

## APPENDIX 2: Data of EMI test

### 20dB Bandwidth and Carrier Frequency Separation

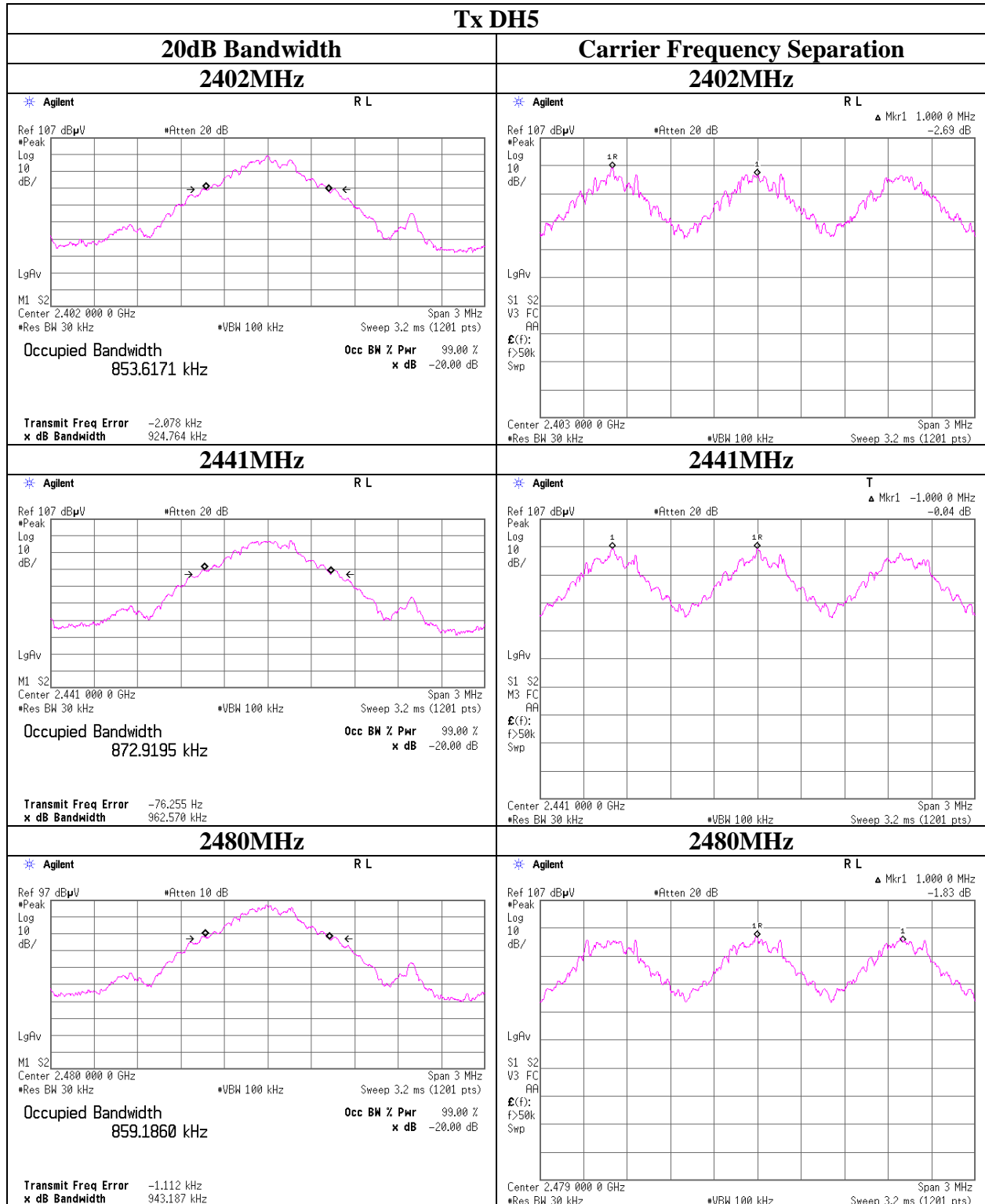
Test place Head Office EMC Lab. No.3 Measurement Room  
Report No. 31JE0049-HO-01  
Date 05/25/2011  
Temperature/ Humidity 23 deg.C / 57% RH  
Engineer Tomohisa Nakagawa  
Mode Tx (Hopping on&off) DH5/3DH5

Mode	Freq. [MHz]	20dB Bandwidth [MHz]	Carrier Frequency Separation [MHz]	Limit for Carrier Frequency separation [MHz]
DH5	2402.0	0.925	1.000	$\geq 0.617$
DH5	2441.0	0.963	1.000	$\geq 0.642$
DH5	2480.0	0.943	1.000	$\geq 0.629$
3DH5	2402.0	1.295	1.000	$\geq 0.863$
3DH5	2441.0	1.285	1.000	$\geq 0.857$
3DH5	2480.0	1.278	1.000	$\geq 0.852$

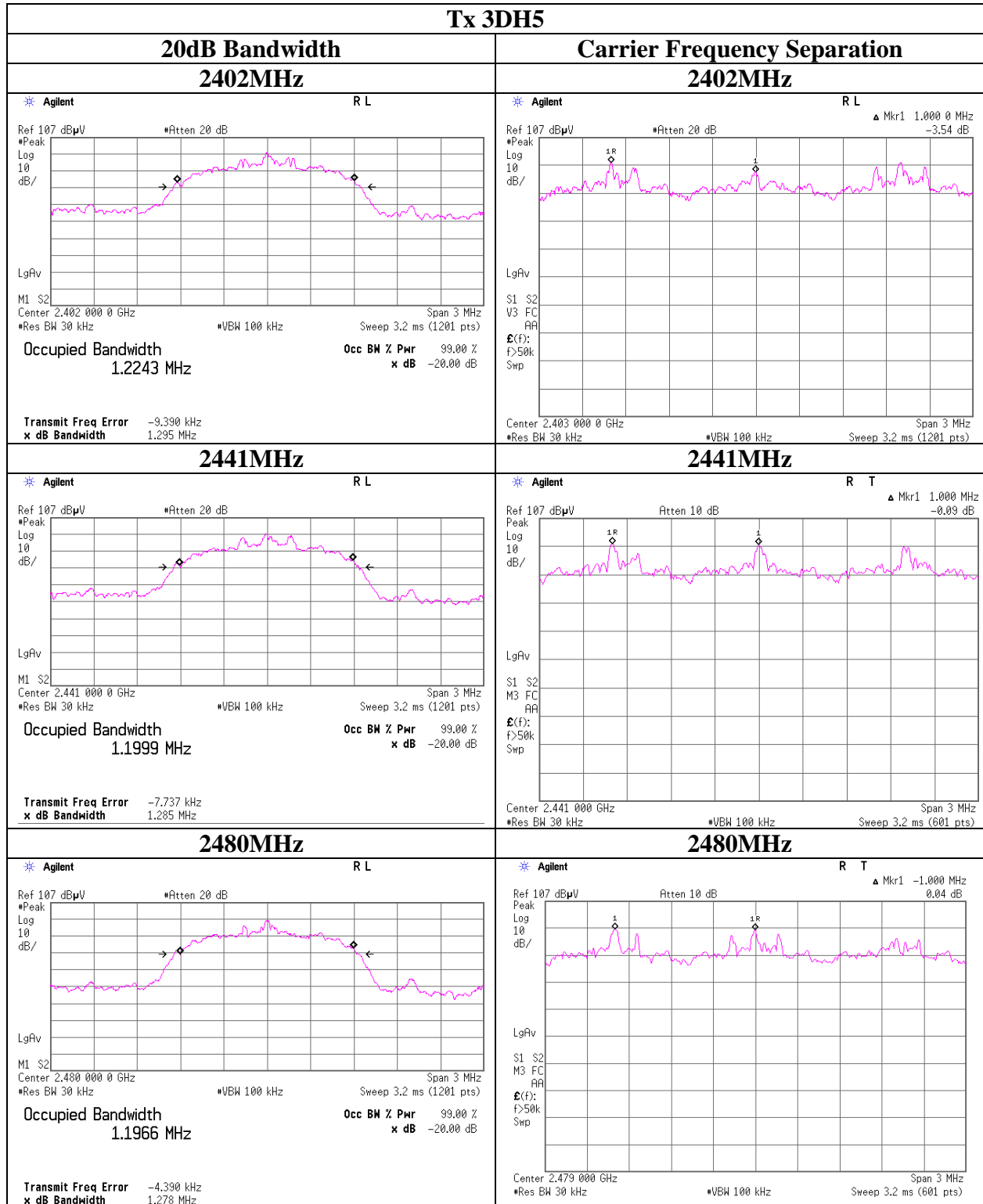
Limit: Two-thirds of 20dB Bandwidth or 25kHz (whichever is greater).

No limit applies to 20dB Bandwidth.

**20dB Bandwidth and Carrier Frequency Separation**



**20dB Bandwidth and Carrier Frequency Separation**

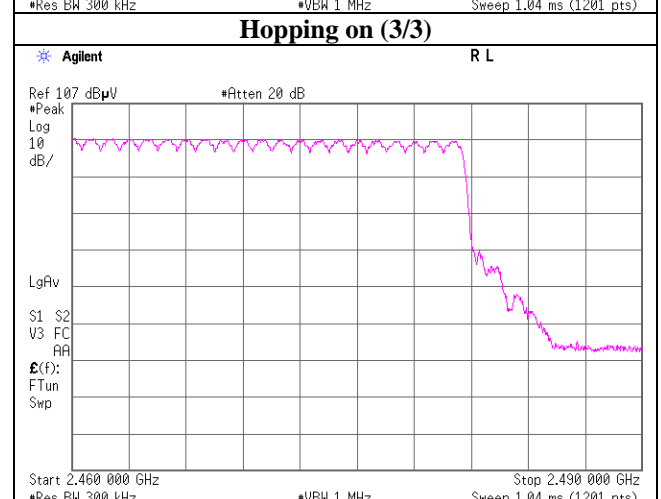
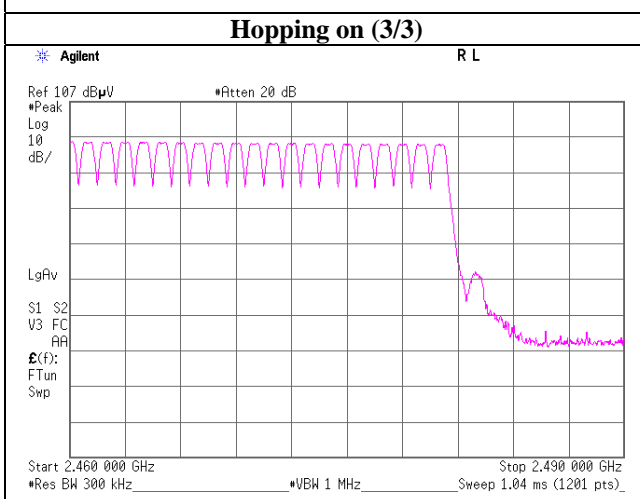
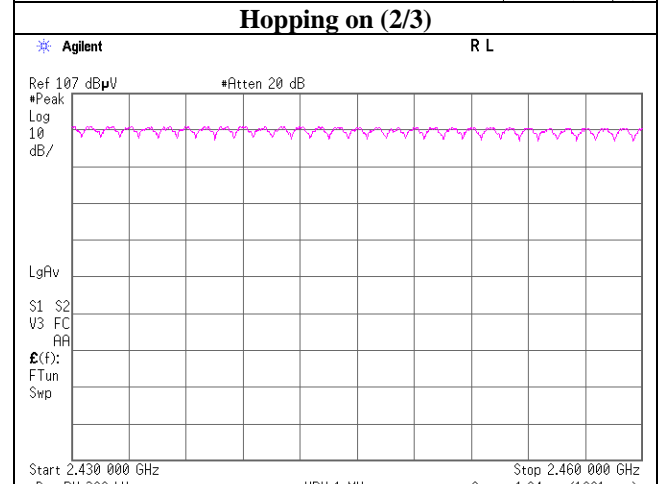
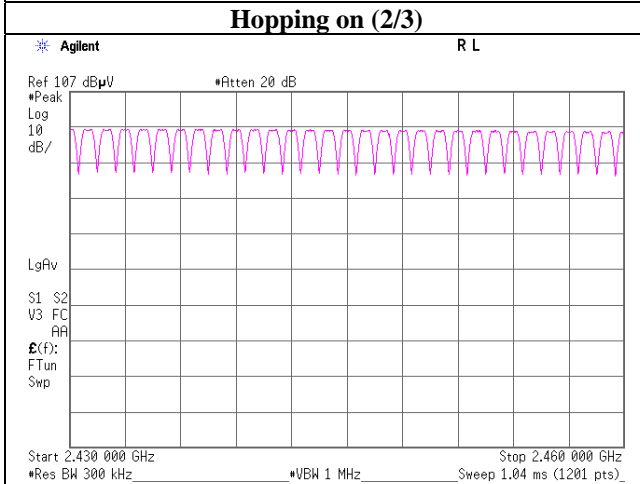
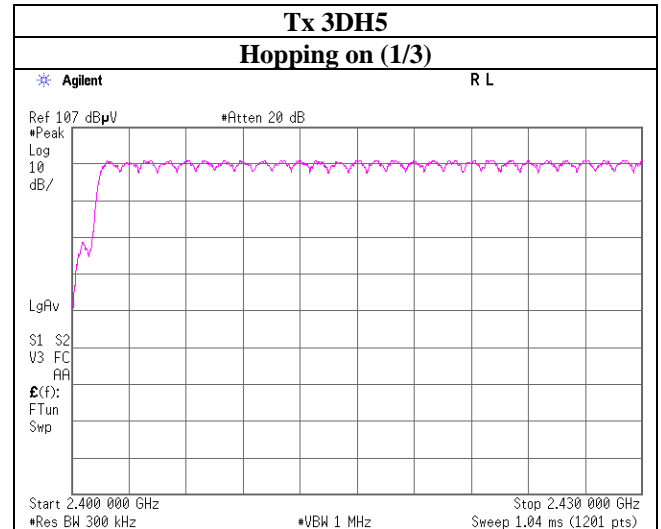
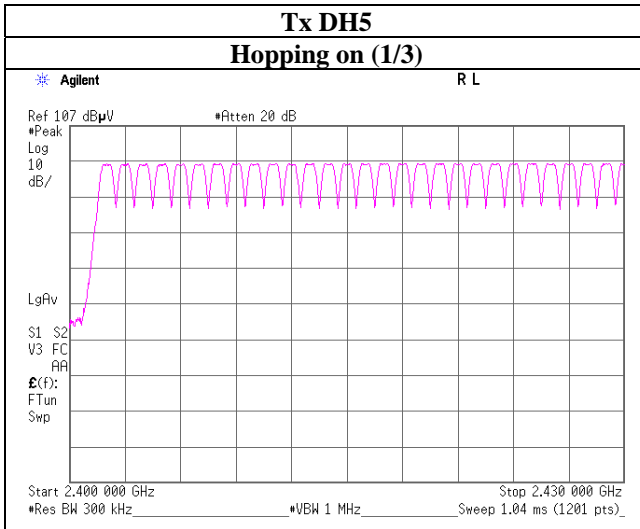


### Number of Hopping Frequency

Test place                      Head Office EMC Lab. No.3 Measurement Room  
Report No.                      31JE0049-HO-01  
Date                              05/25/2011  
Temperature/ Humidity        23 deg.C / 57% RH  
Engineer                        Tomohisa Nakagawa  
Mode                              Tx (Hopping on) DH5/3DH5

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

## Number of Hopping Frequency

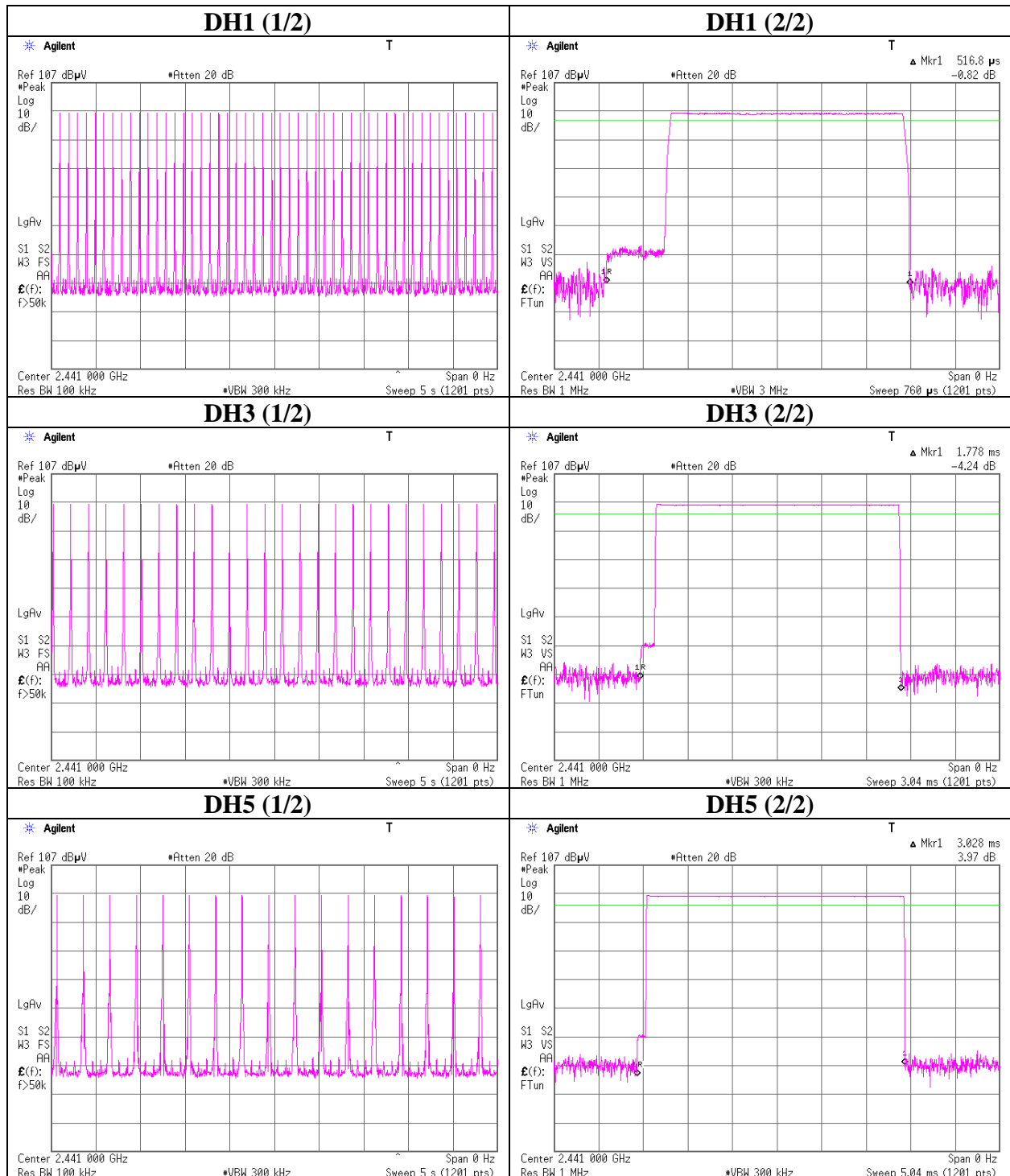


### Dwell time

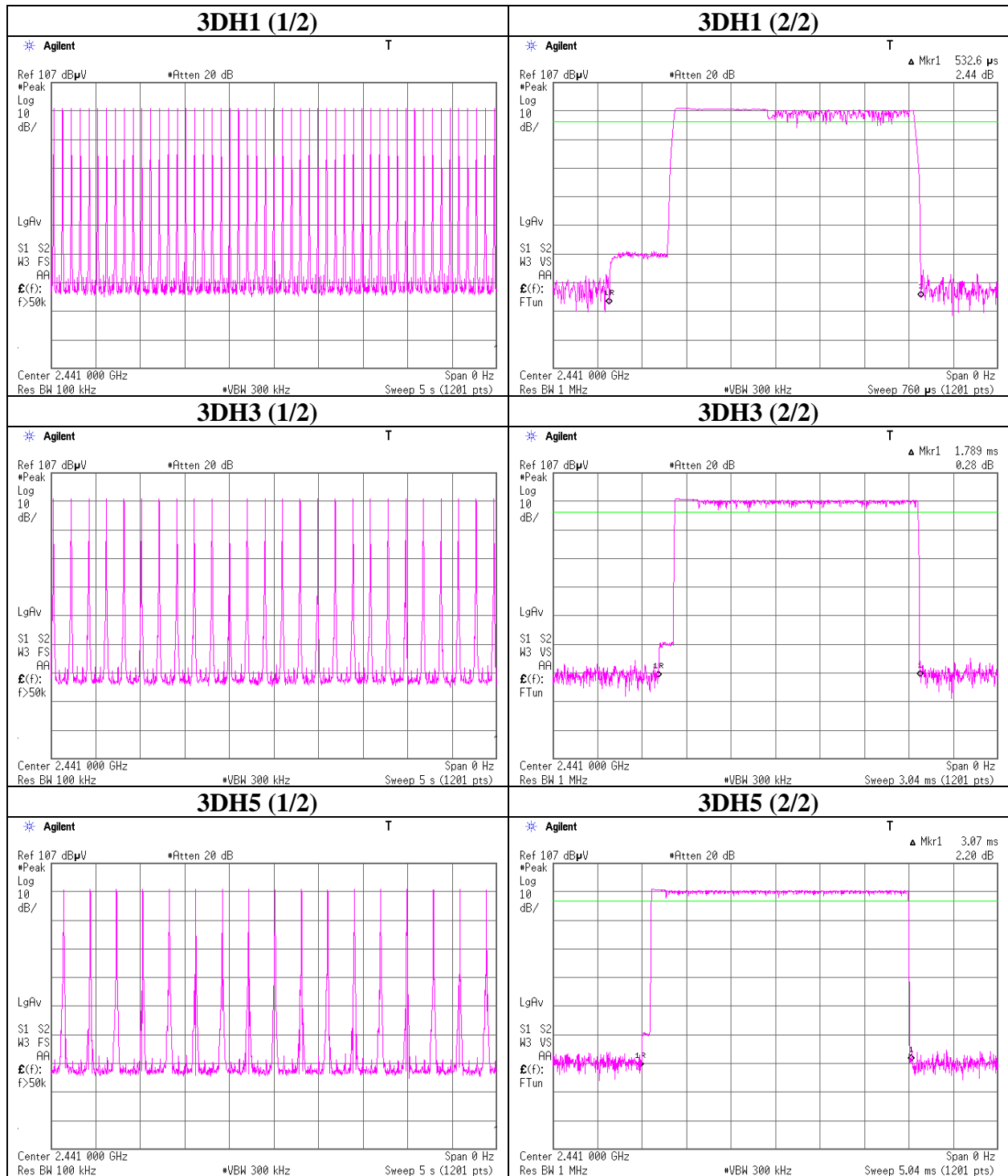
Test place Head Office EMC Lab. No.3 Measurement Room  
Report No. 31JE0049-HO-01  
Date 05/25/2011  
Temperature/ Humidity 23 deg.C / 57% RH  
Engineer Tomohisa Nakagawa  
Mode Tx (Hopping on) DH5/3DH5

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	0.517	167	400
DH3	26.0 times / 5 sec. x	31.6 sec. =	165 times	1.778	293	400
DH5	17.0 times / 5 sec. x	31.6 sec. =	108 times	3.028	327	400
3DH1	51.0 times / 5 sec. x	31.6 sec. =	323 times	0.533	172	400
3DH3	26.0 times / 5 sec. x	31.6 sec. =	165 times	1.789	295	400
3DH5	17.0 times / 5 sec. x	31.6 sec. =	108 times	3.070	332	400

**Dwell time**



### Dwell time





## Maximum Peak Output Power

Test place                      Head Office EMC Lab. No.3 Measurement Room  
Report No.                      31JE0049-HO-01  
Date                              05/25/2011  
Temperature/ Humidity        23 deg.C / 57% RH  
Engineer                        Tomohisa Nakagawa  
Mode                              Tx (Hopping off) DH5/3DH5

Mode	Freq. [MHz]	Reading [dBm]	Cable Loss [dB]	Atten. [dB]	Result		Limit		Margin [dB]
					[dBm]	[mW]	[dBm]	[mW]	
DH5	2402.0	-10.52	1.67	9.97	1.12	1.29	20.97	125	19.85
DH5	2441.0	-10.54	1.67	9.97	1.10	1.29	20.97	125	19.87
DH5	2480.0	-11.84	1.68	9.97	-0.19	0.96	20.97	125	21.16
3DH5	2402.0	-8.28	1.67	9.97	3.36	2.17	20.97	125	17.61
3DH5	2441.0	-8.51	1.67	9.97	3.13	2.06	20.97	125	17.84
3DH5	2480.0	-9.53	1.68	9.97	2.12	1.63	20.97	125	18.85

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.

## Radiated Spurious Emission

Test place Head Office EMC Lab. No.2 and No.3 Semi Anechoic Chamber  
Report No. 31JE0049-HO-01  
Date 05/23/2011 05/25/2011 05/26/2011  
Temperature/ Humidity 23 deg.C / 57% RH 22 deg.C / 54% RH 23 deg.C / 50% RH  
Engineer Tomohisa Nakagawa  
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	95.990	QP	22.7	9.5	8.1	32.1	8.2	43.5	35.3	
Hori	135.964	QP	35.3	14.1	8.5	32.1	25.8	43.5	17.7	
Hori	256.261	QP	45.1	17.6	9.6	32.0	40.3	46.0	5.7	
Hori	302.800	QP	45.7	15.3	9.9	32.0	38.9	46.0	7.1	
Hori	471.992	QP	40.0	17.9	11.0	32.0	36.9	46.0	9.1	
Hori	576.009	QP	37.0	19.1	11.6	31.9	35.8	46.0	10.2	
Hori	1601.963	PK	46.4	25.8	2.6	33.0	41.8	73.9	32.1	
Hori	2390.000	PK	44.6	27.4	3.0	32.4	42.6	73.9	31.3	
Hori	2400.000	PK	63.0	27.4	3.1	32.4	61.1	73.9	12.8	
Hori	3204.120	PK	49.0	28.7	3.5	32.2	49.0	73.9	24.9	
Hori	4007.000	PK	43.7	30.2	5.4	31.6	47.7	73.9	26.2	
Hori	4804.000	PK	47.6	31.3	5.2	31.4	52.7	73.9	21.2	
Hori	7206.000	PK	42.8	35.5	5.8	31.6	52.5	73.9	21.4	
Hori	9608.000	PK	43.6	38.4	6.5	31.9	56.6	73.9	17.3	
Hori	24020.000	PK	43.9	40.5	-0.9	29.6	53.9	73.9	20.0	
Hori	1601.963	AV	39.6	25.8	2.6	33.0	35.0	53.9	18.9	
Hori	3204.120	AV	44.0	28.7	3.5	32.2	44.0	53.9	9.9	
Hori	4007.000	AV	31.1	30.2	5.4	31.6	35.1	53.9	18.8	
Vert	95.990	QP	42.6	9.5	8.1	32.1	28.1	43.5	15.4	
Vert	135.964	QP	42.5	14.1	8.5	32.1	33.0	43.5	10.5	
Vert	256.261	QP	37.9	17.6	9.6	32.0	33.1	46.0	12.9	
Vert	302.800	QP	34.9	15.3	9.9	32.0	28.1	46.0	17.9	
Vert	471.992	QP	40.0	17.9	11.0	32.0	36.9	46.0	9.1	
Vert	576.009	QP	38.3	19.1	11.6	31.9	37.1	46.0	8.9	
Vert	1601.963	PK	45.3	25.8	2.6	33.0	40.7	73.9	33.2	
Vert	2390.000	PK	44.0	27.4	3.0	32.4	42.0	73.9	31.9	
Vert	2400.000	PK	59.5	27.4	3.1	32.4	57.6	73.9	16.3	
Vert	3204.120	PK	49.6	28.7	3.5	32.2	49.6	73.9	24.3	
Vert	4007.000	PK	43.3	30.2	5.4	31.6	47.3	73.9	26.7	
Vert	4804.000	PK	51.2	31.3	5.2	31.4	56.3	73.9	17.6	
Vert	7206.000	PK	42.2	35.5	5.8	31.6	51.9	73.9	22.0	
Vert	9608.000	PK	43.6	38.4	6.5	31.9	56.6	73.9	17.3	
Vert	24020.000	PK	43.9	40.5	-0.9	29.6	53.9	73.9	20.0	
Vert	1601.963	AV	39.1	25.8	2.6	33.0	34.5	53.9	19.4	
Vert	3204.120	AV	45.2	28.7	3.5	32.2	45.2	53.9	8.7	
Vert	4007.000	AV	30.9	30.2	5.4	31.6	34.9	53.9	19.0	

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

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

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

\*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 and No.3 Semi Anechoic Chamber		
Report No.	31JE0049-HO-01		
Date	05/23/2011	05/25/2011	05/26/2011
Temperature/ Humidity	23 deg.C / 57% RH	22 deg.C / 54% RH	23 deg.C / 50% RH
Engineer	Tomohisa Nakagawa		
Mode	Tx, DH5 2402MHz		

### Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2390.000	AV	32.6	27.4	3.0	32.4	-24.2	6.4	53.9	47.5	
Hori	2400.000	AV	54.7	27.4	3.1	32.4	-24.2	28.6	53.9	25.3	
Hori	4804.000	AV	42.4	31.3	5.2	31.4	-24.2	23.3	53.9	30.6	
Hori	7206.000	AV	30.4	35.5	5.8	31.6	-24.2	15.9	53.9	38.0	
Hori	9608.000	AV	31.4	38.4	6.5	31.9	-24.2	20.2	53.9	33.7	
Hori	24020.000	AV	31.8	40.5	-0.9	29.6	-24.2	17.6	53.9	36.3	
Vert	2390.000	AV	31.8	27.4	3.0	32.4	-24.2	5.6	53.9	48.3	
Vert	2400.000	AV	51.3	27.4	3.1	32.4	-24.2	25.2	53.9	28.7	
Vert	4804.000	AV	47.3	31.3	5.2	31.4	-24.2	28.2	53.9	25.7	
Vert	7206.000	AV	30.4	35.5	5.8	31.6	-24.2	15.9	53.9	38.0	
Vert	9608.000	AV	31.5	38.4	6.5	31.9	-24.2	20.3	53.9	33.6	
Vert	24020.000	AV	31.9	40.5	-0.9	29.6	-24.2	17.7	53.9	36.2	

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

- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

\*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 and No.3 Semi Anechoic Chamber  
Report No. 31JE0049-HO-01  
Date 05/23/2011 05/25/2011 05/26/2011  
Temperature/ Humidity 23 deg.C / 57% RH 22 deg.C / 54% RH 23 deg.C / 50% RH  
Engineer Tomohisa Nakagawa  
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	96.012	QP	22.8	9.5	8.1	32.1	8.3	43.5	35.2	
Hori	135.061	QP	32.0	14.0	8.5	32.1	22.4	43.5	21.1	
Hori	256.261	QP	45.0	17.6	9.6	32.0	40.2	46.0	5.8	
Hori	319.982	QP	46.0	15.7	10.0	32.0	39.7	46.0	6.3	
Hori	480.023	QP	41.0	18.0	11.1	32.0	38.1	46.0	7.9	
Hori	575.971	QP	36.3	19.1	11.6	31.9	35.1	46.0	10.9	
Hori	1626.767	PK	47.4	25.8	2.6	32.9	42.9	73.9	31.0	
Hori	3253.287	PK	49.4	28.8	3.5	32.1	49.6	73.9	24.3	
Hori	4070.000	PK	44.2	30.2	5.4	31.6	48.2	73.9	25.7	
Hori	4882.000	PK	45.5	31.5	5.3	31.3	51.0	73.9	22.9	
Hori	7323.000	PK	41.4	35.7	5.9	31.6	51.4	73.9	22.5	
Hori	9764.000	PK	43.3	38.5	6.5	31.8	56.5	73.9	17.4	
Hori	24410.000	PK	44.1	40.4	-0.9	29.5	54.1	73.9	19.8	
Hori	1626.767	AV	42.2	25.8	2.6	32.9	37.7	53.9	16.2	
Hori	3253.287	AV	45.4	28.8	3.5	32.1	45.6	53.9	8.3	
Hori	4070.000	AV	32.1	30.2	5.4	31.6	36.1	53.9	17.8	
Vert	96.012	QP	42.4	9.5	8.1	32.1	27.9	43.5	15.6	
Vert	135.061	QP	42.6	14.0	8.5	32.1	33.0	43.5	10.5	
Vert	256.994	QP	37.1	17.7	9.6	32.0	32.4	46.0	13.6	
Vert	319.982	QP	35.0	15.7	10.0	32.0	28.7	46.0	17.3	
Vert	480.023	QP	39.1	18.0	11.1	32.0	36.2	46.0	9.8	
Vert	575.971	QP	38.0	19.1	11.6	31.9	36.8	46.0	9.2	
Vert	1626.767	PK	44.8	25.8	2.6	32.9	40.3	73.9	33.6	
Vert	3253.287	PK	50.4	28.8	3.5	32.1	50.6	73.9	23.3	
Vert	4070.000	PK	44.4	30.2	5.4	31.6	48.4	73.9	25.5	
Vert	4882.000	PK	47.4	31.5	5.3	31.3	52.9	73.9	21.0	
Vert	7323.000	PK	42.1	35.7	5.9	31.6	52.1	73.9	21.8	
Vert	9764.000	PK	43.2	38.5	6.5	31.8	56.4	73.9	17.5	
Vert	24410.000	PK	43.1	40.4	-0.9	29.5	53.1	73.9	20.8	
Vert	1626.767	AV	36.8	25.8	2.6	32.9	32.3	53.9	21.6	
Vert	3253.287	AV	47.2	28.8	3.5	32.1	47.4	53.9	6.5	
Vert	4070.000	AV	31.9	30.2	5.4	31.6	35.9	53.9	18.0	

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

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

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

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

\*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 and No.3 Semi Anechoic Chamber  
Report No. 31JE0049-HO-01  
Date 05/23/2011 05/25/2011 05/26/2011  
Temperature/ Humidity 23 deg.C / 57% RH 22 deg.C / 54% RH 23 deg.C / 50% RH  
Engineer Tomohisa Nakagawa  
Mode Tx, DH5 2441MHz

### Dwell time factor relaxation

Polarity	Frequency	Detector	Reading	Ant Factor	Loss	Gain	Dwell Factor	Result	Limit	Margin	Remark
	[MHz]		[dBuV]	[dB/m]	[dB]	[dB]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
Hori	4882.000	AV	37.8	31.5	5.3	31.3	-24.2	19.1	53.9	34.8	
Hori	7323.000	AV	29.9	35.7	5.9	31.6	-24.2	15.7	53.9	38.2	
Hori	9764.000	AV	31.1	38.5	6.5	31.8	-24.2	20.1	53.9	33.8	
Hori	24410.000	AV	31.5	40.4	-0.9	29.5	-24.2	17.3	53.9	36.6	
Vert	4882.000	AV	42.3	31.5	5.3	31.3	-24.2	23.6	53.9	30.3	
Vert	7323.000	AV	29.9	35.7	5.9	31.6	-24.2	15.7	53.9	38.2	
Vert	9764.000	AV	31.3	38.5	6.5	31.8	-24.2	20.3	53.9	33.6	
Vert	24410.000	AV	31.5	40.4	-0.9	29.5	-24.2	17.3	53.9	36.6	

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

- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

\*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:  $10\text{GHz}-26.5\text{GHz}$   $20\log(3.0\text{m}/1.0\text{m})= 9.5\text{dB}$

\*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 and No.3 Semi Anechoic Chamber  
Report No. 31JE0049-HO-01  
Date 05/23/2011 05/25/2011 05/26/2011  
Temperature/ Humidity 23 deg.C / 57% RH 22 deg.C / 54% RH 23 deg.C / 50% RH  
Engineer Tomohisa Nakagawa  
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	96.005	QP	22.4	9.5	8.1	32.1	7.9	43.5	35.6	
Hori	135.986	QP	35.4	14.1	8.5	32.1	25.9	43.5	17.6	
Hori	256.004	QP	44.5	17.6	9.6	32.0	39.7	46.0	6.3	
Hori	319.994	QP	46.3	15.7	10.0	32.0	40.0	46.0	6.0	
Hori	480.032	QP	41.2	18.0	11.1	32.0	38.3	46.0	7.7	
Hori	575.977	QP	37.1	19.1	11.6	31.9	35.9	46.0	10.1	
Hori	1652.763	PK	47.0	25.9	2.6	32.9	42.6	73.9	31.3	
Hori	2483.500	PK	49.0	27.6	3.1	32.4	47.3	73.9	26.6	
Hori	3305.355	PK	51.5	28.9	3.5	32.1	51.8	73.9	22.1	
Hori	4137.000	PK	42.8	30.3	5.5	31.5	47.1	73.9	26.8	
Hori	4960.000	PK	42.5	31.7	5.3	31.3	48.2	73.9	25.7	
Hori	7440.000	PK	41.8	35.8	6.0	31.7	51.9	73.9	22.0	
Hori	9920.000	PK	43.8	38.7	6.7	31.8	57.4	73.9	16.5	
Hori	24800.000	PK	44.8	40.3	-0.9	29.4	54.8	73.9	19.1	
Hori	1652.763	AV	41.6	25.9	2.6	32.9	37.2	53.9	16.7	
Hori	3305.355	AV	48.3	28.9	3.5	32.1	48.6	53.9	5.3	
Hori	4137.000	AV	31.6	30.3	5.5	31.5	35.9	53.9	18.1	
Vert	96.005	QP	42.7	9.5	8.1	32.1	28.2	43.5	15.3	
Vert	135.986	QP	43.2	14.1	8.5	32.1	33.7	43.5	9.8	
Vert	256.004	QP	37.0	17.6	9.6	32.0	32.2	46.0	13.8	
Vert	319.994	QP	35.5	15.7	10.0	32.0	29.2	46.0	16.8	
Vert	480.032	QP	40.5	18.0	11.1	32.0	37.6	46.0	8.4	
Vert	575.977	QP	38.4	19.1	11.6	31.9	37.2	46.0	8.8	
Vert	1652.763	PK	44.8	25.9	2.6	32.9	40.4	73.9	33.5	
Vert	2483.500	PK	47.3	27.6	3.1	32.4	45.6	73.9	28.3	
Vert	3305.355	PK	51.6	28.9	3.5	32.1	51.9	73.9	22.0	
Vert	4137.000	PK	43.9	30.3	5.5	31.5	48.2	73.9	25.7	
Vert	4960.000	PK	45.7	31.7	5.3	31.3	51.4	73.9	22.5	
Vert	7440.000	PK	41.9	35.8	6.0	31.7	52.0	73.9	21.9	
Vert	9920.000	PK	42.5	38.7	6.7	31.8	56.1	73.9	17.8	
Vert	24800.000	PK	44.5	40.3	-0.9	29.4	54.5	73.9	19.4	
Vert	1652.763	AV	36.9	25.9	2.6	32.9	32.5	53.9	21.4	
Vert	3305.355	AV	48.4	28.9	3.5	32.1	48.7	53.9	5.2	
Vert	4137.000	AV	31.4	30.3	5.5	31.5	35.7	53.9	18.2	
Vert	4960.000	AV	36.1	31.7	5.3	31.3	41.8	53.9	12.1	
Vert	7440.000	AV	29.5	35.8	6.0	31.7	39.6	53.9	14.3	
Vert	9920.000	AV	31.3	38.7	6.7	31.8	44.9	53.9	9.0	
Vert	24800.000	AV	32.5	40.3	-0.9	29.4	42.5	53.9	11.4	

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 and No.3 Semi Anechoic Chamber  
Report No. 31JE0049-HO-01  
Date 05/23/2011 05/25/2011 05/26/2011  
Temperature/ Humidity 23 deg.C / 57% RH 22 deg.C / 54% RH 23 deg.C / 50% RH  
Engineer Tomohisa Nakagawa  
Mode Tx, DH5 2480MHz

### Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2483.500	AV	36.6	27.6	3.1	32.4	-24.2	10.7	53.9	43.2	
Hori	4960.000	AV	32.3	31.7	5.3	31.3	-24.2	13.8	53.9	40.1	
Hori	7440.000	AV	29.5	35.8	6.0	31.7	-24.2	15.4	53.9	38.5	
Hori	9920.000	AV	31.1	38.7	6.7	31.8	-24.2	20.5	53.9	33.4	
Hori	24800.000	AV	32.4	40.3	-0.9	29.4	-24.2	18.2	53.9	35.7	
Vert	2483.500	AV	35.3	27.6	3.1	32.4	-24.2	9.4	53.9	44.5	
Vert	4960.000	AV	36.1	31.7	5.3	31.3	-24.2	17.6	53.9	36.3	
Vert	7440.000	AV	29.5	35.8	6.0	31.7	-24.2	15.4	53.9	38.5	
Vert	9920.000	AV	31.3	38.7	6.7	31.8	-24.2	20.7	53.9	33.2	
Vert	24800.000	AV	32.5	40.3	-0.9	29.4	-24.2	18.3	53.9	35.6	

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

- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

\*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 and No.3 Semi Anechoic Chamber  
Report No. 31JE0049-HO-01  
Date 05/23/2011 05/25/2011 05/26/2011  
Temperature/ Humidity 23 deg.C / 57% RH 22 deg.C / 54% RH 23 deg.C / 50% RH  
Engineer Tomohisa Nakagawa  
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	96.005	QP	29.7	9.5	8.1	32.1	15.2	43.5	28.3	
Hori	135.986	QP	38.5	14.1	8.5	32.1	29.0	43.5	14.5	
Hori	256.011	QP	45.2	17.6	9.6	32.0	40.4	46.0	5.6	
Hori	320.001	QP	41.2	15.7	10.0	32.0	34.9	46.0	11.1	
Hori	479.971	QP	44.0	18.0	11.1	32.0	41.1	46.0	4.9	
Hori	575.977	QP	40.3	19.1	11.6	31.9	39.1	46.0	6.9	
Hori	1601.962	PK	48.2	25.8	2.6	33.0	43.6	73.9	30.3	
Hori	2390.000	PK	45.0	27.4	3.0	32.4	43.0	73.9	30.9	
Hori	2400.000	PK	71.0	27.4	3.1	32.4	69.1	73.9	4.8	
Hori	3203.983	PK	48.2	28.7	3.5	32.2	48.2	73.9	25.7	
Hori	4007.000	PK	43.3	30.2	5.4	31.6	47.3	73.9	26.6	
Hori	4804.000	PK	48.6	31.3	5.2	31.4	53.7	73.9	20.2	
Hori	7206.000	PK	43.2	35.5	5.8	31.6	52.9	73.9	21.0	
Hori	9608.000	PK	43.8	38.4	6.5	31.9	56.8	73.9	17.1	
Hori	24020.000	PK	44.0	40.5	-0.9	29.6	54.0	73.9	19.9	
Hori	1601.962	AV	43.7	25.8	2.6	33.0	39.1	53.9	14.8	
Hori	3203.983	AV	41.7	28.7	3.5	32.2	41.7	53.9	12.2	
Hori	4007.000	AV	31.0	30.2	5.4	31.6	35.0	53.9	18.9	
Vert	96.005	QP	48.7	9.5	8.1	32.1	34.2	43.5	9.3	
Vert	135.986	QP	50.0	14.1	8.5	32.1	40.5	43.5	3.0	
Vert	256.011	QP	40.8	17.6	9.6	32.0	36.0	46.0	10.0	
Vert	320.001	QP	45.0	15.7	10.0	32.0	38.7	46.0	7.3	
Vert	479.971	QP	40.8	18.0	11.1	32.0	37.9	46.0	8.1	
Vert	576.017	QP	42.5	19.1	11.6	31.9	41.3	46.0	4.7	
Vert	1601.962	PK	46.8	25.8	2.6	33.0	42.2	73.9	31.7	
Vert	2390.000	PK	43.1	27.4	3.0	32.4	41.1	73.9	32.8	
Vert	2400.000	PK	70.0	27.4	3.1	32.4	68.1	73.9	5.8	
Vert	3203.983	PK	50.2	28.7	3.5	32.2	50.2	73.9	23.7	
Vert	4007.000	PK	43.3	30.2	5.4	31.6	47.3	73.9	26.6	
Vert	4804.000	PK	51.7	31.3	5.2	31.4	56.8	73.9	17.1	
Vert	7206.000	PK	42.7	35.5	5.8	31.6	52.4	73.9	21.5	
Vert	9608.000	PK	43.5	38.4	6.5	31.9	56.5	73.9	17.4	
Vert	24020.000	PK	43.8	40.5	-0.9	29.6	53.8	73.9	20.1	
Vert	1601.962	AV	39.5	25.8	2.6	33.0	34.9	53.9	19.0	
Vert	3203.983	AV	45.6	28.7	3.5	32.2	45.6	53.9	8.3	
Vert	4007.000	AV	30.8	30.2	5.4	31.6	34.8	53.9	19.1	

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

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

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

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

\*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 and No.3 Semi Anechoic Chamber  
Report No. 31JE0049-HO-01  
Date 05/23/2011 05/25/2011 05/26/2011  
Temperature/ Humidity 23 deg.C / 57% RH 22 deg.C / 54% RH 23 deg.C / 50% RH  
Engineer Tomohisa Nakagawa  
Mode Tx, 3DH5 2402MHz

### Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2390.000	AV	32.6	27.4	3.0	32.4	-24.2	6.4	53.9	47.5	
Hori	2400.000	AV	59.0	27.4	3.1	32.4	-24.2	32.9	53.9	21.0	
Hori	4804.000	AV	40.2	31.3	5.2	31.4	-24.2	21.1	53.9	32.8	
Hori	7206.000	AV	30.4	35.5	5.8	31.6	-24.2	15.9	53.9	38.0	
Hori	9608.000	AV	31.4	38.4	6.5	31.9	-24.2	20.2	53.9	33.7	
Hori	24020.000	AV	31.8	40.5	-0.9	29.6	-24.2	17.6	53.9	36.3	
Vert	2390.000	AV	31.7	27.4	3.0	32.4	-24.2	5.5	53.9	48.4	
Vert	2400.000	AV	58.2	27.4	3.1	32.4	-24.2	32.1	53.9	21.8	
Vert	4804.000	AV	45.4	31.3	5.2	31.4	-24.2	26.3	53.9	27.6	
Vert	7206.000	AV	30.4	35.5	5.8	31.6	-24.2	15.9	53.9	38.0	
Vert	9608.000	AV	31.5	38.4	6.5	31.9	-24.2	20.3	53.9	33.6	
Vert	24020.000	AV	31.9	40.5	-0.9	29.6	-24.2	17.7	53.9	36.2	

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

- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

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

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

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

\*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 and No.3 Semi Anechoic Chamber  
Report No. 31JE0049-HO-01  
Date 05/23/2011 05/25/2011 05/26/2011  
Temperature/ Humidity 23 deg.C / 57% RH 22 deg.C / 54% RH 23 deg.C / 50% RH  
Engineer Tomohisa Nakagawa  
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	96.005	QP	29.7	9.5	8.1	32.1	15.2	43.5	28.3	
Hori	135.986	QP	38.5	14.1	8.5	32.1	29.0	43.5	14.5	
Hori	256.011	QP	45.2	17.6	9.6	32.0	40.4	46.0	5.6	
Hori	320.004	QP	48.2	15.7	10.0	32.0	41.9	46.0	4.1	
Hori	479.996	QP	44.3	18.0	11.1	32.0	41.4	46.0	4.6	
Hori	575.945	QP	40.0	19.1	11.6	31.9	38.8	46.0	7.2	
Hori	1626.767	PK	47.4	25.8	2.6	32.9	42.9	73.9	31.0	
Hori	3253.240	PK	48.8	28.8	3.5	32.1	49.0	73.9	24.9	
Hori	4070.000	PK	44.3	30.2	5.4	31.6	48.3	73.9	25.6	
Hori	4882.000	PK	43.6	31.5	5.3	31.3	49.1	73.9	24.8	
Hori	7323.000	PK	42.3	35.7	5.9	31.6	52.3	73.9	21.6	
Hori	9764.000	PK	43.6	38.5	6.5	31.8	56.8	73.9	17.1	
Hori	24410.000	PK	44.0	40.4	-0.9	29.5	54.0	73.9	19.9	
Hori	1626.767	AV	43.4	25.8	2.6	32.9	38.9	53.9	15.0	
Hori	3253.240	AV	43.4	28.8	3.5	32.1	43.6	53.9	10.3	
Hori	4070.000	AV	31.6	30.2	5.4	31.6	35.6	53.9	18.4	
Vert	96.005	QP	48.7	9.5	8.1	32.1	34.2	43.5	9.3	
Vert	135.986	QP	50.0	14.1	8.5	32.1	40.5	43.5	3.0	
Vert	256.011	QP	40.8	17.6	9.6	32.0	36.0	46.0	10.0	
Vert	320.004	QP	40.5	15.7	10.0	32.0	34.2	46.0	11.8	
Vert	479.996	QP	41.3	18.0	11.1	32.0	38.4	46.0	7.6	
Vert	575.945	QP	40.3	19.1	11.6	31.9	39.1	46.0	6.9	
Vert	1626.767	PK	46.9	25.8	2.6	32.9	42.4	73.9	31.5	
Vert	3253.240	PK	50.5	28.8	3.5	32.1	50.7	73.9	23.2	
Vert	4070.000	PK	44.3	30.2	5.4	31.6	48.3	73.9	25.6	
Vert	4882.000	PK	49.5	31.5	5.3	31.3	55.0	73.9	18.9	
Vert	7323.000	PK	42.5	35.7	5.9	31.6	52.5	73.9	21.4	
Vert	9764.000	PK	43.4	38.5	6.5	31.8	56.6	73.9	17.3	
Vert	24410.000	PK	43.1	40.4	-0.9	29.5	53.1	73.9	20.8	
Vert	1626.767	AV	40.1	25.8	2.6	32.9	35.6	53.9	18.3	
Vert	3253.240	AV	45.6	28.8	3.5	32.1	45.8	53.9	8.1	
Vert	4070.000	AV	31.1	30.2	5.4	31.6	35.1	53.9	18.8	

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

\*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 and No.3 Semi Anechoic Chamber  
Report No. 31JE0049-HO-01  
Date 05/23/2011 05/25/2011 05/26/2011  
Temperature/ Humidity 23 deg.C / 57% RH 22 deg.C / 54% RH 23 deg.C / 50% RH  
Engineer Tomohisa Nakagawa  
Mode Tx, 3DH5 2441MHz

### Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	4882.000	AV	33.3	31.5	5.3	31.3	-24.2	14.6	53.9	39.3	
Hori	7323.000	AV	29.9	35.7	5.9	31.6	-24.2	15.7	53.9	38.2	
Hori	9764.000	AV	31.1	38.5	6.5	31.8	-24.2	20.1	53.9	33.8	
Hori	24410.000	AV	31.6	40.4	-0.9	29.5	-24.2	17.4	53.9	36.5	
Vert	4882.000	AV	40.4	31.5	5.3	31.3	-24.2	21.7	53.9	32.2	
Vert	7323.000	AV	29.9	35.7	5.9	31.6	-24.2	15.7	53.9	38.2	
Vert	9764.000	AV	31.2	38.5	6.5	31.8	-24.2	20.2	53.9	33.7	
Vert	24410.000	AV	31.4	40.4	-0.9	29.5	-24.2	17.2	53.9	36.7	

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

- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

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

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

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

\*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 and No.3 Semi Anechoic Chamber  
Report No. 31JE0049-HO-01  
Date 05/23/2011 05/25/2011 05/26/2011  
Temperature/ Humidity 23 deg.C / 57% RH 22 deg.C / 54% RH 23 deg.C / 50% RH  
Engineer Tomohisa Nakagawa  
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	96.024	QP	33.9	9.5	8.1	32.1	19.4	43.5	24.1	
Hori	136.014	QP	37.3	14.1	8.5	32.1	27.8	43.5	15.7	
Hori	256.014	QP	46.9	17.6	9.6	32.0	42.1	46.0	3.9	
Hori	320.004	QP	46.2	15.7	10.0	32.0	39.9	46.0	6.1	
Hori	479.996	QP	46.2	18.0	11.1	32.0	43.3	46.0	2.7	
Hori	575.945	QP	40.3	19.1	11.6	31.9	39.1	46.0	6.9	
Hori	1652.763	PK	46.4	25.9	2.6	32.9	42.0	73.9	31.9	
Hori	2483.500	PK	52.2	27.6	3.1	32.4	50.5	73.9	23.4	
Hori	3305.355	PK	50.1	28.9	3.5	32.1	50.4	73.9	23.5	
Hori	4137.000	PK	43.9	30.3	5.5	31.5	48.2	73.9	25.8	
Hori	4960.000	PK	41.8	31.7	4.3	31.3	46.5	73.9	27.4	
Hori	7440.000	PK	41.5	35.8	4.8	31.7	50.4	73.9	23.5	
Hori	9920.000	PK	43.1	38.7	5.5	31.8	55.5	73.9	18.4	
Hori	24800.000	PK	44.9	40.3	-0.9	29.4	54.9	73.9	19.0	
Hori	1652.763	AV	40.4	25.9	2.6	32.9	36.0	53.9	17.9	
Hori	3305.355	AV	46.3	28.9	3.5	32.1	46.6	53.9	7.3	
Hori	4137.000	AV	31.4	30.3	5.5	31.5	35.7	53.9	18.2	
Vert	96.024	QP	43.5	9.5	8.1	32.1	29.0	43.5	14.5	
Vert	136.014	QP	49.2	14.1	8.5	32.1	39.7	43.5	3.8	
Vert	256.014	QP	44.6	17.6	9.6	32.0	39.8	46.0	6.2	
Vert	320.004	QP	38.1	15.7	10.0	32.0	31.8	46.0	14.2	
Vert	479.996	QP	45.7	18.0	11.1	32.0	42.8	46.0	3.2	
Vert	575.945	QP	34.7	19.1	11.6	31.9	33.5	46.0	12.5	
Vert	1652.763	PK	44.5	25.9	2.6	32.9	40.1	73.9	33.8	
Vert	2483.500	PK	47.8	27.6	3.1	32.4	46.1	73.9	27.8	
Vert	3305.355	PK	50.2	28.9	3.5	32.1	50.5	73.9	23.4	
Vert	4137.000	PK	43.6	30.3	5.5	31.5	47.9	73.9	26.0	
Vert	4960.000	PK	45.5	31.7	4.3	31.3	50.2	73.9	23.7	
Vert	7440.000	PK	41.9	35.8	4.8	31.7	50.8	73.9	23.1	
Vert	9920.000	PK	43.0	38.7	5.5	31.8	55.4	73.9	18.6	
Vert	24800.000	PK	44.2	40.3	-0.9	29.4	54.2	73.9	19.7	
Vert	1652.763	AV	36.3	25.9	2.6	32.9	31.9	53.9	22.0	
Vert	3305.355	AV	46.7	28.9	3.5	32.1	47.0	53.9	6.9	
Vert	4137.000	AV	31.1	30.3	5.5	31.5	35.4	53.9	18.5	

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 and No.3 Semi Anechoic Chamber  
Report No. 31JE0049-HO-01  
Date 05/23/2011 05/25/2011 05/26/2011  
Temperature/ Humidity 23 deg.C / 57% RH 22 deg.C / 54% RH 23 deg.C / 50% RH  
Engineer Tomohisa Nakagawa  
Mode Tx, 3DH5 2480MHz

### Dwell time factor relaxation

Polarity	Frequency [MHz]	Detector	Reading [dBuV]	Ant Factor [dB/m]	Loss [dB]	Gain [dB]	Dwell Factor [dB]	Result [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Remark
Hori	2483.500	AV	39.5	27.6	3.1	32.4	-24.2	13.6	53.9	40.3	
Hori	4960.000	AV	29.5	31.7	4.3	31.3	-24.2	10.0	53.9	43.9	
Hori	7440.000	AV	29.6	35.8	4.8	31.7	-24.2	14.3	53.9	39.6	
Hori	9920.000	AV	31.0	38.7	5.5	31.8	-24.2	19.2	53.9	34.7	
Hori	24800.000	AV	32.5	40.3	-0.9	29.4	-24.2	18.3	53.9	35.6	
Vert	2483.500	AV	36.0	27.6	3.1	32.4	-24.2	10.1	53.9	43.8	
Vert	4960.000	AV	32.6	31.7	4.3	31.3	-24.2	13.1	53.9	40.8	
Vert	7440.000	AV	29.7	35.8	4.8	31.7	-24.2	14.4	53.9	39.5	
Vert	9920.000	AV	30.9	38.7	5.5	31.8	-24.2	19.1	53.9	34.8	
Vert	24800.000	AV	32.4	40.3	-0.9	29.4	-24.2	18.2	53.9	35.7	

Result = Reading + Ant Factor + Loss (Cable+Attenuator+Filter-Distance factor(above 10GHz))  
- Gain(Amplifier) + Dwell time factor (Refer to dwell time data sheet)

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

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

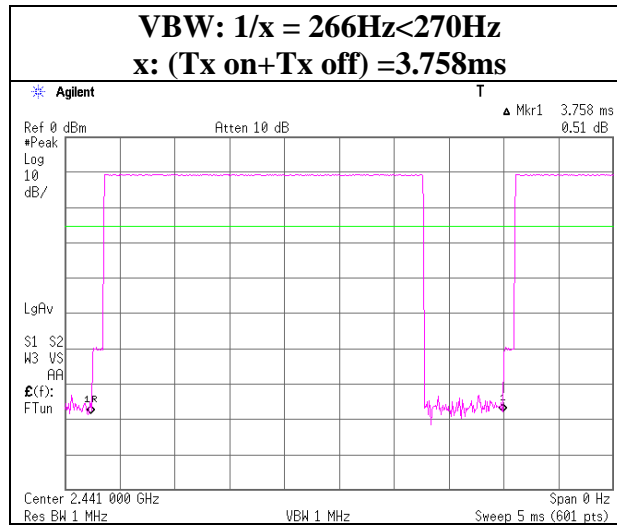
Distance factor: 10GHz-26.5GHz  $20\log(3.0m/1.0m) = 9.5dB$

\*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.

## VBW (AV) Calculation

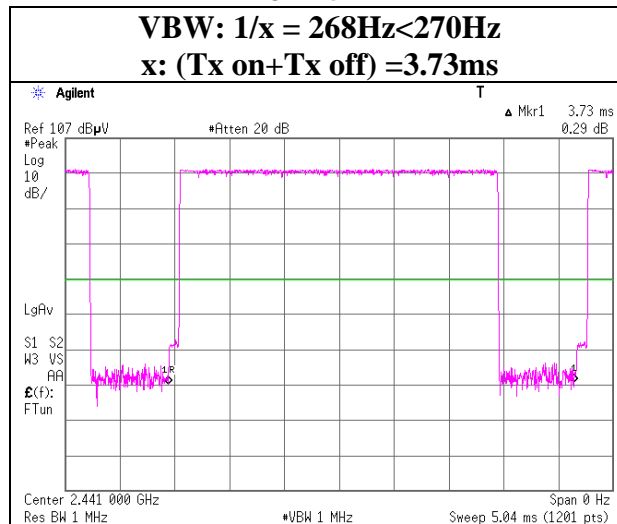
### DH5

**VBW:  $1/x = 266\text{Hz} < 270\text{Hz}$**   
**x: (Tx on+Tx off) = 3.758ms**



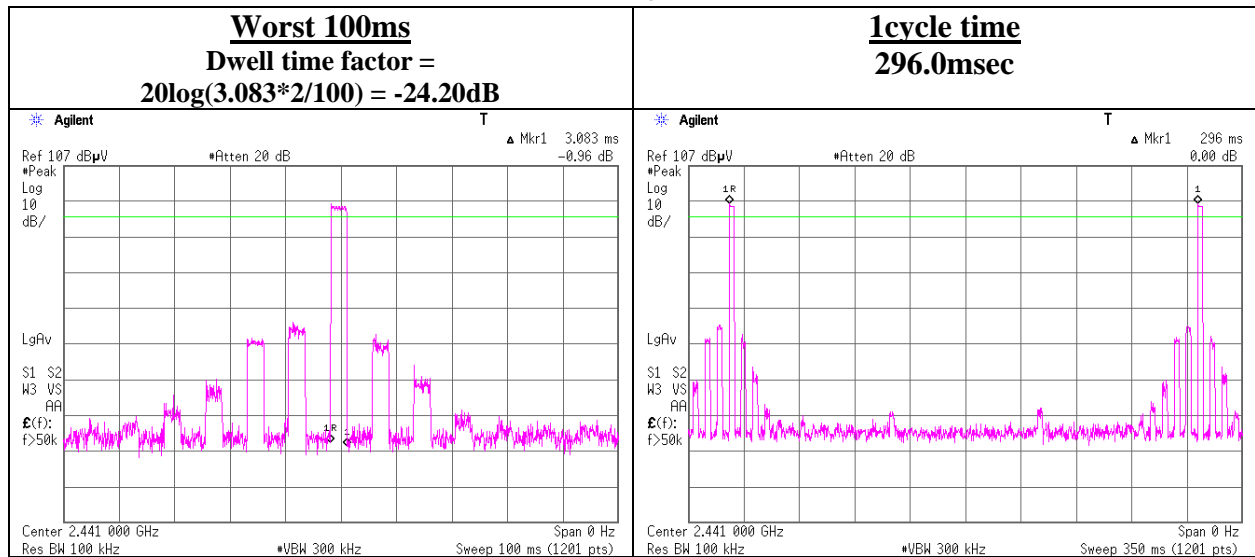
### 3DH5

**VBW:  $1/x = 268\text{Hz} < 270\text{Hz}$**   
**x: (Tx on+Tx off) = 3.73ms**

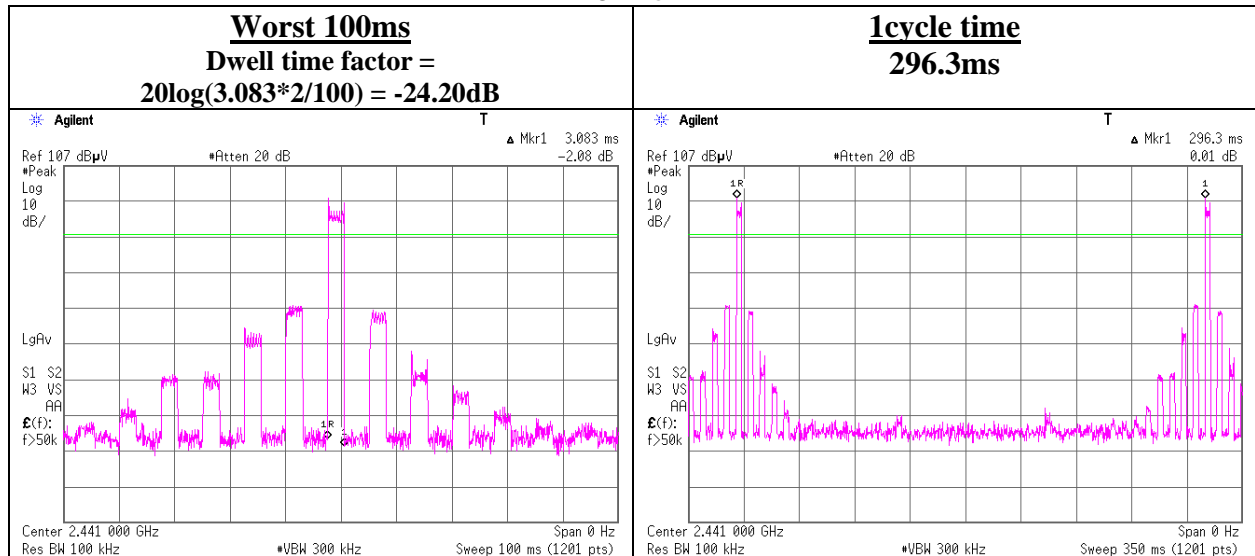


## Dwell time factor

### DH5

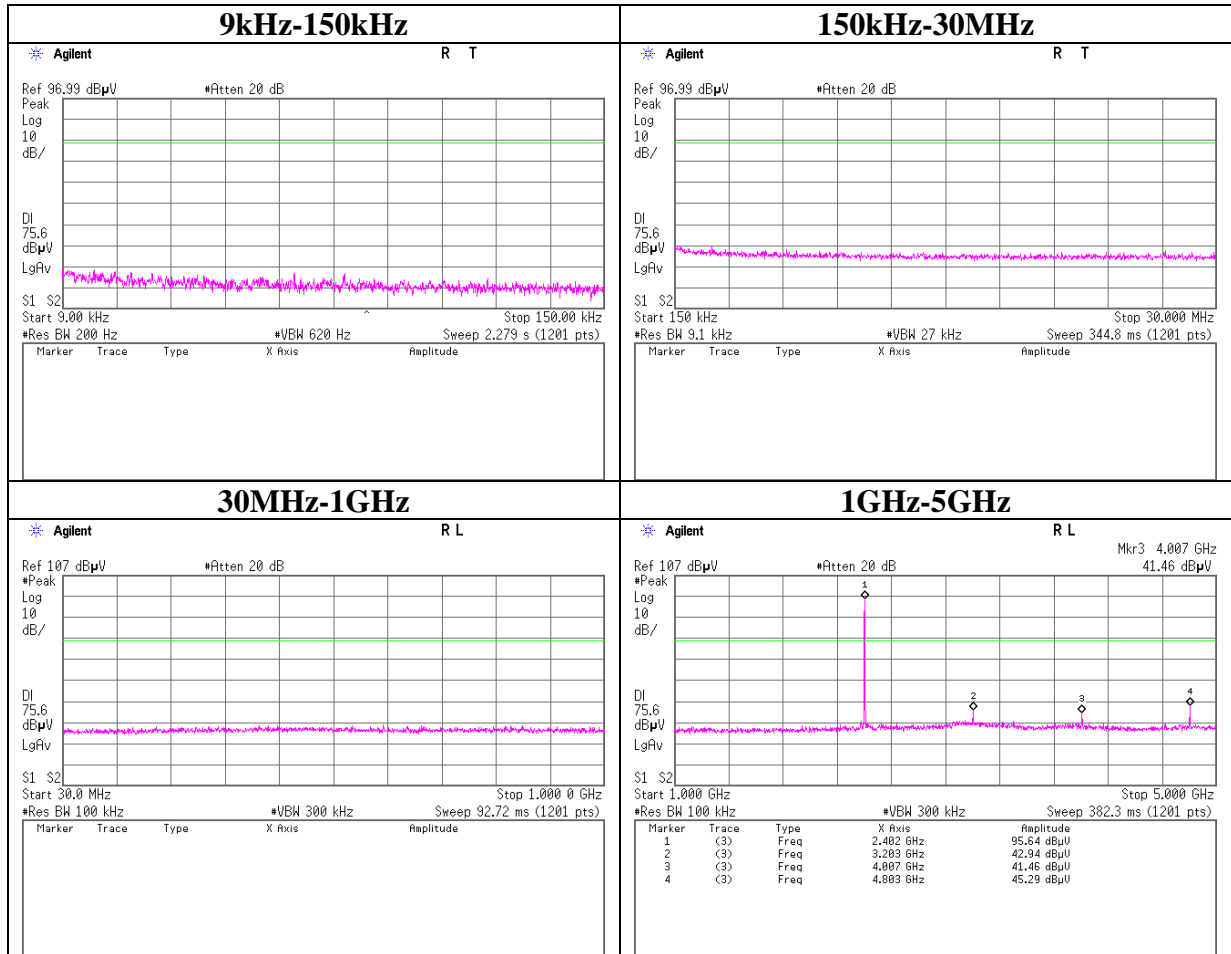


### 3DH5



## Conducted Spurious Emission

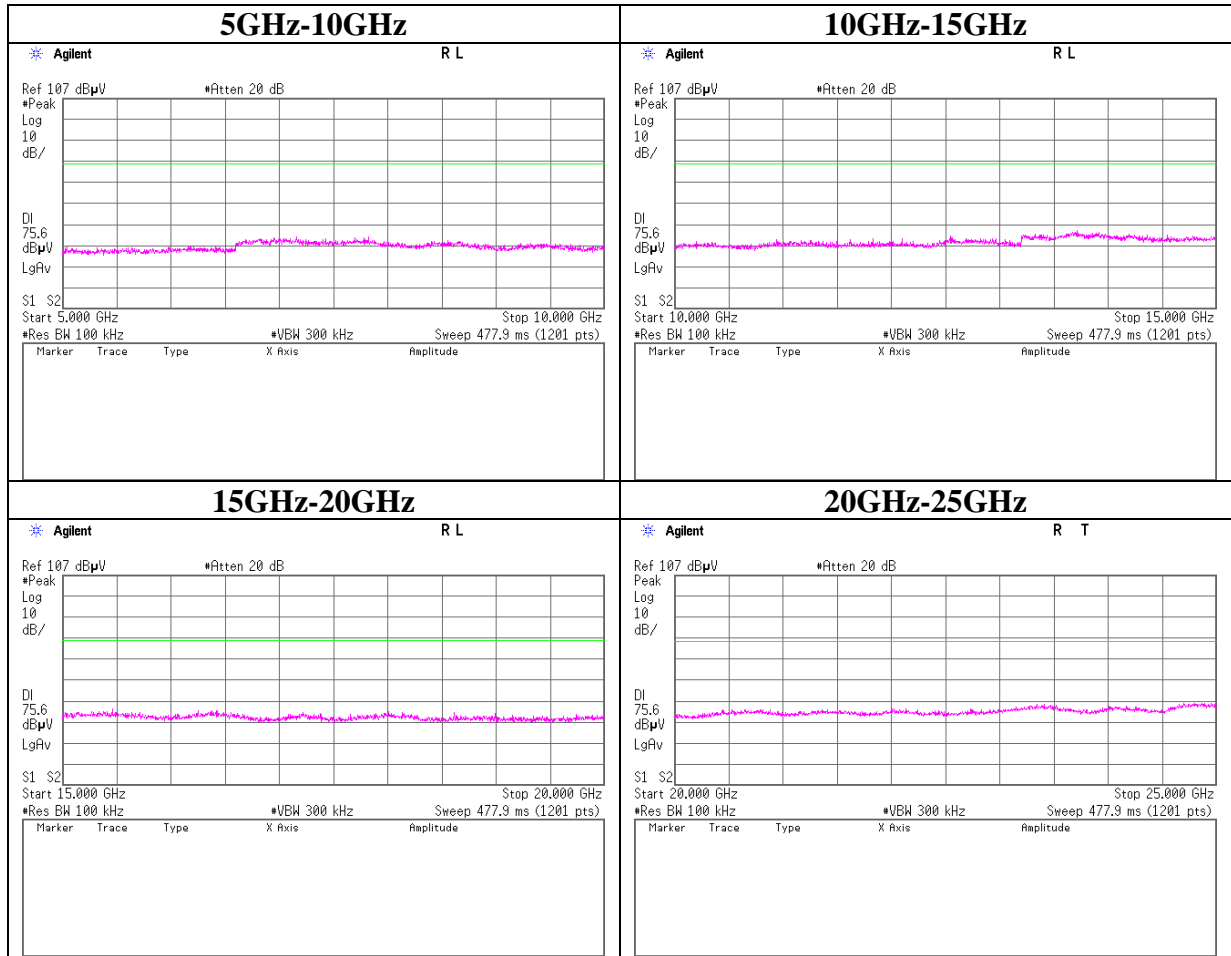
### Tx DH5 2402MHz





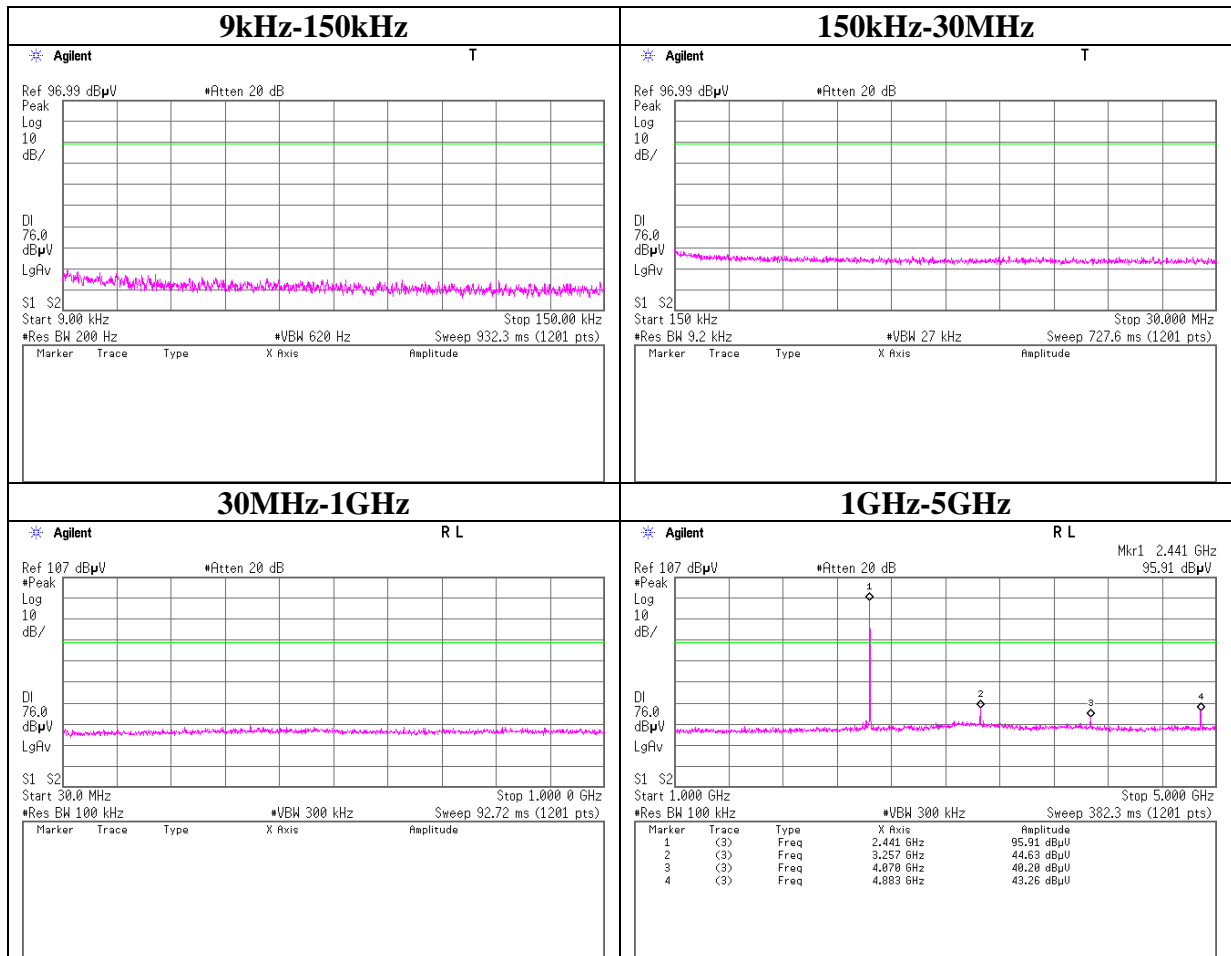
## Conducted Spurious Emission

### Tx DH5 2402MHz



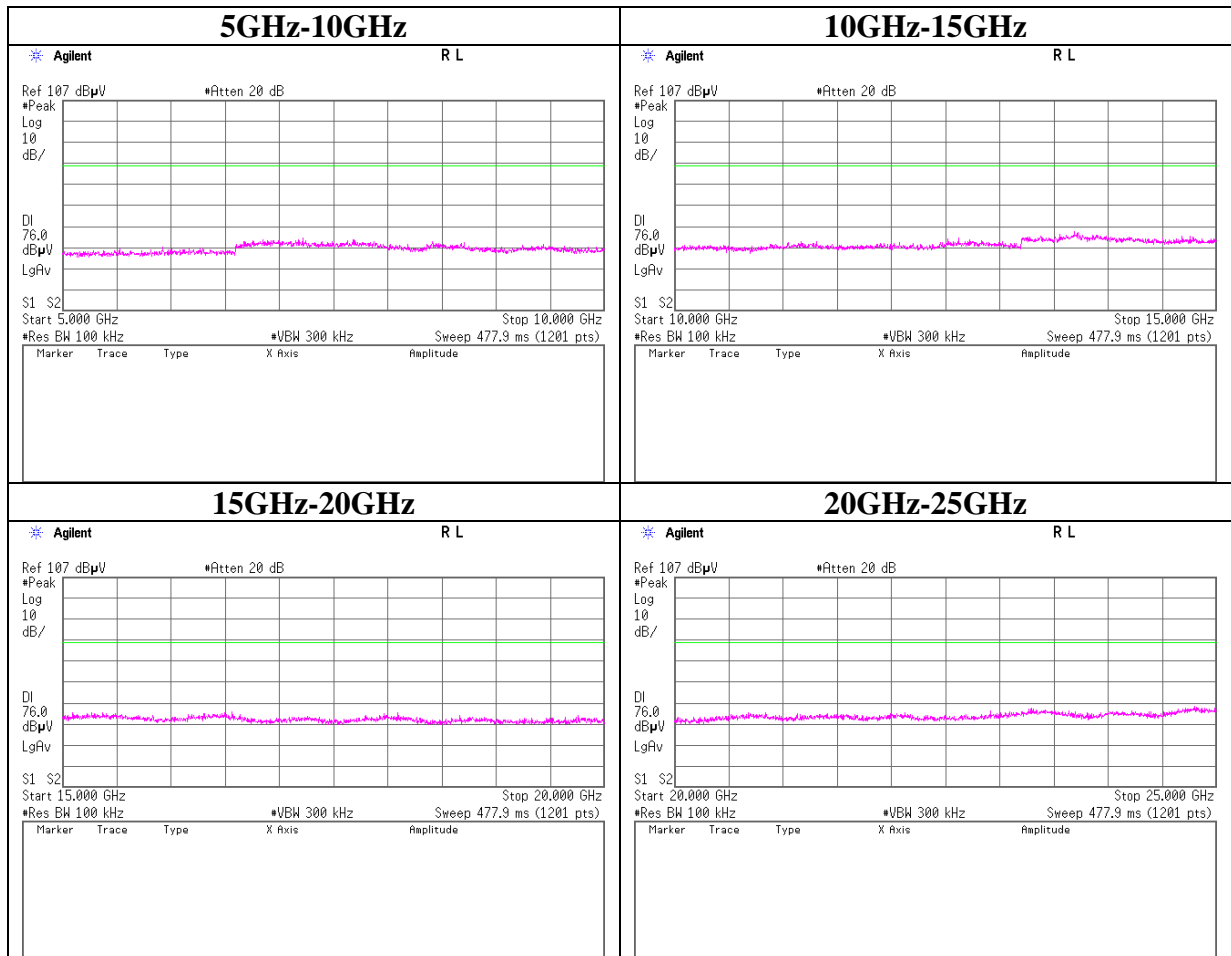
## Conducted Spurious Emission

### Tx DH5 2441MHz



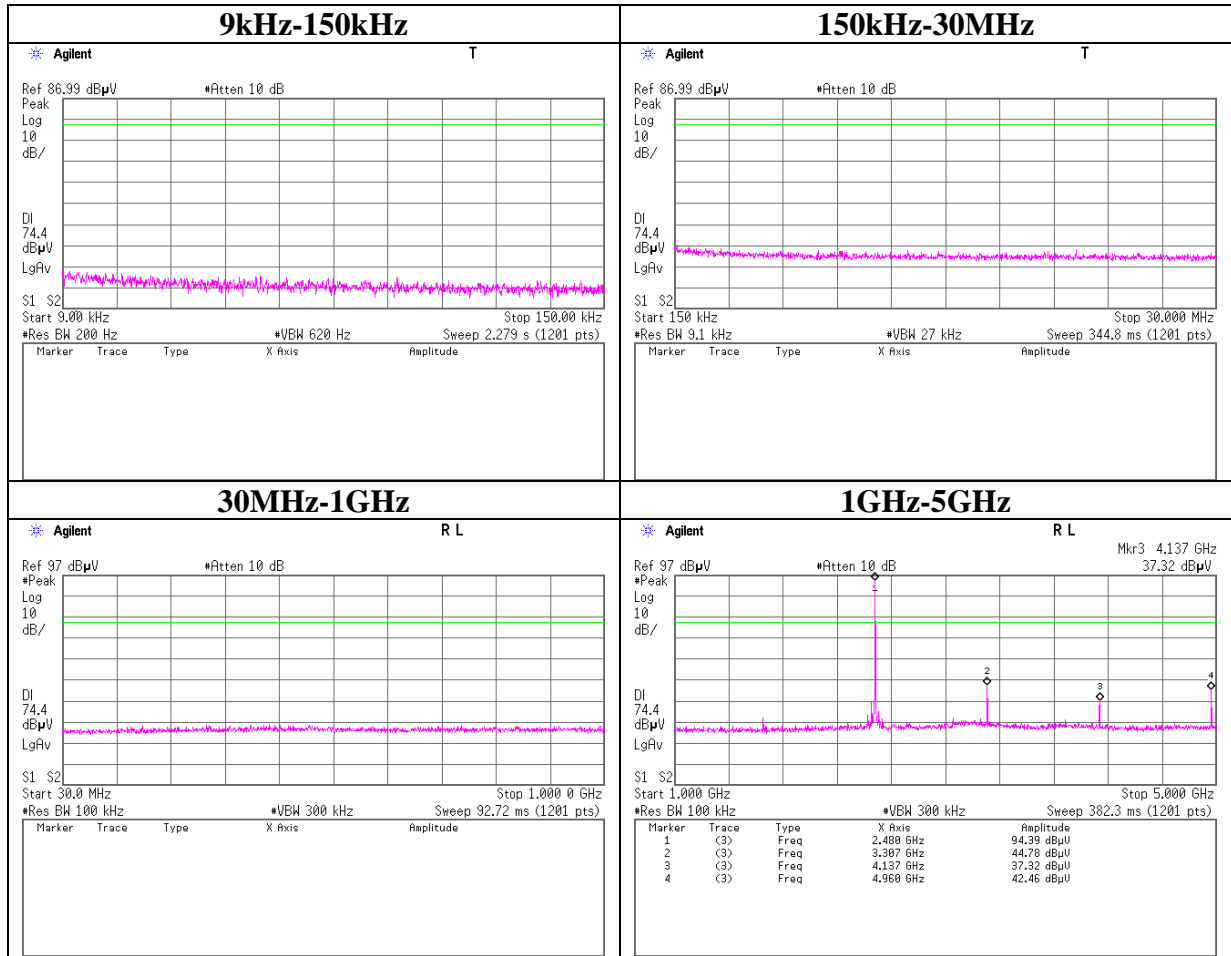
## Conducted Spurious Emission

### Tx DH5 2441MHz



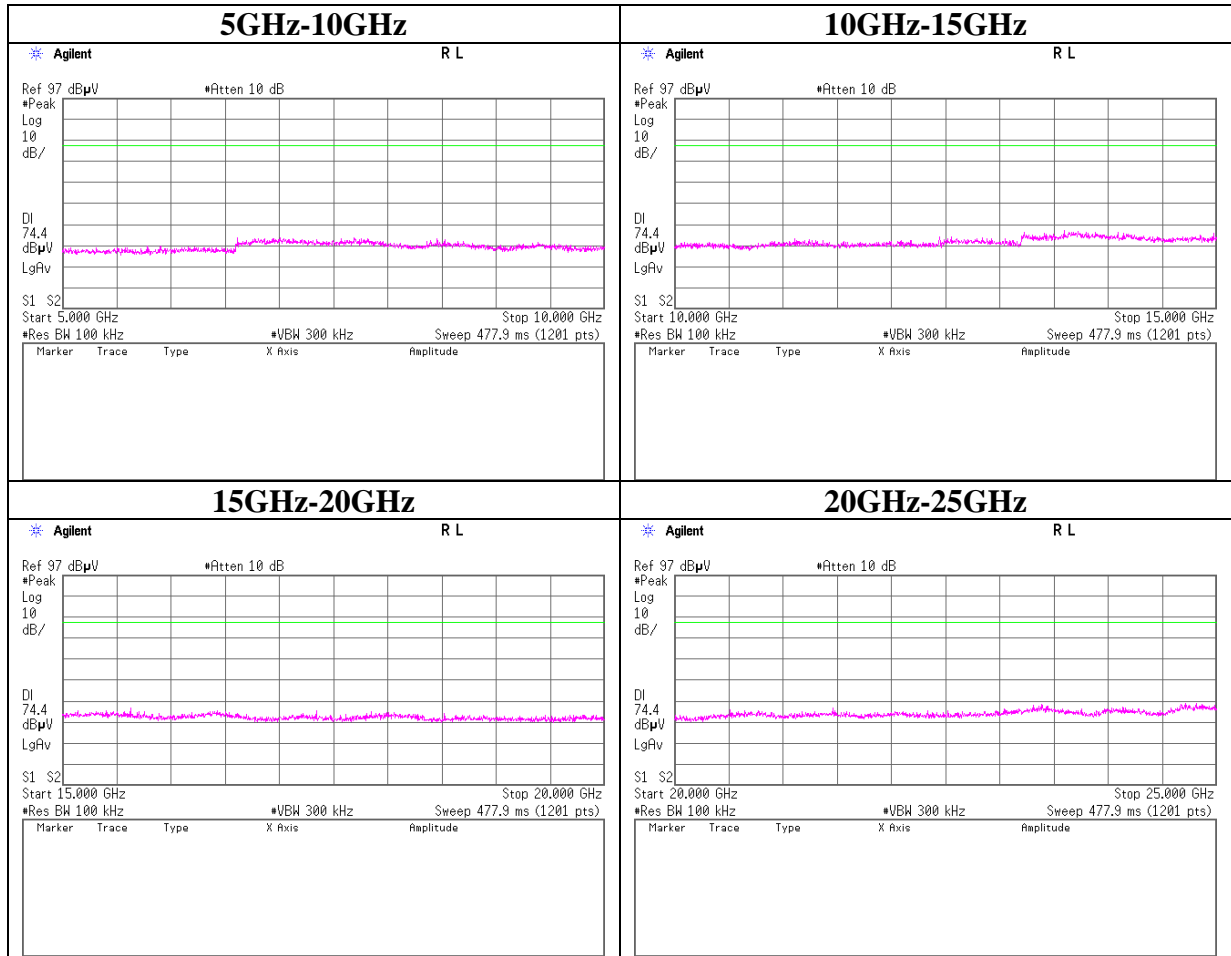
## Conducted Spurious Emission

### Tx DH5 2480MHz



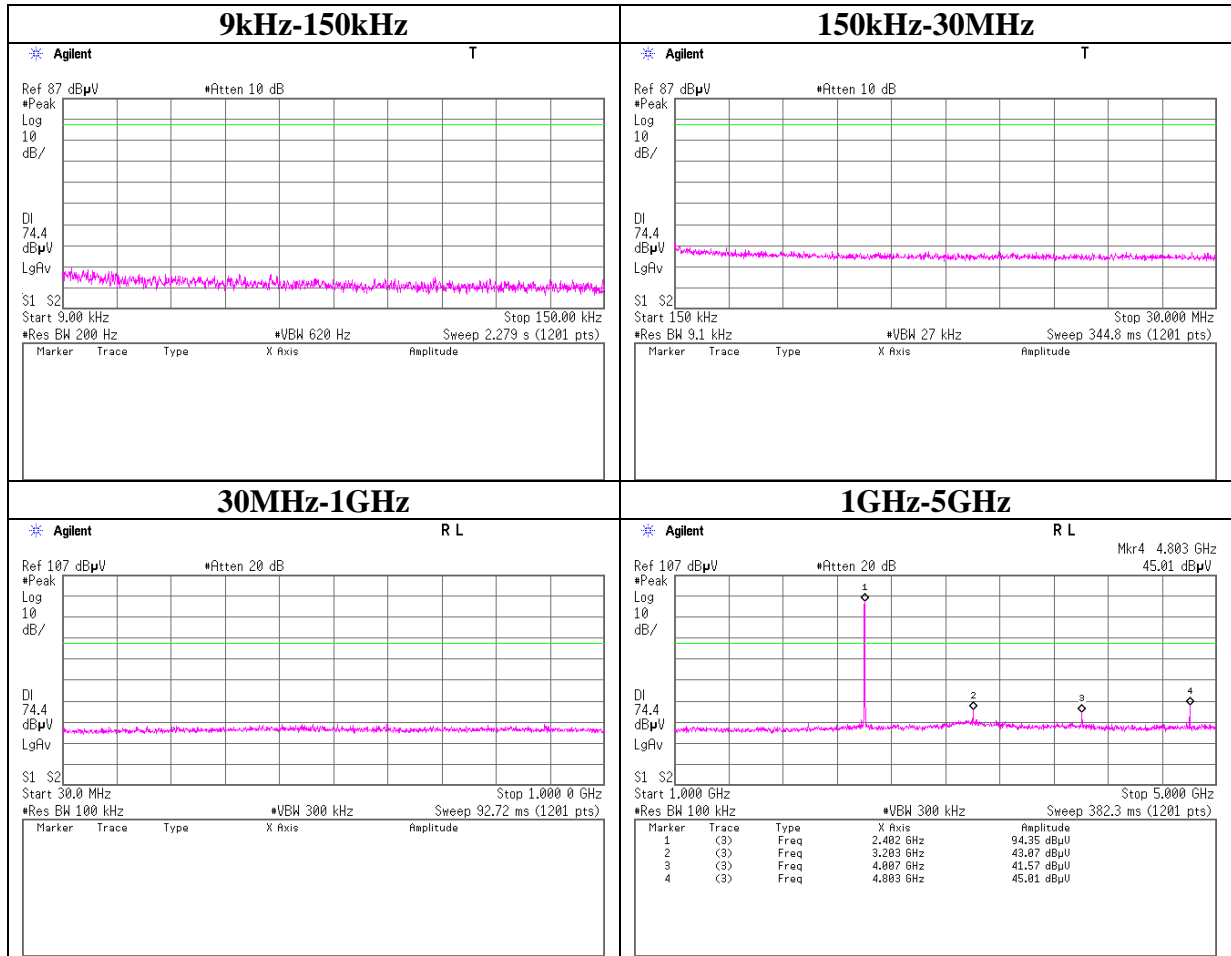
## Conducted Spurious Emission

### Tx DH5 2480MHz



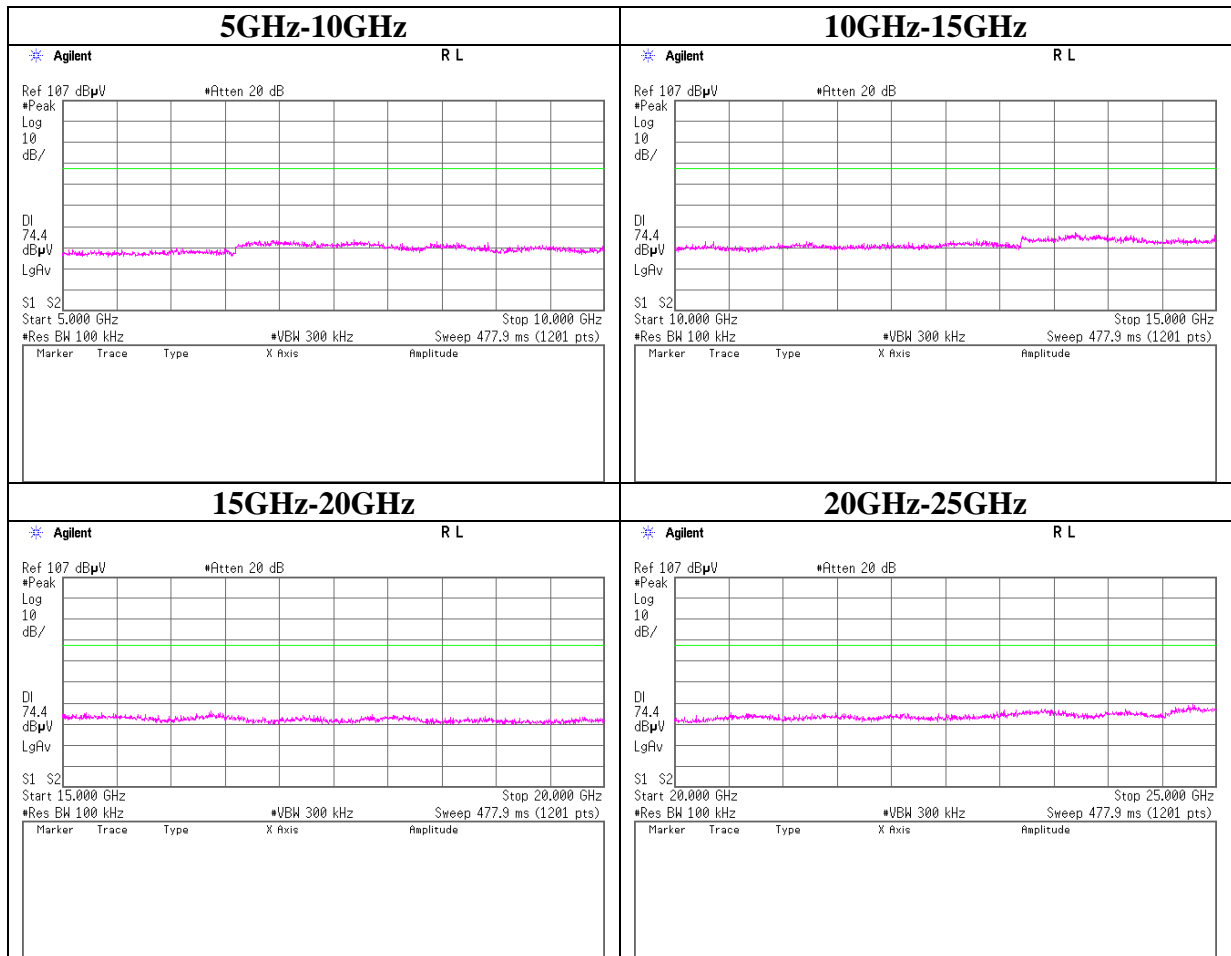
## Conducted Spurious Emission

### Tx 3DH5 2402MHz



## Conducted Spurious Emission

### Tx 3DH5 2402MHz



## Conducted Spurious Emission

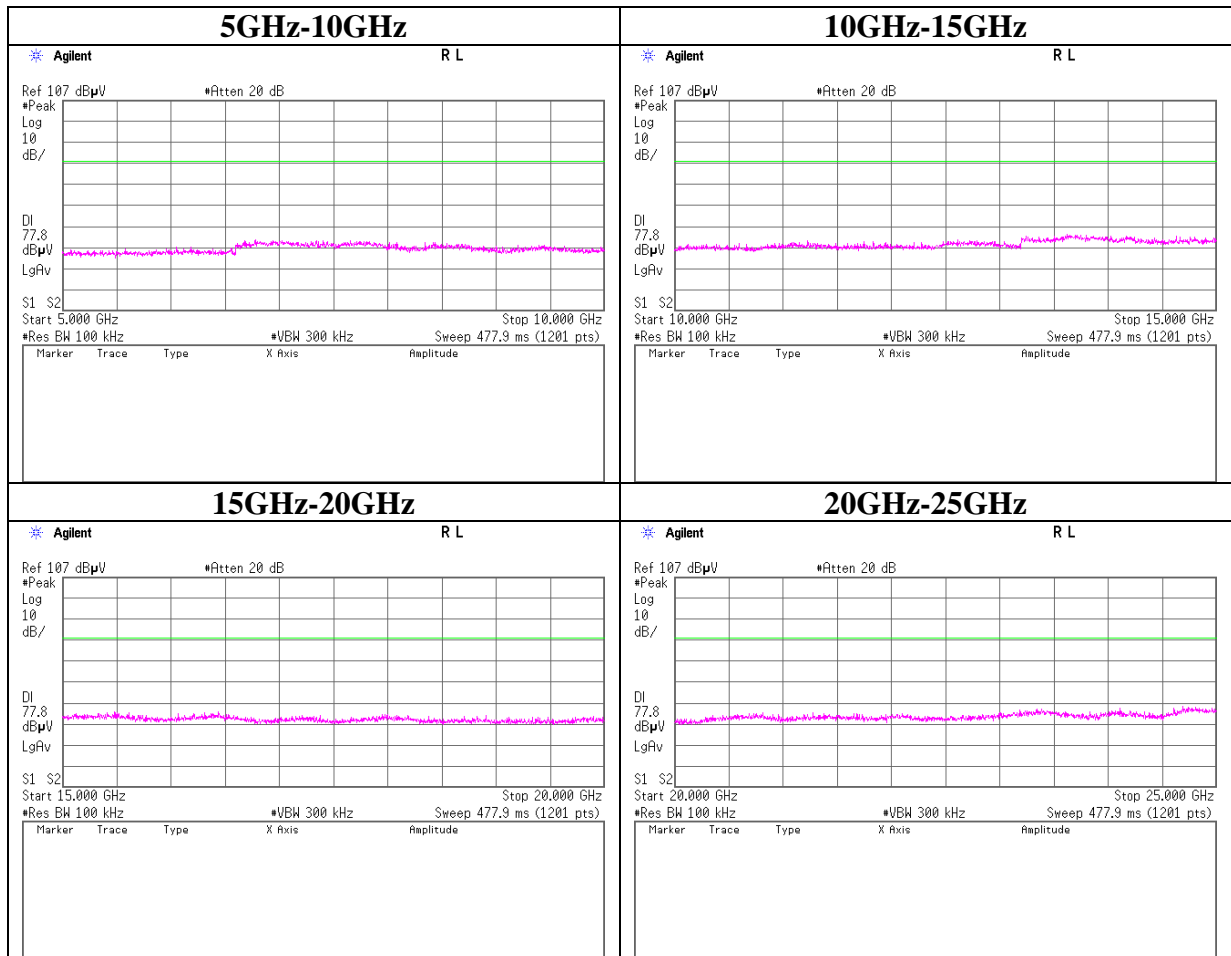
### Tx 3DH5 2441MHz





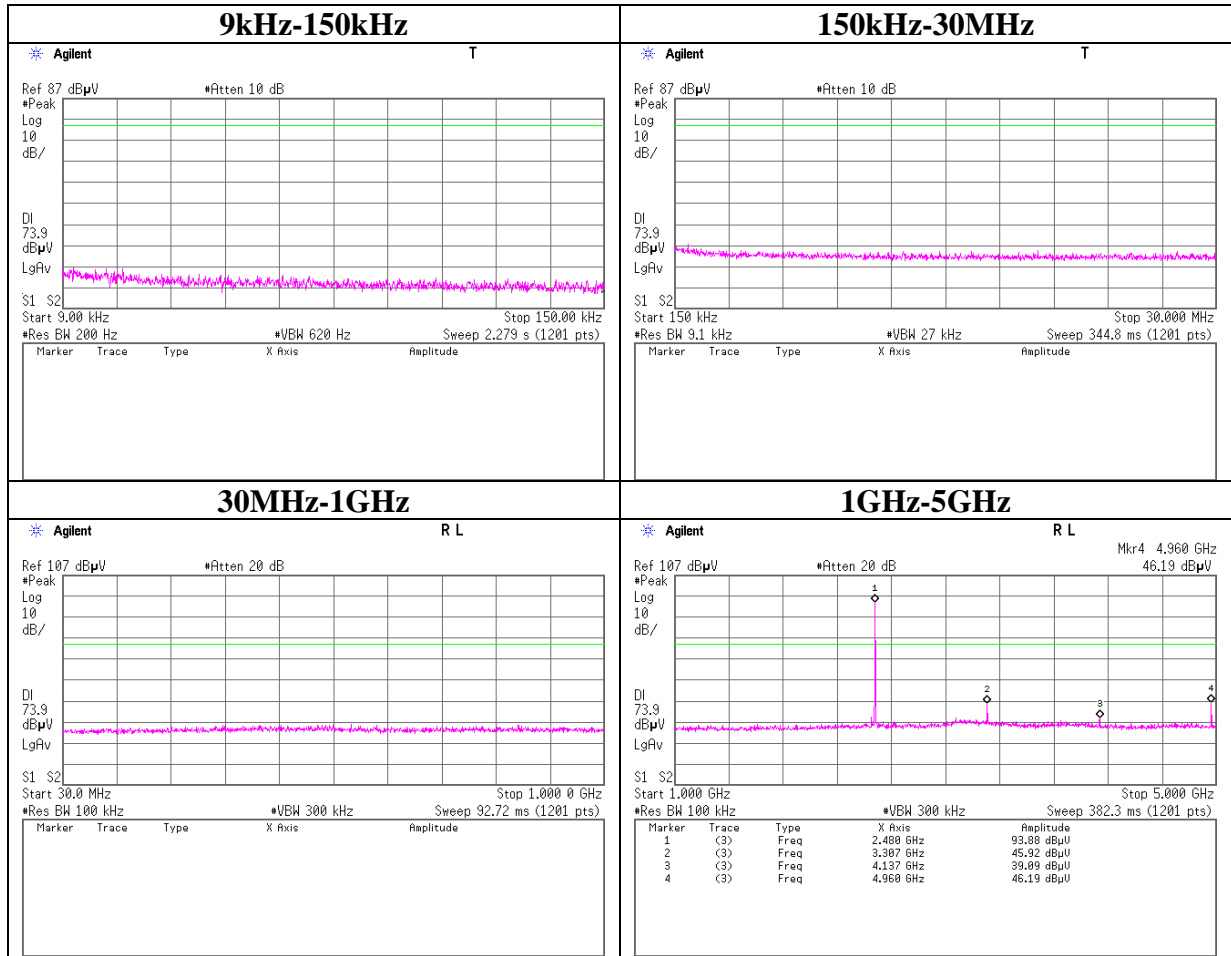
## Conducted Spurious Emission

### Tx 3DH5 2441MHz



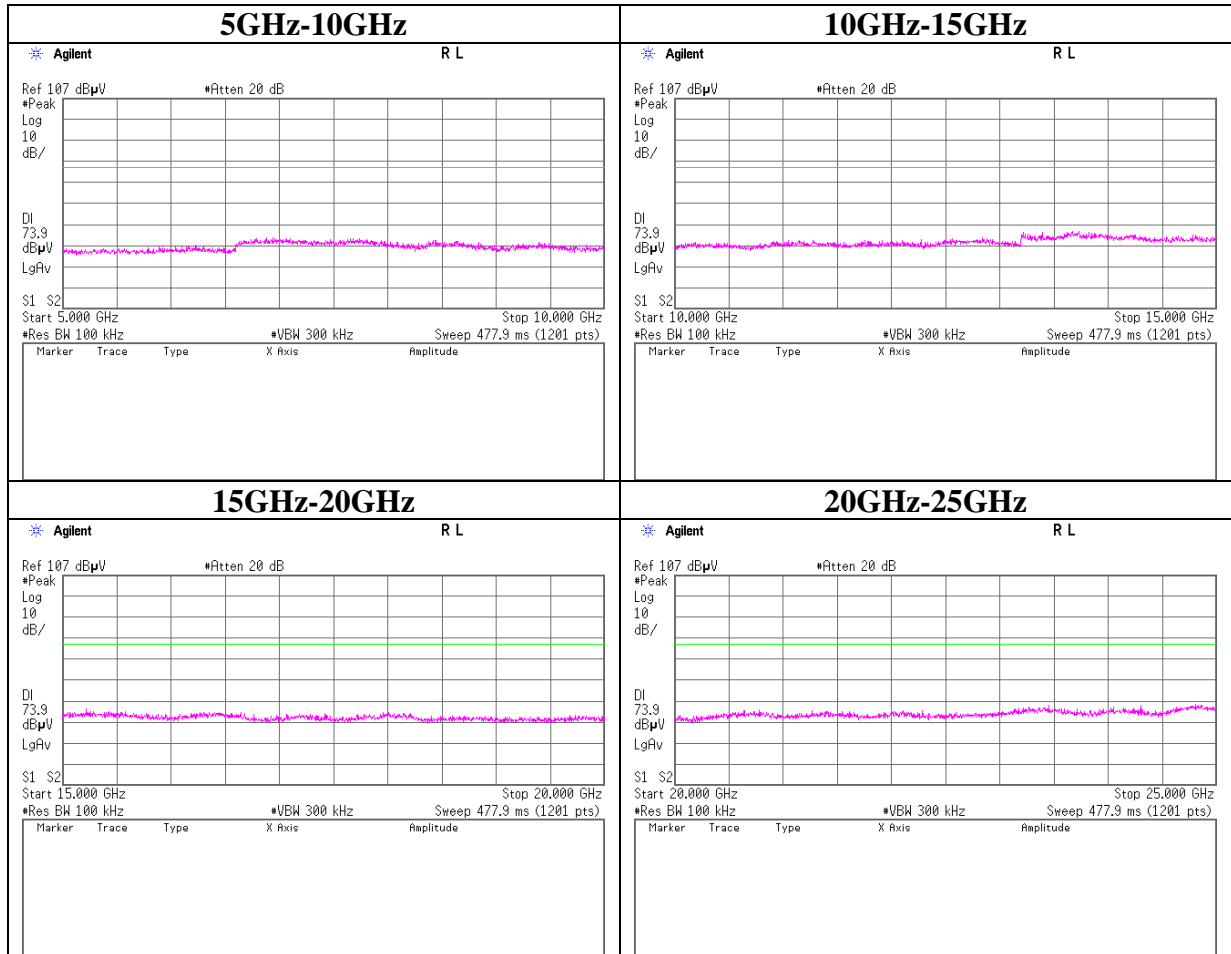
## Conducted Spurious Emission

### Tx 3DH5 2480MHz



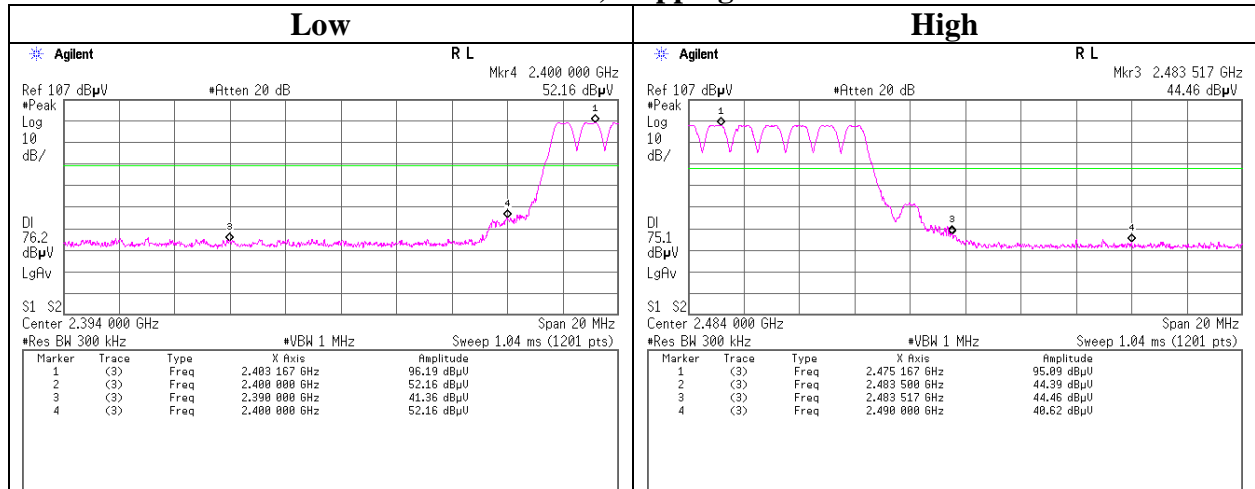
**Conducted Spurious Emission**

**Tx 3DH5 2480MHz**

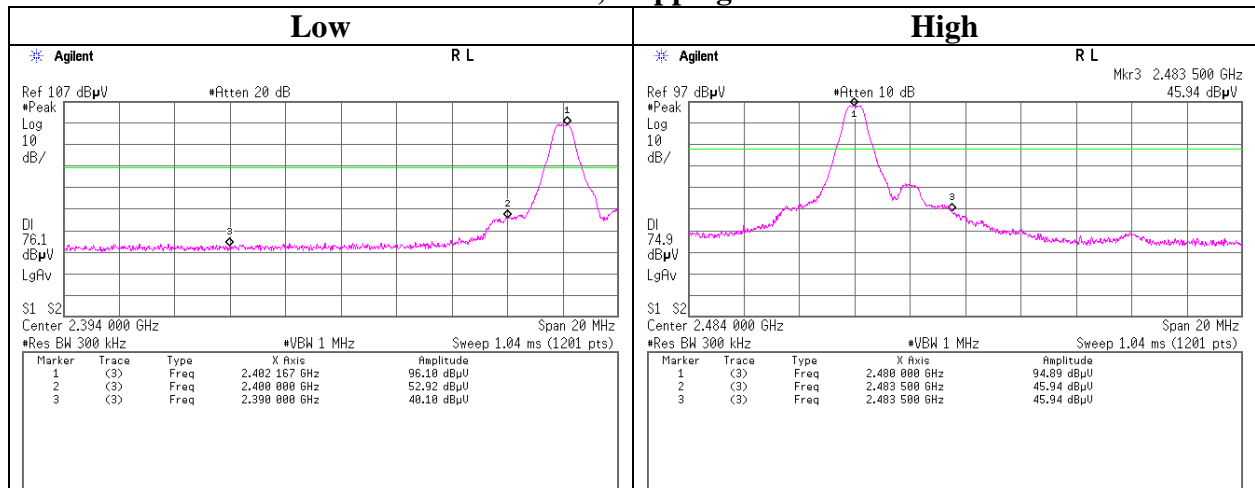


### Conducted Emission Band Edge compliance

#### Tx DH5, Hopping on

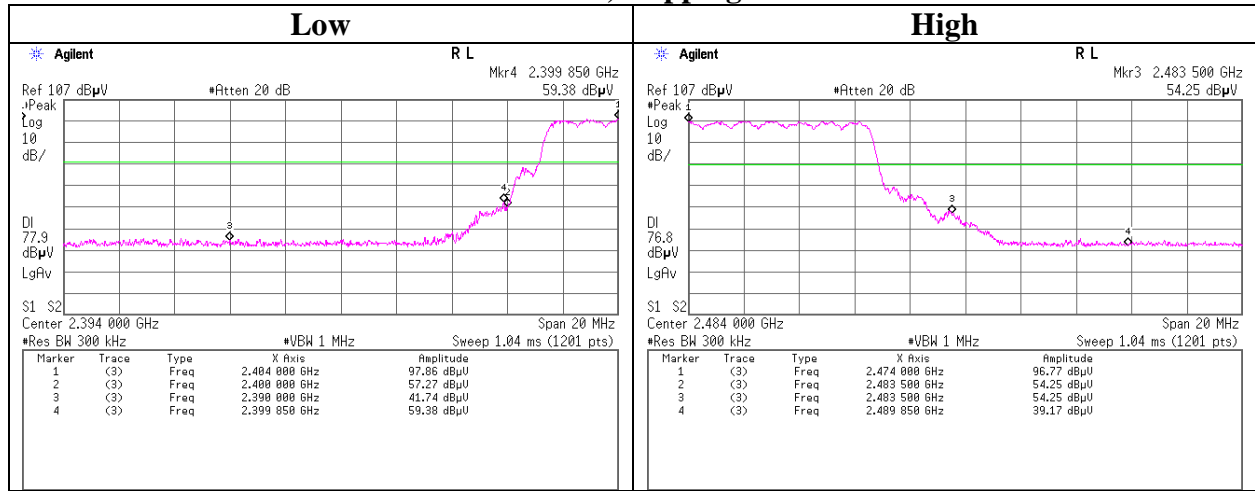


#### Tx DH5, Hopping off

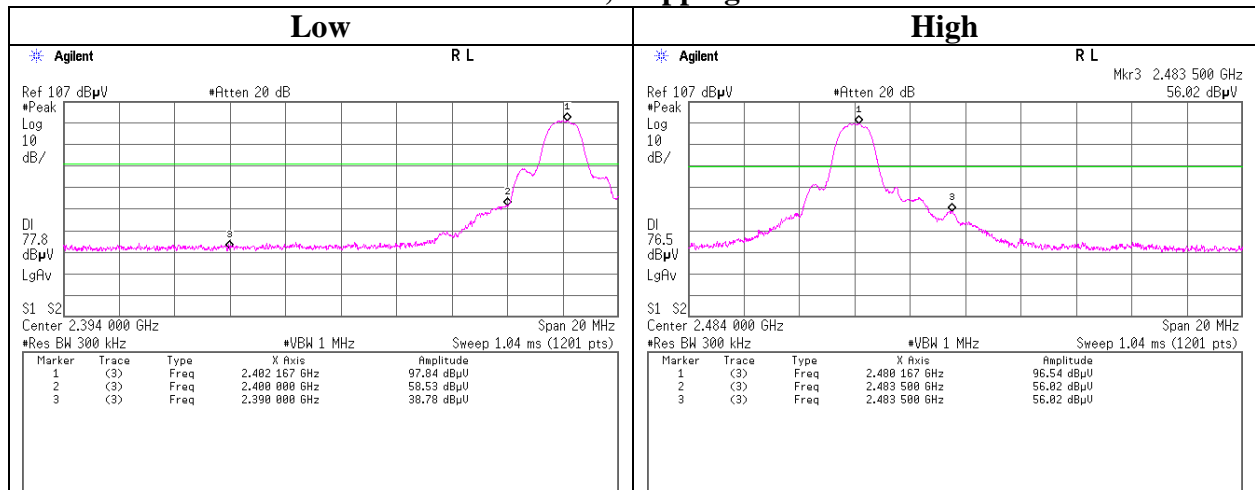


## Conducted Emission Band Edge compliance

### Tx 3DH5, Hopping on



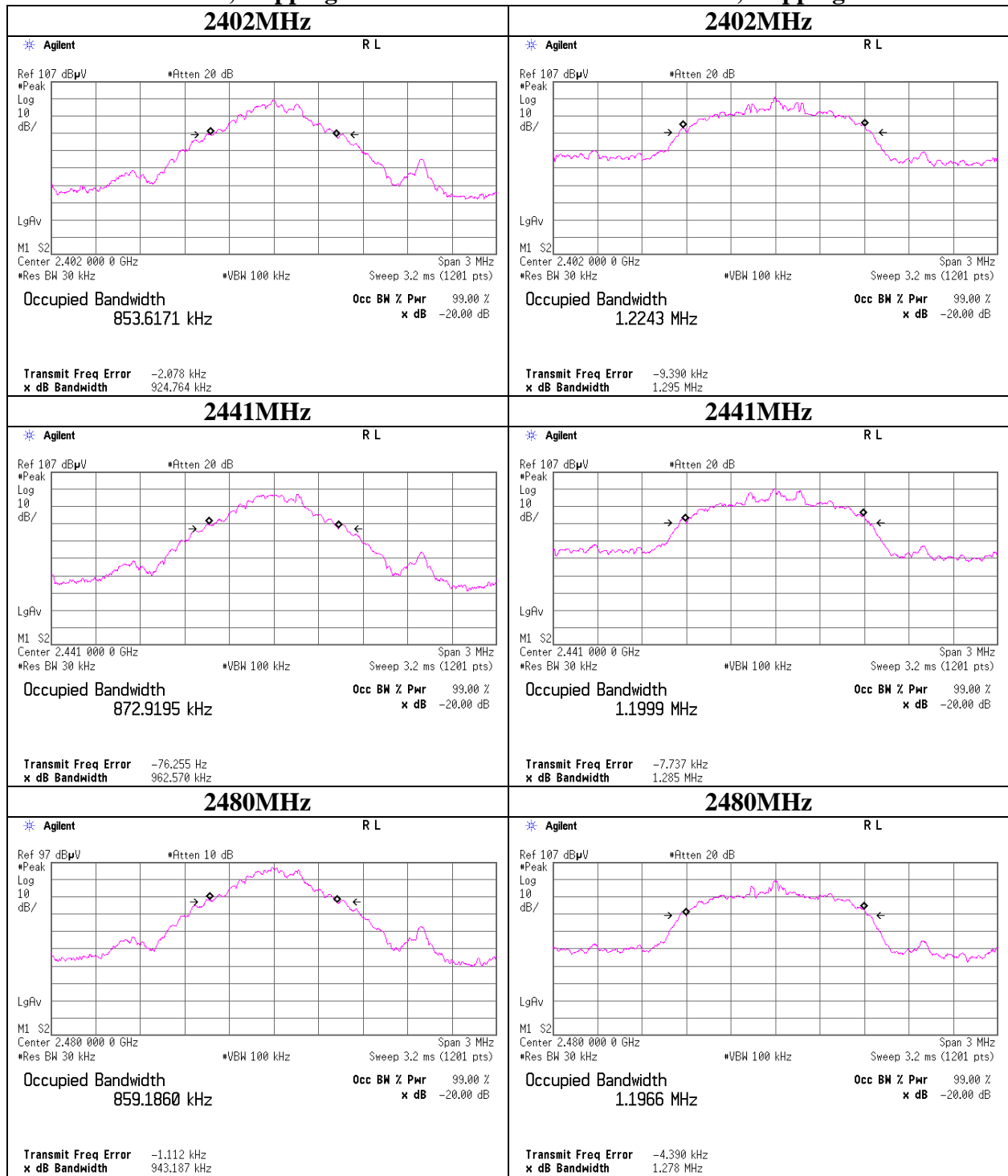
### Tx 3DH5, Hopping off



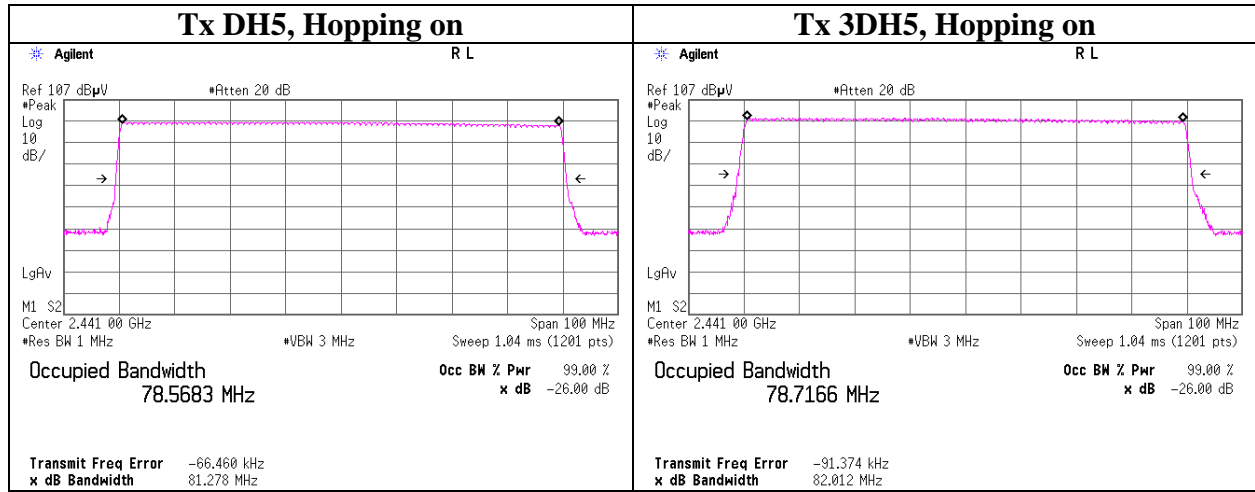
**99% Occupied Bandwidth**

**Tx DH5, Hopping off**

**Tx 3DH5, Hopping off**



### 99% Occupied Bandwidth



### **APPENDIX 3: Test instruments**

#### **EMI test equipment**

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
MAEC-02	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-06902	RE	2010/09/01 * 12
MOS-22	Thermo-Hygrometer	Custom	CTH-201	0003	RE	2011/02/23 * 12
MJM-05	Measure	PROMART	SEN1955	-	RE	-
COTS-MEMI	EMI measurement program	TSJ	TEPTO-DV	-	RE	-
MSA-03	Spectrum Analyzer	Agilent	E4448A	MY44020357	RE/AT	2010/11/30 * 12
MHA-06	Horn Antenna 1-18GHz	Schwarzbeck	BBHA9120D	254	RE	2011/01/16 * 12
MHA-02	Horn Antenna 18-26.5GHz	EMCO	3160-09	1265	RE	2011/01/16 * 12
MPA-10	Pre Amplifier	Agilent	8449B	3008A02142	RE	2010/09/30 * 12
MCC-57	Microwave Cable	Suhner	SUCOFLEX104	267195/4(0.6m) / 292411(5m)	RE	2010/11/26 * 12
MHF-18	High Pass Filter 3.5-18.0GHz	TOKIMEC	TF323DCA	7002	RE	2010/09/21 * 12
MCC-77	Microwave Cable 1G-26.5GHz	Suhner	SUCOFLEX104	278942/4	RE	2010/12/02 * 12
MCC-66	Microwave Cable 1G-40GHz	Suhner	SUCOFLEX102	28636/2	AT	2011/04/22 * 12
MAT-24	Attenuator(10dB)(above 1GHz)	Agilent	8493C	71389	AT	2010/06/14 * 12
MPSE-11	Power sensor	Anritsu	MA2411B	011737	AT	2010/09/10 * 12
MPM-08	Power Meter	Anritsu	ML2495A	6K00003338	AT	2010/09/10 * 12
MOS-12	Thermo-Hygrometer	Custom	CTH-180	-	AT	2011/01/19 * 12
MAEC-03	Semi Anechoic Chamber(NSA)	TDK	Semi Anechoic Chamber 3m	DA-10005	RE	2011/02/22 * 12
MOS-13	Thermo-Hygrometer	Custom	CTH-180	-	RE	2011/02/23 * 12
MJM-06	Measure	PROMART	SEN1955	-	RE	-
MSA-09	Spectrum Analyzer	Advantest	R3273	95090115	RE	2010/11/18 * 12
MTR-08	Test Receiver	Rohde & Schwarz	ESCI	100767	RE	2010/08/23 * 12
MBA-03	Biconical Antenna	Schwarzbeck	BBA9106	1915	RE	2010/10/11 * 12
MLA-03	Logperiodic Antenna	Schwarzbeck	USLP9143	174	RE	2010/10/11 * 12
MCC-51	Coaxial cable	UL Japan	-	-	RE	2010/07/06 * 12
MAT-09	Attenuator(6dB)	Weinschel Corp	2	BK7973	RE	2010/11/05 * 12
MPA-13	Pre Amplifier	SONOMA INSTRUMENT	310	260834	RE	2011/03/04 * 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: RE: Radiated Emission**

**AT: Antenna Terminal Conducted test**

**UL Japan, Inc.**

**Head Office EMC Lab.**

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