



Test Report

Product Name : Fire Alarm Transmitter
Model No. : FA3-SS, FA4-SS
FCC ID. : PPJSCXMIT08

Applicant : Silent Call Communications Corporation
Address : 5095 Williams Lake Road , Waterford, Michigan
48329 U.S.A.

Date of Receipt : 2008/11/06
Issued Date : 2008/11/24
Report No. : 08B102R-RFUSP04V01
Version : V1.0

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of QuieTek Corporation.

This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Test Report Certification

Issued Date : 2008/11/24

Report No. : 08B102R-RFUSP04V01



Product Name : Fire Alarm Transmitter

Applicant : Silent Call Communications Corporation


Address : 5095 Williams Lake Road , Waterford, Michigan 48329
U.S.A.

Manufacturer : Silent Call Communications Corporation

Model No. : FA3-SS, FA4-SS

FCC ID. : PPJSCXMIT08

EUT Voltage : DC 3V

Trade Name : 

Applicable Standard : FCC 15 Subpart C Section 15.231: 2007
ANSI C63.4: 2003

Test Result : Complied

The test results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of Quietek Corporation.

This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Documented By : Sandy Chuang
(Sandy Chuang / Engineering Adm. Assistant)

Reviewed By : Sheena Huang
(Sheena Huang Engineer)

Approved By : Roy Wang
(Roy Wang / Manager)


TABLE OF CONTENTS

Description	Page
1. General Information.....	5
1.1. EUT Description	5
1.2. Operation Description.....	6
1.3. Test Mode	7
1.4. Tested System Details	8
1.5. Configuration of tested System	8
1.6. EUT Exercise Software	8
1.7. Test Facility.....	9
2. Conducted Emission	10
2.1. Test Equipment.....	10
2.2. Test Setup	10
2.3. Limits	11
2.4. Test Procedure	11
2.5. Test Specification.....	11
2.6. Uncertainty	11
2.7. Test Result.....	12
3. Radiated Emission	13
3.1. Test Equipment.....	13
3.2. Test Setup	13
3.3. Limits	14
3.4. Test Procedure	16
3.5. Test Specification.....	16
3.6. Uncertainty	16
3.7. Test Result.....	17
3.8. Test Photo	22
4. Occupied Bandwidth.....	24
4.1. Test Equipment.....	24
4.2. Test Setup	24
4.3. Limits	24
4.4. Uncertainty	24
4.5. Test Result.....	25
5. Duty cycle.....	26
5.1. Test Equipment.....	26
5.2. Test Setup	26
5.3. Limits	26
5.4. Uncertainty	26
5.5. Test Result.....	27
6. Transmitter time.....	28
6.1. Test Equipment.....	28
6.2. Test Setup	28
6.3. Limits	28
6.4. Uncertainty	28

6.5.	Test Result.....	29
7.	Band Edge.....	30
7.1.	Test Equipment.....	30
7.2.	Test Setup	30
7.3.	Limit.....	30
7.4.	Test Procedure	31
7.5.	Test Result of Band Edge.....	32
Attachment.....		34
	EUT Photograph.....	34

1. General Information

1.1. EUT Description

Product Name	Fire Alarm Transmitter
Trade Name	
Model No.	FA3-SS, FA4-SS
FCC ID	PPJSCXMIT08
Frequency Range	418MHz
Type of Modulation	ASK
Number of Channel	1
Channel Control	Auto

Component	
Vibrator	VIB-PJ, Non-Shielded
Power Adapter	Silent Call, MA-2617014FU I/P: AC 100-240V, 50-60Hz 0.3MAX O/P: DC 17.2V 0.8A 13.7W Cable Out: Non-Shielded, 1.8m

Working Frequency of Each Channel	
Channel	Frequency
001	418MHz

Note:

1. The EUT is a Fire Alarm Transmitter with a built-in 418MHz transmitter.
2. The different of the each model is shown as below:
 - 1) FA3-SS: Fire Alarm Transmitter with Battery build-in
 - 2) FA4-SS: Fire Alarm Transmitter without Battery build-in
3. The EUT will stop the transmission immediately when the test button is pressed and releases. The EUT will stop the transmission within 5 seconds when the test button is pressed and held.
4. The worst case is when the button is pressed. Only the worst case is shown in the report.
5. These tests are conducted on a sample for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.231.
6. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

1.3. Test Mode

QuieTek verified the construction and function in typical operation. All the test modes are performed in normal operation and are defined as:

Pre-Test Mode	
TX	Mode 1: Transmit
Final Test Mode	
TX	Mode 1: Transmit

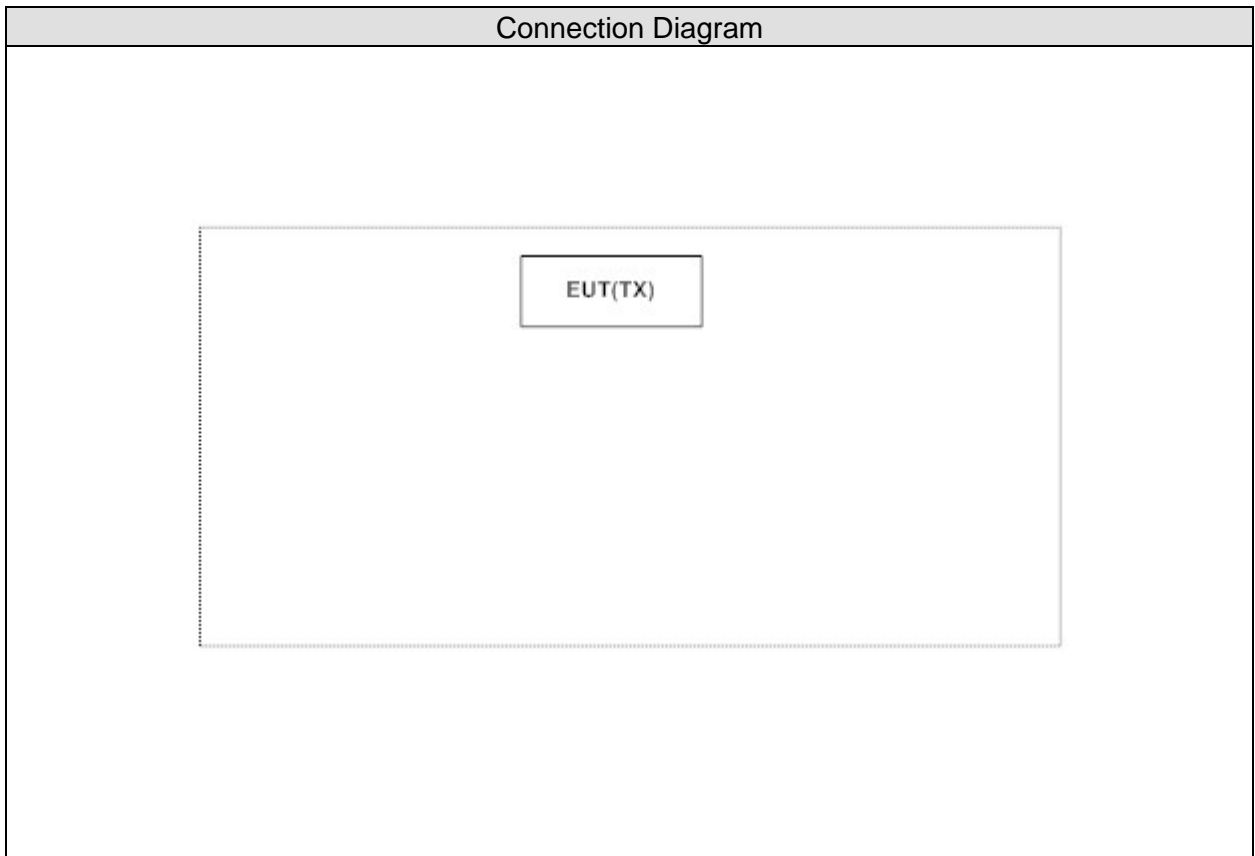
Emission	
Performed Item	
Conducted Emission	Yes
Radiated Emission	Yes
Occupied Bandwidth	Yes
Duty cycle	Yes
Transmitter time	Yes
Band Edge	Yes
Power Density	Yes

1.4. Tested System Details

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

N/A

1.5. Configuration of tested System



1.6. EUT Exercise Software

1	Setup the EUT as shown in section 1.5.
2	Install the battery.
3	Press the test button of the EUT.
4	Verify that the EUT works properly.

1.7. Test Facility

Ambient conditions in the laboratory:

Items	Test Item	Required (IEC 68-1)	Actual
Temperature (°C)	FCC PART 15 C	15 - 35	22
Humidity (%RH)	15.207 Conducted	25 - 75	55
Barometric pressure (mbar)	Emission	860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C	15 - 35	22
Humidity (%RH)	15.231 Duty Cycle	25 - 75	55
Barometric pressure (mbar)		860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C	15 - 35	22
Humidity (%RH)	15.231 Occupied	25 - 75	55
Barometric pressure (mbar)	Bandwidth	860 - 1060	950-1000
Temperature (°C)	FCC PART 15 C	15 - 35	22
Humidity (%RH)	15.231 Radiated	25 - 75	55
Barometric pressure (mbar)	Emission	860 - 1060	950-1000

Site Description:

August 30, 2007 File on
 Federal Communications Commission
 Laboratory Division
 7435 Oakland Mills Road
 Columbia, MD 21046
 Registration Number: 365520



Accredited by TAF
 Accreditation Number: 1313
 Effective through: December 27, 2010



Accredited by NVLAP
 NVLAP Lab Code: 200347-0
 Effective through: September 30, 2009



Site Name: Quietek Corporation
 Site Address: No.75-1, Wang-Yeh Valley, Yung-Hsing,
 Chiung-Lin, Hsin-Chu County,
 Taiwan, R.O.C.
 TEL : 886-3-592-8858 / FAX : 886-3-592-8859
 E-Mail : service@quietek.com

2. Conducted Emission

2.1. Test Equipment

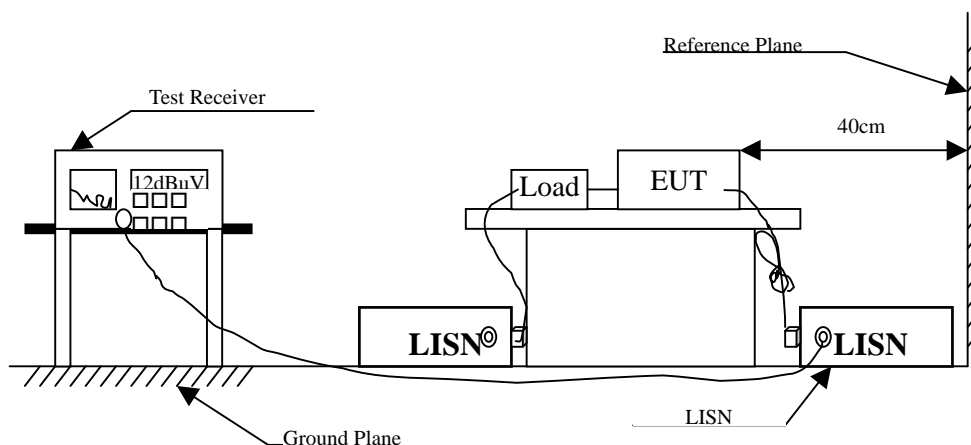
The following test equipment are used during the test:

Conducted Emission / SR3

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
4-Wire ISN	R & S	ENY 41	837032/001	2008/04/15
Double 2-Wire ISN	R & S	ENY 22	835354/008	2008/04/15
LISN	R&S	ESH3-Z5	836679/022	2008/06/17
LISN	R & S	ESH3-Z5	836679/013	2007/12/30
Pulse Limiter	R & S	ESH3-Z2	100411	2007/11/16
Test Receiver	R & S	ESCS 30	100149	2007/11/15

Note: All instruments are calibrated every one year.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 Limits (dBuV)		
Frequency MHz	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

Remarks : In the above table, the tighter limit applies at the band edges.

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.

Conducted emissions were invested over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.231: 2007

2.6. Uncertainty

± 2.26 dB

2.7. Test Result

The power of the EUT is supplied by battery. This test is not performed.

3. Radiated Emission

3.1. Test Equipment

The following test equipment are used during the test:

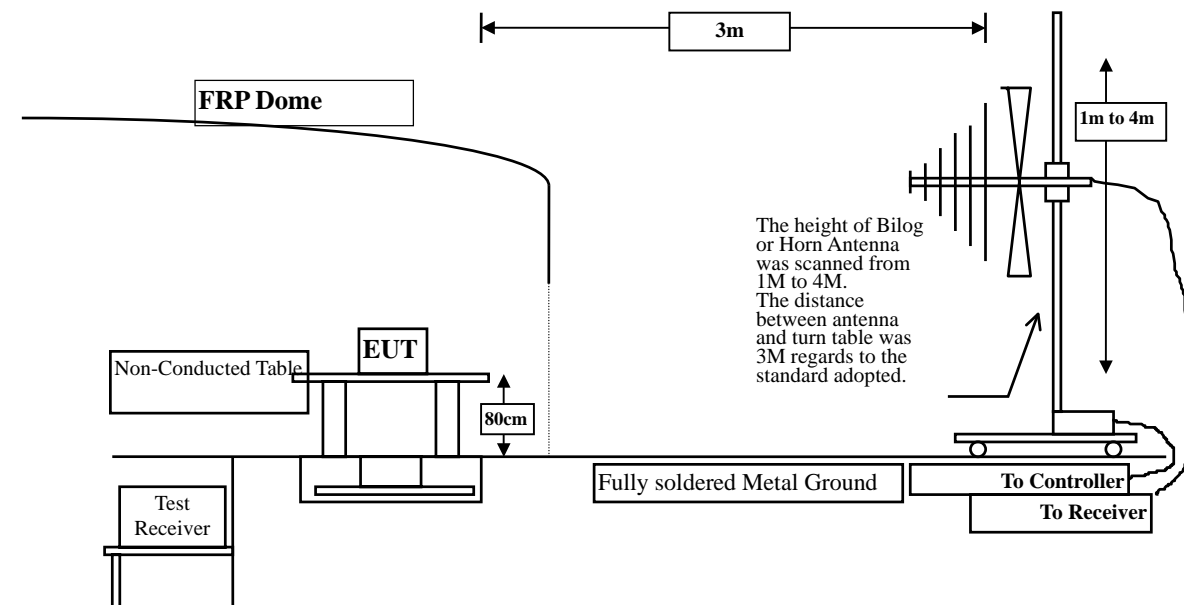
Radiated Emission / Site1

Instrument	Manufacturer	Type No.	Serial No	Cal. Date
Bilog Antenna	Schaffner Chase	CBL6112B	2895	2008/09/03
Horn Antenna	Electro Metrics	EM-6961	103325	2008/03/15
Pre-Amplifier	HP	8449B	3008A01123	2008/11/15
Pre-Amplifier	Quietek	AP-025C	N/A	N/A
Spectrum Analyzer	R & S	FSP40	100005	2008/08/25
Spectrum Analyzer	Advantest	R3162	120300649	2007/11/24
Test Receiver	R & S	ESCS 30	825442/017	2008/02/13

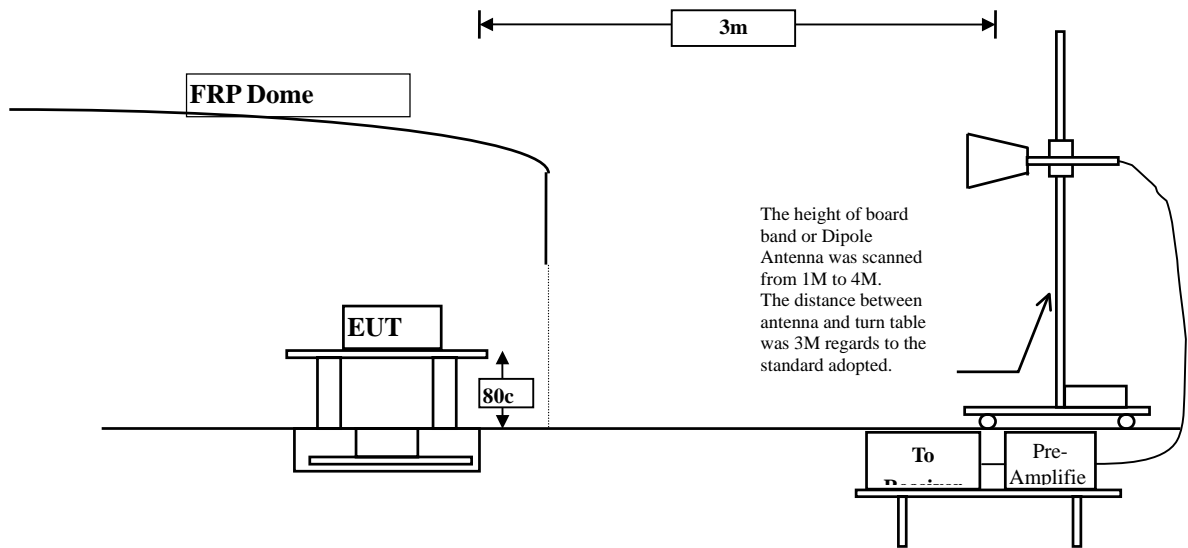
- Note: 1. All instruments are calibrated every one year.
 2. The test instruments marked by "X" are used to measure the final test results.

3.2. Test Setup

Under 1GHz Test Setup:



Above 1GHz Test Setup:



3.3. Limits

➤ Fundamental and Harmonics Emission Limits

FCC Part 15 Subpart C Paragraph 15.231 Limits				
Fundamental Frequency MHz	Field Strength of Fundamental		Field Strength of Harmonics	
	uV/m	dBuV/m	uV/m	dBuV/m
40.66-40.70	2250	67.0	225	47.0
70-130	1250	62.0	125	42.0
130-174	1250-3750	62.0-71.5	125-375	42.0-51.5
174-260	3750	71.5	375	51.5
260-470	3750-12500	71.5-82.00	375-1250	51.5-62.0
above 470	12500	82.00	1250	62.0

Remarks : 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)

2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

➤ Spurious electric field strength limits

FCC Part 15 Subpart C Paragraph 15.209 Limits			
Frequency MHz	uV/m	dBuV/m	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	See Remark ¹	300
0.490-1.705	24000/F(kHz)	See Remark ¹	30
1.705-30	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

Remarks : 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)

2. In the Above Table, the tighter limit applies at the band edges.

3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

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 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 beamwidth of the antenna.

The worst radiated emission is measured on the Final Measurement.

The frequency range from 30MHz to 10th harmonics is checked.

3.5. Test Specification

According to FCC Part 15 Subpart C Paragraph 15.231: 2007

3.6. Uncertainty

± 3.8 dB below 1GHz

± 3.9 dB above 1GHz

3.7. Test Result

Product	Fire Alarm Transmitter		
Test Item	Fundamental Radiated Emission		
Test Mode	Mode 1: Transmit		
Date of Test	2008/11/17	Test Site	No.1 OATS

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Peak Limit dBuV/m	Average Limit dBuV/m
Horizontal					
Peak					
418(X-Line)	18.914	68.52	87.434	100.284	80.284
418(Y-Line)	18.914	70.30	89.214	100.284	80.284
418(Z-Line)	18.914	62.31	81.224	100.284	80.284
Average					
418(X-Line)	--	--	72.964	100.284	80.284
418(Y-Line)	--	--	74.744	100.284	80.284
418(Z-Line)	--	--	66.754	100.284	80.284
Vertical					
Peak					
418(X-Line)	18.561	55.44	74.001	100.284	80.284
418(Y-Line)	18.561	58.72	77.281	100.284	80.284
418(Z-Line)	18.561	63.73	82.291	100.284	80.284
Average					
418(X-Line)	--	--	59.531	100.284	80.284
418(Y-Line)	--	--	62.811	100.284	80.284
418(Z-Line)	--	--	67.821	100.284	80.284

Note1:

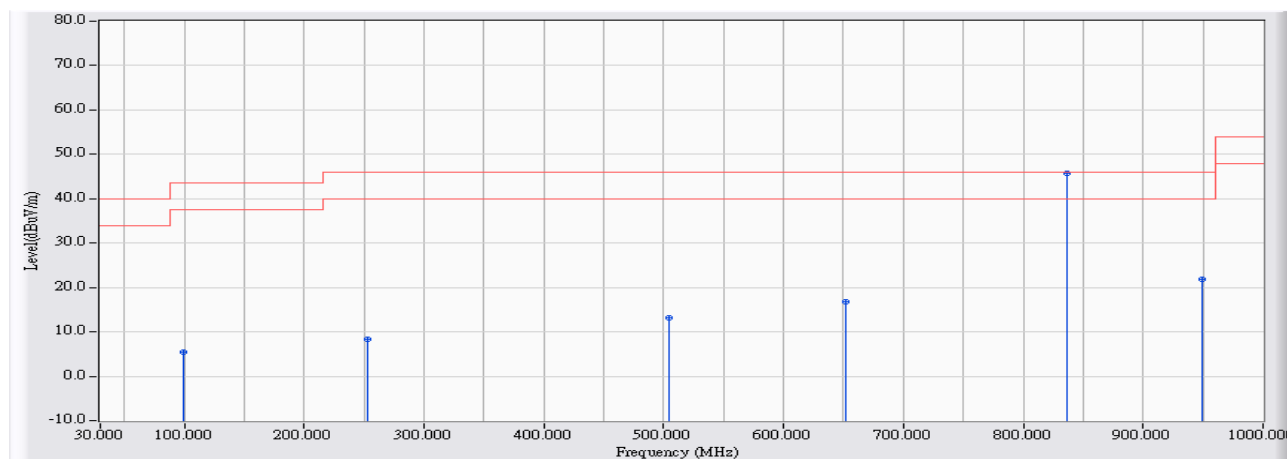
Average Power Measurement= Peak + 20Log(Duty Cycle)

Duty Cycle=(Ton/(Ton+Toff))=18.8/100=0.188

20*Log(Duty Cycle)= -14.51

30MHz-1GHz Spurious:

Site : Site 1	Time : 2008/11/17 - 10:05
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB3_FCC_30-1G(2008-9) - HORIZONTAL	Power : DC 3V
EUT : Fire Alarm Transmitter	Note :TX

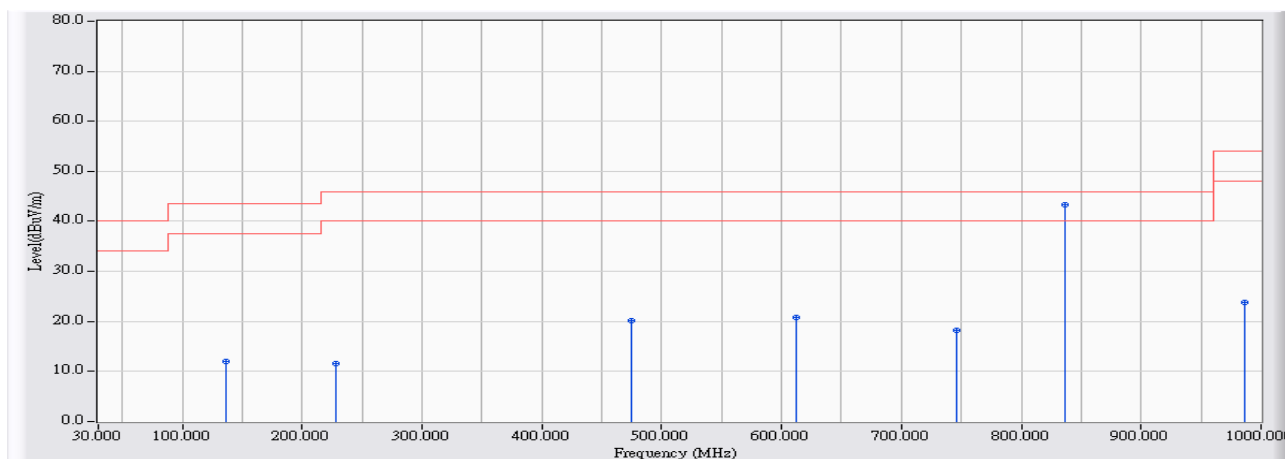


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	99.980	-42.985	48.483	5.498	-38.002	43.500	QUASPEAK
2	253.547	-40.894	49.181	8.286	-37.714	46.000	QUASPEAK
3	504.309	-35.599	48.841	13.242	-32.758	46.000	QUASPEAK
4	652.044	-34.356	51.155	16.799	-29.201	46.000	QUASPEAK
5	* 836.713	-32.857	78.479	45.623	-0.377	46.000	QUASPEAK
6	949.459	-26.640	48.473	21.833	-24.167	46.000	QUASPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Site : Site 1	Time : 2008/11/17 - 10:21
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB3_FCC_30-1G(2008-9) - VERTICAL	Power : DC 3V
EUT : Fire Alarm Transmitter	Note : TX



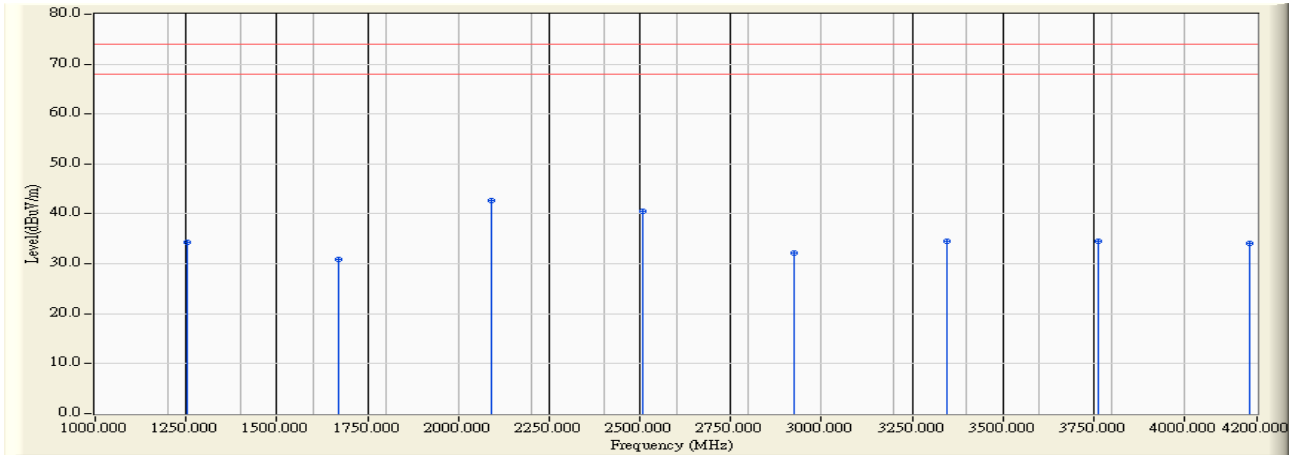
	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	136.700	-11.428	23.375	11.947	-31.553	43.500	QUASPEAK
2	227.880	-12.101	23.627	11.526	-34.474	46.000	QUASPEAK
3	474.260	-2.991	23.248	20.257	-25.743	46.000	QUASPEAK
4	612.000	-3.625	24.377	20.752	-25.248	46.000	QUASPEAK
5	745.860	-4.568	22.750	18.181	-27.819	46.000	QUASPEAK
6	* 837.040	-2.112	45.437	43.325	-2.675	46.000	QUASPEAK
7	986.420	0.922	22.801	23.724	-30.276	54.000	QUASPEAK

Note:

1. All Reading Levels are Quasi-Peak value.
2. “ * ”, means this data is the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Harmonic & Spurious:

Site : Site 1	Time : 2008/11/07 - 16:57
Limit : FCC_SpartC_15.231(e)_H_03M_PK	Margin : 6
Probe : CB4_FCC_1-18G(2008-05) - HORIZONTAL	Power : DC 3V
EUT : Fire Alarm Transmitter	Note : TX

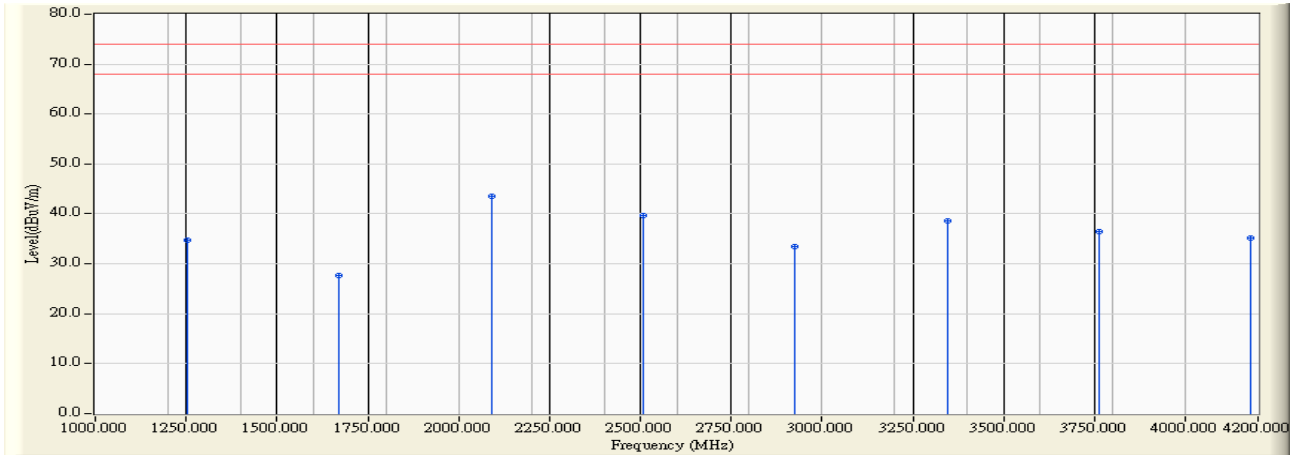


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	1254.010	-7.820	42.070	34.249	-39.721	73.970	PEAK
2	1672.020	-6.285	37.130	30.844	-43.126	73.970	PEAK
3	* 2090.010	-4.824	47.530	42.706	-31.264	73.970	PEAK
4	2508.010	-3.428	43.930	40.502	-33.468	73.970	PEAK
5	2926.000	-2.528	34.680	32.151	-41.819	73.970	PEAK
6	3344.250	-1.704	36.230	34.526	-39.444	73.970	PEAK
7	3762.040	0.371	34.220	34.591	-39.379	73.970	PEAK
8	4180.000	1.462	32.700	34.162	-39.808	73.970	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

Site : Site 1	Time : 2008/11/07 - 17:33
Limit : FCC_SpartC_15.231(e)_H_03M_PK	Margin : 6
Probe : CB4_FCC_1-18G(2008-05) - VERTICAL	Power : DC 3V
EUT : Fire Alarm Transmitter	Note : TX



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	1253.980	-7.820	42.510	34.689	-39.281	73.970	PEAK
2	1672.000	-6.285	33.870	27.584	-46.386	73.970	PEAK
3	* 2090.010	-4.824	48.270	43.446	-30.524	73.970	PEAK
4	2508.000	-3.428	43.130	39.702	-34.268	73.970	PEAK
5	2925.970	-2.528	36.020	33.491	-40.479	73.970	PEAK
6	3344.000	-1.704	40.290	38.586	-35.384	73.970	PEAK
7	3761.990	0.371	36.030	36.401	-37.569	73.970	PEAK
8	4180.010	1.462	33.720	35.182	-38.788	73.970	PEAK

Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.
7. The Emission above 13GHz were not included is because their levels are too low.

4. Occupied Bandwidth

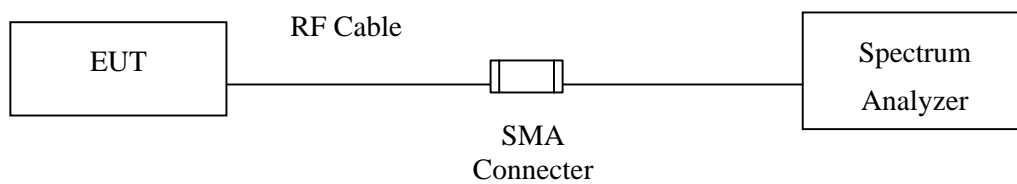
4.1. Test Equipment

The following test equipments are used during the radiated emission tests:

Item	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.
1	Spectrum Analyzer	R & S	FSP / 100561	Jan., 2008
2	No.1 OATS			Sep., 2008

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

4.2. Test Setup



4.3. Limits

The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

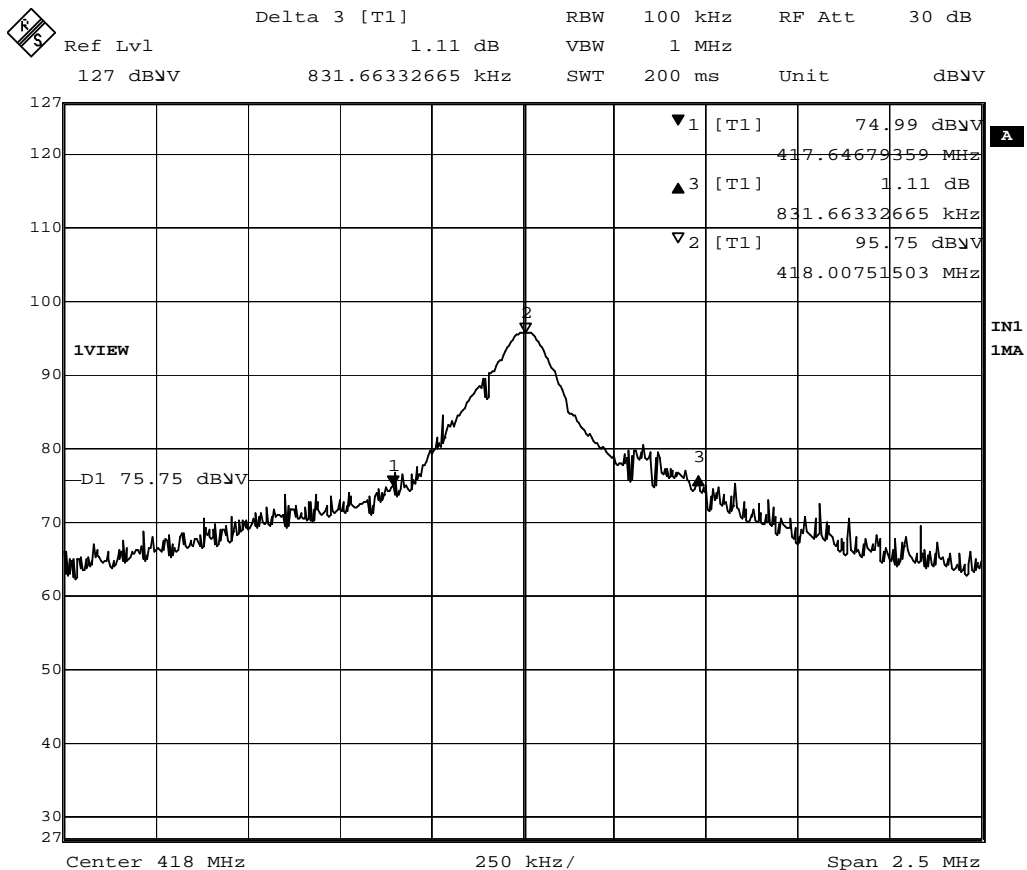
4.4. Uncertainty

± 150Hz

4.5. Test Result

Product	Fire Alarm Transmitter		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: Transmit		
Date of Test	2008/11/17	Test Site	No.1 OATS

Center Frequency	418 MHz
Allowable Bandwidth (70-900 MHz: 0.25%, Above 900MHz: 0.5%)	1045 KHz
Bandwidth at 20dB down (Max)	831.6 KHz
Result	PASS



Date: 17.NOV.2008 17:53:22

5. Duty cycle

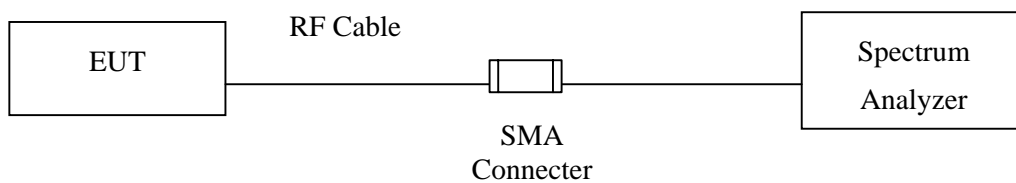
5.1. Test Equipment

The following test equipments are used during the radiated emission tests:

Item	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.
1	Spectrum Analyzer	R & S	FSP / 100561	Jan., 2008
2	No.1 OATS			Sep., 2008

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

5.2. Test Setup



5.3. Limits

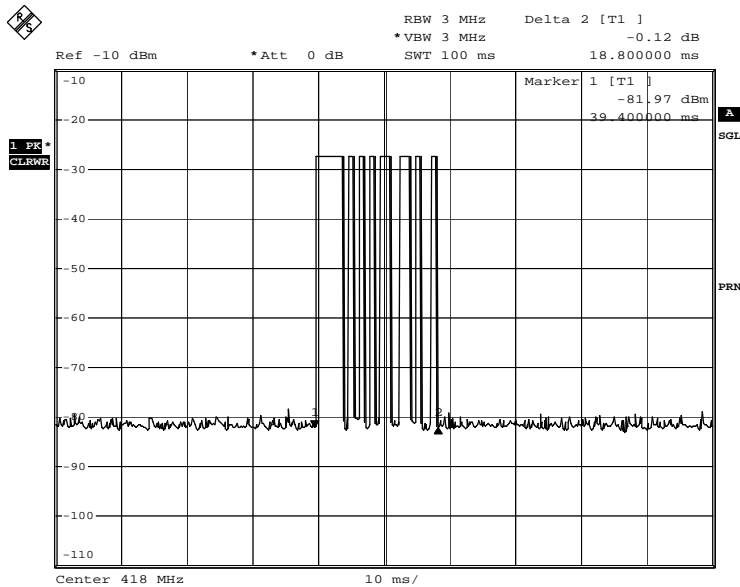
N/A

5.4. Uncertainty

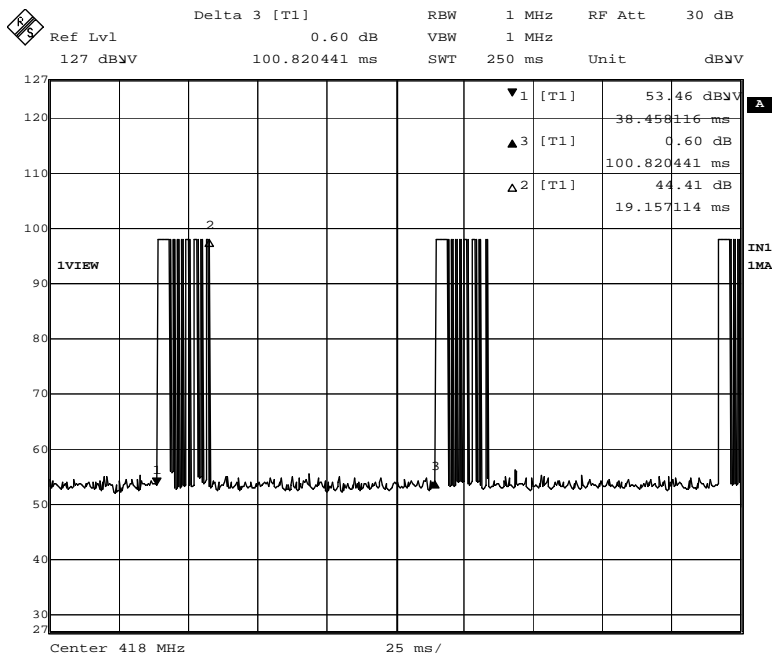
± 25msec

5.5. Test Result

Product	Fire Alarm Transmitter		
Test Item	Duty Cycle		
Test Mode	Mode 1: Transmit		
Date of Test	2008/11/17	Test Site	No.1 OATS
Center Frequency			418 MHz
Ton=18.8m sec Ton+Toff=100m sec			
Duty Cycle=18.8/100			0.188



Date: 25.DEC.2008 17:19:58



Date: 17.NOV.2008 19:22:57

6. Transmitter time

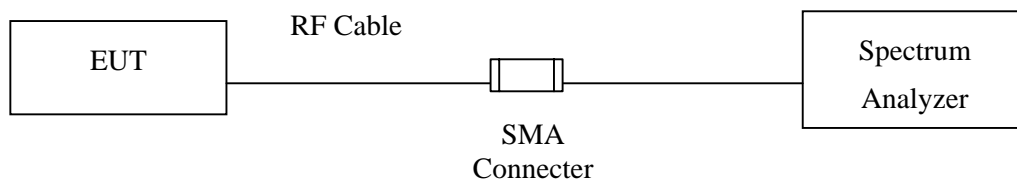
6.1. Test Equipment

The following test equipments are used during the radiated emission tests:

Item	Equipment	Manufacturer	Model No. / Serial No.	Last Cal.
1	Spectrum Analyzer	R & S	FSP / 100561	Jan., 2008
2	No.1 OATS			Sep., 2008

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

6.2. Test Setup



6.3. Limits

A manually operated transmitter shall employ a switch that will automatically deactivate the transmitter within not more than 5 seconds of being released. A transmitter activated automatically shall cease transmission within 5 seconds after activation.

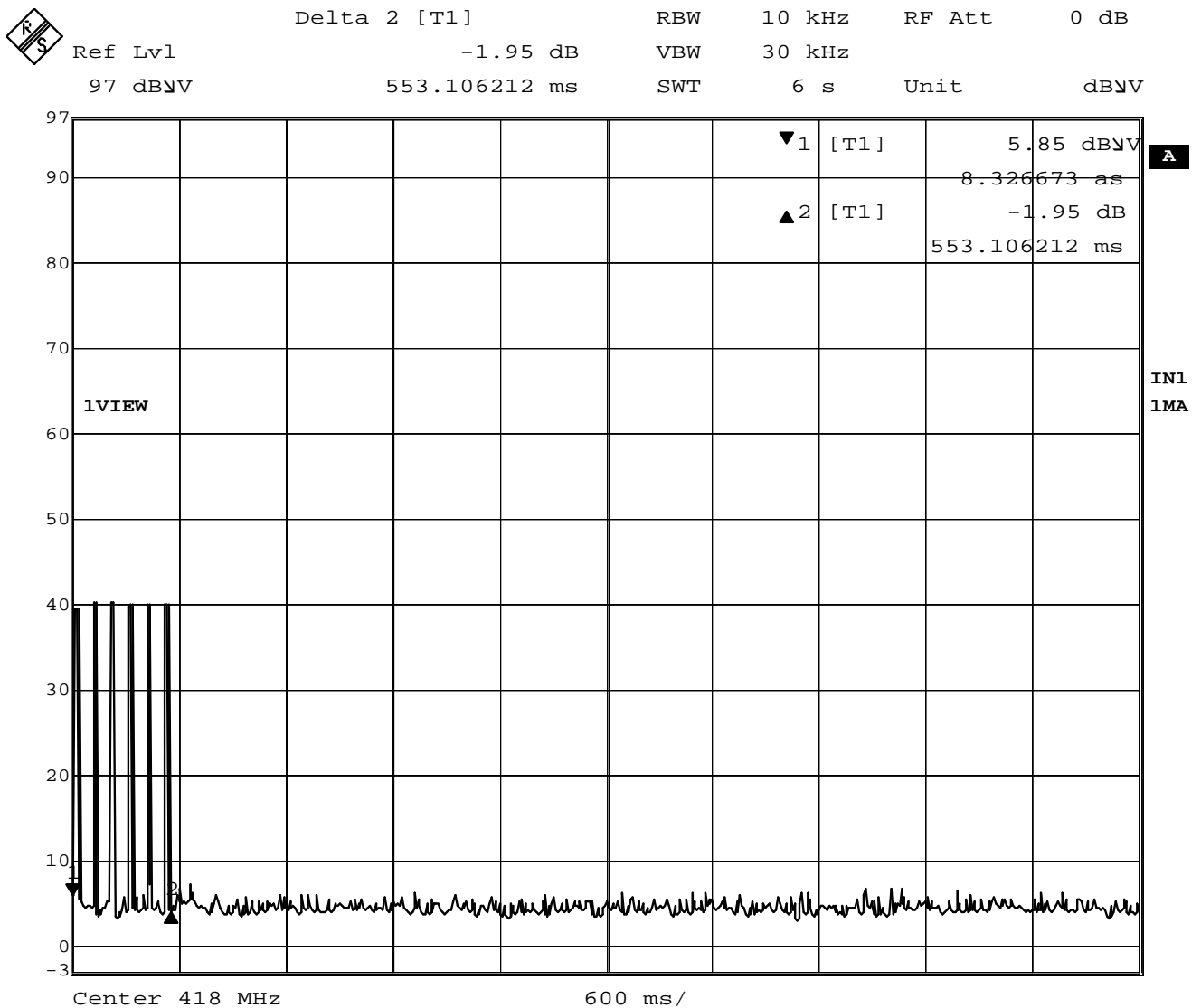
6.4. Uncertainty

± 25msec

6.5. Test Result

Product	Fire Alarm Transmitter		
Test Item	Transmitter time		
Test Mode	Mode 1: Transmit		
Date of Test	2008/11/25	Test Site	No.1 OATS

Center Frequency	418 MHz
Transmitter time = 553ms < 5 sec.	Below 5 sec.
Result	PASS



Date: 25.NOV.2008 15:17:26

7. Band Edge

7.1. Test Equipment

The following test equipments are used during the test:

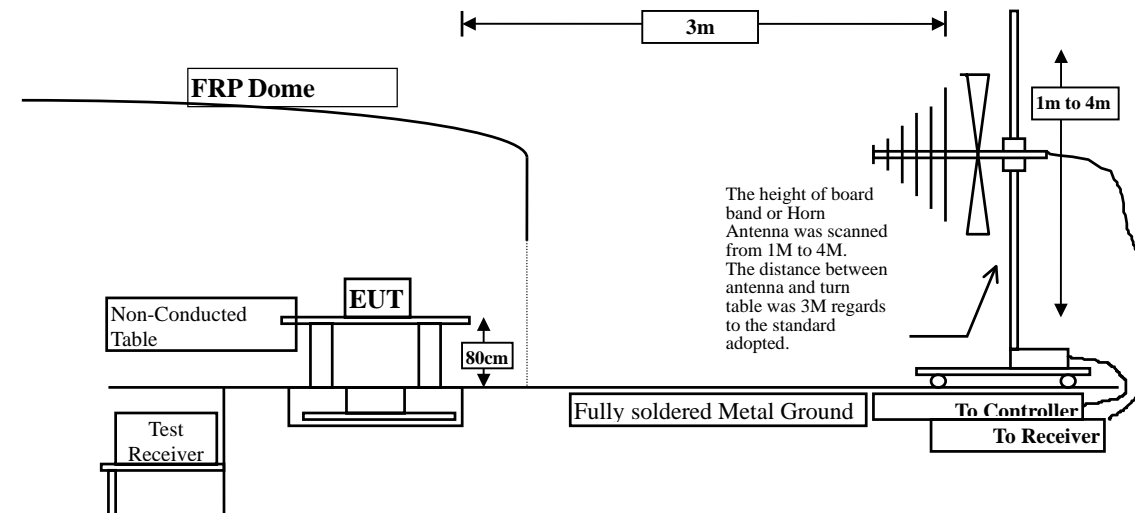
RF Radiated Measurement:					
Item		Equipment	Manufacturer	Model No. / Serial No.	Last Cal.
1	X	Spectrum Analyzer	R & S	FSP40 / 100005	Aug., 2008
2	X	Pre-Amplifier	HP	8449B / 3008A01123	Feb., 2008
3		Loop Antenna	R & S	HFH2-Z2 / 833799/004	Sep., 2008
4		BiconiLog Antenna	Schwarzbeck	VULB 9166 / 1061	Sep., 2008
5		Bilog Antenna	Chase	CBL6112B / 2455	Sep., 2008
6	X	Horn Antenna	Schwarzbeck	BBHA 9120D / BBHA9120D312	Sep., 2008
7		No.1 OATS			Sep., 2008

Note: 1. All equipments are calibrated every one year.

2. The test instruments marked by "X" are used to measure the final test results.

7.2. Test Setup

RF Radiated Measurement:



7.3. Limit

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)).

7.4. 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 additional latch filter below 1GHz was used to measure the level of harmonics radiated emission during field strength of harmonics measurement.

The bandwidth below 30MHz setting on the field strength meter is 10 kHz

7.5. Uncertainty

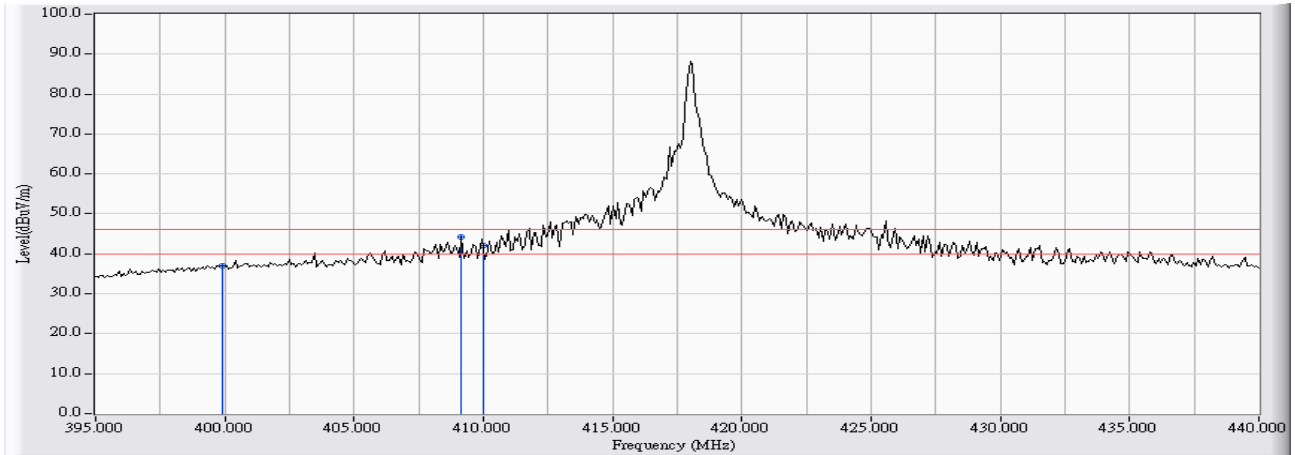
The measurement uncertainty

Conducted is defined as $\pm 1.27\text{dB}$

Radiated is defined as $\pm 3.9\text{dB}$

7.6. Test Result

Site : Site 1	Time : 2008/11/25 - 21:44
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB3_FCC_30-1G(2008-9) - HORIZONTAL	Power : DC 3V
EUT : Fire Alarm Transmitter	Note :

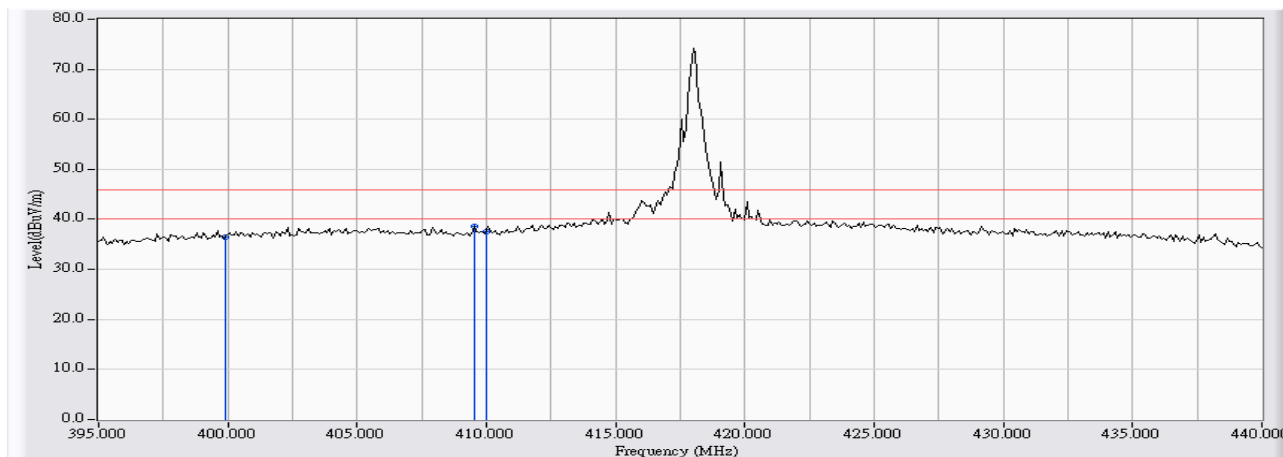


	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	399.900	16.205	20.890	37.095	-8.905	46.000	QUASPEAK
2	* 409.158	17.153	26.954	44.107	-1.893	46.000	QUASPEAK
3	410.000	17.212	24.757	41.968	-4.032	46.000	QUASPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement 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.

Site : Site 1	Time : 2008/11/25 - 21:43
Limit : FCC_CLASS_B_03M_QP	Margin : 6
Probe : CB3_FCC_30-1G(2008-9) - VERTICAL	Power : DC 3V
EUT : Fire Alarm Transmitter	Note :



	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	399.900	16.319	20.059	36.378	-9.622	46.000	QUASPEAK
2	* 409.519	16.788	21.790	38.577	-7.423	46.000	QUASPEAK
3	410.000	16.812	20.742	37.554	-8.446	46.000	QUASPEAK

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. “ * ”, means this data is the worst emission level.
3. Measurement 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.