

Company: PIONEER CORPORATION
Kind of Equipment: Multi-Media AVN Navigation
Server System with BT
Serial No.: TPIC000038

Report No.:
Model No.:
Power:

29IE0120-YK-01-A
AVIC-Z110BT
DC 12.0V

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

UL Japan, Inc. Yamakita EMC lab.

No.4 shielded room

Date:

2009/04/30

Temp:

23 deg. C.

Humid:

44 %

Engineer:

Akira Sato

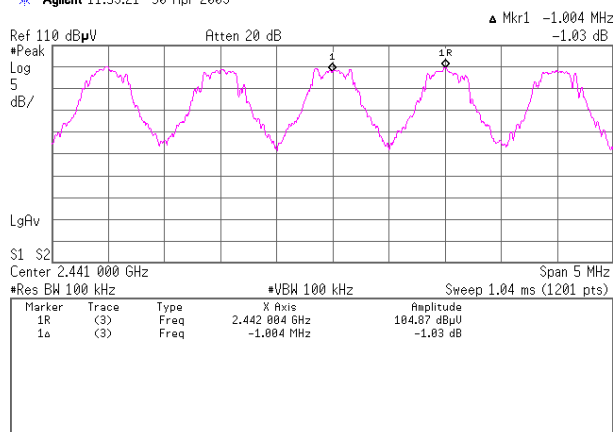
Test mode:

Transmitting

Limit: $\geq 25\text{kHz}$ or $2/3 * 20\text{dB}$ Bandwidth (Power: No greater than 125mW)

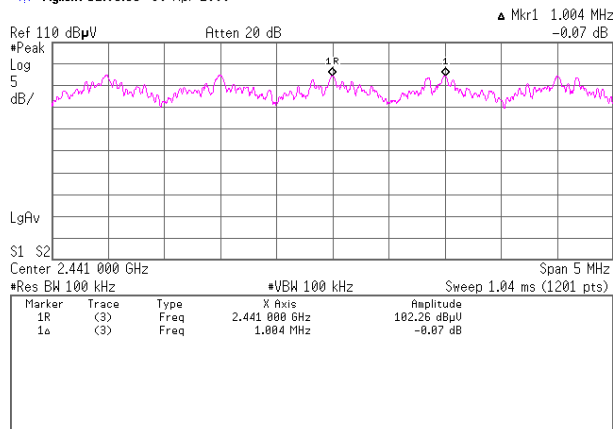
1. Hopping, DH5: 1.004MHz ($2/3 * 20\text{dB}$ Bandwidth: $2/3 * 940.0\text{kHz} = 626.6\text{kHz}$)

* Agilent 11:59:21 30 Apr 2009



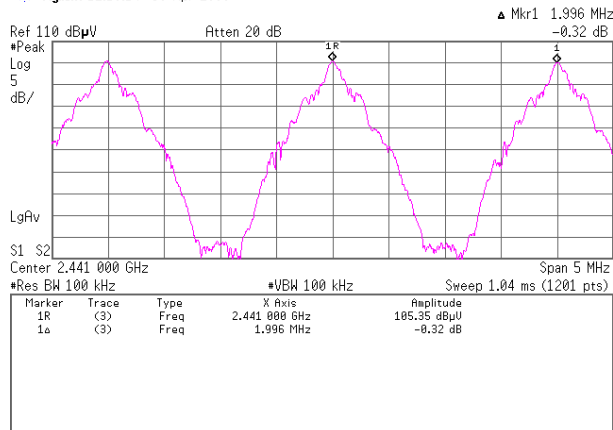
2. Hopping, 3DH5: 1.004MHz ($2/3 * 20\text{dB}$ Bandwidth: $2/3 * 1.2950\text{MHz} = 863.3\text{kHz}$)

* Agilent 12:05:55 30 Apr 2009



3. Inquiry: 1.996MHz ($2/3 * 20\text{dB}$ Bandwidth: $2/3 * 817.5\text{kHz} = 545.0\text{kHz}$)

* Agilent 12:19:14 30 Apr 2009



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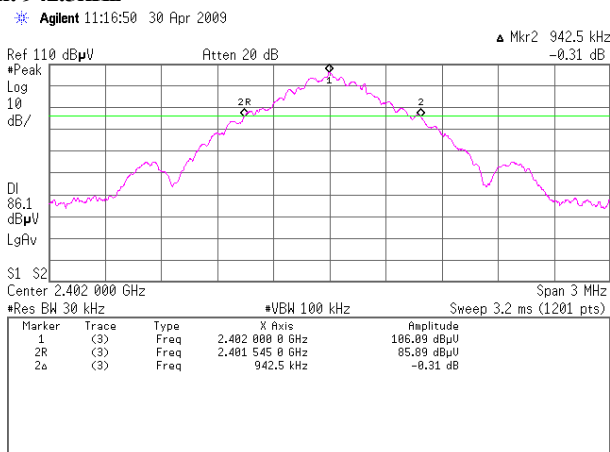
20dB Bandwidth (Regulation: FCC 15.247(a)(1))

UL Japan, Inc. Yamakita EMC lab.
Date:
Temp./Humid.:
Engineer:
Test mode:

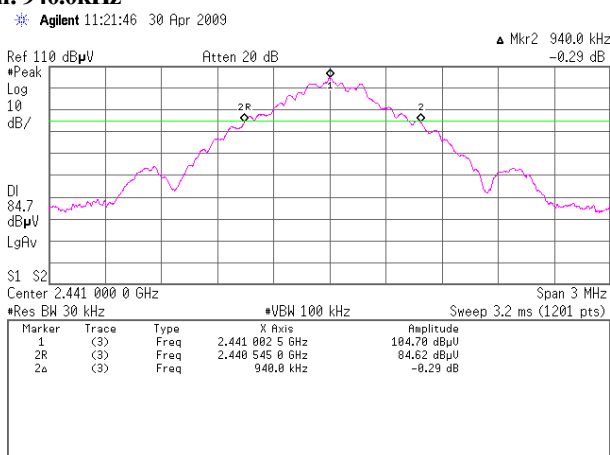
No.4 shielded room
2009/04/30
23 deg. C. / 44 %
Akira Sato
Transmitting

[Hopping off, DHS]

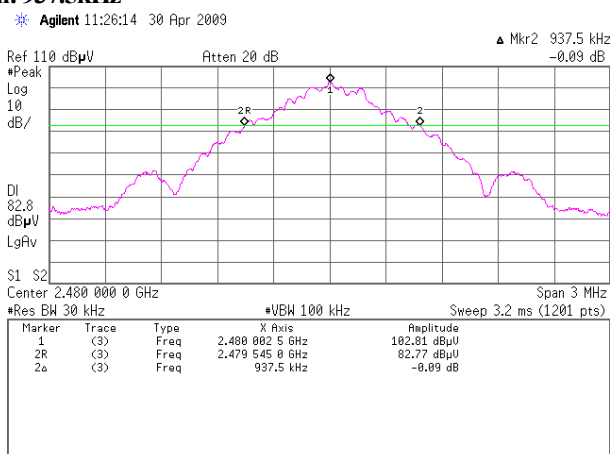
1. ch : 2402MHz/20dB Bandwidth: 942.5kHz



2. ch : 2441MHz/20dB Bandwidth: 940.0kHz

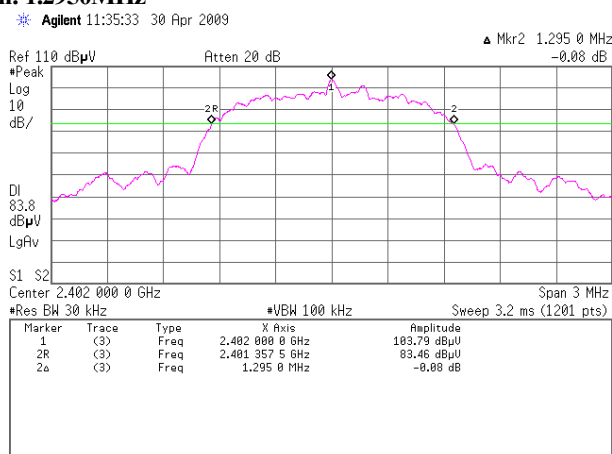


3. ch : 2480MHz/20dB Bandwidth: 937.5kHz

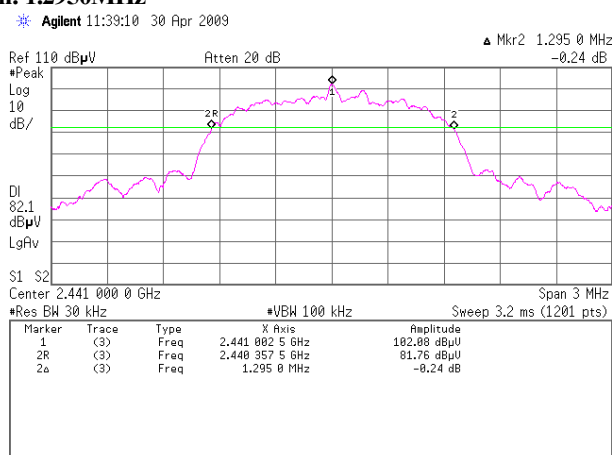


[Hopping off, 3DH5]

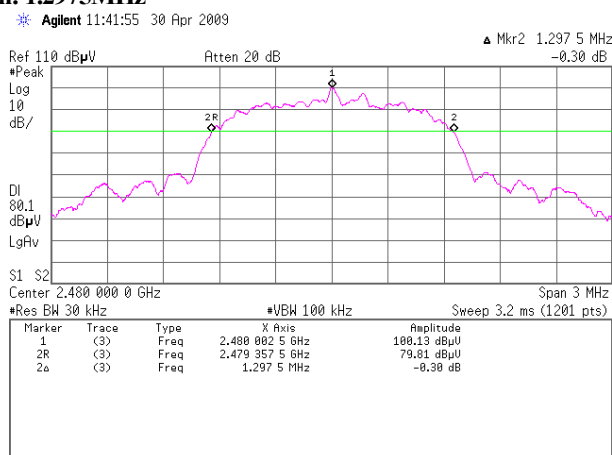
4. ch : 2402MHz/20dB Bandwidth: 1.2950MHz



5. ch : 2441MHz/20dB Bandwidth: 1.2950MHz

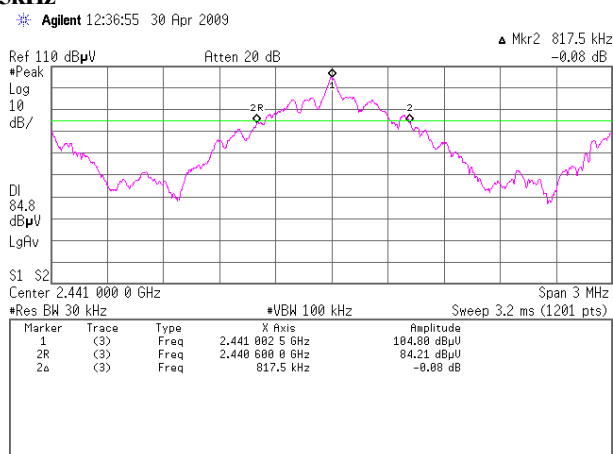


6. ch : 2480MHz/20dB Bandwidth: 1.2975MHz



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7. Inauiry/20dB Bandwidth: 817.5kHz



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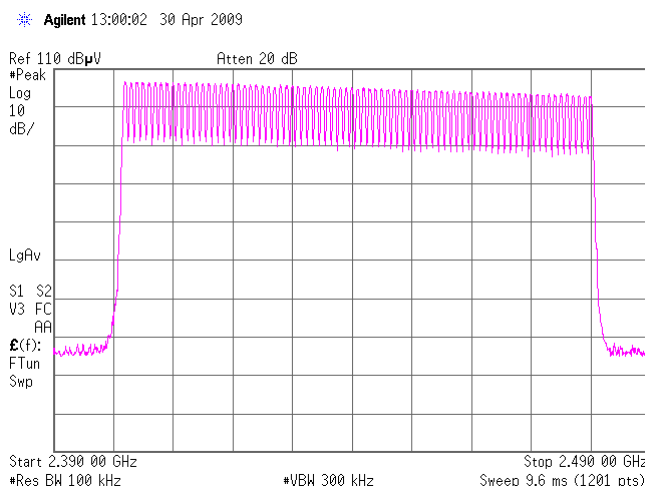
Report No.:
Model No.:
Power:

29IE0120-YK-01-A
AVIC-Z110BT
DC 12.0V

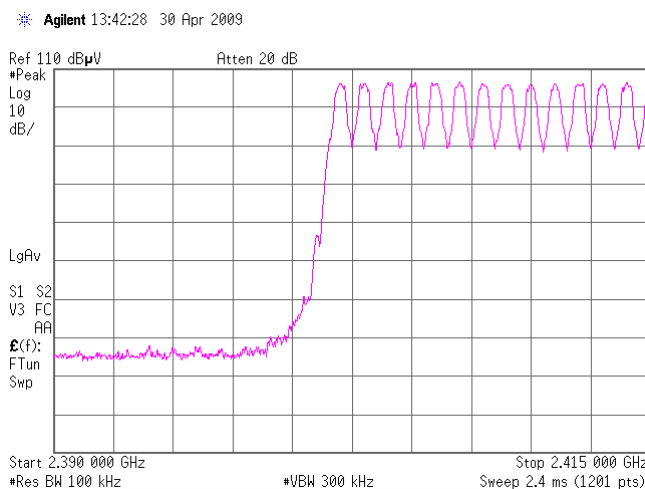
Channel Utilization (Regulation: FCC 15.247(a)(1)(iii))

UL Japan, Inc. Yamakita EMC lab. No.4 shielded room
Date: 2009/04/30
Temp./Humid.: 23 deg. C. / 44 %
Engineer: Akira Sato
Test mode: Transmitting

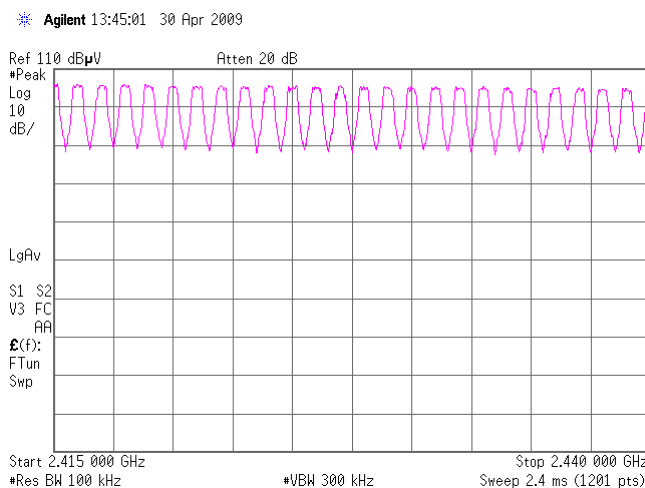
Hopping, DH5: 79ch 1.



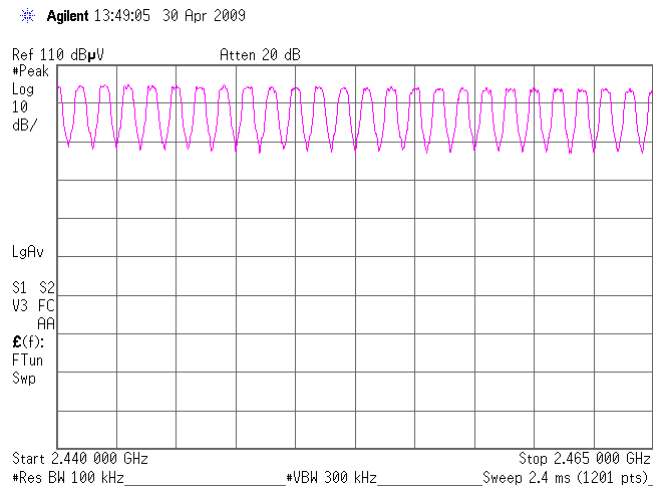
2.



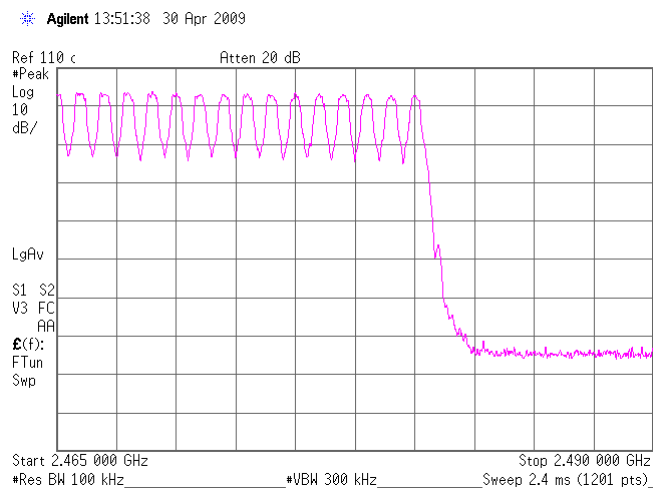
3.



4.

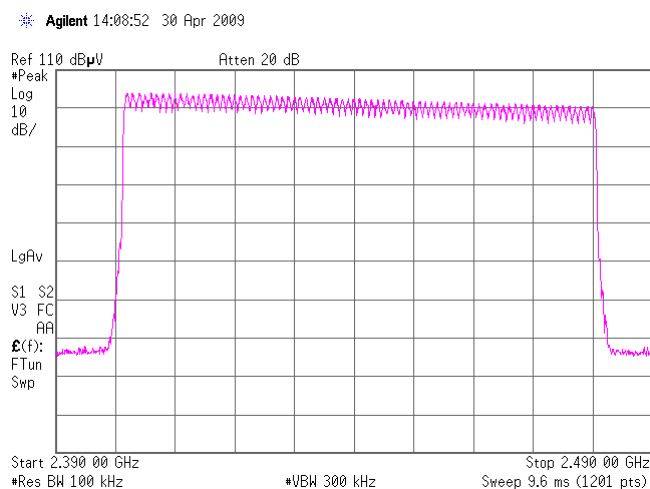


5.

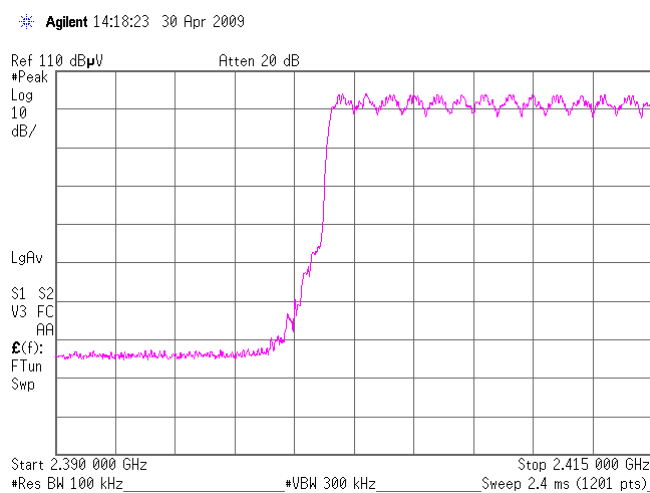


Hopping, 3DH5: 79ch

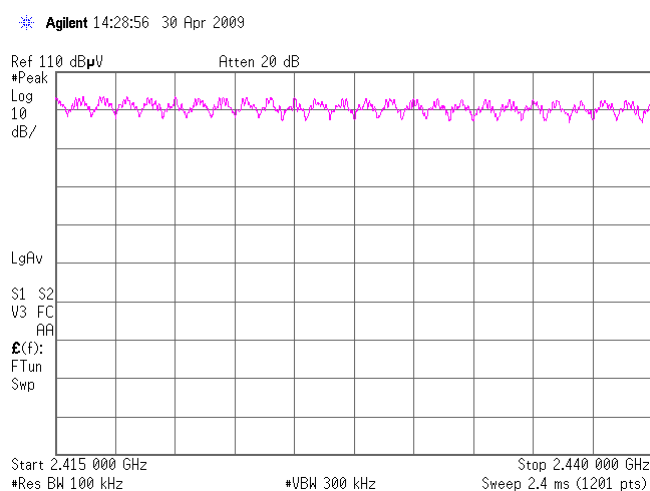
1.



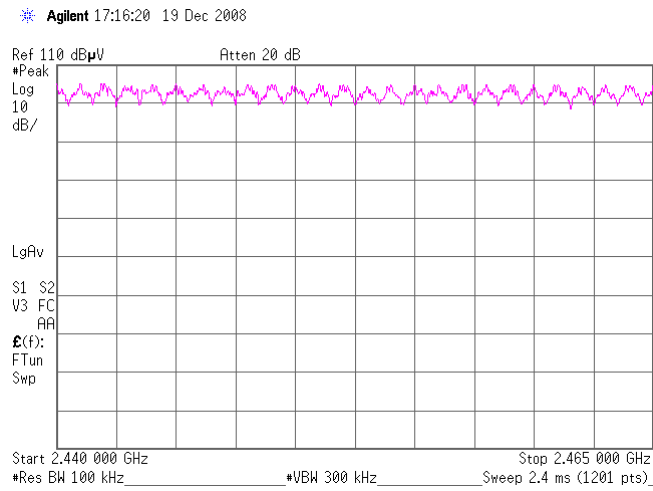
2.



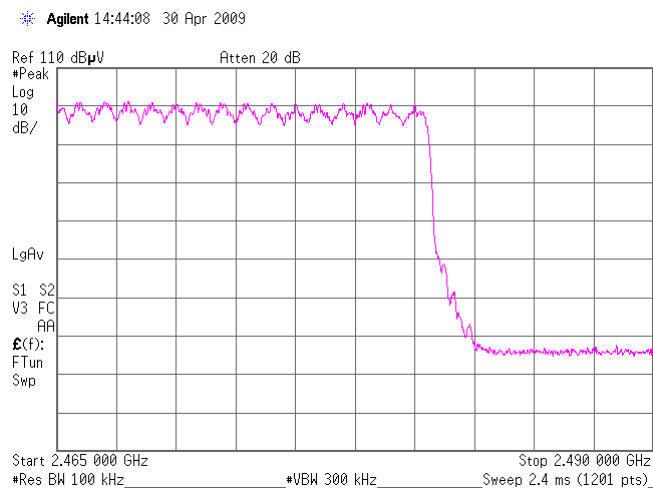
3.



4.



5.



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UL Japan, Inc. Yamakita EMC lab.

Date:

Temp./Humid.:

Engineer:

Test mode:

No.4 shielded room

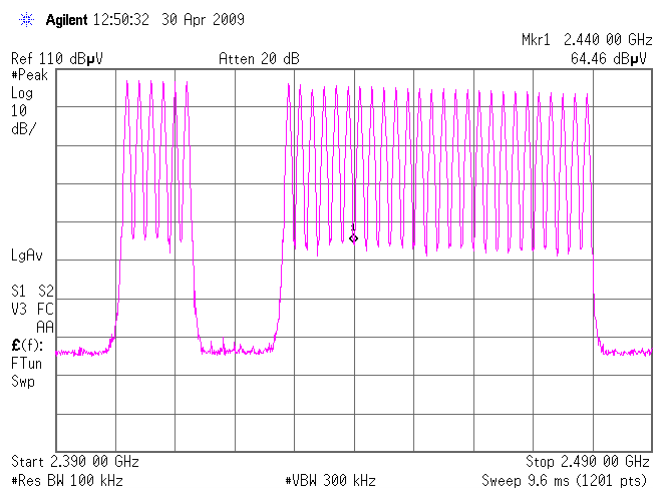
2009/04/30

23 deg. C. / 44 %

Akira Sato

Transmitting (Inquiry)

1. Inquiry: 32ch



Company: PIONEER CORPORATION
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Model No.: AVIC-Z110BT
Power: DC 12.0V

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

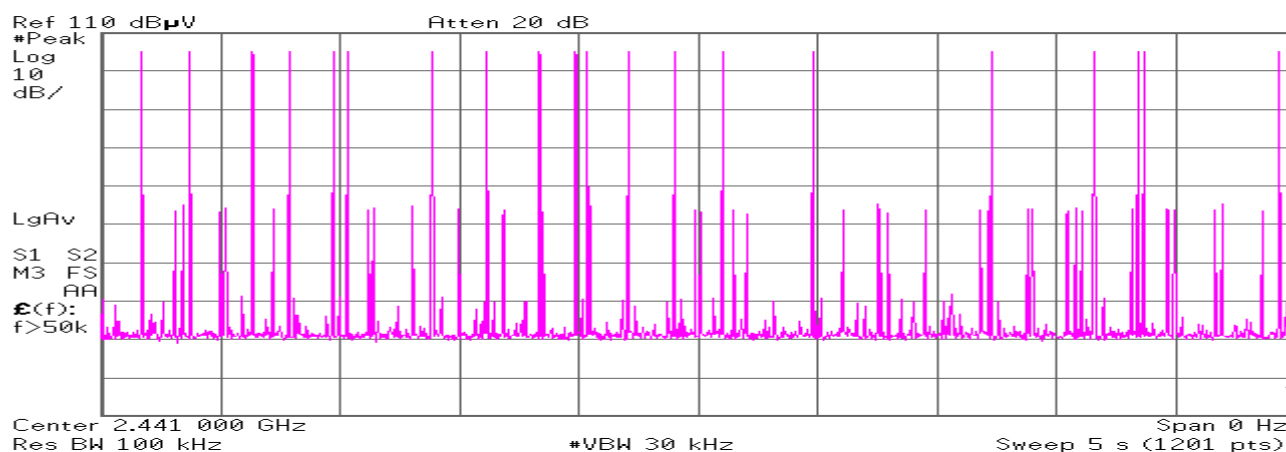
UL Japan, Inc. Yamakita EMC lab.
Date:
Temp./Humid.:
Engineer:
Test mode:

No.4 shielded room
2009/04/30
23 deg. C. / 44 %
Akira Sato
Transmitting

Hopping (DH1):

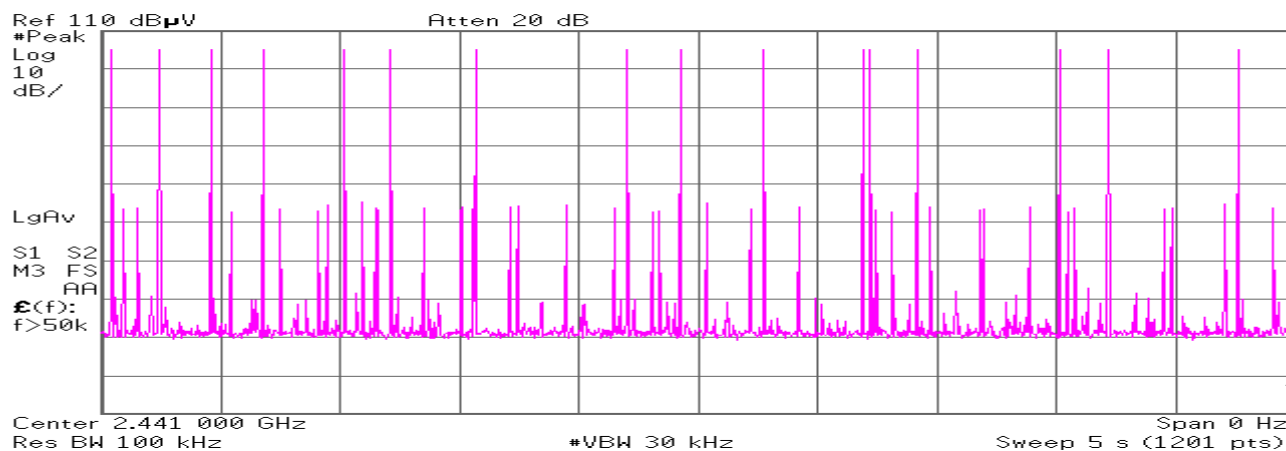
Count 1

Agilent 14:57:55 30 Apr 2009



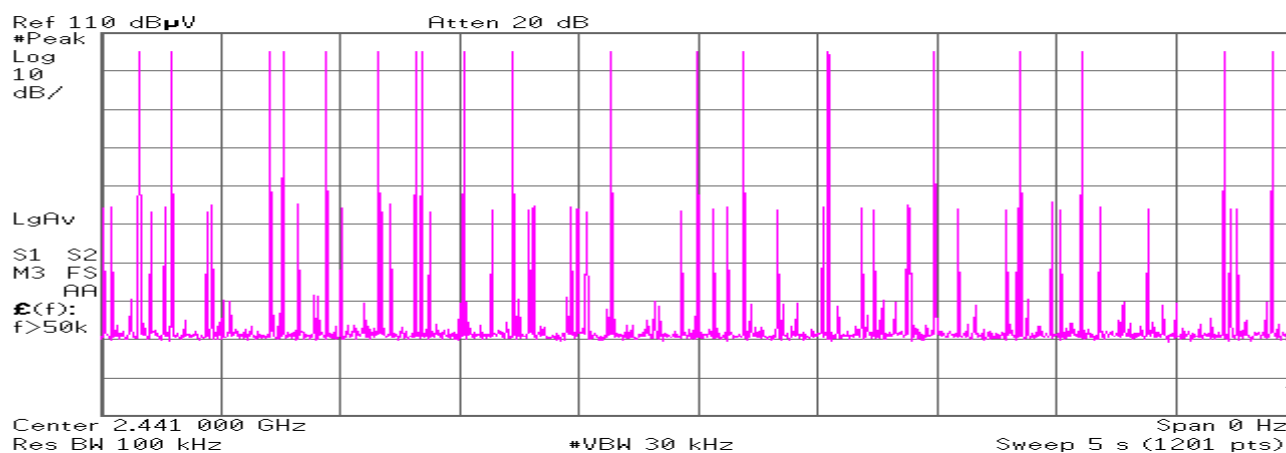
Count 2

Agilent 14:59:47 30 Apr 2009



Count 3

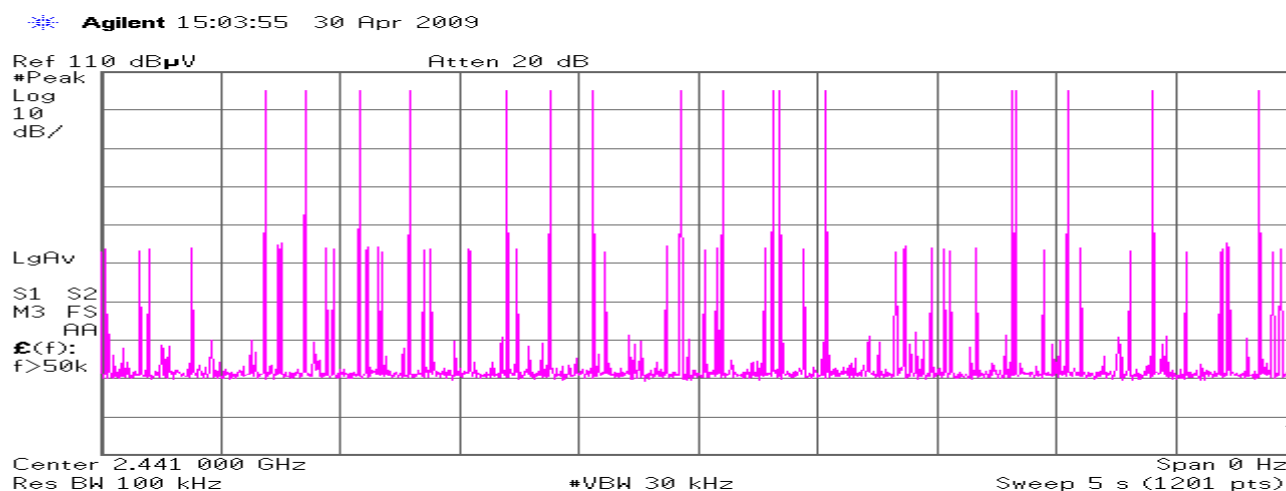
Agilent 15:02:55 30 Apr 2009



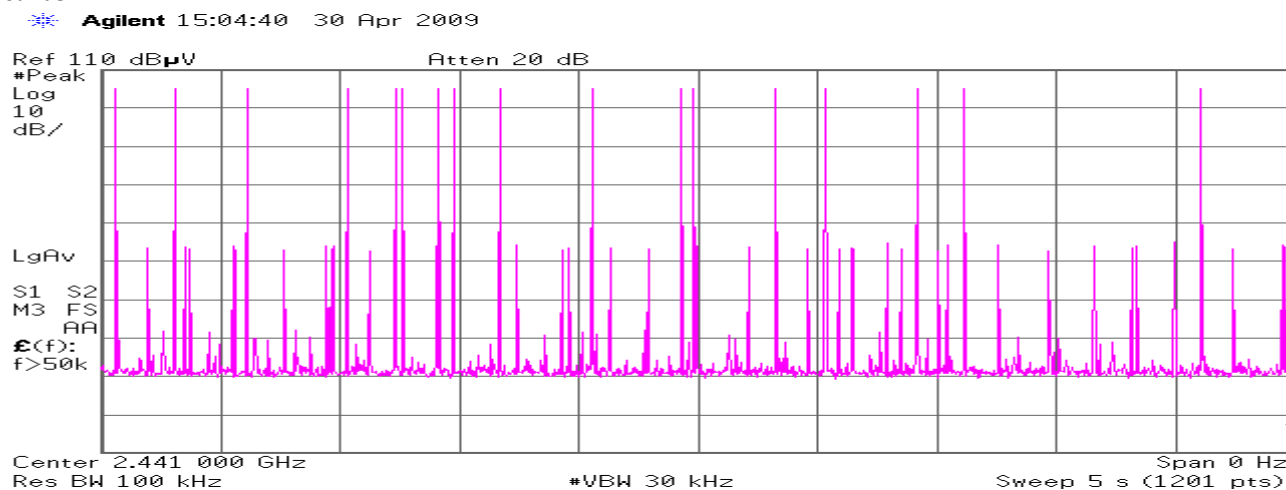
Company: PIONEER CORPORATION
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Report No.: 29IE0120-YK-01-A
 Model No.: AVIC-Z110BT
 Power: DC 12.0V

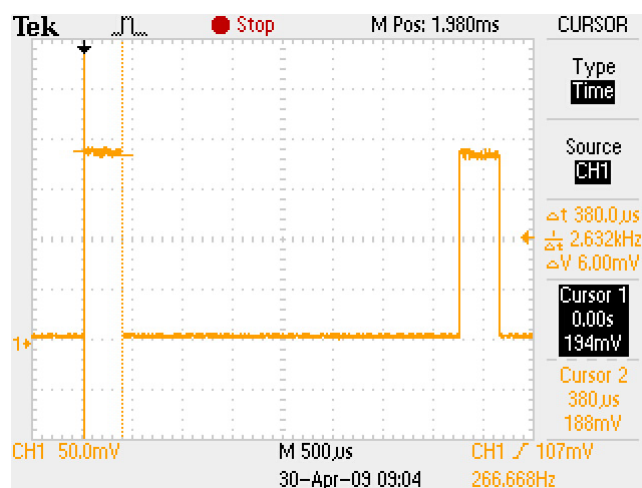
Count4



Count5



Duty cycle(Hopping DH1)



Average times of rising in 5 sec. of sweep = $(20 + 16 + 19 + 17 + 18) / 5 = 18.0$

Average times of rising in 1 sec. = $18.0 / 5s = 3.60$

Average times of rising in 0.4x = $0.4 * 79ch * 3.60 = 113.76$

Dwell time = $113.76 * 0.38 = 43.22$ [ms]

Limit : Dwell Time < 0.4[s]

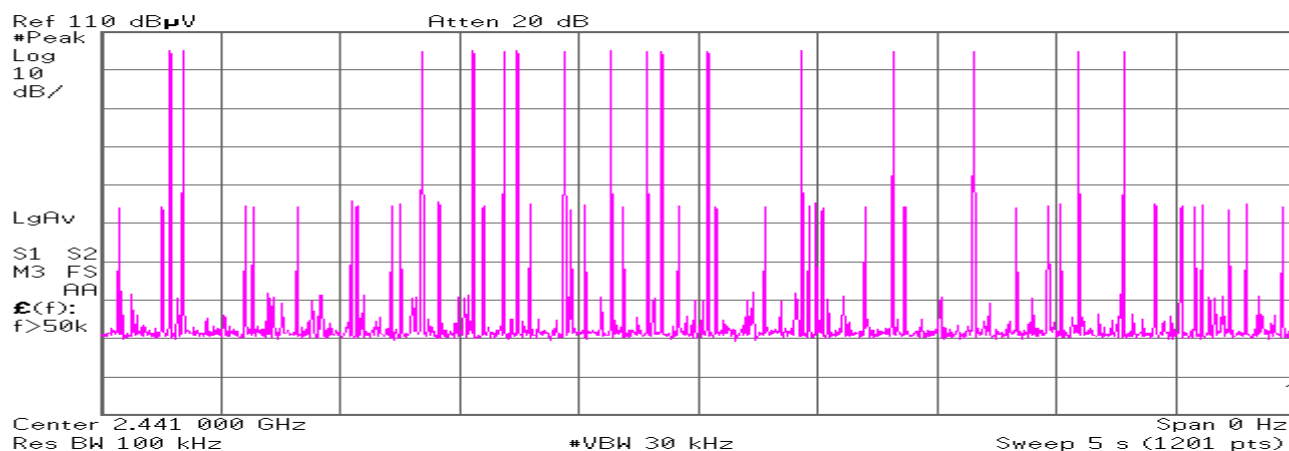
Company: PIONEER CORPORATION
Kind of Equipment: Multi-Media AVN Navigation
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Model No.: AVIC-Z110BT
Power: DC 12.0V

Hopping (DH3):

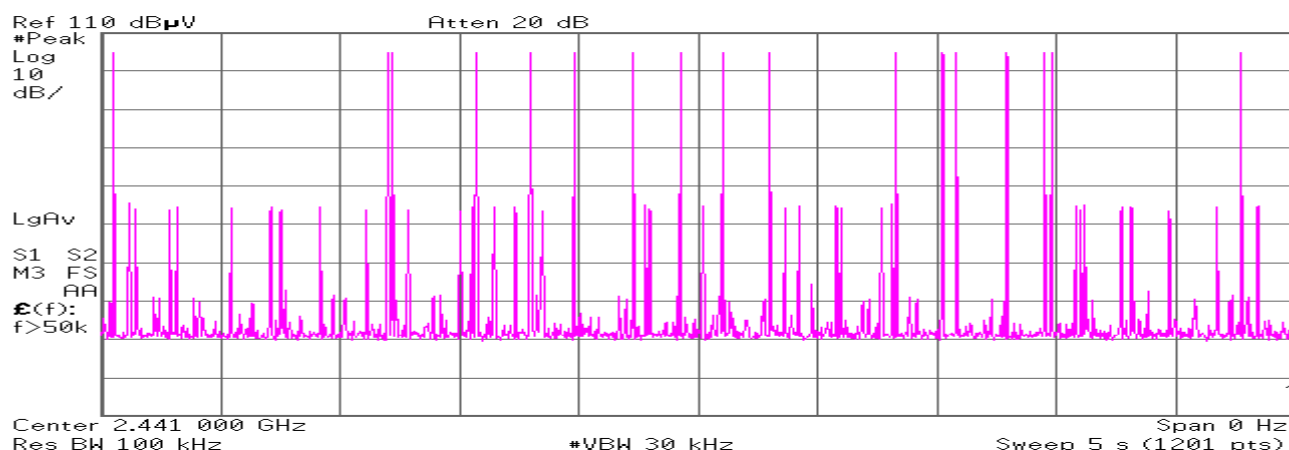
Count 1

Agilent 15:09:46 30 Apr 2009



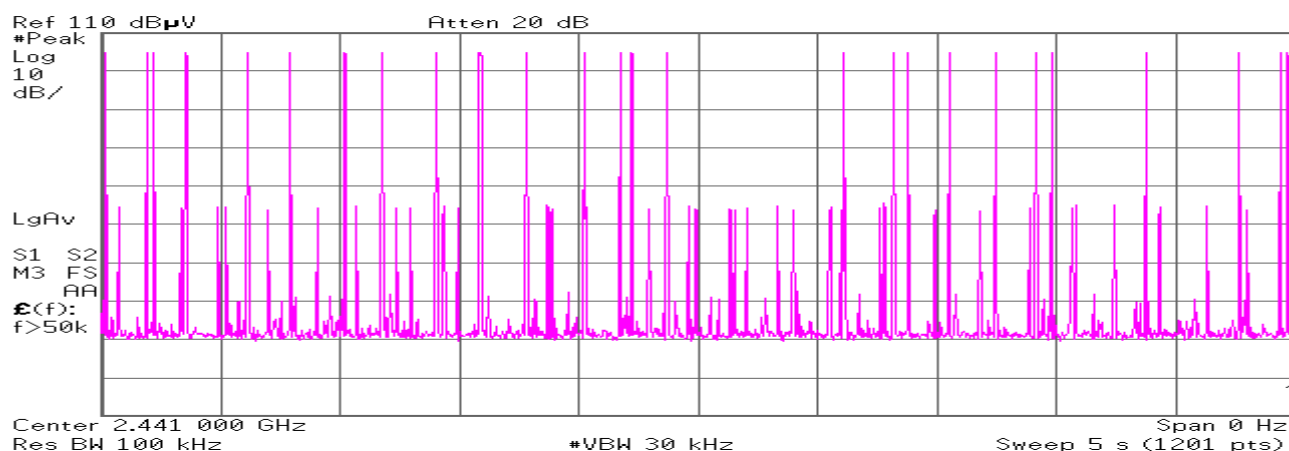
Count 2

Agilent 15:11:15 30 Apr 2009



Count 3

Agilent 15:12:23 30 Apr 2009

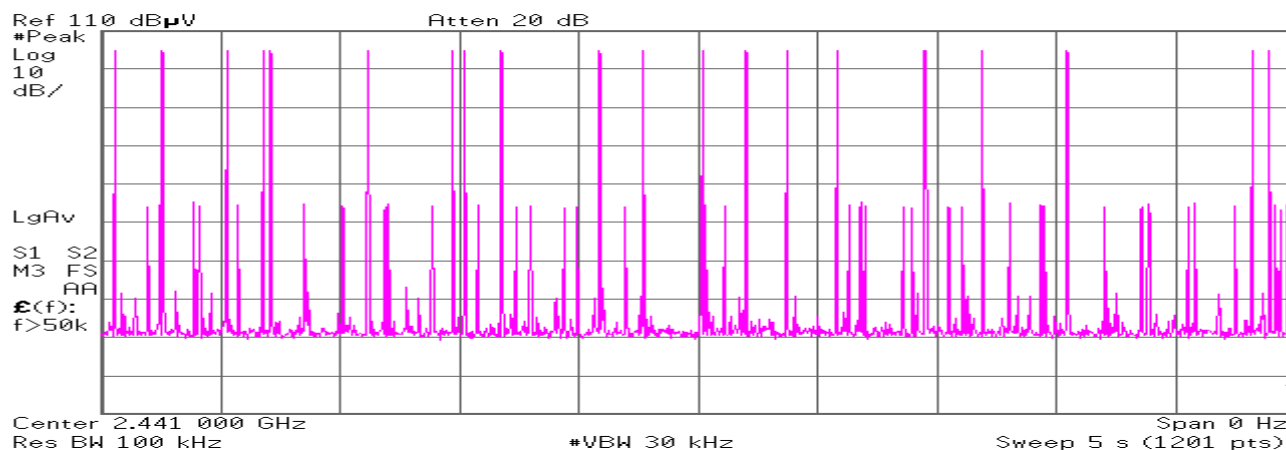


Company: PIONEER CORPORATION
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 Model No.: AVIC-Z110BT
 Power: DC 12.0V

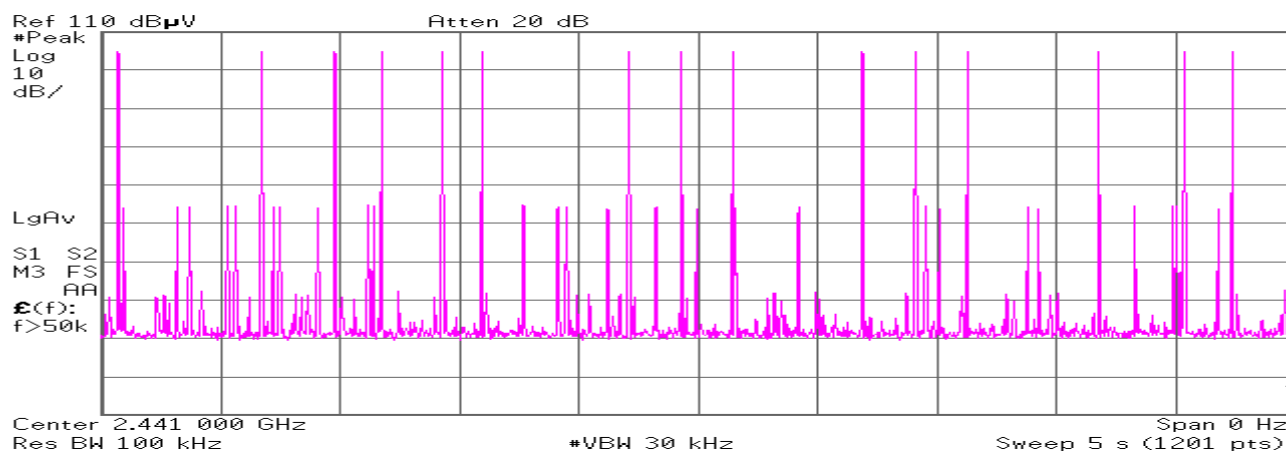
Count4

Agilent 15:13:23 30 Apr 2009

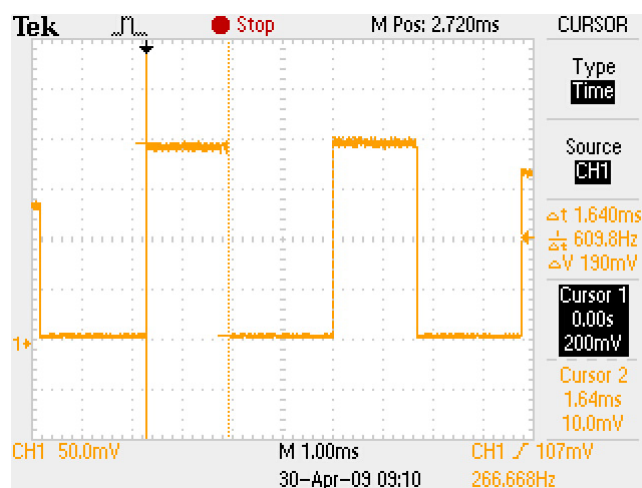


Count5

Agilent 15:14:07 30 Apr 2009



Duty cycle(Hopping DH3)



Average times of rising in 5 sec. of sweep = (16 + 17 + 26 + 20 + 16) / 5 = 19.0

Average times of rising in 1 sec. = 19.0 / 5s = 3.80

Average times of rising in 0.4x = 0.4 * 79ch * 3.80 = 120.08

Dwell time = 120.08 * 1.64 = 196.93 [ms]

Limit : Dwell Time < 0.4[s]

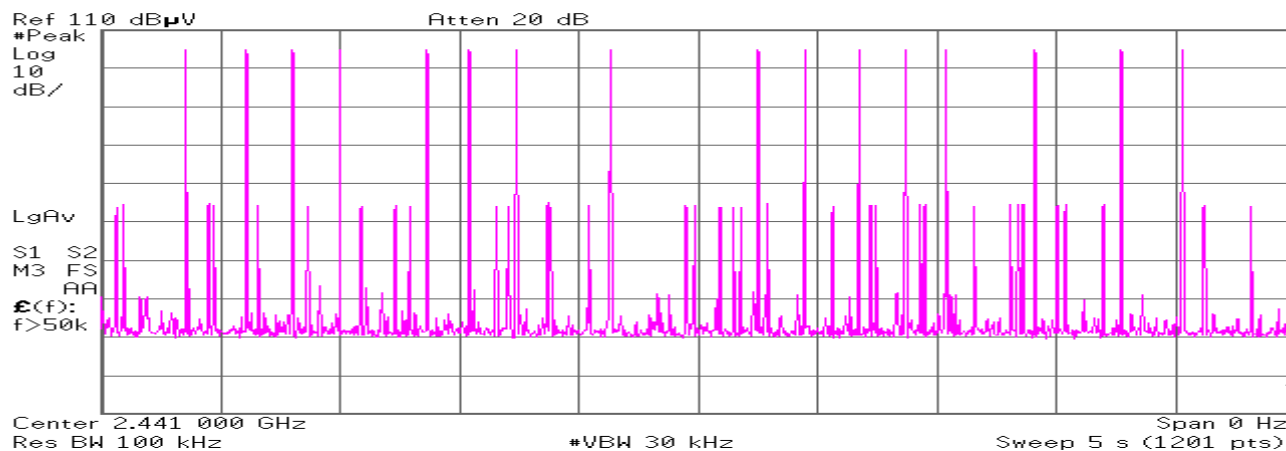
Company: PIONEER CORPORATION
Kind of Equipment: Multi-Media AVN Navigation
Server System with BT
Serial No.: TPIC000038

Report No.: 29IE0120-YK-01-A
Model No.: AVIC-Z110BT
Power: DC 12.0V

Hopping (DH5):

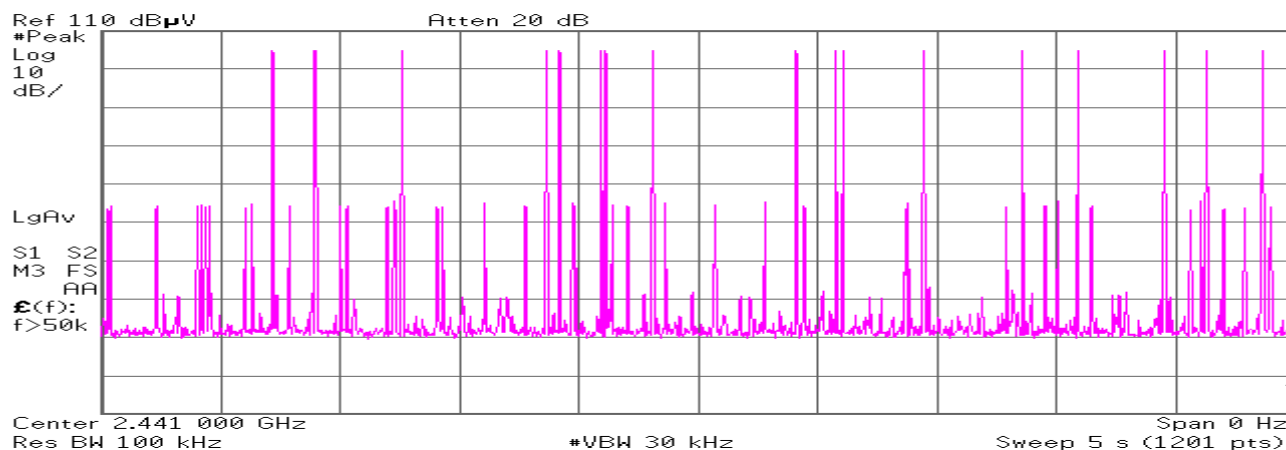
Count 1

Agilent 15:20:43 30 Apr 2009



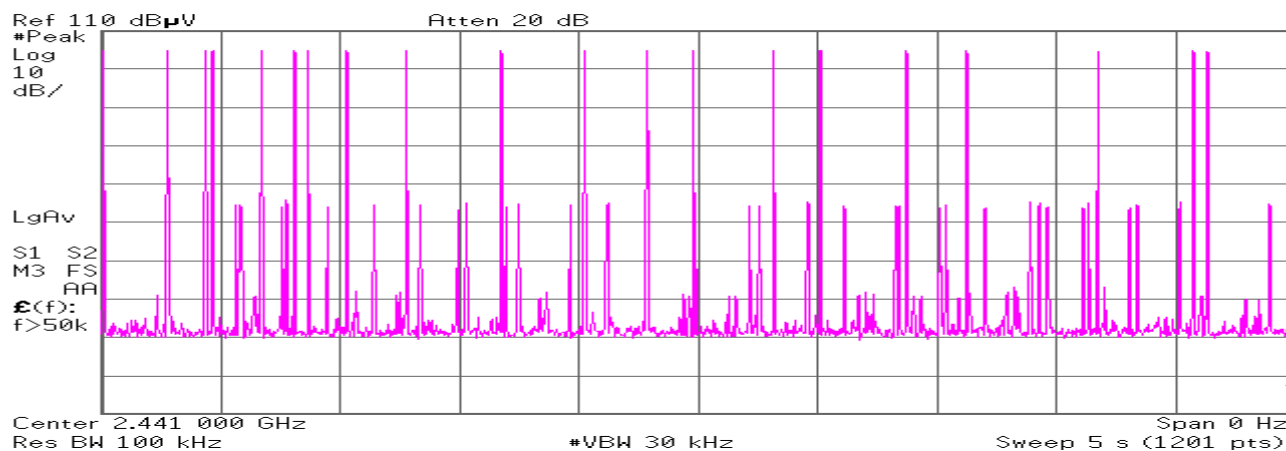
Count 2

Agilent 15:22:16 30 Apr 2009



Count 3

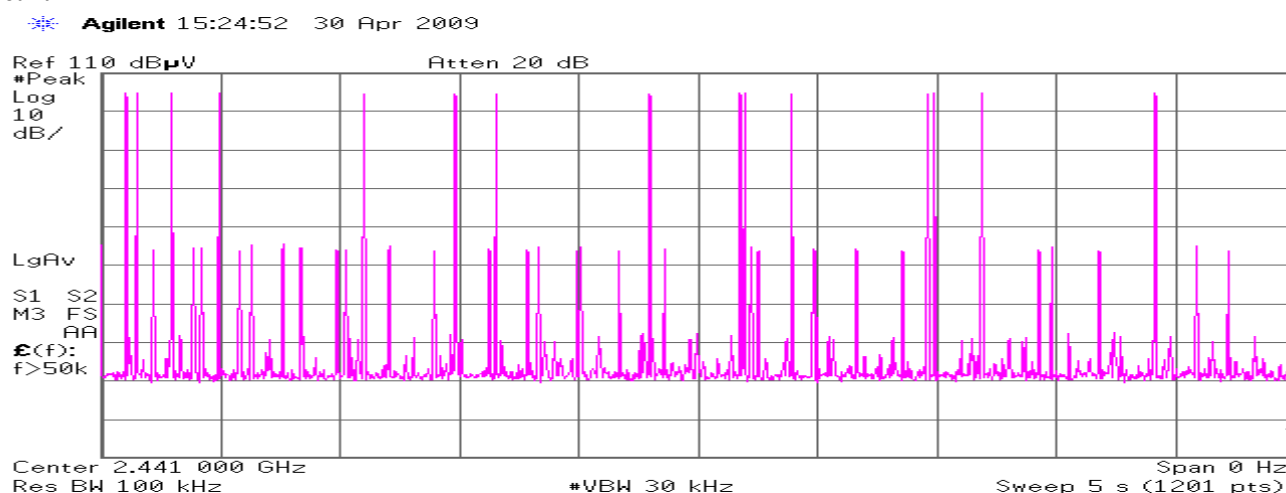
Agilent 15:23:27 30 Apr 2009



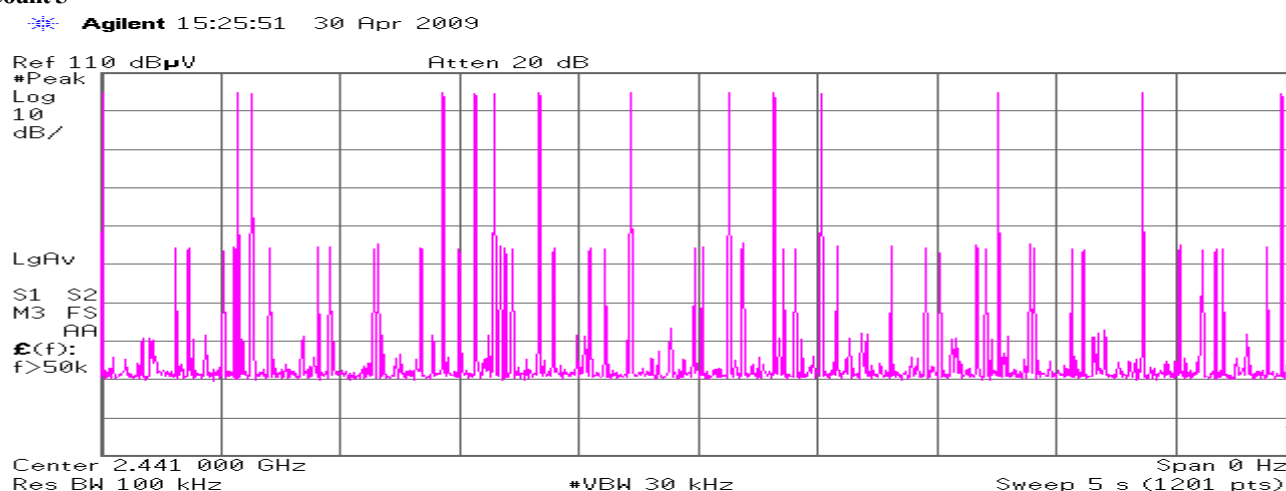
Company: PIONEER CORPORATION
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 Model No.: AVIC-Z110BT
 Power: DC 12.0V

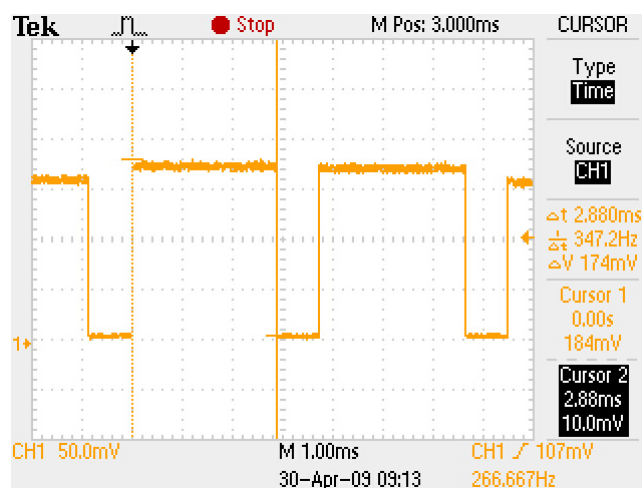
Count4



Count5



Duty cycle(Hopping DH5)



Average times of rising in 5 sec. of sweep = (16 + 17 + 20 + 15 + 14) / 5 = 16.4

Average times of rising in 1 sec. = 16.4 / 5s = 3.28

Average times of rising in 0.4x = 0.4 * 79ch * 3.28 = 103.648

Dwell time = 103.648 * 2.88 = 298.50 [ms]

Limit : Dwell Time < 0.4[s]

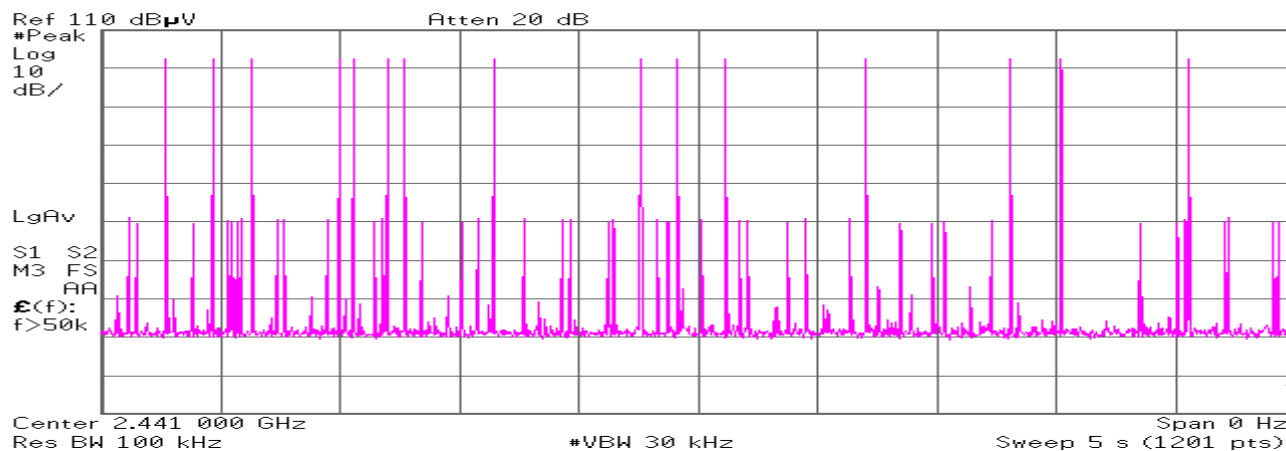
Company: PIONEER CORPORATION
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Report No.: 29IE0120-YK-01-A
Model No.: AVIC-Z110BT
Power: DC 12.0V

Hopping (3DH1):

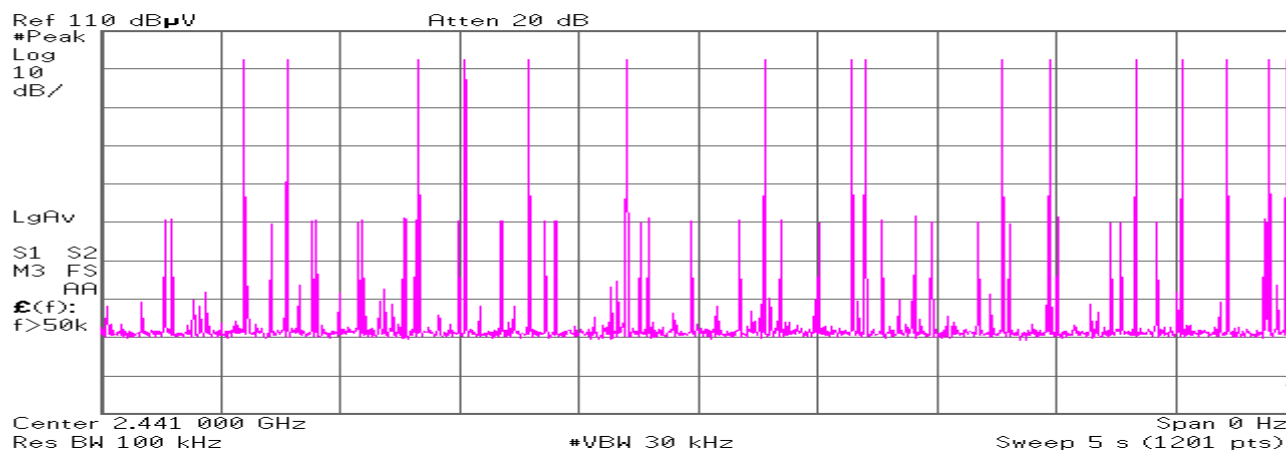
Count 1

Agilent 15:28:59 30 Apr 2009



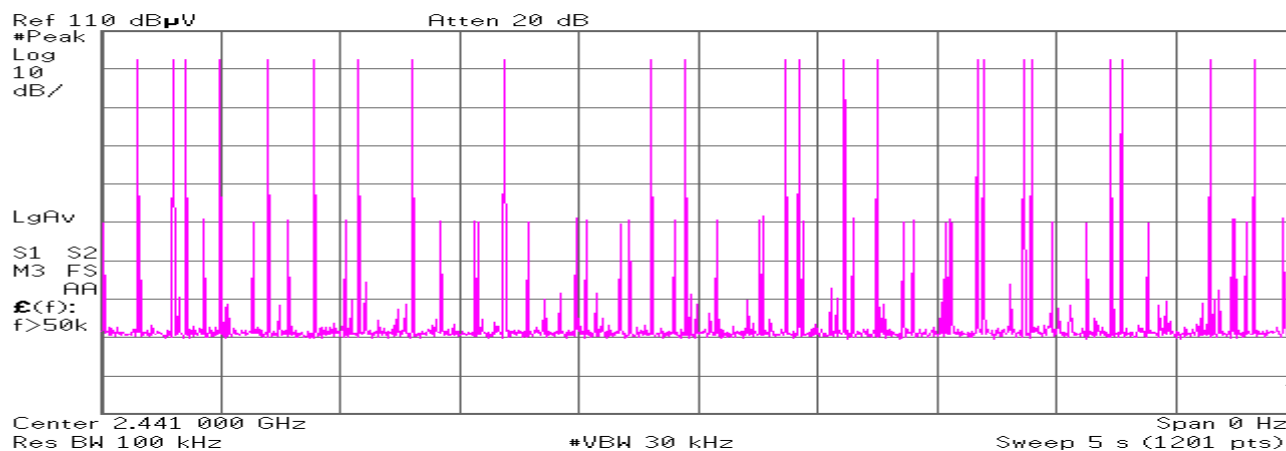
Count 2

Agilent 15:30:06 30 Apr 2009



Count 3

Agilent 15:32:29 30 Apr 2009

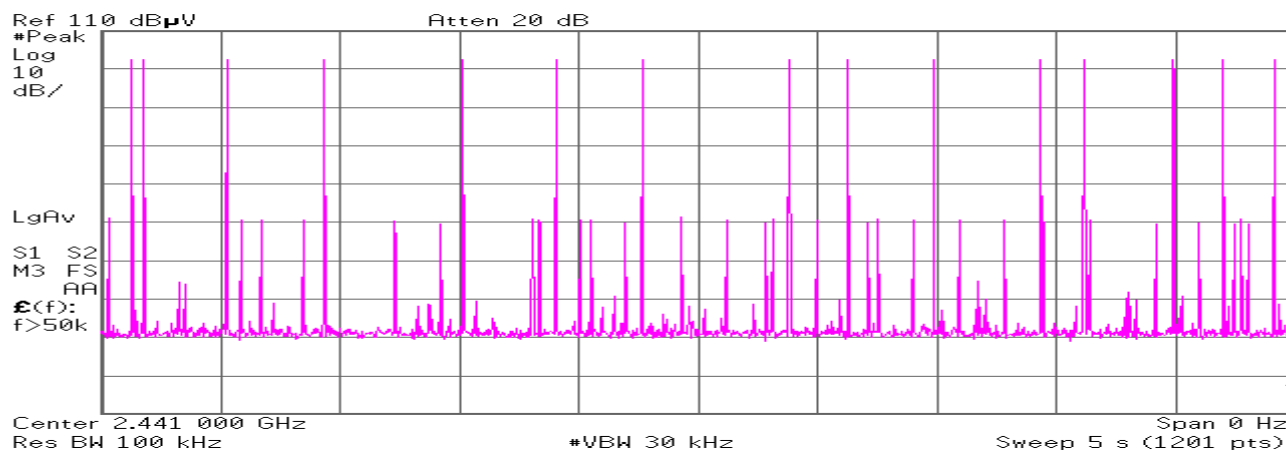


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Report No.: 29IE0120-YK-01-A
 Model No.: AVIC-Z110BT
 Power: DC 12.0V

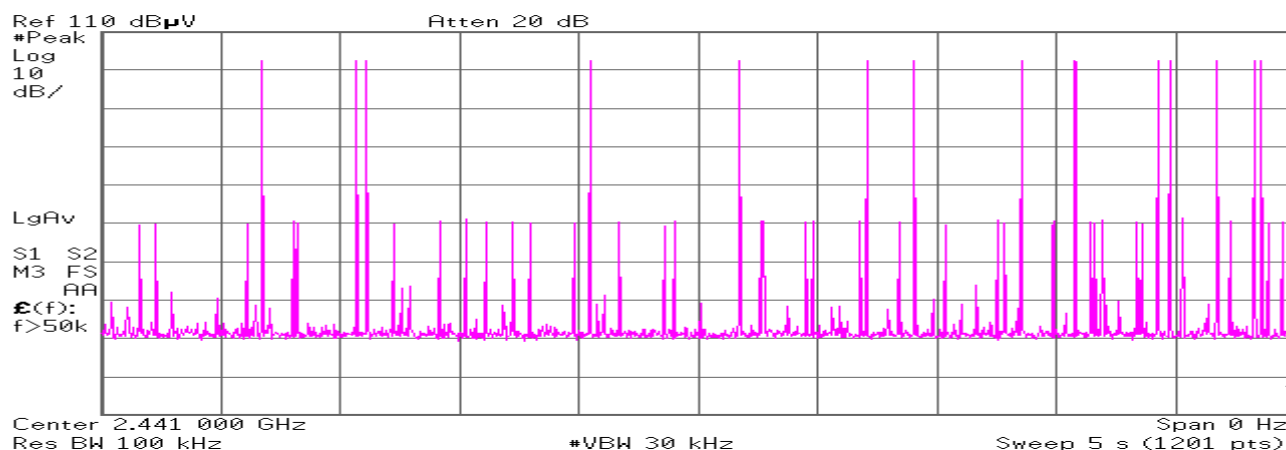
Count4

Agilent 15:33:24 30 Apr 2009

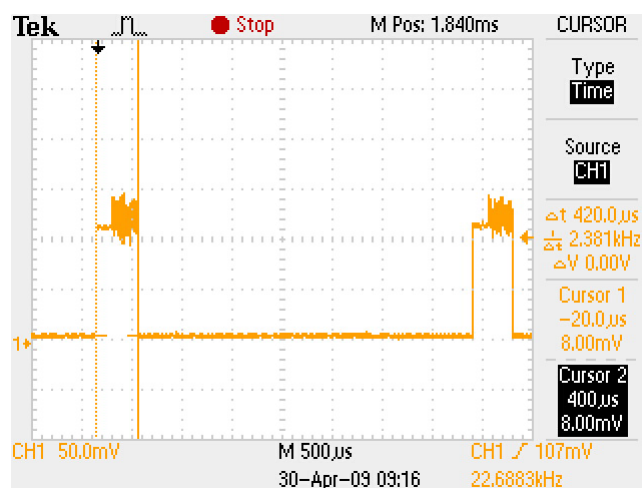


Count5

Agilent 15:34:09 30 Apr 2009



Duty cycle(Hopping 3DH1)



Average times of rising in 5 sec. of sweep = (15 + 16 + 23 + 15 + 14) / 5 = 16.6

Average times of rising in 1 sec. = 16.6 / 5s = 3.32

Average times of rising in 0.4x = 0.4 * 79ch * 3.32 = 104.91

Dwell time = 104.91 * 0.42 = 44.06 [ms]

Limit : Dwell Time < 0.4[s]

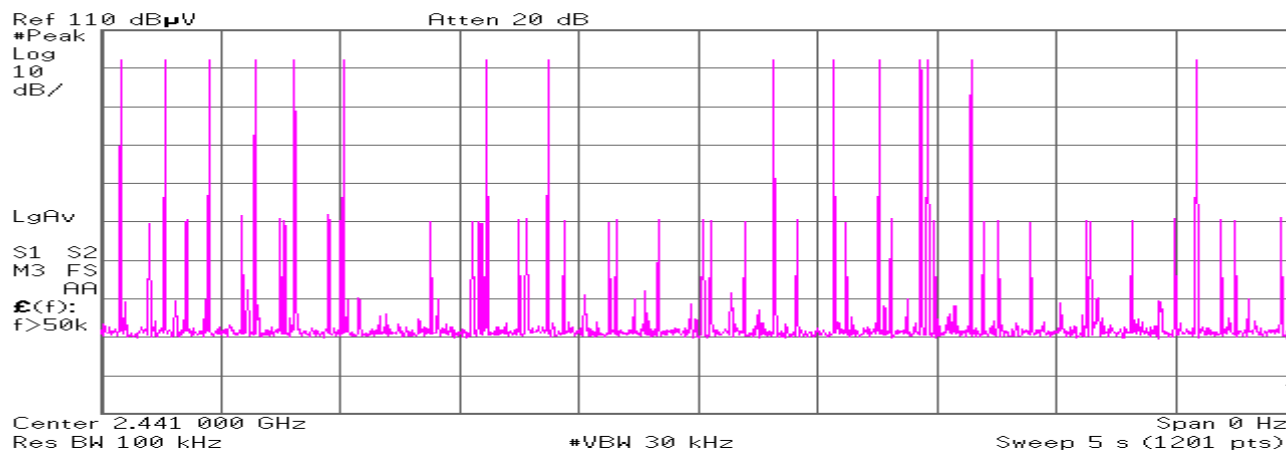
Company: PIONEER CORPORATION
Kind of Equipment: Multi-Media AVN Navigation
Server System with BT
Serial No.: TPIC000038

Report No.: 29IE0120-YK-01-A
Model No.: AVIC-Z110BT
Power: DC 12.0V

Hopping (3DH3):

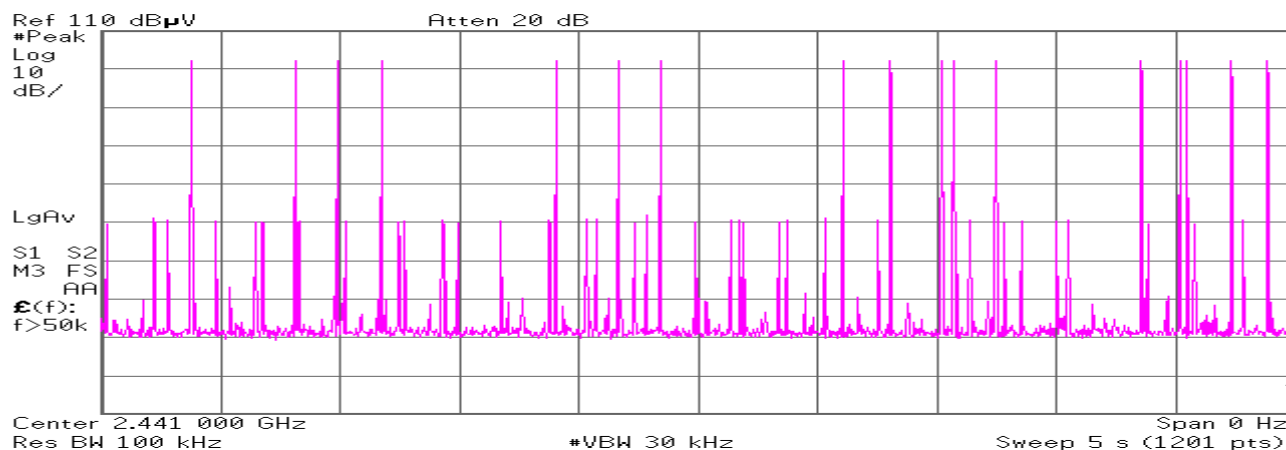
Count 1

Agilent 15:36:55 30 Apr 2009



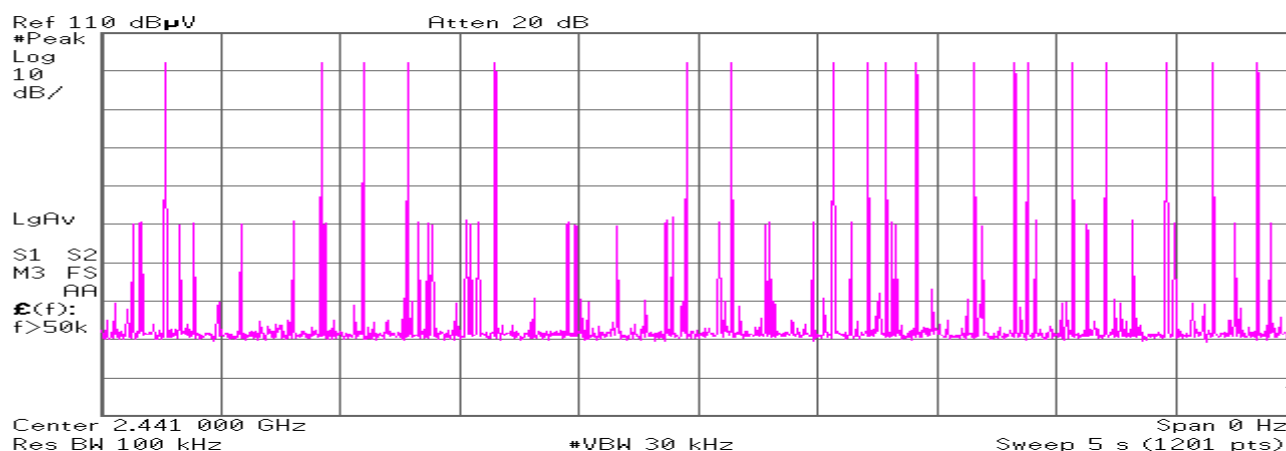
Count 2

Agilent 15:37:43 30 Apr 2009



Count 3

Agilent 15:38:29 30 Apr 2009

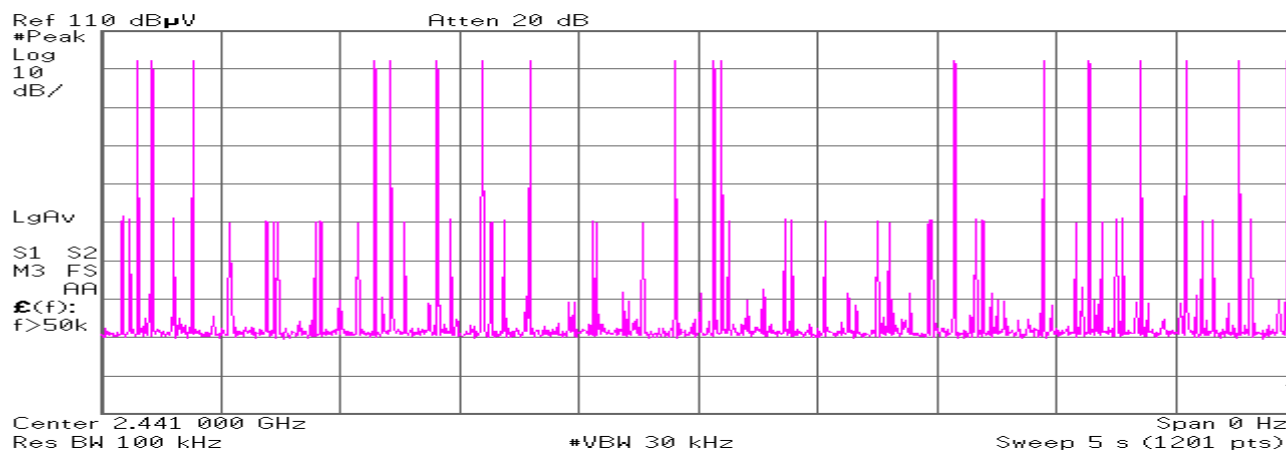


Company: PIONEER CORPORATION
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Report No.: 29IE0120-YK-01-A
 Model No.: AVIC-Z110BT
 Power: DC 12.0V

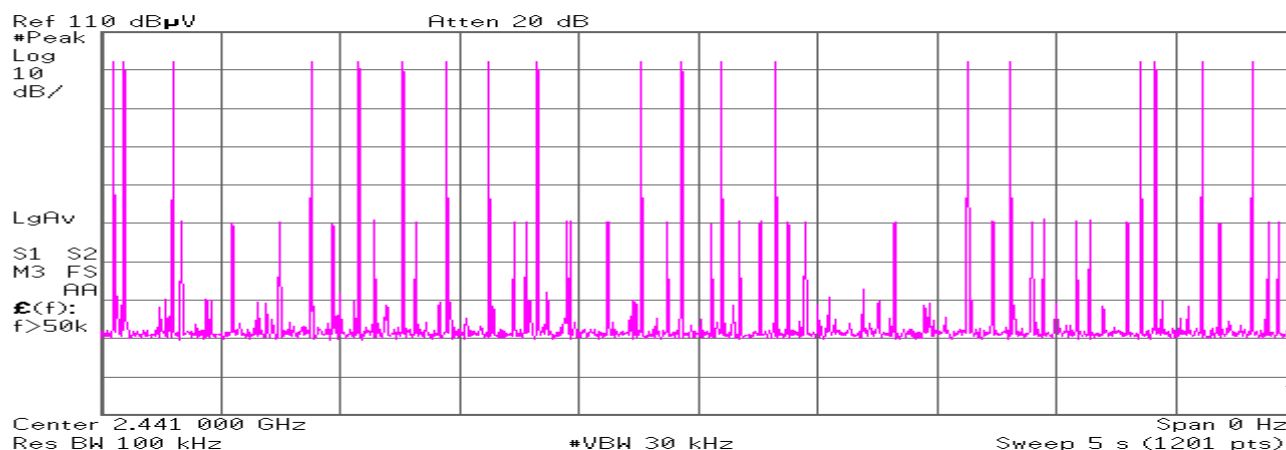
Count4

Agilent 15:39:18 30 Apr 2009

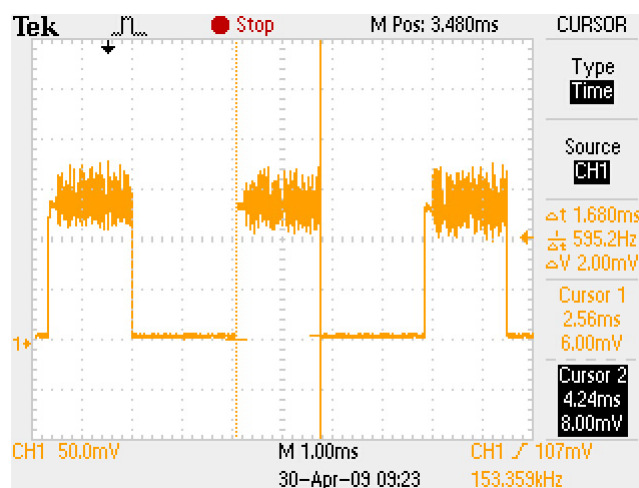


Count5

Agilent 15:40:52 30 Apr 2009



Duty cycle(Hopping 3DH3)



Average times of rising in 5 sec. of sweep = (16 + 17 + 20 + 18 + 19) / 5 = 18.0

Average times of rising in 1 sec. = 18.0 / 5s = 3.60

Average times of rising in 0.4x = 0.4 * 79ch * 3.60 = 113.76

Dwell time = 113.76 * 1.68 = 119.12 [ms]

Limit : Dwell Time < 0.4[s]

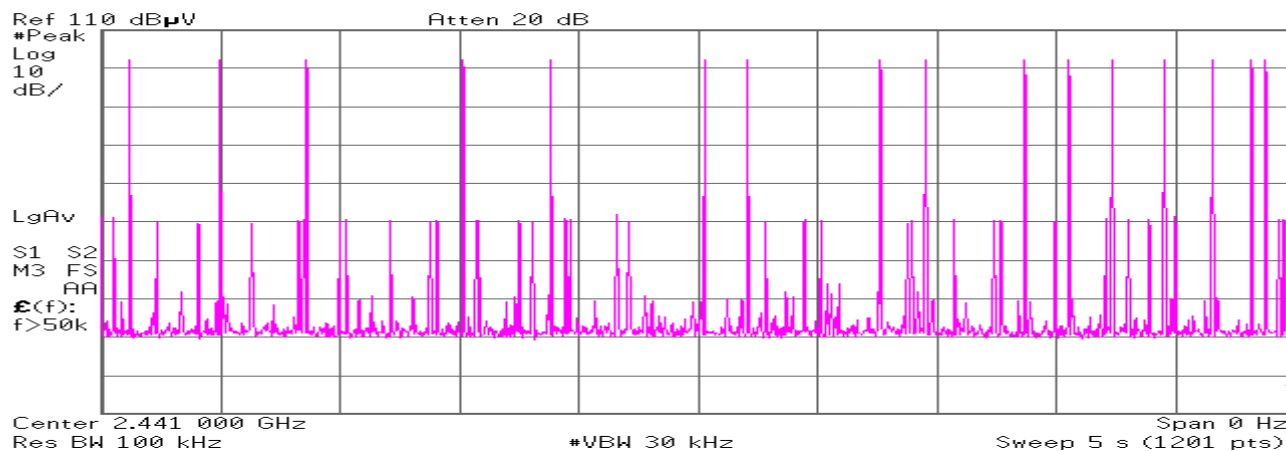
Company: PIONEER CORPORATION
Kind of Equipment: Multi-Media AVN Navigation
Server System with BT
Serial No.: TPIC000038

Report No.: 29IE0120-YK-01-A
Model No.: AVIC-Z110BT
Power: DC 12.0V

Hopping (3DH5):

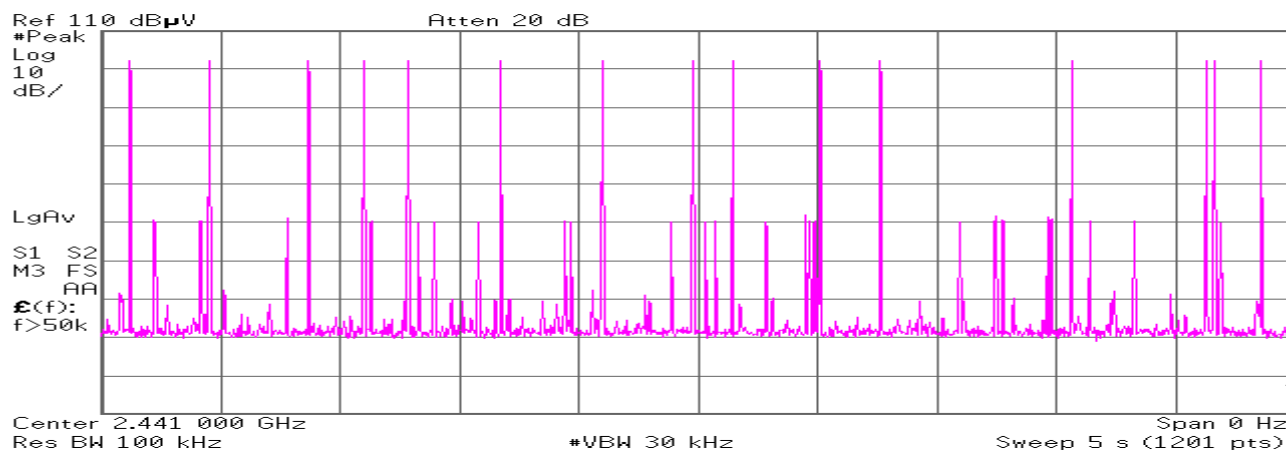
Count 1

Agilent 15:44:06 30 Apr 2009



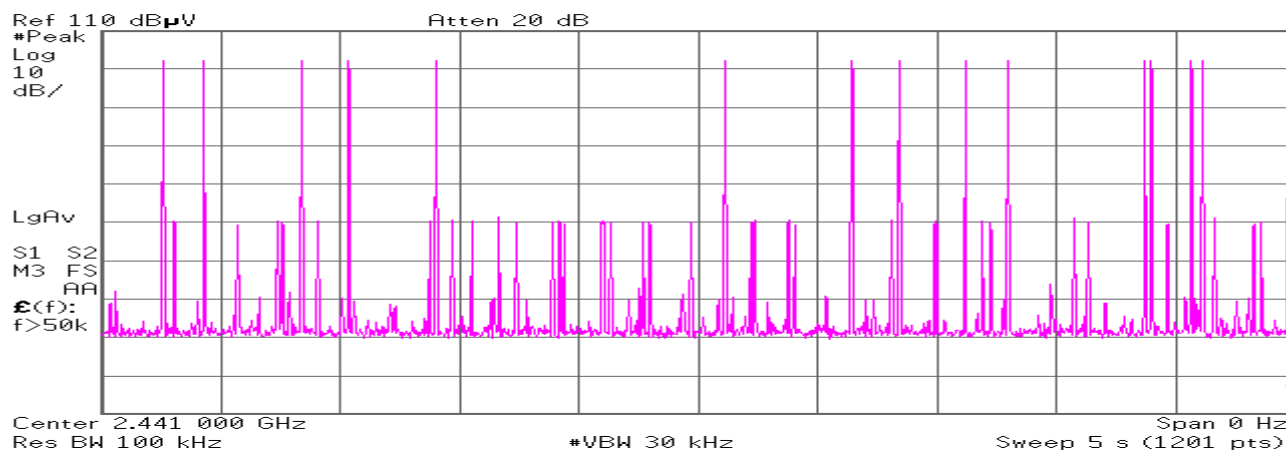
Count 2

Agilent 15:44:46 30 Apr 2009



Count 3

Agilent 15:45:31 30 Apr 2009

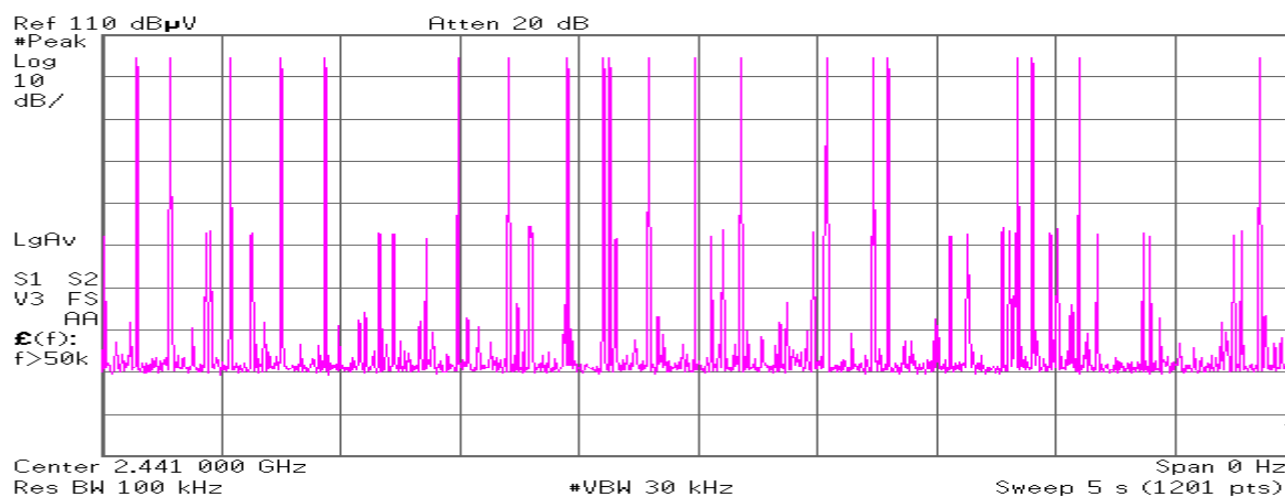


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Report No.: 29IE0120-YK-01-A
 Model No.: AVIC-Z110BT
 Power: DC 12.0V

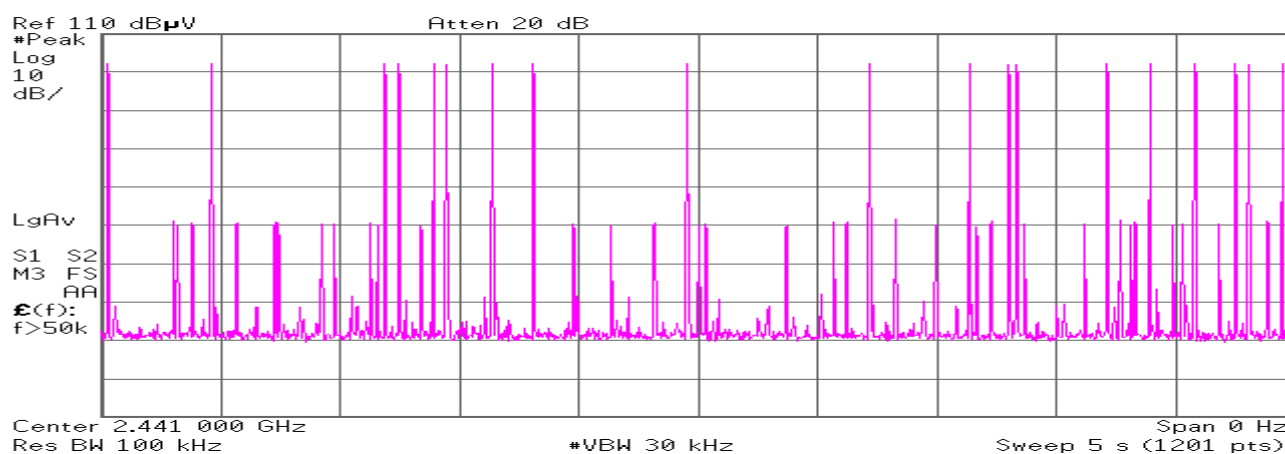
Count4

Agilent 18:40:04 19 Dec 2008



Count5

Agilent 15:47:39 30 Apr 2009



Duty cycle(Hopping 3DH5)



Average times of rising in 5 sec. of sweep = $(16 + 15 + 15 + 20 + 19) / 5 = 17.0$

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]

Company: PIONEER CORPORATION
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Serial No.: TPIC000038

Report No.: 29IE0120-YK-01-A
Model No.: AVIC-Z110BT
Power: DC 12.0V

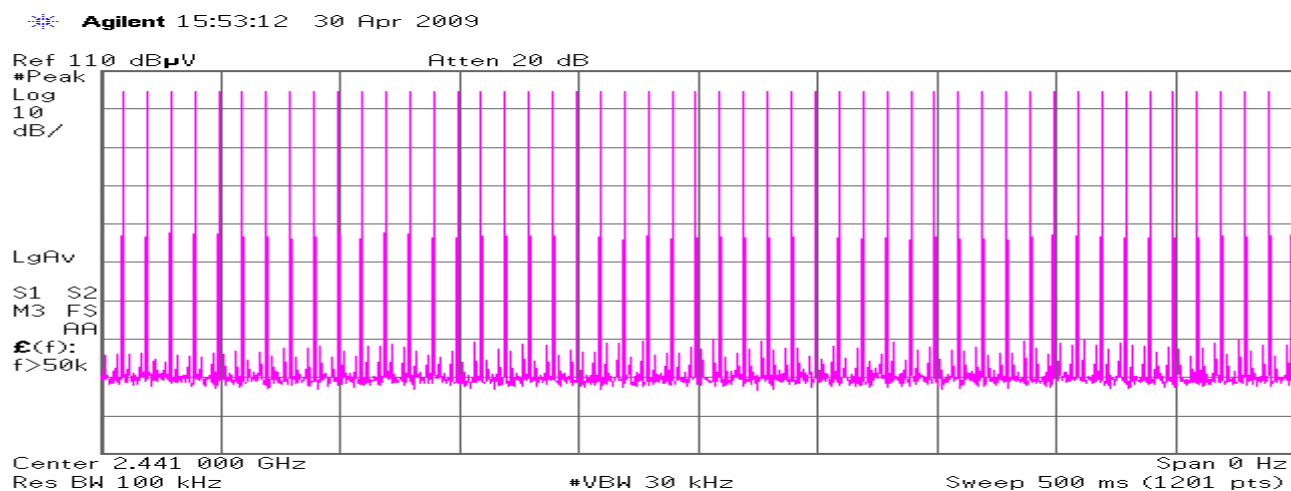
UL Japan, Inc. Yamakita EMC lab. 4 shielded room
Date: 2009/04/30
Temp./Humid.: 23 deg. C. / 44 %
Engineer: Akira Sato
Test mode: Transmitting (Inquiry)

Inquiry:

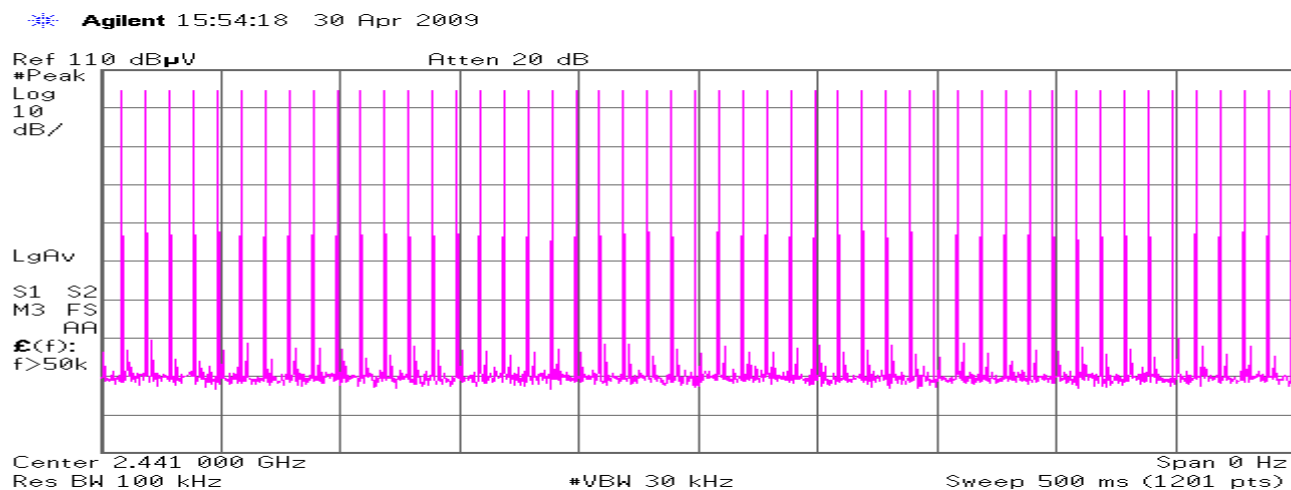
Count 1



Count 2



Count 3

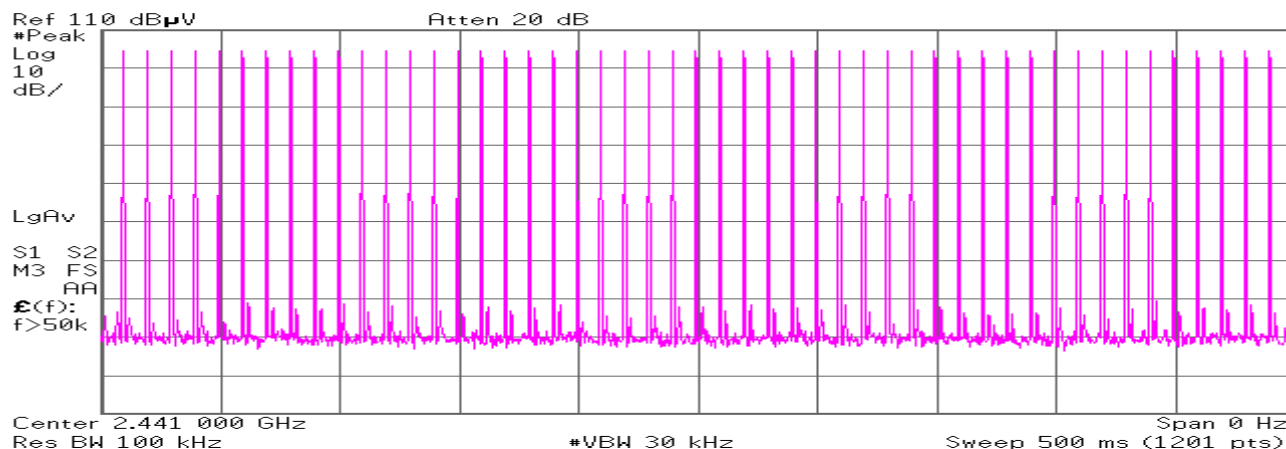


Company: PIONEER CORPORATION
 Kind of Equipment: Multi-Media AVN Navigation
 Server System with BT
 Serial No.: TPIC000038

Report No.: 29IE0120-YK-01-A
 Model No.: AVIC-Z110BT
 Power: DC 12.0V

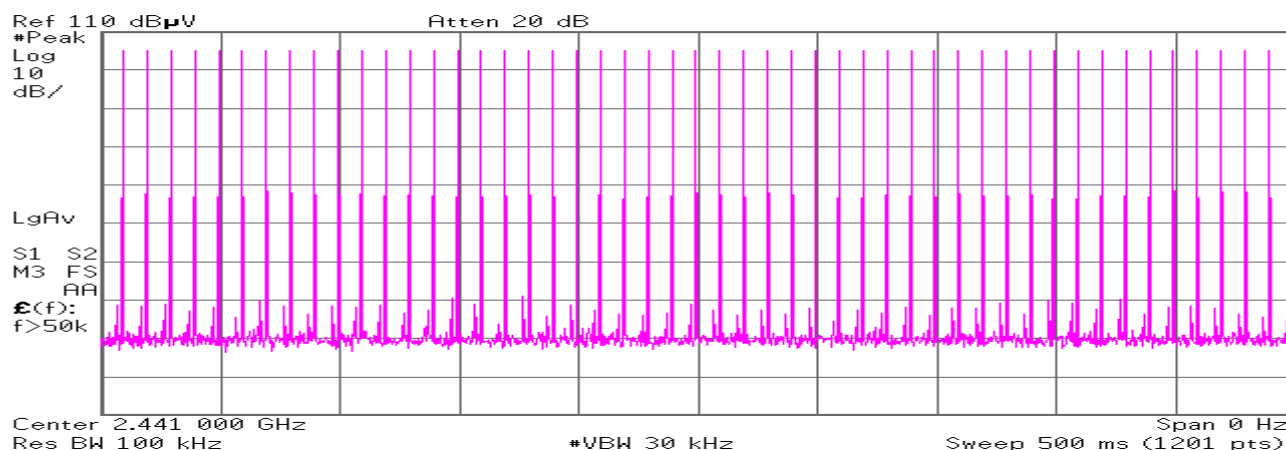
Count4

Agilent 15:55:44 30 Apr 2009

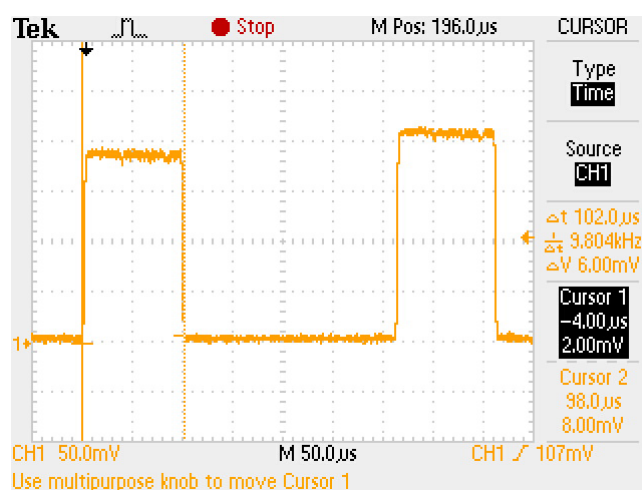


Count5

Agilent 15:57:21 30 Apr 2009



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 = $1280.0 * 0.102 = 130.56 [ms]$

Limit : Dwell Time < 0.4[s]

Company: PIONEER CORPORATION
Kind of Equipment: Multi-Media AVN Navigation
Server System with BT
Serial No.: TPIC000038

Report No.: 29IE0120-YK-01-A
Model No.: AVIC-Z110BT
Power: DC 12.0V

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

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

DATE: 2009/5/7
TEMP./HUMID.: 22deg.C/66%
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	-0.14	1.28	1.14	20.96	19.82
Mid	2441.00	-1.70	1.30	-0.40	20.96	21.36
High	2480.00	-3.80	1.31	-2.49	20.96	23.45
Inquiry	-	0.48	1.30	1.78	20.96	19.18

Limit: 125mW=20.96dBm

P/M: Power Meter

CABLE LOSS:Customer's cable + KCC-D20

2DH5

CH	FREQ [GHz]	P/M Reading [dBm]	Cable Loss [dB]	Results [dBm]	Limit (125mW) [dBm]	MARGIN [dB]
Low	2402.00	-0.70	1.28	0.58	20.96	20.38
Mid	2441.00	-2.34	1.30	-1.04	20.96	22.00
High	2480.00	-4.47	1.31	-3.16	20.96	24.12

Limit: 125mW=20.96dBm

P/M: Power Meter

CABLE LOSS:Customer's cable + KCC-D20

3DH5

CH	FREQ [GHz]	P/M Reading [dBm]	Cable Loss [dB]	Results [dBm]	Limit (125mW) [dBm]	MARGIN [dB]
Low	2402.00	-0.23	1.28	1.05	20.96	19.91
Mid	2441.00	-1.80	1.30	-0.50	20.96	21.46
High	2480.00	-3.91	1.31	-2.60	20.96	23.56

Limit: 125mW=20.96dBm

P/M: Power Meter

CABLE LOSS:Customer's cable + KCC-D20

Company: PIONEER CORPORATION
Kind of Equipment: Multi-Media AVN Navigation
Server System with BT
Serial No.: TPIC000038

Report No.:
Model No.:
Power:

29IE0120-YK-01-A
AVIC-Z110BT
DC 12.0V

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

UL Japan, Inc. Yamakita EMC lab.

No.4 shielded room

Date:

2009/05/07

Temp:

22 deg. C.

Humid:

66 %

Engineer:

Akira Sato

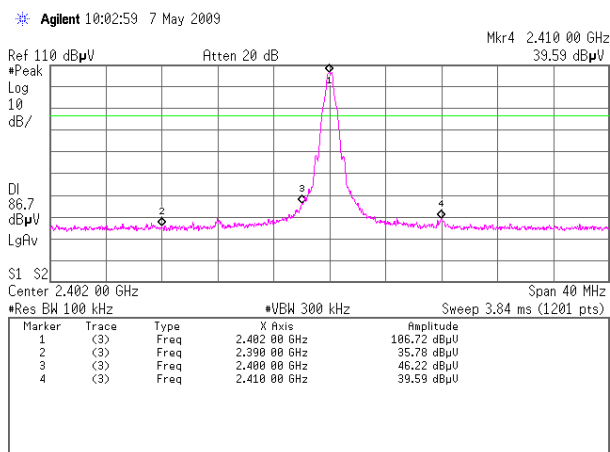
Test mode:

Transmitting

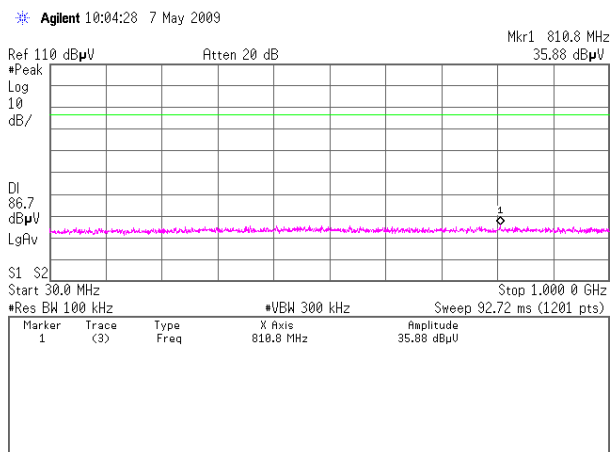
[Transmitting DH5]

Ch:2402MHz

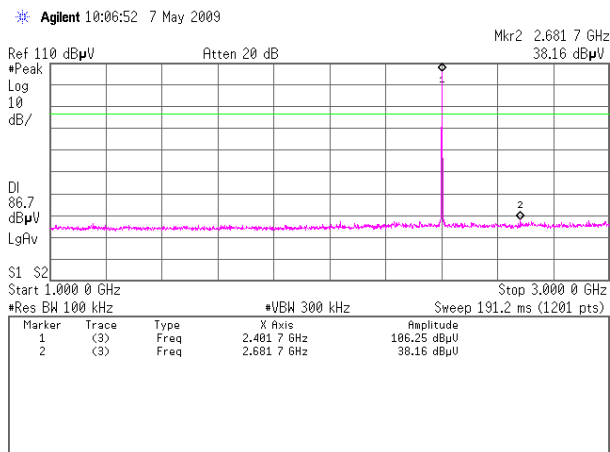
1.



2.

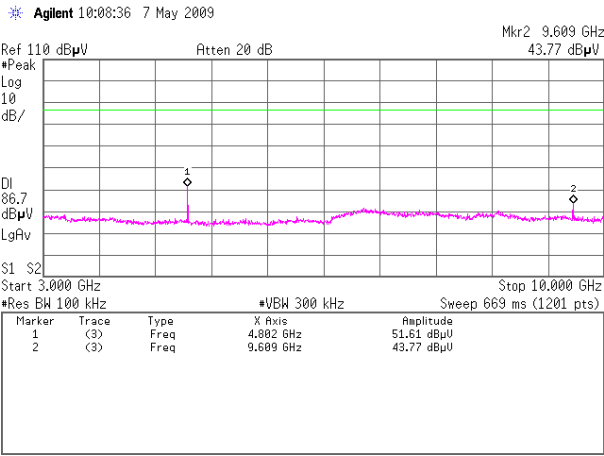


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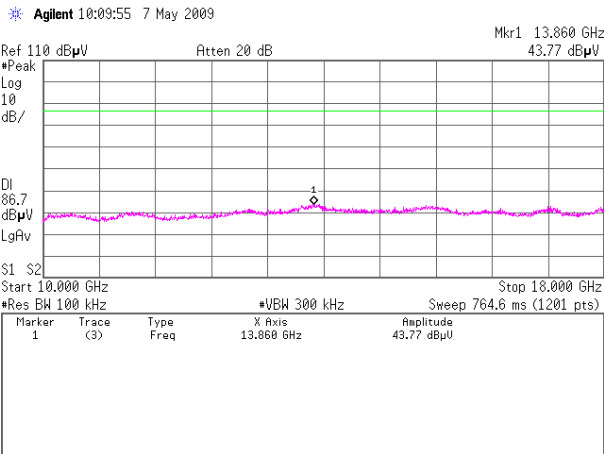


[Transmitting DH5]
Ch:2402MHz

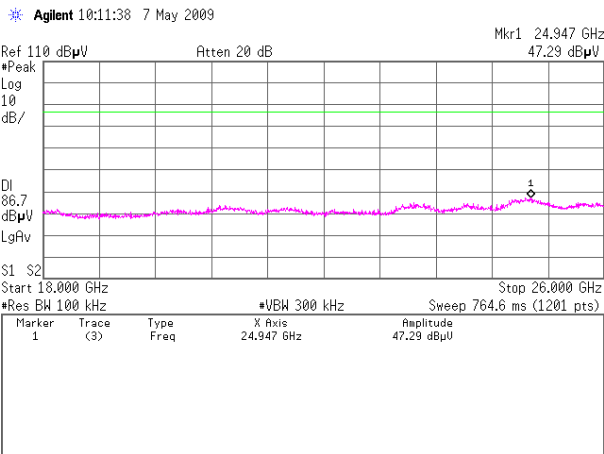
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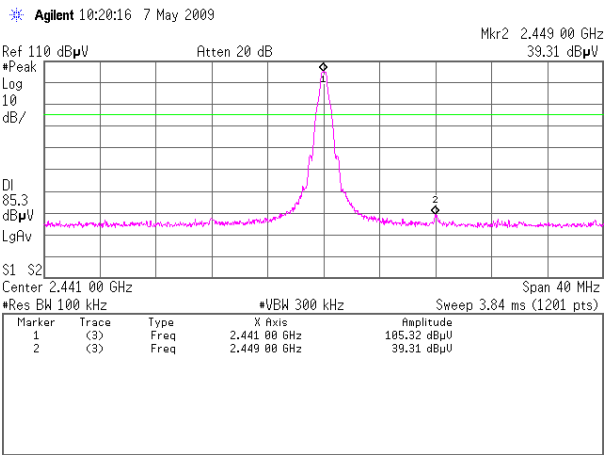
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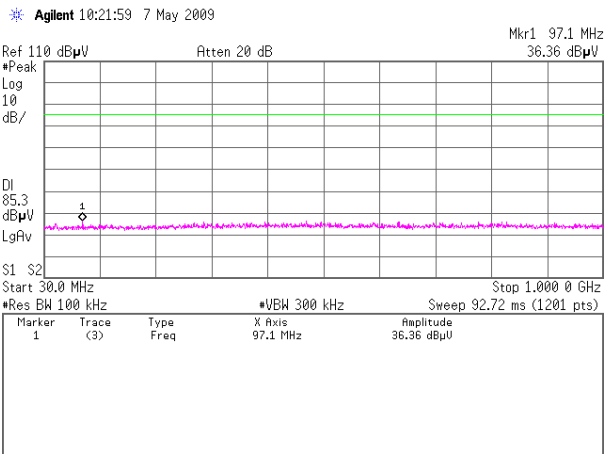
6.



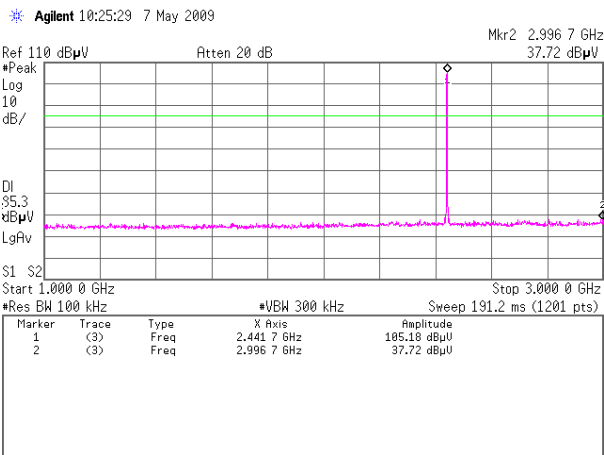
[Transmitting DH5]
Ch:2441MHz
1.



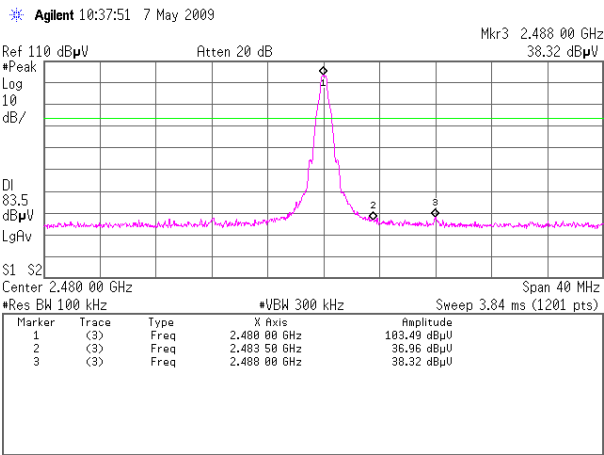
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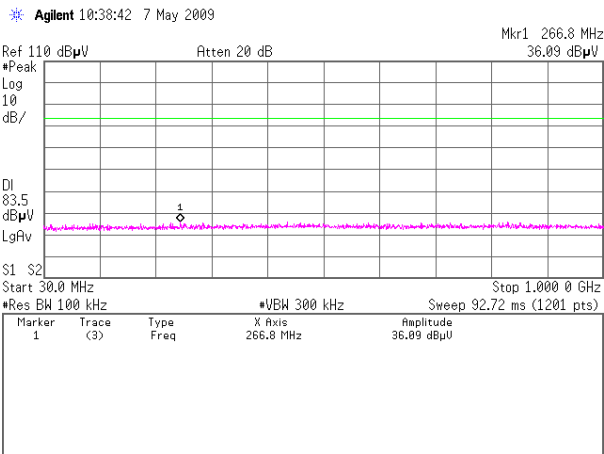
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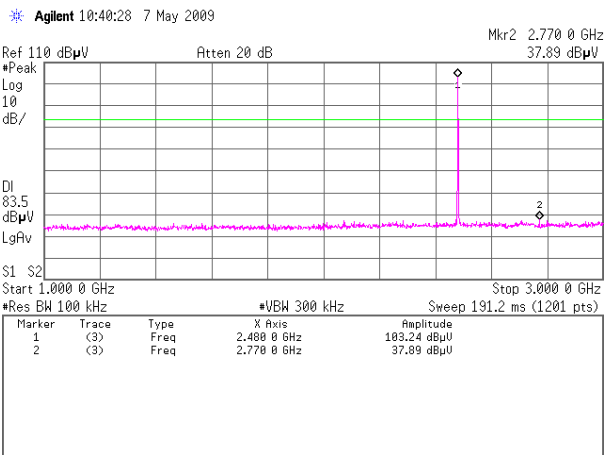
[Transmitting DH5]
Ch:2480MHz
1.



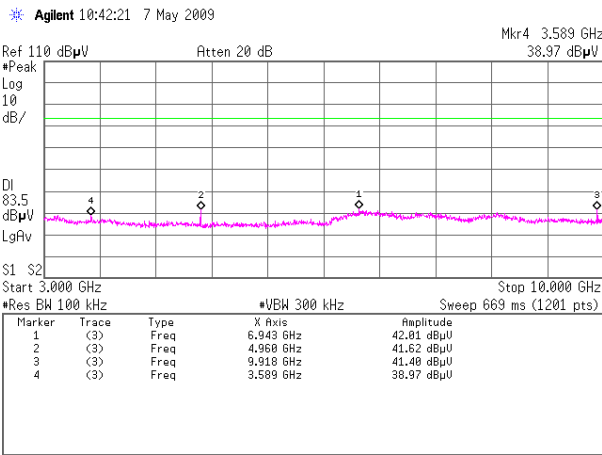
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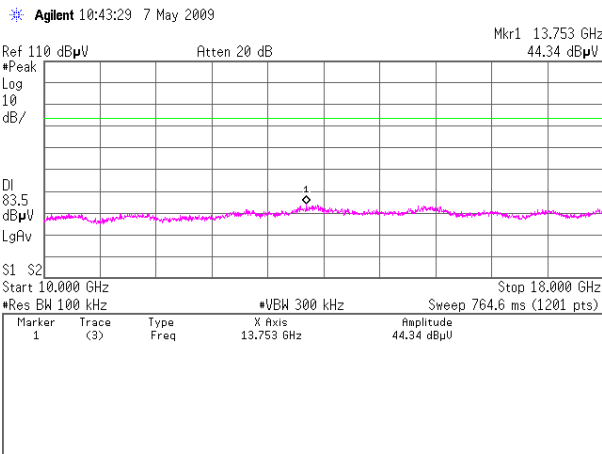
3.



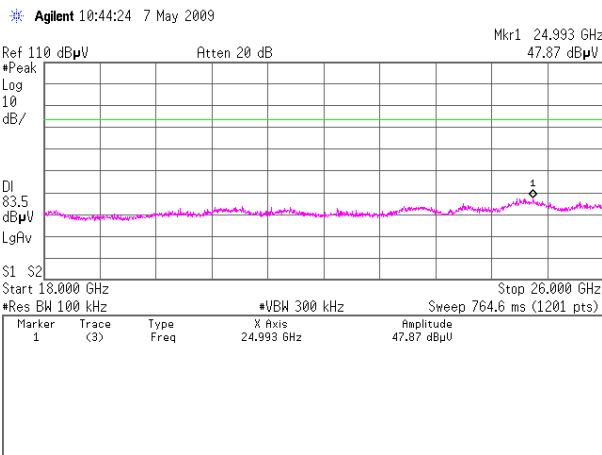
[Transmitting DH5]
Ch:2480MHz
4.



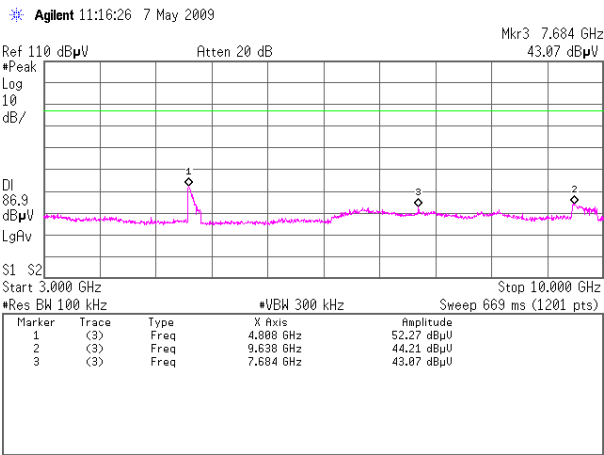
5.



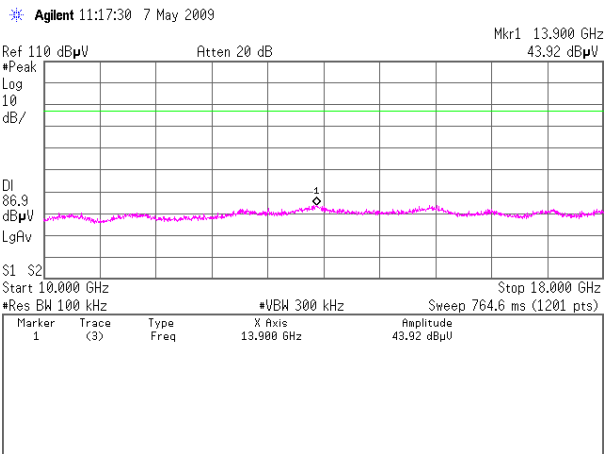
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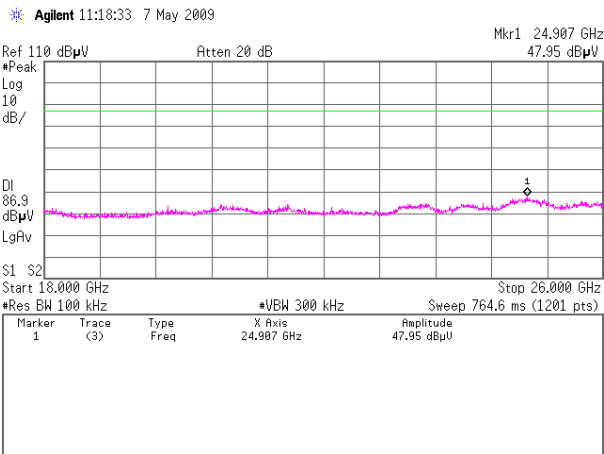
[Transmitting DH5]
Hopping
4.



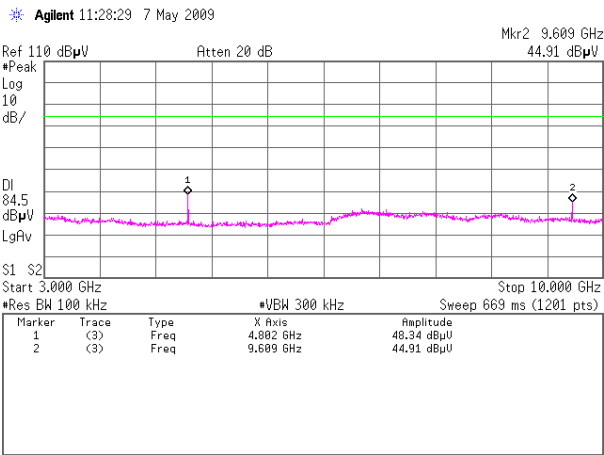
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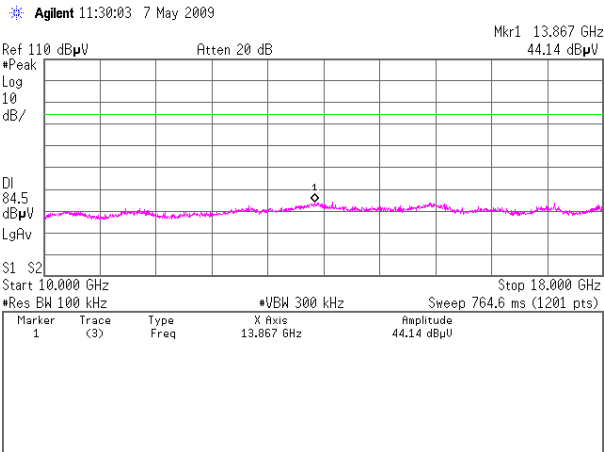
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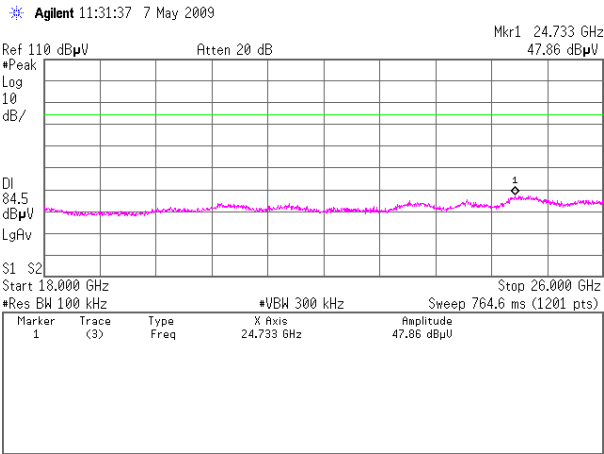
[Transmitting 3DH5]
Ch:2402MHz
4.



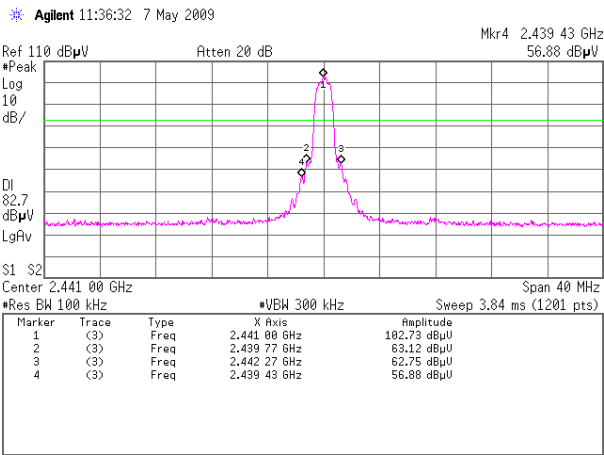
5.



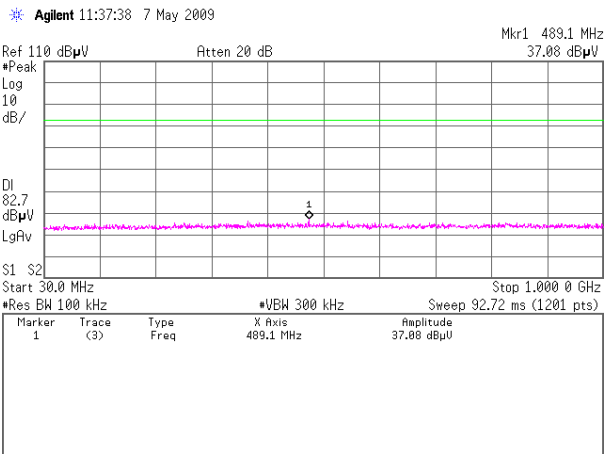
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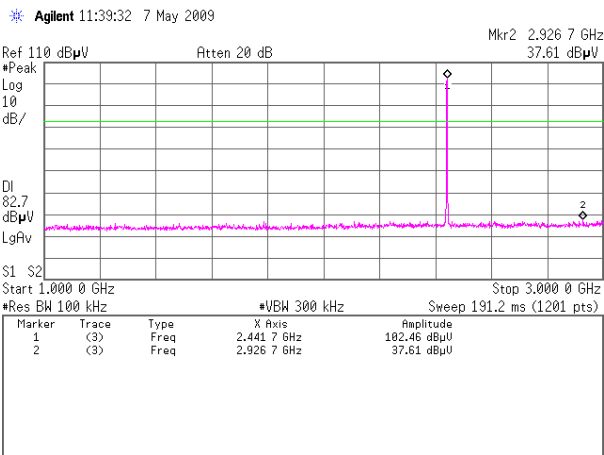
[Transmitting 3DH5]
Ch:2441MHz
1.



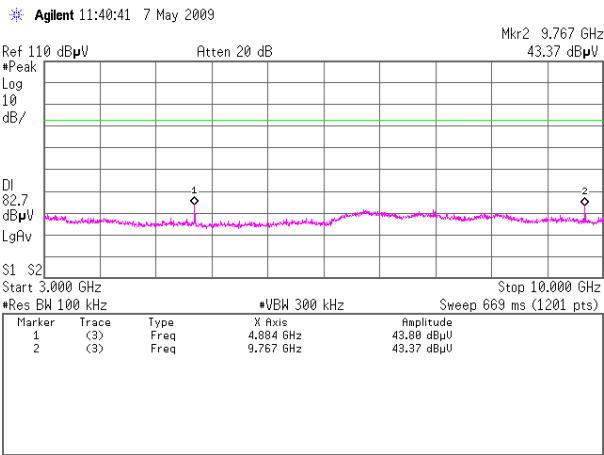
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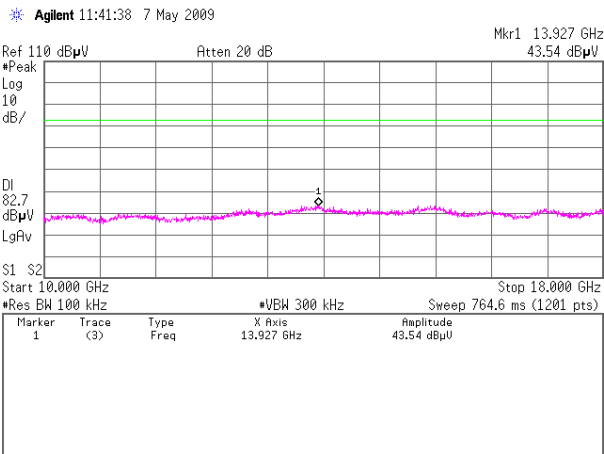
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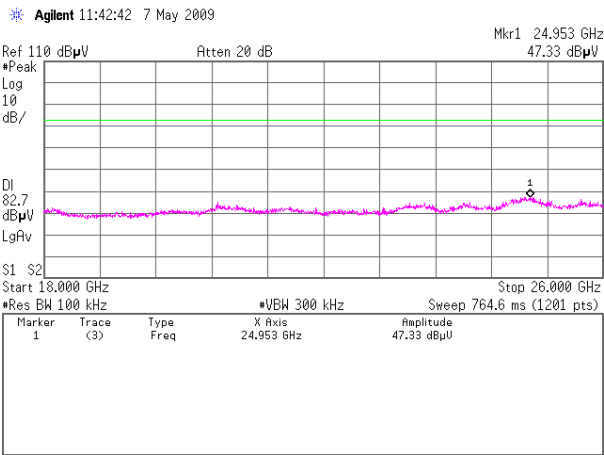
[Transmitting 3DH5]
Ch:2441MHz
4.



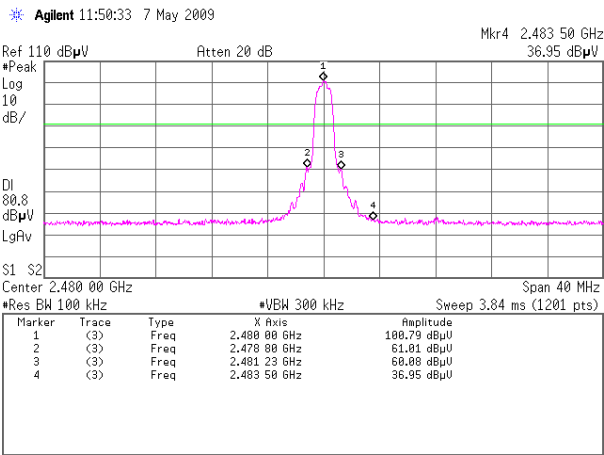
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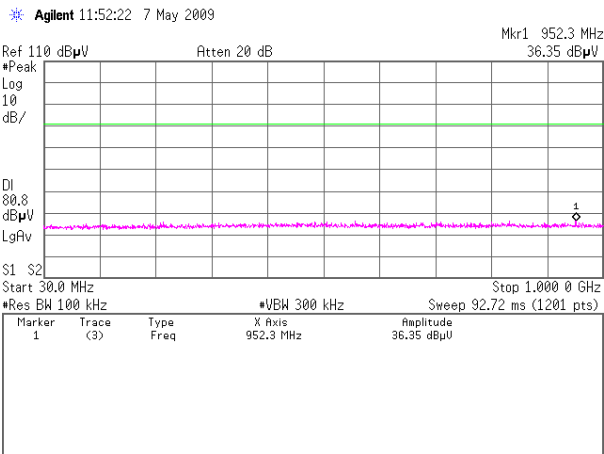
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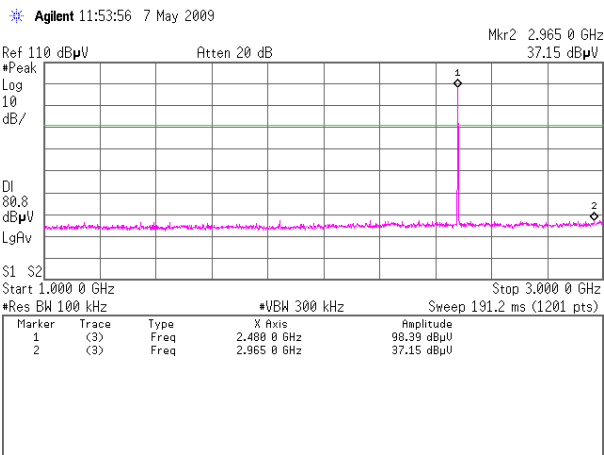
[Transmitting 3DH5]
Ch:2480MHz
1.



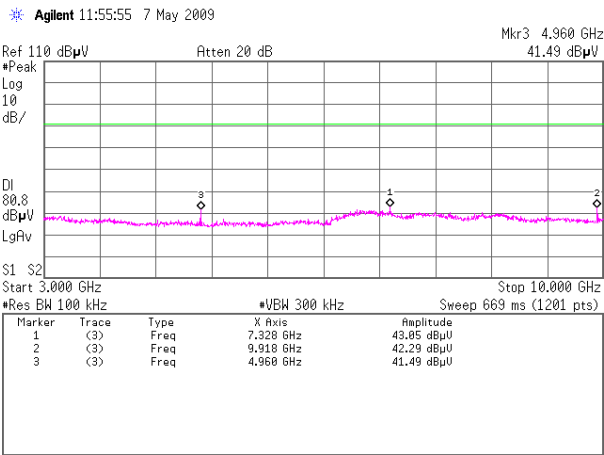
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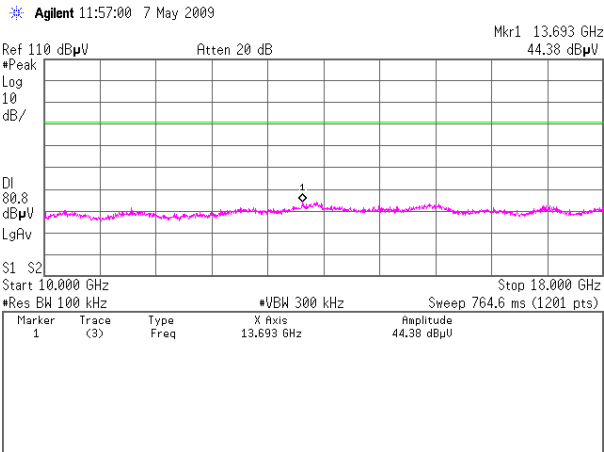
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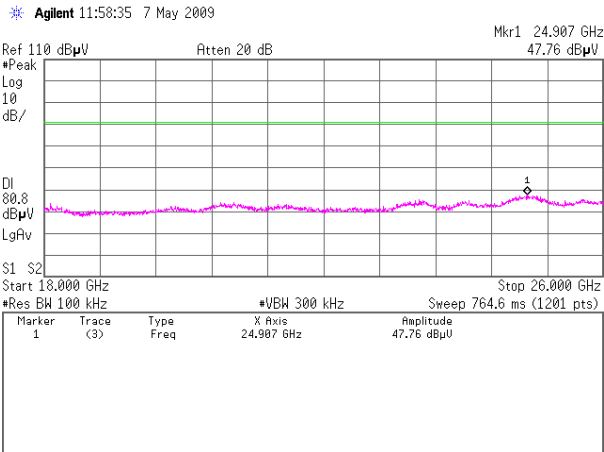
[Transmitting 3DH5]
Ch:2480MHz
4.



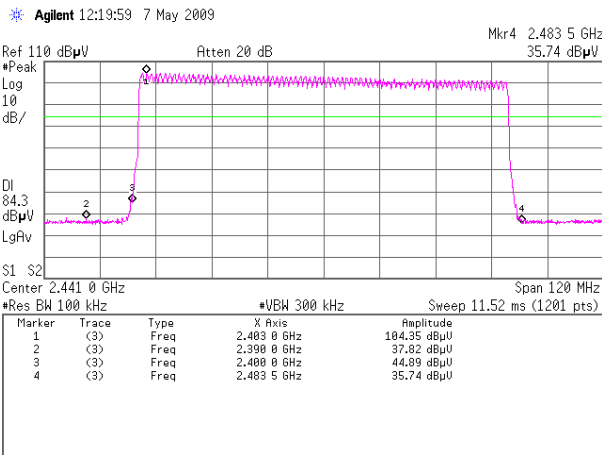
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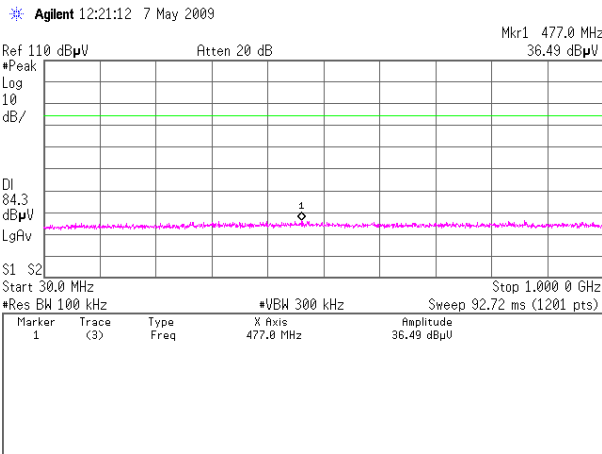
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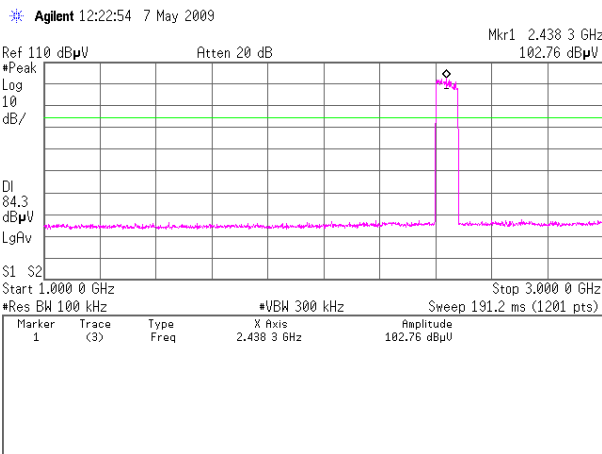
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Hopping
1.



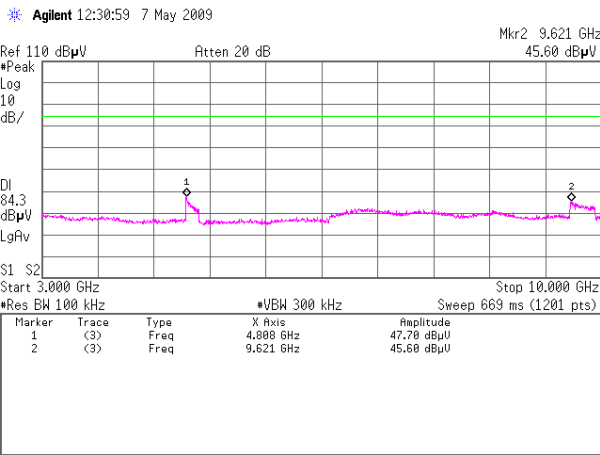
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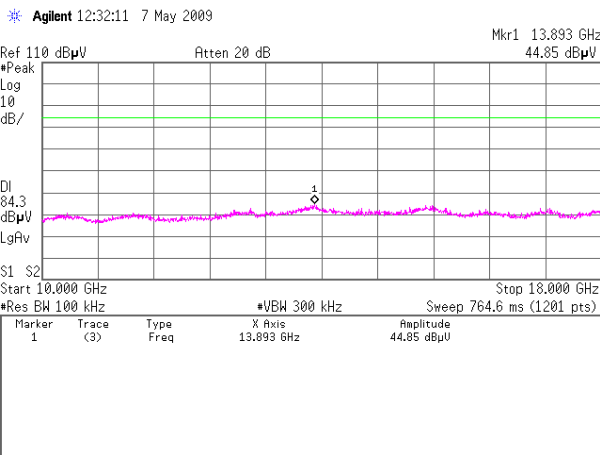
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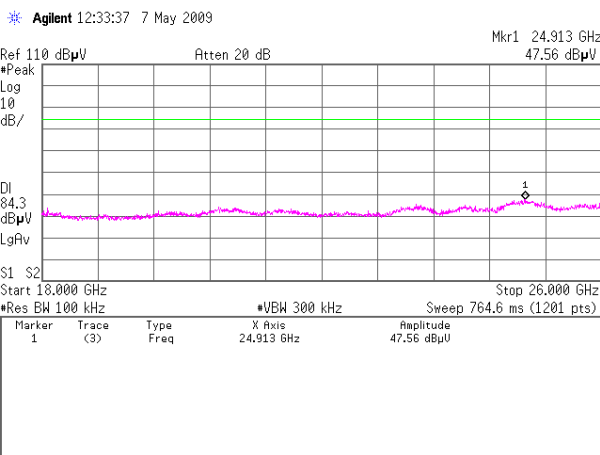
[Transmitting 3DH5]
Hopping
4.



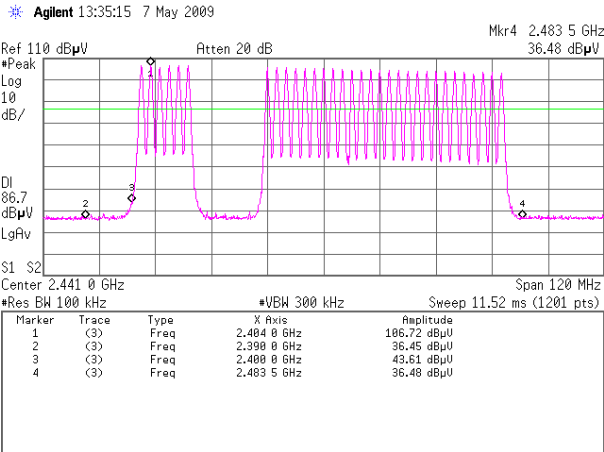
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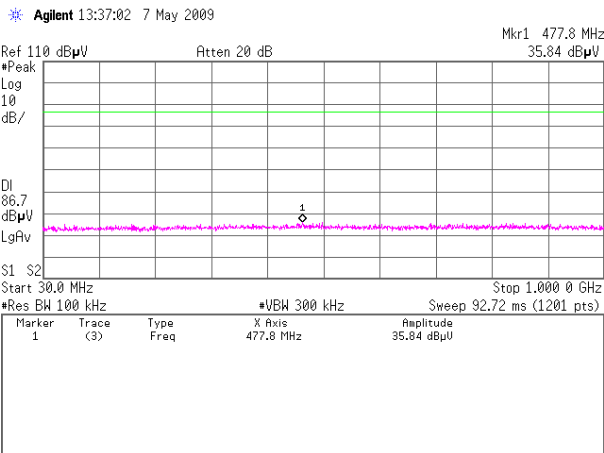
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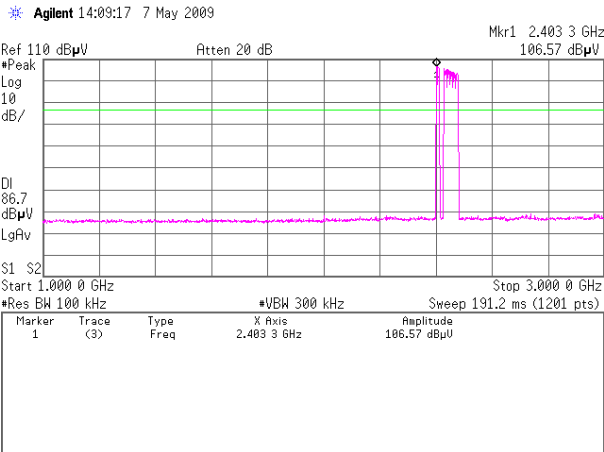
[Transmitting]
Inquiry
1.



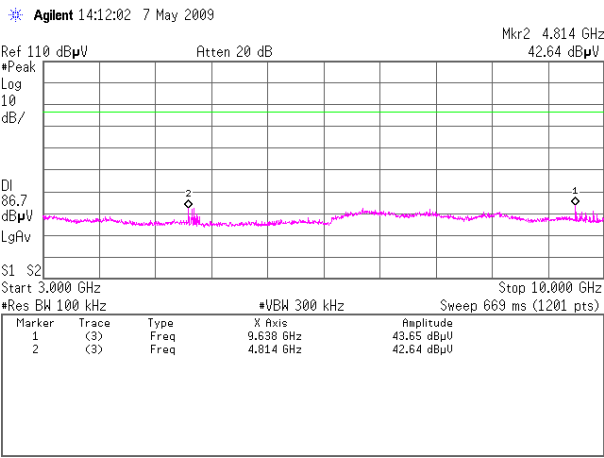
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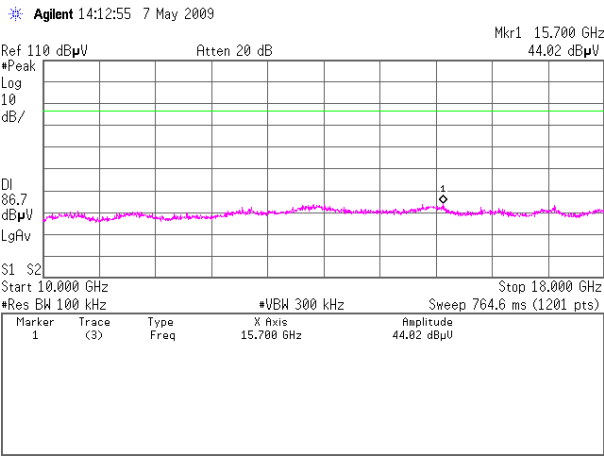
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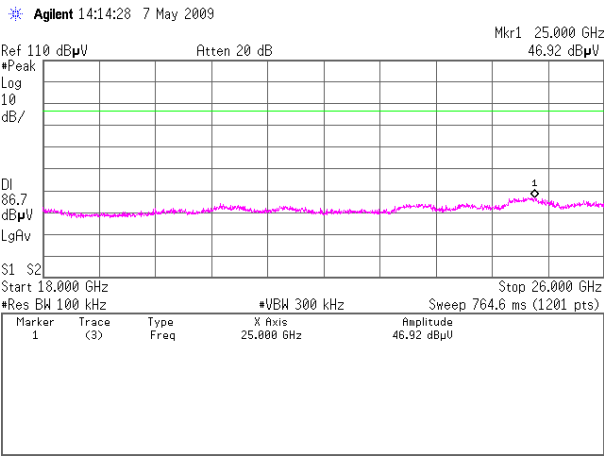
[Transmitting]
Inquiry
4.



5.



6.



Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 291E0120-YK-01-A

Applicant	: PIONEER CORPORATION		
Kind of Equipment	: Multi-Media AVN Navigation Server System with BT		
Model No.	: AVIC-Z110BT		
Serial No.	: TPIC000037		
Power	: DC12V		
Mode	: Transmitting (2402MHz)DH5		
Remarks	: -		
Date	: 4/30/2009		
Test Distance	: 3 m		
Temperature	: 20 °C	Engineer	: Fumiaki Matsuo
Humidity	: 50 %		
Limit	: FCC Part15C § 15.209		

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	68.05	BB	33.5	26.0	7.0	28.6	1.7	6.0	19.6	12.1	40.0	20.4	27.9
2.	166.66	BB	31.2	29.1	15.7	28.2	2.8	6.0	27.5	25.4	43.5	16.0	18.1
3.	300.01	BB	39.4	32.1	14.4	27.6	4.1	6.1	36.4	29.1	46.0	9.6	16.9
4.	500.00	BB	32.8	33.8	18.1	29.0	5.5	6.1	33.5	34.5	46.0	12.5	11.5
5.	700.01	BB	25.8	29.8	20.5	29.2	6.7	6.1	29.9	33.9	46.0	16.1	12.1
6.	768.00	BB	26.0	29.5	21.6	29.0	7.0	6.1	31.7	35.2	46.0	14.3	10.8

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

■ ANTENNA: KBA-03 (BBA9106) 30-299.99MHz / KLA-03 (USLP9143) 300-1000MHz

■ CABLE: KCC-30/31/32/34 ■ PREAMP: KAF-05 (8447D) ■ EMI RECEIVER: KTR-04 (ESVS10)

Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 291E0120-YK-01-A

Applicant : PIONEER CORPORATION
Kind of Equipment : Multi-Media AVN Navigation Server System with BT
Model No. : AVIC-Z110BT
Serial No. : TPIC000037
Power : DC12V
Mode : Transmitting (2441MHz)DH5
Remarks : -
Date : 4/30/2009
Test Distance : 3 m
Temperature : 20 °C Engineer : Fumiaki Matsuo
Humidity : 50 %
Limit : FCC Part15C § 15.209

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	68.04	BB	33.6	26.2	7.0	28.6	1.7	6.0	19.7	12.3	40.0	20.3	27.7
2.	166.66	BB	31.3	29.3	15.7	28.2	2.8	6.0	27.6	25.6	43.5	15.9	17.9
3.	300.01	BB	39.3	32.3	14.4	27.6	4.1	6.1	36.3	29.3	46.0	9.7	16.7
4.	500.00	BB	32.7	33.5	18.1	29.0	5.5	6.1	33.4	34.2	46.0	12.6	11.8
5.	700.01	BB	25.8	29.9	20.5	29.2	6.7	6.1	29.9	34.0	46.0	16.1	12.0
6.	768.00	BB	26.1	29.5	21.6	29.0	7.0	6.1	31.8	35.2	46.0	14.2	10.8

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

■ ANTENNA: KBA-03 (BBA9106) 30-299.99MHz / KLA-03 (USLP9143) 300-1000MHz

■ CABLE: KCC-30/31/32/34 ■ PREAMP: KAF-05 (8447D) ■ EMI RECEIVER: KTR-04 (ESVS10)

Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 291E0120-YK-01-A

Applicant	: PIONEER CORPORATION		
Kind of Equipment	: Multi-Media AVN Navigation Server System with BT		
Model No.	: AVIC-Z110BT		
Serial No.	: TPIC000037		
Power	: DC12V		
Mode	: Transmitting (2480MHz)DH5		
Remarks	: -		
Date	: 4/30/2009		
Test Distance	: 3 m		
Temperature	: 20 °C	Engineer	: Fumiaki Matsuo
Humidity	: 50 %		
Limit	: FCC Part15C § 15.209		

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	68.06	BB	33.3	26.1	7.0	28.6	1.7	6.0	19.4	12.2	40.0	20.6	27.8
2.	166.67	BB	31.3	29.3	15.7	28.2	2.9	6.0	27.7	25.7	43.5	15.8	17.8
3.	300.01	BB	39.2	32.2	14.4	27.6	4.1	6.1	36.2	29.2	46.0	9.8	16.8
4.	500.00	BB	32.6	33.6	18.1	29.0	5.5	6.1	33.3	34.3	46.0	12.7	11.7
5.	700.01	BB	25.8	29.9	20.5	29.2	6.7	6.1	29.9	34.0	46.0	16.1	12.0
6.	768.00	BB	26.2	29.4	21.6	29.0	7.0	6.1	31.9	35.1	46.0	14.1	10.9

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

■ ANTENNA: KBA-03 (BBA9106) 30-299.99MHz/KLA-03 (USLP9143) 300-1000MHz

■ CABLE: KCC-30/31/32/34 ■ PREAMP: KAF-05 (8447D) ■ EMI RECEIVER: KTR-04 (ESVS10)

Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 291E0120-YK-01-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Multi-Media AVN Navigation Server System with BT
 Model No. : AVIC-Z110BT
 Serial No. : TPIC000037
 Power : DC14.4V
 Mode : Transmitting (2402)DH5
 Remarks : PK(RBW:1MHz,VBW:1MHz)
 Date : 4/28/2009
 Test Distance : 3 m
 Temperature : 21 °C
 Humidity : 54 %
 Limit : FCC Part15C § 15.209(PK Detection)

Engineer : Takahiro Suzuki

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μV/m]	MARGIN	
			HOR [dB μV]	VER [dB μV]					HOR [dB μV/m]	VER [dB μV/m]		HOR [dB]	VER [dB]
1.	2390.00	BB	43.7	43.5	28.0	36.5	7.2	0.0	42.4	42.2	74.0	31.6	31.8
2.	4804.00	BB	43.3	43.9	32.2	36.2	8.4	0.0	47.7	48.3	74.0	26.3	25.7
3.	7206.00	BB	44.1	44.0	36.6	36.2	9.0	0.0	53.5	53.4	74.0	20.5	20.6
4.	9608.00	BB	47.2	47.4	38.8	36.3	10.0	0.0	59.7	59.9	74.0	14.3	14.1
5.	12010.00	BB	46.3	46.7	38.7	35.6	10.7	0.0	60.1	60.5	74.0	13.9	13.5

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

■ ANTENNA: KHA-02 (1-18GHz) / KHA-04 (18-26GHz)

■ CABLE: KCC-D13/D16 ■ PREAMP: KAF-02 (8449B) ■ SPECTRUMANALYZER: R3271A (KSA-04)

Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 291E0120-YK-01-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Multi-Media AVN Navigation Server System with BT
 Model No. : AVIC-Z110BT
 Serial No. : TPIC000037
 Power : DC14.4V
 Mode : Transmitting (2402)DH5
 Remarks : AV(RBW:1MHz,VBW:300Hz)
 Date : 4/28/2009
 Test Distance : 3 m
 Temperature : 21 °C
 Humidity : 54 %
 Limit : FCC Part15C § 15.209(AV Detection)

Engineer : Takahiro Suzuki

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	2390.00	BB	33.3	33.5	28.0	36.5	7.2	0.0	32.0	32.2	54.0	22.0	21.8
2.	4804.00	BB	31.6	31.8	32.2	36.2	8.4	0.0	36.0	36.2	54.0	18.0	17.8
3.	7206.00	BB	31.5	31.7	36.6	36.2	9.0	0.0	40.9	41.1	54.0	13.1	12.9
4.	9608.00	BB	35.1	35.2	38.8	36.3	10.0	0.0	47.6	47.7	54.0	6.4	6.3
5.	12010.00	BB	34.9	35.1	38.7	35.6	10.7	0.0	48.7	48.9	54.0	5.3	5.1

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

■ ANTENNA:KHA-02 (1-18GHz)/KHA-04 (18-26GHz)

■ CABLE:KCC-D13/D16 ■ AMP:KAF-02 ■ SPECTRUM ANALYZER:KSA-04

Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 291E0120-YK-01-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Multi-Media AVN Navigation Server System with BT
 Model No. : AVIC-Z110BT
 Serial No. : TPIC000037
 Power : DC14.4V
 Mode : Transmitting (2441)DH5
 Remarks : PK (RBW:1MHz, VBW:1MHz)
 Date : 4/28/2009
 Test Distance : 3 m
 Temperature : 21 °C
 Humidity : 54 %
 Limit : FCC Part15C § 15.209(PK Detection)

Engineer : Takahiro Suzuki

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	4882.00	BB	43.1	43.4	32.2	36.1	8.4	0.0	47.6	47.9	74.0	26.4	26.1
2.	7323.00	BB	43.8	44.2	36.9	36.3	9.0	0.0	53.4	53.8	74.0	20.6	20.2
3.	9764.00	BB	47.6	47.5	38.9	36.2	10.1	0.0	60.4	60.3	74.0	13.6	13.7
4.	12205.00	BB	46.1	47.2	39.0	35.2	10.7	0.0	60.6	61.7	74.0	13.4	12.3

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

■ ANTENNA: KHA-02 (1-18GHz) / KHA-04 (18-26GHz)

■ CABLE: KCC-D13/D16 ■ PREAMP: KAF-02 (8449B) ■ SPECTRUMANALYZER: R3271A (KSA-04)

Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 291E0120-YK-01-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Multi-Media AVN Navigation Server System with BT
 Model No. : AVIC-Z110BT
 Serial No. : TPIC000037
 Power : DC14.4V
 Mode : Transmitting (2441)DH5
 Remarks : AV (RBW:1MHz, VBW:300Hz)
 Date : 4/28/2009
 Test Distance : 3 m
 Temperature : 21 °C Engineer : Takahiro Suzuki
 Humidity : 54 %
 Limit : FCC Part15C § 15.209 (AV Detection)

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μV/m]	MARGIN	
			HOR [dB μV]	VER [dB μV]					HOR [dB μV/m]	VER [dB μV/m]		HOR [dB]	VER [dB]
1.	4882.00	BB	31.3	31.5	32.2	36.1	8.4	0.0	35.8	36.0	54.0	18.2	18.0
2.	7323.00	BB	31.7	31.8	36.9	36.3	9.0	0.0	41.3	41.4	54.0	12.7	12.6
3.	9764.00	BB	35.3	34.9	38.9	36.2	10.1	0.0	48.1	47.7	54.0	5.9	6.3
4.	12205.00	BB	35.0	35.2	39.0	35.2	10.7	0.0	49.5	49.7	54.0	4.5	4.3

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

■ ANTENNA: KHA-02 (1-18GHz) / KHA-04 (18-26GHz)

■ CABLE: KCC-D13/D16 ■ PREAMP: KAF-02 (8449B) ■ SPECTRUMANALYZER: R3271A (KSA-04)

Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 291E0120-YK-01-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Multi-Media AVN Navigation Server System with BT
 Model No. : AVIC-Z110BT
 Serial No. : TPIC000037
 Power : DC14.4V
 Mode : Transmitting (2480)DH5
 Remarks : PK(RBW:1MHz, VBW:1MHz)
 Date : 4/28/2009
 Test Distance : 3 m
 Temperature : 21 °C
 Humidity : 54 %
 Limit : FCC Part15C § 15.209(PK Detection)

Engineer : Takahiro Suzuki

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μV/m]	MARGIN	
			HOR [dB μV]	VER [dB μV]					HOR [dB μV/m]	VER [dB μV/m]		HOR [dB]	VER [dB]
1.	2483.50	BB	47.2	46.9	28.0	36.5	7.3	0.0	46.0	45.7	74.0	28.0	28.3
2.	4960.00	BB	43.3	43.5	32.3	36.1	8.5	0.0	48.0	48.2	74.0	26.0	25.8
3.	7440.00	BB	44.6	44.5	37.2	36.3	9.0	0.0	54.5	54.4	74.0	19.5	19.6
4.	9920.00	BB	46.8	48.2	39.1	36.2	10.1	0.0	59.8	61.2	74.0	14.2	12.8
5.	12400.00	BB	45.2	45.9	39.3	34.9	10.7	0.0	60.3	61.0	74.0	13.7	13.0

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

■ ANTENNA: KHA-02 (1-18GHz) / KHA-04 (18-26GHz)

■ CABLE: KCC-D13/D16 ■ PREAMP: KAF-02 (8449B) ■ SPECTRUMANALYZER: R3271A (KSA-04)

Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 291E0120-YK-01-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Multi-Media AVN Navigation Server System with BT
 Model No. : AVIC-Z110BT
 Serial No. : TPIC000037
 Power : DC14.4V
 Mode : Transmitting (2480)DH5
 Remarks : AV(RBW:1MHz,VBW:300Hz)
 Date : 4/28/2009
 Test Distance : 3 m
 Temperature : 21 °C
 Humidity : 54 %
 Limit : FCC Part15C § 15.209(AV Detection)

Engineer : Takahiro Suzuki

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μV/m]	MARGIN	
			HOR [dB μV]	VER [dB μV]					HOR [dB μV/m]	VER [dB μV/m]		HOR [dB]	VER [dB]
1.	2483.50	BB	43.0	43.0	28.0	36.5	7.3	0.0	41.8	41.8	54.0	12.2	12.2
2.	4960.00	BB	31.7	31.2	32.3	36.1	8.5	0.0	36.4	35.9	54.0	17.6	18.1
3.	7440.00	BB	32.1	31.8	37.2	36.3	9.0	0.0	42.0	41.7	54.0	12.0	12.3
4.	9920.00	BB	35.1	35.3	39.1	36.2	10.1	0.0	48.1	48.3	54.0	5.9	5.7
5.	12400.00	BB	35.1	35.3	39.3	34.9	10.7	0.0	50.2	50.4	54.0	3.8	3.6

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

■ ANTENNA: KHA-02 (1-18GHz) / KHA-04 (18-26GHz)

■ CABLE: KCC-D13/D16 ■ PREAMP: KAF-02 (8449B) ■ SPECTRUMANALYZER: R3271A (KSA-04)

Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 291E0120-YK-01-A

Applicant	: PIONEER CORPORATION		
Kind of Equipment	: Multi-Media AVN Navigation Server System with BT		
Model No.	: AVIC-Z110BT		
Serial No.	: TPIC000037		
Power	: DC12V		
Mode	: Transmitting (2402MHz) 3DH5		
Remarks	: -		
Date	: 4/30/2009		
Test Distance	: 3 m		
Temperature	: 20 °C	Engineer	: Fumiaki Matsuo
Humidity	: 50 %		
Limit	: FCC Part15C § 15.209		

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	68.06	BB	34.0	26.4	7.0	28.6	1.7	6.0	20.1	12.5	40.0	19.9	27.5
2.	166.67	BB	31.3	29.5	15.7	28.2	2.9	6.0	27.7	25.9	43.5	15.8	17.6
3.	300.01	BB	39.7	32.5	14.4	27.6	4.1	6.1	36.7	29.5	46.0	9.3	16.5
4.	500.00	BB	32.9	33.9	18.1	29.0	5.5	6.1	33.6	34.6	46.0	12.4	11.4
5.	700.01	BB	25.9	30.2	20.5	29.2	6.7	6.1	30.0	34.3	46.0	16.0	11.7
6.	768.00	BB	26.3	30.3	21.6	29.0	7.0	6.1	32.0	36.0	46.0	14.0	10.0

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

■ ANTENNA: KBA-03 (BBA9106) 30-299.99MHz / KLA-03 (USLP9143) 300-1000MHz

■ CABLE: KCC-30/31/32/34 ■ PREAMP: KAF-05 (8447D) ■ EMI RECEIVER: KTR-04 (ESVS10)

Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 291E0120-YK-01-A

Applicant	: PIONEER CORPORATION		
Kind of Equipment	: Multi-Media AVN Navigation Server System with BT		
Model No.	: AVIC-Z110BT		
Serial No.	: TPIC000037		
Power	: DC12V		
Mode	: Transmitting (2441MHz) 3DH5		
Remarks	: -		
Date	: 4/30/2009		
Test Distance	: 3 m		
Temperature	: 20 °C	Engineer	: Fumiaki Matsuo
Humidity	: 50 %		
Limit	: FCC Part15C § 15.209		

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	68.06	BB	34.1	26.2	7.0	28.6	1.7	6.0	20.2	12.3	40.0	19.8	27.7
2.	166.67	BB	31.1	29.5	15.7	28.2	2.9	6.0	27.5	25.9	43.5	16.0	17.6
3.	300.01	BB	39.6	32.4	14.4	27.6	4.1	6.1	36.6	29.4	46.0	9.4	16.6
4.	500.00	BB	33.0	33.5	18.1	29.0	5.5	6.1	33.7	34.2	46.0	12.3	11.8
5.	700.01	BB	26.0	30.0	20.5	29.2	6.7	6.1	30.1	34.1	46.0	15.9	11.9
6.	768.00	BB	26.3	30.4	21.6	29.0	7.0	6.1	32.0	36.1	46.0	14.0	9.9

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

■ ANTENNA: KBA-03 (BBA9106) 30-299.99MHz / KLA-03 (USLP9143) 300-1000MHz

■ CABLE: KCC-30/31/32/34 ■ PREAMP: KAF-05 (8447D) ■ EMI RECEIVER: KTR-04 (ESVS10)

Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 291E0120-YK-01-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Multi-Media AVN Navigation Server System with BT
 Model No. : AVIC-Z110BT
 Serial No. : TPIC000037
 Power : DC12V
 Mode : Transmitting (2480MHz) 3DH5
 Remarks : -
 Date : 4/30/2009
 Test Distance : 3 m
 Temperature : 20 °C
 Humidity : 50 %
 Limit : FCC Part15C § 15.209

Engineer : Fumiaki Matsuo

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	68.04	BB	33.8	26.2	7.0	28.6	1.7	6.0	19.9	12.3	40.0	20.1	27.7
2.	166.66	BB	31.3	29.3	15.7	28.2	2.8	6.0	27.6	25.6	43.5	15.9	17.9
3.	300.01	BB	39.5	32.4	14.4	27.6	4.1	6.1	36.5	29.4	46.0	9.5	16.6
4.	500.00	BB	32.8	33.8	18.1	29.0	5.5	6.1	33.5	34.5	46.0	12.5	11.5
5.	700.01	BB	25.7	30.0	20.5	29.2	6.7	6.1	29.8	34.1	46.0	16.2	11.9
6.	768.00	BB	26.0	30.2	21.6	29.0	7.0	6.1	31.7	35.9	46.0	14.3	10.1

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

■ ANTENNA: KBA-03 (BBA9106) 30-299.99MHz / KLA-03 (USLP9143) 300-1000MHz

■ CABLE: KCC-30/31/32/34 ■ PREAMP: KAF-05 (8447D) ■ EMI RECEIVER: KTR-04 (ESVS10)

Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 291E0120-YK-01-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Multi-Media AVN Navigation Server System with BT
 Model No. : AVIC-Z110BT
 Serial No. : TPIC000037
 Power : DC14.4V
 Mode : Transmitting (2402) 3DH5
 Remarks : PK (RBW:1MHz, VBW:1MHz)
 Date : 4/28/2009
 Test Distance : 3 m
 Temperature : 21 °C
 Humidity : 54 %
 Limit : FCC Part15C § 15.209(PK Detection)

Engineer : Takahiro Suzuki

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μV/m]	MARGIN	
			HOR [dB μV]	VER [dB μV]					HOR [dB μV/m]	VER [dB μV/m]		HOR [dB]	VER [dB]
1.	2390.00	BB	43.6	43.9	28.0	36.5	7.2	0.0	42.3	42.6	74.0	31.7	31.4
2.	4804.00	BB	43.8	43.9	32.2	36.2	8.4	0.0	48.2	48.3	74.0	25.8	25.7
3.	7206.00	BB	43.9	43.8	36.6	36.2	9.0	0.0	53.3	53.2	74.0	20.7	20.8
4.	9608.00	BB	47.1	46.9	38.8	36.3	10.0	0.0	59.6	59.4	74.0	14.4	14.6
5.	12010.00	BB	46.4	46.3	38.7	35.6	10.7	0.0	60.2	60.1	74.0	13.8	13.9

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

■ ANTENNA: KHA-02 (1-18GHz) / KHA-04 (18-26GHz)

■ CABLE: KCC-D13/D16 ■ PREAMP: KAF-02 (8449B) ■ SPECTRUMANALYZER: R3271A (KSA-04)

Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 291E0120-YK-01-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Multi-Media AVN Navigation Server System with BT
 Model No. : AVIC-Z110BT
 Serial No. : TPIC000037
 Power : DC14.4V
 Mode : Transmitting (2402) 3DH5
 Remarks : AV (RBW:1MHz, VBW:300Hz)
 Date : 4/28/2009
 Test Distance : 3 m
 Temperature : 21 °C
 Humidity : 54 %
 Limit : FCC Part15C § 15.209 (AV Detection)

Engineer : Takahiro Suzuki

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μV/m]	MARGIN	
			HOR [dB μV]	VER [dB μV]					HOR [dB μV/m]	VER [dB μV/m]		HOR [dB]	VER [dB]
1.	2390.00	BB	33.4	33.5	28.0	36.5	7.2	0.0	32.1	32.2	54.0	21.9	21.8
2.	4804.00	BB	31.4	31.6	32.2	36.2	8.4	0.0	35.8	36.0	54.0	18.2	18.0
3.	7206.00	BB	31.5	31.3	36.6	36.2	9.0	0.0	40.9	40.7	54.0	13.1	13.3
4.	9608.00	BB	34.9	34.9	38.8	36.3	10.0	0.0	47.4	47.4	54.0	6.6	6.6
5.	12010.00	BB	34.7	34.5	38.7	35.6	10.7	0.0	48.5	48.3	54.0	5.5	5.7

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

■ ANTENNA: KHA-02 (1-18GHz) / KHA-04 (18-26GHz)

■ CABLE: KCC-D13/D16 ■ PREAMP: KAF-02 (8449B) ■ SPECTRUMANALYZER: R3271A (KSA-04)

Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 291E0120-YK-01-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Multi-Media AVN Navigation Server System with BT
 Model No. : AVIC-Z110BT
 Serial No. : TPIC000037
 Power : DC14.4V
 Mode : Transmitting (2441)3DH5
 Remarks : PK(RBW:1MHz, VBW:1MHz)
 Date : 4/28/2009
 Test Distance : 3 m
 Temperature : 21 °C
 Humidity : 54 %
 Limit : FCC Part15C § 15.209(PK Detection)

Engineer : Takahiro Suzuki

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	4882.00	BB	42.8	43.6	32.2	36.1	8.4	0.0	47.3	48.1	74.0	26.7	25.9
2.	7323.00	BB	44.0	43.9	36.9	36.3	9.0	0.0	53.6	53.5	74.0	20.4	20.5
3.	9764.00	BB	47.1	47.3	38.9	36.2	10.1	0.0	59.9	60.1	74.0	14.1	13.9
4.	12205.00	BB	46.2	46.3	39.0	35.2	10.7	0.0	60.7	60.8	74.0	13.3	13.2

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

■ ANTENNA: KHA-02 (1-18GHz) / KHA-04 (18-26GHz)

■ CABLE: KCC-D13/D16 ■ PREAMP: KAF-02 (8449B) ■ SPECTRUMANALYZER: R3271A (KSA-04)

Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 291E0120-YK-01-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Multi-Media AVN Navigation Server System with BT
 Model No. : AVIC-Z110BT
 Serial No. : TPIC000037
 Power : DC14.4V
 Mode : Transmitting (2441)3DH5
 Remarks : AV (RBW:1MHz, VBW:300Hz)
 Date : 4/28/2009
 Test Distance : 3 m
 Temperature : 21 °C
 Humidity : 54 %
 Limit : FCC Part15C § 15.209(AV Detection)

Engineer : Takahiro Suzuki

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μ V/m]	MARGIN	
			HOR [dB μ V]	VER [dB μ V]					HOR [dB μ V/m]	VER [dB μ V/m]		HOR [dB]	VER [dB]
1.	4882.00	BB	31.4	31.6	32.2	36.1	8.4	0.0	35.9	36.1	54.0	18.1	17.9
2.	7323.00	BB	31.7	31.5	36.9	36.3	9.0	0.0	41.3	41.1	54.0	12.7	12.9
3.	9764.00	BB	34.8	34.8	38.9	36.2	10.1	0.0	47.6	47.6	54.0	6.4	6.4
4.	12205.00	BB	35.1	35.3	39.0	35.2	10.7	0.0	49.6	49.8	54.0	4.4	4.2

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

■ ANTENNA: KHA-02 (1-18GHz) / KHA-04 (18-26GHz)

■ CABLE: KCC-D13/D16 ■ PREAMP: KAF-02 (8449B) ■ SPECTRUMANALYZER: R3271A (KSA-04)

Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 291E0120-YK-01-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Multi-Media AVN Navigation Server System with BT
 Model No. : AVIC-Z110BT
 Serial No. : TPIC000037
 Power : DC14.4V
 Mode : Transmitting (2480) 3DH5
 Remarks : PK (RBW:1MHz, VBW:1MHz)
 Date : 4/28/2009
 Test Distance : 3 m
 Temperature : 21 °C
 Humidity : 54 %
 Limit : FCC Part15C § 15.209(PK Detection)

Engineer : Takahiro Suzuki

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μV/m]	MARGIN	
			HOR [dB μV]	VER [dB μV]					HOR [dB μV/m]	VER [dB μV/m]		HOR [dB]	VER [dB]
1.	2483.50	BB	47.3	46.6	28.0	36.5	7.3	0.0	46.1	45.4	74.0	27.9	28.6
2.	4960.00	BB	42.9	43.5	32.3	36.1	8.5	0.0	47.6	48.2	74.0	26.4	25.8
3.	7440.00	BB	44.1	44.3	37.2	36.3	9.0	0.0	54.0	54.2	74.0	20.0	19.8
4.	9920.00	BB	47.7	47.5	39.1	36.2	10.1	0.0	60.7	60.5	74.0	13.3	13.5
5.	12400.00	BB	46.1	46.0	39.3	34.9	10.7	0.0	61.2	61.1	74.0	12.8	12.9

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

■ ANTENNA: KHA-02 (1-18GHz) / KHA-04 (18-26GHz)

■ CABLE: KCC-D13/D16 ■ PREAMP: KAF-02 (8449B) ■ SPECTRUMANALYZER: R3271A (KSA-04)

Data of Radiated Disturbance Test

UL Japan, Inc.

YAMAKITA No.1 ANECHOIC CHAMBER

Report No. : 291E0120-YK-01-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Multi-Media AVN Navigation Server System with BT
 Model No. : AVIC-Z110BT
 Serial No. : TPIC000037
 Power : DC14.4V
 Mode : Transmitting (2480) 3DH5
 Remarks : AV (RBW:1MHz, VBW:300Hz)
 Date : 4/28/2009
 Test Distance : 3 m
 Temperature : 21 °C Engineer : Takahiro Suzuki
 Humidity : 54 %
 Limit : FCC Part15C § 15.209 (AV Detection)

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS [dB μV/m]	MARGIN	
			HOR [dB μV]	VER [dB μV]					HOR [dB μV/m]	VER [dB μV/m]		HOR [dB]	VER [dB]
1.	2483.50	BB	42.4	42.7	28.0	36.5	7.3	0.0	41.2	41.5	54.0	12.8	12.5
2.	4960.00	BB	31.6	31.8	32.3	36.1	8.5	0.0	36.3	36.5	54.0	17.7	17.5
3.	7440.00	BB	31.8	31.7	37.2	36.3	9.0	0.0	41.7	41.6	54.0	12.3	12.4
4.	9920.00	BB	35.0	34.8	39.1	36.2	10.1	0.0	48.0	47.8	54.0	6.0	6.2
5.	12400.00	BB	34.9	34.8	39.3	34.9	10.7	0.0	50.0	49.9	54.0	4.0	4.1

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

■ ANTENNA: KHA-02 (1-18GHz) / KHA-04 (18-26GHz)

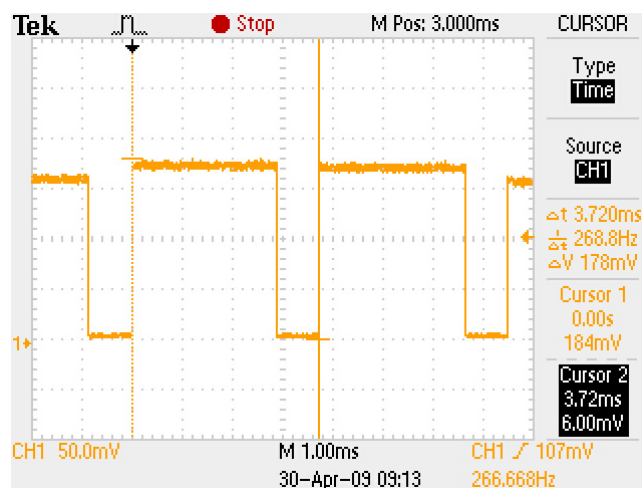
■ CABLE: KCC-D13/D16 ■ PREAMP: KAF-02 (8449B) ■ SPECTRUMANALYZER: R3271A (KSA-04)

Duty Cycle

UL Japan, Inc. Yamakita EMC lab.
 Date:
 Temp./Humid.:
 Engineer:
 Test mode:

No.4 shielded room
 2009/04/30
 23 deg. C. / 44 %
 Akira Sato
 Transmitting

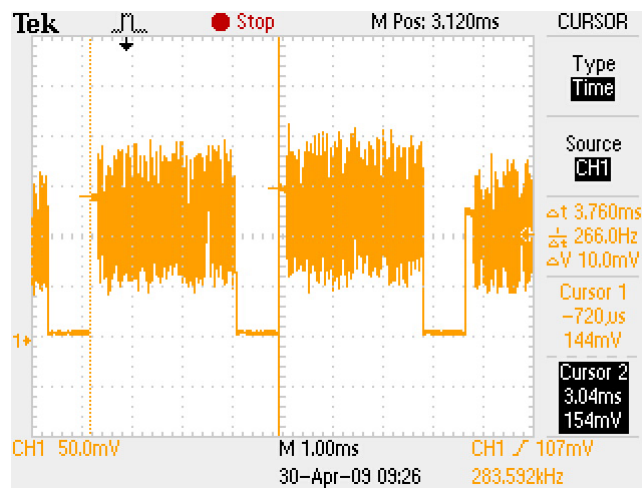
[DH5]



Duty Cycle: 3.72ms

AV Detector VBW: $1000 / 3.72\text{ms} = 268.8\text{Hz} \rightarrow 300\text{Hz}$

[3DH5]



Duty Cycle: 3.76ms

AV Detector VBW: $1000 / 3.76\text{ms} = 266.0\text{Hz} \rightarrow 300\text{Hz}$

- * 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: 2009/04/30 2009/05/07

Temp: 23 deg. C. 22 deg. C.

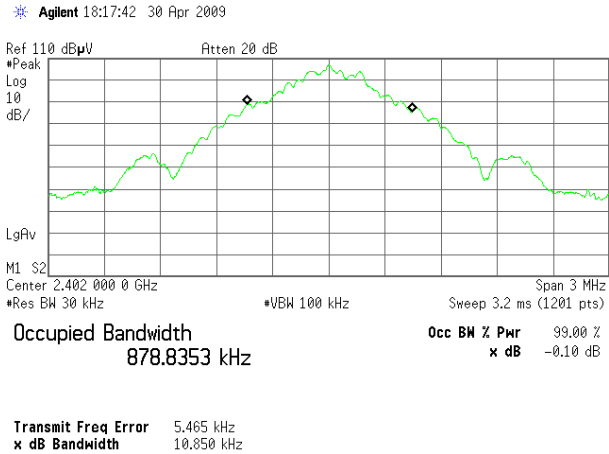
Humid: 44 % 66 %

Engineer: Akira Sato

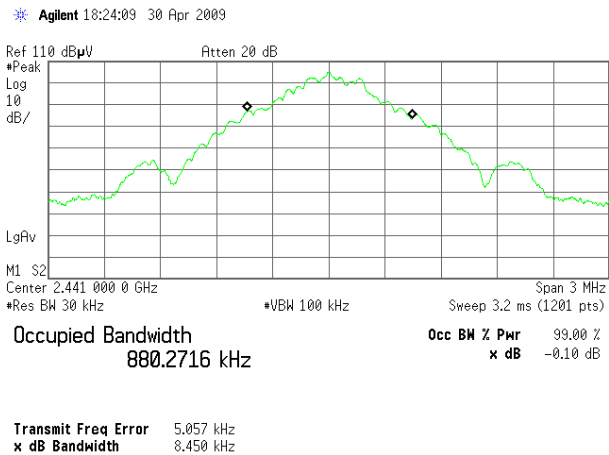
Test mode: Transmitting

[Hopping off, DH5]

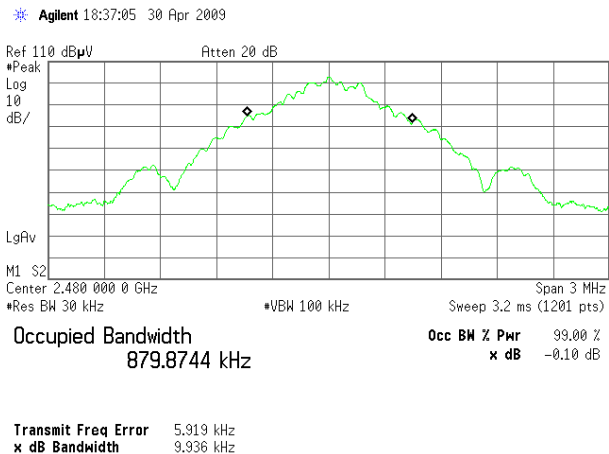
1. ch : 2402MHz/Occupied Bandwidth: 878.8353kHz



2. ch : 2441MHz/Occupied Bandwidth: 880.2716kHz

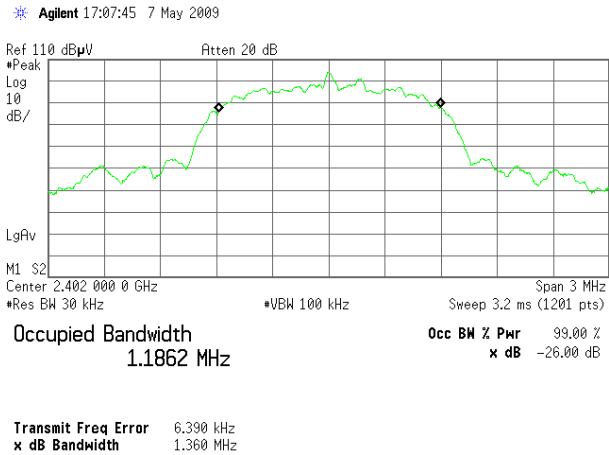


3. ch : 2480MHz/Occupied Bandwidth: 879.8744kHz

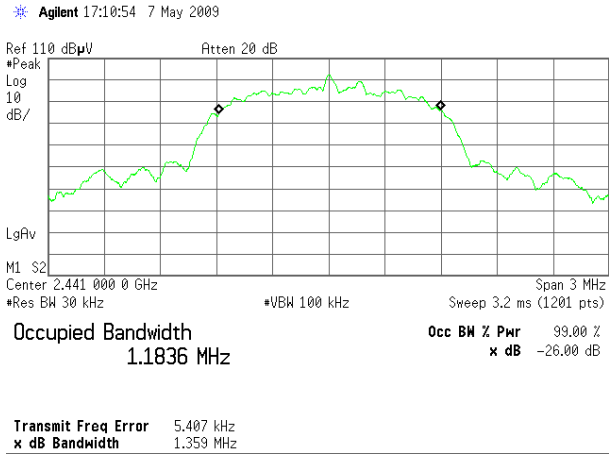


[Hopping off, 3DH5]

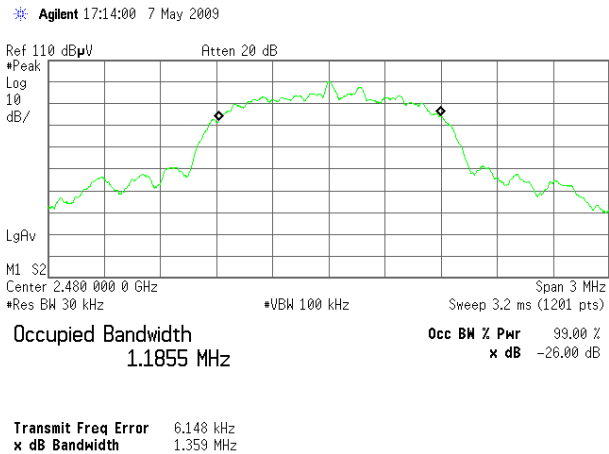
4. ch : 2402MHz/Occupied Bandwidth: 1.1862MHz



5. ch : 2441MHz/Occupied Bandwidth: 1.1836MHz

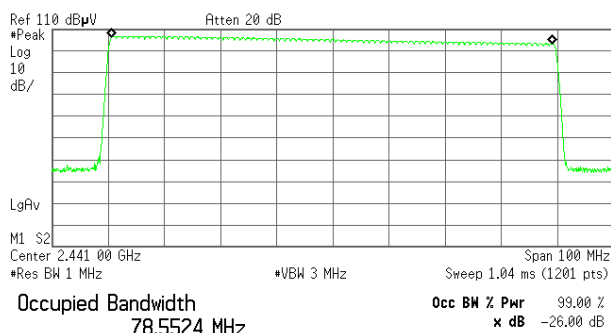


6. ch : 2480MHz/Occupied Bandwidth: 1.1855MHz



7. Hopping, DH5/Occupied Bandwidth: 78.6MHz

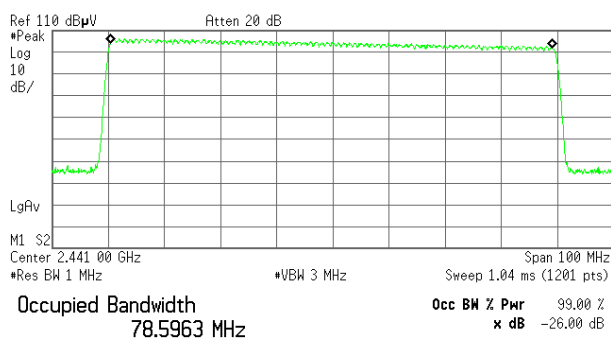
Agilent 17:18:20 7 May 2009



Transmit Freq Error	-179.895 kHz
x dB Bandwidth	81.145 MHz

8. Hopping, 3DH5/Occupied Bandwidth: 78.6MHz

Agilent 17:20:53 7 May 2009



Transmit Freq Error	-217.046 kHz
x dB Bandwidth	81.427 MHz

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	2008/08/06 * 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-03	Biconical Antenna	Schwarzbeck	BBA9106	1926	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
KLA-03	Logperiodic Antenna	Schwarzbeck	USLP9143	170	RE	2008/12/28 * 12
KSA-04	Spectrum Analyzer	Advantest	R3271A	95060087	RE	2008/09/29 * 12
KOS-02	Humidity Indicator	Custom	CTH-190	K-02	RE	2008/07/07 * 12
KJM-07	Measure	KOMELON	KMC-36	-	RE	-
KAF-02	Pre Amplifier	Hewlett Packard	8449B	3008A01268	RE	2009/04/24 * 12
KCC-D13/D16	Coaxial cable	Suhner/INSULATED WIRE INC	SUCOFLEX104/KP S-1501-200-KPS	200723/4 /04202005	RE	2009/04/27 * 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-05	Power meter	Agilent	E4417A	GB41290718	AT 5	2009/03/17 * 12
KPSS-01	Power sensor	Agilent	E9327A	US40440544	AT 5	2009/03/17 * 12
KSA-08	Spectrum Analyzer	Agilent	E4446A	MY46180525	AT 1,2,3,4,6	2009/01/22 * 12
KCC-D16	Coaxial Cable	INSULATED WIRE INC	KPS-1501-200-KP S	04202005	AT	2009/02/17 * 12
KOS-07	Humidity Indicator	Custom	CTH-190	K-07	AT	2008/10/21 * 12

The expiration date of the calibration is the end of the expired month .

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

All equipment is calibrated with 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)