FCC PART 15.247

TEST REPORT

For

Shanghai HowayGIS Co., Ltd

Room 230, Focus building, Chunshe Road, Minhang Distract, Shanghai ,China

FCC ID: 2AAZDS1XN2015

Report Type:	**Product Type:**
Amended Report	Handheld GPS/GIS Data Collector

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Report Number:	RKS150703001-00B
Report Date:	2015-07-06
Reviewed By:	Jesse Huang EMC Manager
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DOCUMENT REVISION HISTORY

Revision Number	Report Number	Description of Revision	Date of Issue
1	BZT-20140213250F2	Original Report	2014-2-20
2	RKS150703001-00B	Amended Report	2015-7-6

Note:

This is an amended report application based on BZT-20140213250F2 Create by BZT Testing Technology Co., Ltd.（FCC ID: 2AAZDS1XN2014）, the details as below

The different as below,

1.The EUT only added the GSM chip, No other has been changed. PCB layout and circuit are the same WIFI 802.11n was block by software ,there are only two mode 802.11b and 802.11 g in Handheld GPS/GIS Data Collector

The detail information, please check the reports and declaration letter

Based on the above difference, it will affect nothing, so we refer to the original report BZT-20140213250F2 that issued on 2014-2-20.

SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.247 (i), §1.1307 (b) (1)& §2.1091	RF Exposure	Compliance*
§15.203	Antenna Requirement	Compliance*
§15.207 (a)	AC Line Conducted Emissions	Compliance
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliance
§15.247 (a)(2)	6 dB Emission Bandwidth	Compliance*
§15.247(b)(3)	Maximum Conducted Output Power	Compliance*
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	Compliance*
§15.247(e)	Power Spectral Density	Compliance*

Compliance*: Please refer to the report number： BZT-20140213250F2
Create by BZT Testing Technology Co., Ltd.（FCC ID： 2AAZDS1XN2014）

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC§15.207

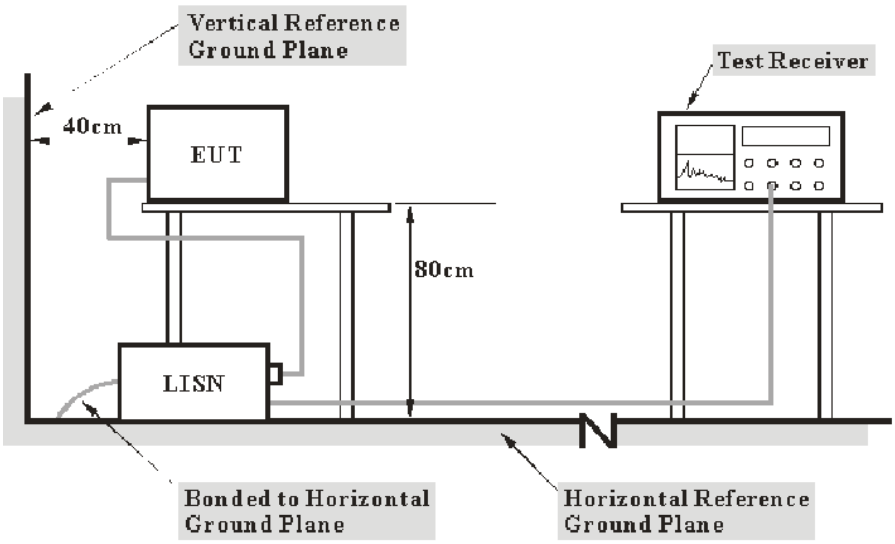
Measurement Uncertainty

Input quantities to be considered for conducted disturbance measurements maybe receiver reading, attenuation of the connection between LISN and receiver, LISN voltage division factor, LISN VDF frequency interpolation and receiver related input quantities, etc.

Based on CISPR 16-4-2:2011, the expended combined standard uncertainty of conducted disturbance test at Bay Area Compliance Laboratories Corp. (Kunshan) is shown as below. And the uncertainty will not be taken into consideration for the test data recorded in the report.

Port	Expanded Measurement uncertainty
AC Mains	3.26 dB (k=2, 95% level of confidence)
CAT 3	3.70 dB (k=2, 95% level of confidence)
CAT 5	3.86 dB (k=2, 95% level of confidence)
CAT 6	4.64 dB (k=2, 95% level of confidence)

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.4-2009 measurement procedure. The specification used was with the FCC Part 15.207 limits.

The adapter was connected to a 120 VAC/60 Hz power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

During the conducted emission test, the adapter was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All data was recorded in the Quasi-peak and average detection mode.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESCS30	831294/005	2014-09-16	2015-09-16
Rohde & Schwarz	LISN	ESH3-Z5	12005	2014-09-16	2015-09-16
Rohde & Schwarz	LISN	ESH3-Z5	12008	2014-09-16	2015-09-16
Rohde & Schwarz	CE Test software	EMC 32	V 09.10.0	--	--

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

Corrected Factor & Margin Calculation

The Corrected factor is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

Correction Factor = LISN VDF + Cable Loss

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7 dB means the emission is 7 dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Part 15.207, the worst margin reading as below:

14.81 dB at **10.086** in the **Line** conducted mode

Refer to CISPR16-4-2:2011 and CISPR 16-4-1:2009, the measured level complies with the limit if

$$L_m + U_{(Lm)} \leq L_{lim} + U_{cispr}$$

In BACL, $U_{(Lm)}$ is less than U_{cispr}, if L_m is less than L_{lim}, it implies that the EUT complies with the limit.

Test Data

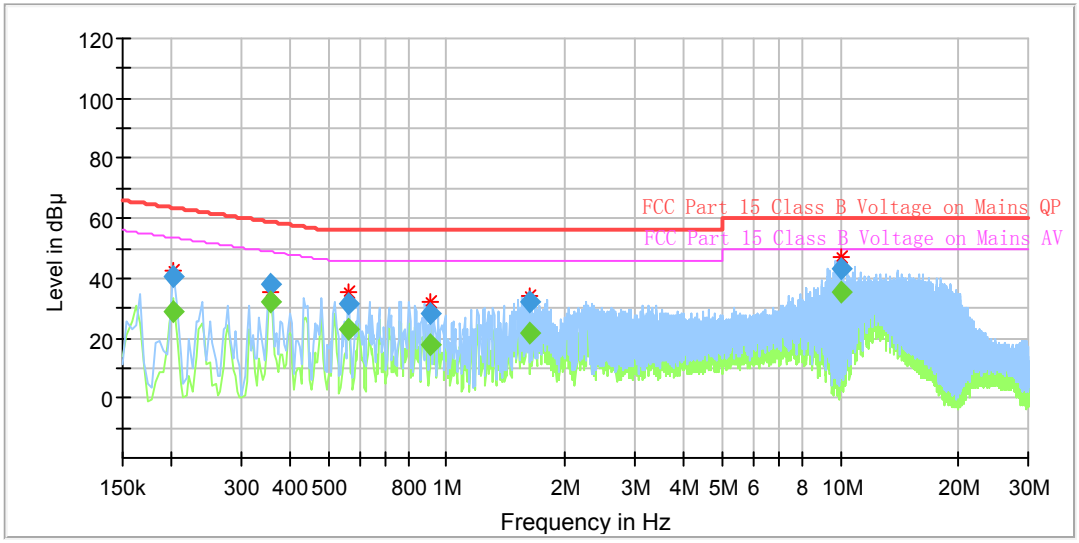
Environmental Conditions

Temperature:	23 ℃
Relative Humidity:	56 %
ATM Pressure:	101.0 kPa

The testing was performed by Matt Yao on 2015-07-06.

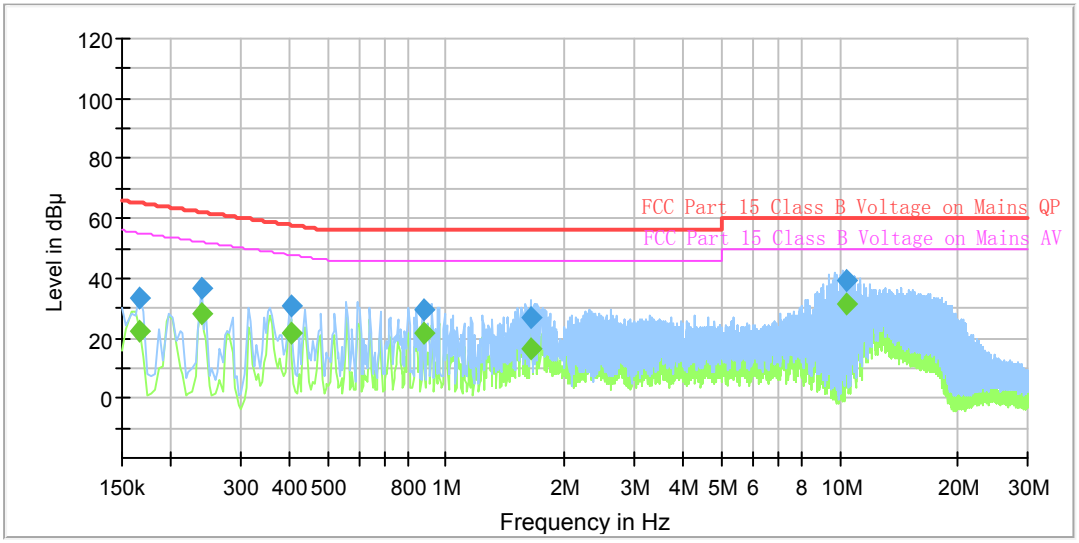
EUT operation mode: Transmitting

AC 120V/60 Hz, Line



Frequency (MHz)	QuasiPeak (dB µ V)	Average (dB µ V)	Limit (dB µ V)	Margin (dB)	Line	Corr. (dB)
0.202000	---	28.80	53.53	24.73	L1	11.0
0.202000	40.39	---	63.53	23.14	L1	11.0
0.358000	---	32.17	48.77	16.60	L1	11.0
0.358000	38.00	---	58.77	20.77	L1	11.0
0.562000	---	22.85	46.00	23.15	L1	11.1
0.562000	31.55	---	56.00	24.45	L1	11.1
0.910000	---	17.80	46.00	28.20	L1	11.1
0.910000	28.51	---	56.00	27.49	L1	11.1
1.630000	---	21.72	46.00	24.28	L1	11.2
1.630000	32.13	---	56.00	23.87	L1	11.2
10.086000	---	35.19	50.00	14.81	L1	11.4
10.086000	42.90	---	60.00	17.10	L1	11.4

AC 120V/60 Hz, Neutral



Frequency (MHz)	QuasiPeak (dB µ V)	Average (dB µ V)	Limit (dB µ V)	Margin (dB)	Line	Corr. (dB)
0.166000	---	22.20	55.16	32.96	N	11.0
0.166000	33.51	---	65.16	31.65	N	11.0
0.238000	---	28.34	52.17	23.83	N	11.0
0.238000	36.83	---	62.17	25.34	N	11.0
0.402000	---	21.65	47.81	26.16	N	11.0
0.402000	30.48	---	57.81	27.33	N	11.0
0.874000	---	21.57	46.00	24.43	N	11.1
0.874000	29.63	---	56.00	26.37	N	11.1
1.646000	---	16.53	46.00	29.47	N	11.2
1.646000	27.05	---	56.00	28.95	N	11.2
10.402000	---	31.54	50.00	18.46	N	11.4
10.402000	39.01	---	60.00	20.99	N	11.4

Note:
1) Corr.=LISN VDF (Voltage Division Factor) + Cable Loss
2) Corrected Amplitude = Reading + Corr.
3) Margin = Limit –Corrected Amplitude

FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

FCC §15.247 (d); §15.209; §15.205;

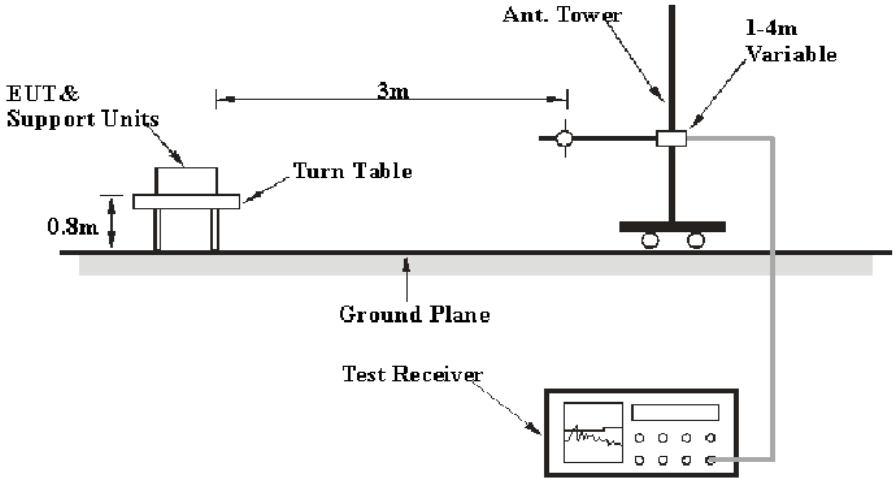
Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average), and system repeatability.

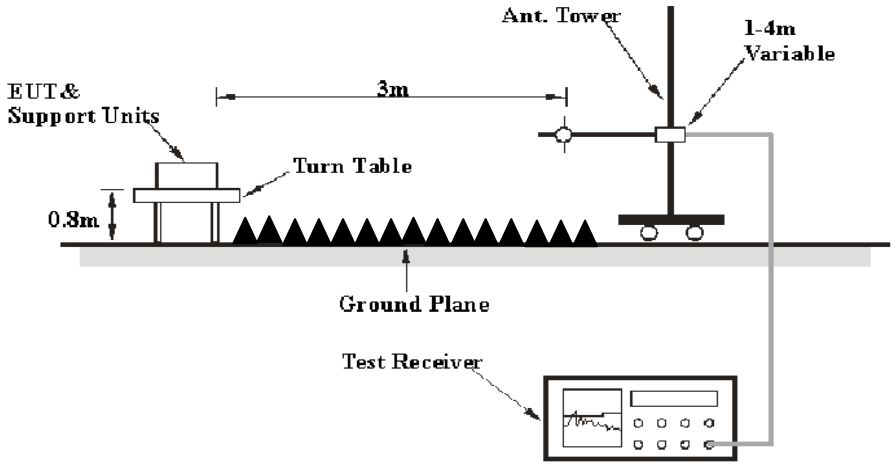
Based on CISPR 16-4-2:2011, the expended combined standard uncertainty of radiation emissions at Bay Area Compliance Laboratories Corp. (Kunshan) is 5.91 dB for 30MHz-1GHz and 4.92 dB for above 1GHz, 1.95dB for conducted measurement at antenna port. And the uncertainty will not be taken into consideration for the test data recorded in the report

EUT Setup

Below 1 GHz:



Above 1GHz:



The radiated emission tests were performed in the 3 meters test site, using the setup accordance with the ANSI C63.4-2009. The specification used was the FCC 15.209, and FCC 15.247 limits.

The adapter was connected to a 120 VAC/60 Hz power source.

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 1 GHz.

During the radiated emission test, the EMI test receiver & Spectrum Analyzer Setup were set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Detector
30 MHz – 1000 MHz	100 kHz	300 kHz	120 kHz	QP
Above 1 GHz	1MHz	3 MHz	/	PK
	1MHz	10 Hz	/	Ave.

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Data was recorded in Quasi-peak detection mode for frequency range of 30 MHz-1 GHz, peak and Average detection modes for frequencies above 1 GHz.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sonoma Instrunent	Amplifier	330	171377	2014-09-16	2015-09-16
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2014-09-16	2015-09-16
Sunol Sciences	Broadband Antenna	JB3	A090314-1	2014-09-12	2015-09-12
ETS	Horn Antenna	3115	6229	2014-09.-12	2015-09-12
Rohde & Schwarz	Signal Analyzer	FSIQ26	100048	2014-09-16	2015-09-16
Mini	Pre-amplifier	ZVA-183-S+	857001418	2014-09-16	2015-09-16
champrotek	Chamber	Chamber A	1#	2014-09-17	2015-09-17
R&S	Auto test Software	EMC32	V 09.10.0	-	-

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin = Limit – Corrected Amplitude

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, Subpart C, section 15.205, 15.209 and 15.247.

2.27 at 7386.79 MHz in the vertical polarization

Refer to CISPR16-4-2:2011 and CISPR 16-4-1:2009, the measured level complies with the limit if

$$L_m + U_{(Lm)} \leq L_{lim} + U_{cispr}$$

In BACL, $U_{(Lm)}$ is less than U_{cispr}, if L_m is less than L_{lim}, it implies that the EUT complies with the limit.

Test Data

Environmental Conditions

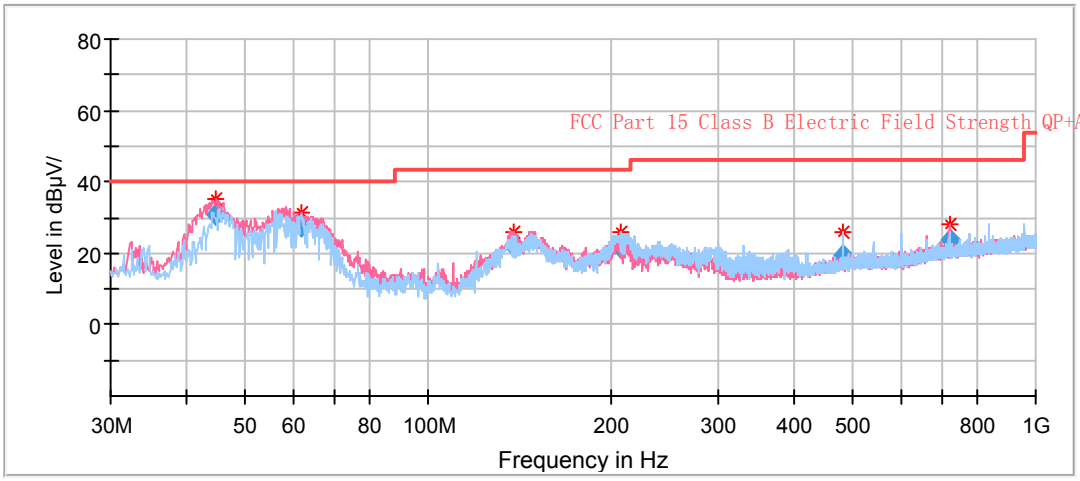
Temperature:	25 ℃
Relative Humidity:	55 %
ATM Pressure:	101.0 kPa

The testing was performed by Matt Yao on 2015-07-06.

EUT operation mode: Charging & Transmitting

30 MHz-1 GHz:

The worst case was performed under 802.11b mode



Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBµV/m)	FCC Part 15.247/205/209	
	Reading (dBµV)	Detector (PK/QP/Ave.)		Height (cm)	Polar (H/V)			Limit (dB µ V/m)	Margin (dB)
44.792500	43.99	QP	63.0	100.0	V	-13.2	30.79	40.00	9.21
61.767500	44.31	QP	30.0	100.0	V	-16.7	27.61	40.00	12.39
138.155000	34.13	QP	115.0	100.0	V	-12.1	22.03	43.50	21.47
207.267500	33.81	QP	288.0	200.0	H	-12.3	21.51	43.50	21.99
480.080000	25.6	QP	52.0	100.0	H	-6.0	19.60	46.00	26.40
720.033750	25.77	QP	222.0	100.0	V	-2.1	23.67	46.00	22.33

1GHz-25GHz

802.11b Mode:

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (cm)	Polar (H/V)			Limit (dB μ V/m)	Margin (dB)
Low Channel (2412 MHz)									
2412.00	95.28	PK	87	100	H	3.0	98.16	/	/
2412.00	90.19	Ave.	87	100	H	3.0	93.07	/	/
2412.00	96.87	PK	61	100	V	3.0	99.75	/	/
2412.00	91.34	Ave.	61	100	V	3.0	94.22	/	/
2351.34	43.2	PK	60.0	100	V	2.5	45.58	74	28.27
2351.34	29.76	Ave.	60.0	100	V	2.5	32.14	54	21.71
2382.76	48.19	PK	67.0	100	V	7.1	55.17	74	18.68
2382.76	35.29	Ave.	67.0	100	V	7.1	42.27	54	11.58
4823.65	43.96	PK	338.0	100	V	11.7	55.54	74	18.31
4823.65	35.83	Ave	338.0	100	V	11.7	47.41	54	6.44
6749.80	46.9	PK	270	100	V	7.1	53.88	74	19.97
6749.80	33.47	Ave.	270	100	V	7.1	40.45	54	13.4
7236.40	48.46	PK	219.0	161	H	17.2	65.54	74	8.31
7236.40	34.3	Ave	219.0	161	H	17.2	51.38	54	2.47

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (cm)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
Middle Channel (2437 MHz)									
2437.00	92.53	PK	262	100	H	3.1	95.64	/	/
2437.00	90.05	Ave.	262	100	H	3.1	93.16	/	/
2437.00	93.62	PK	196	190	V	3.1	96.73	/	/
2437.00	91.01	Ave.	196	190	V	3.1	94.12	/	/
1589.17	38.08	PK	111	200	V	-0.3	37.79	74	36.21
1589.17	23.53	Ave.	111	200	V	-0.3	23.24	54	30.76
3244.48	39.53	PK	40	100	V	7.2	46.74	74	27.26
3244.48	32.35	Ave.	40	100	V	7.2	39.56	54	14.44
4874.74	44.64	PK	348	160	V	11.7	56.35	74	17.65
4874.74	32.35	Ave.	348	160	V	11.7	44.06	54	9.94
6653.30	49.85	PK	143.0	148	H	16.1	65.96	74	8.04
6653.30	35.51	Ave	143.0	148	H	16.1	51.62	54	2.38
7311.62	48.07	PK	168.0	100	V	17.4	65.48	74	8.52
7311.62	33.97	Ave	168.0	100	V	17.4	51.38	54	2.62

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (cm)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
High Channel (2462 MHz)									
2462.00	95.6	PK	60.0	100	H	3.2	98.79	/	/
2462.00	92.8	Ave.	60.0	100	H	3.2	95.99	/	/
2462.00	93.46	PK	60.0	100	V	3.2	96.65	/	/
2462.00	90.63	Ave.	60.0	100	V	3.2	93.82	/	/
2136.27	37.19	PK	100.0	200	V	2.5	39.68	74	34.32
2136.27	24.42	Ave.	100.0	200	V	2.5	26.91	54	27.09
2507.33	47.52	PK	325.0	180	V	3.3	50.81	74	23.19
2507.33	33.93	Ave.	325.0	180	V	3.3	37.22	54	16.78
2553.70	40.49	PK	61.0	100	V	3.6	44.08	74	29.92
2553.70	26.87	Ave.	61.0	100	V	3.6	30.46	54	23.54
4923.85	44.68	PK	76.0	130	V	11.8	56.47	74	17.53
4923.85	32.03	Ave	76.0	130	V	11.8	43.82	54	10.18
7386.68	49.31	PK	167.0	100	V	17.5	66.8	74	7.2
7386.68	34.07	Ave	167.0	100	V	17.5	51.56	54	2.44

802.11g Mode:

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (cm)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
Low Channel (2412 MHz)									
2412.00	91.06	PK	211	100	H	3.1	96.17	/	/
2412.00	90.42	Ave.	211	100	H	3.1	94.53	/	/
2412.00	91.66	PK	314	200	V	3.1	93.77	/	/
2412.00	90.44	Ave.	314	200	V	3.1	92.55	/	/
2336.75	43.59	PK	66	160	V	2.9	46.5	74	27.5
2336.75	31.29	Ave.	66	160	V	2.9	34.2	54	19.8
3216.43	44.32	PK	95	160	V	7.1	51.43	74	22.57
3216.43	37.81	Ave.	95	160	V	7.1	44.92	54	9.08
2365.09	43.69	PK	199	200	V	3.0	46.7	74	27.3
2365.09	30.6	Ave.	199	200	V	3.0	33.61	54	20.39
4824.65	54.08	PK	155.0	129	V	11.7	65.79	74	8.21
4824.65	39.09	Ave	155.0	129	V	11.7	50.8	54	3.2
7236.42	48.63	PK	2.0	100	V	17.3	65.94	74	8.06
7236.42	33.74	Ave	2.0	100	V	17.3	51.05	54	2.95

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (cm)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
Middle Channel (2437 MHz)									
2437.00	91.77	PK	156	100	H	3.1	96.86	/	/
2437.00	90.89	Ave.	156	100	H	3.1	94.98	/	/
2437.00	91.31	PK	225	200	V	3.1	93.4	/	/
2437.00	90.59	Ave.	225	200	V	3.1	92.68	/	/
3244.48	40.25	PK	318	170	V	7.2	47.44	74	26.56
3244.48	26.41	Ave.	318	170	V	7.2	33.6	54	20.4
3903.80	43.14	PK	132	120	V	9.7	52.83	74	21.17
3903.80	29.89	Ave.	132	120	V	9.7	39.58	54	14.42
4874.74	51.03	PK	267	200	V	11.7	62.72	74	11.28
4874.74	36.42	Ave.	267	200	V	11.7	48.11	54	5.89
6639.27	51.41	PK	50.0	148	H	14.0	65.4	74	8.6
6639.27	37.46	Ave	50.0	148	H	14.0	51.45	54	2.55
7311.65	48.18	PK	200.0	100	V	17.5	65.67	74	8.33
7311.65	33.98	Ave	200.0	100	V	17.5	51.47	54	2.53

Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	FCC Part 15.247/205/209	
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (cm)	Polar (H/V)			Limit (dBμV/m)	Margin (dB)
High Channel (2462 MHz)									
2462.00	90.38	PK	54	180	H	3.1	96.48	/	/
2462.00	90.12	Ave.	54	180	H	3.1	94.22	/	/
2462.00	90.9	PK	146	210	V	3.1	93	/	/
2462.00	90.22	Ave.	146	210	V	3.1	92.32	/	/
2500.04	41.55	PK	124	220	V	3.2	44.75	74	29.25
2500.04	27.67	Ave.	124	220	V	3.2	30.87	54	23.13
2563.08	41.63	PK	301	200	V	3.6	45.23	74	28.77
2563.08	28.35	Ave.	301	200	V	3.6	31.95	54	22.05
4924.85	50.52	PK	286	140	V	11.8	62.32	74	11.68
4924.85	36.24	Ave.	286	140	V	11.8	48.04	54	5.96
6653.30	51.35	PK	138.0	100	H	16.1	67.45	54	6.55
6653.30	35.51	Ave.	138.0	100	H	16.1	51.61	74	2.39
7386.79	48.87	PK	221.0	200	V	17.6	66.47	74	7.53
7386.79	34.13	Ave.	221.0	100	V	17.6	51.73	54	2.27

*FCC §15.247(a) (2) – 6 dB EMISSION BANDWIDTH

Applicable Standard

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect it to measurement instrument. Then set it to any one convenient frequency within its operating range. Set a reference level on the measuring instrument equal to the highest peak value.
3. Measure the frequency difference of two frequencies that were attenuated 6 dB from the reference level. Record the frequency difference as the emission bandwidth.
4. Repeat above procedures until all frequencies measured were complete.

Test Data

Compliance*: Please refer to the report number： BZT-20140213250F2 in page 61 Section 5
Create by BZT Testing Technology Co., Ltd.
（FCC ID： 2AAZDS1XN2014）

*FCC §15.247(b) (3) - MAXIMUM CONDUCTED OUTPUT POWER

Applicable Standard

According to FCC §15.247(b) (3), for systems using digital modulation in the 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

Test Procedure

1. Place the EUT on a bench and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to one test equipment.
3. Add a correction factor to the display.

Test Data

Compliance*: Please refer to the report number： BZT-20140213250F2 in page 68 Section 6
Create by BZT Testing Technology Co., Ltd.
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*FCC §15.247(d) – 100 kHz BANDWIDTH OF FREQUENCY BAND EDGE

Applicable Standard

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

Test Procedure

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Position the EUT without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
3. Set RBW to 100 kHz and VBW of spectrum analyzer to 300 kHz with a convenient frequency span including 100 kHz bandwidth from band edge.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.

Test Data

Compliance*: Please refer to the report number： BZT-20140213250F2 in page 42 Section 3.2.8
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*FCC §15.247(e) - POWER SPECTRAL DENSITY

Applicable Standard

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

Test Procedure

According to KDB558074 D01 DTS Meas Guidance v03r02 sub-clause 10.2

1. Use this procedure when the maximum peak conducted output power in the fundamental emission is used to demonstrate compliance.
2. Set the RBW to: 3kHz≤ RBW≤100 kHz.
3. Set the VBW ≥ 3×RBW.
4. Set the span to 1.5 times the DTS bandwidth.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

Test Data

Compliance*: Please refer to the report number： BZT-20140213250F2 in page 54 Section 4
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******* END OF REPORT *******