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TEST REPORT For FCC

Test Report No.	:	CTK-2012-00554
Date of Issue	:	June 21, 2012
FCC ID	:	V2R-PS210BTNC
Model/Type No.	:	PS 210 BTNC
Kind of Product	:	Noise Cancelling Bluetooth Stereo Earphones
Applicant	:	Cresyn Co., Ltd.
Applicant Address	:	8-22 Jamwon-dong, Seocho-gu, Seoul, Korea
Manufacturer	:	Cresyn Co., Ltd.
Manufacturer Address	:	8-22, Jamwon-dong, Seocho-gu, Seoul , Korea
Contact Person	:	Young Kwang Kim / Engineer
Telephone	:	+82-2-2041-2843
Received Date	:	May 25, 2012
Test period	:	Start : May 27, 2012 End : June 11, 2012

The test results presented in this report relate only to the object tested.

Tested by

Won-Jae, Hwang
Test Engineer
Date: June 21, 2012

Reviewed by

Young-Joon, Park
Technical Manager
Date: June 21, 2012

REPORT REVISION HISTORY

Date	Revision	Page No
June 21, 2012	Issued (CTK-2012-00554)	All

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1.0 General Product Description

Equipment model name	PS 210 BTNC
Serial number	Prototype
EUT condition	Pre-production, not damaged
Antenna type	Chip antenna Gain -1.5 dBi
Frequency Range	2402 MHz - 2480 MHz
RF power	7.876 dBm Peak Conducted (GFSK) 6.149 dBm Peak Conducted (8-DPSK)
Number of channels	79
Channel Spacing	1 MHz
Channel Access Protocol	Frequency Hopping
Type of Modulation	GFSK(1 Mbps), DQPSK(2 Mbps), 8-DPSK(3 Mbps)
Power Source	DC 3.7 V (Lithium Ion Rechargeable Battery)

1.1 Tested Frequency

	LOW	MID	HIGH
Frequency (MHz)	2402	2441	2480

1.2 Tested Mode

- Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).

- Following channel(s) was (were) selected for the final test as listed below.

Tested Ch	Modulation Technology	Modulation Type	Packet Type
Low, Mid, High	FHSS	GFSK	DH 5
Low, Mid, High	FHSS	8-DPSK	3DH 5

1.3 Device Modifications

The following modifications was applied by the applicant:

Not applicable

1.4 Peripheral Devices

Device	Manufacturer	Model No.	Serial No.
Note Computer	DELL INC.	Inspiron 6400	-
Switching Adapter2	DDongguang Lite Power 2nd Plant	LA65NS0-00	-
UNIVERSAL RADIO COMMUNICATION TESTER	R O H D E & S C H W A R Z	CMU 200	106765

1.5 Calibration Details of Equipment Used for Measurement

Test equipment and test accessories are calibrated on regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less. All test equipment calibrations are traceable to the Korea Research Institute of Standards and Science (KRISS), therefore, all test data recorded in this report is traceable to KRISS.

1.6 Test Facility

The measurement facility is located at 386-1, Ho-dong, Cheoin-gu, Yongin-si, Gyeonggi-do, 449-100, Korea.

1.7 Laboratory Accreditations and Listings

Country	Agency	Scope of Accreditation	Logo
USA	**FCC**	3 m & 10 m OATS, 3 m & 10 m SAC and Conducted Test Site to perform FCC Part 15/18 measurements	805871
JAPAN	**VCCI**	10 m OATS, 3 m & 10 m SAC and Conducted Test Site	R-948, C-986, T-1843
KOREA	**KCC**	EMI (10 m OATS, 10 m SAC and Conducted Test Site) EMS (ESD, RS, EFT/Burst, Surge, CS, Magnetic, Dips and Interruptions)	No. 51, KR0025
International	**KOLAS**	EMC	

2.0 Summary of tests

FCC Part Section(s)	Parameter	Limit	Test Condition	Status (note 1)
15.247(a)	Carrier Frequency Separation	> 25 kHz	Conducted	C
15.247(a)	Number of Hopping Frequencies	> 15 hops		C
15.247(a)	20 dB Bandwidth	NA		C
15.247	Dwell Time	< 0.4 seconds		C
15.247(b)	Transmitter Output Power	< 0.125 Watts		C
15.247(d)	Conducted Spurious emission	> 20 dBc		C
15.247(d)	Band Edge	> 20 dBc		C
15.209	Field Strength of Harmonics	15.209(a)	Radiated	C
15.207	AC Conducted Emissions	15.207(a)	Line Conducted	NA

Note 1: C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable

Note 2: The data in this test report are traceable to the national or international standards.

The sample was tested according to the following specification:
- FCC Part 15.247, ANSI C63.4-2003

2.1 Transmitter Requirements

2.1.1 Carrier Frequency Separation

Test Location
RF Test Room

Test Procedures

The carrier frequency separation was measured with a spectrum analyzer connected to the antenna terminal, while EUT has its hopping function enabled.
After the trace being stable, the reading value between the peaks of the adjacent channels using the marker-delta function was recorded as the measurement results.

The spectrum analyzer is set to:
Span = 3 MHz (wide enough to capture the peaks of two adjacent channels)
RBW = 30 kHz (≥ 1% of the span) Sweep = auto
VBW = 30 kHz (≥ RBW) Detector function = peak
Trace = max hold

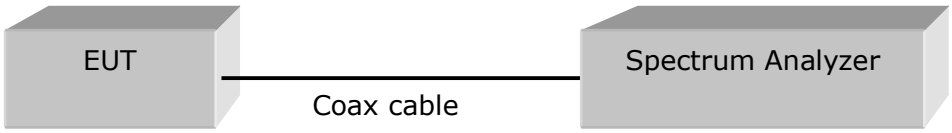


Figure 1 : Measurement setup for the carrier frequency separation

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

Test Results

Test mode : GFSK, CFG PKT Packet Type : 15 Packet Size : 339(DH5)

Channel	Adjacent Hopping Channel Separation (kHz)	Two-third of 20dB bandwidth (kHz)	Minimum Bandwidth (kHz)	Result
2441MHz	990	618.0	25	Complies

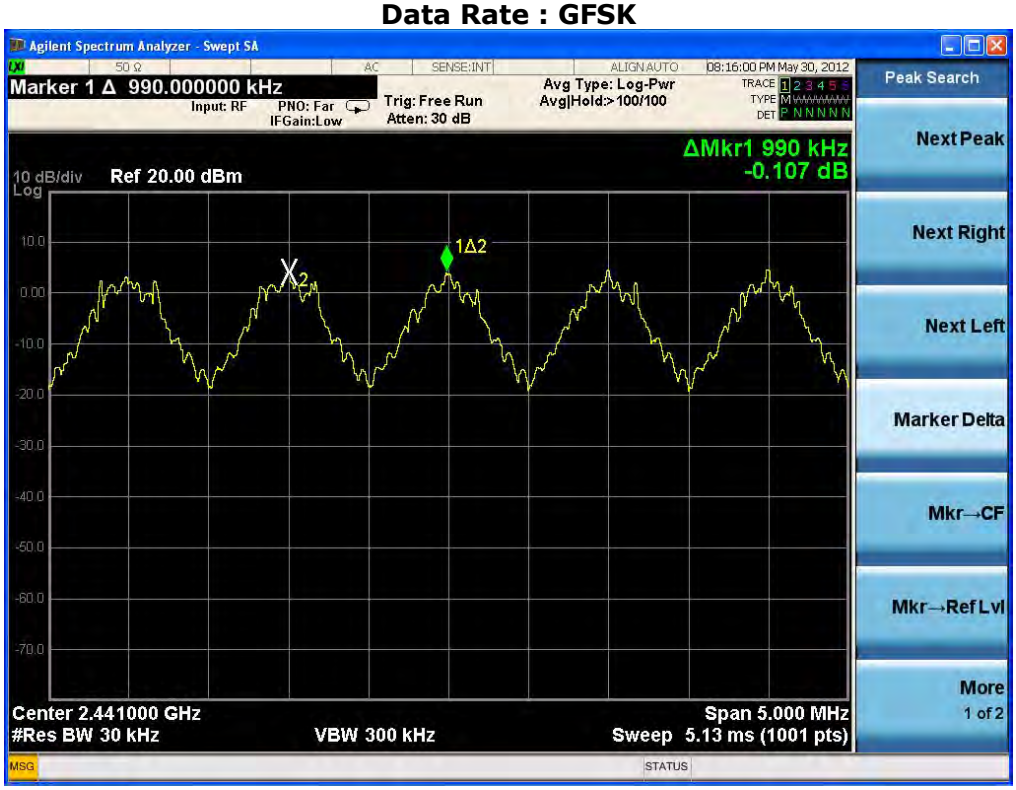
Test mode : 8-DPSK, CFG PKT Packet Type : 31 Packet Size : 1021(3DH5)

Channel	Adjacent Hopping Channel Separation (kHz)	Two-third of 20dB bandwidth (kHz)	Minimum Bandwidth (kHz)	Result
2441MHz	1000	835.3	25	Complies

See next pages for actual measured spectrum plots.

Carrier Frequency Separation

Data Rate : GFSK



Data Rate : 8-DPSK

2.1.2 Number of Hopping Frequencies

Test Location

RF Test Room

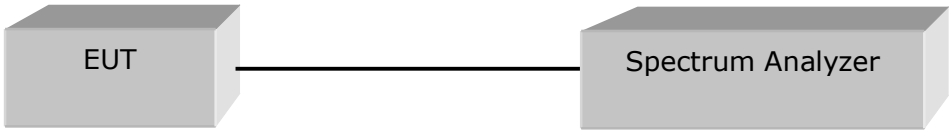
Test Procedures

The number of hopping frequencies was measured with a spectrum analyzer connected to the antenna terminal, while EUT had its hopping function enabled.

The spectrum analyzer is set to:

Frequency range 1: Start = 2389.5 MHz, Stop = 2439.5 MHz
2: Start = 2439.5 MHz, Stop = 2489.5 MHz

Span = 50 MHz
RBW = 300 kHz (≥ 1% of the span)
VBW = 300 kHz (≥ RBW)
Trace = max hold
Sweep = auto
Detector function = peak



Limit

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

Test Results

Test mode : GFSK, CFG PKT Packet Type : 15 Packet Size : 339(DH5)

Total number of Hopping Channels	Result
79	Complies

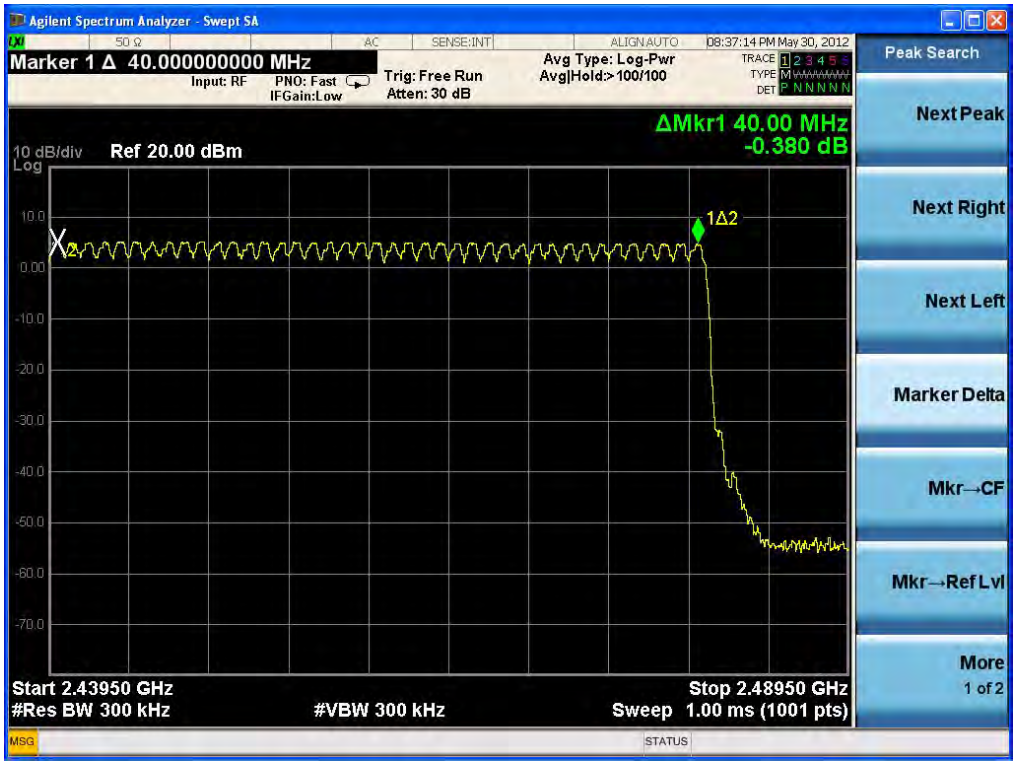
Test mode : 8-DPSK, CFG PKT Packet Type : 31 Packet Size : 1021(3DH5)

Total number of Hopping Channels	Result
79	Complies

See next pages for actual measured spectrum plots.

Number of Hopping Frequencies(GFSK)

Number of Hopping Frequencies(8-DPSK)



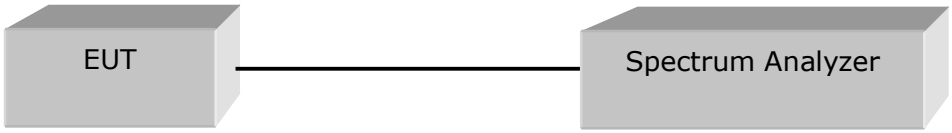
2.1.3 20 dB bandwidth

Test Location
RF Test Room

Test Procedures

The bandwidth at 20 dB below the highest inband spectral density was measured with a spectrum analyzer connected to the antenna terminal, while EUT had its hopping function disabled at the highest, middle and the lowest available channels.
After the trace being stable, Use the marker-to peak function to set the marker to the peak of the emission. Use the marker-delta function to measure 20 dB down one side of the emission. Reset the marker-delta function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is the 20 dB bandwidth of the emission.

The spectrum analyzer is set to:
Center frequency = the highest, middle and the lowest channels
Span = 2 MHz (approximately 2 or 3 times of the 20 dB bandwidth)
RBW = 30 kHz (≥ 1% of the span) Sweep = auto
VBW = 30 kHz (≥ RBW) Detector function = peak
Trace = max hold



Limit

Limit : N/A

Test Results

Test mode : GFSK, CFG PKT Packet Type : 15 Packet Size : 339(DH5)

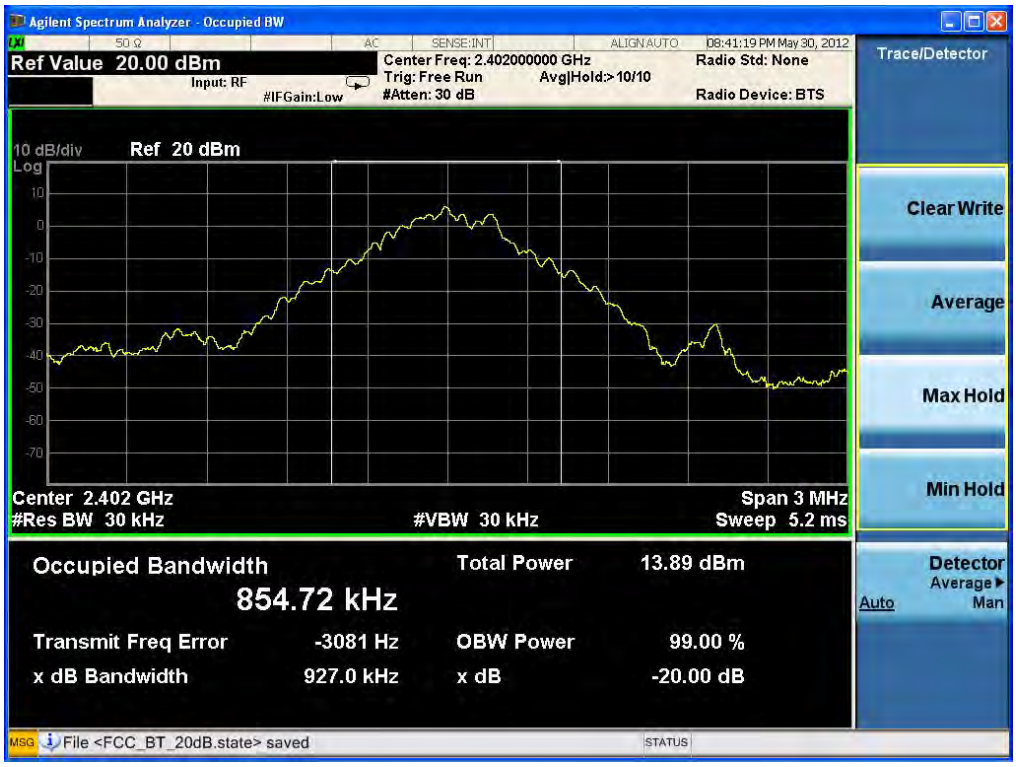
Frequency (MHz)	Channel Number.	Measured Bandwidth (MHz)	Result
2402	0	0.927	Complies
2441	39	0.865	Complies
2480	78	0.864	Complies

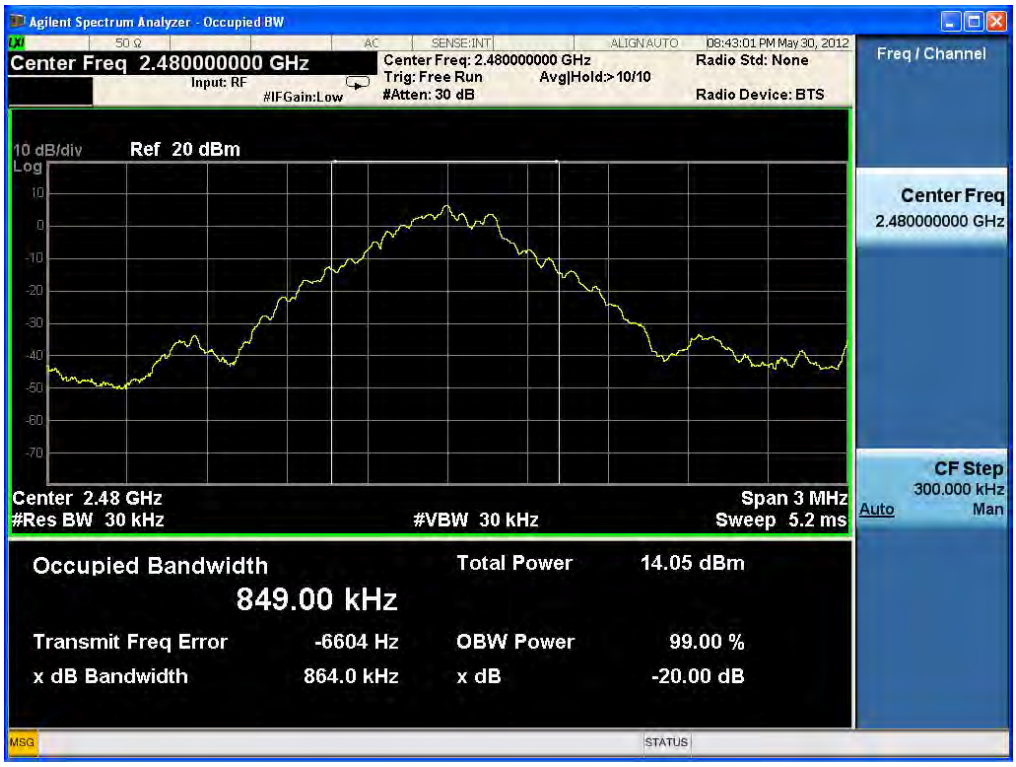
Test mode : 8-DPSK, CFG PKT Packet Type : 31 Packet Size : 1021(3DH5)

Frequency (MHz)	Channel Number.	Measured Bandwidth (MHz)	Result
2402	0	1.252	Complies
2441	39	1.253	Complies
2480	78	1.251	Complies

See next pages for actual measured spectrum plots.

20 dB Bandwidth - GFSK





20 dB Bandwidth – 8-DPSK

2.1.4 Time of Occupancy (Dwell Time)

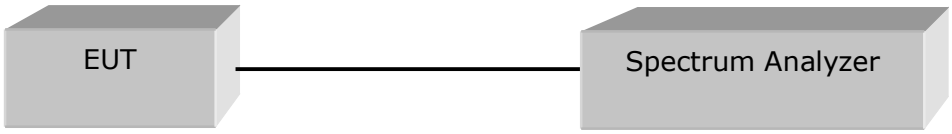
Test Location
RF Test Room

Test Procedures

The dwell time was measured with a spectrum analyzer connected to the antenna terminal, while EUT has its hopping function enabled.

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 PS 210 BTNC has 3 type of payload, DH1, DH3, DH5. The hopping rate is 1600 per second.

The spectrum analyzer is set to:
Center frequency = the highest, middle, and the lowest channels
Span = zero
RBW = 1 MHz Trace = max hold
VBW = 1 MHz (≥ RBW) Detector function = peak
Sweep = as necessary to capture the entire dwell time per hopping channel



Limit

§15.247(a)(1)(iii) For frequency hopping system operating in 2400-2483.5 MHz band, the average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed.

Test Results

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

Test mode : GFSK

Channel Frequency (MHz)	Packet Type	Dwell Time (ms)	Test Results	
			Time of occupancy on the TX channel in 31.6sec (ms)	Result
2441	DH 1	0.395	126.40	Complies
	DH 3	1.650	264.00	Complies
	DH 5	2.900	309.33	Complies

DH1 Dwell time = 0.395 ms × (1600÷2) ÷ 79 × 31.6 = 126.40 ms
DH3 Dwell time = 1.650 ms × (1600÷4) ÷ 79 × 31.6 = 264.00 ms
DH5 Dwell time = 2.900 ms × (1600÷6) ÷ 79 × 31.6 = 309.33 ms

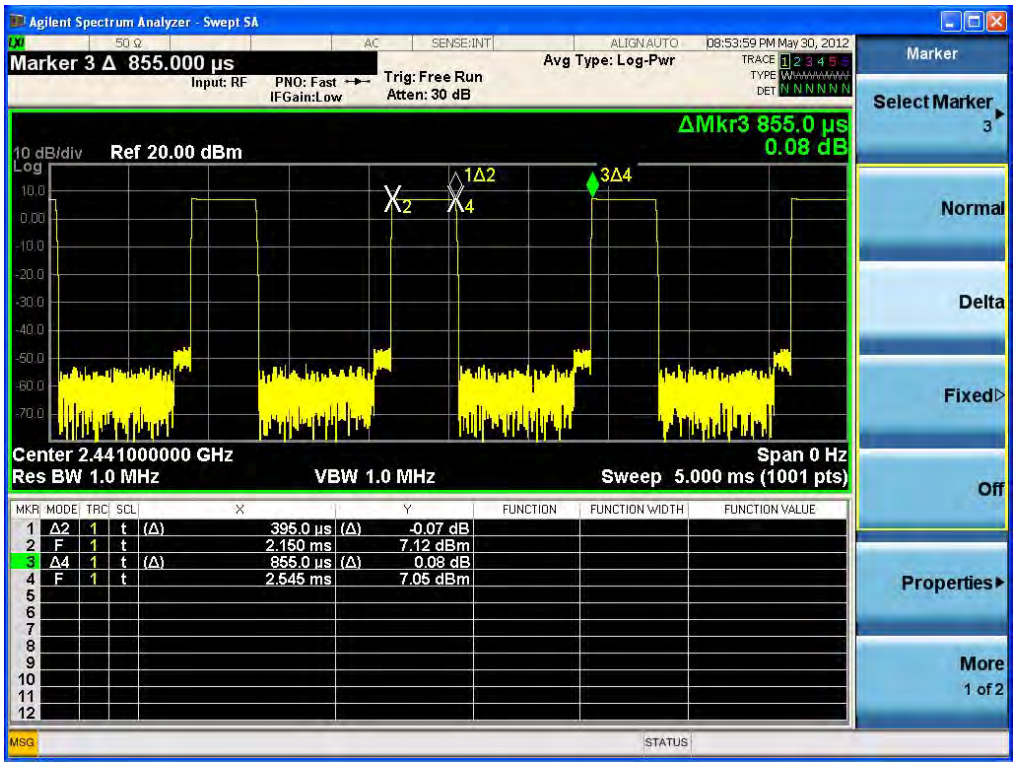
Test mode : 8-DPSK

Channel Frequency (MHz)	Packet Type	Dwell Time (ms)	Test Results	
			Time of occupancy on the TX channel in 31.6sec (ms)	Result
2441	3DH 1	0.410	131.20	Complies
	3DH 3	1.660	265.60	Complies
	3DH 5	2.905	309.87	Complies

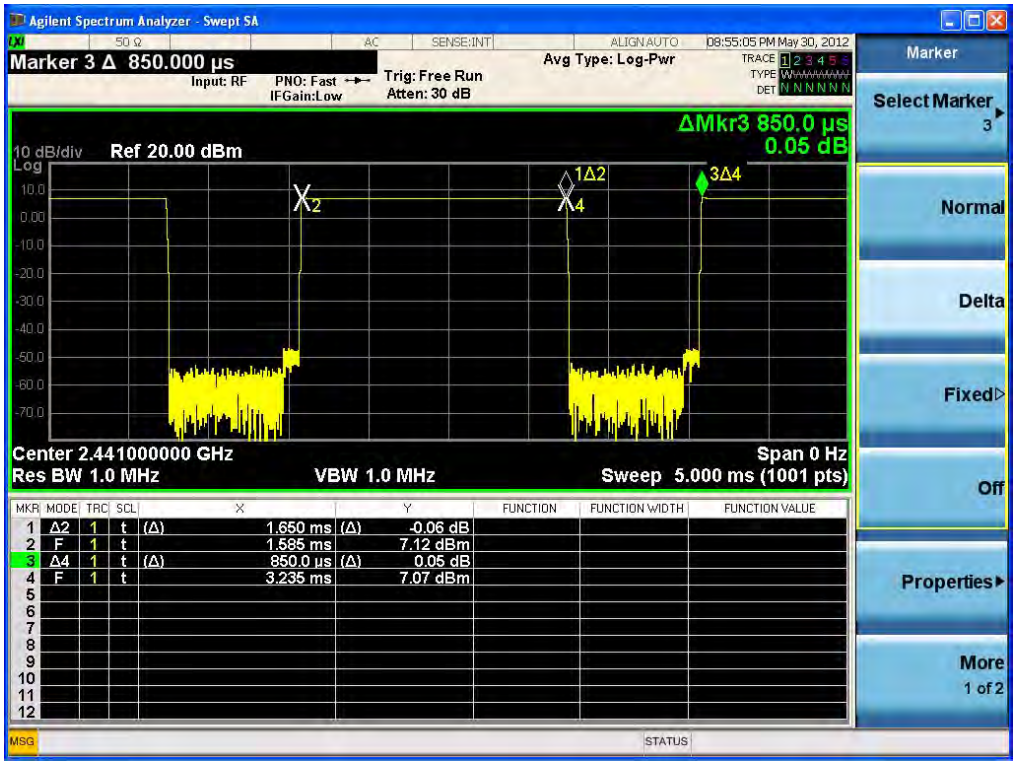
3DH1 Dwell time = 0.410 ms × (1600÷2) ÷ 79 × 31.6 = 131.20 ms
3DH3 Dwell time = 1.660 ms × (1600÷4) ÷ 79 × 31.6 = 265.60 ms
3DH5 Dwell time = 2.905 ms × (1600÷6) ÷ 79 × 31.6 = 309.87 ms

See next pages for actual measured spectrum plots.

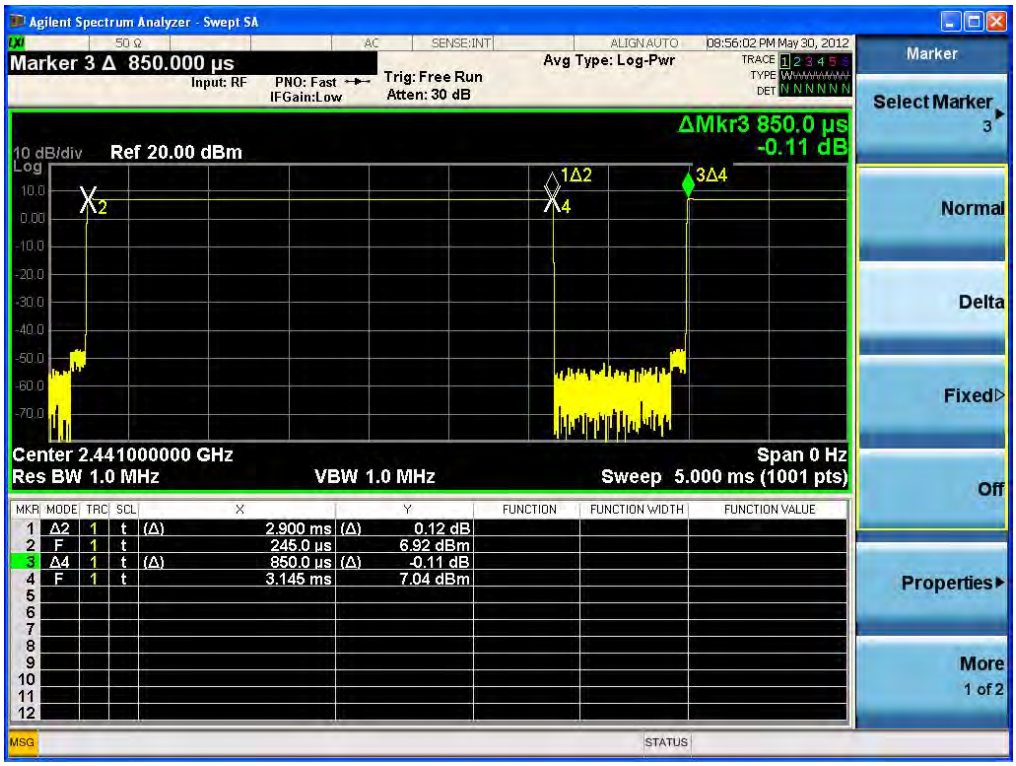
Time of Occupancy for PACKET Type DH1(GFSK)



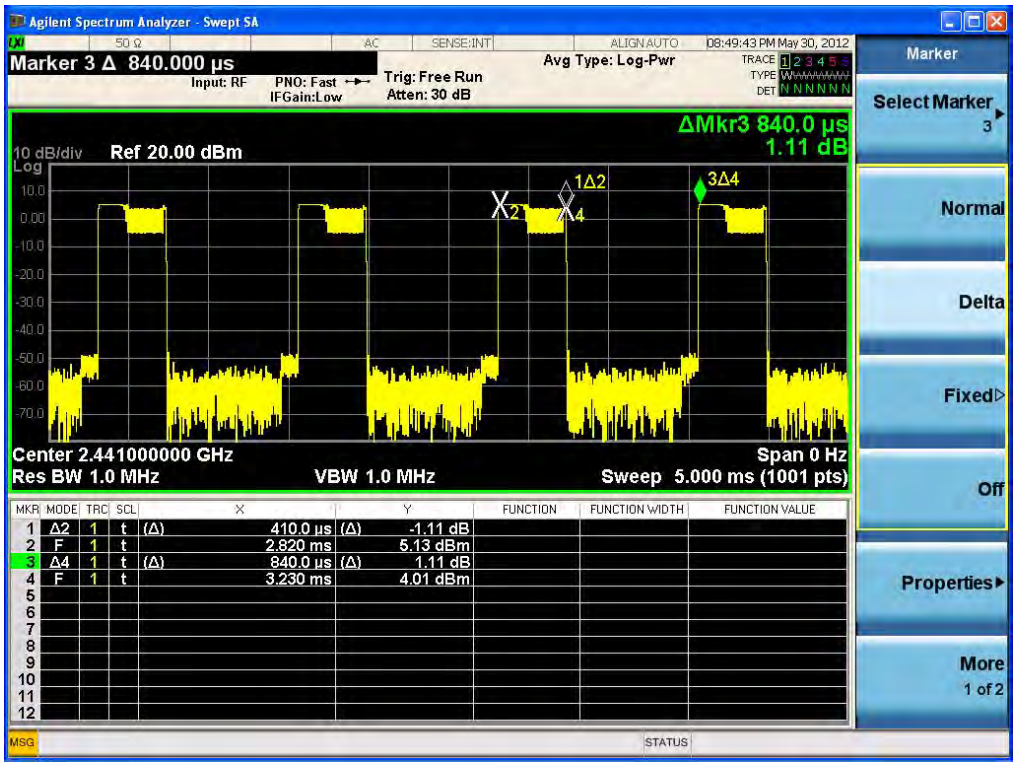
Time of Occupancy for PACKET Type DH3(GFSK)



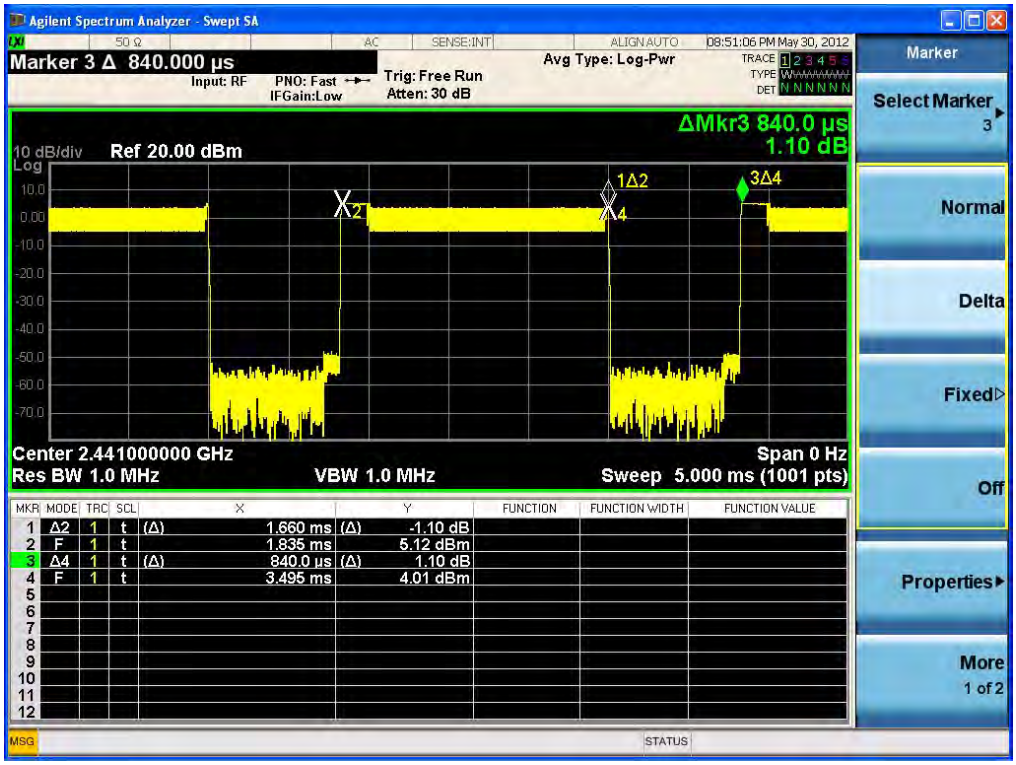
Time of Occupancy for PACKET Type DH5(GFSK)



Time of Occupancy for PACKET Type 3DH1(8-DPSK)



Time of Occupancy for PACKET Type 3DH3(8-DPSK)



Time of Occupancy for PACKET Type 3DH5(8-DPSK)

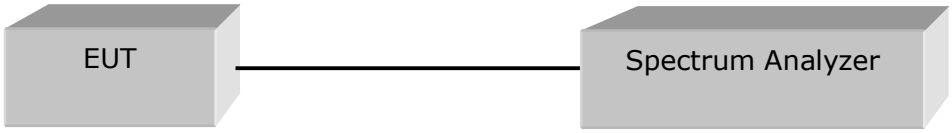
2.1.5 Maximum peak Conducted Output Power

Test Location
RF Test Room

Test Procedures

The maximum peak conducted output power was measured with a spectrum analyzer connected to the antenna terminal, while EUT has its hopping function disabled at the highest, middle and the lowest available channels.

The spectrum analyzer is set to:
Center frequency = the highest, middle, and the lowest channels
Span = 5 MHz (approximately 5 times of the 20 dB bandwidth)
RBW = 1 MHz (greater than the 20 dB bandwidth of the emission being measured)
VBW = 1 MHz (≥ RBW) Detector function = peak
Trace = max hold Sweep = auto



Limit

§5.247(b)(1) The Maximum Peak Output Power Measurement is 0.125 Watts for frequency hopping system operating in 2400-2483.5 MHz employing at least 15 Hopping channels.

Test Results

Test mode : GFSK, CFG PKT Packet Type : 4 Packet Size : 27(DH1)

Frequency (MHz)	Channel No.	Peak output power(dBm)	Peak output power(mW)	Result
2402	0	7.710	5.902	Complies
2441	39	7.876	6.132	Complies
2480	78	7.812	6.042	Complies

Test mode : 8-DPSK, CFG PKT Packet Type : 31 Packet Size : 1021(3DH5)

Frequency (MHz)	Channel No.	Peak output power(dBm)	Peak output power(mW)	Result
2402	0	6.032	4.010	Complies
2441	39	6.149	4.120	Complies
2480	78	6.076	4.051	Complies

See next pages for actual measured spectrum plots.

Maximum peak Conducted Output Power - GFSK

Maximum peak Conducted Output Power - 8-DPSK

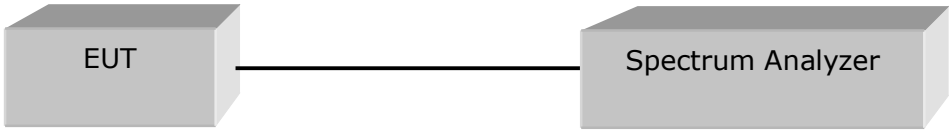
2.1.6 Band-edge

Test Location
RF Test Room

Test Procedures

The bandwidth at 20 dB down from the highest inband spectral density was measured with a spectrum analyzer connected to the antenna terminal, while EUT has its hopping function disabled at the highest, middle and the lowest available channels.

The spectrum analyzer is set to:
Center frequency = the highest, middle, and the lowest channels
RBW = 100 kHz
VBW = 100 kHz (≥ RBW)
Span = 10 MHz
Trace = max hold
Detector function = peak
Sweep = auto



Limit

> 20 dBc

Test Results

All conducted emission in any 100 kHz bandwidth outside of the spectrum band was at least 20 dB lower than the highest level of the inband spectral density.
Therefore the applying equipment meets the requirement.

See next pages for actual measured spectrum plots.

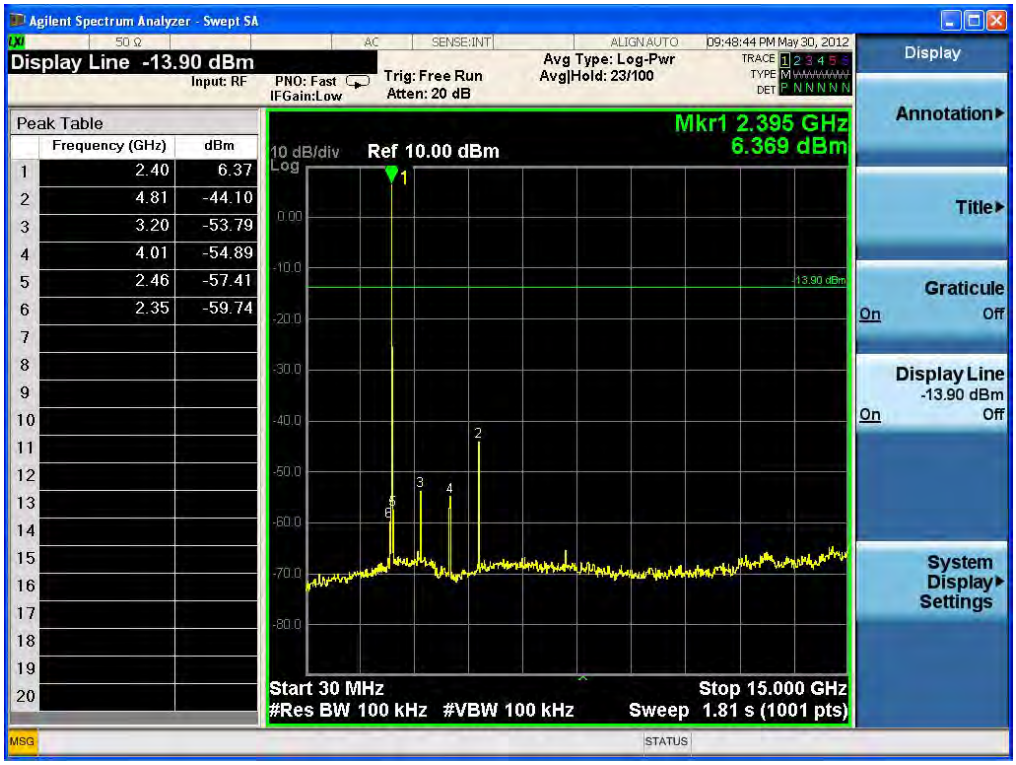
Band – edge (with Hopping) - GFSK

Band – edge (with Hopping) - 8-DPSK

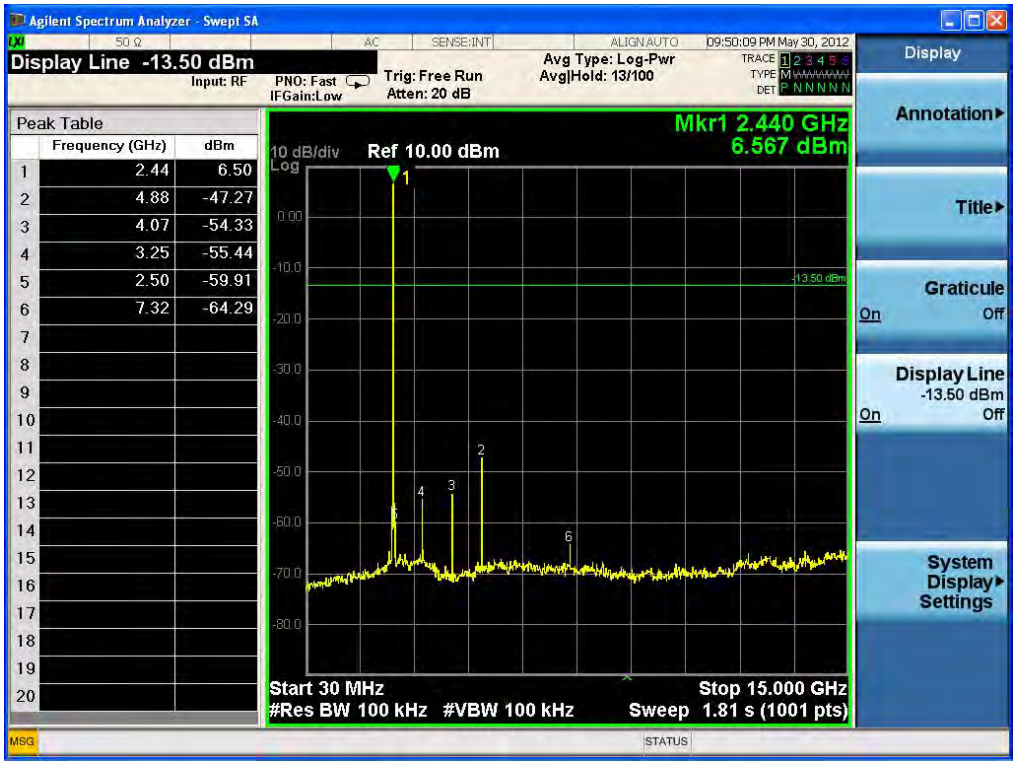
Band – edge (without Hopping) - GFSK

Band – edge (without Hopping) - 8-DPSK

Band – edge (at 20 dB blow) – Low channel
Frequency Range = 30 MHz ~ 10th harmonic
(GFSK : Worst-Case)



Band – edge (at 20 dB blow) – Mid channel
Frequency Range = 30 MHz ~ 10th harmonic
(GFSK : Worst-Case)



Band – edge (at 20 dB blow) – High channel
Frequency Range = 30 MHz ~ 10th harmonic
(GFSK : Worst-Case)

Band – edge (at 20 dB blow) – Low channel
Frequency Range = 30 MHz ~ 10th harmonic
(8-DPSK : Worst-Case)

Band – edge (at 20 dB blow) – Mid channel
Frequency Range = 30 MHz ~ 10th harmonic
(8-DPSK : Worst-Case)

Band – edge (at 20 dB blow) – High channel
Frequency Range = 30 MHz ~ 10th harmonic
(8-DPSK : Worst-Case)

2.1.7 Field Strength of Emissions

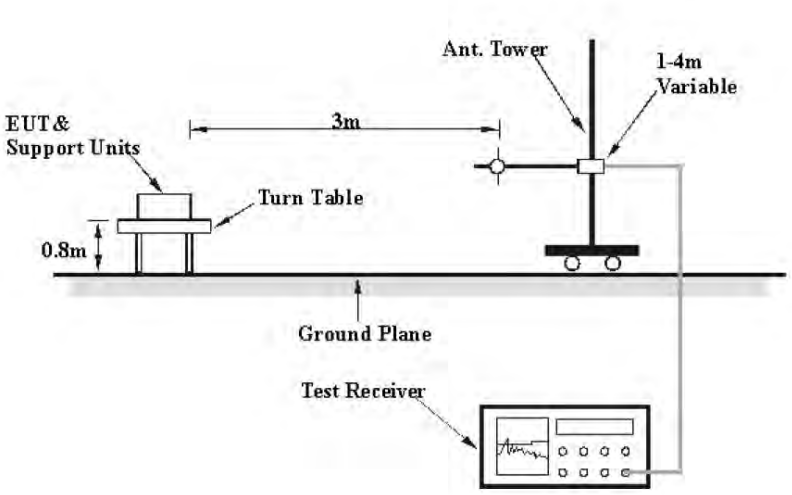
Test Location

☒ Testing was performed at a test distance of 3 meter SAC

Test Procedures

The height of the measuring antenna was varied between 1 to 4 m and the table was rotated a full revolution in order to obtain maximum values of the electric field intensity. The measurement was made in both the vertical and horizontal polarization, and the maximum value is presented in the report.

The spectrum analyzer is set to:
Center frequency = the worst channel
Frequency Range =30 MHz ~ 10th harmonic
RBW = 120 kHz (30 MHz ~ 1 GHz) VBW ≥ RBW
= 1 MHz (1 GHz ~ 10th harmonic)
Span = 100 MHz Detector function = Quasi-peak
Trace = max hold



Limit

- **15.209(a)**

Frequency(MHz)	Field Strength uV/m@3m	Field Strength dBuV/m@3m
30-88	100**	40
88-216	150**	43.5
216-960	200**	46
Above 960	500	54

** Except as provided in 15.209(g).fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72MHz, 76-88MHz, 174-216MHz, 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g.15.231 and 15.241.

Test Results

Test mode : Hopping(GFSK), CFG PKT Packet Type : 15 Packet Size : 339(DH5)

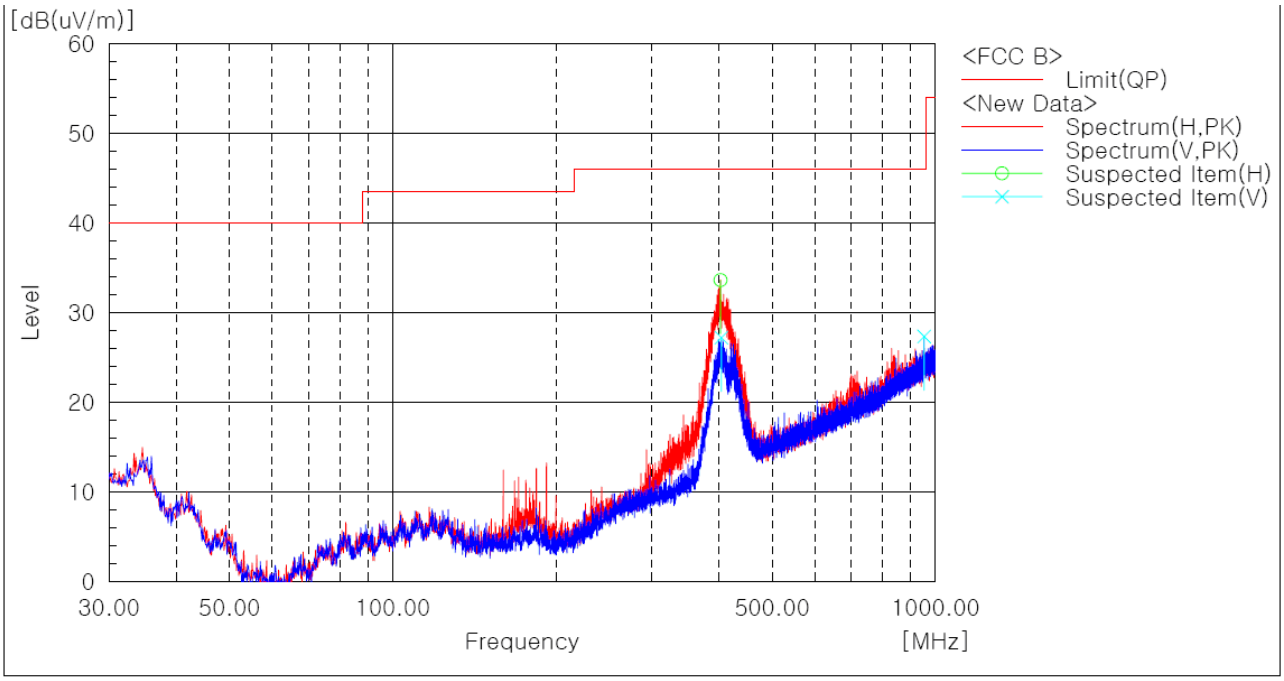
EUT	Noise Cancelling Bluetooth Stereo Earphones	Measurement Detail	
Model	PS 210 BTNC	Frequency Range	Below 1000MHz
Test mode	GFSK (Worst case)	Detector function	Quasi-Peak

The requirements are:

☒ Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
401.874	33.6	12.4	Quasi-Peak

Test Data



Spectrum Selection

No.	Frequency [MHz]	(P)	Reading [dB(uV)]	c.f [dB(1/m)]	Result QP [dB(uV/m)]	Limit QP [dB(uV/m)]	Margin QP [dB]	Height [cm]	Angle [deg]
1	401.874	H	47.0	-13.4	33.6	46.0	12.4	100.0	91.0
2	403.208	V	40.6	-13.4	27.2	46.0	18.8	192.0	0.0
3	952.955	V	29.3	-2.0	27.3	46.0	18.7	400.0	241.0

Remark :
1. The field strength of spurious emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in stand-up position(X axis) and the worst case was recorded.

Test Results

Test mode : GFSK, CFG PKT Packet Type : 15 Packet Size : 339(DH5)

EUT	Noise Cancelling Bluetooth Stereo Earphones	Measurement Detail	
Model	PS 210 BTNC	Frequency Range	1-25GHz
Test Mode	GFSK (Worst case)	Detector function	Peak

Remarks

We have tested three mode (X, Y, Z). The worst mode (X axis) for final test.

The requirements are:

☒ Complies

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
4888	45.8 / 47.6	8.2 / 26.4	Average / Peak

Test Data

Frequency [MHz]	Reading [dBuV/m] AV / Peak	Pol.	Height [m]	Correction Factor			Limits [dBuV/m] AV / Peak	Result [dBuV/m] AV / Peak	Margin [dB] AV / Peak
				Antenna	Amp. Gain	Cable			
No emissions were detected at a level greater than 20dB below limit.									

Restricted band edge test data

Measured frequency range : 2310-2390 MHz, 2483.5-2500 MHz

Frequency [MHz]	Reading [dBuV/m] AV / Peak		Pol.	Height [m]	Correction Factor			Limits [dBuV/m] AV / Peak		Result [dBuV/m] AV / Peak		Margin [dB] AV / Peak	
					Antenna	Amp. Gain	Cable						
2483.50	45.5	47.3	V	1.1	28.2	35.3	7.4	54.0	74.0	45.8	47.6	8.2	26.4

2.1.8 AC Conducted Emissions

Test Location
Shielded Room

Frequency Range of Measurement
150 kHz to 30 MHz

Instrument Settings
IF Band Width: 9 kHz

Test Procedures

The EUT was placed on a non-metallic table 0.8m above the metallic, grounded floor and 0.4m from the reference ground plane wall. The distance to other metallic surfaces was at least 0.8m.
Amplitude measurements were performed with a quasi-peak detector and an average detector.

Limit

- **15.207(a)**

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56*	56 to 46*
0.5 ~ 5	56	46
5 ~ 30	60	50

* Decreases with the logarithm of the frequency.

Test Results
The requirements are:

☒ Complies

Test mode : Hopping mode(Worst Case)

Frequency (MHz)	Measured Data (dBuV/m)	Margin (dB)	Remark
1.783500	42.7	3.3	Average

Test Data

[HOT]

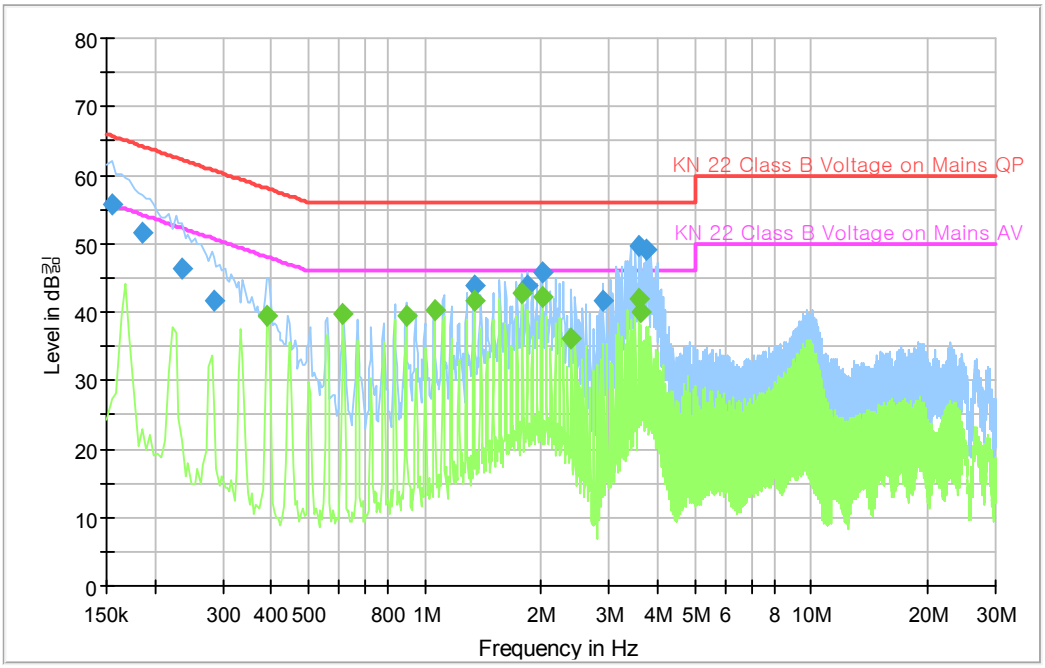
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154500	55.6	1000.0	9.000	On	L1	10.1	10.1	65.8
0.186000	51.5	1000.0	9.000	On	L1	10.0	12.8	64.2
0.235500	46.3	1000.0	9.000	On	L1	10.1	16.0	62.3
0.285000	41.6	1000.0	9.000	On	L1	10.1	19.1	60.7
1.338000	43.8	1000.0	9.000	On	L1	10.0	12.2	56.0
1.842000	43.9	1000.0	9.000	On	L1	9.9	12.1	56.0
2.008500	45.9	1000.0	9.000	On	L1	9.9	10.1	56.0
2.899500	41.7	1000.0	9.000	On	L1	9.9	14.3	56.0
3.570000	49.6	1000.0	9.000	On	L1	9.8	6.4	56.0
3.736500	49.2	1000.0	9.000	On	L1	9.8	6.8	56.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.388500	39.3	1000.0	9.000	On	L1	10.0	8.8	48.1
0.613500	39.8	1000.0	9.000	On	L1	10.1	6.2	46.0
0.892500	39.4	1000.0	9.000	On	L1	10.0	6.6	46.0
1.059000	40.4	1000.0	9.000	On	L1	10.0	5.6	46.0
1.338000	41.6	1000.0	9.000	On	L1	10.0	4.4	46.0
1.783500	42.7	1000.0	9.000	On	L1	9.9	3.3	46.0
2.008500	42.3	1000.0	9.000	On	L1	9.9	3.7	46.0
2.400000	36.0	1000.0	9.000	On	L1	9.9	10.0	46.0
3.570000	41.8	1000.0	9.000	On	L1	9.8	4.2	46.0
3.624000	39.9	1000.0	9.000	On	L1	9.8	6.1	46.0

3CE_KN 22 Class B_L1



[NEUTRAL]

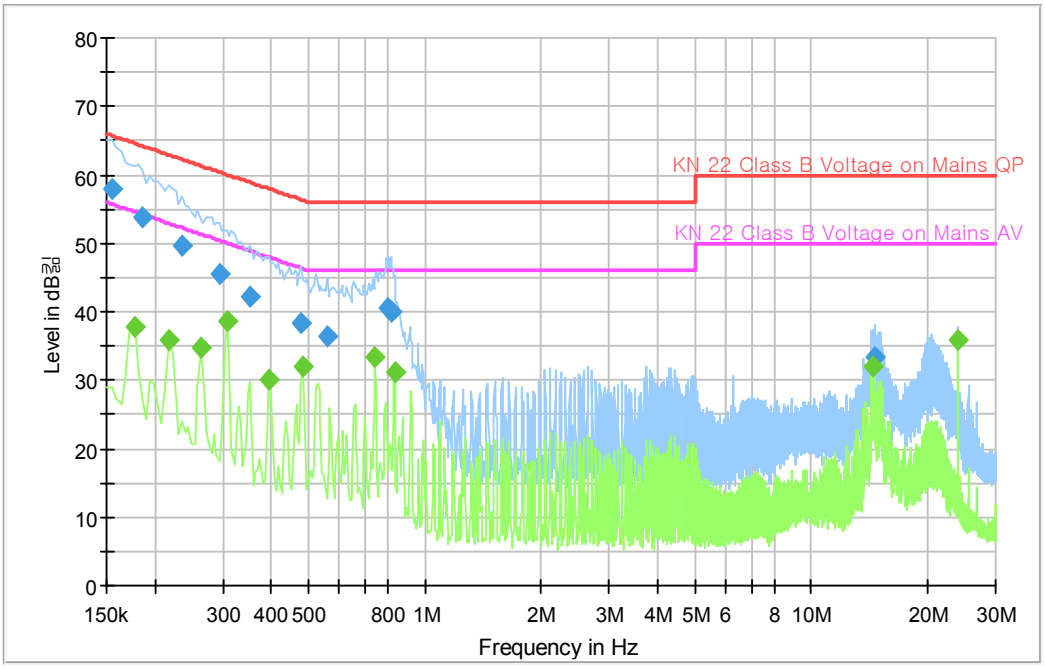
Final Result 1

Frequency (MHz)	QuasiPeak (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.154500	57.8	1000.0	9.000	On	N	10.1	7.9	65.8
0.186000	53.8	1000.0	9.000	On	N	10.1	10.4	64.2
0.235500	49.6	1000.0	9.000	On	N	10.1	12.6	62.3
0.294000	45.4	1000.0	9.000	On	N	10.1	15.0	60.4
0.352500	42.2	1000.0	9.000	On	N	10.0	16.7	58.9
0.478500	38.4	1000.0	9.000	On	N	9.9	17.9	56.4
0.559500	36.3	1000.0	9.000	On	N	10.0	19.7	56.0
0.798000	40.4	1000.0	9.000	On	N	10.1	15.6	56.0
0.820500	40.0	1000.0	9.000	On	N	10.1	16.0	56.0
14.559000	33.4	1000.0	9.000	On	N	9.8	26.6	60.0

Final Result 2

Frequency (MHz)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBµV)
0.177000	37.9	1000.0	9.000	On	N	10.0	16.8	54.6
0.217500	35.8	1000.0	9.000	On	N	10.2	17.1	52.9
0.262500	34.7	1000.0	9.000	On	N	10.1	16.6	51.4
0.307500	38.7	1000.0	9.000	On	N	10.1	11.3	50.0
0.393000	30.1	1000.0	9.000	On	N	10.0	17.9	48.0
0.483000	32.0	1000.0	9.000	On	N	9.9	14.3	46.3
0.744000	33.5	1000.0	9.000	On	N	10.1	12.5	46.0
0.834000	31.3	1000.0	9.000	On	N	10.1	14.7	46.0
14.509500	32.0	1000.0	9.000	On	N	9.8	18.0	50.0
23.959500	35.7	1000.0	9.000	On	N	10.1	14.3	50.0

3CE_KN 22 Class B_N



APPENDIX A – Test Equipment Used For Tests

	Name of Equipment	Manufacturer	Model No.	Serial No.	Due Date
1	Signal Analyzer	Agilent	N9020A	MY48011598	2012-11-10
2	Spectrum Analyzer	Rohde & Schwarz	FSP-30	100994	2012-11-10
3	EMI Test Receiver	Rohde & Schwarz	ESVS30	826638/008	2012-07-07
4	ULTRA Broadband Antenna	Rohde & Schwarz	HL562	361324/014	2013-11.03
5	LOOP ANTENNA	EMCO	6502	9107-2652	2012-10-29
6	Attenuator	HP	8498A	1801A06913	2012-11-14
7	EPM Series Power Meter	HP	E4418A	GB38272734	2012-11-10
8	Power Sensor	HP	8487A	3318A03524	2012-07-07
9	Audio Analyzer	HP	8903B	2747A03432	2012-11-10
10	ESG-D Series Signal Generator	Agilent	E4432B	US40054094	2012-11-21
11	SYNTHESIZED SWEEPER	HP	8341B	2819A01563	2012-11-10
12	Modulation Analyzer	HP	8901B	3438A05228	2012-11-18
13	Attenuator	HP	8494A	3308A33351	2012-11-14
14	Temp&Humi Chamber	Kunpoong	JT-TH-556-1	9QE5-002	2013-01-12
15	DC POWER SUPPLY	Agilent	E3632A	MY40011638	2012-11-10
16	EMC Analyzer	Agilent	E7405A	MY45110859	2013-02-13
17	Horn Antenna	ETS-Lindgren	3115	00078894	2013-03-22
18	Horn Antenna	ETS-Lindgren	3115	00078895	2013-03-22
19	Dipole Antenna	SCHWARZBECK	VHA 9103	VHA91032557	2013-11-04
20	Dipole Antenna	SCHWARZBECK	UHA 9105	UHA91052417	2013-11-04
21	OPT H64 AMPLIFIER	HP	8447F	3113A06814	2013-03-27
22	PREAMPLIFIER	Agilent	8449B	3008A02307	2012-11-17
23	Radio Communication Tester	Rohde & Schwarz	CMU200	106765	2013-02-09
24	LISN	Rohde & Schwarz	ENV216	101235	2012-08-18
25	LISN	Rohde & Schwarz	ENV216	101236	2012-08-18
26	DC POWER SUPPLY	Agilent	E3632A	MY40011638	2012-11-10
27	EMI Test Receiver	Rohde & Schwarz	ESCI3	100032	2013-02-09