APPENDIX 2: Data of EMI test

Conducted Emission

DATA OF CONDUCTED EMISSION TEST

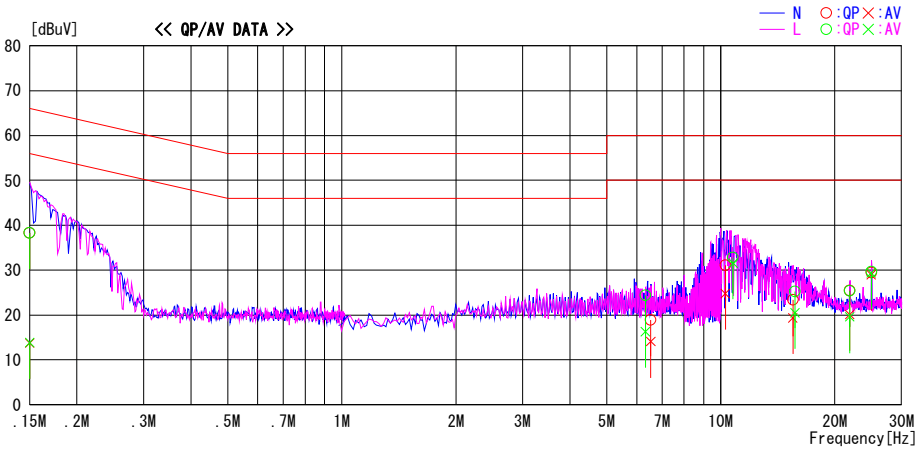
UL Japan, Inc. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2011/02/16

Report No. : 31CE0169-HO-02

Temp./Humi. : 22deg.C / 29%
Engineer : Hiroshi Kukita

Mode / Remarks : BT Tx DH5 2441MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



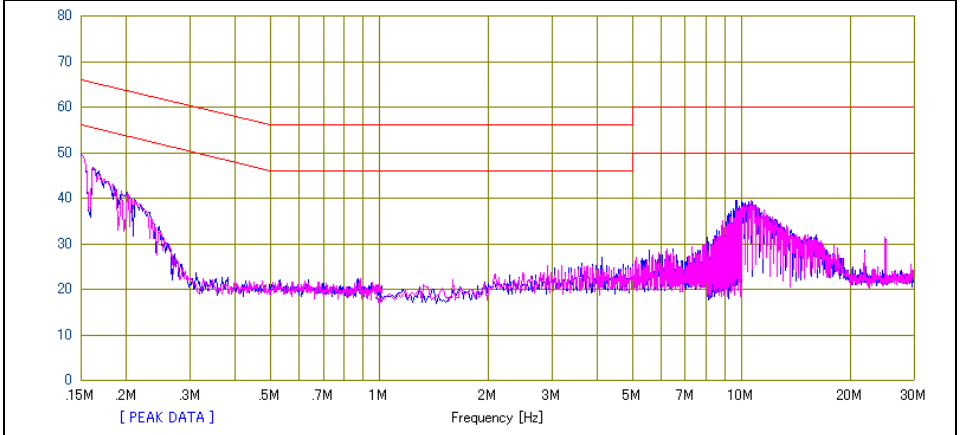
Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase	Comment
	QP	AV	Factor	QP	AV	QP	AV	QP	AV		
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]		
0.15000	25.0	0.5	13.3	38.3	13.8	66.0	56.0	27.7	42.2	N	
0.15000	25.0	0.5	13.3	38.3	13.8	66.0	56.0	27.7	42.2	L	
6.32572	10.5	2.4	13.9	24.4	16.3	60.0	50.0	35.6	33.7	L	
6.53316	5.0	0.2	13.9	18.9	14.1	60.0	50.0	41.1	35.9	N	
10.28060	16.8	10.5	14.3	31.1	24.8	60.0	50.0	28.9	25.2	N	
15.49570	8.7	4.7	14.7	23.4	19.4	60.0	50.0	36.6	30.6	N	
10.77820	18.5	17.3	14.3	32.8	31.6	60.0	50.0	27.2	18.4	L	
15.70700	10.5	5.8	14.7	25.2	20.5	60.0	50.0	34.8	29.5	L	
21.87820	10.2	4.4	15.2	25.4	19.6	60.0	50.0	34.6	30.4	L	
21.88090	10.3	4.9	15.2	25.5	20.1	60.0	50.0	34.5	29.9	N	
24.94644	14.0	13.6	15.4	29.4	29.0	60.0	50.0	30.6	21.0	N	
24.94668	14.3	14.0	15.4	29.7	29.4	60.0	50.0	30.3	20.6	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.

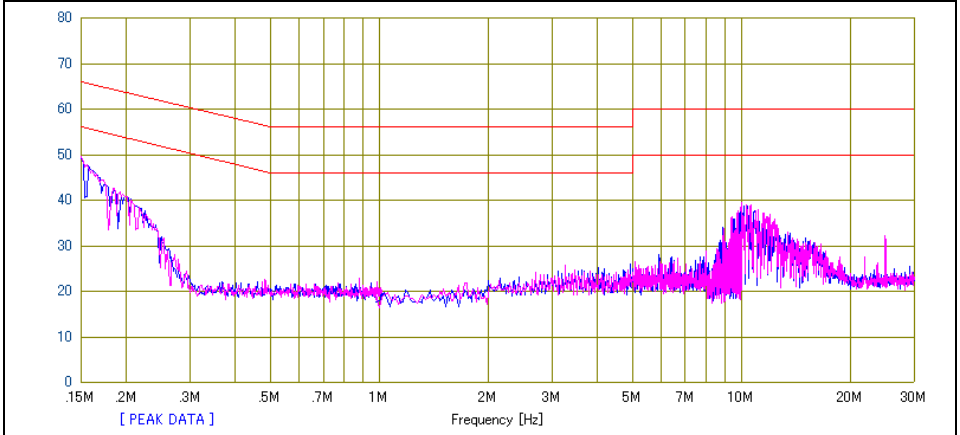
Conducted Emission

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber
Report No.	31CE0169-HO
Date	02/16/2011
Temperature/ Humidity	22 deg.C./ 29%
Engineer	Hiroshi Kukita
Mode	Tx DH5

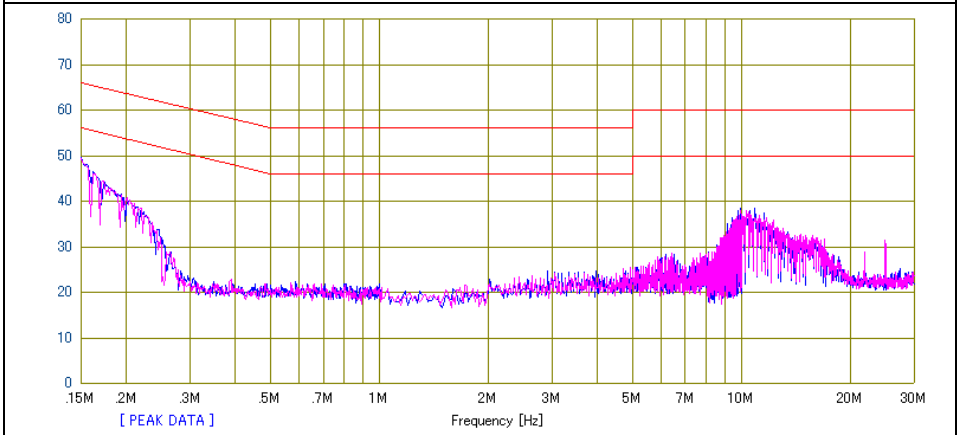
2402MHz



2441MHz



2480MHz



Conducted Emission

DATA OF CONDUCTED EMISSION TEST

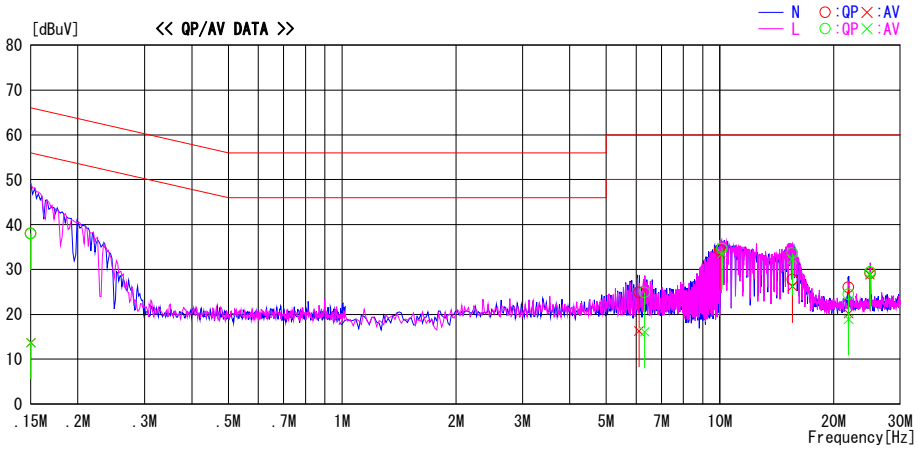
UL Japan, Inc. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2011/02/16

Report No. : 31CE0169-HO-02

Temp./Humi. : 22deg.C / 29%
Engineer : Hiroshi Kukita

Mode / Remarks : BT Tx 3DH5 2441MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



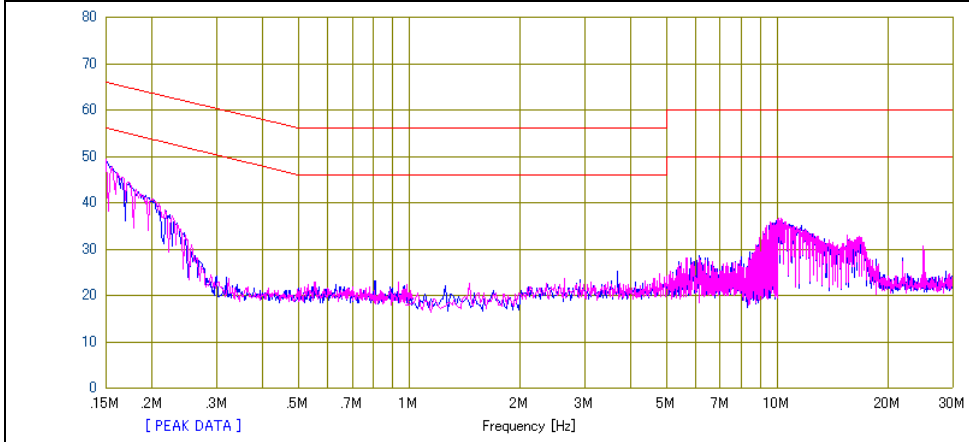
Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase
	QP	AV	Factor	QP	AV	QP	AV	QP	AV	
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]	
0.15000	24.7	0.4	13.3	38.0	13.7	66.0	56.0	28.0	42.3	N
6.10920	11.0	2.4	13.9	24.9	16.3	60.0	50.0	35.1	33.7	N
9.99488	20.1	19.2	14.2	34.3	33.4	60.0	50.0	25.7	16.6	N
15.54700	13.0	11.5	14.7	27.7	26.2	60.0	50.0	32.3	23.8	N
21.87824	10.8	5.0	15.2	26.0	20.2	60.0	50.0	34.0	29.8	N
24.94540	13.8	13.4	15.4	29.2	28.8	60.0	50.0	30.8	21.2	N
0.15000	24.7	0.4	13.3	38.0	13.7	66.0	56.0	28.0	42.3	L
6.31928	11.0	2.2	13.9	24.9	16.1	60.0	50.0	35.1	33.9	L
10.13610	20.4	19.3	14.3	34.7	33.6	60.0	50.0	25.3	16.4	L
15.55080	18.9	17.6	14.7	33.6	32.3	60.0	50.0	26.4	17.7	L
21.87760	9.3	3.7	15.2	24.5	18.9	60.0	50.0	35.5	31.1	L
24.94540	14.0	13.7	15.4	29.4	29.1	60.0	50.0	30.6	20.9	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.

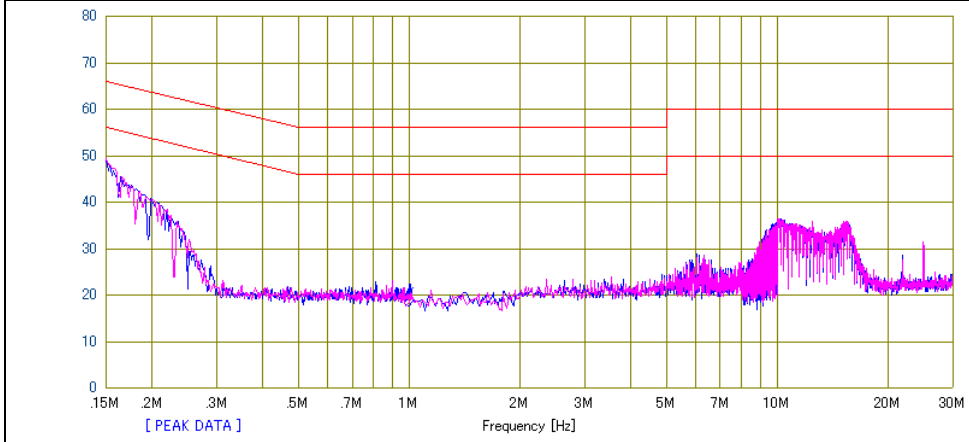
Conducted Emission

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber
Report No.	31CE0169-HO
Date	02/16/2011
Temperature/ Humidity	22 deg.C./ 29%
Engineer	Hiroshi Kukita
Mode	Tx 3DH5

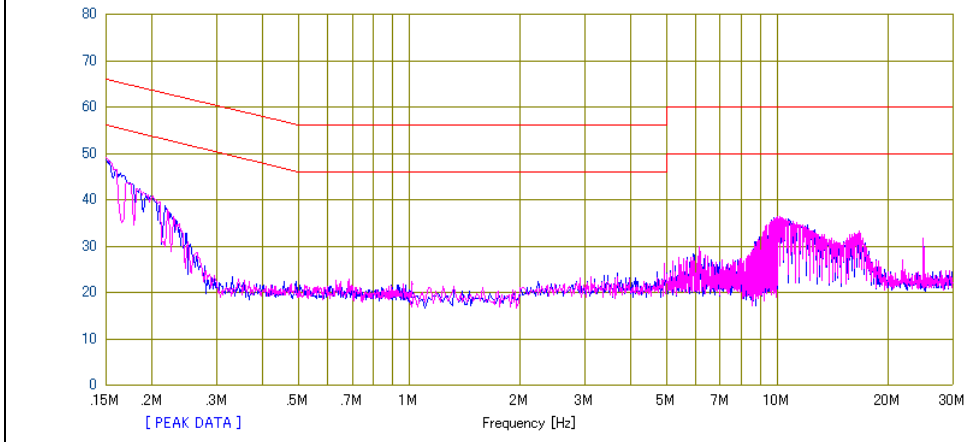
2402MHz



2441MHz



2480MHz



Conducted Emission

DATA OF CONDUCTED EMISSION TEST

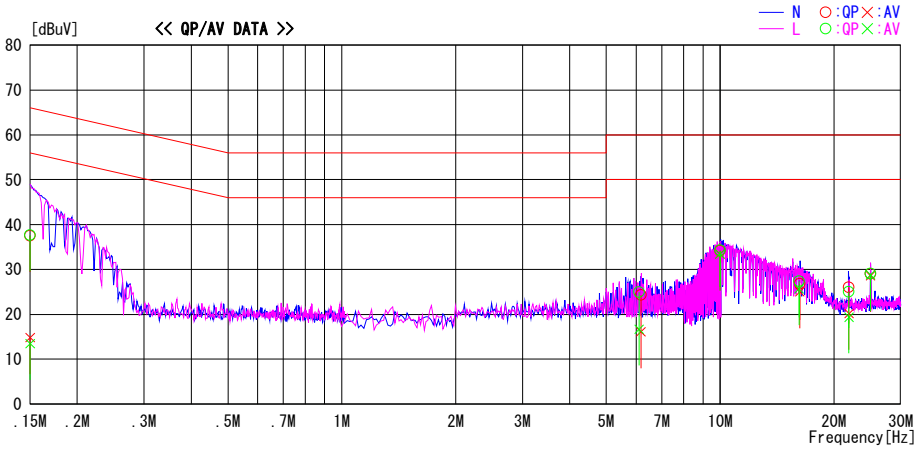
UL Japan, Inc. Head Office EMC Lab. No.2 Semi Anechoic Chamber
Date : 2011/02/16

Report No. : 31CE0169-HO-02

Temp./Humi. : 22deg.C / 29%
Engineer : Hiroshi Kukita

Mode / Remarks : BT Rx DH5 2441MHz

LIMIT : FCC15.207 QP
FCC15.207 AV



Frequency	Reading Level		Corr.	Results		Limit		Margin		Phase
	QP	AV	Factor	QP	AV	QP	AV	QP	AV	
[MHz]	[dBuV]	[dBuV]	[dB]	[dBuV]	[dBuV]	[dBuV]	[dBuV]	[dB]	[dB]	
0.15000	24.2	1.5	13.3	37.5	14.8	66.0	56.0	28.5	41.2	N
6.17276	10.4	2.2	13.9	24.3	16.1	60.0	50.0	35.7	33.9	N
9.99160	20.0	19.2	14.2	34.2	33.4	60.0	50.0	25.8	16.6	N
16.23436	12.0	10.2	14.8	26.8	25.0	60.0	50.0	33.2	25.0	N
21.87750	10.8	5.0	15.2	26.0	20.2	60.0	50.0	34.0	29.8	N
24.94532	13.6	13.2	15.4	29.0	28.6	60.0	50.0	31.0	21.4	N
0.15000	24.4	0.2	13.3	37.7	13.5	66.0	56.0	28.3	42.5	L
6.10540	11.1	2.8	13.9	25.0	16.7	60.0	50.0	35.0	33.3	L
9.99260	20.1	19.2	14.2	34.3	33.4	60.0	50.0	25.7	16.6	L
16.16440	12.7	11.0	14.7	27.4	25.7	60.0	50.0	32.6	24.3	L
21.87682	9.9	4.2	15.2	25.1	19.4	60.0	50.0	34.9	30.6	L
24.94570	13.7	13.4	15.4	29.1	28.8	60.0	50.0	30.9	21.2	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.

20dB Bandwidth and Carrier Frequency Separation

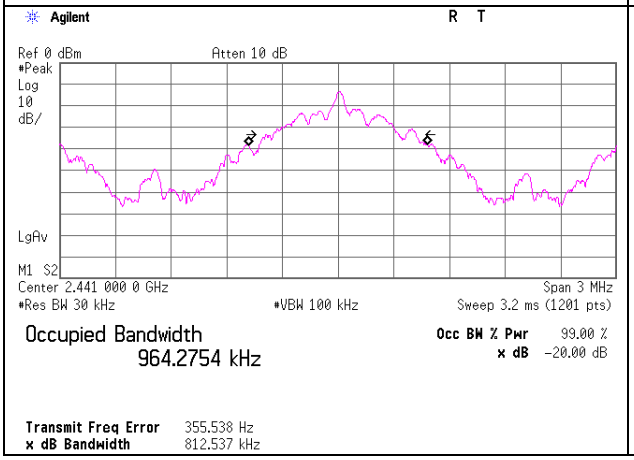
Test place	Head Office EMC Lab. No.2 and 6Measurement Room	
Report No.	31CE0169-HO-02	
Date	02/15/2010	02/16/2011
Temperature/ Humidity	20 deg.C./ 30%	21 deg.C./ 31%
Engineer	Takeshi Choda	Keisuke Kawamura
Mode	Tx (Hopping on) DH5/3DH5/Inquiry	

Mode	Freq. [MHz]	20dB Bandwidth [MHz]	Carrier Frequency Separation [MHz]	Limit for Carrier Frequency separation [MHz]
DH5	2402.0	0.931	1.000	>= 0.620
DH5	2441.0	0.926	1.000	>= 0.618
DH5	2480.0	0.930	1.000	>= 0.620
3DH5	2402.0	1.274	1.008	>= 0.849
3DH5	2441.0	1.263	1.018	>= 0.842
3DH5	2480.0	1.266	1.000	>= 0.844
Inquiry	2441.0	0.813	2.000	>= 0.542

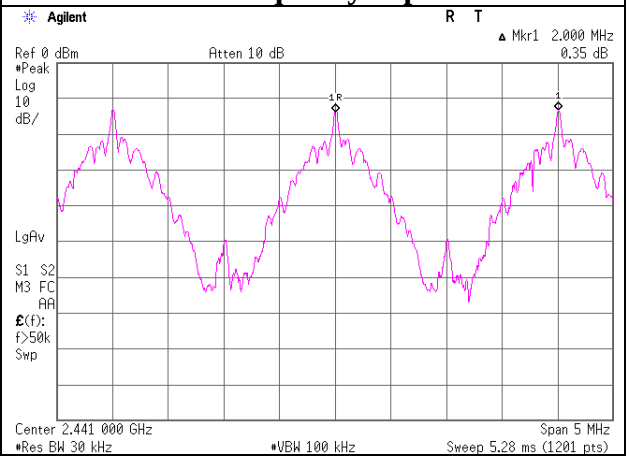
Limit: Two-thirds of 20dB Bandwidth or 25kHz (whichever is greater).
No limit applies to 20dB Bandwidth.

Inquiry

20dB Bandwidth



Carrier Frequency Separation



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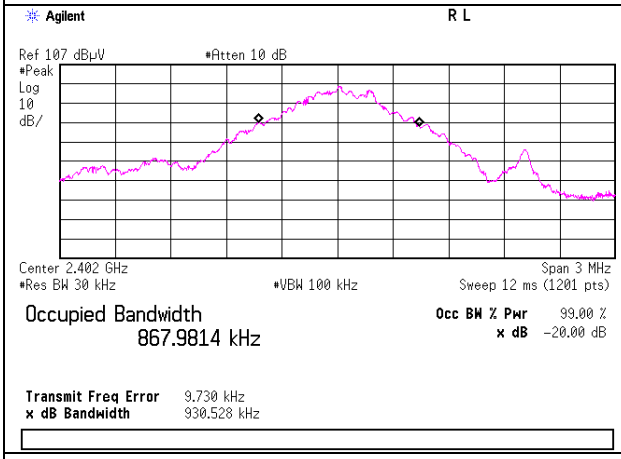
20dB Bandwidth and Carrier Frequency Separation

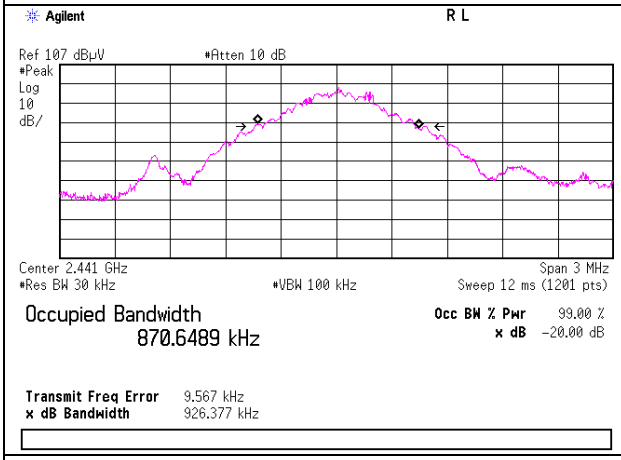
Tx DH5

20dB Bandwidth

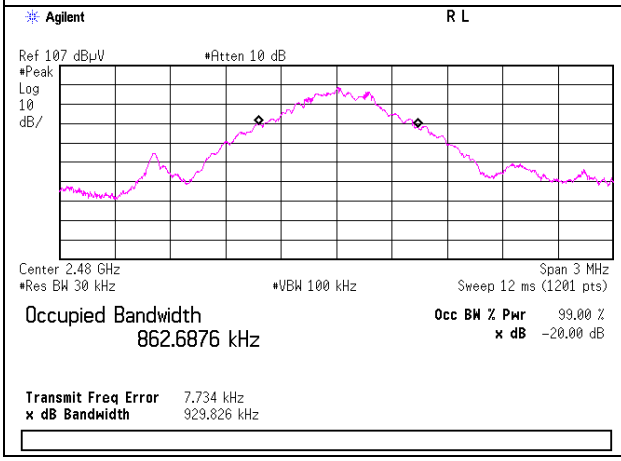
2402MHz



2441MHz

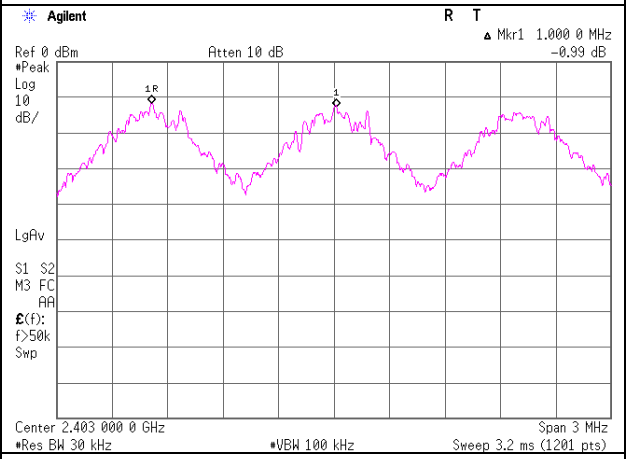


2480MHz

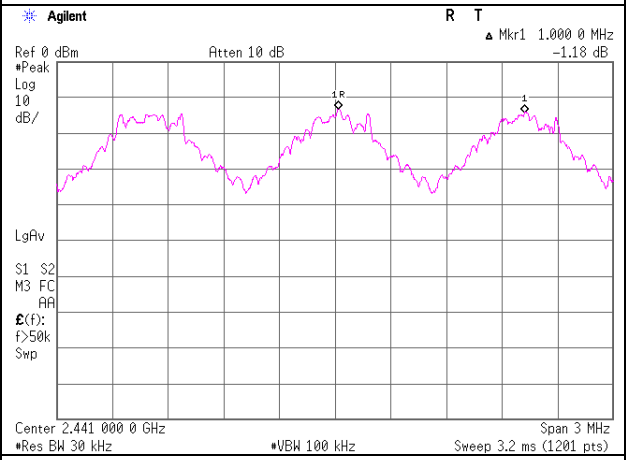


Carrier Frequency Separation

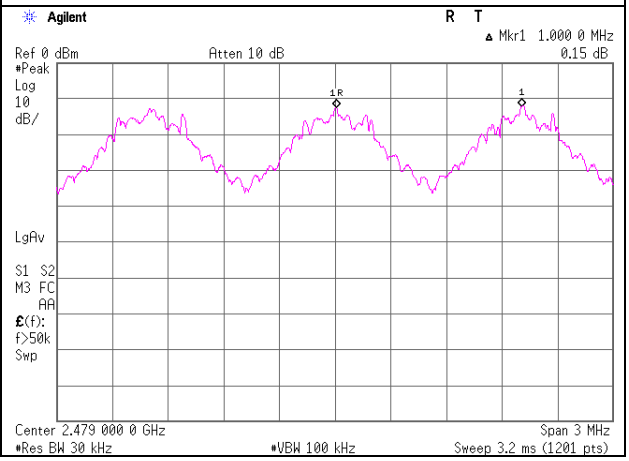
2402MHz



2441MHz



2480MHz

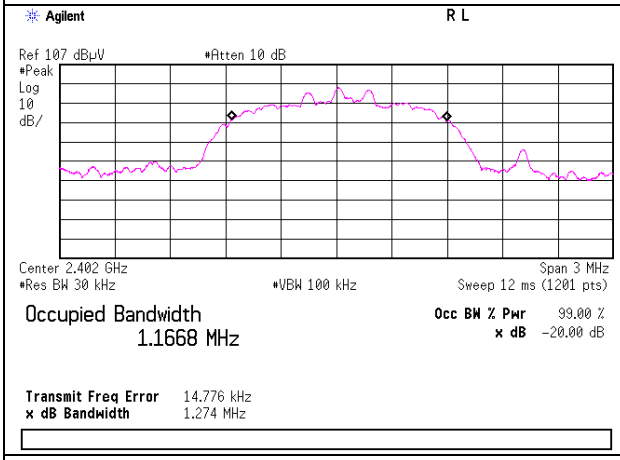


20dB Bandwidth and Carrier Frequency Separation

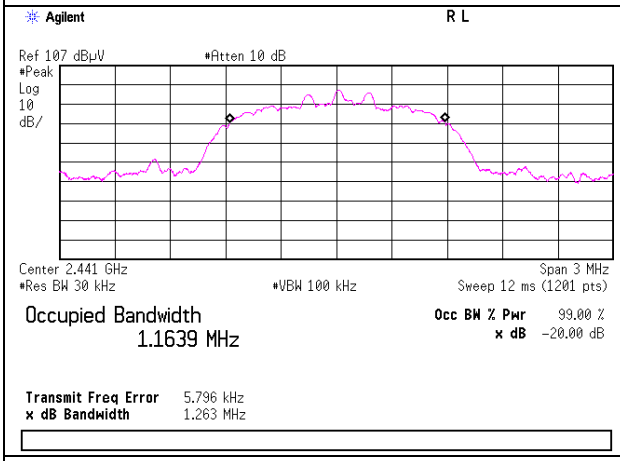
Tx 3DH5

20dB Bandwidth

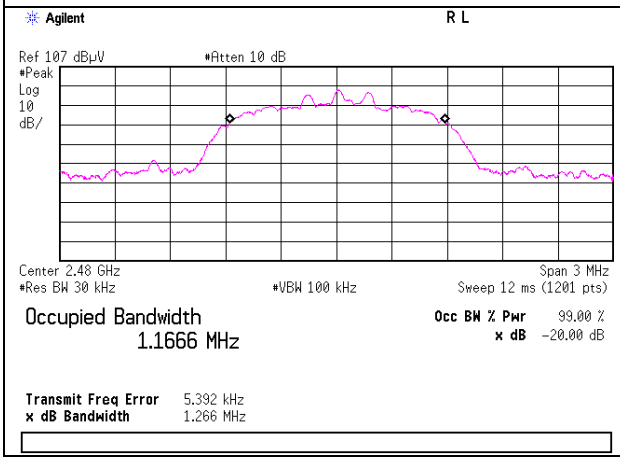
2402MHz



2441MHz

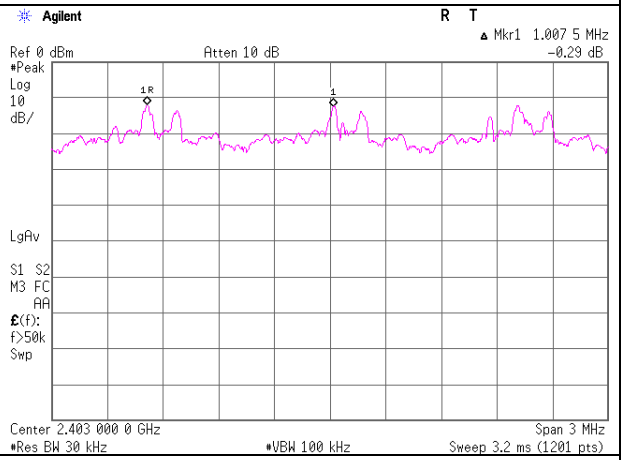


2480MHz

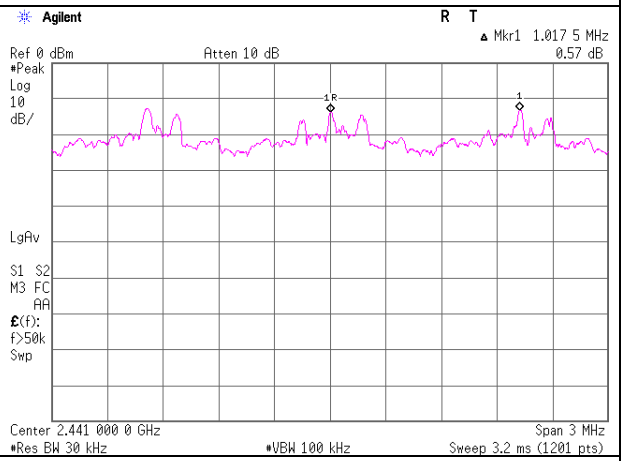


Carrier Frequency Separation

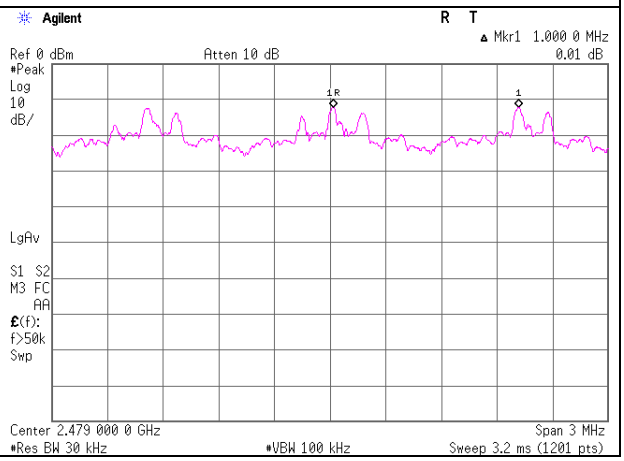
2402MHz



2441MHz



2480MHz

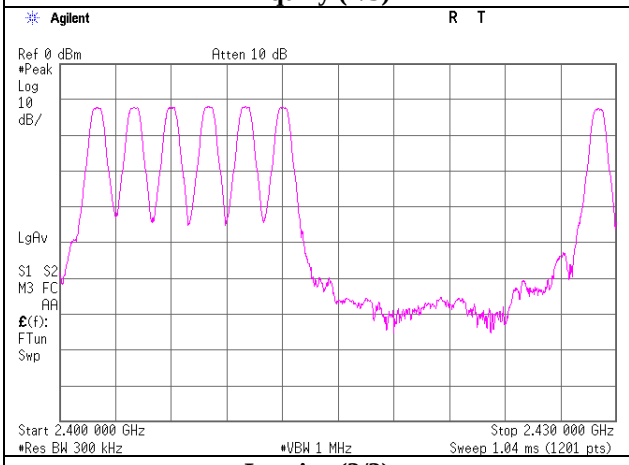


Number of Hopping Frequency

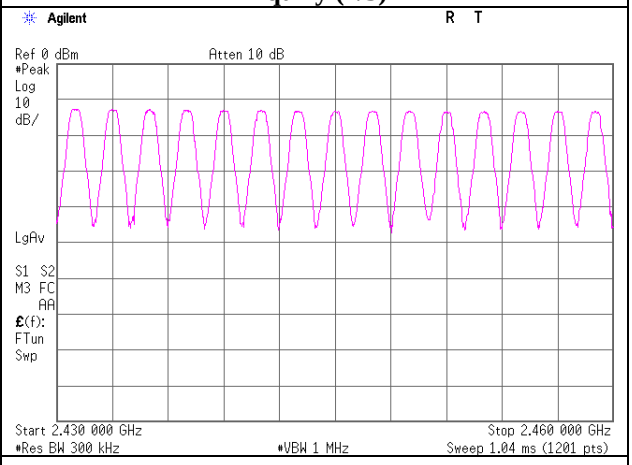
Test place	Head Office EMC Lab. No.6 Measurement Room
Report No.	31CE0169-HO-02
Date	02/16/2011
Temperature/ Humidity	21 deg.C./ 31%
Engineer	Keisuke Kawamura
Mode	Tx (Hopping on) DH5/3DH5/Inquiry

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

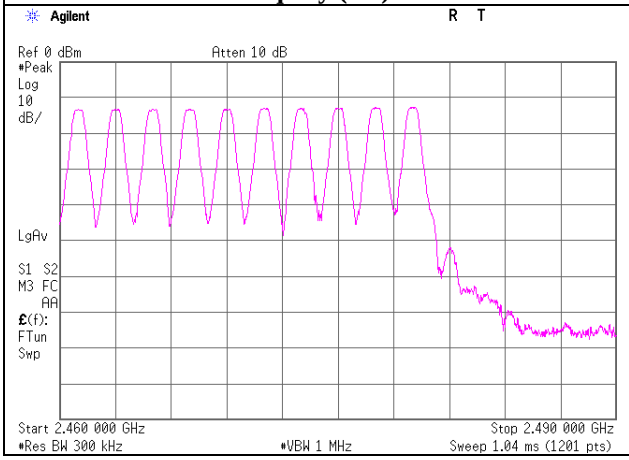
Inquiry (1/3)



Inquiry (2/3)



Inquiry (3/3)



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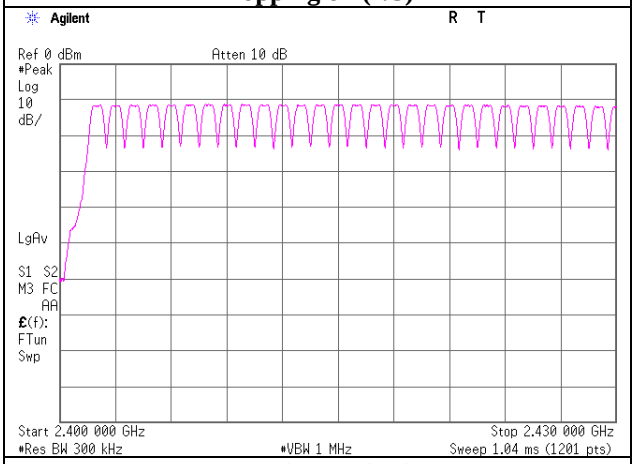
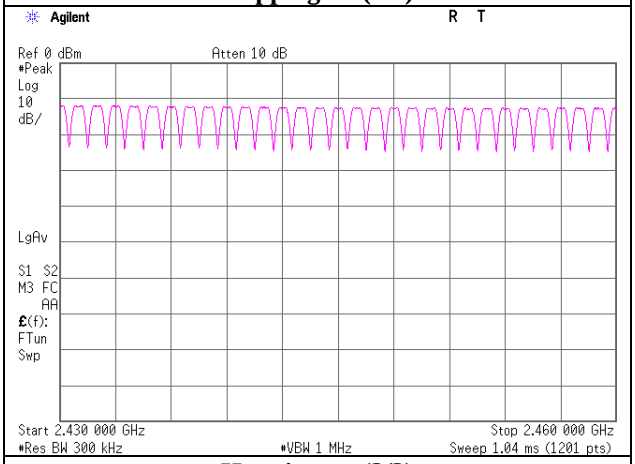
Number of Hopping Frequency

Tx DH5

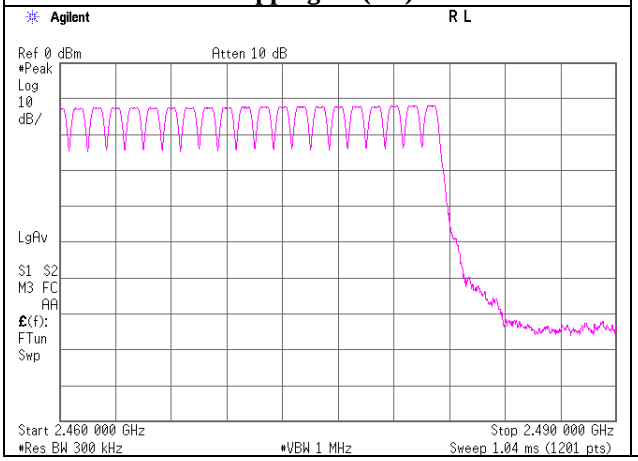
Hopping on (1/3)



Hopping on (2/3)

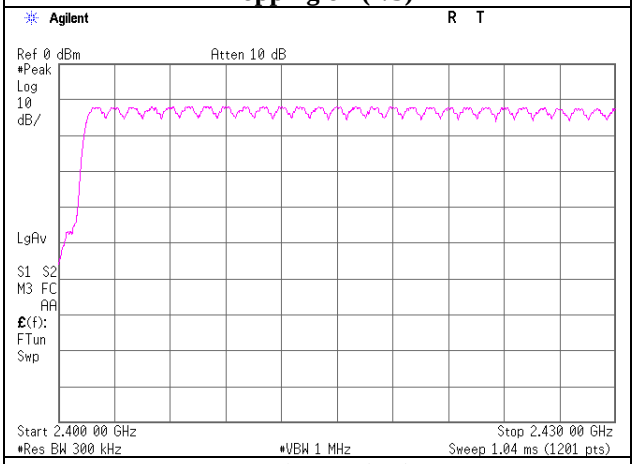


Hopping on (3/3)

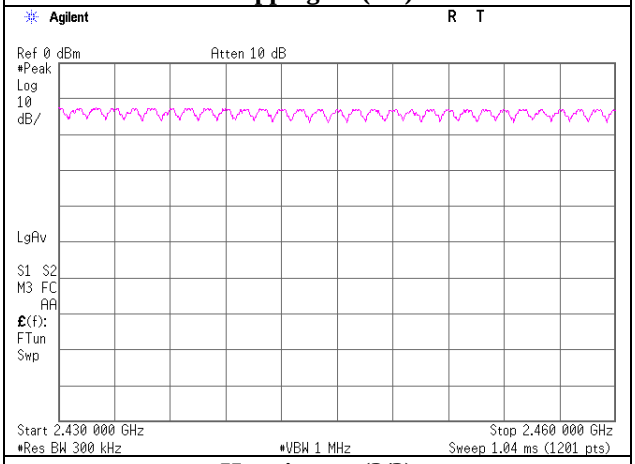


Tx 3DH5

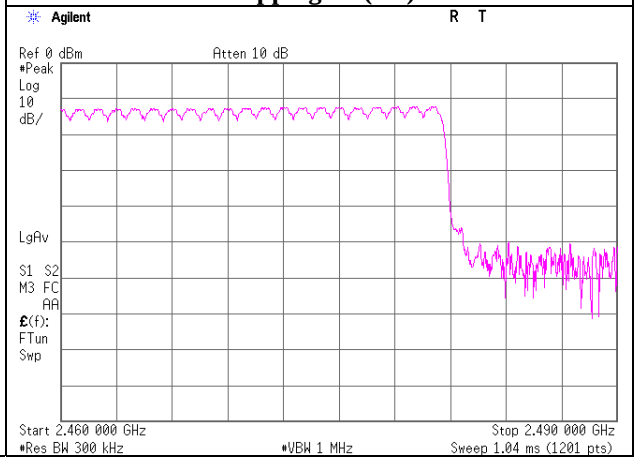
Hopping on (1/3)



Hopping on (2/3)



Hopping on (3/3)



Dwell time

Test place	Head Office EMC Lab. No.6 Measurement Room
Report No.	31CE0169-HO-02
Date	02/16/2011
Temperature/ Humidity	21 deg.C./ 31%
Engineer	Keisuke Kawamura
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	51.2 times	/ 5 sec.	x 31.6 sec.	= 324 times	0.519	168	400
DH3	26.2 times	/ 5 sec.	x 31.6 sec.	= 166 times	1.778	295	400
DH5	17.4 times	/ 5 sec.	x 31.6 sec.	= 110 times	3.028	333	400
3DH1	50.8 times	/ 5 sec.	x 31.6 sec.	= 322 times	0.537	173	400
3DH3	25.2 times	/ 5 sec.	x 31.6 sec.	= 160 times	1.799	288	400
3DH5	17.2 times	/ 5 sec.	x 31.6 sec.	= 109 times	3.045	332	400
Inquiry	100.0 times	/ 1 sec.	x 12.8 sec.	= 1280 times	0.220	282	400

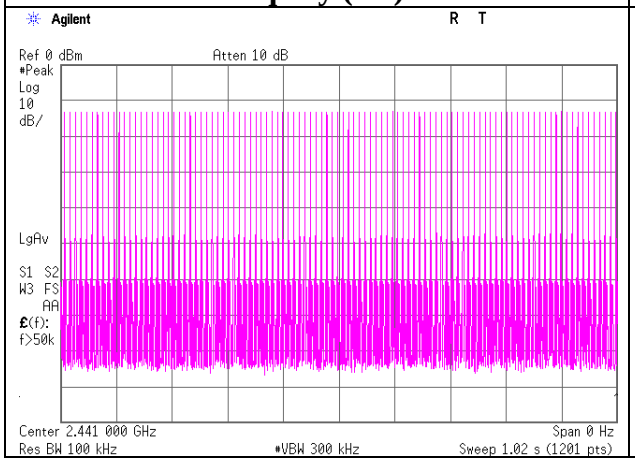
Sample Calculation
Result = Number of transmission x Length of transmition time

*Average data of 5 tests.(except Inquiry)

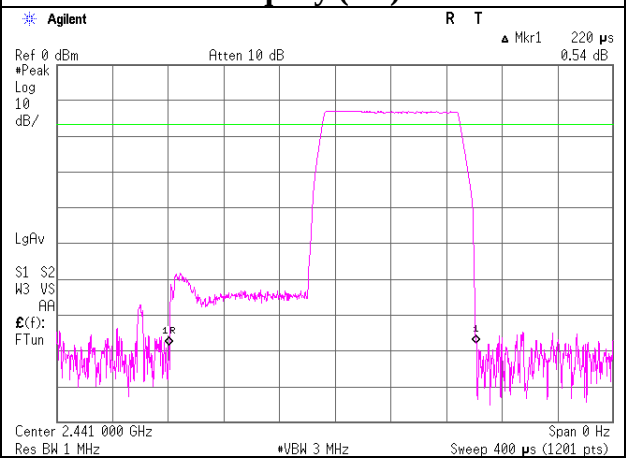
Mode	Sampling [times]					Average [times]
	1	2	3	4	5	
DH1	51	51	51	52	51	51.2
DH3	26	26	27	26	26	26.2
DH5	17	17	18	18	17	17.4
3DH1	50	51	51	51	51	50.8
3DH3	25	25	25	26	25	25.2
3DH5	17	17	17	18	17	17.2

Sample Calculation
Average= Summation(Sampling 1 to 5) / 5

Inquiry (1/2)

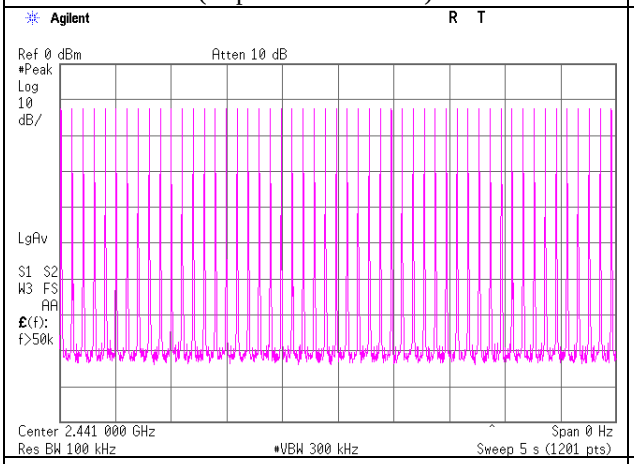


Inquiry (2/2)

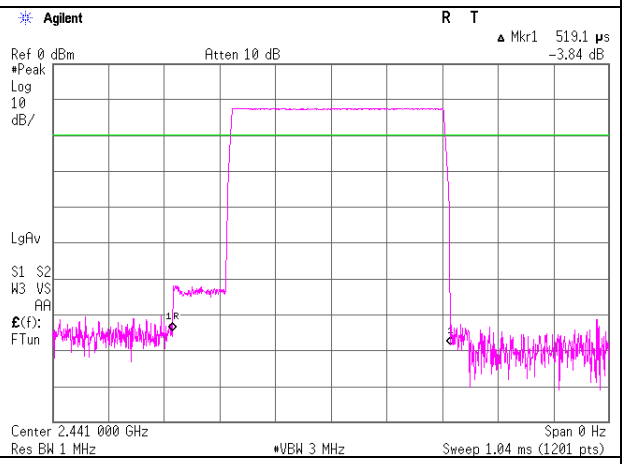


Dwell time

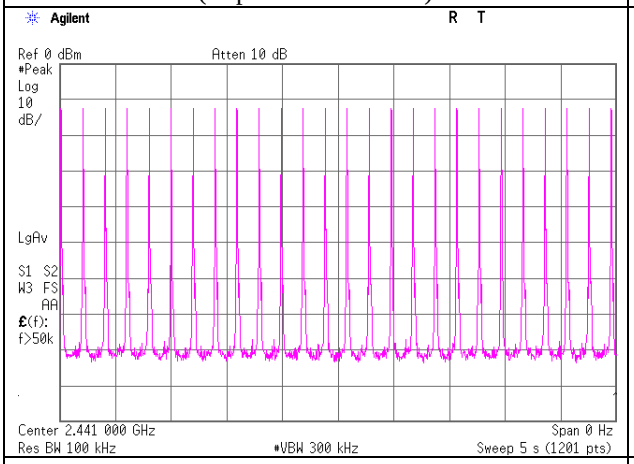
DH1 (1/2)
(Representative chart)



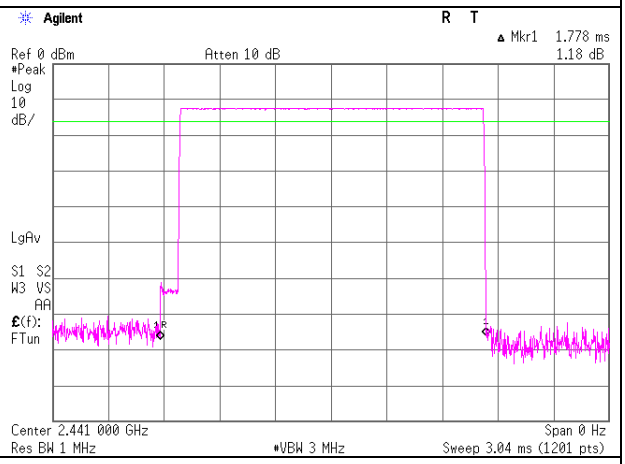
DH1 (2/2)



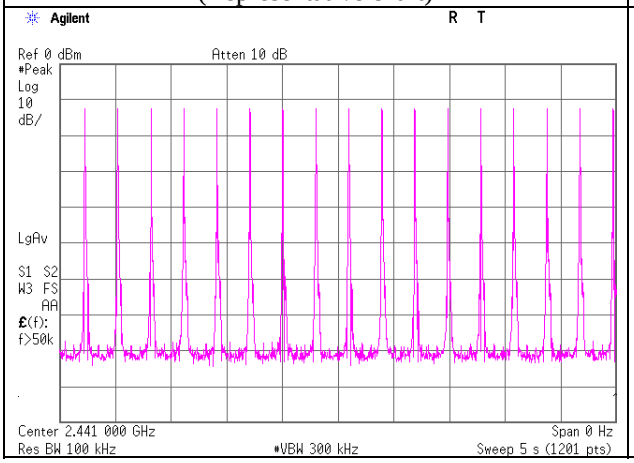
DH3 (1/2)
(Representative chart)



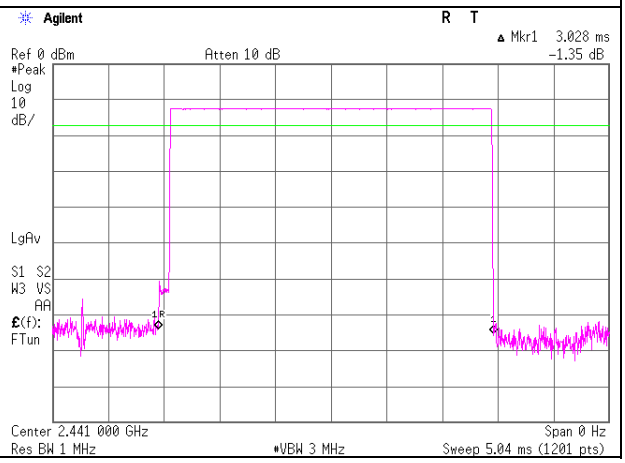
DH3 (2/2)



DH5 (1/2)
(Representative chart)

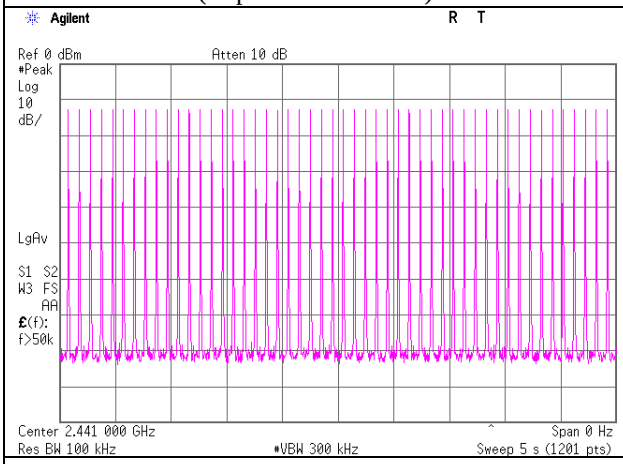


DH5 (2/2)

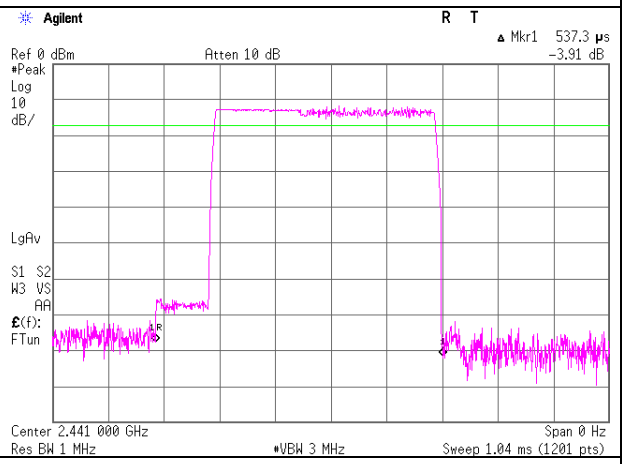


Dwell time

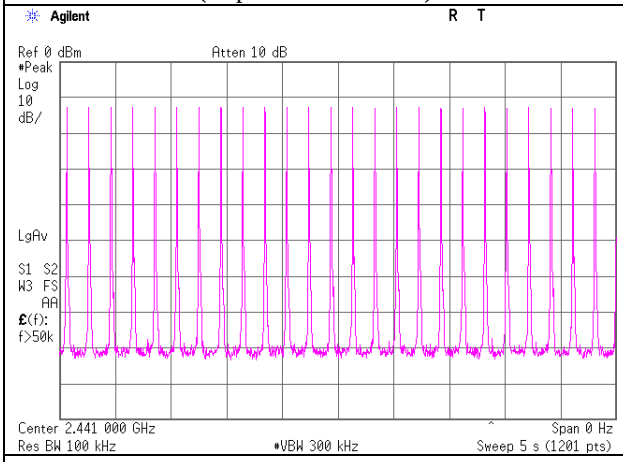
3DH1 (1/2)
(Representative chart)



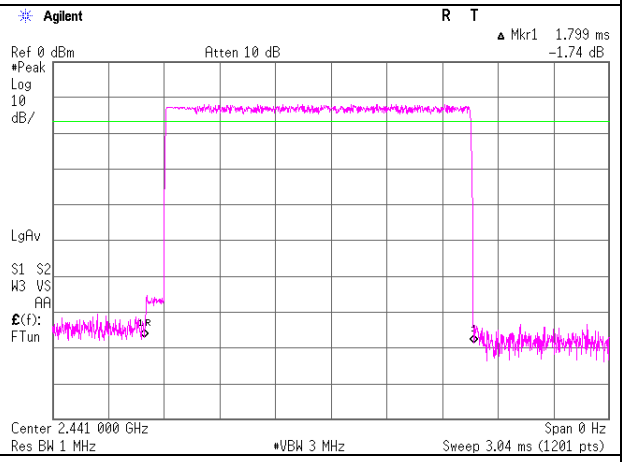
3DH1 (2/2)



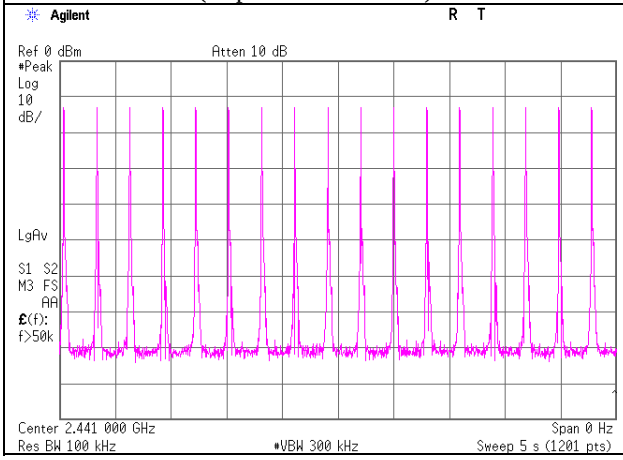
3DH3 (1/2)
(Representative chart)



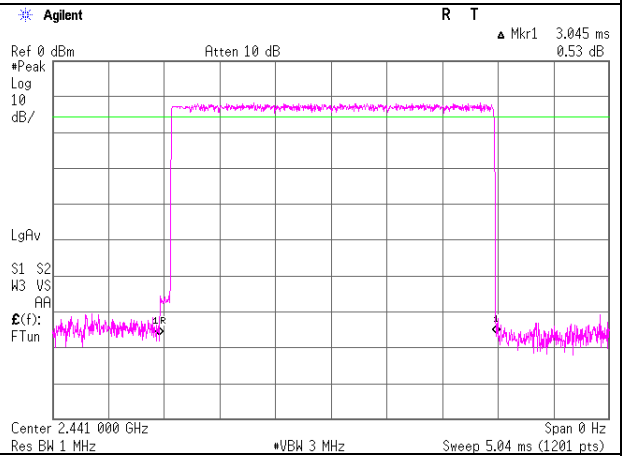
3DH3 (2/2)



3DH5 (1/2)
(Representative chart)



3DH5 (2/2)



Maximum Peak Output Power

Test place	Head Office EMC Lab. No.2 and 6Measurement Room	
Report No.	31CE0169-HO-02	
Date	02/15/2011	02/16/2011
Temperature/ Humidity	20 deg.C./ 30%	21 deg.C./ 31%
Engineer	Takeshi Choda	Keisuke Kawamura
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	-10.94	0.27	10.08	-0.59	0.87	20.97	125	21.56
DH5	2441.0	-11.50	0.27	10.08	-1.15	0.77	20.97	125	22.12
DH5	2480.0	-11.13	0.27	10.08	-0.78	0.84	20.97	125	21.75
3DH5	2402.0	-10.43	0.27	10.08	-0.08	0.98	20.97	125	21.05
3DH5	2441.0	-11.22	0.27	10.08	-0.87	0.82	20.97	125	21.84
3DH5	2480.0	-10.71	0.27	10.08	-0.36	0.92	20.97	125	21.33
Inquiry	2441.0	-12.41	0.98	9.97	-1.46	0.71	20.97	125	22.43

Sample Calculation:
Result = Reading + Cable Loss + 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.

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber		
Report No.	31CE0169-HO-02		
Date	02/14/2011	02/15/2011	02/17/2011
Temperature/ Humidity	22 deg.C./ 31%	25 deg.C./ 29%	25 deg.C./ 31%
Engineer	Takeshi Choda (below 1GHz)	Takeshi Choda (1-10GHz)	Takumi Shimada (10-26.5GHz)
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	64.000	QP	22.2	7.6	7.1	28.6	8.3	40.0	31.7	
Hori	128.000	QP	31.0	13.8	7.7	28.3	24.2	43.5	19.3	
Hori	256.000	QP	21.2	17.6	8.5	27.8	19.5	46.0	26.5	
Hori	384.000	QP	21.5	16.9	9.2	28.2	19.4	46.0	26.6	
Hori	512.000	QP	22.0	18.2	9.7	28.9	21.0	46.0	25.0	
Hori	640.000	QP	22.1	19.8	10.2	28.6	23.5	46.0	22.5	
Hori	2390.000	PK	43.8	27.4	2.3	32.4	41.1	73.9	32.8	
Hori	2399.967	PK	58.5	27.4	2.3	32.4	55.8	73.9	18.1	
Hori	2400.000	PK	59.2	27.4	2.3	32.4	56.5	73.9	17.4	
Hori	4804.000	PK	42.0	31.3	4.8	31.4	46.7	73.9	27.2	
Hori	7206.000	PK	41.5	35.5	5.8	31.6	51.2	73.9	22.7	
Hori	9608.000	PK	40.7	38.4	6.7	31.9	53.9	73.9	20.0	
Hori	24020.000	PK	46.5	40.5	-0.9	29.6	56.5	73.9	17.4	
Hori	2390.000	AV	31.6	27.4	2.3	32.4	28.9	53.9	25.0	
Hori	2399.967	AV	46.8	27.4	2.3	32.4	44.1	53.9	9.8	
Hori	2400.000	AV	48.7	27.4	2.3	32.4	46.0	53.9	7.9	
Hori	4804.000	AV	30.6	31.3	4.8	31.4	35.3	53.9	18.6	
Hori	7206.000	AV	29.5	35.5	5.8	31.6	39.2	53.9	14.7	
Hori	9608.000	AV	28.8	38.4	6.7	31.9	42.0	53.9	11.9	
Hori	24020.000	AV	34.4	40.5	-0.9	29.6	44.4	53.9	9.5	
Vert	64.000	QP	22.2	7.6	7.1	28.6	8.3	40.0	31.7	
Vert	128.000	QP	27.3	13.8	7.7	28.3	20.5	43.5	23.0	
Vert	256.000	QP	21.1	17.6	8.5	27.8	19.4	46.0	26.6	
Vert	384.000	QP	21.5	16.9	9.2	28.2	19.4	46.0	26.6	
Vert	512.000	QP	22.0	18.2	9.7	28.9	21.0	46.0	25.0	
Vert	640.000	QP	22.2	19.8	10.2	28.6	23.6	46.0	22.4	
Vert	2390.000	PK	43.5	27.4	2.3	32.4	40.8	73.9	33.1	
Vert	2399.967	PK	58.3	27.4	2.3	32.4	55.6	73.9	18.3	
Vert	2400.000	PK	59.1	27.4	2.3	32.4	56.4	73.9	17.5	
Vert	4804.000	PK	41.7	31.3	3.4	31.4	45.0	73.9	28.9	
Vert	7206.000	PK	41.6	35.5	5.8	31.6	51.3	73.9	22.6	
Vert	9608.000	PK	41.0	38.4	6.7	31.9	54.2	73.9	19.7	
Vert	24020.000	PK	46.8	40.5	-0.9	29.6	56.8	73.9	17.1	
Vert	2390.000	AV	31.4	27.4	2.3	32.4	28.7	53.9	25.2	
Vert	2399.967	AV	46.3	27.4	2.3	32.4	43.6	53.9	10.3	
Vert	2400.000	AV	48.1	27.4	2.3	32.4	45.4	53.9	8.5	
Vert	4804.000	AV	31.5	31.3	3.4	31.4	34.8	53.9	19.1	
Vert	7206.000	AV	29.7	35.5	5.8	31.6	39.4	53.9	14.5	
Vert	9608.000	AV	28.9	38.4	6.7	31.9	42.1	53.9	11.8	
Vert	24020.000	AV	34.5	40.5	-0.9	29.6	44.5	53.9	9.4	

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).

*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

*For the band edge of the carrier and the harmonics that emission was found, the test was performed with VBW of the average detector set at 270Hz. For other average detectors, VBW was set at 10Hz.

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber		
Report No.	31CE0169-HO-02		
Date	02/14/2011	02/15/2011	02/17/2011
Temperature/ Humidity	22 deg.C./ 31%	25 deg.C./ 29%	25 deg.C./ 31%
Engineer	Takeshi Choda	Takeshi Choda	Takumi Shimada
	(below 1GHz)	(1-10GHz)	(10-26.5GHz)
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	64.000	QP	22.2	7.6	7.1	28.6	8.3	40.0	31.7	
Hori	128.000	QP	24.1	13.8	7.7	28.3	17.3	43.5	26.2	
Hori	256.000	QP	21.2	17.6	8.5	27.8	19.5	46.0	26.5	
Hori	384.000	QP	21.5	16.9	9.2	28.2	19.4	46.0	26.6	
Hori	512.000	QP	22.0	18.2	9.7	28.9	21.0	46.0	25.0	
Hori	640.000	QP	22.2	19.8	10.2	28.6	23.6	46.0	22.4	
Hori	4882.000	PK	42.4	31.5	4.8	31.3	47.4	73.9	26.5	
Hori	7323.000	PK	42.2	35.7	5.9	31.6	52.2	73.9	21.7	
Hori	9764.000	PK	41.6	38.5	6.8	31.8	55.1	73.9	18.8	
Hori	24410.000	PK	45.4	40.4	-1.0	29.5	55.3	73.9	18.6	
Hori	4882.000	AV	30.1	31.5	4.8	31.3	35.1	53.9	18.8	
Hori	7323.000	AV	29.7	35.7	5.9	31.6	39.7	53.9	14.2	
Hori	9764.000	AV	28.9	38.5	6.8	31.8	42.4	53.9	11.5	
Hori	24410.000	AV	33.1	40.4	-1.0	29.5	43.0	53.9	10.9	
Vert	64.000	QP	22.2	7.6	7.1	28.6	8.3	40.0	31.7	
Vert	128.000	QP	28.2	13.8	7.7	28.3	21.4	43.5	22.1	
Vert	256.000	QP	21.2	17.6	8.5	27.8	19.5	46.0	26.5	
Vert	384.000	QP	21.5	16.9	9.2	28.2	19.4	46.0	26.6	
Vert	512.000	QP	22.0	18.2	9.7	28.9	21.0	46.0	25.0	
Vert	640.000	QP	22.2	19.8	10.2	28.6	23.6	46.0	22.4	
Vert	4882.000	PK	41.9	31.5	4.8	31.3	46.9	73.9	27.0	
Vert	7323.000	PK	41.8	35.7	5.9	31.6	51.8	73.9	22.1	
Vert	9764.000	PK	41.5	38.5	6.8	31.8	55.0	73.9	18.9	
Vert	24410.000	PK	45.0	40.4	-1.0	29.5	54.9	73.9	19.0	
Vert	4882.000	AV	30.4	31.5	4.8	31.3	35.4	53.9	18.5	
Vert	7323.000	AV	29.7	35.7	5.9	31.6	39.7	53.9	14.2	
Vert	9764.000	AV	28.8	38.5	6.8	31.8	42.3	53.9	11.6	
Vert	24410.000	AV	33.2	40.4	-1.0	29.5	43.1	53.9	10.8	

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

*For the band edge of the carrier and the harmonics that emission was found, the test was performed with VBW of the average detector set at 270Hz. For other average detectors, VBW was set at 10Hz.

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber		
Report No.	31CE0169-HO-02		
Date	02/14/2011	02/15/2011	02/17/2011
Temperature/ Humidity	22 deg.C./ 31%	25 deg.C./ 29%	25 deg.C./ 31%
Engineer	Takeshi Choda (below 1GHz)	Takeshi Choda (1-10GHz)	Takumi Shimada (10-26.5GHz)
Mode	Tx, DH5 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	64.000	QP	22.2	7.6	7.1	28.6	8.3	40.0	31.7	
Hori	128.000	QP	28.1	13.8	7.7	28.3	21.3	43.5	22.2	
Hori	256.000	QP	21.2	17.6	8.5	27.8	19.5	46.0	26.5	
Hori	384.000	QP	21.5	16.9	9.2	28.2	19.4	46.0	26.6	
Hori	512.000	QP	22.0	18.2	9.7	28.9	21.0	46.0	25.0	
Hori	640.000	QP	21.8	19.8	10.2	28.6	23.2	46.0	22.8	
Hori	2483.500	PK	47.4	27.6	2.3	32.4	44.9	73.9	29.0	
Hori	2484.267	PK	48.2	27.6	2.3	32.4	45.7	73.9	28.2	
Hori	4960.000	PK	42.4	31.7	4.8	31.3	47.6	73.9	26.3	
Hori	7440.000	PK	41.7	35.8	6.0	31.7	51.8	73.9	22.1	
Hori	9920.000	PK	41.9	38.7	7.0	31.8	55.8	73.9	18.1	
Hori	24800.000	PK	47.6	40.3	-1.0	29.4	57.5	73.9	16.4	
Hori	2483.500	AV	35.9	27.6	2.3	32.4	33.4	53.9	20.5	
Hori	2484.267	AV	38.3	27.6	2.3	32.4	35.8	53.9	18.1	
Hori	4960.000	AV	31.2	31.7	4.8	31.3	36.4	53.9	17.5	
Hori	7440.000	AV	29.7	35.8	6.0	31.7	39.8	53.9	14.1	
Hori	9920.000	AV	29.7	38.7	7.0	31.8	43.6	53.9	10.3	
Hori	24800.000	AV	35.3	40.3	-1.0	29.4	45.2	53.9	8.7	
Vert	64.000	QP	22.2	7.6	7.1	28.6	8.3	40.0	31.7	
Vert	128.000	QP	27.5	13.8	7.7	28.3	20.7	43.5	22.8	
Vert	256.000	QP	21.2	17.6	8.5	27.8	19.5	46.0	26.5	
Vert	384.000	QP	21.5	16.9	9.2	28.2	19.4	46.0	26.6	
Vert	512.000	QP	22.1	18.2	9.7	28.9	21.1	46.0	24.9	
Vert	640.000	QP	22.0	19.8	10.2	28.6	23.4	46.0	22.6	
Vert	2483.500	PK	48.1	27.6	2.3	32.4	45.6	73.9	28.3	
Vert	2484.267	PK	48.1	27.6	2.3	32.4	45.6	73.9	28.3	
Vert	4960.000	PK	42.3	31.7	4.8	31.3	47.5	73.9	26.4	
Vert	7440.000	PK	41.5	35.8	6.0	31.7	51.6	73.9	22.3	
Vert	9920.000	PK	41.4	38.7	7.0	31.8	55.3	73.9	18.6	
Vert	24800.000	PK	47.4	40.3	-1.0	29.4	57.3	73.9	16.6	
Vert	2483.500	AV	35.8	27.6	2.3	32.4	33.3	53.9	20.6	
Vert	2484.267	AV	38.3	27.6	2.3	32.4	35.8	53.9	18.1	
Vert	4960.000	AV	31.7	31.7	4.8	31.3	36.9	53.9	17.0	
Vert	7440.000	AV	29.8	35.8	6.0	31.7	39.9	53.9	14.0	
Vert	9920.000	AV	29.8	38.7	7.0	31.8	43.7	53.9	10.2	
Vert	24800.000	AV	35.4	40.3	-1.0	29.4	45.3	53.9	8.6	

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

*For the band edge of the carrier and the harmonics that emission was found, the test was performed with VBW of the average detector set at 270Hz. For other average detectors, VBW was set at 10Hz.

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber	
Report No.	31CE0169-HO-02	
Date	02/14/2011	02/17/2011
Temperature/ Humidity	22 deg.C./ 31%	25 deg.C./ 31%
Engineer	Takeshi Choda	Takumi Shimada
	(below 1GHz)	(Above 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	64.000	QP	22.1	7.6	7.1	28.6	8.2	40.0	31.8	
Hori	128.000	QP	28.0	13.8	7.7	28.3	21.2	43.5	22.3	
Hori	256.000	QP	21.2	17.6	8.5	27.8	19.5	46.0	26.5	
Hori	384.000	QP	21.5	16.9	9.2	28.2	19.4	46.0	26.6	
Hori	512.000	QP	22.1	18.2	9.7	28.9	21.1	46.0	24.9	
Hori	640.000	QP	22.0	19.8	10.2	28.6	23.4	46.0	22.6	
Hori	2390.000	PK	42.7	27.4	2.6	32.4	40.3	73.9	33.6	
Hori	2399.950	PK	56.7	27.4	2.6	32.4	54.3	73.9	19.7	
Hori	2400.000	PK	57.3	27.4	2.6	32.4	54.9	73.9	19.0	
Hori	4804.000	PK	41.3	31.3	5.2	31.4	46.4	73.9	27.5	
Hori	7206.000	PK	41.5	35.5	6.3	31.6	51.7	73.9	22.3	
Hori	9608.000	PK	41.7	38.4	7.0	31.9	55.2	73.9	18.7	
Hori	24020.000	PK	46.6	40.5	-0.9	29.6	56.6	73.9	17.3	
Hori	2390.000	AV	30.5	27.4	2.6	32.4	28.1	53.9	25.9	
Hori	2399.950	AV	43.8	27.4	2.6	32.4	41.4	53.9	12.6	
Hori	2400.000	AV	44.3	27.4	2.6	32.4	41.9	53.9	12.0	
Hori	4804.000	AV	29.0	31.3	5.2	31.4	34.1	53.9	19.8	
Hori	7206.000	AV	29.9	35.5	6.3	31.6	40.1	53.9	13.8	
Hori	9608.000	AV	29.7	38.4	7.0	31.9	43.2	53.9	10.7	
Hori	24020.000	AV	34.4	40.5	-0.9	29.6	44.4	53.9	9.5	
Vert	64.000	QP	22.2	7.6	7.1	28.6	8.3	40.0	31.7	
Vert	128.000	QP	27.1	13.8	7.7	28.3	20.3	43.5	23.2	
Vert	256.000	QP	21.2	17.6	8.5	27.8	19.5	46.0	26.5	
Vert	384.000	QP	21.5	16.9	9.2	28.2	19.4	46.0	26.6	
Vert	512.000	QP	22.0	18.2	9.7	28.9	21.0	46.0	25.0	
Vert	640.000	QP	22.2	19.8	10.2	28.6	23.6	46.0	22.4	
Vert	2390.000	PK	42.5	27.4	2.6	32.4	40.1	73.9	33.8	
Vert	2399.950	PK	61.8	27.4	2.6	32.4	59.4	73.9	14.5	
Vert	2400.000	PK	62.6	27.4	2.6	32.4	60.2	73.9	13.7	
Vert	4804.000	PK	41.8	31.3	5.2	31.4	46.9	73.9	27.1	
Vert	7206.000	PK	42.9	35.5	6.3	31.6	53.1	73.9	20.9	
Vert	9608.000	PK	42.3	38.4	7.0	31.9	55.8	73.9	18.2	
Vert	24020.000	PK	46.7	40.5	-0.9	29.6	56.7	73.9	17.2	
Vert	2390.000	AV	31.1	27.4	2.6	32.4	28.7	53.9	25.2	
Vert	2399.950	AV	49.1	27.4	2.6	32.4	46.7	53.9	7.2	
Vert	2400.000	AV	49.7	27.4	2.6	32.4	47.3	53.9	6.7	
Vert	4804.000	AV	29.1	31.3	5.2	31.4	34.2	53.9	19.7	
Vert	7206.000	AV	30.0	35.5	6.3	31.6	40.2	53.9	13.7	
Vert	9608.000	AV	29.7	38.4	7.0	31.9	43.2	53.9	10.7	
Vert	24020.000	AV	34.4	40.5	-0.9	29.6	44.4	53.9	9.5	

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

*For the band edge of the carrier and the harmonics that emission was found, the test was performed with VBW of the average detector set at 270Hz. For other average detectors, VBW was set at 10Hz.

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber	
Report No.	31CE0169-HO-02	
Date	02/14/2011	02/17/2011
Temperature/ Humidity	22 deg.C./ 31%	25 deg.C./ 31%
Engineer	Takeshi Choda (below 1GHz)	Takumi Shimada (Above 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	64.000	QP	22.2	7.6	7.1	28.6	8.3	40.0	31.7	
Hori	128.000	QP	29.7	13.8	7.7	28.3	22.9	43.5	20.6	
Hori	256.000	QP	21.2	17.6	8.5	27.8	19.5	46.0	26.5	
Hori	384.000	QP	21.4	16.9	9.2	28.2	19.3	46.0	26.7	
Hori	512.000	QP	22.1	18.2	9.7	28.9	21.1	46.0	24.9	
Hori	640.000	QP	21.9	19.8	10.2	28.6	23.3	46.0	22.7	
Hori	4882.000	PK	41.3	31.5	5.2	31.3	46.7	73.9	27.2	
Hori	7323.000	PK	41.5	35.7	6.3	31.6	51.9	73.9	22.0	
Hori	9764.000	PK	41.3	38.5	7.0	31.8	55.0	73.9	18.9	
Hori	24410.000	PK	45.3	40.4	-1.0	29.5	55.2	73.9	18.7	
Hori	4882.000	AV	29.1	31.5	5.2	31.3	34.5	53.9	19.4	
Hori	7323.000	AV	29.7	35.7	6.3	31.6	40.1	53.9	13.8	
Hori	9764.000	AV	29.7	38.5	7.0	31.8	43.4	53.9	10.5	
Hori	24410.000	AV	33.2	40.4	-1.0	29.5	43.1	53.9	10.8	
Vert	64.000	QP	22.2	7.6	7.1	28.6	8.3	40.0	31.7	
Vert	128.000	QP	26.4	13.8	7.7	28.3	19.6	43.5	23.9	
Vert	256.000	QP	21.2	17.6	8.5	27.8	19.5	46.0	26.5	
Vert	384.000	QP	21.5	16.9	9.2	28.2	19.4	46.0	26.6	
Vert	512.000	QP	22.0	18.2	9.7	28.9	21.0	46.0	25.0	
Vert	640.000	QP	21.8	19.8	10.2	28.6	23.2	46.0	22.8	
Vert	4882.000	PK	41.8	31.5	5.2	31.3	47.2	73.9	26.7	
Vert	7323.000	PK	42.0	35.7	6.3	31.6	52.4	73.9	21.5	
Vert	9764.000	PK	41.9	38.5	7.0	31.8	55.6	73.9	18.3	
Vert	24410.000	PK	45.2	40.4	-1.0	29.5	55.1	73.9	18.8	
Vert	4882.000	AV	29.1	31.5	5.2	31.3	34.5	53.9	19.4	
Vert	7323.000	AV	29.7	35.7	6.3	31.6	40.1	53.9	13.8	
Vert	9764.000	AV	29.7	38.5	7.0	31.8	43.4	53.9	10.6	
Vert	24410.000	AV	33.2	40.4	-1.0	29.5	43.1	53.9	10.8	

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

*For the band edge of the carrier and the harmonics that emission was found, the test was performed with VBW of the average detector set at 270Hz. For other average detectors, VBW was set at 10Hz.

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber	
Report No.	31CE0169-HO-02	
Date	02/14/2011	02/17/2011
Temperature/ Humidity	22 deg.C./ 31%	25 deg.C./ 31%
Engineer	Takeshi Choda (below 1GHz)	Takumi Shimada (Above 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	64.000	QP	22.1	7.6	7.1	28.6	8.2	40.0	31.8	
Hori	128.000	QP	29.2	13.8	7.7	28.3	22.4	43.5	21.1	
Hori	256.000	QP	21.2	17.6	8.5	27.8	19.5	46.0	26.5	
Hori	384.000	QP	21.5	16.9	9.2	28.2	19.4	46.0	26.6	
Hori	512.000	QP	22.0	18.2	9.7	28.9	21.0	46.0	25.0	
Hori	640.000	QP	22.1	19.8	10.2	28.6	23.5	46.0	22.5	
Hori	2483.500	PK	49.9	27.6	2.7	32.4	47.8	73.9	26.1	
Hori	2484.150	PK	48.7	27.6	2.7	32.4	46.6	73.9	27.3	
Hori	4960.000	PK	41.3	31.7	5.3	31.3	47.0	73.9	26.9	
Hori	7440.000	PK	41.6	35.8	6.4	31.7	52.1	73.9	21.8	
Hori	9920.000	PK	41.5	38.7	7.2	31.8	55.6	73.9	18.3	
Hori	24800.000	PK	47.5	40.3	-1.0	29.4	57.4	73.9	16.5	
Hori	2483.500	AV	37.3	27.6	2.7	32.4	35.2	53.9	18.7	
Hori	2484.150	AV	37.8	27.6	2.7	32.4	35.7	53.9	18.2	
Hori	4960.000	AV	29.0	31.7	5.3	31.3	34.7	53.9	19.2	
Hori	7440.000	AV	30.4	35.8	6.4	31.7	40.9	53.9	13.0	
Hori	9920.000	AV	30.2	38.7	7.2	31.8	44.3	53.9	9.6	
Hori	24800.000	AV	35.4	40.3	-1.0	29.4	45.3	53.9	8.6	
Vert	64.000	QP	22.2	7.6	7.1	28.6	8.3	40.0	31.7	
Vert	128.000	QP	26.1	13.8	7.7	28.3	19.3	43.5	24.2	
Vert	256.000	QP	21.2	17.6	8.5	27.8	19.5	46.0	26.5	
Vert	384.000	QP	21.5	16.9	9.2	28.2	19.4	46.0	26.6	
Vert	512.000	QP	22.1	18.2	9.7	28.9	21.1	46.0	24.9	
Vert	640.000	QP	22.2	19.8	10.2	28.6	23.6	46.0	22.4	
Vert	2483.500	PK	47.5	27.6	2.7	32.4	45.4	73.9	28.5	
Vert	2484.150	PK	47.6	27.6	2.7	32.4	45.5	73.9	28.4	
Vert	4960.000	PK	40.8	31.7	5.3	31.3	46.5	73.9	27.4	
Vert	7440.000	PK	42.3	35.8	6.4	31.7	52.8	73.9	21.1	
Vert	9920.000	PK	42.5	38.7	7.2	31.8	56.6	73.9	17.3	
Vert	24800.000	PK	47.4	40.3	-1.0	29.4	57.3	73.9	16.6	
Vert	2483.500	AV	35.3	27.6	2.7	32.4	33.2	53.9	20.7	
Vert	2484.150	AV	35.8	27.6	2.7	32.4	33.7	53.9	20.2	
Vert	4960.000	AV	29.0	31.7	5.3	31.3	34.7	53.9	19.2	
Vert	7440.000	AV	30.2	35.8	6.4	31.7	40.7	53.9	13.2	
Vert	9920.000	AV	30.1	38.7	7.2	31.8	44.2	53.9	9.7	
Vert	24800.000	AV	35.4	40.3	-1.0	29.4	45.3	53.9	8.6	

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

*For the band edge of the carrier and the harmonics that emission was found, the test was performed with VBW of the average detector set at 270Hz. For other average detectors, VBW was set at 10Hz.

Radiated Spurious Emission

Test place	Head Office EMC Lab. No.2 Semi Anechoic Chamber	
Report No.	31CE0169-HO-02	
Date	02/14/2011	02/17/2011
Temperature/ Humidity	22 deg.C./ 31%	25 deg.C./ 31%
Engineer	Takeshi Choda	Takumi Shimada
	(below 1GHz)	(Above 1GHz)
Mode	Rx 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	64.000	QP	22.2	7.6	7.1	28.6	8.3	40.0	31.7	
Hori	128.000	QP	28.3	13.8	7.7	28.3	21.5	43.5	22.0	
Hori	256.000	QP	21.2	17.6	8.5	27.8	19.5	46.0	26.5	
Hori	384.000	QP	21.5	16.9	9.2	28.2	19.4	46.0	26.6	
Hori	512.000	QP	22.1	18.2	9.7	28.9	21.1	46.0	24.9	
Hori	640.000	QP	22.0	19.8	10.2	28.6	23.4	46.0	22.6	
Hori	2441.000	PK	42.1	27.5	2.6	32.4	39.8	73.9	34.1	
Hori	2442.500	PK	50.5	27.5	2.6	32.4	48.2	73.9	25.7	
Hori	2441.000	AV	30.1	27.5	2.6	32.4	27.8	53.9	26.1	
Hori	2442.500	AV	47.2	27.5	2.6	32.4	44.9	53.9	9.0	
Vert	64.000	QP	22.2	7.6	7.1	28.6	8.3	40.0	31.7	
Vert	128.000	QP	27.2	13.8	7.7	28.3	20.4	43.5	23.1	
Vert	256.000	QP	21.2	17.6	8.5	27.8	19.5	46.0	26.5	
Vert	384.000	QP	21.5	16.9	9.2	28.2	19.4	46.0	26.6	
Vert	512.000	QP	22.1	18.2	9.7	28.9	21.1	46.0	24.9	
Vert	640.000	QP	21.9	19.8	10.2	28.6	23.3	46.0	22.7	
Vert	2441.000	PK	41.6	27.5	2.6	32.4	39.3	73.9	34.6	
Vert	2442.500	PK	46.2	27.5	2.6	32.4	43.9	73.9	30.0	
Vert	2441.000	AV	30.1	27.5	2.6	32.4	27.8	53.9	26.1	
Vert	2442.500	AV	39.5	27.5	2.6	32.4	37.2	53.9	16.7	

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

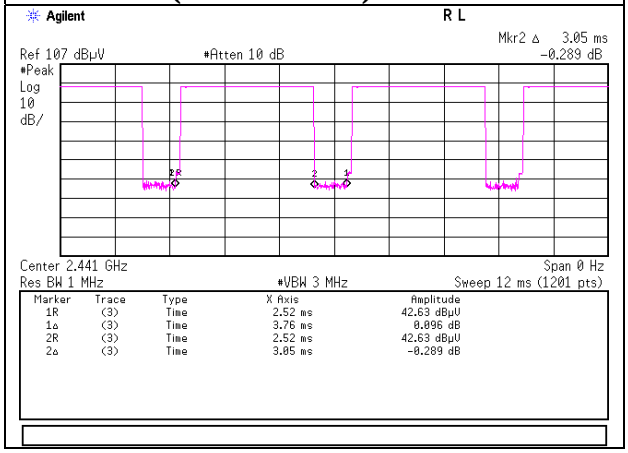
*Other frequency noises omitted in this report were not seen or had enough margin (more than 20dB).

*For average detectors, VBW was set at 10Hz.

VBW (AV) Calculation

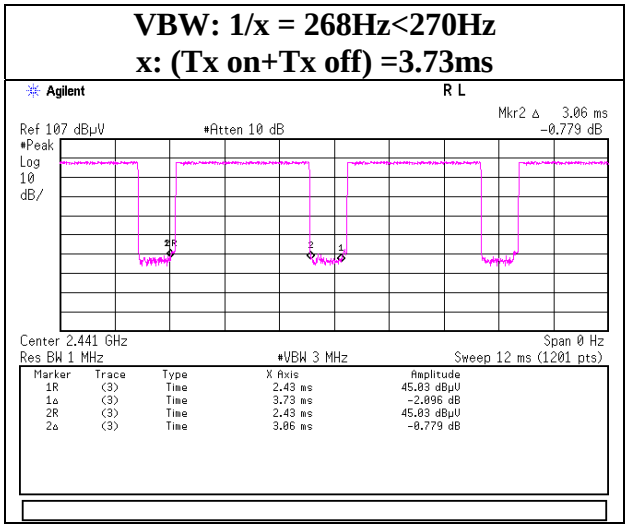
DH5

VBW: 1/x = 266Hz<270Hz
x: (Tx on+Tx off) =3.76ms



3DH5

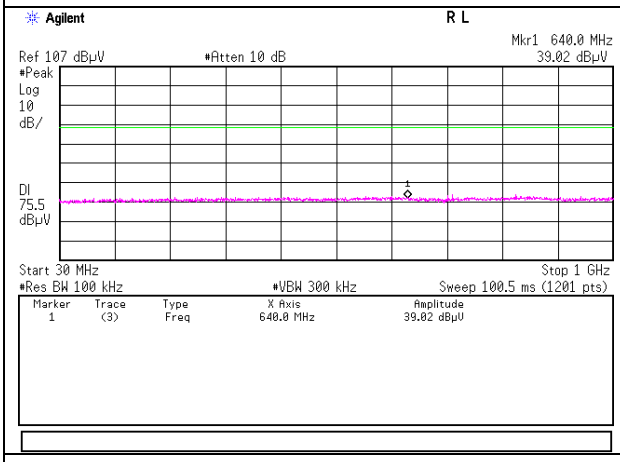
VBW: 1/x = 268Hz<270Hz
x: (Tx on+Tx off) =3.73ms



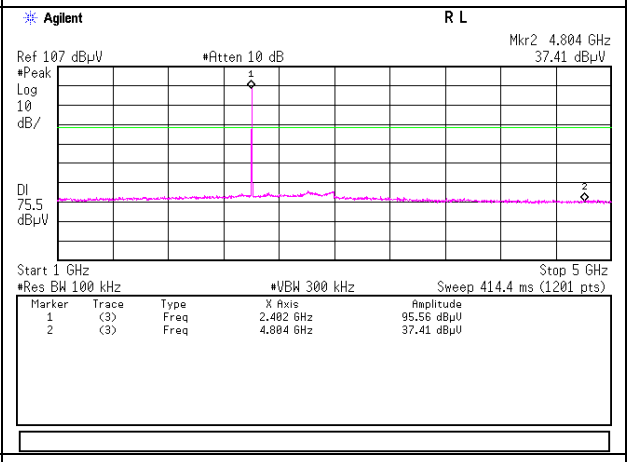
Conducted Spurious Emission

Tx DH5 2402MHz

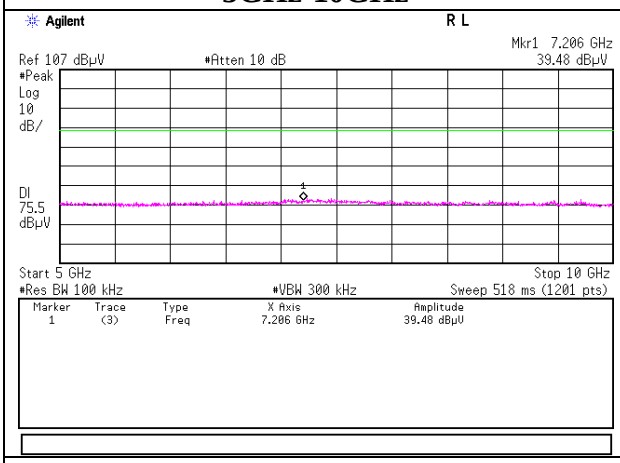
30MHz-1GHz



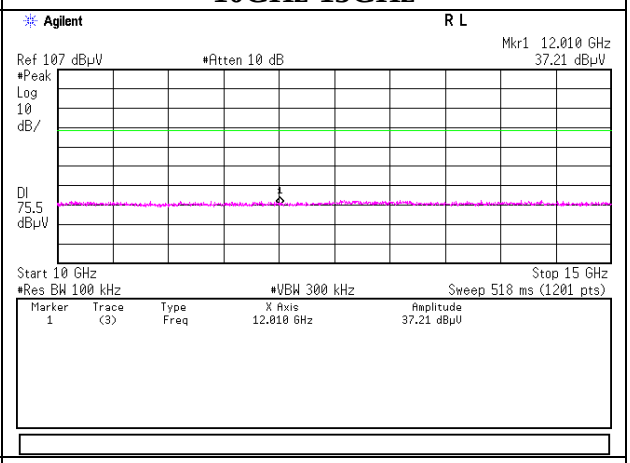
1GHz-5GHz



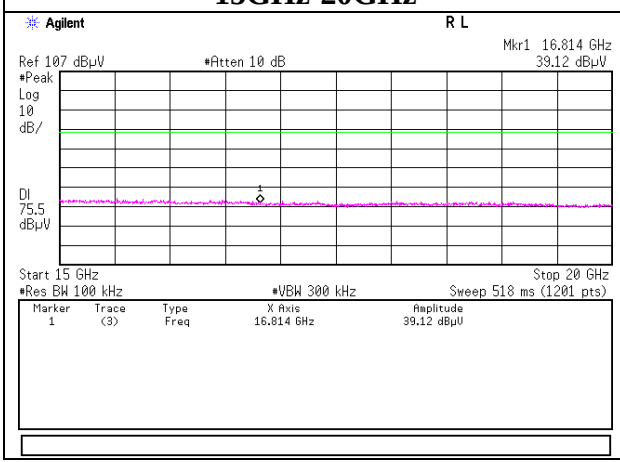
5GHz-10GHz



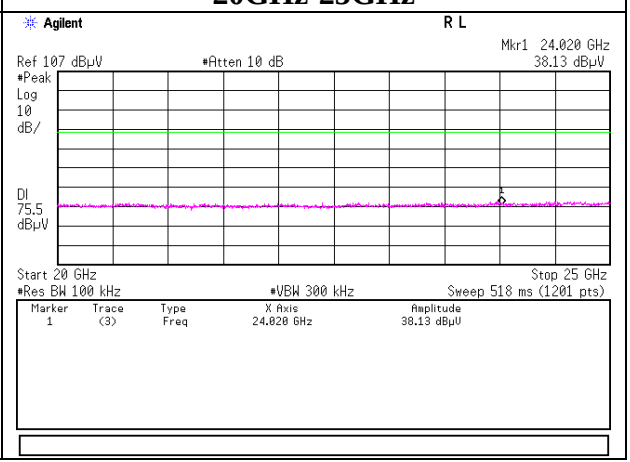
10GHz-15GHz



15GHz-20GHz



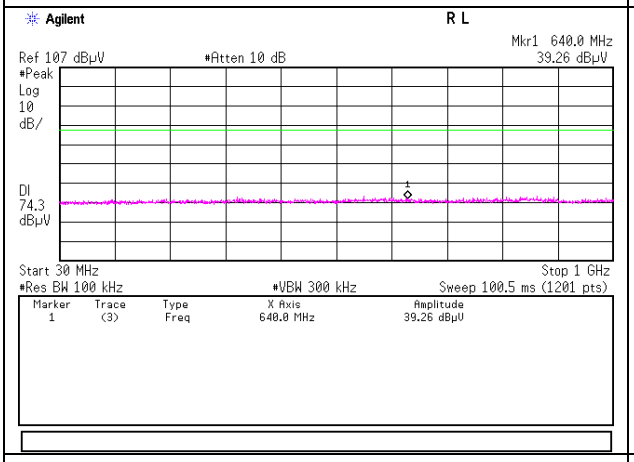
20GHz-25GHz



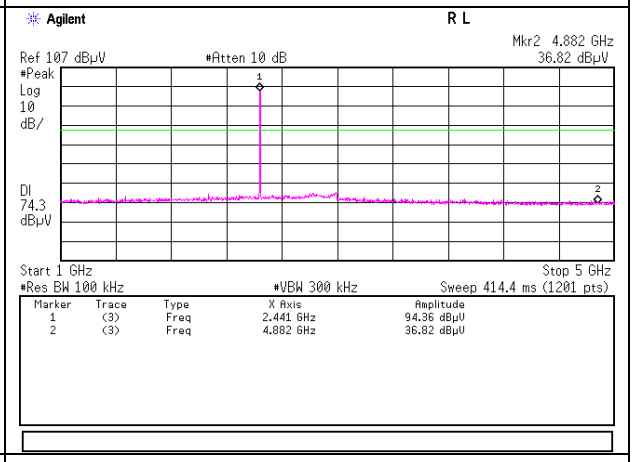
Conducted Spurious Emission

Tx DH5 2441MHz

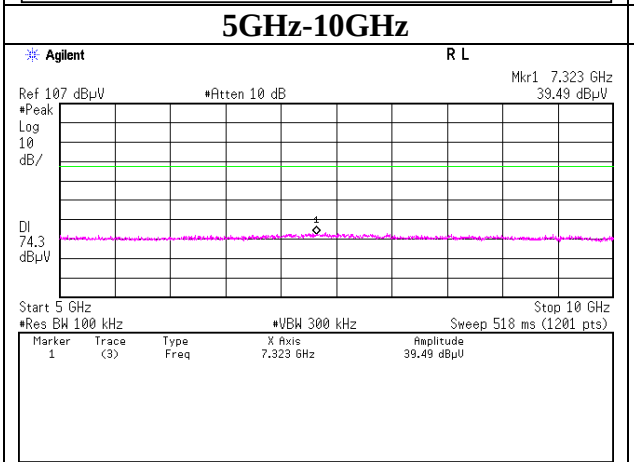
30MHz-1GHz



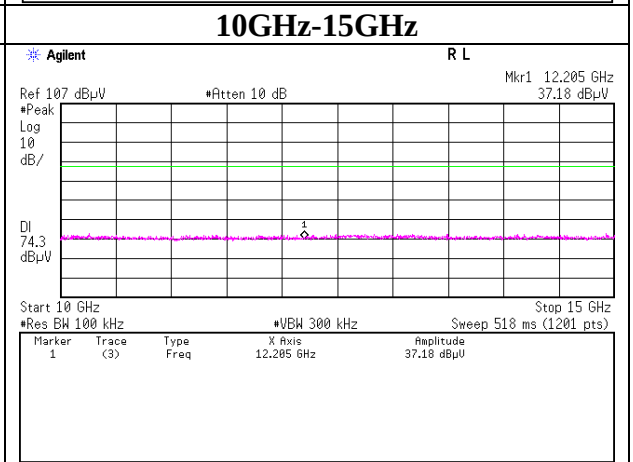
1GHz-5GHz



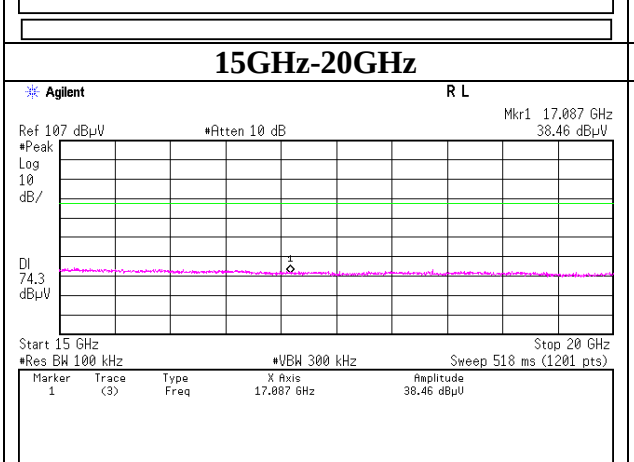
5GHz-10GHz



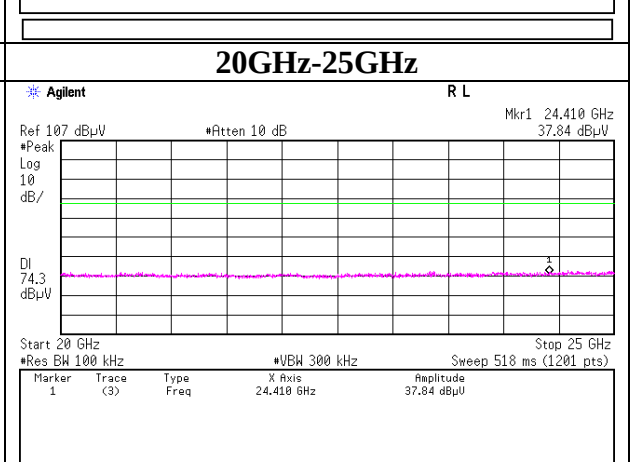
10GHz-15GHz



15GHz-20GHz



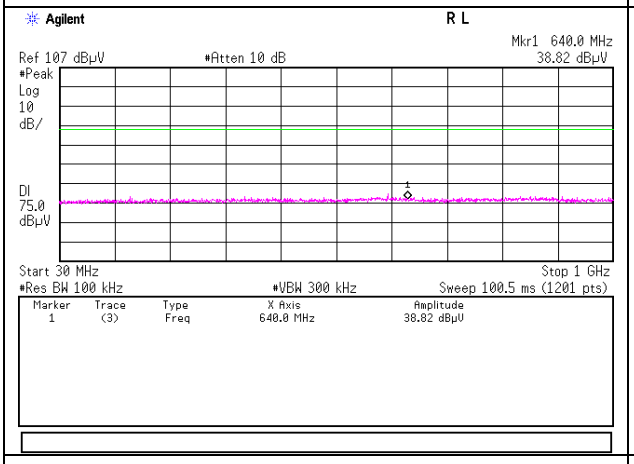
20GHz-25GHz



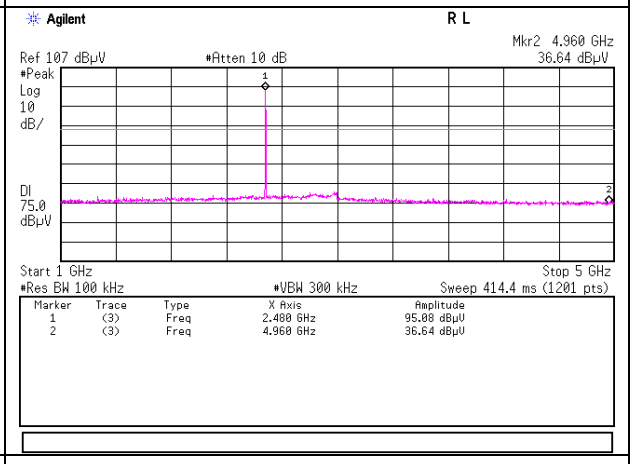
Conducted Spurious Emission

Tx DH5 2480MHz

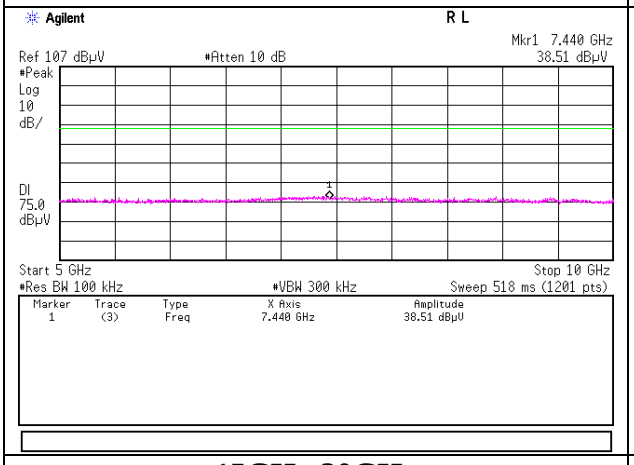
30MHz-1GHz



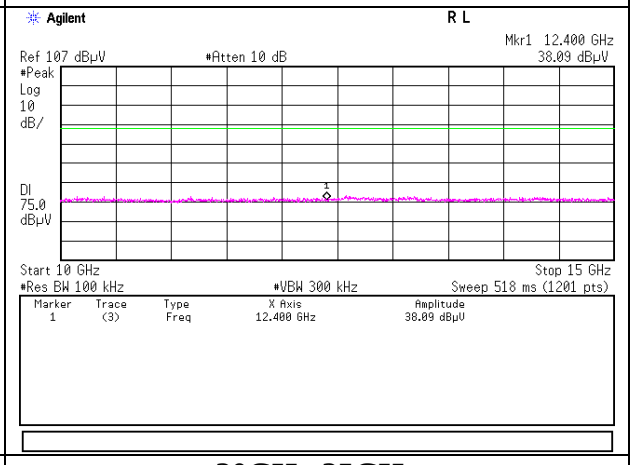
1GHz-5GHz



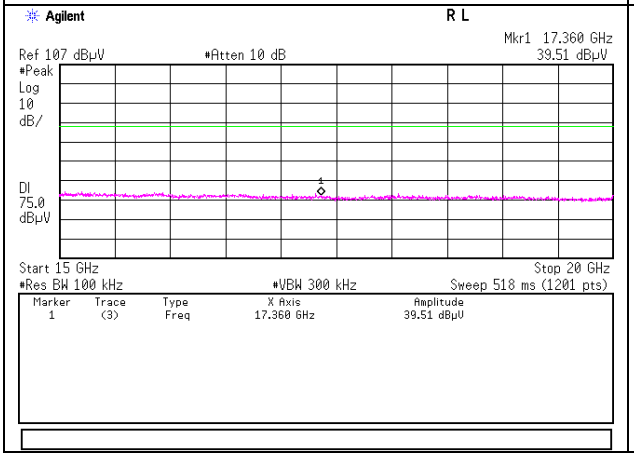
5GHz-10GHz



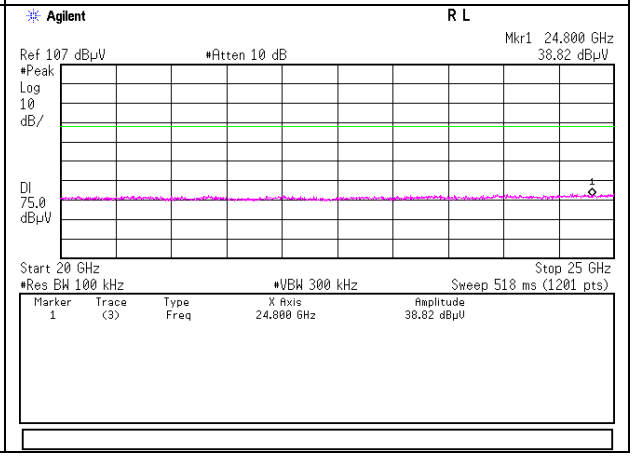
10GHz-15GHz



15GHz-20GHz



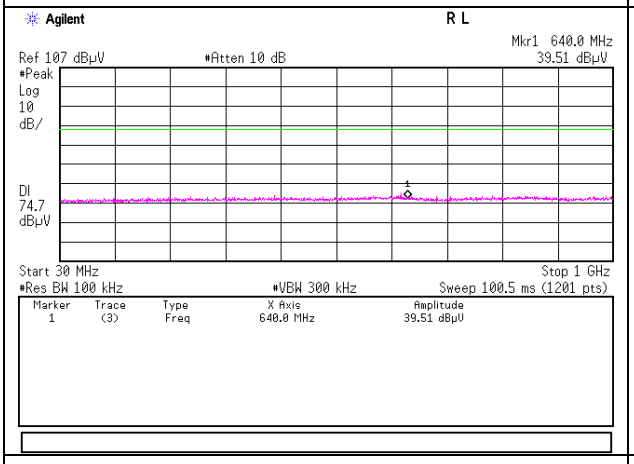
20GHz-25GHz



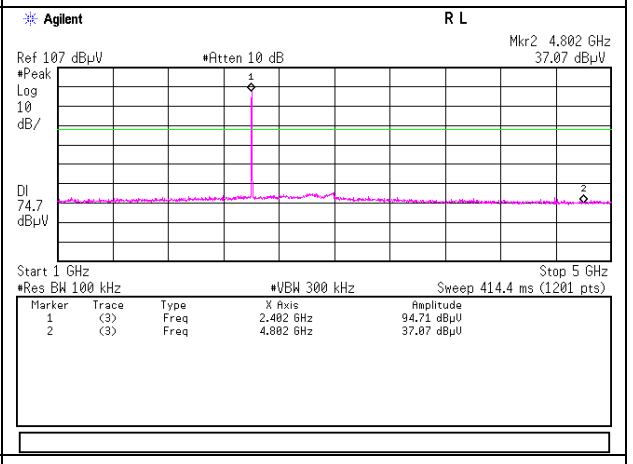
Conducted Spurious Emission

Tx 3DH5 2402MHz

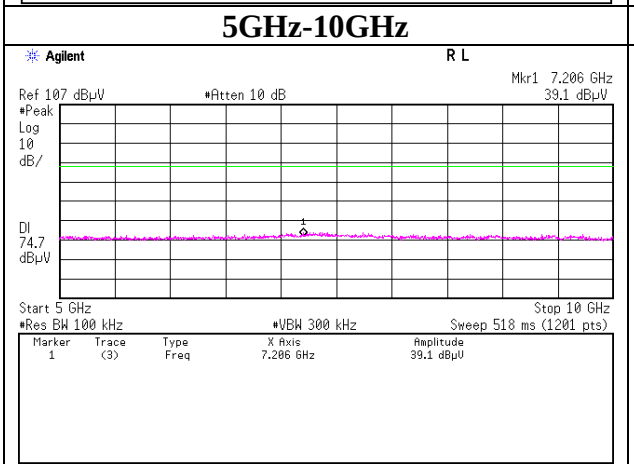
30MHz-1GHz



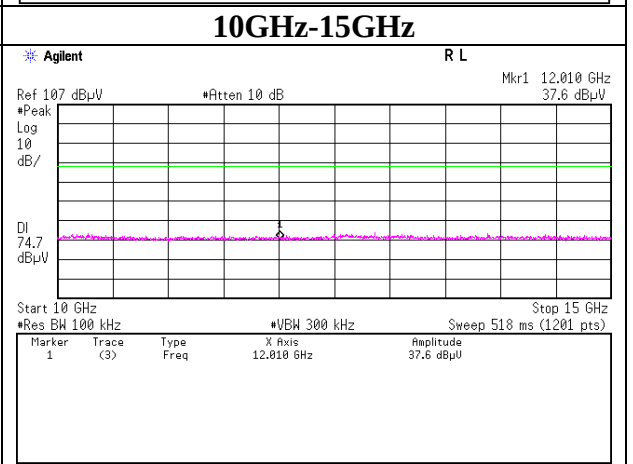
1GHz-5GHz



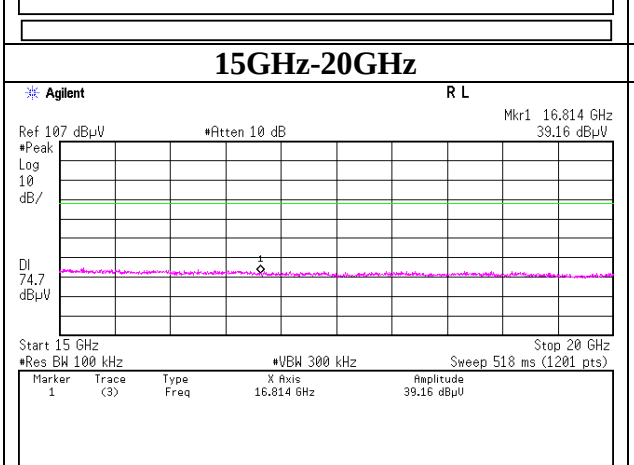
5GHz-10GHz



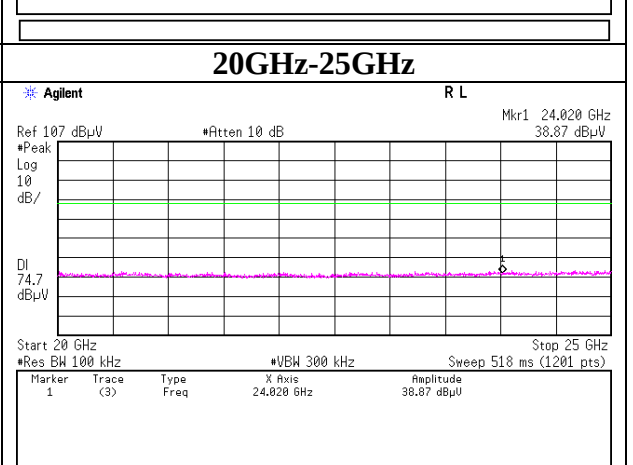
10GHz-15GHz



15GHz-20GHz



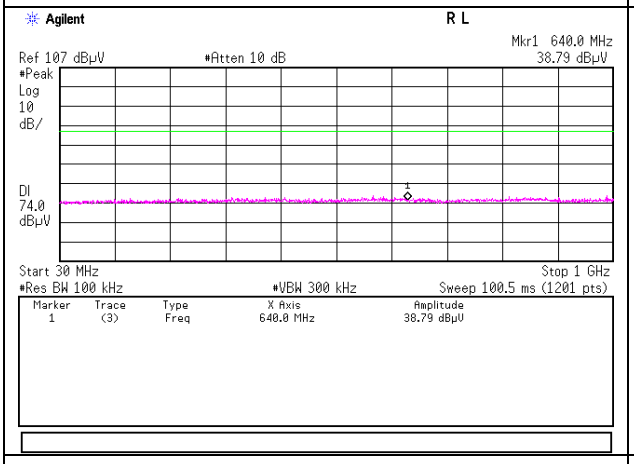
20GHz-25GHz



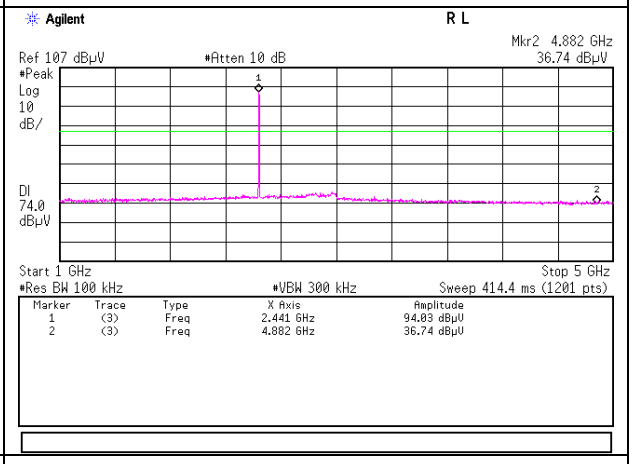
Conducted Spurious Emission

Tx 3DH5 2441MHz

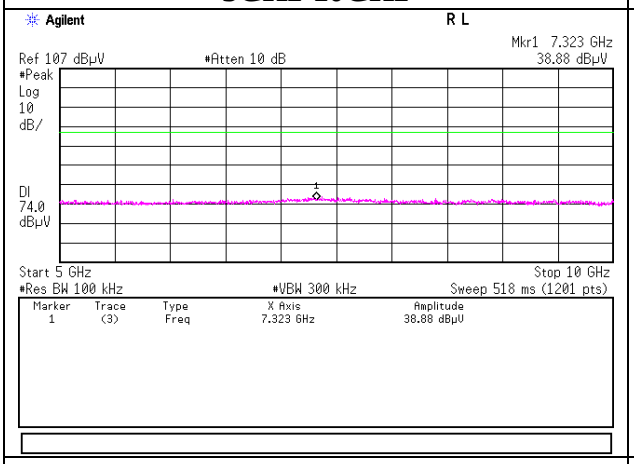
30MHz-1GHz



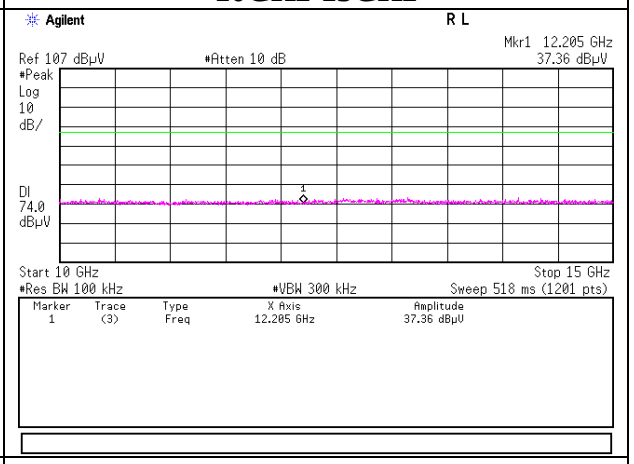
1GHz-5GHz



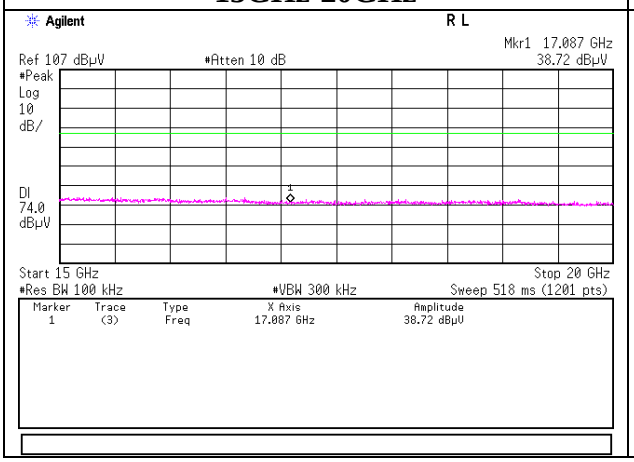
5GHz-10GHz



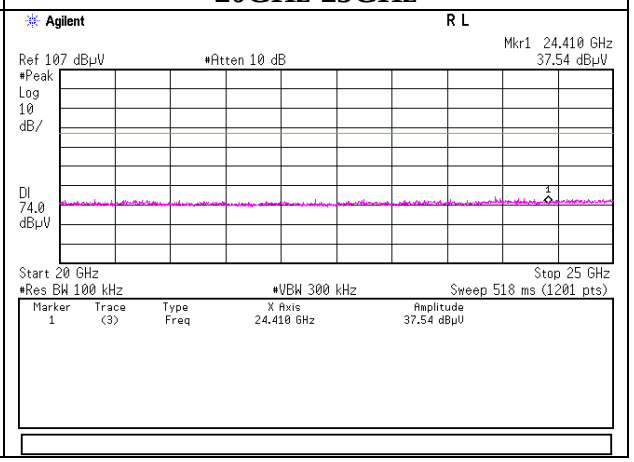
10GHz-15GHz



15GHz-20GHz



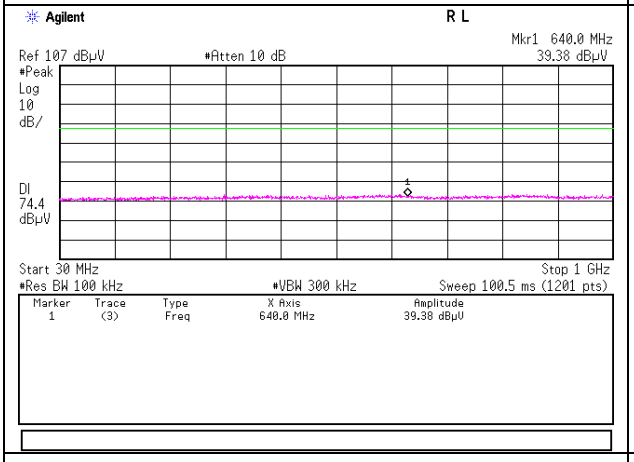
20GHz-25GHz



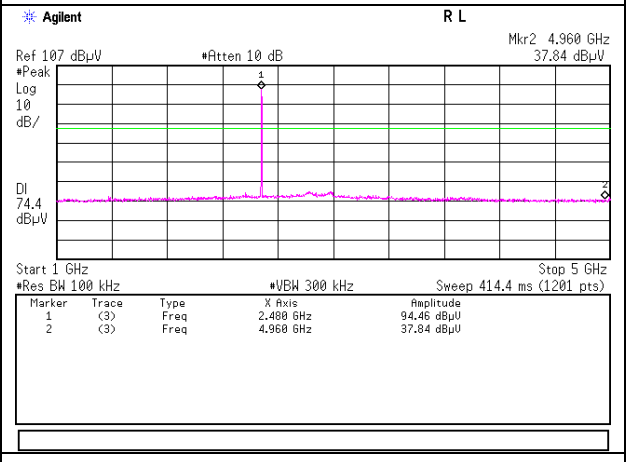
Conducted Spurious Emission

Tx 3DH5 2480MHz

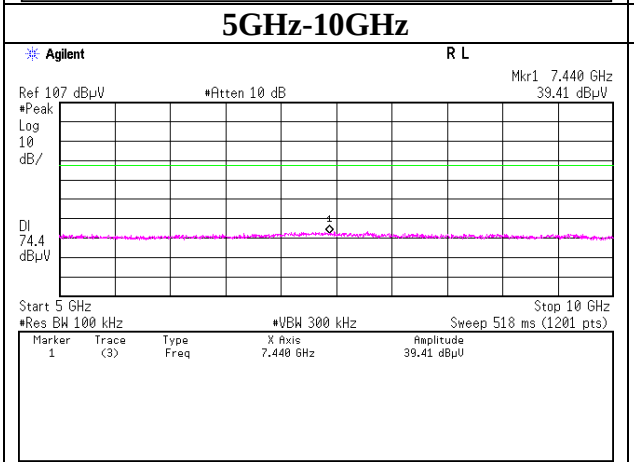
30MHz-1GHz



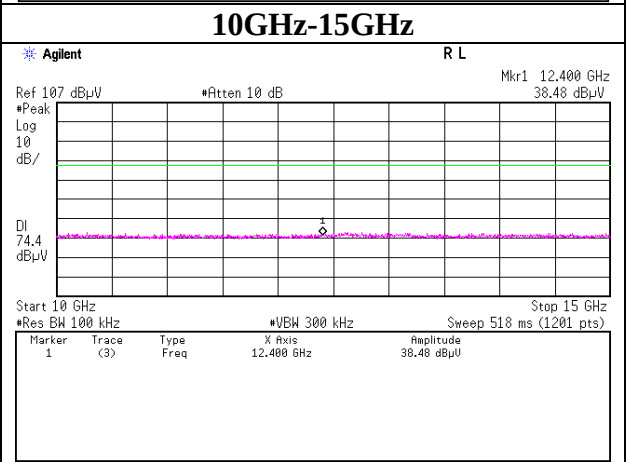
1GHz-5GHz



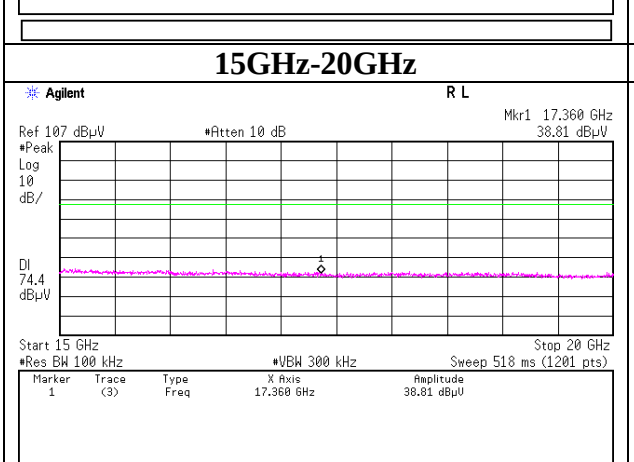
5GHz-10GHz



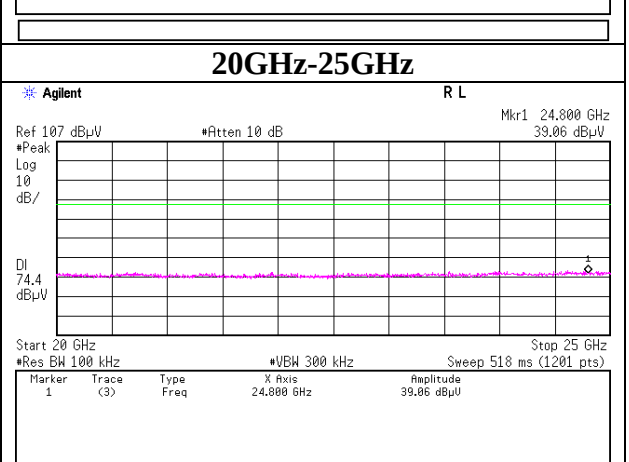
10GHz-15GHz



15GHz-20GHz



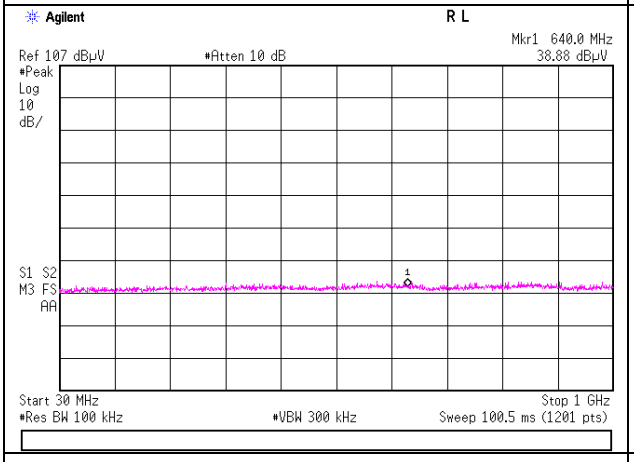
20GHz-25GHz



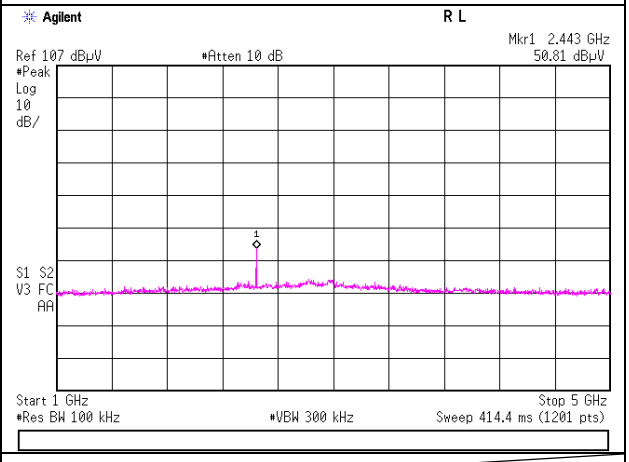
Conducted Spurious Emission

Rx 2441MHz

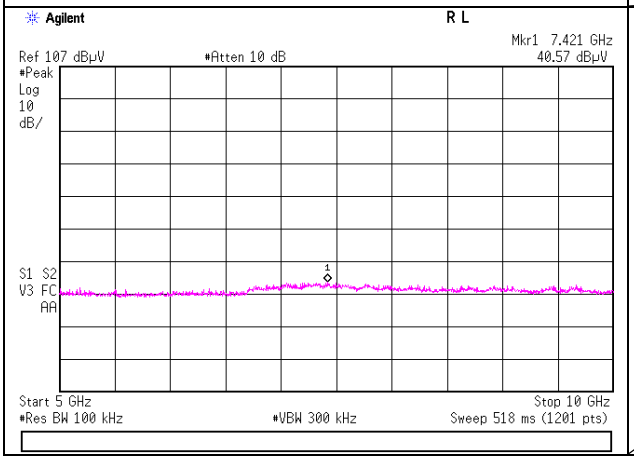
30MHz-1GHz



1GHz-5GHz



5GHz-10GHz



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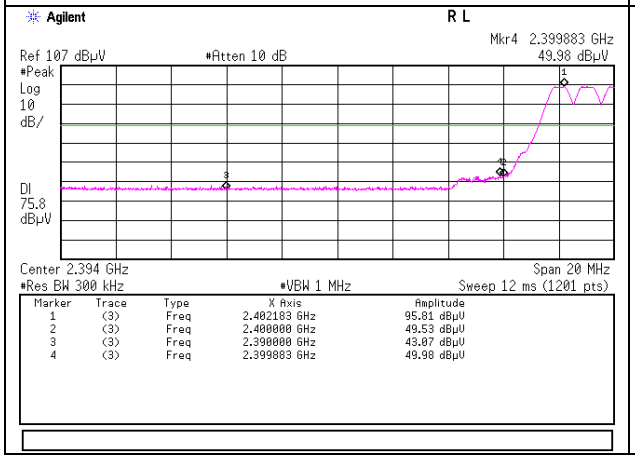
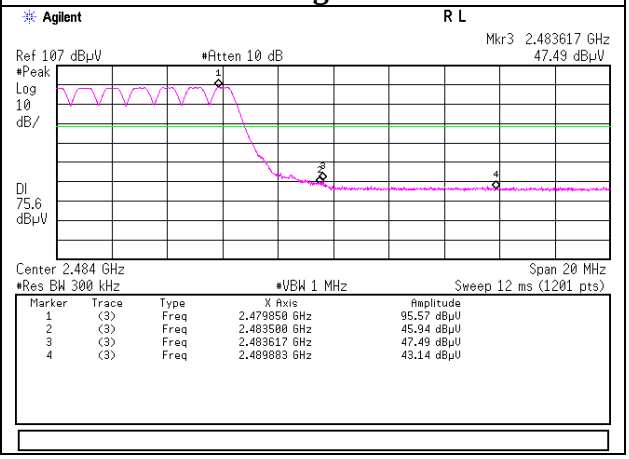
Conducted Emission Band Edge compliance

Tx DH5, Hopping on

Low

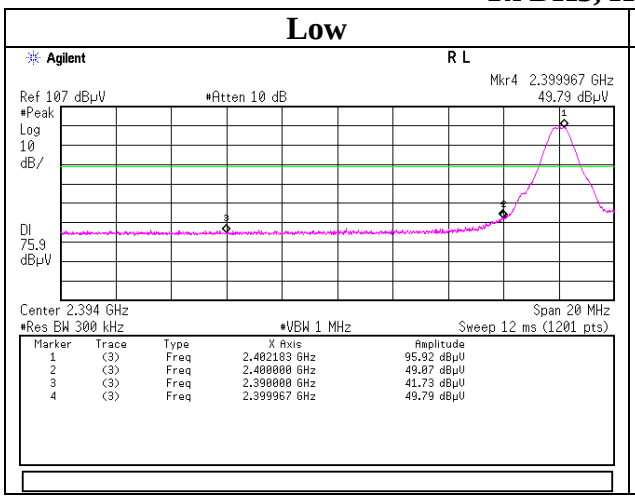


High



Tx DH5, Hopping off

Low



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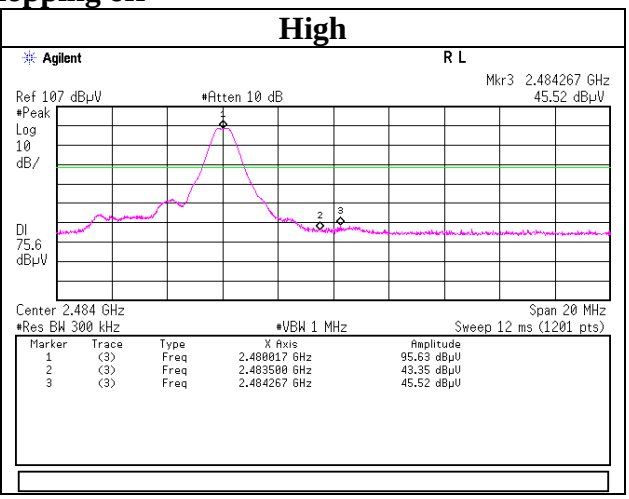
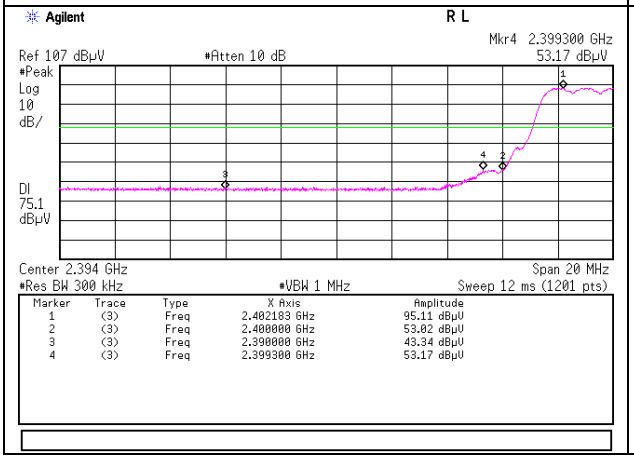


Conducted Emission Band Edge compliance

Tx 3DH5, Hopping on

Low



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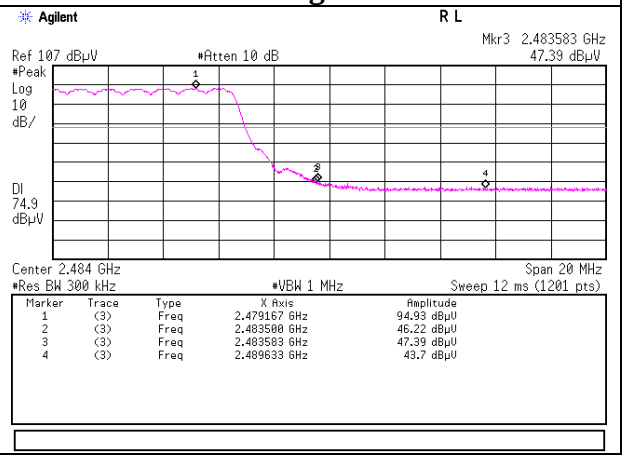
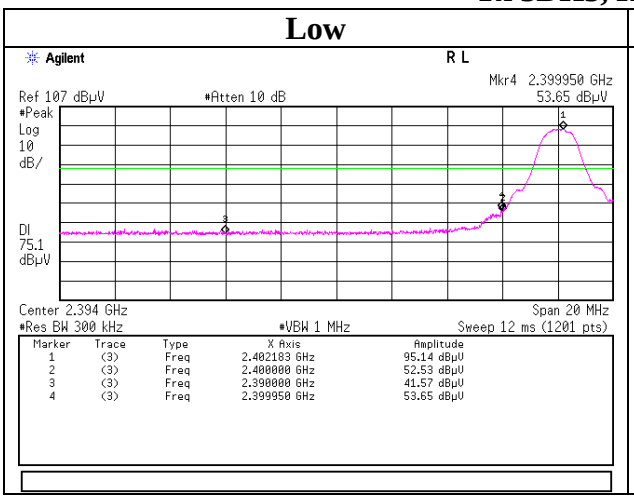
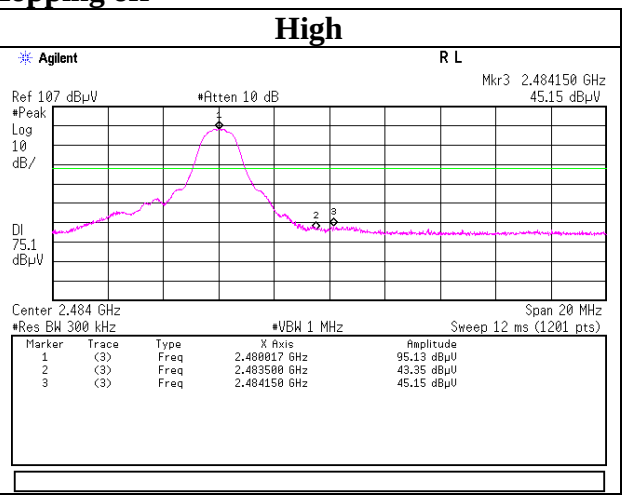


Tx 3DH5, Hopping off

Low



High



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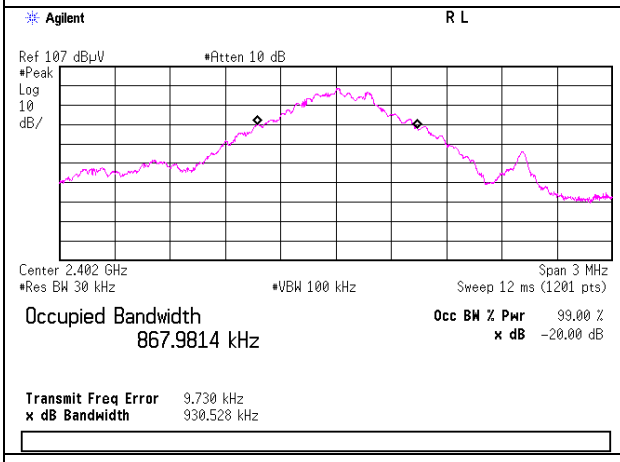
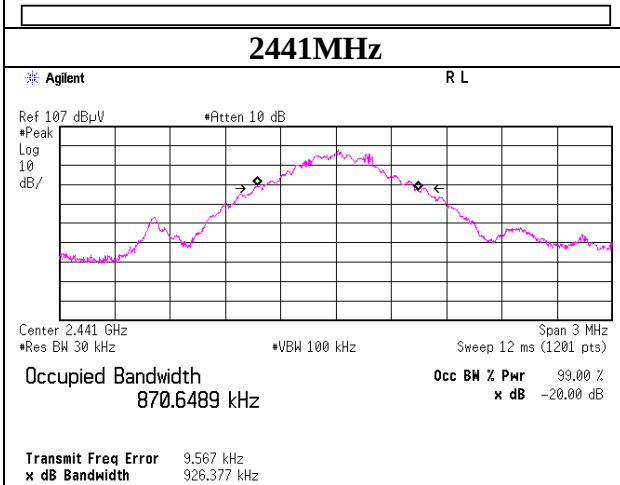
99%Occupied Bandwidth

Tx DH5, Hopping off

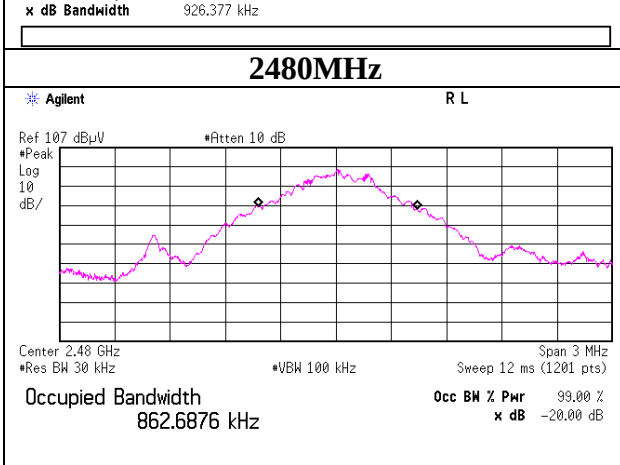
2402MHz



2441MHz

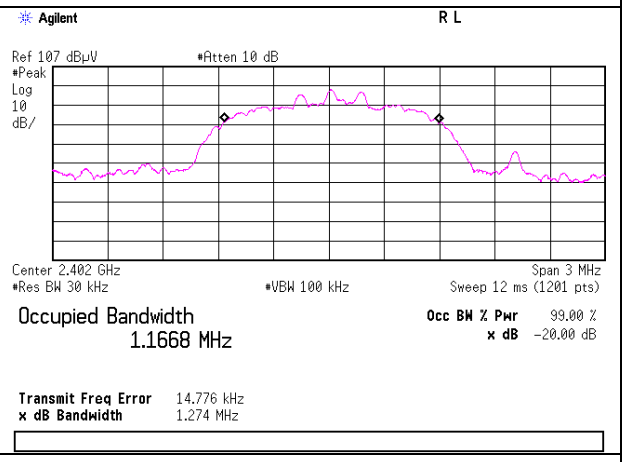


2480MHz

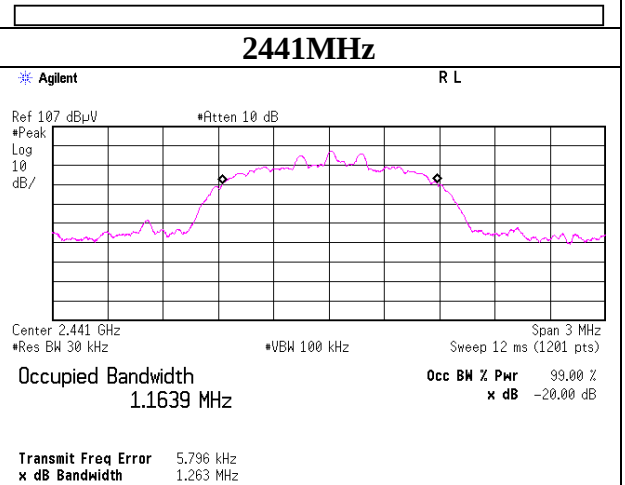


Tx 3DH5, Hopping off

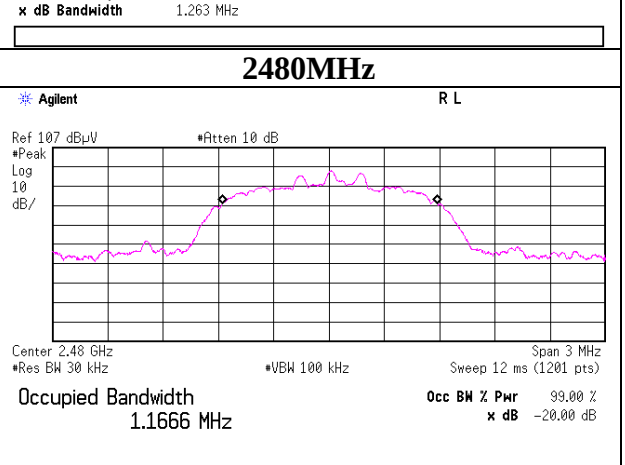
2402MHz



2441MHz

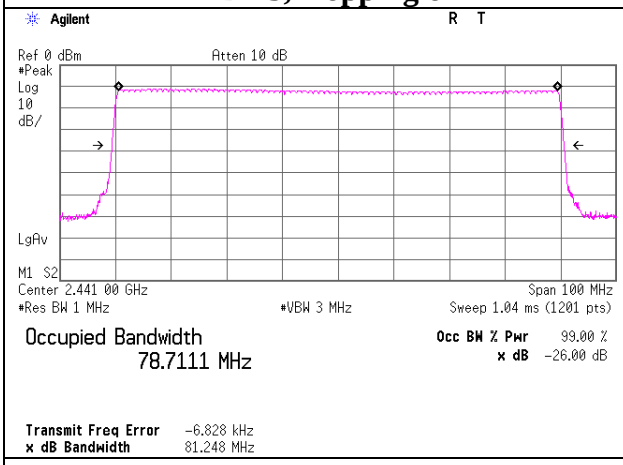


2480MHz

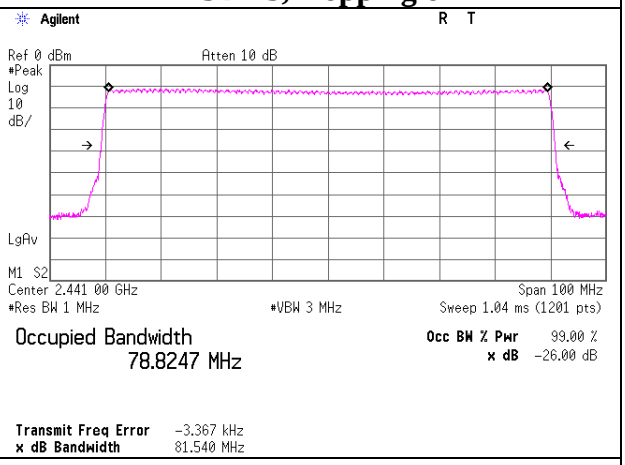


99% Occupied Bandwidth

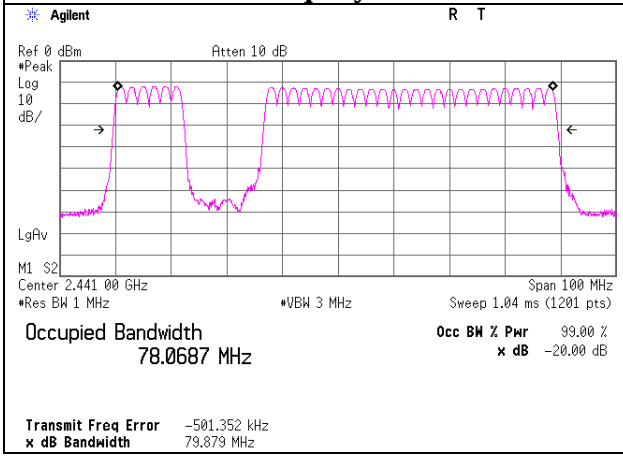
Tx DH5, Hopping on



Tx 3DH5, Hopping on



Inquiry



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APPENDIX 3: Test instruments

EMI test equipment (1/2)

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MAEC-04	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE	2010/02/02 * 12
MOS-15	Thermo-Hygrometer	Custom	CTH-180	-	RE	2010/02/09 * 12
MJM-07	Measure	PROMART	SEN1955	-	RE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE	-
MSA-10	Spectrum Analyzer	Agilent	E4448A	MY46180655	RE/AT	2010/02/03 * 12
MHA-21	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	9120D-557	RE	2010/08/08 * 12
MCC-57	Microwave Cable	Suhner	SUCOFLEX104	267195/4(0.6m) / 292411(5m)	RE	2010/11/26 * 12
MPA-12	MicroWave System Amplifier	Agilent	83017A	MY39500780	RE	2010/03/16 * 12
MCC-114	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	290212/4	AT	2010/08/05 * 12
MAT-21	Attenuator(20dB)(above1GHz)	HIROSE ELECTRIC CO.,LTD.	AT-120	901247	AT	2011/01/06 * 12
MAEC-02	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-06902	RE/CE	2010/09/01 * 12
MOS-22	Thermo-Hygrometer	Custom	CTH-201	0003	RE/CE	2010/02/09 * 12
MJM-05	Measure	PROMART	SEN1955	-	RE/CE	-
MHA-06	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	254	RE	2011/01/16 * 12
MPA-10	Pre Amplifier	Agilent	8449B	3008A02142	RE	2010/09/30 * 12
MHA-02	Horn Antenna 18-26.5GHz	EMCO	3160-09	1265	RE	2011/01/16 * 12
MHF-06	High Pass Filter 3.5-24GHz	TOKIMEC	TF323DCA	601	RE	2010/05/19 * 12
MSA-03	Spectrum Analyzer	Agilent	E4448A	MY44020357	RE	2010/11/30 * 12
MTR-03	Test Receiver	Rohde & Schwarz	ESCI	100300	RE	2010/04/19 * 12
MBA-02	Biconical Antenna	Schwarzbeck	BBA9106	VHA91032008	RE	2010/10/11 * 12
MLA-02	Logperiodic Antenna	Schwarzbeck	USLP9143	201	RE	2010/10/11 * 12
MCC-12	Coaxial Cable	Fujikura/Agilent	-	-	RE	2010/02/22 * 12
MAT-07	Attenuator(6dB)	Weinschel Corp	2	BK7970	RE	2010/11/05 * 12
MPA-09	Pre Amplifier	Agilent	8447D	2944A10845	RE	2010/09/09 * 12

EMI test equipment (2/2)

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MLS-07	LISN(AMN)	Schwarzbeck	NSLK8127	8127364	CE(EUT)	2010/02/05 * 12
MCC-13	Coaxial Cable	Fujikura	3D-2W(12m)/5D-2W(5m)/5D-2W(0.8m)/5D-2W(1m)	-	CE	2010/02/22 * 12
MAT-65	Attenuator(13dB)	JFW Industries, Inc.	50FP-013H2 N	-	CE	2010/02/04 * 12
MPM-08	Power Meter	Anritsu	ML2495A	6K00003338	AT	2010/09/10 * 12
MPSE-11	Power sensor	Anritsu	MA2411B	011737	AT	2010/09/10 * 12
MAT-24	Attenuator(10dB)(above1GHz)	Agilent	8493C	71389	AT	2010/06/14 * 12
MOS-14	Thermo-Hygrometer	Custom	CTH-201	-	AT	2010/05/19 * 12

The expiration date of the calibration is the end of the expired month.
All equipment is calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.

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

Test Item: CE: Conducted Emission
RE: Radiated Emission
AT: Antenna Terminal Conducted test