APPLICATION FOR CERTIFICATION
On Behalf of
K-jump Health Co., Ltd.

Clinic Patch Thermometer (Temponitor) [Receiver and Transmitter]

Model : (1)KD-2100 (2)KD-2101

FCC ID **:** RYZTEMPONITOR

Prepared for : K-jump Health Co., Ltd.
56, Wu Kung 5th Road, Wu Ku Industrial Park,
Taipei Hsien, Taiwan 248

Prepared By : Audix Corporation
Technical Division EMC Department
No. 53-11, Tin-Fu Tsun, Lin-Kou,
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File Number	**:**	EM-G920724
Report Number	**:**	EM-F930042
Date of Test	**:**	Feb. 25 ~ 26, 2004
Date of Report	**:**	Mar. 08, 2004

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TEST REPORT CERTIFICATION

Applicant	:	K-jump Health Co., Ltd.
Manufacturer	:	Polygreen Co., Ltd.
EUT Description	:	Clinic Patch Thermometer (Temponitor) [Receiver and Transmitter]
FCC ID	:	RYZTEMPONITOR
	(A) MODEL NO.	: (1)KD-2100 (2)KD-2101
	(B) SERIAL NO.	: N/A
	(C) POWER SUPPLY	: DC 6V (1.5V AAA size battery x 4)

Measurement Procedure Used:

FCC Part 15 Subpart B/Dec. 2003
FCC Part 15 Subpart C/Dec. 2003
ANSI C63.4-2001

The device described above was tested by Audix Corporation to determine the maximum emission levels emanating from the device. The maximum emission levels were compared to the FCC Part 15 Subpart B with the provisions of sections 15.107(a) and 15.109(g) Class B and Subpart C with the provisions of sections 15.207(a), 15.209(a) and 15.225(a), (e) Class B limits both conducted and radiated emission.

The measurement results are contained in this test report and Audix Corporation is assumed full responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT to be technically compliant with the FCC official limits.

This report applies to above tested sample only. This report shall not be reproduced in part without written approval of Audix Corporation.

Date of Test : Feb. 25 ~ 26, 2004

Prepared by : Monica Chang Apr. 07. 2004
(Monica Chang/Assistant)

Test Engineer : Ben Cheng Apr. 07. 2004
(Ben Cheng/Assistant Manager)

Approved & Authorized Signer : Leon Liu Apr. 8 2004
(Leon Liu/Assistant General Manager)

1. GENERAL INFORMATION

1.1. Description of Device (EUT)

Description	:	Clinic Patch Thermometer (Temponitor) [Receiver and Transmitter]
Model Number	:	(1)KD-2100 (2)KD-2101

The list of difference description:

Function	KD-2100	KD-2101
Date and Time Display	O	X
Memory	24-set	1-set
LCD Display Light	O	X
Flash Light	O	X

The model KD-2100 is representative selected to test and included in this report.

FCC ID	:	RYZTEMPONITOR
Applicant	:	K-jump Health Co., Ltd. 56, Wu Kung 5th Road, Wu Ku Industrial Park, Taipei Hsien, Taiwan 248
Manufacturer	:	Polygreen Co., Ltd. Hsinchiao Industrial Zone, Huang Jiang Zhen, Dong Guan City, GuangDong, P. R. China.
Fundamental Frequency	:	13.56MHz
Power Source	:	6V DC; 1.5Vdc AAA size battery x 4
Date of Test	:	Jan. 17 ~ Feb. 25, 2004

Remark:
Antenna requirement: This EUT' s transmitter antenna is soldered to a printed circuit board, comply with §15.203 and inform to user that any change and modify is prohibited.

1.2. Description of Test Facility

Name of Firm : Audix Corporation
Technical Division EMC Department
No. 53-11, Tin-Fu Tsun, Lin-Kou,
Taipei County, Taiwan, R.O.C.

Test Site : **Semi-Anechoic Chamber**
Federal Communication Commission
Registration Number: 90993
Filing on May 16, 2003
No. 53-11, Tin-Fu Tsun, Lin-Kou,
Taipei County, Taiwan, R.O.C.

NVLAP Lab. Code : 200077-0
(NVLAP is a NATA accredited body under Mutual Recognition Agreement)

DAR-Registration No. : DAT-P-145/03-01

1.3. Measurement Uncertainty

Test Item	Frequency Range	Uncertainty (dB)
Radiation Test (Distance: 3m)	30MHz~300MHz	+4.26dB / –4.22dB
	300MHz~1000MHz	+5.28dB / –4.0dB

Remark：Uncertainty = $ku_c(y)$

2. CONDUCTED EMISSION MEASUREMENT

【The EUT only employ battery power for operation, no conductive emissions limits are required according to FCC Part 15 Section §15.107 and §15.207】

3. RADIATED EMISSION MEASUREMENT

3.1. Test Equipment

The following test equipment was used during the radiated emission measurement：

Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	HP	8593EM	3826A00248	Sep. 24, 03’	Sep. 23, 04’
2.	Test Receiver (9kHz~30MHz)	R&S	ESH3	893044/015	Jul. 05, 03’	Jul. 04, 04’
3.	Test Receiver (30~1000MHz)	R&S	ESVP	893202/001	Jul. 09, 03’	Jul. 08, 04’
4.	Pre-Amplifier	HP	8447D	2944A06305	Mar. 04, 03’	Mar. 03, 04’
5.	Loop-ANT (9kHz~30MHz)	R&S	HFH2-Z2	891847/27	Mar. 08, 03’	Mar. 07, 04’
6.	Broadband Antenna (30~300MHz)	Schwarzbeck	BBA 9106	A3L	Feb. 21, 04‘	Feb. 20, 05‘
7.	Broadband Antenna (300~1000MHz)	Schwarzbeck	UHALP9108-A	0138	Feb. 21, 04‘	Feb. 20, 05‘

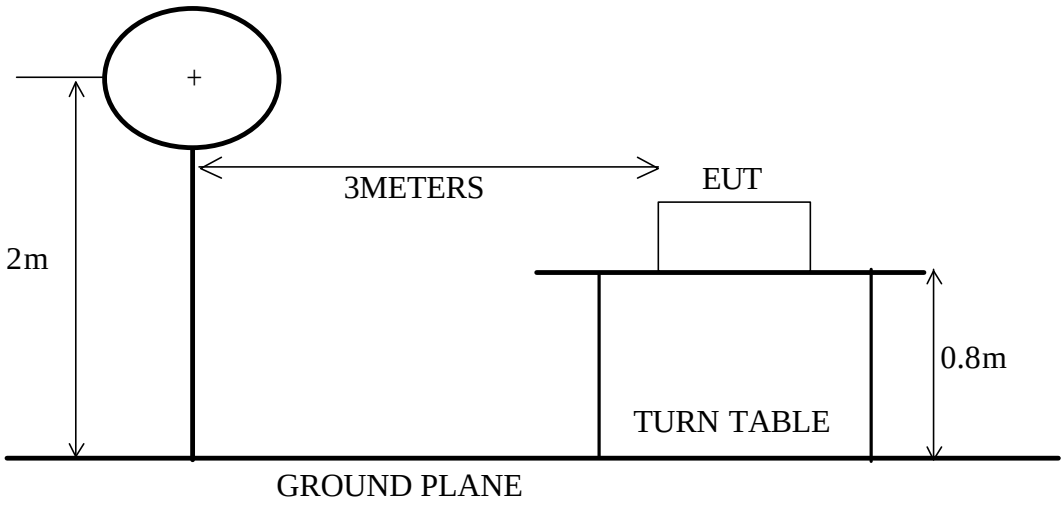
3.2. Test Setup

3.2.1. Block Diagram of connection between EUT and simulators

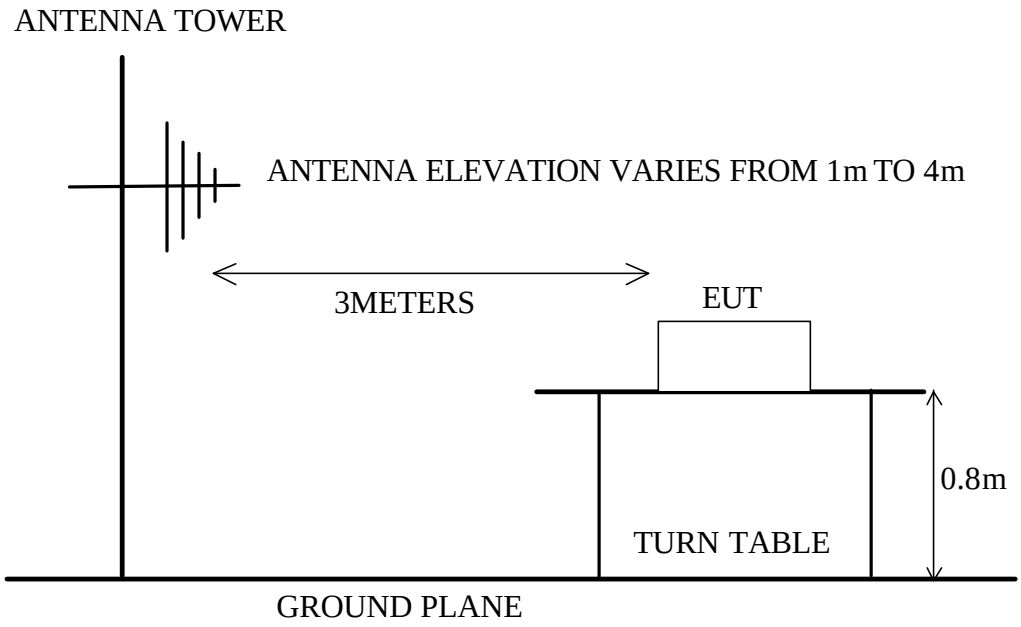
CLINIC PATCH THERMOMETER (TEMPONITOR)
[RECEIVER AND TRANSMITTER, EUT]

3.2.2. Anechoic Chamber Setup Diagram (1.705MHz~ 30MHz, 3m)

LOOP ANTENNA



3.2.3. Anechoic Chamber Setup Diagram (30MHz ~ 1000MHz, 3m)



3.3. Radiation Limit

3.3.1. §15.109 (For Receiver) and §15.209 (For Transmitter)

FREQUENCY	DISTANCE	FIELD STRENGTHS LIMITS	
MHz	Meters	μV/m	dBμV/m
1.705 ~ 30.0	30	30	29.5
1.705 ~ 30.0	3	3000	69.5
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
Above 960	3	500	54.0

Remarks: (1) Emission level (dBμV/m) = 20 log Emission level (μV/m)
(2) The tighter limit applies at the edge between two frequency bands.
(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.

3.3.2. §15.225 (For Transmitter)

The field strength of any emissions within this band shall not exceed 15,848 microvolts/meter at 30 meter

FREQUENCY	DISTANCE	FIELD STRENGTHS LIMITS	
MHz	Meters	μV/m	dBμV/m
Fundamental Frequency	30/3m	15,848/1,584,800	83.9/123.9

Remark: Emission level (dBμV/m) = 20 log Emission level (μV/m)

3.4. EUT's Configuration during Compliance Measurement

The following equipment was installed on radiated measurement to meet the commission requirement and operating in a manner which tended to maximize its emission characteristics in a normal application.

3.4.1. Clinic Patch Thermometer (Temponitor) (EUT)

Model Number	:	KD-2100
Serial Number	:	N/A
Manufacturer	:	Polygreen Co., Ltd.
FCC ID.	:	RYZTEMPONITOR
Fundamental Frequency	:	13.56MHz
Power Source	:	6V DC; 1.5Vdc AAA size battery x 4

3.5. Operating Condition of EUT

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

3.5.2. Turned on the power of all equipment.

3.5.3. The EUT [Clinic Patch Thermometer (Temponitor)] emitted the frequency at the stand, side and lying conditions.

3.5.4. The EUT worked on the maximum transmitting status during all testing.

3.6. Test Procedure

3.6.1. For Frequency Range 1.705MHz to 30MHz

The EUT and its simulators were placed on a turn table which was 0.8 meter above the ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. The receiving antenna is 3 meters and fixed at 2 meter height.

The bandwidth of the R&S Test Receiver ESH3 was set at 10kHz.

For transmitter, the EUT was tested in stand mode during radiated measurement and test results are listed in section 3.7.2.1.

3.6.2. For Frequency Range 30MHz to 1000MHz

The EUT and its simulators were placed on a turn table which was 0.8 meter above the ground. The turn table rotated 360 degrees to determine the position of the maximum emission level. The EUT was set 3 meters away from the receiving antenna which was mounted on a antenna tower. The antenna moved up and down between 1 to 4 meters to find out the maximum emission level. Broadband antenna such as calibrated biconical and log- periodical antenna or horn antenna were used as a receiving antenna. Both horizontal and vertical polarization of the antenna were set on measurement. In order to find the maximum emission, all of the interface cables were manipulated according to FCC ANSI C63.4-2001 regulation.

The bandwidth of the R&S Test Receiver ESVP was set at 120kHz.

For receiver, the EUT was tested during radiated measurement and the test results are listed in section 3.7.1.

For transmitter, the EUT was tested with three positions (stand、side and lying) during radiated measurement within Semi-Anechoic Chamber and all the scanning waveform are attached in Appendix. Finally, selected the worst operating situation **[EUT Position - Lying]** to measure the readings and the test results are listed in section 3.7.2.2.

3.7. Radiated Emission Measurement Results

3.7.1. For Receiver

PASSED. All the emissions not reported below are too low against the FCC part 15 Subpart B limit.

Date of Test： Feb. 26, 2004 Temperature： 17℃

EUT： Clinic Patch Thermometer [Receiver] Humidity： 55%

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Horizontal dBμV	Emission Level Horizontal dBμV/m	Limits dBμV/m	Margin dB
40.680	20.12	1.30	3.51	24.93	40.00	15.07
54.240	15.68	1.50	5.35	22.53	40.00	17.47
67.800	12.51	1.70	5.93	20.14	40.00	19.86
81.360	13.26	1.90	2.91	18.07	40.00	21.93
94.920	15.70	2.00	-0.04	17.66	43.50	25.84
300.000	26.86	3.90	-14.30	16.46	46.00	29.54
313.300	14.50	4.00	-1.52	16.98	46.00	29.02
327.300	14.80	4.20	-2.97	16.03	46.00	29.97
341.300	15.24	4.30	-3.85	15.69	46.00	30.31
353.900	16.21	4.30	-4.54	15.97	46.00	30.03
367.900	16.70	4.46	-6.40	14.76	46.00	31.24
372.800	16.80	4.60	-6.54	14.86	46.00	31.14

Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Vertical dBμV	Emission Level Vertical dBμV/m	Limits dBμV/m	Margin dB
40.680	17.52	1.36	-0.50	18.38	40.00	21.62
54.240	15.90	1.50	0.01	17.41	40.00	22.59
62.940	14.46	1.60	0.32	16.38	40.00	23.62
67.800	13.91	1.70	-0.49	15.12	40.00	24.88
81.360	14.06	1.90	-1.40	14.56	40.00	25.44
341.300	14.70	4.30	-4.57	14.43	46.00	31.57
353.900	15.38	4.30	-5.58	14.10	46.00	31.90
367.900	15.50	4.46	-5.15	14.81	46.00	31.19

Remarks： 1. All readings are Quasi-Peak values.
2. Emission Level = Antenna Factor + Cable Loss + Meter Reading

3.7.2. For Transmitter

3.7.2.1. For Frequency Range 1.705MHz to 30MHz

PASSED. All the emissions not reported below are too low against the FCC part 15 Subpart C limit.

Date of Test： Feb. 25, 2004 Temperature： 17℃

EUT： Clinic Patch Thermometer [Transmitter] Humidity： 46%

Test Mode： EUT Position - Stand

Emission Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Horizontal dBμV	Emission Level Horizontal dBμV/m	Limits dBμV/m	Margin dB
Fundamental Frequency (EUT Position- Stand)						
13.560	00.00	0.90	44.03	44.93	123.90	78.97
Second Harmonic Frequency (EUT Position- Stand)						
27.120	00.00	1.10	37.52	38.62	69.54	30.92

Emission Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Vertical dBμV	Emission Level Vertical dBμV/m	Limits dBμV/m	Margin dB
Fundamental Frequency						
13.560	00.00	0.90	41.16	42.06	123.90	81.84
Second Harmonic Frequency						
27.120	00.00	1.10	33.28	34.38	69.54	35.16

Remark ： 1. All readings are Quasi-Peak values.
2. Emission Level = Antenna Factor + Cable Loss + Meter Reading.

3.7.2.2. For Frequency Range 30MHz to 1000MHz

PASSED. All the emissions not reported below are too low against the FCC part 15 Subpart C limit.

Date of Test： Feb. 25, 2004 Temperature： 17℃

EUT： Clinic Patch Thermometer [Transmitter] Humidity： 46%

Test Mode： EUT Position - Lying

Emission Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Horizontal dBμV	Emission Level Horizontal dBμV/m	Limits dBμV/m	Margin dB
40.680	20.12	1.30	13.51	34.93	40.00	5.07
54.240	15.68	1.50	16.35	33.53	40.00	6.47
67.800	12.51	1.70	17.93	32.14	40.00	7.86
81.360	13.26	1.90	14.91	30.07	40.00	9.93
94.920	15.70	2.00	11.96	29.66	43.50	13.84
108.480	17.82	2.20	8.39	28.41	43.50	15.09
122.040	19.00	2.30	6.32	27.62	43.50	15.88
135.600	19.68	2.40	5.48	27.56	43.50	15.94
149.160	20.70	2.60	4.07	27.37	43.50	16.13
162.720	21.40	2.70	4.04	28.14	43.50	15.36
176.280	21.55	2.89	5.91	30.35	43.50	13.15
189.840	21.90	2.90	5.80	30.60	43.50	12.90
203.340	22.16	3.10	4.27	29.53	43.50	13.97
216.570	22.74	3.20	6.07	32.01	46.00	13.99
229.530	23.47	3.30	4.40	31.17	46.00	14.83
243.030	24.70	3.40	5.65	33.75	46.00	12.25
256.530	24.80	3.50	0.11	28.41	46.00	17.59
270.030	25.16	3.70	3.57	32.43	46.00	13.57
283.530	25.80	3.80	1.72	31.32	46.00	14.68
300.000	26.86	3.90	-6.30	24.46	46.00	21.54
313.300	14.50	4.00	8.48	26.98	46.00	19.02
327.300	14.80	4.20	8.03	27.03	46.00	18.97
341.300	15.24	4.30	9.15	28.69	46.00	17.31
353.900	16.21	4.30	7.46	27.97	46.00	18.03
367.900	16.70	4.46	6.60	27.76	46.00	18.24
372.800	16.80	4.60	6.46	27.86	46.00	18.14
393.800	16.90	4.70	4.69	26.29	46.00	19.71
407.800	16.69	4.90	1.53	23.12	46.00	22.88

Remark ： 1. All readings are Quasi-Peak values.
2. Emission Level = Antenna Factor + Cable Loss + Meter Reading.

Date of Test： Feb. 25, 2004 Temperature： 17℃

EUT： Clinic Patch Thermometer [Transmitter] Humidity： 46%

Test Mode： EUT Position - Lying

Emission Frequency MHz	Antenna Factor dB/m	Cable Loss dB	Meter Reading Vertical dBμV	Emission Level Vertical dBμV/m	Limits dBμV/m	Margin dB
40.680	17.52	1.36	10.50	29.38	40.00	10.62
54.240	15.90	1.50	7.01	24.41	40.00	15.59
62.940	14.46	1.60	8.32	24.38	40.00	15.62
67.800	13.91	1.70	7.51	23.12	40.00	16.88
81.360	14.06	1.90	6.60	22.56	40.00	17.44
95.070	17.10	2.00	2.79	21.89	43.50	21.61
108.840	17.36	2.20	0.49	20.05	43.50	23.45
122.340	17.61	2.30	-0.28	19.63	43.50	23.87
135.840	19.20	2.40	-2.57	19.03	43.50	24.47
176.280	20.50	2.89	0.35	23.74	43.50	19.76
189.840	21.00	2.90	0.27	24.17	43.50	19.33
341.300	14.70	4.30	0.43	19.43	46.00	26.57
353.900	15.38	4.30	0.42	20.10	46.00	25.90
367.900	15.50	4.46	1.85	21.81	46.00	24.19

Remark ： 1. All readings are Quasi-Peak values.
2. Emission Level = Antenna Factor + Cable Loss + Meter Reading.

4. FREQUENCY MEASUREMENT

4.1. Test Equipment

4.1.1. Test equipment used for frequency stability vs. temperature measurement:

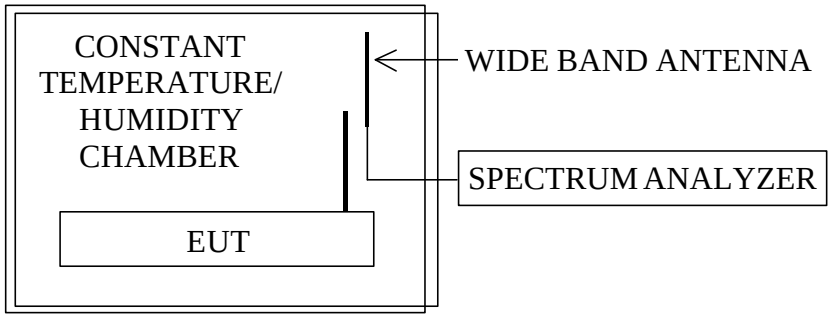
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	Spectrum Analyzer	HP	8564EC	3946A00249	Aug. 28, 03'	Aug. 27, 04'
2.	Constant Temperature/Humidity Chamber	Taichy	MHG-120LF	920538	Jun. 11. 03'	Jun. 10. 04'
3.	Wide Band Antenna	Diamond	RH799	N/A	N/A	N/A

4.1.2. Test equipment used for frequency stability vs. input voltage:

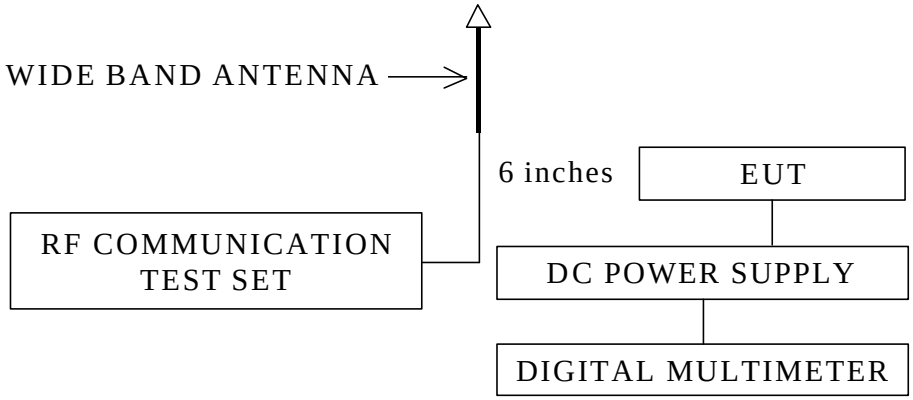
Item	Type	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
1.	RF Communication Test Set	HP	8920A	3524A07043	Dec. 13. 03'	Dec. 13. 05'
2.	Digital Multimeter	Agilent	34401A	MY41005244	Sep. 24. 03'	Sep. 23. 04'
3.	DC Power Supply	Topward	3303A	N/A	N/A	N/A
4.	Wide Band Antenna	Diamond	RH799	N/A	N/A	N/A

4.2. Block Diagram of Test Setup

4.2.1. Frequency stability vs. temperature measurement



4.2.2. Frequency stability vs. input voltage measurement



4.3. Radiated Emission Limits [§15.225 (e)]

The frequency tolerance of the carrier signal shall be maintained within +/- 0.01% of the operating frequency over a temperature variation of –20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

4.4. EUT's Configuration during Compliance Measurement

The configuration of EUT and its simulators are same as those used in conducted measurement. Please refer to 2.4.

4.5. Operating Condition of EUT

4.5.1. Setup the EUT and simulator as shown on 4.2.

4.5.2. Turned on the power of all equipment.

4.5.3. The EUT [Clinic Patch Thermometer (Temponitor)] emitted the frequency during testing.

4.5.4. The EUT was at worked on maximum transmitting status during all testing.

4.6. Test Procedure

4.6.1. Frequency stability vs. temperature measurement

4.6.1.1. The EUT was placed into the constant temperature/humidity chamber.

4.6.1.2. The spectrum analyzer (a wide band antenna connected to the spectrum analyzer) was used to read the EUT operating frequency.

4.6.1.3. Set the constant temperature/humidity chamber temperature within the range of –20℃ to +50℃, and measured the EUT operating frequency at start-up, and two, five, and ten minutes after startup.

4.6.2. Frequency stability vs. input voltage measurement

4.6.2.1. The EUT was placed on a nonmetallic table.

4.6.2.2. The RF communication test set (a wide band antenna connected to the RF communication test set) was used to read the EUT operating frequency.

4.6.2.3. The EUT is powered with the DC Power Supply, supplied it with 85% and 115% voltage, and measured the EUT operating frequency.

4.7. Frequency Measurement Results

4.7.1. Frequency stability vs. temperature measurement: **PASSED.** (Limit: +/- 0.01%)

Date of Test: Feb. 25, 2004 Temperature: 17°C Humidity: 64%

Environ. Temp. (°C)	Fundamental Frequency of Transmitter: 13.56MHz					
	Time and Frequency Tolerance					
	Time: 2 Minutes		Time: 5 Minutes		Time: 10 Minutes	
	Freq. (MHz)	Tolerance (%)	Freq. (MHz)	Tolerance (%)	Freq. (MHz)	Tolerance (%)
-20°C	13.56195	0.0000022	13.56195	0.0000022	13.56196	0.0000029
-10°C	13.56195	0.0000022	13.56195	0.0000022	13.56196	0.0000029
0°C	13.56194	0.0000015	13.56194	0.0000015	13.56195	0.0000022
10°C	13.56194	0.0000015	13.56194	0.0000015	13.56195	0.0000022
20°C	13.56193	0.0000007	13.56193	0.0000007	13.56193	0.0000007
30°C	13.56193	0.0000007	13.56193	0.0000007	13.56192	0.0000000
40°C	13.56193	0.0000007	13.56192	0.0000000	13.56192	0.0000000
50°C	13.56192	0.0000000	13.56192	0.0000000	13.56191	-0.0000007

4.7.2. Frequency stability vs. input voltage measurement: **PASSED.** (Limit: +/- 0.01%)

Date of Test: Feb. 25, 2004 Temperature: 17°C Humidity: 64%

Normal Voltage: DC 6V

Supply voltage variation	Test Frequency (MHz)	Tolerance (%)
85% Voltage (DC 5.1V)	13.56192	0
115% Voltage (DC 6.9V)	13.56192	0

5. DEVIATION TO TEST SPECIFICATIONS

【NONE】