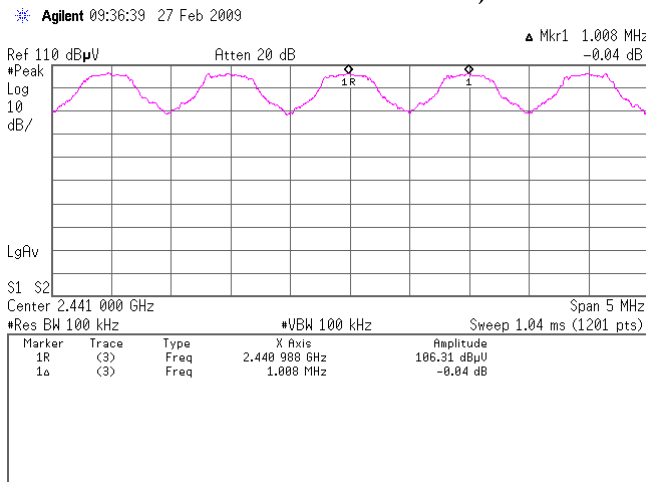


Channel Separation (Regulation: FCC 15.247(a)(1))

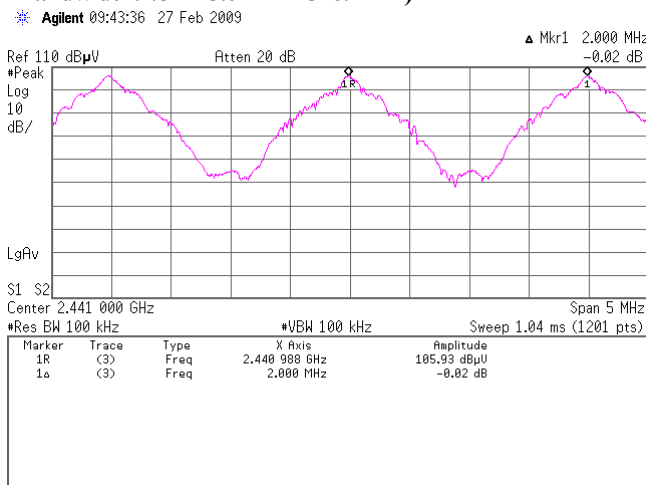
UL Japan, Inc. Yamakita EMC lab.	No.4	shielded room
Date:	2009/2/27	
Temp./Humid.:	20	deg. C. / 40 %
Engineer:	Tatsuya Arai	
Test mode:	Transmitting	

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

1. Hopping, DH5: 1.008MHz ($2/3 * 20\text{dB Bandwidth}$: $2/3 * 940.0\text{kHz} = 626.7\text{kHz}$)



2. Inquiry: 2.000MHz ($2/3 * 20\text{dB Bandwidth}$: $2/3 * 775.0\text{kHz} = 516.7\text{kHz}$)

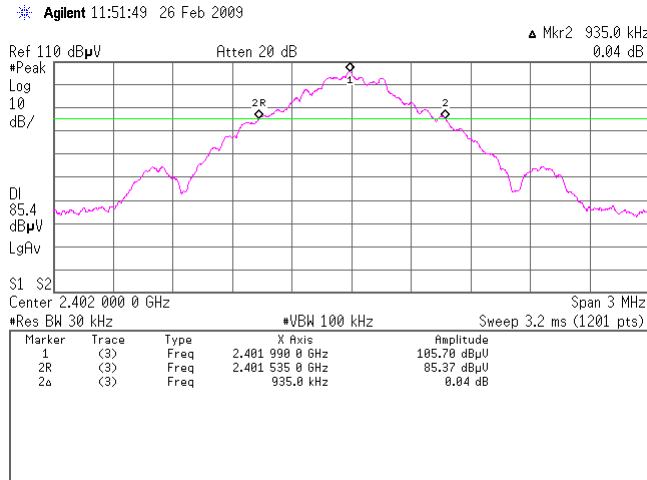


20dB Bandwidth (Regulation: FCC 15.247(a)(1))

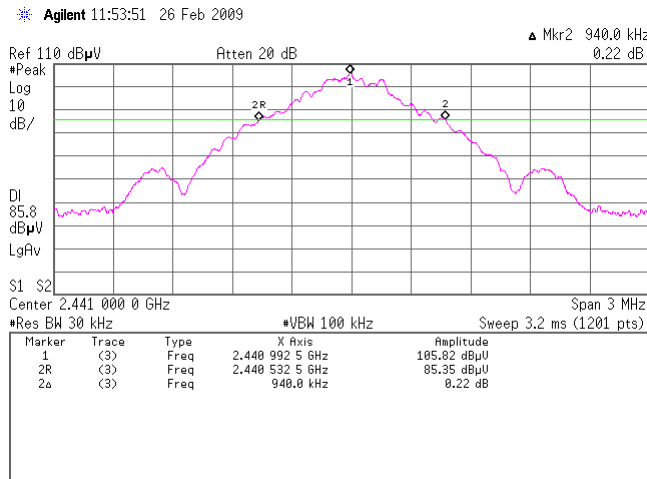
UL Japan, Inc. Yamakita EMC lab. No.4 shielded room
 Date: 2009/2/26
 Temp./Humid.: 21 deg. C. / 42 %
 Engineer: Tatsuya Arai
 Test mode: Transmitting

[Hopping off, DHS]

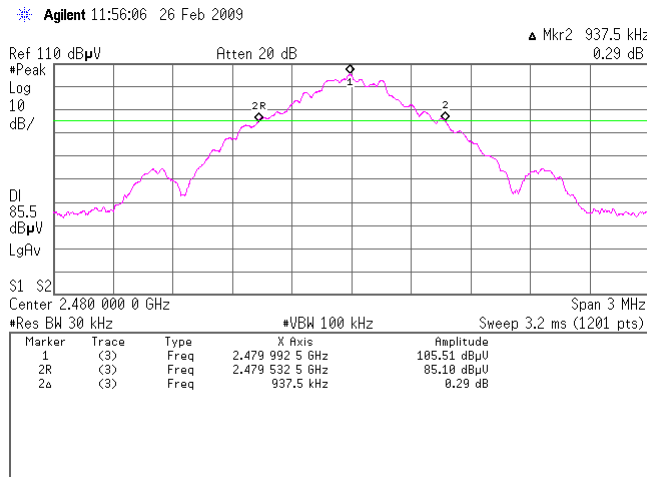
1. ch : 2402MHz/20dB Bandwidth: 935.0kHz



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



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



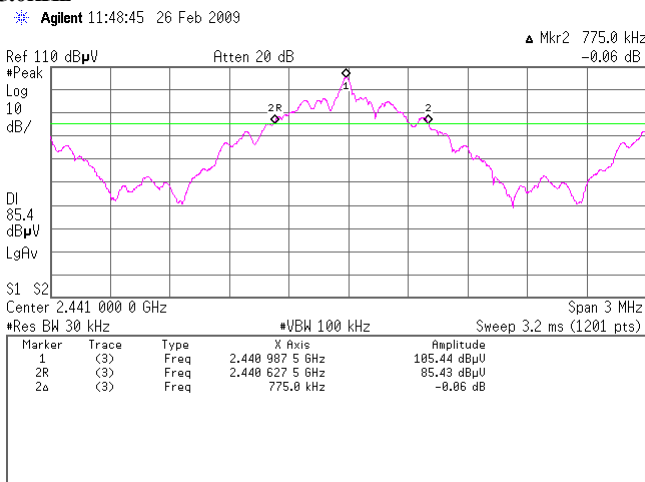
Company: PIONEER CORPORATION
 Kind of Equipment: Flash Memory Multi-Media AVN Navigation Server System
 Serial No.: TPS

Report No.:
 Model No.:
 Power:

29GE0083-YK-A
 AVIC-U310BT
 DC 12.0V

[Inquiry]

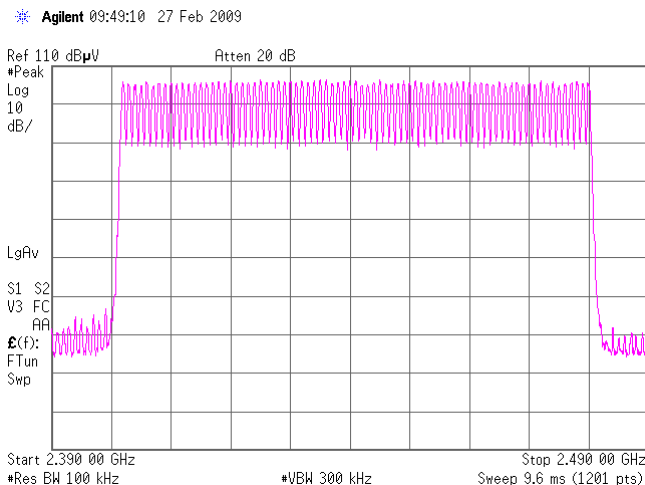
7. Inaury/20dB Bandwidth: 775.0kHz



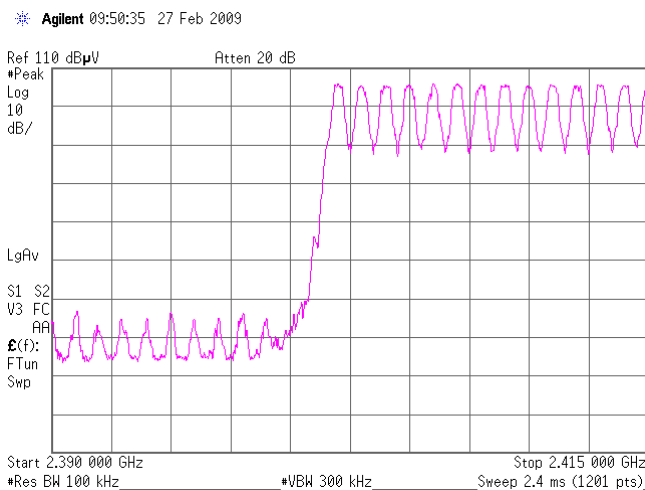
Channel Utilization (Regulation: FCC 15.247(a)(1)(iii))

UL Japan, Inc. Yamakita EMC lab. No.4 shielded room
 Date: 2009/2/27
 Temp./Humid.: 20 deg. C. / 40 %
 Engineer: Tatsuya Arai
 Test mode: Transmitting

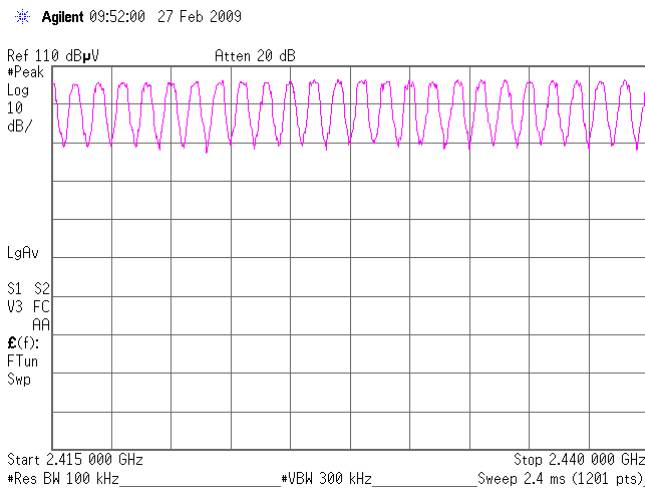
Hopping, DH5: 79ch
1.



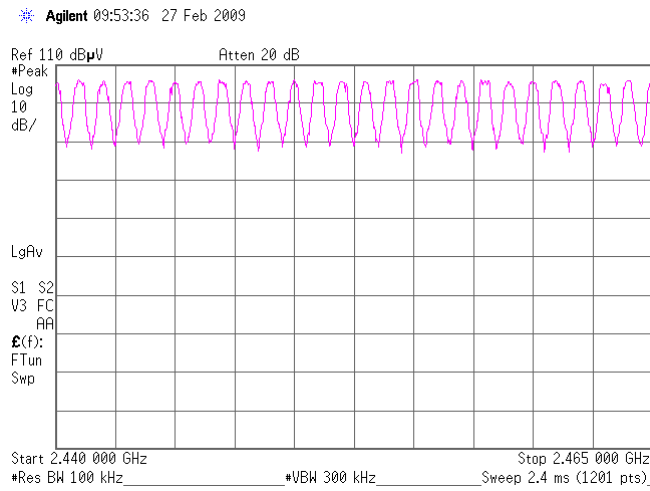
2.



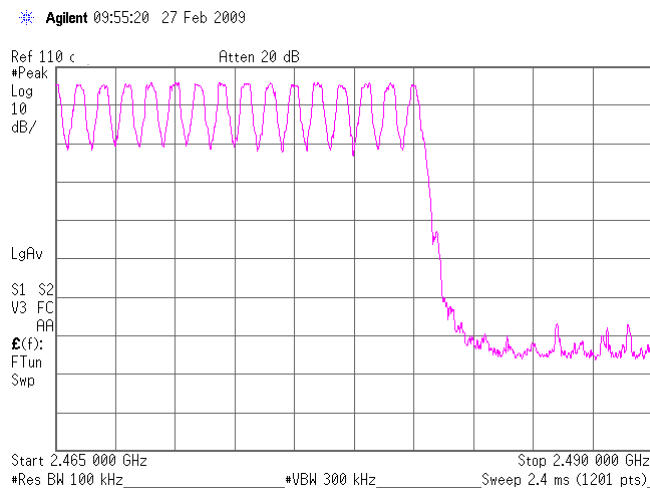
3.



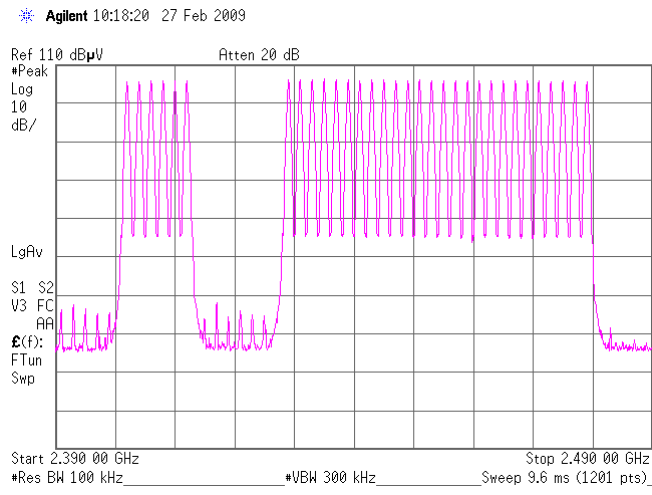
4.



5.



Inquiry: 32ch



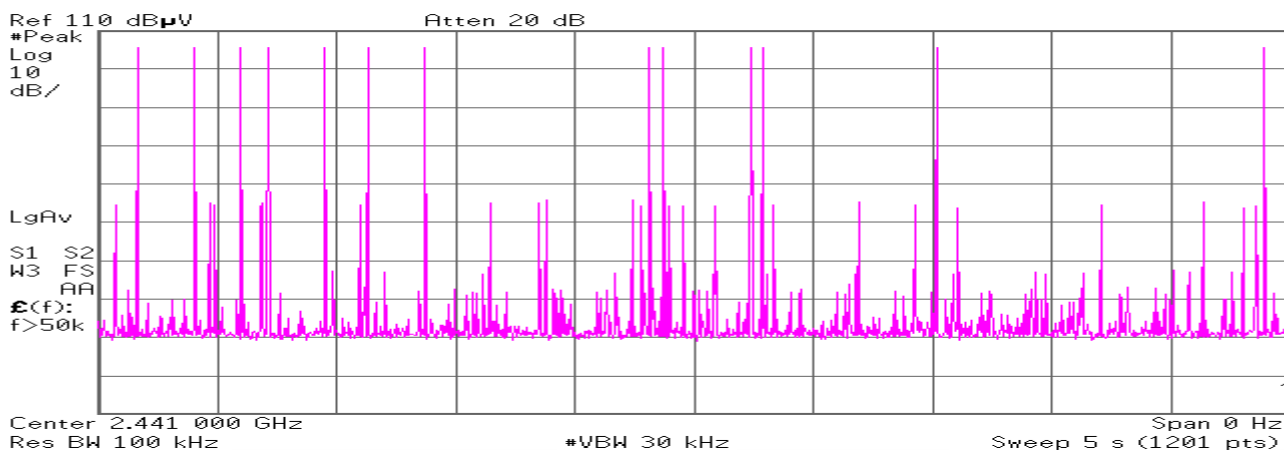
Dwell Time (Regulation: FCC 15.247(a)(1)(iii))

UL Japan, Inc. Yamakita EMC lab.	No.3	shielded room
Date:	2009/2/27	
Temp./Humid.:	20	deg. C. / 40 %
Engineer:	Tatsuya Arai	
Test mode:	Transmitting	

Hopping (DH1):

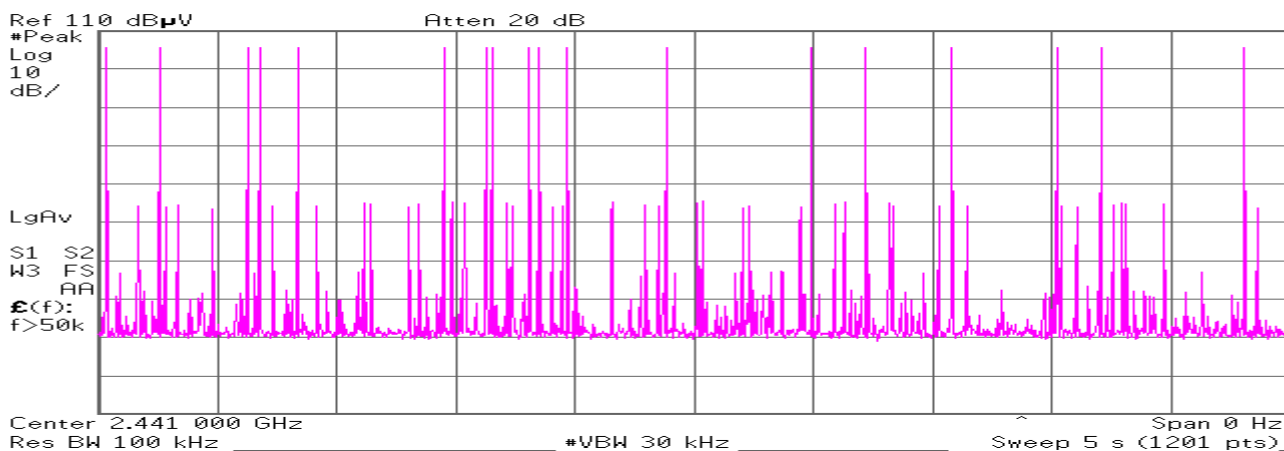
Count 1

Agilent 10:29:07 27 Feb 2009



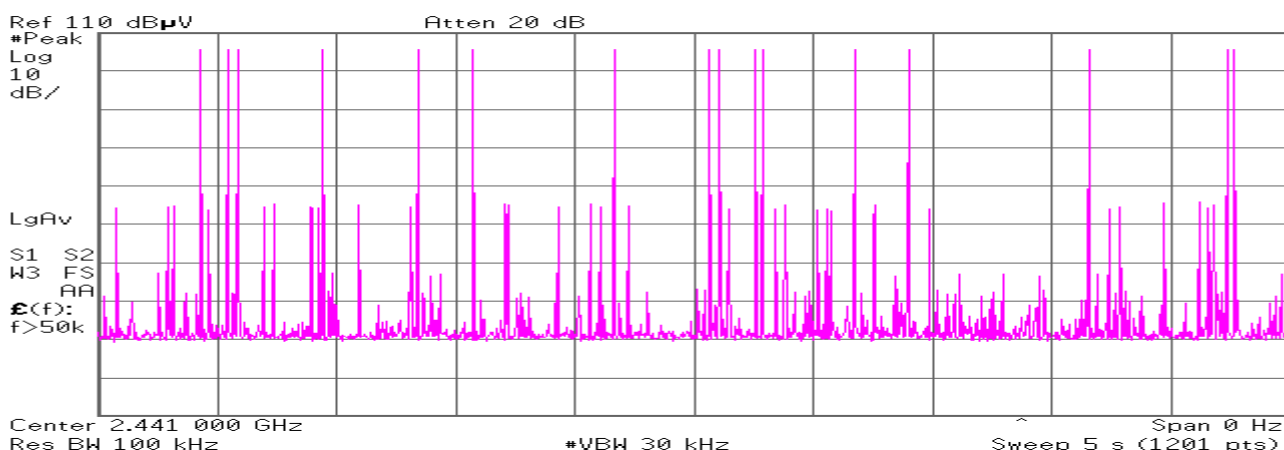
Count 2

Agilent 10:29:29 27 Feb 2009

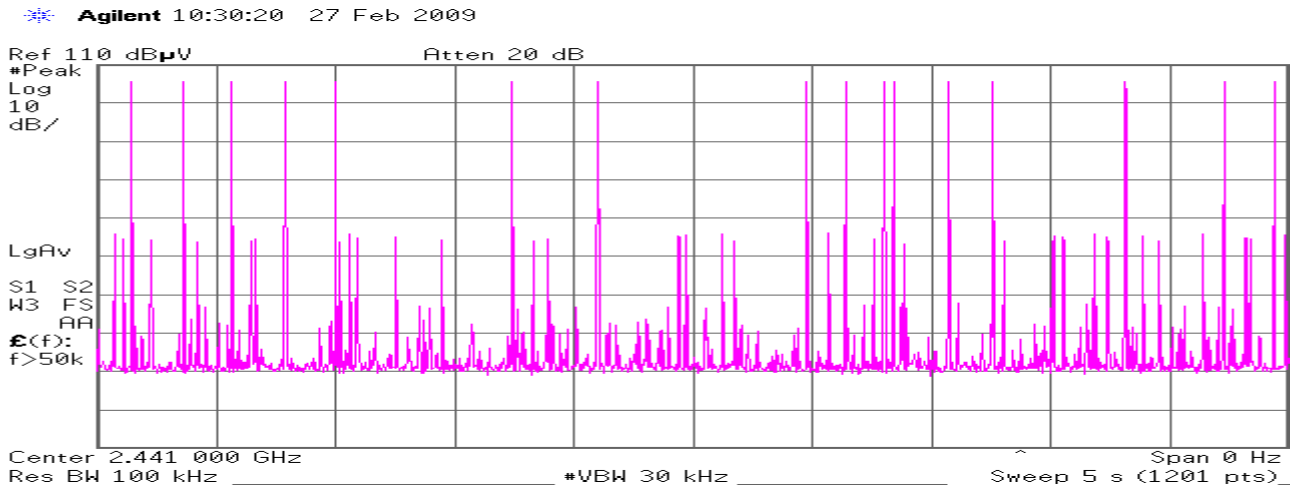


Count 3

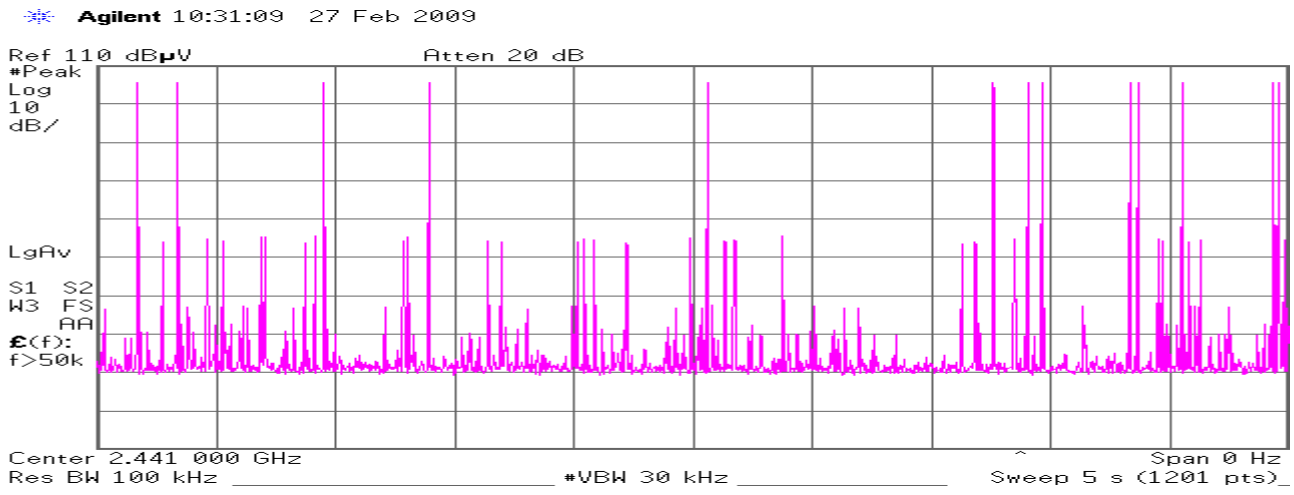
Agilent 10:29:59 27 Feb 2009



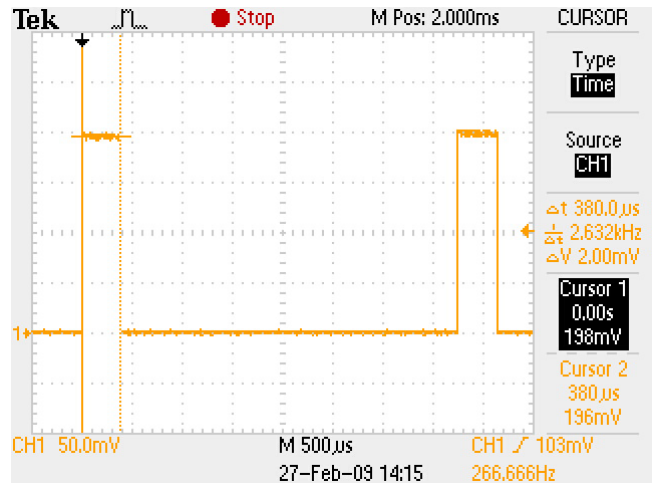
Count 4



Count 5



Duty cycle(Hopping DH1)

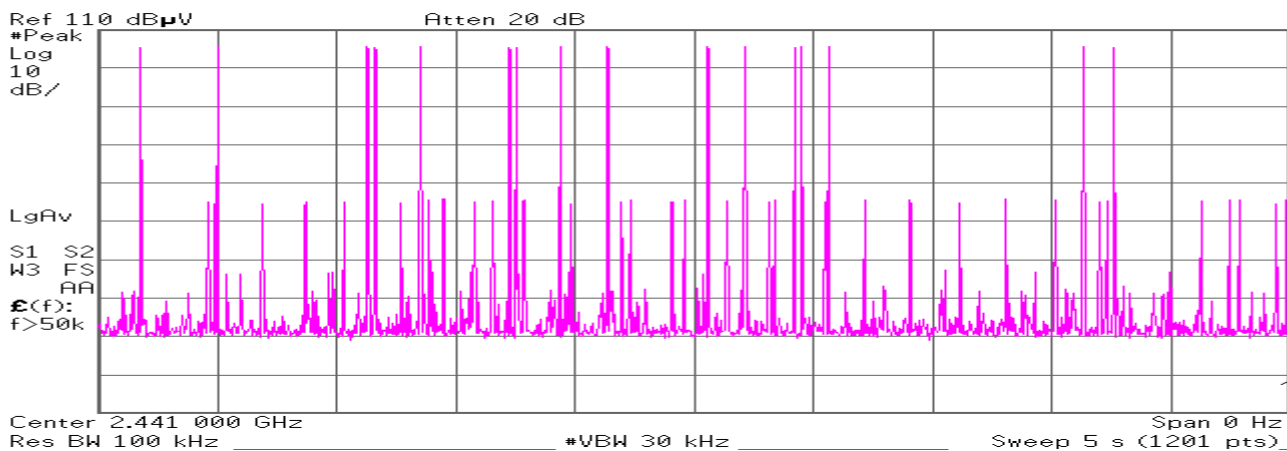


Average times of rising in 5 sec. of sweep = (13+ 18 + 16 + 16 + 13) / 5 = 15.2
 Average times of rising in 1 sec. = 15.2 / 5s = 3.04
 Average times of rising in 0.4x = 0.4 * 79ch * 3.04 = 96.06
 Dwell time = 96.06 * 0.380 = 36.5 [ms]
 Limit : Dwell Time < 0.4[s]

Hopping (DH3):

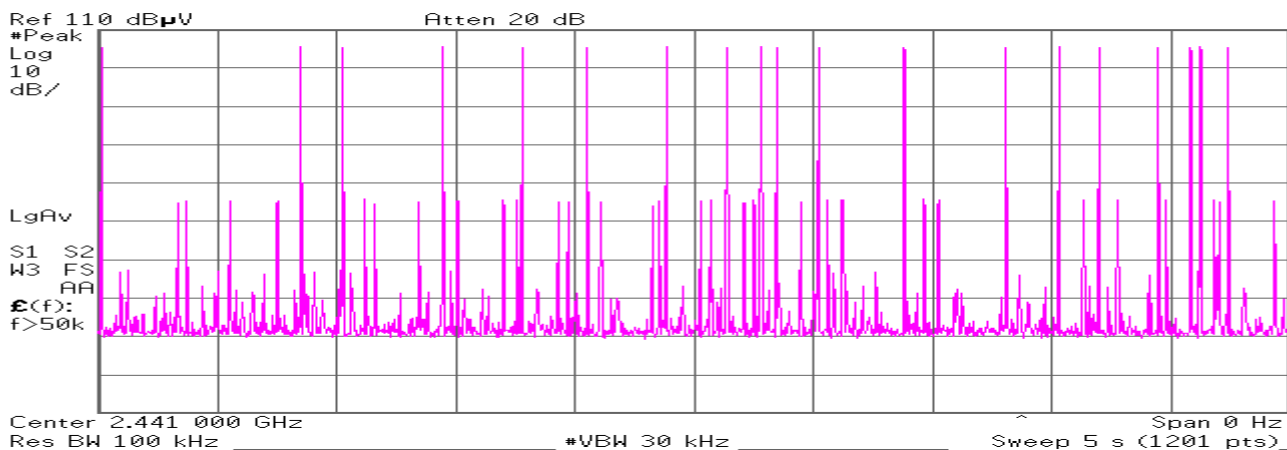
Count 1

Agilent 10:33:26 27 Feb 2009



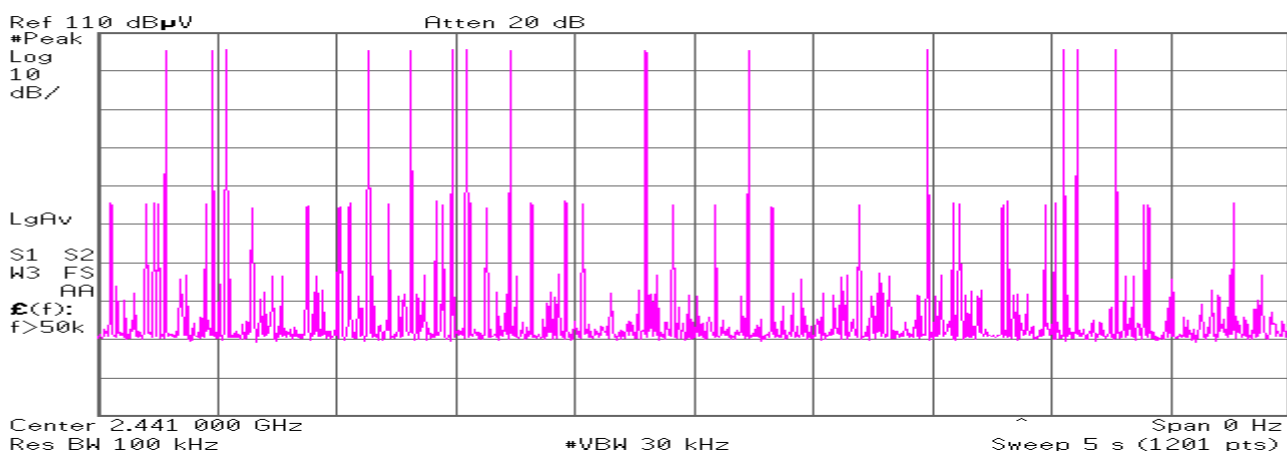
Count 2

Agilent 10:34:26 27 Feb 2009



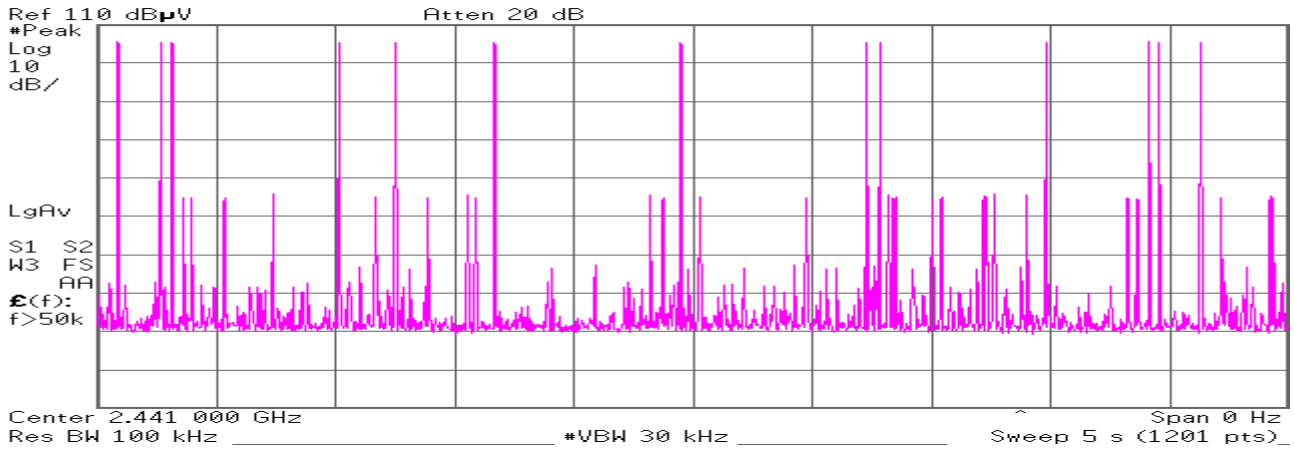
Count 3

Agilent 10:34:49 27 Feb 2009



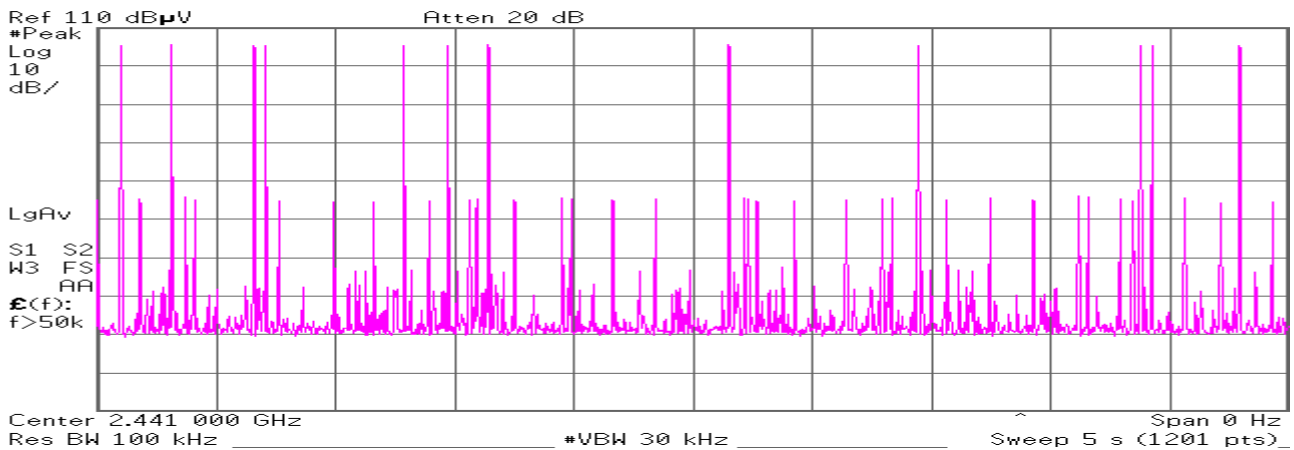
Count 4

Agilent 10:35:11 27 Feb 2009

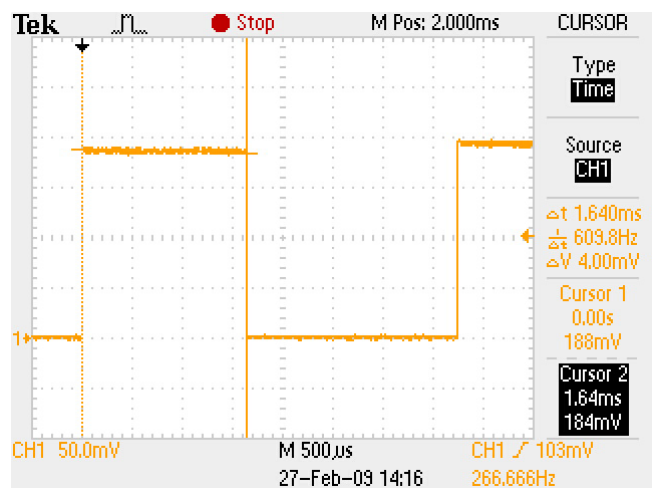


Count 5

Agilent 10:36:17 27 Feb 2009



Duty cycle(Hopping DH3)

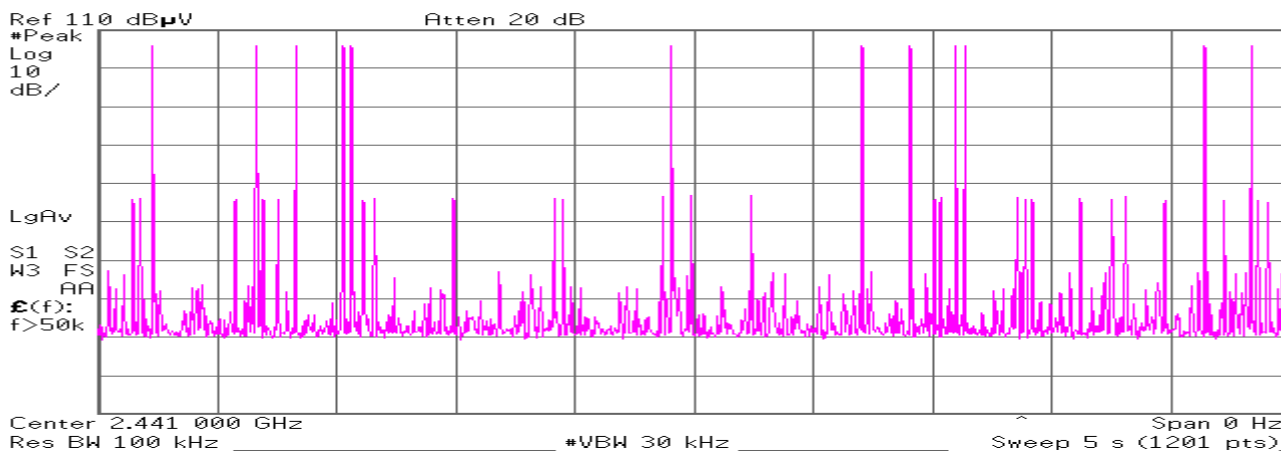


Average times of rising in 5 sec. of sweep = (16 + 19 + 14 + 13 + 12) / 5 = 14.8
 Average times of rising in 1 sec. = 14.8 / 5s = 2.96
 Average times of rising in 0.4x = 0.4 * 79ch * 2.96 = 93.54
 Dwell time = 93.54 * 1.64 = 153.41 [ms]
 Limit : Dwell Time < 0.4[s]

Hopping (DHS):

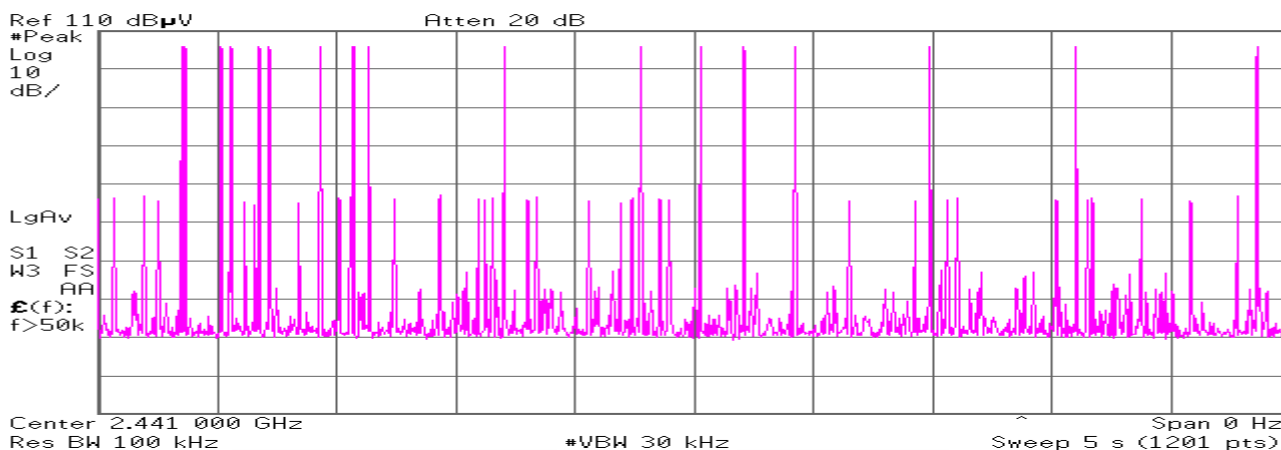
Count 1

Agilent 10:38:24 27 Feb 2009



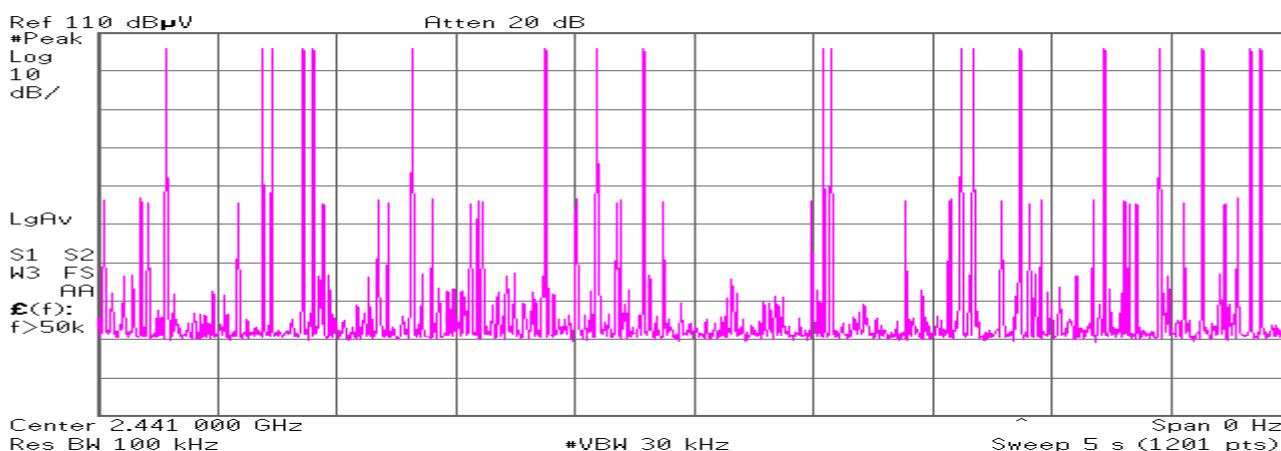
Count 2

Agilent 10:38:40 27 Feb 2009



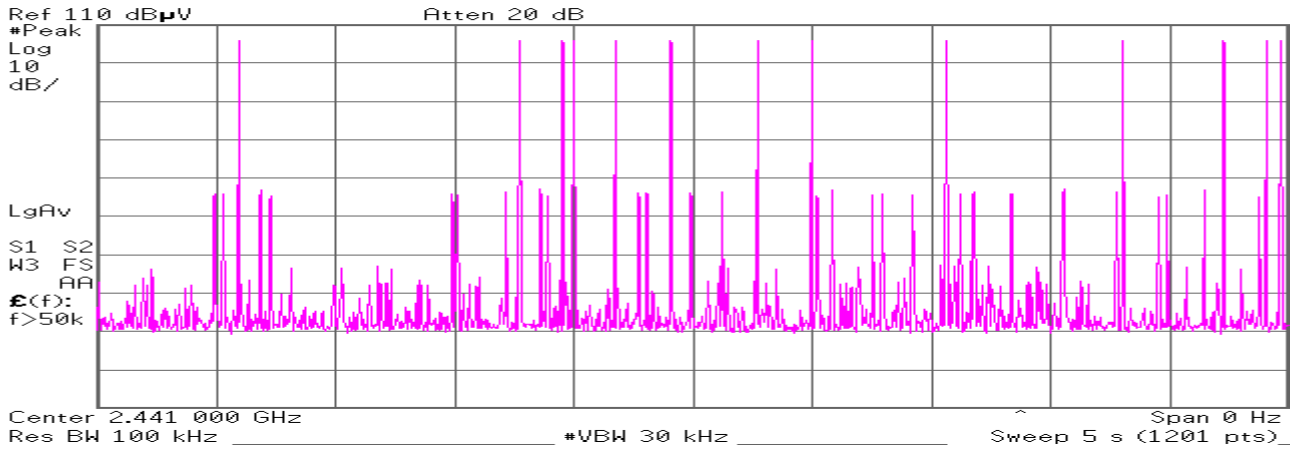
Count 3

Agilent 10:39:05 27 Feb 2009



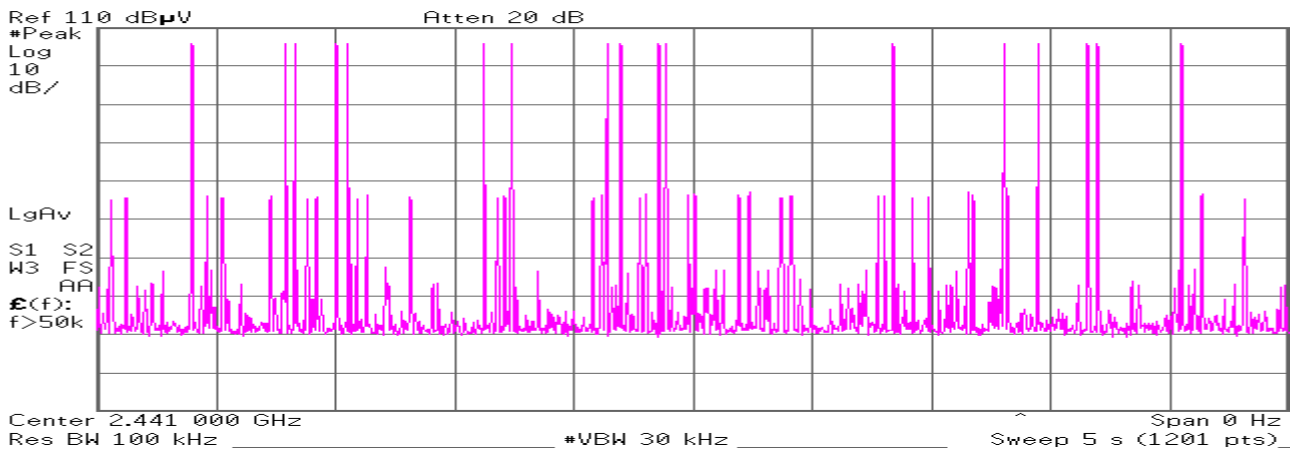
Count 4

Agilent 10:39:41 27 Feb 2009

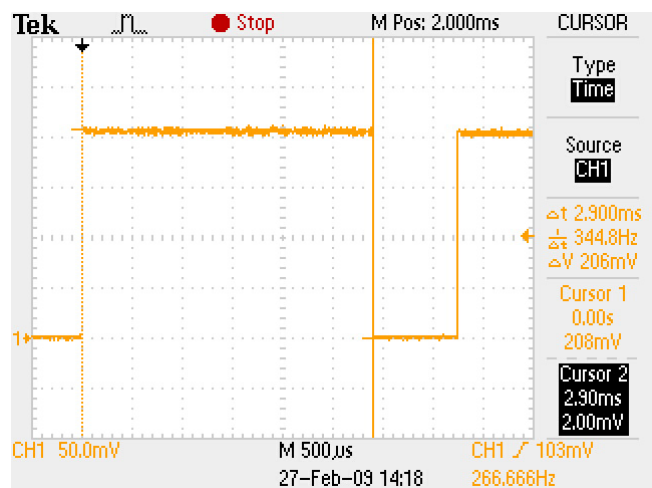


Count 5

Agilent 10:40:47 27 Feb 2009



Duty cycle(Hopping DH5)

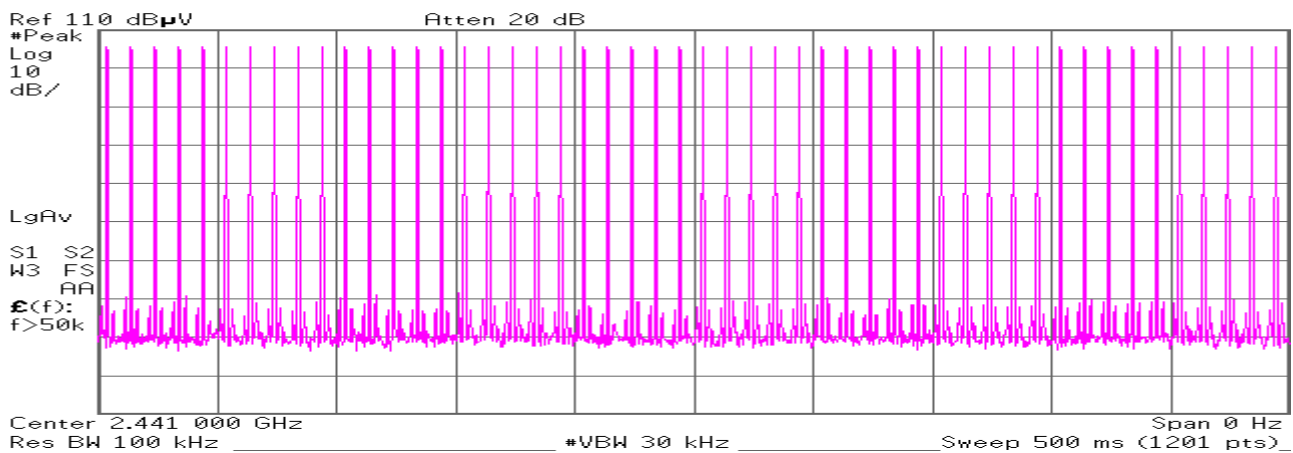


Average times of rising in 5 sec. of sweep = $(12 + 16 + 19 + 13 + 17) / 5 = 15.4$
 Average times of rising in 1 sec. = $15.4 / 5s = 3.08$
 Average times of rising in 0.4x = $0.4 * 79ch * 3.08 = 97.33$
 Dwell time = $97.33 * 2.90 = 282.26 [ms]$
 Limit : Dwell Time < 0.4[s]

Inquiry:

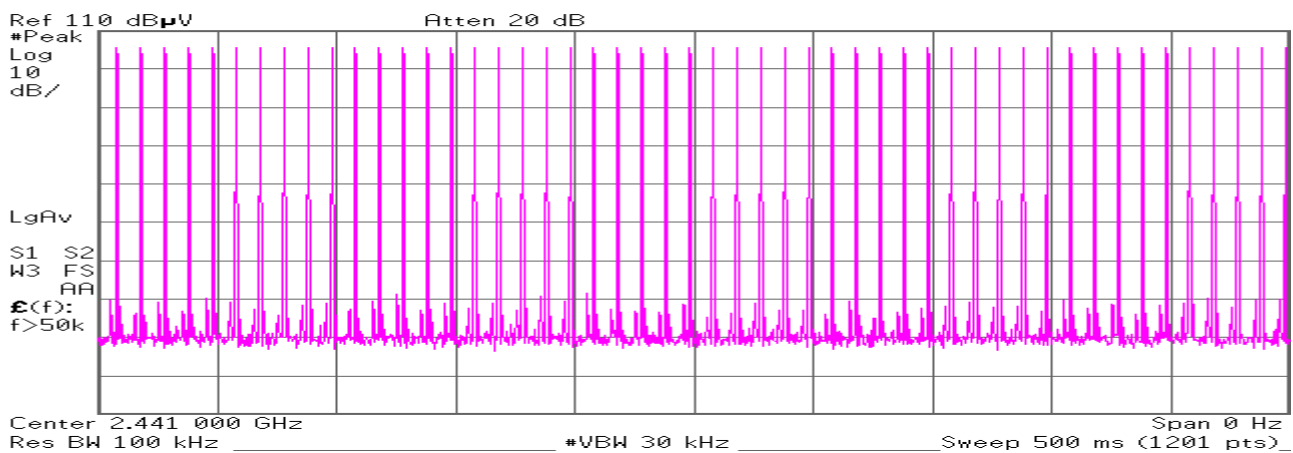
Count 1

Agilent 10:44:45 27 Feb 2009



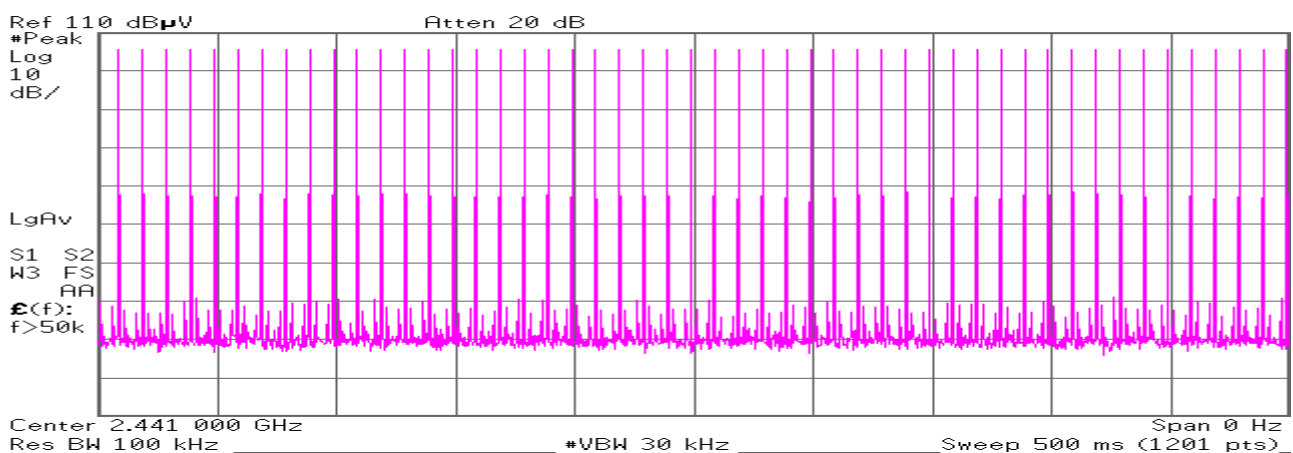
Count 2

Agilent 10:45:41 27 Feb 2009



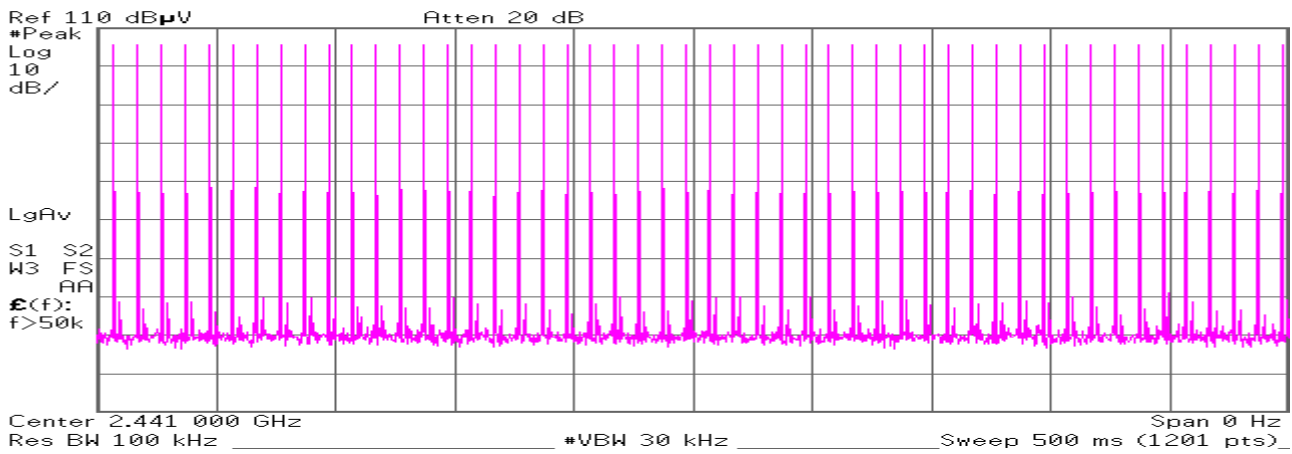
Count 3

Agilent 10:46:27 27 Feb 2009



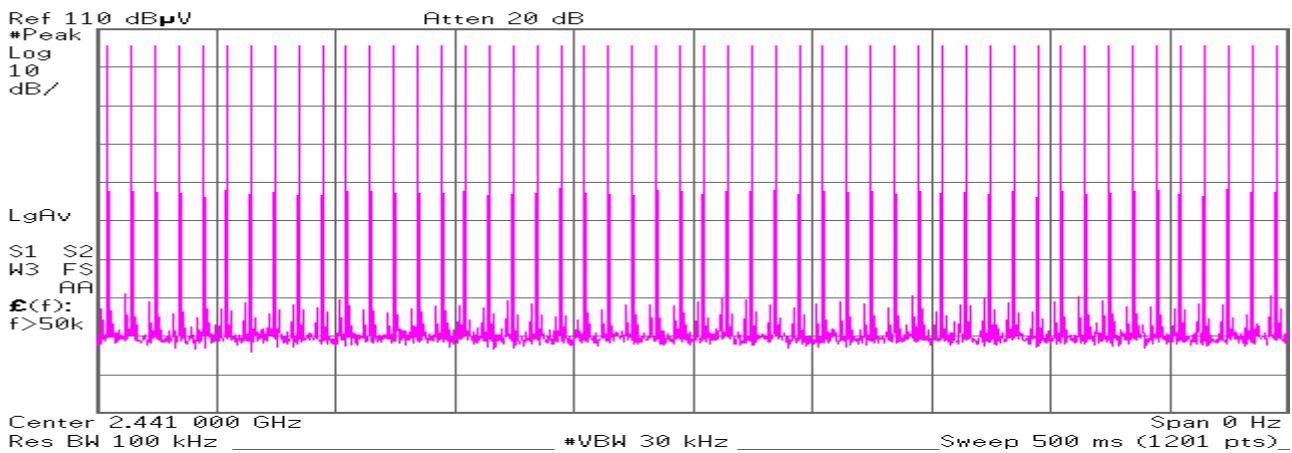
Count 4

Agilent 10:46:51 27 Feb 2009

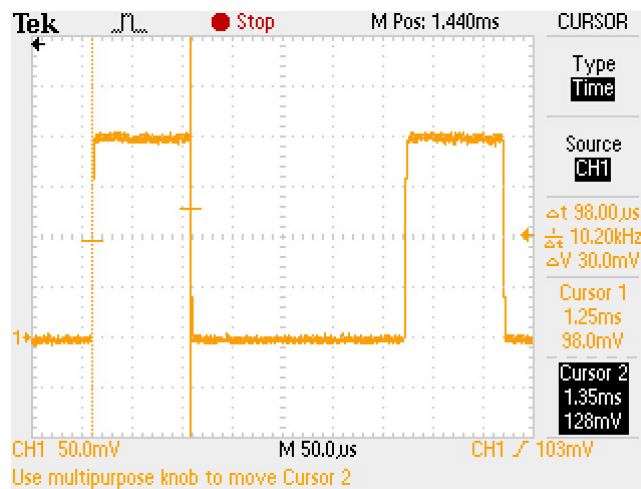


Count 5

Agilent 10:48:41 27 Feb 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 = $1280.0 * 0.098 = 125.44 [ms]$
 Limit : Dwell Time < 0.4[s]

Company: PIONEER CORPORATION Report No.: 29GE0083-YK-A
 Kind of Equipment: Flash Memory Multi-Media AVN Model No.: AVIC-U310BT
 Navigation Server System
 Serial No.: TPS 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: 2009/2/27
 TEMP./HUMID.: 20deg.C/40%
 TEST MODE: Transmitting
 ENGINEER: Tatsuya Arai

DH5

CH	FREQ [GHz]	P/M Reading [dBm]	Cable Loss [dB]	Results [dBm]	Limit (125mW) [dBm]	MARGIN [dB]
Low	2402.00	-0.88	1.30	0.42	20.96	20.54
Mid	2441.00	-0.55	1.30	0.75	20.96	20.21
High	2480.00	-0.87	1.30	0.43	20.96	20.53
Inquiry	-	-0.74	1.30	0.56	20.96	20.40

Limit: 125mW=20.96dBm

P/M: Power Meter

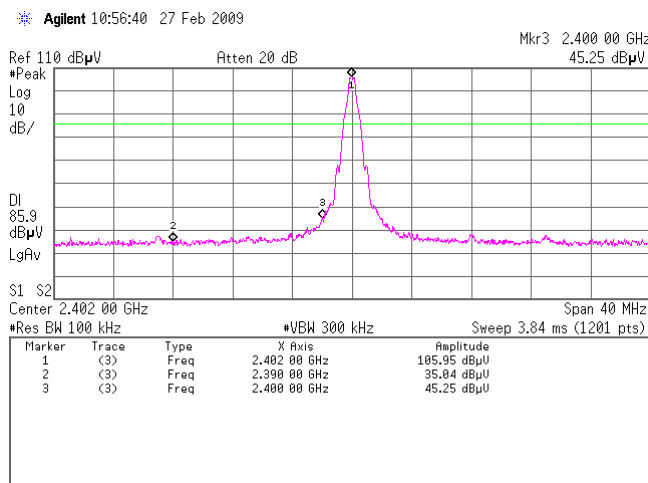
CABLE LOSS:Customer's cable

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

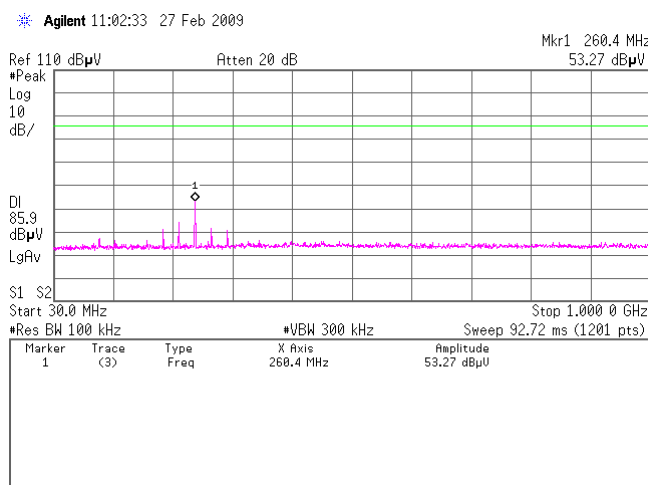
UL Japan, Inc. Yamakita EMC lab. No.4 shielded room
 Date: 2009/2/27
 Temp/Humid.: 20 deg. C. / 40 %
 Engineer: Tatsuya Arai
 Test mode: Transmitting

[Transmitting DH5]
 Ch:2402MHz

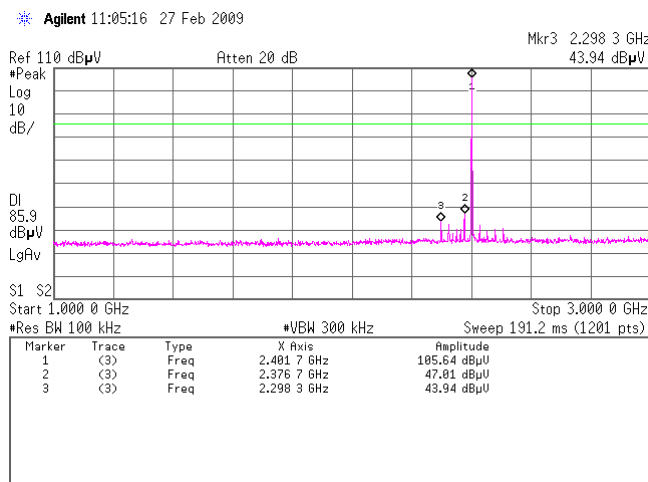
1.



2.



3.



Company:
Kind of Equipment:
Serial No.:

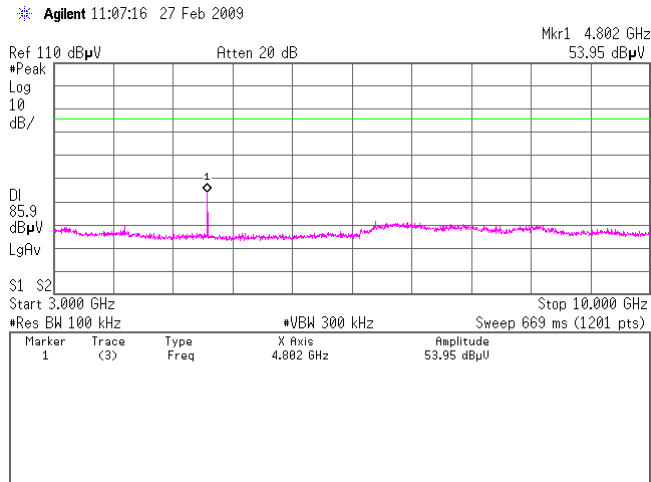
PIONEER CORPORATION
Flash Memory Multi-Media AVN
Navigation Server System
TPS

Report No.:
Model No.:
Power:

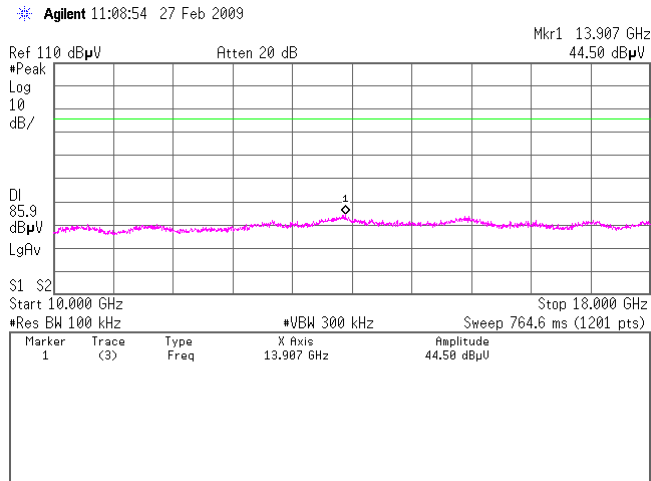
29GE0083-YK-A
AVIC-U310BT
DC 12.0V

[Transmitting DHS]
Ch:2402MHz

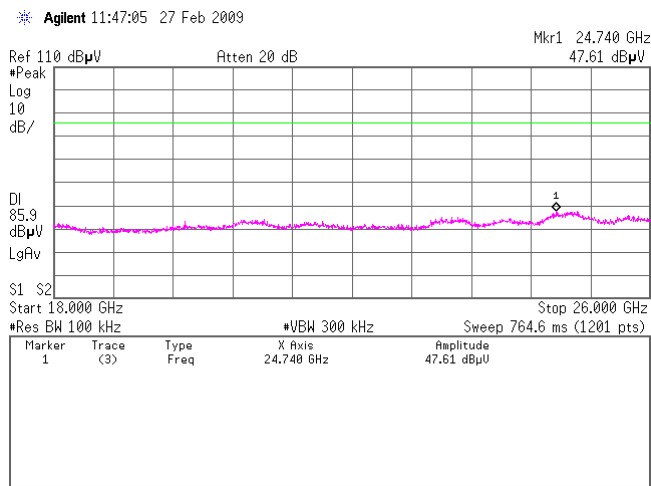
4.



5.

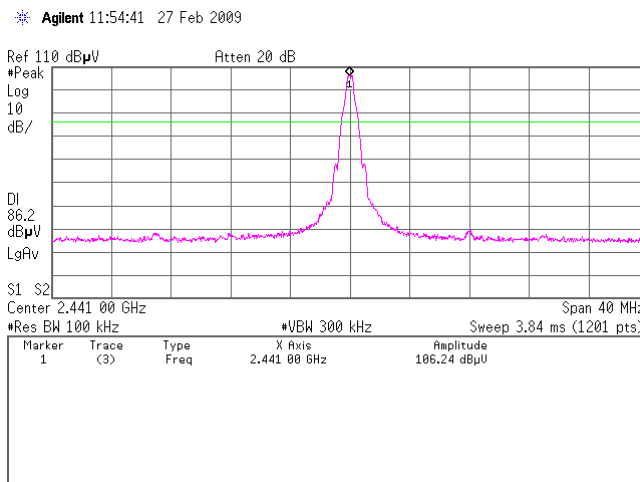


6.

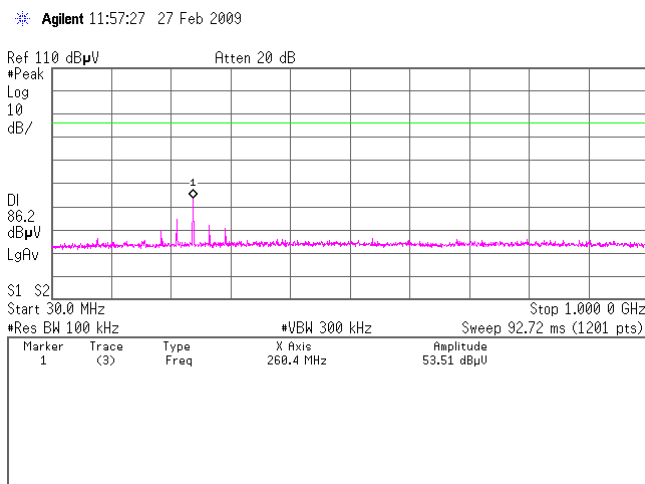


[Transmitting DH5]
 Ch:2441MHz

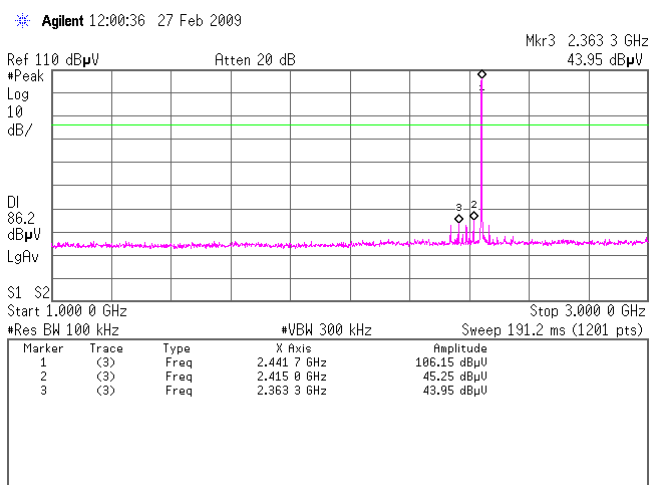
1.



2.

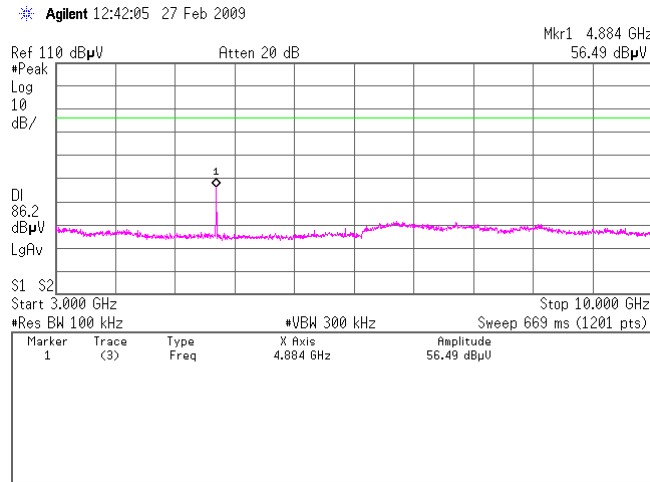


3.

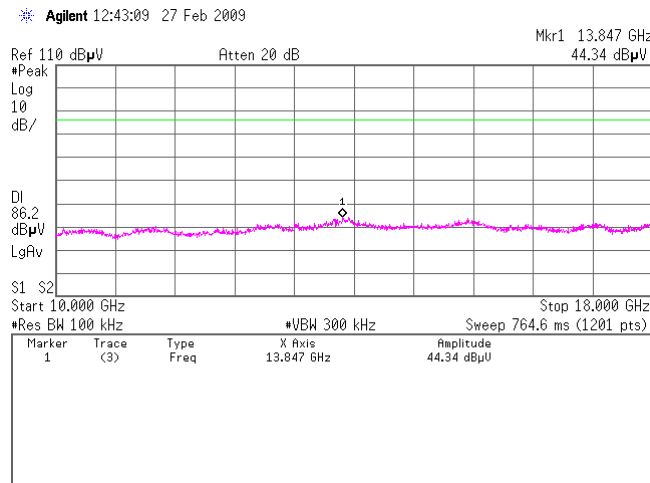


[Transmitting DHS]
 Ch:2441MHz

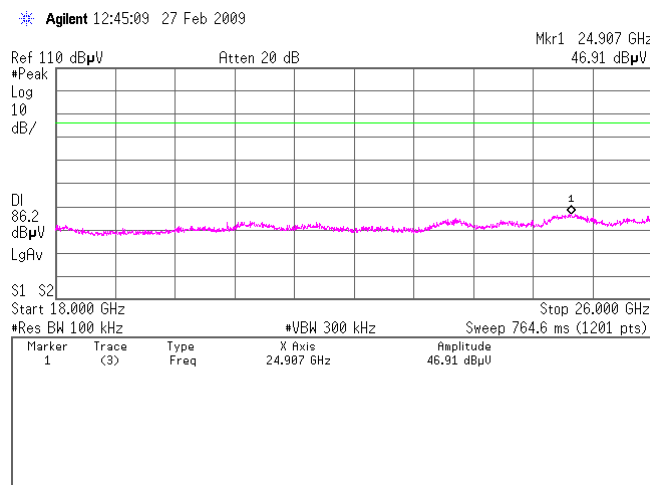
4.



5.



6.



Company:
Kind of Equipment:
Serial No.:

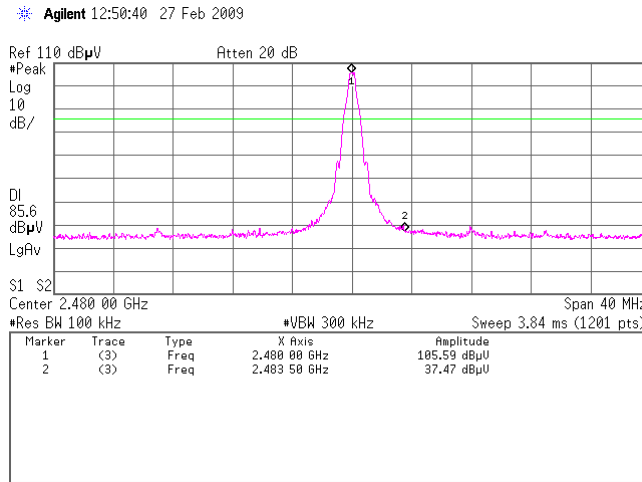
PIONEER CORPORATION
Flash Memory Multi-Media AVN
Navigation Server System
TPS

Report No.:
Model No.:
Power:

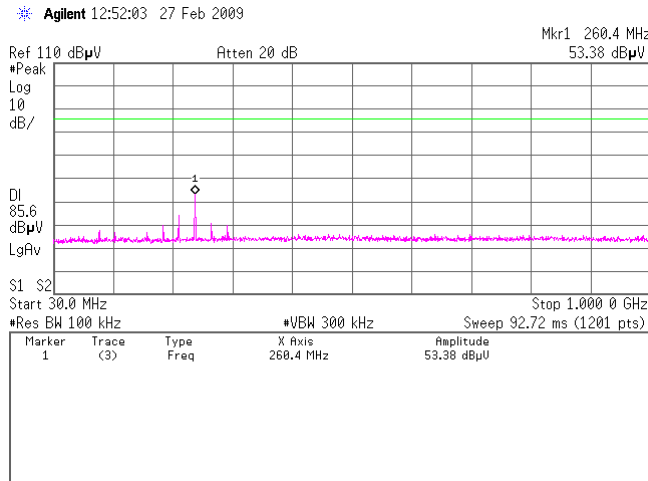
29GE0083-YK-A
AVIC-U310BT
DC 12.0V

[Transmitting DH5]
Ch:2480MHz

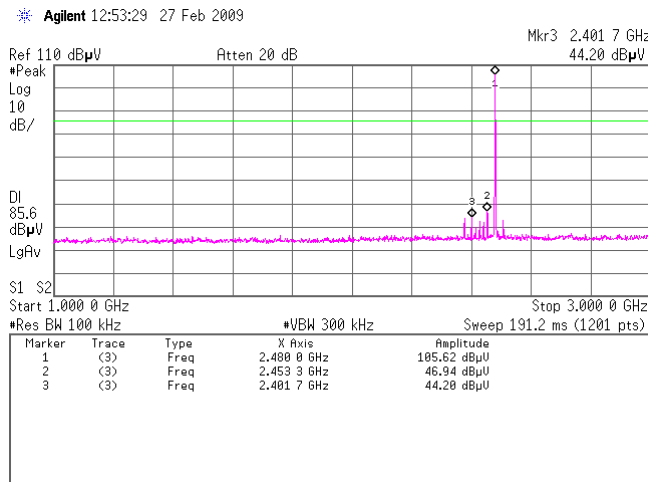
1.



2.

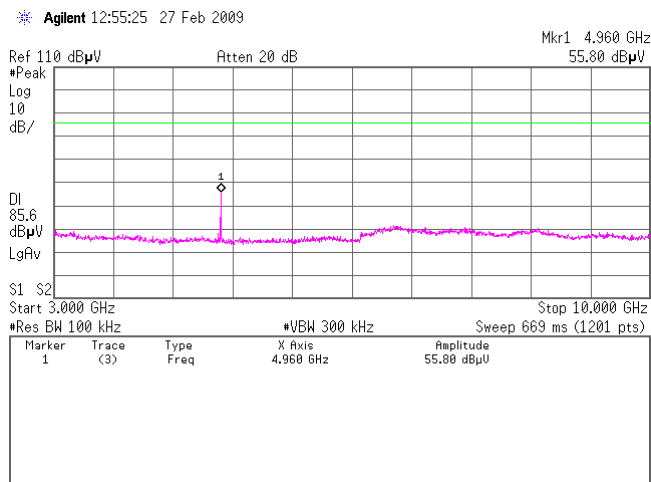


3.

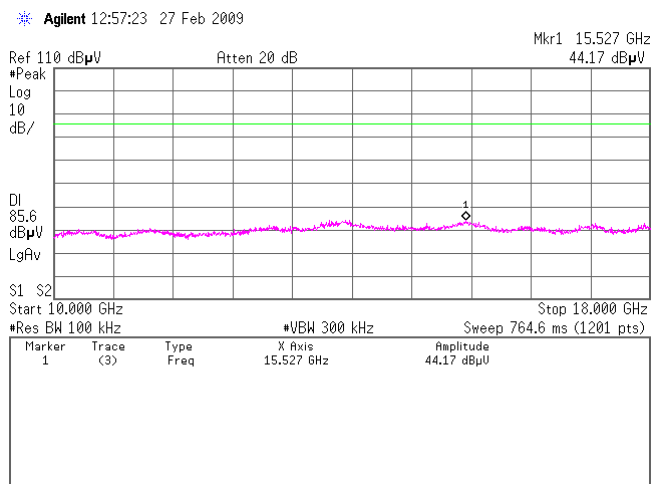


[Transmitting DHS]
 Ch:2480MHz

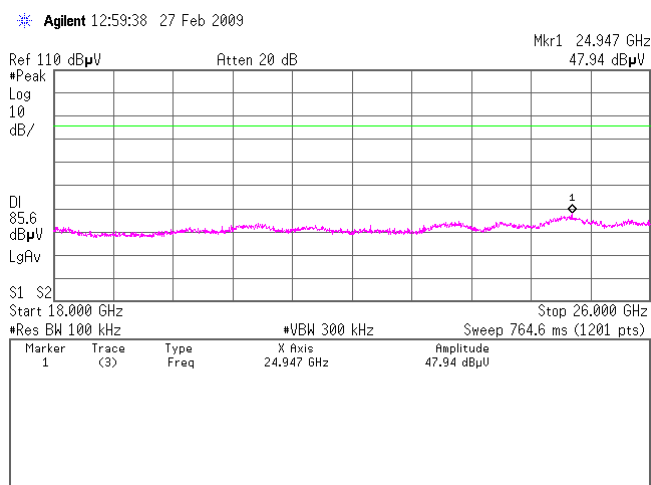
4.



5.

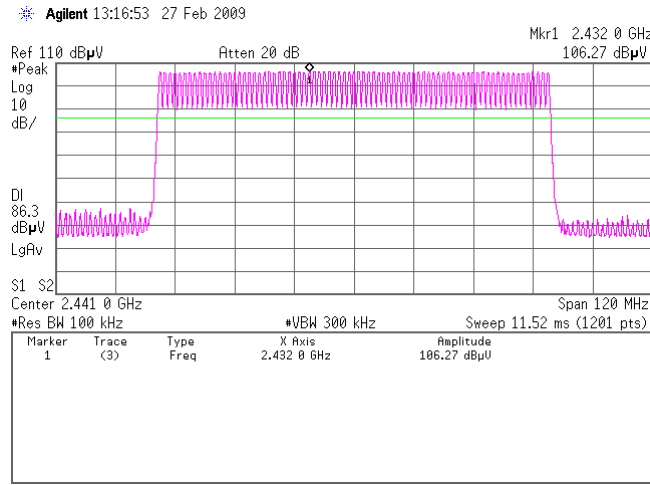


6.

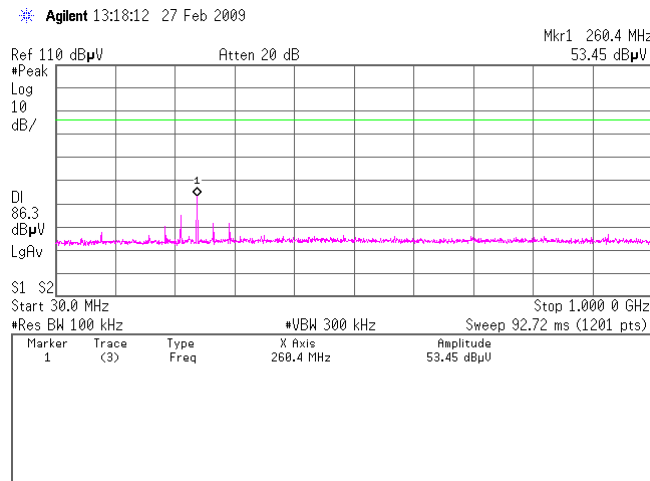


[Transmitting DHS]
Hopping

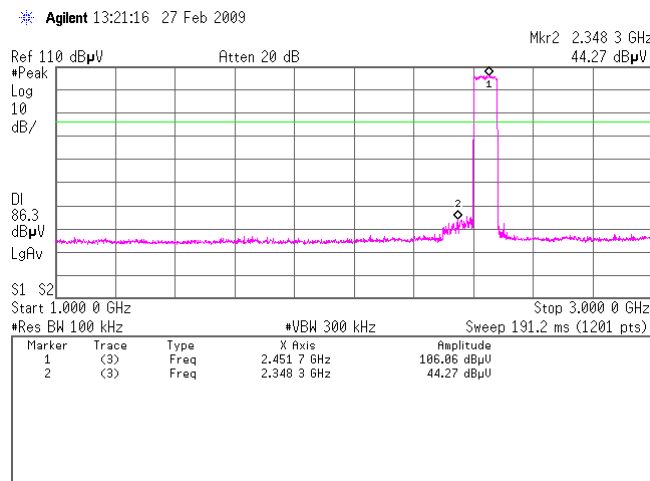
1.



2.

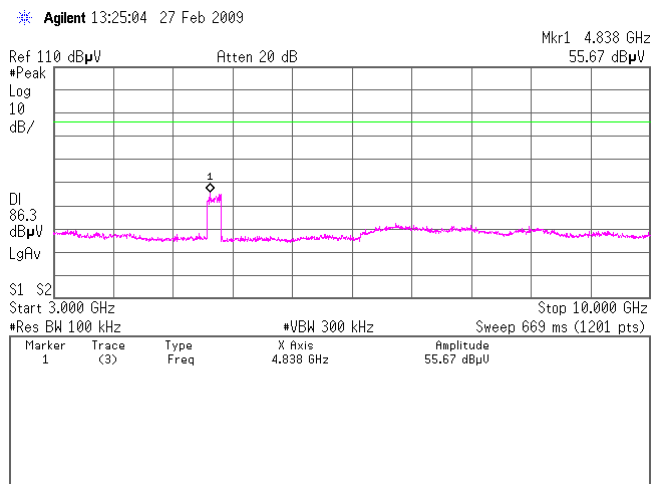


3.

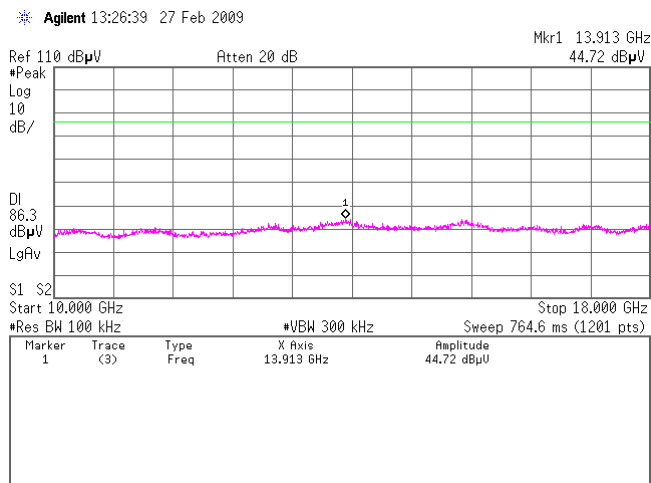


[Transmitting DHS]
Hopping

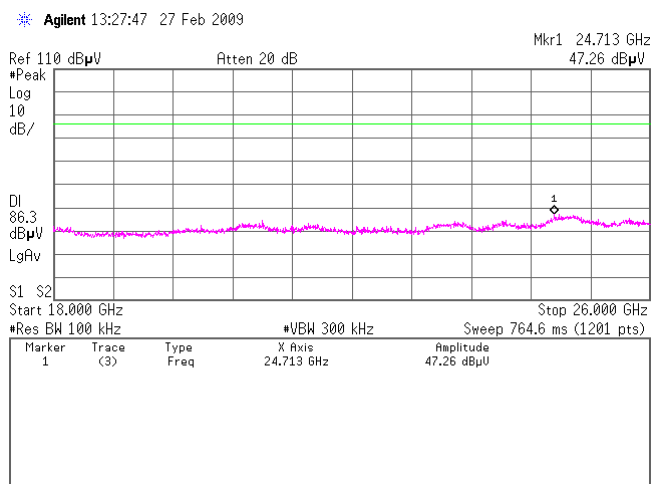
4.



5.

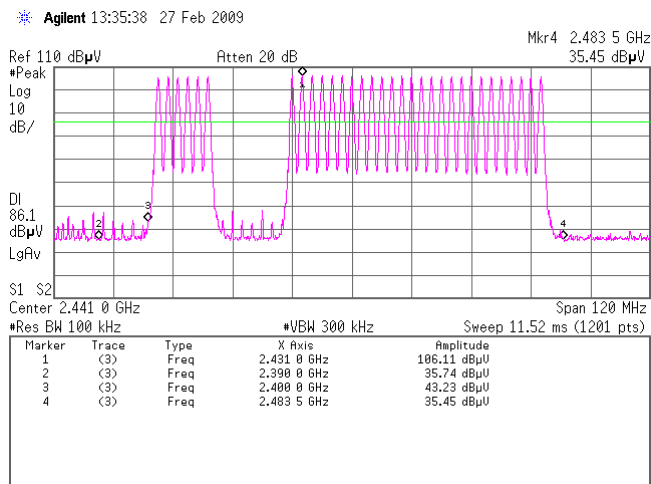


6.

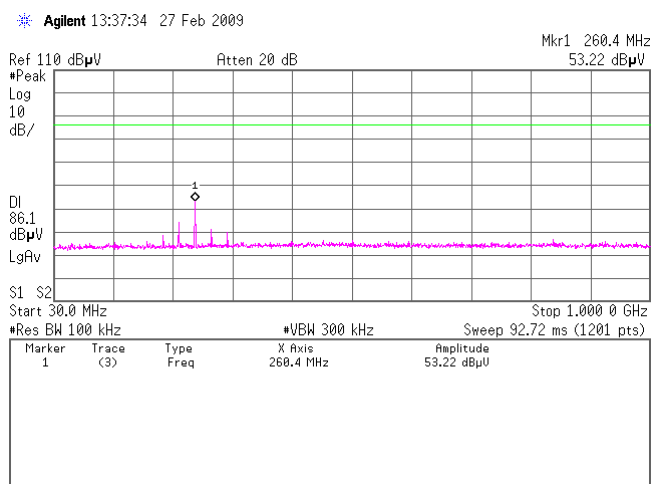


[Transmitting]
Inquiry

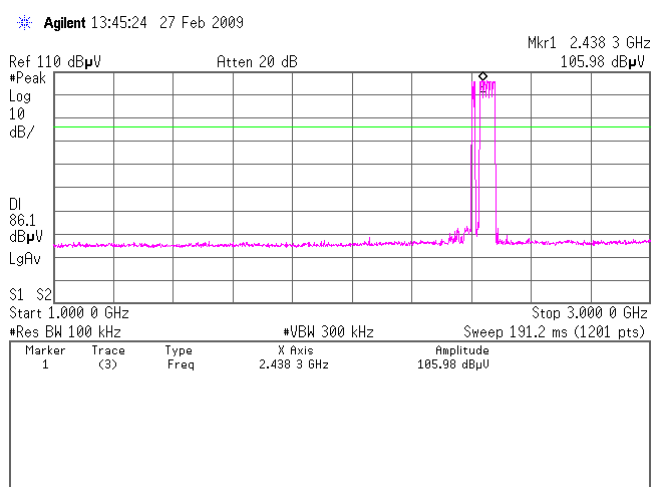
1.



2.

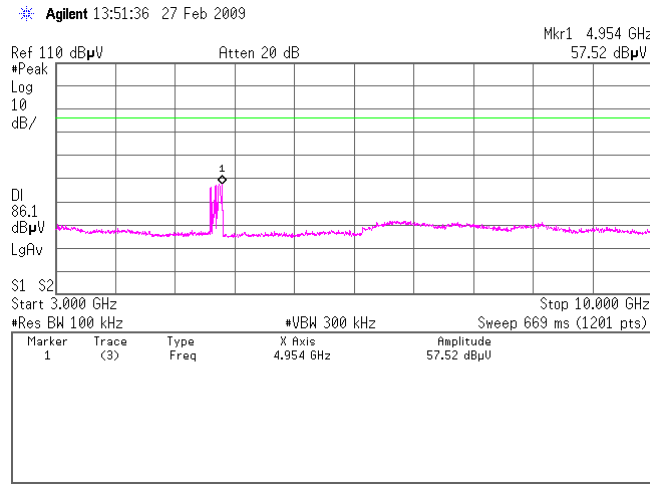


3.

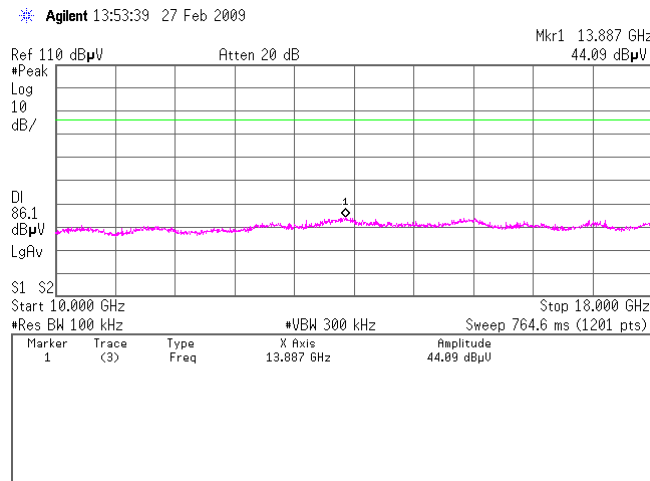


[Transmitting]
Inquiry

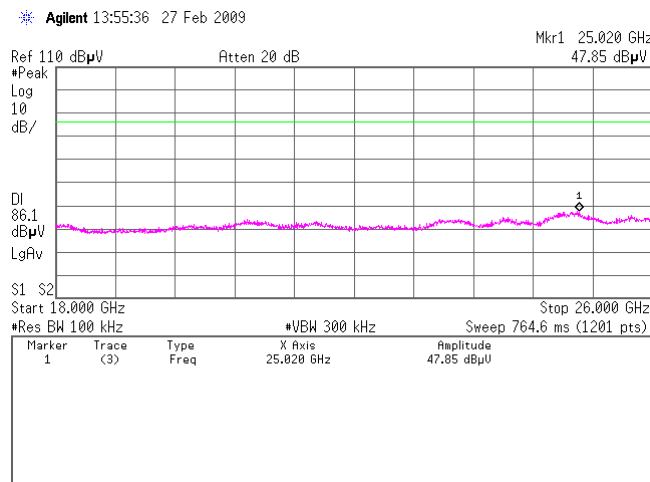
4.



5.



6.



Data of Radiated Disturbance Test

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No. : 29GE0083-YK-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Flash Memory Multi-Media AVN Navigation Server System
 Model No. : AVIC-U310BT
 Serial No. : TPS
 Power : DC12V
 Mode : DH5 Transmitting (2402)
 Remarks : -
 Date : 2/24/2009
 Test Distance : 3 m
 Temperature : 17 °C
 Humidity : 48 %
 Limit : FCC Part15C § 15.209

Engineer : Yasumasa Owaki

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
			HOR [dB μ V]	VER					HOR [dB μ V/m]	VER	HOR [dB]	VER		
1.	192.00	BB	26.8	23.4	16.5	27.8	3.1	6.0	24.6	21.2	43.5	18.9	22.3	
2.	288.00	BB	34.3	29.5	19.2	27.6	4.0	6.0	35.9	31.1	46.0	10.1	14.9	
3.	384.00	BB	34.2	33.8	16.6	28.2	4.7	6.0	33.3	32.9	46.0	12.7	13.1	
4.	666.66	BB	31.8	34.5	20.2	29.1	6.5	6.0	35.4	38.1	46.0	10.6	7.9	

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-05 (ESC1)

Data of Radiated Disturbance Test

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No. : 29GE0083-YK-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Flash Memory Multi-Media AVN Navigation Server System
 Model No. : AVIC-U310BT
 Serial No. : TPS
 Power : DC12V
 Mode : DH5 Transmitting (2441)
 Remarks : -
 Date : 2/24/2009
 Test Distance : 3 m
 Temperature : 17 °C
 Humidity : 48 %
 Limit : FCC Part15C § 15.209

Engineer : Yasumasa Owaki

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
			HOR [dB μ V]	VER					HOR [dB μ V/m]	VER	HOR [dB]	VER		
1.	192.00	BB	26.8	23.6	16.5	27.8	3.1	6.0	24.6	21.4	43.5	18.9	22.1	
2.	288.01	BB	34.2	29.6	19.2	27.6	4.0	6.0	35.8	31.2	46.0	10.2	14.8	
3.	384.01	BB	34.0	33.5	16.6	28.2	4.7	6.0	33.1	32.6	46.0	12.9	13.4	
4.	666.66	BB	31.8	34.5	20.2	29.1	6.5	6.0	35.4	38.1	46.0	10.6	7.9	

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-05 (ESC1)

Data of Radiated Disturbance Test

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No. : 29GE0083-YK-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Flash Memory Multi-Media AVN Navigation Server System
 Model No. : AVIC-U310BT
 Serial No. : TPS
 Power : DC12V
 Mode : DH5 Transmitting (2480)
 Remarks : -
 Date : 2/24/2009
 Test Distance : 3 m
 Temperature : 17 °C
 Humidity : 48 %
 Limit : FCC Part15C § 15.209

Engineer : Yasumasa Owaki

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
			HOR [dB μ V]	VER					HOR [dB μ V/m]	VER	HOR [dB]	VER		
1.	192.01	BB	26.8	23.5	16.5	27.8	3.1	6.0	24.6	21.3	43.5	18.9	22.2	
2.	288.00	BB	34.1	29.7	19.2	27.6	4.0	6.0	35.7	31.3	46.0	10.3	14.7	
3.	384.01	BB	33.6	33.9	16.6	28.2	4.7	6.0	32.7	33.0	46.0	13.3	13.0	
4.	666.66	BB	31.7	34.5	20.2	29.1	6.5	6.0	35.3	38.1	46.0	10.7	7.9	

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-05 (ESC1)

Data of Radiated Disturbance Test

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No. : 29GE0083-YK-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Flash Memory Multi-Media AVN Navigation Server System
 Model No. : AVIC-U310BT
 Serial No. : TPS
 Power : DC12V
 Mode : DH5 Transmitting (2402)
 Remarks : PK (RBW:1MHz, VBW:1MHz)
 Date : 2/24/2009
 Test Distance : 3 m
 Temperature : 16 °C
 Humidity : 46 %
 Limit : FCC Part15C § 15.209(PK Detection)

Engineer : Tatsuya Arai

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					HOR [dB μ V/m]	VER		HOR [dB]	VER
1.	2390.00	BB	43.2	43.9	28.8	37.2	5.5	0.0	40.3	41.0	74.0	33.7	33.0
2.	2400.00	BB	59.8	59.7	28.8	37.2	5.5	0.0	56.9	56.8	74.0	17.1	17.2
3.	4804.00	BB	41.7	42.3	33.6	36.5	7.3	0.0	46.1	46.7	74.0	27.9	27.3
4.	7206.00	BB	44.2	43.9	36.1	36.7	8.2	0.0	51.8	51.5	74.0	22.2	22.5
5.	9608.00	BB	43.6	43.9	37.6	36.7	9.3	0.0	53.8	54.1	74.0	20.2	19.9
6.	12010.00	BB	42.6	42.8	39.7	35.6	10.1	0.0	56.8	57.0	74.0	17.2	17.0

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

■ ANTENNA: KHA-01 (SAS-200 571) KHA-03 (3160-09) 18-26GHz
 ■ CABLE: KCC-D13/D16 ■ PREAMP: KAF-02 (8449B) ■ EMI RECEIVER: KTR-01 (ES140)

Data of Radiated Disturbance Test

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No. : 29GE0083-YK-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Flash Memory Multi-Media AVN Navigation Server System
 Model No. : AVIC-U310BT
 Serial No. : TPS
 Power : DC12V
 Mode : DH5 Transmitting (2402)
 Remarks : AV (RBW:1MHz, VBW:300Hz)
 Date : 2/24/2009
 Test Distance : 3 m
 Temperature : 16 °C
 Humidity : 46 %
 Limit : FCC Part15C § 15.209(AV Detection)

Engineer : Tatusya Arai

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
			HOR [dB μV]	VER					HOR [dB μV/m]	VER	HOR [dB]	VER		
1.	2390.00	BB	33.3	31.3	28.8	37.2	5.5	0.0	30.4	28.4	54.0	23.6	25.6	
2.	2400.00	BB	54.4	54.1	28.8	37.2	5.5	0.0	51.5	51.2	54.0	2.5	2.8	
3.	4804.00	BB	31.6	30.7	33.6	36.5	7.3	0.0	36.0	35.1	54.0	18.0	18.9	
4.	7206.00	BB	31.5	31.5	36.1	36.7	8.2	0.0	39.1	39.1	54.0	14.9	14.9	
5.	9608.00	BB	32.0	31.9	37.6	36.7	9.3	0.0	42.2	42.1	54.0	11.8	11.9	
6.	12010.00	BB	31.5	31.5	39.7	35.6	10.1	0.0	45.7	45.7	54.0	8.3	8.3	

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

■ ANTENNA: KHA-01 (SAS-200 571)/KHA-03 (3160-09) 18-26GHz
 ■ CABLE: KCC-D13/D16 ■ PREAMP: KAF-02 (8449B) ■ EMI RECEIVER: KTR-01 (ES140)

Data of Radiated Disturbance Test

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No. : 29GE0083-YK-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Flash Memory Multi-Media AVN Navigation Server System
 Model No. : AVIC-U310BT
 Serial No. : TPS
 Power : DC12V
 Mode : DH5 Transmitting (2441)
 Remarks : PK (RBW:1MHz, VBW:1MHz)
 Date : 2/24/2009
 Test Distance : 3 m
 Temperature : 16 °C
 Humidity : 46 %
 Limit : FCC Part15C § 15.209(PK Detection)

Engineer : Tatsuya Arai

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
			HOR [dB μV]	VER					HOR [dB μV/m]	VER	HOR [dB]	VER		
1.	4882.00	BB	41.4	42.0	33.8	36.5	7.4	0.0	46.1	46.7	74.0	27.9	27.3	
2.	7323.00	BB	43.5	43.5	36.2	36.7	8.2	0.0	51.2	51.2	74.0	22.8	22.8	
3.	9764.00	BB	43.7	43.7	37.6	36.7	9.3	0.0	53.9	53.9	74.0	20.1	20.1	
4.	12205.00	BB	43.7	43.4	39.9	35.5	10.0	0.0	58.1	57.8	74.0	15.9	16.2	

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

■ ANTENNA:KHA-01 (SAS-200 571)/KHA-03 (3160-09) 18-26GHz
 ■ CABLE:KCC-D13/D16 ■ PREAMP:KAF-02 (8449B) ■ EMI RECEIVER:KTR-01 (ES140)

Data of Radiated Disturbance Test

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No. : 29GE0083-YK-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Flash Memory Multi-Media AVN Navigation Server System
 Model No. : AVIC-U310BT
 Serial No. : TPS
 Power : DC12V
 Mode : DH5 Transmitting (2441)
 Remarks : AV (RBW:1MHz, VBW:300Hz)
 Date : 2/24/2009
 Test Distance : 3 m
 Temperature : 16 °C Engineer : Tatsuya Arai
 Humidity : 46 %
 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		MARGIN	
			HOR [dB μV]	VER					HOR [dB μV/m]	VER	HOR [dB]	VER		
1.	4882.00	BB	30.2	30.2	33.8	36.5	7.4	0.0	34.9	34.9	54.0	19.1	19.1	
2.	7323.00	BB	31.5	31.5	36.2	36.7	8.2	0.0	39.2	39.2	54.0	14.8	14.8	
3.	9764.00	BB	31.7	31.7	37.6	36.7	9.3	0.0	41.9	41.9	54.0	12.1	12.1	
4.	12205.00	BB	31.5	31.5	39.9	35.5	10.0	0.0	45.9	45.9	54.0	8.1	8.1	

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

■ ANTENNA:KHA-01 (SAS-200 571)/KHA-03 (3160-09) 18-26GHz
 ■ CABLE:KCC-D13/D16 ■ PREAMP:KAF-02 (8449B) ■ EMI RECEIVER:KTR-01 (ES140)

Data of Radiated Disturbance Test

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No. : 29GE0083-YK-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Flash Memory Multi-Media AVN Navigation Server System
 Model No. : AVIC-U310BT
 Serial No. : TPS
 Power : DC12V
 Mode : DH5 Transmitting (2480)
 Remarks : PK (RBW:1MHz, VBW:1MHz)
 Date : 2/24/2009
 Test Distance : 3 m
 Temperature : 16 °C
 Humidity : 46 %
 Limit : FCC Part15C § 15.209(PK Detection)

Engineer : Tatsuya Arai

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
			HOR [dB μ V]	VER					HOR [dB μ V/m]	VER	HOR [dB]	VER		
1.	2483.50	BB	44.2	44.7	28.8	37.2	5.6	0.0	41.4	41.9	74.0	32.6	32.1	
2.	4960.00	BB	41.1	42.9	34.1	36.5	7.5	0.0	46.2	48.0	74.0	27.8	26.0	
3.	7440.00	BB	43.1	43.1	36.3	36.7	8.2	0.0	50.9	50.9	74.0	23.1	23.1	
4.	9920.00	BB	43.0	45.7	37.6	36.7	9.3	0.0	53.2	55.9	74.0	20.8	18.1	
5.	12400.00	BB	43.2	42.8	40.2	35.4	10.0	0.0	58.0	57.6	74.0	16.0	16.4	

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

■ ANTENNA: KHA-01 (SAS-200 571) / KHA-03 (3160-09) 18-26GHz
 ■ CABLE: KCC-D13/D16 ■ PREAMP: KAF-02 (8449B) ■ EMI RECEIVER: KTR-01 (ES140)

Data of Radiated Disturbance Test

UL Japan, Inc.
YAMAKITA No.1 ANECHOIC CHAMBER
Report No. : 29GE0083-YK-A

Applicant : PIONEER CORPORATION
 Kind of Equipment : Flash Memory Multi-Media AVN Navigation Server System
 Model No. : AVIC-U310BT
 Serial No. : TPS
 Power : DC12V
 Mode : DH5 Transmitting (2480)
 Remarks : AV (RBW:1MHz, VBW:300Hz)
 Date : 2/24/2009
 Test Distance : 3 m
 Temperature : 16 °C
 Humidity : 46 %
 Limit : FCC Part15C § 15.209(AV Detection)

Engineer : Tatsuya Arai

No.	FREQ. [MHz]	ANT TYPE	READING		ANT FACTOR [dB/m]	AMP GAIN [dB]	CABLE LOSS [dB]	ATTEN. [dB]	RESULT		LIMITS		MARGIN	
			HOR [dB μ V]	VER					HOR [dB μ V/m]	VER	HOR [dB]	VER		
1.	2483.50	BB	32.6	32.7	28.8	37.2	5.6	0.0	29.8	29.9	54.0	24.2	24.1	
2.	4960.00	BB	29.9	32.0	34.1	36.5	7.5	0.0	35.0	37.1	54.0	19.0	16.9	
3.	7440.00	BB	31.2	31.3	36.3	36.7	8.2	0.0	39.0	39.1	54.0	15.0	14.9	
4.	9920.00	BB	31.6	33.3	37.6	36.7	9.3	0.0	41.8	43.5	54.0	12.2	10.5	
5.	12400.00	BB	31.3	31.4	40.2	35.4	10.0	0.0	46.1	46.2	54.0	7.9	7.8	

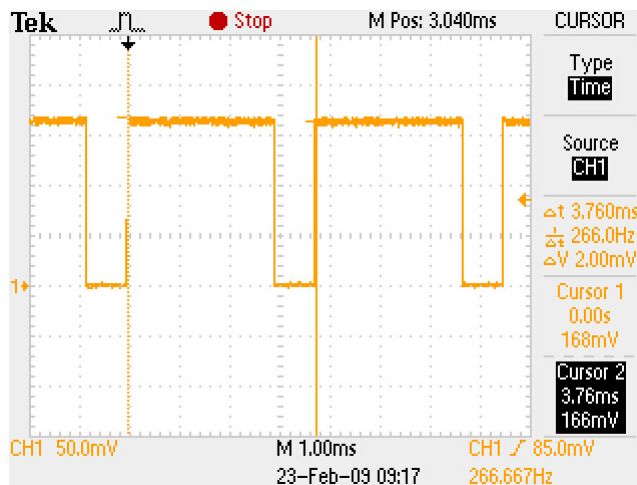
CALCULATION: READING + ANT. FACTOR + CABLE LOSS - AMP. GAIN + ATTEN.

■ ANTENNA: KHA-01 (SAS-200 571) / KHA-03 (3160-09) 18-26GHz
 ■ CABLE: KCC-D13/D16 ■ PREAMP: KAF-02 (8449B) ■ EMI RECEIVER: KTR-01 (ES140)

Duty Cycle

UL Japan, Inc. Yamakita EMC lab.	No.3	Shielded Room
Date:	2009/2/23	
Temp./Humid.:	23 deg. C. /	40 %
Engineer:	Tatsuya Arai	
Test mode:	Transmitting	

[DH5]



Duty Cycle: 3.76ms

AV Detector VBW: $1000 / 3.76\text{ms} = 265.96\text{Hz} \rightarrow 300\text{Hz}$

- * 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.

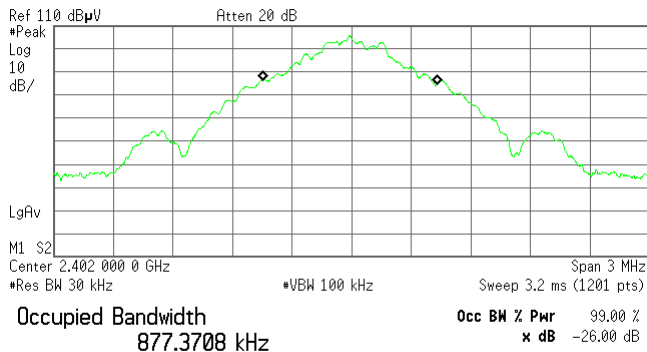
Occupied Bandwidth (99%) (Regulation: RSS-Gen 4.6.1)

UL Japan, Inc. Yamakita EMC lab.	No.4	shielded room
Date:	2009/2/26	
Temp./Humid.:	21 deg. C. /	42 %
Engineer:	Tatsuya Arai	
Test mode:	Transmitting	

[Hopping off, DHS]

1. ch : 2402MHz/Occupied Bandwidth: 877.37kHz

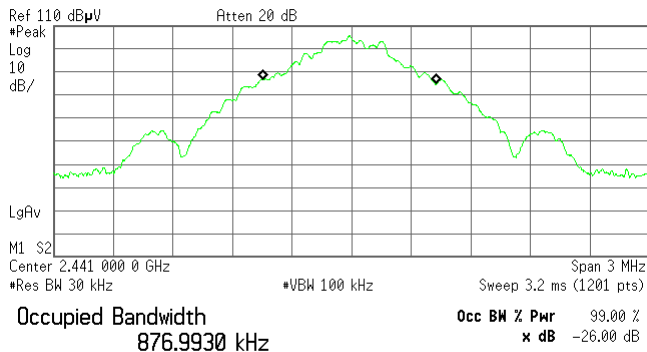
* Agilent 13:12:21 26 Feb 2009



Transmit Freq Error -9.515 kHz
x dB Bandwidth 1.132 MHz

2. ch : 2441MHz/Occupied Bandwidth: 876.99kHz

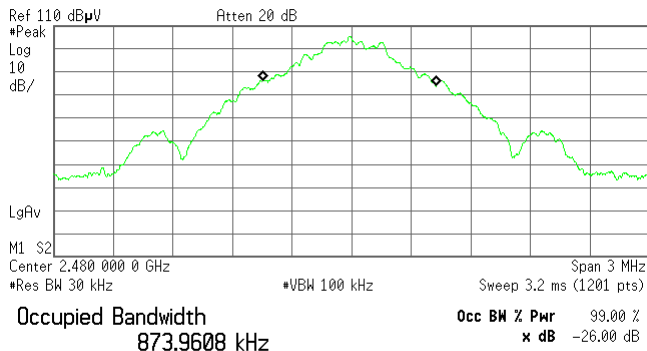
* Agilent 13:10:38 26 Feb 2009



Transmit Freq Error -10.103 kHz
x dB Bandwidth 1.139 MHz

3. ch : 2480MHz/Occupied Bandwidth: 873.96kHz

* Agilent 13:09:06 26 Feb 2009



Transmit Freq Error -9.721 kHz
x dB Bandwidth 1.132 MHz

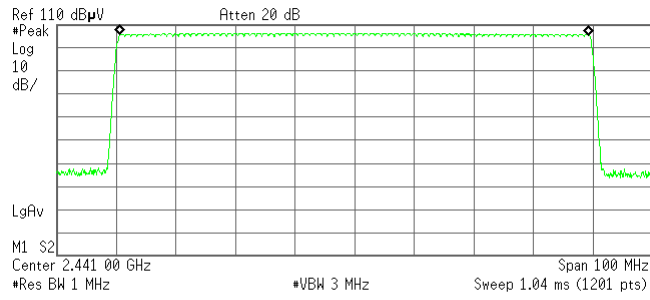
Company: PIONEER CORPORATION
Kind of Equipment: Flash Memory Multi-Media AVN Navigation Server System
Serial No.: TPS

Report No.:
Model No.:
Power:

29GE0083-YK-A
AVIC-U310BT
DC 12.0V

4. Hopping, DH5/Occupied Bandwidth: 78.58MHz

* Agilent 13:07:00 26 Feb 2009



Occupied Bandwidth
78.5815 MHz

Occ BW % Pwr 99.00 %
x dB -26.00 dB

Transmit Freq Error -17.717 kHz
x dB Bandwidth 81.190 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	Anechoic Chamber	JSE	Semi 3m	1	RE	2008/08/06 * 12
KAF-05	Pre Amplifier	Agilent	8447D	2944A10150	RE	2008/04/08 * 12
KAT6-01	Attenuator	INMET	18N-6dB	-	RE	2008/03/17 * 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
KOS-02	Humidity Indicator	Custom	CTH-190	K-02	RE	2008/07/07 * 12
KSA-04	Spectrum Analyzer	Advantest	R3271A	95060087	RE	2008/09/29 * 12
KTR-05	Test Receiver	Rohde & Schwarz	ESCI	100575	RE	2008/07/22 * 12
KJM-07	Measure	KOMELON	KMC-36	-	RE	-
KAF-02	Pre Amplifier	Hewlett Packard	8449B	3008A01268	RE	2008/04/11 * 12
KHA-01	Horn Antenna	A.H.Systems	SAS-200/571	354	RE	2008/08/11 * 12
KHA-03	Horn Antenna	EMCO	3160-09	1239	RE	2008/04/30 * 12
KCC-D13/D16	Coaxial cable	Suhner/INSULATED WIRE INC	SUCOFLEX104/KP S-1501-200-KPS	200723/4 /04202005	RE	2008/04/16 * 12
KTR-01	Test Receiver	Rohde & Schwarz	ESI40	100054/040	RE	2008/04/18 * 12
KCC-D20	Coaxial Cable	SUHNER	SUCOFLEX102	31110/2	AT all	2008/07/09 * 12
KDT-01	Coaxial Crystal Detector	Agilent	8473C	1822A05320	AT 4	Pre Check
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
KOSC-01	Oscilloscope	Tektronix	TDS-2022B	C050588	AT 4	2008/05/07 * 12
KOS-07	Humidity Indicator	Custom	CTH-190	K-07	AT all	2008/10/21 * 12

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

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

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)