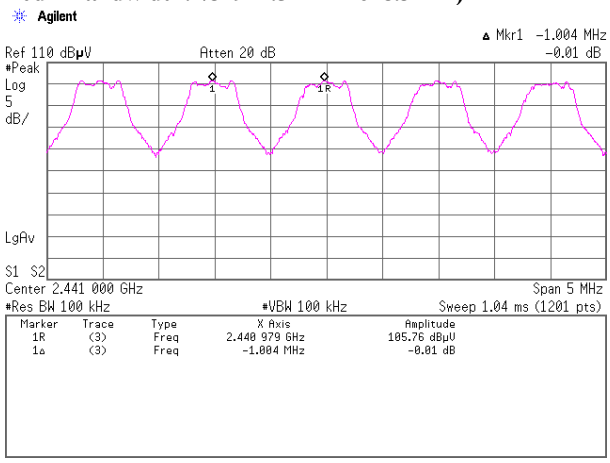
Channel Separation (Regulation: FCC 15.247(a)(1))

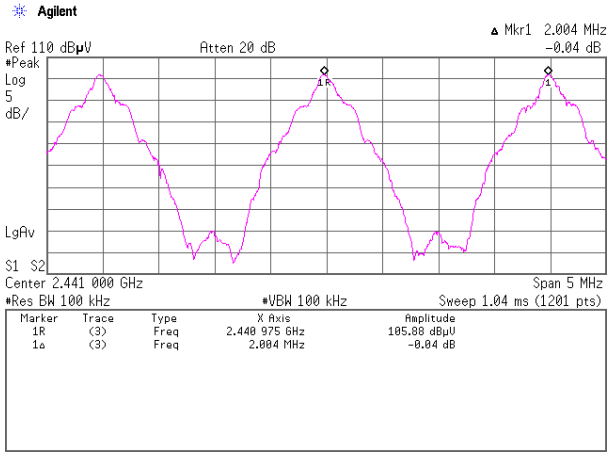
UL Japan, Inc. Yamakita EMC lab.	No.4	shielded room
Date:	2009/08/05	
Temp:	24	deg. C.
Humid:	53	%
Engineer:	Akira Sato	
Test mode:	Transmitting	

Limit: ≥25kHz or 2/3 * 20dB Bandwidth (Power: No greater than 125mW)

1. Hopping, DH5: 1.004MHz (2/3*20dB Bandwidth:2/3*942.5kHz = 628.3kHz)



2. Inquiry: 2.004MHz (2/3*20dB Bandwidth:2/3*820.0kHz = 546.7kHz)

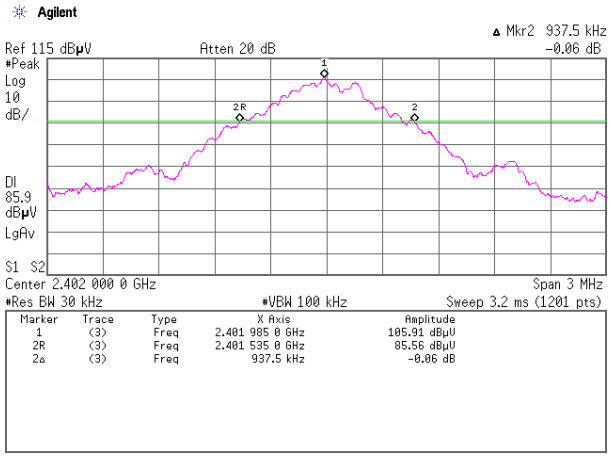


20dB Bandwidth (Regulation: FCC 15.247(a)(1))

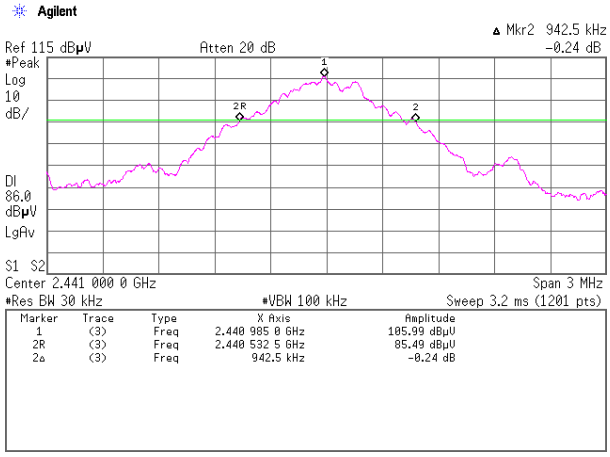
UL Japan, Inc. Yamakita EMC lab.	No.4 shielded room
Date:	2009/08/05
Temp./Humid.:	24 deg. C. / 53 %
Engineer:	Akira Sato
Test mode:	Transmitting

[Hopping off, DH5]

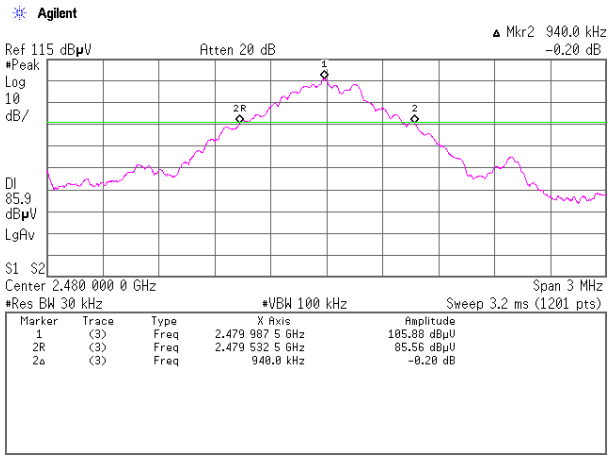
1. ch : 2402MHz/20dB Bandwidth: 937.5kHz



2. ch : 2441MHz/20dB Bandwidth: 942.5kHz

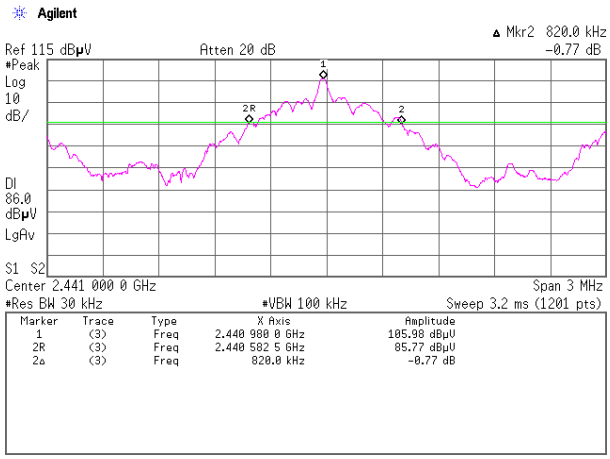


3. ch : 2480MHz/20dB Bandwidth: 940.0kHz



[Inquiry]

7. Inauiry/20dB Bandwidth: 820.0kHz

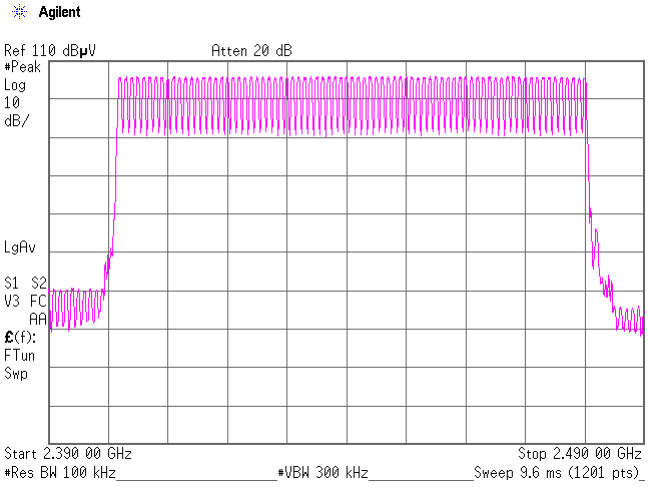


Channel Utilization (Regulation: FCC 15.247(a)(1)(iii))

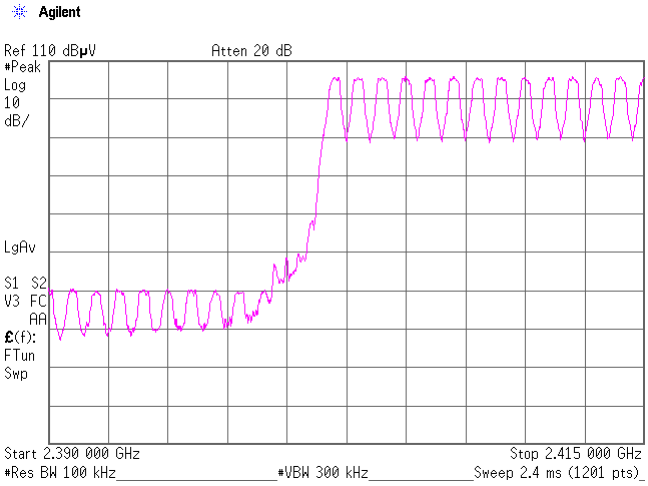
UL Japan, Inc. Yamakita EMC lab.	No.4 shielded room
Date:	2009/08/05
Temp./Humid.:	24 deg. C. / 53 %
Engineer:	Akira Sato
Test mode:	Transmitting

Hopping, DH5: 79ch

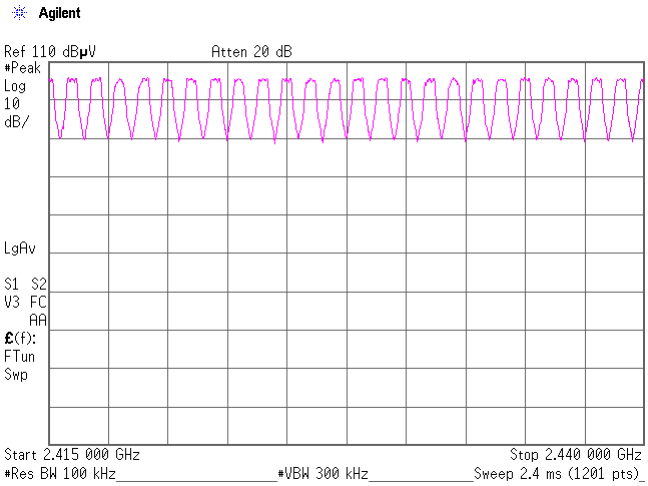
1.



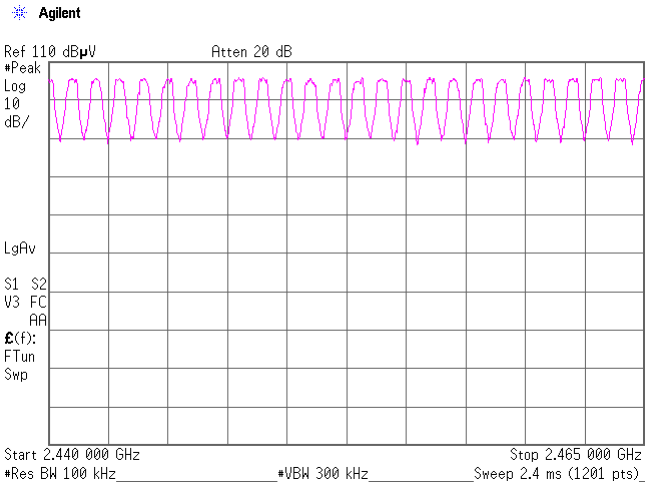
2.



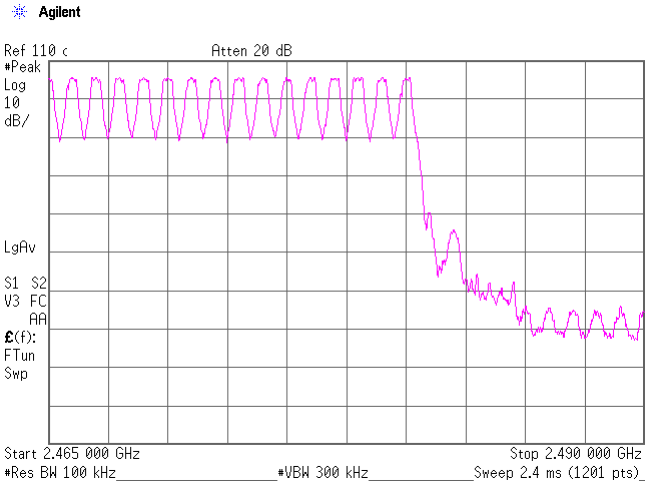
3.



4.

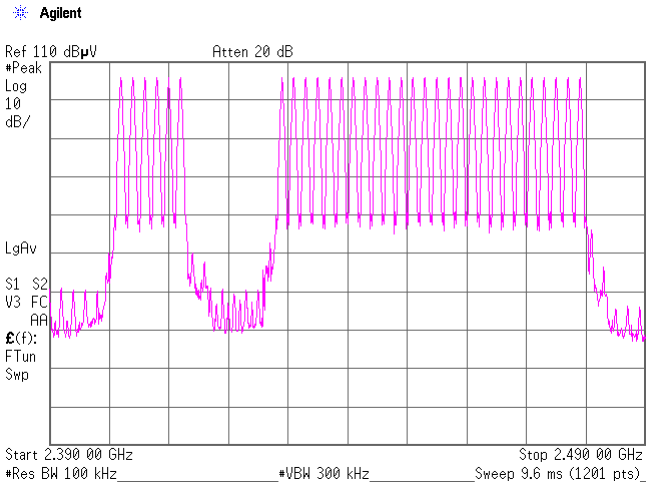

Agilent
Ref 110 dBµV
Atten 20 dB
#Peak
Log
10
dB/
LgAv
S1 S2
V3 FC
AA
£(f):
FTun
Swp
Start 2.440 000 GHz
Stop 2.465 000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 2.4 ms (1201 pts)

5.


Agilent
Ref 110 c
Atten 20 dB
#Peak
Log
10
dB/
LgAv
S1 S2
V3 FC
AA
£(f):
FTun
Swp
Start 2.465 000 GHz
Stop 2.490 000 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 2.4 ms (1201 pts)

UL Japan, Inc. Yamakita EMC lab.	No.4 shielded room
Date:	2009/08/05
Temp./Humid.:	24 deg. C. / 53 %
Engineer:	Akira Sato
Test mode:	Transmitting (Inquiry)

1. Inquiry: 32ch

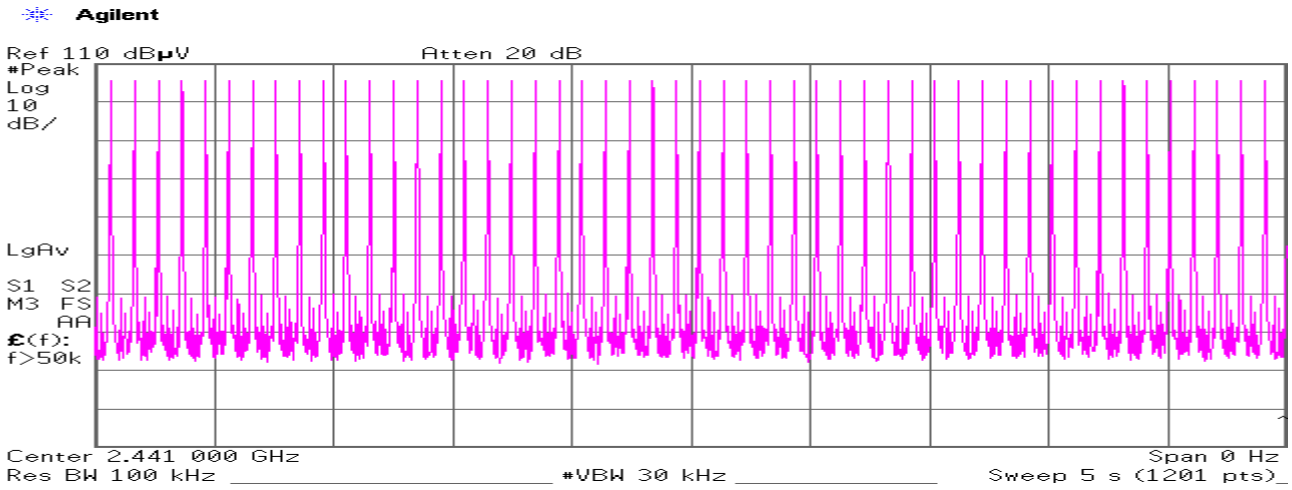


Dwell Time (Regulation: FCC 15.247(a)(1)(iii))

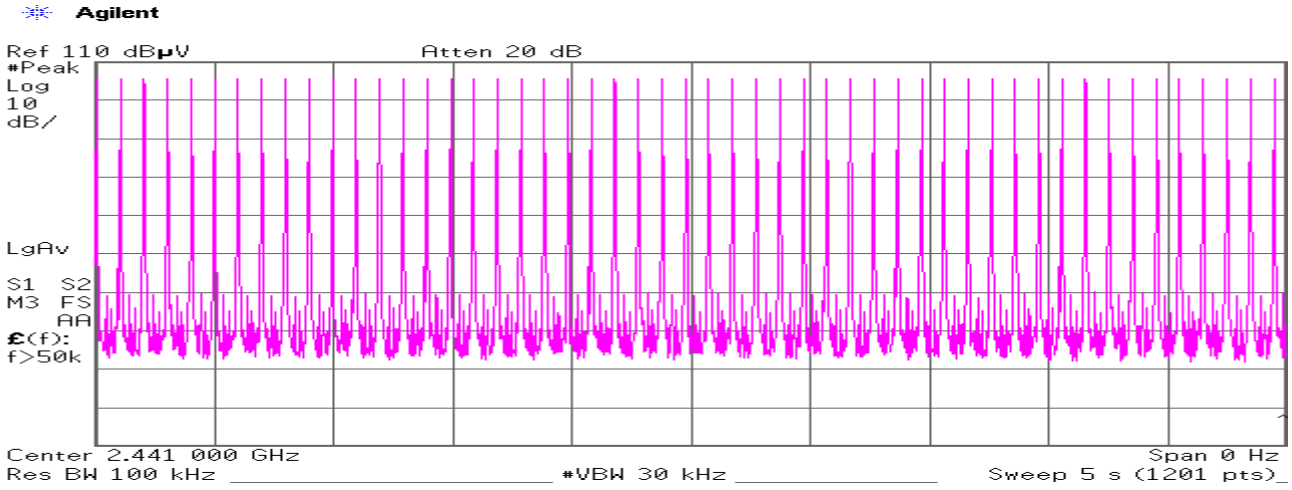
UL Japan, Inc. Yamakita EMC lab.	No.4 shielded room
Date:	2009/08/05
Temp./Humid.:	24 deg. C. / 53 %
Engineer:	Akira Sato
Test mode:	Transmitting

Hopping (DH1):

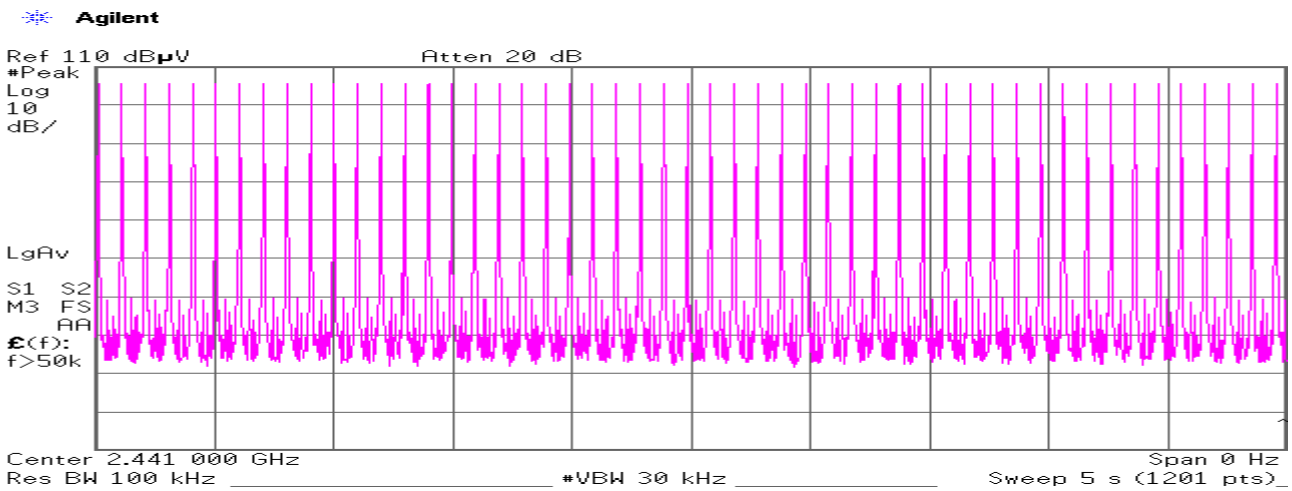
Count 1



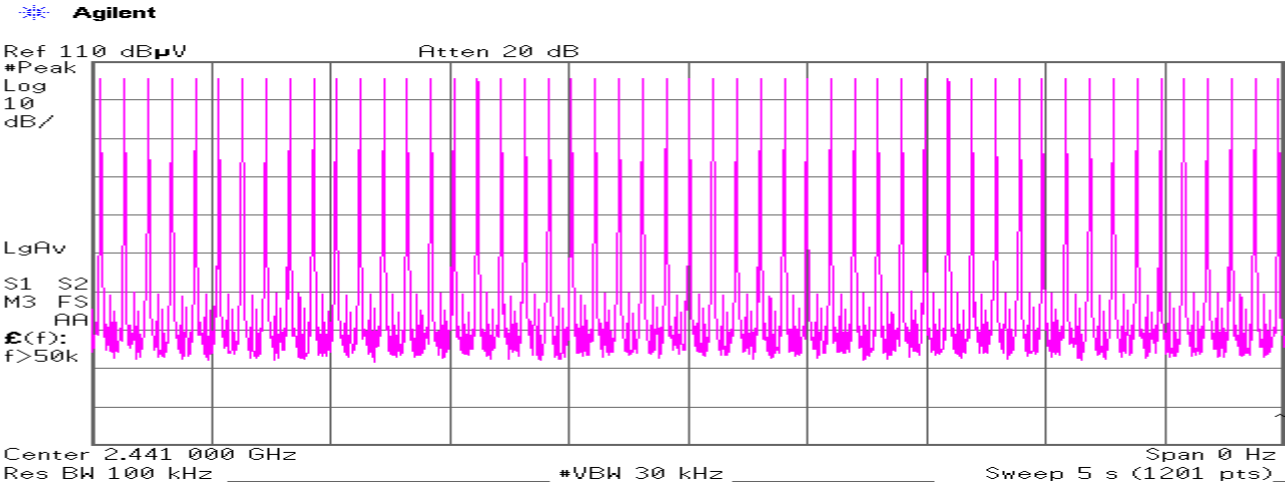
Count 2



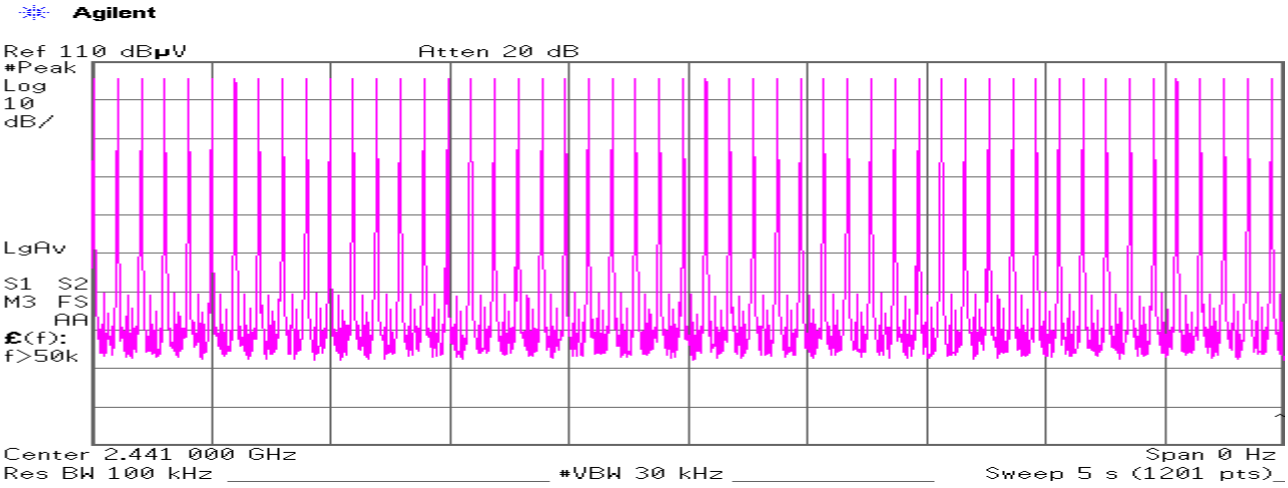
Count 3



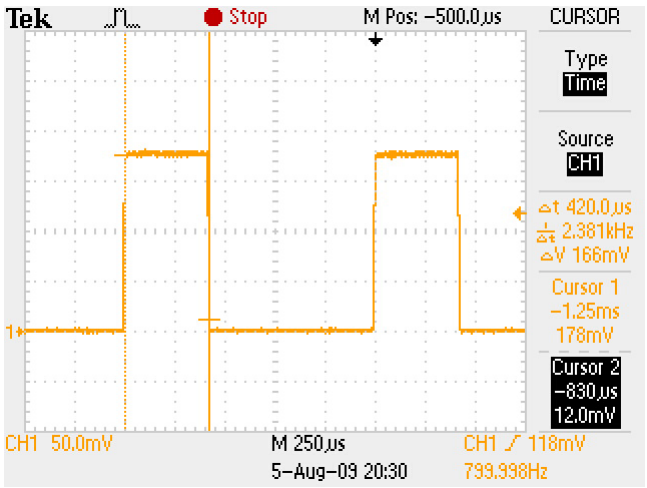
Count 4



Count 5



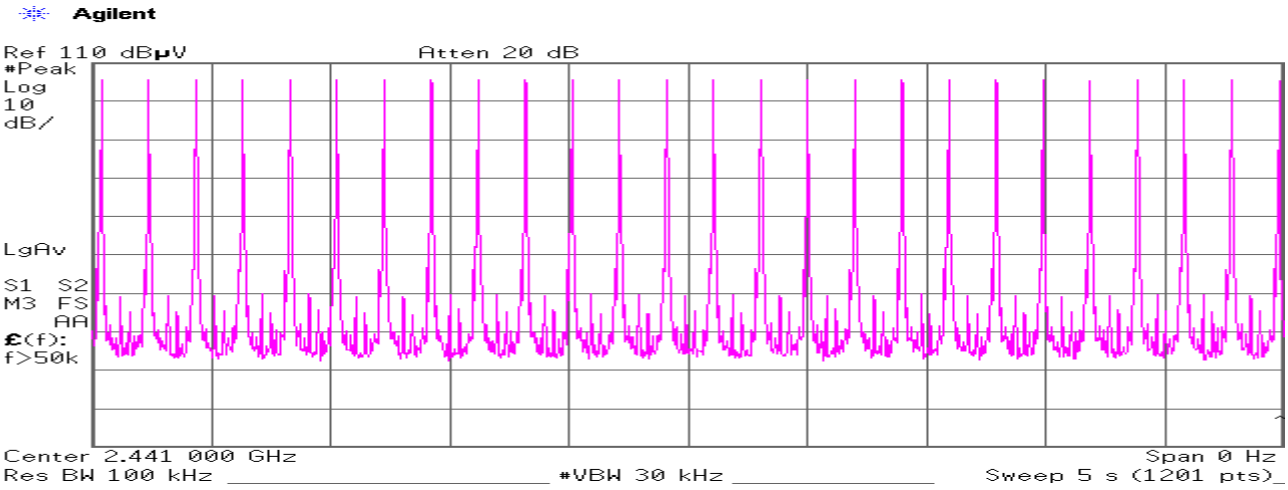
Duty cycle(Hopping DH1)



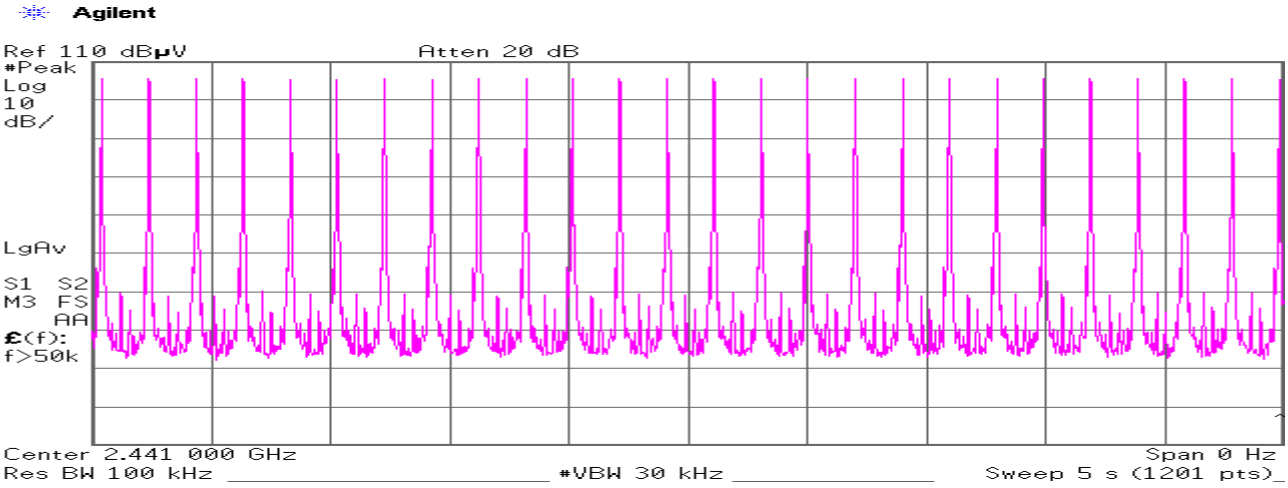
Average times of rising in 5 sec. of sweep = (50+ 51 + 51 + 51 + 51) / 5 = 50.8
Average times of rising in 1 sec. = 50.8 / 5s = 10.16
Average times of rising in 0.4x = 0.4 * 79ch * 10.16 = 321.06
Dwell time = 321.06* 0.42 = 134.85 [ms]
Limit : Dwell Time < 0.4[s]

Hopping (DH3):

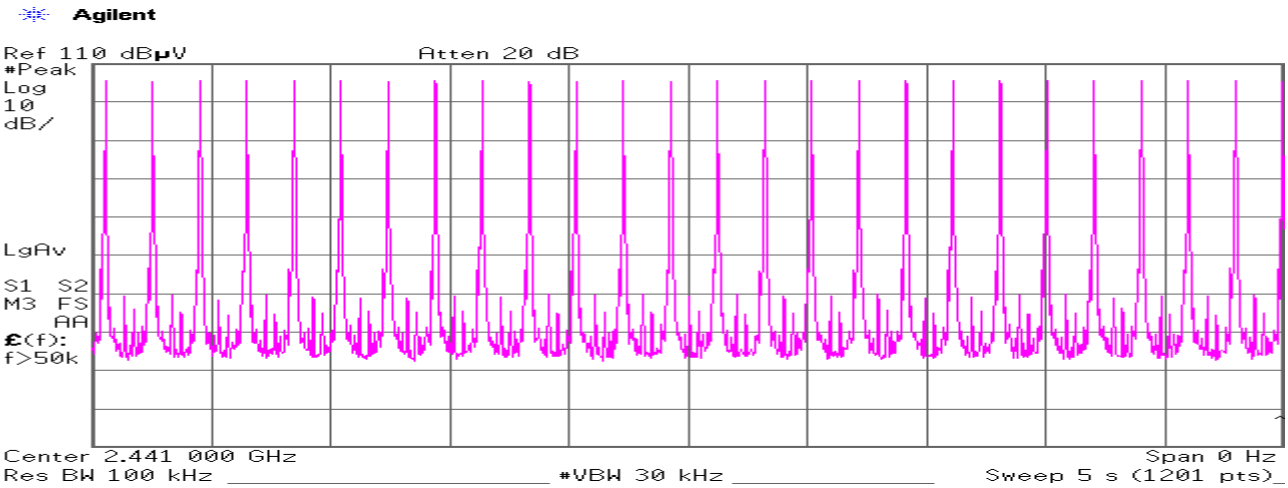
Count 1



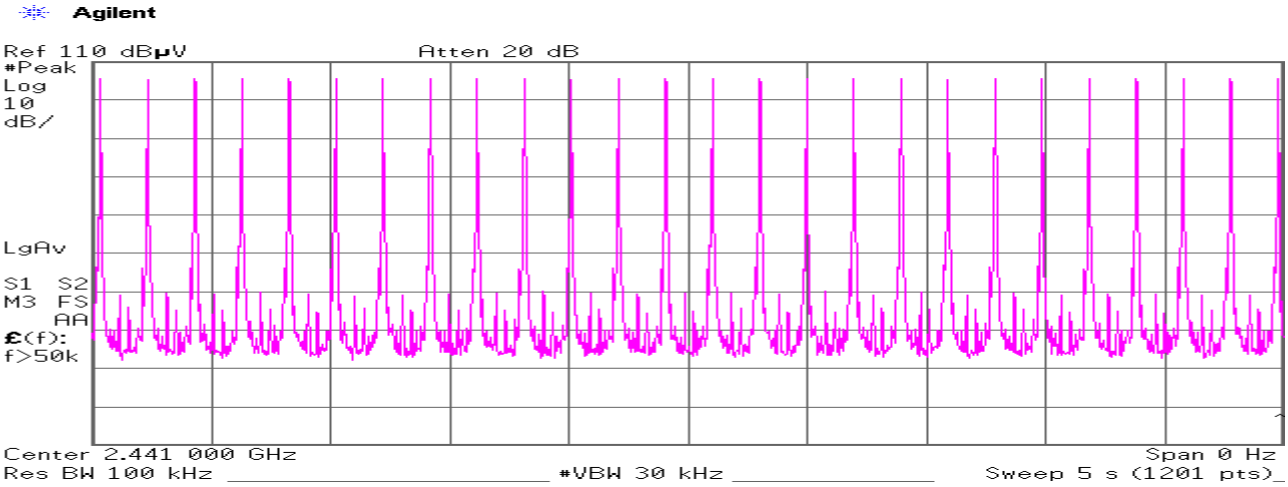
Count 2



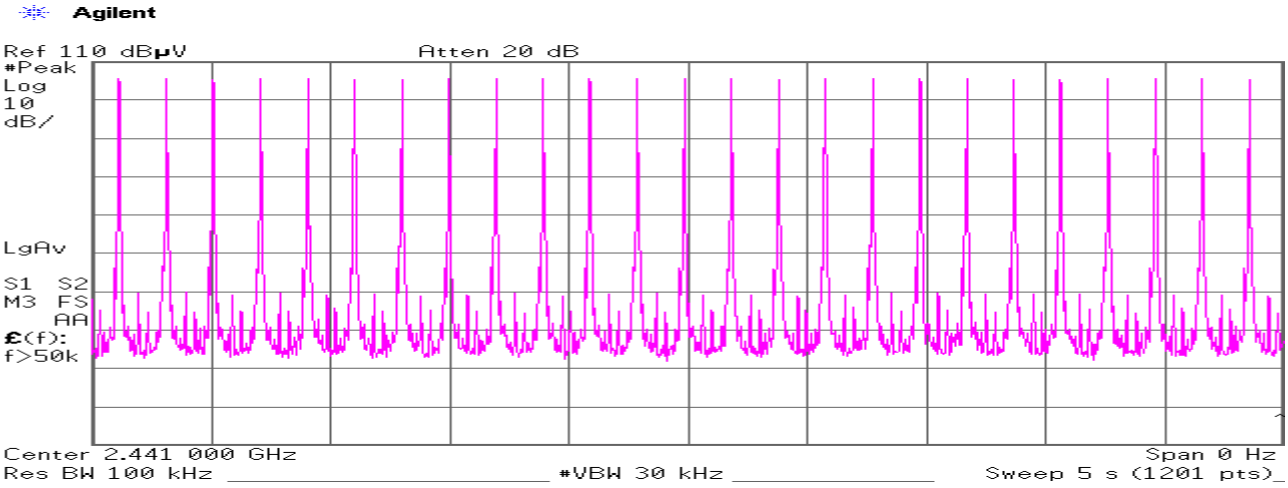
Count 3



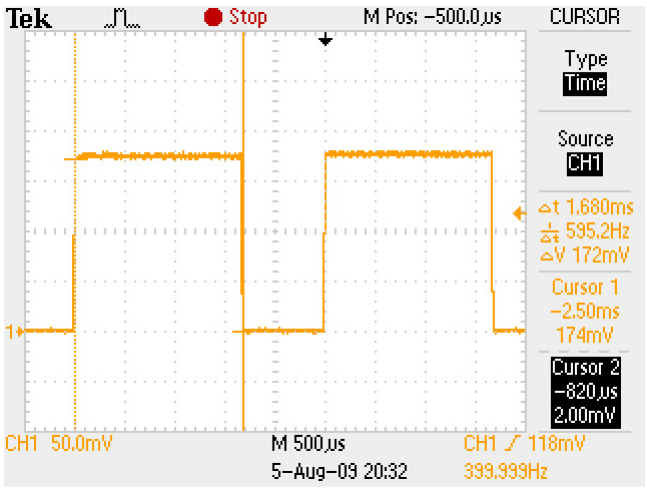
Count 4



Count 5



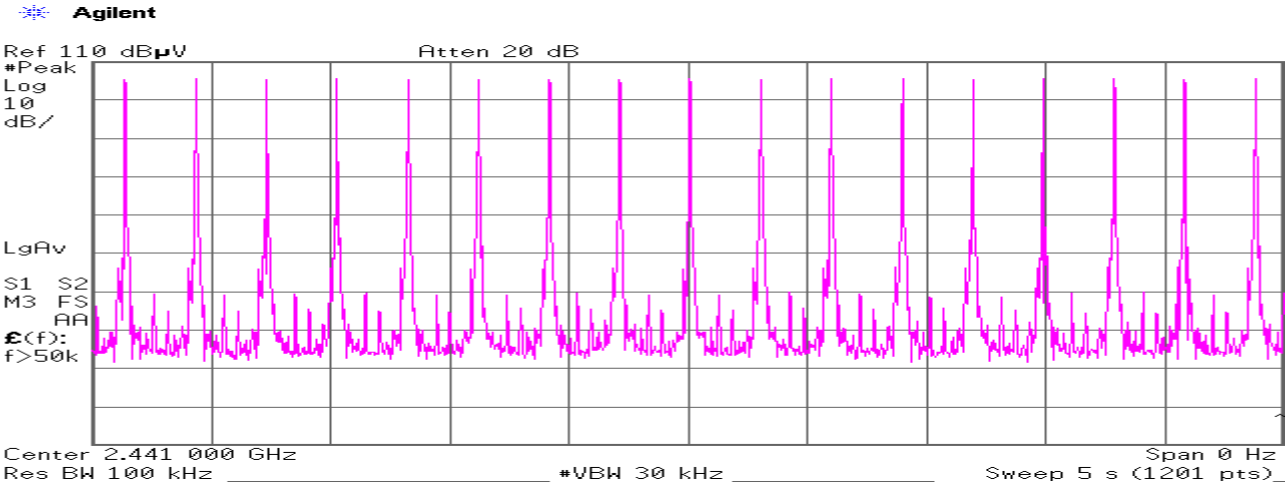
Duty cycle(Hopping DH3)



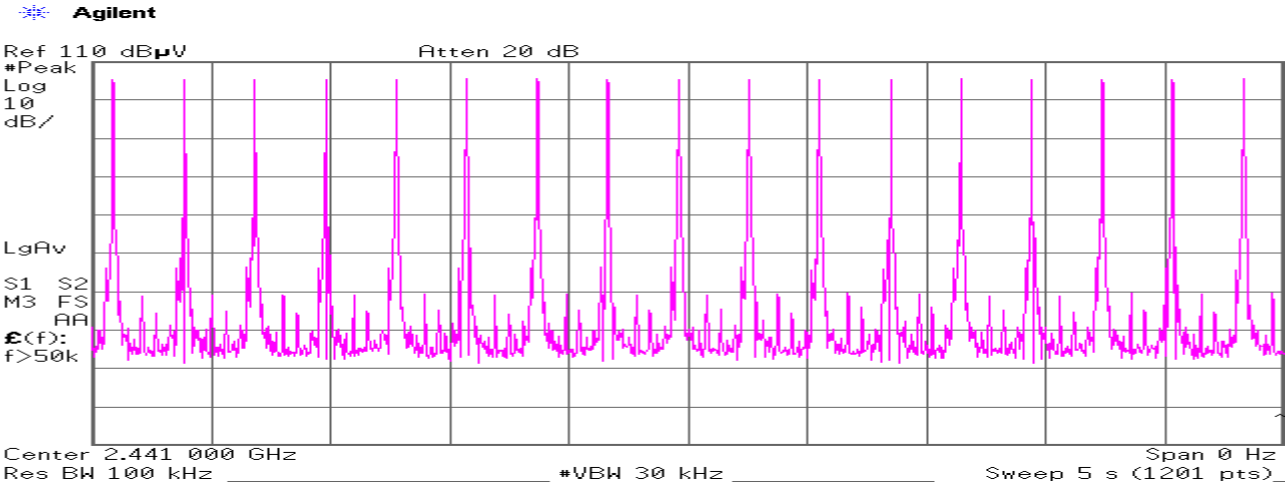
Average times of rising in 5 sec. of sweep = (26 + 26 + 26+ 26 + 25) / 5 = 25.8
Average times of rising in 1 sec. = 25.8 / 5s = 5.16
Average times of rising in 0.4x = 0.4 * 79ch * 5.16 = 163.06
Dwell time = 163.06 * 1.68 = 273.94 [ms]
Limit : Dwell Time < 0.4[s]

Hopping (DH5):

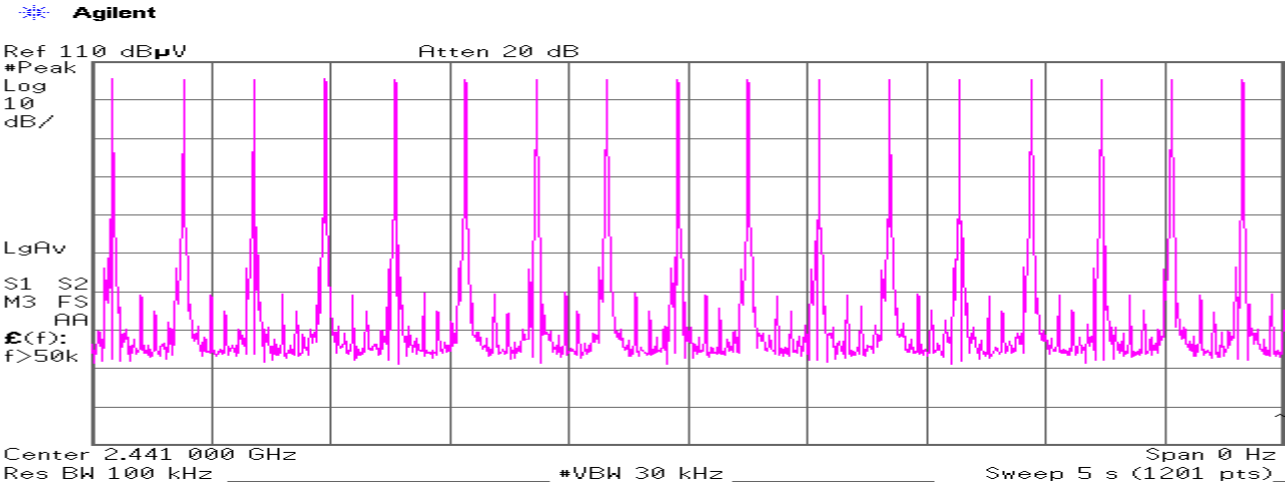
Count 1



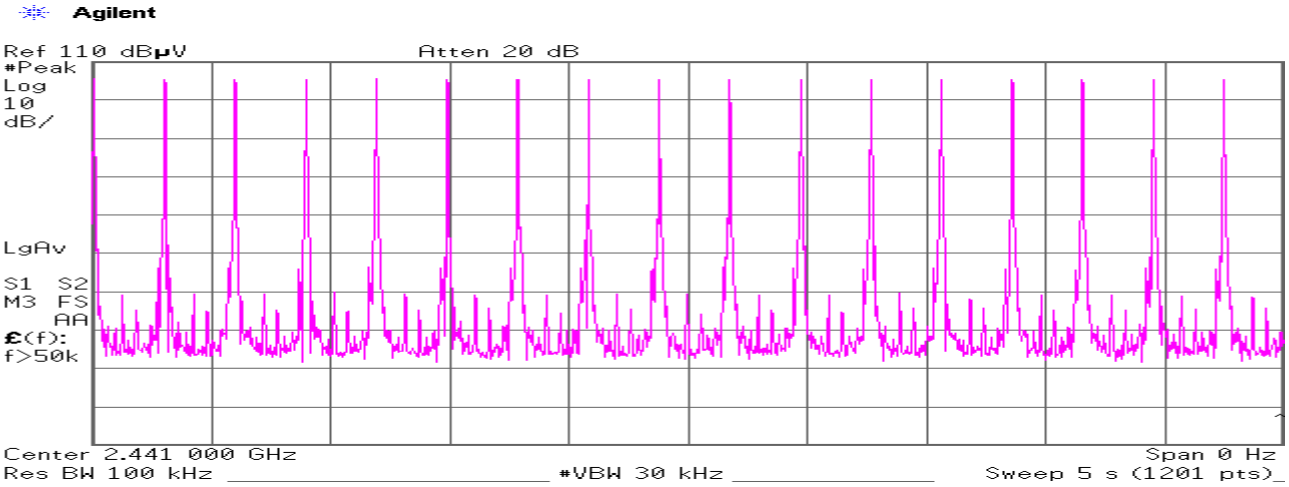
Count 2



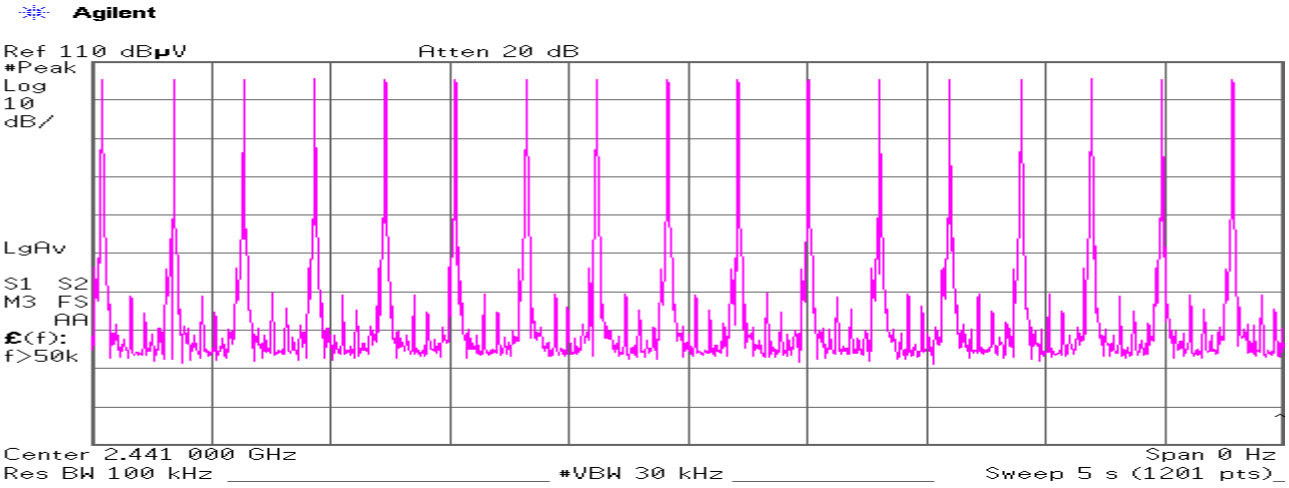
Count 3



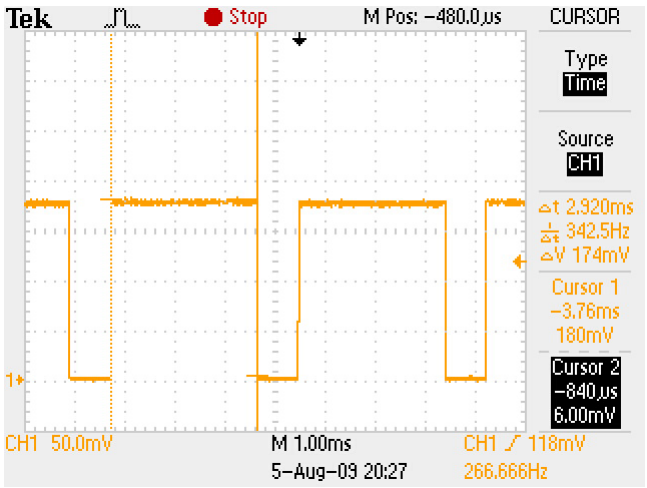
Count 4



Count 5



Duty cycle(Hopping DH5)

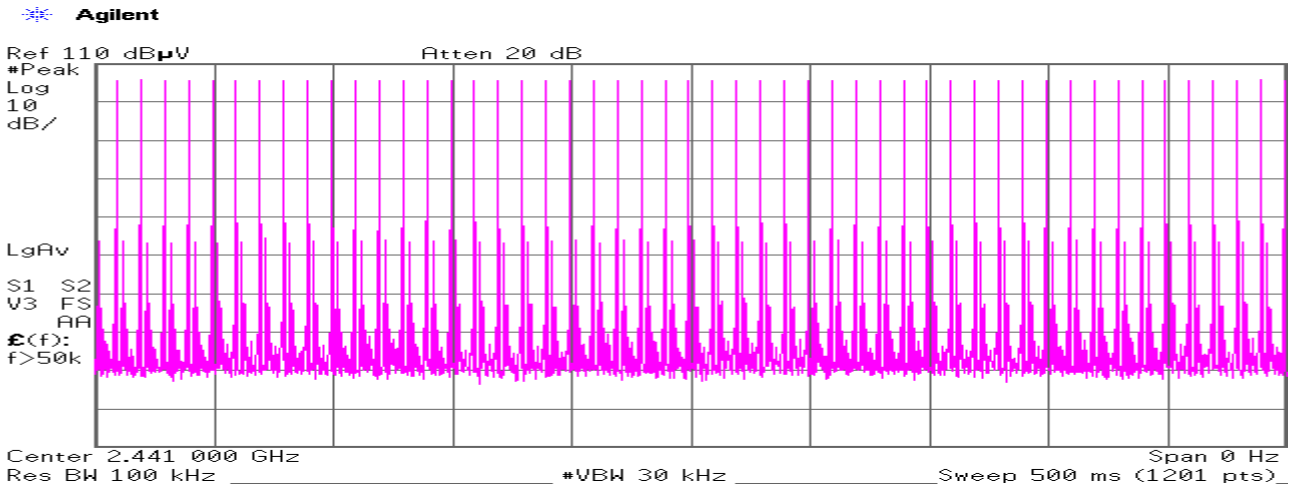


Average times of rising in 5 sec. of sweep = (17 + 17 + 17 + 17 + 17) / 5 = 17.0
Average times of rising in 1 sec. = 17.0 / 5s = 3.40
Average times of rising in 0.4x = 0.4 * 79ch * 3.40 = 107.44
Dwell time = 107.44 * 2.92 = 313.72 [ms]
Limit : Dwell Time < 0.4[s]

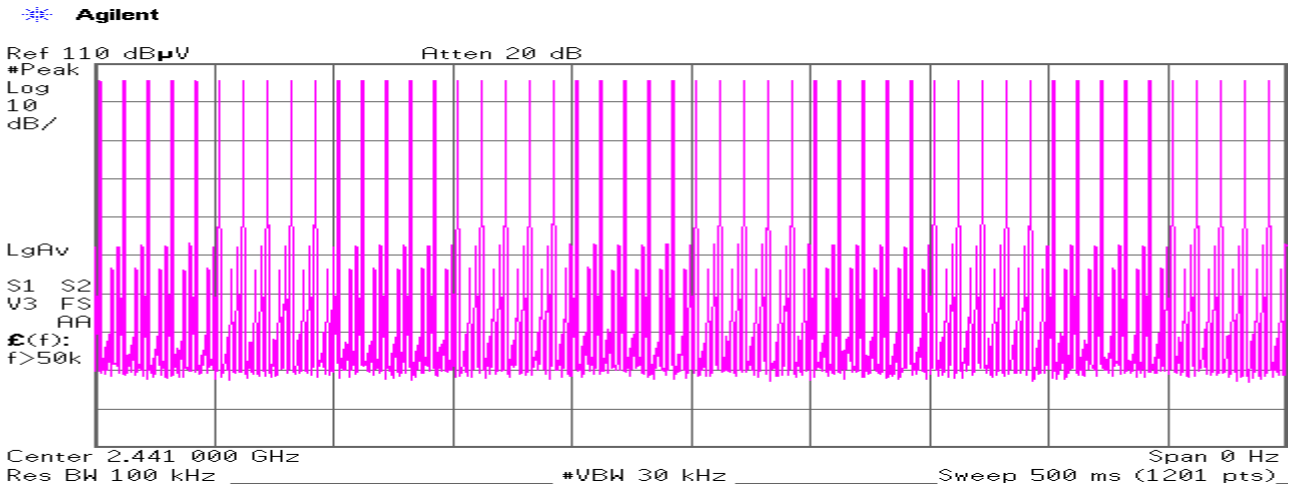
UL Japan, Inc. Yamakita EMC lab.	No.4 shielded room
Date:	2009/08/05
Temp./Humid.:	24 deg. C. / 53 %
Engineer:	Akira Sato
Test mode:	Transmitting (Inquiry)

Inquiry:

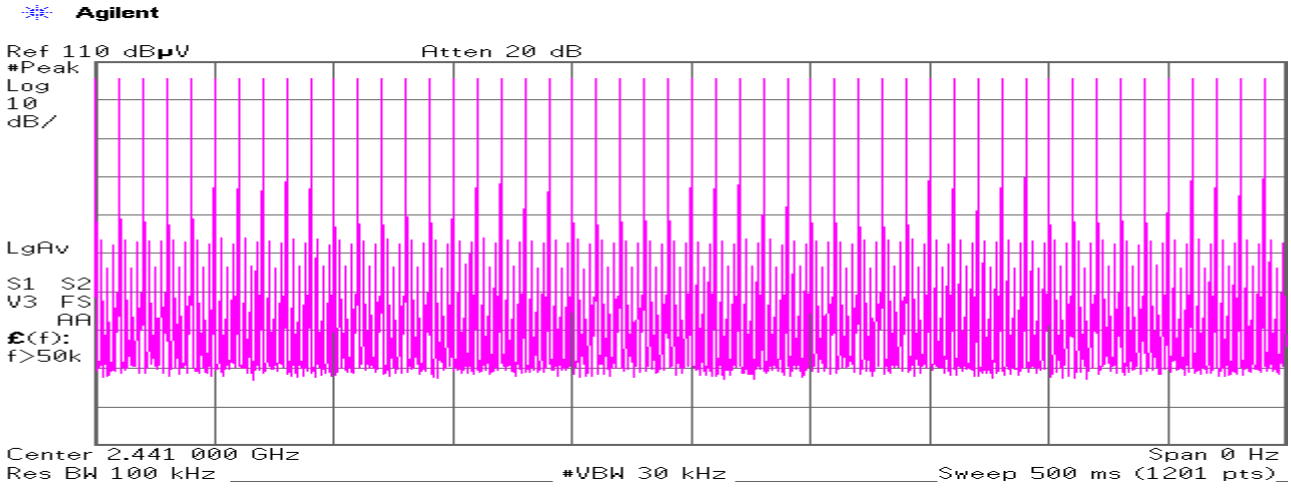
Count 1



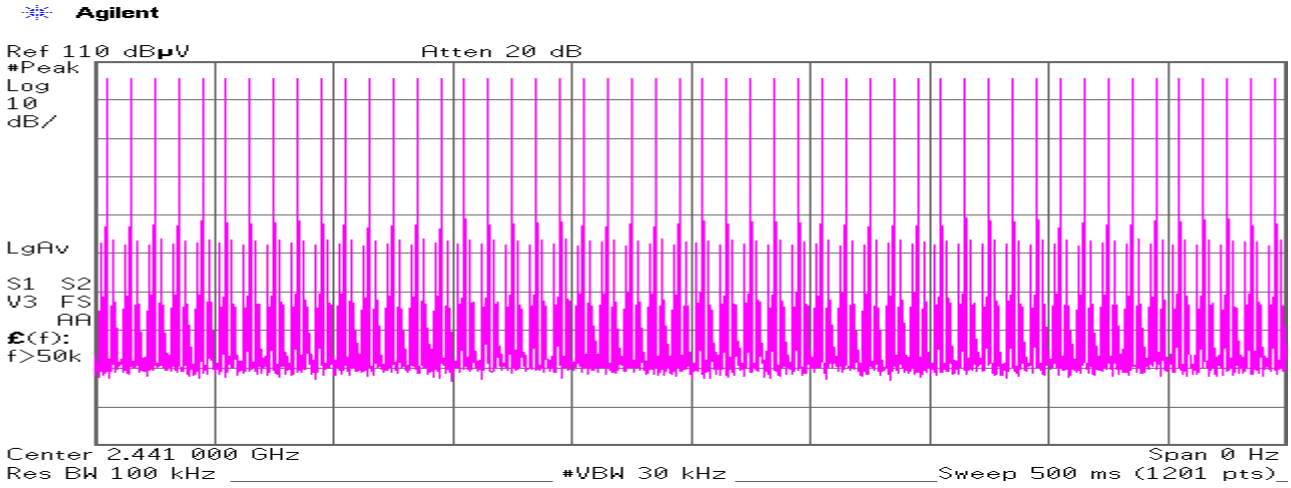
Count 2



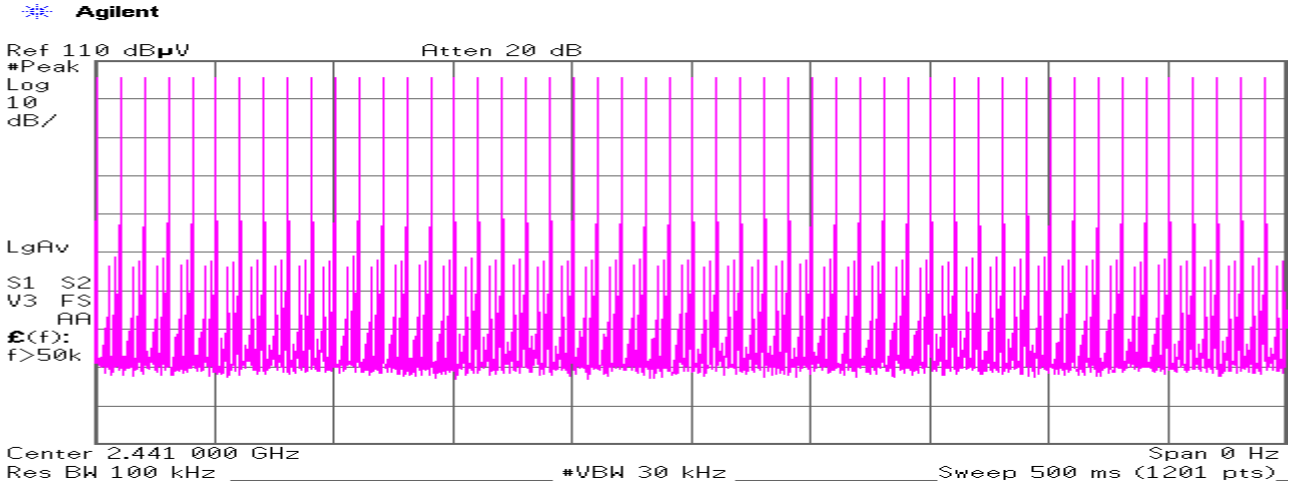
Count 3



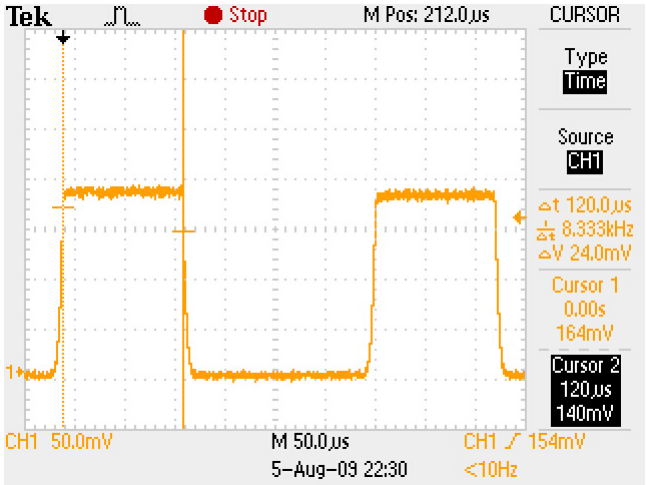
Count 4



Count 5



Duty cycle(Inquiry)



Average times of rising in 0.5 sec. of sweep = (50 + 50 + 50 + 50 + 50) / 5 = 50.0
Average times of rising in 1 sec. = 50.0 / 0.5s = 100.0
Average times of rising in 0.4x = 0.4 * 32ch * 100.0 = 1280.0
Dwell time = 1280.0 * 0.12 = 153.60 [ms]
Limit : Dwell Time < 0.4[s]

Maximum Peak Conducted Output Power (Regulation: FCC 15.247(b)(1))

UL Japan, Inc Yamakita EMC lab.
No.4 Shielded Room

DATE: 2009/8/5
TEMP./HUMID.: 24deg.C/53%
TEST MODE: Transmitting

ENGINEER: Akira Sato

DH5

CH	FREQ [GHz]	P/M Reading [dBm]	Cable Loss [dB]	Results [dBm]	Limit (125mW) [dBm]	MARGIN [dB]
Low	2402.00	-0.68	0.84	0.16	20.96	20.80
Mid	2441.00	-0.67	0.84	0.17	20.96	20.79
High	2480.00	-0.61	0.84	0.23	20.96	20.73
Inquiry	-	-0.65	0.84	0.19	20.96	20.77

Limit: 125mW=20.96dBm
P/M: Power Meter
CABLE LOSS:KCC-D22

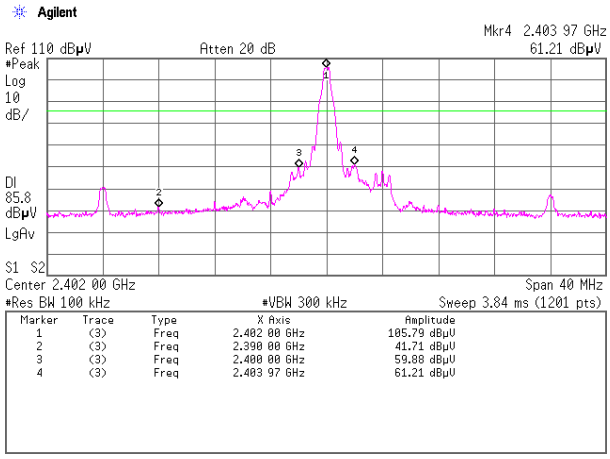
Out of Band Emission (Antenna Terminal Conducted) (Regulation: FCC 15.247(d))

UL Japan, Inc. Yamakita EMC lab.	No.4	shielded room
Date:	2009/08/05	
Temp:	24	deg. C.
Humid:	53	%
Engineer:	Akira Sato	
Test mode:	Transmitting	

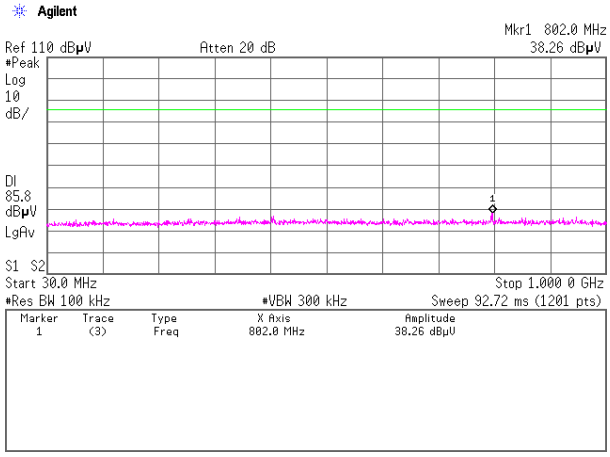
[Transmitting DH5]

Ch:2402MHz

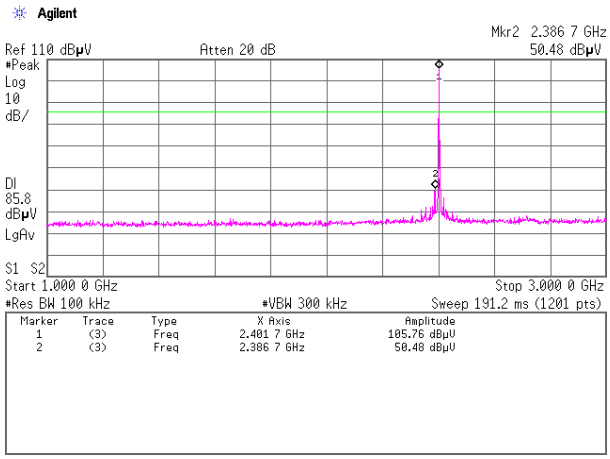
1.



2.

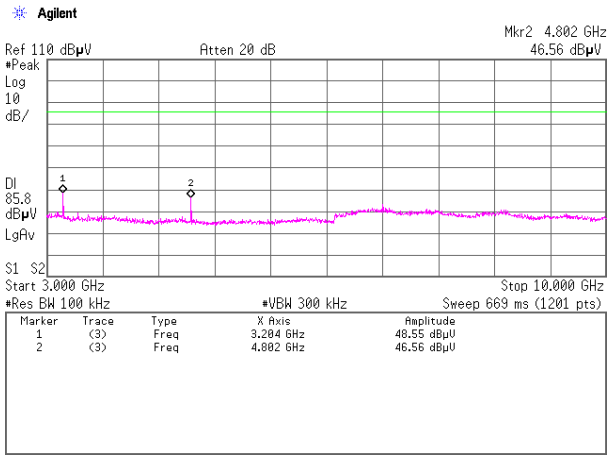


3.

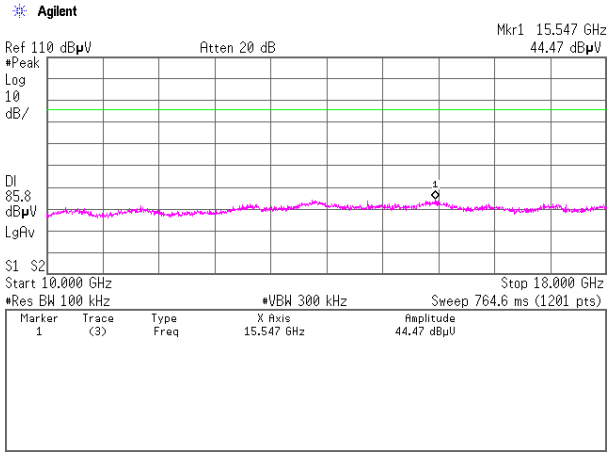


[Transmitting DH5]
Ch:2402MHz

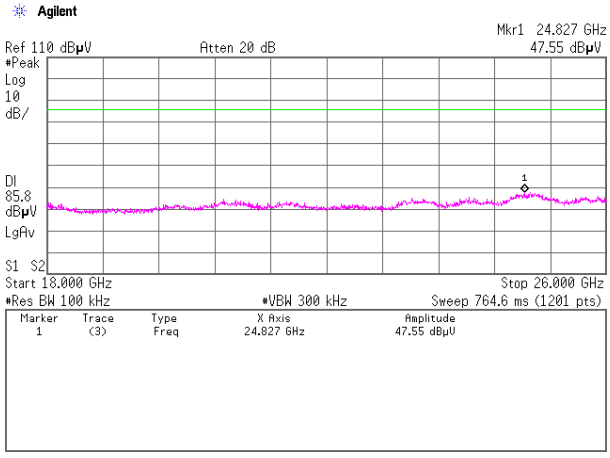
4.



5.



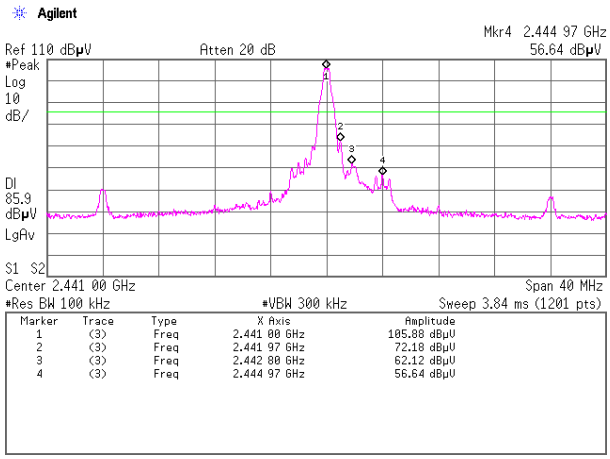
6.



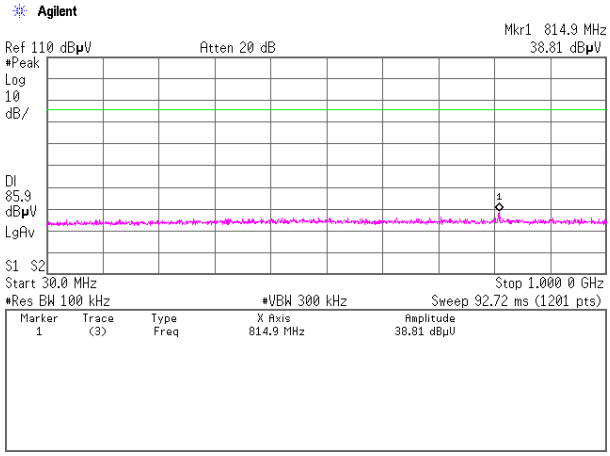
[Transmitting DH5]

Ch:2441MHz

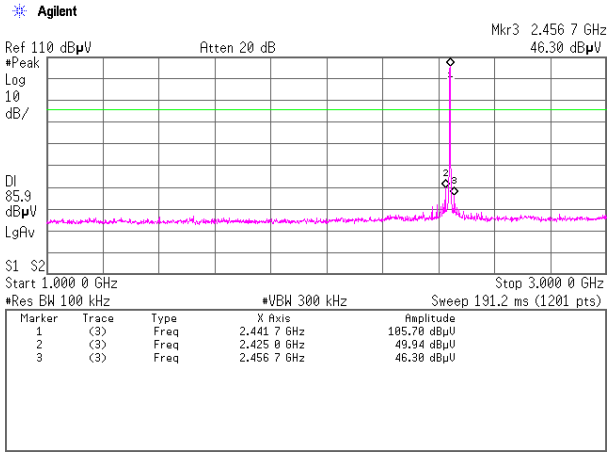
1.



2.

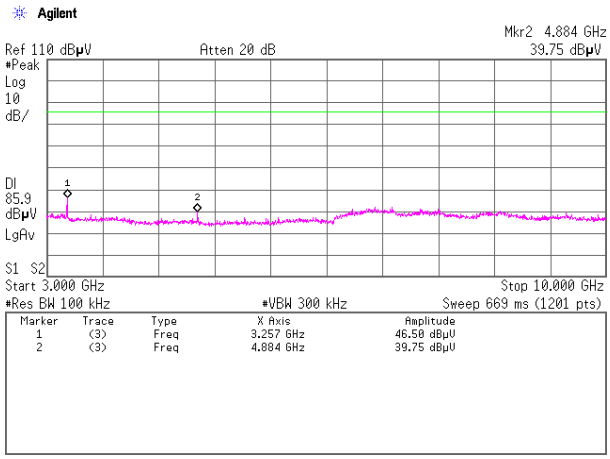


3.

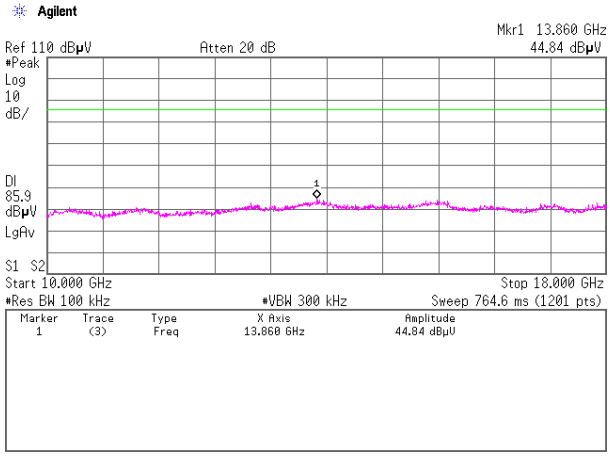


[Transmitting DH5]
Ch:2441MHz

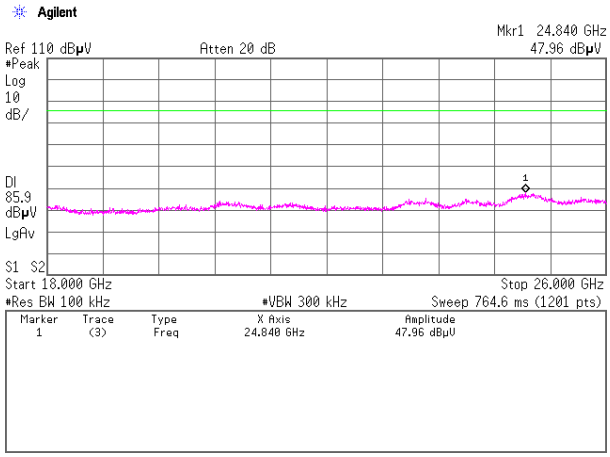
4.



5.



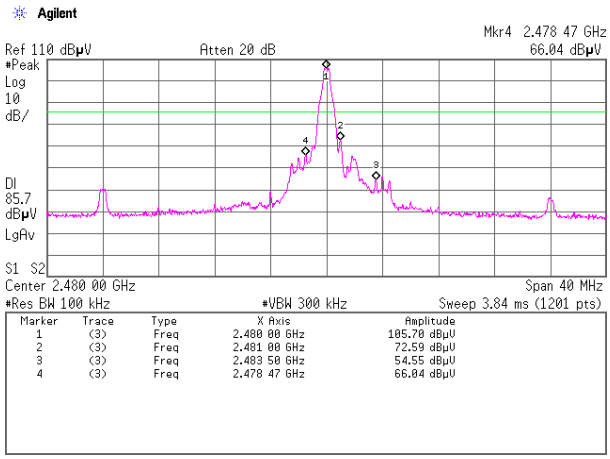
6.



[Transmitting DH5]

Ch:2480MHz

1.



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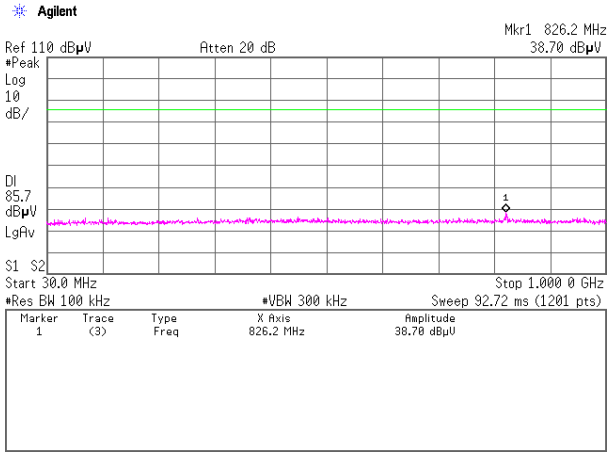

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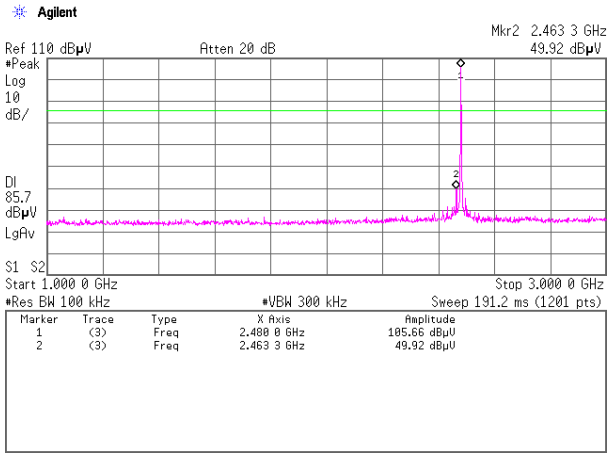
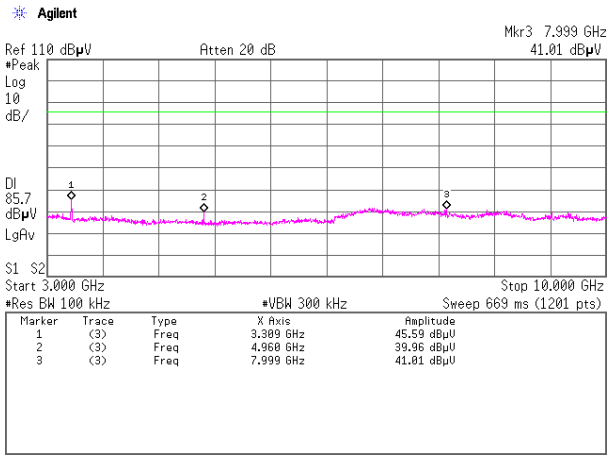


[Transmitting DH5]
Ch:2480MHz

4.



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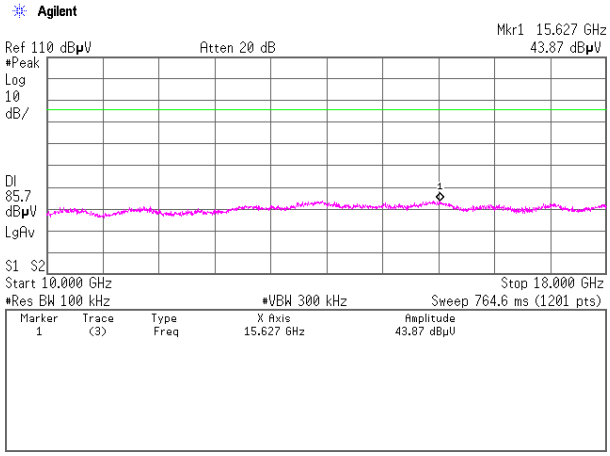

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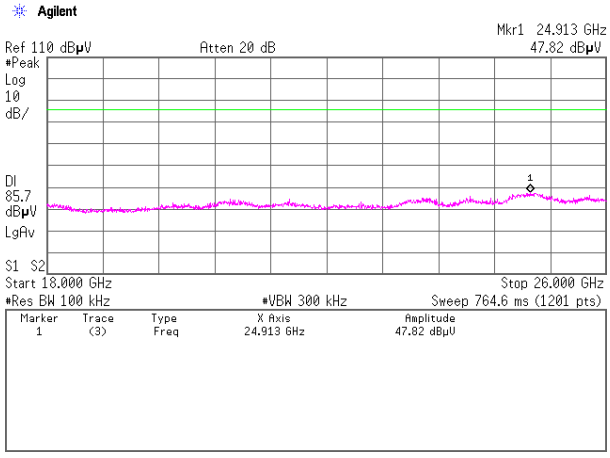
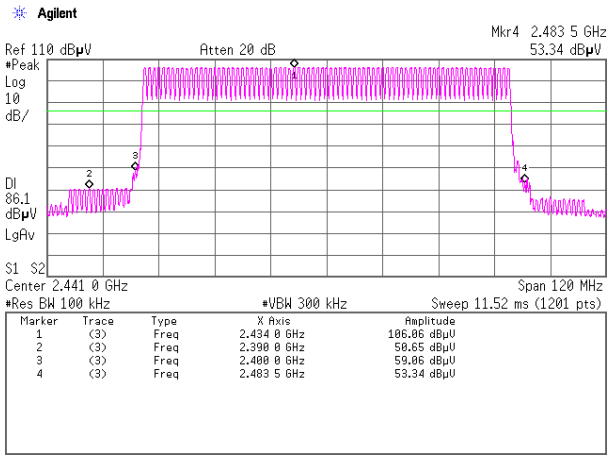


[Transmitting DH5]

Hopping

1.



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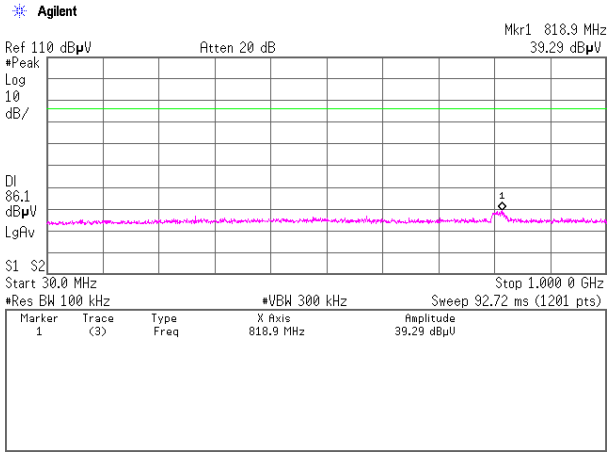

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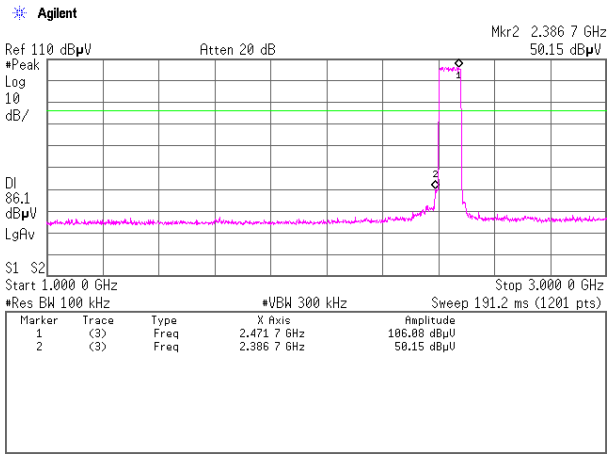
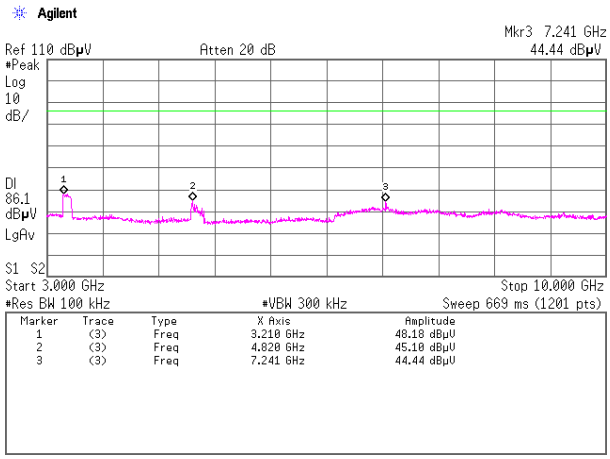


[Transmitting DH5]

Hopping

4.



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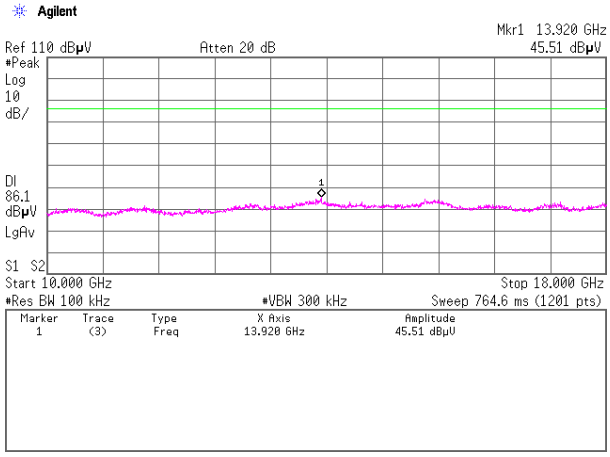

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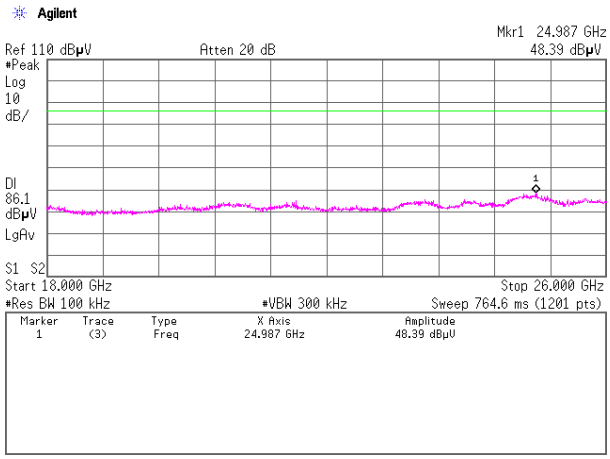
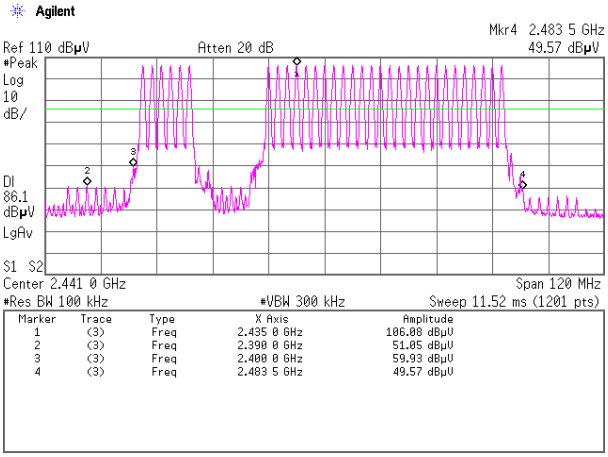


UL Japan, Inc. Yamakita EMC lab.	No.4 shielded room
Date:	2009/08/05
Temp./Humid.:	24 deg. C. / 53 %
Engineer:	Akira Sato
Test mode:	Transmitting (Inquiry)

[Transmitting]

Inquiry

1.



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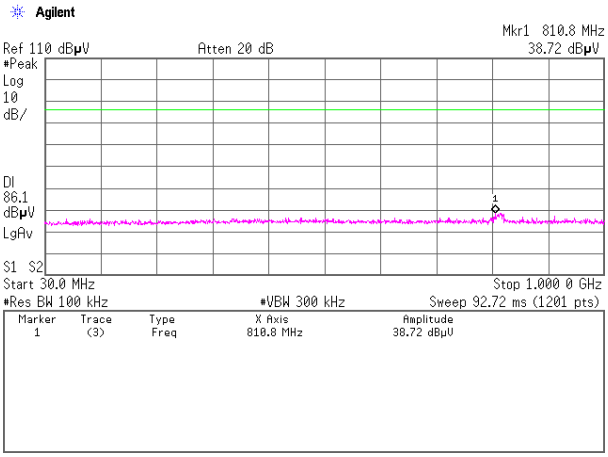

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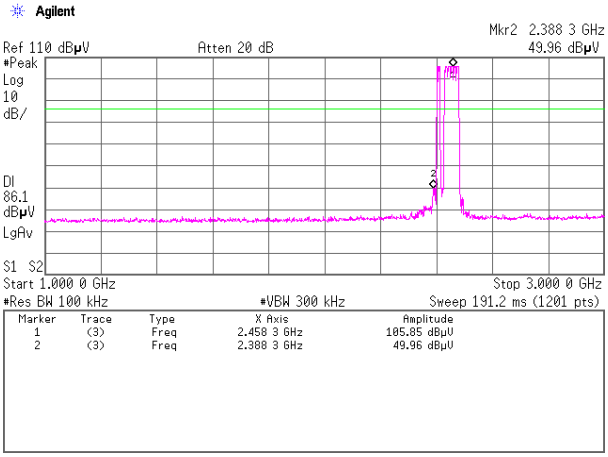

[Transmitting]

Inquiry

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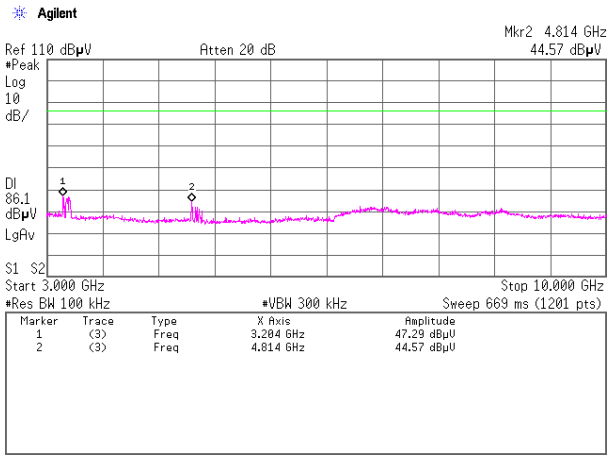

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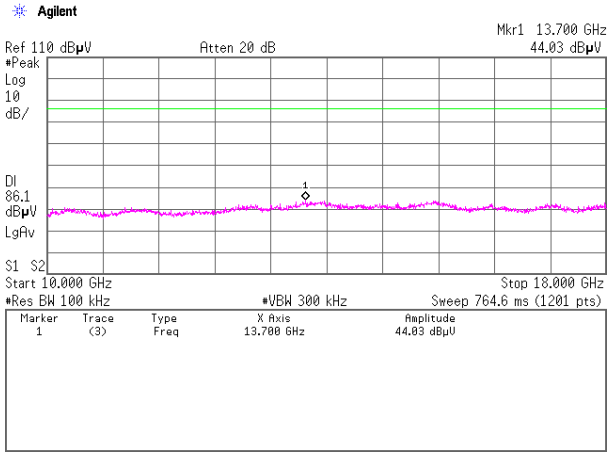

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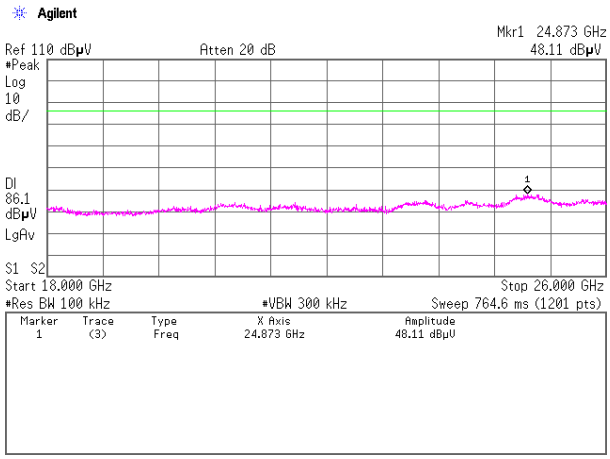


Data of Radiated Disturbance Test

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No.: 29KE0231-YK-01-A

Applicant : Sony EMCS Corporation
Kind of Equipment : Bluetooth Audio System
Model No. : MEX-BT3800U
Serial No. : EV09074
Power : DC12V
Mode : Transmitting (2402MHz DH5)
Remarks : -
Date : 7/22/2009
Test Distance : 3 m
Temperature : 22 ℃ Engineer : Minoru Nakatake
Humidity : 65 %
Limit : FCC Part15C §15.209

No.	FREQ. [MHz]	ANT TYPE	READING HOR [dBμV]	READING VER [dBμV]	ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT HOR [dBμV/m]	RESULT VER [dBμV/m]	LIMITS [dBμV/m]	MARGIN HOR [dB]	MARGIN VER [dB]
1.	30.64	BB	21.9	33.0	17.6	28.3	1.2	6.0	18.4	29.5	40.0	21.6	10.5
2.	48.30	BB	36.3	37.1	11.5	28.5	1.5	6.0	26.8	27.6	40.0	13.2	12.4
3.	49.49	BB	32.8	36.0	11.1	28.5	1.5	6.0	22.9	26.1	40.0	17.1	13.9
4.	50.67	BB	31.1	36.8	10.7	28.5	1.5	6.0	20.8	26.5	40.0	19.2	13.5
5.	288.00	BB	36.9	36.5	19.3	27.6	4.0	6.0	38.6	38.2	46.0	7.4	7.8
6.	314.57	BB	32.9	23.7	14.8	27.7	4.2	6.1	30.3	21.1	46.0	15.7	24.9
7.	316.93	BB	33.0	23.8	14.9	27.7	4.2	6.1	30.5	21.3	46.0	15.5	24.7

CALCULATION: READING + ANT.FACTOR + CABLE LOSS - AMP.GAIN + ATTEN.

■ANTENNA:KBA-05(BBA9106)30-299.99MHz/KLA-03(USLP9143)300-1000MHz
■CABLE:KCC-30/31/32/34■PREAMP:KAF-05(8447D)■EMI RECEIVER:KTR-02(ESCS30)

Data of Radiated Disturbance Test

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No.: 29KE0231-YK-01-A

Applicant : Sony EMCS Corporation
Kind of Equipment : Bluetooth Audio System
Model No. : MEX-BT3800U
Serial No. : EV09074
Power : DC12V
Mode : Transmitting (2441MHz DH5)
Remarks : -
Date : 7/22/2009
Test Distance : 3 m
Temperature : 22 ℃ Engineer : Minoru Nakatake
Humidity : 65 %
Limit : FCC Part15C §15.209

No.	FREQ. [MHz]	ANT TYPE	READING HOR [dBμV]	READING VER [dBμV]	ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT HOR [dBμV/m]	RESULT VER [dBμV/m]	LIMITS [dBμV/m]	MARGIN HOR [dB]	MARGIN VER [dB]
1.	30.64	BB	21.7	33.1	17.6	28.3	1.2	6.0	18.2	29.6	40.0	21.8	10.4
2.	48.31	BB	36.6	38.3	11.5	28.5	1.5	6.0	27.1	28.8	40.0	12.9	11.2
3.	49.49	BB	31.8	35.0	11.1	28.5	1.5	6.0	21.9	25.1	40.0	18.1	14.9
4.	50.67	BB	31.5	36.3	10.7	28.5	1.5	6.0	21.2	26.0	40.0	18.8	14.0
5.	288.00	BB	36.4	36.5	19.3	27.6	4.0	6.0	38.1	38.2	46.0	7.9	7.8
6.	314.57	BB	32.8	23.6	14.8	27.7	4.2	6.1	30.2	21.0	46.0	15.8	25.0
7.	316.93	BB	32.6	24.1	14.9	27.7	4.2	6.1	30.1	21.6	46.0	15.9	24.4

CALCULATION: READING + ANT.FACTOR + CABLE LOSS - AMP.GAIN + ATTEN.

■ANTENNA:KBA-05(BBA9106)30-299.99MHz/KLA-03(USLP9143)300-1000MHz
■CABLE:KCC-30/31/32/34■PREAMP:KAF-05(8447D)■EMI RECEIVER:KTR-02(ESCS30)

Data of Radiated Disturbance Test

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No.: 29KE0231-YK-01-A

Applicant : Sony EMCS Corporation
Kind of Equipment : Bluetooth Audio System
Model No. : MEX-BT3800U
Serial No. : EV09074
Power : DC12V
Mode : Transmitting (2480MHz DH5)
Remarks : -
Date : 7/22/2009
Test Distance : 3 m
Temperature : 22 ℃ Engineer : Minoru Nakatake
Humidity : 65 %
Limit : FCC Part15C §15.209

No.	FREQ. [MHz]	ANT TYPE	READING HOR [dBμV]	READING VER [dBμV]	ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT HOR [dBμV/m]	RESULT VER [dBμV/m]	LIMITS [dBμV/m]	MARGIN HOR [dB]	MARGIN VER [dB]
1.	30.64	BB	21.7	30.9	17.6	28.3	1.2	6.0	18.2	27.4	40.0	21.8	12.6
2.	48.31	BB	35.4	37.5	11.5	28.5	1.5	6.0	25.9	28.0	40.0	14.1	12.0
3.	49.49	BB	30.7	34.2	11.1	28.5	1.5	6.0	20.8	24.3	40.0	19.2	15.7
4.	50.67	BB	30.5	35.9	10.7	28.5	1.5	6.0	20.2	25.6	40.0	19.8	14.4
5.	288.00	BB	34.5	36.5	19.3	27.6	4.0	6.0	36.2	38.2	46.0	9.8	7.8
6.	314.58	BB	33.1	23.8	14.8	27.7	4.2	6.1	30.5	21.2	46.0	15.5	24.8
7.	316.94	BB	31.6	23.7	14.9	27.7	4.2	6.1	29.1	21.2	46.0	16.9	24.8

CALCULATION: READING + ANT.FACTOR + CABLE LOSS - AMP.GAIN + ATTEN.

■ANTENNA:KBA-05(BBA9106)30-299.99MHz/KLA-03(USLP9143)300-1000MHz
■CABLE:KCC-30/31/32/34■PREAMP:KAF-05(8447D)■EMI RECEIVER:KTR-02(ESCS30)

Data of Radiated Disturbance Test

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No.: 29KE0231-YK-01-A

Applicant : Sony EMCS Corporation
Kind of Equipment : Bluetooth Audio System
Model No. : MEX-BT3800U
Serial No. : EV09074
Power : DC12V
Mode : Transmitting (2402MHz DH5)
Remarks : PK (RBW:1MHz, VBW:1MHz)
Date : 7/22/2009
Test Distance : 3 m
Temperature : 22 ℃ Engineer : Minoru Nakatake
Humidity : 65 %
Limit : FCC Part15C §15.209(PK Detection)

No.	FREQ. [MHz]	ANT TYPE	READING HOR [dBμV]	READING VER [dBμV]	ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT HOR [dBμV/m]	RESULT VER [dBμV/m]	LIMITS [dBμV/m]	MARGIN HOR [dB]	MARGIN VER [dB]
1.	1602.01	BB	51.2	52.2	26.5	36.8	3.4	0.0	44.3	45.3	74.0	29.7	28.7
2.	2390.00	BB	45.1	46.1	28.0	36.5	4.2	0.0	40.8	41.8	74.0	33.2	32.2
3.	2400.00	BB	57.7	58.5	28.0	36.5	4.2	0.0	53.4	54.2	74.0	20.6	19.8
4.	4804.00	BB	44.1	44.7	32.2	36.2	5.9	0.0	46.0	46.6	74.0	28.0	27.4
5.	7206.00	BB	45.2	44.0	36.6	36.2	7.3	0.0	52.9	51.7	74.0	21.1	22.3
6.	9608.00	BB	44.4	45.5	38.8	36.3	8.6	0.0	55.5	56.6	74.0	18.5	17.4
7.	12010.00	BB	44.7	43.7	38.7	35.6	9.6	0.0	57.4	56.4	74.0	16.6	17.6

CALCULATION: READING + ANT.FACTOR + CABLE LOSS - AMP.GAIN + ATTEN.

■ANTENNA:KHA-02■CABLE:KCC-D24/D25
■AMP:KAF-02(8449B)■SPECTRUM ANALYZER: KSA-08(E4446A)

Data of Radiated Disturbance Test

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No.: 29KE0231-YK-01-A

Applicant : Sony EMCS Corporation
Kind of Equipment : Bluetooth Audio System
Model No. : MEX-BT3800U
Serial No. : EV09074
Power : DC12V
Mode : Transmitting (2402MHz DH5)
Remarks : AV (RBW:1MHz, VBW:300Hz)
Date : 7/22/2009
Test Distance : 3 m
Temperature : 22 ℃ Engineer : Minoru Nakatake
Humidity : 65 %
Limit : FCC Part15C §15.209(AV Detection)

No.	FREQ. [MHz]	ANT TYPE	READING HOR [dBμV]	READING VER [dBμV]	ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT HOR [dBμV/m]	RESULT VER [dBμV/m]	LIMITS [dBμV/m]	MARGIN HOR [dB]	MARGIN VER [dB]
1.	1602.01	BB	47.3	48.6	26.5	36.8	3.4	0.0	40.4	41.7	54.0	13.6	12.3
2.	2390.00	BB	33.3	33.8	28.0	36.5	4.2	0.0	29.0	29.5	54.0	25.0	24.5
3.	2400.00	BB	49.7	50.4	28.0	36.5	4.2	0.0	45.4	46.1	54.0	8.6	7.9
4.	4804.00	BB	33.5	35.0	32.2	36.2	5.9	0.0	35.4	36.9	54.0	18.6	17.1
5.	7206.00	BB	31.9	32.0	36.6	36.2	7.3	0.0	39.6	39.7	54.0	14.4	14.3
6.	9608.00	BB	31.6	31.4	38.8	36.3	8.6	0.0	42.7	42.5	54.0	11.3	11.5
7.	12010.00	BB	32.0	31.4	38.7	35.6	9.6	0.0	44.7	44.1	54.0	9.3	9.9

CALCULATION: READING + ANT.FACTOR + CABLE LOSS - AMP.GAIN + ATTEN.

■ANTENNA:KHA-02■CABLE:KCC-D24/D25
■AMP:KAF-02(8449B)■SPECTRUM ANALYZER: KSA-08(E4446A)

Data of Radiated Disturbance Test

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No.: 29KE0231-YK-01-A

Applicant : Sony EMCS Corporation
Kind of Equipment : Bluetooth Audio System
Model No. : MEX-BT3800U
Serial No. : EV09074
Power : DC12V
Mode : Transmitting (2441MHz DH5)
Remarks : PK (RBW:1MHz, VBW:1MHz)
Date : 7/22/2009
Test Distance : 3 m
Temperature : 22 ℃ Engineer : Minoru Nakatake
Humidity : 65 %
Limit : FCC Part15C §15.209(PK Detection)

No.	FREQ. [MHz]	ANT TYPE	READING HOR [dBμV]	READING VER [dBμV]	ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT HOR [dBμV/m]	RESULT VER [dBμV/m]	LIMITS [dBμV/m]	MARGIN HOR [dB]	MARGIN VER [dB]
1.	1627.99	BB	51.5	48.7	26.5	36.8	3.4	0.0	44.6	41.8	74.0	29.4	32.2
2.	4882.00	BB	43.5	43.0	32.2	36.1	6.0	0.0	45.6	45.1	74.0	28.4	28.9
3.	7323.00	BB	44.7	43.6	36.9	36.3	7.4	0.0	52.7	51.6	74.0	21.3	22.4
4.	9764.00	BB	44.4	44.3	38.9	36.2	8.6	0.0	55.7	55.6	74.0	18.3	18.4
5.	12205.00	BB	44.9	44.4	39.0	35.2	9.7	0.0	58.4	57.9	74.0	15.6	16.1

CALCULATION: READING + ANT.FACTOR + CABLE LOSS - AMP.GAIN + ATTEN.

■ANTENNA:KHA-02■CABLE:KCC-D24/D25
■AMP:KAF-02(8449B)■SPECTRUM ANALYZER: KSA-08(E4446A)

Data of Radiated Disturbance Test

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No.: 29KE0231-YK-01-A

Applicant : Sony EMCS Corporation
Kind of Equipment : Bluetooth Audio System
Model No. : MEX-BT3800U
Serial No. : EV09074
Power : DC12V
Mode : Transmitting (2441MHz DH5)
Remarks : AV (RBW:1MHz, VBW:300Hz)
Date : 7/22/2009
Test Distance : 3 m
Temperature : 22 ℃ Engineer : Minoru Nakatake
Humidity : 65 %
Limit : FCC Part15C §15.209(AV Detection)

No.	FREQ. [MHz]	ANT TYPE	READING HOR [dBμV]	READING VER [dBμV]	ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT HOR [dBμV/m]	RESULT VER [dBμV/m]	LIMITS [dBμV/m]	MARGIN HOR [dB]	MARGIN VER [dB]
1.	1627.99	BB	47.4	43.7	26.5	36.8	3.4	0.0	40.5	36.8	54.0	13.5	17.2
2.	4882.00	BB	31.4	31.7	32.2	36.1	6.0	0.0	33.5	33.8	54.0	20.5	20.2
3.	7323.00	BB	32.1	32.1	36.9	36.3	7.4	0.0	40.1	40.1	54.0	13.9	13.9
4.	9764.00	BB	31.6	31.9	38.9	36.2	8.6	0.0	42.9	43.2	54.0	11.1	10.8
5.	12205.00	BB	31.7	32.1	39.0	35.2	9.7	0.0	45.2	45.6	54.0	8.8	8.4

CALCULATION: READING + ANT.FACTOR + CABLE LOSS - AMP.GAIN + ATTEN.

■ANTENNA:KHA-02■CABLE:KCC-D24/D25
■AMP:KAF-02(8449B)■SPECTRUM ANALYZER: KSA-08(E4446A)

Data of Radiated Disturbance Test

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No.: 29KE0231-YK-01-A

Applicant : Sony EMCS Corporation
Kind of Equipment : Bluetooth Audio System
Model No. : MEX-BT3800U
Serial No. : EV09074
Power : DC12V
Mode : Transmitting (2480MHz DH5)
Remarks : PK (RBW:1MHz, VBW:1MHz)
Date : 7/22/2009
Test Distance : 3 m
Temperature : 22 ℃ Engineer : Minoru Nakatake
Humidity : 65 %
Limit : FCC Part15C §15.209(PK Detection)

No.	FREQ. [MHz]	ANT TYPE	READING HOR [dBμV]	READING VER [dBμV]	ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT HOR [dBμV/m]	RESULT VER [dBμV/m]	LIMITS [dBμV/m]	MARGIN HOR [dB]	MARGIN VER [dB]
1.	1654.03	BB	50.9	50.3	26.6	36.8	3.4	0.0	44.1	43.5	74.0	29.9	30.5
2.	2483.50	BB	52.1	51.1	28.0	36.5	4.2	0.0	47.8	46.8	74.0	26.2	27.2
3.	4960.00	BB	44.2	44.2	32.3	36.1	6.0	0.0	46.4	46.4	74.0	27.6	27.6
4.	7440.00	BB	44.0	44.0	37.2	36.3	7.4	0.0	52.3	52.3	74.0	21.7	21.7
5.	9920.00	BB	44.5	44.0	39.1	36.2	8.6	0.0	56.0	55.5	74.0	18.0	18.5
6.	12400.00	BB	44.3	44.2	39.3	34.9	9.7	0.0	58.4	58.3	74.0	15.6	15.7

CALCULATION: READING + ANT.FACTOR + CABLE LOSS - AMP.GAIN + ATTEN.

■ANTENNA:KHA-02■CABLE:KCC-D24/D25
■AMP:KAF-02(8449B)■SPECTRUM ANALYZER: KSA-08(E4446A)

Data of Radiated Disturbance Test

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No.: 29KE0231-YK-01-A

Applicant : Sony EMCS Corporation
Kind of Equipment : Bluetooth Audio System
Model No. : MEX-BT3800U
Serial No. : EV09074
Power : DC12V
Mode : Transmitting (2480MHz DH5)
Remarks : AV (RBW:1MHz, VBW:300Hz)
Date : 7/22/2009
Test Distance : 3 m
Temperature : 22 ℃ Engineer : Minoru Nakatake
Humidity : 65 %
Limit : FCC Part15C §15.209(AV Detection)

No.	FREQ. [MHz]	ANT TYPE	READING HOR [dBμV]	READING VER [dBμV]	ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT HOR [dBμV/m]	RESULT VER [dBμV/m]	LIMITS [dBμV/m]	MARGIN HOR [dB]	MARGIN VER [dB]
1.	1654.03	BB	46.7	44.3	26.6	36.8	3.4	0.0	39.9	37.5	54.0	14.1	16.5
2.	2483.50	BB	41.7	40.9	28.0	36.5	4.2	0.0	37.4	36.6	54.0	16.6	17.4
3.	4960.00	BB	33.1	32.2	32.3	36.1	6.0	0.0	35.3	34.4	54.0	18.7	19.6
4.	7440.00	BB	31.9	31.4	37.2	36.3	7.4	0.0	40.2	39.7	54.0	13.8	14.3
5.	9920.00	BB	31.8	31.3	39.1	36.2	8.6	0.0	43.3	42.8	54.0	10.7	11.2
6.	12400.00	BB	31.4	31.2	39.3	34.9	9.7	0.0	45.5	45.3	54.0	8.5	8.7

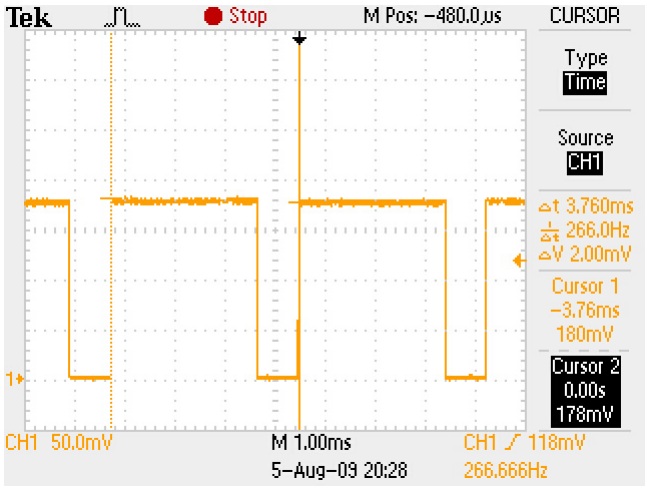
CALCULATION: READING + ANT.FACTOR + CABLE LOSS - AMP.GAIN + ATTEN.

■ANTENNA:KHA-02■CABLE:KCC-D24/D25
■AMP:KAF-02(8449B)■SPECTRUM ANALYZER: KSA-08(E4446A)

Duty Cycle

UL Japan, Inc. Yamakita EMC lab.	No.4 shielded room
Date:	2009/08/05
Temp./Humid.:	24 deg. C. / 53 %
Engineer:	Akira Sato
Test mode:	Transmitting

[DH5]



Duty Cycle: 3.76ms

AV Detector VBW: 1000 / 3.76ms = 266.0Hz → 300Hz

*** All the measured noise was pulse emission.**
*** Duty cycle was within 100msec.**

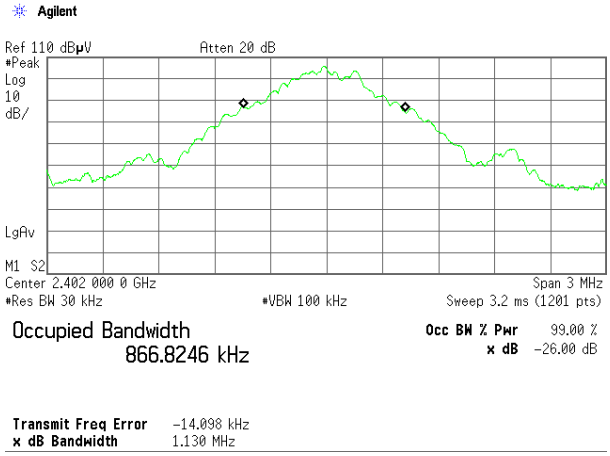
This purpose of the Duty Cycle calculation measures the pulse timing that we ensure Spectrum Analyzer can detect the pulse emission correctly. Therefore, if the pulse train can happen by 50msec(20Hz) or less, the average value measurement by setting the repetition frequency is done more correctly than VBW=10Hz that DA 00-705 accepts for AV detect. For instance, if pulse cycle is every 10msec, we set VBW = 100Hz(=1000/10) in order not to overlook a pulse unexpectedly.

Occupied Bandwidth (99%) (Regulation: RSS-Gen 4.6.1)

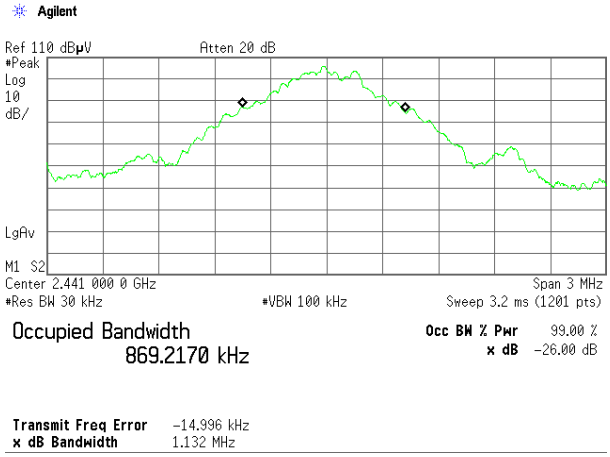
UL Japan, Inc. Yamakita EMC lab.	No.4	shielded room
Date:	2009/08/05	
Temp:	24	deg. C.
Humid:	53	%
Engineer:	Akira Sato	
Test mode:	Transmitting	

[Hopping off, DH5]

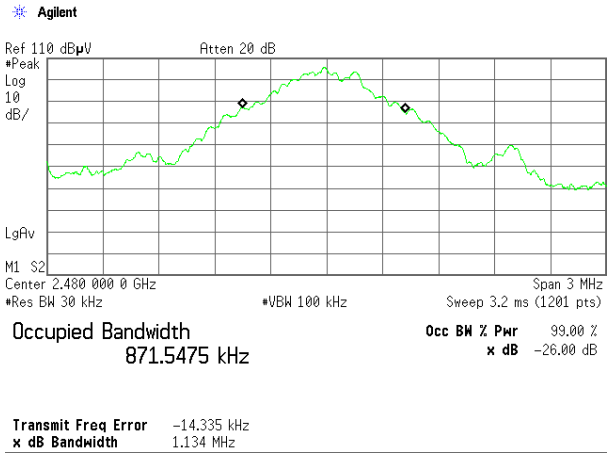
1. ch : 2402MHz/Occupied Bandwidth: 866.8246kHz



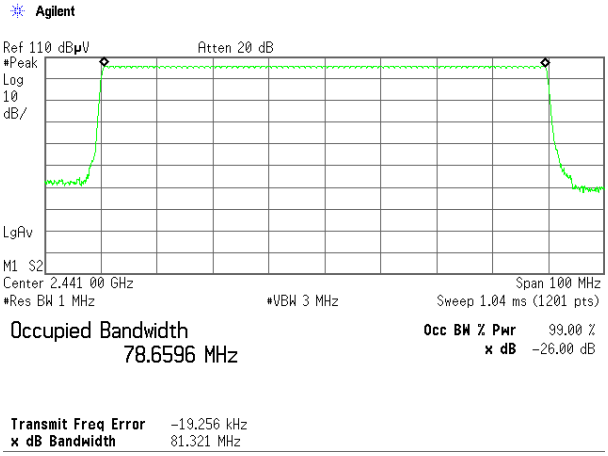
2. ch : 2441MHz/Occupied Bandwidth: 869.2170kHz



3. ch : 2480MHz/Occupied Bandwidth: 871.5475kHz



7. Hopping, DH5/Occupied Bandwidth: 78.6596MHz



APPENDIX 3
Test Instruments

EMI test equipment

Control No.	Instrument	Manufacturer	Model No	Serial No	Test Item	Calibration Date * Interval(month)
CUST-YA-RE	Radiated emission(software)	UL Japan	RE(Ver.1.9)	-	RE	-
KAEC-01(NSA)	Anechoic Chamber	JSE	Semi 3m	1	RE	2009/08/20 * 12
KAF-05	Pre Amplifier	Agilent	8447D	2944A10150	RE	2009/03/27 * 12
KAT6-01	Attenuator	INMET	18N-6dB	-	RE	2009/03/10 * 12
KBA-05	Biconical Antenna	Schwarzbeck	BBA9106	2513	RE	2009/07/12 * 12
KLA-03	Logperiodic Antenna	Schwarzbeck	USLP9143	170	RE	2008/12/28 * 12
KCC-30/31/32 /34/KRM-03	Coaxial Cable/RF Relay Matrix	Fujikura/Suhner/TSJ	5D-2W/S04272B/ RFM-E421	-/01055	RE	2008/10/22 * 12
KSA-04	Spectrum Analyzer	Advantest	R3271A	95060087	RE	2008/09/29 * 12
KTR-02	Test Receiver	Rohde & Schwarz	ESCS30	830986/017	RE	2008/09/12 * 12
KTR-04	Test Receiver	Rohde & Schwarz	ESVS10	825475/006	RE	2009/03/03 * 12
KAF-02	Pre Amplifier	Hewlett Packard	8449B	3008A01268	RE	2009/04/24 * 12
KCC-D13/D16	Coaxial cable	Suhuner/INSULATED WIRE INC	SUCOFLEX104/KP S-1501-200-KPS	200723/4 /04202005	RE	2009/04/27 * 12
KCC-D24/D25	Coaxial Cable	Suhner	SUCOFLEX 102	32718/2 / 32709/2	RE	2009/04/23 * 12
KHA-02	Horn Antenna	Schwarzbeck	BBHA9120D	230	RE	2009/04/24 * 12
KHA-04	Horn Antenna	EMCO	3160-09	1278	RE	2009/04/24 * 12
KPM-08	Power meter	Anritsu	ML2495A	6K00003356	AT 5	2008/10/02 * 12
KPSS-04	Power sensor	Anritsu	MA2411B	012088	AT 5	2008/10/02 * 12
KSA-08	Spectrum Analyzer	Agilent	E4446A	MY46180525	AT 1,2,3,4,6	2009/01/22 * 12
KCC-D20	Coaxial Cable	SUHNER	SUCOFLEX102	31110/2	AT 1,2,3,4,6,7	2009/07/30 * 12
KCC-D22	Microwave Cable	Hirose Electric	U.FL-2LP-066J1-A-(200)	-	AT	Pre Check
KOSC-01	Oscilloscope	Tektronix	TDS-2022B	C050588	AT 7	2009/05/20 * 12
KOS-01	Humidity Indicator	Custom	CTH-190	K-01	AT	2009/07/29 * 12
KOS-07	Humidity Indicator	Custom	CTH-190	K-07	RE	2009/07/29 * 12
KJM-07	Measure	KOMELON	KMC-36	-	RE	-
KDT-01	Coaxial Crystal Detector	Agilent	8473C	1822A05320	AT 7	Pre Check

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

All equipment is calibrated with traceable calibrations . Each calibration is traceable to the national or international standards.

Test Item :
- RE: Out of Band Emission (Radiated)
- AT: Antenna terminal conducted test
  - 1: Carrier Frequency Separation
  - 2: 20dB Bandwidth
  - 3: Number of Hopping Frequency
  - 4: Dwell time
  - 5: Maximum Peak Output Power
  - 6: Out of Band Emission (Conducted)
  - 7: Duty cycle