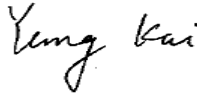


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<i>Test Report No.:</i>					
Auftraggeber: <i>Client:</i>		Beijing ConST Instruments Technology Inc. D05A Keshi Plaza, No.A28 Xinxi Road, Haidian Disrtict, Beijing 100085 P.R. China			
Gegenstand der Prüfung: <i>Test item:</i>		Wireless Master Device			
Bezeichnung: <i>Identification:</i>	ConST970-1	Serien-Nr.: <i>Serial No.:</i>	Engineering sample		
Wareneingangs-Nr.: <i>Receipt No.:</i>	1140004039	Eingangsdatum: <i>Date of receipt:</i>	2013-03-14		
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of test item at delivery:</i>		The sample is ok for test and not damaged.			
Prüfort: <i>Testing location:</i>		Refer to section 1.1			
Prüfgrundlage: <i>Test specification:</i>		FCC Part 15 Subpart B Section 15.107 FCC Part 15 Subpart B Section 15.109			
Prüfergebnis: <i>Test Result:</i>		Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n). <i>The test item passed the test specification(s).</i>			
Prüflaboratorium: <i>Testing Laboratory:</i>		Refer to section 1.1			
geprüft/ tested by:			kontrolliert/ reviewed by:		
2013-5-14	Yang, Kai/PE		2013-5-14	Sun, Lixun/Reviewer	
Datum Date	Name/Stellung Name/Position	Unterschrift Signature	Datum Date	Name/Stellung Name/Position	Unterschrift Signature
Sonstiges/ Other Aspects:					
Abkürzungen: P(ass) = entspricht Prüfgrundlage F(ail) = entspricht nicht Prüfgrundlage N/A = nicht anwendbar N/T = nicht getestet			Abbreviations: P(ass) = passed F(ail) = failed N/A = not applicable 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. <i>This test report relates to the a. m. test item. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.</i>					

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TEST SUMMARY

4.1.1 MAINS TERMINAL CONTINUOUS DISTURBANCE VOLTAGE

Result:

Passed

4.2.1 RADIATED EMISSION

Result:

Passed

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1 Test Sites

1.1 Test Facilities

Laboratory: TA Beijing Limited (FCC Registration No.: 413514)**Address: Building B-4, No.1, JingHai 3rd Road, BDA East ParK, Beijing, 100176 China**

The used test equipment is in accordance with CISPR 16-1 series standards for measurement of radio interference.

1.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	Type	S/N	Manufacturer	Calibrated until
EMI Test Receiver	ESIB26	100301	Rohde & Schwarz	2014-02-21
Bi-log Antenna	HL562	100488	Rohde & Schwarz	2014-02-15
LISN	ENV216	101094	Rohde & Schwarz	2014-11-13

2 General Product Information

2.1 Product Function and Intended Use

The EUT (equipment under test) is a digital pressure gauge which designed to offer a truly compact, cost effective digital pressure gauge to cover a wide range of applications. It is not only can calibrate the precision pressure gauge, industry pressure gauge, blood-presure meter and other pressure gauges, but also it can measure the high-accurary pressure. The digital pressure gauge used the ZigBee technology(IEEE Std 802.15.4-2003 compliant) to communicate with the master device.

2.2 Ratings and System Details

Kind of Equipment:	Wireless Master Device
Type Designation:	ConST970-1
FCC ID	SSQ-ConST970
Rated Input Voltage	DC 5.0V
Rated DC power	250mW max.

2.3 Independent Operation Modes

The basic operation modes are: “On”, “Off”.

2.4 Noise Generating and Noise Suppressing Parts

Refer to the circuit diagram for further information.

2.5 Submitted Documents

Referred to the report 16802094 001 and files.

3 Test Set-up and Operation Modes

3.1 Principle of Configuration Selection

Emission: The equipment under test (EUT) was configured to measure its highest possible emission level. The test conditions were adapted accordingly in reference to the instructions for use.

Refer to the related paragraph of this report.

3.2 Physical Configuration for Testing

Refer to the related paragraph of this report.

3.3 Test Operation and Test Software

None.

3.4 Special Accessories and Auxiliary Equipment

Kind of accessories	Model	Manufacture
Computer(used for RE test)	HP mini 210	Hewlett-Packard(HP)
Computer(used for CE test)	X220	Lenovo

3.5 Countermeasures to achieve EMC Compliance

None.

4 Test Results EMISSION

4.1 Emission in the Frequency Range up to 30 MHz

4.1.1 Mains Terminal Continuous Disturbance Voltage

Result:	Passed
----------------	---------------

Date of testing : 2013-03-25
Test procedure : FCC PART 15.107
Limits : FCC PART 15.107(a)
Kind of test site : Shielded room

Test Setup

Input voltage : AC 115V/60Hz
Operational mode : On
Earthing : None

The measurement equipment like test receivers, quasi-peak detector, average detector and LISN are in compliance with CISPR 16-1 series standards and ANSI C63.4-2003. The tested object was operated under its rated voltage and its rated frequency. Prior to the measurements the test object operated about 5 minutes (warm-up) in order to stabilize its operating conditions and to ensure reliable measurement values.

Furthermore an internal calibration with the test receiver was conducted prior to each measurement.

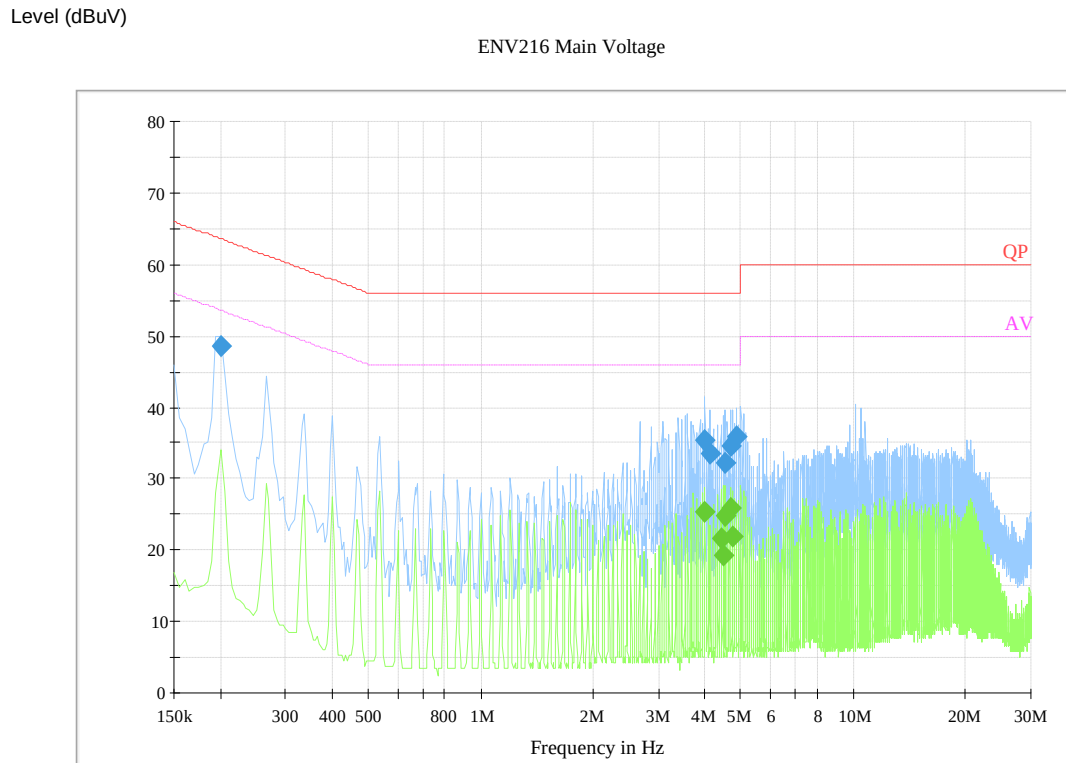
The EUT was set 0.8m away from the LISN. The cord longer than necessary to be connected to the LISN was folded forth and back parallel so as to form a bundle with a length between 0.3m and 0.4m.

The interference voltage was determined according to ANSI C63.4-2003 while measuring the line conductor by turns.

The test was carried out from 110V to 240V for the max. measurement results.

The following figures and tables were those measured by an automatic measuring system. A preview test was first made with peak detector. Final test with quasi-peak detector and average detector was only performed at these critical frequencies found via preview test.

Figure 1: Spectral diagrams and measurement results, line L



Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.200000	48.5	15000.0	9.000	On	L1	9.9	15.1	63.6
4.005000	35.3	15000.0	9.000	On	L1	9.7	20.7	56.0
4.140000	33.5	15000.0	9.000	On	L1	9.7	22.5	56.0
4.540000	32.2	15000.0	9.000	On	L1	9.7	23.8	56.0
4.675000	34.6	15000.0	9.000	On	L1	9.7	21.4	56.0
4.875000	35.9	15000.0	9.000	On	L1	9.7	20.1	56.0

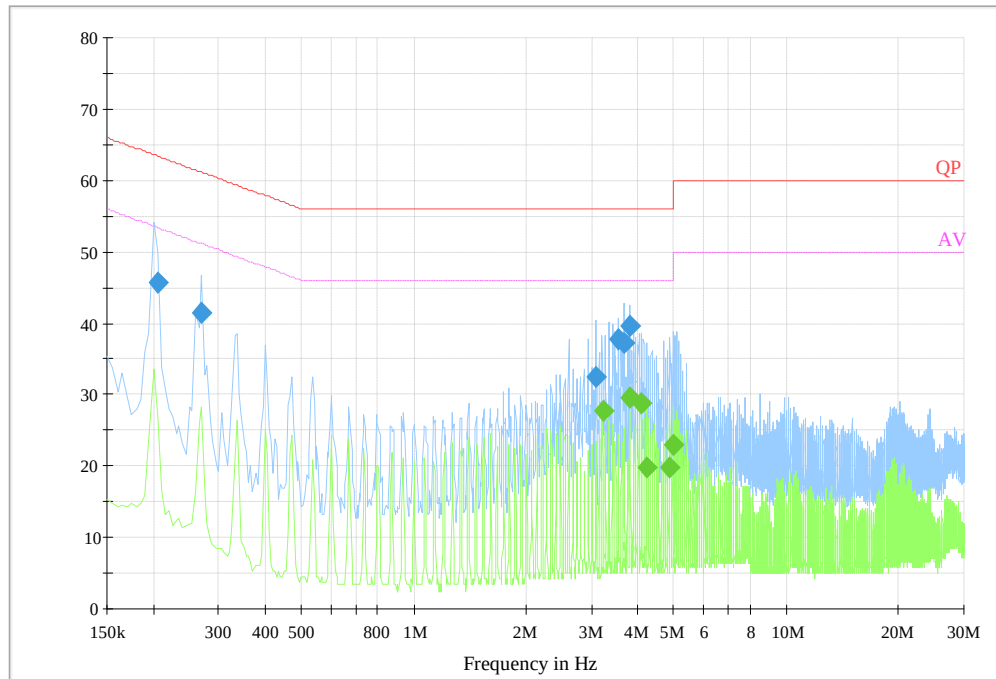
Final average measurement results:

Frequency (MHz)	Average (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
4.005000	25.3	15000.0	9.000	On	L1	9.7	20.7	46.0
4.405000	21.7	15000.0	9.000	On	L1	9.7	24.3	46.0
4.470000	19.2	15000.0	9.000	On	L1	9.7	26.8	46.0
4.540000	24.7	15000.0	9.000	On	L1	9.7	21.3	46.0
4.675000	26.0	15000.0	9.000	On	L1	9.7	20.0	46.0
4.740000	22.0	15000.0	9.000	On	L1	9.7	24.0	46.0

Figure 2: Spectral diagrams and measurement results, line N

Level (dBuV)

ENV216 Main Voltage



Final quasi-peak measurement results:

Frequency (MHz)	QuasiPeak (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
0.205000	45.8	15000.0	9.000	On	N	9.9	17.6	63.4
0.270000	41.5	15000.0	9.000	On	N	10.0	19.6	61.1
3.075000	32.5	15000.0	9.000	On	N	9.8	23.5	56.0
3.545000	37.8	15000.0	9.000	On	N	9.8	18.2	56.0
3.680000	37.2	15000.0	9.000	On	N	9.8	18.8	56.0
3.815000	39.6	15000.0	9.000	On	N	9.8	16.4	56.0

Final average measurement results:

Frequency (MHz)	Average (dBuV)	Meas. Time (ms)	Bandwidth (kHz)	Filter	Line	Corr. (dB)	Margin (dB)	Limit (dBuV)
3.215000	27.6	15000.0	9.000	On	N	9.8	18.4	46.0
3.815000	29.6	15000.0	9.000	On	N	9.8	16.4	46.0
4.085000	28.8	15000.0	9.000	On	N	9.8	17.2	46.0
4.215000	19.9	15000.0	9.000	On	N	9.7	26.1	46.0
4.885000	19.8	15000.0	9.000	On	N	9.7	26.2	46.0
4.955000	23.1	15000.0	9.000	On	N	9.7	22.9	46.0

4.2 Emission in the Frequency Range above 30 MHz

4.2.1 Radiated Emission

Result:	Passed
----------------	---------------

Date of testing : 2013-03-25
Test procedure : FCC PART 15.109
Frequency range : 30–1000MHz
Limits : Refer to 15.109(a)
Kind of test site : Semi-anechoic chamber
Operation modes : On

The radiated disturbance test was carried out in a semi-anechoic chamber. The test distance from the receiving antenna to the EUT is 3m. The normalized site attenuation of the semi-anechoic chamber is regularly calibrated to ensure the radiated disturbance test results are valid.

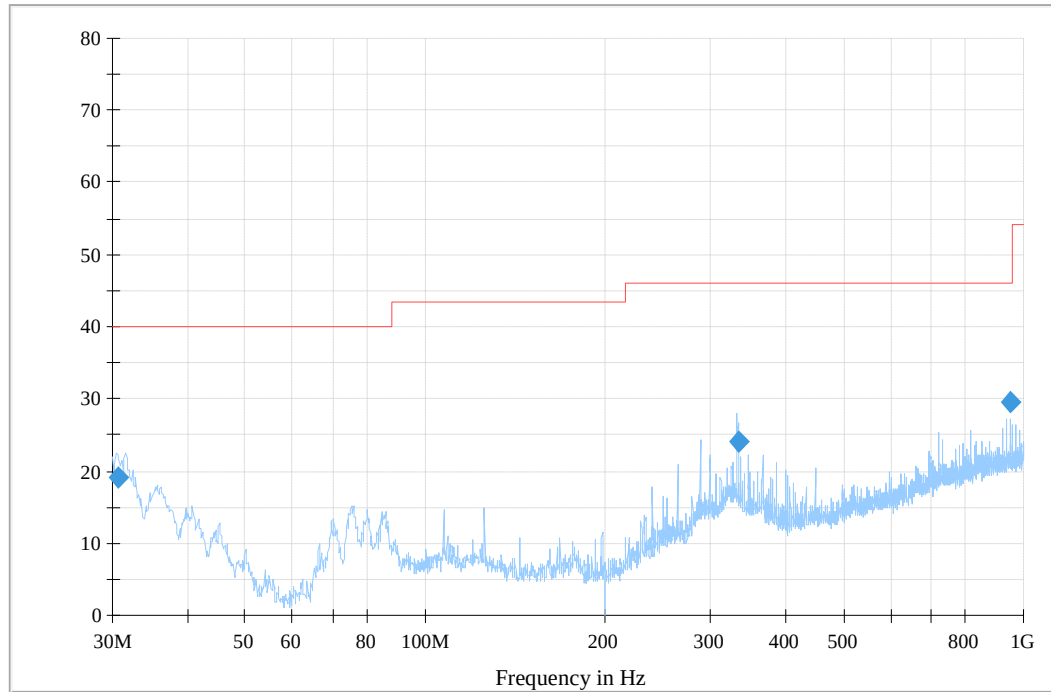
During the test, the wooden table was rotated 360° around and the antenna was varied from 1m to 4m to find the maximum disturbance. The test was performed with the antenna both in its horizontal and vertical polarizations.

The following figures and tables were those measured by an automatic measurement system. A preview test was firstly performed with peak detector. The final test was performed with quasi-peak at those critical frequencies during the preview test. In the following figures, the vertical results are marked with red, and the horizontal ones are marked with blue.

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Figure 3: Spectrum diagrams and measurement results, 30-1000MHz, vertical and horizontal polarization

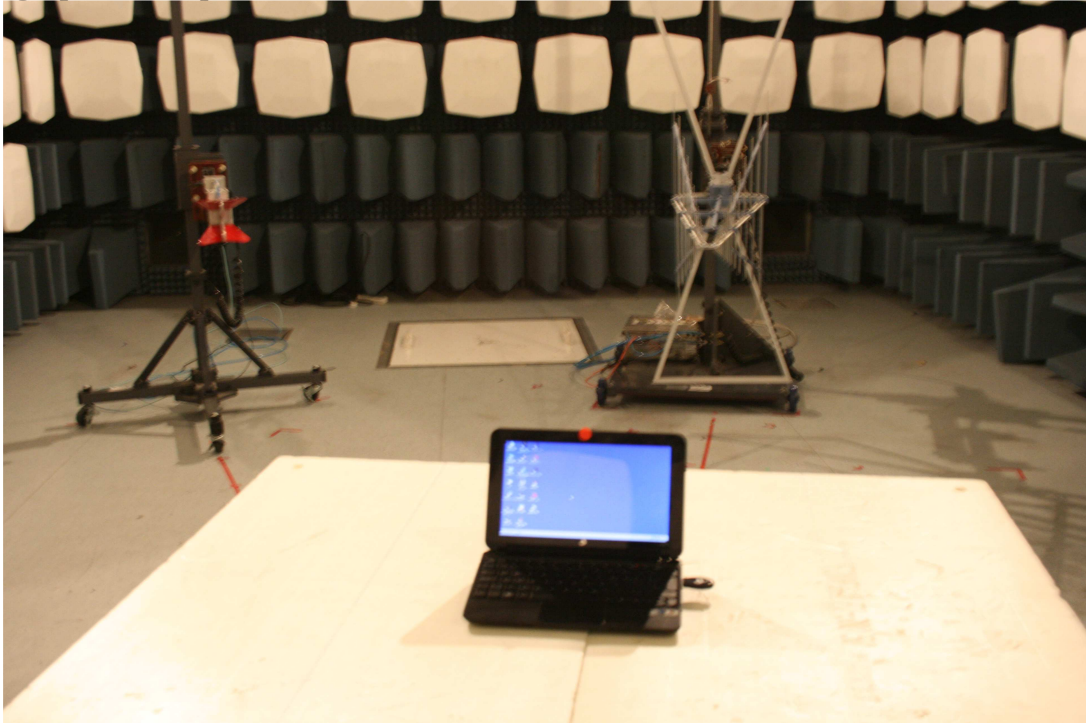


Final quasi-peak measurement result:

Frequency (MHz)	QuasiPeak (dB μ V/m)	Bandwidth (kHz)	Height (cm)	Polarization	Azimuth (deg)	Margin (dB)	Limit (dB μ V/m)
30.660000	19.0	120.000	148.0	H	14.0	21.00	40.00
333.223728	24.1	120.000	100.0	V	85.0	21.90	46.00
947.935792	29.5	120.000	150.0	V	69.0	16.50	46.00

5 Photographs of the Test Set-Up

Photograph 1: Set-up for measurement of radiated emission



Photograph 2: Set-up for disturbance voltage



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