

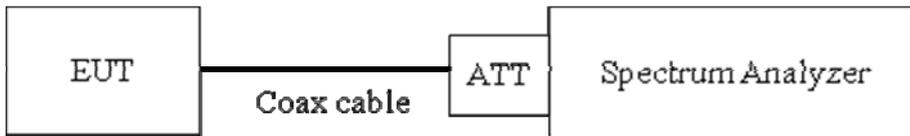
8.4 OUT OF BAND EMISSIONS AT THE BAND EDGE/ CONDUCTED SPURIOUS EMISSIONS

Test Requirements and limit, §15.247(d)

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated 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 band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. 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)).

Limit : 20 dBc

■ TEST CONFIGURATION



■ TEST PROCEDURE

The transmitter output is connected to the spectrum analyzer. (Procedure 10.1.2 in KDB 558074, issued 10/04/2012)

RBW = 100 kHz(Upon 1 GHz = 1 MHz)

VBW ≥ 300 kHz(Upon 1 GHz = 3 MHz)

Set span to encompass the spectrum to be examined

Detector = Peak

Trace Mode = max hold

Sweep = auto couple

Allow the trace to stabilize (this may take some time, depending on the extent of the span).

Use peak marker function to determine maximum amplitude of all unwanted emissions within any 100 kHz bandwidth.

Measurements are made over the 30 MHz to 26 GHz range with the transmitter set to the lowest, middle, and highest channels.

Note :

1. The band edge results in plot is already including the actual values of loss for the attenuator and cable combination.
2. Spectrum offset = Attenuator loss + Cable loss

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3. We apply to the offset in the 2.4 GHz range that was rounded off to the closest tenth dB. Actual value of loss for the attenuator and cable combination is below table.

So, 10.1 dB is offset. And the offset gap in the 2.4 GHz range do not affect the band edge final result.

4. In case of conducted spurious emissions test, please check factors blow table.

FACTORS FOR FREQUENCY

Freq(MHz)	Factor(dB)
30	10.37
100	10.16
200	10.15
300	10.14
400	10.18
500	10.19
600	10.20
700	10.30
800	10.25
900	10.28
1000	10.29
2000	10.17
2402*	10.11
2440*	10.10
2480*	10.13
3000	10.26
4000	10.31
5000	9.85
6000	10.20
7000	10.60
8000	10.53
9000	10.23
10000	10.41
11000	10.65
12000	11.19
13000	10.97
14000	11.42
15000	12.01
16000	11.77
17000	10.78
18000	10.76
19000	11.15
20000	10.75
21000	10.82
22000	10.82
23000	11.26
24000	11.08
25000	11.18
26000	10.90

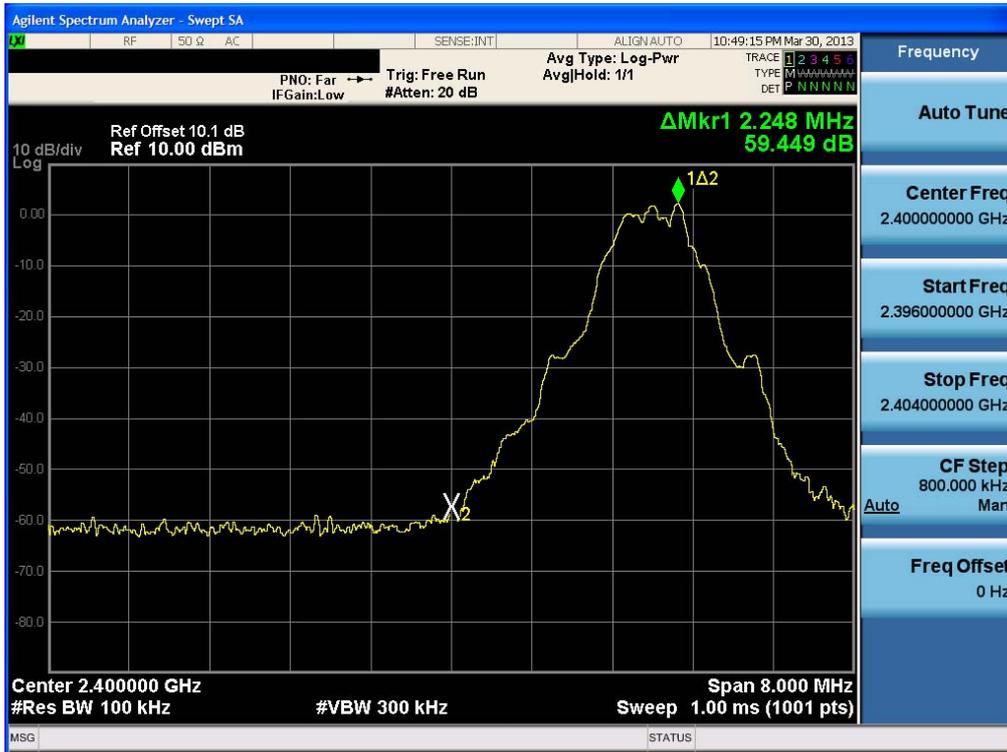
Note : 1. ** is fundamental frequency range.

2. Factor = Cable loss + Attenuator loss

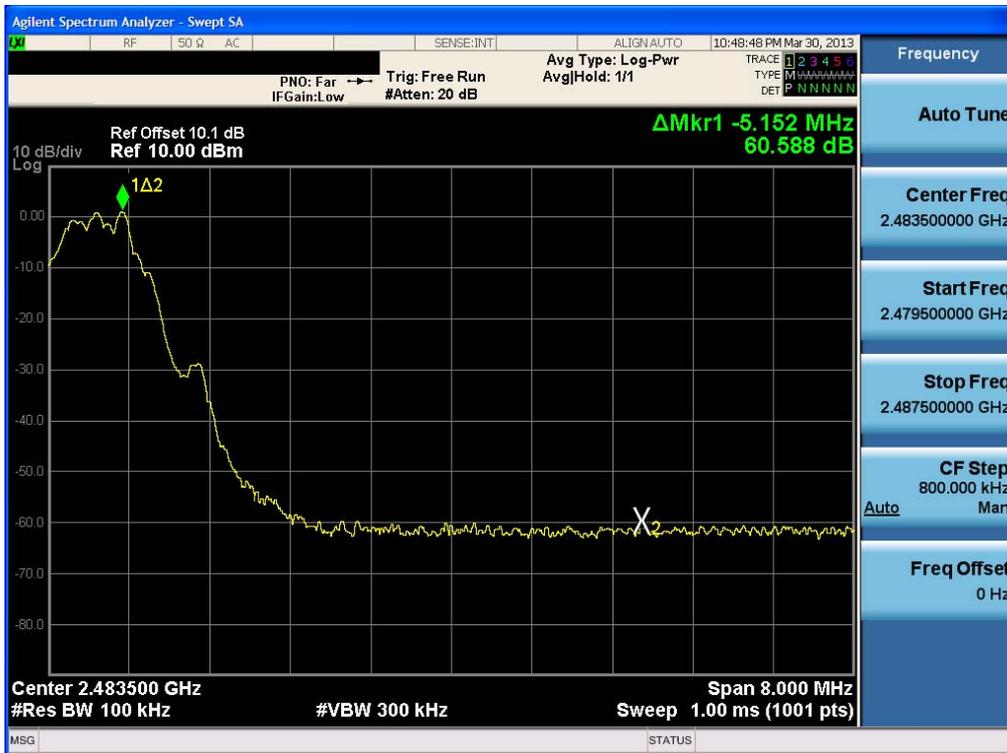
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RESULT PLOTS

BandEdge (Low-CH 0)

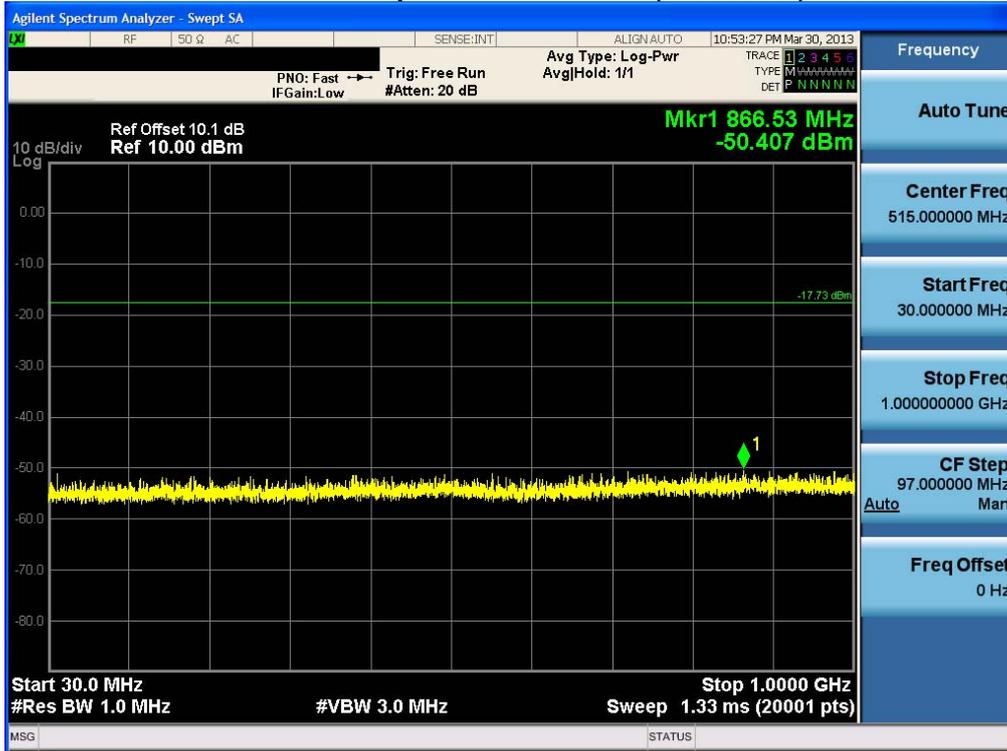


BandEdge (High-CH 39)

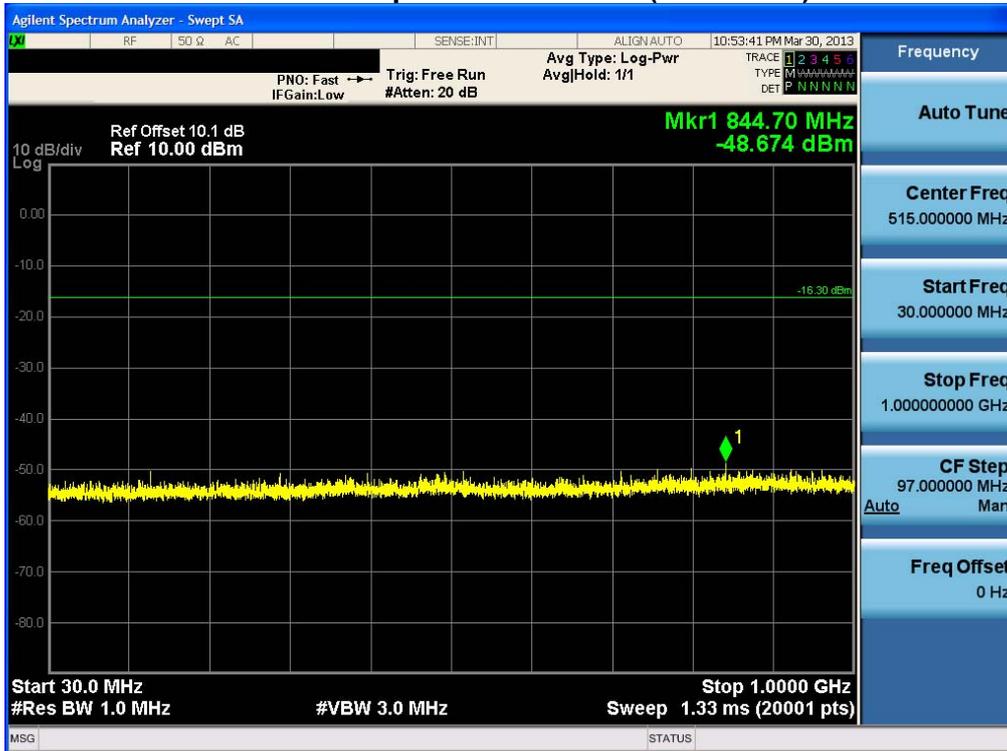


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Conducted Spurious Emission (Low-CH 0)

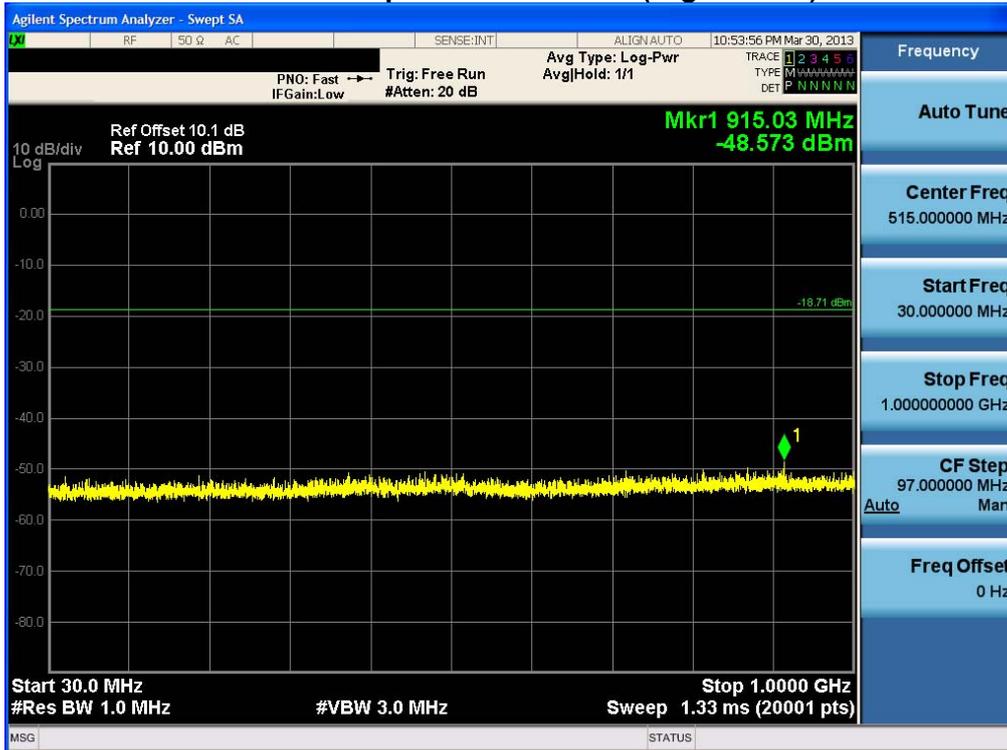


Conducted Spurious Emission (Mid-CH 19)



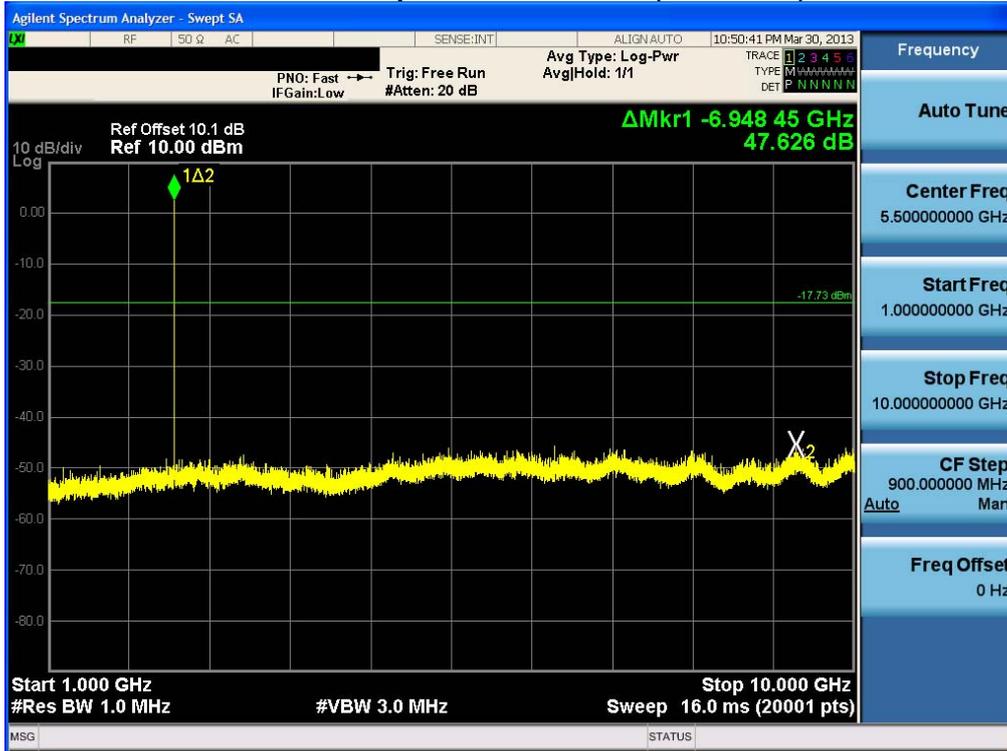
FCC PT.15.247 TEST REPORT	FCC CERTIFICATION REPORT		www.hct.co.kr
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Conducted Spurious Emission (High-CH 39)



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Conducted Spurious Emission (Low-CH 0)

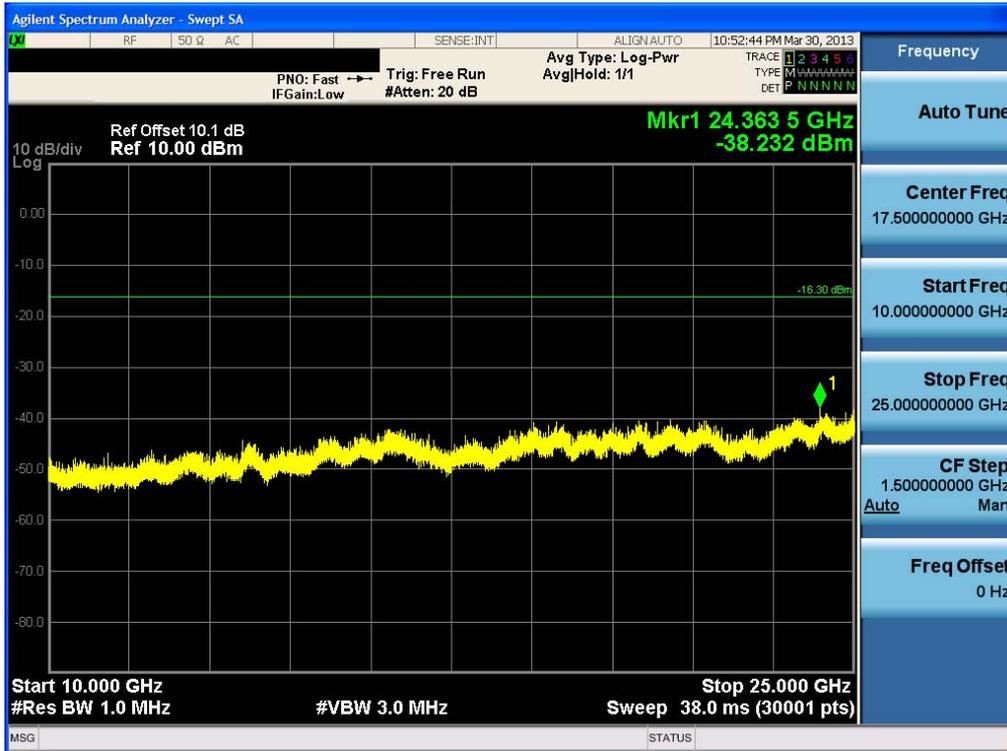


Conducted Spurious Emission (Mid-CH 19)

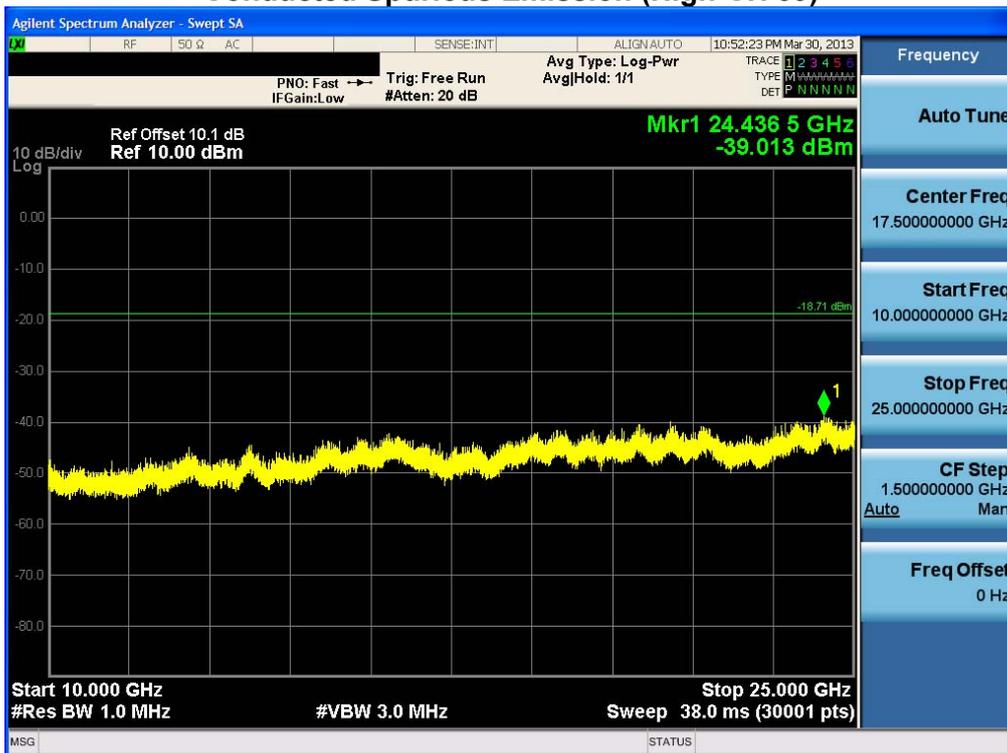


Conducted Spurious Emission (High-CH 39)

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Conducted Spurious Emission (High-CH 39)



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8.5 RADIATED MEASUREMENT.

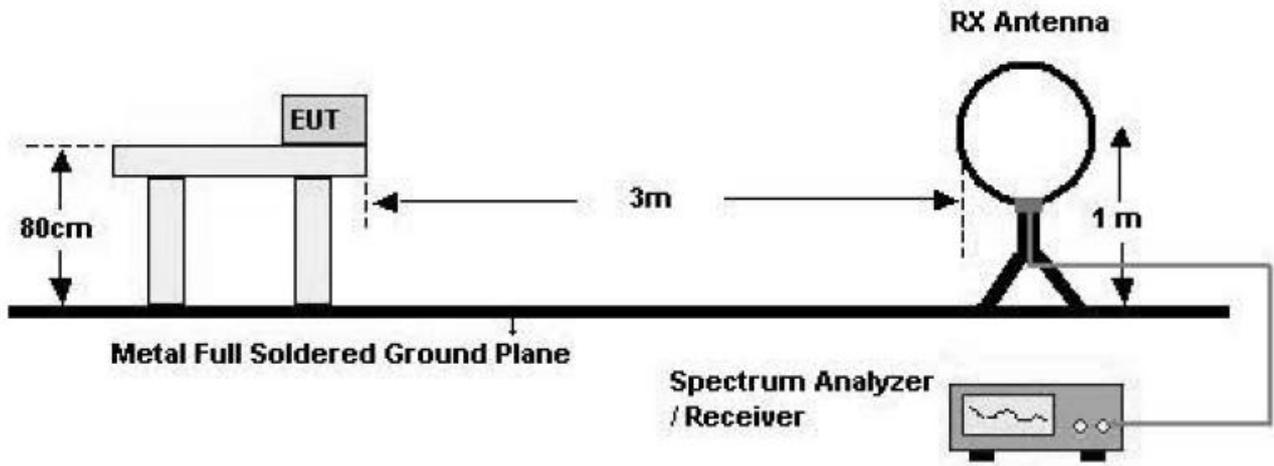
8.5.1 RADIATED SPURIOUS EMISSIONS.

Test Requirements and limit, §15.205, §15.209

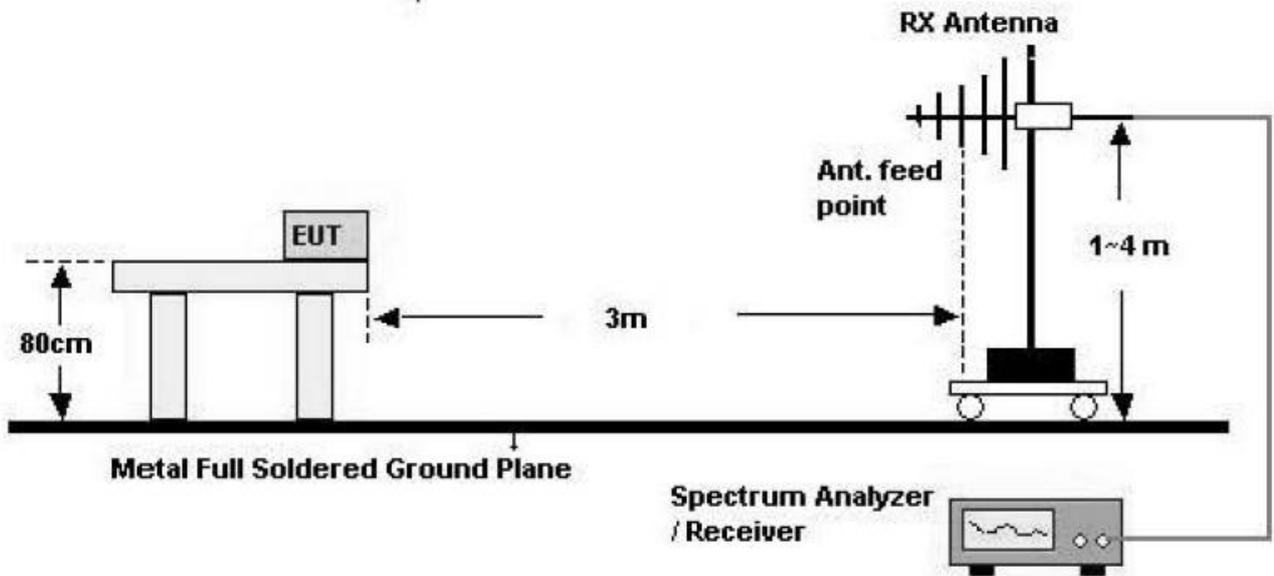
Frequency (MHz)	Field Strength (uV/m)	Measurement Distance (m)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Test Configuration

Below 30 MHz

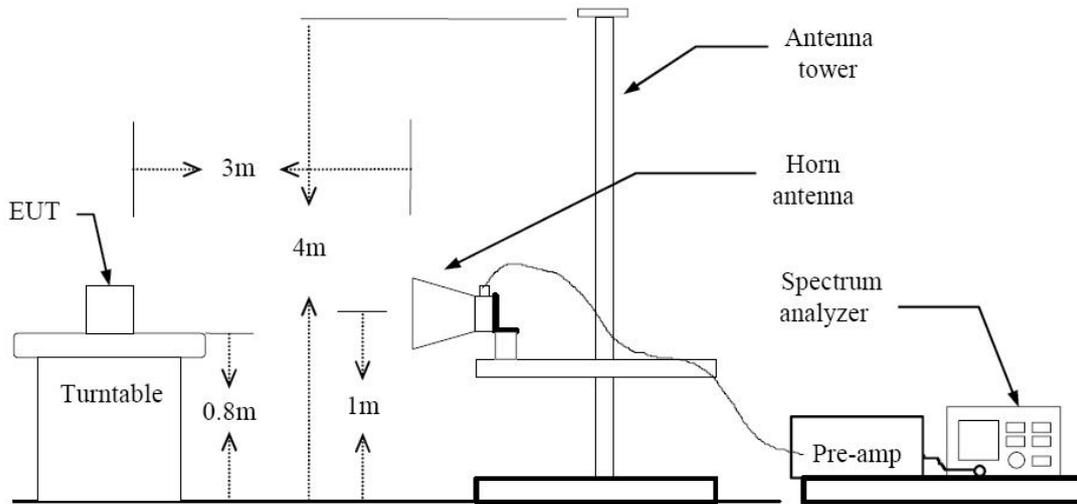


30 MHz - 1 GHz



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Above 1 GHz



TEST PROCEDURE USED

ANSI C63.4(2003)

Method 10.2.3.2 in KDB 558074, issued 10/04/2012 (Peak)

Method 10.2.3.3 in KDB 558074, issued 10/04/2012(Average)

Spectrum Setting

- Peak (Method 10.2.3.2 in KDB 558074, issued 10/04/2012)

RBW = 1 MHz

VBW \geq 3 x RBW

Detector = Peak

Trace = Max hold

Sweep = auto couple

- Average (Method 10.2.3.3 in KDB 558074, issued 10/04/2012)

RBW = 1 MH

VBW \geq 3 x RBW

Span = least 1MHz

Detector Mode = Power average (RMS) or sample detector when RMS not available

Trace average at least 100 traces in power averaging(RMS) mode

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TEST RESULTS

9 kHz – 30MHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dB μ V	dB /m	dB	(H/V)	dB μ V/m	dB μ V/m	dB
No Critical peaks found							

Notes:

1. Measuring frequencies from 9 kHz to the 30MHz.
2. The reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
3. Distance extrapolation factor = 40 log (specific distance / test distance) (dB)
4. Limit line = specific Limits (dBuV) + Distance extrapolation factor
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

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TEST RESULTS

Below 1 GHz

Operation Mode: Normal Mode

Frequency	Reading	Ant. factor	Cable loss	Ant. POL	Total	Limit	Margin
MHz	dB μ V	dB /m	dB	(H/V)	dB μ V/m	dB μ V/m	dB
No Critical peaks found							

Notes:

1. Measuring frequencies from 30 MHz to the 1 GHz.
2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Quasi peak detector mode.
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Above 1 GHz

Operation Mode: CH Low(LE Mode)

Frequency [MHz]	Reading dBuV	AN.+CL-AMP G [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4804	51.41	-0.84	V	50.57	74	23.43	PK
4804	40.88	-0.84	V	40.04	54	13.96	AV
7206	49.85	9.15	V	59.00	74	15.00	PK
7206	38.68	9.15	V	47.83	54	6.17	AV
4804	51.91	-0.84	H	51.07	74	22.93	PK
4804	41.06	-0.84	H	40.22	54	13.78	AV
7206	50.31	9.15	H	59.46	74	14.54	PK
7206	38.79	9.15	H	47.94	54	6.06	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Operation Mode: CH Mid(LE Mode)

Frequency [MHz]	Reading dBuV	AN.+CL-AMP G [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4880	50.71	-0.37	V	50.34	74	23.66	PK
4880	39.71	-0.37	V	39.34	54	14.66	AV
7320	48.75	8.71	V	57.46	74	16.54	PK
7320	38.80	8.71	V	47.51	54	6.49	AV
4880	50.54	-0.37	H	50.17	74	23.83	PK
4880	39.62	-0.37	H	39.25	54	14.75	AV
7320	49.41	8.71	H	58.12	74	15.88	PK
7320	38.63	8.71	H	47.34	54	6.66	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

Operation Mode: CH High(LE Mode)

Frequency [MHz]	Reading dBuV	AN.+CL-AMP G [dB]	ANT. POL [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
4960	49.13	0.50	V	49.63	74	24.37	PK
4960	38.40	0.50	V	38.90	54	15.10	AV
7440	49.94	8.95	V	58.89	74	15.11	PK
7440	39.33	8.95	V	48.28	54	5.72	AV
4960	49.29	0.50	H	49.79	74	24.21	PK
4960	38.55	0.50	H	39.05	54	14.95	AV
7440	49.81	8.95	H	58.76	74	15.24	PK
7440	39.20	8.95	H	48.15	54	5.85	AV

Notes:

1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20 dB from the applicable limit) and considered that's already beyond the background noise floor.
3. Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
4. Total = Reading Value + Antenna Factor + Cable Loss - Amp Gain
5. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

8.5.2 RADIATED RESTRICTED BAND EDGES

Test Requirements and limit, §15.247(d) §15.205, §15.209

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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 band 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 Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in section 15.209(a) (See section 15.205(c)).

Operation Mode	BT 4.0_LE
Operating Frequency	2402 MHz
Channel No	0 Ch

Frequency [MHz]	Reading dBuV	A.F.+CL [dB]	Ant. Pol. [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
2390.0	26.43	33.90	H	60.33	74	13.67	PK
2390.0	14.00	33.90	H	47.90	54	6.10	AV

Notes:

1. Total = Reading Value + Antenna Factor + Cable Loss
2. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.



Operation Mode	BT 4.0_LE
Operating Frequency	2480 MHz
Channel No	39 Ch

Frequency [MHz]	*Fund. Reading [dBuV]	※ A.F.+CL [dB]	Ant. Pol. [H/V]	*Fundamental [dBuV/m]	Delta Value [dBuV/m]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
2480.0	67.11	33.99	H	101.10	51.00	50.10	74	23.90	PK
2480.0	66.25	33.99	H	100.24	51.00	49.24	54	4.76	AV
2480.0	62.11	33.99	V	96.10	46.59	49.51	74	24.49	PK
2480.0	61.25	33.99	V	95.24	46.59	48.65	54	5.35	AV

Notes:

1. Total = Fundamental Reading Value + Antenna Factor + Cable Loss – Delta Value
2. Radiated Restricted Band Edge measures by marker-delta method according to ANSI C63.10(version : 2009)
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.
4. Marker-Delta Method

In making radiated band-edge measurements, there can be a problem obtaining meaningful data because a measurement instrument that is tuned to a band-edge frequency may also capture some in-band signals when using the resolution bandwidth (RBW). In an effort to compensate for this problem, the following technique for determining band-edge compliance shall be used.

a) Perform an in-band field strength measurement of the fundamental emission using the RBW and detector function specified in 6.3 and 6.4, 6.5, or 6.6, as applicable, and the appropriate regulatory requirements for the frequency being measured. and our Rules for the frequency being measured.

For example, for a device operating in the 902-928 MHz band under 47 CFR 15.249, use a 120 kHz RBW with a CISPR QP detector (a peak detector with 100 kHz RBW may alternatively be used). For unlicensed wireless devices operating above 1 GHz, use a 1 MHz RBW, a 1 MHz VBW, and a peak detector as required by 47 CFR 15.35. Repeat the measurement with an average detector (i.e., 1 MHz RBW with 10 Hz VBW). For pulsed emissions, other factors must be included. For example note that radiated measurements of the fundamental emission of a spread spectrum unlicensed wireless device operating under 47 CFR 15.247 are not normally required, but they are necessary in connection with this procedure.

b) Choose a spectrum analyzer span that encompasses both the peak of the fundamental emission and the band-edge emission under investigation. Set the analyzer RBW to approximately 1% to 5 % of the total span, unless otherwise specified, with a video bandwidth equal to or greater than the RBW. Record the peak levels of the fundamental emission and the relevant band-edge emission (i.e., run several sweeps in peak hold mode). Observe the stored trace and measure the amplitude delta between the peak of the

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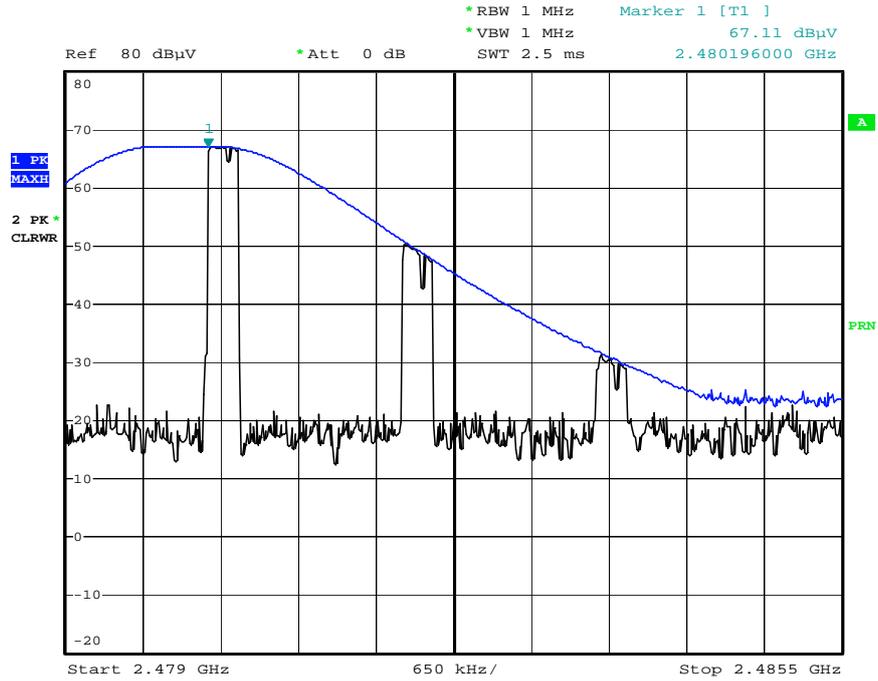


fundamental and the peak of the band-edge emission. This is not an absolute field strength measurement; it is only a relative measurement to determine the amount by which the emission drops at the band-edge relative to the highest fundamental emission level.

- c) Subtract the delta measured in b) from the field strengths measured in a). The resultant field strengths (CISPR QP, average, or peak, as appropriate) are then used to determine band-edge compliance of the restricted bands, described in 5.9.

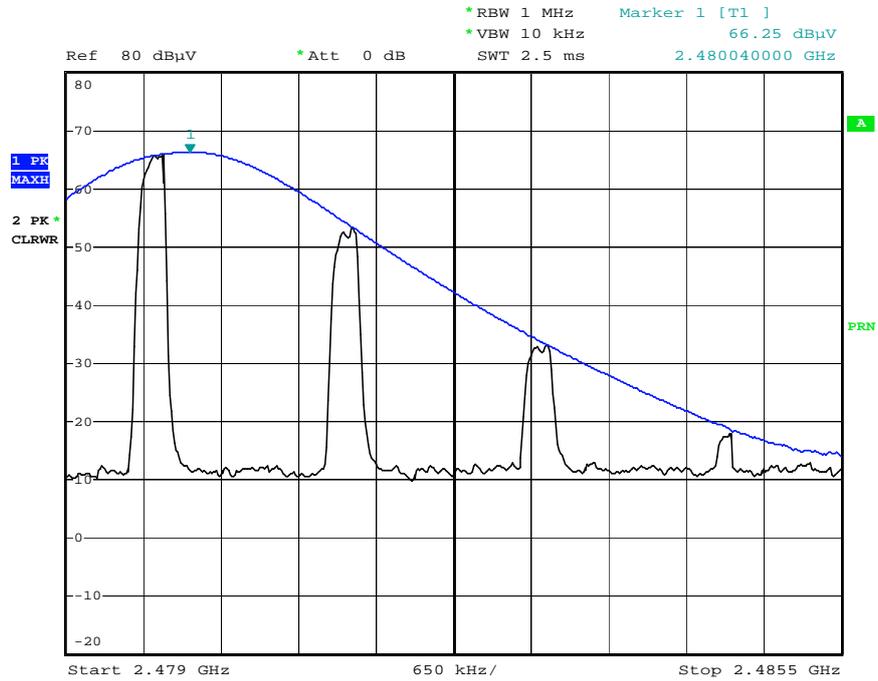
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Fund. (Peak_Horizontal_CH 39)



Date: 29.MAR.2013 16:33:50

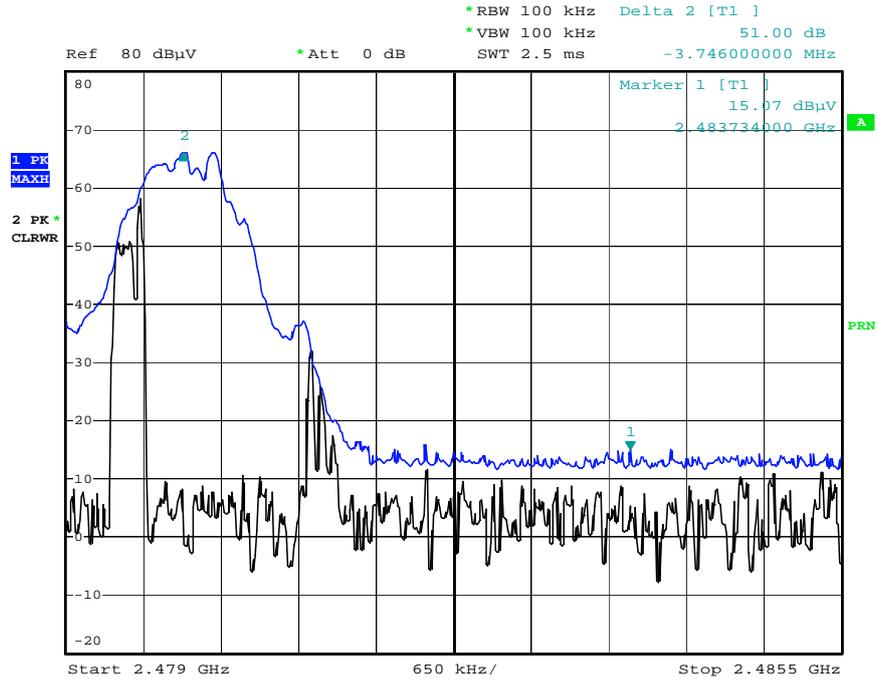
Fund. (Average_Horizontal_CH 39)



Date: 29.MAR.2013 16:34:37

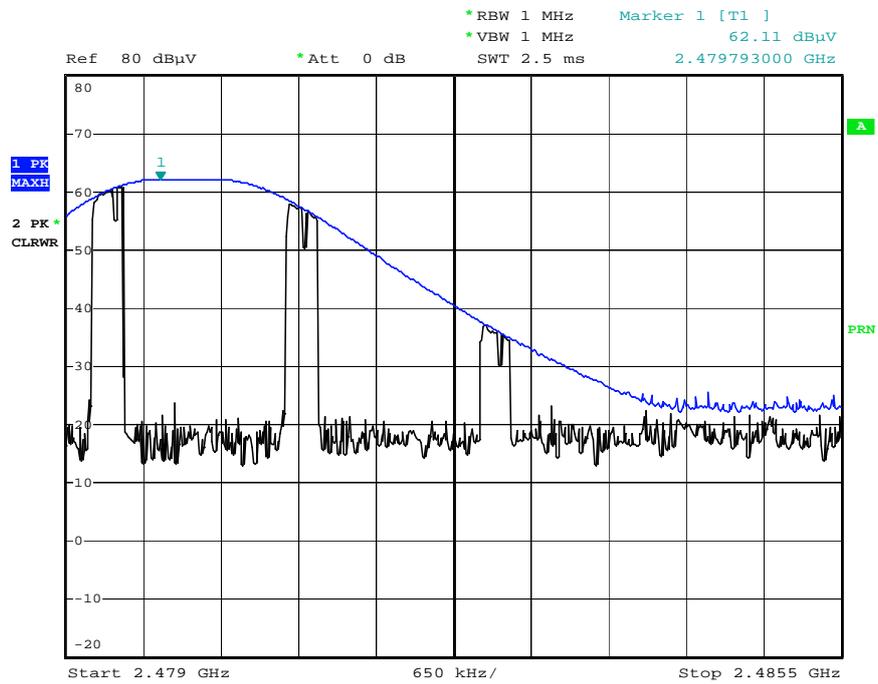
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Delta (Horizontal_CH 39)



Date: 29.MAR.2013 16:35:38

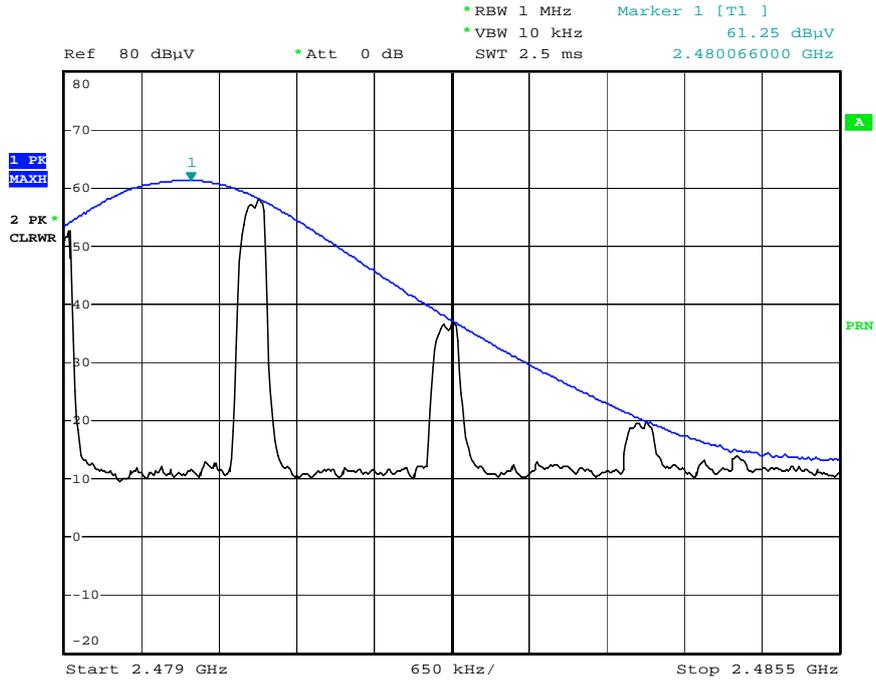
Fund. (Peak_Vertical_CH 39)



Date: 29.MAR.2013 16:38:45

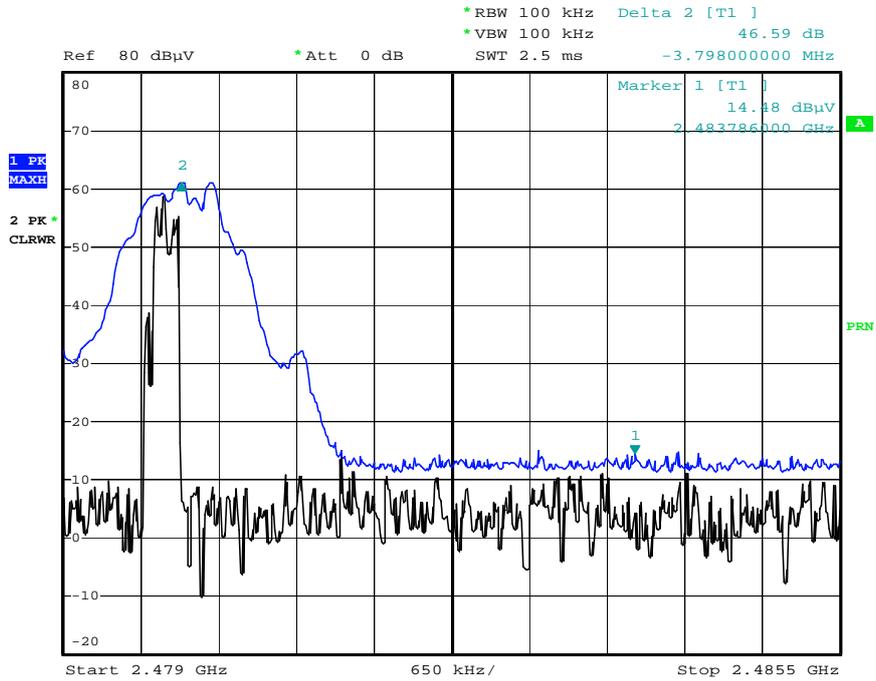
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Fund. (Average_Vertical_CH 39)



Date: 29.MAR.2013 16:39:12

Delta (Vertical_CH 39)



Date: 29.MAR.2013 16:40:01

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Operation Mode	BT 4.0_LE
Operating Frequency	2480 MHz
Channel No	39 Ch

Frequency [MHz]	Reading dBuV	A.F.+CL [dB]	Ant. Pol. [H/V]	Total [dBuV/m]	Limit [dBuV/m]	Margin [dB]	Detect
2485.5	25.33	33.99	H	59.32	74	14.68	PK
2485.5	13.81	33.99	H	47.80	54	6.20	AV
2485.5	24.50	33.99	V	58.49	74	15.51	PK
2485.5	13.27	33.99	V	47.26	54	6.74	AV

Notes:

1. Frequency range of measurement = 2485.5 MHz ~ 2500 MHz
2. Total = Reading Value + Antenna Factor + Cable Loss
3. We have done x, y, z planes in EUT and horizontal and vertical polarization in detecting antenna.

8.6 POWERLINE CONDUCTED EMISSIONS

Test Requirements and limit, §15.207

For an intentional radiator which 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 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Frequency Range (MHz)	Limits (dB μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

Test Configuration

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

TEST PROCEDURE

1. The EUT is placed on a wooden table 80 cm above the reference ground plane.
2. The EUT is connected via LISN to a test power supply.
3. The measurement results are obtained as described below:
4. Detectors – Quasi Peak and Average Detector.
5. We are performed the AC Power Line Conducted Emission test for Ch.19 on BT 4.0 LE mode.
Because Ch.19 on BT 4.0 LE mode is worst case.

■ RESULT PLOTS

Conducted Emissions (Line 1)

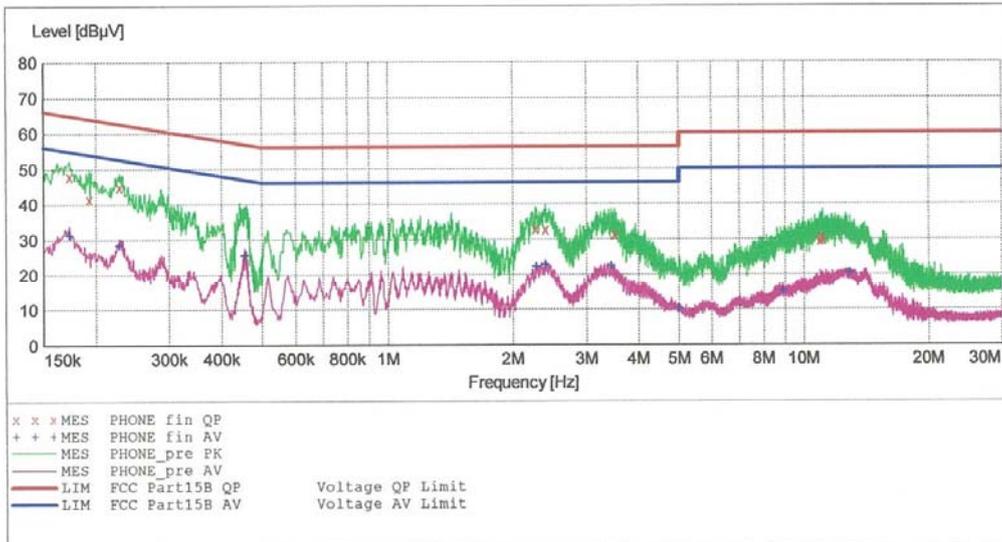
HCT

EMC

EUT: L-05E
 Manufacturer: LG
 Operating Condition: BT LE MODE
 Test Site: SHIELD ROOM
 Operator: JS LEE
 Test Specification: FCC PART 15 B
 Comment: H

SCAN TABLE: "FCC PART 15 B(H)"

Short Description:			FCC PART 15 CLASS B			
Start Frequency	Stop Frequency	Step Width	Detector	Meas. Time	IF Bandw.	Transducer
150.0 kHz	500.0 kHz	1.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



MEASUREMENT RESULT: "PHONE_fin_QP"

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.173010	47.90	9.7	65	16.9	---	---
0.193010	41.40	9.7	64	22.5	---	---
0.228010	44.90	9.7	63	17.6	---	---
2.272000	33.00	10.0	56	23.0	---	---
2.400000	32.70	10.0	56	23.3	---	---
3.508000	31.30	10.1	56	24.7	---	---
10.960000	29.50	10.6	60	30.5	---	---
11.028000	30.30	10.6	60	29.7	---	---
11.116000	29.70	10.6	60	30.3	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

4/12/2013 9:46PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.173010	31.10	9.7	55	23.7	---	---
0.228010	28.30	9.7	53	24.2	---	---
0.455010	25.40	9.8	47	21.3	---	---
2.280000	22.20	10.0	46	23.8	---	---
2.400000	22.70	10.0	46	23.3	---	---
3.440000	22.40	10.1	46	23.6	---	---
5.000000	10.00	10.2	46	36.0	---	---
8.916000	15.00	10.4	50	35.0	---	---
12.888000	20.40	10.8	50	29.6	---	---

FCC PT.15.247 TEST REPORT		FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR24	Date of Issue: April 19, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct		FCC ID: ZNFL05E

Conducted Emissions (Line 2)

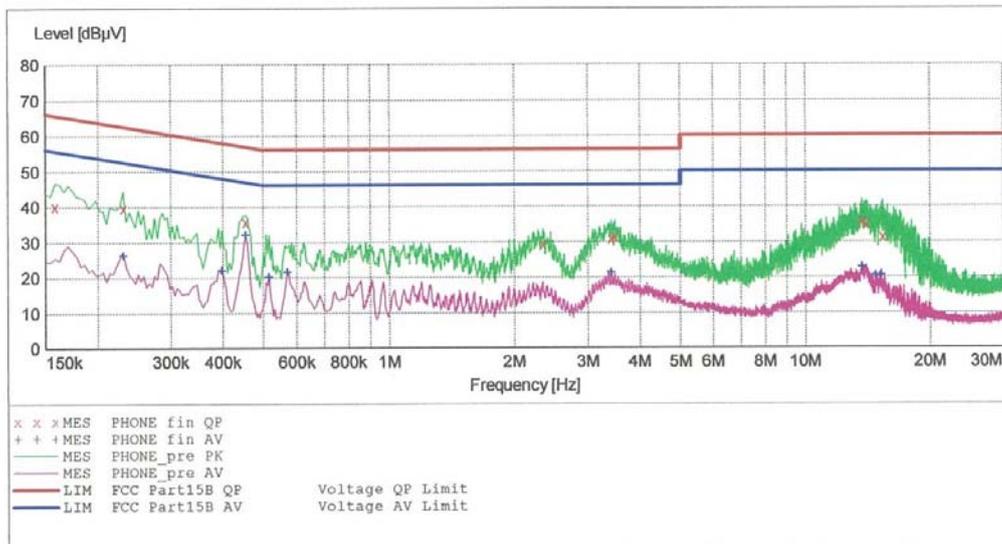
HCT

EMC

EUT: L-05E
 Manufacturer: LG
 Operating Condition: BT LE MODE
 Test Site: SHIELD ROOM
 Operator: JS LEE
 Test Specification: FCC PART 15 CLASS B
 Comment: N

SCAN TABLE: "FCC PART 15 B(N)"

Short Description:			FCC PART 15 CLASS B				Transducer
Start	Stop	Step	Detector	Meas. Time	IF Bandw.		
150.0 kHz	500.0 kHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				
500.0 kHz	5.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				
5.0 MHz	30.0 MHz	4.0 kHz	MaxPeak	10.0 ms	9 kHz	None	
			Average				



MEASUREMENT RESULT: "PHONE_fin QP"

4/12/2013 9:50PM

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Line	PE
0.158010	40.10	10.0	66	25.4	---	---
0.230010	39.50	10.0	62	22.9	---	---
0.454010	35.70	10.0	57	21.1	---	---
2.344000	29.40	10.2	56	26.6	---	---
3.420000	30.90	10.3	56	25.1	---	---
3.488000	31.40	10.3	56	24.6	---	---
13.664000	35.80	11.1	60	24.2	---	---
14.036000	34.80	11.1	60	25.2	---	---
15.352000	31.30	11.3	60	28.7	---	---

MEASUREMENT RESULT: "PHONE_fin AV"

4/12/2013 9:50PM

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Line	PE
0.230010	26.20	10.0	52	26.2	---	---
0.398010	22.00	10.0	48	25.9	---	---
0.454010	32.00	10.0	47	14.8	---	---
0.516000	20.00	10.0	46	26.0	---	---
0.572000	21.60	10.0	46	24.4	---	---
3.420000	21.30	10.3	46	24.7	---	---
13.660000	22.60	11.1	50	27.4	---	---
14.760000	20.30	11.2	50	29.7	---	---
15.216000	20.40	11.3	50	29.6	---	---

FCC PT.15.247 TEST REPORT		FCC CERTIFICATION REPORT		www.hct.co.kr
Test Report No. HCTR1304FR24	Date of Issue: April 19, 2013	EUT Type: Cellular/PCS GSM/GPRS and Cellular WCDMA/HSDPA/HSUPA Phone with Bluetooth, WLAN, NFC(Felica), A-GPS, Wireless Charger, Wi-Fi Direct		FCC ID: ZNFL05E

9. LIST OF TEST EQUIPMENT

Manufacturer	Model / Equipment	Calibration Interval	Calibration Due	Serial No.
Rohde & Schwarz	ENV216/ LISN	Annual	02/06/2014	100073
Schwarzbeck	VULB 9160/ TRILOG Antenna	Biennial	05/03/2015	3125
Rohde & Schwarz	ESI 40 / EMI TEST RECEIVER	Annual	05/03/2013	831564103
Agilent	E4440A/ Spectrum Analyzer	Annual	05/02/2013	US45303008
Agilent	N9020A/ SIGNAL ANALYZER	Annual	07/31/2013	MY51110020
HD	MA240/ Antenna Position Tower	N/A	N/A	556
EMCO	1050/ Turn Table	N/A	N/A	114
HD GmbH	HD 100/ Controller	N/A	N/A	13
HD GmbH	KMS 560/ SlideBar	N/A	N/A	12
Rohde & Schwarz	SCU-18/ Signal Conditioning Unit	Annual	09/11/2013	10094
MITEQ	AMF-6B-180265-35-10P / POWER AMP	Annual	04/16/2014	667624
CERNEX	CBL26405040 / POWER AMP	Annual	04/16/2014	19660
Schwarzbeck	BBHA 9120D/ Horn Antenna	Biennial	10/17/2013	937
Schwarzbeck	BBHA9170 / Horn Antenna(15 GHz ~ 40 GHz)	Biennial	10/30/2014	BBHA9170124
Rohde & Schwarz	FSP / Spectrum Analyzer	Annual	02/08/2014	839117/011
Agilent	E4416A /Power Meter	Annual	11/07/2013	GB41291412
Agilent	E9327A /POWER SENSOR	Annual	04/16/2014	MY4442009
Wainwright Instrument	WHF3.3/18G-10EF / High Pass Filter	Annual	05/02/2013	1
Wainwright Instrument	WHNX6.0/26.5G-6SS / High Pass Filter	Annual	04/16/2014	1
Wainwright Instrument	WHNX7.0/18G-8SS / High Pass Filter	Annual	04/16/2014	29
Wainwright Instrument	WRCJ2400/2483.5-2370/2520-60/14SS / Band Reject Filter	Annual	04/16/2014	1
Hewlett Packard	11636B/Power Divider	Annual	11/07/2013	11377
Hewlett Packard	11667B / Power Splitter	Annual	06/05/2013	05001
DIGITAL	EP-3010 /DC POWER SUPPLY	Annual	11/07/2013	3110117
ITECH	IT6720 / DC POWER SUPPLY	Annual	11/07/2013	010002156287001199
TESCOM	TC-3000C / BLUETOOTH TESTER	Annual	11/07/2013	3000C000276
Rohde & Schwarz	CBT / BLUETOOTH TESTER	Annual	05/02/2013	100422
EMCO	6502.LOOP ANTENNA	Biennial	01/11/2014	9009-2536
MITEQ	AMF-6D-001180-35-20P/ POWER AMP	Annual	07/30/2013	990893
Agilent	8493C / Attenuator(10 dB)	Annual	07/30/2013	76649
WEINSCHL	2-3 / Attenuator(3 dB)	Annual	11/07/2013	BR0617
CERNEX	CBLU1183540 / POWER AMP	Annual	07/27/2013	21691