



Test Report

Product Name	Media Pointer T905, Media Pointer 100
Model No.	GM-090013, GM-090012
FCC ID	FSUGMZJ1

Applicant	KYE SYSTEMS CORP. (Genius)
Address	NO. 492, SEC. 5, CHUNG HSIN RD., SAN CHUNG, TAIPEI HSIEN, 24160, TAIWAN, R.O .C.

Date of Receipt	Nov. 02, 2009
Issued Date	Nov. 25, 2009
Report No.	09B251R-RFUSP44V01
Report Version	V1.0

The test results relate only to the samples tested.

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Test Report Certification

Issued Date: Nov. 25, 2009

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Applicant	KYE SYSTEMS CORP. (Genius)
Address	NO. 492, SEC. 5, CHUNG HSIN RD., SAN CHUNG, TAIPEI HSIEN, 24160, TAIWAN, R.O .C.
Manufacturer	KYE SYSTEMS CORP. (Genius)
Model No.	GM-090013, GM-090012
EUT Rated Voltage	DC 3V(Power by battery)
EUT Test Voltage	DC 3V(Power by battery)
Trade Name	Genius
Applicable Standard	FCC CFR Title 47 Part 15 Subpart C: 2008 ANSI C63.4: 2003
Test Result	Complied



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Documented By :

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(Adm. Specialist / Joanne Lin)



Tested By :

NoNo Chang

(Engineer / NONO Chang)



Testing Laboratory

0914

Approved By :

Vincent Lin

(Manager / Vincent Lin)

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Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Media Pointer T905, Media Pointer 100
Trade Name	Genius
Model No.	GM-090013, GM-090012
FCC ID	FSUGMZJ1
Frequency Range	2402~2480MHz
Channel Control	Auto
Channel Separation	1MHz
Antenna Type	Chip Antenna
Channel Number	79
Type of Modulation	GFSK

Antenna List

No.	Manufacturer	Part No.	Peak Gain
1	INPAQ	ACA5036-Ax	3 dBi in 2.4GHz

Note: The antenna of EUT is conform to FCC 15.203

Frequency of Each Channel

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 1:	2402 MHz	Channel 22:	2423 MHz	Channel 43:	2444 MHz	Channel 64:	2465 MHz
Channel 2:	2403 MHz	Channel 23:	2424 MHz	Channel 44:	2445 MHz	Channel 65:	2466 MHz
Channel 3:	2404 MHz	Channel 24:	2425 MHz	Channel 45:	2446 MHz	Channel 66:	2467 MHz
Channel 4:	2405 MHz	Channel 25:	2426 MHz	Channel 46:	2447 MHz	Channel 67:	2468 MHz
Channel 5:	2406 MHz	Channel 26:	2427 MHz	Channel 47:	2448 MHz	Channel 68:	2469 MHz
Channel 6:	2407 MHz	Channel 27:	2428 MHz	Channel 48:	2449 MHz	Channel 69:	2470 MHz
Channel 7:	2408 MHz	Channel 28:	2429 MHz	Channel 49:	2450 MHz	Channel 70:	2471 MHz
Channel 8:	2409 MHz	Channel 29:	2430 MHz	Channel 50:	2451 MHz	Channel 71:	2472 MHz
Channel 9:	2410 MHz	Channel 30:	2431 MHz	Channel 51:	2452 MHz	Channel 72:	2473 MHz
Channel 10:	2411 MHz	Channel 31:	2432 MHz	Channel 52:	2453 MHz	Channel 73:	2474 MHz
Channel 11:	2412 MHz	Channel 32:	2433 MHz	Channel 53:	2454 MHz	Channel 74:	2475 MHz
Channel 12:	2413 MHz	Channel 33:	2434 MHz	Channel 54:	2455 MHz	Channel 75:	2476 MHz
Channel 13:	2414 MHz	Channel 34:	2435 MHz	Channel 55:	2456 MHz	Channel 76:	2477 MHz
Channel 14:	2415 MHz	Channel 35:	2436 MHz	Channel 56:	2457 MHz	Channel 77:	2478 MHz
Channel 15:	2416 MHz	Channel 36:	2437 MHz	Channel 57:	2458 MHz	Channel 78:	2479 MHz
Channel 16:	2417 MHz	Channel 37:	2438 MHz	Channel 58:	2459 MHz	Channel 79:	2480 MHz
Channel 17:	2418 MHz	Channel 38:	2439 MHz	Channel 59:	2460 MHz		
Channel 18:	2419 MHz	Channel 39:	2440 MHz	Channel 60:	2461 MHz		
Channel 19:	2420 MHz	Channel 40:	2441 MHz	Channel 61:	2462 MHz		
Channel 20:	2421 MHz	Channel 41:	2442 MHz	Channel 62:	2463 MHz		
Channel 21:	2422 MHz	Channel 42:	2443 MHz	Channel 63:	2464 MHz		

Note:

1. The EUT is a Media Pointer T905, Media Pointer 100 with a built-in 2.4GHz transceiver.
2. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
3. These tests are conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.249 for spread spectrum devices.
4. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.
5. The different of each model is shown as below:

Model Number	Mouse Function	Function Key
GM-090013	Yes	10 Key
GM-090012	No	5 Key

1.2. Operational Description

The EUT is Media Pointer T905 / 100 built-in 2.4GHz transceiver. The operation frequency is from 2402 MHz to 2480MHz with GFSK modulation. The signal will be transmitted through 2.4 GHz RF signal from the Chip antenna. DC 3V (Power by Battery) shall be provided for EUT operation.

Test Mode	Mode 1: Transmit
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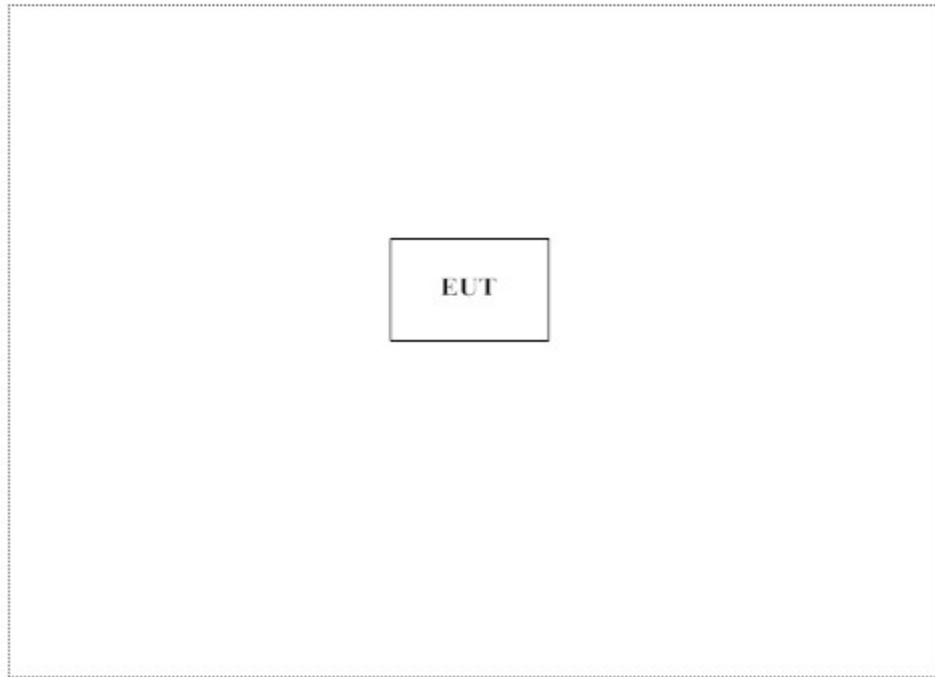
1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

	Product	Manufacturer	Model No.	Serial No.	Power Cord
(1)	N/A	N/A	N/A	N/A	N/A

	Signal Cable Type	Signal cable Description
A.	N/A	N/A

1.4. Configuration of Test System



1.5. EUT Exercise Software

- (1) Setup the EUT as shown in section 1.4
- (2) Inserts the battery, start continuous transmit
- (3) Verify that the EUT works correctly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

The related certificate for our laboratories about the test site and management system can be downloaded from Quietek Corporation’s Web Site : <http://tw.quietek.com/modules/myalbum/>
 The address and introduction of Quietek Corporation’s laboratories can be founded in our Web site : <http://www.quietek.com/>

Site Description: File on
 Federal Communications Commission
 FCC Engineering Laboratory
 7435 Oakland Mills Road
 Columbia, MD 21046
 Registration Number: 92195



Accreditation on NVLAP
 NVLAP Lab Code: 200533-0



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FCC Accreditation Number: TW1014



2. Radiated Emission

2.1. Test Equipment

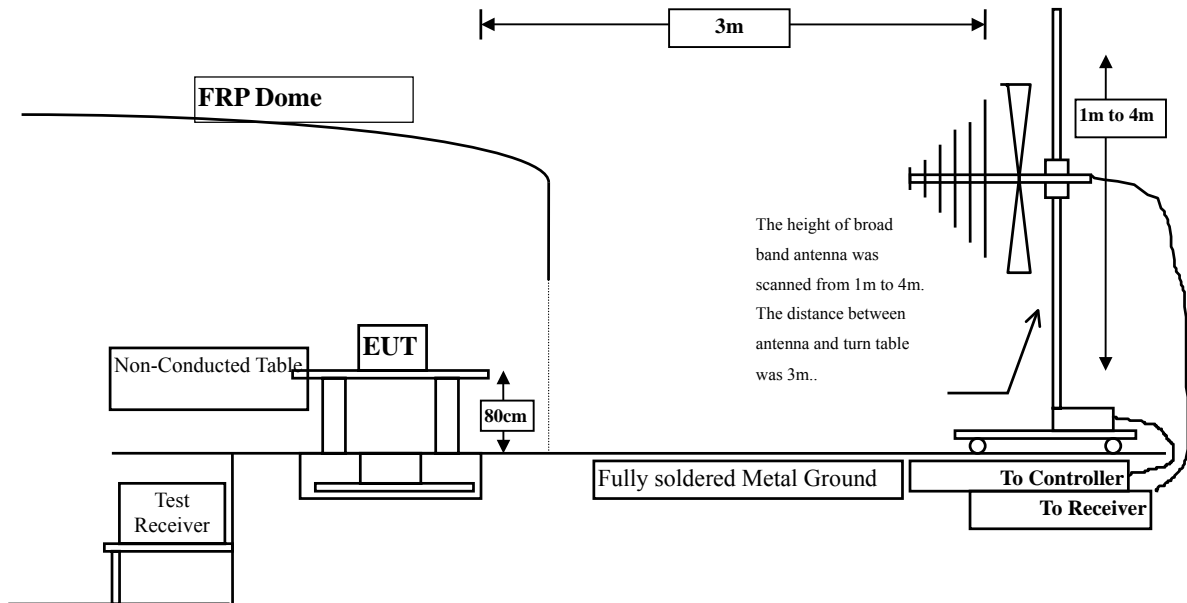
The following test equipment are used during the radiated emission test:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3	X	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2009
	X	Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2009
	X	Horn Antenna	Schwarzbeck	BBHA9170/208	Jul., 2009
	X	Pre-Amplifier	AGILENT	8447D/2944A09549	Sep., 2009
	X	Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2009
	X	Spectrum Analyzer	Advantest	R3162/91700283	Oct., 2009
	X	Coaxial Cable	Quietek	QTK-CABLE/ CAB5	Feb., 2009
	X	Controller	Quietek	QTK-CONTROLLER/ CTRL3	N/A
	X	Coaxial Switch	Anritsu	MP59B/6200265729	N/A

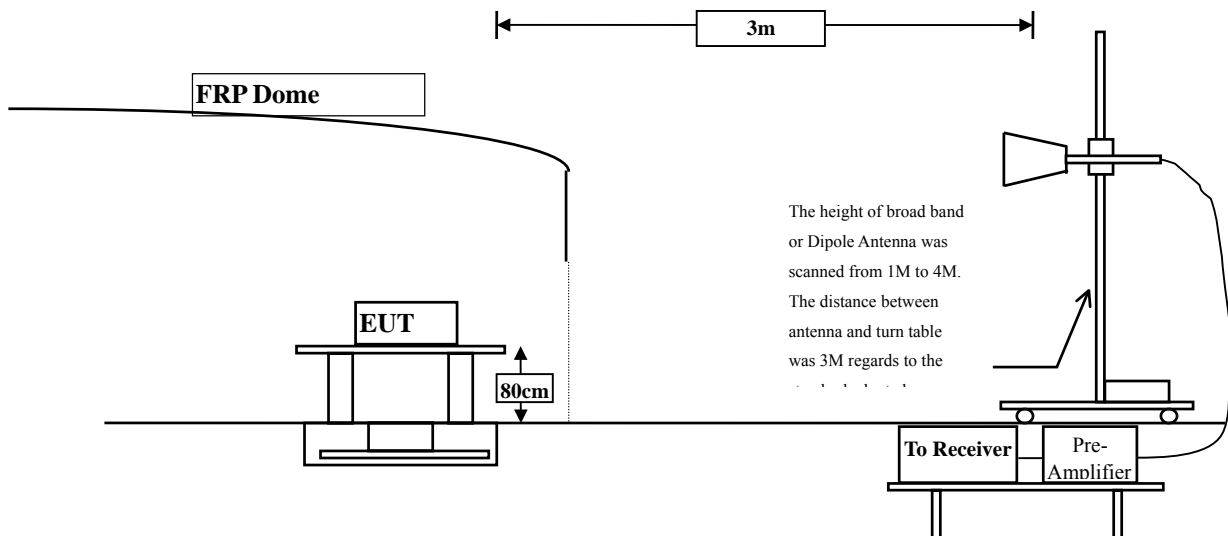
- Note:
1. All equipments are calibrated with traceable calibrations. Each calibration is traceable to the national or international standards.
 2. The test instruments marked with "X" are used to measure the final test results.

2.2. Test Setup

Radiated Emission Below 1GHz



Radiated Emission Above 1GHz



2.3. Limits

➤ General Radiated Emission Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209(a) Limits		
Frequency MHz	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

Remarks: E field strength (dBuV/m) = 20 log E field strength (uV/m)

2.4. Test Procedure

The EUT was setup according to ANSI C63.4, 2003 and tested according to DTS test procedure of Oct 2002 KDB558074 for compliance to FCC 47CFR 15.249 requirements.

The EUT is placed on a turn table which is 0.8 meter above ground. The turn table is rotated 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.4: 2003 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

Radiated emission measurements below 1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The worst radiated emission is measured on the Final Measurement.

The measurement frequency range from 30MHz - 10th Harmonic of fundamental was investigated.

2.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

2.6. Test Result of Radiated Emission

Product : Media Pointer T905, Media Pointer 100
 Test Item : Fundamental Radiated Emission
 Test Site : No.3OATS
 Test Mode : Mode 1: Transmit (X-Line)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
2402.000	36.599	65.250	101.848	-12.152	114.000
2448.000	36.623	63.110	99.733	-14.267	114.000
2480.000	36.706	60.950	97.656	-16.344	114.000
Average Detector:					
2402	101.848	-20.000	81.848	-12.152	94.000
2448	99.733	-20.000	79.733	-14.267	94.000
2480	97.656	-20.000	77.656	-16.344	94.000
Vertical					
Peak Detector:					
2402.000	35.588	65.120	100.707	-13.293	114.000
2448.000	35.873	62.270	98.143	-15.857	114.000
2480.000	36.162	60.990	97.152	-16.848	114.000
Average Detector:					
2402	100.707	-20.000	80.707	-13.293	94.000
2448	98.143	-20.000	78.143	-15.857	94.000
2480	97.152	-20.000	77.152	-16.848	94.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle
2. The Duty Cycle is refer to section 4.
3. If Duty Cycle is smaller than -20dB, based on FCC part15 the duty cycle correction factor is -20dB for calculating average emission.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Media Pointer T905, Media Pointer 100
 Test Item : Fundamental Radiated Emission
 Test Site : No.3OATS
 Test Mode : Mode 1: Transmit (Y-Line)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
2402.000	36.599	63.950	100.548	-13.452	114.000
2448.000	36.623	53.870	90.493	-23.507	114.000
2480.000	35.036	50.970	87.676	-26.324	114.000
Average Detector:					
2402	100.548	-20.000	80.548	-13.452	94.000
Vertical					
Peak Detector:					
2402.000	35.588	64.020	99.607	-14.393	114.000
2448.000	35.873	61.950	97.823	-16.177	114.000
2480.000	36.162	58.870	95.032	-18.968	114.000
Average Detector:					
2402	99.607	-20.000	79.607	-14.393	94.000
2448	97.823	-20.000	77.823	-16.177	94.000
2480	95.032	-20.000	75.032	-18.968	94.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle
2. The Duty Cycle is refer to section 4.
3. If Duty Cycle is smaller than -20dB, based on FCC part15 the duty cycle correction factor is -20dB for calculating average emission.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

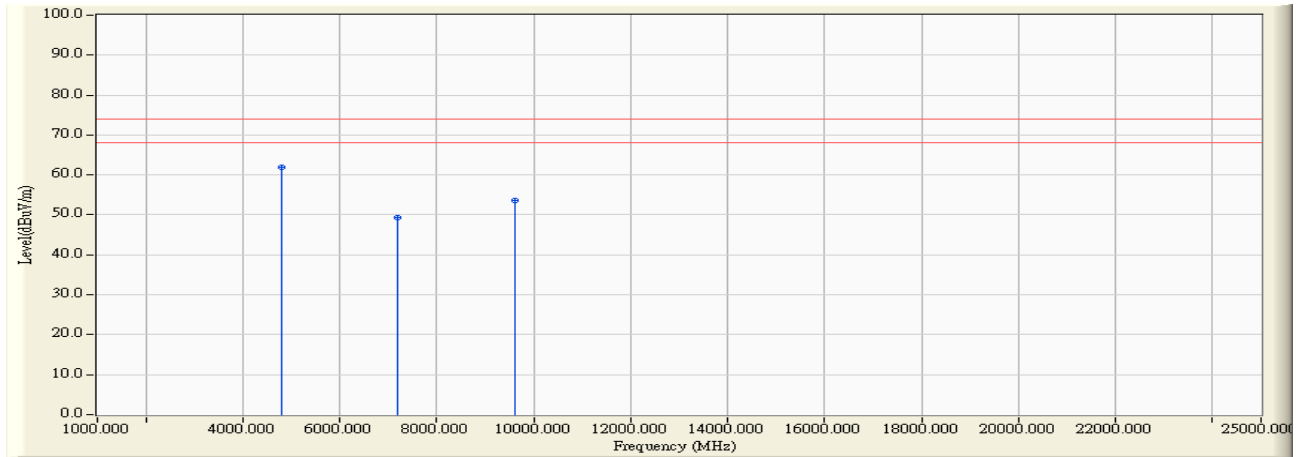
Product : Media Pointer T905, Media Pointer 100
 Test Item : Fundamental Radiated Emission
 Test Site : No.3OATS
 Test Mode : Mode 1: Transmit (Z-Line)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
2402.000	36.599	50.690	87.288	-26.712	114.000
2448.000	36.623	49.620	86.243	-27.757	114.000
2480.000	36.706	48.020	84.726	-29.274	114.000
Vertical					
Peak Detector:					
2402.000	35.588	55.560	91.147	-22.853	114.000
2448.000	36.623	54.370	90.993	-23.007	114.000
2480.000	36.162	52.510	88.672	-25.328	114.000

Note:

1. Measurement Level = Reading Level + Correct Factor.
2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.

Product : Media Pointer T905, Media Pointer 100
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (2402MHz)



Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
4804.000	9.612	52.260	61.872	-12.128	74.000
7206.000	14.293	35.020	49.312	-24.688	74.000
9608.000	19.660	34.020	53.680	-20.320	74.000

Note:

1. The reading levels below 1GHz and above 1GHz are quasi-peak values and peak/average values, respectively.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz °
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Media Pointer T905, Media Pointer 100
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (2402 MHz)

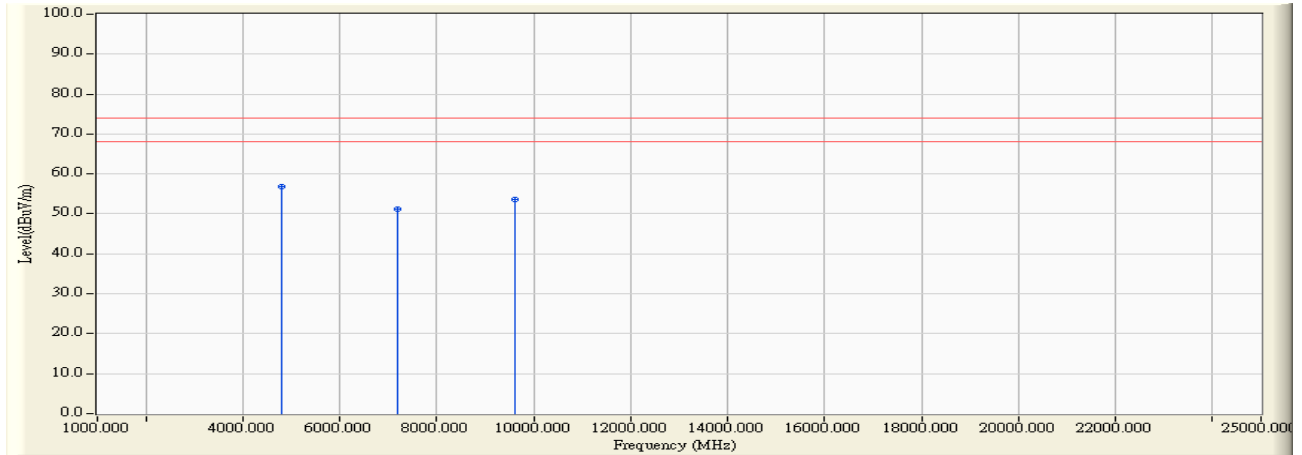
Average Detector:

Frequency MHz	Peak Measurement dBuV/m	Duty Cycle Factor dB	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Average Detector:					
4804	61.872	-20.000	41.872	-12.128	54.000

Note:

1. $AVG \text{ Measurement} = \text{Peak Measurement} + \text{Duty Cycle}$
2. The Duty Cycle is refer to section 4.
3. If Duty Cycle is smaller than -20dB, based on FCC part15 the duty cycle correction factor is -20dB for calculating average emission.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Media Pointer T905, Media Pointer 100
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (2402MHz)



Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Vertical					
Peak Detector:					
4804.000	8.330	48.560	56.890	-17.110	74.000
7206.000	15.409	35.920	51.329	-22.671	74.000
9608.000	18.870	34.820	53.690	-20.310	74.000

Note:

1. The reading levels below 1GHz and above 1GHz are quasi-peak values and peak/average values, respectively.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz ◦
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Media Pointer T905, Media Pointer 100
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (2402 MHz)

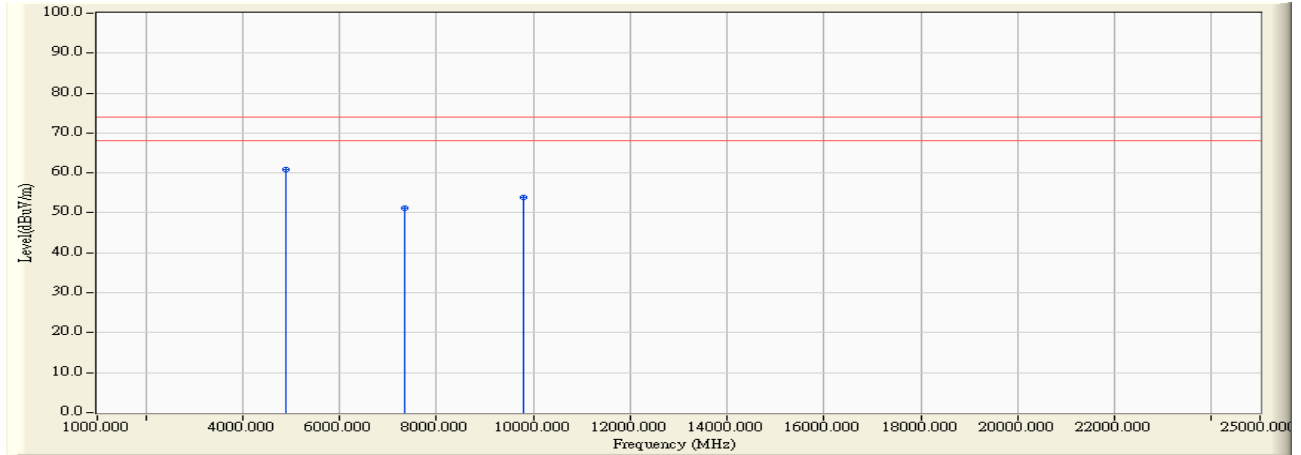
Average Detector:

Frequency MHz	Peak Measurement dBuV/m	Duty Cycle Factor dB	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Vertical					
Average Detector:					
4804	56.89	-20.000	36.890	-17.110	54.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle
2. The Duty Cycle is refer to section 4.
3. If Duty Cycle is smaller than -20dB,based on FCC part15 the duty cycle correction factor is -20dB for calculating average emission.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Media Pointer T905, Media Pointer 100
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (2448 MHz)



Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
4896.000	9.523	51.230	60.754	-13.246	74.000
7344.000	14.677	36.660	51.337	-22.663	74.000
9792.000	20.082	33.810	53.891	-20.109	74.000

Note:

1. The reading levels below 1GHz and above 1GHz are quasi-peak values and peak/average values, respectively.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz °
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Media Pointer T905, Media Pointer 100
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (2448 MHz)

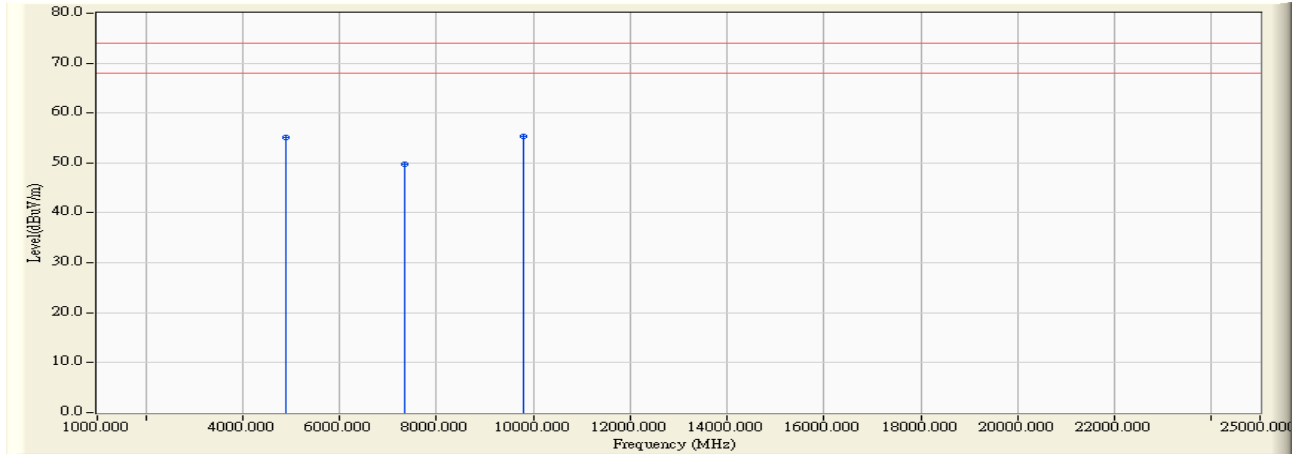
Average Detector:

Frequency MHz	Peak Measurement dBuV/m	Duty Cycle Factor dB	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Average Detector:					
4896	60.754	-20.000	40.754	-13.246	54.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle
2. The Duty Cycle is refer to section 4.
3. If Duty Cycle is smaller than -20dB, based on FCC part15 the duty cycle correction factor is -20dB for calculating average emission.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Media Pointer T905, Media Pointer 100
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (2448 MHz)



Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Vertical					
Peak Detector:					
4896.000	9.155	50.010	59.165	-14.835	74.000
7344.000	15.297	35.920	51.216	-22.784	74.000
9792.000	19.290	34.100	53.390	-20.610	74.000

Note:

1. The reading levels below 1GHz and above 1GHz are quasi-peak values and peak/average values, respectively.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz °
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Media Pointer T905, Media Pointer 100
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (2448 MHz)

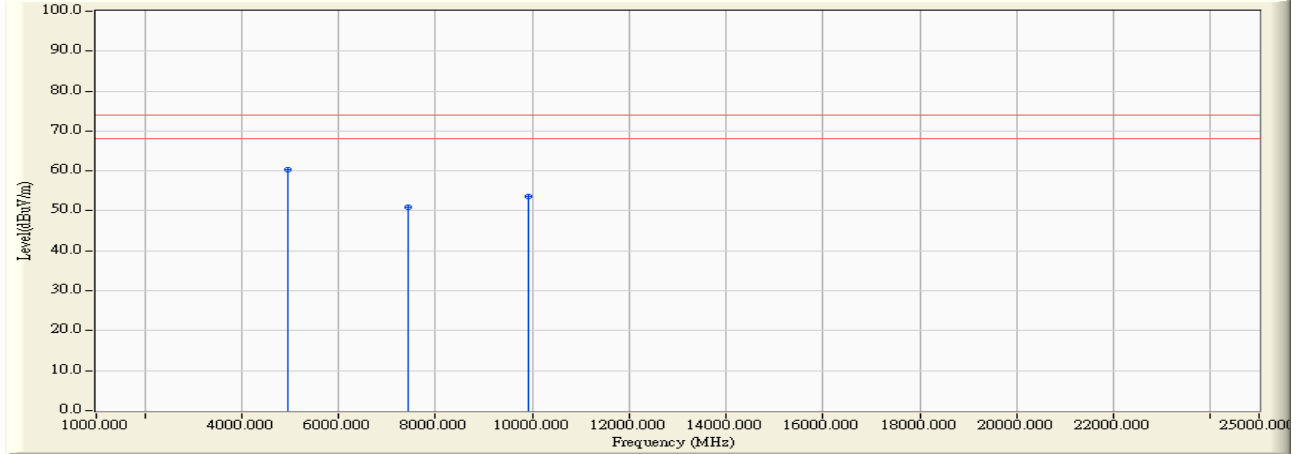
Average Detector:

Frequency MHz	Peak Measurement dBuV/m	Duty Cycle Factor dB	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Vertical					
Average Detector:					
4896	59.165	-20.000	39.165	-14.835	54.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle
2. The Duty Cycle is refer to section 4.
3. If Duty Cycle is smaller than -20dB,based on FCC part15 the duty cycle correction factor is -20dB for calculating average emission.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Media Pointer T905, Media Pointer 100
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (2480 MHz)



Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
4960.000	9.418	50.810	60.227	-13.773	74.000
7440.000	15.012	36.010	51.023	-22.977	74.000
9920.000	19.754	33.870	53.624	-20.376	74.000

Note:

1. The reading levels below 1GHz and above 1GHz are quasi-peak values and peak/average values, respectively.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz °
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Media Pointer T905, Media Pointer 100
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (2480 MHz)

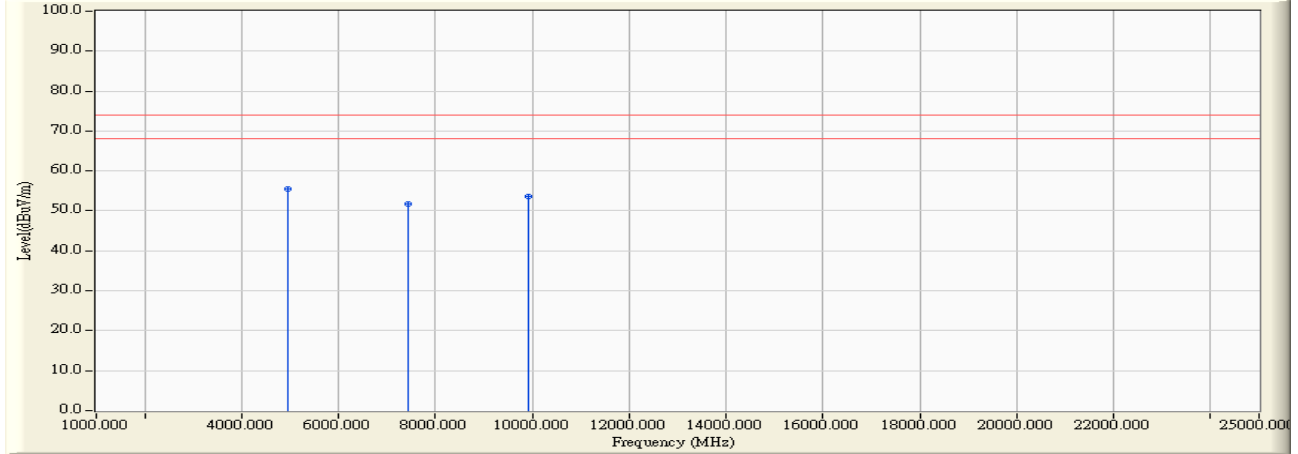
Average Detector:

Frequency MHz	Peak Measurement dBuV/m	Duty Cycle Factor dB	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Average Detector:					
4960	60.227	-20.000	40.227	-13.773	54.000

Note:

1. $AVG \text{ Measurement} = \text{Peak Measurement} + \text{Duty Cycle}$
2. The Duty Cycle is refer to section 4.
3. If Duty Cycle is smaller than -20dB, based on FCC part15 the duty cycle correction factor is -20dB for calculating average emission.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Media Pointer T905, Media Pointer 100
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (2480 MHz)



Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Vertical					
Peak Detector:					
4960.000	9.717	45.900	55.616	-18.384	74.000
7440.000	15.386	36.490	51.876	-22.124	74.000
9920.000	18.897	34.660	53.557	-20.443	74.000

Note:

1. The reading levels below 1GHz and above 1GHz are quasi-peak values and peak/average values, respectively.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz
3. Emission Level = Reading Level + Correct Factor.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Media Pointer T905, Media Pointer 100
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (2480 MHz)

Average Detector:

Frequency MHz	Peak Measurement dBuV/m	Duty Cycle Factor dB	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Vertical					
Average Detector:					
4960	55.616	-20.000	35.616	-18.384	54.000

Note:

1. AVG Measurement=Peak Measurement + Duty Cycle
2. The Duty Cycle is refer to section 4.
3. If Duty Cycle is smaller than -20dB,based on FCC part15 the duty cycle correction factor is -20dB for calculating average emission.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.
5. The emission levels of other frequencies are very lower than the limit and not show in test report.

Product : Media Pointer T905, Media Pointer 100
 Test Item : General Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit (2448 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
86.260	-10.139	36.012	25.872	-14.128	40.000
460.680	1.131	25.163	26.294	-19.706	46.000
544.100	2.992	25.533	28.525	-17.475	46.000
604.240	4.254	25.522	29.777	-16.223	46.000
644.980	1.040	27.433	28.473	-17.527	46.000
745.860	2.793	27.664	30.458	-15.542	46.000
Vertical					
309.360	-7.232	30.161	22.929	-23.071	46.000
501.420	-1.290	23.890	22.601	-23.399	46.000
544.100	-1.208	24.885	23.677	-22.323	46.000
687.660	2.002	22.870	24.872	-21.128	46.000
745.860	1.313	26.500	27.814	-18.186	46.000
967.020	7.541	21.844	29.385	-24.615	54.000

Note:

1. The reading levels below 1GHz are quasi-peak values.
2. "█" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.
4. The radiated emissions below 1GHz of the lowest, middle, highest frequency are pretested. Only the worst case is shown on the report.

3. Band Edge

3.1. Test Equipment

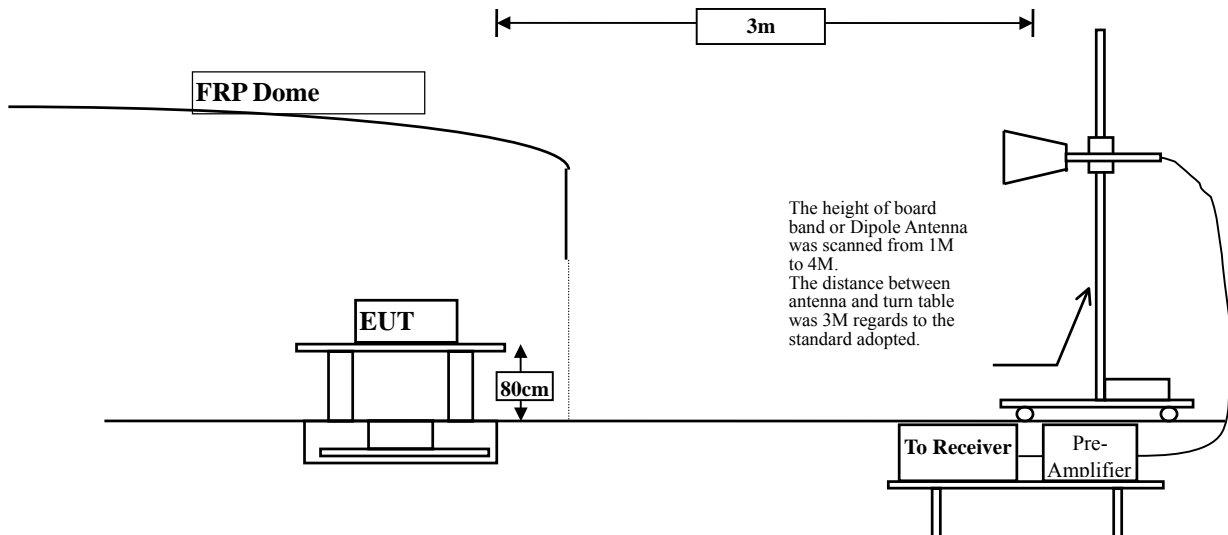
The following test equipments are used during the band edge tests:

Test Site	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
☒ Site # 3	X Spectrum Analyzer	Agilent	N9010A / MY48030495	Apr, 2009
	Bilog Antenna	Schaffner Chase	CBL6112B/2673	Sep., 2009
	X Horn Antenna	Schwarzbeck	BBHA9120D/D305	Sep., 2009
	X Pre-Amplifier	AGILENT	8447D/2944A09549	Sep., 2009
	X Test Receiver	R & S	ESCS 30/ 825442/018	Sep., 2009
	X Spectrum Analyzer	Advantest	R3162/91700283	Oct., 2009
	X Coaxial Cable	Quietek	QTK-CABLE/ CAB5	Feb., 2009
	X Controller	Quietek	QTK-CONTROLLER/ CTRL3	N/A
	X Coaxial Switch	Anritsu	MP59B/6200265729	N/A

- Note:
1. All equipments are calibrated every one year.
 2. The test equipments marked by “X” are used to measure the final test results.

3.2. Test Setup

RF Radiated Measurement:



3.3. Limits

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the 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)).

3.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4: 2003 on radiated measurement.

The bandwidth setting below 1GHz and above 1GHz on the field strength meter is 120 kHz and 1MHz, respectively.

3.5. Uncertainty

Conducted is ± 1.27 dB

Radiated is ± 3.9 dB

3.6. Test Result of Band Edge

Product : Media Pointer T905, Media Pointer 100
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit

Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Correction Factor [dB/m]	Reading Level [dBuV]	Emission Level [dBuV/m]	Detector
Horizontal	2402	36.599	65.250	101.848	Peak
Vertical	2402	35.588	65.120	100.707	Peak

Note: 1: Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz

Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	Δ (dB)	Band Edge Field Strength (dBuV/m)	Detector
Horizontal	2399.96	101.848	34.995	66.853	Peak
Vertical	2399.96	100.707	34.995	65.712	Peak

Note:

The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

$$\text{Band Edge field Strength} = F - \Delta$$

F = Fundamental field Strength (Peak or Average)

Δ = Conducted Band Edge Delta (Peak or Average)

The Average Field Strength is Peak Field Strength + duty cycle

Average Detector:

Frequency MHz	Peak Measurement dBuV/m	Duty Cycle Factor dB	Measurement Level dBuV/m	Margin dB	Limit dBuV/m	Result Pass
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Horizontal
Average Detector:

2399.96	66.853	-20.000	46.853	-7.147	54.000	Pass
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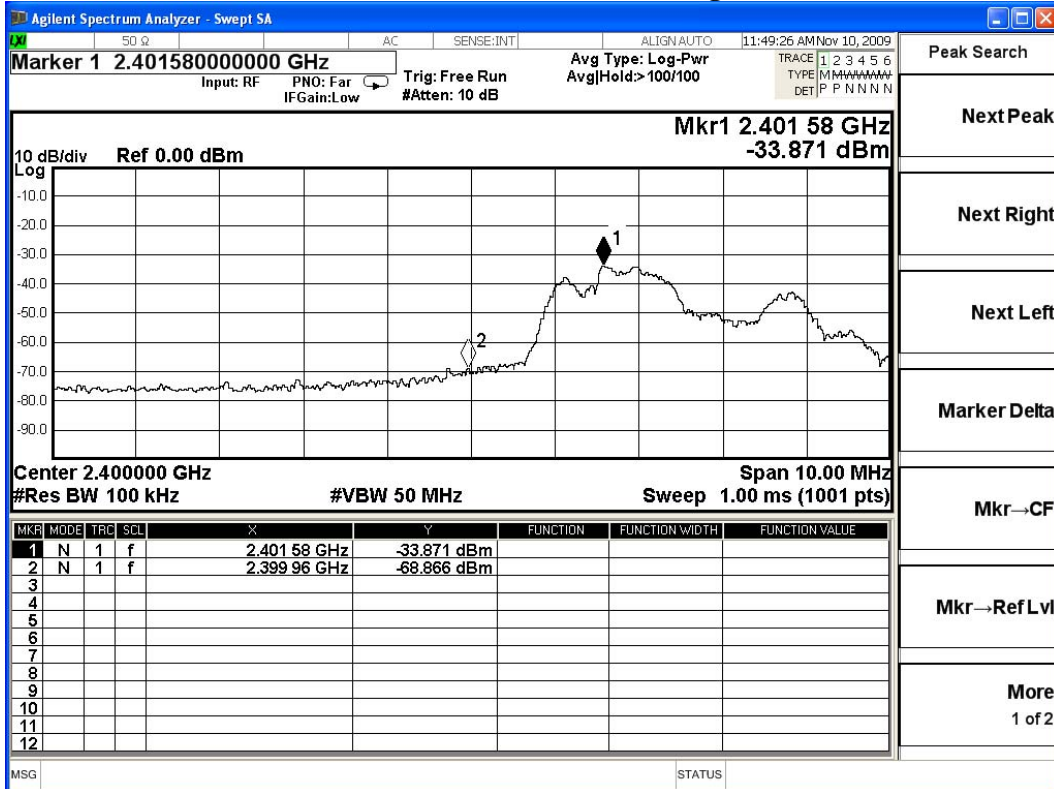
Vertical
Average Detector:

2399.96	65.712	-20.000	45.712	-8.288	54.000	Pass
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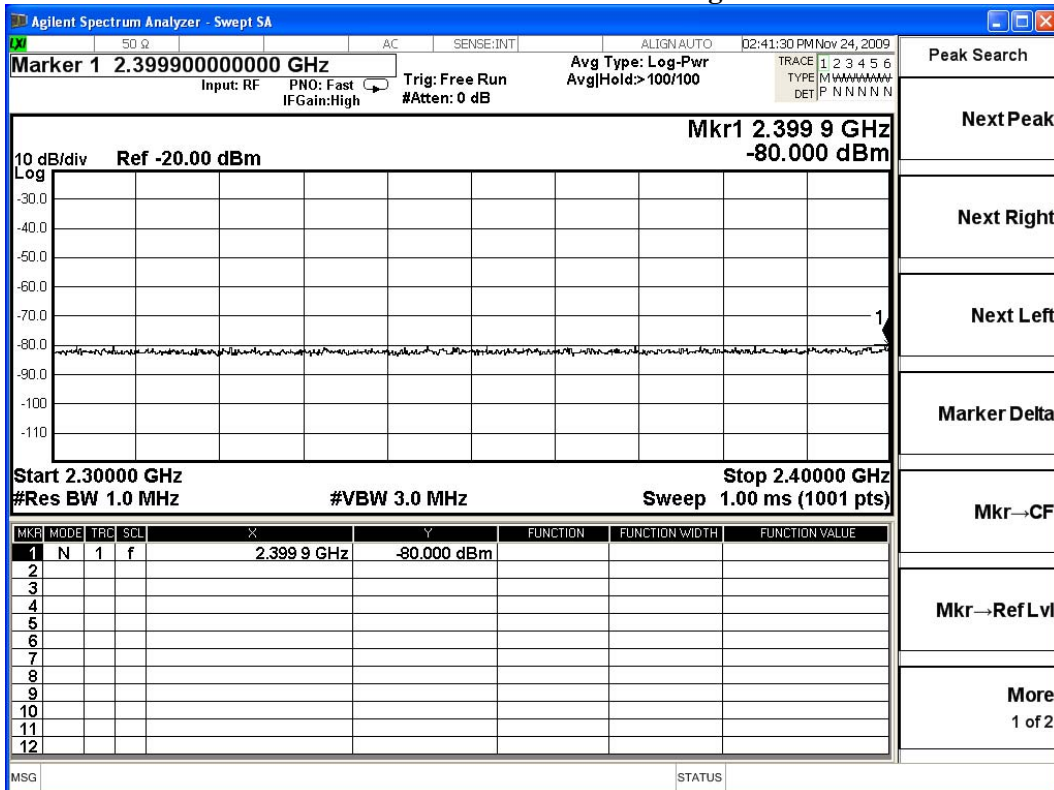
Note:

1. AVG Measurement=Peak Measurement + Duty Cycle
2. The Duty Cycle is refer to section 4.
3. If Duty Cycle is smaller than -20dB, based on FCC part15 the duty cycle correction factor is -20dB for calculating average emission.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Peak Detector of conducted Band Edge Delta



Peak Detector of conducted Band Edge Delta



Product : Media Pointer T905, Media Pointer 100
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit

Fundamental Filed Strength

Antenna Pole	Frequency [MHz]	Correction Factor [dB/m]	Reading Level [dB(uV)]	Emission Level [dB(uV/m)]	Detector
Horizontal	2480	36.706	60.950	97.656	Peak
Vertical	2480	36.162	60.990	97.152	Peak

Note: 1: Spectrum Analyzer setting:

Peak detector: RBW=1MHz, VBW=1MHz

Band Edge Test Data

Antenna Pole	Test Frequency (MHz)	Fundamental (dBuV/m)	Δ (dB)	Band Edge Field Strength (dBuV/m)	Detector
Horizontal	2483.5	97.656	35.878	61.778	Peak
Vertical	2483.5	97.152	35.878	61.274	Peak

Note:

The Band Edge Field Strength was calculated using the Fundamental and Conducted Band Edge measurements per the Marker-Delta Method with the following formula:

$$\text{Band Edge field Strength} = F - \Delta$$

F = Fundamental field Strength (Peak or Average)

Δ = Conducted Band Edge Delta (Peak or Average)

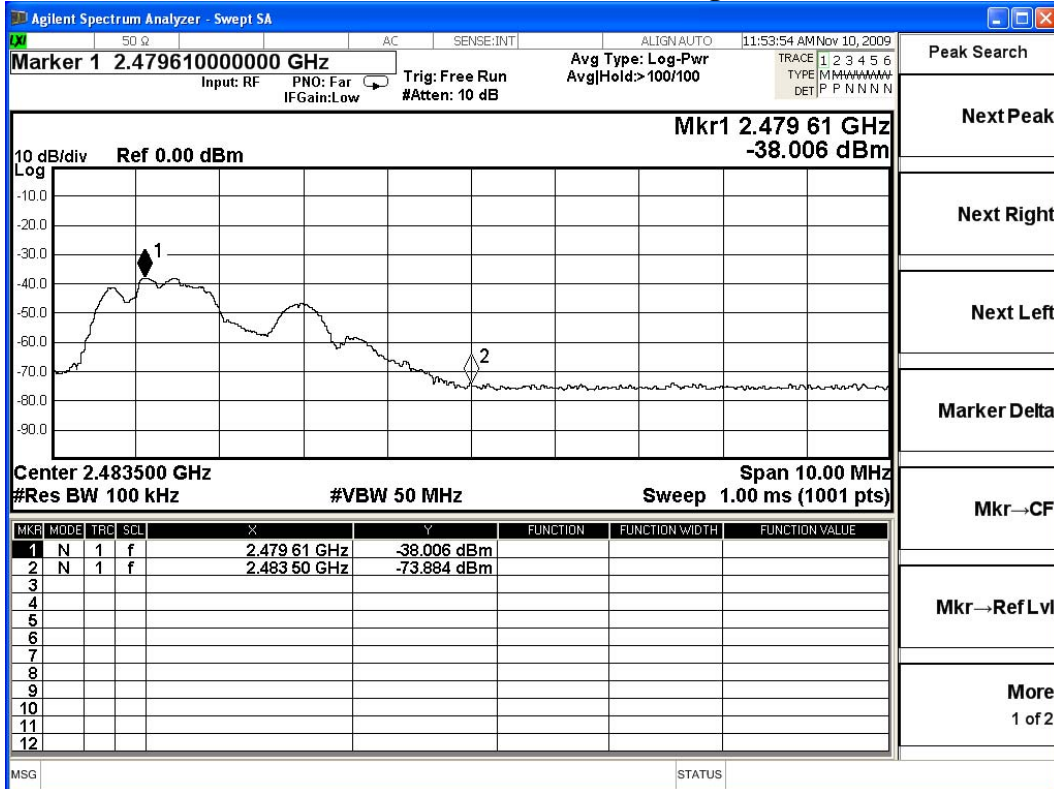
The Average Field Strength is Peak Field Strength + duty cycle

Average Detector:						
Frequency	Peak Measurement	Duty Cycle Factor	Measurement Level	Margin	Limit	Result
MHz	dBuV/m	dB	dBuV/m	dB	dBuV/m	Pass
Horizontal						
Average Detector:						
2483.5	61.778	-20.000	41.778	-12.222	54.000	Pass
Vertical						
Average Detector:						
2483.5	61.274	-20.000	41.274	-12.726	54.000	Pass

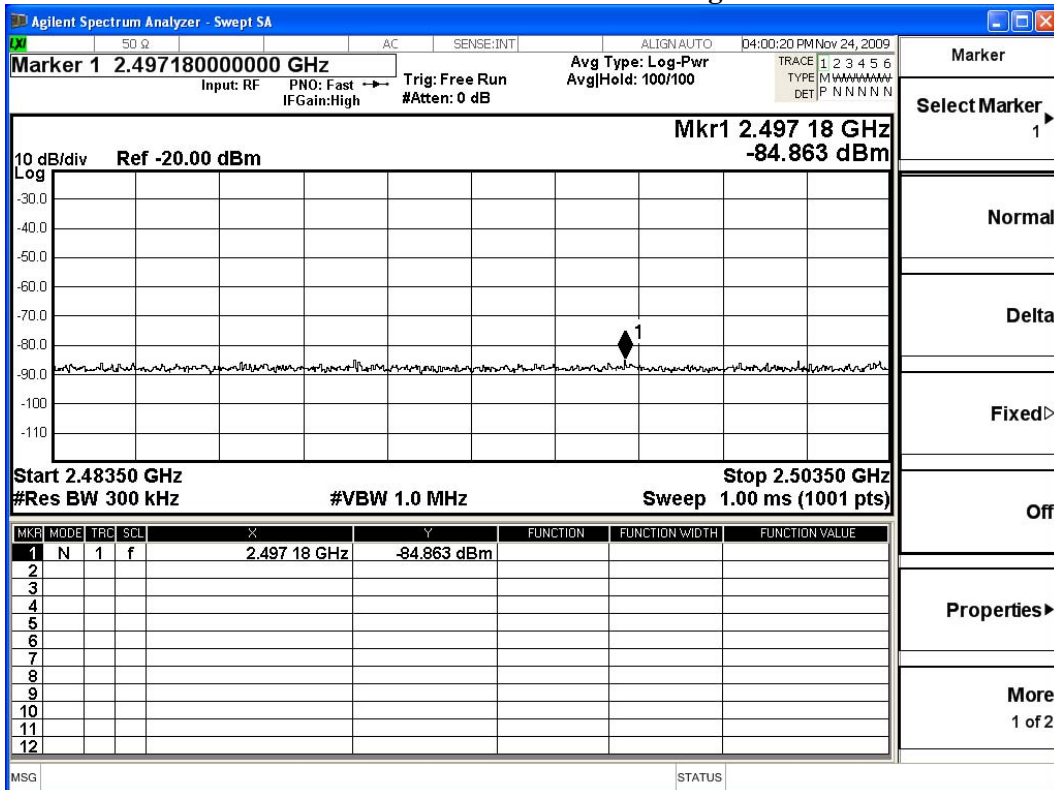
Note:

1. AVG Measurement=Peak Measurement + Duty Cycle
2. The Duty Cycle is refer to section 4.
3. If Duty Cycle is smaller than -20dB, based on FCC part15 the duty cycle correction factor is -20dB for calculating average emission.
4. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Peak Detector of conducted Band Edge Delta



Peak Detector of conducted Band Edge Delta



4. Duty Cycle

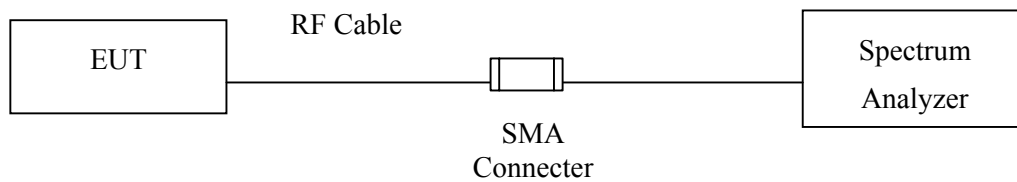
4.1. Test Equipment

The following test equipments are used during the band edge tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Spectrum Analyzer	R&S	FSP40 / 100339	Jun, 2009

- Note:
1. All equipments are calibrated every one year.
 2. The test equipments marked by "X" are used to measure the final test results.

4.2. Test Setup

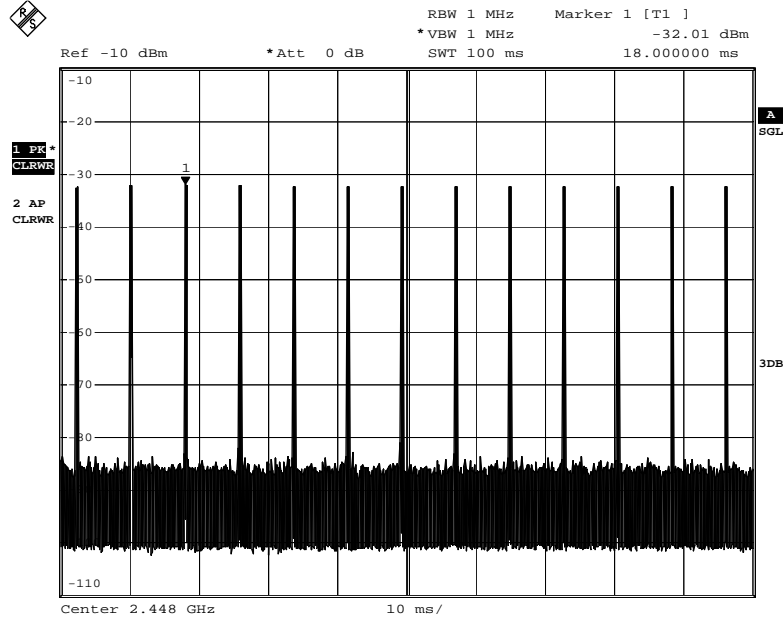


4.3. Uncertainty

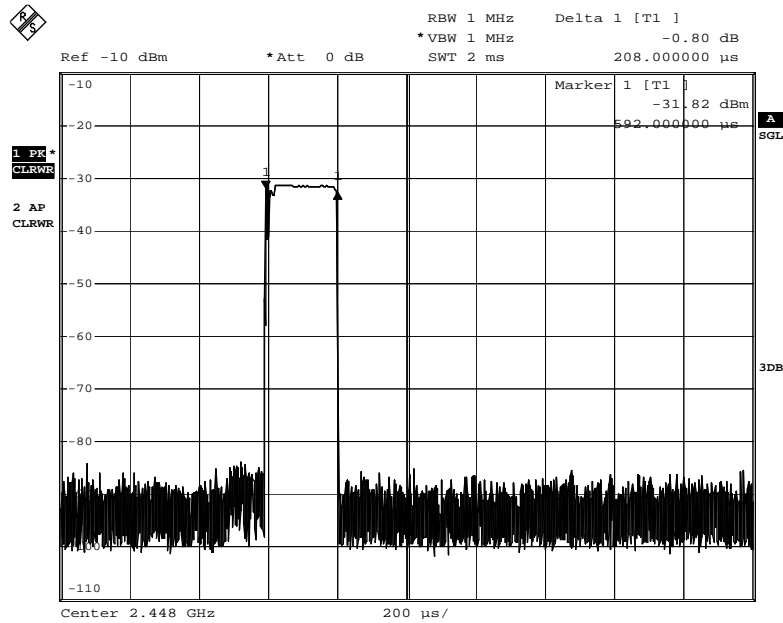
± 150Hz

4.4. Test Result of Duty Cycle

Product : Media Pointer T905, Media Pointer 100
 Test Item : Duty Cycle Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmit



Date: 6.NOV.2009 08:35:58



Date: 6.NOV.2009 08:39:56

Time on of 100ms= 208us*13=2.704 ms

Duty Cycle= 2.704ms / 100ms= 0.02704

Duty Cycle correction factor= 20 LOG 0.0270= -31.360 dB

Duty Cycle correction factor	-20.00	dB
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Remark:

1. If Duty Cycle is smaller than -20dB, based on FCC part15 the duty cycle correction factor is -20dB for calculating average emission.

5. EMI Reduction Method During Compliance Testing

No modification was made during testing.

Attachment 1: EUT Test Photographs

Attachment 2: EUT Detailed Photographs