MEASUREMENT REPORT
of
CORDLESS TELEPHONE

Applicant	**:**	ShenZhen JingNeng Telecom Technology Co., Ltd.
EUT	**:**	2.4GHz Analog Cordless Phone with CID and DAM
Model No.	**:**	GH9492; XG2404
FCC ID	**:**	PJUGH9492
Report No.	**:**	K1015572

Test by :

Training Research Co., Ltd.

TEL : 886-2-26935155 FAX : 886-2-26934440

No. 255, Nan-yang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C.

CERTIFICATION

We here by verify that:

The test data, data evaluation, test procedures and equipment configurations shown in this report were made mainly in accordance with the procedures given in ANSI C63.4 (1992) as a reference. All tests were conducted by ***Training Research Co., Ltd.***, No. 255, Nan-yang Street, Shijr, Taipei Hsien 221, Taiwan. Also, we attest to the accuracy of each.

We further submit that the energy emitted by the sample EUT tested as described in the report is **in compliance with** the technical requirements set forth in the FCC Rules Part 15 Subpart C Section 15.249.

Applicant	**:**	ShenZhen JingNeng Telecom Technology Co., Ltd.
Applicant address	**:**	BaiMenQian Industrial Zone, ShaWan, BuJi Town, LongGang District, ShenZhen City, P.R China
Model Name	**:**	GH9492; XG2404
FCC ID	**:**	PJUGH9492
Test Date	**:**	May 24, 2004

Prepared by: *JACK TSAI*

Approved by: *FRANK TSAI*

Test by :

Training Research Co., Ltd.

TEL : 886-2-26935155 FAX : 886-2-26934440

No. 255, Nan-yang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C.

Tables of Contents

I. GENERAL

1.1 Introduction 5
1.2 Description of EUT 5
1.3 Description of Support Equipment 6
1.4 Configuration of System Under Test 6
1.5 Test Procedure 7
1.6 Location of the Test Site 7
1.7 General Test Condition 7

II. Conducted Emissions Measurements

2.1 Test Condition & Setup 8
2.2 List of Test Instruments 8
2.3 Test Result of Conducted Emissions 9

III. Radiated Emissions Measurements

3.1 Test Condition & Setup 12
3.2 List of Test Instruments 13
3.3 Test Result of Radiated Emissions 14
3.4 Test Result of Spurious Radiated Emissions 15

IV. Verify Frequencies and Channels 23

Appendix A 24

Appendix B 27

TABLES

Table 1 Power Line Conducted Emissions [Channel 01] 9
Table 2 Power Line Conducted Emissions [Channel 40] 10
Table 3 Power Line Conducted Emissions [Charging by base] 11

Table 4 Fundamental Emissions 14

Table 5 Radiated Emissions [Base CH 01, Horizontal, 30MHz to1GHz] 15
Table 9 Radiated Emissions [Base CH 01, Vertical, 30MHz to 1GHz] 15
Table 7 Radiated Emissions [Base CH 01, Horizontal, 1GHz to 25GHz] 16
Table 8 Radiated Emissions [Base CH 01, Vertical, 1GHz to 25GHz] 16
Table 9 Radiated Emissions [Base CH 40, Horizontal, 30MHz to 1GHz] 17
Table 10 Radiated Emissions [Base CH 40, Vertical, 30MHz to 1GHz] 17
Table 11 Radiated Emissions [Base CH 40, Horizontal, 1GHz to 25GHz] 18
Table 12 Radiated Emissions [Base CH 40, Vertical, 1GHz to 25GHz] 18
Table 13 Radiated Emissions [Handset CH 01, Horizontal, 30MHz to 1GHz] 19
Table 14 Radiated Emissions [Handset CH 01, Vertical, 30MHz to 1GHz] 19
Table 15 Radiated Emissions [Handset CH 01, Horizontal, 1GHz to 25GHz] 20
Table 16 Radiated Emissions [Handset CH 01, Vertical, 1GHz to 25GHz] 20
Table 17 Radiated Emissions [Handset CH 40, Horizontal, 30MHz to 1GHz] 21
Table 18 Radiated Emissions [Handset CH 40, Vertical, 30MHz to 1GHz] 21
Table 19 Radiated Emissions [Handset CH 40, Horizontal, 1GHz to 25GHz] 22
Table 20 Radiated Emissions [Handset CH 40, Vertical, 1GHz to 25GHz] 22

Table 21 Verify the Frequency Pairs 23

I. GENERAL

1.1 Introduction

The following measurement report is submitted on behalf of Applicant in support of a Cordless Telephone certification in accordance with Part 2 Subpart J and Part 15 Subpart A and C of the Commission's Rules and Regulations.

1.2 Description of EUT

Product Name	**:**	2.4GHz Analog Cordless Phone with CID and DAM
Model Name	**:**	GH9492; XG2404
Frequency Range	**:**	Base: 2402.55 – 2404.50 MHz Handset: 2474.00 – 2475.95 MHz
Support Channel	**:**	40 Channels
Power Type	**:**	Base powered by AC adaptor => I/P: 120Vac, 60 Hz, 90mA => O/P: 9Vdc, 500mA Handset powered by Rechargeable Ni-MH Battery => 3.6 V, 600mAh
Power Cord	**:**	Cable of power adapter => Non-shielded, 190cm length, No bead
Data Cable	**:**	RJ-11 x 1 => Non-shielded, 7 feet length, No bead

1.3 Description of Support Equipment

In order to construct the minimum testing, following equipment were used as the support units.

PABX	**:**	**King Design**
Model No.	:	KD8705-A
Serial No.	:	GV101101186
Power type	:	110 VAC 60Hz
Power cord	:	Non – Shielded, 185cm long
EarphoneMIC.	**:**	**God Information Inc.**
Model No.	:	Net8 EarphoneMic
Data cable	:	118cm long, Non – Shielded

1.4 Configuration of System Under Test

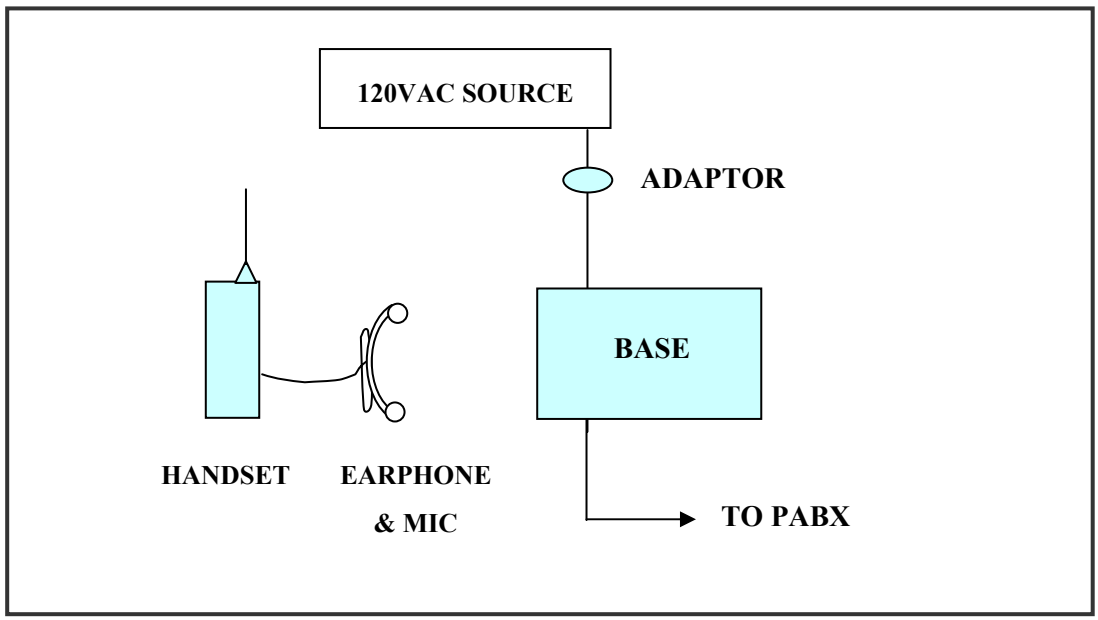


Fig.-1 Configuration of system under test

During testing the EUT was connected to PABX. A diagram of the complete test configuration was shown in Fig-1.

1.5 Test Procedure

All measurements contained in this report were performed mainly according to the techniques described in Measurement procedure ANSI C63.4 (1992).

1.6 Location of the Test Site

The radiated emissions measurements required by the rules were performed on the **three-meter**, **Anechoic Chamber (FCC Registration Number: 93906)** maintained by *Training Research Co., Ltd.* 1F, No. 255, Nan-yang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C. Complete description and measurement data have been placed on file with the commission. The conducted power line emissions tests and other test items were performed in an anechoic chamber also located at Training Research Co., Ltd. 1F, No. 255, Nan-yang Street, Shijr, Taipei Hsien 221, Taiwan, R.O.C. *Training Research Co., Ltd.* is listed by the FCC as a facility available to do measurement work for others on a contract basis.

1.7 General Test Condition

The conditions under which the EUT operates were varied to determine their effect on the equipment's emission characteristics. The final configuration of the test system and the mode of operation used during these tests was chosen as that which produced the highest emission levels. However, only those conditions which the EUT was considered likely to encounter in normal use were investigated.

In test, the base and handset are tested separately. They were set in Ch01 and Ch40 of EUT and continuously transmitting mode that controlled by test mode of EUT.

II. Conducted Emissions Measurements

2.1 Test Condition & Setup

The power line conducted emission measurements were performed in a shielded enclosure. The EUT was assembled on a wooden table which is 80 centimeters high, was placed 40 centimeters from the backwall and at least 1 meter from the sidewall.

Power was fed to the EUT from the public utility power grid through a line filter and Line Impedance Stabilization Networks (LISNs). The LISN housing, measuring instrumentation case, ground plane, etc., were electrically bonded together at the same RF potential. The Spectrum analyzer was connected to the AC line through an isolation transformer. The 50-ohm output of the LISN was connected to the spectrum analyzer directly. Conducted emission levels were in the CISPR quasi-peak detection mode. The analyzer's 6 dB bandwidth was set to 9 KHz. No post-detector video filter was used.

The spectrum was scanned from 150KHz to 30MHz. The physical arrangement of the test system and associated cabling was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude and frequency. All spurious emission frequencies were observed. The highest emission amplitudes relative to the appropriate limit were measured and have been recorded in 2.3.

There is a test condition applies in this test item, the setting up procedure is recorded on <1.4>. Two channels were tested, one in the top (CH01) and the other in bottom (CH40).

2.2 List of Test Instruments

				Calibration Date	
Instrument Name	Model	Brand	Serial No.	Last time	Next time
EMI Receiver	8546A	HP	3520A00242	07/28/03	07/28/04
RF Filter Section	85460A	HP	3448A00217	07/28/03	07/28/04
LISN (EUT)	LISN-01	TRC	99-05	06/21/03	06/21/04
LISN (Support E.)	LISN-01	TRC	9912-03, 04	07/21/03	07/21/04
Pre-amplifier	15542 ZFL-500	Mini – Circuits	0 0117	05/20/04	05/20/05
6dB Attenuator	MCL BW-S6W2	Mini – Circuits	9915 – Conducted	05/20/04	05/20/05
10dB Attenuator	A5542 VAT010	Mini – Circuits	0215 – Conducted	05/20/04	05/20/05
Coaxial Cable (2 meter)	A30A30-0058-50FS-2M	JYEBAO	SMA-08	05/20/04	05/20/05
Coaxial Cable (1.1 meter)	A30A30-0058-50FS-1M	JYEBAO	SMA-09	05/20/04	05/20/05
Coaxial Cable (20 meter)	RG-214/U	JYEBAO	NP-01	05/20/04	05/20/05
Coaxial Cable (20 meter)	RG-214/U	JYEBAO	NP-02	05/20/04	05/20/05
Auto Switch Box (< 30MHz)	ASB-01	TRC	9904-01	05/20/04	05/20/05

2.3 Test Result of Conducted Emissions

The following table shows a summary of the highest emissions of power line conducted emissions on the HOT and NATURAL conductors of the EUT power cord.

Test Conditions: Temperature : 25 °C Humidity : 73 % RH

Table 1 Power Line Conducted Emissions (Channel 1 of Base)

Power Connected Emissions					*FCC Class B*		
Conductor	*Frequency (KHz)*	*Peak (dBμV)*	*QP (dBμV)*	*Average (dBμV)*	*QP-limit (dBμV)*	*AVG-limit (dBμV)*	*Margin (dB)*
Line 1	166.000	29.28	---	---	65.54	55.54	-26.26
	179.000	30.19	---	---	65.17	55.17	-24.98
	191.000	29.38	---	---	64.83	54.83	-25.45
	201.000	29.10	---	---	64.54	54.54	-25.44
	302.000	24.01	---	---	61.66	51.66	-27.65
	7570.000	20.52	---	---	60.00	50.00	-29.48
	10680.000	26.41	---	---	60.00	50.00	-23.59
	14250.000	21.16	---	---	60.00	50.00	-28.84
	17800.000	21.23	---	---	60.00	50.00	-28.77
	---	---	---	---	---	---	---
Line 2	158.000	50.75	---	---	65.77	55.77	-5.02
	185.000	48.86	---	---	65.00	55.00	-6.14
	245.000	44.45	---	---	63.29	53.29	-8.84
	329.000	37.47	---	---	60.89	50.89	-13.42
	384.000	35.20	---	---	59.31	49.31	-14.11
	471.000	31.61	---	---	56.83	46.83	-15.22
	558.000	28.63	---	---	56.00	46.00	-17.37
	3741.000	26.00	---	---	56.00	46.00	-20.00
	4210.000	28.84	---	---	56.00	46.00	-17.16
	10680.000	25.02	---	---	60.00	50.00	-24.98

NOTE:

(1)Margin = Amplitude – Limit, ***The reading amplitudes are all under limit.***

(2)A "+" sign in the margin column means the emission is OVER the Class B Limit and "–" sign of means UNDER the Class B limit

Table 2 Power Line Conducted Emissions (Channel 40 of Base)

Power Connected Emissions					*FCC Class B*		
Conductor	*Frequency (KHz)*	*Peak (dBμV)*	*QP (dBμV)*	*Average (dBμV)*	*QP-limit (dBμV)*	*AVG-limit (dBμV)*	*Margin (dB)*
Line 1	169.000	28.04	---	---	65.46	55.46	-27.42
	183.000	30.33	---	---	65.06	55.06	-24.73
	205.000	27.28	---	---	64.43	54.43	-27.15
	300.000	23.87	---	---	61.71	51.71	-27.84
	401.000	21.03	---	---	58.83	48.83	-27.80
	7810.000	20.75	---	---	60.00	50.00	-29.25
	10680.000	25.13	---	---	60.00	50.00	-24.87
	14250.000	21.09	---	---	60.00	50.00	-28.91
	17800.000	21.21	---	---	60.00	50.00	-28.79
	---	---	---	---	---	---	---
Line 2	167.000	48.09	---	---	65.51	55.51	-7.42
	195.000	44.22	---	---	64.71	54.71	-10.49
	216.000	39.23	---	---	64.11	54.11	-14.88
	252.000	36.18	---	---	63.09	53.09	-16.91
	279.000	37.17	---	---	62.31	52.31	-15.14
	370.000	38.17	---	---	59.71	49.71	-11.54
	10680.000	23.48	---	---	60.00	50.00	-26.52
	17800.000	20.33	---	---	60.00	50.00	-29.67
	27210.000	22.08	---	---	60.00	50.00	-27.92
	---	---	---	---	---	---	---

NOTE:

(1)Margin = Amplitude – Limit, ***The reading amplitudes are all under limit.***

(2)A "+" sign in the margin column means the emission is OVER the Class B Limit and "–" sign of means UNDER the Class B limit

Table 3 Power Line Conducted Emissions (Standby mode)

Power Connected Emissions					*FCC Class B*		
Conductor	*Frequency (KHz)*	*Peak (dBμV)*	*QP (dBμV)*	*Average (dBμV)*	*QP-limit (dBμV)*	*AVG-limit (dBμV)*	*Margin (dB)*
Line 1	171.000	30.26	---	---	65.40	55.40	-25.14
	187.000	30.95	---	---	64.94	54.94	-23.99
	195.000	28.91	---	---	64.71	54.71	-25.80
	297.000	24.17	---	---	61.80	51.80	-27.63
	398.000	20.98	---	---	58.91	48.91	-27.93
	10680.000	26.27	---	---	60.00	50.00	-23.73
	14250.000	21.51	---	---	60.00	50.00	-28.49
	17800.000	21.28	---	---	60.00	50.00	-28.72
	---	---	---	---	---	---	---
	---	---	---	---	---	---	---
Line 2	172.000	49.87	---	---	65.37	55.37	-5.50
	226.475	52.67	43.28	12.66	63.89	53.89	-20.61
	276.535	53.96	42.79	19.68	62.54	52.54	-19.75
	334.000	44.32	---	---	60.74	50.74	-6.42
	363.000	34.45	---	---	59.91	49.91	-15.46
	552.000	35.90	---	---	56.00	46.00	-10.10
	703.000	28.63	---	---	56.00	46.00	-17.37
	3189.000	38.81	---	---	56.00	46.00	-7.19
	3897.000	30.66	---	---	56.00	46.00	-15.34
	14580.000	24.96	---	---	60.00	50.00	-25.04

NOTE:

(1)Margin = Amplitude – Limit, ***The reading amplitudes are all under limit.***

(2)A "+" sign in the margin column means the emission is OVER the Class B Limit and "–" sign of means UNDER the Class B limit

Table 4 Power Line Conducted Emissions (Charging mode)

Power Connected Emissions					*FCC Class B*		
Conductor	*Frequency (KHz)*	*Peak (dBμV)*	*QP (dBμV)*	*Average (dBμV)*	*QP-limit (dBμV)*	*AVG-limit (dBμV)*	*Margin (dB)*
Line 1	169.000	28.70	---	---	65.46	55.46	-26.76
	183.000	31.89	---	---	65.06	55.06	-23.17
	206.000	27.93	---	---	64.40	54.40	-26.47
	300.000	23.64	---	---	61.71	51.71	-28.07
	398.000	20.91	---	---	58.91	48.91	-28.00
	499.000	19.38	---	---	56.03	46.03	-26.65
	10680.000	26.32	---	---	60.00	50.00	-23.68
	14250.000	22.68	---	---	60.00	50.00	-27.32
	17800.000	24.31	---	---	60.00	50.00	-25.69
	---	---	---	---	---	---	---
Line 2	165.305	58.88	34.39	21.54	65.40	55.40	-31.01
	218.000	49.99	---	---	64.06	54.06	-4.07
	257.430	52.46	33.77	10.23	62.74	52.74	-28.97
	320.000	44.13	---	---	61.14	51.14	-7.01
	370.000	41.68	---	---	59.71	49.71	-8.03
	509.000	35.59	---	---	56.00	46.00	-10.41
	781.000	27.58	---	---	56.00	46.00	-18.42
	3477.000	28.09	---	---	56.00	46.00	-17.91
	10680.000	25.91	---	---	60.00	50.00	-24.09
	17800.000	22.50	---	---	60.00	50.00	-27.50

NOTE:

(3)Margin = Amplitude – Limit, ***The reading amplitudes are all under limit.***

(4)A "+" sign in the margin column means the emission is OVER the Class B Limit and "–" sign of means UNDER the Class B limit

III. Radiated Emissions Measurements

3.1 Test Condition & Setup

The EUT was placed in an anechoic chamber and scanned at 3 meter distance to determine its emission characteristics. The physical arrangement of the EUT was varied (within the scope of arrangements likely to be encountered in actual use) to determine the effect on the unit's emanations in amplitude, directivity, and frequency. The exact system configuration which produced the highest emissions was noted so it could be reproduced later during the final tests. This was done to ensure that the final measurements would demonstrate the worst-case interference potential of the EUT.

Final radiation measurements were made on a three-meter, anechoic chamber. The EUT system was placed on a nonconductive turntable which is 0.8 meters height, top surface 1.0 x 1.5 meter.

The spectrum was examined from 30 MHz to 1000 MHz using an Hewlett Packard 85460A EMI Receiver, SCHWARZECK whole range Small Biconical Antenna (Model No.: UBAA9114 & BBVU9135) is used to measure frequency from 30 MHz to 1GHz. The final test is used the HP 85460A spectrum and 8564E spectrum was examined from 1GHz to 25GHz using an Hewlett Packard Spectrum Analyzer, EMCO/HP Horn Antenna (Model 3115 / 84125-80008) for 1G - 25GHz.

At each frequency, the handset of EUT stands on three orthogonal planes respectively and the EUT was rotated 360 degrees. The antenna was raised and lowered from one to four meters to find the maximum emission levels. Measurements were taken using both horizontal and vertical antenna polarization.

Appropriate preamplifiers were used for improving sensitivity and precautions were taken to avoid overloading or desensitizing the spectrum analyzer. There are two spectrum analyzers use on this testing, HP 8546A / 85460A for frequency 30MHz to 1000MHz, and HP8564E for frequency 1 GHz to 25GHz. No post-detector video filters were used in the test. The spectrum analyzer's 6 dB bandwidth was set to 120KHz (spectrum was examined from 30 MHz to 1000 MHz), the spectrum analyzer's 6 dB bandwidth was set to 1 MHz (spectrum was examined from 1 GHz to 25GHz) and the analyzer was operated in the maximum hold mode.

The actual field intensity in decibels referenced to 1 microvolt per meter (dBμV/m) is determined by algebraically adding the measured reading in dBμV, the antenna factor (dB), and cable loss (dB) at the appropriate frequency.

For frequency between 30MHz to 1000MHz

FIa (dBuV/m) = FIr (dBμV) + Correction Factors

FIa : Actual Field Intensity

FIr : Reading of the Field Intensity

Correction Factors = Antenna Factor + Cable Loss – Amplifier Gain

For frequency between 1GHz to 25GHz

FIa (dBμV/m) = FIr (dBμV) + Correction Factor

FIa : Actual Field Intensity

FIr : Reading of the Field Intensity

Correction Factors = Antenna Factor + Cable Loss – Amplifier Gain

3.2 List of Test Instruments

				Calibration Date	
Instrument Name	Model	Brand	Serial No.	Last time	Next time
EMI Receiver	8546A	HP	3520A00242	07/28/03	07/28/04
RF Filter Section	85460A	HP	3448A00217	07/28/03	07/28/04
Small Biconical Antenna	UBAA9114 & BBVU9135	SCHWARZECK	127	06/21/03	06/21/04
Pre-amplifier	PA1F	TRC	1FAC	05/20/04	05/20/05
Auto Switch Box (>30MHz)	ASB-01	TRC	9904-01	05/20/04	05/20/05
Coaxial Cable (Double shielded, 15 meter)	A30A30-0058-50FS-15M	JYEBAO	SMA-01	05/20/04	05/20/05
Coaxial Cable (1.1 meter)	A30A30-0058-50FS-1M	JYEBAO	SMA-02	05/20/04	05/20/05
Spectrum Analyzer	8564E	HP	3720A00840	07/23/03	07/23/04
Microwave Preamplifier	84125C	HP	US36433002	07/30/03	07/30/04
Horn Antenna	3115	EMCO	9104-3668	12/18/03	12/18/04
Standard Guide Horn Antenna	84125-80008	HP	18-26.5GHz	09/18/03	09/18/04
Standard Guide Horn Antenna	84125-80001	HP	26.5-40GHz	09/18/03	09/18/04
Pre-amplifier	84125C	HP	US36433002	11/19/03	11/19/04
Horn Antenna	1196E (3115)	HP (EMCO)	9704-5178	12/12/03	12/12/04
Pre-amplifier	PA2F	TRC	2F1GZ	03/20/04	03/20/05
Coaxial Cable (3 miter)	A30A30-0058-50FST118	JYEBAO	MSA-05	03/20/04	03/20/05
Coaxial Cable (1 meter)	A30A30-0058-50FST118	JYEBAO	MSA-04	03/20/04	03/20/05

3.3 Test Result of Radiated Emissions

The peak values of fundamental emissions from the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following.

Testing room : Temperature : 25 ° C Humidity : 73 % RH

Table 5 Fundamental Emissions

Channel	Frequency (MHz)	A. P. (H/V)	A.H. (m)	Table (degree)	Peak (dBμV/m)	Limit (dBμV)	Margin (dBμV)
Base 01	2402.55	H	1.00	101	81.22	94.00	-12.78
		V	1.00	10	80.05	94.00	-13.95
Base 40	2404.50	H	1.00	95	80.89	94.00	-13.11
		V	1.00	337	80.22	94.00	-13.78
Handset 01	2474.00	H	1.00	271	81.58	94.00	-12.42
		V	1.00	185	78.41	94.00	-15.59
Handset 40	2475.95	H	1.00	208	81.59	94.00	-12.41
		V	1.00	215	78.92	94.00	-15.08

Note:

1. A. P. means antenna polarization, horizontal and vertical.
2. A. H. means antenna height.
3. Table means turntable turning position.
4. Amplitude means the fundamental emission measured.
5. Margin = Amplitude－limit

3.4 Test Result of Spurious Radiated Emissions

The highest peak values of radiated emissions form the EUT at various antenna heights, antenna polarization, EUT orientation, etc. are recorded on the following. (Worst case)

Testing room : Temperature : 25 ° C Humidity : 73 % RH

Table 6 Radiated Emissions for 30MHz to 1GHz [Base Ch1, X-axis] [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	FCC Class B (3 M)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
83.35	26.68	1.00	279	-0.03	26.65	40.00	-13.35
103.96	30.33	1.00	38	-1.45	28.88	43.50	-14.62
142.76	30.80	1.00	38	-2.93	27.87	43.50	-15.63
240.97	33.82	1.00	232	-4.01	29.81	46.00	-16.19
802.36	29.90	1.00	231	11.68	41.58	46.00	-4.42
829.04	24.48	1.00	357	12.53	37.01	46.00	-8.99

Table 7 Radiated Emissions for 30MHz to 1GHz [Base Ch1, X-axis] [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	FCC Class B (3 M)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
56.67	30.51	1.00	183	2.69	33.20	40.00	-6.80
83.35	24.82	1.00	73	-0.03	24.79	40.00	-15.21
96.69	26.00	1.00	287	-0.96	25.04	43.50	-18.46
356.16	29.50	1.00	119	-2.52	26.98	46.00	-19.02
530.76	22.11	1.00	126	4.20	26.31	46.00	-19.69
802.36	24.91	1.00	252	11.68	36.59	46.00	-9.41

Note:

1. Margin = Amplitude – limit, *if margin is minus means under limit.*
2. Corrected Amplitude = Reading Amplitude + Correction Factors
3. Correction factor = Antenna factor + (Cable Loss – Amplitude gain) + Switching Box Loss

Table 8 Radiated Emissions for 1GHz to 25GHz [Base Ch1, X-axis] [Horizontal]

Frequency	Ant. H	Table	Reading Amplitude Peak / Average		CF	Corrected Amplitude Peak / Average		Limit		Margin
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
1547.92	1.00	81	34.84	---	15.14	49.98	---	73.96	53.96	-3.98
2483.33	1.00	90	38.00	---	9.44	47.44	---	73.96	53.96	-6.52
4805.00	1.00	253	39.44	---	3.69	43.13	---	73.96	53.96	-10.83
7209.58	1.00	188	34.60	---	9.95	44.55	---	73.96	53.96	-9.41
9608.12	1.00	151	34.27	---	11.47	45.74	---	73.96	53.96	-8.22
12012.71	1.00	190	37.94	---	10.01	47.95	---	73.96	53.96	-6.01

Table 9 Radiated Emissions for 1GHz to 25GHz [Base Ch1, X-axis] [Vertical]

Frequency	Ant. H	Table	Reading Amplitude Peak / Average		CF	Corrected Amplitude Peak / Average		Limit		Margin
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
1643.75	1.00	191	35.16	---	13.65	48.81	---	73.96	53.96	-5.15
2483.33	1.00	288	38.00	---	9.44	47.44	---	73.96	53.96	-6.52
3204.17	1.00	84	36.83	---	11.41	48.24	---	73.96	53.96	-5.72
7209.58	1.00	121	34.10	---	9.95	44.05	---	73.96	53.96	-9.91
9608.12	1.00	30	34.94	---	11.47	46.41	---	73.96	53.96	-7.55
12012.71	1.00	198	37.77	---	10.01	47.78	---	73.96	53.96	-6.18

Table 10 Radiated Emissions for 30MHz to 1GHz [Base Ch40, X-axis] [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	FCC Class B (3 M)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
93.05	28.72	1.00	116	-0.66	28.06	43.50	-15.44
103.96	28.88	1.00	90	-1.45	27.43	43.50	-16.07
211.87	31.03	1.00	238	-3.91	27.12	43.50	-16.38
240.97	34.15	1.00	247	-4.01	30.14	46.00	-15.86
802.36	28.85	1.00	247	11.68	40.53	46.00	-5.47
830.25	24.04	1.00	345	12.57	36.61	46.00	-9.39

Table 11 Radiated Emissions for 30MHz to 1GHz [Base Ch40, X-axis] [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	FCC Class B (3 M)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
56.67	31.22	1.00	174	2.69	33.91	40.00	-6.09
105.17	28.17	1.00	244	-1.52	26.65	43.50	-16.85
208.24	29.78	1.00	340	-3.88	25.90	43.50	-17.60
285.84	33.43	1.00	75	-3.85	29.58	46.00	-16.42
357.37	29.87	1.00	229	-2.47	27.40	46.00	-18.60
802.36	24.91	1.00	276	11.68	36.59	46.00	-9.41

Table 12 Radiated Emissions for 1GHz to 25GHz [Base Ch40, X-axis] [Horizontal]

Frequency	Ant. H	Table	Reading Amplitude Peak / Average		CF	Corrected Amplitude Peak / Average		Limit		Margin
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
1604.17	1.00	359	36.16	---	14.27	50.43	---	73.96	53.96	-3.53
2485.42	1.00	84	37.33	---	9.45	46.78	---	73.96	53.96	-7.18
4811.04	1.00	142	37.94	---	3.71	41.65	---	73.96	53.96	-12.31
7215.62	1.00	92	34.44	---	9.98	44.42	---	73.96	53.96	-9.54
9620.21	1.00	125	33.94	---	11.39	45.33	---	73.96	53.96	-8.63
12024.79	1.00	357	37.44	---	9.96	47.40	---	73.96	53.96	-6.56

Table 13 Radiated Emissions for 1GHz to 25GHz [Base Ch40, X-axis] [Vertical]

Frequency	Ant. H	Table	Reading Amplitude Peak / Average		CF	Corrected Amplitude Peak / Average		Limit		Margin
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
1604.17	1.00	171	34.83	---	14.27	49.10	---	73.96	53.96	-4.86
2485.42	1.00	55	36.83	---	9.45	46.28	---	73.96	53.96	-7.68
4811.04	1.00	322	38.27	---	3.71	41.98	---	73.96	53.96	-11.98
7215.62	1.00	80	35.11	---	9.98	45.09	---	73.96	53.96	-8.87
9620.21	1.00	139	33.94	---	11.39	45.33	---	73.96	53.96	-8.63
12024.79	1.00	210	37.44	---	9.96	47.40	---	73.96	53.96	-6.56

Table 14 Radiated Emissions for 30MHz to 1GHz [Handset Ch1, Z-axis] [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	FCC Class B (3 M)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
93.05	29.64	1.00	54	-0.66	28.98	43.50	-14.52
103.96	28.18	1.00	64	-1.45	26.73	43.50	-16.77
358.59	26.80	1.00	259	-2.43	24.37	46.00	-21.63
444.67	24.80	1.00	118	0.80	25.60	46.00	-20.40
730.83	20.83	1.00	297	10.09	30.92	46.00	-15.08
798.72	24.81	1.00	199	11.58	36.39	46.00	-9.61

Table 15 Radiated Emissions for 30MHz to 1GHz [Handset Ch 1, Y-axis] [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	FCC Class B (3 M)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
358.59	28.44	1.00	98	-2.43	26.01	46.00	-19.99
541.67	22.05	1.00	181	4.66	26.71	46.00	-19.29
722.34	21.70	1.00	331	9.95	31.65	46.00	-14.35
798.72	22.97	1.00	269	11.58	34.55	46.00	-11.45
847.22	21.84	1.00	190	13.10	34.94	46.00	-11.06
941.80	22.70	1.00	325	16.20	38.90	46.00	-7.10

Table 16 Radiated Emissions for 1GHz to 25GHz [Handset Ch 1, Z-axis] [Horizontal]

Frequency	Ant. H	Table	Reading Amplitude Peak / Average		CF	Corrected Amplitude Peak / Average		Limit		Margin
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
1593.75	1.00	247	37.00	---	14.43	51.43	---	73.96	53.96	-2.53
2389.58	1.00	210	36.17	---	9.18	45.35	---	73.96	53.96	-8.61
4950.00	1.00	0	36.28	---	4.21	40.49	---	73.96	53.96	-13.47
7421.04	1.00	220	35.61	---	10.36	45.97	---	73.96	53.96	-7.99
9898.12	1.00	268	35.28	---	11.80	47.08	---	73.96	53.96	-6.88
12369.17	1.00	110	36.44	---	9.18	45.62	---	73.96	53.96	-8.34

Table 17 Radiated Emissions for 1GHz to 25GHz [Handset Ch 1, Y-axis] [Vertical]

Frequency	Ant. H	Table	Reading Amplitude Peak / Average		CF	Corrected Amplitude Peak / Average		Limit		Margin
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
1535.42	1.00	354	34.00	---	15.34	49.34	---	73.96	53.96	-4.62
4950.00	1.00	146	37.61	---	4.21	41.82	---	73.96	53.96	-12.14
7421.04	1.00	112	35.61	---	10.36	45.97	---	73.96	53.96	-7.99
9898.12	1.00	227	35.44	---	11.80	47.24	---	73.96	53.96	-6.72
12369.17	1.00	350	37.10	---	9.18	46.28	---	73.96	53.96	-7.68

Table 18 Radiated Emissions for 30MHz to 1GHz [Handset Ch 40, X-axis] [Horizontal]

Radiated Emission				Correction Factors	Corrected Amplitude	FCC Class B (3 M)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
93.05	29.27	1.00	124	-0.66	28.61	43.50	-14.89
103.96	26.82	1.00	36	-1.45	25.37	43.50	-18.13
151.25	26.64	1.00	128	-3.18	23.46	43.50	-20.04
358.59	25.85	1.00	118	-2.43	23.42	46.00	-22.58
424.06	20.87	1.00	85	-0.03	20.84	46.00	-25.16
798.72	23.13	1.00	258	11.58	34.71	46.00	-11.29

Table 19 Radiated Emissions for 30MHz to 1GHz [Handset Ch 40, Y-axis] [Vertical]

Radiated Emission				Correction Factors	Corrected Amplitude	FCC Class B (3 M)	
Frequency (MHz)	Amplitude (dBμV)	Ant. H. (m)	Table (°)	(dB)	(dBμV/m)	Limit (dBμV/m)	Margin (dB)
100.32	24.49	1.00	71	-1.24	23.25	43.50	-20.25
211.87	27.68	1.00	328	-3.91	23.77	43.50	-19.73
308.87	22.64	1.00	283	-3.54	19.10	46.00	-26.90
357.37	28.53	1.00	186	-2.47	26.06	46.00	-19.94
717.49	21.60	1.00	339	9.87	31.47	46.00	-14.53
798.72	22.57	1.00	27	11.58	34.15	46.00	-11.85

Table 20 Radiated Emissions for 1GHz to 25GHz [Handset Ch 40, X-axis] [Horizontal]

Frequency	Ant. H	Table	Reading Amplitude Peak / Average		CF	Corrected Amplitude Peak / Average		Limit		Margin
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
1595.83	1.00	243	36.16	---	14.40	50.56	---	73.96	53.96	-3.40
2391.67	1.00	225	36.50	---	9.19	45.69	---	73.96	53.96	-8.27
4950.00	1.00	158	36.61	---	4.21	40.82	---	73.96	53.96	-13.14
7427.08	1.00	230	35.28	---	10.35	45.63	---	73.96	53.96	-8.33
9904.17	1.00	172	35.27	---	11.77	47.04	---	73.96	53.96	-6.92
12381.25	1.00	140	36.27	---	9.11	45.38	---	73.96	53.96	-8.58

Table 21 Radiated Emissions for 1GHz to 25GHz [Handset Ch 40, Y-axis] [Vertical]

Frequency	Ant. H	Table	Reading Amplitude Peak / Average		CF	Corrected Amplitude Peak / Average		Limit		Margin
MHz	m	degree	dBμV		dB/m	dBμV/m		dBμV/m		dB
1595.83	1.00	283	35.16	---	14.40	49.56	---	73.96	53.96	-4.40
2391.67	1.00	360	36.83	---	9.19	46.02	---	73.96	53.96	-7.94
4950.00	1.00	0	37.78	---	4.21	41.99	---	73.96	53.96	-11.97
7427.08	1.00	138	35.78	---	10.35	46.13	---	73.96	53.96	-7.83
9904.17	1.00	128	35.94	---	11.77	47.71	---	73.96	53.96	-6.25
12381.25	1.00	109	36.44	---	9.11	45.55	---	73.96	53.96	-8.41

Ⅳ. Verify Frequencies and Channels

This is for sure that all frequencies are in 2402MHz to 2476MHz that verifies the frequency as follow

Table 22 Verify the Frequency Pairs

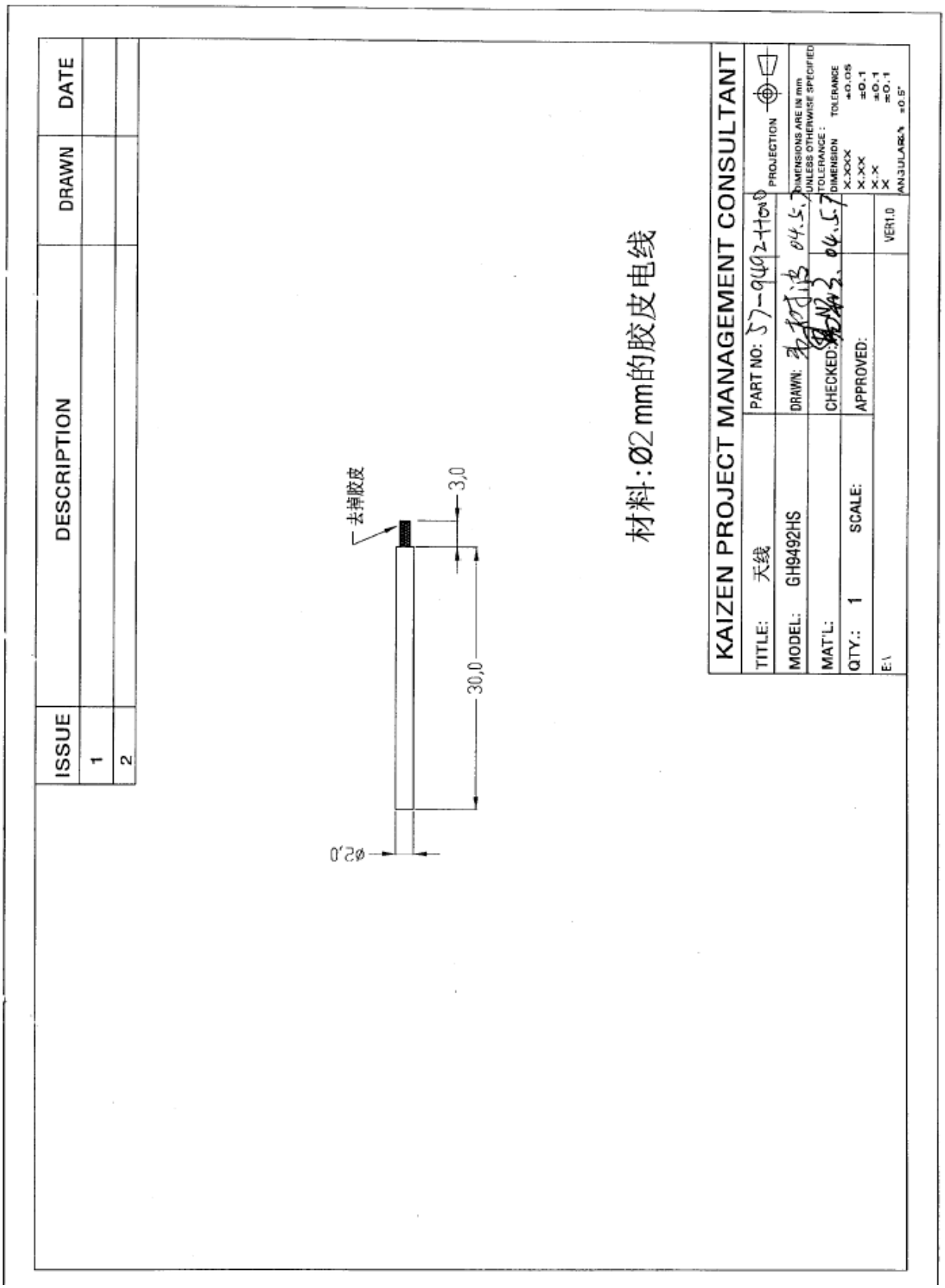
Channel	Handset (MHz)	Base (MHz)	Channel	Handset (MHz)	Base (MHz)
1	2474.00	2402.55	21	2475.00	2403.55
2	2474.05	2402.60	22	2475.05	2403.60
3	2474.10	2402.65	23	2475.10	2403.65
4	2474.15	2402.70	24	2475.15	2403.70
5	2474.20	2402.75	25	2475.20	2403.75
6	2474.25	2402.80	26	2475.25	2403.80
7	2474.30	2402.85	27	2475.30	2403.85
8	2474.35	2402.90	28	2475.35	2403.90
9	2474.40	2402.95	29	2475.40	2403.95
10	2474.45	2403.00	30	2475.45	2404.00
11	2474.50	2403.05	31	2475.50	2404.05
12	2474.55	2403.10	32	2475.55	2404.10
13	2474.60	2403.15	33	2475.60	2404.15
14	2474.65	2403.20	34	2475.65	2404.20
15	2474.70	2403.25	35	2475.70	2404.25
16	2474.75	2403.30	36	2475.75	2404.30
17	2474.80	2403.35	37	2475.80	2404.35
18	2474.85	2403.40	38	2475.85	2404.40
19	2474.90	2403.45	39	2475.90	2404.45
20	2474.95	2403.50	40	2475.95	2404.50

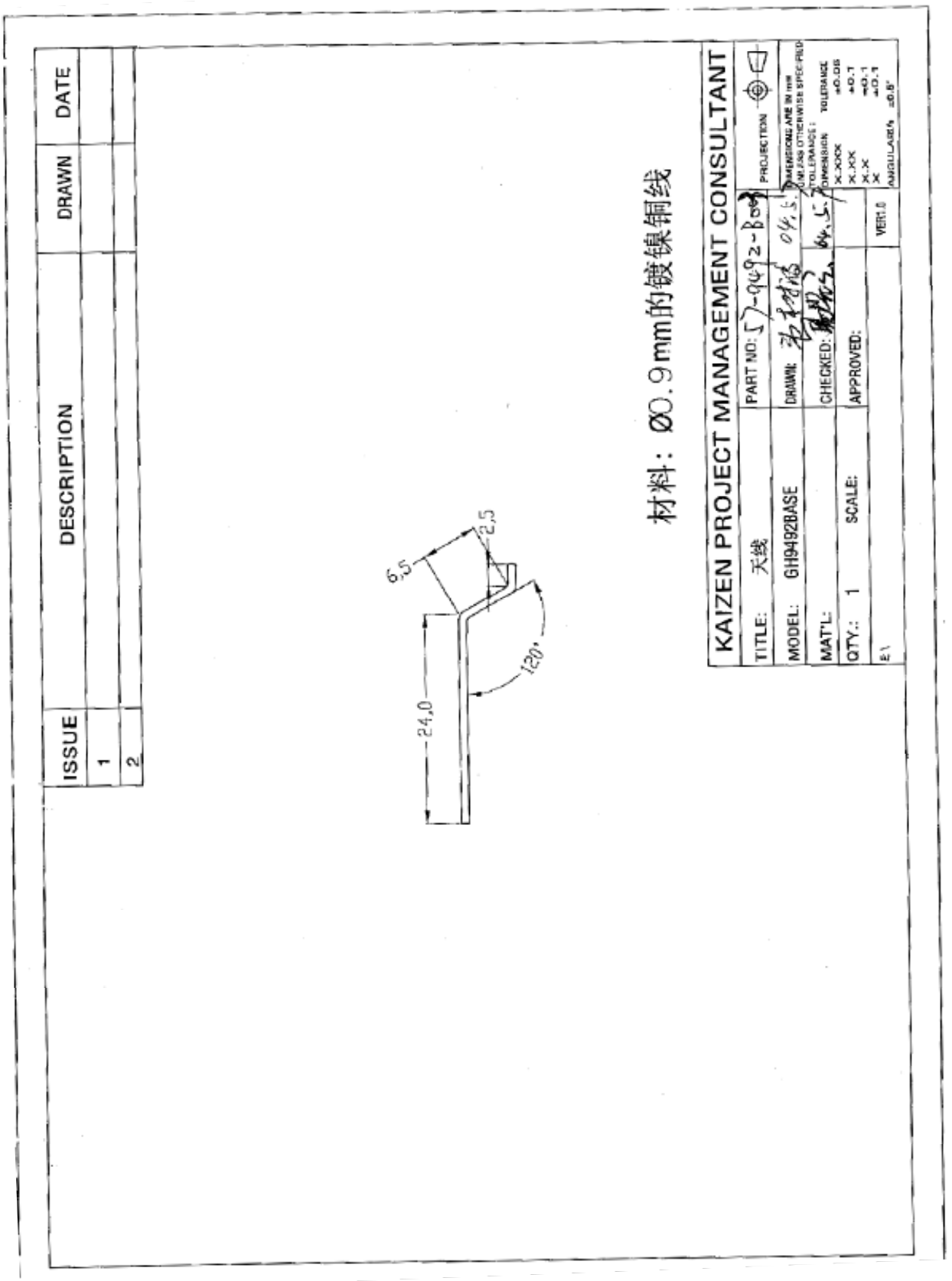
Section 15.214(d) <u>The security code is set automatic:</u>

Every time when you place the handset in the base, your cordless will randomly select over one million possible security codes.

Appendix A

The antenna of the device is screwed inside the device. The user can not remove it freely without any tools from outside the device. This is comply with the FCC rules part 15.203


ISSUE
DESCRIPTION
DRAWN
DATE
1
2
KAIZEN PROJECT MANAGEMENT CONSULTANT
TITLE: 天线
PART NO: 37-9492-H00
PROJECTION
MODEL: GH9492HS
DRAWN:
DIMENSIONS ARE IN mm
UNLESS OTHERWISE SPECIFIED
TOLERANCE :
MAT'L:
CHECKED:
QTY.: 1
SCALE:
APPROVED:
VER1.0
材料：Ø2 mm的胶皮电线
去掉胶皮
3,0
30,0
Ø2,0

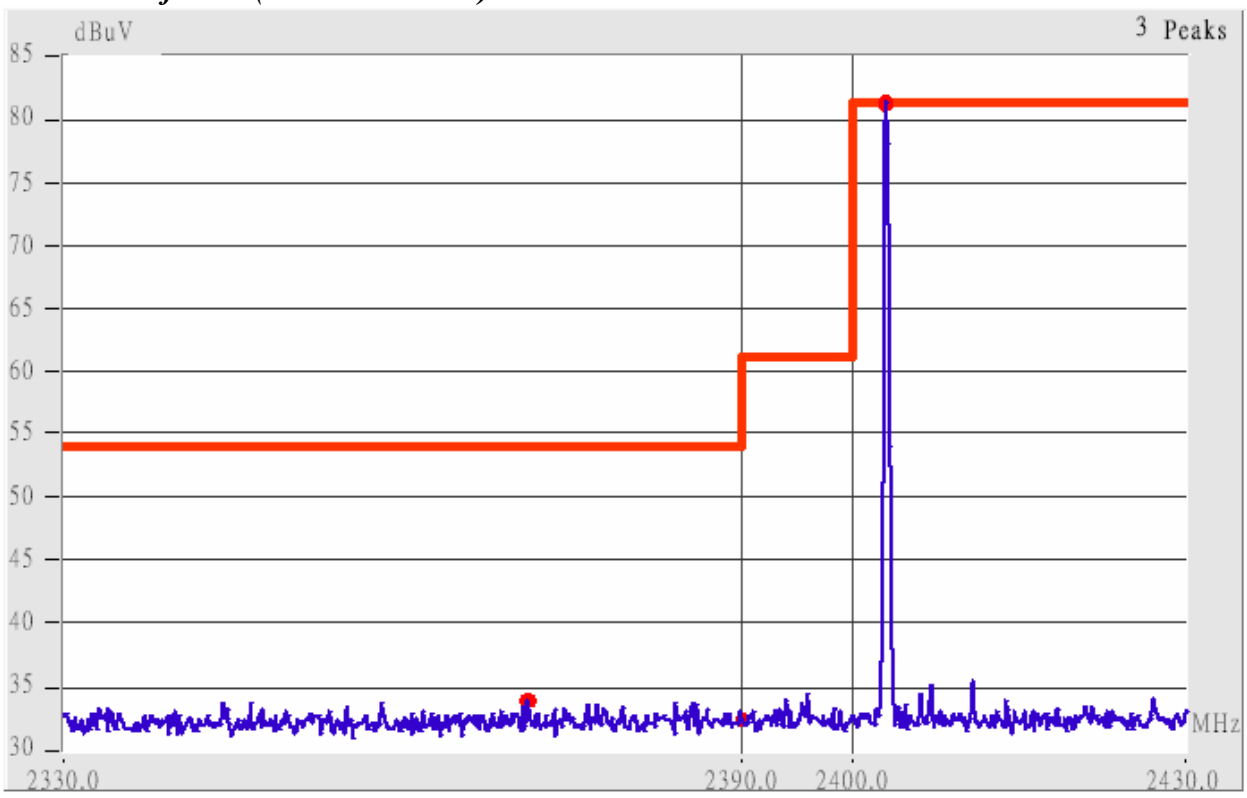

ISSUE
DESCRIPTION
DRAWN
DATE
1
2
材料：Ø0.9mm的镀镍铜线
6.5
2.5
24.0
120°
KAIZEN PROJECT MANAGEMENT CONSULTANT
TITLE: 天线
PART NO: J)-0492-B0
PROJECTION
MODEL: GH0492BASE
DRAWN:
CHECKED:
MAT'L:
QTY.: 1
SCALE:
APPROVED:
VER1.0

Appendix B

§ 15.245 (b)(3) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

See as next page.

Channel 1 of Base (Lowest Channel)

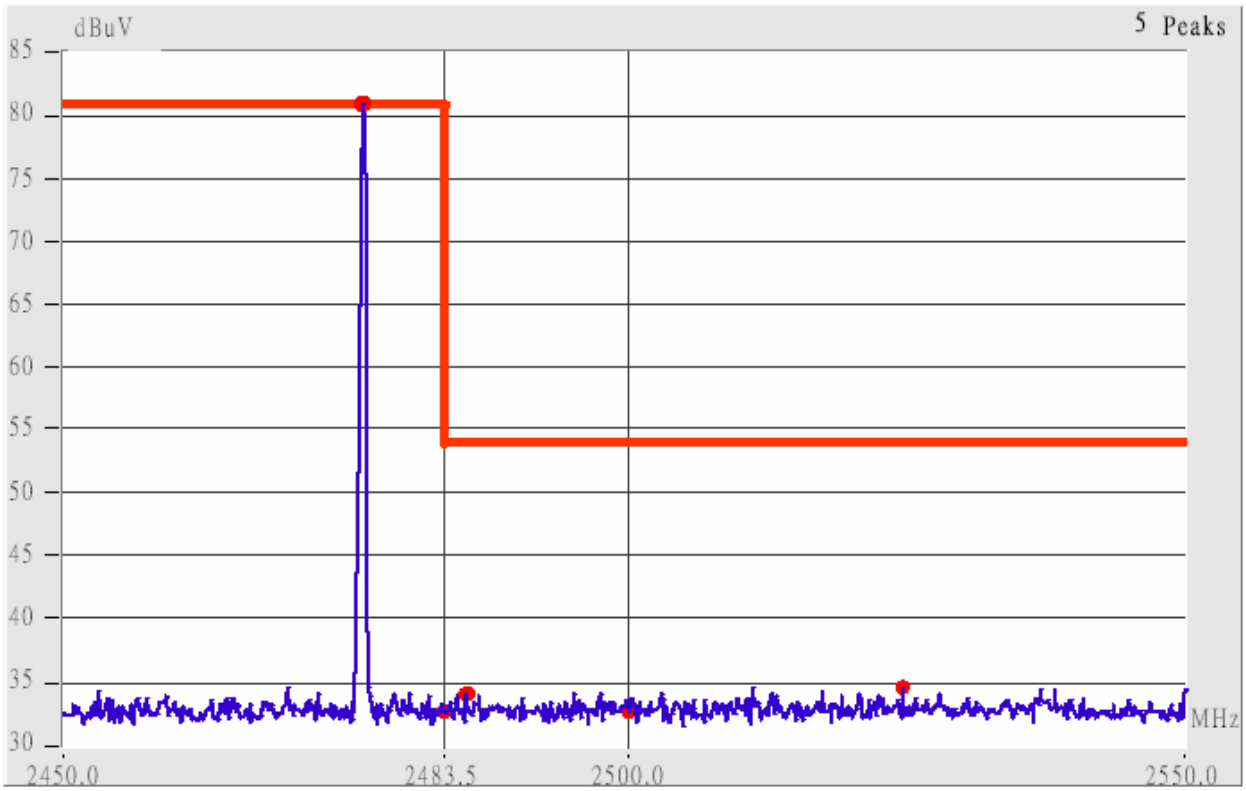


This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 1 of base.

1. The lobe left by the fundamental side is already 20dB below the highest emission level.
2. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below.

Radiated Emission					*Corrected Amplitude* (dBμV/m)		*FCC Class B*		
Frequency (MHz)	*Ant. P.*	*Ant. H. (m)*	*Table ( )*	*Factors (dB)*	*Peak*	*Average*	*Limit (dBμV/m) Peak*	*Ave.*	*Margin (dB)*
2356.92	Hor	1.00	287	9.09	44.76	---	74.00	53.96	-9.20
2390.07	Hor	1.00	26	9.18	43.68	---	74.00	53.96	-10.28
2362.07	Ver	1.00	225	9.10	44.60	---	74.00	53.96	-9.36
2390.07	Ver	1.00	246	9.18	42.35	---	74.00	53.96	-11.61

Channel 40 of Handset (Highest Channel)



This is the hard copy of our bandedge measurement generated by our bandedge testing program. The plot shown above is the bandedge of channel 40 of handset.

1. The lobe right by the fundamental side is already 20dB below the highest emission level.
2. The emissions recorded in the restricted band is do comply with the Part 15.209(a) – as below

Radiated Emission					*Corrected Amplitude*		*FCC Class B*		
Frequency (MHz)	*Ant. P.*	*Ant. H. (m)*	*Table ( )*	*Factors (dB)*	*(dBμV/m)*		*Limit (dBμV/m)*		*Margin (dB)*
					Peak	*Average*	*Peak*	*Ave.*	
2491.26	Hor	1.00	345	9.47	44.47	---	74.00	53.96	-9.49
2504.50	Hor	1.00	110	9.50	45.33	---	74.00	53.96	-8.63
2483.50	Ver	1.00	88	9.44	43.61	---	74.00	53.96	-10.35
2491.49	Ver	1.00	357	9.47	44.47	---	74.00	53.96	-9.49
2500.01	Ver	1.00	16	9.49	42.16	---	74.00	53.96	-11.80
2511.15	Ver	1.00	305	9.51	44.84	---	74.00	53.96	-9.12