FCC 47 CFR PART 15 SUBPART B

TEST REPORT

Desay Infor Technology Co., Ltd

Smart Bracelet

Model No.: DS-D9

Additional Model No.: Please refer to page 6

Prepared for : Desay Infor Technology Co., Ltd

Address : Desay No.3 Industrial Zone Chengjiang Town, Huizhou, China

Prepared by : Shenzhen LCS Compliance Testing Laboratory Ltd.

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Date of receipt of test sample : April 24, 2017

Number of tested samples : 1

Serial number : Prototype

Date of Test : April 24, 2017 ~ May 12, 2017

Date of Report : May 12, 2017

FCC TEST REPORT FCC 47 CFR PART 15 SUBPART B

Report Reference No.: LCS170424131AE

Date Of Issue: : May 12, 2017

Testing Laboratory Name......: Shenzhen LCS Compliance Testing Laboratory Ltd.

Address : 1/F., Xingyuan Industrial Park, Tongda Road, Bao'an Avenue,

Bao'an District, Shenzhen, Guangdong, China

Testing Location/ Procedure: Full application of Harmonised standards ■

Partial application of Harmonised standards

Other standard testing method

Applicant's Name.....: Desay Infor Technology Co., Ltd

Address : Desay No.3 Industrial Zone Chengjiang Town, Huizhou, China

Test Specification

Standard : FCC 47 CFR Part 15 Subpart B, ANSI C63.4 -2014

Test Report Form No.....: LCSEMC-1.0

TRF Originator: Shenzhen LCS Compliance Testing Laboratory Ltd.

Master TRF.....: Dated 2011-03

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Test Item Description.: : Smart Bracelet

Model/ Type Reference..... : DS-D9

Trade Mark: DESAY, Lenovo

Ratings : DC 3.7V by battery (60mAh)

Recharge Voltage: 5V=, 100mA

Result: Positive

Compiled by:

Supervised by:

Approved by:

Kyle Yin/ File administrator

Glin Lu/ Technique principal

Gavin Liang/ Manager

FCC -- TEST REPORT

Test Report No.: LCS170424131AE

May 12, 2017
Date of issue

Test Result according to the standards on page 5: **Positive**

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

Revision History

Revision Issue Date Revisions Revised By	Revision	Issue Date		
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	E TESTING LABORATORY LTD.	FCC ID: 2AEMN -D9	Report No.: LCS17042413
00	May 12, 2017	Initial Issue	Gavin Liang
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1. SUMMARY OF STANDARDS AND RESULTS

1.1. Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below.

EMISSION						
Description of Test Item	Standard	Limits	Results			
Conducted disturbance at mains terminals	FCC 47 CFR Part 15 Subpart B	Class B	PASS			
Radiated disturbance	FCC 47 CFR Part 15 Subpart B	Class B	PASS			
Conducted disturbance at Antenna terminals	FCC 47 CFR Part 15 Subpart B		N/A			

N/A is an abbreviation for Not Applicable.

1.2. Description of Test Modes

The EUT has been tested under operating condition.

This test was performed with EUT in X, Y, Z position and the worst case was found when EUT in X position.

AC conducted emission pre-test at both at AC 120V/60Hz and AC 240V/50Hz modes, recorded worst case;

AC conducted emission pre-test at both at power adapter and power from PC modes, recorded worst case;

There was 3 test Modes. TM1 to TM3 were shown below:

TM1: Operate in BT LE mode.

TM2: Exchange data with PC.

TM3: Idle mode

2. GENERAL INFORMATION

2.1. Description of Device (EUT)

EUT : Smart Bracelet

Trade Mark : DESAY, Lenovo

Test Model : DS-D9

Model Declaration : PCB board, structure and internal of these model(s) are the sa

me, So no additional models were tested

Model Number : DS-D9, DS-D9 Plus, DS-D9L, HW02, HW02 Plus, DS-D9XX

(XX=0-9) , HW02XX (XX=0-9)

Power Supply : DC 3.7V by battery (60mAh)

Recharge Voltage: 5V-, 100mA

2.2. Description of Test Facility

Site Description

EMC Lab. : CNAS Registration Number. is L4595.

FCC Registration Number. is 899208.

Industry Canada Registration Number. is 9642A-1.

ESMD Registration Number. is ARCB0108.

UL Registration Number. is 100571-492.

TUV SUD Registration Number. is SCN1081.

TUV RH Registration Number. is UA 50296516-001

2.3. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. To CISPR 16 – 4 "Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements" and is documented in the LCS quality system acc. To DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

2.4. Measurement Uncertainty

Test Item	Frequency Range	Expanded uncertainty (Ulab)	Expanded uncertainty (Ucispr)
Conducted Emission	Level accuracy (9kHz to 150kHz) (150kHz to 30MHz)	± 2.63 dB ± 2.35 dB	± 4.0 dB ± 3.6 dB
Radiated Emission	Level accuracy (9kHz to 30MHz)	± 3.68 dB	N/A
Radiated Emission	Level accuracy (30MHz to 1000MHz)	± 3.48 dB	± 5.2 dB
Radiated Emission	Level accuracy (above 1000MHz)	± 3.90 dB	N/A

- (1) Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus.
- (2) The reported expanded uncertainty of measurement is stated as the standard uncertainty of measurement multiplied by the coverage factor of k=2, which for a normal distribution corresponds to a coverage probability of approximately 95%.

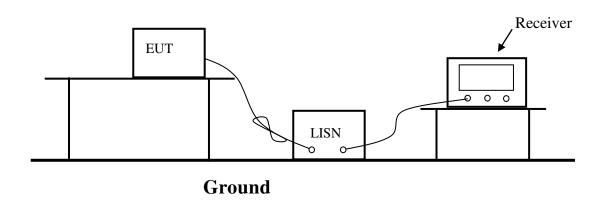
3. POWER LINE CONDUCTED EMISSION MEASUREMENT

3.1. Test Equipment

The following test equipments are used during the power line conducted measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	EMI Test Receiver	ROHDE & SCHWARZ	ESR 7	101181	2016-06-18
2	10dB Attenuator	SCHWARZBECK	MTS-IMP136	261115-001-00 32	2016-06-18
3	Artificial Mains	ROHDE & SCHWARZ	ENV216	101288	2016-06-18
4	EMI Test Software	AUDIX	E3	N/A	N/A
5	ISN	SCHWARZBECK	NTFM 8158	NTFM 8158 0120	2016-06-18

3.2.Block Diagram of Test Setup



3.3.Test Standard

Power Line Conducted Emission Limits (Class B)

I	Frequency	7	Limit (dBμV)		
(MHz)			Quasi-peak Level Average Level		
0.15	~	0.50	66.0 ~ 56.0 *	56.0 ~ 46.0 *	
0.50	0.50 ~ 5.00		5.00 56.0 46.0		
5.00	~	30.00	60.0	50.0	

NOTE1-The lower limit shall apply at the transition frequencies.

NOTE2-The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.

3.4.EUT Configuration on Test

The following equipments are installed on Power Line Conducted Emission Measurement to meet the commission requirement and operating regulations in a manner, which tends to maximize its emission characteristics in a normal application.

3.5. Operating Condition of EUT

- 3.4.1. Setup the EUT as shown on Section 3.2
- 3.4.2. Turn on the power of all equipments.
- 3.4.3.Let the EUT work in measuring mode (ON) and measure it.

3.6.Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC/ANSI C63.4-2014 on Conducted Emission Measurement.

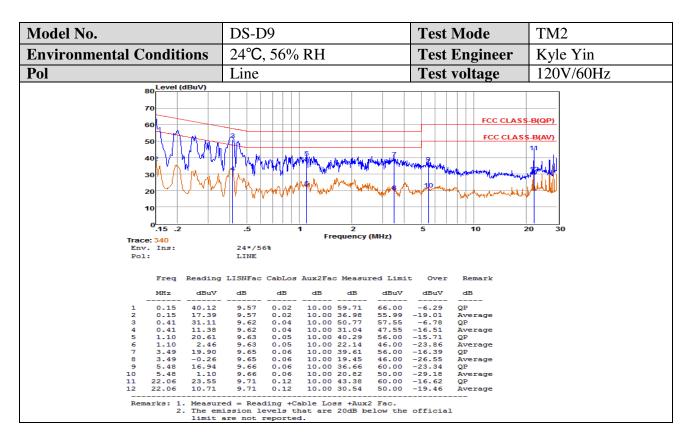
The bandwidth of the test receiver is set at 9kHz.

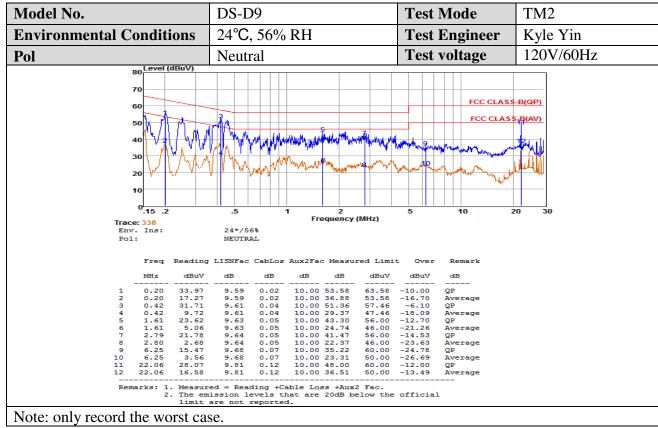
The frequency range from 150kHz to 30MHz is investigated

3.7.Test Results

PASS.

The test result please refer to the next page.



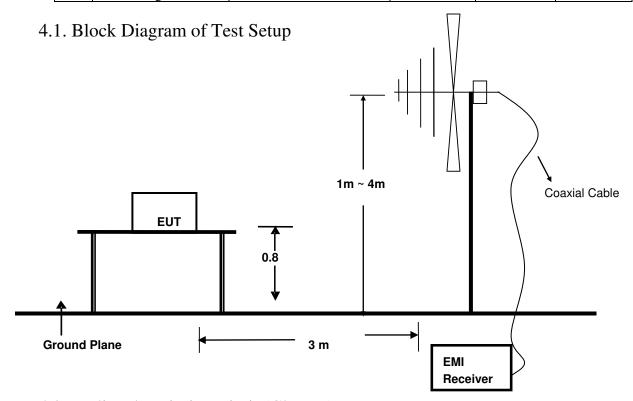


4. RADIATED EMISSION MEASUREMENT

4.1. Test Equipment

The following test equipments are used during the radiated emission measurement:

Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.
1	3m Semi Anechoic Chamber	SIDT FRANKONIA	SAC-3M	03СН03-НҮ	2016-06-18
2	EMI Test Receiver	ROHDE & SCHWARZ	ESR 7	101181	2016-06-18
3	Log per Antenna	SCHWARZBECK	VULB9163	9163-470	2016-04-18
4	EMI Test Software	AUDIX	E3	N/A	2016-06-18
5	Positioning Controller	MF	MF-7082	/	2016-06-18



4.2. Radiated Emission Limit (Class B)

Limits for radiated disturbance Blow 1GHz

FREQUENCY	DISTANCE	FIELD STRENGTHS LIMIT		
MHz	Meters	μV/m	$dB(\mu V)/m$	
30 ~ 88	3	100	40	
88 ~ 216	3	150	43.5	
216 ~ 960	3	200	46	
960 ~ 1000	3	500	54	

Remark: (1) Emission level (dB) μ V = 20 log Emission level μ V/m

- (2) The smaller limit shall apply at the cross point between two frequency bands.
- (3) Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

4.3. EUT Configuration on Measurement

The following equipment are installed on Radiated Emission Measurement to meet the commission requirements and operating regulations in a manner which tends to maximize its emission characteristics in normal application.

4.4. Operating Condition of EUT

- 4.5.1. Setup the EUT as shown in Section 4.2.
- 4.5.2.Let the EUT work in test mode (on) and measure it.

4.5. Test Procedure

EUT and its simulators are placed on a turntable, which is 0.8 meter high above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. EUT is set 3.0 meters away from the receiving antenna, which is mounted on a antenna tower. The antenna can be moved up and down between 1.0 meter and 4 meters to find out the maximum emission level. Broadband antenna (calibrated by-log antenna) is used as receiving antenna. Both horizontal and vertical polarization of the antenna is set on measurement. In order to find the maximum emission levels, all of the interface cables must be manipulated according to ANSI C63.4-2014 on radiated emission measurement.

The bandwidth of the EMI test receiver is set at 120kHz, 1000kHz.

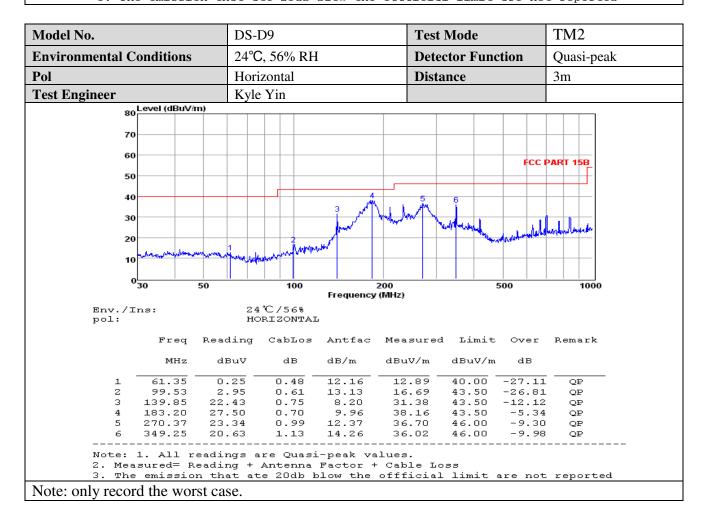
The frequency range from 30MHz to 1000MHz is checked.

4.6. Radiated Emission Noise Measurement Result

PASS.

The scanning waveforms please refer to the next page.

Model No.		DS-D	9		Test N	Iode		TM2	
Environmental Co	onditions	24°C,	56% RH		Detect	tor Functi	ion	Quasi-peak	
Pol		Verti	cal		Distar	ice		3m	
Test Engineer		Kyle	Yin						
80	Level (dBuV/n	n)							
70									
	,								
60	'						FCC F	PART 15B	
50	<u> </u>								
40		+ + +	+			5			
				3	اید د	6			
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	والمحد أرس المرايا	alana I. I.	WAND LAND	Part Part					
10	Section Sectio	The contract of the sale	ALL THE STREET						
	_								
(30	50	100		200	5	00	1000	
				Frequency	(MHz)				
Env./I	ins:		°C/56%						
pol:		VE	RTICAL						
	Freq	Reading	CabLos	Antfac	Measured	Limit	Over	Remark	
	MHz	dBuV	dВ	dB/m	dBuV/m	dBuV/m	dВ		
		a2a.	42	,			42		
1	100.58	2.62	0.60	13.11	16.33	43.50			
2	139.36	16.88	0.75	8.24	25.87	43.50			
3	180.02	22.09	0.89	9.68	32.66	43.50			
4 5	233.35 350.48		0.98 1.15	11.79 14.28	28.65 36.62	46.00 46.00			
5 6	419.11	15.78	1.32	15.45	32.55		-13.45		
Note:	1. All re	eadings a	re Quasi	-peak va	lues.				
					Cable Lo				
3. The	e emission	n that at	e 20db b	low the	offficial	limit a	re not	reported	



Model No.	DS-D9	Test Mode	TM2	
Environmental Conditions	24°C, 56% RH	Distance	3m	
Test Engineer	Kyle Yin	Test date:	March 21, 2017	

Frequency		on Level V/m		Limits dBµV/m		rgin V/m	Polarization
MHz	Peak	AV	Peak	AV	Peak	AV	
1324.66	48.52	37.85	74.00	54.00	-25.48	-16.15	Н
1963.67	51.50	39.68	74.00	54.00	-22.50	-14.32	Н
2258.61	47.94	38.72	74.00	54.00	-26.06	-15.28	Н
3253.02	55.89	45.58	74.00	54.00	-18.11	-8.42	Н
4851.32	58.02	42.96	74.00	54.00	-15.98	-11.04	Н
5261.98	53.62	42.43	74.00	54.00	-20.38	-11.57	Н
1419.97	49.27	35.96	74.00	54.00	-24.73	-18.04	V
1829.60	51.25	39.88	74.00	54.00	-22.75	-14.12	V
2962.92	46.92	39.54	74.00	54.00	-27.08	-14.46	V
3562.16	55.96	45.80	74.00	54.00	-18.04	-8.20	V
4480.64	56.19	46.48	74.00	54.00	-17.81	-7.52	V
5945.00	55.37	43.17	74.00	54.00	-18.63	-10.83	V

Notes:

1. Measuring frequencies from 9 KHz~5th harmonic of working frequency, No emission found between lowest internal used/generated frequency to 30MHz.