



FCC TEST REPORT

according to

FCC Rules and Regulations Part 15 Subpart C

Applicant : Zhejiang Dahua Vision Technology Co., Ltd.
Address : The 1st floor, building F, No.1199 Bin'an road,
Changhe Street, Binjiang District, Hangzhou, P.R. China.
Manufacturer : Zhejiang Dahua Vision Technology Co., Ltd.
Address : The 1st floor, building F, No.1199 Bin'an road,
Changhe Street, Binjiang District, Hangzhou, P.R. China.
Equipment : PIR Motion Detector / Smart Motion
Model No. : WP1, DH-CE-S200, ICM-M410
FCC ID : SVNDHCES200

- The test result refers exclusively to the test presented test model / sample.,
- Without written approval of **CERPASS TECHNOLOGY(SUZHOU)CO., LTD.** the test report shall not be reproduced except in full.



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CERTIFICATE OF COMPLIANCE

According to

FCC Rules and Regulations Part 15 Subpart C

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FCC ID : SVNDHCES200

I HEREBY CERTIFY THAT:

The measurements shown in this test report were made in accordance with the procedures given in **ANSI C63.4** The equipment was **passed** the test performed according to **FCC Rules and Regulations Part 15 Subpart C (2010)**.

The test was carried out on Dec. 08~Dec.16, 2014 at **Cerpass Technology (Suzhou) Co., Ltd.**

Signature

Miro Chueh/ Technical director



1. Report of Measurements and Examinations

1.1 List of Measurements and Examinations

FCC Rules and Regulations Part 15 Subpart C		
Normative References	Test Parameter	Test Performed
15.231(e)	. Radiated Emission	Pass
15.215	. 20dB Bandwidth Measurement	Pass
15.231(e)	. Dwell time; Silent Period	Pass



2. Test Configuration of Equipment under Test

2.1 Feature of Equipment under Test

Modle No.	WP1, DH-CE-S200, ICM-M410
Remark	1) DH-CE-S200 was selected as the test model and its data have been recorded in this report. 2) No differences in function,only for the differnet groups of customers.
Carrier Frequency	915MHz
Antenna Specification	Antenna name: DCL-915-02THTX Antenna type: internal antenna PIFA Antenna 2 dBi

Note: For more details, please refer to the User’s manual of the EUT.

2.2 General Information of Test

Test Site:	Cerpass Technology (Suzhou) Co., Ltd
Performed Location :	No.66,Tangzhuang Road, Suzhou Industrial Park, Jiangsu 215006, China
NVLAP LAB Code :	200814-0
FCC Registration Number :	916572, 331395
IC Registration Number :	7290A-1, 7290A-2
VCCI Registration Number :	T-343 for Telecommunication Test C-2919 for Conducted emission test R-2670 for Radiated emission test below 1GHz G-227 for Radiated emission test above 1GHz



2.3 Measurement Uncertainty

Measurement Item	Measurement Frequency	Polarization	Uncertainty
Conducted Emission	9 kHz ~ 30 MHz	LINE/NEUTRAL	±2.71 dB
Radiated Emission	30 MHz ~ 25GHz	Vertical	±4.11 dB
		Horizontal	±4.10 dB
Occupied Bandwidth	---	---	±7500 Hz
Maximum Peak Output Power	---	---	±1.4 dB
Band Edges	---	---	±2.2 dB
Power Spectral Density	---	---	±2.2 dB



3. Test of Radiated Emission

3.1 Test Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

A. FCC Part 15 Subpart C Paragraph 15.231(e) Limit

Fundamental frequency (MHz)	Field strength of fundamental (microvolts/meter)	Field strength of spurious emission (microvolts/meter)
40.86-40.70	1,000	100
70-130	500	50
130-174	500 to 1,500 1	50 to 150 1
174-260	1,500	150
260-470	1,500 to 5,000 1	150 to 500 1
Above 470	5,000	500

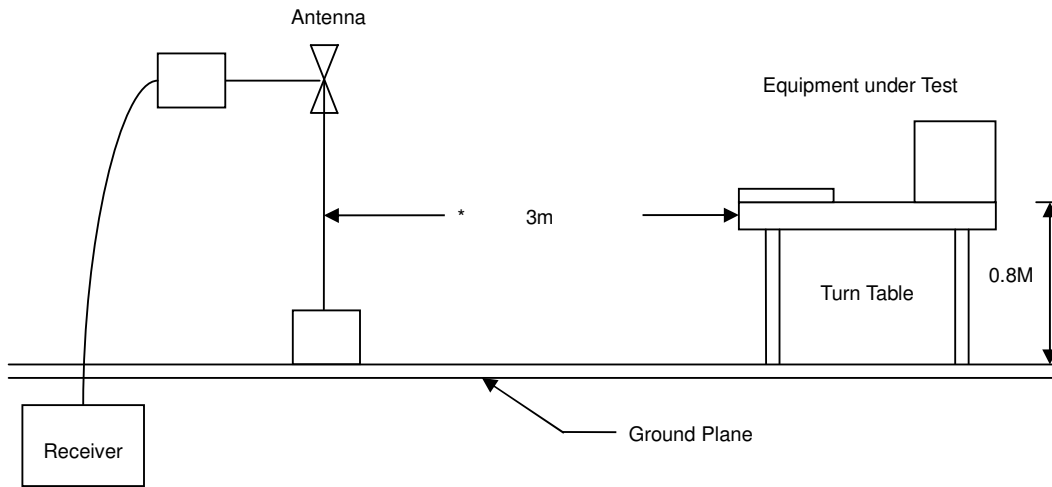
3.2 Test Procedures

- a. The EUT was placed on a rotatable table top 0.8 meter above ground.
- b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
- c. The table was rotated 360 degrees to determine the position of the highest radiation.
- d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.
- e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.
- f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
- g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.
- h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

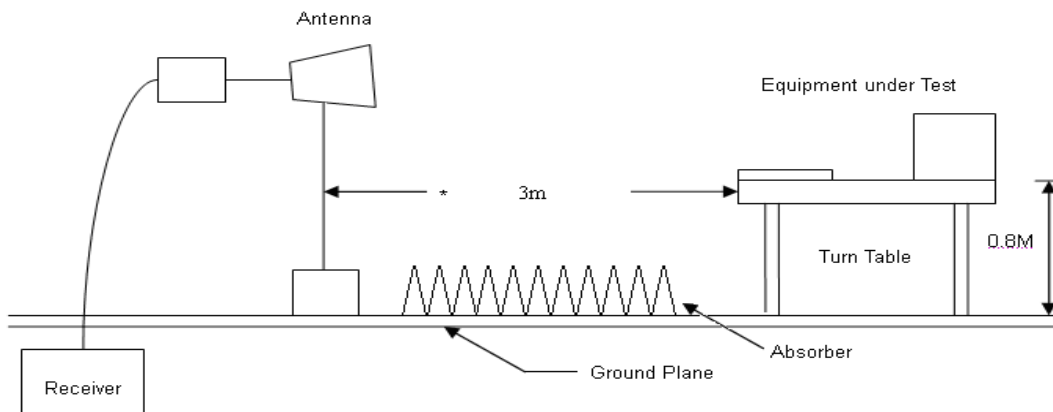


3.3 Typical Test Setup

Below 1GHz Test Setup



Above 1GHz Test Setup





3.4 Measurement equipment

Instrument	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
EMI Test Receiver	R&S	ESCI	100563	2014.02.10	2015.02.09
H64 Preamplifier	HP	8447F	3113A05582	2014.03.24	2015.03.23
Preamplifier	Agilent	8449B	3008A02342	2014.03.24	2015.03.23
Ultra Broadband Antenna	R&S	HL562	100362	2014.08.05	2015.08.04
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-619	2014.05.24	2015.05.23
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	9170-348	2014.11.04	2015.11.03
Spectrum Analyzer	R&S	FSP40	100324	2014.03.23	2015.03.24
Temperature/ Humidity Meter	Zhicheng	ZC1-11	CEP-TH-002	2014.03.31	2015.03.30

3.5 Test Result and Data

A . Field Strength Of Fundamental

Fundamental Frequency: 915 MHz

VERTICAL

No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	915	-6.94	82.05	75.11	-18.87	93.98	PEAK
2	915	-6.94	78.39	71.45	-2.53	73.98	AVG

HORIZONTAL

No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type
1	915	-6.94	79	72.06	-21.92	93.98	PEAK
2	915	-6.94	76.12	69.18	-4.8	73.98	AVG

**B. General Radiated Emission Data****Transmitter
Under 1GHz**

Site : EMC Lab AC 102	Time : 2014-12-15
Limit : FCC_CLASS_B_03M_QP	
Test mode: Normal link	Probe : VERTICAL/ HORIZONTAL

Frequency (MHz)	Factor (dB/m)	Reading (dBUV)	Level (dBUV/m)	Limit (dBUV/m)	Margin (dB)	Antenna Pole (V/H)	Remark
50.3700	-19.61	49.77	30.16	40	-9.84	V	QP
60.0700	-23.09	49.96	26.87	40	-13.13	V	QP
94.9900	-22.39	47.47	25.08	43.5	-18.42	V	QP
128.9400	-16.98	34.87	17.89	43.5	-25.61	V	QP
201.6900	-17.01	42.48	25.47	43.5	-18.03	V	QP
230.7900	-18.57	44.70	26.13	46	-19.87	V	QP
37.7599	-14.85	34.33	19.48	40	-20.52	H	QP
50.3699	-18.65	37.90	19.25	40	-20.75	H	QP
121.1800	-16.24	36.42	20.18	43.5	-23.32	H	QP
182.2899	-18.94	37.10	18.16	43.5	-25.34	H	QP
201.6899	-17.17	40.02	22.85	43.5	-20.65	H	QP
511.1200	-12.50	31.47	18.97	46	-27.03	H	QP

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Level = Reading Level + Correct Factor



Above 1GHz

Site : EMC Lab AC 102	Time : 2014-12-15
Limit : FCC_CLASS_B_03M_QP	
Test mode: Transmit by 2412MHz	Probe : VERTICAL/ HORIZONTAL

	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Measure Level (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Detector Type	Antenna Pole (V/H)
1	1828.000	-3.42	63.14	59.72	-14.26	73.98	PEAK	H
2	1828.000	-3.42	53.80	50.38	-3.60	53.98	AVG	H
1	1828.000	-3.42	59.93	56.51	-17.47	73.98	PEAK	V
2	1828.000	-3.42	54.70	51.28	-2.7	53.98	AVG	V

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Level = Reading Level + Correct Factor



4. 20dB Bandwidth Measurement Data

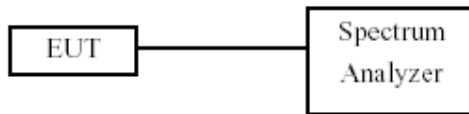
4.1 Test Limit

The bandwidth of the emission shall be no wider than 0.25% of the center frequency for devices operating above 70 MHz and below 900 MHz. For devices operating above 900 MHz, the emission shall be no wider than 0.5% of the center frequency. Bandwidth is determined at the points 20 dB down from the modulated carrier.

4.2 Test Procedures

- a. The transmitter output was connected to the spectrum analyzer.
- b. Set RBW of spectrum analyzer to 100 KHz and VBW to 300 KHz.
- c. The 20 dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20 dB.

4.3 Test Setup Layout



4.4 Measurement equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	FSP40	R&S	100324	2014.03.23	2015.03.24



4.5 Test Result and Data

Frequency (MHz)	20dB Bandwidth (KHz)	Limit	Result
915	252.5	4.575MHz	Pass
<p>Agilent Spectrum Analyzer - Occupied BW</p> <p>Center Freq 915.000000 MHz</p> <p>Ref 20.00 dBm</p> <p>Center 915 MHz #Res BW 100 kHz #VBW 300 kHz Span 1 MHz Sweep 1 ms</p> <p>Occupied Bandwidth 214.02 kHz</p> <p>Total Power 1.60 dBm</p> <p>Transmit Freq Error 6.542 kHz OBW Power 99.00 %</p> <p>x dB Bandwidth 252.5 kHz x dB -20.00 dB</p> <p>Note: Limit=915*0.5%=4.575MHz</p>			



5. Dwell Time

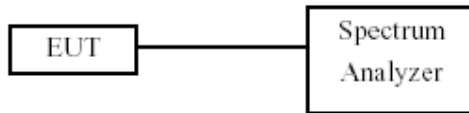
5.1 Test Limit

The duration of each transmission shall not be greater than one second

5.2 Test Procedures

The transmitter output was connected to the spectrum analyzer.

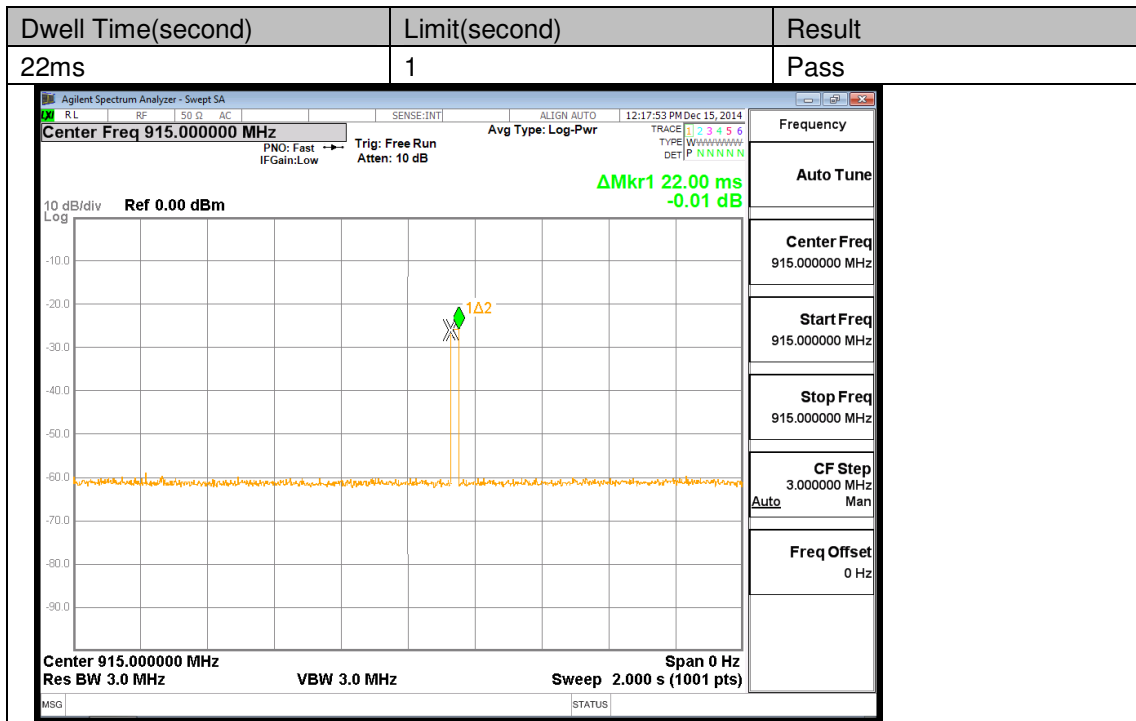
5.3 Test Setup Layout



5.4 Measurement equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	FSP40	R&S	100324	2014.03.23	2015.03.24

5.5 Test Result and Data





6. Silent Period

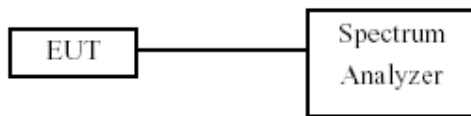
6.1 Test Limit

The silent period between transmissions shall be at least 30 times the duration of the transmission but in no case less than 10 seconds.

6.2 Test Procedures

The transmitter output was connected to the spectrum analyzer.

6.3 Test Setup Layout



6.4 Measurement equipment

Instrument/Ancillary	Model No.	Manufacturer	Serial No.	Calibration Date	Valid Date
Spectrum Analyzer	FSP40	R&S	100324	2014.03.23	2015.03.24

6.5 Test Result and Data

Silent Period(second)	Limit(second)	Result
38.80	>10 and 0.022*30	Pass

The screenshot shows the Agilent Spectrum Analyzer interface. The main display is a log-log plot with a center frequency of 915.000000 MHz. A signal is visible at this frequency, with a measurement of 38.80 s and -0.05 dB. The plot shows a sharp peak at the center frequency, with a noise floor around -80 dBm. The resolution bandwidth (Res BW) is 3.0 MHz, and the video bandwidth (VBW) is 3.0 MHz. The sweep time is 100.0 s (1001 pts). The reference level is 0.00 dBm. The plot also shows a marker 'X2' at approximately -30 dBm and a marker '1Δ2' at approximately -20 dBm.