

Prüfbericht - Nr.: Test Report No.	14012165 002	Seite 1 von 10 Page 1 of 10	
Auftraggeber: Applicant	Hideki Electronics Ltd., Unit 2304-06, 23/F, Riley House, 88 Lei Muk Road, Kwai Chung, N.T., Hong Kong		
Gegenstand der Prüfung: Test item	Professional Weather Station with Remote Control		
Bezeichnung: Identification	TE923W	Serien-Nr.: Serial No.	Engineering sample
Wareneingangs-Nr.: Receipt No.	060210009	Eingangsdatum: Date of receipt	31.03.2006
Prüfört: Testing location	TÜV Rheinland Hong Kong Ltd. Unit 8, 25 th Floor, Skyline Tower, 39 Wang Kwong Road, Kowloon Bay Kowloon, Hong Kong Hong Kong Productivity Council HKPC Building, 78 Tat Chee Avenue, Kowloon, Hong Kong		
Prüfgrundlage: Test specification	FCC Part 15, Subpart B		
Prüfergebnis: Test Result	Das vorstehend beschriebene Gerät wurde geprüft und entspricht oben genannter Prüfgrundlage. The above mentioned product was tested and passed .		
geprüft / tested by:		kontrolliert / reviewed by:	
14.06.2006	Derek Leung Project Manager	14.06.2006	Thomas Berns Manager
Datum Date	Name Name	Unterschrift Signature	Unterschrift Signature
Sonstiges: FCC ID: Q9PTE923W-EL-NL			
Other Aspects			
Abkürzungen:	OK, Pass, P = entspricht Prüfgrundlage	Abbreviations:	OK, Pass, P = passed
Fail, F	= entspricht nicht Prüfgrundlage	Fail, F	= failed
N/A	= nicht anwendbar	N/A	= not applicable
N/T	= nicht getestet	N/T	= not tested
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicate in extracts. This test report does not entitle to carry any safety mark on this or similar products.			

Test Summary

Spurious Radiated Emissions Test

Result: Pass

Conducted Emissions Test

Result: Pass

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List of Test and Measurement Instruments

Kind of Equipment	Manufacturer	Type	S/N
Test Receiver	Rohde & Schwarz	ESVS30	842807/009
Biconical Antenna	Rohde & Schwarz	HK116	841489/015
Log.-Periodic Antenna	Rohde & Schwarz	HL223	841516/017
Active Loop Antenna	EMCO	6502	9107-2651
Spectrum Analyzer	Rohde & Schwarz	FSP30	1093.4495K30

General Product Information

Product Function and Intended Use

The equipment under test (EUT) is the receiver operating at 433.9MHz for receiving the information of intensity of ultra-violet, rainfall, temperature and humidity, wind speed and directions from the associated sensors, and it is controlled by an associated infra-red remote controller. Further it contains a radio controlled clock (RCC) receiving system for automatic time adjustment.

FCCID: Q9PTE923W-EL-NL

Ratings and System Details

	Transmitter
Operated Frequencies	: 433.9MHz
Number of channel	: One (receives different time frames from associated transmitter in one frequency channel)
Type of antenna	: Integral antenna
Power supply	: Battery operated, AA battery x 4 (6.0 volt)
Port	: D.C. 7.25 volt. port by connecting to ac/dc converter.
AC/DC adapter	: Model:U075020D12 Input: AC 120V 60Hz 6.5W Output:7.5VDC 200mA

Independent Operation Modes

The basic operation mode :

- receives information of intensity of ultra-violet, rainfall, temperature and humidity, wind speed and direction and display the values.
- receives the information of radio control clock for time adjustment and display.

For further information refer to User Manual

Submitted Documents

The submitted documents are listed as follow:

- Circuit diagram
- Block diagram
- User manual

Test Set-up and Operation Mode

Principle of Configuration Selection

Emission: The test was performed under normal operating mode to obtain the maximum emission.

Test Operation and Test Software

Test operation should refer to test methodology.

- There was no special software to exercise the device.

Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

- none

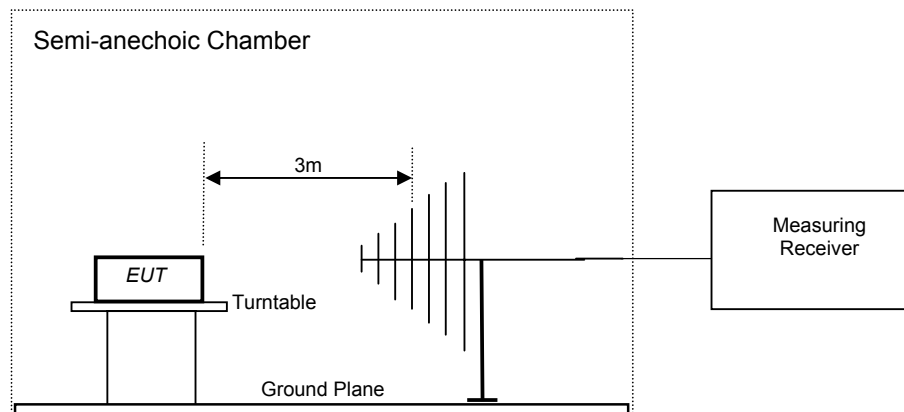
Countermeasures to achieve EMC Compliance

- none

Test Methodology

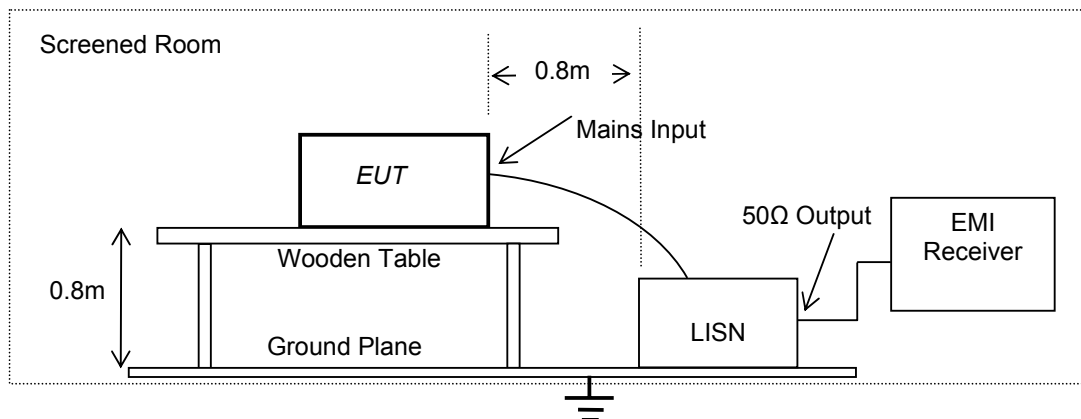
Radiated Emission

The radiated emission measurements were performed according to the procedures in ANSI C63.4-2003. The equipment under test (EUT) was placed at the middle of the 80 cm height turntable, and the turntable is 3 meters far from the measuring antenna. The EUT was tested in three orthogonal planes and the turntable was rotated 360° for obtaining the maximum emission. The antenna height scanned between 1m and 4m, and the antenna rotated to repeat the measurements for both the horizontal and vertical antenna polarizations. Repeat the measurement steps until the maximum emissions were obtained. The measurement below 30MHz was performed by loop antenna, maximum emission was obtained by two antenna polarizations of loop faced and sided to the EUT.



Conducted Emission

The equipment under test (EUT) was placed on a wooden table 80cm above the ground plane, the LISN was placed 0.8m away from the EUT. The test was performed in accordance with ANSI C63.4: 2003, with the following: an initial measurement was performed in peak and average detection mode on the live line. Any emissions recorded within 20dB of the relevant limit line were re-measured using quasi-peak and average detection on the live and neutral lines with the worst case recorded in the table of result.



Test Results

Spurious Radiated Emissions

Section 15.109

RESULT:

Pass

Test Specification : FCC Part 15 Section 15.109
 Test Method : ANSI C63.4-2003
 Measurement Location : Semi Anechoic Chamber
 Supply Voltage : Battery operated 6.0 Volt
 Measuring Frequency Range : 30kHz – 2000MHz (lowest internal oscillator frequency of EUT:32.768kHz)
 Measuring Distance : 3m

Operating Frequency (MHz)	Operating Mode	Frequency of Emission (MHz)	Antenna Polarization	Field Strength at 3m (dBμV/m)
433.9	Standby	*	All	*
	Receiving	*	All	*

* All emissions are at least 20dB below the limits.

Section 15.109

Radiated emissions, which fall in the restricted bands, as defined in Section 15.205(a), was also comply with the radiated emission limits specified in Section 15.109.

Limit for Radiated Emission under Section 15.109:

Frequency (MHz)	Field strength (μV/m) at 3m range	Field strength (dBμV/m) at 3m range
30-88	100	$20 \cdot \log(100) = 40.00$
88-216	150	$20 \cdot \log(150) = 43.52$
216-960	200	$20 \cdot \log(200) = 46.02$
Above 960	500	$20 \cdot \log(500) = 53.98$

The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector and above 1000 MHz are based on the measurements employing an average detector.

Conducted Emissions**Section 15.107****RESULT:****Pass**

Test Specification : FCC Part 15 Section 15.107
 Test Method : CISPR 22:2005
 Mode of operation : Operating
 Port of testing : d.c. input port by connected to a ac/dc adapter.
 Supply voltage : 110Volt

Live conductor

Frequency of emission (MHz)	QP reading (dB μ V)	QP Limit (dB μ V)	AV reading (dB μ V)	AV Limit (dB μ V/m)	Verdict
0.15 – 0.5	>20dB below the limit	66 – 56*	>20dB below the limit	56 – 46*	Pass
0.5 – 5	>20dB below the limit	56	>20dB below the limit	46	Pass
5 – 30	>20dB below the limit	60	>20dB below the limit	50	Pass

Neutral conductor

Frequency of emission (MHz)	QP reading (dB μ V)	QP Limit (dB μ V)	AV reading (dB μ V)	AV Limit (dB μ V/m)	Verdict
0.15 – 0.5	>20dB below the limit	66 – 56*	>20dB below the limit	56-46*	Pass
0.5 – 5	>20dB below the limit	56	>20dB below the limit	56	Pass
5 – 30	>20dB below the limit	60	>20dB below the limit	50	Pass

* Decreases with the logarithm of the frequency.