FCC 47 CFR PART 15 SUBPART C AND ANSI C63.4 : 2003

TEST REPORT

For

BlackBerry Remote Stereo Gateway

Model : ASY-16007-001

Trade Name : BlackBerry

Issued for

Cheng Uei Precision Industry Co., Ltd.

No18, Chung Shan Rd, Tu-Cheng City,
Taipei Hsien, 236, Taiwan, R.O.C

Issued by

Compliance Certification Services Inc.
Hsinchu Lab.
Rm. 258, Bldg. 17, NO.195, Sec.4 Chung HsingRd.,
ChuTung Chen, Hsinchu, Taiwan 310, R.O.C
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Testing Laboratory
0240

NVLAP LAB CODE 200118-0

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1. TEST REPORT CERTIFICATION

Applicant	：Cheng Uei Precision Industry Co., Ltd.
Address	：No18, Chung Shan Rd, Tu-Cheng City, Taipei Hsien, 236, Taiwan, R.O.C
Equipment Under Test	：BlackBerry Remote Stereo Gateway
Model	：ASY-16007-001
Trade Name	：BlackBerry
Tested Date	：December 25, 2007 ~ January 02, 2008

APPLICABLE STANDARD	
STANDARD	**TEST RESULT**
FCC Part 15 Subpart C:2006 AND ANSI C63.4:2003	No non-compliance noted

Approved by: ***Reviewed by:***

S. B. Lu

S. B. Lu
Assistant Manager of Hsinchu Laboratory
Compliance Certification Services Inc.

Jason Chang

Jason Chang
Test Engineer of Hsinchu Laboratory
Compliance Certification Services Inc.

WE HEREBY CERTIFY THAT: The measurements shown in the attachment were made in accordance with the procedures indicated, and the energy emitted by the equipment was found to be within the limits applicable. We assume full responsibility for the accuracy and completeness of these measurements and vouch for the qualifications of all persons taking them.

2. EUT DESCRIPTION

2.1 DESCRIPTION OF EUT & POWER

Product Name	BlackBerry Remote Stereo Gateway
Model Number	ASY-16007-001
Frequency Range	2402MHz to 2480MHz f = 2402 + nMHz, n = 0, …..78
Transmit Power	8.4dBm
Channel Spacing	1MHz
Channel Number	79
Air Data Rate	GFSK (1Mbps), π/4-DQPSK(2Mbps), 8-DPSK(3Mbps)
Type of Modulation	Frequency Hopping Spread Spectrum
Frequency Selection	by software / firmware
Transmitter Classification	portable device
Antenna Type	PCB Antenna, Antenna Gain : 2.82dBi
Power Source	Charging Mode: 5.0VDC (From Power Adapter)
RF Exposure Evaluation	Since the EUT is classed portable device, and the maximum peak power is 8.4dBm (<13.6dBm), the MPE evaluation is not required and no SAR consideration applied.

Power Adapter :

No.	Manufacturer	Model No.	Power Input	Power Output
1	Black Berry	PSM04A-050RIM	100-240VAC ,50-60Hz,0.2A	5VDC, 0.75A
2	Black Berry	PSM05R-050CHW	100-240VAC ,50-60Hz,0.2A	5VDC, 0.5A

Remark:

1. The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.

2. This submittal(s) (test report) is intended for FCC ID: QVZ-ASY16130001 filing to comply with Section 15.207, 15.209 and 15.247 of the FCC Part 15, Subpart C Rules.

3. For more details, please refer to the User's manual of the EUT.

3. DESCRIPTION OF TEST MODES

The tests documented in this report were performed in accordance with ANSI C63.4 and FCC CFR 47 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, 15.207, 15.209 and 15.247.

eut configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

eut exercise

The EUT was operated in the engineering mode to fix the TX frequency that was for the purpose of the measurements.

According to its specifications, the EUT must comply with the requirements of the Section 15.207, 15.209 and 15.247 under the FCC Rules Part 15 Subpart C.

general test procedures

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.1.4.1 of ANSI C63.4 Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna, which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the maximum emissions, exploratory radiated emission measurements were made according to the requirements in Section 13.1.4.1 of ANSI C63.4.

4. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.4 and FCC CFR 47 2.1046, 2046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, 15.207, 15.209 and 15.247.

5. FACILITIES AND ACCREDITATIONS

5.1 FACILITIES

All measurement facilities used to collect the measurement data are located at Rm.258, Bldg.17, NO.195 , Sec. 4, Chung Hsing Rd., Chu-Tung Chen. Hsin-Chu, Taiwan 310 R.O.C.
The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

5.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with preselectors and quasi-peak detectors are used to perform radiated measurements.
Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.
Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.
All receiving equipment conforms to CISPR Publication 16-1, “Radio Interference Measuring Apparatus and Measurement Methods.”

5.3 LABORATORY ACCREDITATIONS LISTINGS

The test facilities used to perform radiated and conducted emissions tests are accredited by National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under Lab Code: 200118-0 to perform Electromagnetic Interference tests according to FCC PART 15 AND CISPR 22 requirements. No part of this report may be used to claim or imply product endorsement by NVLAP or any agency of the US Government. In addition, the test facilities are listed with Federal Communications Commission (registration no: 90585 and 90584).

5.4 TABLE OF ACCREDITATIONS AND LISTINGS

Country	Agency	Scope of Accreditation	Logo
USA	NVLAP	EN 55014-1, AS/NZS 1044, CNS 13783-1, IEC/CISPR 14-1, IEC/CISPR 22, EN 55022, EN 61000-3-2, EN 61000-3-3, ANSI C63.4, AS/NZS CISPR 22, AS/NZS 3548, IEC 61000-4-2/3/4/5/6/8/11	200118-0
USA	FCC	3/10 meter Open Area Test Sites to perform FCC Part 15/18 measurements	90585, 90584
Japan	VCCI	3/10 meter Open Area Test Sites to perform conducted/radiated measurements	R-1229/1189 C-1250/1294
Taiwan	TAF	FCC Method-47 CFR Part 15 Subpart C,D,E CISPR 11, FCC METHOD-47 CFR Part 18, EN 55011, CNS 13803, CISPR 13, CNS 13439, FCC Method-47 CFR Part 15 Subpart B, CISPR 14-1, EN 55014-1, CNS 13783-1, EN 55015, CNS 14115, CISPR 22, EN 55022, VCCI CNS 13438, EN 61000-4-2/3/4/5/6/8/11	Testing Laboratory 0240
Taiwan	BSMI	CNS 13803, CNS 13438, CNS 13439, CNS 13783-1, CNS 14115	SL2-IS-E-0002 SL2-IN-E-0002 SL2-A1-E-0002 SL2-R1-E-0002 SL2-R2-E-0002 SL2-L1-E-0002
Canada	Industry Canada	RSS-GEN Issue 2	IC 4417-1

** No part of this report may be used to claim or imply product endorsement by NVLAP or any agency of the US Government.*

6. CALIBRATION AND UNCERTAINTY

6.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

6.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Radiated Emission, 30 to 1000 MHz	+/- 3.2 dB
Radiated Emission, 1 to 26.5GHz	+/- 3.2 dB
Power Line Conducted Emission	+/- 2.1 dB

Uncertainty figures are valid to a confidence level of 95%

7. SETUP OF EQUIPMENT UNDER TEST

SUPPORT EQUIPMENT

See test photographs attached in Appendix 1 for the actual connections between EUT and support equipment.

No.	Product	Manufacturer	Model No.	Serial No.	FCC ID
1	Notebook PC	HP	nx6130	CNU543274R	DoC
2	Notebook PC	DELL	PP11L (Latitude D610)	CN-0C4708-48643-625-5565	DoC

SETUP DIAGRAM FOR TESTS

All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

8. APPLICABLE LIMITS AND TEST RESULTS

8.1 20dB BANDWIDTH FOR HOPPING

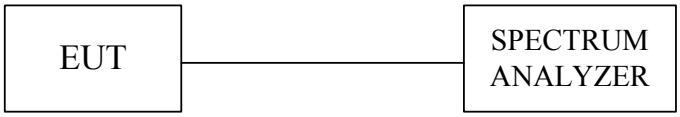
LIMIT

Limit : N/A

TEST EQUIPMENT

Description & Manufacturer	Model No.	Serial No.	Date of Calibration
ROHDE & SCHWARZ SPECTRUM ANALYZER	FSEK30	835253/002	October 18, 2007
AGILENT SPECTRUM ANALYZER	E4446A	MY433601.32	June 06, 2007

TEST SETUP



TEST PROCEDURE

The 20dB band width was measured with a spectrum analyzer connected to RF antenna connector(conducted measurement) while EUT was operating in transmit mode at the appropriate center frequency. The analyzer center frequency was set to the EUT carrier frequency, using the analyzer. Display Line and Marker Delta functions, the 20dB band width of the emission was determined.

TEST RESULTS

No non-compliance noted

8-DPSK

Channel	Channel Frequency (MHz)	20dB Bandwidth (kHz)	Pass / Fail
Low	2402	1025	N/A
Middle	2441	1025	N/A
High	2480	1030	N/A

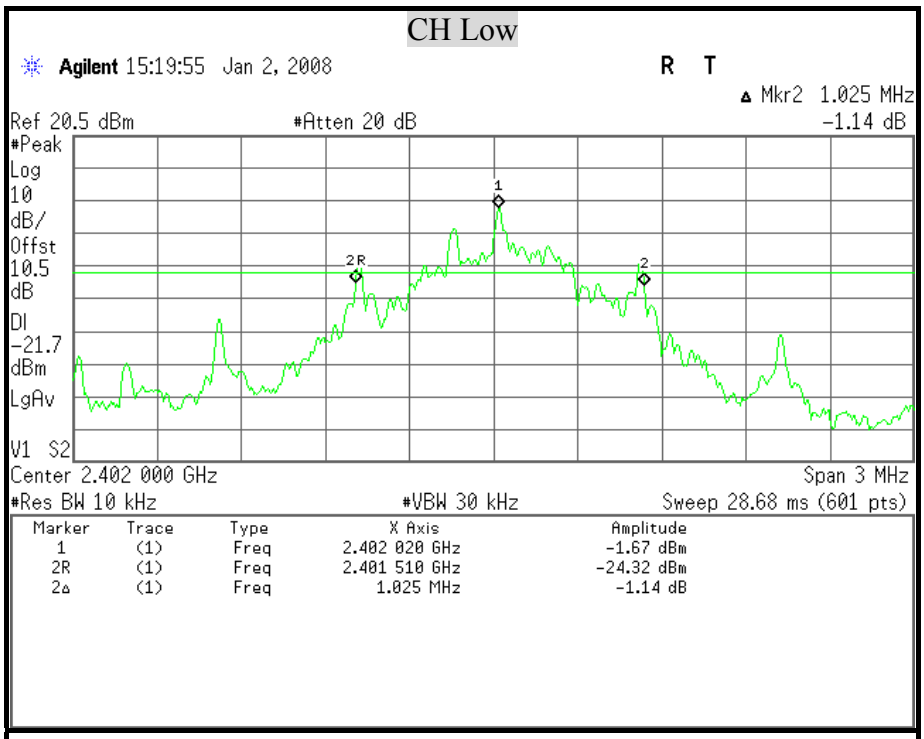
GFSK

Channel	Channel Frequency (MHz)	20dB Bandwidth (kHz)	Pass / Fail
Low	2402	933	N/A
Middle	2441	933	N/A
High	2480	933	N/A

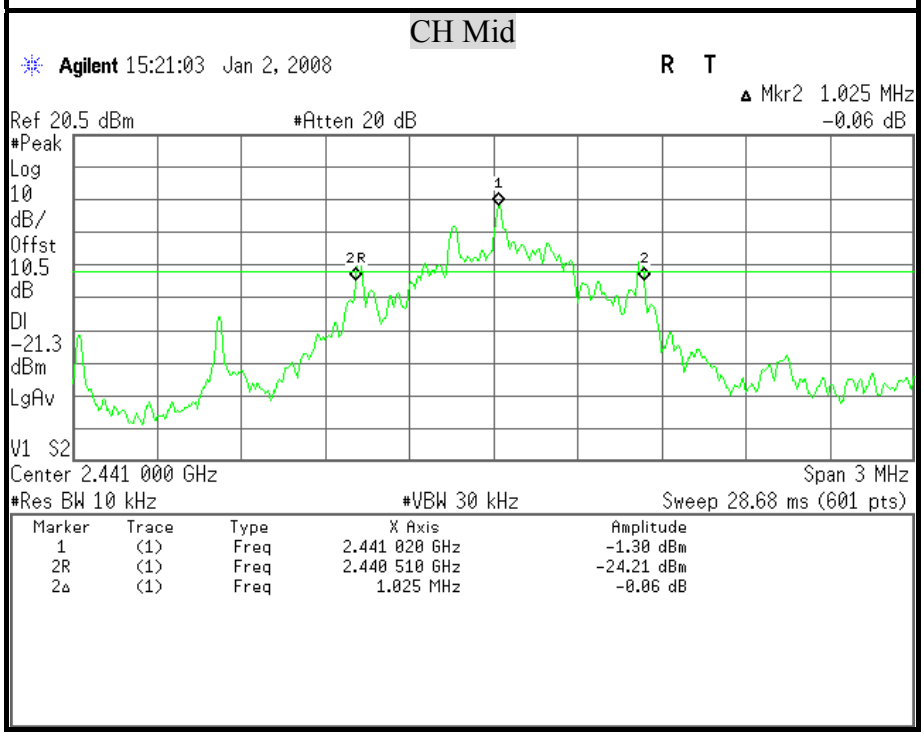
20dB BANDWIDTH

8-DPSK

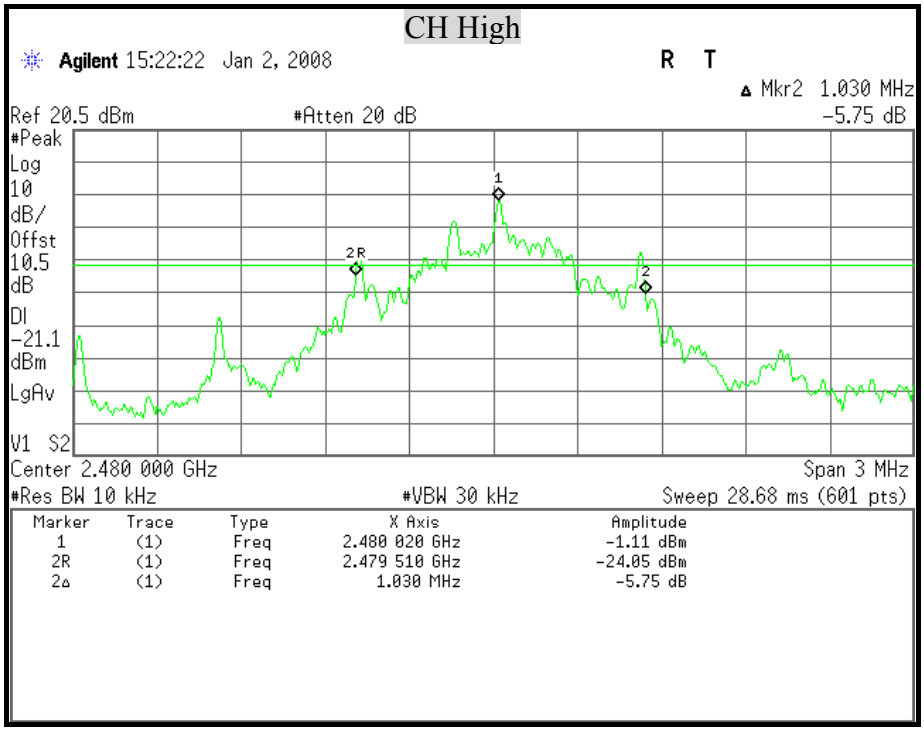
CH Low



CH Mid

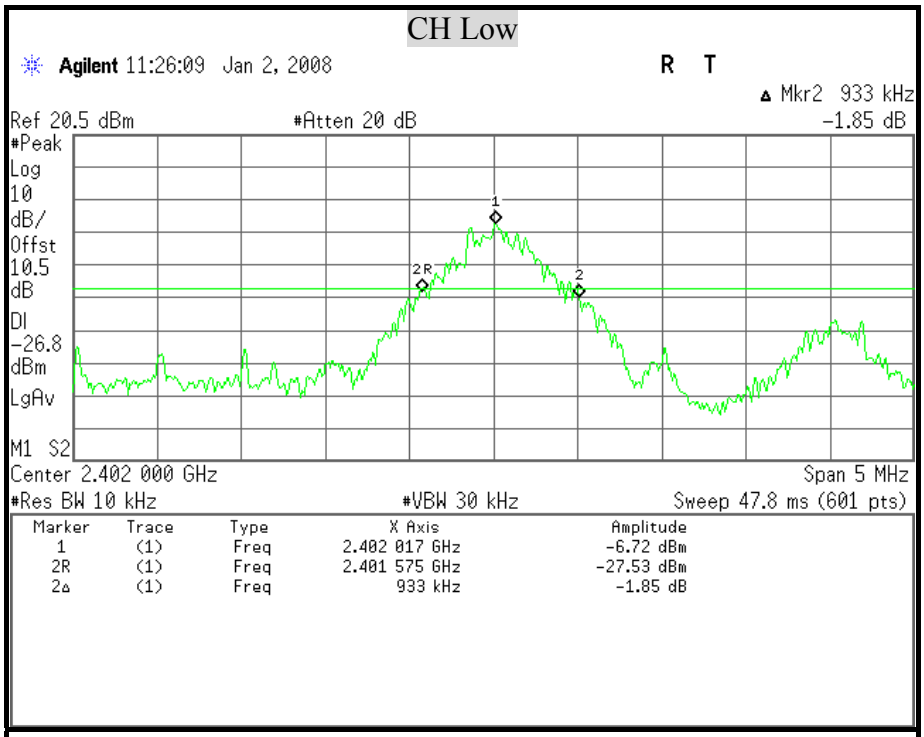


CH High

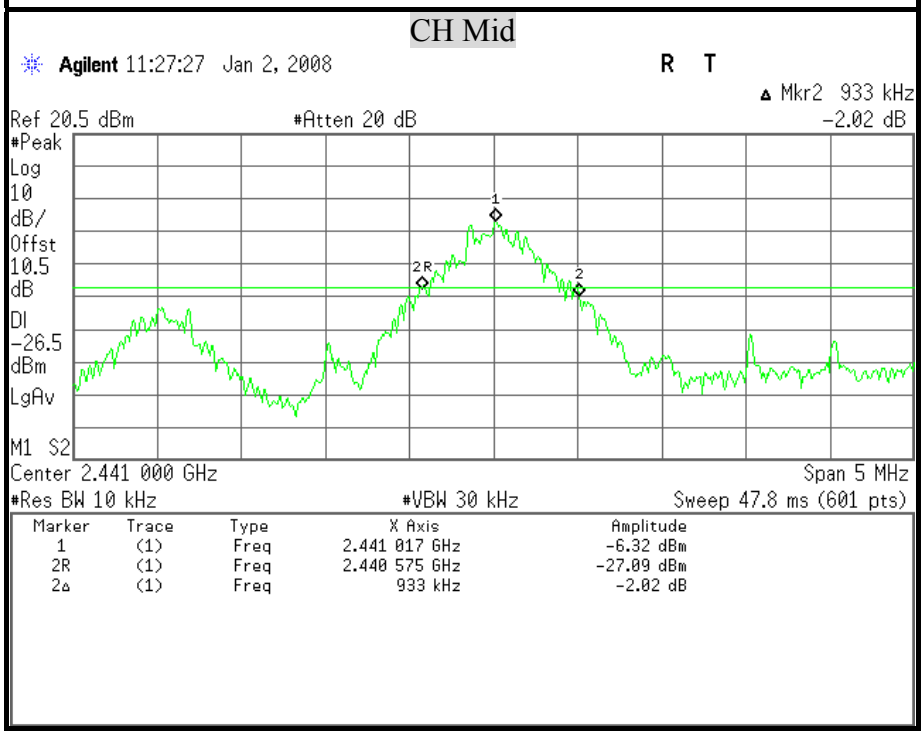

Agilent 15:22:22 Jan 2, 2008
R T
Mkr2 1.030 MHz
Ref 20.5 dBm
#Atten 20 dB
-5.75 dB
#Peak
Log
10
dB/
Offst
10.5
dB
Dl
-21.1
dBm
LgAv
V1 S2
Center 2.480 000 GHz
Span 3 MHz
#Res BW 10 kHz
#VBW 30 kHz
Sweep 28.68 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.480 020 GHz -1.11 dBm
2R (1) Freq 2.479 510 GHz -24.05 dBm
2Δ (1) Freq 1.030 MHz -5.75 dB

GFSK

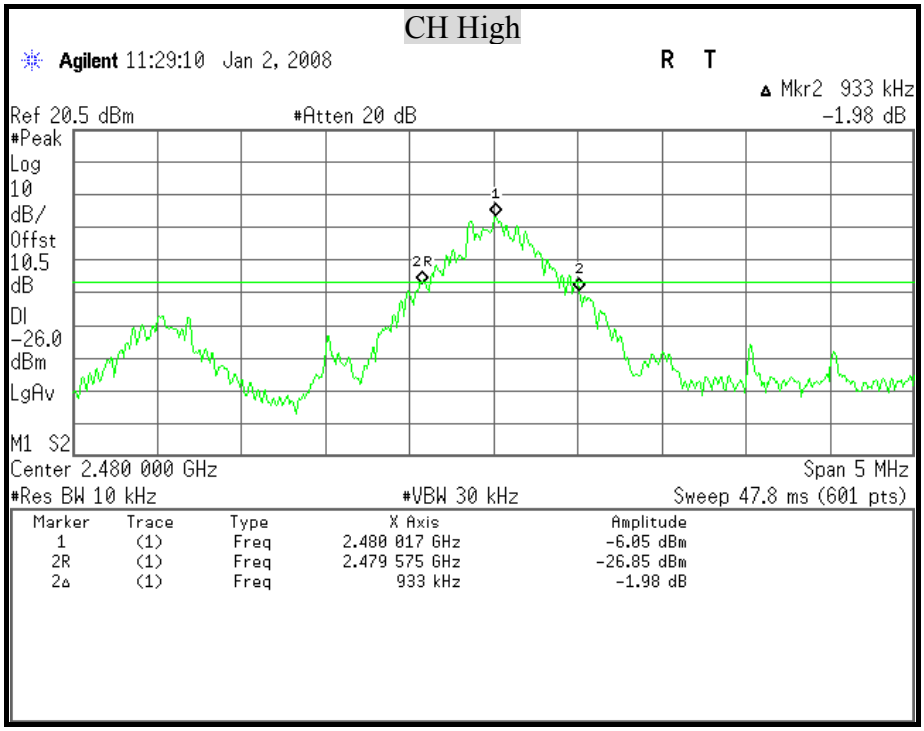
CH Low



CH Mid



CH High


Agilent 11:29:10 Jan 2, 2008
R T
Mkr2 933 kHz
Ref 20.5 dBm
#Atten 20 dB
-1.98 dB
#Peak
Log
10
dB/
Offst
10.5
dB
Dl
-26.0
dBm
LgAv
M1 S2
Center 2.480 000 GHz
Span 5 MHz
#Res BW 10 kHz
#VBW 30 kHz
Sweep 47.8 ms (601 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 2.480 017 GHz -6.05 dBm
2R (1) Freq 2.479 575 GHz -26.85 dBm
2Δ (1) Freq 933 kHz -1.98 dB

8.2 MAXIMUM PEAK OUTPUT POWER

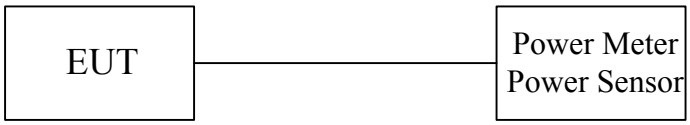
LIMIT

§15.247(b)(1) The Maximum Peak Output Power Measurement is 125mW for frequency hopping systems operating in 2400~2483.5 MHz employing at least 15 hopping channels.

TEST EQUIPMENT

Description & Manufacturer	Model No.	Serial No.	Date of Calibration
ANRITSU	ML2487A MAL2491A	6K00001783 030982	March 06, 2007

TEST SETUP



TEST PROCEDURE

The transmitter output is connected to the Power Meter. The Power Meter is set to the peak power detection.

TEST RESULTS

No non-compliance noted

8-DPSK

Channel	Channel Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
Low	2402	8.33	20.97	PASS
Middle	2441	8.4	20.97	PASS
High	2480	8.3	20.97	PASS

GFSK

Channel	Channel Frequency (MHz)	Peak Power Output (dBm)	Peak Power Limit (dBm)	Pass / Fail
Low	2402	8.34	20.97	PASS
Middle	2441	8.4	20.97	PASS
High	2480	8.3	20.97	PASS

8.3 HOPPING CHANNEL SEPARATION

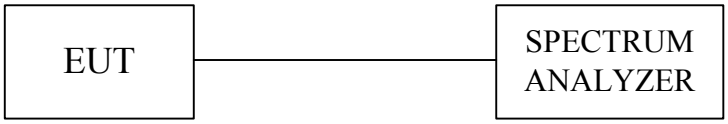
LIMIT

§15.247(a)(1) Frequency hopping system operating in 2400-2483.5MHz. Band may have hopping channel carrier frequencies that are separated by 25kHz or two-third of 20dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125mW.

TEST EQUIPMENT

Description & Manufacturer	Model No.	Serial No.	Date of Calibration
ROHDE & SCHWARZ SPECTRUM ANALYZER	FSEK30	835253/002	October 18, 2007
AGILENT SPECTRUM ANALYZER	E4446A	MY433601.32	June 06, 2007

TEST SETUP



TEST PROCEDURE

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT as shown in test setup without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range.
3. By using the MaxHold function record the separation of adjacent channels.
4. Measure the frequency difference of these two adjacent channels by spectrum analyzer MARK function. And then plot the result on spectrum analyzer screen.
5. Repeat above procedures until all frequencies measured were complete.

TEST RESULTS

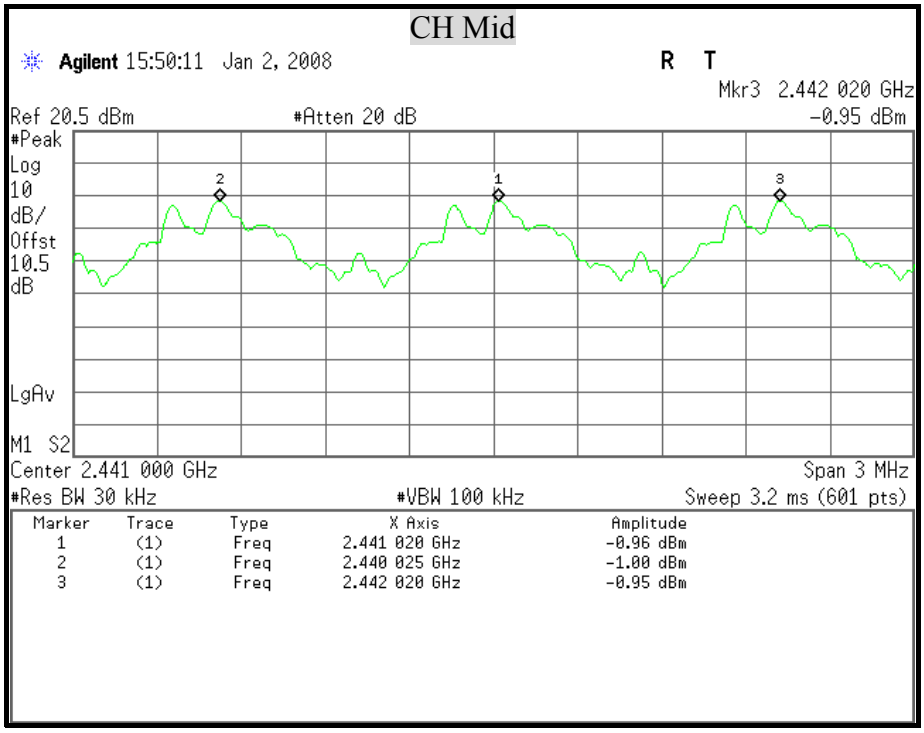
No non-compliance noted

Refer to section 7.1, 20dB bandwidth measurement, the measured channel separation should be greater than two-third of 20dB bandwidth or Minimum bandwidth.

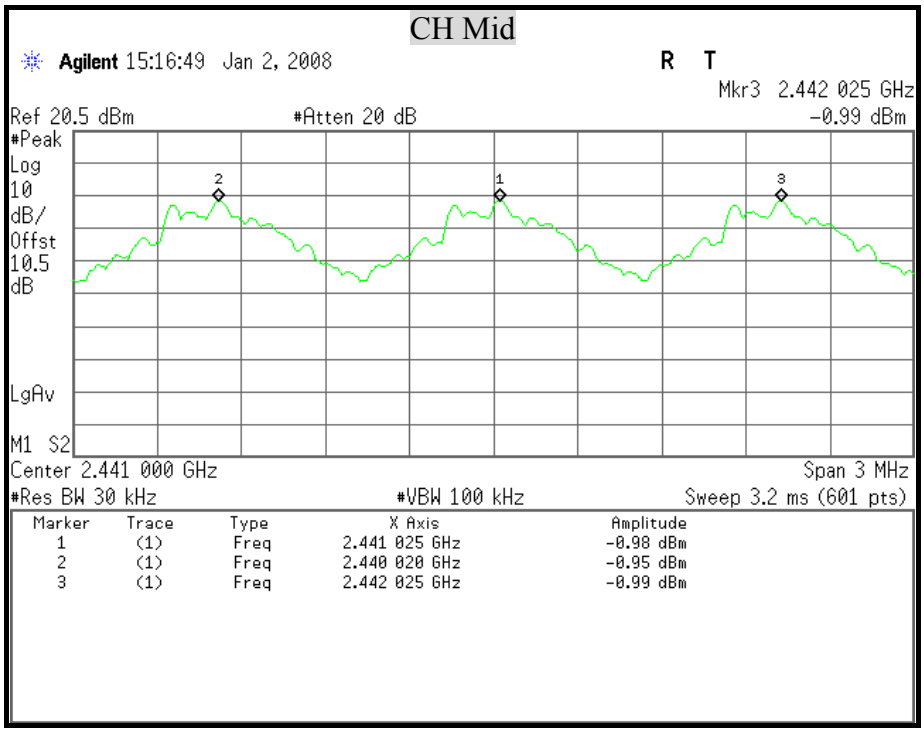
Test Mode	Channel	Adjacent Hopping Channel Separation (kHz)	Two –third of 20dB bandwidth (kHz)	Minimum Bandwidth (kHz)	Result
8-DPSK	2441MHz (Mid)	1000.0	686.66	25	PASS
GFSK	2441MHz (Mid)	1000.0	621.99.	25	PASS

HOPPING CHANNEL SEPARATION

8-DPSK



GFSK



8.4 NUMBER OF HOPPING FREQUENCY USED

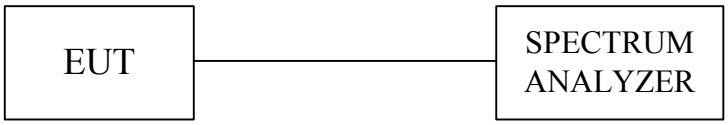
LIMIT

§15.247(a)(1)(iii) For frequency hopping system operating in the 2400-2483.5MHz bands shall use at least 15 hopping frequencies

TEST EQUIPMENT

Description & Manufacturer	Model No.	Serial No.	Date of Calibration
ROHDE & SCHWARZ SPECTRUM ANALYZER	FSEK30	835253/002	October 18, 2007
AGILENT SPECTRUM ANALYZER	E4446A	MY433601.32	June 06, 2007

TEST SETUP



TEST PROCEDURE

1 Check the calibration of the measuring instrument (spectrum analyzer) using either an internal calibrator or a known signal from an external generator.
2 Position the EUT as shown in test setup without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range and make sure the instrument is operated in its linear range.
3 Set the spectrum analyzer on MaxHold Mode, and then keep the EUT in hopping mode. Record all the signals from each channel until each one has been recorded.
4 Set the spectrum analyzer on View mode and then plot the result on spectrum analyzer screen.
5 Repeat above procedures until all frequencies measured were complete.

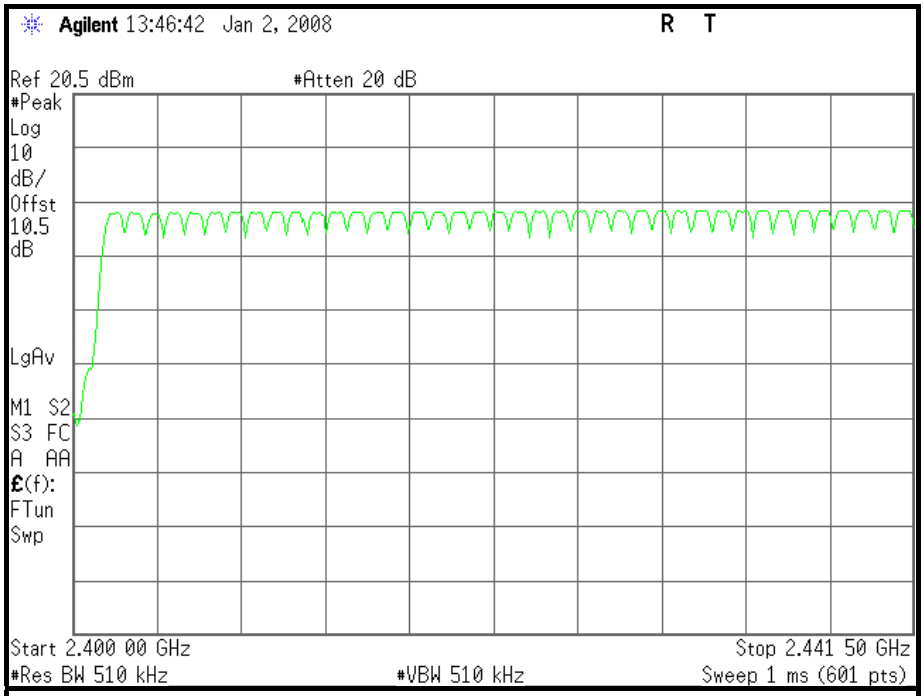
TEST RESULTS

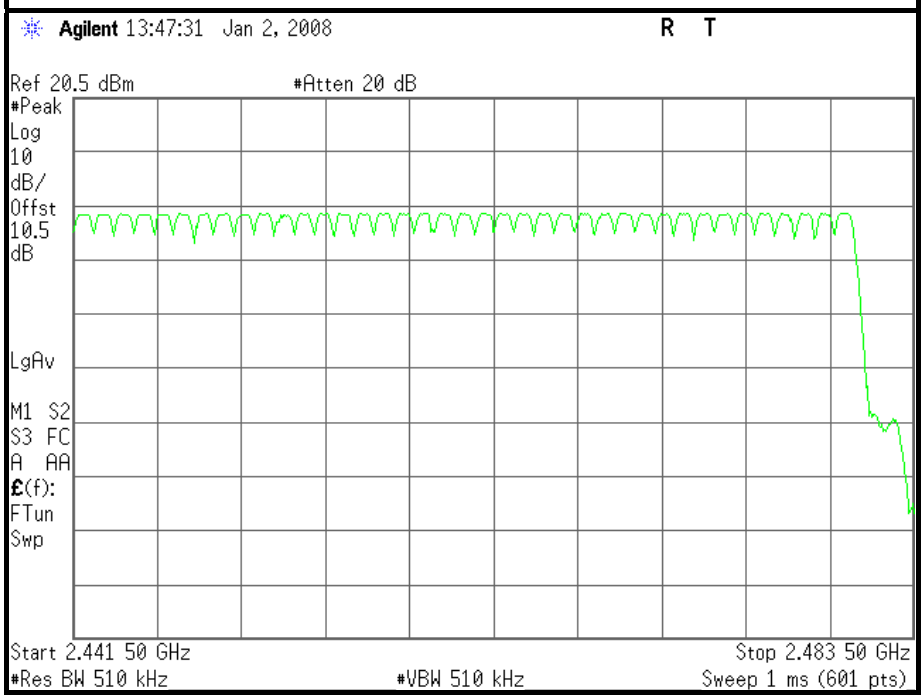
No non-compliance noted

Refer to the attached plot.
There are 79 hopping frequencies in a hopping sequence.

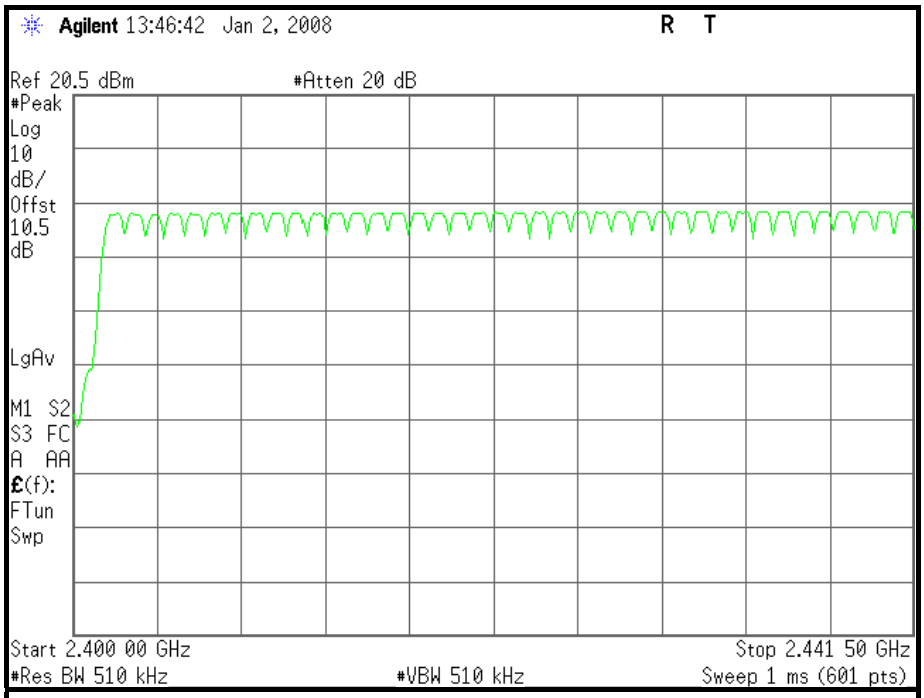
NUMBER OF HOPPING FREQUENCY USED

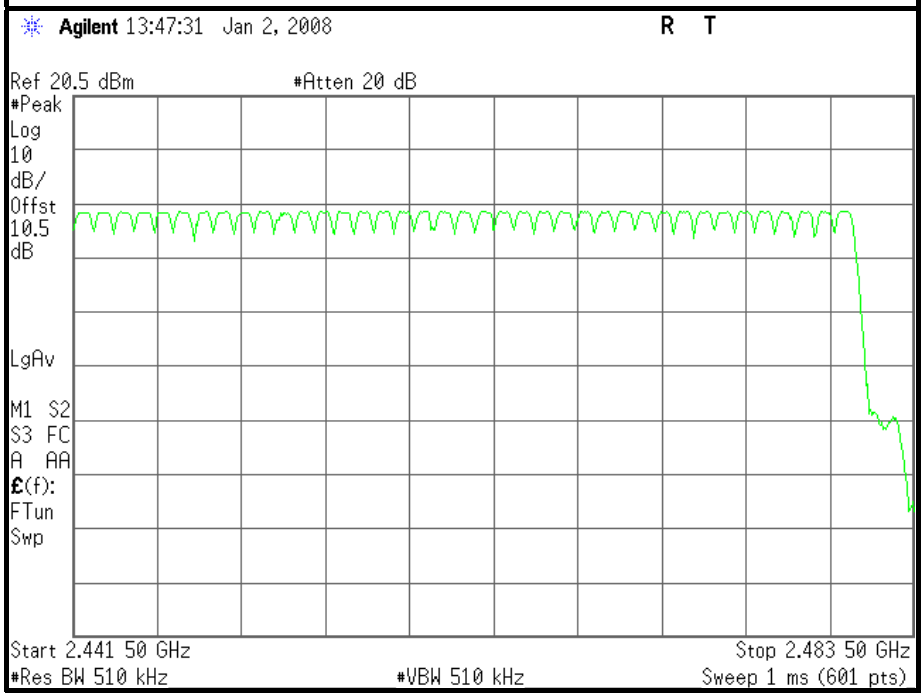
8-DPSK





GFSK


Agilent 13:46:42 Jan 2, 2008
R T
Ref 20.5 dBm
#Atten 20 dB
#Peak
Log
10
dB/
Offst
10.5
dB
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 2.400 00 GHz
Stop 2.441 50 GHz
#Res BW 510 kHz
#VBW 510 kHz
Sweep 1 ms (601 pts)


Agilent 13:47:31 Jan 2, 2008
R T
Ref 20.5 dBm
#Atten 20 dB
#Peak
Log
10
dB/
Offst
10.5
dB
LgAv
M1 S2
S3 FC
A AA
£(f):
FTun
Swp
Start 2.441 50 GHz
Stop 2.483 50 GHz
#Res BW 510 kHz
#VBW 510 kHz
Sweep 1 ms (601 pts)

8.5 DWELL TIME ON EACH CHANNEL

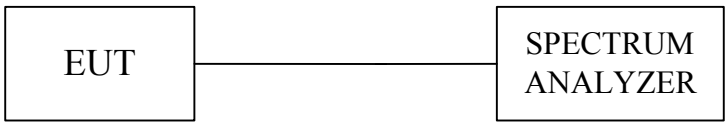
LIMIT

§15.247(a)(1)(iii) For frequency hopping system operating in the 2400-2483.5MHz band, the average time of occupancy on any frequency shall not be greater than 0.4 second within a 31.6 second period.

TEST EQUIPMENT

Description & Manufacturer	Model No.	Serial No.	Date of Calibration
ROHDE & SCHWARZ SPECTRUM ANALYZER	FSEK30	835253/002	October 18, 2007
AGILENT SPECTRUM ANALYZER	E4446A	MY433601.32	June 06, 2007

TEST SETUP



TEST PROCEDURE

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT as shown in test setup without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range and make sure the instrument is operated in its linear range.
3. Adjust the center frequency of spectrum analyzer on any frequency be measured and set spectrum analyzer to zero span mode. And then, set RBW and VBW of spectrum analyzer to proper value.
4. Measure the time duration of one transmission on the measured frequency. And then plot the result with time difference of this time duration.
5. Repeat above procedures until all frequencies measured were complete.
6. The Blackberry Remote Stereo Gateway has 3 type of payload, DH1, DH3, DH5. The hopping rate is 1600 per second.
   The longer the payload is, the slower the hopping rate is.

TEST RESULTS

No non-compliance noted

Time of occupancy on the TX channel in 31.6sec = time domain slot length × hop rate ÷ number of hop per channel × 31.6

Refer to the attached graph.

The hopping rates of Bluetooth devices change with different types of payload. The longer the payload is, the slower the hopping rate. The hopping rate scenario is defined in Bluetooth core specification.

8-DPSK DWELL Time-1

Transmitting Frequency	Packet type	Dwell time (ms)	Time of occupancy on the TX channel in 31.6sec (ms)	Limit for Time of occupancy on the TX channel in 31.6sec (ms)	Results
2402MHz	DH1	0.400	128.00	400	PASS
2402MHz	DH3	1.667	266.72	400	PASS
2402MHz	DH5	2.917	311.14	400	PASS

DH1 Dwell time = 0.400 ms × (1600÷2) ÷ 79 × 31.6 = 128.00 (ms)
DH3 Dwell time = 1.667 ms × (1600÷4) ÷ 79 × 31.6 = 266.72 (ms)
DH5 Dwell time = 2.917 ms × (1600÷6) ÷ 79 × 31.6 = 311.14 (ms)

8-DPSK DWELL Time-2

Transmitting Frequency	Packet type	Dwell time (ms)	Time of occupancy on the TX channel in 31.6sec (ms)	Limit for Time of occupancy on the TX channel in 31.6sec (ms)	Results
2402MHz	DH1	0.4167	133.34	400	PASS
2402MHz	DH3	1.667	266.72	400	PASS
2402MHz	DH5	2.917	311.14	400	PASS

DH1 Dwell time = 0.4167 ms × (1600÷2) ÷ 79 × 31.6 = 133.34 (ms)
DH3 Dwell time = 1.667 ms × (1600÷4) ÷ 79 × 31.6 = 266.72 (ms)
DH5 Dwell time = 2.917 ms × (1600÷6) ÷ 79 × 31.6 = 311.14 (ms)

8-DPSK DWELL Time-3

Transmitting Frequency	Packet type	Dwell time (ms)	Time of occupancy on the TX channel in 31.6sec (ms)	Limit for Time of occupancy on the TX channel in 31.6sec (ms)	Results
2402MHz	DH1	0.4167	133.34	400	PASS
2402MHz	DH3	1.667	266.72	400	PASS
2402MHz	DH5	2.917	311.14	400	PASS

DH1 Dwell time = 0.4167 ms × (1600÷2) ÷ 79 × 31.6 = 133.34 (ms)
DH3 Dwell time = 1.667 ms × (1600÷4) ÷ 79 × 31.6 = 266.72 (ms)
DH5 Dwell time = 2.917 ms × (1600÷6) ÷ 79 × 31.6 = 311.14 (ms)

GFSK DWELL Time-1

Transmitting Frequency	Packet type	Dwell time (ms)	Time of occupancy on the TX channel in 31.6sec (ms)	Limit for Time of occupancy on the TX channel in 31.6sec (ms)	Results
2402MHz	DH1	0.400	128.00	400	PASS
2402MHz	DH3	1.667	266.72	400	PASS
2402MHz	DH5	2.900	309.33	400	PASS

DH1 Dwell time = 0.400 ms × (1600÷2) ÷ 79 × 31.6 = 128.00 (ms)
DH3 Dwell time = 1.667 ms × (1600÷4) ÷ 79 × 31.6 = 266.72 (ms)
DH5 Dwell time = 2.917 ms × (1600÷6) ÷ 79 × 31.6 = 311.14 (ms)

GFSK DWELL Time-2

Transmitting Frequency	Packet type	Dwell time (ms)	Time of occupancy on the TX channel in 31.6sec (ms)	Limit for Time of occupancy on the TX channel in 31.6sec (ms)	Results
2402MHz	DH1	0.4167	133.34	400	PASS
2402MHz	DH3	1.667	266.72	400	PASS
2402MHz	DH5	2.900	309.33	400	PASS

DH1 Dwell time = 0.4167 ms × (1600÷2) ÷ 79 × 31.6 = 133.34 (ms)
DH3 Dwell time = 1.667 ms × (1600÷4) ÷ 79 × 31.6 = 266.72 (ms)
DH5 Dwell time = 2.900 ms × (1600÷6) ÷ 79 × 31.6 = 309.33 (ms)

GFSK DWELL Time-3

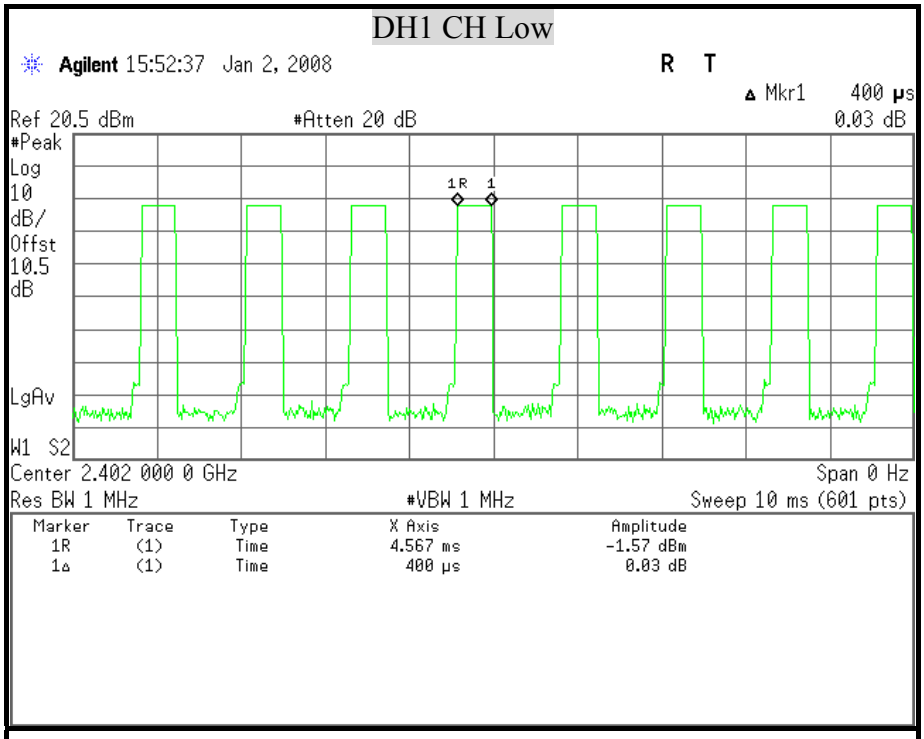
Transmitting Frequency	Packet type	Dwell time (ms)	Time of occupancy on the TX channel in 31.6sec (ms)	Limit for Time of occupancy on the TX channel in 31.6sec (ms)	Results
2402MHz	DH1	0.400	128.00	400	PASS
2402MHz	DH3	1.650	264.00	400	PASS
2402MHz	DH5	2.917	311.14	400	PASS

DH1 Dwell time = 0.400 ms × (1600÷2) ÷ 79 × 31.6 = 128.00 (ms)
DH3 Dwell time = 1.650 ms × (1600÷4) ÷ 79 × 31.6 = 264.00 (ms)
DH5 Dwell time = 2.917 ms × (1600÷6) ÷ 79 × 31.6 = 311.14 (ms)

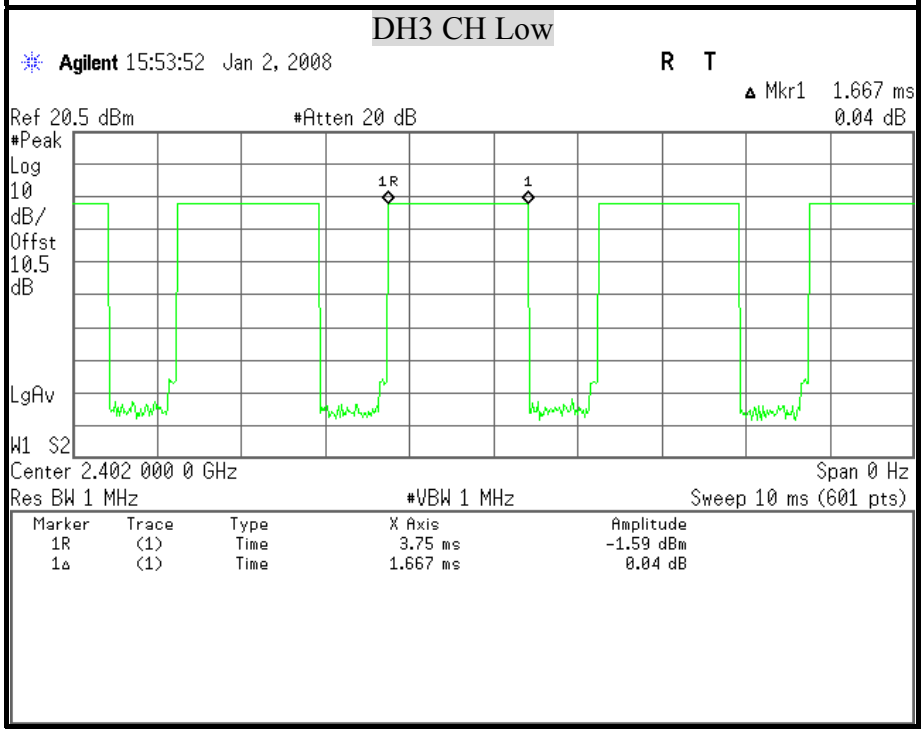
DWELL TIME-1 ON EACH PAYLOAD

8-DPSK

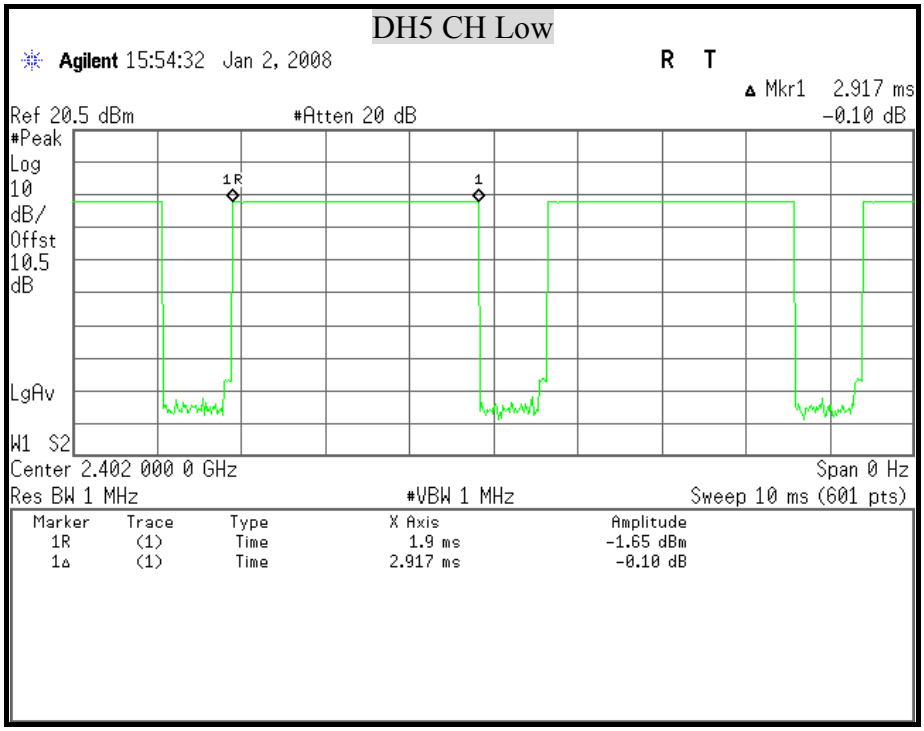
DH1 CH Low



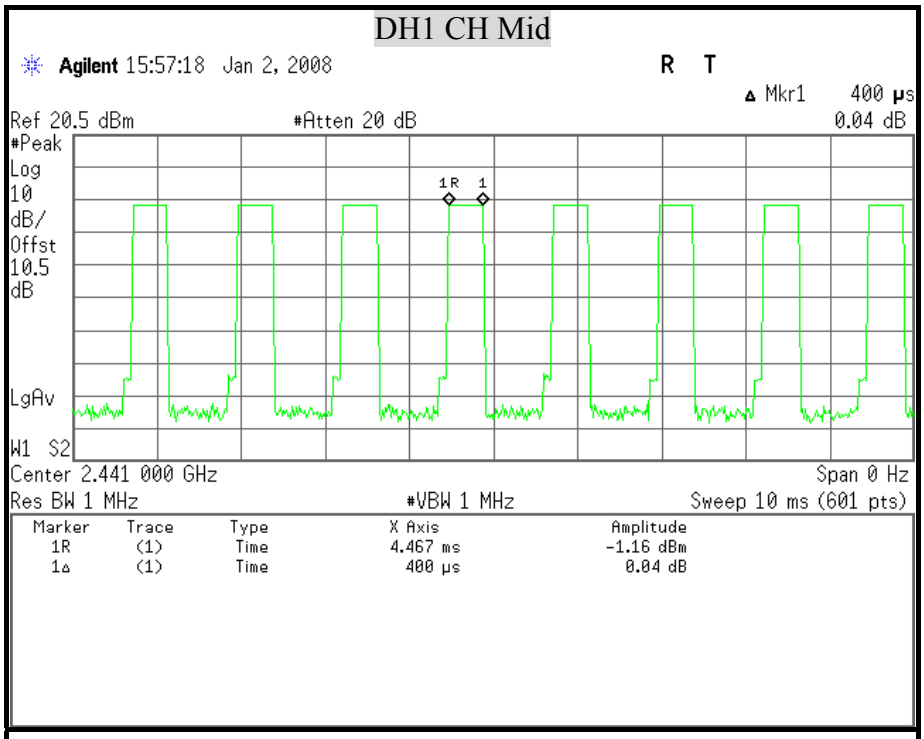
DH3 CH Low



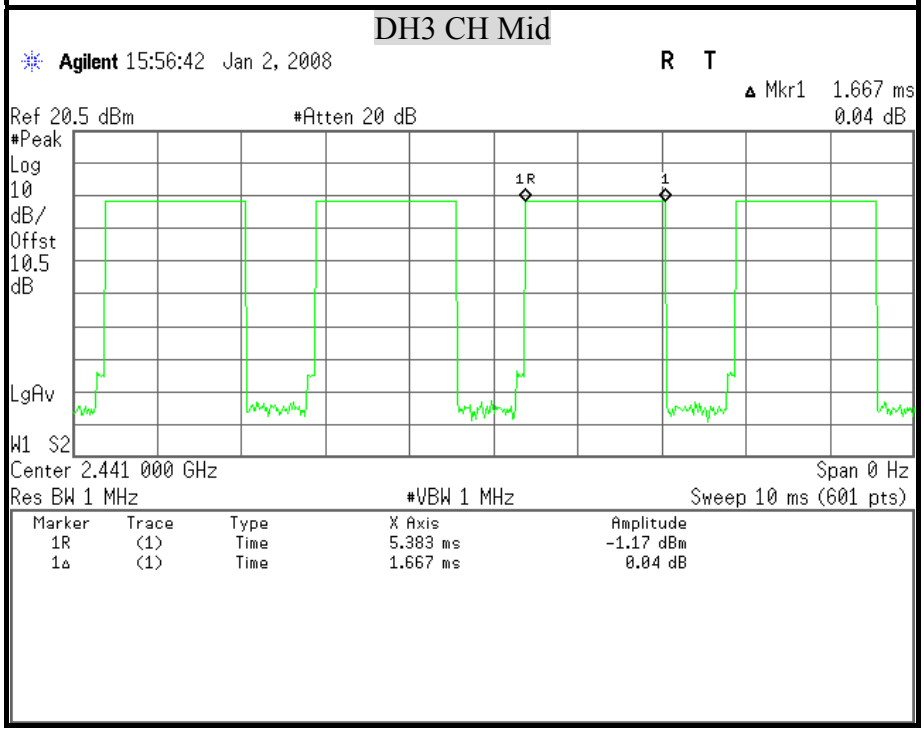
DH5 CH Low


Agilent 15:54:32 Jan 2, 2008
R T
Mkr1 2.917 ms
Ref 20.5 dBm
#Atten 20 dB
-0.10 dB
#Peak
Log
10
dB/
Offst
10.5
dB
1R
1
LgAv
W1 S2
Center 2.402 000 0 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 10 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 1.9 ms -1.65 dBm
1Δ (1) Time 2.917 ms -0.10 dB

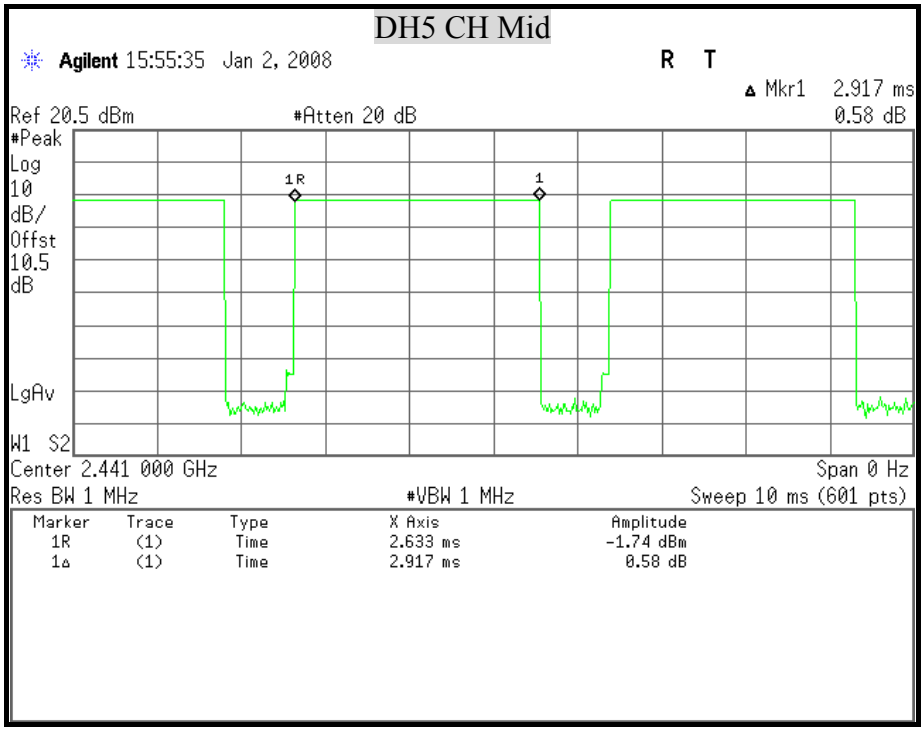
DH1 CH Mid



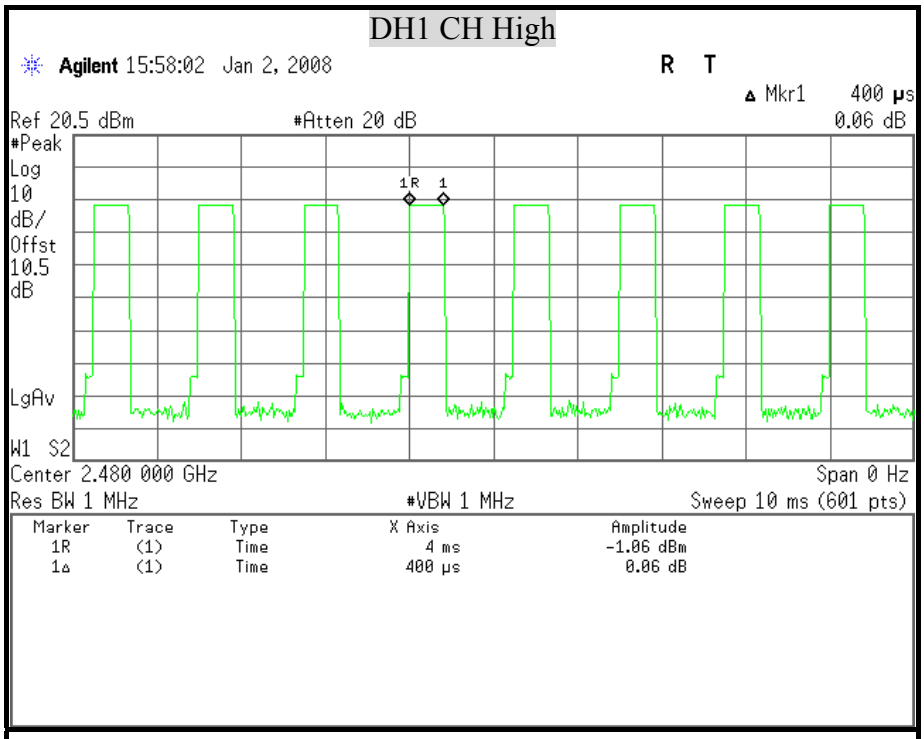
DH3 CH Mid



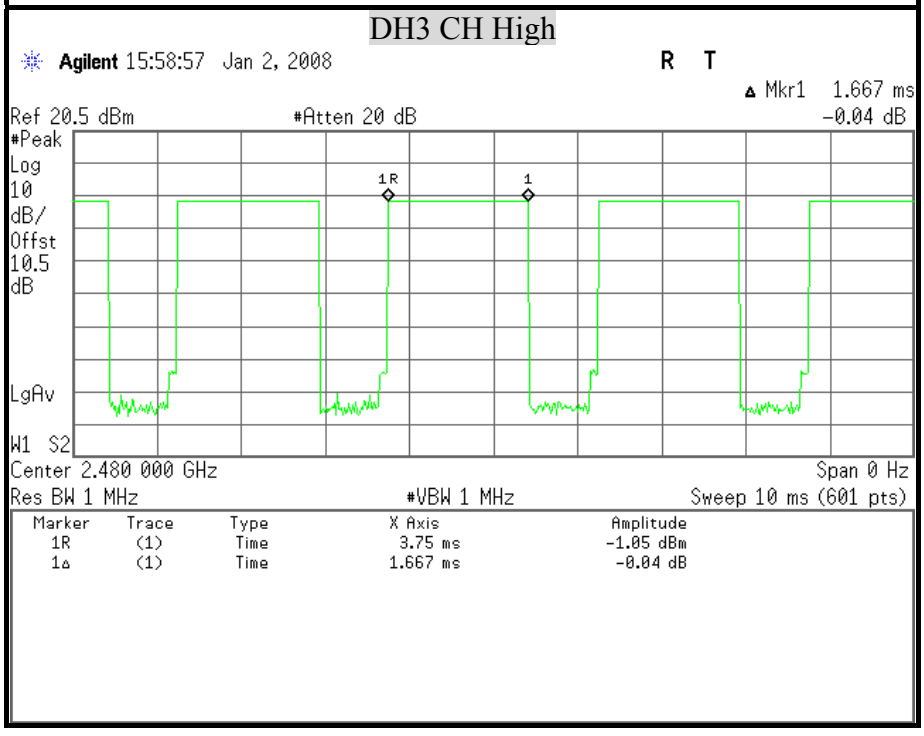
DH5 CH Mid


Agilent 15:55:35 Jan 2, 2008
R T
Mkr1 2.917 ms
0.58 dB
Ref 20.5 dBm
#Atten 20 dB
#Peak
Log
10
dB/
Offst
10.5
dB
1R
1
LgAv
W1 S2
Center 2.441 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 10 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 2.633 ms -1.74 dBm
1Δ (1) Time 2.917 ms 0.58 dB

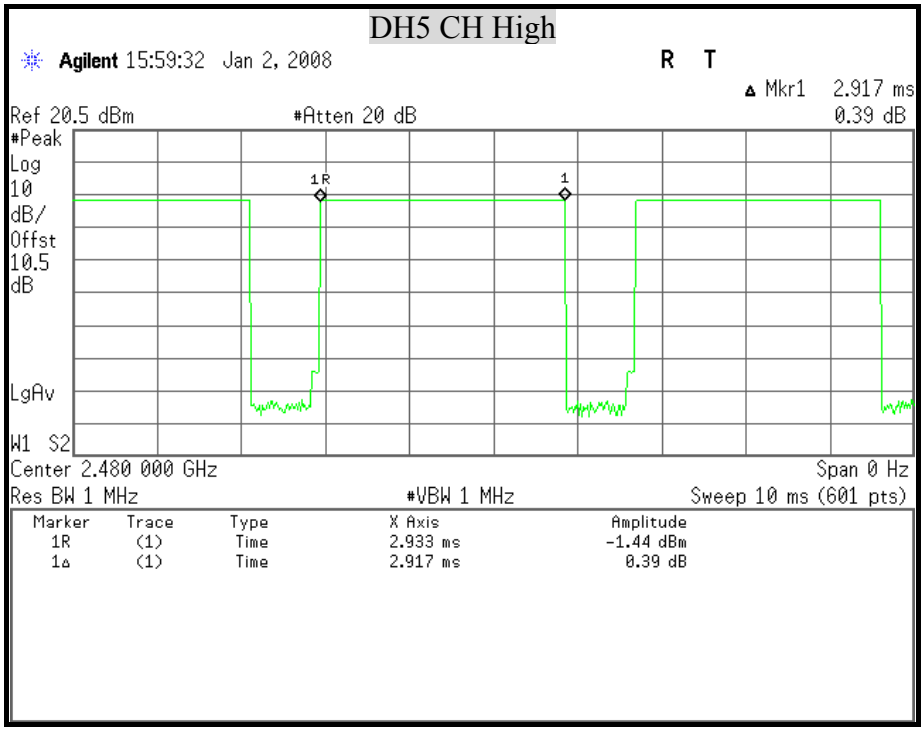
DH1 CH High



DH3 CH High



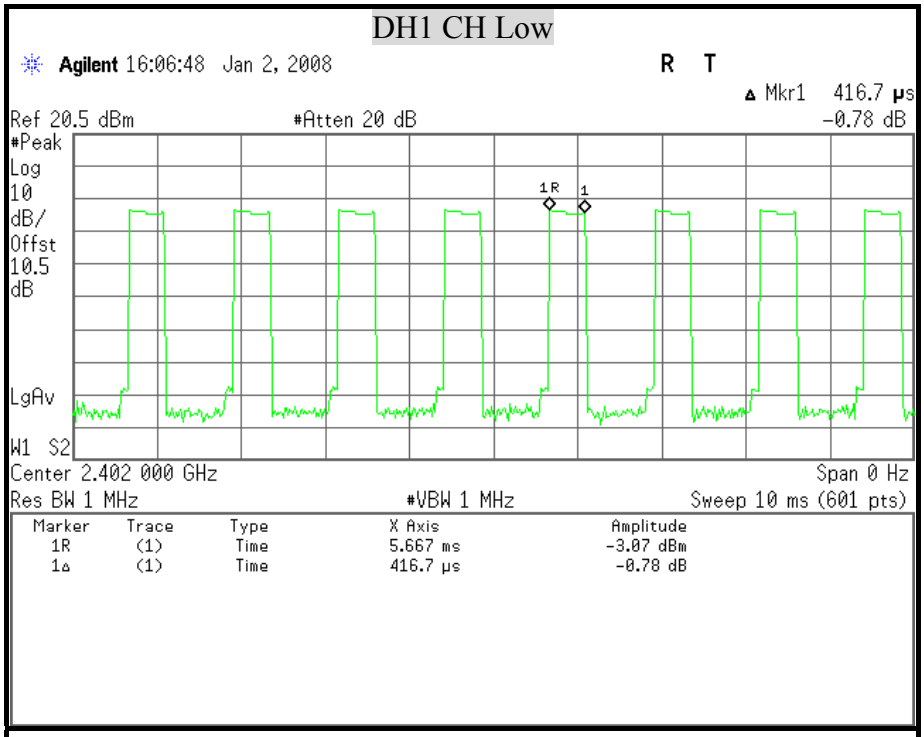
DH5 CH High


Agilent 15:59:32 Jan 2, 2008
R T
Mkr1 2.917 ms
0.39 dB
Ref 20.5 dBm
#Atten 20 dB
#Peak
Log
10
dB/
Offst
10.5
dB
1R
1
LgAv
W1 S2
Center 2.480 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 10 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 2.933 ms -1.44 dBm
1Δ (1) Time 2.917 ms 0.39 dB

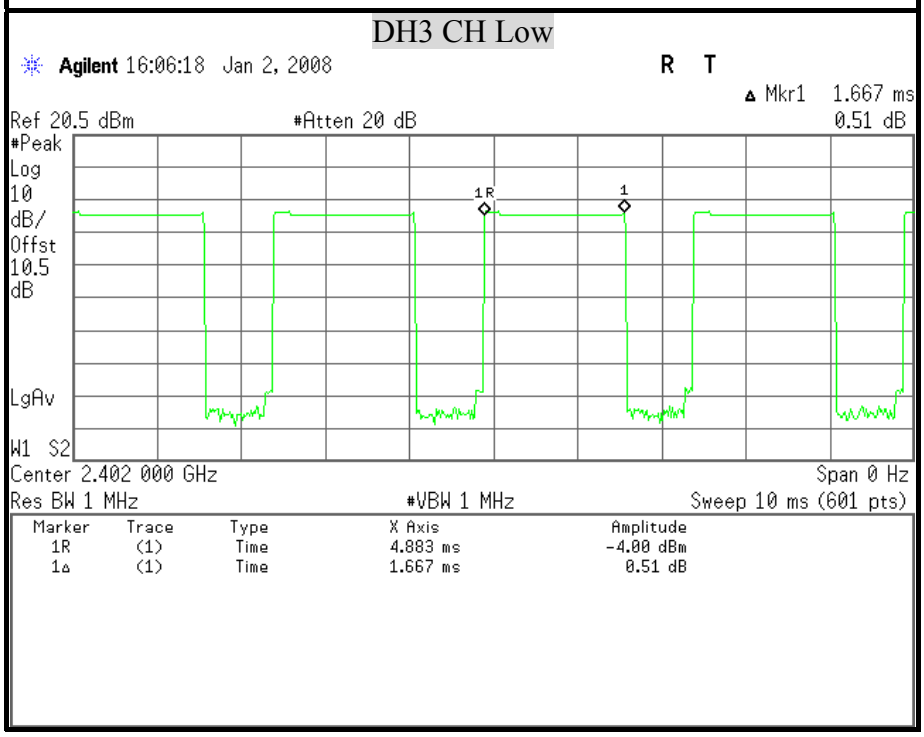
DWELL TIME-2 ON EACH PAYLOAD

8-DPSK

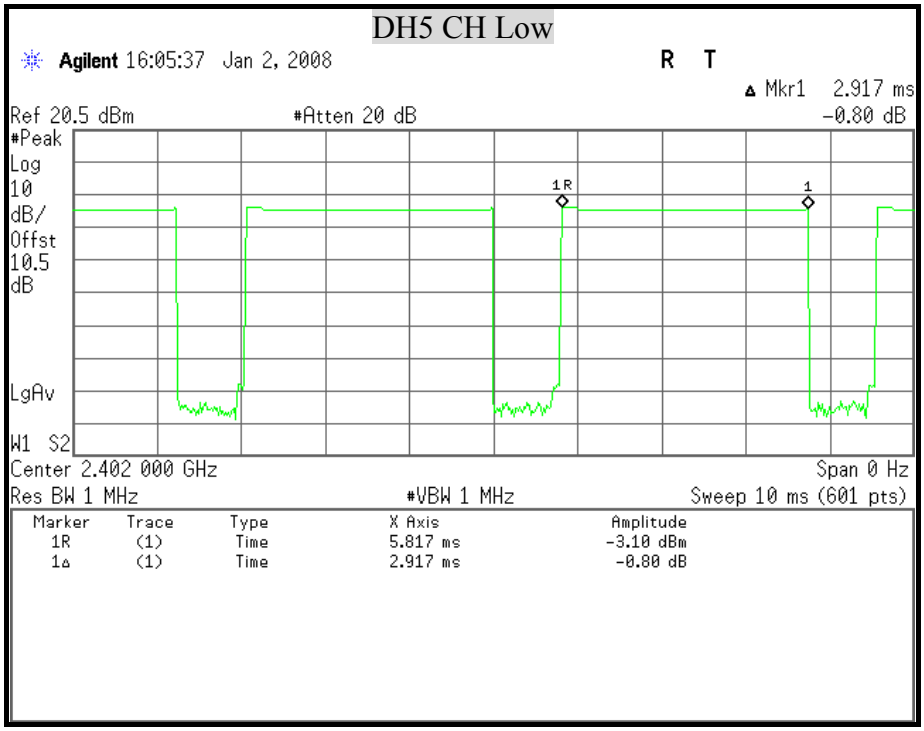
DH1 CH Low



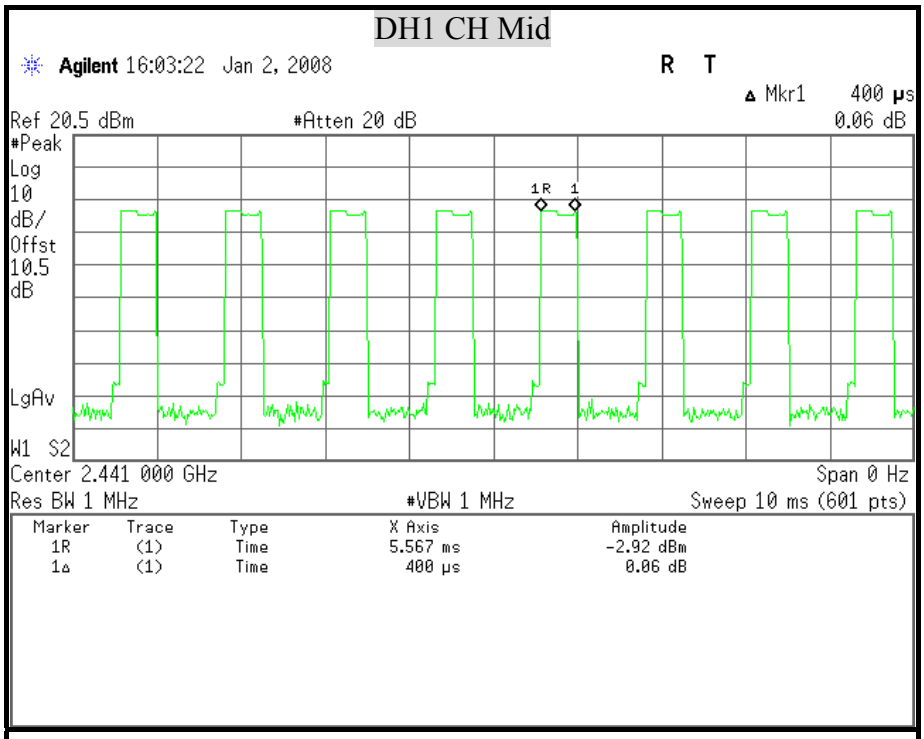
DH3 CH Low



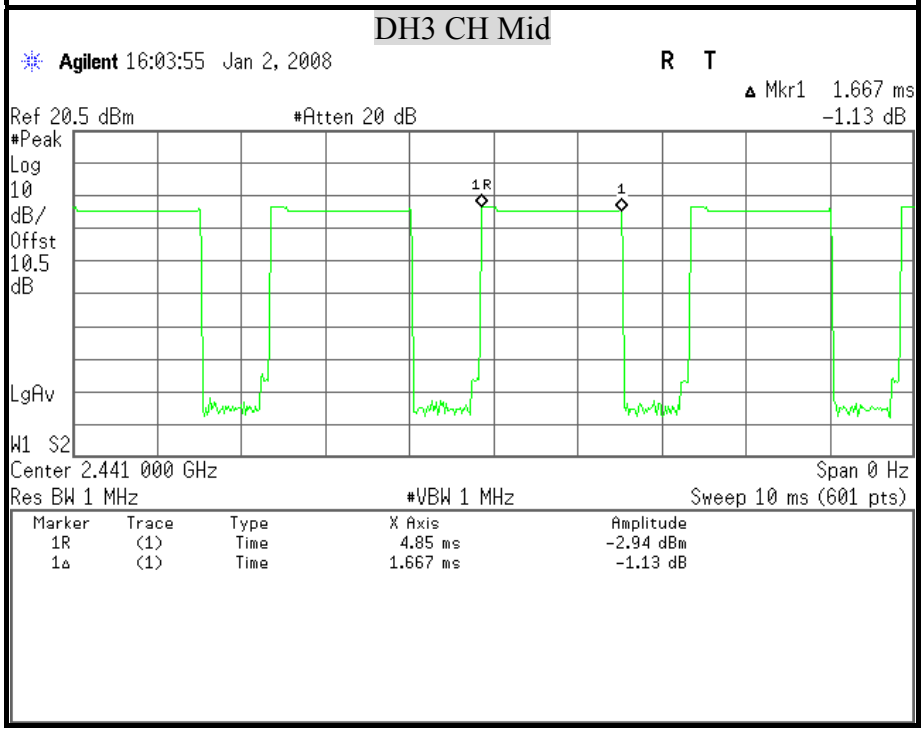
DH5 CH Low


Agilent 16:05:37 Jan 2, 2008
R T
Mkr1 2.917 ms
Ref 20.5 dBm
#Atten 20 dB
-0.80 dB
#Peak
Log
10
dB/
Offst
10.5
dB
1R
1
LgAv
W1 S2
Center 2.402 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 10 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 5.817 ms -3.10 dBm
1Δ (1) Time 2.917 ms -0.80 dB

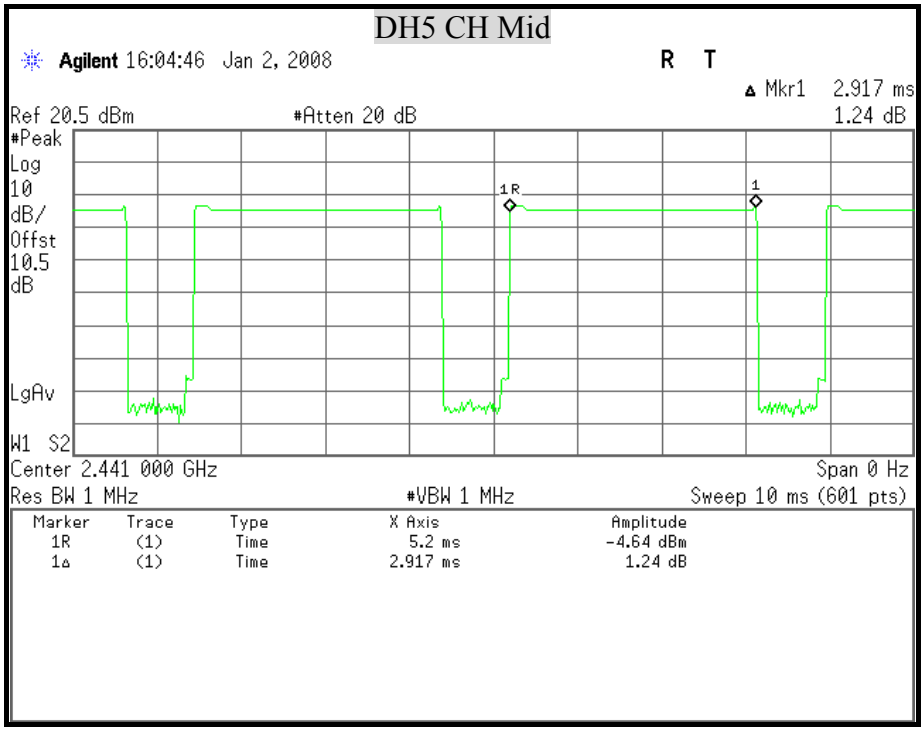
DH1 CH Mid



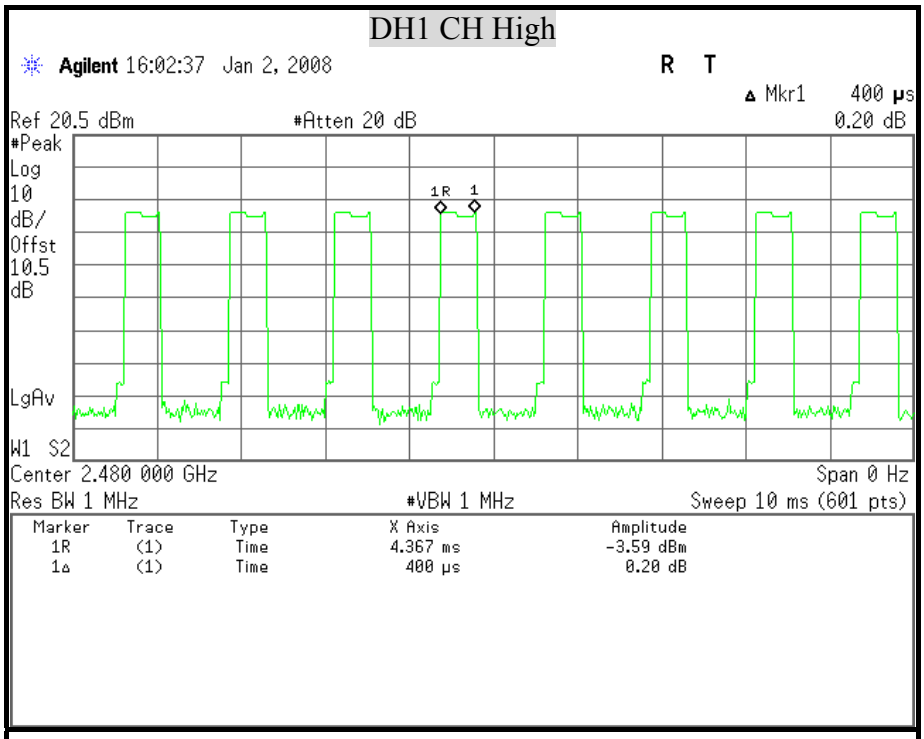
DH3 CH Mid



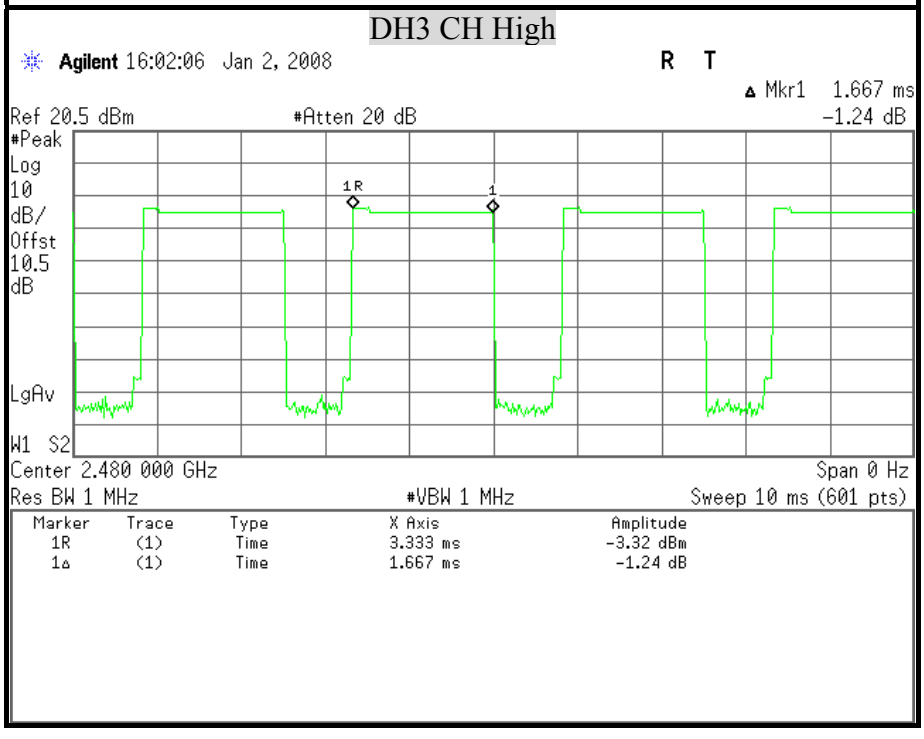
DH5 CH Mid


Agilent 16:04:46 Jan 2, 2008
R T
Mkr1 2.917 ms
1.24 dB
Ref 20.5 dBm
#Atten 20 dB
#Peak
Log
10
dB/
Offst
10.5
dB
1R
1
LgAv
W1 S2
Center 2.441 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 10 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 5.2 ms -4.64 dBm
1Δ (1) Time 2.917 ms 1.24 dB

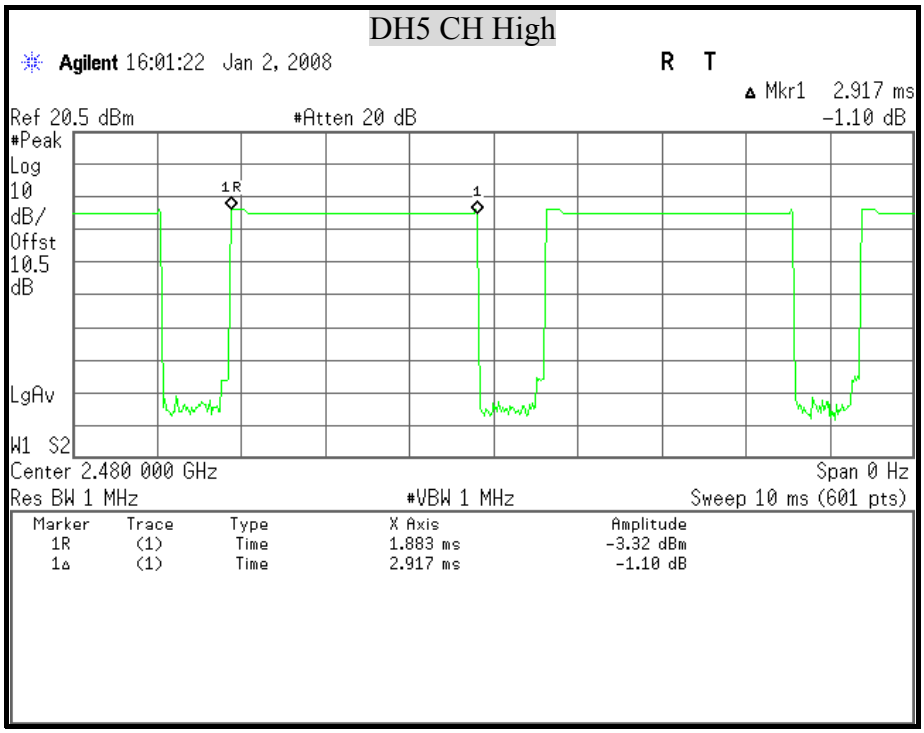
DH1 CH High



DH3 CH High



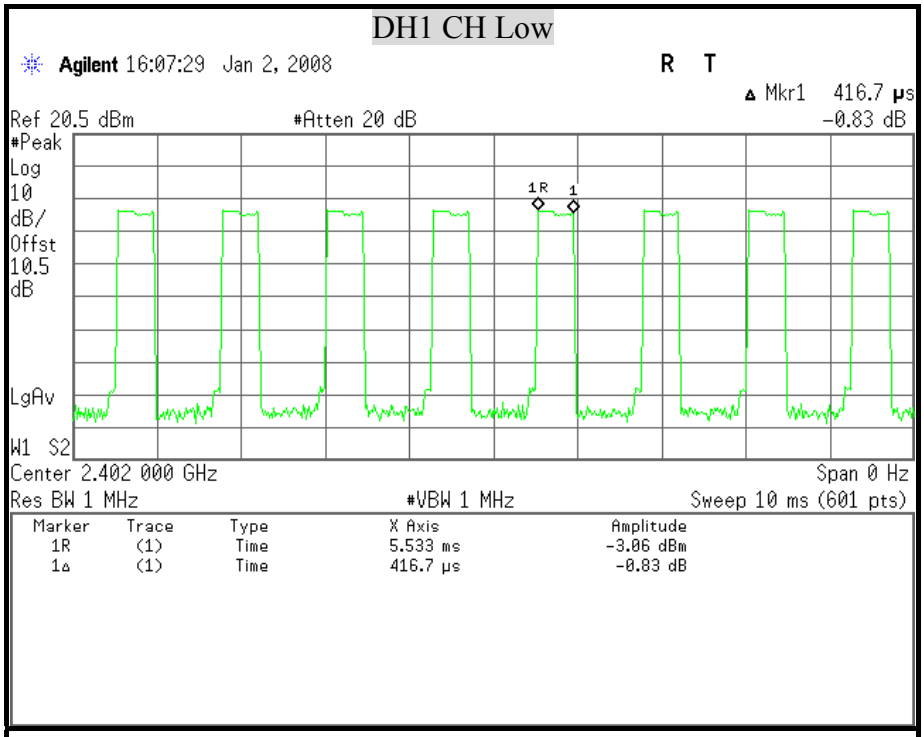
DH5 CH High


Agilent 16:01:22 Jan 2, 2008
R T
Mkr1 2.917 ms
Ref 20.5 dBm
#Atten 20 dB
-1.10 dB
#Peak
Log
10
dB/
Offst
10.5
dB
1R
1
LgAv
W1 S2
Center 2.480 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 10 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 1.883 ms -3.32 dBm
1Δ (1) Time 2.917 ms -1.10 dB

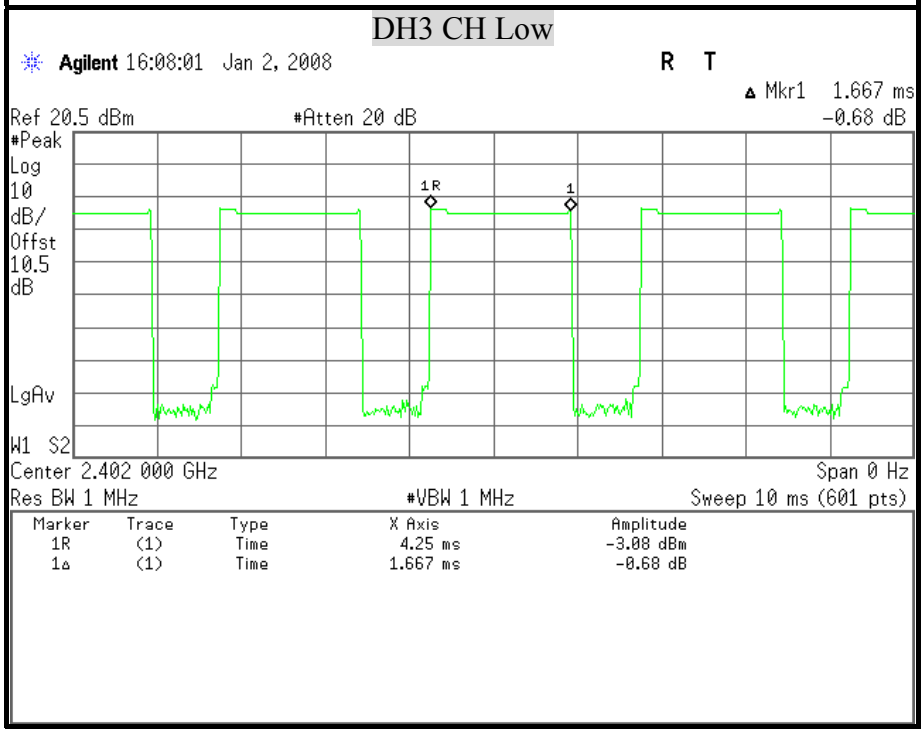
DWELL TIME-3 ON EACH PAYLOAD

8-DPSK

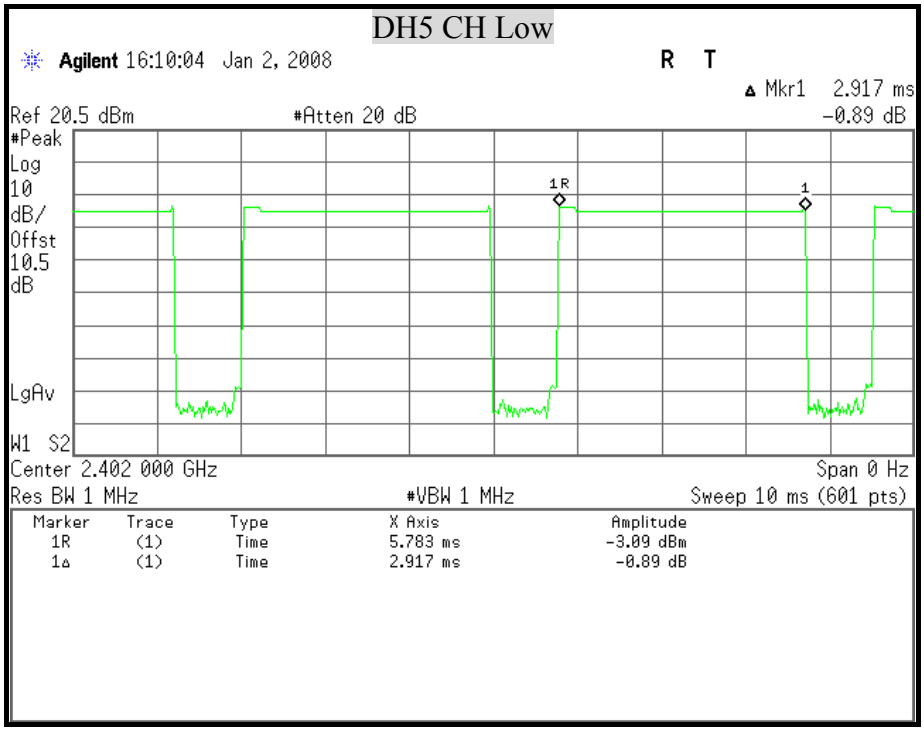
DH1 CH Low



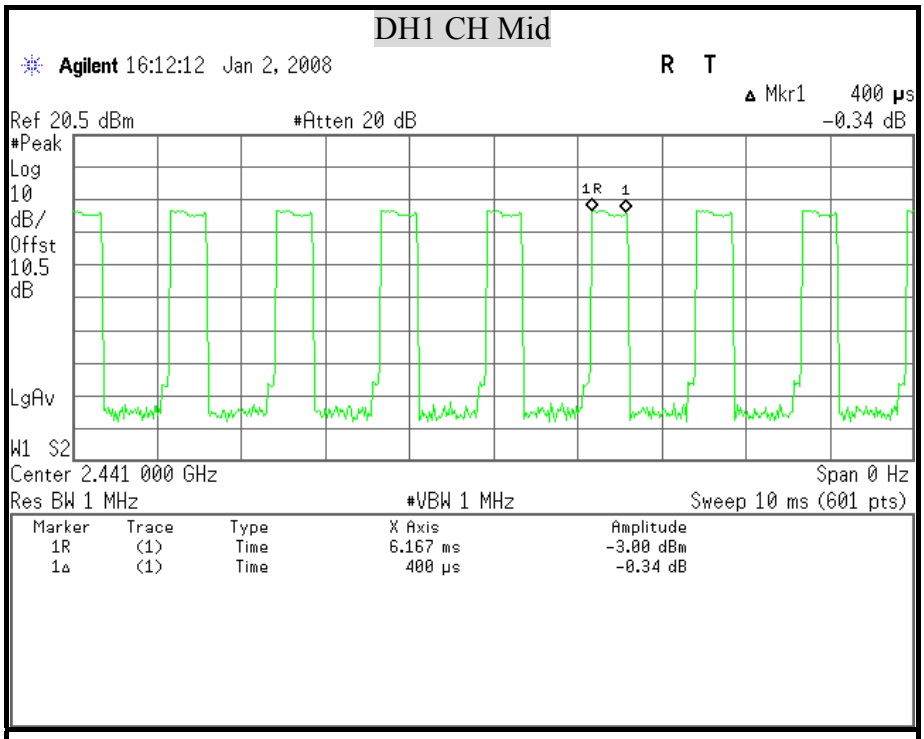
DH3 CH Low



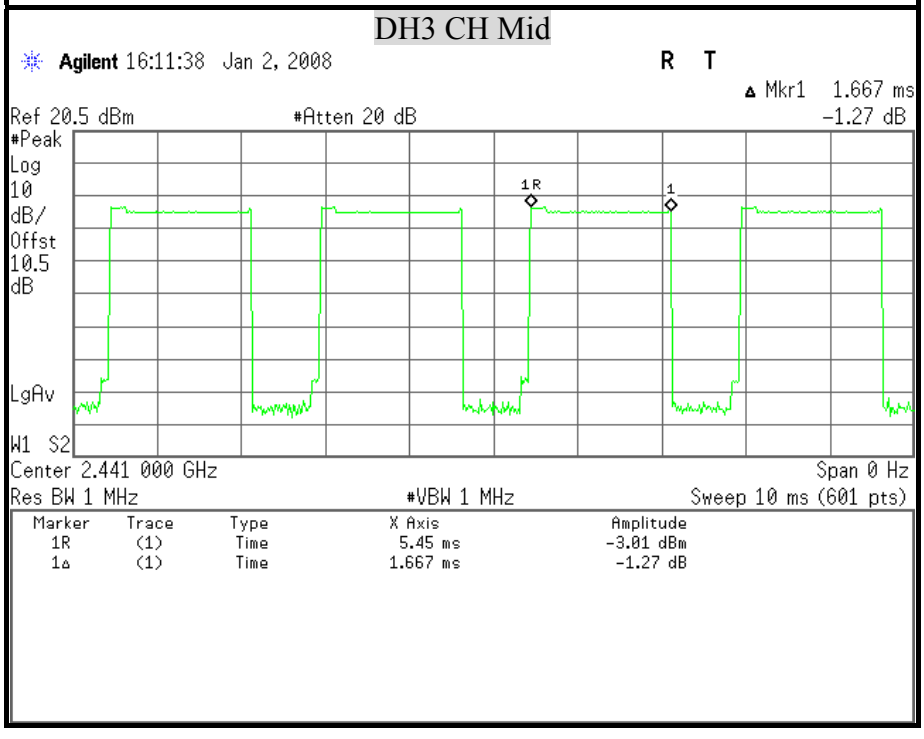
DH5 CH Low


Agilent 16:10:04 Jan 2, 2008
R T
Mkr1 2.917 ms
Ref 20.5 dBm
#Atten 20 dB
-0.89 dB
#Peak
Log
10
dB/
Offst
10.5
dB
1R
1
LgAv
W1 S2
Center 2.402 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 10 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 5.783 ms -3.09 dBm
1Δ (1) Time 2.917 ms -0.89 dB

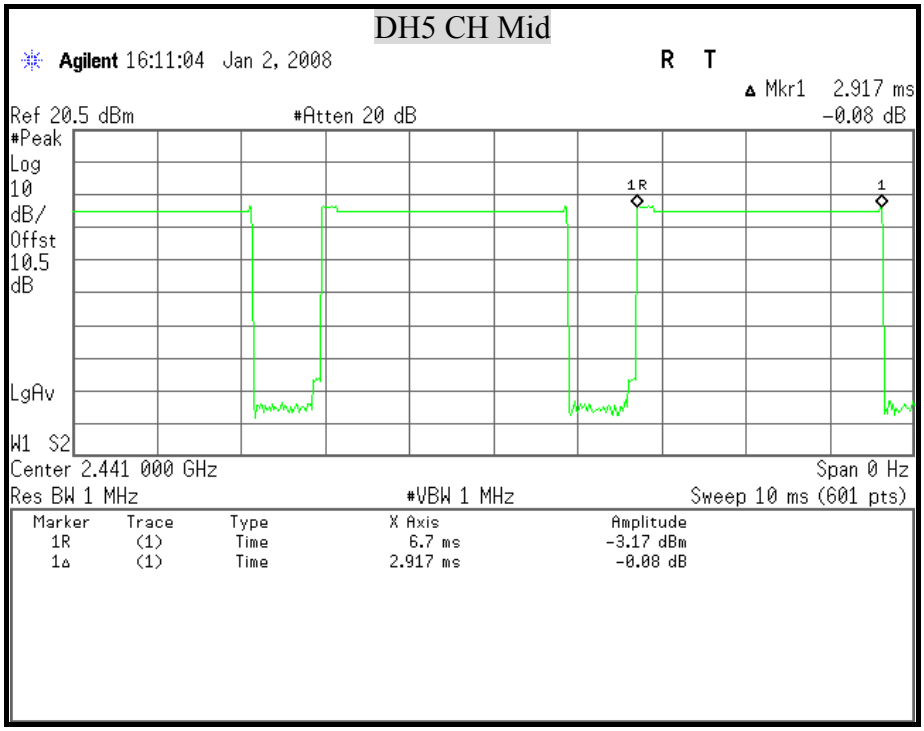
DH1 CH Mid



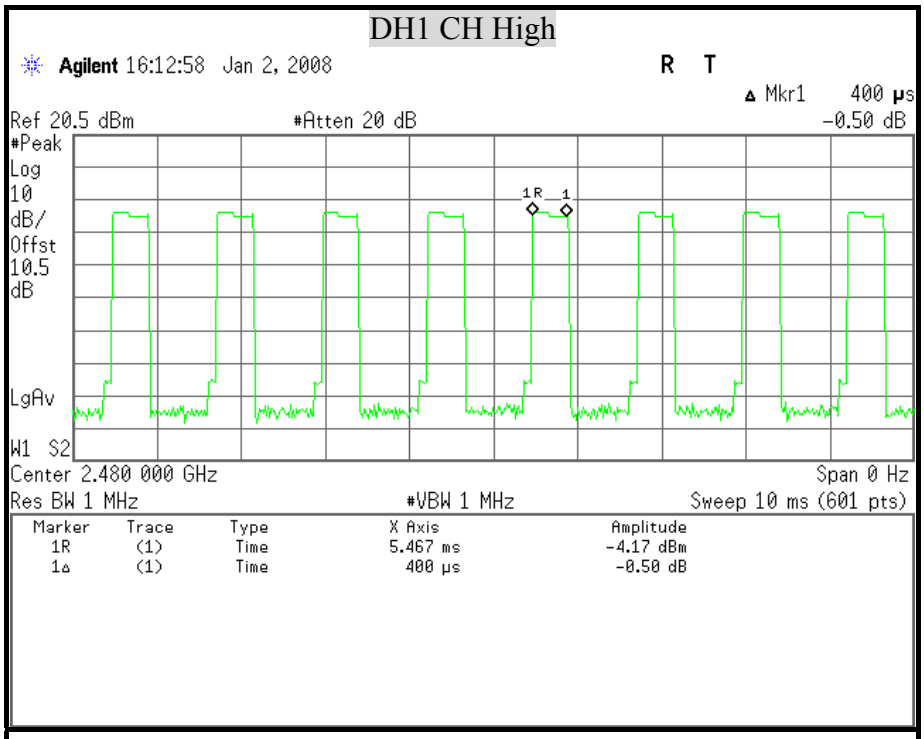
DH3 CH Mid



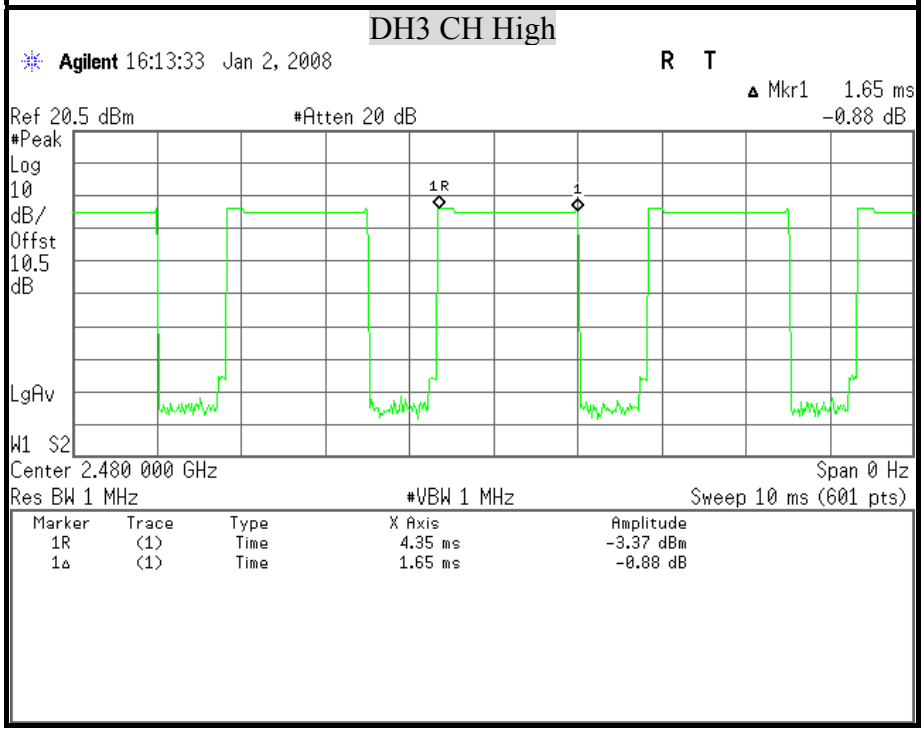
DH5 CH Mid


Agilent 16:11:04 Jan 2, 2008
R T
Mkr1 2.917 ms
Ref 20.5 dBm
#Atten 20 dB
-0.08 dB
#Peak
Log
10
dB/
Offst
10.5
dB
1R
1
LgAv
W1 S2
Center 2.441 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 10 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 6.7 ms -3.17 dBm
1Δ (1) Time 2.917 ms -0.08 dB

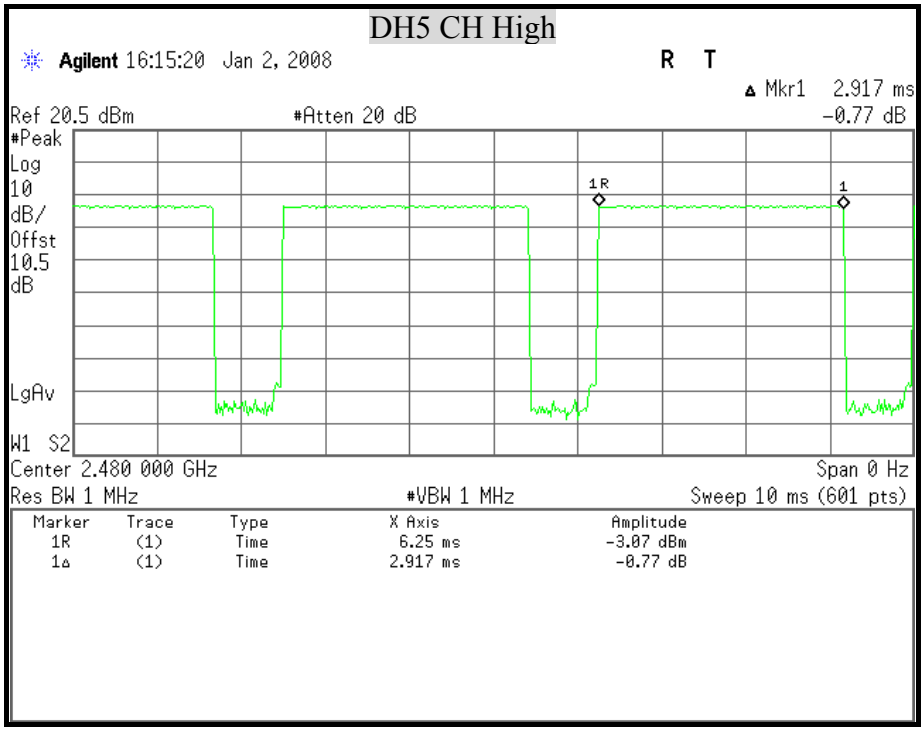
DH1 CH High



DH3 CH High



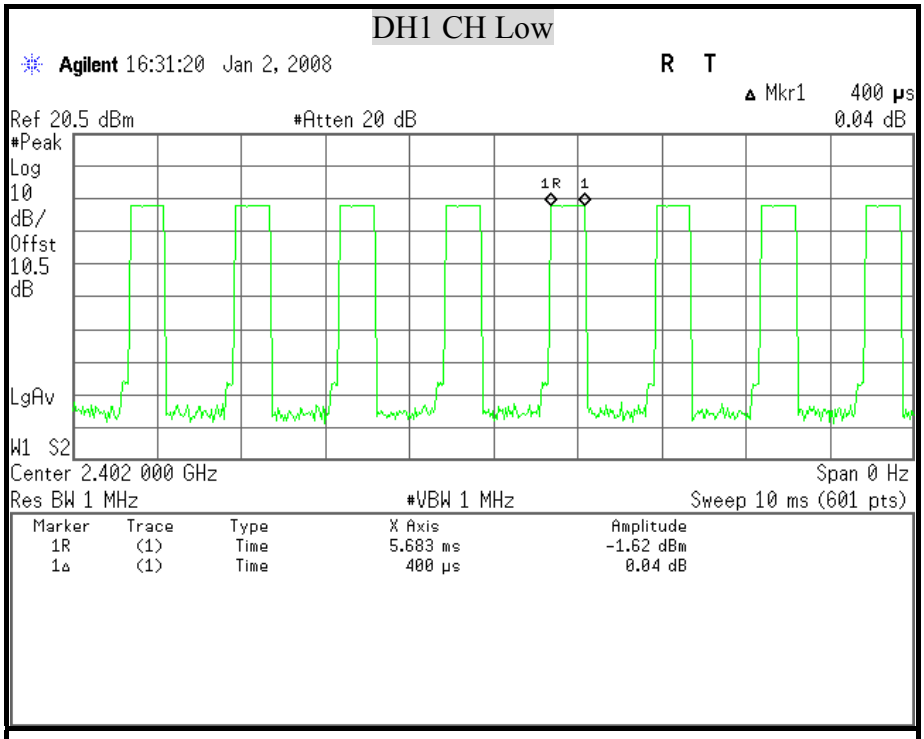
DH5 CH High


Agilent 16:15:20 Jan 2, 2008
R T
Mkr1 2.917 ms
Ref 20.5 dBm
#Atten 20 dB
-0.77 dB
#Peak
Log
10
dB/
Offst
10.5
dB
1R
1
LgAv
W1 S2
Center 2.480 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 10 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 6.25 ms -3.07 dBm
1Δ (1) Time 2.917 ms -0.77 dB

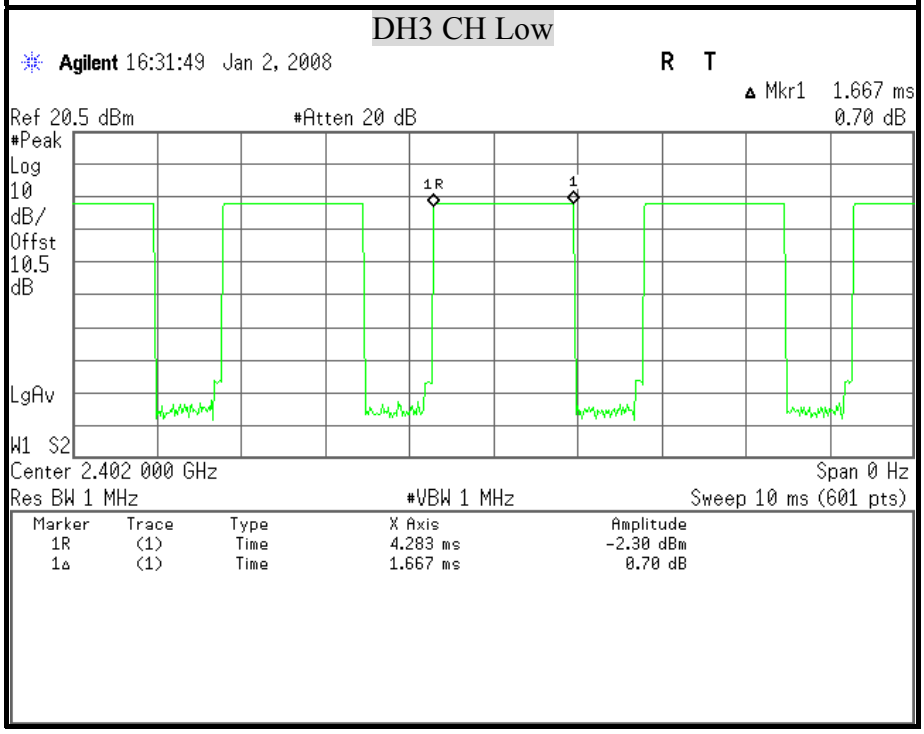
DWELL TIME-1 ON EACH PAYLOAD

GFSK

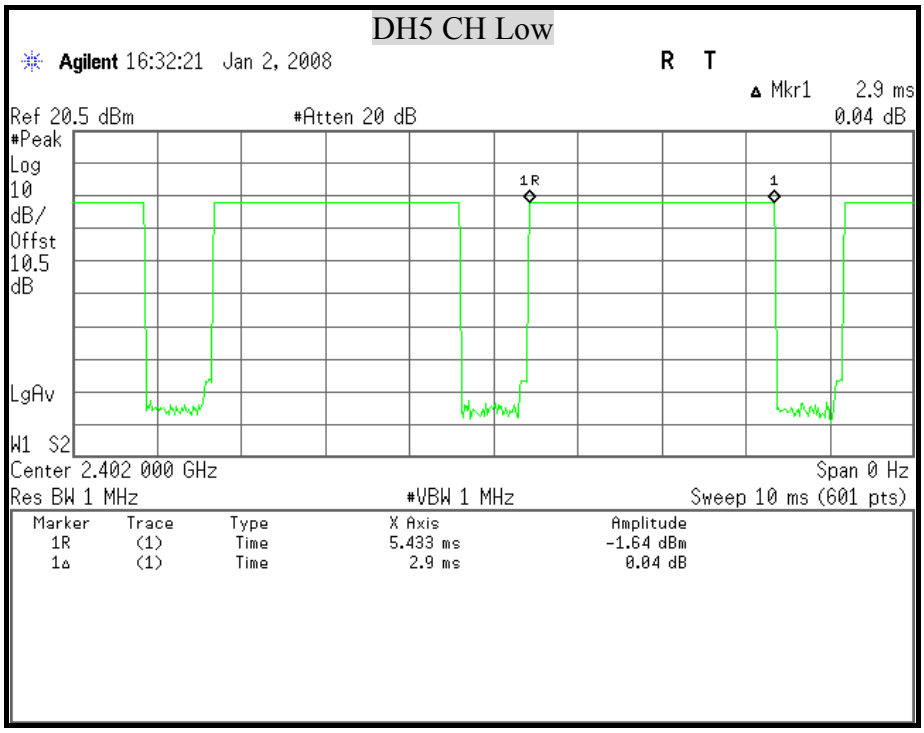
DH1 CH Low



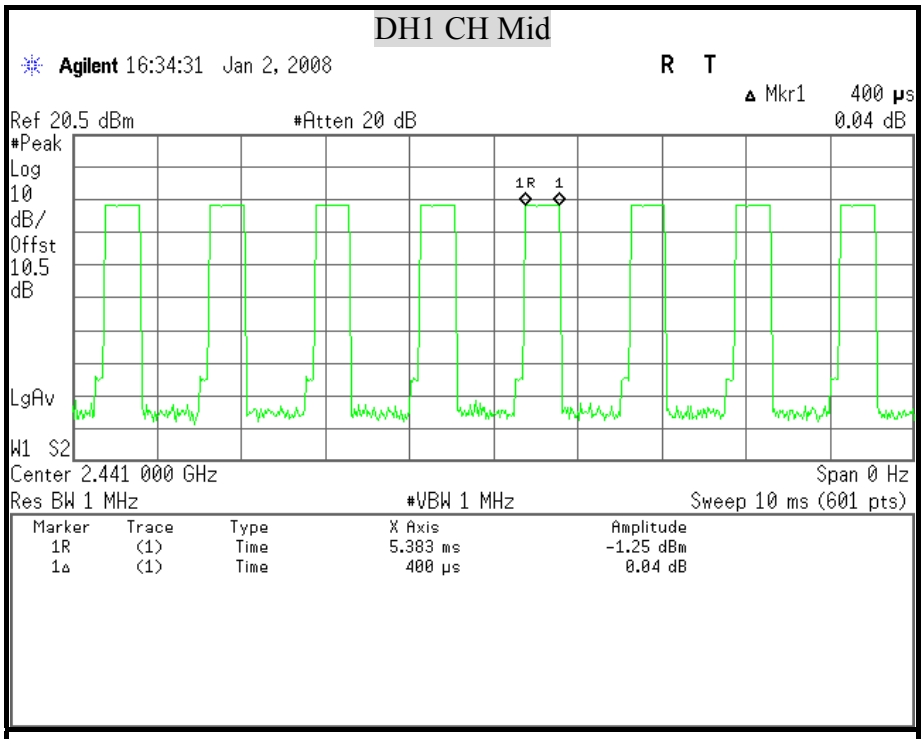
DH3 CH Low



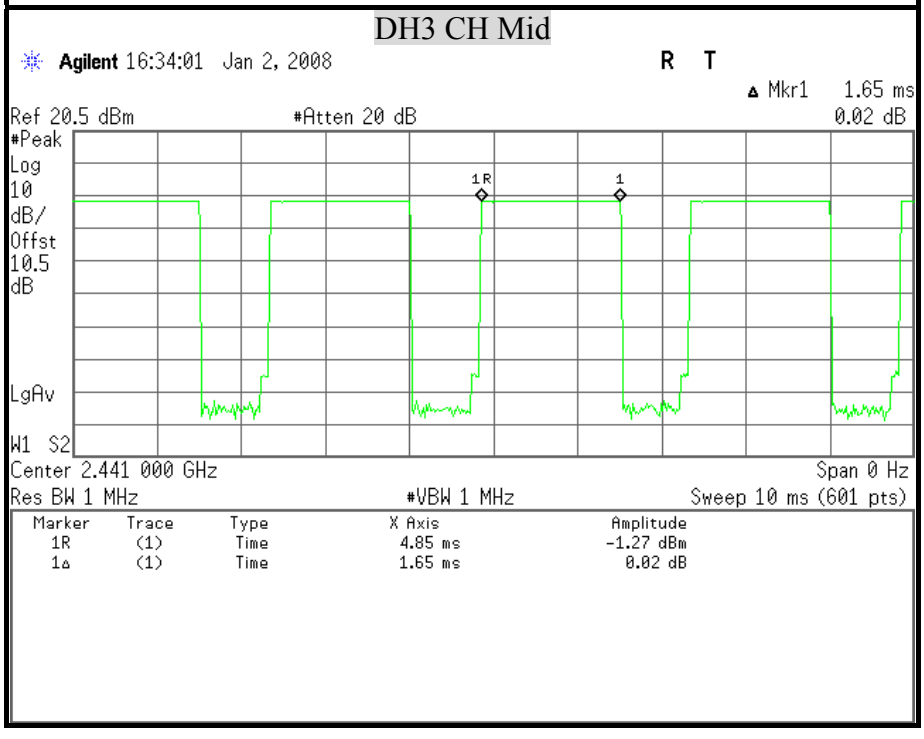
DH5 CH Low


Agilent 16:32:21 Jan 2, 2008
R T
Mkr1 2.9 ms
Ref 20.5 dBm
#Atten 20 dB
0.04 dB
#Peak
Log
10
dB/
Offst
10.5
dB
1R
1
LgAv
W1 S2
Center 2.402 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 10 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 5.433 ms -1.64 dBm
1Δ (1) Time 2.9 ms 0.04 dB

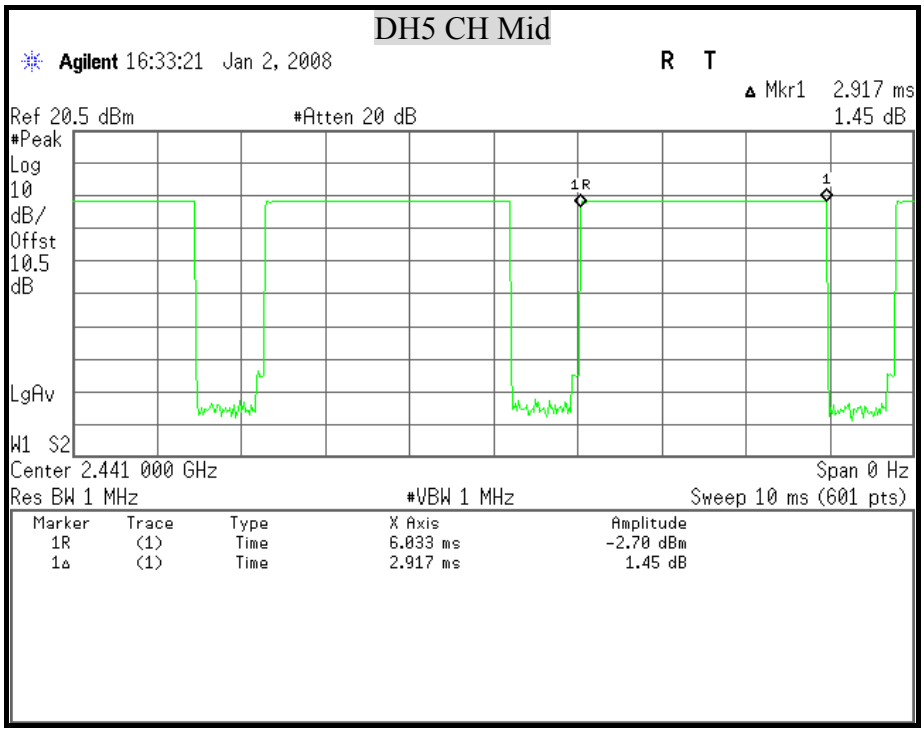
DH1 CH Mid



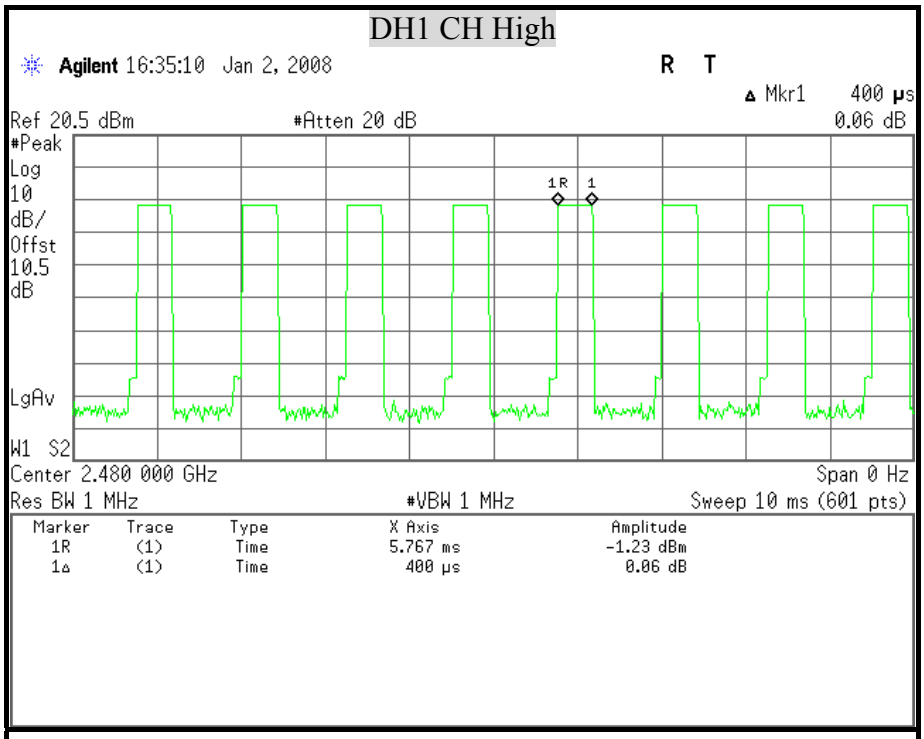
DH3 CH Mid



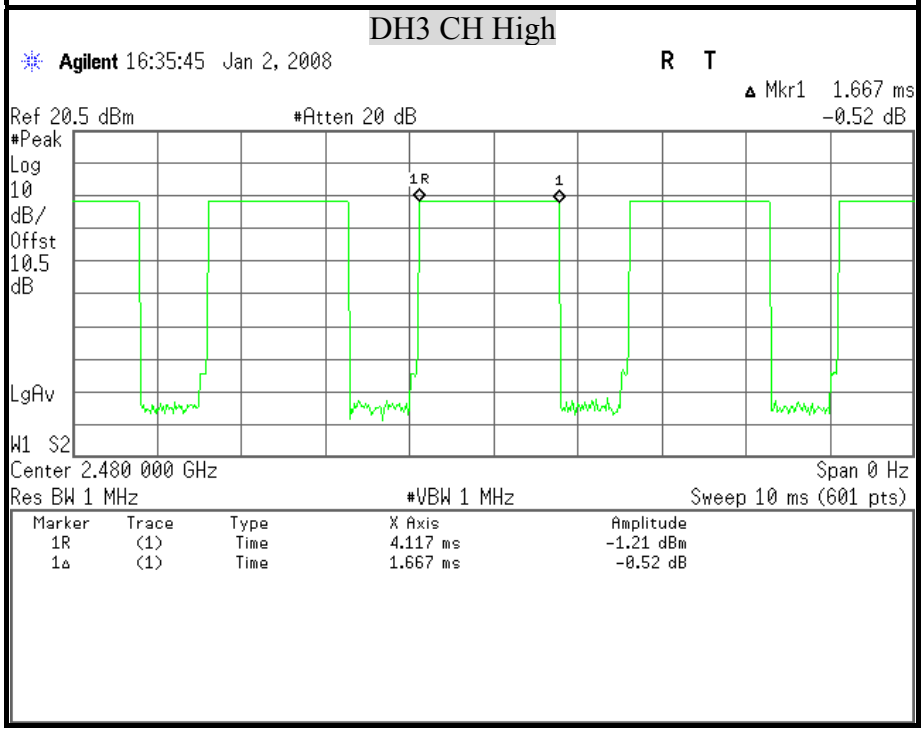
DH5 CH Mid


Agilent 16:33:21 Jan 2, 2008
R T
Δ Mkr1 2.917 ms
Ref 20.5 dBm
#Atten 20 dB
1.45 dB
#Peak
Log
10
dB/
Offst
10.5
dB
1R
1
LgAv
W1 S2
Center 2.441 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 10 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 6.033 ms -2.70 dBm
1Δ (1) Time 2.917 ms 1.45 dB

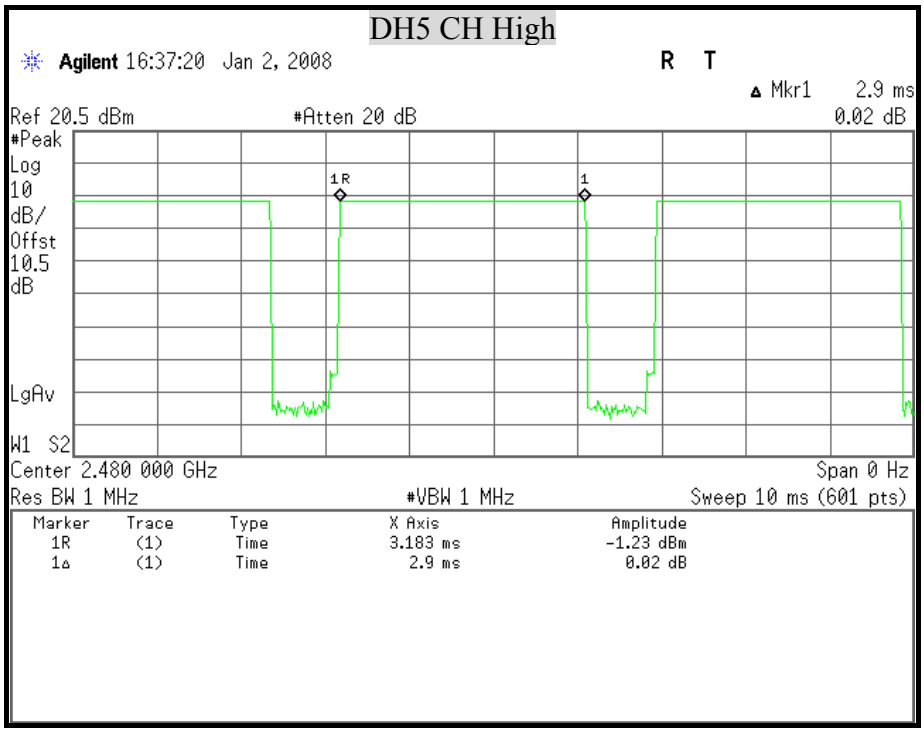
DH1 CH High



DH3 CH High



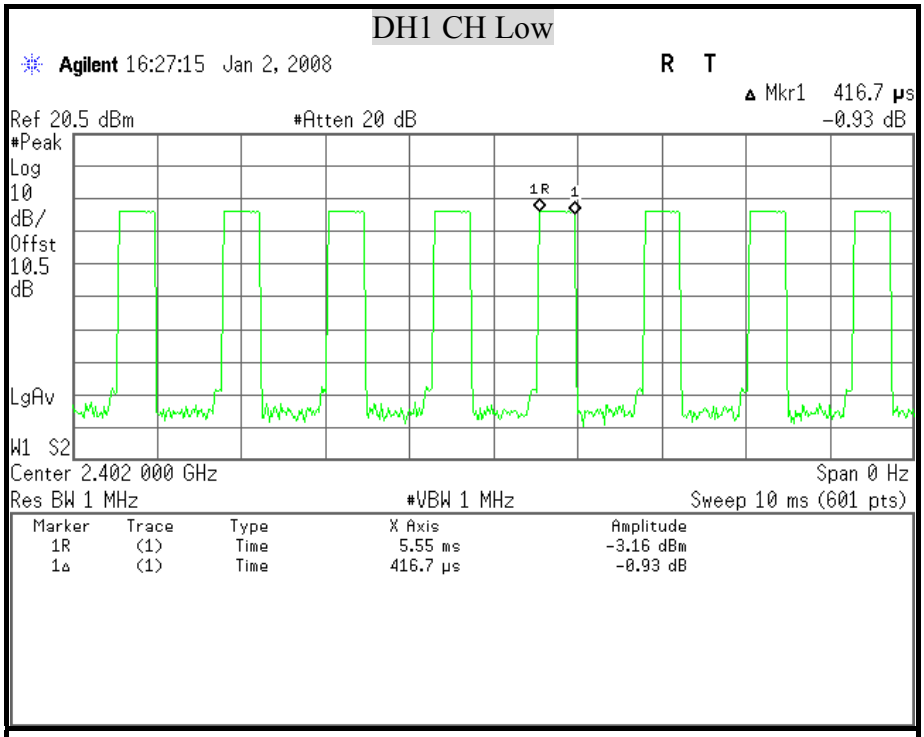
DH5 CH High


Agilent 16:37:20 Jan 2, 2008
R T
Mkr1 2.9 ms
Ref 20.5 dBm
#Atten 20 dB
0.02 dB
#Peak
Log
10
dB/
Offst
10.5
dB
1R
1
LgAv
W1 S2
Center 2.480 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 10 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 3.183 ms -1.23 dBm
1Δ (1) Time 2.9 ms 0.02 dB

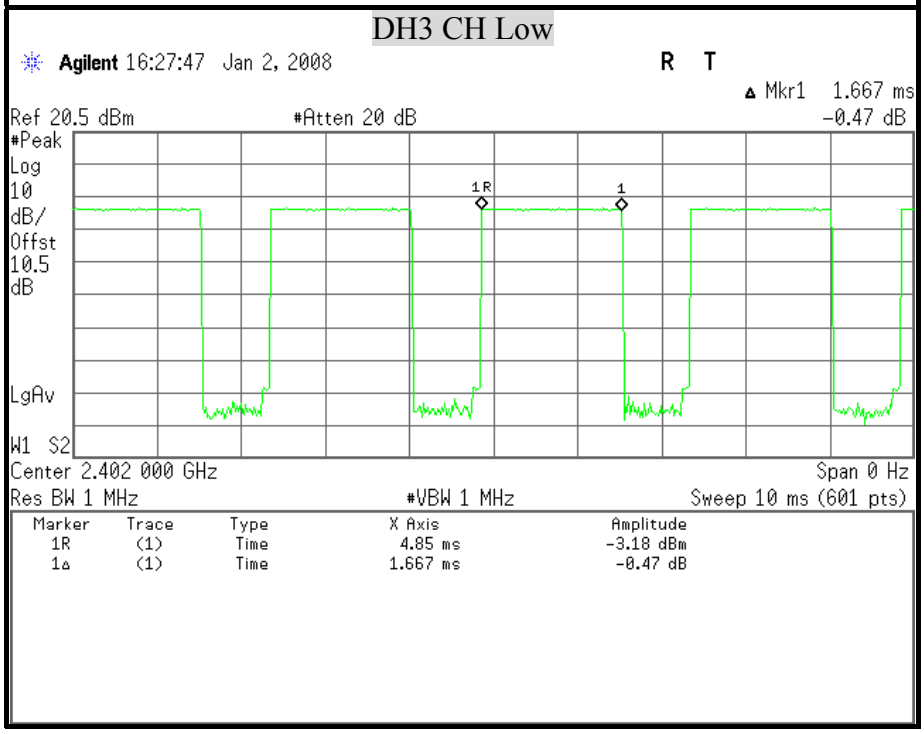
DWELL TIME-2 ON EACH PAYLOAD

GFSK

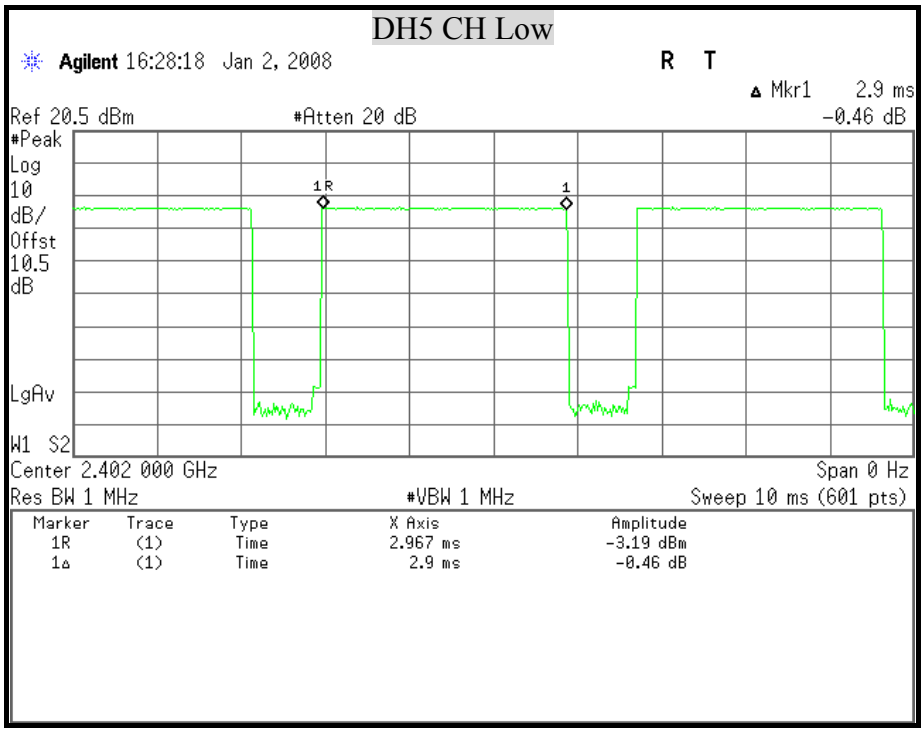
DH1 CH Low



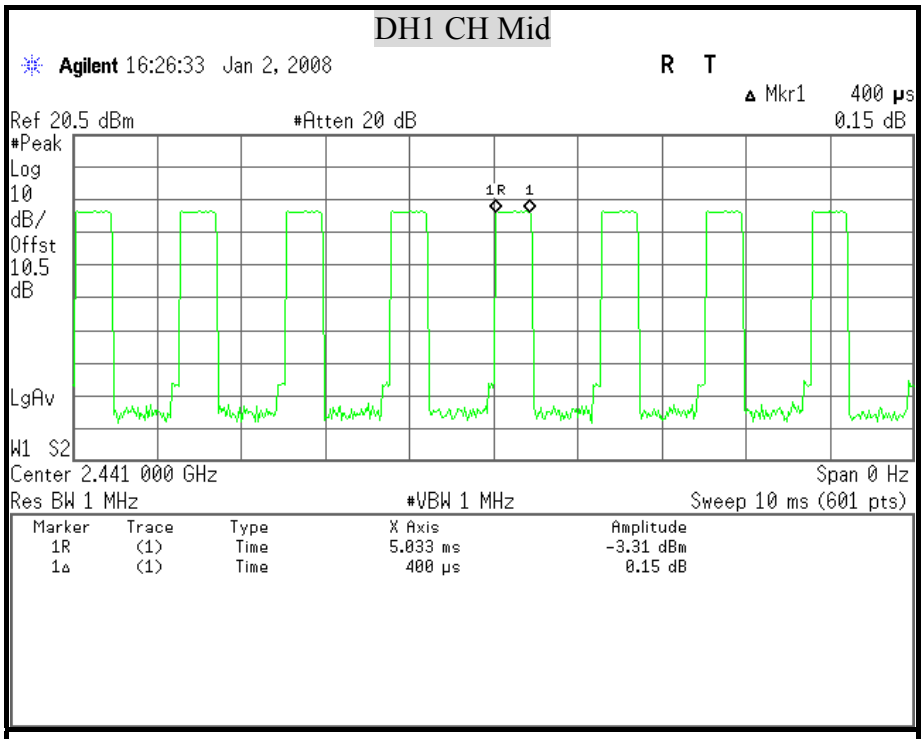
DH3 CH Low



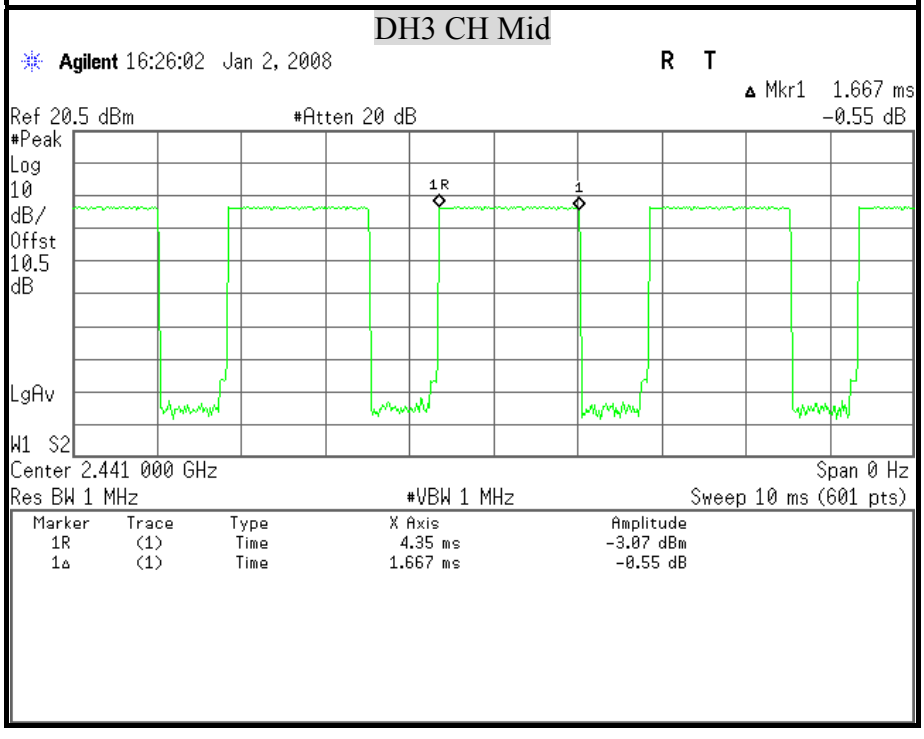
DH5 CH Low


Agilent 16:28:18 Jan 2, 2008
R T
Mkr1 2.9 ms
Ref 20.5 dBm
#Atten 20 dB
-0.46 dB
#Peak
Log
10
dB/
Offst
10.5
dB
1R
1
LgAv
W1 S2
Center 2.402 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 10 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 2.967 ms -3.19 dBm
1Δ (1) Time 2.9 ms -0.46 dB

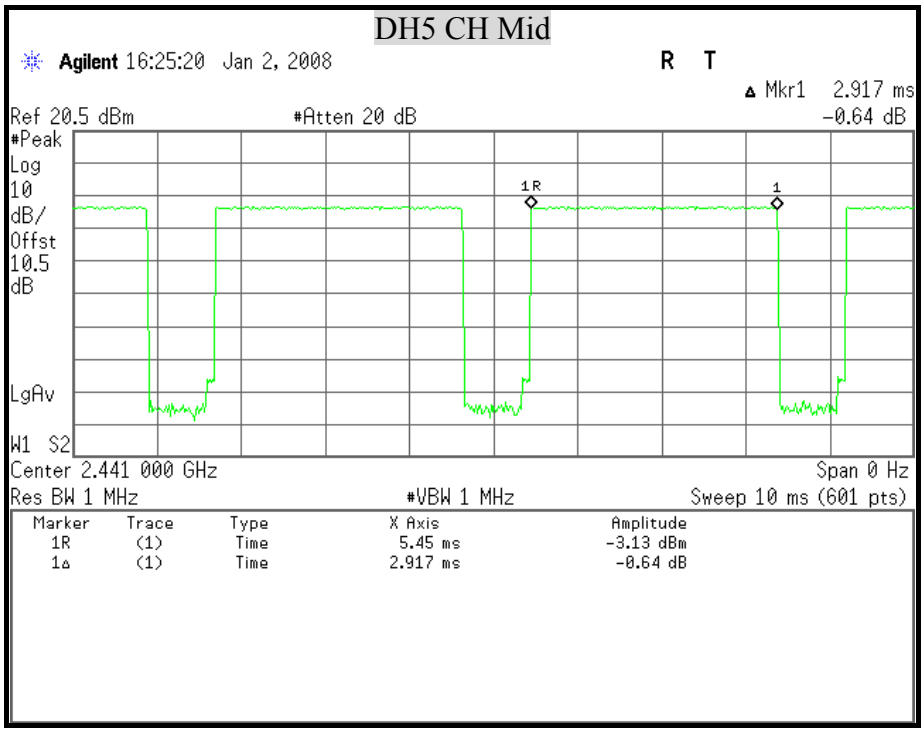
DH1 CH Mid



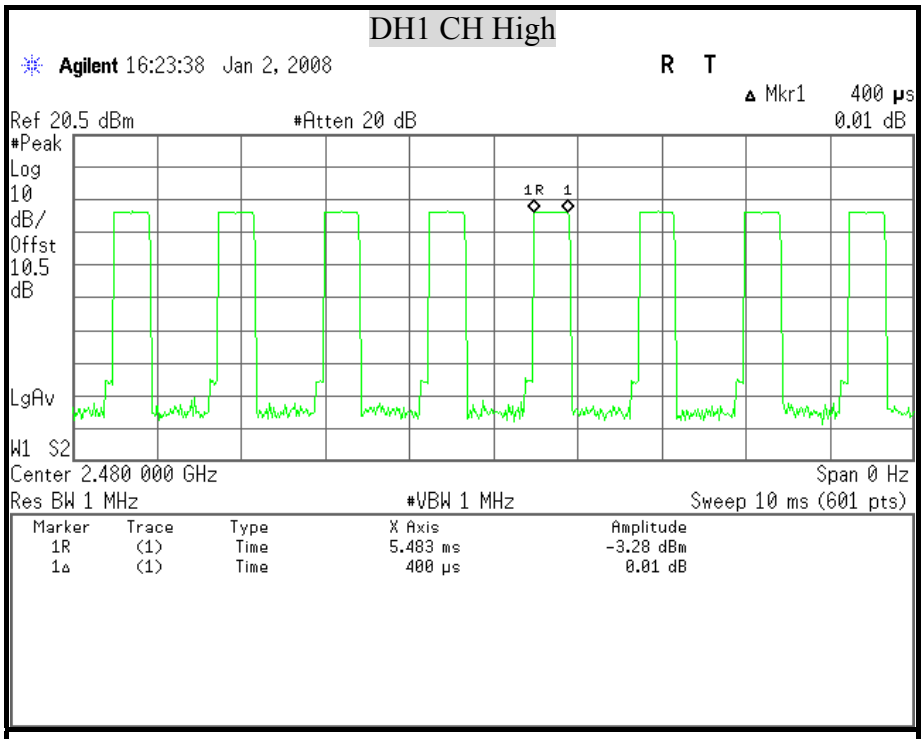
DH3 CH Mid



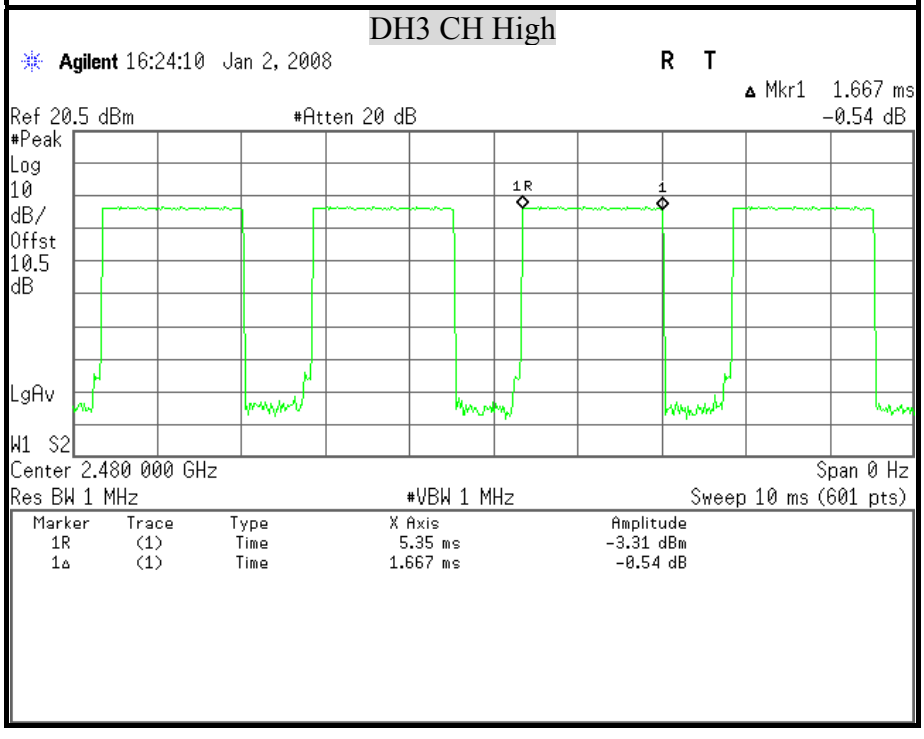
DH5 CH Mid


Agilent 16:25:20 Jan 2, 2008
R T
Mkr1 2.917 ms
Ref 20.5 dBm
#Atten 20 dB
-0.64 dB
#Peak
Log
10
dB/
Offst
10.5
dB
1R
1
LgAv
W1 S2
Center 2.441 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 10 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 5.45 ms -3.13 dBm
1Δ (1) Time 2.917 ms -0.64 dB

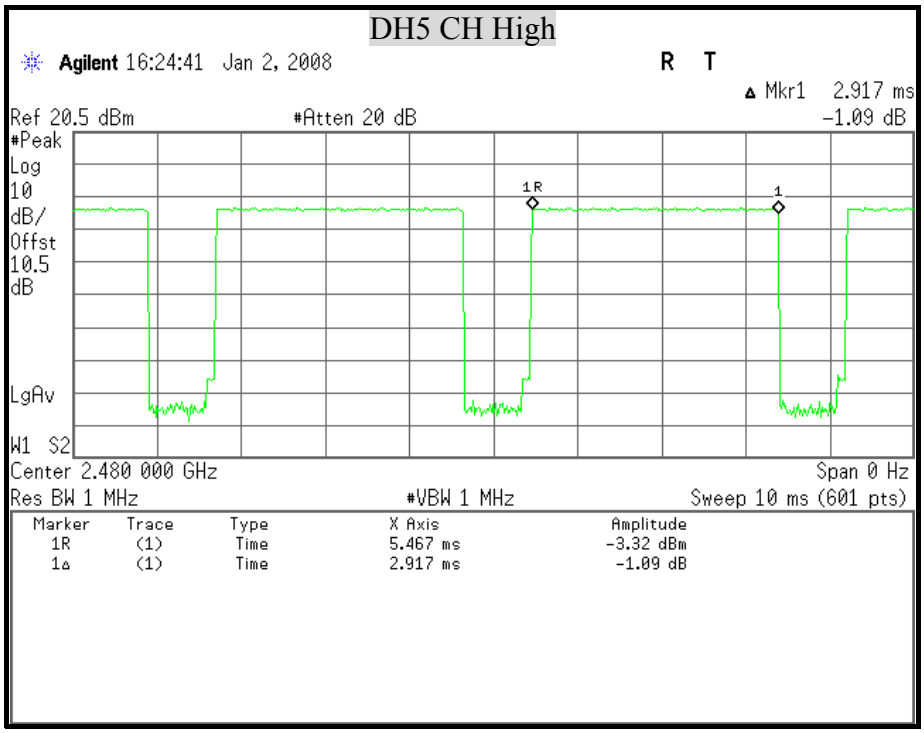
DH1 CH High



DH3 CH High



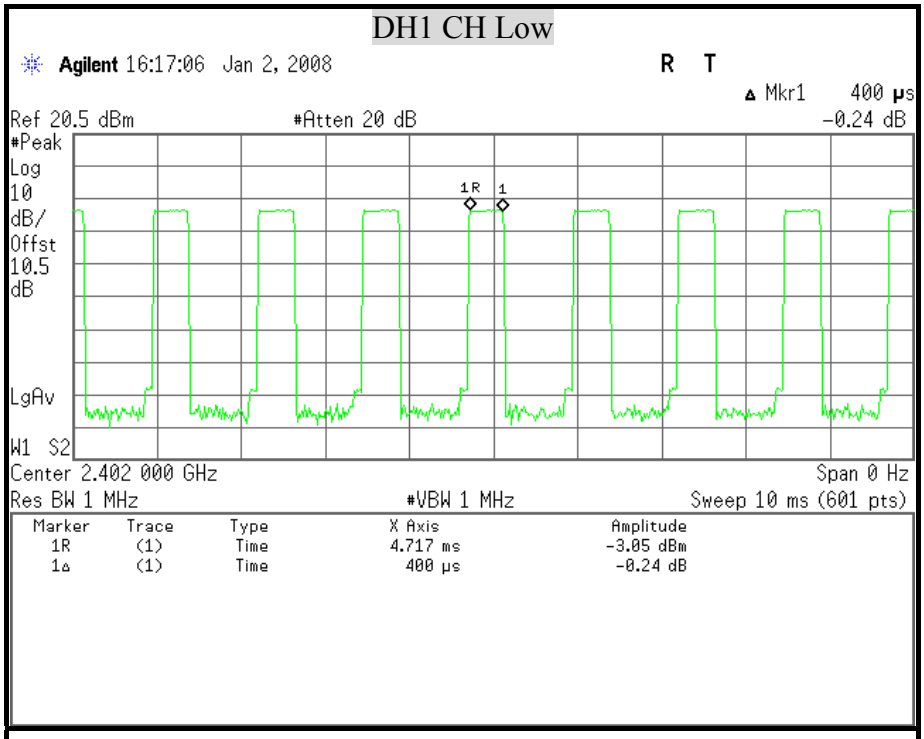
DH5 CH High


Agilent 16:24:41 Jan 2, 2008
R T
Mkr1 2.917 ms
Ref 20.5 dBm
#Atten 20 dB
-1.09 dB
#Peak
Log
10
dB/
Offst
10.5
dB
1R
1
LgAv
W1 S2
Center 2.480 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 10 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 5.467 ms -3.32 dBm
1Δ (1) Time 2.917 ms -1.09 dB

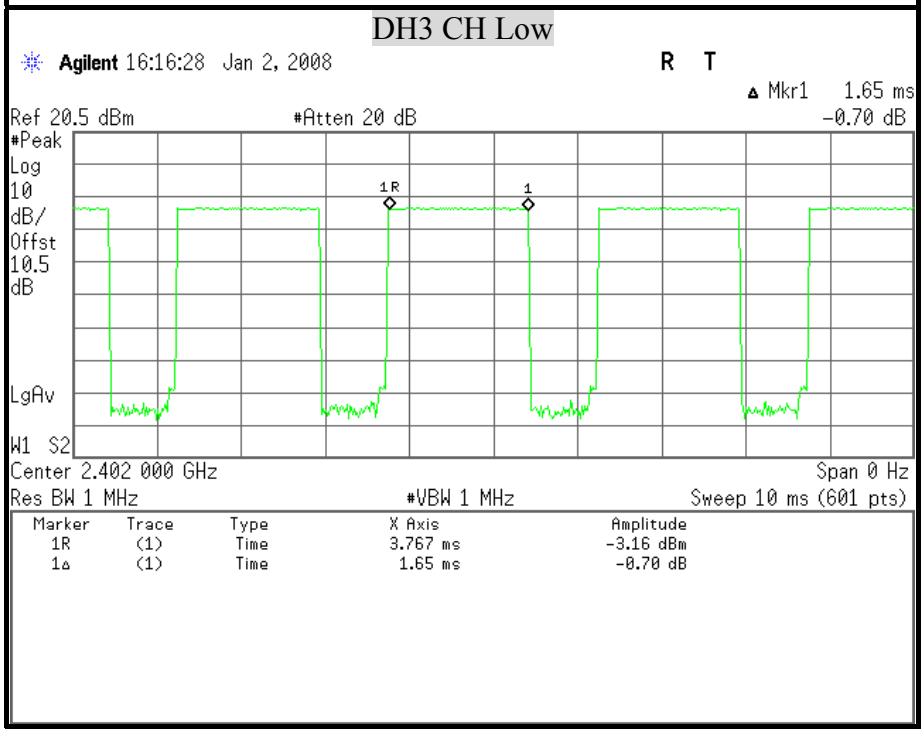
DWELL TIME-3 ON EACH PAYLOAD

GFSK

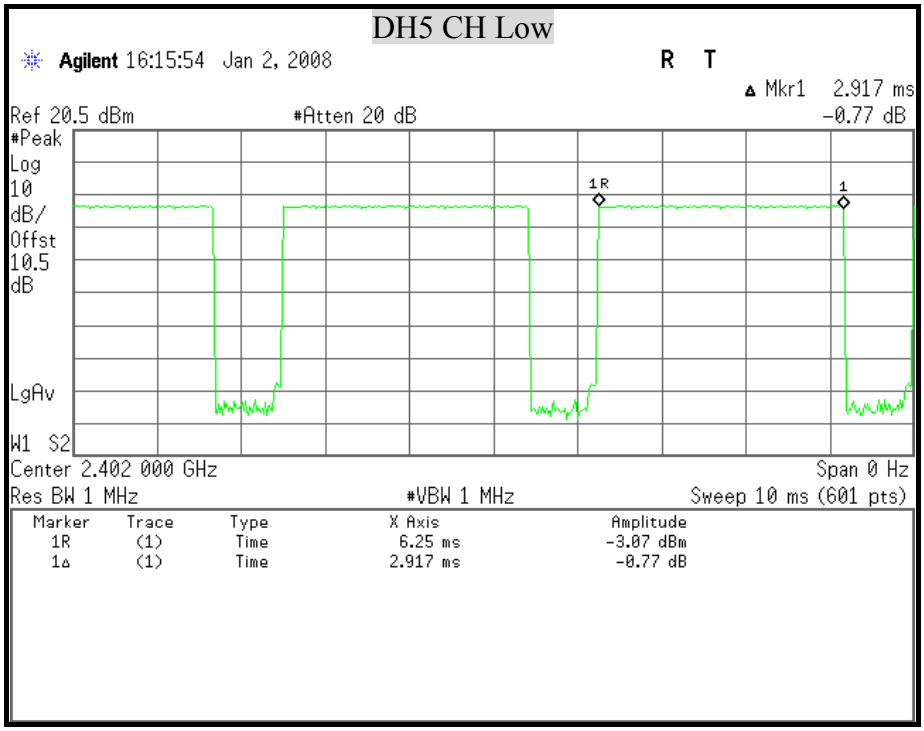
DH1 CH Low



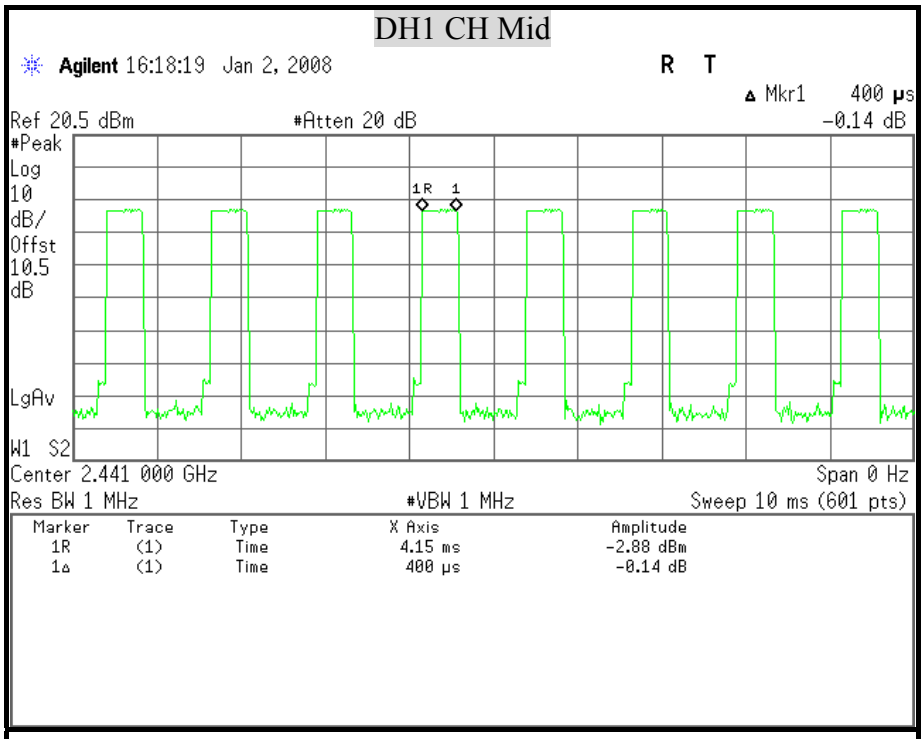
DH3 CH Low



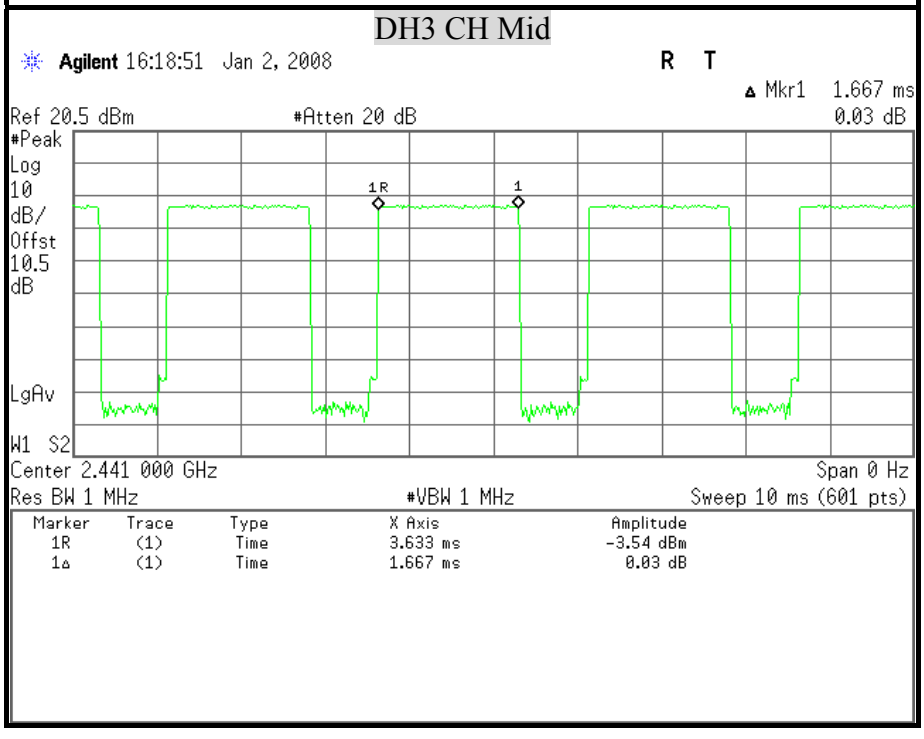
DH5 CH Low


Agilent 16:15:54 Jan 2, 2008
R T
Mkr1 2.917 ms
Ref 20.5 dBm
#Atten 20 dB
-0.77 dB
#Peak
Log
10
dB/
Offst
10.5
dB
1R
1
LgAv
W1 S2
Center 2.402 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 10 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 6.25 ms -3.07 dBm
1Δ (1) Time 2.917 ms -0.77 dB

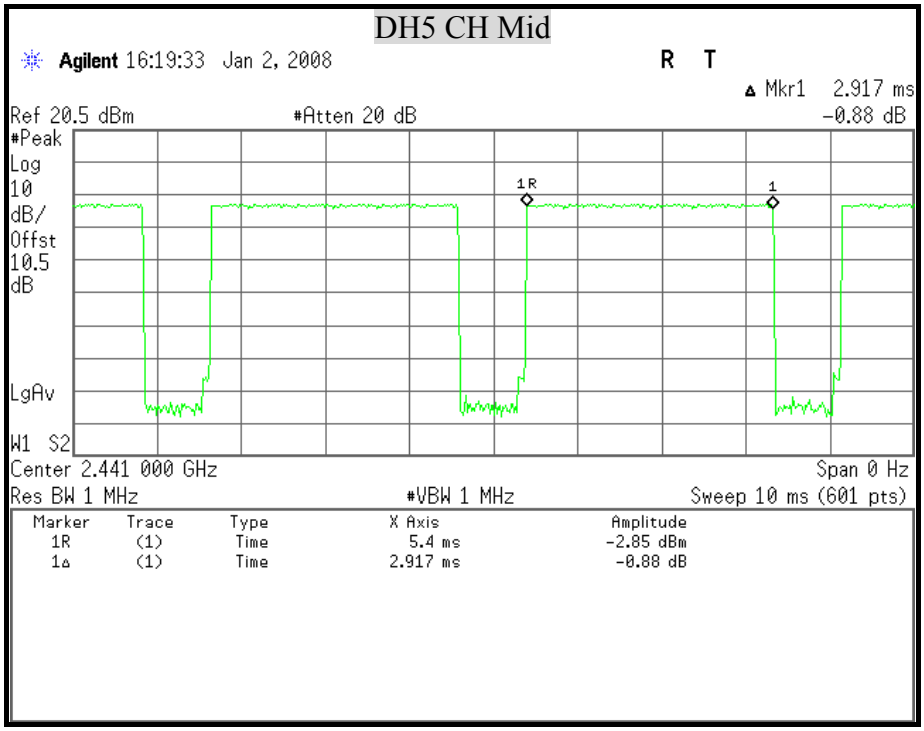
DH1 CH Mid



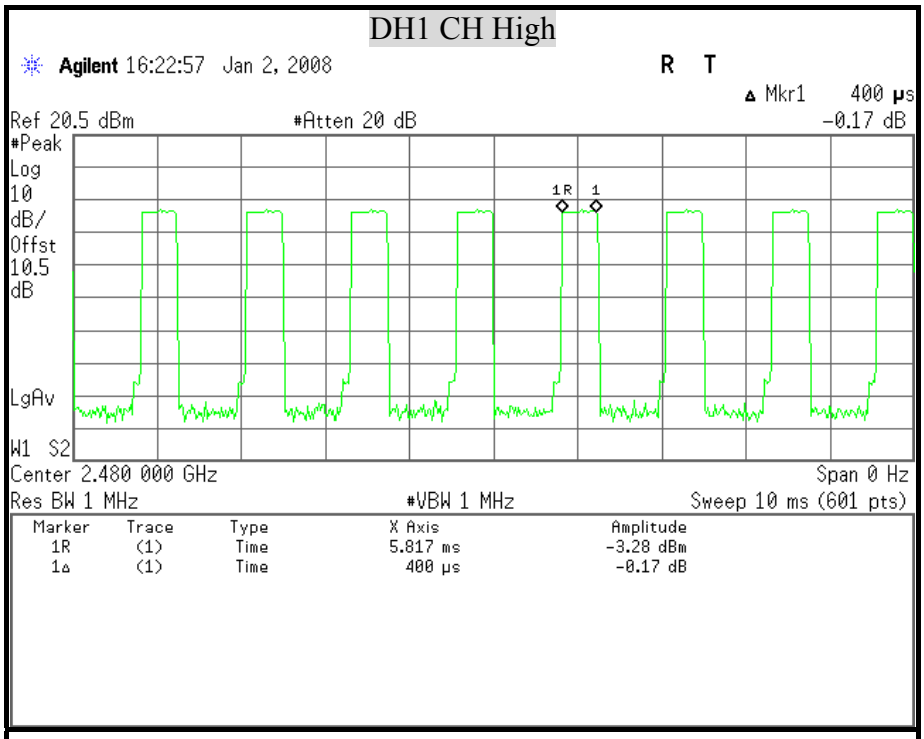
DH3 CH Mid



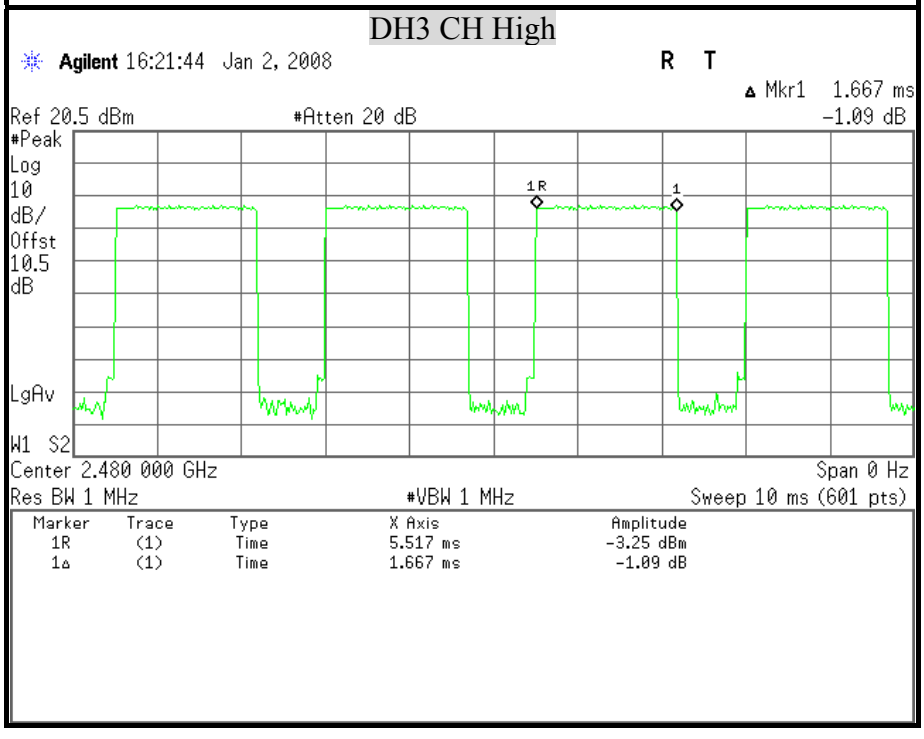
DH5 CH Mid


Agilent 16:19:33 Jan 2, 2008
R T
Mkr1 2.917 ms
Ref 20.5 dBm
#Atten 20 dB
-0.88 dB
#Peak
Log
10
dB/
Offst
10.5
dB
1R
1
LgAv
W1 S2
Center 2.441 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 10 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 5.4 ms -2.85 dBm
1Δ (1) Time 2.917 ms -0.88 dB

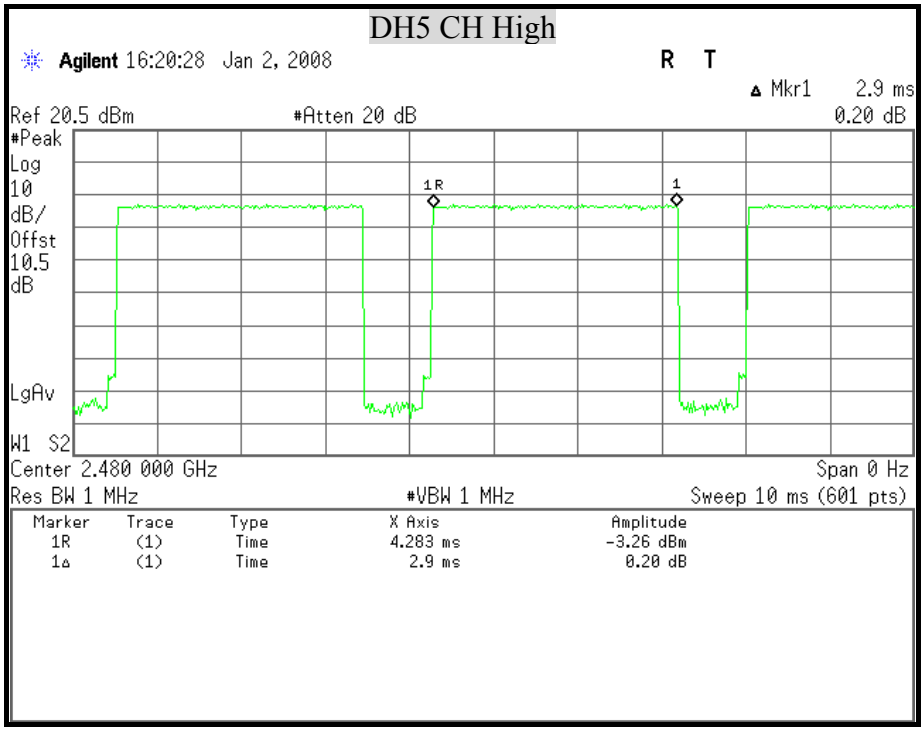
DH1 CH High



DH3 CH High



DH5 CH High


Agilent 16:20:28 Jan 2, 2008
R T
Mkr1 2.9 ms
Ref 20.5 dBm
#Atten 20 dB
0.20 dB
#Peak
Log
10
dB/
Offst
10.5
dB
1R
1
LgAv
W1 S2
Center 2.480 000 GHz
Span 0 Hz
Res BW 1 MHz
#VBW 1 MHz
Sweep 10 ms (601 pts)
Marker Trace Type X Axis Amplitude
1R (1) Time 4.283 ms -3.26 dBm
1Δ (1) Time 2.9 ms 0.20 dB

8.6 CONDUCTED SPURIOUS EMISSION

LIMITS

§ 15.247(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the and that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in § 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).

TEST PROCEDURE

The transmitter output is connected to a spectrum analyzer. The resolution bandwidth is set to 100 kHz. The video bandwidth is set to 300 kHz.

The spectrum from 30 MHz to 25 GHz is investigated with the transmitter set to the lowest, middle, and highest channels in the 2.4 GHz band.

TEST RESULTS

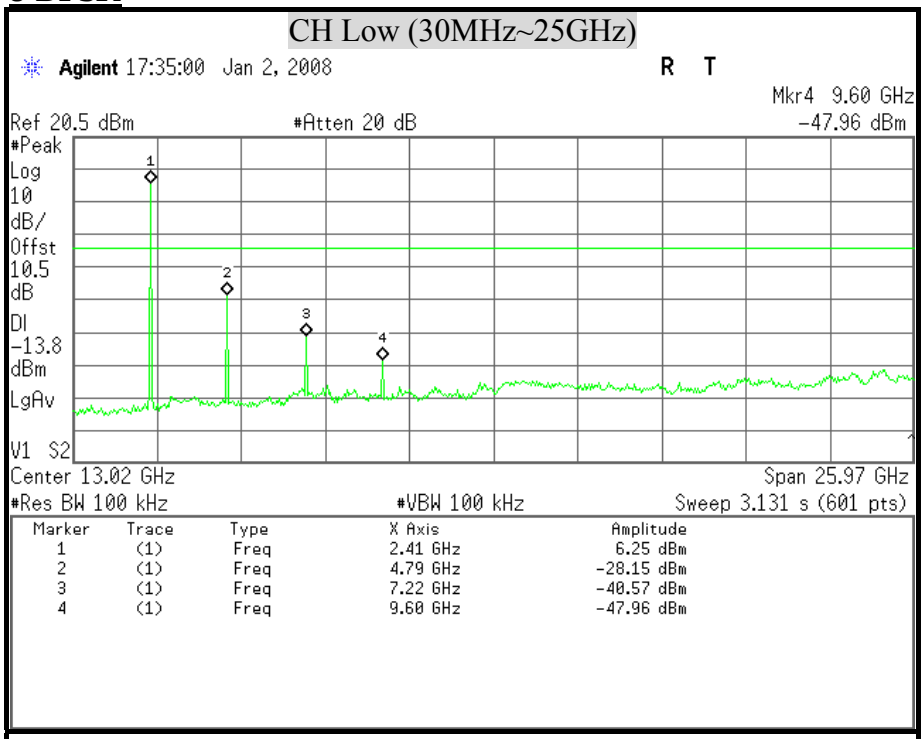
No non-compliance noted

BAND EDGE COMPLIANCE OF RF CONDUCTED EMISSIONS

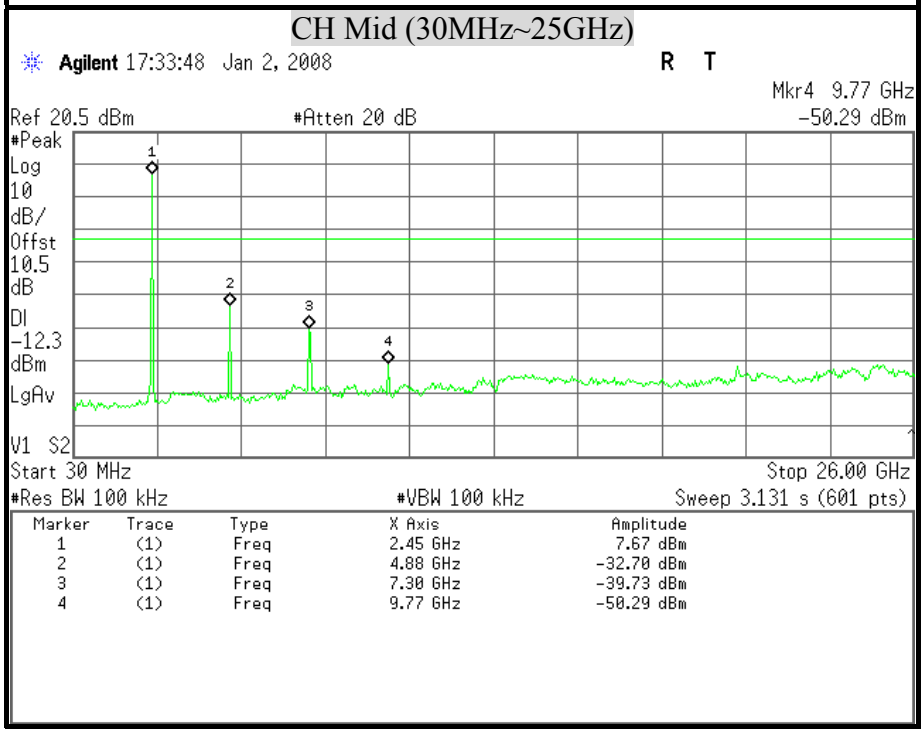
OUT-OF-BAND SPURIOUS EMISSIONS-CONDUCTED MEASUREMENT

8-DPSK

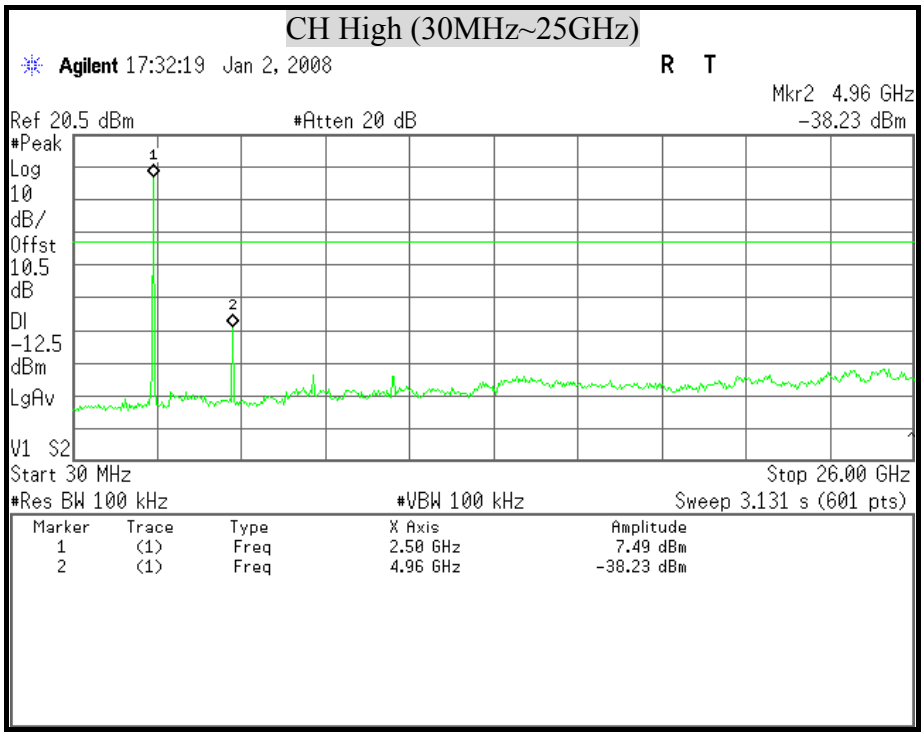
CH Low (30MHz~25GHz)



CH Mid (30MHz~25GHz)

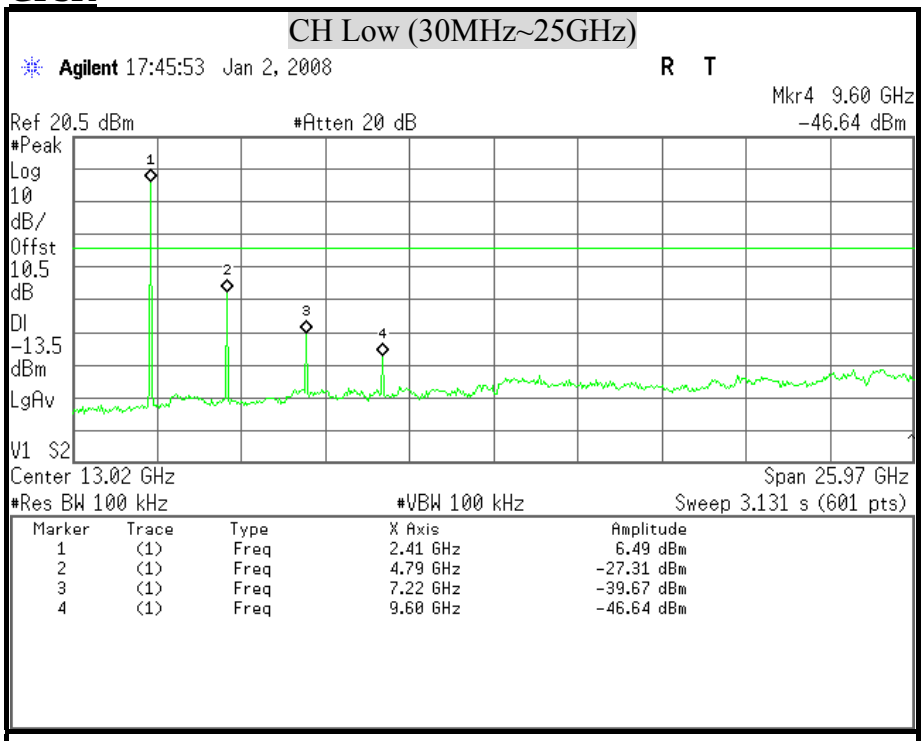


CH High (30MHz~25GHz)

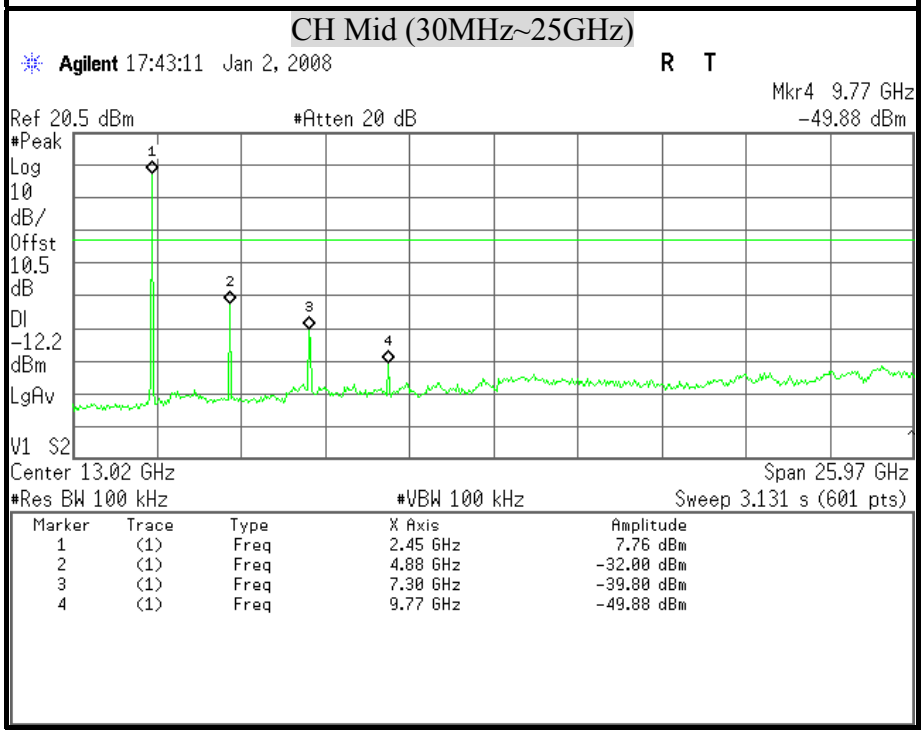


GFSK

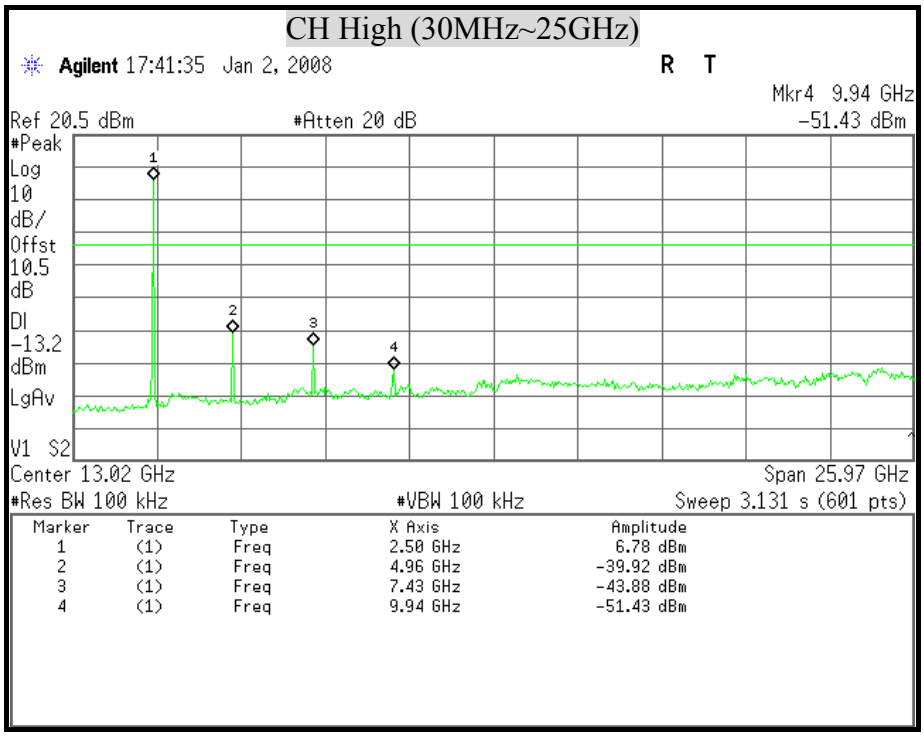
CH Low (30MHz~25GHz)



CH Mid (30MHz~25GHz)



CH High (30MHz~25GHz)



8.7 RADIATED EMISSIONS

8.7.1 TRANSMITTER RADIATED SUPURIOUS EMSSIONS

LIMITS

§ 15.205 (a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
[1]0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 -1710	10.6 -12.7
6.26775 - 6.26825	108 -121.94	1718.8 - 1722.2	13.25 -13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 – 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 -16.2
8.362 - 8.366	156.52475 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3338	36.43 - 36.5
12.57675 - 12.57725	322 -335.4	3600 - 4400	([2])
13.36 - 13.41			

[1] Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

[2] Above 38.6

§ 15.205 (b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown is Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

§ 15.209 (a) Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table :

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
30 - 88	100 **	3
88 - 216	150 **	3
216 - 960	200 **	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz, However, operation within these frequency bands is permitted under other sections of this Part, e-g, Sections 15.231 and 15.241.

§ 15.209 (b) In the emission table above, the tighter limit applies at the band edges.

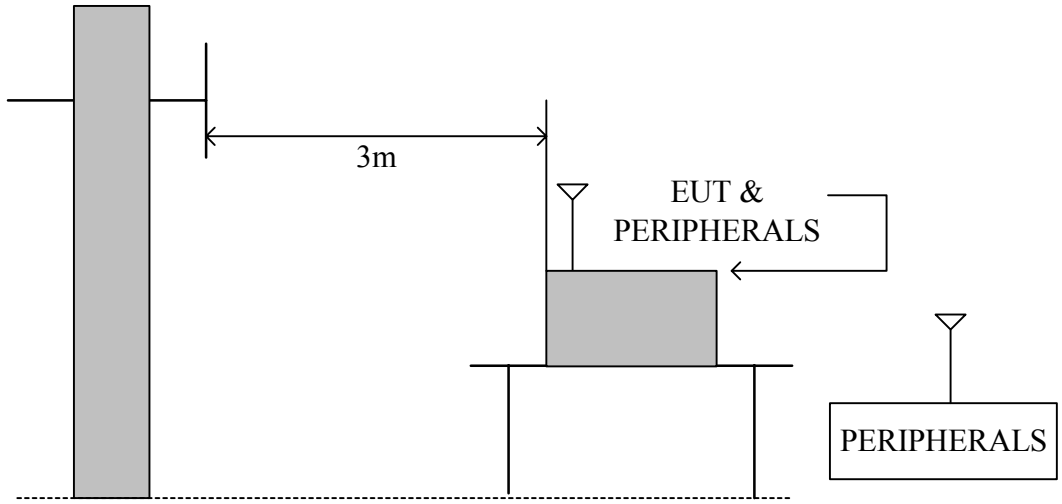
TEST EQUIPMENT

The following test equipment is utilized in making the measurements contained in this report.

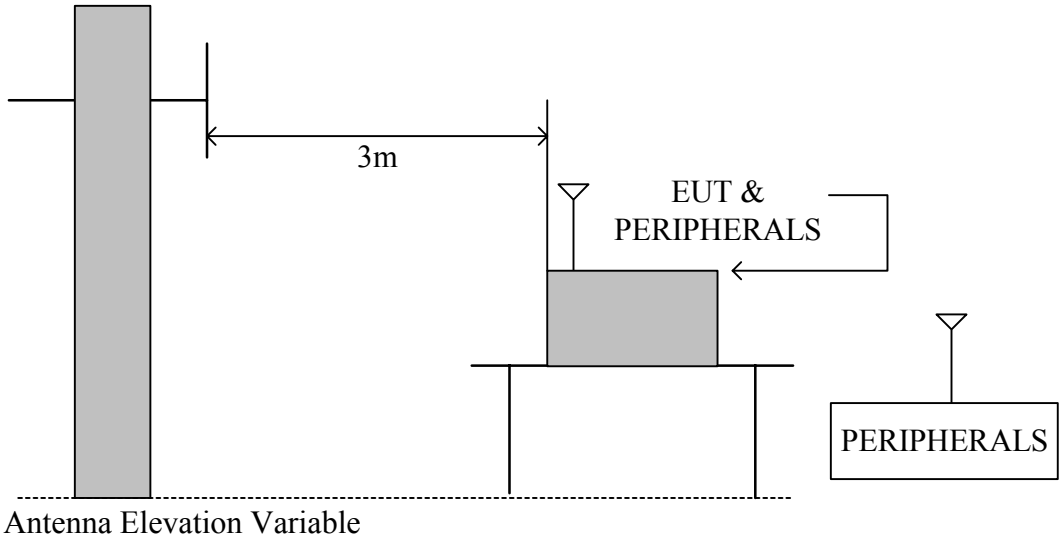
Manufacturer or Type	Model No.	Serial No.	Date of Calibration	Calibration Period	Remark
CHASE BILOG ANTENNA	CBL6112B	2817	August 28, 2007	1 Year	FINAL
R/S SPECTRUM ANALYZER	FSEK30	835253/002	October 18, 2007	1 Year	FINAL
AGILENT SPECTRUM ANALYZER	E4446A	MY433601.32	June 06, 2007	1 Year	FINAL
R/S EMI TEST RECEIVER	ESCS30	835418/008	September 02, 2007	1 Year	FINAL
OPEN SITE	----------	No.2	May 07, 2007	1 Year	FINAL
BELDEN N TYPE COAXIAL CABLE	9913-30M	001	August 21, 2007	1 Year	FINAL
Horn Antenna	AH-118	10089	August 30, 2007	1 Year	FINAL
Horn Antenna	AH-840	03077	February 25, 2007	1 Year	FINAL
Agilent Pre-amplifier	8449B	30008A01471	December 20, 2007	1 Year	FINAL
HP Amplifier	8447D	2944A10052	December 24, 2007	1 Year	FINAL
HP High pass filter	84300/80038	002	CAL. ON USE	1 Year	FINAL
HP High pass filter	84300/80039	003	CAL. ON USE	1 Year	FINAL
Loop Antenna ETS-LINDGREN	6502	2356	June 15, 2007	1 Year	FINAL

TEST SETUP

The diagram below shows the test setup that is utilized to make the measurements for emission from 30 to 1GHz.



The diagram below shows the test setup that is utilized to make the measurements for emission above 1GHz.



TEST PROCEDURE

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.

b. White measuring the radiated emission below 1GHz, the EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. White measuring the radiated emission above 1GHz, the EUT was set 1 meters away from the interference-receiving antenna

c. The antenna is a broadband antenna, and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarization of the antenna are set to make the measurement.

d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading.

e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

f. If the emission level of the EUT in peak mode was 10 dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10 dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Note：

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120 KHz for Peak detection (PK) and Quasi-peak detection (QP) at frequency below 1GHz.

2. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz for Peak detection and frequency above 1GHz.

3. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and the video bandwidth is 10 Hz for Average detection (AV) at frequency above 1GHz.

TEST RESULTS

No non-compliance noted

8.7.2 WORST-CASE RADIATED EMISSION BELOW 1 GHz

Product Name	BlackBerry Remote Stereo Gateway	**Test Date**	2008/01/03
Model Name	ASY-16007-001	**Test By**	Jason Chang
Test Mode	Normal operating	**TEMP & Humidity**	23°C, 48%

Horizontal polarity						
Frequency (MHz)	Reading (dBμV)	Correction Factor (dB/m)	Result (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Mark (P/Q/A)
82.38	63.17	-37.98	25.19	40.00	-14.81	P
107.60	59.73	-36.32	23.40	43.50	-20.10	P
216.24	66.12	-35.06	31.06	46.00	-14.94	P
269.59	61.57	-31.74	29.83	46.00	-16.17	P
431.58	52.24	-29.43	22.81	46.00	-23.19	P
911.73	47.97	-22.09	25.87	46.00	-20.13	P

Vertical polarity						
Frequency (MHz)	Reading (dBμV)	Correction Factor (dB/m)	Result (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Mark (P/Q/A)
80.44	59.81	-38.01	21.79	40.00	-18.21	P
107.60	60.59	-36.32	24.27	43.50	-19.23	P
216.24	63.64	-35.06	28.58	46.00	-17.42	P
269.59	60.87	-31.74	29.14	46.00	-16.86	P
433.52	53.98	-29.38	24.60	46.00	-21.40	P
911.73	50.46	-22.09	28.36	46.00	-17.64	P

Remark:

1. *Measuring frequencies from 30 MHz to the 1GHz.*
2. *Radiated emissions measured in frequency range from 30 MHz to 1000MHz were made with an instrument using peak/quasi-peak detector mode.*
3. *Quasi-peak test would be performed if the peak result were greater than the quasi-peak limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) – Quasi-peak limit (dBuV/m).*

8.7.3 TRANSMITTER RADIATED EMISSION ABOVE 1 GHz

Product Name	BlackBerry Remote Stereo Gateway	**Test Date**	2007/12/27
Model Name	ASY-16007-001	**Test By**	Jason Chang
Test Mode	8-DPSK CH Low TX	**TEMP & Humidity**	23°C, 56%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1078.00	55.28	---	-20.39	34.89	---	74.00	54.00	-19.11	P
1326.00	53.16	---	-16.52	36.64	---	74.00	54.00	-17.36	P
4800.00	57.55	42.58	-3.34	54.21	39.24	74.00	54.00	-14.76	A
7200.00	50.12	37.25	1.63	51.75	38.88	74.00	54.00	-2.25	P

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1330.00	52.81	---	-16.46	36.35	---	74.00	54.00	-17.65	P
1658.00	51.89	---	-13.30	38.60	---	74.00	54.00	-15.40	P
4800.00	49.97	---	-3.34	46.63	---	74.00	54.00	-7.37	P
7200.00	56.87	39.68	1.63	58.50	41.31	74.00	54.00	-12.69	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) —Average limit (dBuV/m).*

Product Name	BlackBerry Remote Stereo Gateway	Test Date	2007/12/27
Model Name	ASY-16007-001	Test By	Jason Chang
Test Mode	8-DPSK CH Middle TX	TEMP & Humidity	23°C, 56%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1082.00	55.81	---	-20.33	35.48	---	74.00	54.00	-18.52	P
1248.00	54.95	---	-17.74	37.22	---	74.00	54.00	-16.78	P
1322.00	53.93	---	-16.58	37.35	---	74.00	54.00	-16.65	P
4875.00	56.33	38.58	-3.13	53.20	35.45	74.00	54.00	-0.80	P
7320.00	52.35	37.44	1.74	54.09	39.18	74.00	54.00	-14.82	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1328.00	53.69	---	-16.49	37.20	---	74.00	54.00	-16.80	P
1660.00	52.97	---	-13.29	39.68	---	74.00	54.00	-14.32	P
4875.00	48.14	---	-3.13	45.00	---	74.00	54.00	-9.00	P
7320.00	54.98	38.22	1.74	56.72	39.96	74.00	54.00	-14.04	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) –Averagelimit (dBuV/m).*

Product Name	BlackBerry Remote Stereo Gateway	**Test Date**	2007/12/27
Model Name	ASY-16007-001	**Test By**	Jason Chang
Test Mode	8-DPSK CH High TX	**TEMP & Humidity**	23°C, 56%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1246.00	53.54	---	-17.77	35.77	---	74.00	54.00	-18.23	P
1330.00	53.86	---	-16.46	37.40	---	74.00	54.00	-16.60	P
4965.00	46.34	---	-2.89	43.45	---	74.00	54.00	-10.55	P
7440.00	49.88	35.66	1.86	51.74	37.52	74.00	54.00	-2.26	P

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1248.00	55.84	---	-17.74	38.10	---	74.00	54.00	-15.90	P
1662.00	52.96	---	-13.28	39.68	---	74.00	54.00	-14.32	P
4965.00	44.25	---	-2.89	41.36	---	74.00	54.00	-12.64	P
7440.00	50.44	35.89	1.86	52.30	37.75	74.00	54.00	-1.70	P

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) —Average limit (dBuV/m).*

Product Name	BlackBerry Remote Stereo Gateway	Test Date	2007/12/27
Model Name	ASY-16007-001	Test By	Jason Chang
Test Mode	GFSK CH Low TX	TEMP & Humidity	23°C, 56%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1328.00	52.96	---	-16.49	36.47	---	74.00	54.00	-17.53	P
4875.00	54.12	37.88	-3.13	50.99	34.75	74.00	54.00	-3.01	P
7320.00	44.68	---	1.74	46.42	---	74.00	54.00	-7.58	P

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1664.00	53.08	---	-13.28	39.80	---	74.00	54.00	-14.20	P
4875.00	45.73	---	-3.13	42.60	---	74.00	54.00	-11.40	P
7320.00	56.65	39.41	1.74	58.39	41.15	74.00	54.00	-12.85	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) —Average limit (dBuV/m).*

Product Name	BlackBerry Remote Stereo Gateway	Test Date	2007/12/27
Model Name	ASY-16007-001	Test By	Jason Chang
Test Mode	GFSK CH Middle TX	TEMP & Humidity	23°C, 56%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1412.00	51.76	---	-15.18	36.58	---	74.00	54.00	-17.42	P
4875.00	50.13	36.83	-3.13	47.00	33.70	74.00	54.00	-7.00	P
7320.00	47.43	---	1.74	49.17	---	74.00	54.00	-4.83	P

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1332.00	55.73	---	-16.43	39.30	---	74.00	54.00	-14.70	P
1666.00	51.17	---	-13.27	37.90	---	74.00	54.00	-16.10	P
4875.00	45.25	---	-3.13	42.11	---	74.00	54.00	-11.89	P
7320.00	56.03	38.92	1.74	57.77	40.66	74.00	54.00	-13.34	A

Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) –Average limit (dBuV/m).*

Product Name	BlackBerry Remote Stereo Gateway	Test Date	2007/12/27
Model Name	ASY-16007-001	Test By	Jason Chang
Test Mode	GFSK CH High TX	TEMP & Humidity	23°C, 56%

Horizontal polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1414.00	52.94	---	-15.15	37.79	---	74.00	54.00	-16.21	P
4965.00	46.51	---	-2.89	43.62	---	74.00	54.00	-10.38	P
7440.00	52.58	37.67	1.86	54.44	39.53	74.00	54.00	-14.47	A

Vertical polarity									
Freq. (MHz)	Reading-PK (dBuV)	Reading-AV (dBuV)	Correction Factor (dB/m)	Result-PK (dBuV/m)	Result-AV (dBuV/m)	Limit-PK (dBuV/m)	Limit-AV (dBuV/m)	Margin (dB)	Mark (P/Q/A)
1328.00	53.93	---	-16.49	37.44	---	74.00	54.00	-16.56	P
1662.00	51.33	---	-13.28	38.05	---	74.00	54.00	-15.95	P
7440.00	51.11	36.22	1.86	52.97	38.08	74.00	54.00	-1.03	P

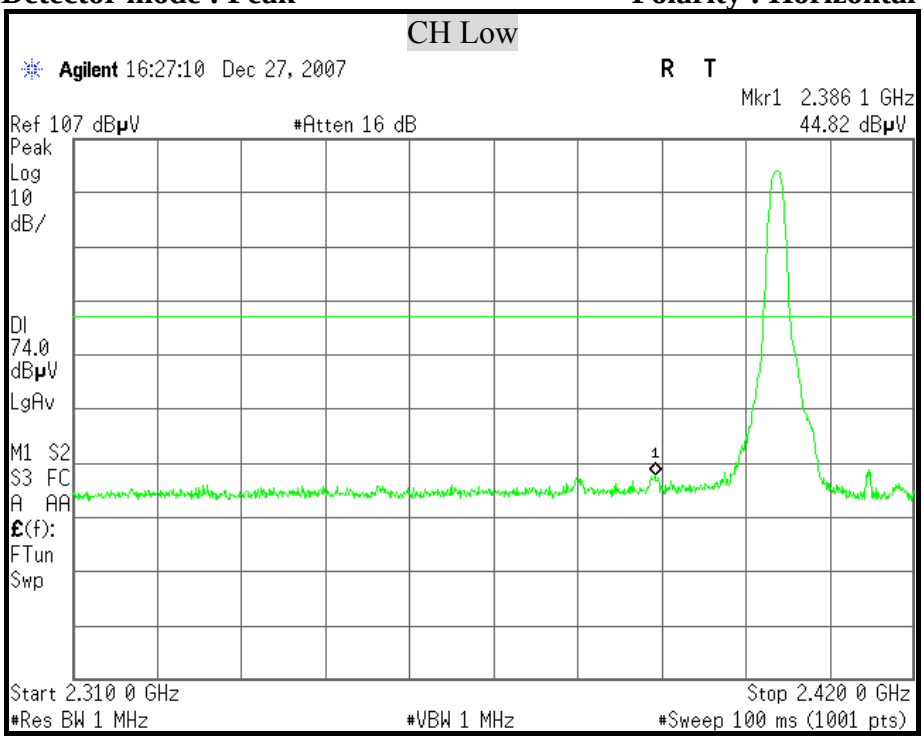
Remark:

1. *Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.*
2. *Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.*
3. *Average test would be performed if the peak result were greater than the average limit or as required by the applicant.*
4. *Data of measurement within this frequency range shown " --- " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.*
5. *Measurements above show only up to 6 maximum emissions noted, or would be lesser, with " N/A " remark, if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.*
6. *Margin (dB) = Remark result (dBuV/m) —Average limit (dBuV/m).*

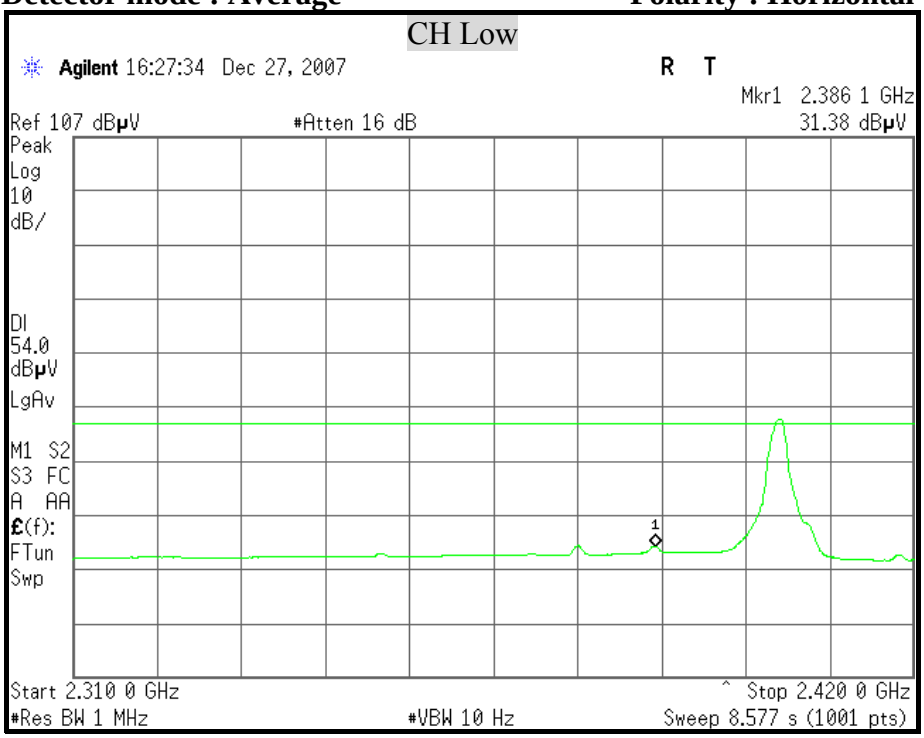
8.7.4 RESTRICTED BAND EDGES

8-DPSK

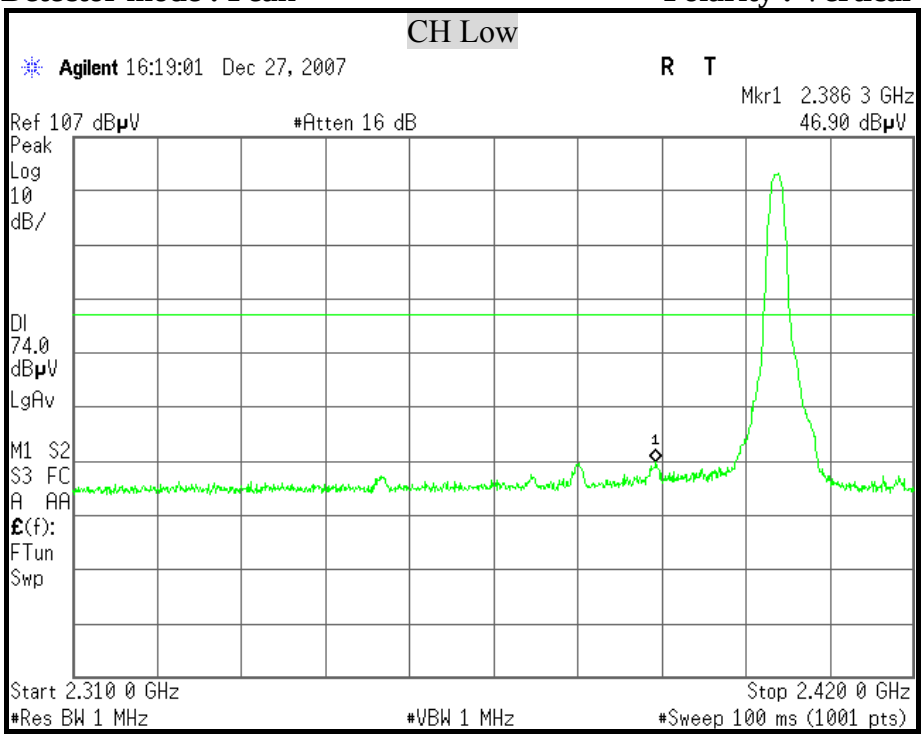
Detector mode : Peak **Polarity : Horizontal**



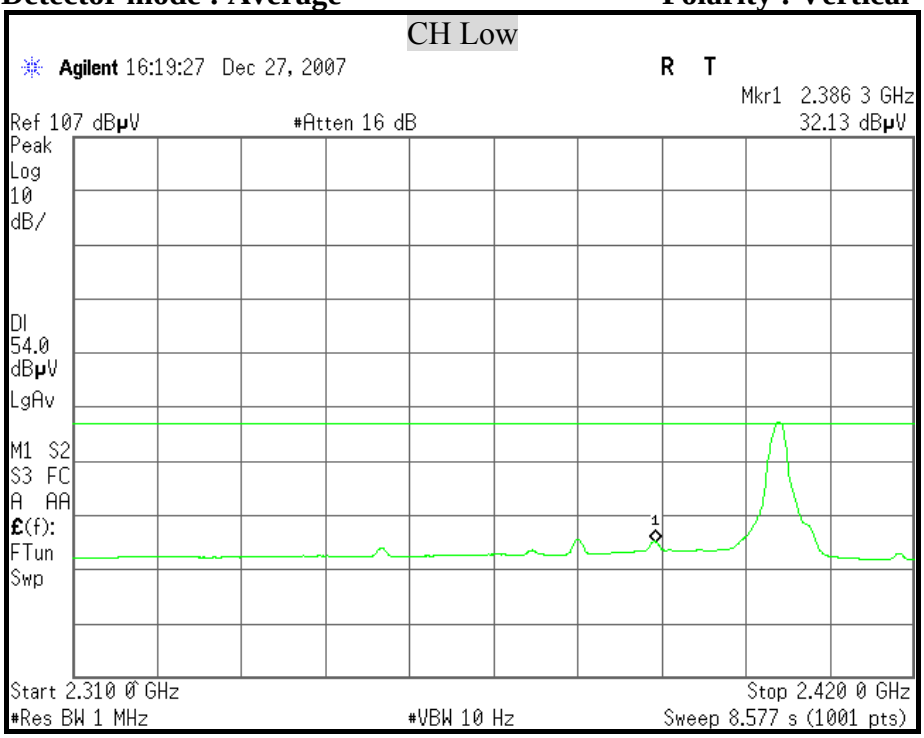
Detector mode : Average **Polarity : Horizontal**



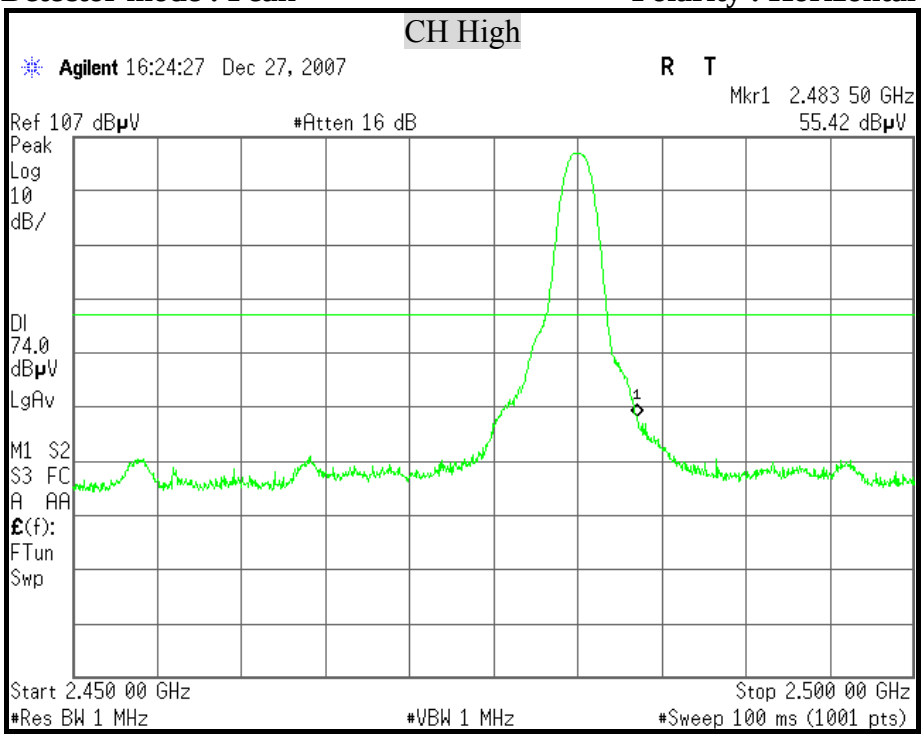
Detector mode : Peak **Polarity : Vertical**



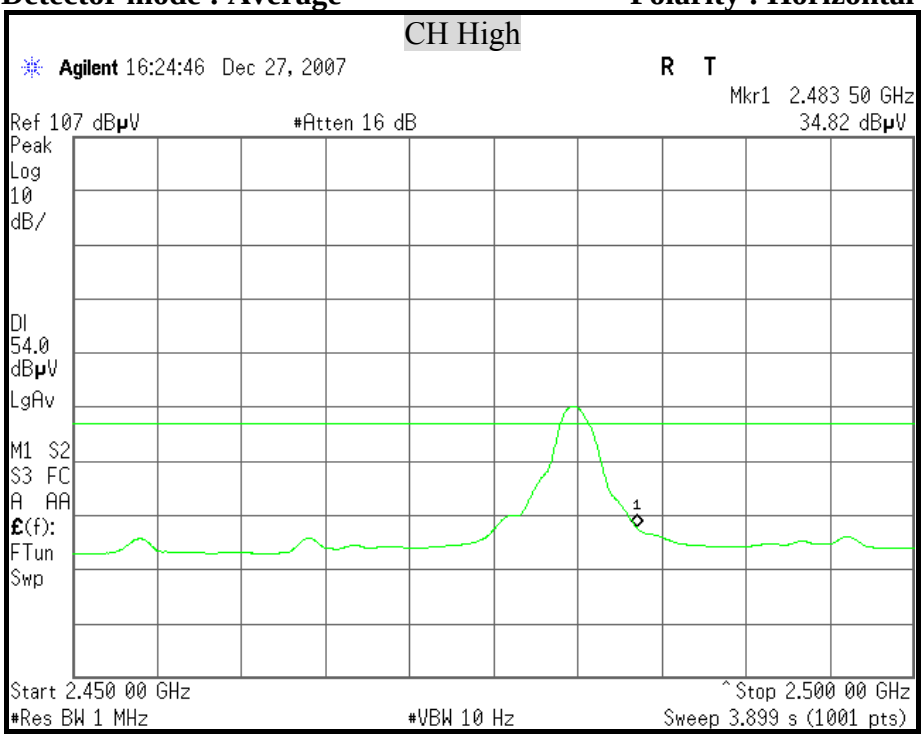
Detector mode : Average **Polarity : Vertical**



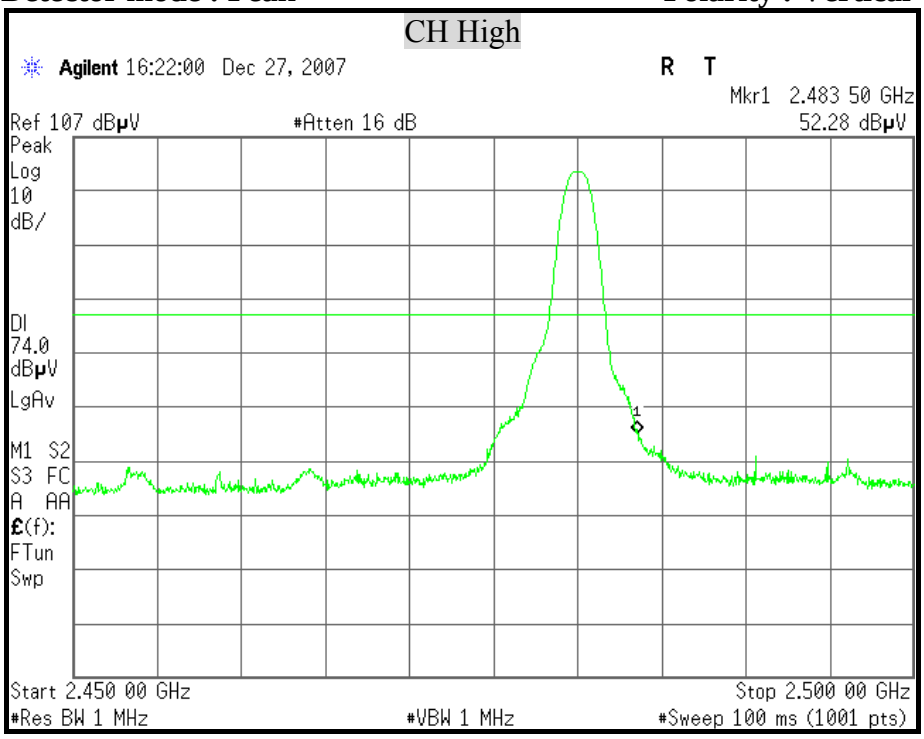
Detector mode : Peak **Polarity : Horizontal**



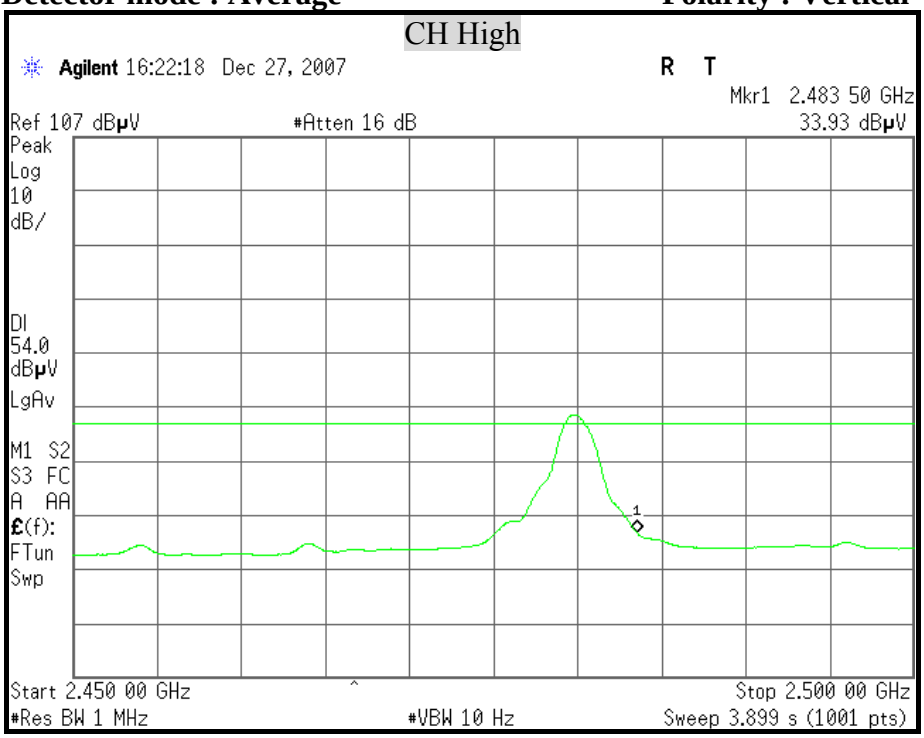
Detector mode : Average **Polarity : Horizontal**



Detector mode : Peak **Polarity : Vertical**

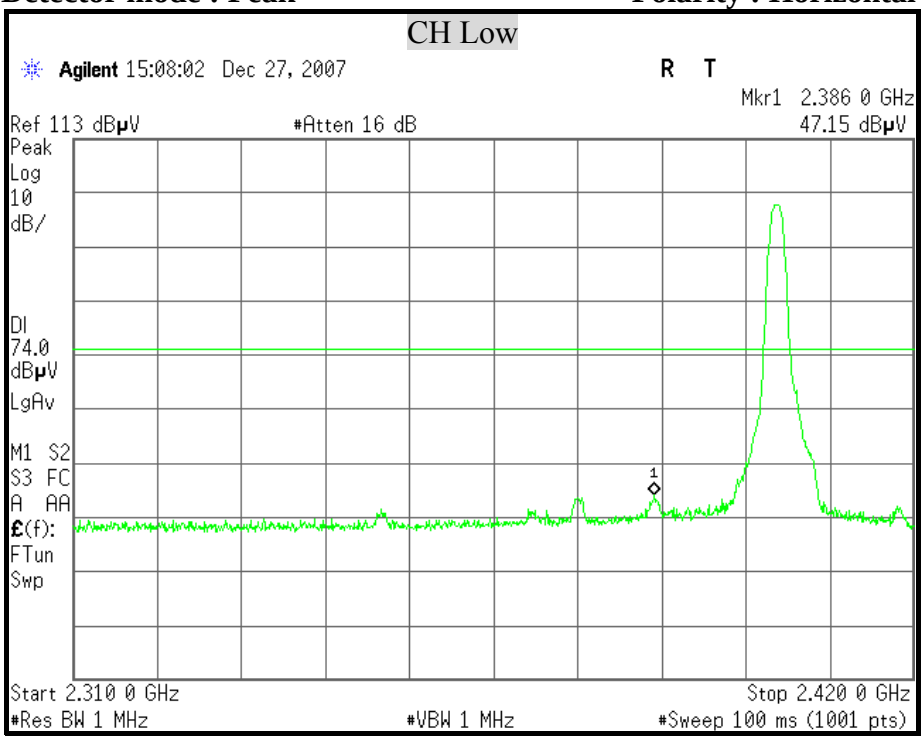


Detector mode : Average **Polarity : Vertical**

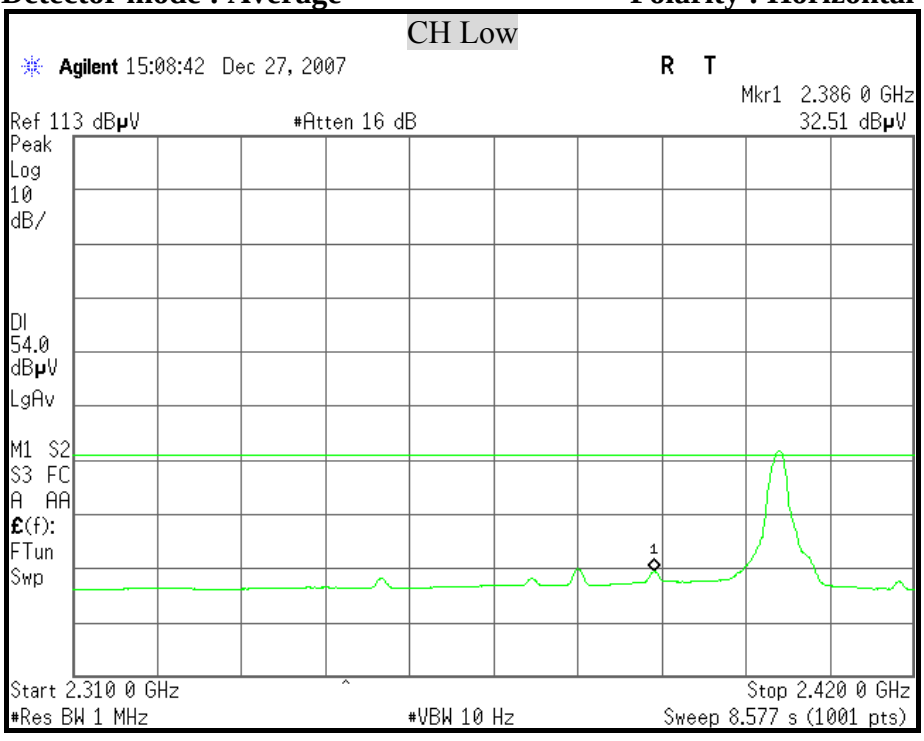


GFSK

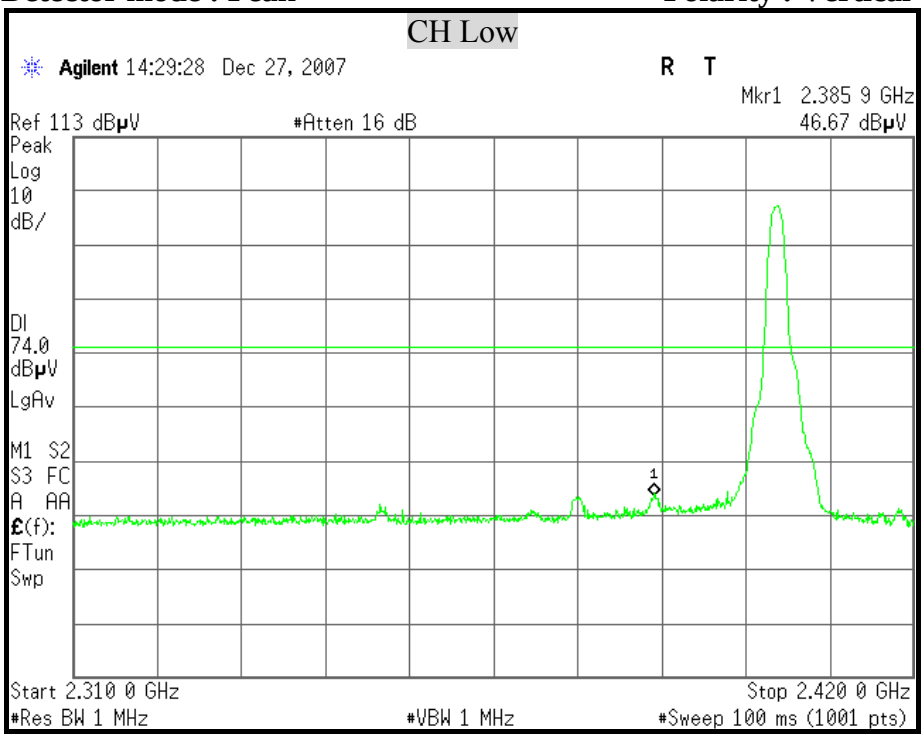
Detector mode : Peak **Polarity : Horizontal**



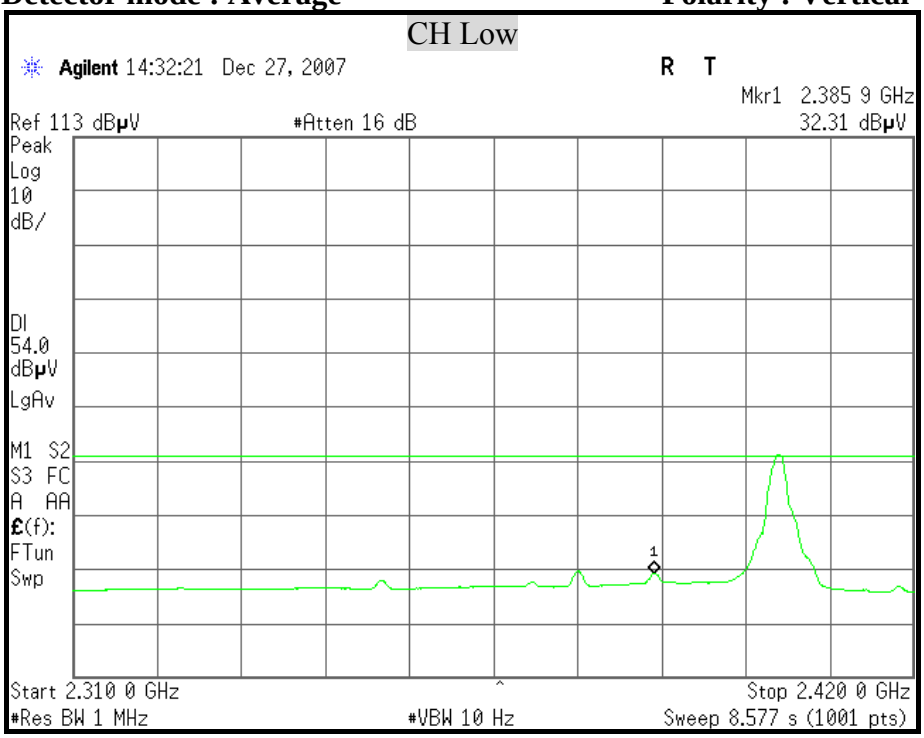
Detector mode : Average **Polarity : Horizontal**



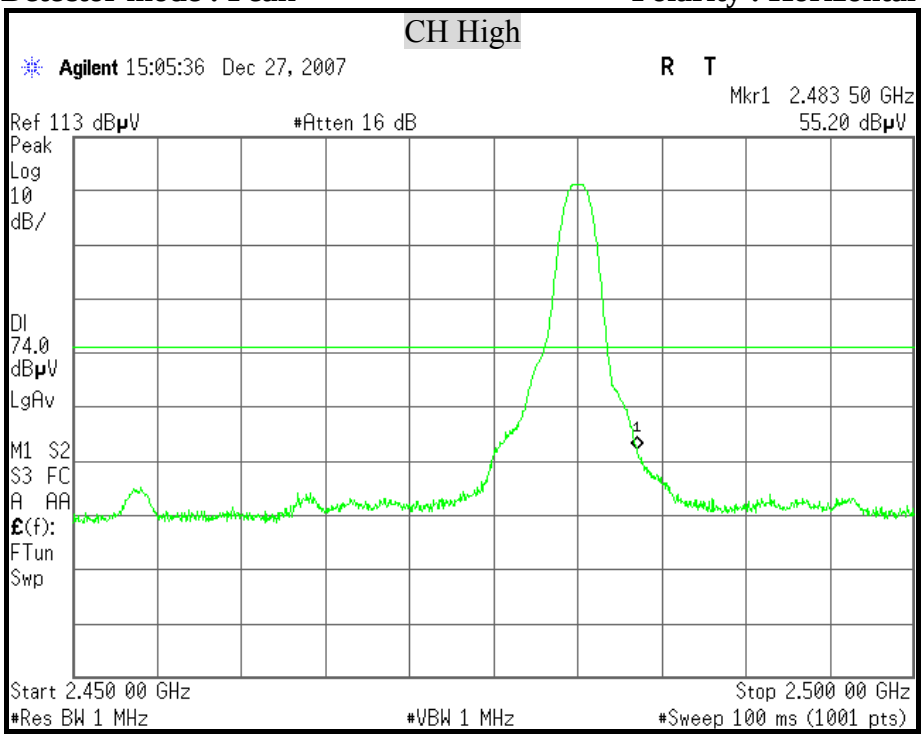
Detector mode : Peak **Polarity : Vertical**



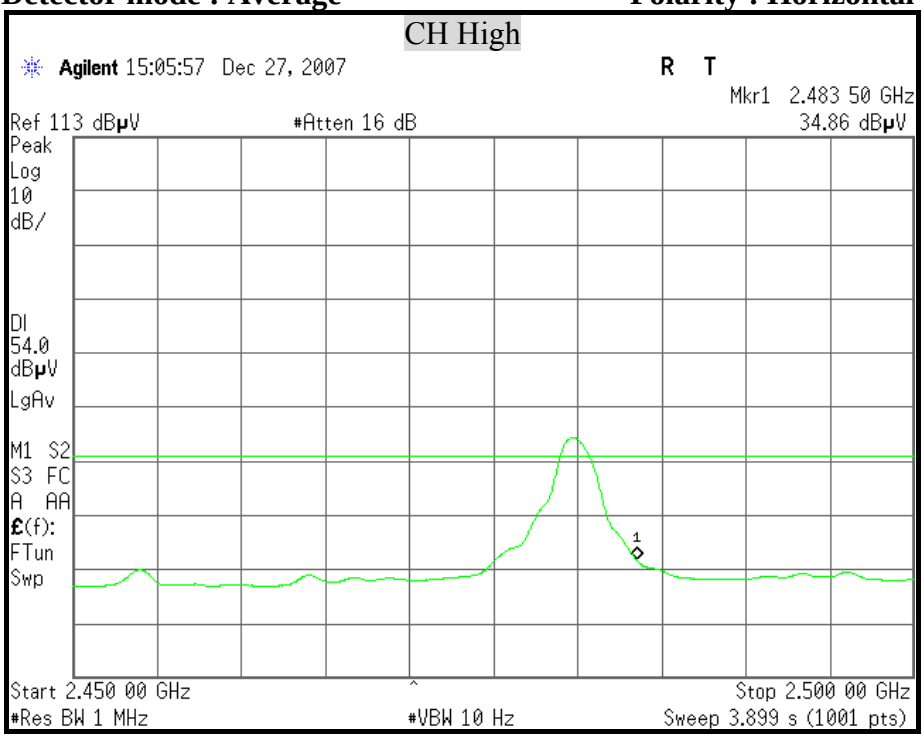
Detector mode : Average **Polarity : Vertical**



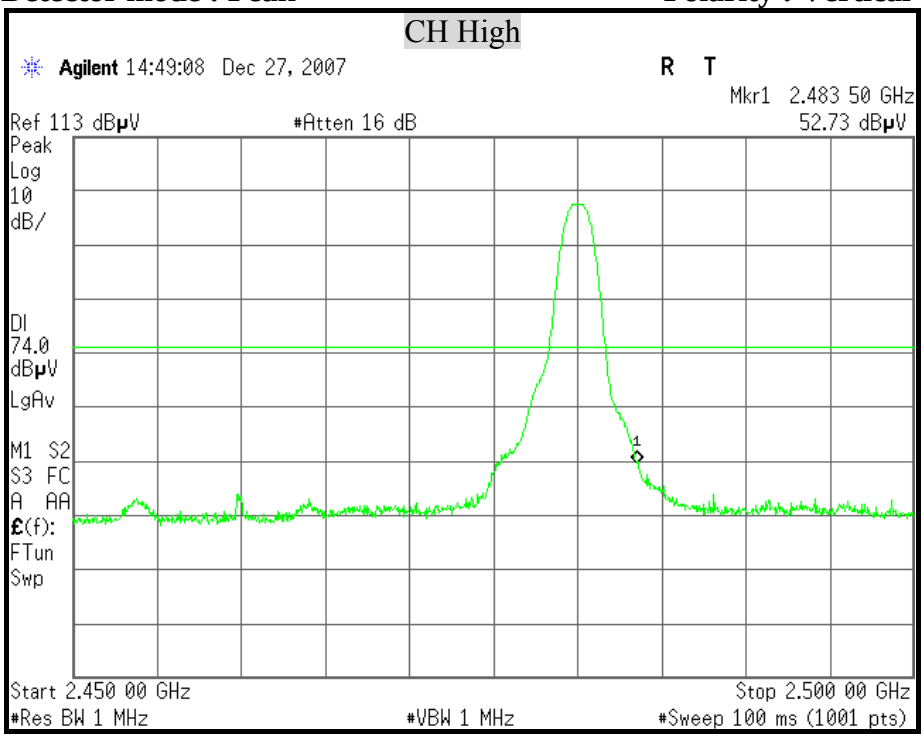
Detector mode : Peak **Polarity : Horizontal**



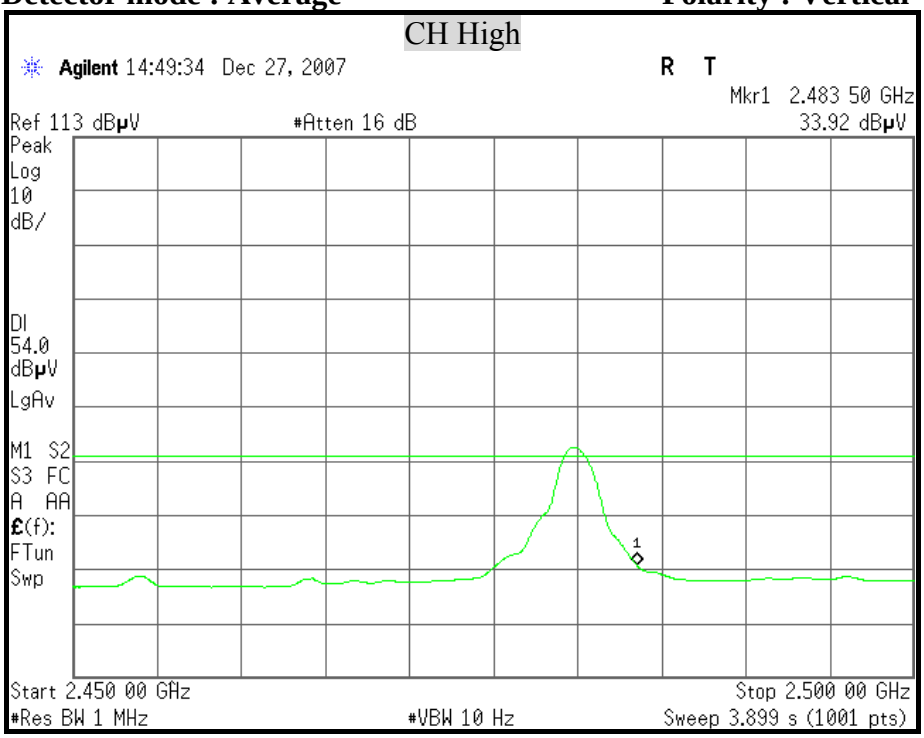
Detector mode : Average **Polarity : Horizontal**



Detector mode : Peak **Polarity : Vertical**



Detector mode : Average **Polarity : Vertical**



8.8 POWERLINE CONDUCTED EMISSIONS

LIMITS

§ 15.207 (a) Except as shown in paragraph (b) and (c) this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table, as measured using a 50 μH/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal.

The lower limit applies at the boundary between the frequency ranges.

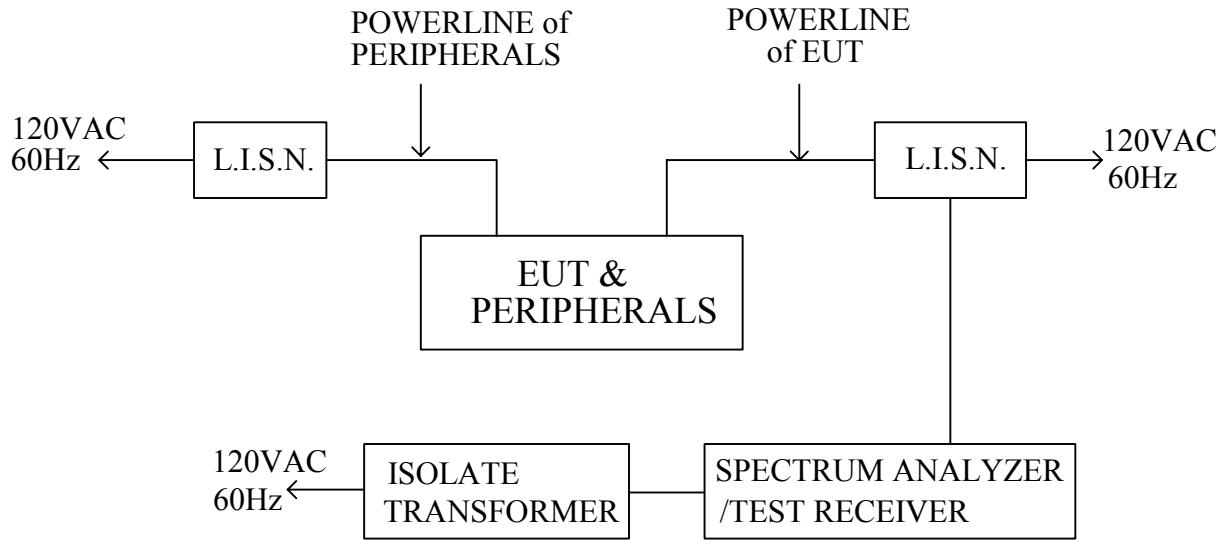
Frequency of Emission (MHz)	Conducted limit (dBμv)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56	56 to 46
0.5 - 5	56	46
5 - 30	60	50

TEST EQUIPMENT

The following test equipment is used during the conducted powerline tests：

Manufacturer or Type	Model No.	Serial No.	Date of Calibration	Calibration Period	Remark
EMCO L.I.S.N.	3810/2	9801-1850	February 26, 2007	1 Year	FINAL
CHASE L.I.S.N	NNLK 8129	8129118	January 26, 2007	1 Year	FINAL
R & S TEST RECEIVER	ESHS30	838550/003	January 31, 2007	1 Year	FINAL
KEENE SHIELDED ROOM	5983	No.1	N/A	N/A	FINAL
R & S PULSE LIMIT	EHS3Z2	357.8810.52	July 10, 2007	1 Year	FINAL
N TYPE COAXIAL CABLE	---------	----------	August 21, 2007	1 Year	FINAL
50Ω TERMINATOR	---------	----------	July 10, 2007	1 Year	FINAL

TEST SETUP



TEST PROCEDURE

The EUT is placed on a non-conducting table 40 cm from the vertical ground plane and 80cm above the horizontal ground plane. The EUT IS CONFIGURED IN ACCORDANCE WITH ANSI C63.4.

The resolution bandwidth is set to 9 kHz for both quasi-peak detection and average detection measurements.

Line conducted data is recorded for both NEUTRAL and LINE.

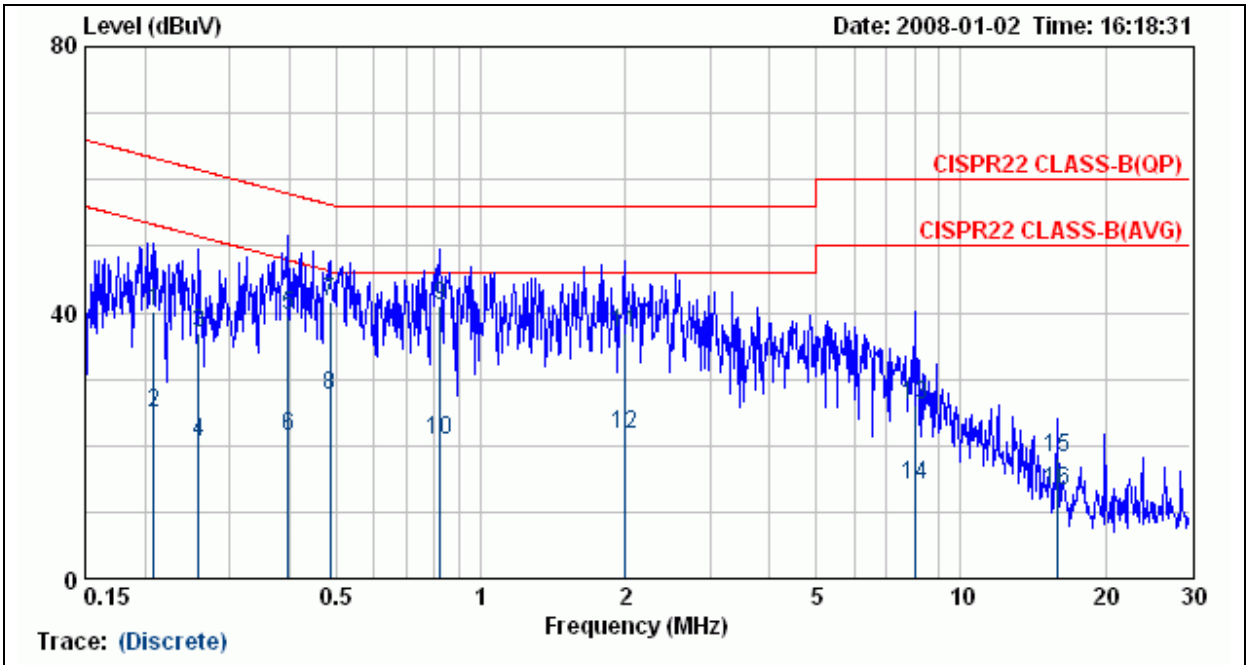
TEST RESULTS

No non-compliance noted

CONDUCTED RF VOLTAGE MEASUREMENT

Product Name	BlackBerry Remote Stereo Gateway	Test Date	2008/01/02
Model	ASY-16007-001	Test By	Jason Chang
Test Mode	Normal operating / PSM04A-050RIM	TEMP & Humidity	24.5°C, 55%

LINE



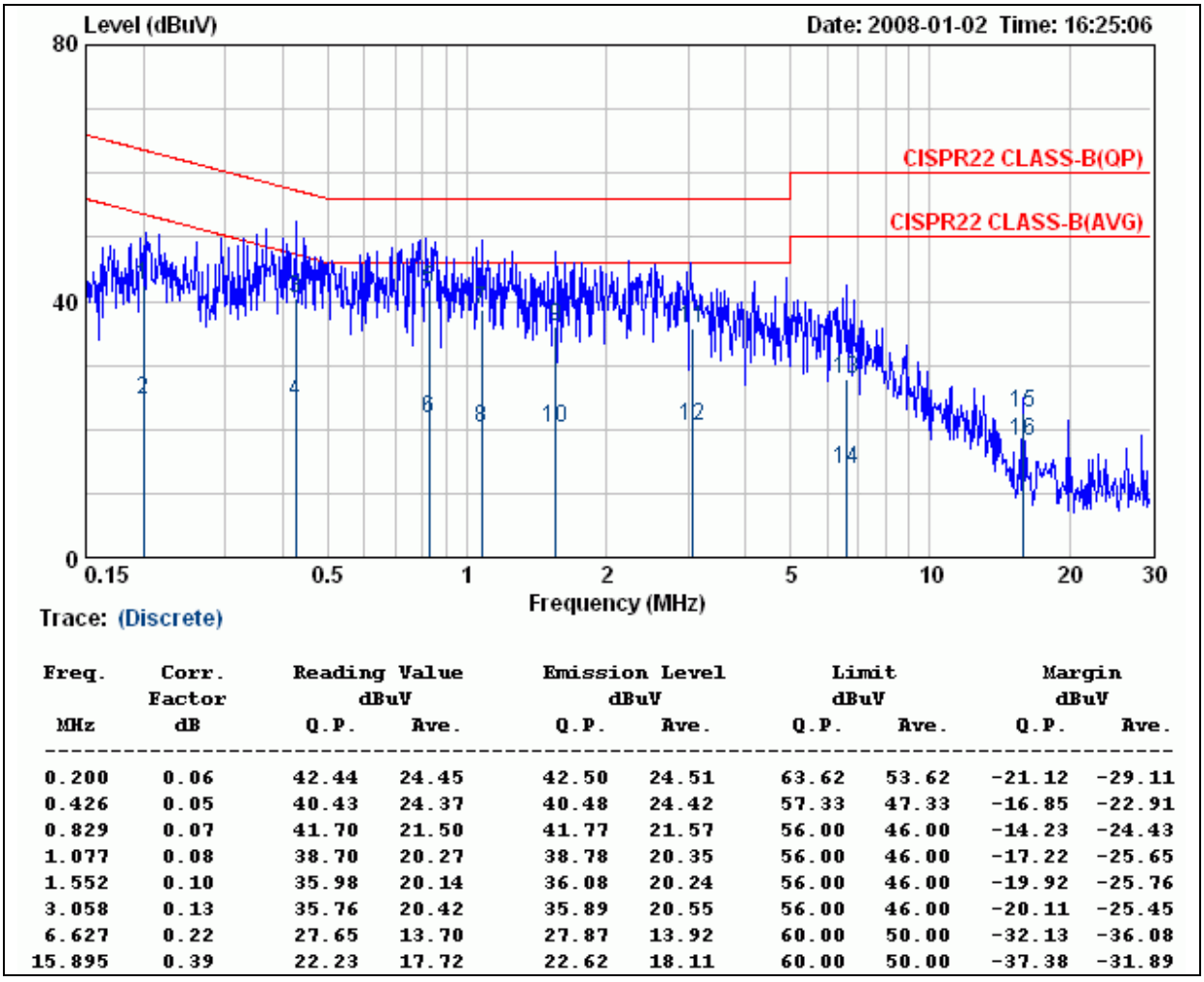
Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.208	0.06	40.05	24.86	40.11	24.92	63.27	53.27	-23.16	-28.35
0.259	0.06	36.97	20.54	37.03	20.60	61.47	51.47	-24.44	-30.87
0.397	0.05	39.39	21.23	39.44	21.28	57.92	47.92	-18.48	-26.64
0.486	0.05	41.46	27.50	41.51	27.55	56.23	46.23	-14.72	-18.68
0.822	0.07	40.86	20.72	40.93	20.79	56.00	46.00	-15.07	-25.21
1.991	0.11	36.82	21.56	36.93	21.67	56.00	46.00	-19.07	-24.33
8.020	0.25	25.82	13.87	26.07	14.12	60.00	50.00	-33.93	-35.88
15.898	0.39	17.87	12.68	18.26	13.07	60.00	50.00	-41.74	-36.93

Remark:

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

Product Name	BlackBerry Remote Stereo Gateway	Test Date	2007/08/22
Model	ASY-16007-001	Test By	Jason Chang
Test Mode	Normal operating / PSM04A-050RIM	TEMP & Humidity	24.5°C, 55%

NEUTRAL



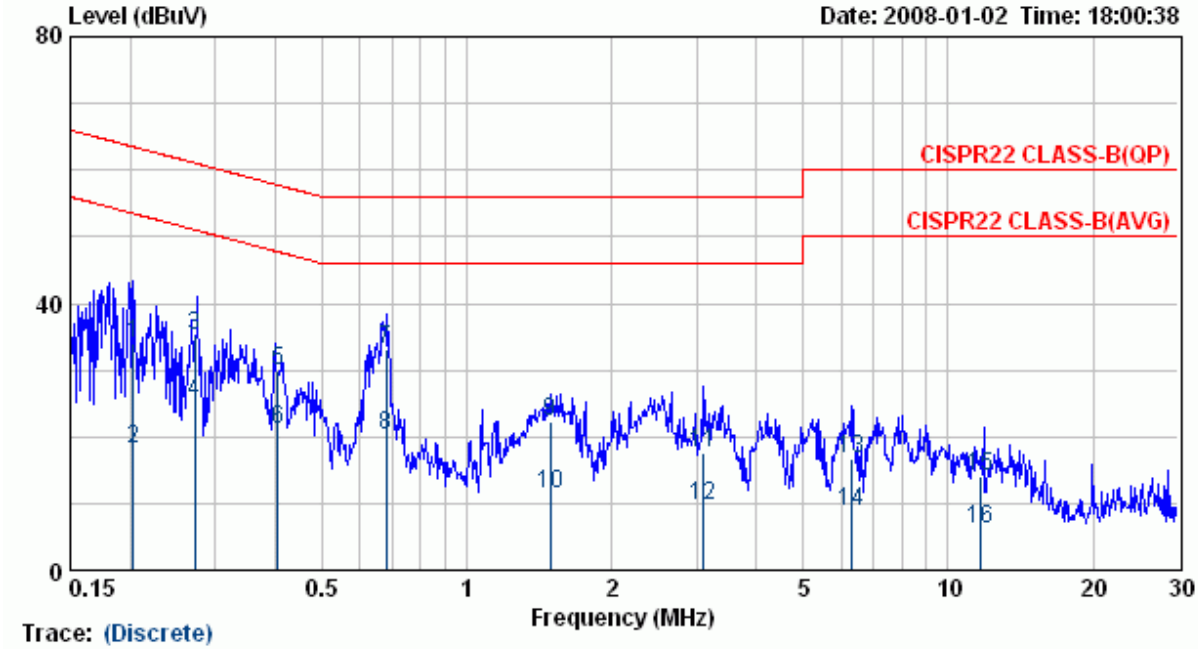
Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.200	0.06	42.44	24.45	42.50	24.51	63.62	53.62	-21.12	-29.11
0.426	0.05	40.43	24.37	40.48	24.42	57.33	47.33	-16.85	-22.91
0.829	0.07	41.70	21.50	41.77	21.57	56.00	46.00	-14.23	-24.43
1.077	0.08	38.70	20.27	38.78	20.35	56.00	46.00	-17.22	-25.65
1.552	0.10	35.98	20.14	36.08	20.24	56.00	46.00	-19.92	-25.76
3.058	0.13	35.76	20.42	35.89	20.55	56.00	46.00	-20.11	-25.45
6.627	0.22	27.65	13.70	27.87	13.92	60.00	50.00	-32.13	-36.08
15.895	0.39	22.23	17.72	22.62	18.11	60.00	50.00	-37.38	-31.89

Remark:

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

Product Name	BlackBerry Remote Stereo Gateway	Test Date	2007/08/22
Model	ASY-16007-001	Test By	Jason Chang
Test Mode	Normal operating / PSM05R-050CHW	TEMP & Humidity	24.5°C, 55%

LINE



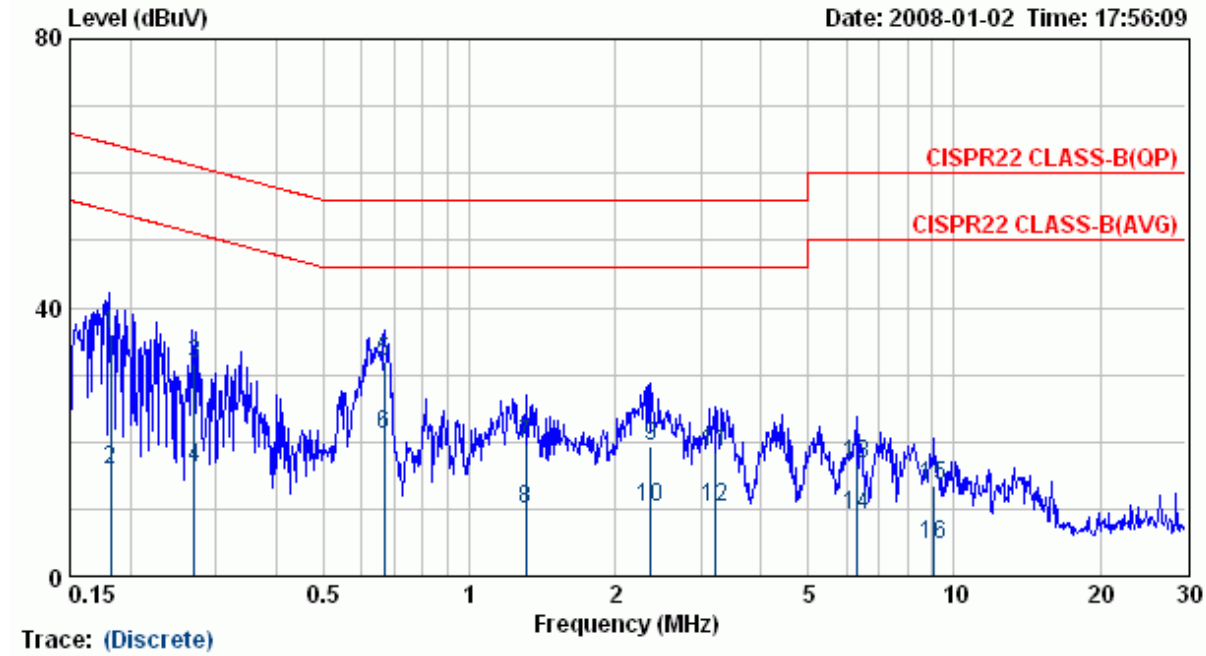
Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.203	0.06	34.01	18.24	34.07	18.30	63.49	53.49	-29.42	-35.19
0.272	0.06	35.03	25.07	35.09	25.13	61.06	51.06	-25.98	-25.94
0.405	0.05	29.76	21.11	29.81	21.16	57.76	47.76	-27.94	-26.59
0.681	0.06	33.15	20.17	33.21	20.23	56.00	46.00	-22.79	-25.77
1.487	0.09	22.03	11.32	22.12	11.41	56.00	46.00	-33.88	-34.59
3.107	0.13	17.55	9.59	17.68	9.72	56.00	46.00	-38.32	-36.28
6.285	0.21	16.49	8.57	16.70	8.78	60.00	50.00	-43.30	-41.22
11.710	0.33	13.61	5.92	13.94	6.25	60.00	50.00	-46.06	-43.75

Remark:

1. *Correction Factor = Insertion loss + cable loss*
2. *Margin value = Emission level – Limit value*

Product Name	BlackBerry Remote Stereo Gateway	Test Date	2007/08/22
Model	ASY-16007-001	Test By	Jason Chang
Test Mode	Normal operating / PSM05R-050CHW	TEMP & Humidity	24.5°C, 55%

NEUTRAL



Freq. MHz	Corr. Factor dB	Reading Value dBuV Q.P.	Reading Value dBuV Ave.	Emission Level dBuV Q.P.	Emission Level dBuV Ave.	Limit dBuV Q.P.	Limit dBuV Ave.	Margin dBuV Q.P.	Margin dBuV Ave.
0.182	0.06	36.02	15.83	36.08	15.89	64.39	54.39	-28.31	-38.50
0.271	0.06	31.73	16.20	31.79	16.26	61.08	51.08	-29.30	-34.83
0.668	0.06	31.82	21.05	31.88	21.11	56.00	46.00	-24.12	-24.89
1.310	0.09	19.50	9.98	19.59	10.07	56.00	46.00	-36.41	-35.93
2.370	0.12	19.12	10.10	19.24	10.22	56.00	46.00	-36.76	-35.78
3.207	0.13	18.41	10.14	18.54	10.27	56.00	46.00	-37.46	-35.73
6.285	0.21	16.41	8.99	16.62	9.20	60.00	50.00	-43.38	-40.80
9.107	0.28	13.17	4.49	13.45	4.77	60.00	50.00	-46.55	-45.23

Remark:

1. Correction Factor = Insertion loss + cable loss
2. Margin value = Emission level – Limit value

9. ANTENNA REQUIREMENT

9.1 STANDARD APPLICABLE

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

9.2 ANTENNA CONNECTED CONSTRUCTION

The antenna used in this product is PCB antenna. The maximum Gain of the antenna only 2.82dBi.