SGS-CSTC Standards Technical Services Ltd.

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FEDERAL COMMUNICATIONS COMMISSION
Registration number: 282399

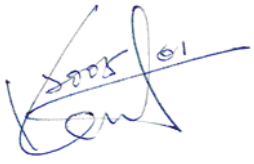
FCC TEST REPORT

Application No. :	GLEMO041202426TX (SGS HK NO.: 2006317/EE)
Applicant:	Advance Watch Co.
FCC ID:	SUPHRM
Fundamental Carrier	**Frequency** : 916.5MHz
Equipment Under Test (EUT):	
Name:	Heart Rate Monitor
Model:	G435
Standards:	FCC PART 15, SUBPART C : 2004
Date of Receipt:	14 December 2004
Date of Test:	16 to 20 December 2004
Date of Issue:	07 January 2005

Test Result :	**PASS ***

* In the configuration tested, the EUT complied with the standards specified above.

Authorized Signature:



Kent Hsu
Laboratory Manager
SGS-CSTC Co.,Ltd.

2 Contents

3 General Information

3.1 Client Information

Applicant Name: Advance Watch Co.

Applicant Address: 12/F Phase 1, Kingsford Industrial Bldg., 26-32 Kwai Hei Stree, Kwai Chung, HK.

3.2 General Description of E.U.T.

Product Name: Heart Rate Monitor

Model: G435

Power Supply: 3.0V DC (1 x 'CR2032' Button Cell) for Chest Charp (Transmitter), 3.0V DC (1 x 'CR2032' Button Cell) for Watch (Receiver).

Power Cord: N/A-

3.3 Description of Support Units

The EUT was tested as an independent unit: a 916.5MHz radio transmitter.

3.4 Standards Applicable for Testing

The customer requested FCC tests for a 916.5MHz radio transmitter.

The standard used was FCC PART 15, SUBPART C (2004) section 15.249.

3.5 Test Location

All tests were performed at:-

SGS-CSTC Standards Technical Services Ltd., Guangzhou Safety & EMC Laboratory, 1/F, Building No. 1, Agriculture Machinery Materials Company Warehouse Ltd., Wushan Road Shipai, Tianhe District, Guangzhou, China. P.C. 510630.

Tel: +86 20 3848 1001

Fax: +86 20 3848 1006

3.6 Other Information Requested by the Customer

None.

3.7 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

- **NVLAP – Lab Code: 200611-0**
  SGS-CSTC Standards Technical Services Co., Ltd., Guangzhou EMC Laboratory is recognized under the National Voluntary Laboratory Accreditation Program (NVLAP/NIST). NVLAP Code: 200611-0. Effective through December 31, 2004.
- **ACA**
  SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory can also perform testing for the Australian C-Tick mark as a result of our NVLAP accreditation.
- **VCCI**
  The 3m Semi-anechoic chamber and Shielded Room (11.5m x 4m x 4m) of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-1599 and C-1706 respectively.
  Date of Registration: February 28, 2003. Valid until May 30, 2005
- **SGS UK(Certificate No.: 32), SGS-TUV SAARLAND and SGS-FIMKO**
  Have approved SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory as a supplier of EMC TESTING SERVICES and SAFETY TESTING SERVICES.
- **CNAL – LAB Code: L0141**
  SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAL/AC01: 2002 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:1999 General Requirements) for the Competence of Testing Laboratories.
- **FCC – Registration No.: 282399**
  SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration 282399, May 31, 2002. With the above and NVLAP's accreditation, SGS-CSTC is an authorised test laboratory for the DoC process.
  SGS-CSTC Standards Technical Services Co., Ltd., EMC Laboratory has been assessed and in compliance with CNAL/AC01: 2002 accreditation criteria for testing laboratories (identical to ISO/IEC 17025:1999 General Requirements) for the Competence of Testing Laboratories.
- **Industry Canada (IC)**
  The 3m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5169.

4 Test Results

4.1 Test Instruments

Test Equipment	Manufacturer	Model	Asset No.	Cal. Due Date
3m Semi- Anechoic Chamber	Frankonia	3m method	EMC0501	15-02-2005
EMI Test Receiver	Rohde & Schwarz	ESCS30	EMC0506	15-02-2005
Bilog Type Antenna	Schaffner Chase	CBL6143	EMC0519	17-01-2005
Coaxial cable	SGS-CSTC	10m	EMC0514	04-11-2004
Spectrum Analyzer	ROHDE & SCHWARZ	FSP 30	EMC0521	01-04-2005
Horn Antenna	ROHDE & SCHWARZ	HF906	EMC0517	01-04-2005
Temperature, Humidity & Barometer	Oregon Scientific	BA-888	EMC0003	30-06-2005
Peramplifier	Agilent	8449B	EMC0520	30-06-2005
Coaxial cable	SGS	N/A	EMC0514	01-06-2005
Shielding Room	Frankonia	12 x 4 x 4 m^3	EMC0103	N/A
LISN	Schaffner Chase	MNZ050D11	1421	04-11-2005
EMI Test Receiver	Rohde& Schwarz	ESCS30	100086	09-12-2005
Coaxial Cable	SGS	2m	EMC0107	01-06-2005

4.2 E.U.T. Operation

Input voltage: 3.0V DC (1 x ‘CR2032’ Button Cell) for Chest Charp

Operating Environment:
Temperature: 24.0 °C
Humidity: 52 % RH
Atmospheric Pressure: 1012 mbar

EUT Operation: Test in transmitting mode.

4.3 Test Procedure & Measurement Data

4.3.1 Radiated Emissions

4.3.1.1 Test in transmitting mode

Test Requirement: FCC Part15 C

Test Method: Based on FCC Part15 C Section 15.249

Test Date: 18 December 2004

Measurement Distance: 3m (Semi-Anechoic Chamber)

Frequency range: 30 MHz – 10GHz for transmitting mode.
Test instrumentation resolution bandwidth
120 kHz (30 MHz - 1000 MHz), 1 MHz (1000 M – 25GHz)

Operation: Receive antenna scan height 1 - 4 m, polarization Vertical/ Horizontal

Requirements:

Fundamental Frequency (MHz)	Field Strength of Fundamental (dBuV/m @ 3m)	Field Strength of Harmonics and Spurious Emissions (dBuV/m @ 3m)
902 to 928	94.0	54.0
2400 to 2483.5	94.0	54.0
5725 to 5875	94.0	54.0
24000 to 24250	108.0	68.0

The fundamental frequency of the EUT is 916.5MHz

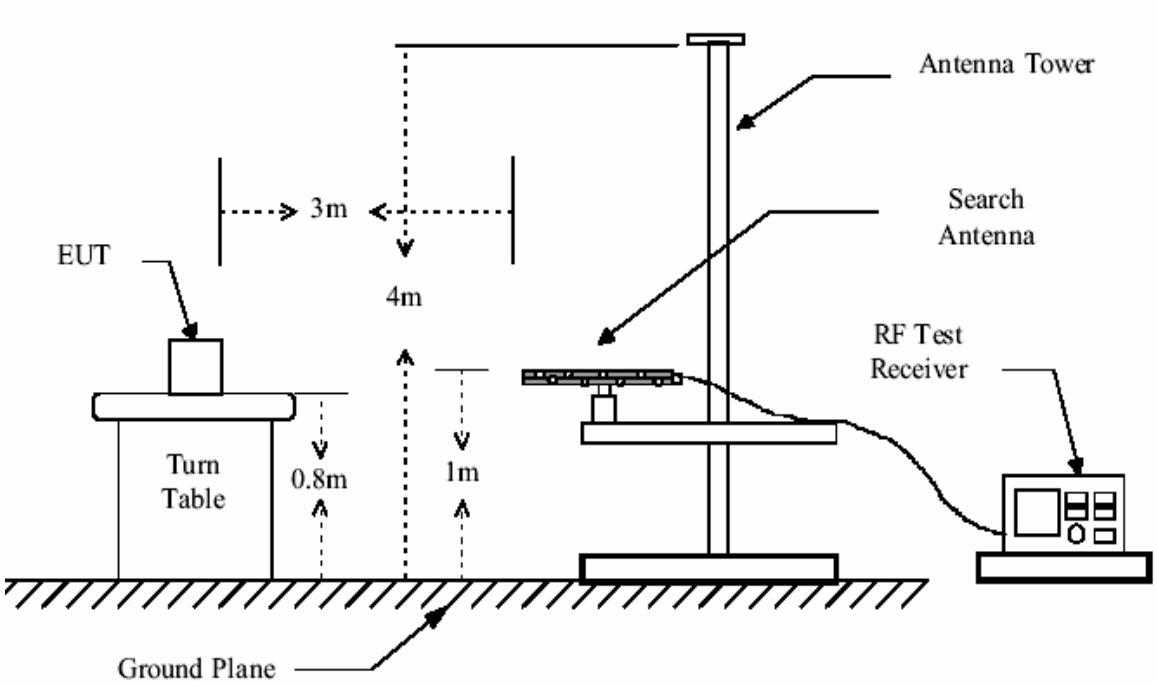
The limit for average field strength dBuv/m for the fundamental frequency = 94.0 dBμV/m.

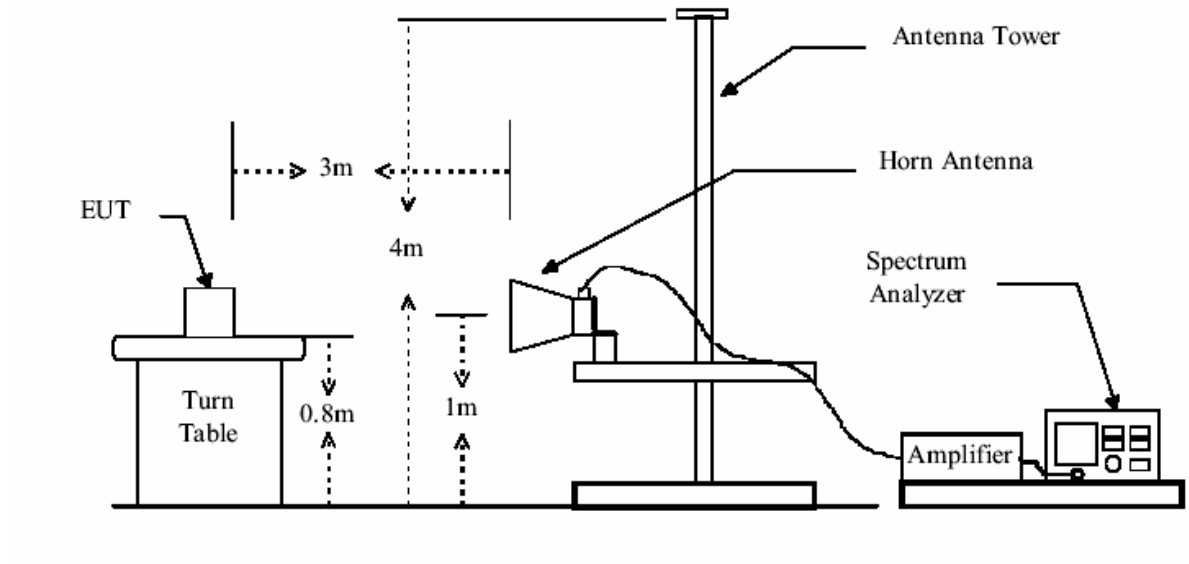
No fundamental is allowed in the restricted bands.

The limit for average field strength dBμV/m for the harmonics and spurious frequencies = 54.0 dBμV/m. Spurious in the restricted bands must be less than 54.0 dBuv/m or 15.209.

Test Procedure: The procedure uesd was ANSI Standard C63.4-2003. The receive was scanned from 30MHz to 10GHz.When an emission was found,the table was roated to produce the maximum signal strength. An initial pre-scan was performed for in peak detection mode using the receiver. The EUT was measured for both the Horizontal and Vertical polarities and performed a pre-test three orthogonal planes. For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. The worst case emissions were reported.

Test Configuration:





The field strength is calculated by adding the Antenna Factor, Cable Factor & Peramplifier . The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Peramlifer Factor

The following test results were performed on the EUT:

1. Fundamental emission

Peak Measurement

Test Frequency (MHz)	Measuring Level (dBuV/m)		Limits (dBuV/m)	Margin (dB)	
	Vertical	Horizontal		Vertical	Horizontal
916.5	76.9	82.8	114.0	37.1	31.2
Average Measurement					
916.5	51.7	53.2	94.0	42.3	40.8

2. Harmonics & Spurious Emissions

Peak Measurement

Test Frequency (MHz)		Measuring Level (dBuV/m)		Limits (dBuV/m)	Margin (dB)	
		Vertical	Horizontal		Vertical	Horizontal
2)	1833.0	42.5	44.6	74.0	31.5	29.4
3)	2749.5	40.9	43.9	74.0	33.1	30.1
4)	3666.0	39.8	42.5	74.0	34.2	31.5
5)	4582.5	N/A	N/A	74.0	N/A	N/A
6)	5499.0	N/A	N/A	74.0	N/A	N/A
7)	6415.5	N/A	N/A	74.0	N/A	N/A
8)	7332.0	N/A	N/A	74.0	N/A	N/A
9)	8248.5	N/A	N/A	74.0	N/A	N/A
10)	9165.0	N/A	N/A	74.0	N/A	N/A
Average Measurement						
2)	1833.0	36.0	37.8	54.0	18.0	16.2
3)	2749.5	32.3	32.0	54.0	21.7	22.0
4)	3666.0	36.2	33.5	54.0	17.8	20.5
5)	4582.5	N/A	N/A	54.0	N/A	N/A
6)	5499.0	N/A	N/A	54.0	N/A	N/A
7)	6415.5	N/A	N/A	54.0	N/A	N/A
8)	7332.0	N/A	N/A	54.0	N/A	N/A
9)	8248.5	N/A	N/A	54.0	N/A	N/A
10)	9165.0	N/A	N/A	54.0	N/A	N/A

N/A: refer to remark 1).

Remark:

1). For this intentional radiator operates below 10 GHz, the spectrum shall be investigated to the tenth harmonic of the highest fundamental frequency. And above the fifth harmonic of this intentional radiator, the disturbance is very low. So the test result only displays to 4th harmonic.

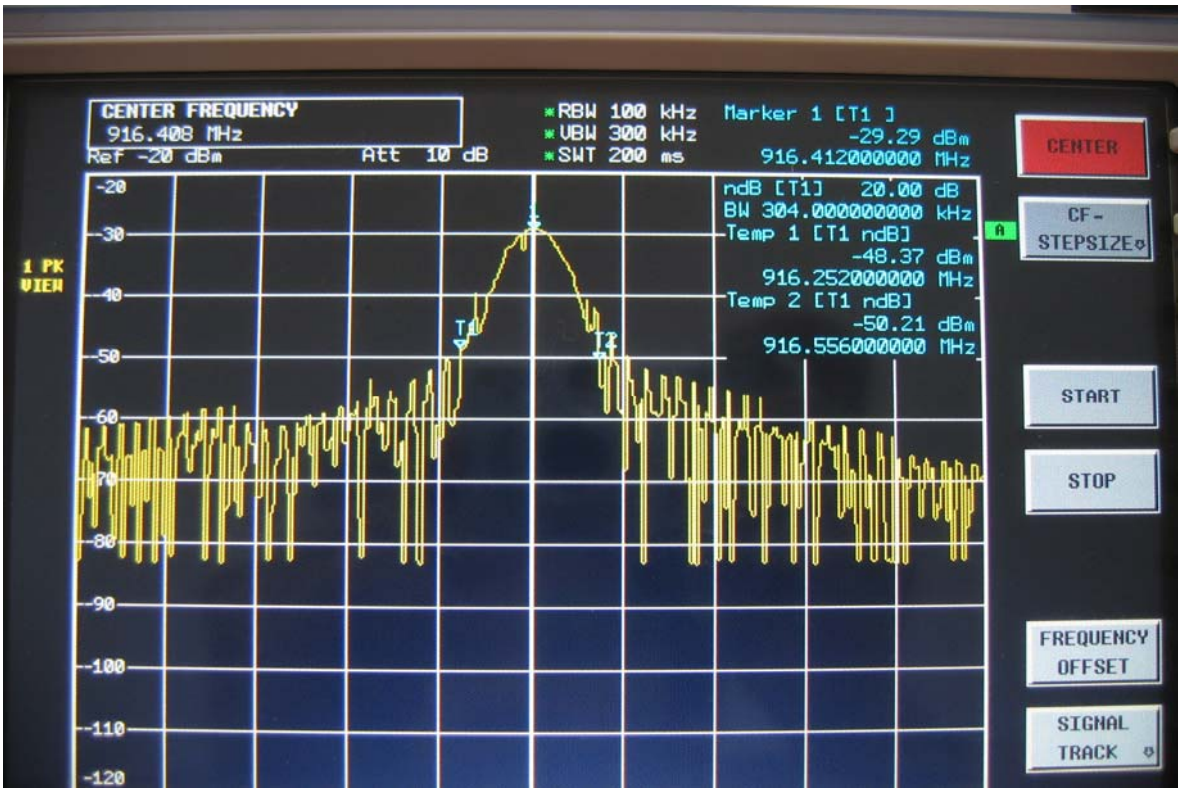
2). According to 15.249 (e) As shown in Section 15.35(b), for frequencies above 1000 MHz, the above field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

TEST RESULTS: The unit does meet the FCC requirements.

4.3.2 Occupied Bandwidth & Band Edge

Test Requirement:	FCC Part 15 C
Test Method:	Based on FCC Part15 C Section 15.249: Operation within the band 902 – 928 MHz
Test Date:	19 August 2004
Requirements:	15.249 (d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.
Method of measurement:	A small sample of the transmitter output was fed into the Spectrum Analyzer and the attached plot was taken. The vertical is set to 10dB per division. The horizontal scale is set to 100KHz per division.

The occupied bandwidth as below:



The test result for the Emissions radiated outside of the specified frequency bands , please refer the section 4.3.1 of this report.
The worst case is 44.6 dBuV/m at frequency 1833.0MHz, it's below the limits in Section 15.209.

For the field strength of Lower Edges:902MHz is 30.2dBuV/m.

For the field strength of Upper Edges:928MHz is 28.7dBuV/m.

The results: The unit does meet the FCC requirements.