FCC TEST REPORT

Test report No:	**EMC- FCC- R0059**
FCC ID:	**XMZSM03**
Type of equipment:	**RF MODULE**
Model Name:	**SM03**
Brand Name:	**-**
Applicant:	**SECULINE CO., LTD**
FCC Rule Part(s):	**FCC Part 15 Subpart C** **Section 15.203, Section 15.209** **Section 15.207, Section 15.247**
Frequency Range:	**2 405 ~ 2 480 MHz**
Test result:	**Complied**

The above equipment was tested by EMC compliance Testing Laboratory for compliance with the requirements of FCC Rules and Regulations.
The results of testing in this report apply to the product/system which was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Date of test: January 9, 2012 ~ January 13 , 2012

Issued date: January 27, 2012

Tested by: SON, MIN GI

Approved by: KIM, CHANG MIN

[Contents]

480-5 Shin-dong, Yeongtong-gu, Suwon-city, Gyunggi-do, 443-390, Korea,
82 31 336 9919 (Main) 82 31 336 4767 (Fax)

1. Client information

Applicant:	SECULINE CO., LTD
Address:	Room 510, 5th fl. Kolon Science Valley II, 811, Guro-Dong,Guro-Gu,Seoul, S.Korea
Telephone number:	+82-70-4347-4922
Facsimile number :	+82-2-850-3027
Contact person:	Jay Park /Director

Manufacturer:	SECULINE CO., LTD
Address :	Room 510, 5th fl. Kolon Science Valley II, 811, Guro-Dong,Guro-Gu,Seoul, S.Korea

2. Laboratory information

Address
EMC Compliance Ltd.
480-5 Shin-dong, Yeongtong-gu, Suwon-city, Gyunggi-do, 443-390, Korea,
Telephone Number: 82 31 336 9919 Facsimile Number: 82 31 336 4767

Certificate
CBTL Testing Laboratory, KOLAS NO.: 231
FCC Filing No.: KR0040
VCCI Registration No.: C-1713, R-1606, T-258

SITE MAP

3. Description of E.U.T.

3.1 Basic description

Applicant :	SECULINE CO., LTD
Address of Applicant:	Room 510, 5th fl. Kolon Science Valley II, 811, Guro-Dong,Guro-Gu,Seoul, S.Korea
Manufacturer:	SECULINE CO., LTD
Address of Manufacturer:	Room 510, 5th fl. Kolon Science Valley II, 811, Guro-Dong,Guro-Gu,Seoul, S.Korea
Type of equipment:	RF MODULE
Basic Model:	SM03
Brand name:	-
Serial number:	Proto Type

3.2 General description

Frequency Range	2 405 ~ 2 480 MHz
Type of Modulation	OQPSK
Number of Channels	16 channel
Type of Antenna	WIRE Antenna
Antenna Gain	-3.01 dBi
Transmit Power	-9.97 dBm
Power supply	DC 3 V
Dimension	30 x 15 x 5 (mm)

3.3 Test frequency

	Frequency
Low frequency	**2 405 MHz**
Middle frequency	**2 440 MHz**
High frequency	**2 480 MHz**

3.4 Test Voltage

mode	Voltage
Norminal voltage	**DC 3 V**

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4. Summary of test results

4.1 Standards & results

Rule Reference	Parameter	Report Section	Test Result
15.247(a)(2)	6dB bandwidth	5.1	C
15.247(b)(3)	Maximum Peak Output Power	5.2	C
15.247(e)	Power Density	5.3	C
15.247(d)	Restricted Band Edge	5.4	C
15.247(d) 15.209(a)	Spurious Emission	5.5	C
15.203	Antenna Requirement	5.6	C
15.207(a)	Conducted Emissions	5.9	C

Note: C=complies
NC= Not complies
NT=Not tested
NA=Not Applicable

4.2 Uncertainty

Measurement Item	Combined Standard Uncertainty Uc	Expanded Uncertainty U = KUc (K = 2)
Conducted RF power	± 1.106 dB	± 3.120 dB
Radiated disturbance	+2.280dB / - 2.278 dB	+4.560dB / - 4.556 dB
Conducted disturbance	+1.883 dB / - 1.676 dB	+3.766dB / - 3.352 dB

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5. Test results

5.1 6dB bandwidth

5.1.1 Regulation

Systems using digital modulation techniques may operate in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

5.1.2 Measurement procedure

The antenna output of the EUT was connected to the spectrum analyzer. The resolution bandwidth is set to 100 kHz, and peak detection was used. The 6dB bandwidth is defined as the total spectrum over which the power is higher than the peak power minus 6dB.

5.1.3 Test Result

- Complied

Channel	Frequency [MHz]	6dB bandwidth [kHz]	Limit [kHz]	Margin[KHz]
Low	2405	540	500	40
Middle	2440	540	500	40
High	2480	520	500	20

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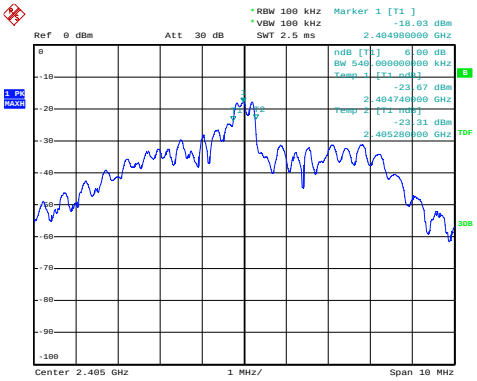
5.1.4 Test Plot

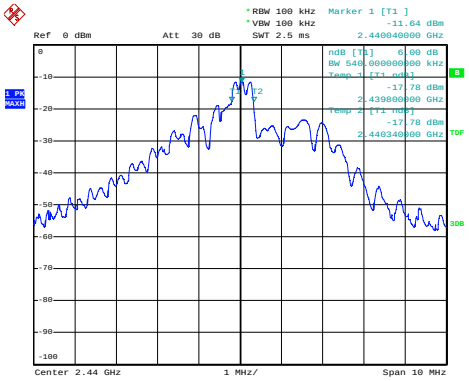
Figure 1. Plot of the 6dB bandwidth (Conducted)

Test Mode : 2405MHz



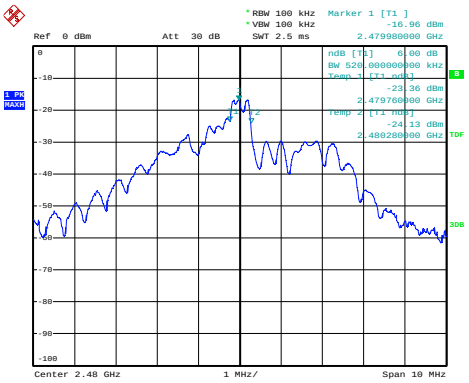
Date: 15.JAN.2012 14:52:11

Test Mode : 2440 MHz



Date: 15.JAN.2012 14:57:52

Test Mode : 2480MHz



Date: 15.JAN.2012 14:59:37

5.2 Maximum Peak Output Power

5.2.1 Regulation

According to §15.247(b)(3), For systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

According to §15.247(b)(4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.2.2 Measurement Procedure

Power Output Option 1 Set the RBW greater than 6 dB bandwidth of the emission or use a peak power meter.

Power Output Option 2

Power output measurement allowed per Section 15.247(b)(3). In the following, “T” is the transmission pulse duration over which the transmitter is on and transmitting at its maximum power control level. Measurements are performed with a spectrum analyzer. Three methods are provided to accommodate measurement limitations of the spectrum analyzer depending on signal parameters. Set resolution bandwidth (RBW) = 1 MHz. Set span to encompass the entire emission bandwidth (EBW) of the signal. Use automatic setting for analyzer sweep time (except in Method #2). Check the sweep time to determine which procedure to use.

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Method #3

1. Set span to encompass the entire emission bandwidth (EBW) of the signal.
2. Set sweep trigger to "free run".
3. Set RBW = 1 MHz. Set VBW ≥ 1/T
4. Use linear display mode.
5. Use sample detector mode if bin width (i.e., span/number of points in spectrum) < 0.5 RBW. Otherwise use peak detector mode.
6. Set max hold.
7. Allow max hold to run for 60 seconds.
8. Compute power by integrating the spectrum across the 26 dB EBW or apply a bandwidth correction factor of 10 log (EBW/1 MHz) to the spectral peak of the emission. The integration can be performed using the spectrum analyzer's band power measurement function with band limits set equal to the EBW band edges or by summing power levels in each 1 MHz band in linear power terms. The 1 MHz band power levels to be summed can be obtained by averaging, in linear power terms, power levels in each frequency bin across the 1 MHz.

5.2.3 Test Result

-Complied

Channel	Frequency [MHz]	Result [dBm]	Limit [dBm]	Margin [dB]
Low	2405	-16.99	30	46.99
Middle	2440	-11.74	30	41.74
High	2480	-18.07	30	48.07

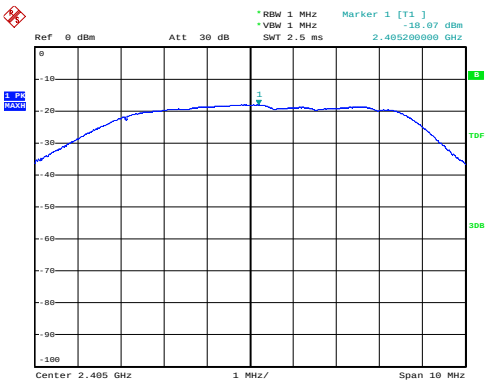
NOTE:

1. Since the directional gain of the integral antenna declared by the manufacturer (G_{ANT} = -3 dBi) does not exceed 6.0 dBi, there was no need to reduce the output power.
2. We took the insertion loss of the cable loss into consideration within the measuring instrument.

5.2.4 Test Plot

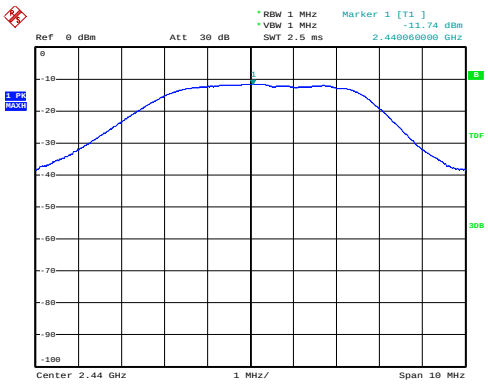
Figure 2. Plot of the Maximum Peak output power (Conducted)

Test Mode : 802.11b mode CH 1(2405MHz)



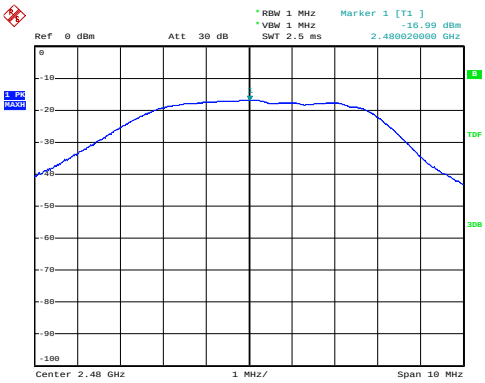
Date: 15.JAN.2012 15:37:26

Test Mode : 802.11b mode CH 7(2440 MHz)



Date: 15.JAN.2012 15:34:19

Test Mode : 802.11b mode CH 11(2480MHz)



Date: 15.JAN.2012 15:12:05

5.3 Power Density

5.3.1 Regulation

According to §15.247(e), for digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

5.3.2 Measurement Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Connect the antenna port of the EUT to RF input on the spectrum analyzer via a low loss cable and attenuator.
3. Turn on the EUT and set it to any one measured frequency within its operating range by controlling it via UART interface and make sure the spectrum analyzer is operated in its linear range.
4. Set the spectrum analyzer to MAX HOLD mode with RBW = 3kHz.
5. Measure the highest amplitude appearing on spectral display and record the level to calculate results.
6. Repeat above procedures until all frequencies measured were complete.

5.3.3 Test Result

-Complied

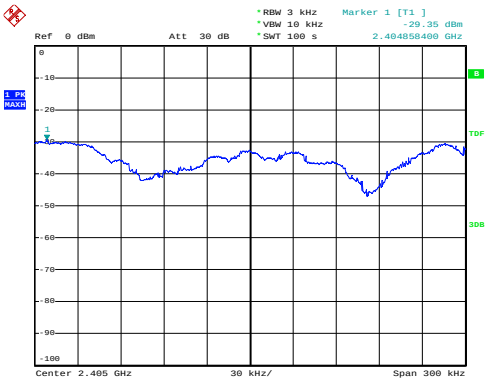
Channel	Frequency [MHz]	Result [dBm]	Limit [dBm]	Margin [dB]
1 (Low)	2405	-29.35	8	37.35
7 (Middle)	2440	-22.55	8	30.55
11 (High)	2480	-26.56	8	34.56

NOTE: We took the insertion loss of the cable loss into consideration with in the measuring instrument.

5.3.4 Test Plot

Figure 3. Plot of the PSD (Conducted)

Test Mode : 2405MHz



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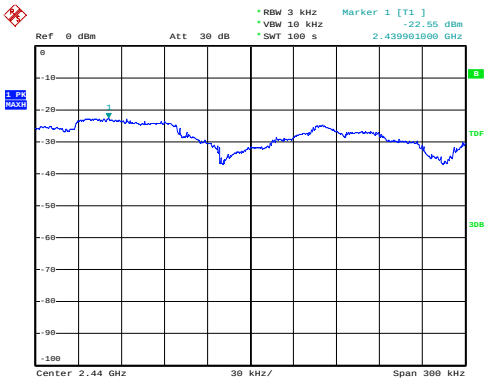
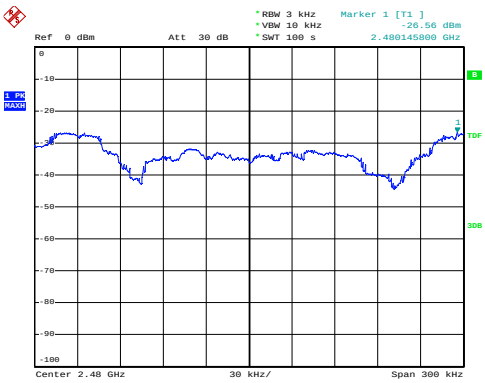
Test Mode : 2440 MHz



Date: 15.JAN.2012 15:55:03

Test Mode : 2480MHz



Date: 15.JAN.2012 16:02:24

5.4 SPURIOUS EMISSION, BAND EDGE, AND RESTRICTED BANDS

5.4.1 Regulation

According to §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 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)).

According to §15.209(a), for an intentional device, the general requirement of field strength of radiated emissions from intentional radiators at a distance of 3 meters shall not exceed the following values:

Frequency (MHz)	Field strength (uV/m @ 3m)	Field strength (dBuV/m @ 3m)
30-88	100	40.0
88-216	150	43.5
216-960	200	46.0
Above 960	500	54.0

According to §15.109(a), for an unintentional device, except for Class A digital devices, the field strength of radiated emissions from unintentional radiators at a distance of 3 meters shall not exceed the above table.

** The emission limits shown in the above table are based on measurement instrumentation employing a CISPR quasi-peak detector and above 1000 MHz are based on the average value of measured emissions.

According to §15.33(a), Unless otherwise noted in the specific rule section under which the equipment operates for an intentional radiator the spectrum shall be investigated from the lowest radio frequency signal generated in the device, without going below 9 kHz, up to at least the frequency shown in this paragraph:

(1) If the intentional radiator operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.
(2) If the intentional radiator operates at or above 10 GHz and below 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.
(3) If the intentional radiator operates at or above 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 200 GHz, whichever is lower, unless specified otherwise elsewhere in the rules.
(4) If the intentional radiator contains a digital device, regardless of whether this digital device controls the functions of the intentional radiator or the digital device is used for additional control or function purposes other than to enable the operation of the intentional radiator, the frequency range shall be investigated up to the range specified in paragraphs (a)(1)-(a)(3) of this section or the range applicable to the digital device, as shown in paragraph (b)(1) of this Section, whichever is the higher frequency range of investigation.

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5.4.2 Measurement Procedure

1) Band-edge Compliance of RF Conducted Emissions

1. Set the spectrum analyzer as follows:
   Span = wide enough to capture the peak level of the emission operating on the channel closest to the bandedge, as well as any modulation products which fall outside of the authorized band of operation
   RBW ≥ 1% of the span
   VBW ≥ RBW
   Sweep = auto
   Detector function = peak
   Trace = max hold
2. Allow the trace to stabilize. Set the marker on the emission at the band-edge, or on the highest modulation product outside of the band, if this level is greater than that at the band-edge. Enable the marker-delta function, and then use the marker-to-peak function to move the marker to the peak of the in-band emission.
3. Now, using the same instrument settings, enable the hopping function of the EUT. Allow the trace to stabilize. Follow the same procedure listed above to determine if any spurious emissions caused by the hopping function also comply with the specified limit

2) Spurious RF Conducted Emissions:

1. Set the spectrum analyzer as follows:
   Span = wide enough to capture the peak level of the in-band emission and all spurious emissions (e.g., harmonics) from the lowest frequency generated in the EUT up through the 10th harmonic. Typically, several plots are required to cover this entire span.
   RBW = 100 kHz
   VBW ≥ RBW
   Sweep = auto
   Detector function = peak
   Trace = max hold
2. Allow the trace to stabilize. Set the marker on the peak of any spurious emission recorded.

a 4 × 4 meter at the Open Area Test Site. The EUT was tested at a distance 3 meters.

5. Each frequency found during preliminary measurements was re-examined and investigated. The test-receiver system was set up to average, peak, and quasi-peak detector function with specified bandwidth.

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3) Spurious Radiated Emissions:

1. The preliminary radiated measurements were performed to determine the frequency producing the maximum emissions in an anechoic chamber at a distance of 3 meters.
2. The EUT was placed on the top of the 0.8-meter height, 1 × 1.5 meter non-metallic table. To find the maximum emission levels, the height of a measuring antenna was changed and the turntable was rotated 360˚.
3. The antenna polarization was also changed from vertical to horizontal. The spectrum was scanned from 9kHz to 30MHz using the loop antenna, and from 30 to 1000 MHz using the BILOG broadband antenna, and from 1000 MHz to 26500 MHz using the horn antenna.
4. To obtain the final measurement data, the EUT was arranged on a turntable situated on a 4 × 4 meter at the Open Area Test Site. The EUT was tested at a distance 3 meters.
5. Each frequency found during preliminary measurements was re-examined and investigated. The test-receiver system was set up to average, peak, and quasi-peak detector function with specified bandwidth.

5.4.3 Test Result

-complied

1. Band edge compliance of RF Conducted Emissions was shown in figure 4.

2. Spurious RF conducted Emissions were shown in the Figure 5.
Note: We took the insertion loss of the cable into consideration within the measuring instrument.

3. Measured value of the Field strength of spurious Emissions (Radiated)

- Test mode : 2405MHz

Frequency [MHz]	Receiver Bandwidth [kHz]	Reading [dB(μV)]	Pol. [V/H]	Factor (Amp Gain + Attenuator + AF + CL)	Limit [dB(μV/m)]	Result [dB(μV/m)]	Margin [dB]
Quasi-Peak DATA. Emissions below 30MHz							
		NO EMISSION SPURIOUS					
Quasi-Peak DATA. Emissions below 1GHz							
86.073	120	35.5	V	-19.3	40.0	16.2	23.8
113.224	120	26.7	V	-17.0	43.5	9.7	33.8
139.259	120	30.2	V	-14.5	43.5	15.7	27.8
185.604	120	30.0	V	-15.8	43.5	14.2	29.3
Peak DATA. Emissions above 1GHz							
4809.535	1000	53.7	V	5.4	74.0	59.1	14.9
Average DATA. Emissions above 1GHz							
4809.535	1000	39.4	V	5.4	54.0	44.8	9.2

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- Test mode : 2440MHz

Frequency [MHz]	Receiver Bandwidth [kHz]	Reading [dB(μV)]	Pol. [V/H]	Factor (Amp Gain + Attenuator + AF + CL)	Limit [dB(μV/m)]	Result [dB(μV/m)]	Margin [dB]
Quasi-Peak DATA. Emissions below 30MHz							
		NO EMISSION SPURIOUS					
Quasi-Peak DATA. Emissions below 1GHz							
85.609	120	34.4	V	-19.2	40.0	15.2	24.8
113.288	120	25.5	V	-17.0	43.5	8.5	35.0
139.275	120	32.2	V	-14.5	43.5	17.7	25.8
189.189	120	31.4	V	-16.1	43.5	15.3	28.2
Peak DATA. Emissions above 1GHz							
4880.250	1000	54.7	V	5.6	74.0	60.3	13.7
Average DATA. Emissions above 1GHz							
4880.250	1000	40.6	V	5.6	54.0	46.2	7.8

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- Test mode : 2480MHz

Frequency [MHz]	Receiver Bandwidth [kHz]	Reading [dB(μV)]	Pol. [V/H]	Factor (Amp Gain + Attenuator + AF + CL)	Limit [dB(μV/m)]	Result [dB(μV/m)]	Margin [dB]
Quasi-Peak DATA. Emissions below 30MHz							
			NO EMISSION SPURIOUS				
Quasi-Peak DATA. Emissions below 1GHz							
87.524	120	22.1	V	-19.5	40.0	2.6	37.4
126.283	120	28.4	V	-15.6	43.5	12.8	30.7
169.660	120	25.3	V	-14.1	43.5	11.2	32.3
196.904	120	21.4	V	-16.6	43.5	4.8	38.7
Peak DATA. Emissions above 1GHz							
4958.875	1000	57.7	V	5.8	74.0	63.5	10.5
Average DATA. Emissions above 1GHz							
4958.875	1000	42.2	V	5.8	54.0	48.0	6.0

Remarks :

1. Margin (dB) = Limit – Result
   [Result = Reading –factor(Amp Gain + Attenuator + AF + CL)]
2. H = Horizontal, V = Vertical

NOTE: All emissions not reported were more than 20 dB below the specified limit or in the noise floor.

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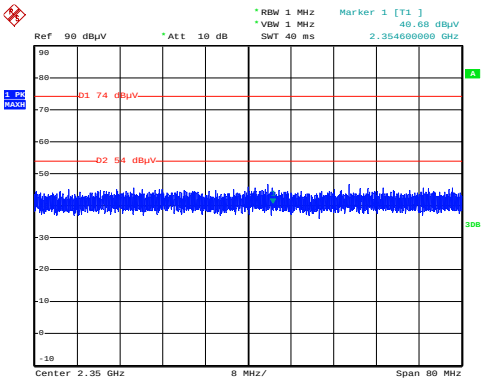
5.4.4 Test Plot

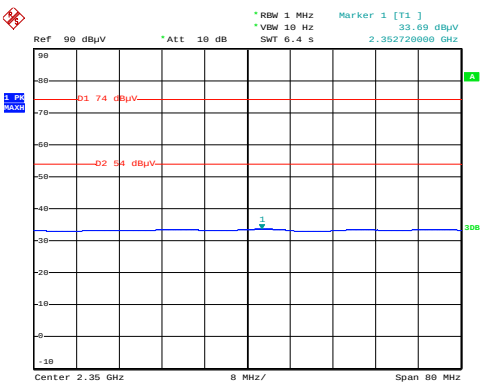
Figure 5. Plot of the Bandedge Compliance(Radiated)

Test Mode : 2405MHz

PEAK

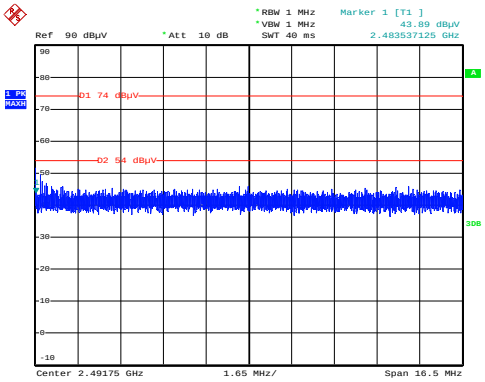


AVERAGE



Test Mode : 2480MHz

PEAK



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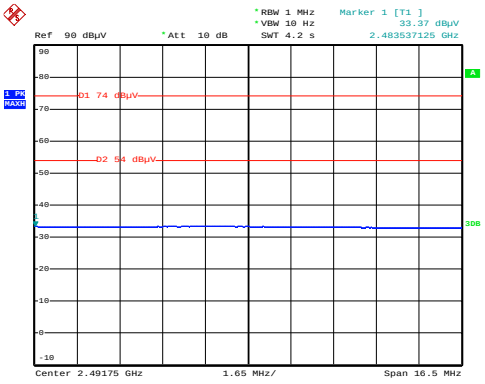
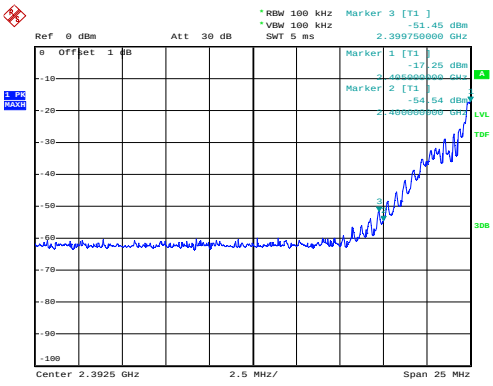


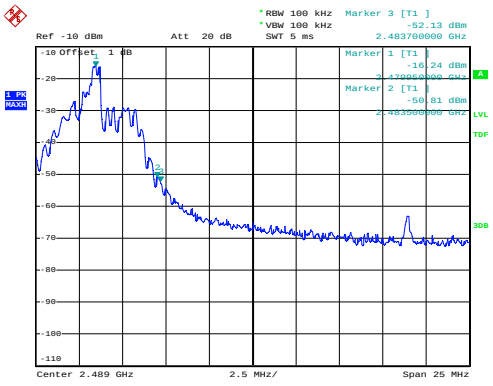
Figure 5. Plot of the Bandedge Compliance(Conducted)

Test Mode : 2405MHz



Date: 14.JAN.2012 14:53:04

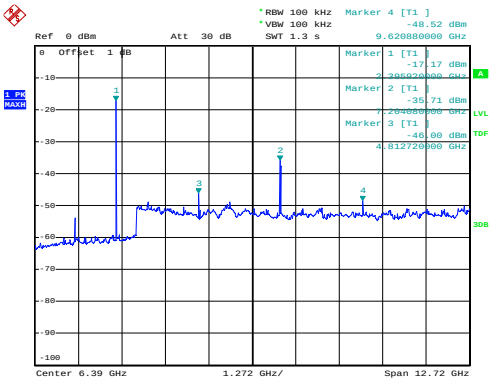
Test Mode : 24805MHz



Date: 14.JAN.2012 14:35:20

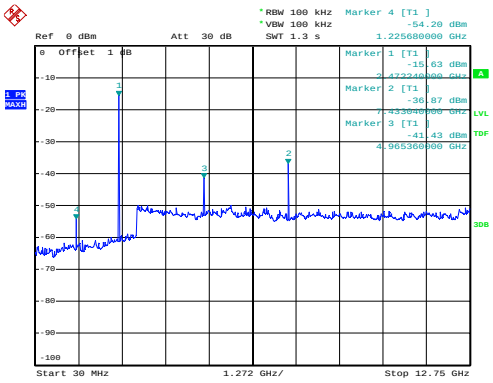
Figure 6. Plot of the Surious Emission(Conducted)

Test Mode : 2405MHz



Date: 14.JAN.2012 14:45:30

Test Mode : 2480MHz



Date: 14.JAN.2012 14:27:32

5.5 Antenna Requirement

5.5.1 Regulation

According to §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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

And according to §15.247(b)(4), the conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

5.5.2 Result

-Complied

The transmitter has an integral Chip antenna. The directional gain of the antenna is -3.01 dBi.

5.6 RF Exposure

5.6.1 Regulation

According to §15.247(i), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See § 1.1307(b)(1) of this Chapter.

Limits for Maximum Permissive Exposure: RF exposure is calculated.

Frequency Range	Electric Field Strength [V/m]	Magnetic Field Strength [A/m]	Power Density [mW/cm^2]	Averaging Time [minute]
Limits for General Population / Uncontrolled Exposure				
0.3 ~ 1.34	614	1.63	*(100)	30
1.34 ~ 30	824 /f	2.19/f	*(180/f^2)	30
30 ~ 300	27.5	0.073	0.2	30
300 ~ 1500	/	/	f/1500	30
1500 ~ 15000	/	/	1.0	30

*f=frequency in MHz, *= plane-wave equivalent power density*

MPE (Maximum Permissive Exposure) Prediction
Predication of MPE limit at a given distance: Equation from page 18 of OET Bulletin 65, Edition 97-01

$S = PG/4\pi R^2 \quad \left(\Rightarrow R = \sqrt{PG/4\pi S}\right)$

S=power density [mW/cm^2]
P=Power input to antenna [mW]
G=Power gain of the antenna in the direction of interest relative to an isotropic radiator
R= distance to the center of radiation of the antenna [cm]

EUT: Maximum peak output power = 0.067[mW](= -11.74 dBm) Antenna gain=0.500 (=-3.01[dBi])	
100 mW, at 20 cm from an antenna 6[dBi]	S = PG/4πR² = 100 × 3.98 / (4 × π × 400) = 0.0792 [mW/cm^2] < 1.0 [mW/cm^2]
0.067 mW, at 20 cm from an antenna -3.01[dBi]	S = PG/4πR²= 0.000007 [mW/cm^2] < 1.0 [mW/cm^2]
0.067 mW, at 2.5 cm from an antenna -3.01[dBi]	S = PG/4πR²= 0.0004 [mW/cm^2] < 1.0 [mW/cm^2]

5.6.2 RF Exposure Compliance Issue

The information should be included in the user's manual:
This appliance and its antenna must not be co-located or operation in conjunction with any other antenna or transmitter. A minimum separation distance of 20 cm must be maintained between the antenna and the person for this appliance to satisfy the RF exposure requirements.

6. Test equipment used for test

	Description	Manufacture	Model No.	Serial No.	Next Cal Date.
☐	Temp & humidity chamber	taekwang	TK-04	TK001	12.12.10
■	Temp & humidity chamber	taekwang	TK-500	TK002	12.09.05
■	Power Meter	Agilent	E4416A	GB41292365	12.10.26
☐	Frequency Counter	HP	53150A	US39250565	12.09.07
☐	Spectrum Analyzer	Agilent	E4407B	US39010142	12.10.26
■	Spectrum Analyzer	R & S	FSP40	100209	12.10.26
■	Signal Generator	HP	E4432B	GB39340611	12.10.26
☐	Modulation Analyzer	HP	8901B	3538A05527	12.10.26
☐	Audio Analyzer	HP	8903B	3729A19213	12.01.11
☐	AC Power Supply	KIKUSUI	PCR2000W	GB001619	12.10.25
☐	DC Power Supply	Tektronix	PS2520G	TW50517	12.02.18
■	DC Power Supply	Tektronix	PS2521G	TW53135	12.10.25
☐	Dummy Load	BIRD	8141	7560	12.09.16
☐	Dummy Load	BIRD	8401-025	799	12.09.16
■	EMI Test Receiver	R&S	ESCI	100001	12.07.11
☐	Attenuator	HP	8494A	2631A09825	12.10.26
☐	Attenuator	HP	8496A	3308A16640	12.10.26
☐	Attenuator	R&S	RBS1000	D67079	12.10.26
■	Power sensor	Agilent	E9325A	US40420186	12.10.26
☐	LOOP Antenna	EMCO	EMCO6502	9205-2745	13.05.23
■	BILOG Antenna	Schwarzbeck	VULB 9168	375	13.09.21
■	BILOG Antenna	Schwarzbeck	VULB 9168	9168-440	13.10.04
■	HORN Antenna	ETS	3115	00086706	13.11.21
■	HORN Antenna	ETS	3115	00062589	13.09.06
☐	HORN Antenna	ETS	3116	00086632	13.11.15
☐	HORN Antenna	ETS	3116	00086635	13.11.15
■	Signal Generator	HP	E4432B	GB39340611	12.10.26
■	Power Divider	Weinschel	1580-1	NX375	12.10.26
☐	Power Divider	Weinschel	1580-1	NX380	12.09.14
☐	Power Divider	Weinschel	1594	671	12.09.14
☐	Test Receiver	R&S	ESHS30	844827/011	12.08.16
☐	LISN	R&S	ESH3-Z5	846125/024	12.08.04
☐	LISN	PMM	L3-32	0120J20305	-

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