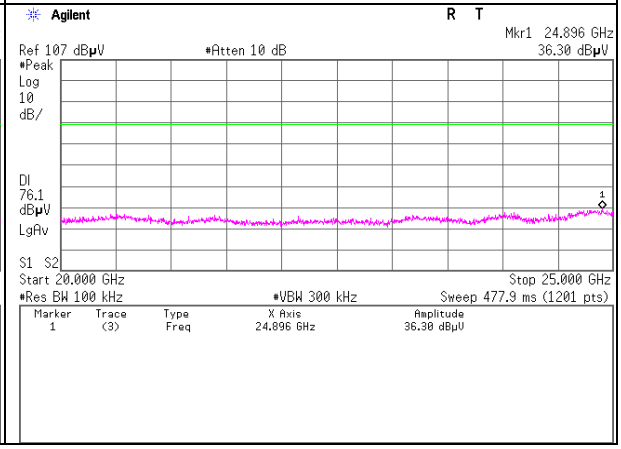
10GHz-15GHz



15GHz-20GHz



20GHz-25GHz



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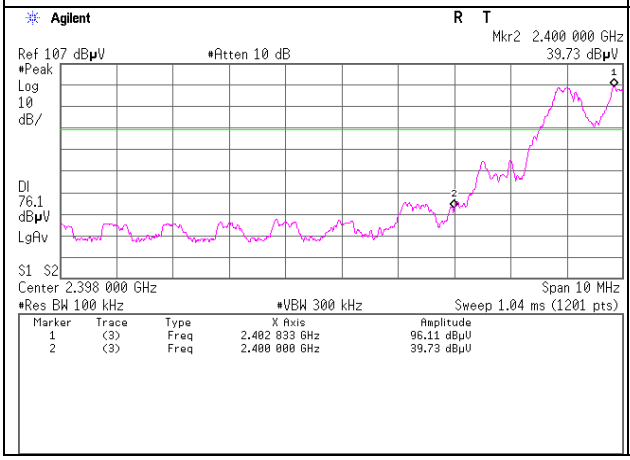
Conducted Emission Band Edge compliance

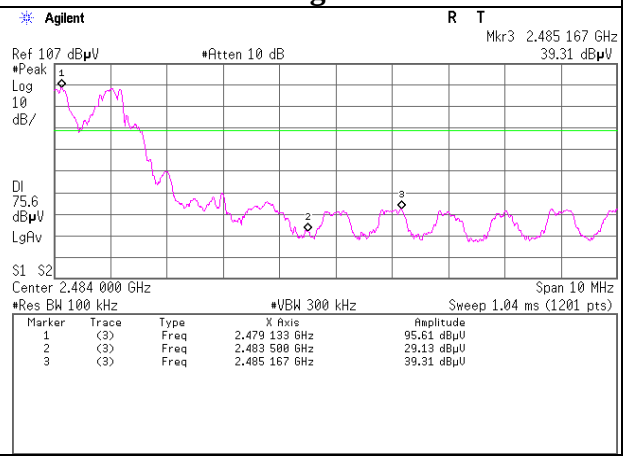
Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe

Tx DH5, Hopping on

Low

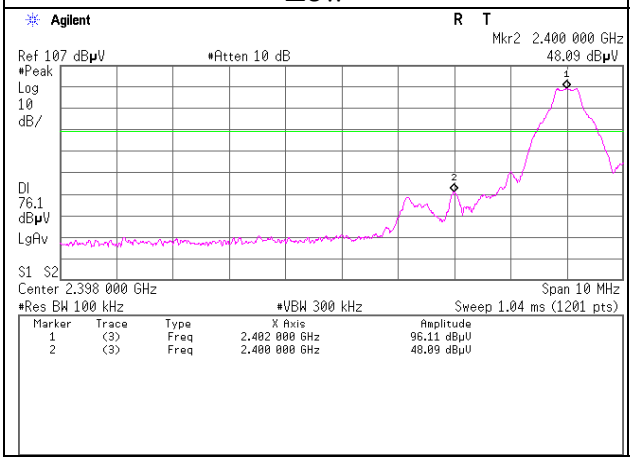


High

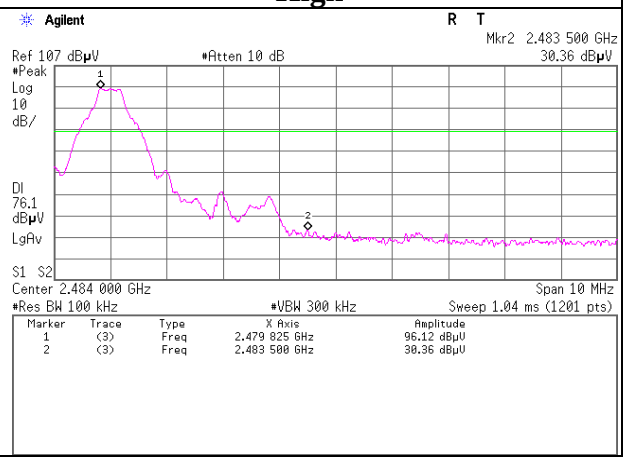


Tx DH5, Hopping off

Low



High



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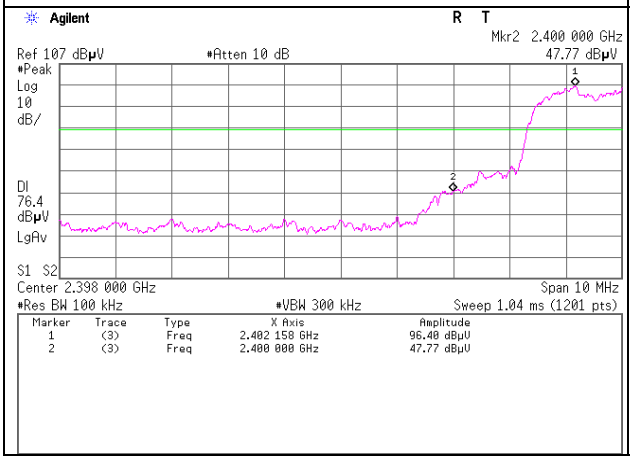
Conducted Emission Band Edge compliance

Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe

Tx 3DH5, Hopping on

Low



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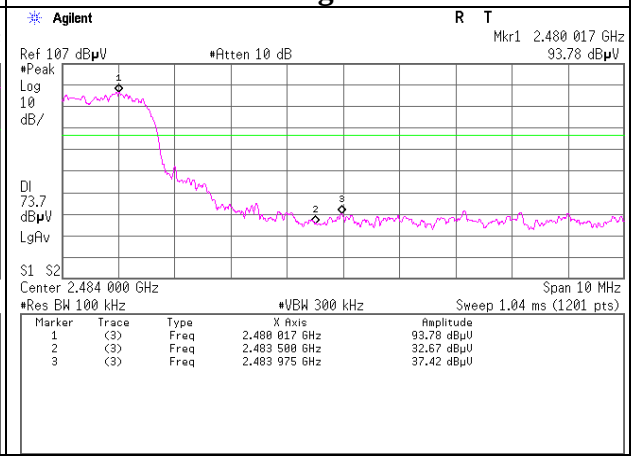
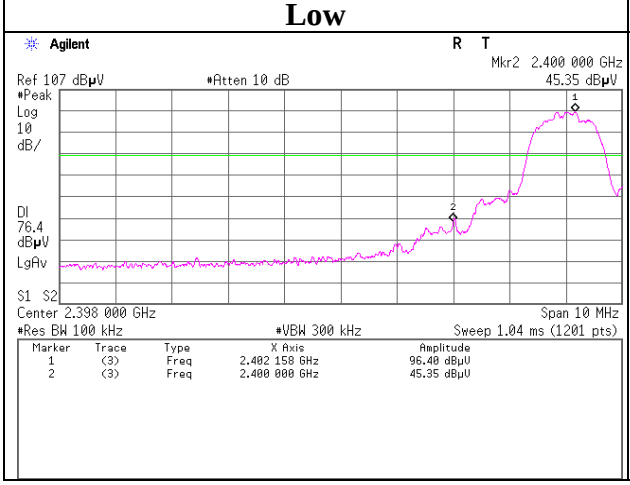
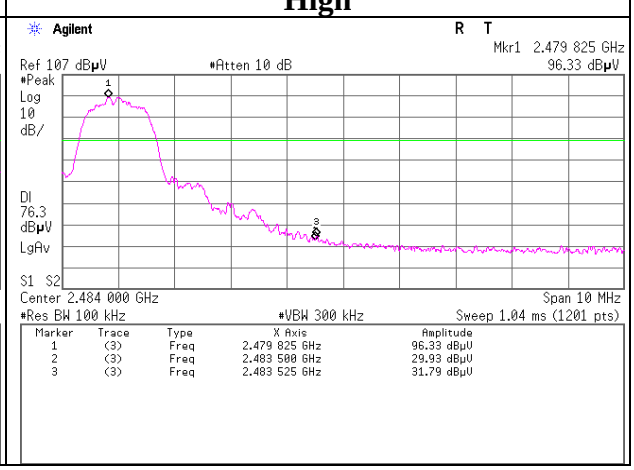


Tx 3DH5, Hopping off

Low



High



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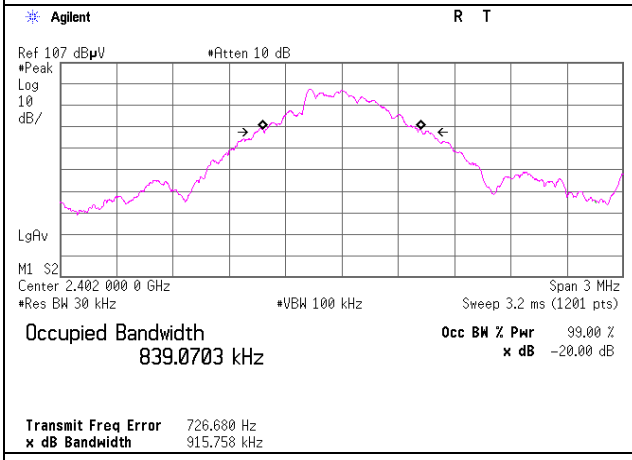
99%Occupied Bandwidth

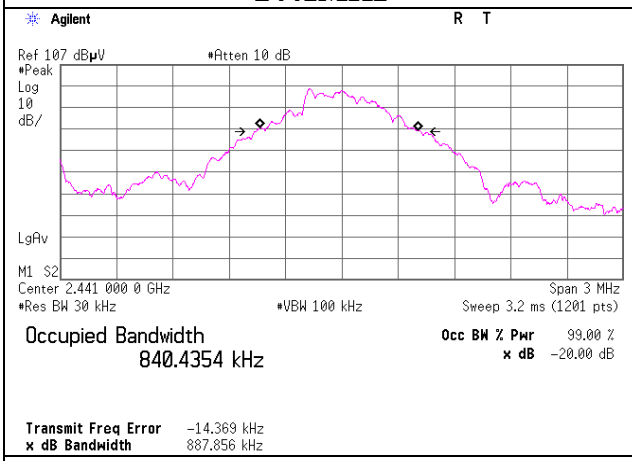
Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe

Tx DH5, Hopping off

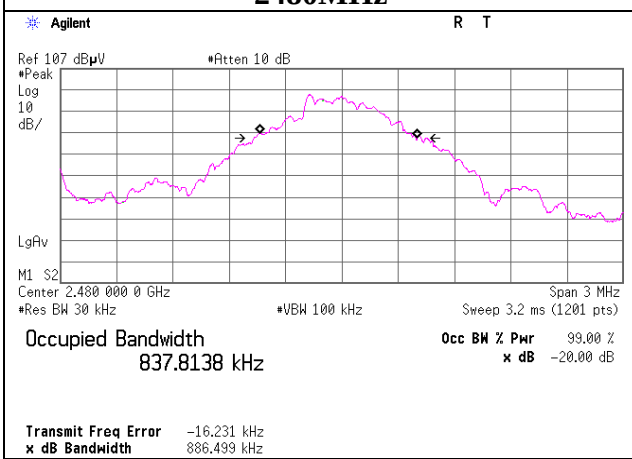
2402MHz



2441MHz

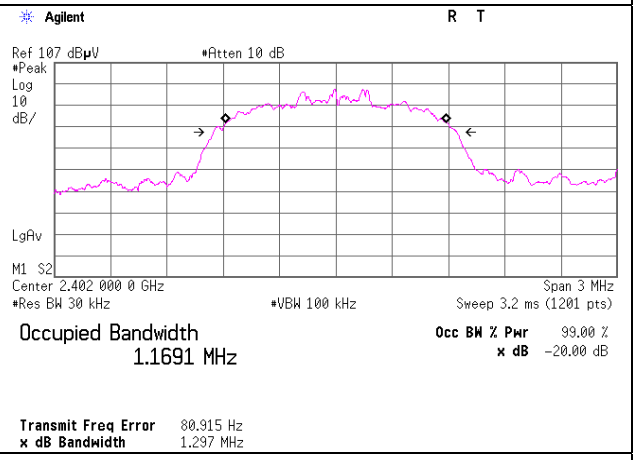


2480MHz

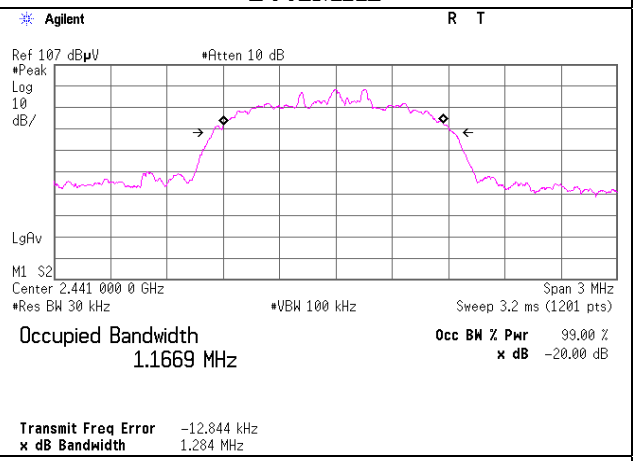


Tx 3DH5, Hopping off

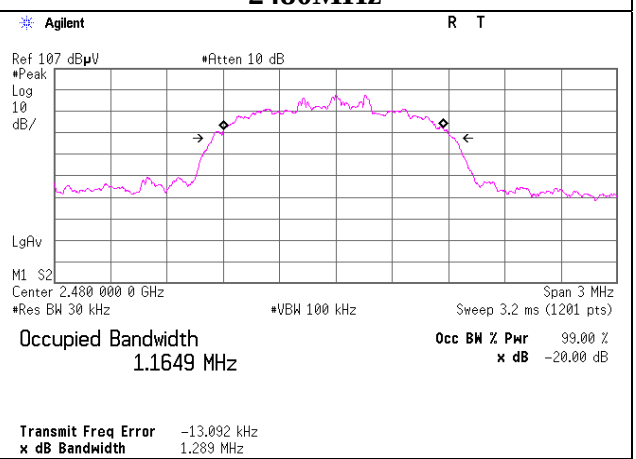
2402MHz



2441MHz



2480MHz



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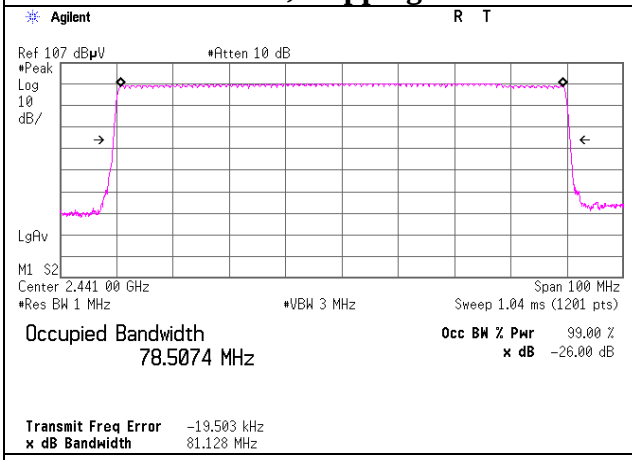
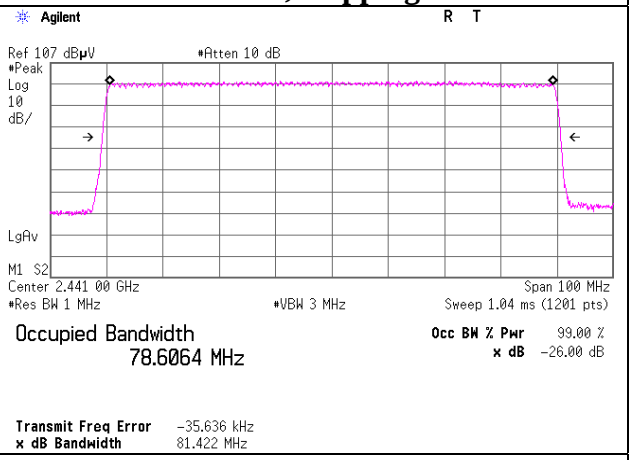
99% Occupied Bandwidth

Test place	No.1 measurement room
Report No.	10488733S
Date	09/24/2014
Temperature/ Humidity	29 deg. C / 43% RH
Engineer	Shinya Watanabe

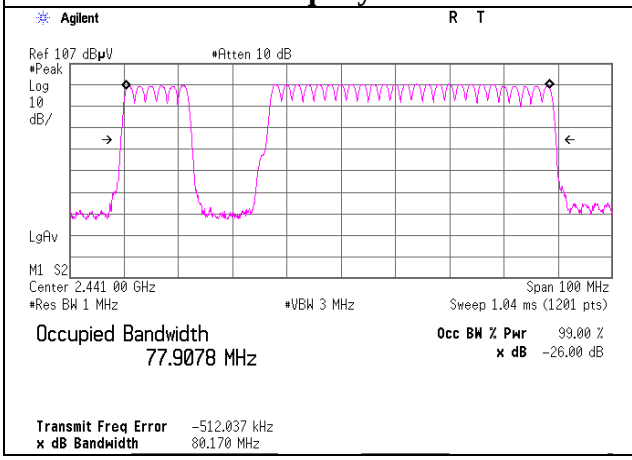
Tx DH5, Hopping on



Tx 3DH5, Hopping on



Inquiry



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APPENDIX 2: Test instruments

No.11 Test site (Radiated emission)

Instrument	Manufacturer	Model	Internal Code	Cal. Date	Due Date
Test Receiver	Rohde & Schwarz	ESCI	RCV06	2013/10/02	2014/10/31
Spectrum Analyzer	Agilent	N9030A	SPR24	2014/05/20	2015/05/31
Logbicon Antenna	Schwarzbeck	VULB 9168	LGBC06	2014/04/25	2015/04/30
Horn Antenna	Schwarzbeck	BBHA9120D	MWH13	2014/07/12	2015/07/31
Horn Antenna / Pre-Amplifier	TOYO	HAP18-26W	DRH07	2014/06/26	2015/06/30
Pre-Amplifier	Sonoma Instrument	310N	PRA16	2014/05/23	2015/05/31
Pre-Amplifier	TOYO	TPA0118-36	PRA18	2014/07/14	2015/07/31
Attenuator	Weinschel	54A-10	FAT72	2014/05/23	2015/05/31
Highpass Filter	Micro-Tronics	HPM50111-02	HPF03	2014/05/23	2015/05/31
Coaxial Cable	Fujikura	5D-2W	11R10m	2014/05/23	2015/05/31
Micro Wave Cable	Junkosha	MWX241	WLC05-1m	2014/05/23	2015/05/31
Micro Wave Cable	Junkosha	MWX221	WLC07-8m	2014/05/23	2015/05/31
Micro Wave Cable	SUHNER	SUCOFLEX104	WLC09-5.5m	2014/07/17	2015/07/31
Test Software	TSJ	TEPTO-DV	Ver.2.5.0113	N/A	

No.11 Measurement Room (Antenna terminal conducted test)

Instrument	Manufacturer	Model	Internal Code	Cal. Date	Due Date
Spectrum Analyzer	Agilent	E4448A	SPR25	2014/05/19	2015/05/31
Power Meter	Agilent	8990B	PWM18	2014/05/14	2015/05/31
Power Sensor	Agilent	N1923A	PWS33	2014/06/26	2015/06/30
Attenuator	Weinschel	54A-10	FAT73	2014/05/23	2015/05/31
Coaxial Cable	Junkosha	MWX241	WLC06-1m	2014/05/23	2015/05/31
Temperature and Humidity Chamber	Espec	PL-1J	TMPC04	2014/06/03	2015/06/30
Thermo-Hygrometer	AND	AD-5681	COS-12	2014/07/01	2015/07/31