

EXHIBIT 4

Test Report

Test Report

ACS-F07135

APPLICATION FOR CERTIFICATION
On Behalf of

Qingdao Haier Intelligent Electronics Co., Ltd.

Smart Senteo

Model Number: 03-00099-21

Prepared for : Qingdao Haier Intelligent Electronics Co., Ltd.
No.99 Chongqing South Road, Qingdao, China

Prepared By : Audix Technology (Shenzhen) Co., Ltd.
No. 6, Ke Feng Rd., 52 Block,
Shenzhen Science & Industrial Park,
Nantou, Shenzhen, Guangdong, China

Tel: (0755) 26639496

Report Number : ACS-F07135
Date of Test : Apr. 06 ~ 14, 2007
Date of Report : Apr. 20, 2007

TABLE OF CONTENTS

Description

Page

FCC Test Report for Declaration of Conformity

1.	SUMMARY OF STANDARDS AND RESULTS.....	1-5
1.1.	Description of Standards and Results	1-5
2.	GENERAL INFORMATION	2-1
2.1.	Description of Device (EUT).....	2-1
2.2.	Tested Supporting System Details	2-2
2.3.	Test Facility	2-3
2.4.	Measurement Uncertainty	2-3
3.	POWER LINE CONDUCTED EMISSION TEST.....	3-1
3.1.	Test Equipments.....	3-1
3.2.	Block Diagram of Test Setup.....	3-1
3.3.	Power Line Conducted Emission Test Limits.....	3-1
3.4.	Configuration of EUT on Test	3-2
3.5.	Operating Condition of EUT.....	3-2
3.6.	Test Procedure.....	3-2
3.7.	Power Line Conducted Emission Test Results	3-2
4.	RADIATED EMISSION TEST	4-1
4.1.	Test Equipment	4-1
4.2.	Block Diagram of Test Setup.....	4-1
4.3.	Radiated Emission Limit.....	4-2
4.4.	EUT Configuration on Test.....	4-2
4.5.	Operating Condition of EUT.....	4-3
4.6.	Test Procedure.....	4-3
4.7.	Radiated Emission Test Results	4-3
5.	6DB BANDWIDTH TEST	5-1
5.1.	Test Equipment	5-1
5.2.	Test Information	5-1
5.3.	Test Results	5-1
6.	OUTPUT POWER TEST.....	6-1
6.1.	Test Equipment	6-1
6.2.	Test Information	6-1
6.3.	Test Procedure.....	6-1
6.4.	Test Results	6-1
7.	BAND EDGE COMPLIANCE TEST	7-1
7.1.	Test Equipment	7-1
7.2.	Test Information	7-1
7.3.	Test Results	7-1
8.	POWER SPECTRAL DENSITY TEST	8-1
8.1.	Test Equipment	8-1
8.2.	Test Information	8-1
8.3.	Test Procedure.....	8-1
8.4.	Test Results	8-1
9.	MPE ESTIMATION.....	9-1
9.1.	Limit for General Population / Uncontrolled Exposures	9-1
9.2.	Estimation Result	9-1
10.	DEVIATION TO TEST SPECIFICATIONS.....	10-1

11. PHOTOGRAPH.....	11-1
11.1. Photos of Power Line Conducted Emission Test.....	11-1
11.2. Photos of Radiated Emission Test.....	11-2

TEST REPORT DECLARATION

Applicant : Qingdao Haier Intelligent Electronics Co., Ltd.
Manufacturer : Qingdao Haier Intelligent Electronics Co., Ltd.
EUT Description : Smart Senteo
(A) MODEL NO. : 03-00099-21
(B) SERIAL NO. : N/A
(C) POWER SUPPLY : DC 5V From PC Input AC 120V/60Hz

Test Procedure Used:

FCC Rules and Regulations Part 15 Subpart C 2006

The device described above is tested by AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. to determine the maximum emission levels emanating from the device. The maximum emission levels are compared to the FCC Part 15 Subpart C limits both radiated and conducted emissions.

The test results are contained in this test report and AUDIX TECHNOLOGY (SHENZHEN) CO., LTD. is assumed full responsibility for the accuracy and completeness of these tests. Also, this report shows that the Equipment Under Test (EUT) is to be technically compliant with the FCC requirements.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of AUDIX TECHNOLOGY (SHENZHEN) CO., LTD.

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

Date of Test : Apr. 06 ~ 14, 2007

Prepared by : YoYo Wang / Assistant

Reviewer : Iceman Hu / Senior Engineer

Approved & Authorized Signer : Ken Lu / Deputy Manager

Name of the Representative of the Responsible Party :

Signature :

1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION		
Description of Test Item	Standard	Results
Conducted Emission Test	FCC Part 15: 15.207 ANSI C63.4: 2003	PASS
Radiated Emission Test	FCC Part 15: 15.209 ANSI C63.4: 2003	PASS
6dB Bandwidth Test	FCC Part 15: 15.247	PASS
Output Power Test	FCC Part 15: 15.247	PASS
Band Edge Compliance Test	FCC Part 15: 15.247	PASS
Power Spectral Density Test	FCC Part 15: 15.247	PASS
MPE ESTIMATION	FCC Part 2: 2.1093	PASS
N/A is an abbreviation for Not Applicable.		

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

Description	:	Smart Senteo
Model Number	:	03-00099-21
Operation frequency	:	2.4GHz-----2.4835GHz ISM Band
Channel Number	:	16
Channel frequency	:	$F = 2405 + 5 (k-11) \text{ MHz}$, $k=11, 12 \dots 26$
Radio Technology	:	IEEE 802.15.4(Zigbee)
Modulation Technology	:	DSSS modulation
Output power	:	-16.42dBm(measured)
Antenna	:	Integral antenna
Power	:	DC 5V
Antenna Assembly Gain	:	3dB (maximum)
Applicant	:	Qingdao Haier Intelligent Electronics Co., Ltd. No.99 Chongqing South Road, Qingdao, China
Manufacturer	:	Qingdao Haier Intelligent Electronics Co., Ltd. No.99 Chongqing South Road, Qingdao, China
Date of Test	:	Apr.06~14, 2007

2.2. Tested Supporting System Details

2.2.1. PERSONAL COMPUTER

EMC CODE	:	Test PC G
M/N	:	AG017PA#AB2
S/N	:	CN5470G18
Manufacturer	:	HP
Power cord	:	Unshielded, Detachable, 1.8m
FCC ID	:	By DoC
BSMI ID	:	R33001

2.2.2. MONITOR

EMC CODE	:	Test Monitor B
M/N	:	E772F
S/N	:	CN-02W486-64180-3CE-00LA
Manufacturer	:	Dell
Data Cable	:	Shielded, Undetachable, 1.8m
FCC ID	:	By DoC
BSMI ID	:	N/A

2.2.3. MOUSE

EMC CODE	:	ACS-EMC-M04R
M/N	:	M056UO
S/N	:	512024282
Manufacturer	:	Dell
Data Cable	:	Shielded, Undetachable, 1.8m
FCC ID	:	By DoC
BSMI ID	:	R41108

2.2.4. KEYBOARD

EMC CODE	:	ACS-EMC-K01R
M/N	:	SK-8125
Manufacturer	:	Dell
Data Cable	:	Shielded, Undetachable, 2.0m Add core
FCC ID	:	By DoC
BSMI ID	:	R31302

2.3. Test Facility

Site Description	
3m Anechoic Chamber	: Certificated by FCC, USA Registration Number: 90454 Jun. 13, 2006
3m & 10m Anechoic Chamber	: Certificated by FCC, USA Registration Number: 794232 Jan. 31, 2007
EMC Lab.	: Certificated by DATech, German Registration Number: DAT-P-091/99-01 Feb. 02, 2004
	Certificated by NVLAP, USA NVLAP Code: 200372-0 Apr.01, 2006
	Certificated by Nemko, Norway Aut. No.: ELA135 April. 22, 2004
	Certificated by Industry Canada Registration Number: IC 5183 Jul. 28, 2004
Name of Firm	: Audix Technology (Shenzhen) Co., Ltd.
Site Location	: No. 6, Ke Feng Rd., 52 Block, Shenzhen Science & Industrial Park, Nantou, Shenzhen, Guangdong, China

2.4. Measurement Uncertainty

No.	Item	Uncertainty	Remark
1.	Uncertainty for Conducted Emission Test	1.22dB	
2.	Uncertainty for Radiated Emission Test	3.14dB	3m Chamber
3.	Uncertainty for Radiated Emission Test	3.18dB	10m Chamber
4.	Uncertainty for Power Clamp Test	1.38dB	

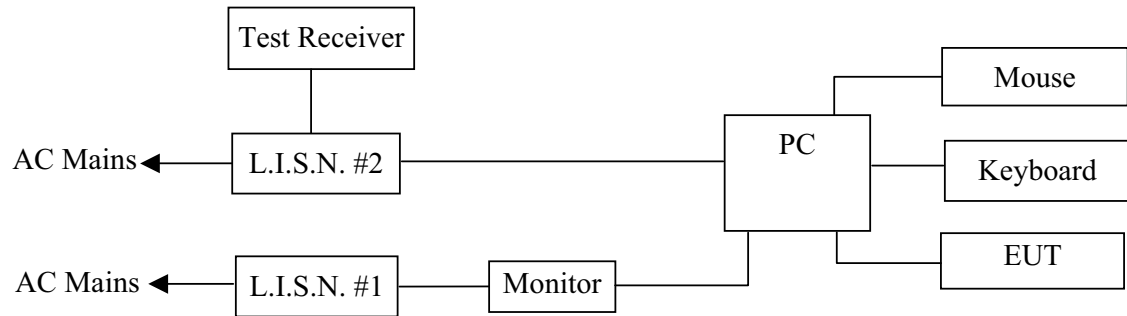
3. POWER LINE CONDUCTED EMISSION TEST

3.1. Test Equipments

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Test Receiver	Rohde & Schwarz	ESHS10	838693/001	May 15, 06	1 Year
2.	L.I.S.N.#1	Rohde & Schwarz	ESH2-Z5	834066/011	May 15, 06	1 Year
3.	L.I.S.N.#2	Kyoritsu	KNW-407	8-1636-1	May 15, 06	1 Year
4.	Terminator	Hubersuhner	50Ω	No. 1	May 15, 06	1 Year
5.	RF Cable	MIYAZAKI	5D-2W	LISN Cable 1#	Feb.16, 07	1/2 Year
6.	Coaxial Switch	Anritsu	MP59B	M55367	Feb.16, 07	1/2 Year
7.	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100340	Feb.16, 07	1/2 Year

3.2. Block Diagram of Test Setup

3.2.1. Block diagram of connection between the EUT and simulators



(EUT: Smart Senteo)

3.3. Power Line Conducted Emission Test Limits

Frequency	Maximum RF Line Voltage	
	Quasi-Peak Level dB(μV)	Average Level dB(μV)
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*
500kHz ~ 5MHz	56	46
5MHz ~ 30MHz	60	50

Notes: 1. * Decreasing linearly with logarithm of frequency.

2. The lower limit shall apply at the transition frequencies.

3.4.Configuration of EUT on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

3.4.1.Smart Senteo (EUT)

Model Number : 03-00099-21
Serial Number : N/A
Manufacturer : Qingdao Haier Intelligent Electronics Co., Ltd.

3.4.2.Support Equipment : As Tested Supporting System Detail, in Section 2.2..

3.5.Operating Condition of EUT

3.5.1.Setup the EUT and simulator as shown as Section 3.2.

3.5.2.Turn on the power of all equipment.

3.5.3.Let the EUT work in test mode (TX) and measure it.

3.6.Test Procedure

The EUT is connected to the power mains through a line impedance stabilization network (L.I.S.N.#2). This provides a 50 ohm coupling impedance for the EUT. Please refer the block diagram of the test setup and photographs. The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N.#1). Power on the PC and let it work normally, we use a keyboard test soft ware, let EUT working in test mode, then test it. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to ANSI C63.4: 2003 on Conducted Emission Test.

The bandwidth of test receiver (R & S ESHS10) is set at 10kHz.

The frequency range from 150kHz to 30MHz is checked.

The test result are reported on Section 3.7.,

3.7.Power Line Conducted Emission Test Results

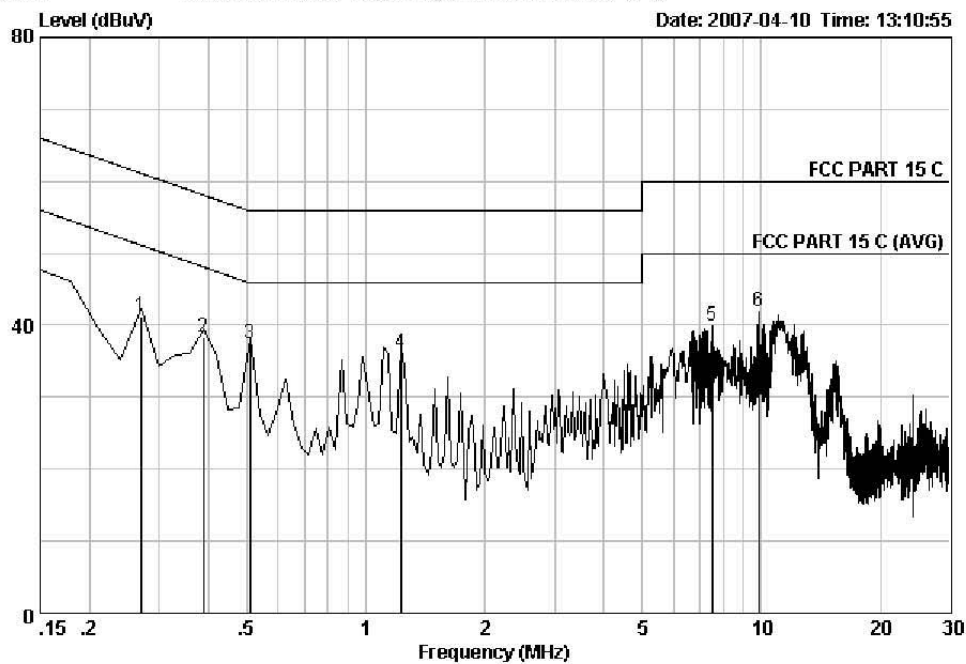
PASS.



No.6 ke Feng Road ,Block 52,
Shenzhen Science & Industry Park
Nantou, Shenzhen, Guangdong, China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 7

File: D:\DATA\2007 Report\zigbee\ACS7Q091.EMI (14)



Site no. : Audix No.1 Conduction Data no. : 7
 Dis. / Ant. : -- VA KMW-407 Ant. pol. :
 Limit : FCC PART 15 C
 Env. / Ins. : Temp:23' Humi:54% Engineer : Jamy
 EUT : Smart Senteo M/N:03-00099-21
 Power Rating : DC 5V From PC Input 120V/60Hz
 Test Mode : TX Mode

		LISN	Cable		Emission				
Freq.		Factor	Loss	Reading	Level	Limits	Margin	Remark	
(MHz)		(dB)	(dB)	(dBuV)	(dBuV)	(dBuV)	(dB)		
1	0.27	0.44	10.09	30.80	41.33	61.14	19.81	QP	
2	0.39	0.33	10.09	27.97	38.39	58.09	19.70	QP	
3	0.51	0.25	10.14	26.98	37.37	56.00	18.63	QP	
4	1.22	0.21	10.16	25.69	36.06	56.00	19.94	QP	
5	7.52	0.20	10.22	29.55	39.97	60.00	20.03	QP	
6	9.85	0.22	10.25	31.42	41.89	60.00	18.11	QP	

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.
 2. If the average limit is met when using a quasi-peak detector,
 the EUT shall be deemed to meet both limits and measurement
 with average detector is unnecessary

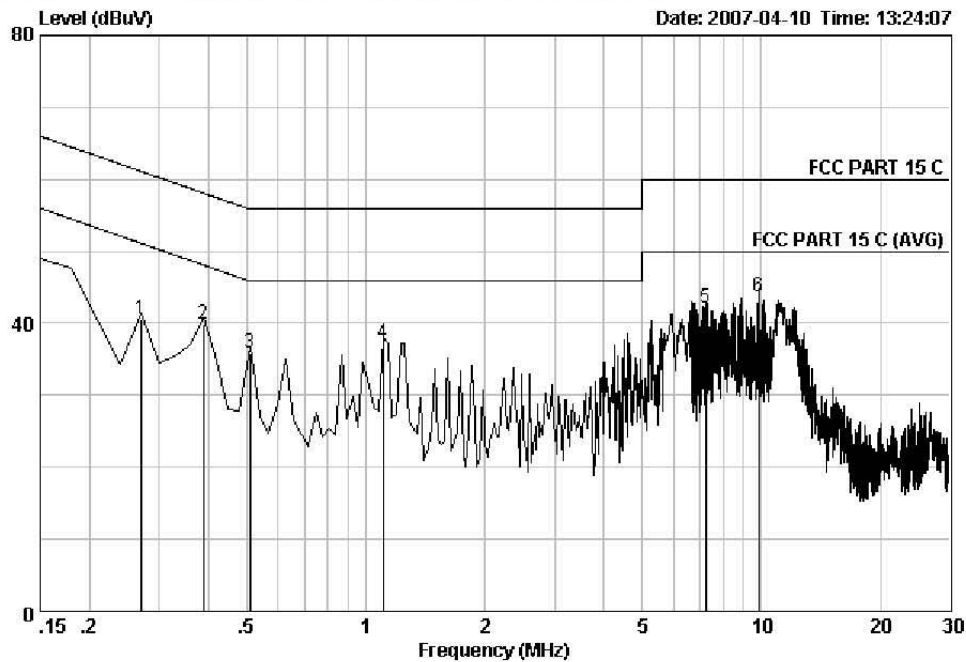


No.6 ke Feng Road ,Block 52,
Shenzhen Science & Industry Park
Nantou, Shenzhen, Guangdong, China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 8

File: D:\DATA\2007 Report\zigbee\ACS7Q091.EMI (14)

Date: 2007-04-10 Time: 13:24:07



Site no. : Audix No.1 Conduction Data no. : 8
 Dis. / Ant. : -- VE KNW-407 Ant. pol. :
 Limit : FCC PART 15 C
 Env. / Ins. : Temp:23' Humi:54% Engineer : Jamy
 EUT : Smart Senteo M/N:03-00099-21
 Power Rating : DC 5V From PC Input 120V/60Hz
 Test Mode : TX Mode

	Freq. (MHz)	LISN Factor (dB)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV)	Limits (dBuV)	Margin (dB)	Remark
1	0.27	0.82	10.09	29.54	40.45	61.14	20.69	QP
2	0.39	0.64	10.09	29.05	39.78	58.09	18.31	QP
3	0.51	0.51	10.14	25.16	35.81	56.00	20.19	QP
4	1.11	0.34	10.16	26.72	37.22	56.00	18.78	QP
5	7.22	0.34	10.22	31.52	42.08	60.00	17.92	QP
6	9.85	0.39	10.25	33.11	43.75	60.00	16.25	QP

Remarks: 1. Emission Level= LISN Factor + Cable Loss + Reading.
 2. If the average limit is met when using a quasi-peak detector,
 the EUT shall be deemed to meet both limits and measurement
 with average detector is unnecessary

4. RADIATED EMISSION TEST

4.1. Test Equipment

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

4.1.1. For Anechoic Chamber

Frequency rang: 30~1000MHz

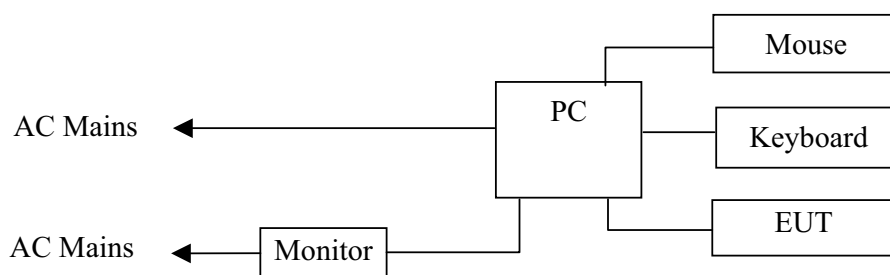
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	EMI Spectrum	HP	85422E	3625A00181	May 15, 06	1 Year
2.	Test Receiver	Rohde & Schwarz	ESVS20	830350/005	May 15, 06	1 Year
3.	Amplifier	HP	8447D	2944A07794	Mar.12, 07	1/2 Year
4.	Bilog Antenna	Schaffner	CBL6111C	2598	Feb.22, 07	1 Year
5.	RF Cable	MIYAZAKI	5D-2W	3# Chamber No.1	Jan. 18, 07	1/2 Year
6.	RF Cable	MIYAZAKI	5D-2W	3# Chamber No.2	Jan. 18, 07	1/2 Year
7.	RF Cable	FUJIKURAw	RG-55/U	3# Chamber No.3	Jan. 18, 07	1/2 Year
8.	RF Cable	FUJIKURA	RG-55/U	3# Chamber No.4	Jan. 18, 07	1/2 Year
9.	Coaxial Switch	Anritsu	MP59B	M73989	Jan. 18, 07	1/2 Year

Frequency rang: above 1000MHz

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4407B	MY41440292	May 15, 06	1 Year
2.	Amp	HP	8449B	3008A00863	May 15, 06	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May 15, 06	1 Year

4.2. Block Diagram of Test Setup

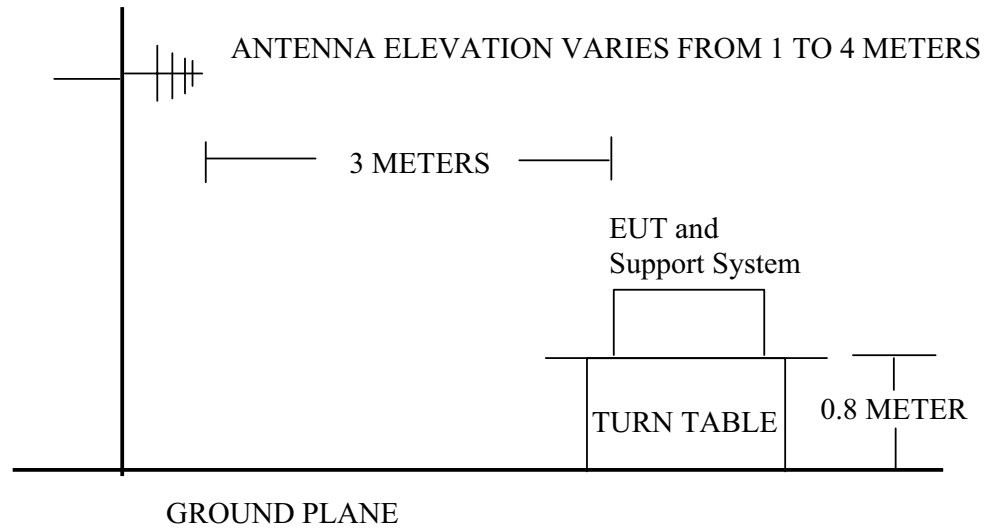
4.2.1. Block diagram of connection between the EUT and simulators



(EUT: Smart Senteo)

4.2.2. In Anechoic Chamber

ANTENNA TOWER



4.3. Radiated Emission Limit

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		$\mu\text{V/m}$	$\text{dB}(\mu\text{V})/\text{m}$
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 $\text{dB}(\mu\text{V})/\text{m}$ (Peak) 54.0 $\text{dB}(\mu\text{V})/\text{m}$ (Average)	

- Remark :
- (1) Emission level $\text{dB}\mu\text{V} = 20 \log$ Emission level $\mu\text{V/m}$
 - (2) The smaller limit shall apply at the cross point between two frequency bands.
 - (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

4.4. EUT Configuration on Test

The following equipment are installed on Radiated Emission Test to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

4.4.1. Smart Senteo (EUT)

Model Number : 03-00099-21
 Serial Number : N/A
 Manufacturer : Qingdao Haier Intelligent Electronics Co., Ltd.

4.4.2. Support Equipment : As Tested Supporting System Detail, in Section 2.2.

4.5.Operating Condition of EUT

4.5.1.Setup the EUT as shown in Section 4.2..

4.5.2.Let the EUT work in test mode (TX) and test it.

4.6.Test Procedure

EUT and its simulators are placed on a turn table, which is 0.8 meter high above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. Power on the EUT and let it work normally, we use a keyboard test soft ware, let EUT working in test mode, then test it. EUT is set 3 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated bilog antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna are set on test.

This test was performed with EUT in X, Y, Z position and the worse case was found when EUT in X position

The bandwidth of the EMI test receiver (R&S ESVS20) is set at 120kHz.

frequency range from 30MHz to 1000 MHz.

The bandwidth of the VBW is set at 3MHz and RBW is set at 1MHz for peak emissions measurement above 1GHz and 1MHz RBW 10Hz VBW for average emission above 1GHz

The frequency range from 30MHz to 10th harmonic are checked.

The test modes (TX Mode) is tested in Anechoic Chamber and all the scanning waveforms are reported with antenna in horizontal and vertical polarization on Section 4.7.

4.7.Radiated Emission Test Results

PASS.

The frequency range from 30MHz to 1000MHz and above 1GHz. is investigated. Please see the following pages.

All measurements for radiated emissions within the restricted bands were performed using a Quasi-Peak detector with 120kHz RBW below 1GHz and a Peak and Average detector with 1MHz RBW above 1GHz,

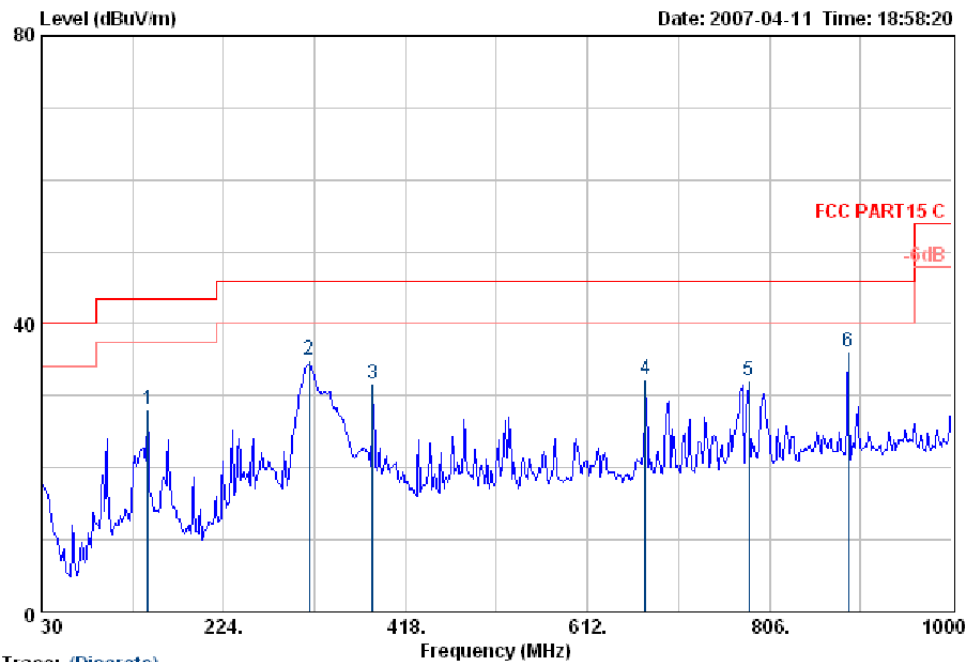
All measurements for radiated emissions within the restricted bands were performed using a Quasi-Peak detector with 300kHz VBW below 1GHz and a Peak detector with 1MHz VBW above 1GHz, A average detector with 10Hz VBW above 1GHz

All the emissions except fundamental from 18GHz~24GHz are at least 20dB below the limit, and do not record.



No.6, Ke Feng Road, Block 52,
Shenzhen Science & Industry Park
tel: +86-755-26639495
Fax: +86-755-26632877
Postcode: 518057

Data: 15 File: D:\2007 Report Data\Z\Zigbee\Zigbee.EMI (18)



Trace: (Discrete)

Site no. : Audix 3# Chamber Data no. : 15
Dis. / Ant. : 3m 2598 Ant. pol. : HORIZONTAL
Limit : FCC PART15 C
Env. / Ins. : 25°C/55% ESVS20 Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : Tx mode

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	143.49	11.93	1.16	14.88	27.97	43.50	15.53	QP
2	315.18	14.00	1.62	19.46	35.08	46.00	10.92	QP
3	383.08	15.96	1.78	13.89	31.63	46.00	14.37	QP
4	674.08	20.58	2.42	9.32	32.32	46.00	13.68	QP
5	783.69	21.98	2.35	7.77	32.10	46.00	13.90	QP
6	890.39	22.90	2.50	10.60	36.00	46.00	10.00	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

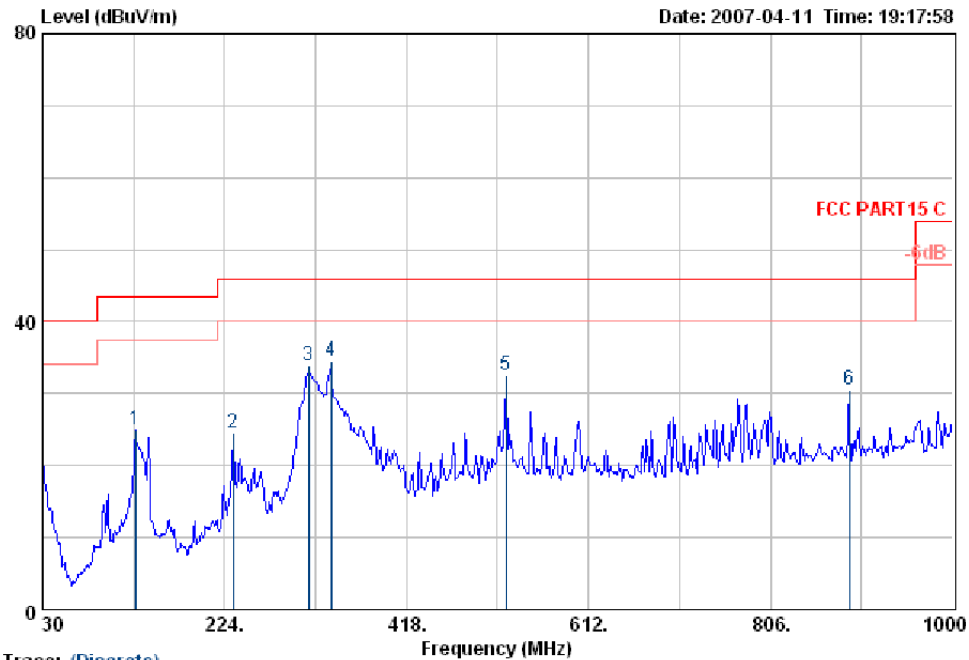


No.6,Ke Feng Road,Block 52,
Shenzhen Science&Industry Park
tel:+86-755-26639495
Fax:+86-755-26632877
Postcode:518057

Data: 16

File: D:\2007 Report Data\Z Zigbee\Zigbee.EMI (18)

Date: 2007-04-11 Time: 19:17:58



Trace: (Discrete)

Site no. : Audix 3# Chamber Data no. : 16
Dis. / Ant. : 3m 2598 Ant. pol. : VERTICAL
Limit : FCC PART15 C
Env. / Ins. : 25°C/55% ESVS20 Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : Tx mode

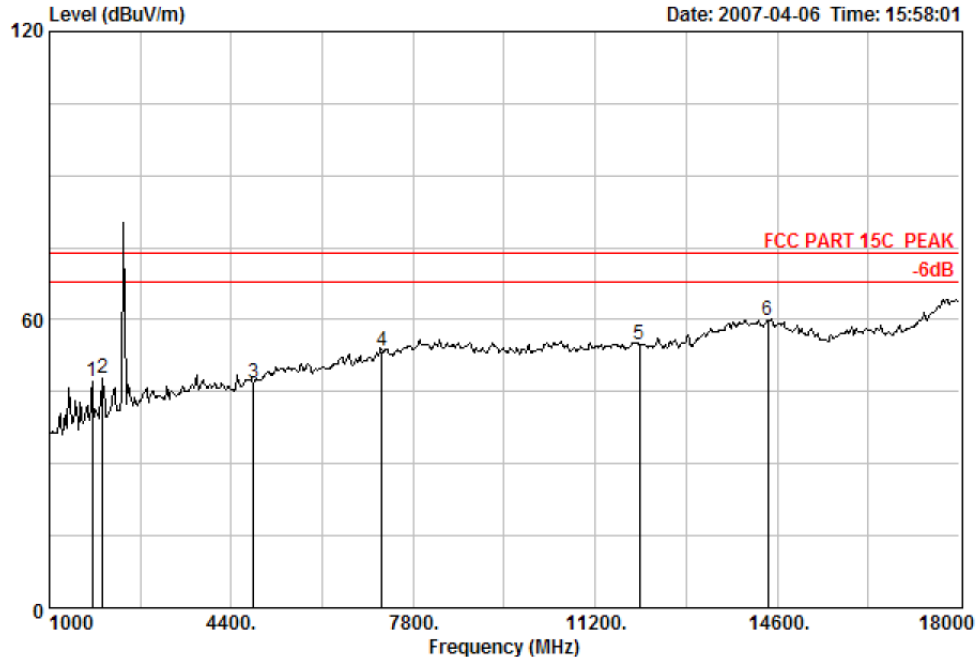
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	128.94	12.04	1.11	11.89	25.04	43.50	18.46	QP
2	232.73	11.24	1.46	11.88	24.58	46.00	21.42	QP
3	313.24	13.96	1.74	18.21	33.91	46.00	12.09	QP
4	337.49	14.70	1.74	18.09	34.53	46.00	11.47	QP
5	523.73	18.40	2.09	12.00	32.49	46.00	13.51	QP
6	890.39	22.90	2.50	5.23	30.63	46.00	15.37	QP

Remarks: 1. Emission Level= Antenna Factor + Cable Loss + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,B1;ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel: +86-755-26639495-7
Fax: +86-755-26632877
Postcode:518057

Data: 58 File: D:\2007 Report\Zigbee\21HRE.EMI (60)



Site no. : Audix No.1 Chamber Data no. : 58
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH1

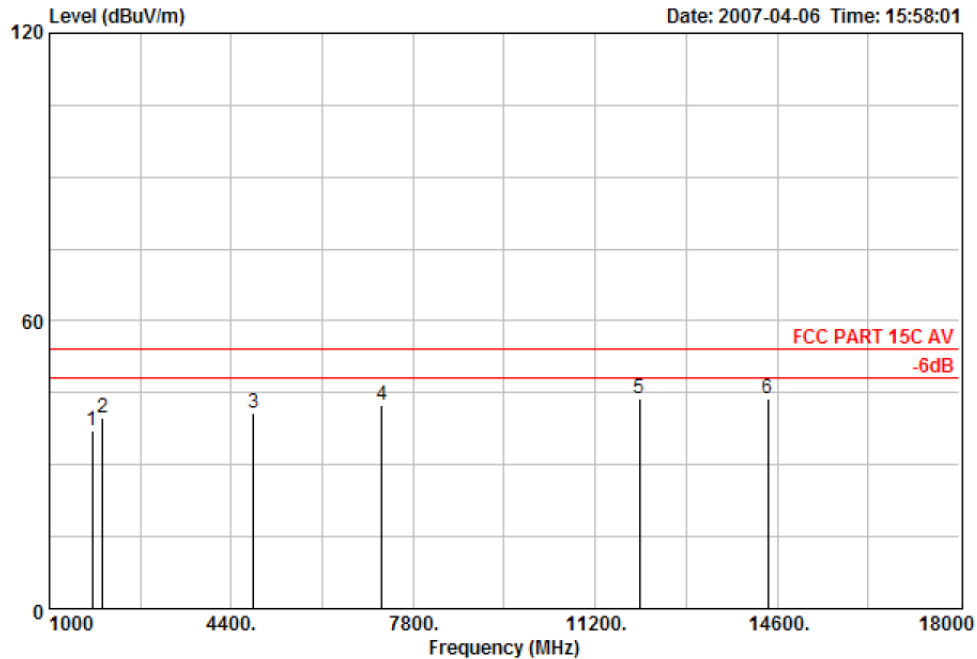
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1799.00	26.98	5.20	35.48	50.54	47.24	74.00	26.76	Peak
2	2003.00	28.06	5.62	35.30	49.48	47.86	74.00	26.14	Peak
3	4810.00	33.98	9.55	34.50	37.90	46.93	74.00	27.07	Peak
4	7215.00	37.36	10.77	34.44	39.75	53.44	74.00	20.56	Peak
5	12025.00	39.55	11.84	36.39	39.83	54.83	74.00	19.17	Peak
6	14430.00	42.24	12.42	35.49	40.63	59.80	74.00	14.20	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,B1;ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel: +86-755-26639495-7
Fax: +86-755-26632877
Postcode:518057

Data: 64 File: D:\2007 Report\Zigbee\21HRE.EMI (66)



Site no. : Audix No.1 Chamber Data no. : 64
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH1

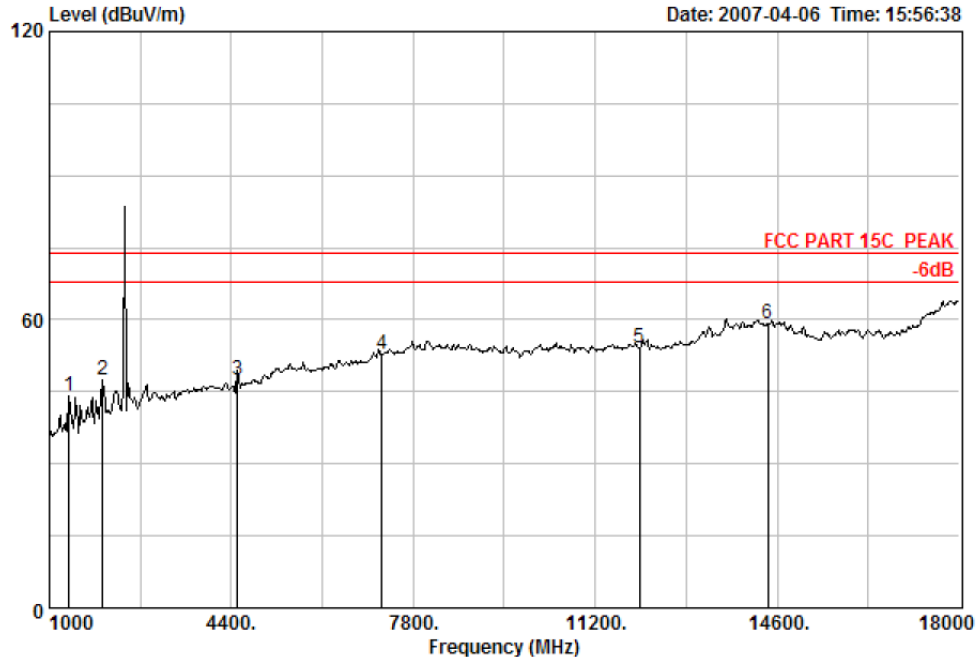
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1799.00	26.98	5.20	35.48	40.54	37.24	54.00	16.76	Average
2	2003.00	28.06	5.62	35.30	41.48	39.86	54.00	14.14	Average
3	4810.00	33.98	9.55	34.50	31.90	40.93	54.00	13.07	Average
4	7215.00	37.36	10.77	34.44	28.75	42.44	54.00	11.56	Average
5	12025.00	39.55	11.84	36.39	28.83	43.83	54.00	10.17	Average
6	14430.00	42.24	12.42	35.49	24.63	43.80	54.00	10.20	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,B1;ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel: +86-755-26639495-7
Fax: +86-755-26632877
Postcode:518057

Data: 57 File: D:\2007 Report\Zigbee\21HRE.EMI (60)



Site no. : Audix No.1 Chamber Data no. : 57
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH1

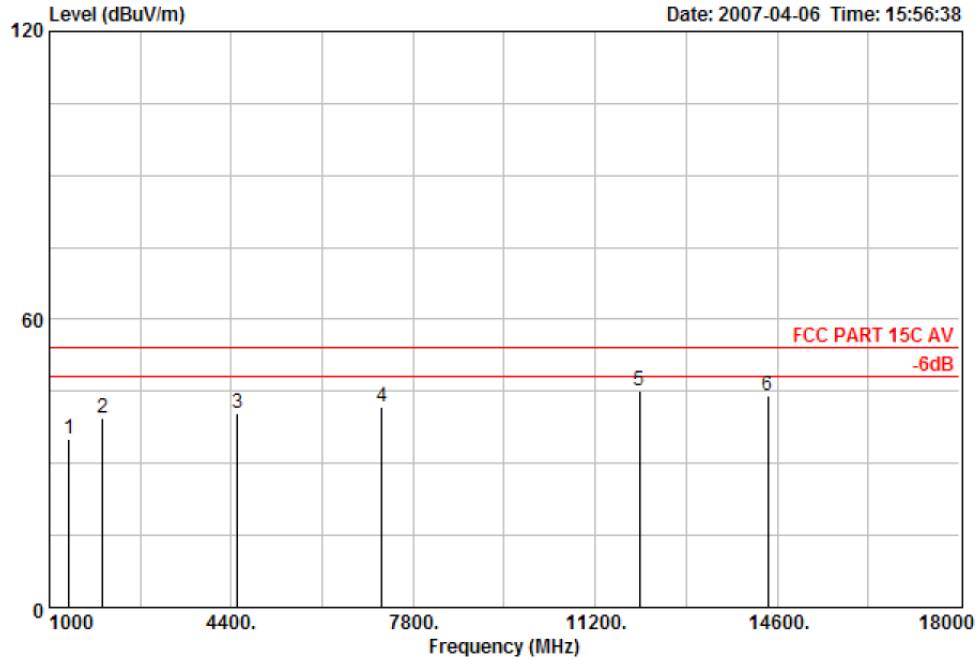
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1374.00	25.14	4.34	35.86	50.58	44.20	74.00	29.80	Peak
2	2003.00	28.06	5.62	35.30	49.16	47.54	74.00	26.46	Peak
3	4519.00	33.21	8.94	34.57	39.89	47.47	74.00	26.53	Peak
4	7215.00	37.36	10.77	34.44	39.23	52.92	74.00	21.08	Peak
5	12025.00	39.55	11.84	36.39	39.03	54.03	74.00	19.97	Peak
6	14430.00	42.24	12.42	35.49	39.84	59.01	74.00	14.99	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,B1;ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel: +86-755-26639495-7
Fax: +86-755-26632877
Postcode: 518057

Data: 63 File: D:\2007 Report\Zigbee\21HRE.EMI (66)



Site no. : Audix No.1 Chamber Data no. : 63
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH1

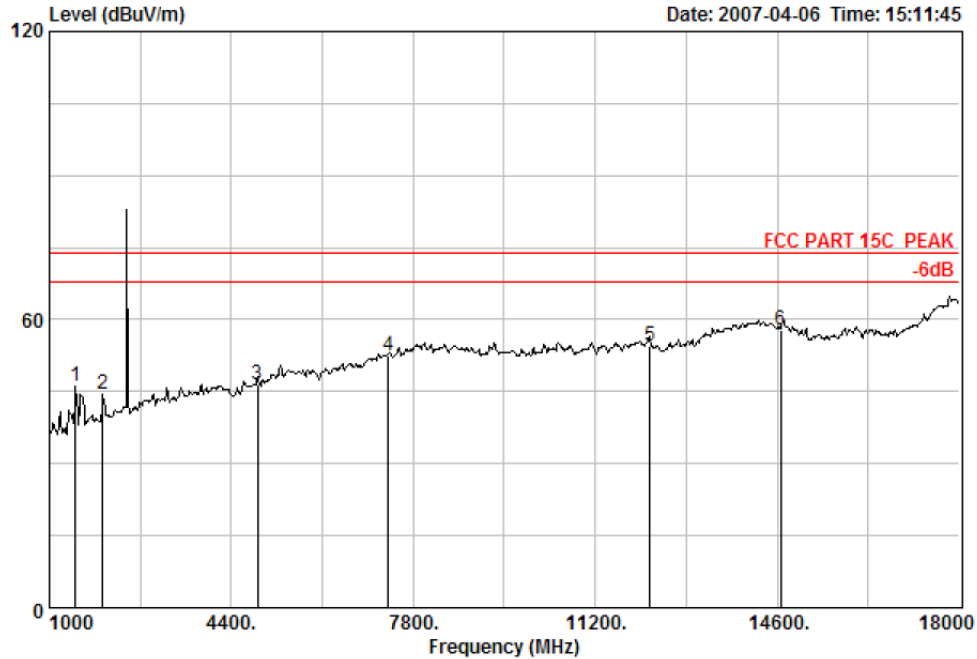
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1374.00	25.14	4.34	35.86	41.58	35.20	54.00	18.80	Average
2	2003.00	28.06	5.62	35.30	41.16	39.54	54.00	14.46	Average
3	4519.00	33.21	8.94	34.57	32.89	40.47	54.00	13.53	Average
4	7215.00	37.36	10.77	34.44	28.23	41.92	54.00	12.08	Average
5	12025.00	39.55	11.84	36.39	30.03	45.03	54.00	8.97	Average
6	14430.00	42.24	12.42	35.49	24.84	44.01	54.00	9.99	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,B1;ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel: +86-755-26639495-7
Fax: +86-755-26632877
Postcode:518057

Data: 56 File: D:\2007 Report\Zigbee\21HRE.EMI (60)



Site no. : Audix No.1 Chamber Data no. : 56
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH9

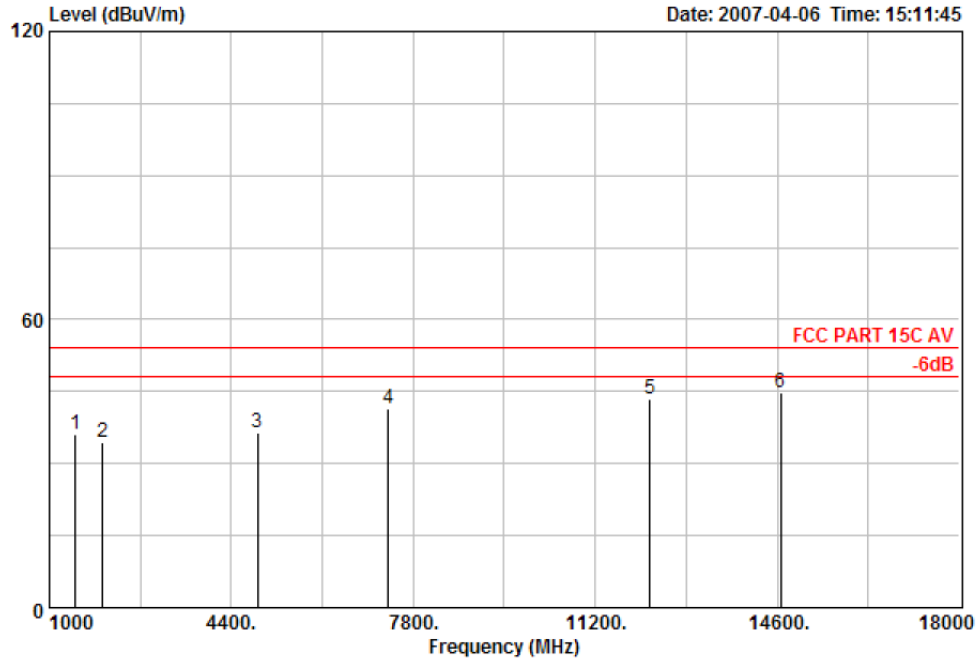
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1493.00	25.37	4.61	35.75	51.86	46.09	74.00	27.91	Peak
2	2003.00	28.06	5.62	35.30	46.15	44.53	74.00	29.47	Peak
3	4890.00	34.20	9.71	34.48	37.06	46.49	74.00	27.51	Peak
4	7335.00	37.55	10.83	34.47	38.60	52.51	74.00	21.49	Peak
5	12225.00	39.47	11.70	36.32	39.74	54.59	74.00	19.41	Peak
6	14670.00	41.78	12.28	35.36	39.05	57.75	74.00	16.25	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,B1;ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel: +86-755-26639495-7
Fax: +86-755-26632877
Postcode:518057

Data: 62 File: D:\2007 Report\Zigbee\21HRE.EMI (66)



Site no. : Audix No.1 Chamber Data no. : 62
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH9

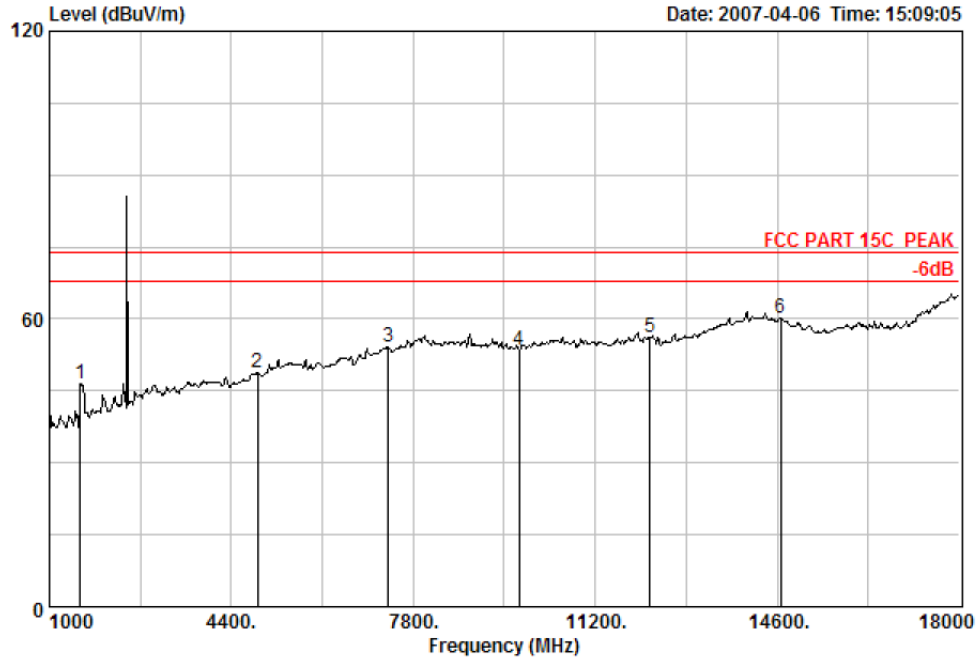
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1493.00	25.37	4.61	35.75	41.86	36.09	54.00	17.91	Average
2	2003.00	28.06	5.62	35.30	36.15	34.53	54.00	19.47	Average
3	4890.00	34.20	9.71	34.48	27.06	36.49	54.00	17.51	Average
4	7335.00	37.55	10.83	34.47	27.60	41.51	54.00	12.49	Average
5	12225.00	39.47	11.70	36.32	28.74	43.59	54.00	10.41	Average
6	14670.00	41.78	12.28	35.36	26.05	44.75	54.00	9.25	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,B1;ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel: +86-755-26639495-7
Fax: +86-755-26632877
Postcode:518057

Data: 55 File: D:\2007 Report\Zigbee\21HRE.EMI (60)



Site no. : Audix No.1 Chamber Data no. : 55
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH9

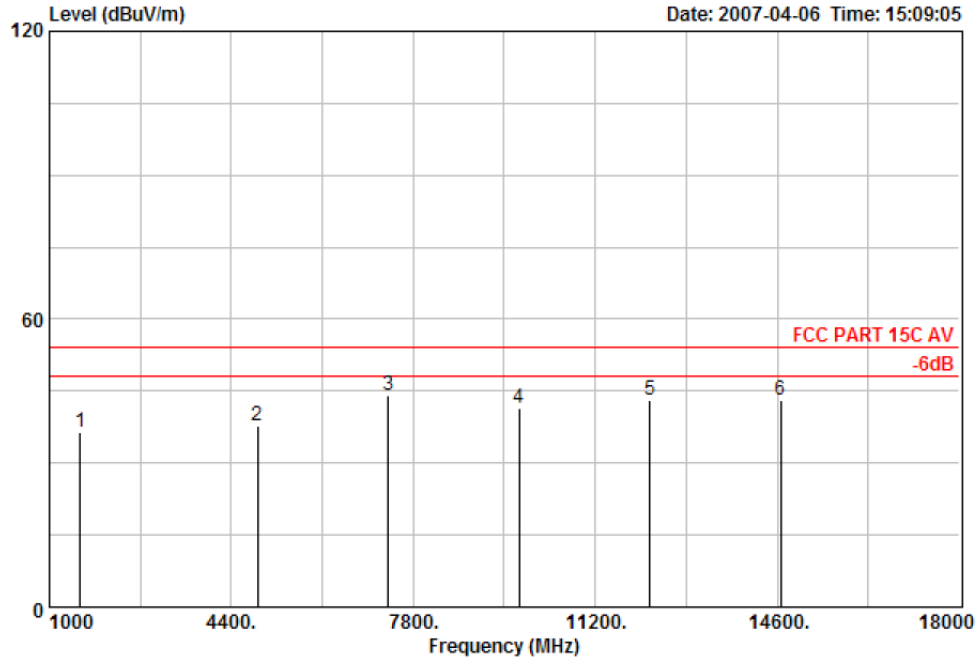
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1578.00	25.82	4.79	35.68	51.53	46.46	74.00	27.54	Peak
2	4890.00	34.20	9.71	34.48	39.25	48.68	74.00	25.32	Peak
3	7335.00	37.55	10.83	34.47	40.13	54.04	74.00	19.96	Peak
4	9780.00	38.01	11.55	36.02	40.00	53.54	74.00	20.46	Peak
5	12225.00	39.47	11.70	36.32	41.38	56.23	74.00	17.77	Peak
6	14670.00	41.78	12.28	35.36	41.52	60.22	74.00	13.78	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,B1;ck 52,
ShenZhen Science & Industry Park
Noutou, ShenZhen, GuangDong, China
Tel: +86-755-26639495-7
Fax: +86-755-26632877
Postcode: 518057

Data: 61 File: D:\2007 Report\Zigbee\21HRE.EMI (66)



Site no. : Audix No.1 Chamber Data no. : 61
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH9

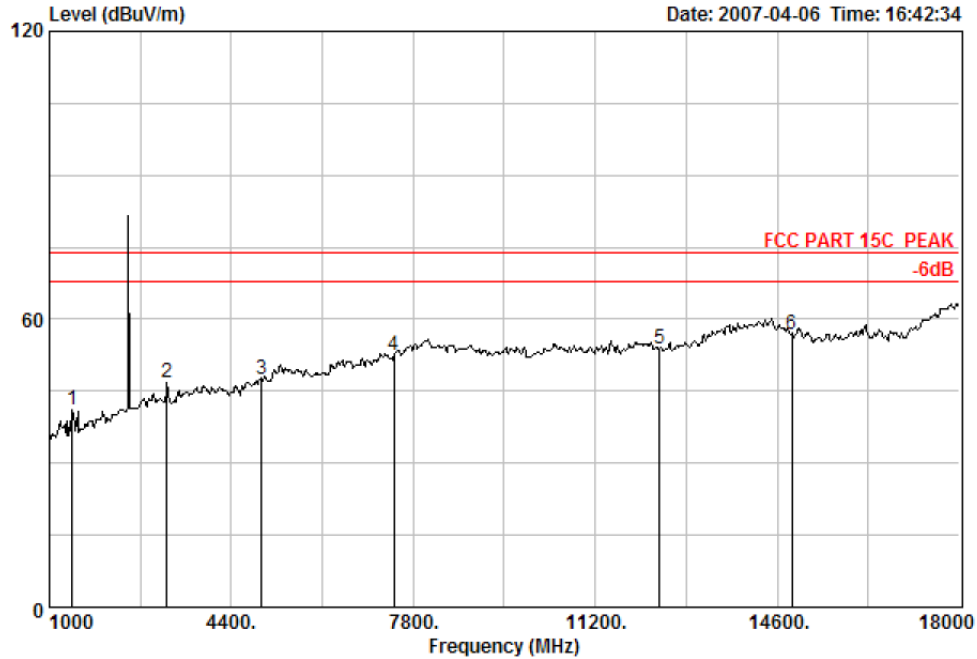
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1578.00	25.82	4.79	35.68	41.53	36.46	54.00	17.54	Average
2	4890.00	34.20	9.71	34.48	28.25	37.68	54.00	16.32	Average
3	7335.00	37.55	10.83	34.47	30.13	44.04	54.00	9.96	Average
4	9780.00	38.01	11.55	36.02	28.00	41.54	54.00	12.46	Average
5	12225.00	39.47	11.70	36.32	28.38	43.23	54.00	10.77	Average
6	14670.00	41.78	12.28	35.36	24.52	43.22	54.00	10.78	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,B1;ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel: +86-755-26639495-7
Fax: +86-755-26632877
Postcode:518057

Data: 60 File: D:\2007 Report\Zigbee\21HRE.EMI (60)



Site no. : Audix No.1 Chamber Data no. : 60
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH16

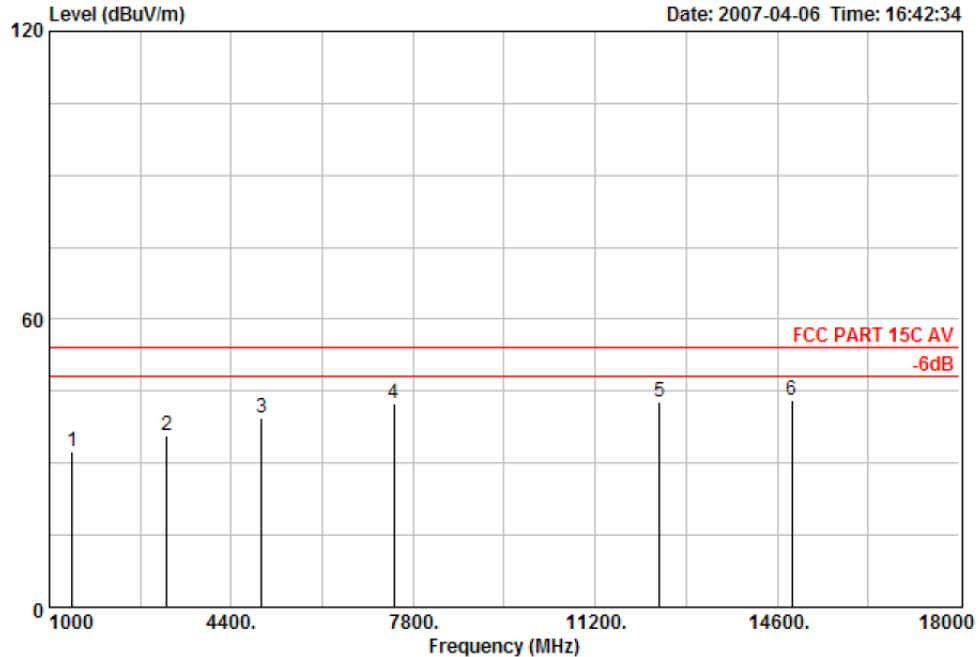
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1425.00	25.24	4.47	35.82	47.37	41.26	74.00	32.74	Peak
2	3193.00	31.52	7.56	34.94	42.72	46.86	74.00	27.14	Peak
3	4960.00	34.38	9.86	34.46	37.64	47.42	74.00	26.58	Peak
4	7440.00	37.72	10.90	34.49	38.40	52.53	74.00	21.47	Peak
5	12400.00	39.38	11.58	36.26	39.25	53.95	74.00	20.05	Peak
6	14880.00	41.15	12.14	35.26	38.96	56.99	74.00	17.01	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,B1;ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel: +86-755-26639495-7
Fax: +86-755-26632877
Postcode:518057

Data: 66 File: D:\2007 Report\Zigbee\21HRE.EMI (66)



Site no. : Audix No.1 Chamber Data no. : 66
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH16

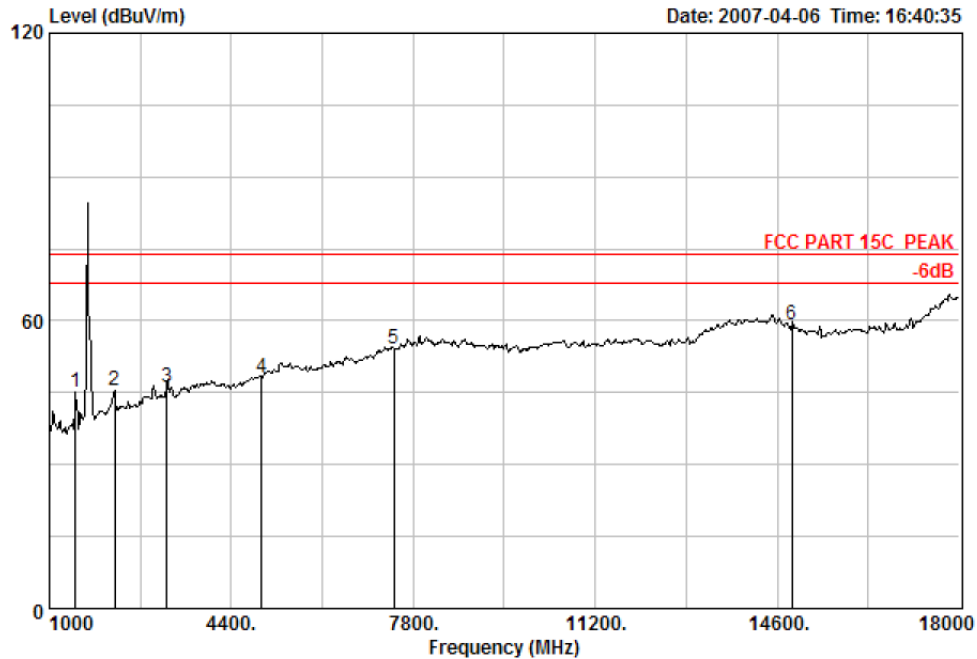
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1425.00	25.24	4.47	35.82	38.37	32.26	54.00	21.74	Average
2	3193.00	31.52	7.56	34.94	31.72	35.86	54.00	18.14	Average
3	4960.00	34.38	9.86	34.46	29.64	39.42	54.00	14.58	Average
4	7440.00	37.72	10.90	34.49	28.40	42.53	54.00	11.47	Average
5	12400.00	39.38	11.58	36.26	28.25	42.95	54.00	11.05	Average
6	14880.00	41.15	12.14	35.26	24.96	42.99	54.00	11.01	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,B1;ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel: +86-755-26639495-7
Fax: +86-755-26632877
Postcode:518057

Data: 59 File: D:\2007 Report\Zigbee\21HRE.EMI (60)



Site no. : Audix No.1 Chamber Data no. : 59
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL
Limit : FCC PART 15C PEAK
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH16

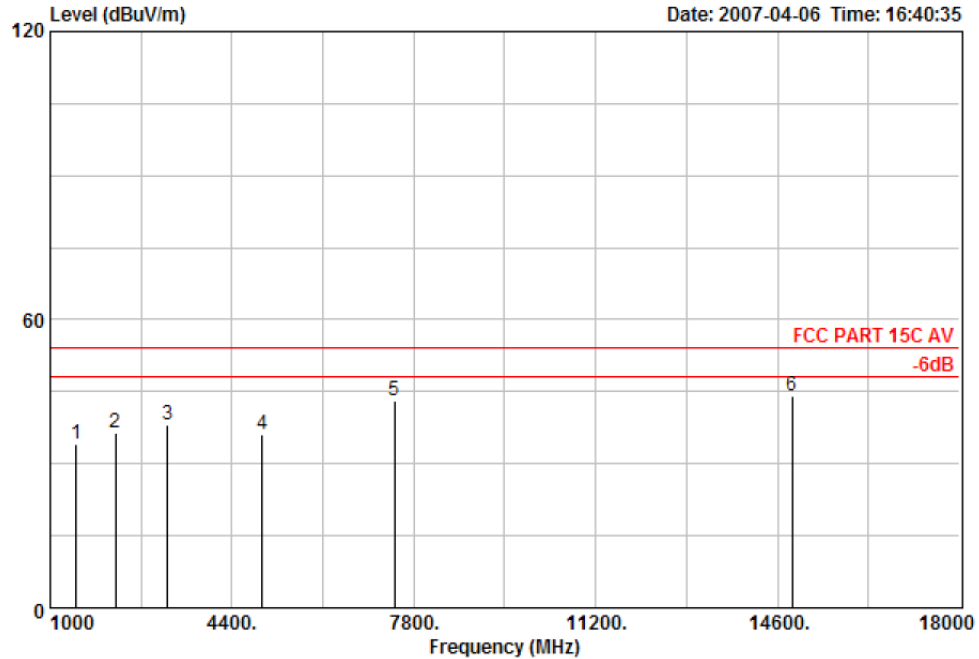
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1493.00	25.37	4.61	35.75	50.78	45.01	74.00	28.99	Peak
2	2224.00	28.58	5.94	35.23	46.18	45.47	74.00	28.53	Peak
3	3193.00	31.52	7.56	34.94	42.01	46.15	74.00	27.85	Peak
4	4960.00	34.38	9.86	34.46	38.46	48.24	74.00	25.76	Peak
5	7440.00	37.72	10.90	34.49	40.12	54.25	74.00	19.75	Peak
6	14880.00	41.15	12.14	35.26	41.17	59.20	74.00	14.80	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.



No.6 Ke Feng Road,B1;ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel: +86-755-26639495-7
Fax: +86-755-26632877
Postcode:518057

Data: 65 File: D:\2007 Report\Zigbee\21HRE.EMI (66)



Site no. : Audix No.1 Chamber Data no. : 65
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH16

	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark
1	1493.00	25.37	4.61	35.75	39.78	34.01	54.00	19.99	Average
2	2224.00	28.58	5.94	35.23	37.18	36.47	54.00	17.53	Average
3	3193.00	31.52	7.56	34.94	34.01	38.15	54.00	15.85	Average
4	4960.00	34.38	9.86	34.46	26.46	36.24	54.00	17.76	Average
5	7440.00	37.72	10.90	34.49	29.12	43.25	54.00	10.75	Average
6	14880.00	41.15	12.14	35.26	26.17	44.20	54.00	9.80	Average

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official limit are not reported.

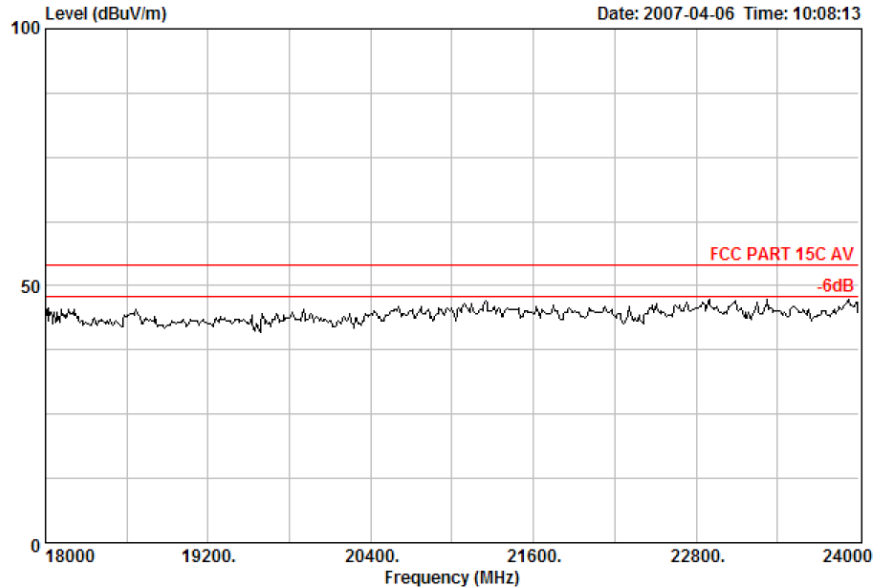


No.6 Ke Feng Road,B1:ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 13

File: D:\2007 Report\Zigbee\21HRE.EMI (66)

Date: 2007-04-06 Time: 10:08:13

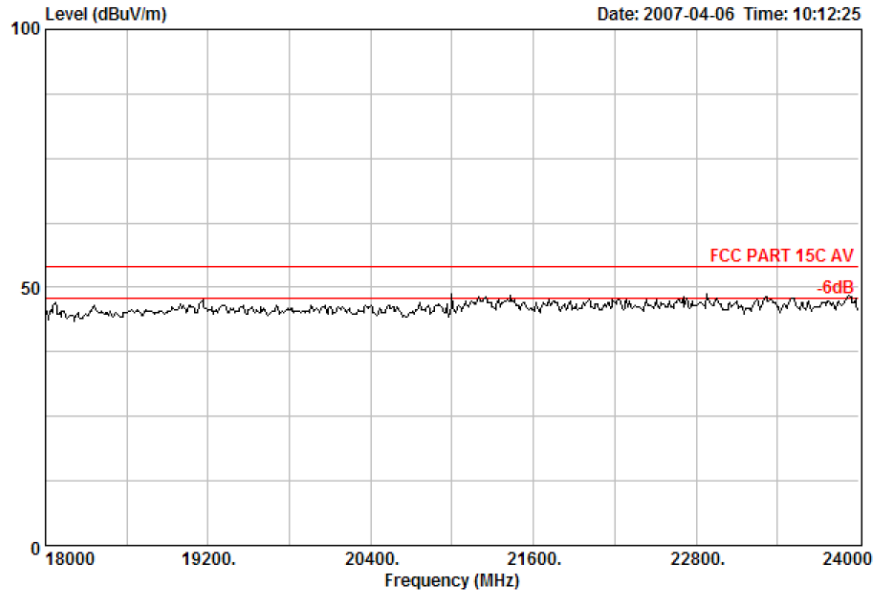


Site no. : 1# Chamber Data no. : 13
Dis. / Ant. : 3m 3115FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH1

Data: 14

File: D:\2007 Report\Zigbee\21HRE.EMI (66)

Date: 2007-04-06 Time: 10:12:25



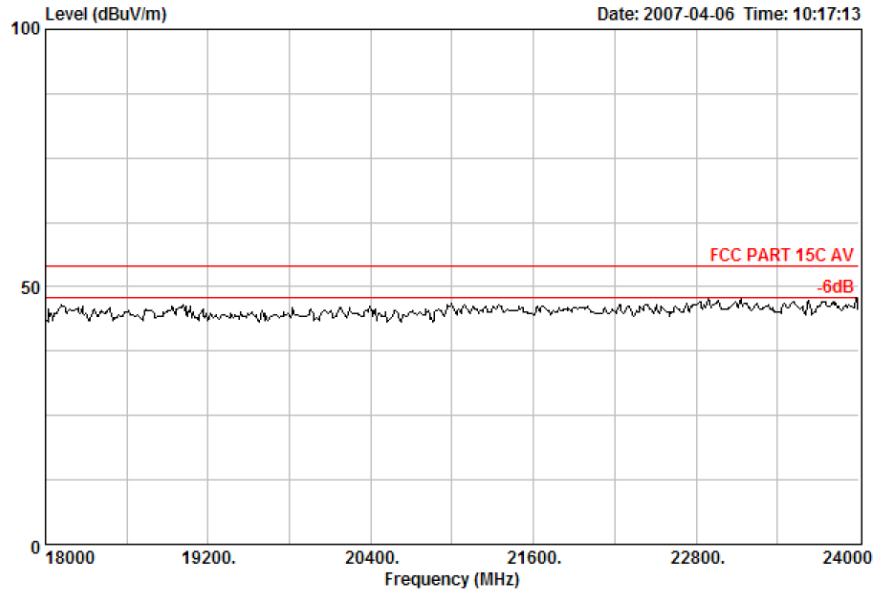
Site no. : 1# Chamber Data no. : 14
Dis. / Ant. : 3m 3115FACTOR Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH1



No.6 Ke Feng Road,B1:ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 15 File: D:\2007 Report\Zigbee\21HRE.EMI (66)

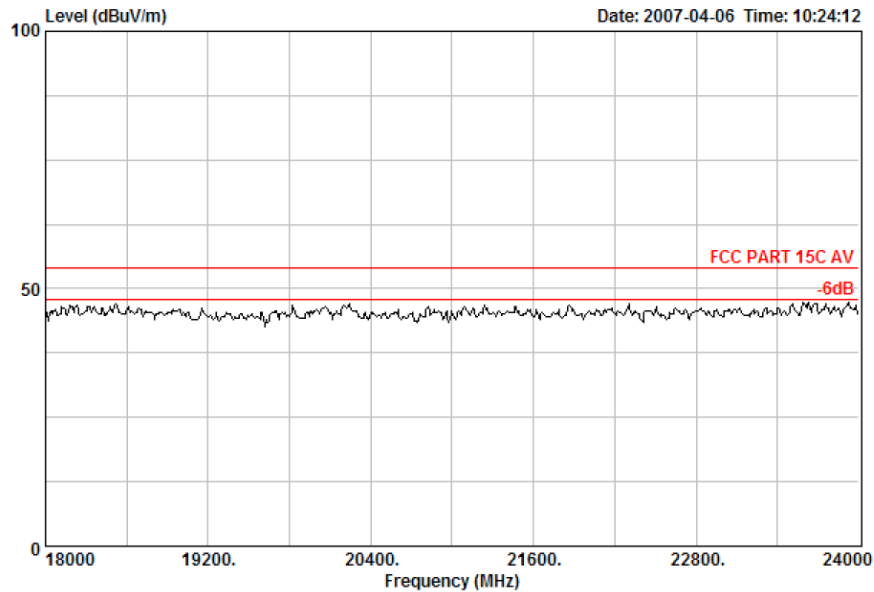
Date: 2007-04-06 Time: 10:17:13



Site no. : 1# Chamber Data no. : 15
Dis. / Ant. : 3m 3115FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH9

Data: 16 File: D:\2007 Report\Zigbee\21HRE.EMI (66)

Date: 2007-04-06 Time: 10:24:12



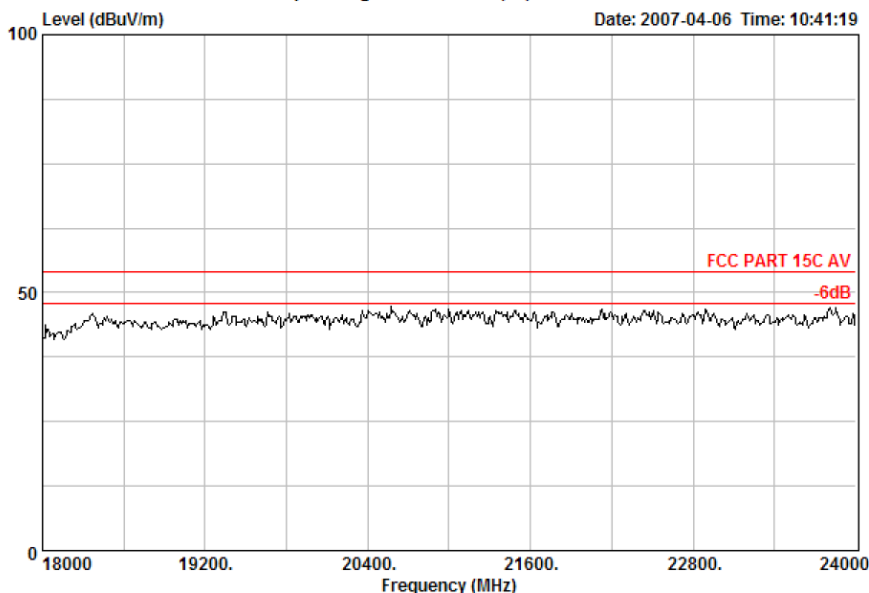
Site no. : 1# Chamber Data no. : 16
Dis. / Ant. : 3m 3115FACTOR Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH9



No.6 Ke Feng Road,B1:ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 17 File: D:\2007 Report\Zigbee\21HRE.EMI (66)

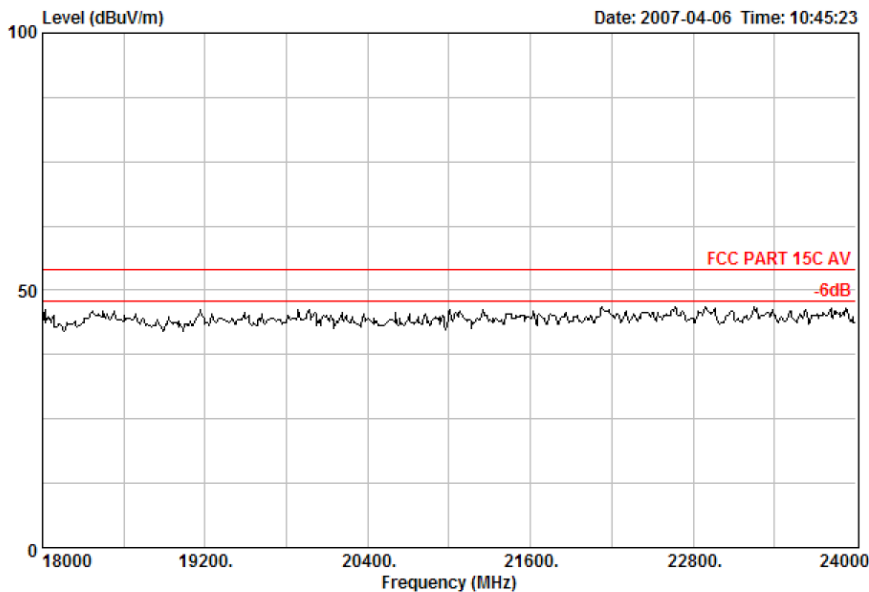
Date: 2007-04-06 Time: 10:41:19



Site no. : 1# Chamber Data no. : 17
Dis. / Ant. : 3m 3115FACTOR Ant. pol. : HORIZONTAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH16

Data: 18 File: D:\2007 Report\Zigbee\21HRE.EMI (66)

Date: 2007-04-06 Time: 10:45:23



Site no. : 1# Chamber Data no. : 18
Dis. / Ant. : 3m 3115FACTOR Ant. pol. : VERTICAL
Limit : FCC PART 15C AV
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH16

5. 6DB BANDWIDTH TEST

5.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4407B	MY41440292	May 15, 06	1 Year
2.	Amp	HP	8449B	3008A00863	May 15, 06	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May 15, 06	1 Year

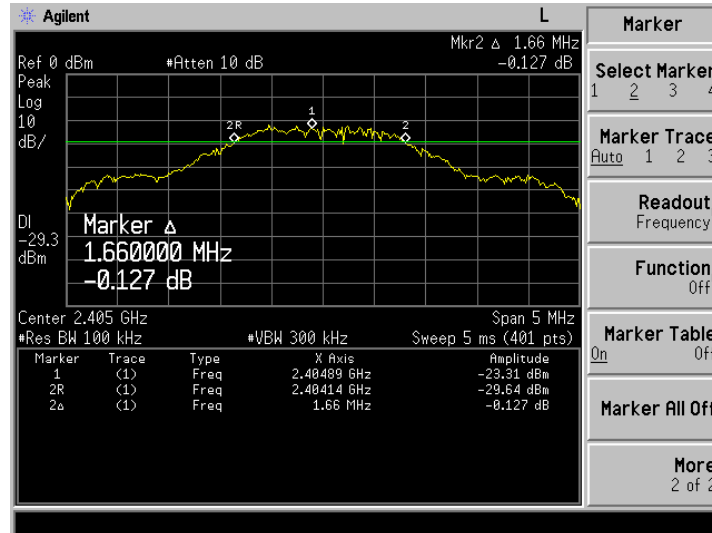
5.2. Test Information

EUT:	Smart Senteo
M/N:	03-00099-21
Test Date:	Apr.09, 2007
Ambient Temperature:	24°C
Relative Humidity:	54%
Test standard:	FCC PART 15C: 15.247
Test mode:	Transmitting
Test Frequency:	CH1: 2405MHz CH9: 2445MHz CH16: 2480MHz
Test By:	Jamy

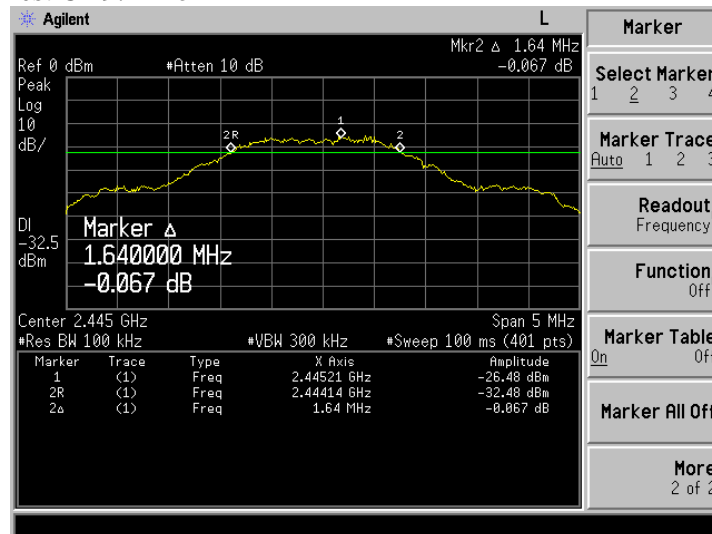
5.3. Test Results

CH	6dB Bandwidth (MHz)	Limit	Conclusion
1	1.66	>500	PASS
9	1.64	>500	PASS
16	1.65	>500	PASS

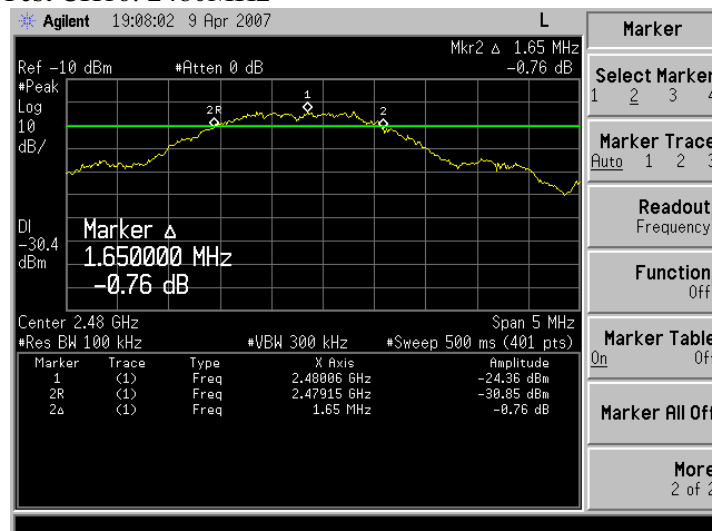
Test CH1: 2405MHz



Test CH9: 2445MHz



Test CH16: 2480MHz



6. OUTPUT POWER TEST

6.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4407B	MY41440292	May 15, 06	1 Year
2.	Amp	HP	8449B	3008A00863	May 15, 06	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May 15, 06	1 Year

6.2. Test Information

EUT:	Smart Senteo
M/N:	03-00099-21
Test Date:	Apr.09, 2007
Ambient Temperature:	24°C
Relative Humidity:	54%
Test standard:	FCC PART 15C: 15.247
Test mode:	Transmitting
Test Frequency:	CH1: 2405MHz CH9: 2445MHz CH16: 2480MHz
Test By:	Jamy

6.3. Test Procedure

Measure the transmitter output power (dBμV/m) at 3m with spectrum analyzer using 2MHz RBW and 3MHz VBW

This test was performed with EUT in X, Y, Z position and with antenna on vertical and horizontal polarization, record the worse cases for final output power calculate

6.4. Test Results

CH	Field Strength at a distance of 3 meters (FS) (dBμV/m)	Output power (OP) (dBm)	Limit (dBm)	Conclusion
1	81.38	-16.86	30	PASS
9	80.13	-18.11	30	PASS
16	81.82	-16.42	30	PASS

Note: The following formula may be used to convert field strength (FS) in volts/m to transmitter output power (OP) in watts:

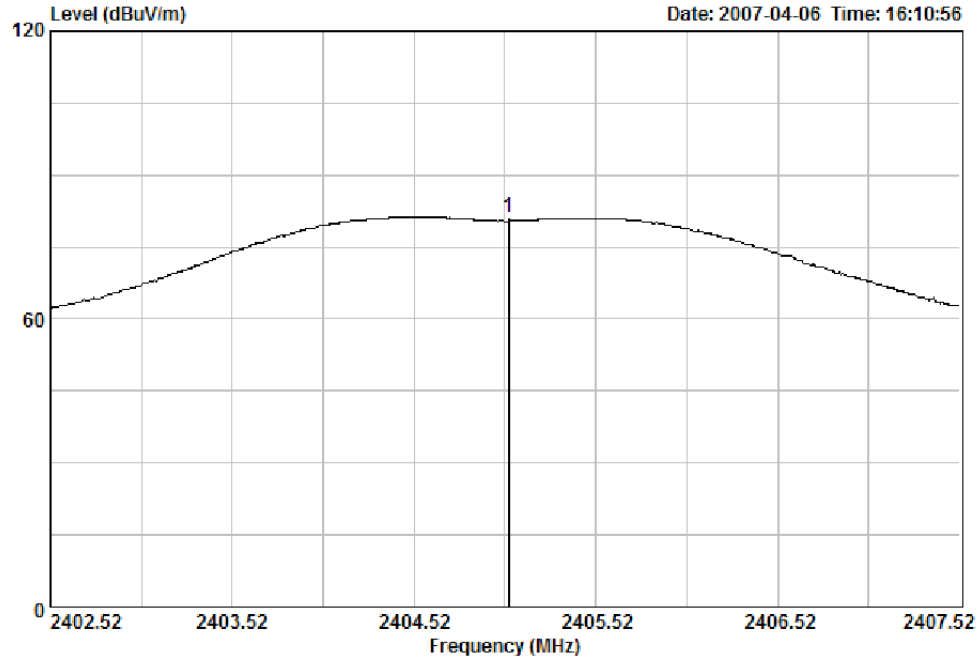
$$OP = (FS \cdot D)^2 / 30 \cdot G$$

D is the distance in meters between the two antennas and G is the antenna numerical gain.



No.6 Ke Feng Road,B1:ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 26 File: D:\2007 Report\Zigbee\21HRE.EMI (42)



Site no. : Audix No.1 Chamber Data no. : 26
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. :
Limit :
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH1

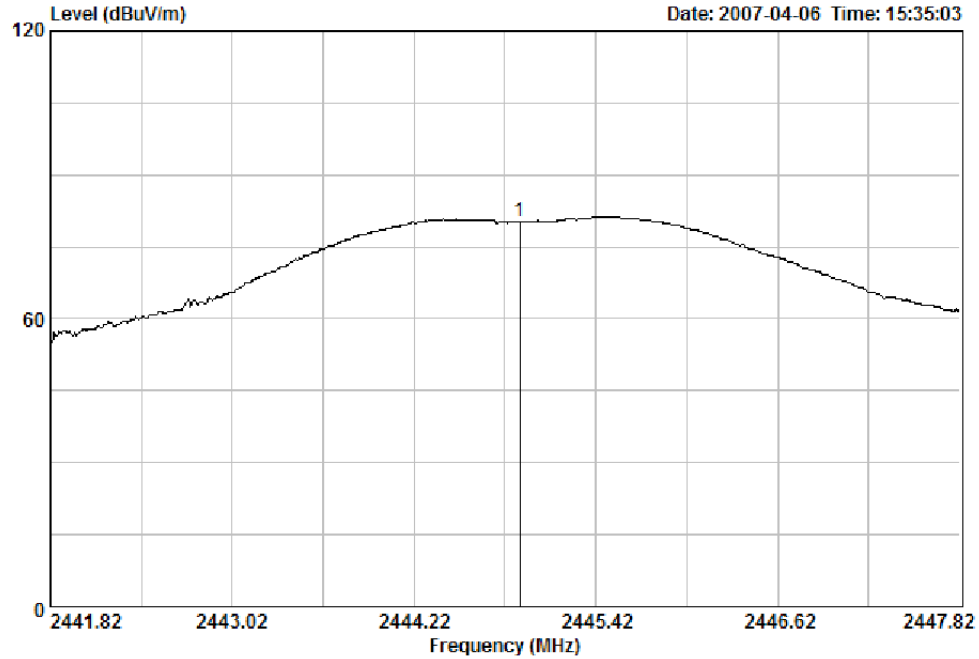
Freq. (MHz)	Ant.	Cable	Amp	Reading (dBuV)	Emission				
	Factor (dB/m)	Loss (dB)	Factor (dB)		Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark	
1	2405.04	29.03	6.20	35.18	81.33	81.38	500.00	418.62	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official
limit are not reported.



No.6 Ke Feng Road,B1:ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel: +86-755-26639495-7
Fax: +86-755-26632877
Postcode:518057

Data: 25 File: D:\2007 Report\Zigbee\21HRE.EMI (42)



Site no. : Audix No.1 Chamber Data no. : 25
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. :
Limit :
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH9

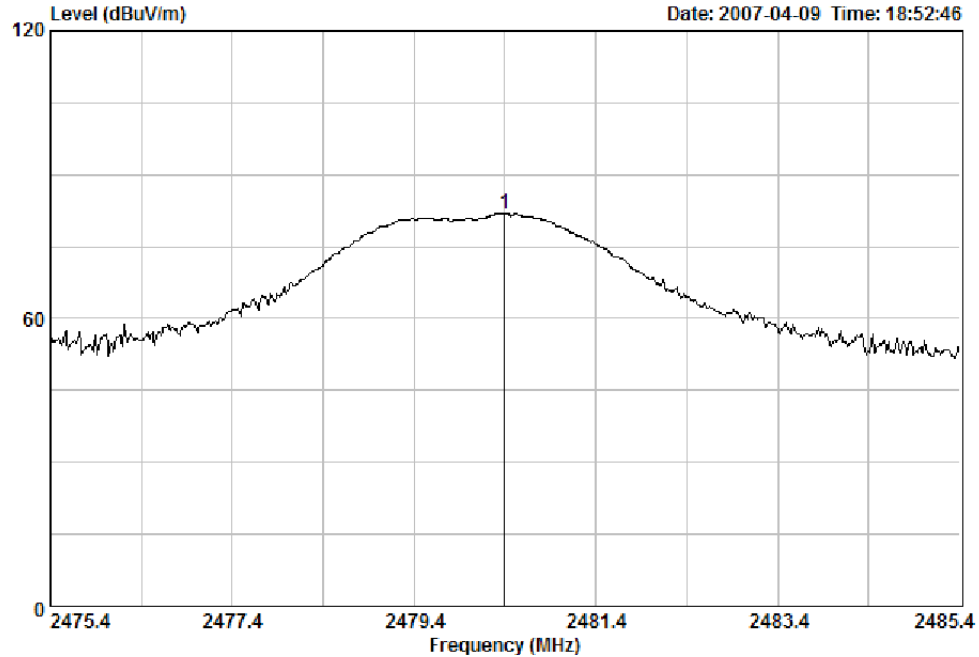
	Freq. (MHz)	Ant. Factor (dB/m)	Cable Loss (dB)	Amp Factor (dB)	Reading (dBuV)	Emission			Remark
						Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	2444.92	29.11	6.25	35.17	79.94	80.13	500.00	419.87	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official
limit are not reported.



No.6 Ke Feng Road,B1:ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 27 File: D:\2007 Report\Zigbee\21HRE.EMI (42)



Site no. : Audix No.1 Chamber Data no. : 27
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. :
Limit :
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH16

		Ant.	Cable	Amp		Emission			
	Freq.	Factor	Loss	Factor	Reading	Level	Limits	Margin	Remark
	(MHz)	(dB/m)	(dB)	(dB)	(dBuV)	(dBuV/m)	(dBuV/m)	(dB)	
1	2480.40	29.19	6.30	35.16	81.49	81.82	500.00	418.18	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official
limit are not reported.

7. BAND EDGE COMPLIANCE TEST

7.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4407B	MY41440292	May 15, 06	1 Year
2.	Amp	HP	8449B	3008A00863	May 15, 06	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May 15, 06	1 Year

7.2. Test Information

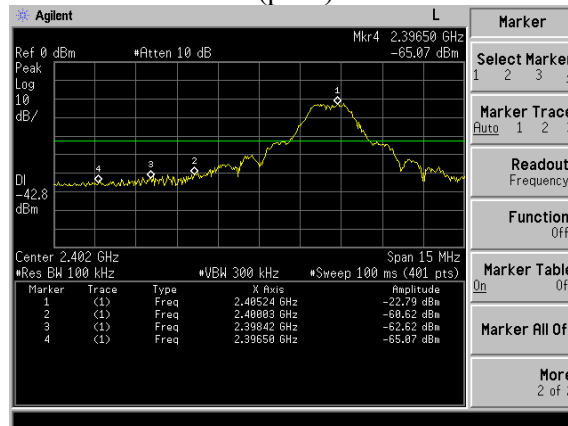
EUT:	Smart Senteo
M/N:	03-00099-21
Test Date:	Apr.09, 2007
Ambient Temperature:	24°C
Relative Humidity:	54%
Test standard:	FCC PART 15C: 15.247
Test mode:	Transmitting
Test Frequency:	CH1: 2405MHz CH9: 2445MHz CH16: 2480MHz
Test By:	Jamy

NOTE: This test was performed with antenna in horizontal and the maximum value would obtained in the position.

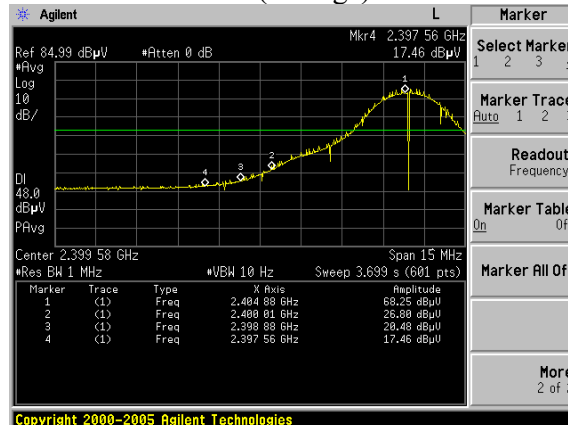
7.3. Test Results

Pass

Test CH1: 2405MHz(peak)

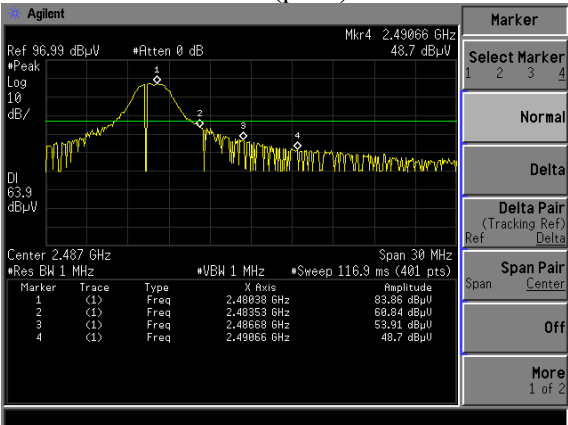


Test CH1: 2405MHz(average)

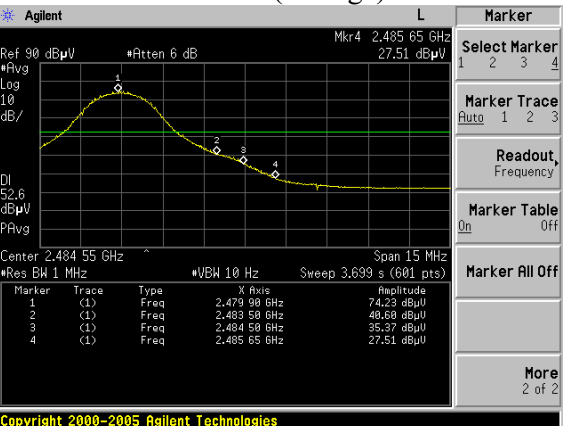


Copyright 2000-2005 Agilent Technologies

Test CH16: 2480MHz(peak)



Test CH16: 2480MHz(average)



Copyright 2000-2005 Agilent Technologies

8. POWER SPECTRAL DENSITY TEST

8.1. Test Equipment

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
1.	Spectrum	Agilent	E4407B	MY41440292	May 15, 06	1 Year
2.	Amp	HP	8449B	3008A00863	May 15, 06	1 Year
3.	Antenna	EMCO	3115	9607-4877	Jan. 23, 07	1.5 Year
4.	HF Cable	Hubersuhne	Sucoflex104	-	May 15, 06	1 Year

8.2. Test Information

EUT:	Smart Senteo
M/N:	03-00099-21
Test Date:	Apr.09, 2007
Ambient Temperature:	24°C
Relative Humidity:	54%
Test standard:	FCC PART 15C: 15.247
Test mode:	Transmitting
Test Frequency:	CH1: 2405MHz CH9: 2445MHz CH16: 2480MHz
Test By:	Jamy

8.3. Test Procedure

- (1). Measure the transmitter power spectral at a distance of 3 meters with the spectrum analyzer using 3kHz RBW and 30kHz VBW, set sweep time= span/3kHz
- (2). Use the following formula to convert measured power spectral density (dBμV/m*3kHz) to transmitter output power spectral density

$$PD = (MPD * D)^2 / 30 * G$$

PD is the transmitter output power spectral density. MPD is the measured power spectral density at 3m. D is the distance between the EUT antenna and test antenna, D in here is 3m. G is the antenna numerical gain.

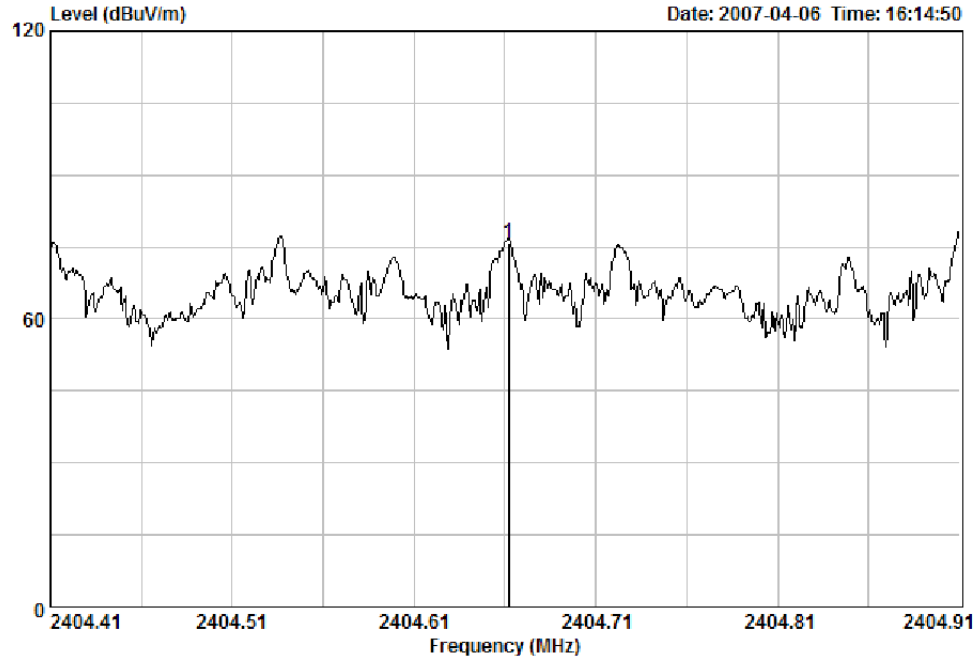
8.4. Test Results

CH	Measured power spectral density at 3m (dBμV/m*3kHz)	Antenna numerical gain	Power spectral density (dBm/3kHz)	Limit (dBm/3kHz)	Conclusion
1	75.98	2	-22.26	8	PASS
9	72.16	2	-26.08	8	PASS
16	73.24	2	-25.00	8	PASS



No.6 Ke Feng Road,B1:ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 29 File: D:\2007 Report\Zigbee\21HRE.EMI (42)



Site no. : Audix No.1 Chamber Data no. : 29
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. :
Limit :
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH1

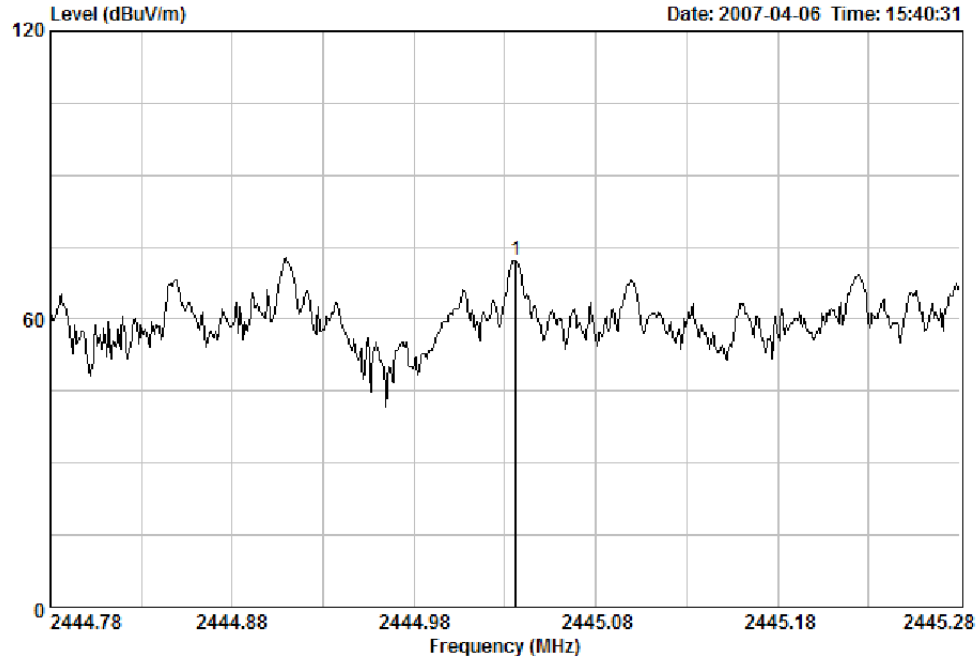
Freq. (MHz)	Ant.	Cable	Amp	Reading (dBuV)	Emission				
	Factor (dB/m)	Loss (dB)	Factor (dB)		Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	Remark	
1	2404.66	29.03	6.20	35.18	75.93	75.98	500.00	424.02	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official
limit are not reported.



No.6 Ke Feng Road,B1:ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 28 File: D:\2007 Report\Zigbee\21HRE.EMI (42)



Site no. : Audix No.1 Chamber Data no. : 28
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. :
Limit :
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Sentec M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH9

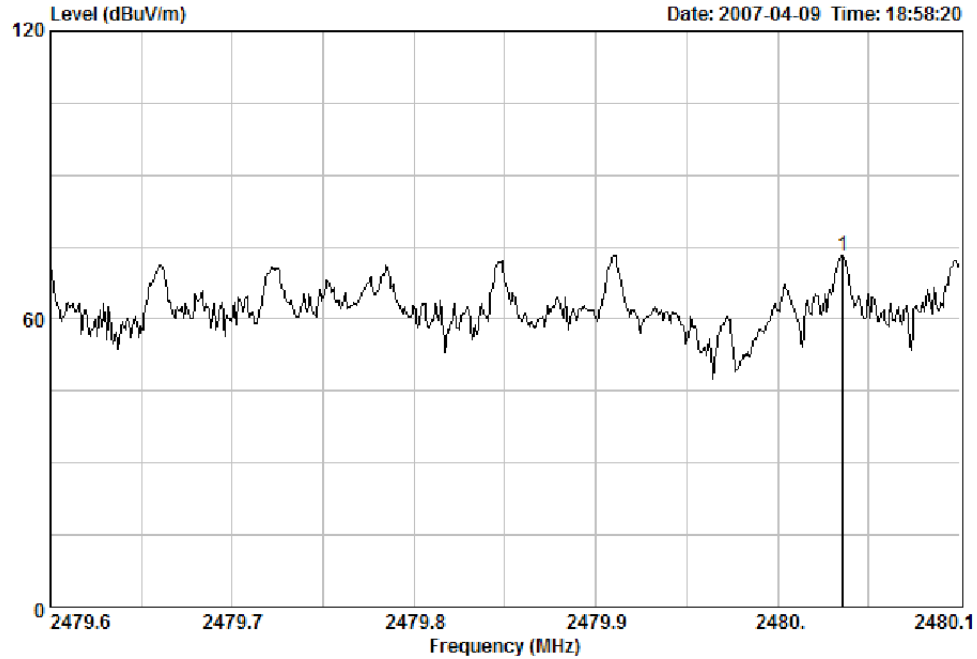
	Freq. (MHz)	Ant.	Cable	Amp	Reading (dBuV)	Emission			Remark
		Factor (dB/m)	Loss (dB)	Factor (dB)		Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	2445.04	29.11	6.25	35.17	71.97	72.16	500.00	427.84	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official
limit are not reported.



No.6 Ke Feng Road,B1:ck 52,
ShenZhen Science & Industry Park
Noutou,ShenZhen,GuangDong,China
Tel:+86-755-26639495-7
Fax:+86-755-26632877
Postcode:518057

Data: 30 File: D:\2007 Report\Zigbee\21HRE.EMI (42)



Site no. : Audix No.1 Chamber Data no. : 30
Dis. / Ant. : 3m 3115 FACTOR Ant. pol. :
Limit :
Env. / Ins. : 23°C/54% Engineer : Jamy
EUT : Smart Senteo M/N:03-00099-21
Power Rating : DC 5V From PC Input 120V/60Hz
Test Mode : TX Mode CH16

	Freq. (MHz)	Ant.	Cable	Amp	Reading (dBuV)	Emission			Remark
		Factor (dB/m)	Loss (dB)	Factor (dB)		Level (dBuV/m)	Limits (dBuV/m)	Margin (dB)	
1	2480.04	29.19	6.30	35.16	72.91	73.24	500.00	426.76	Peak

Remarks: 1. Emission Level= Antenna Factor + Cable Loss - Amp Factor + Reading.
2. The emission levels that are 20dB below the official
limit are not reported.

9. MPE ESTIMATION

9.1.Limit for General Population / Uncontrolled Exposures

Frequency	Power density (mW/cm ²)	Averaging time (minutes)
300MHz~1.5GHz	F/1500	30
1.5GHz~100GHz	1.0	30

Frequency (MHz)	Power density (mW/cm ²)	Averaging time (minutes)
2405	1.0	30
2445	1.0	30
2480	1.0	30

Note: F = Frequency in MHz

9.2.Estimation Result

CH	Frequency (MHz)	Peak output power (dBm)	Antenna gain (dBi)	Antenna gain (Linear)
1	2405	-16.86	3	2
9	2445	-18.11	3	2
16	2480	-16.42	3	2

CH	Frequency (MHz)	Peak output power to antenna (mW)	Power density at 20cm (mW/ cm ²)
1	2405	0.0206	8.16×10^{-6}
9	2445	0.0155	6.17×10^{-6}
16	2480	0.0228	9.15×10^{-6}

10.DEVIATION TO TEST SPECIFICATIONS

[NONE]

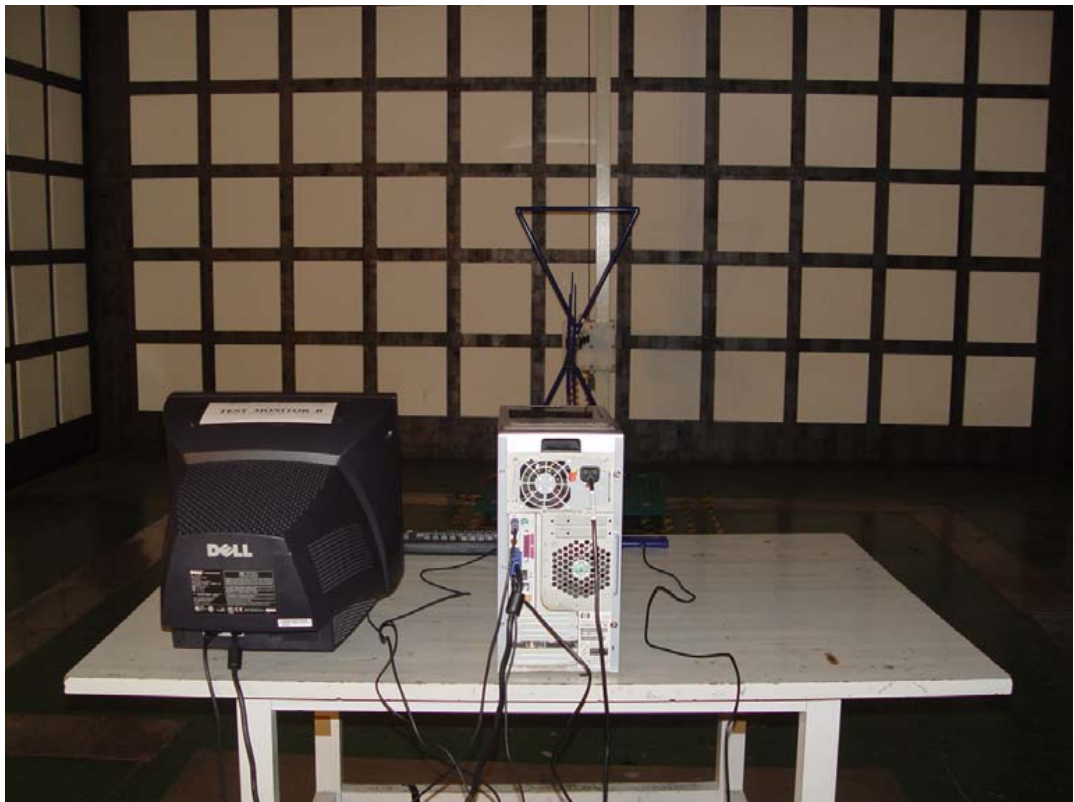
11.PHOTOGRAPH

11.1.Photos of Power Line Conducted Emission Test



11.2.Photos of Radiated Emission Test

30-1000MHz



Above 1000MHz

