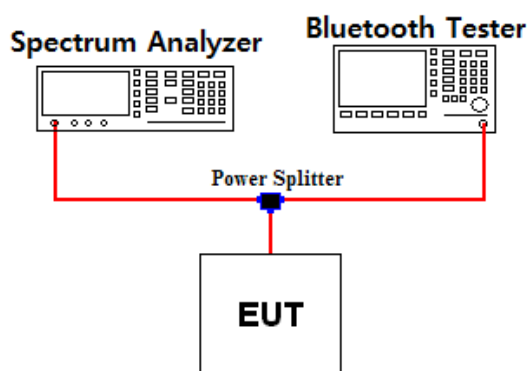


3. 99 % & 20dBc BW

3.1. Test Setup



3.2. Limit

Limit: Not Applicable

3.3. Test Procedure

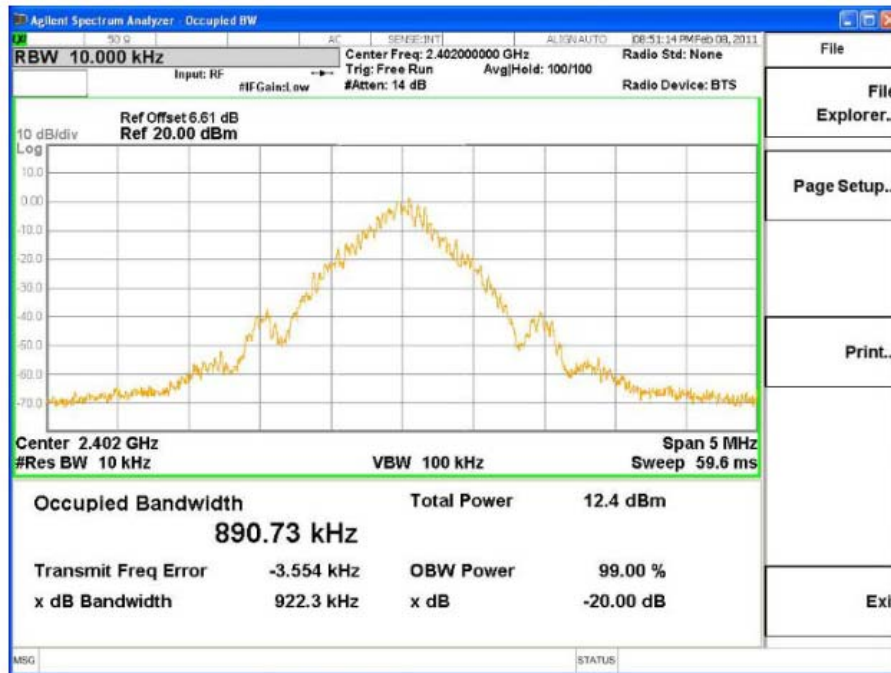
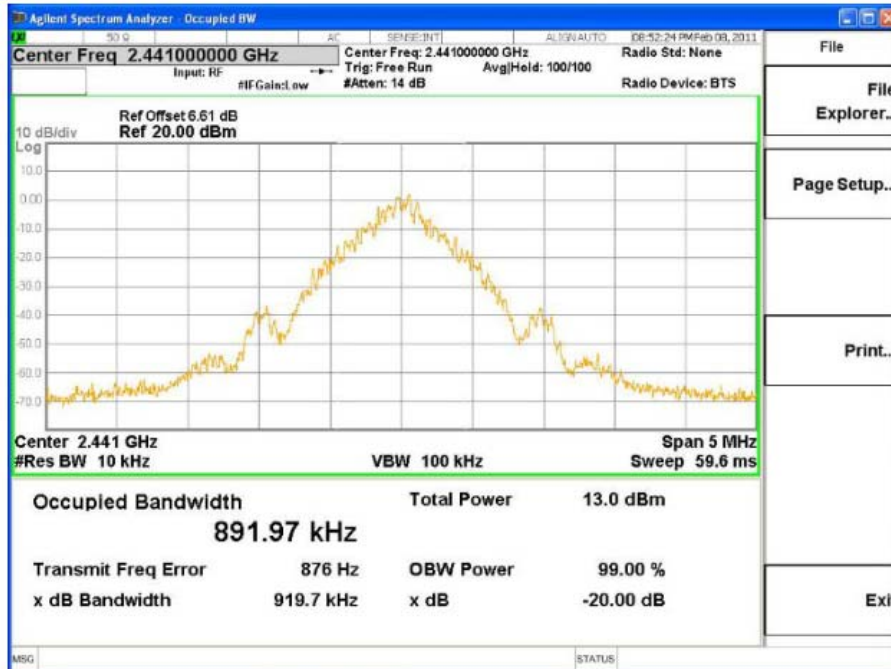
1. The 99% and 20dBc bandwidth were measured with a spectrum analyzer connected to RF antenna connector(conducted measurement) while EUT was operating in transmit mode. The analyzer center frequency was set to the EUT carrier frequency, using the analyzer.
2. The bandwidth of the fundamental frequency was measured with the spectrum analyzer using RBW = 10 kHz, VBW = 100 kHz, Span = 5 MHz.

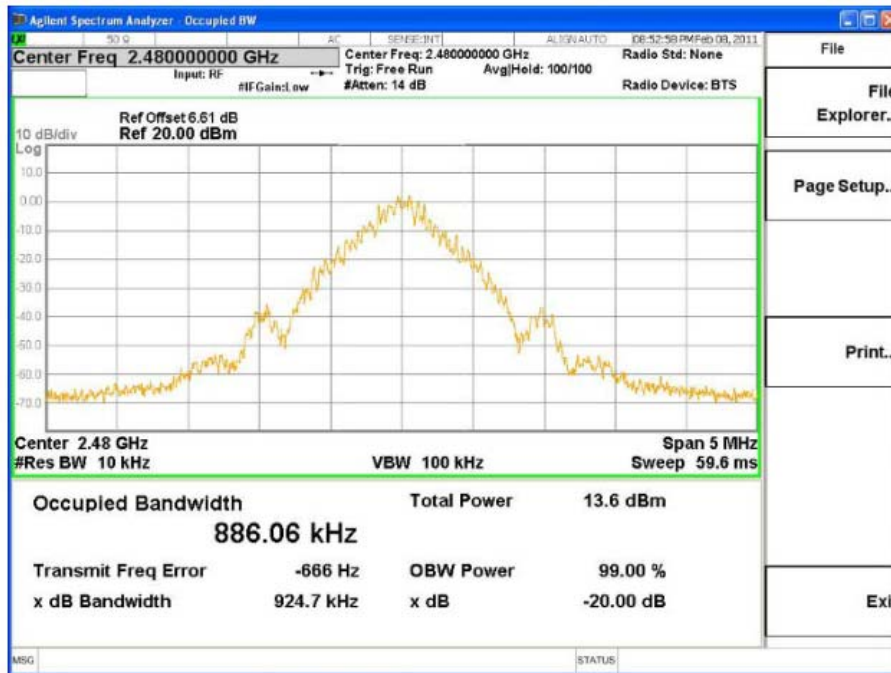
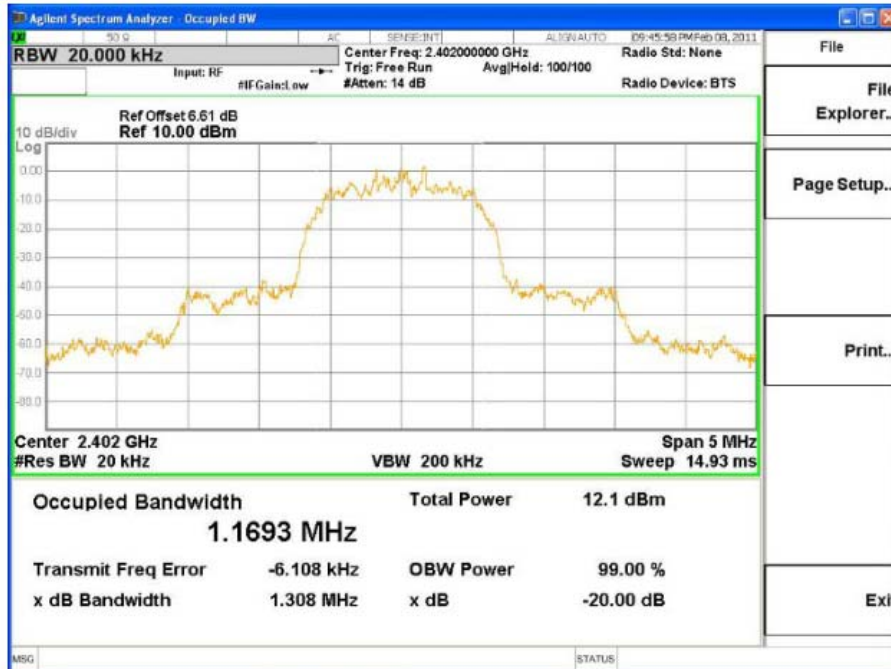
3.4. Test Results

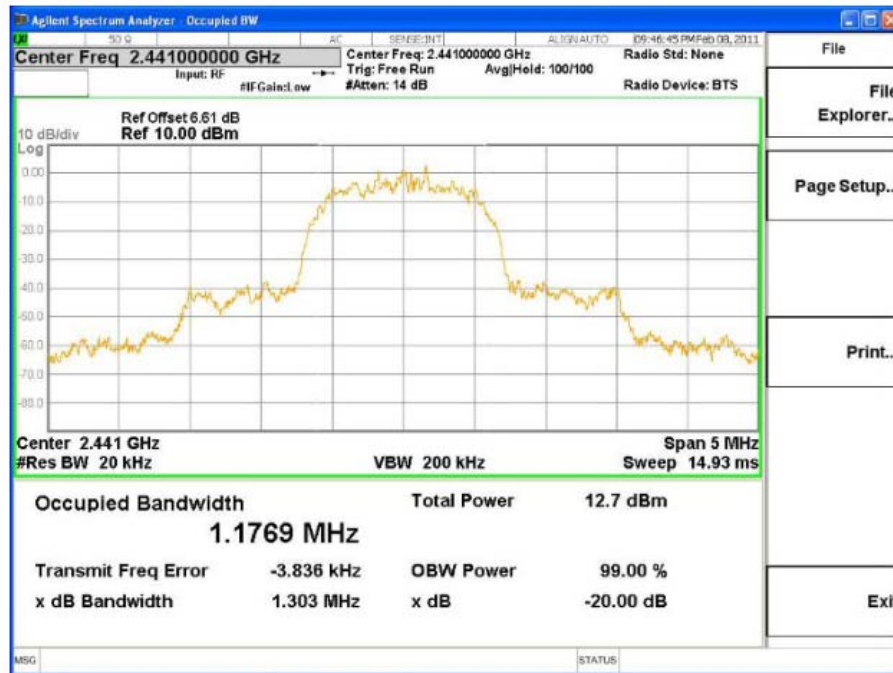
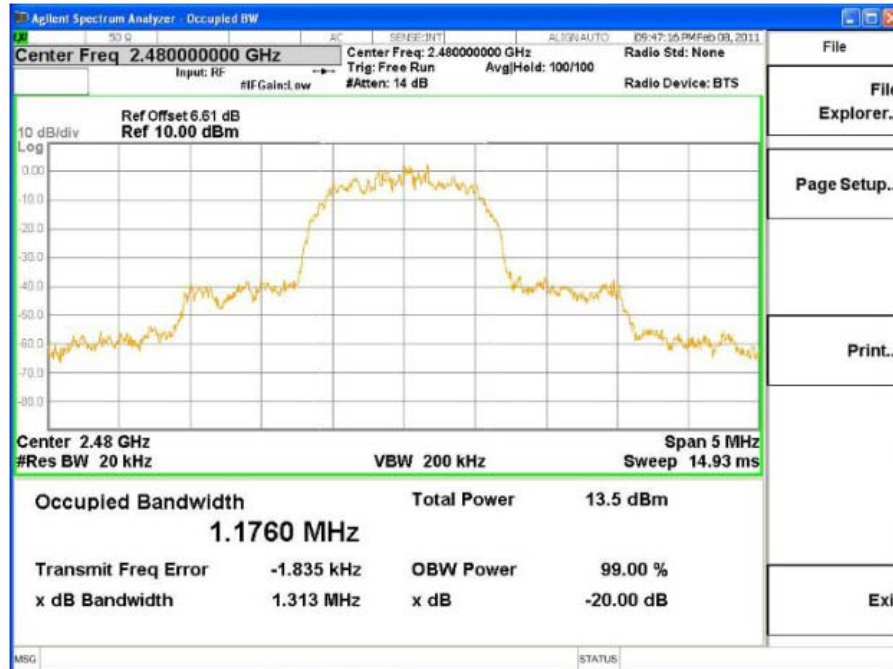
Ambient temperature : 22 °C
Relative humidity : 34%

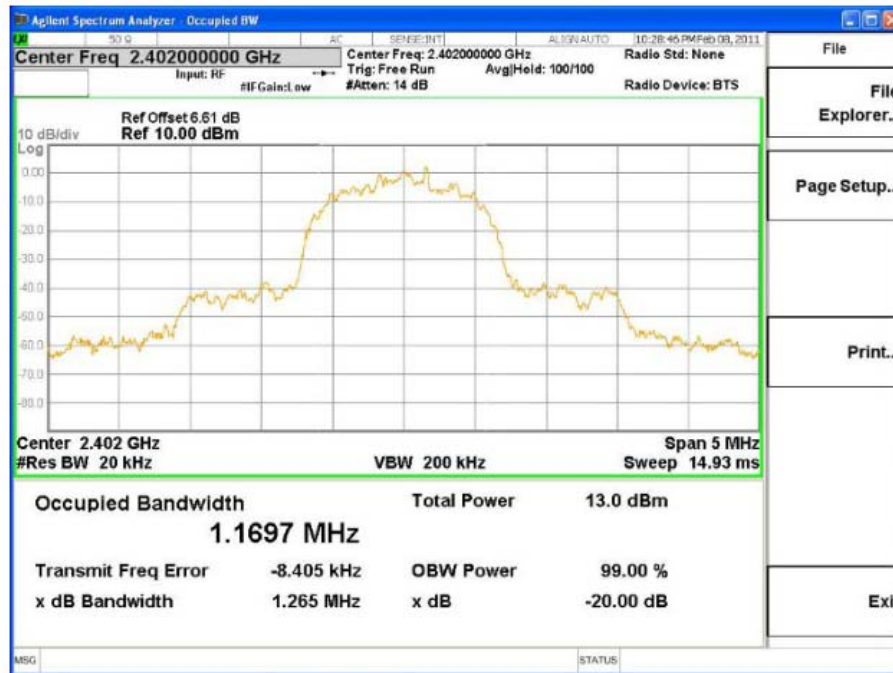
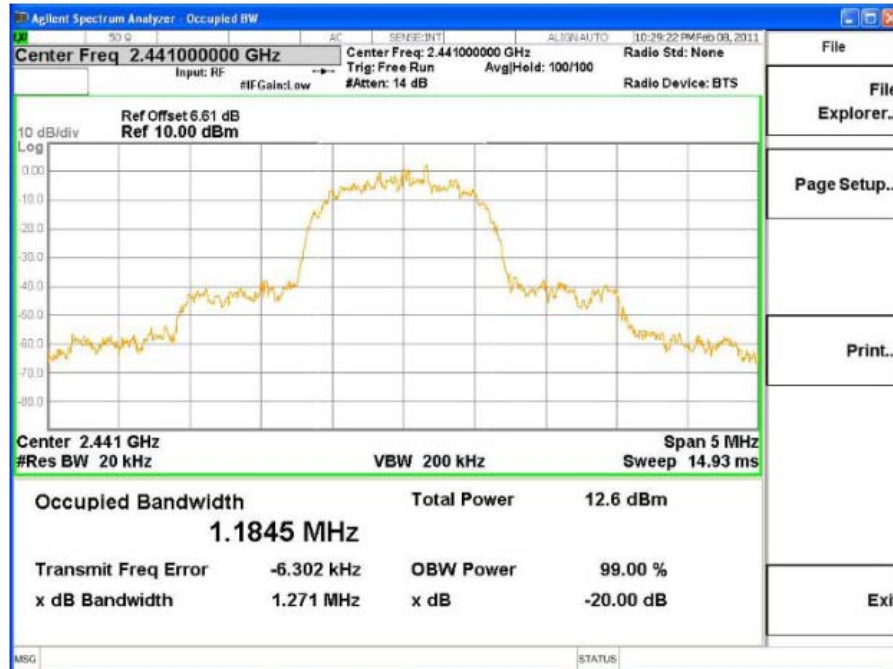
Modulation	Tested Channel	99% BW (MHz)	20dBc BW (MHz)
<u>GFSK</u>	Lowest	0.89073	0.92230
	Middle	0.89197	0.91970
	Highest	0.88606	0.92470
<u>$\pi/4$ DQPSK</u>	Lowest	1.1693	1.308
	Middle	1.1769	1.303
	Highest	1.1760	1.313
<u>8DPSK</u>	Lowest	1.1697	1.265
	Middle	1.1845	1.271
	Highest	1.1829	1.301

Note 1: See next pages for actual measured spectrum plots.

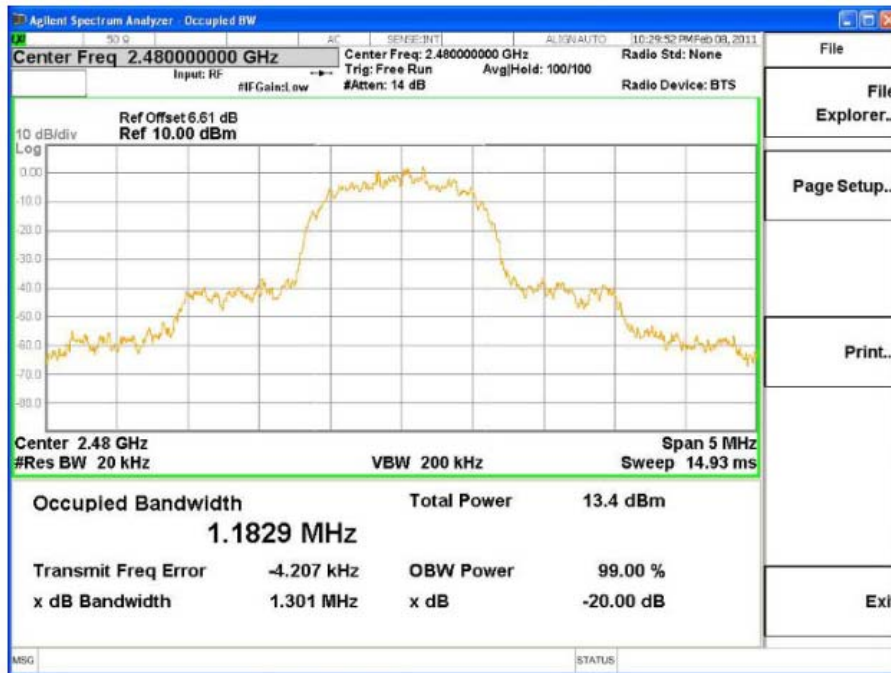
99% & 20dB Bandwidth**Lowest Channel** & Modulation: **GFSK****99% & 20dB Bandwidth****Middle Channel** & Modulation: **GFSK**

99% & 20dB Bandwidth**Highest Channel** & Modulation: **GFSK****99% & 20dB Bandwidth****Lowest Channel** & Modulation: **$\pi/4$ DQPSK**

99% & 20dB Bandwidth**Middle Channel** & Modulation: **$\pi/4$ DQPSK****99% & 20dB Bandwidth****Highest Channel** & Modulation: **$\pi/4$ DQPSK**

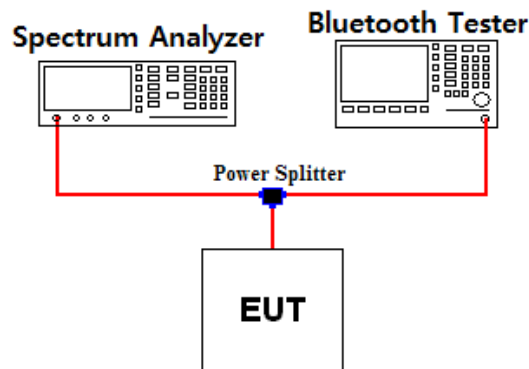
99% & 20dB Bandwidth**Lowest Channel** & Modulation: **8DPSK****99% & 20dB Bandwidth****Middle Channel** & Modulation: **8DPSK**

99% & 20dB Bandwidth

Highest Channel & Modulation: 8DPSK

5. Maximum Peak Output Power Measurement

5.1. Test Setup



5.2. Limit

The maximum peak output power of the intentional radiator shall not exceed the following :

1. §15.247(a)(1), Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.
2. §15.247(b)(1), For frequency hopping systems operating in the 2 400 – 2 483.5 MHz employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5 725 – 5 805 MHz band: 1 Watt.

5.3. Test Procedure

1. The RF power output was measured with a Spectrum analyzer connected to the RF Antenna connector (conducted measurement) while EUT was operating in transmit mode at the appropriate center frequency, A spectrum analyzer was used to record the shape of the transmit signal.
2. The bandwidth of the fundamental frequency was measured with the spectrum analyzer using ;
 Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel
 RBW $\geq$ 20dB BW
 VBW $\geq$ RBW
 Sweep = auto
 Detector function = peak
 Trace = max hold

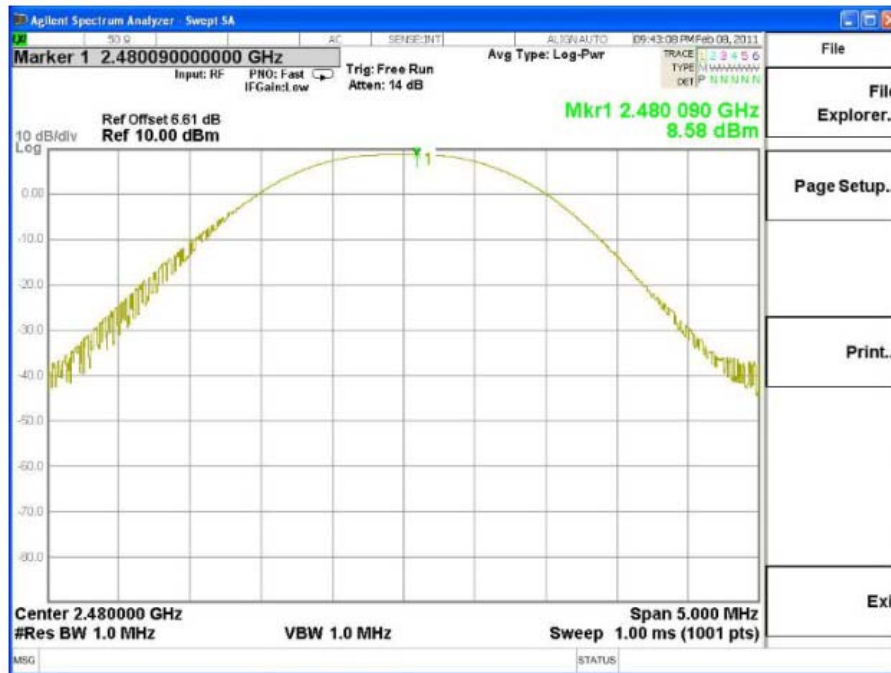
5.4. Test Results

Ambient temperature : 22 °C
Relative humidity : 34%

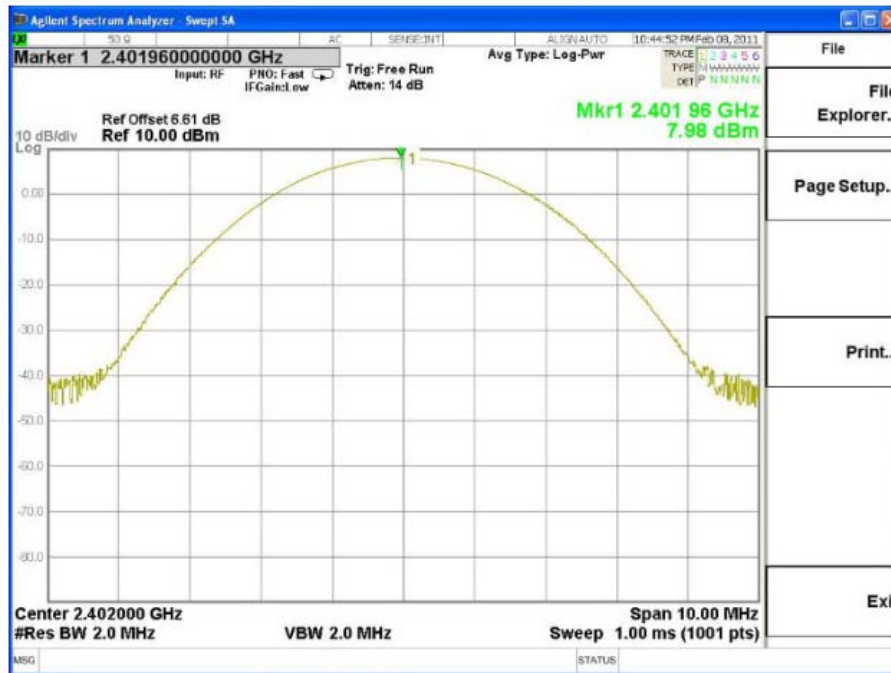
Modulation	Tested Channel	Peak Output Power	
		dBm	mW
<u>GFSK</u>	Lowest	7.12	5.152
	Middle	7.84	6.081
	Highest	8.58	7.211
<u>$\pi/4$ DQPSK</u>	Lowest	7.55	5.689
	Middle	8.25	6.690
	Highest	8.99	7.921
<u>8DPSK</u>	Lowest	7.98	6.281
	Middle	8.70	7.413
	Highest	9.45	8.810

Note 1: See next pages for actual measured spectrum plots.

Peak Output Power**Lowest Channel** & Modulation: **GFSK****Peak Output Power****Middle Channel** & Modulation: **GFSK**

Peak Output Power**Highest Channel** & Modulation: **GFSK****Peak Output Power****Lowest Channel** & Modulation: **$\pi/4$ DQPSK**

Peak Output Power**Middle Channel** & Modulation: **$\pi/4$ DQPSK****Peak Output Power****Highest Channel** & Modulation: **$\pi/4$ DQPSK**

Peak Output Power**Lowest Channel** & Modulation: **8DPSK****Peak Output Power****Middle Channel** & Modulation: **8DPSK**

Peak Output Power**Highest Channel** & Modulation: **8DPSK**

6. Transmitter AC Power Line Conducted Emission

6.1. Test Setup

Refer to test setup photo.

6.2. Limit

According to §15.207(a) 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 uH/50 ohm line impedance stabilization network(LISN).

Compliance with the provision of this paragraph shall on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower applies at the boundary between the frequency ranges.

Frequency Range (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

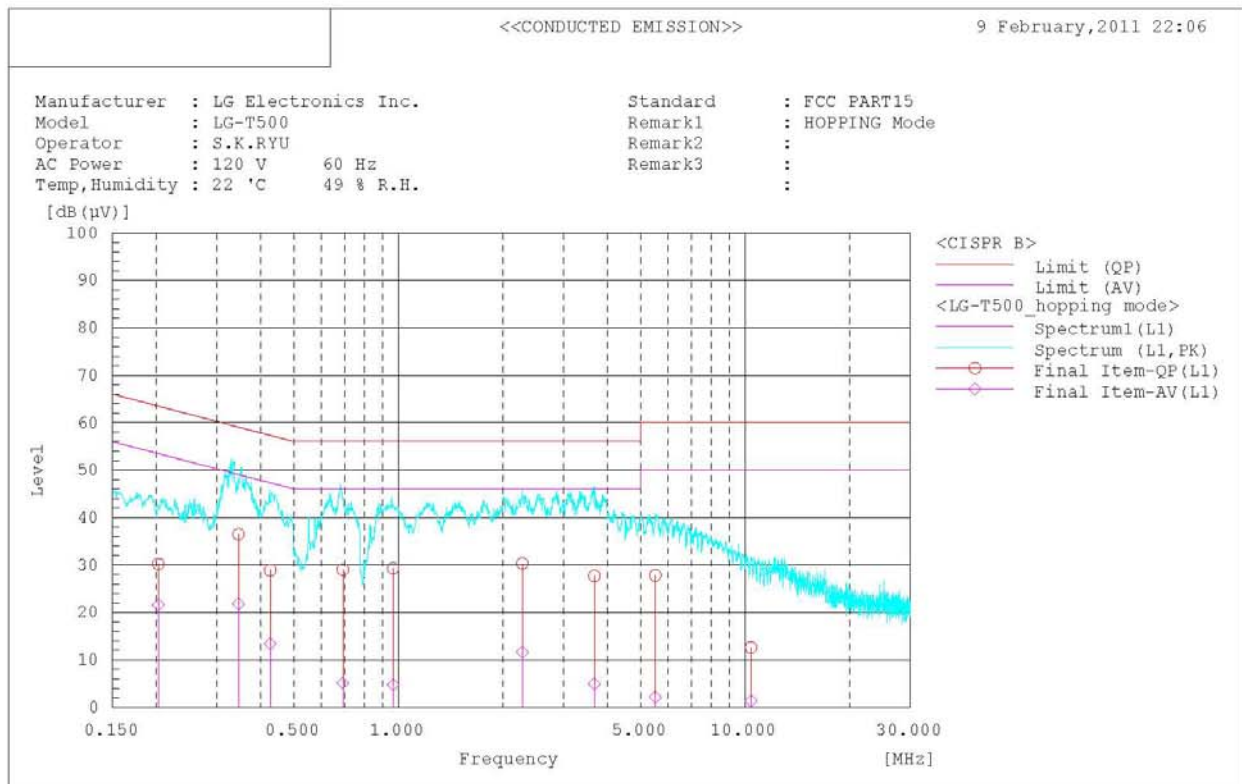
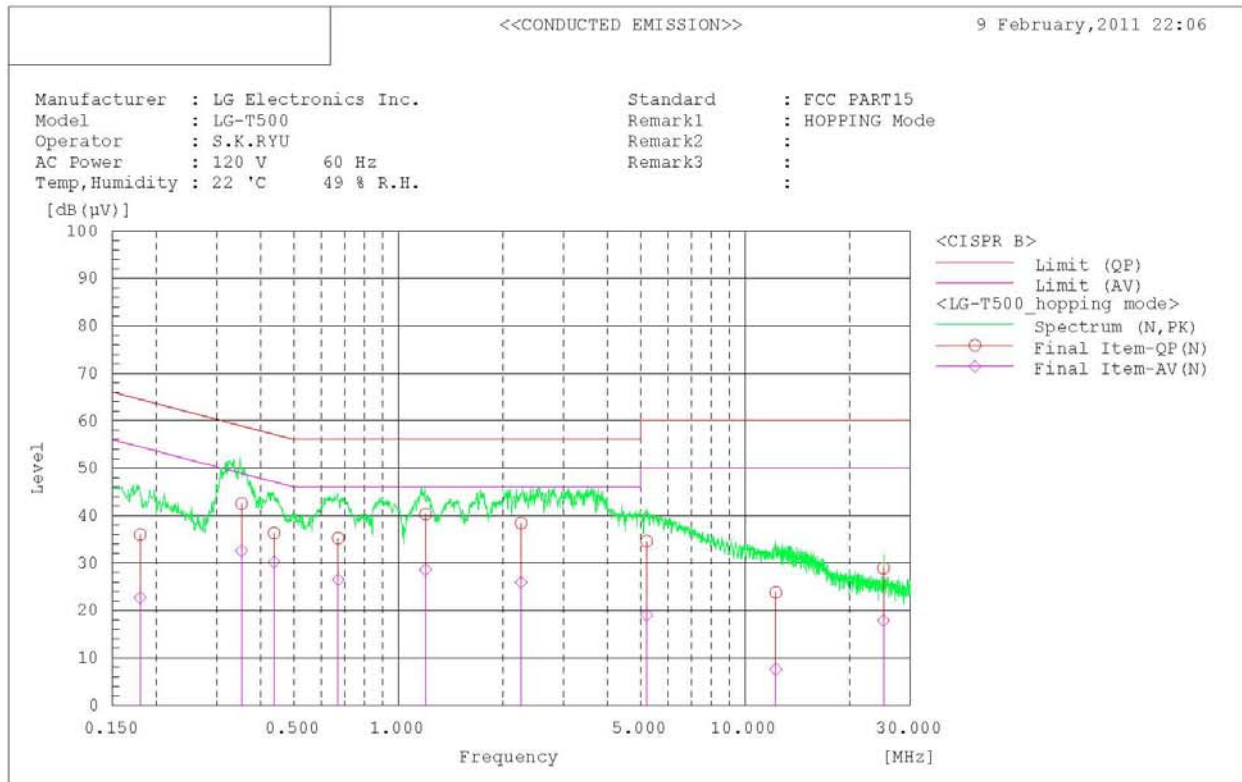
6.3. Test Procedures

Radiated emissions from the EUT were measured according to the dictates of ANSI C63.4:2003

1. The test procedure is performed in a 6.5 m × 3.5 m × 3.5 m (L × W × H) shielded room. The EUT along with its peripherals were placed on a 1.0 m (W) × 1.5 m (L) and 0.8 m in height wooden table and the EUT was adjusted to maintain a 0.4 meter space from a vertical reference plane.
2. The EUT was connected to power mains through a line impedance stabilization network (LISN) which provides 50 ohm coupling impedance for measuring instrument and the chassis ground was bounded to the horizontal ground plane of shielded room.
3. All peripherals were connected to the second LISN and the chassis ground also bounded to the horizontal ground plane of shielded room.
4. The excess power cable between the EUT and the LISN was bundled. The power cables of peripherals were unbundled. All connecting cables of EUT and peripherals were moved to find the maximum emission.

6.4. Test Results

AC Line Conducted Emissions (Graph)



AC Line Conducted Emissions (List)

<<CONDUCTED EMISSION>>

9 February, 2011 22:06

Standard : FCC PART15
Manufacturer : LG Electronics Inc.
Model : LG-T500
Operator : S.K.RYU
AC Power : 120 V 60 Hz
Temp, Humidity : 22 °C 49 % R.H.
Remark1 : HOPPING Mode
Remark2 :
Remark3 :

Final Result

--- N Phase ---

No.	Frequency	Reading QP	Reading AV	c.f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV	Remark
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]	
1	0.180	35.9	22.6	0.1	36.0	22.7	64.5	54.5	28.5	31.8	
2	0.438	36.2	30.1	0.1	36.3	30.2	57.1	47.1	20.8	16.9	
3	0.671	35.1	26.4	0.1	35.2	26.5	56.0	46.0	20.8	19.5	
4	1.198	40.2	28.5	0.1	40.3	28.6	56.0	46.0	15.7	17.4	
5	2.258	38.2	25.7	0.2	38.4	25.9	56.0	46.0	17.6	20.1	
6	5.200	34.2	18.6	0.4	34.6	19.0	60.0	50.0	25.4	31.0	
7	0.353	42.4	32.5	0.1	42.5	32.6	58.9	48.9	16.4	16.3	
8	12.261	23.1	6.9	0.7	23.8	7.6	60.0	50.0	36.2	42.4	
9	25.056	27.4	16.4	1.5	28.9	17.9	60.0	50.0	31.1	32.1	

--- L1 Phase ---

No.	Frequency	Reading QP	Reading AV	c.f	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV	Remark
	[MHz]	[dB(μV)]	[dB(μV)]	[dB]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB(μV)]	[dB]	[dB]	
1	0.203	29.9	21.3	0.3	30.2	21.6	63.5	53.5	33.3	31.9	
2	0.346	36.2	21.5	0.3	36.5	21.8	59.1	49.1	22.6	27.3	
3	0.427	28.6	13.1	0.3	28.9	13.4	57.3	47.3	28.4	33.9	
4	0.692	28.7	4.8	0.3	29.0	5.1	56.0	46.0	27.0	40.9	
5	0.966	29.0	4.4	0.3	29.3	4.7	56.0	46.0	26.7	41.3	
6	2.277	30.0	11.3	0.3	30.3	11.6	56.0	46.0	25.7	34.4	
7	3.675	27.3	4.5	0.4	27.7	4.9	56.0	46.0	28.3	41.1	
8	5.509	27.3	1.6	0.5	27.8	2.1	60.0	50.0	32.2	47.9	
9	10.406	11.9	0.6	0.7	12.6	1.3	60.0	50.0	47.4	48.7	