Full

TEST REPORT

No. I17D00009-WLA

For

Client : Hisense International Co., Ltd

Production : Smartphone

Model Name : Hisense F102

FCC ID: 2ADOBF102

Hardware Version: V1.00

Software Version: L1307.6.01.05.MX06

Issued date: 2017-02-20

Note:

The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of ECIT Shanghai.

Test Laboratory:

ECIT Shanghai, East China Institute of Telecommunications

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Revision Version

Report Number	Revision	Date	Memo
I17D00009-WLAN	00	2017-02-20	Initial creation of test report

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1. Test Laboratory

1.1. Testing Location

Company Name:	ECIT Shanghai, East China Institute of Telecommunications
Address:	7-8F, G Area, No. 668, Beijing East Road, Huangpu District, Shanghai, P. R. China
Postal Code:	200001
Telephone:	(+86)-021-63843300
Fax:	(+86)-021-63843301

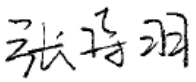
1.2. Testing Environment

Normal Temperature:	15-35℃
Extreme Temperature:	-10/+55℃
Relative Humidity:	20-75%

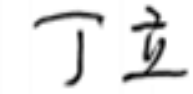
1.3. Project data

Project Leader:	Yu Anlu
Testing Start Date:	2017-01-10
Testing End Date:	2017-02-10

1.4. Signature



Zhang Shiyu
(Prepared this test report)



Ding Li
(Reviewed this test report)

Zheng Zhongbin
Director of the laboratory
(Approved this test report)

2. Client Information

2.1. Applicant Information

Company Name:	Hisense International Co., Ltd
Address:	Floor 22, Hisense Tower, 17 Donghai Xi Road, Qingdao, 266071, China
Postcode:	266010
Email:	zhangkelin@hisense.com

2.2. Manufacturer Information

Company Name:	Hisense Communications Co., Ltd.
Address:	218 Qianwangang Road, Economic & Technological Development Zone, Qingdao, Shandong Province, P.R. China
Postcode:	266510
Email:	Xuxin2@hisense.com

3. Equipment Under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

EUT Description	Smartphone
Model name	Hisense F102
WLAN Frequency	2412MHz-2472MHz
WLAN Channel	Channel1-Channel13
WLAN type of modulation	802.11b:DSSS 802.11g/n: OFDM
Extreme Temperature	-10/+55℃
Nominal Voltage	3.8V
Extreme High Voltage	4.35V
Extreme Low Voltage	3.5 V

Note: Photographs of EUT are shown in ANNEX A of this test report.

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
N10	008601601621565	V1.00	L1307.6.01.05.MX06	2017-01-10

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Internal Identification of AE used during the test

AE ID*	Description	SN
AE1	RF cable	---
AE2	---	---

*AE ID: is used to identify the test sample in the lab internally.

4. Reference Documents

4.1. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part15	FCC CFR 47, Part 15,Subpart C: 15.205 Restricted bands of operation; 15.209 Radiated emission limits, general requirements; 15.247 Operation within the bands 902-928MHz, 2400-2483.5MHz, and 5725-5850MHz.	Jun,2016 Edition
ANSI 63.10	Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9KHz to 40GHz	2013

5. Summary of Test Results

A brief summary of the tests carried out is shown as following.

Measurement Items	Sub-clause of Part15C	Sub-clause of IC	Verdict
Transmitter Spurious Emission-Radiated	15.247,15.209,	/	P

Please refer to part 5 for detail.

The measurements are according to Public notice KDB558074 and ANSI C63.4.

Terms used in Verdict column

P	Pass, the EUT complies with the essential requirements in the standard.
NP	Not Perform, the test was not performed by ECIT.
NA	Not Applicable, the test was not applicable.
F	Fail, the EUT does not comply with the essential requirements in the standard.

Test Conditions

Tnom	Normal temperature
Tmin	Low Temperature
Tmax	High Temperature
Vnom	Normal Voltage
Vmin	Low Voltage
Vmax	High Voltage
Hnom	Norm Humidity
Anom	Norm Air Pressure

For this report, all the test case listed above are tested under Normal Temperature and Normal Voltage, and also under norm humidity, the specific conditions as following:

Temperature	Tnom	22℃
Voltage	Vnom	3.7V
Humidity	Hnom	32%
Air Pressure	Anom	1010hPa

5.1. Notes

All reported tests were carried out on a sample equipment to demonstrate limited compliance with section 3.

The test results of this test report relate exclusively to the item(s) tested as specified in section 5.

The following deviation from, additions to, or exclusions from the test specifications have been made. See section 3.

5.2. Statements

The product name Hisense F102, supporting GSM/GPRS/EDGE/WCDMA/HSDPA/HSUPA/HSPA+/LTE/WLAN/BT/BLE, manufactured by Hisense International Co., Ltd. is a variant product for testing. According to the variant description, there is no case to be retested except RSE. The other test results please refer to I16D00249-WLA which is the test report for the initial product of Hisense F102.

ECIT has verified that the compliance of the tested device specified in section 5 of this test report is successfully evaluated according to the procedure and test methods as defined in type certification requirement listed in section 5 of this test report.

6. Test result

6.1. Transmitter Spurious Emission-Radiated

6.6.1 Measurement Limit:

Standard	Limit
FCC 47 CFR Part 15.247,15.205,15.209	20dB below peak output power

In addition, radiated emissions which fall in the restricted bands, as defined in 25.205(a), must also comply with the radiated emission limits specified in 15.209(a)(see 15.205(c)). The measurement is according to ANSI C63.10 clause 11.11 and 11.12.

6.6.2 Limit in restricted band:

Frequency of emission(MHz)	Field strength(uV/m)	Field strength(dBuV/m)
30~88	100	40
88~216	150	43.5
216~960	200	46
Above 960	500	54

6.6.3 Test procedures

Portable, small, lightweight, or modular devices that may be handheld, worn on the body, or placed on a table during operation shall be positioned on a nonconducting platform, the top of which is 80 cm above the reference ground plane. The preferred area occupied by the EUT arrangement is 1 m by 1.5 m, but it may be larger or smaller to accommodate various sized EUTs. For testing purposes, ceiling- and wall-mounted devices also shall be positioned on a tabletop (see also ANSI C63.4-2014 section 6.3.4 and 6.3.5). In making any tests involving handheld, body-worn, or ceiling-mounted equipment, it is essential to recognize that the measured levels may be dependent on the orientation (attitude) of the three orthogonal axes of the EUT. Thus, exploratory tests as specified in 8.3.1 shall be carried out for various axes orientations to determine the attitude having maximum or near-maximum emission level.

The EUT was placed on a non-conductive table. The measurement antenna was placed at a distance of 3 meters from the EUT. During testing, the antenna height and the EUT azimuth were varied in order to identify the maximum level of emission from the EUT. This maximization process was repeated with the EUT positioned in each of its three rthogonal orientations.

Frequency of emission (MHz)	RBW/VBW	Sweep Times (s)

30~1000	100KHz/300KHz	5
1000~4000	1MHz/1MHz	15
4000~18000	1MHz/1MHz	40
18000~26500	1MHz/1MHz	20

802.11b/g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	Power	2.38GHz~2.45GHz	Fig.43	P
	Power	2.45GHz~2.5GHz	Fig.44	P
	1	30MHz~1GHz	Fig.45	P
		1GHz~3GHz	Fig.46	P
		3GHz~18GHz	Fig.47	P
	Power	2.38GHz~2.45GHz	Fig.48	P
	Power	2.45GHz~2.5GHz	Fig.49	P
	12	30MHz~1GHz	Fig.50	P
		1GHz~3GHz	Fig.51	P
		3GHz~18GHz	Fig.52	P
	Power	2.38GHz~2.45GHz	Fig.53	P
	Power	2.45GHz~2.5GHz	Fig.54	P
	13	30MHz~1GHz	Fig.55	P
		1GHz~3GHz	Fig.56	P
		3GHz~18GHz	Fig.57	P
802.11g	Power	2.38GHz~2.45GHz	Fig.58	P
	Power	2.45GHz~2.5GHz	Fig.59	P
	1	30MHz~1GHz	Fig.60	P
		1GHz~3GHz	Fig.61	P
		3GHz~18GHz	Fig.62	P

	Power	2.38GHz~2.45GHz	Fig.63	P
	Power	2.45GHz~2.5GHz	Fig.64	P
	12	30MHz~1GHz	Fig.65	P
		1GHz~3GHz	Fig.66	P
		3GHz~18GHz	Fig.67	P
	Power	2.38GHz~2.45GHz	Fig.68	P
	Power	2.45GHz~2.5GHz	Fig.69	P
	12	30MHz~1GHz	Fig.70	P
		1GHz~3GHz	Fig.71	P
		3GHz~18GHz	Fig.72	P

802.11n mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11n(20MHz)	Power	2.38GHz~2.45GHz	Fig.73	P
	Power	2.45GHz~2.5GHz	Fig.74	P
	11	30MHz~1GHz	Fig.75	P
		1GHz~3GHz	Fig.76	P
		3GHz~18GHz	Fig.77	P
	Power	2.38GHz~2.45GHz	Fig.78	P
	Power	2.45GHz~2.5GHz	Fig.70	P
	12	30MHz~1GHz	Fig.80	P
		1GHz~3GHz	Fig.81	P
		3GHz~18GHz	Fig.82	P
	Power	2.38GHz~2.45GHz	Fig.83	P
	Power	2.45GHz~2.5GHz	Fig.84	P
	13	30MHz~1GHz	Fig.85	P
		1GHz~3GHz	Fig.86	P

		3GHz~18GHz	Fig.87	P

Conclusion: PASS

Note:

A "reference path loss" is established and A_{Rpi} is the attenuation of "reference path loss", and including the gain of receive antenna , the gain of the preamplifier, the cable loss.

P_{Mea} is the field strength recorded from the instrument.

The measurement results are obtained as described below:

ARpi = Cable loss + Antenna Gain-Preamplifier gain

Result = P_{Mea} + Cable loss + Antenna Gain-Preamplifier gain = P_{Mea} + ARpi .

802.11b mode

Ch1 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
33.875456	10.6	-26.8	37.4	V
40.29222	8.61	-25.8	34.41	V
48.78828	7.55	-25.8	33.35	V
70.734836	2.2	-29.1	31.3	V
848.81866	19.64	-9.5	29.14	H
924.992408	21.64	-7.7	29.34	V

Ch1 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2828.533653	53.22	10.4	42.82	H
2852.448077	53.28	10.8	42.48	H
2871.612693	53.26	10.8	42.46	V
2930.401539	53.14	10.7	42.44	V
2961.243846	53.29	10.8	42.49	V
2979.029039	53.66	11.1	42.56	H

Ch1 3GHz~18GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
15790.55107	57.85	24.6	33.25	H
16003.92867	59.88	25.3	34.58	H

16482.40633	58.76	26.7	32.06	V
16823.2108	60.57	27.3	33.27	H
17283.98313	61.02	28.1	32.92	V
17655.51527	61.23	29	32.23	H

Ch12 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
34.49956	14.87	-26.8	41.67	V
49.423404	7.21	-25.8	33.01	V
90.734496	4.98	-26.1	31.08	V
220.893492	12.62	-24.5	37.12	V
429.8706	12.29	-17	29.29	V
612.563836	16.37	-12.8	29.17	V

Ch12 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2550.167116	51.84	8.4	43.44	V
2623.059038	51.62	9	42.62	H
2784.947884	52.73	9.7	43.03	V
2878.048846	53.85	10.8	43.05	H
2932.743653	53.1	10.7	42.4	V
2994.709231	53.44	11.4	42.04	V

Ch12 3GHz~18GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
12209.64167	52.29	14.8	37.49	V
13012.17413	52.59	16.9	35.69	H
14311.06547	55.15	20.7	34.45	H
15486.44113	57.4	23.3	34.1	V

16180.5056	59.23	25.5	33.73	H
17530.40973	61.26	29.3	31.96	H

Ch13 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
32.099752	7.01	-26.9	33.91	V
34.06526	14.58	-26.8	41.38	V
42.190964	6.76	-25.8	32.56	V
51.608168	4.87	-25.9	30.77	V
788.646884	18.15	-10.8	28.95	H
890.696412	20.73	-8.2	28.93	V

Ch13 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2799.850962	52.57	9.8	42.77	H
2840.067693	54.1	10.6	43.5	V
2870.670961	52.87	10.8	42.07	H
2889.945193	53.3	10.8	42.5	H
2944.396154	54.36	10.7	43.66	V
2996.540769	53.75	11.4	42.35	H

Ch13 3GHz~18GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
11527.00153	51.43	14.5	36.93	H
12772.9618	52.65	16.7	35.95	V
14260.9716	55.05	20.2	34.85	H
15423.61627	57.2	23.2	34	H
16765.7262	59.34	26.5	32.84	H
17566.45073	62.5	29.4	33.1	H

802.11g

Ch1 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
33.49738	10.42	-26.8	37.22	V
34.201264	10.98	-26.8	37.78	V
36.304716	8.76	-26.5	35.26	V
41.263116	8.87	-25.8	34.67	V
47.251688	4.83	-25.8	30.63	V
931.04254	21.62	-7.6	29.22	H

Ch1 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2772.642693	52.83	9.6	43.23	H
2799.449231	53.61	9.8	43.81	H
2851.129039	54	10.8	43.2	V
2896.861538	54.3	10.8	43.5	H
2931.022885	53.55	10.7	42.85	V
2989.700577	54.65	11.3	43.35	H

Ch1 3GHz~18GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
14882.73273	55.84	21.9	33.94	V
15458.06047	56.8	23.3	33.5	V
16199.9738	59.07	25.7	33.37	H
16512.70387	59.89	26.8	33.09	H
16837.17467	60.2	27.3	32.9	V
17491.12387	61.91	29	32.91	V

Ch12 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
32.999508	10.07	-26.8	36.87	V
34.423168	16.12	-26.8	42.92	V
38.5428	5.92	-26.1	32.02	V
45.245888	8.01	-25.8	33.81	V
88.40846	2.75	-26.6	29.35	V
882.632884	20.5	-8.4	28.9	H

Ch12 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2822.984423	53.99	10.3	43.69	V
2857.113269	52.97	10.8	42.17	V
2909.890962	53.56	10.8	42.76	H
2925.872308	53.53	10.7	42.83	V
2957.686731	53.7	10.8	42.9	H
2993.015769	54.85	11.3	43.55	H

Ch12 3GHz~18GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
14884.41353	55.8	21.9	33.9	V
15730.29547	57.59	24.1	33.49	V
16429.847	58.46	26	32.46	H
16865.6704	59.88	27.2	32.68	V
17591.62587	61.98	29.5	32.48	H

Ch13 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
34.435324	13.52	-26.8	40.32	V
38.760392	5.09	-26	31.09	V

85.860256	3.4	-27.3	30.7	H
94.53672	5.47	-25.6	31.07	V
840.726788	19.35	-9.7	29.05	V
903.34312	20.71	-8.1	28.81	V

Ch13 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2704.101539	52.43	9.5	42.93	V
2857.41673	52.79	10.8	41.99	H
2870.89923	53.33	10.8	42.53	H
2909.443077	53.69	10.8	42.89	V
2940.276924	53.87	10.7	43.17	H
2985.451923	54.22	11.2	43.02	V

Ch13 3GHz~18GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
15431.27927	56.9	23.2	33.7	V
15849.07487	57.99	24.7	33.29	V
16159.94213	58.66	25.3	33.36	V
16807.09867	59.85	27.4	32.45	V
17089.80427	59.58	27.1	32.48	H
17463.21873	61.35	28.8	32.55	V

802.11n-20MHz

Ch11 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
33.713364	12.24	-26.8	39.04	V
35.251408	8.18	-26.7	34.88	V
41.122728	8.98	-25.8	34.78	H

83.977508	1.86	-27.9	29.76	H
767.049348	17.64	-11.2	28.84	H
933.215936	21.44	-7.6	29.04	V

Ch11 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2839.901923	53.38	10.6	42.78	V
2868.033654	53.14	10.8	42.34	V
2900.065	54.06	10.8	43.26	H
2955.711347	53.24	10.8	42.44	V
2981.955577	53.74	11.2	42.54	V
2994.96577	54.6	11.4	43.2	H

Ch11 3GHz~18GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
15526.354	57.04	23.2	33.84	H
16021.03813	59.65	25.2	34.45	H
16456.24427	58.28	26.3	31.98	V
16802.45053	60.04	27.4	32.64	V
17333.39427	61.27	28.4	32.87	V
17558.186	62.18	29.4	32.78	V

Ch12 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
33.83598	13.73	-26.8	40.53	V
34.320768	14.53	-26.8	41.33	V
51.84668	5.63	-25.9	31.53	H
88.755792	3.59	-26.5	30.09	V
693.277232	16.87	-12.1	28.97	H

924.516824	21.64	-7.7	29.34	V

Ch12 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2748.578846	51.55	9.4	42.15	V
2797.281154	52.94	9.7	43.24	H
2842.329615	53.17	10.7	42.47	V
2882.942307	54.07	10.8	43.27	H
2906.248269	53.47	10.8	42.67	H
2918.9475	53.27	10.7	42.57	V

Ch12 3GHz~18GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
14913.69647	56.22	22.1	34.12	H
15402.4312	56.56	23.2	33.36	H
15808.39687	58.42	24.7	33.72	V
16241.62093	58.54	25.5	33.04	H
16990.49173	60.95	27.1	33.85	V
17570.0204	61.87	29.4	32.47	H

Ch13 30MHz~1GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
33.622004	29.76	-26.8	56.56	V
36.712636	23.85	-26.4	50.25	V
38.92938	29.66	-26	55.66	V
42.210572	26.31	-25.8	52.11	V
87.593492	19.63	-26.8	46.43	H
904.103532	20.71	-8	28.71	V

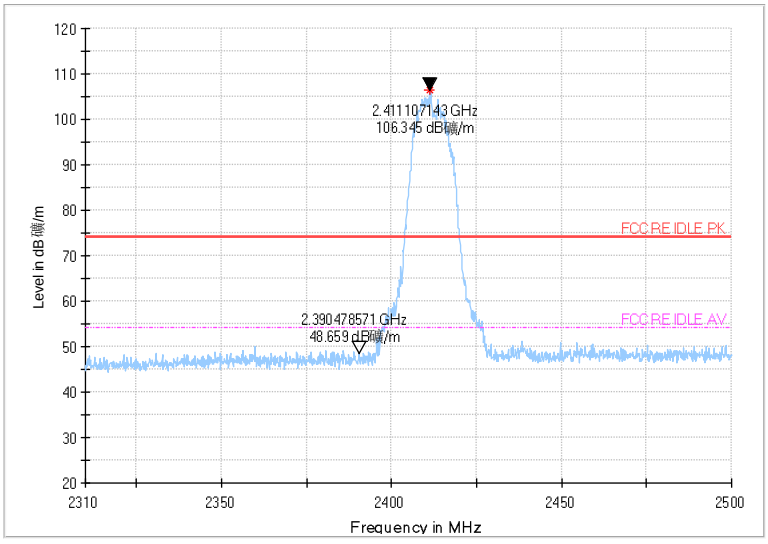
Ch13 1GHz~3GHz

Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
2751.344423	53.29	9.4	43.89	H
2813.059808	53.58	10.1	43.48	V
2837.763846	53.2	10.6	42.6	V
2900.553846	54.3	10.8	43.5	V
2964.384808	53.15	10.9	42.25	H
2995.136923	53.56	11.4	42.16	V

Ch13 3GHz~18GHz

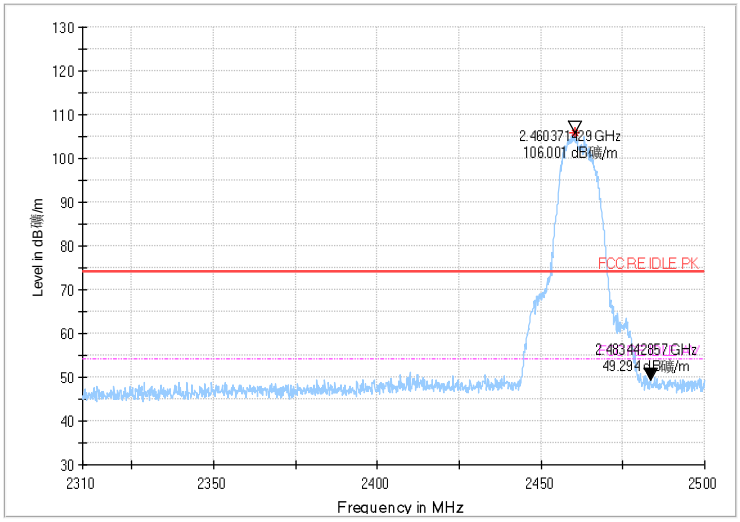
Frequency(MHz)	Result(dBuV/m)	ARpl (dB)	PMea(dBuV/m)	Polarity
14954.62933	56.01	21.9	34.11	H
15365.7814	56.53	22.7	33.83	H
15879.99707	58.08	24.7	33.38	V
16471.6136	59.14	26.6	32.54	V
17007.09307	60.96	27.1	33.86	H
17509.8858	62.09	29.2	32.89	V

Test graphs as below:



Peak detector

Fig.43 Radiated emission (Power): 802.11b, low channel



Peak detector

Fig.44 Radiated emission (Power): 802.11b, high channel

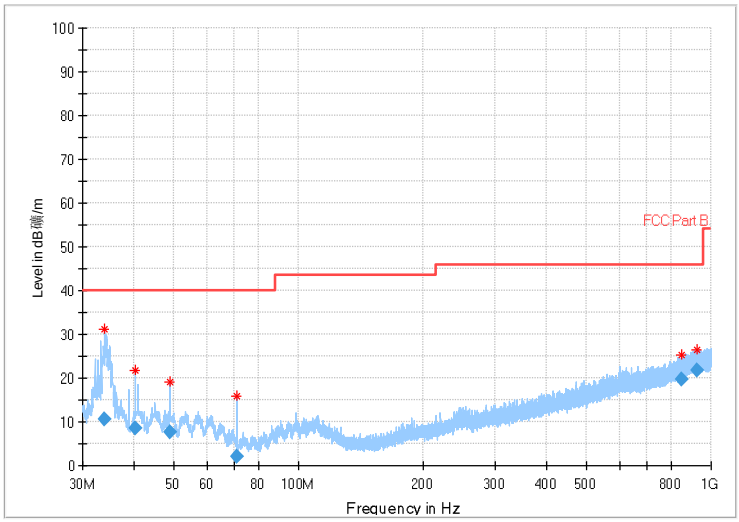


Fig.45 Radiated Spurious Emission (802.11b,Ch1,30MHz~1GHz)

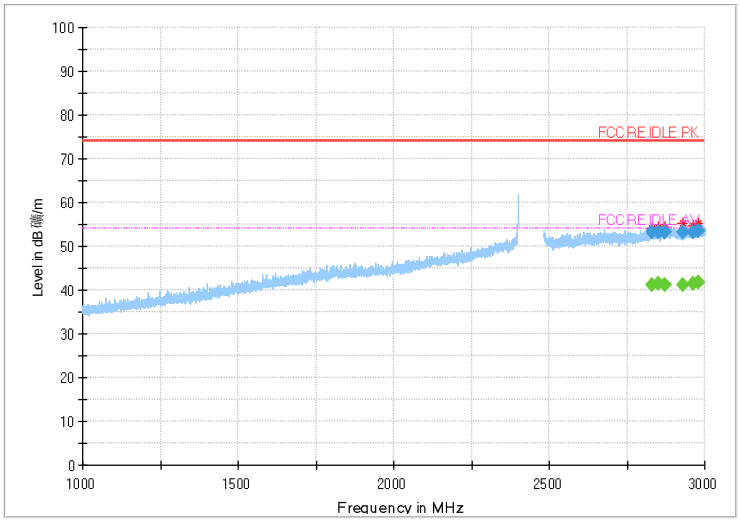


Fig.46 Radiated Spurious Emission (802.11b,Ch1,1GHz~3GHz)

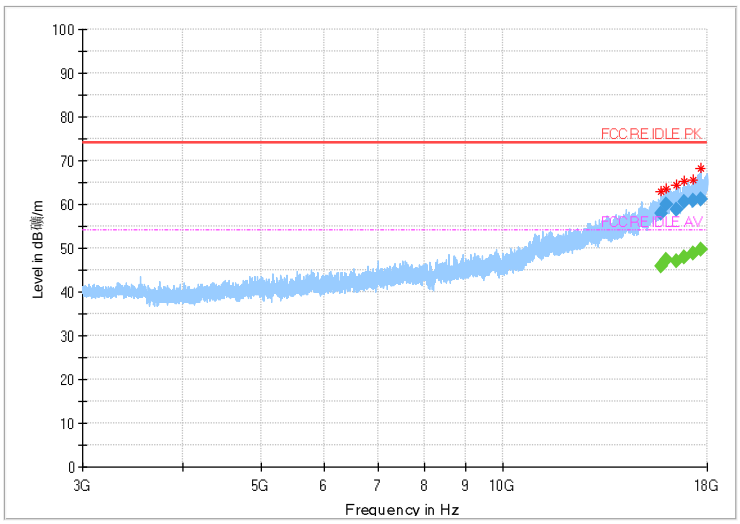
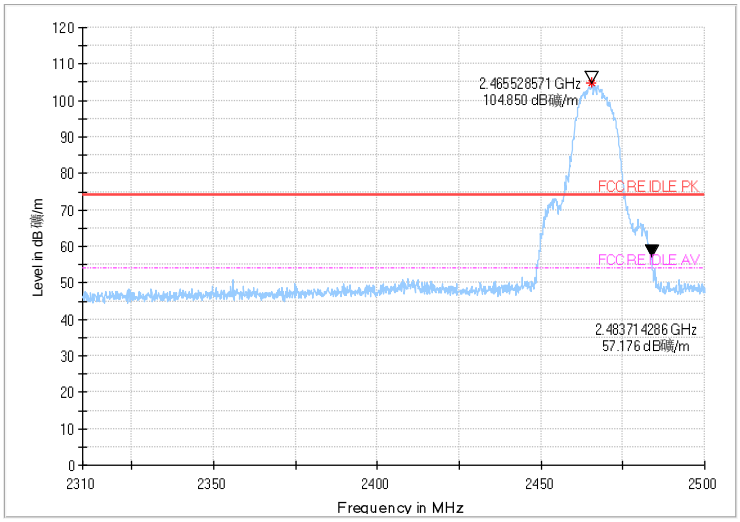
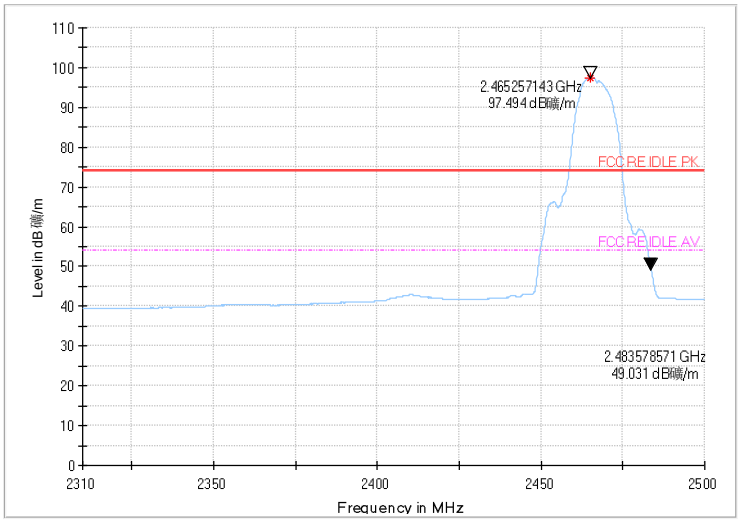


Fig.47 Radiated Spurious Emission (802.11b,Ch1,3GHz~18GHz)



Peak detector



AV detector

Radiated emission (Power): 802.11b, channel 12

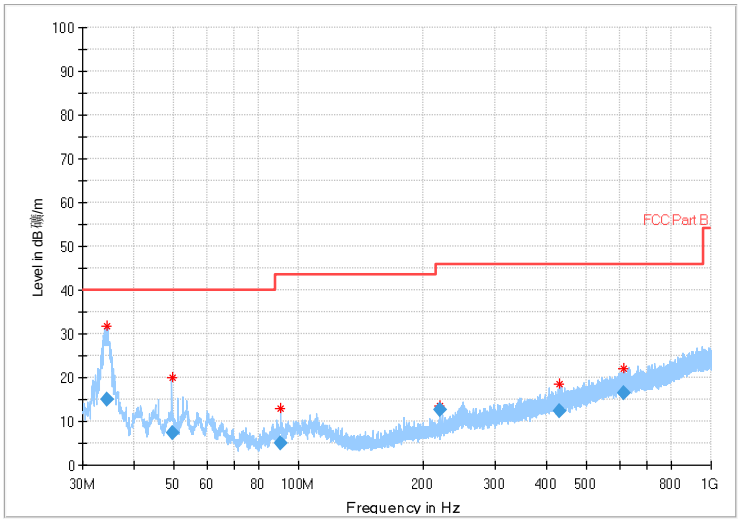


Fig.48 Radiated Spurious Emission (802.11b,Ch12,30MHz~1GHz)

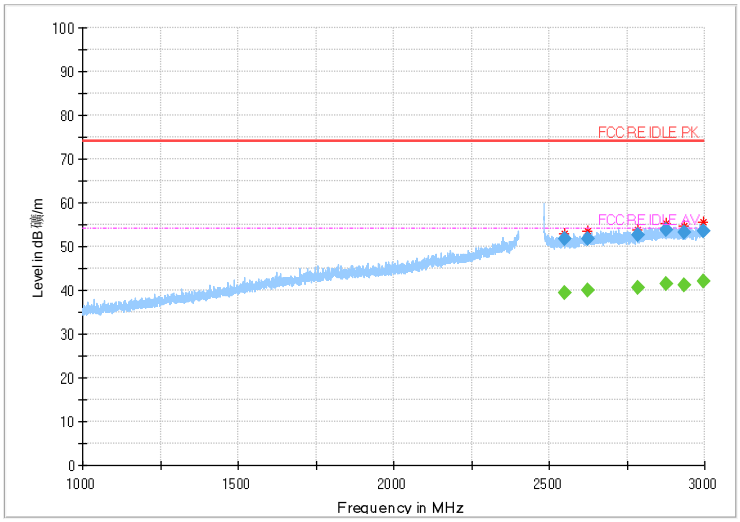


Fig.49 Radiated Spurious Emission (802.11b,Ch12,1GHz~3GHz)

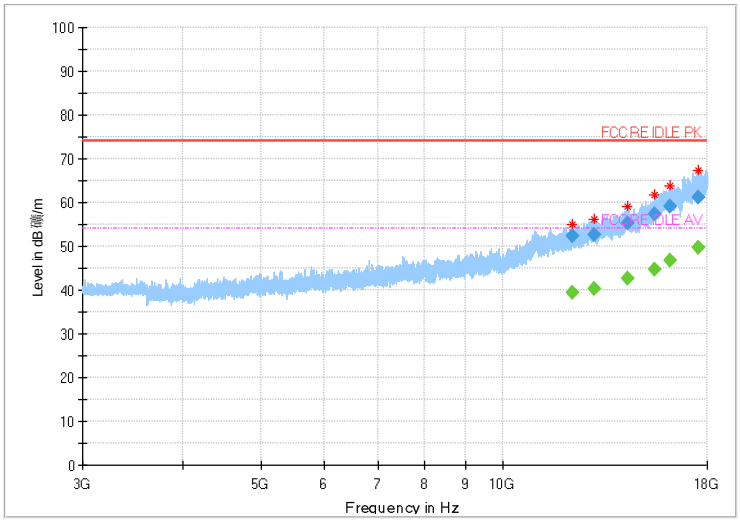
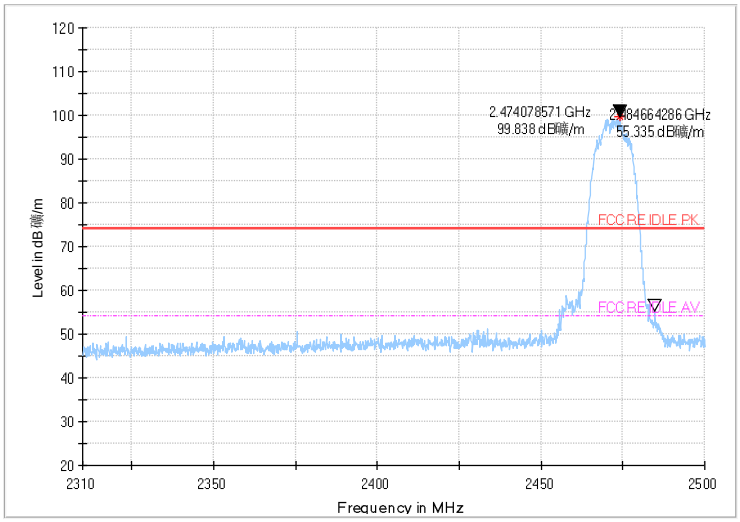
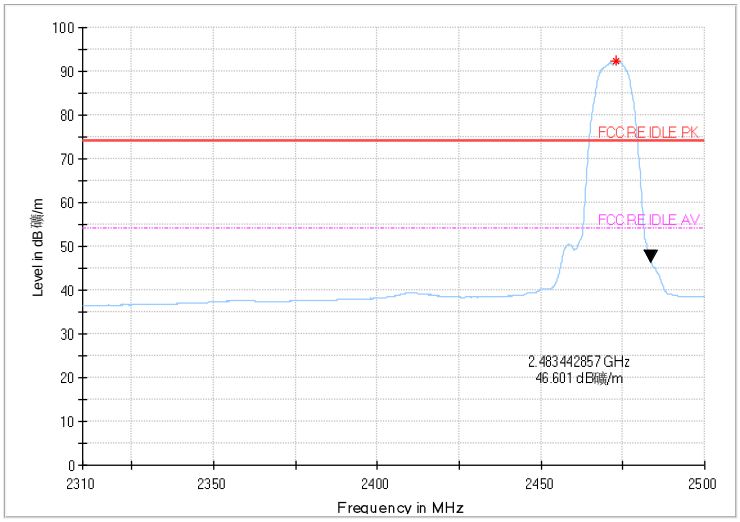


Fig.50 Radiated Spurious Emission (802.11b,Ch12,3GHz~18GHz)



PK detector



AV detector

Radiated emission (Power): 802.11b, channel 13

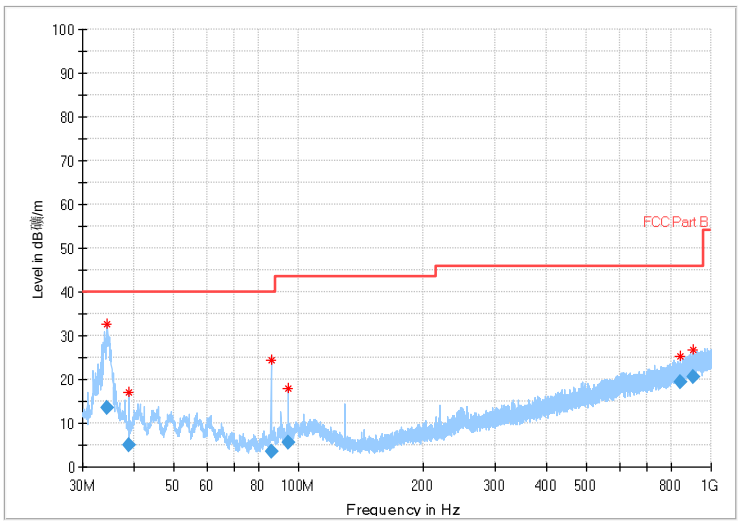


Fig.51 Radiated Spurious Emission (802.11b,Ch13,30MHz~1GHz)

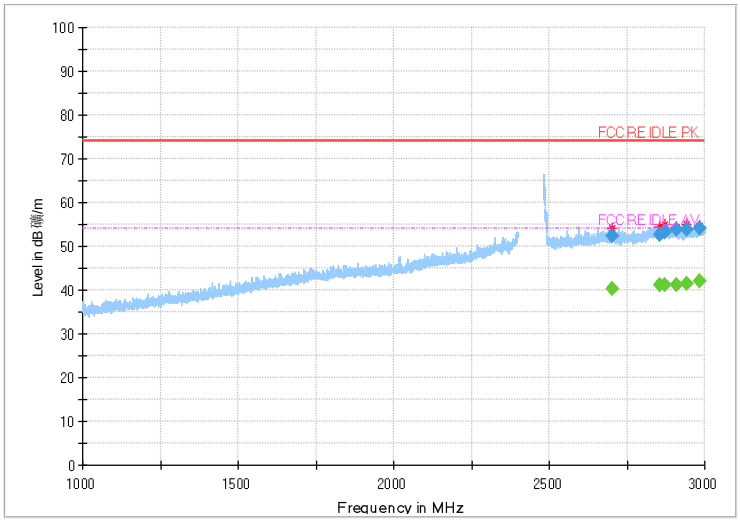


Fig.52 Radiated Spurious Emission (802.11b,Ch13,1GHz~3GHz)

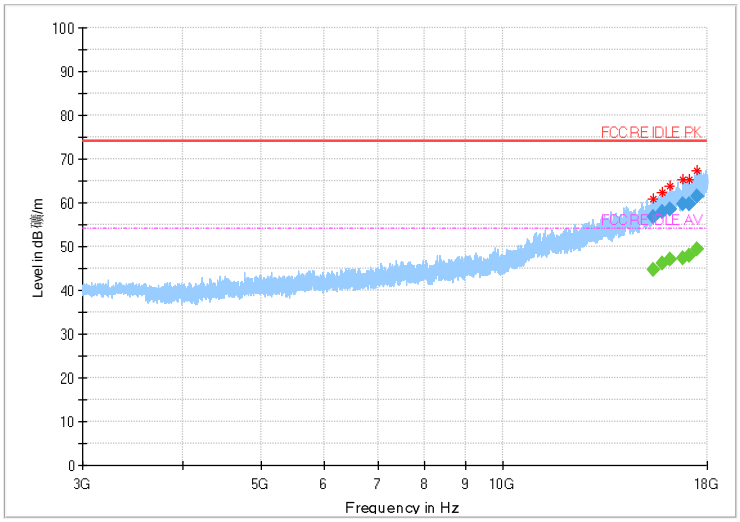
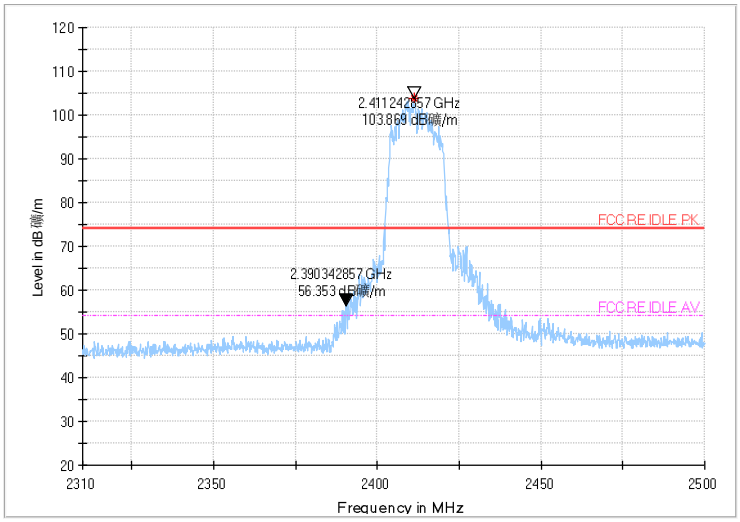
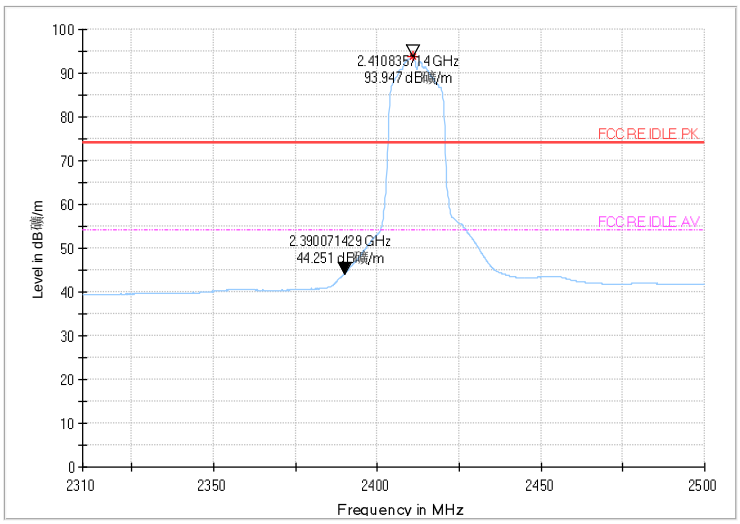


Fig.53 Radiated Spurious Emission (802.11b,Ch13,3GHz~18GHz)

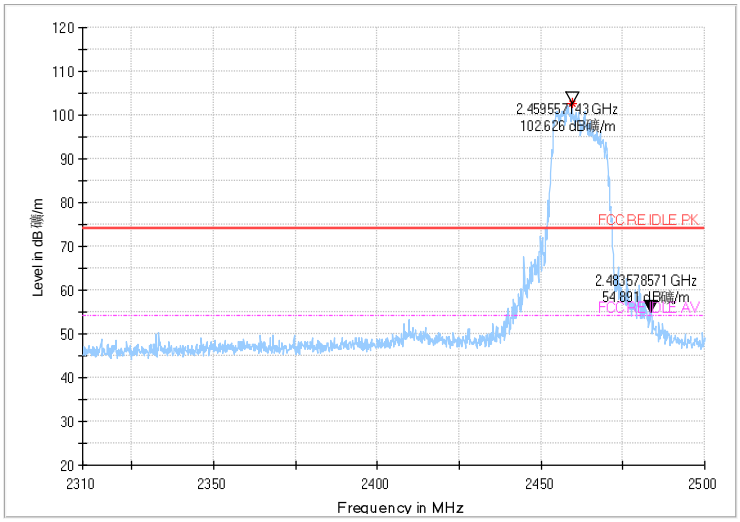


Peak detector

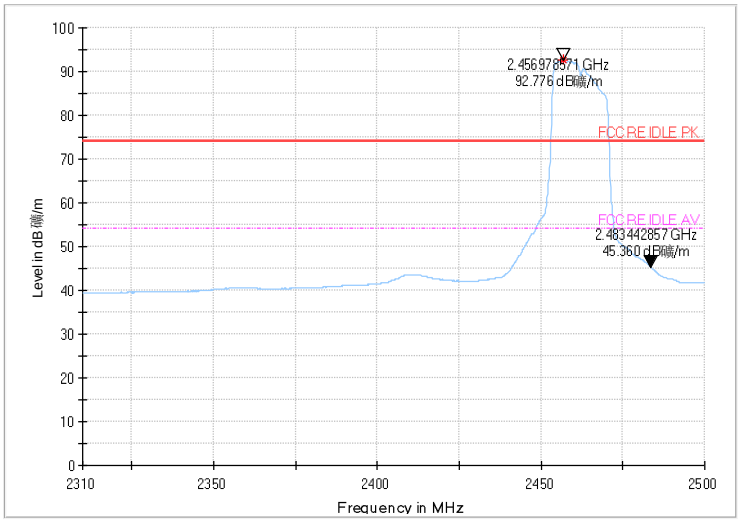


AV detector

Fig.48 Radiated emission (Power): 802.11g, low channel



Peak detector



AV detector

Fig.49 Radiated emission (Power): 802.11g, high channel

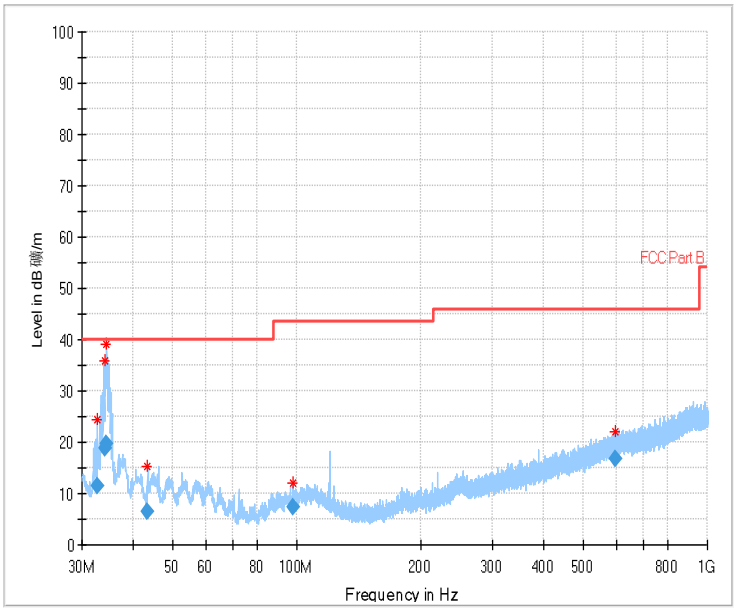


Fig.50 Radiated Spurious Emission (802.11g,Ch1,30MHz~1GHz)

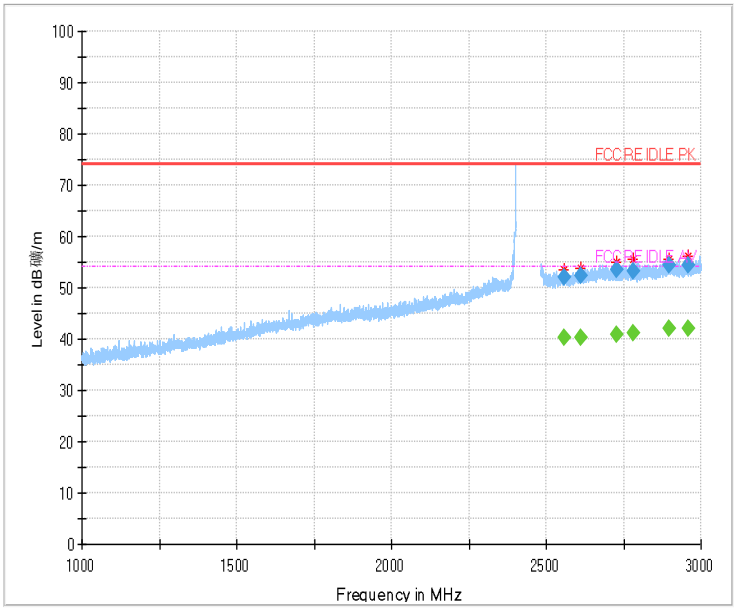


Fig.51 Radiated Spurious Emission (802.11g,Ch1,1GHz~3GHz)

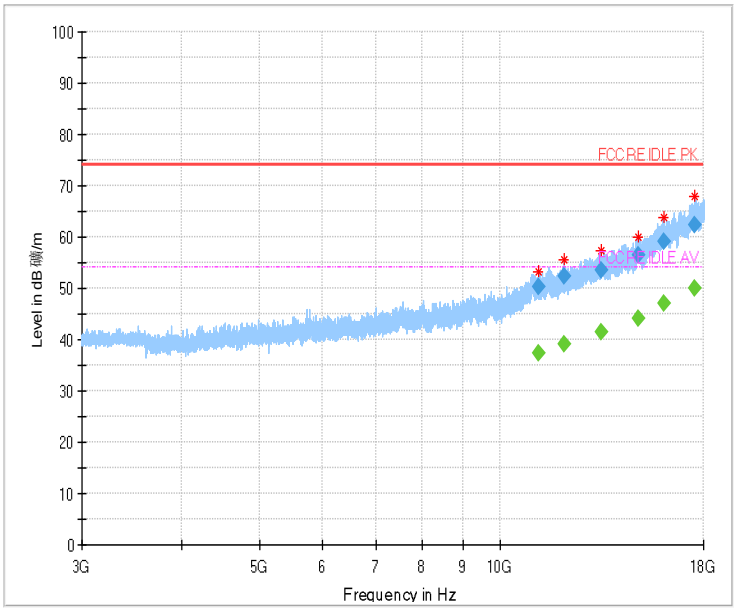
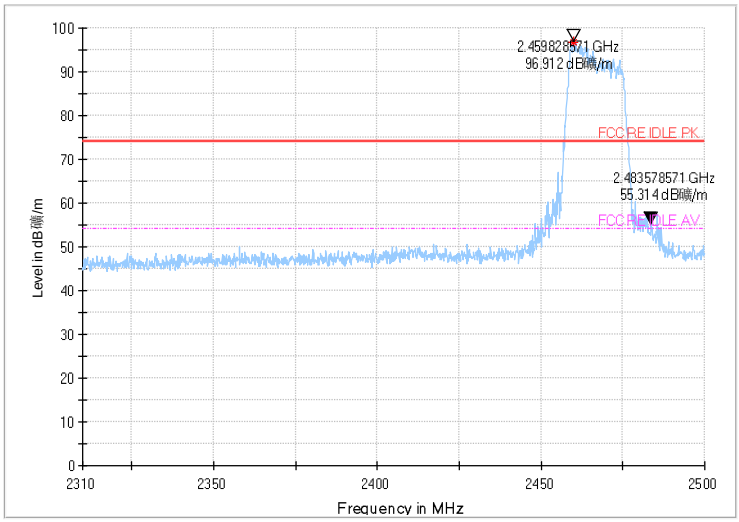
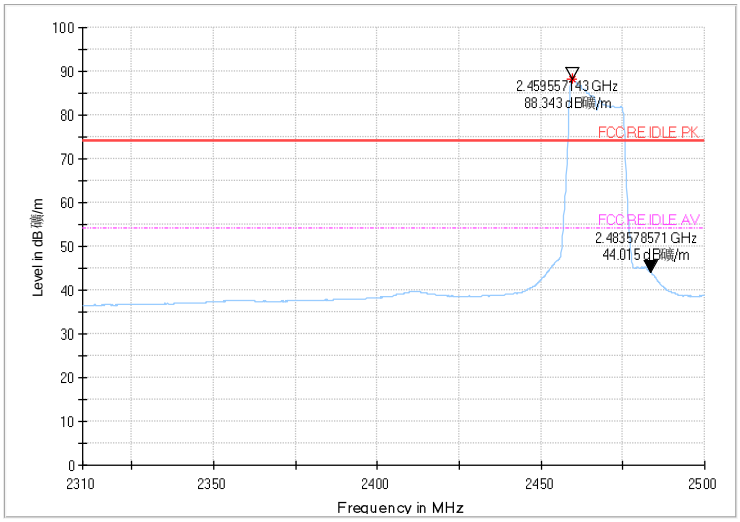


Fig.52 Radiated Spurious Emission (802.11g,Ch1,3GHz~18GHz)



Peak detector



AV detector

Radiated emission (Power): 802.11g, channel 12

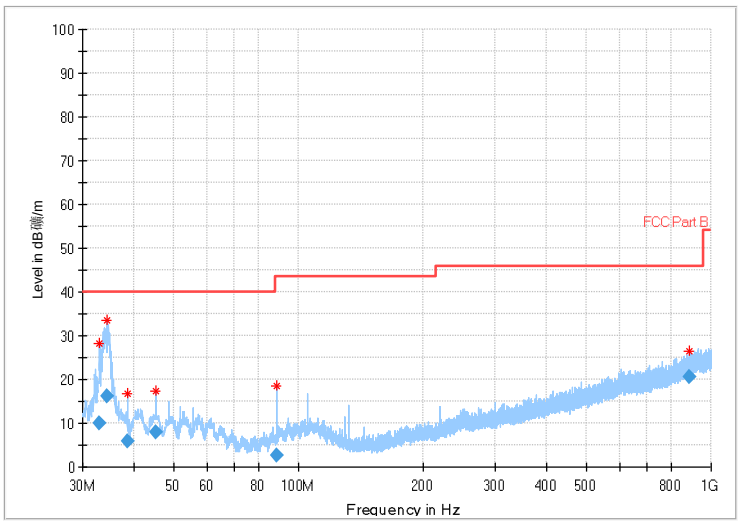


Fig.48 Radiated Spurious Emission (802.11g,Ch12,30MHz~1GHz)

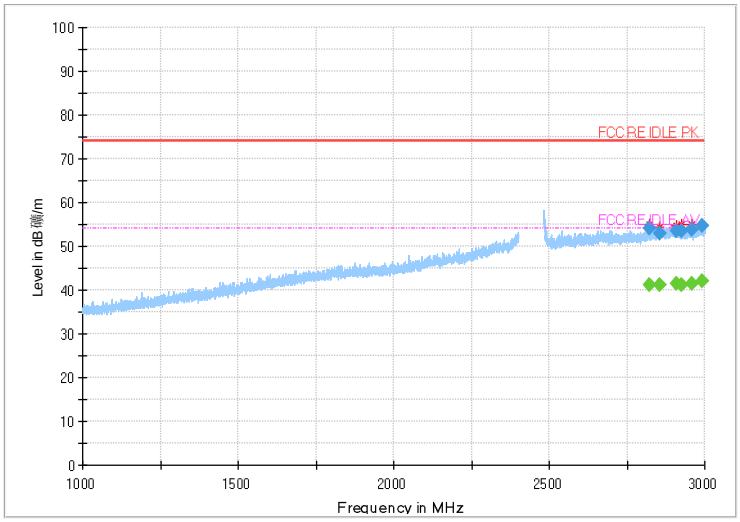


Fig.49 Radiated Spurious Emission (802.11g,Ch12,1GHz~3GHz)

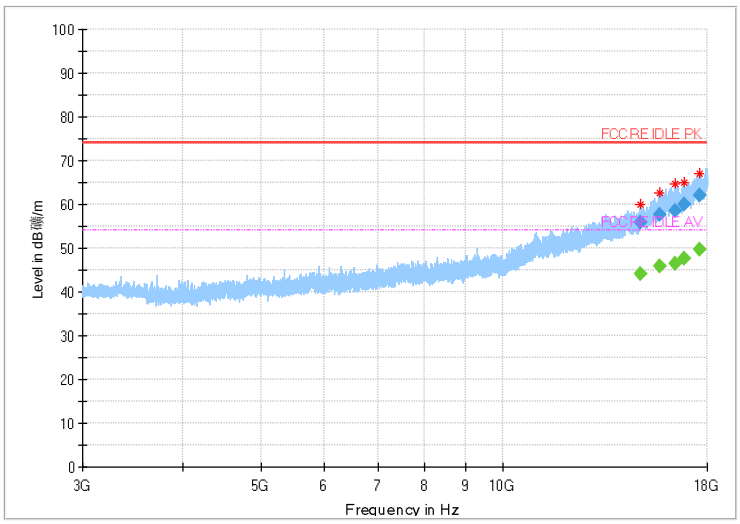
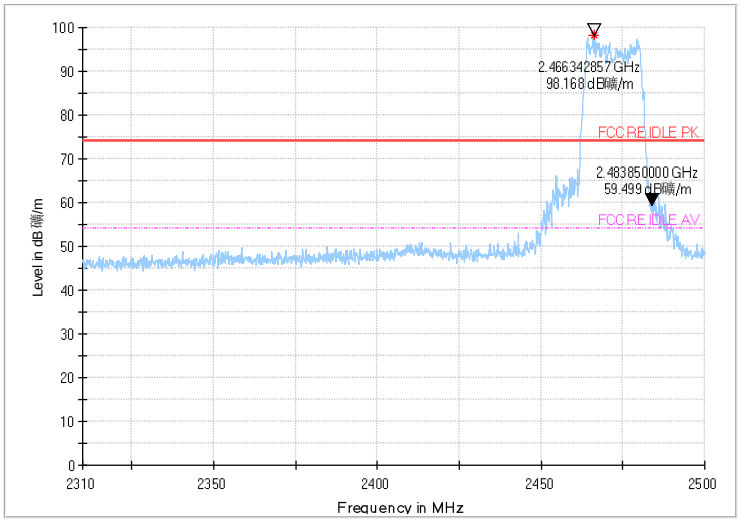
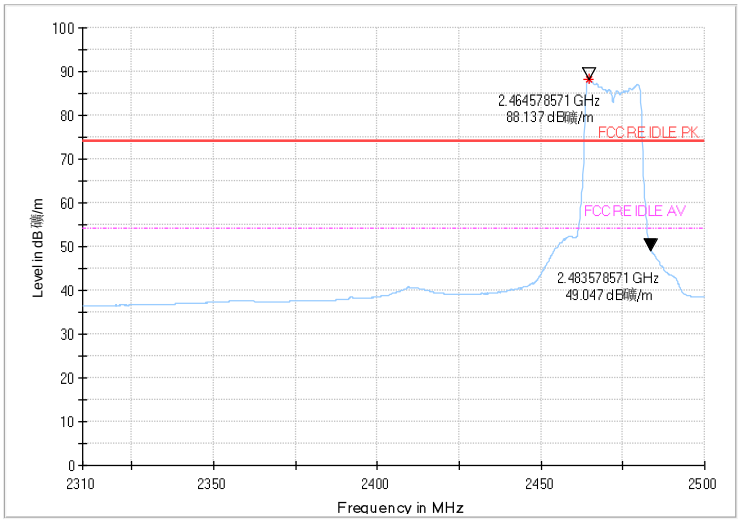


Fig.50 Radiated Spurious Emission (802.11g,Ch12,3GHz~18GHz)



Peak detector



AV detector

Radiated emission (Power): 802.11g, channel 13

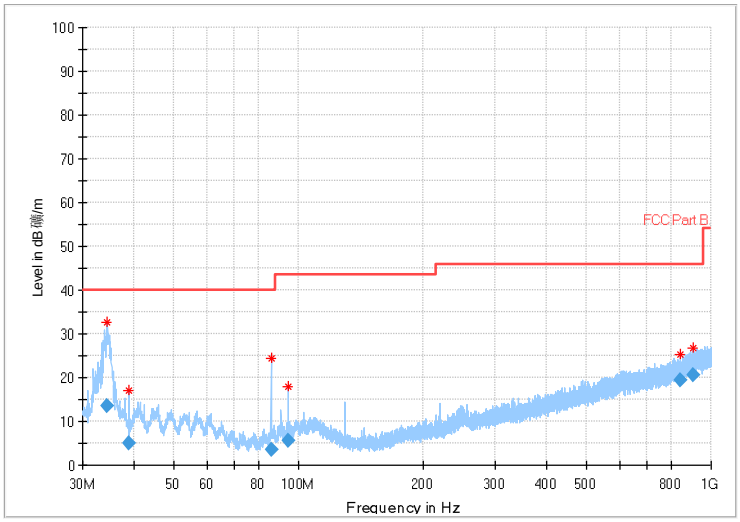


Fig.51 Radiated Spurious Emission (802.11g,Ch13,30MHz~1GHz)

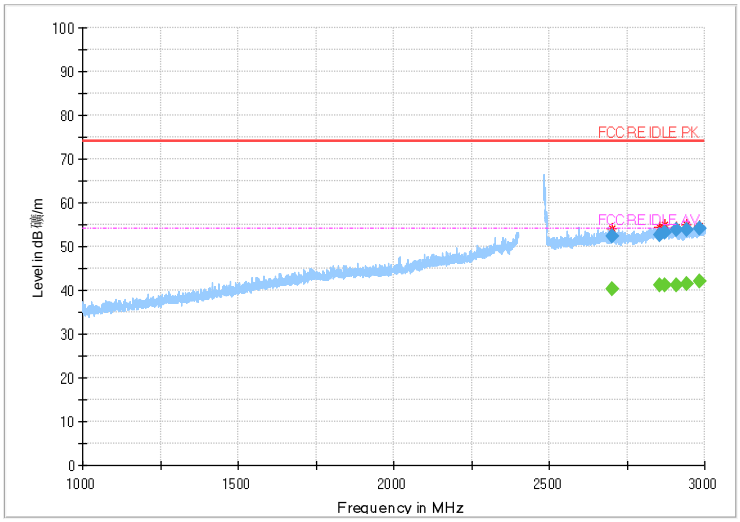


Fig.52 Radiated Spurious Emission (802.11g,Ch13,1GHz~3GHz)

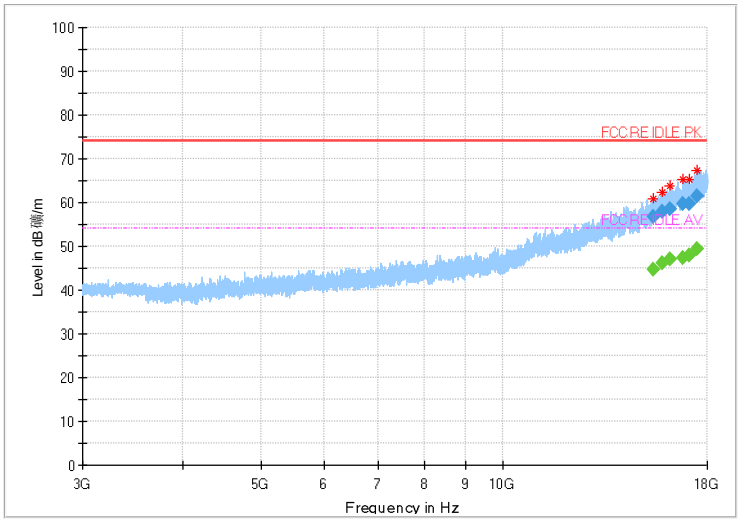
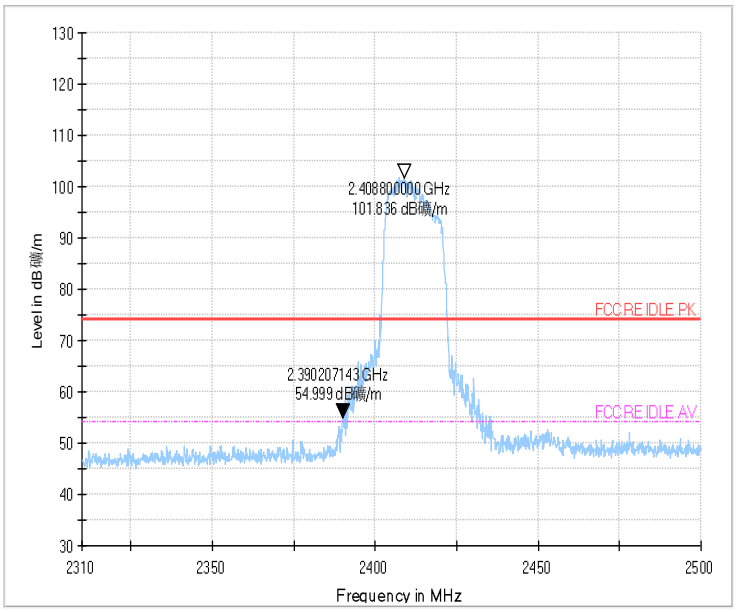
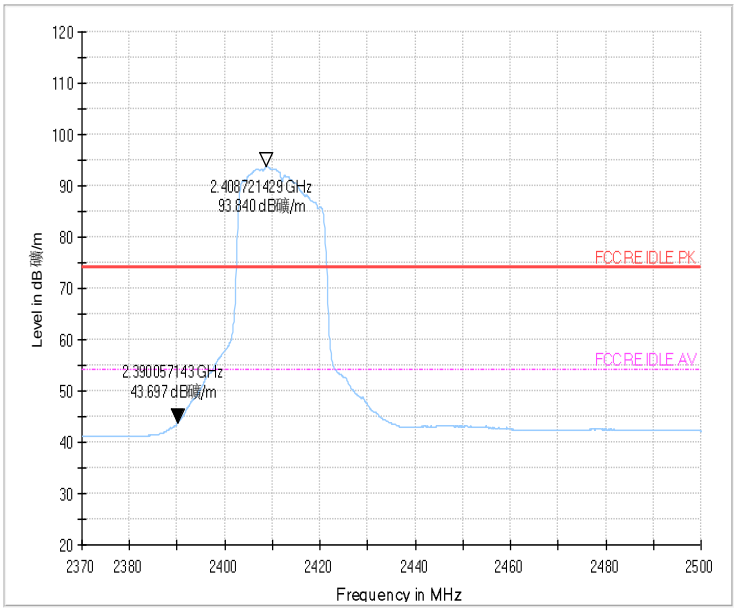


Fig.53 Radiated Spurious Emission (802.11g,Ch13,3GHz~18GHz)

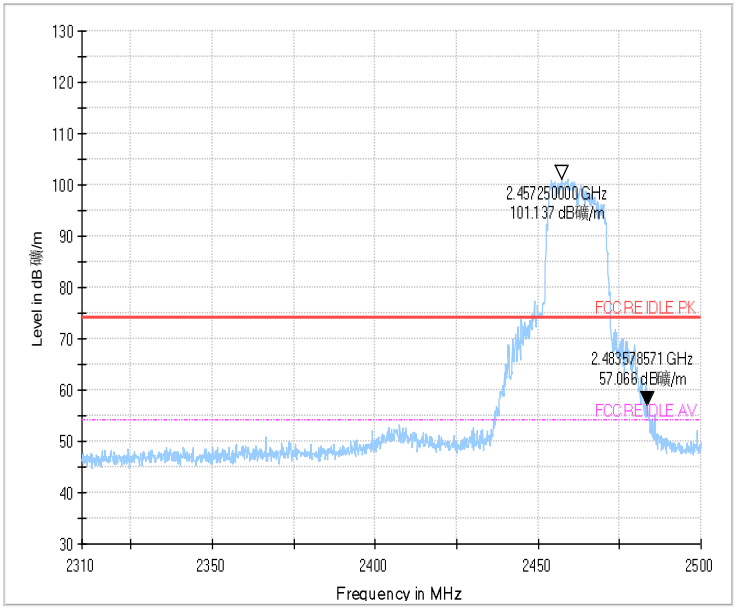


Peak detector

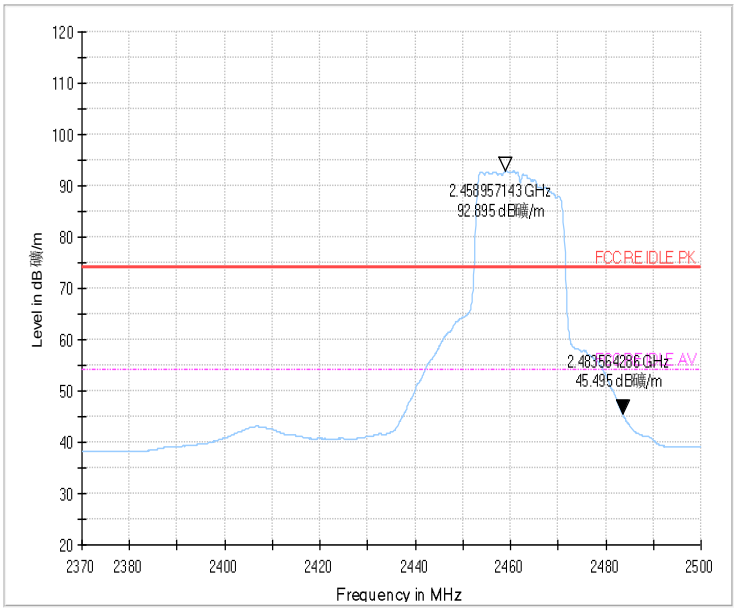


AV detector

Fig.53 Radiated emission (Power): 802.11n, low channel



Peak detector



AV detector

Fig.54 Radiated emission (Power): 802.11n, high channel

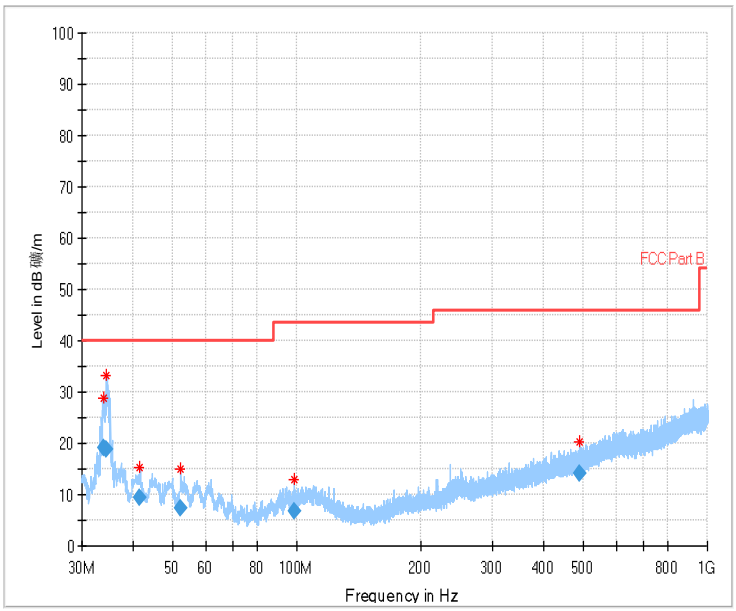


Fig.55 Radiated Spurious Emission (802.11 n-20MHz,Ch11,30MHz~1GHz)

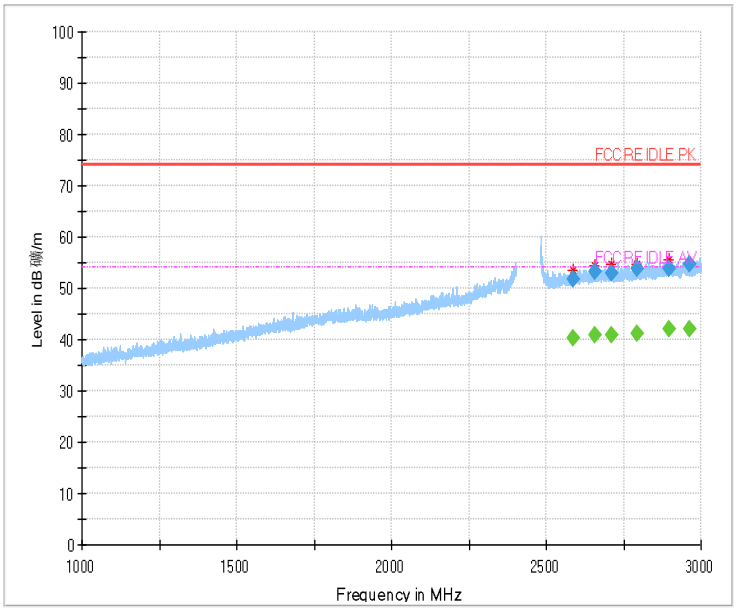


Fig.56 Radiated Spurious Emission (802.11 n-20MHz,Ch11,1GHz~3GHz)

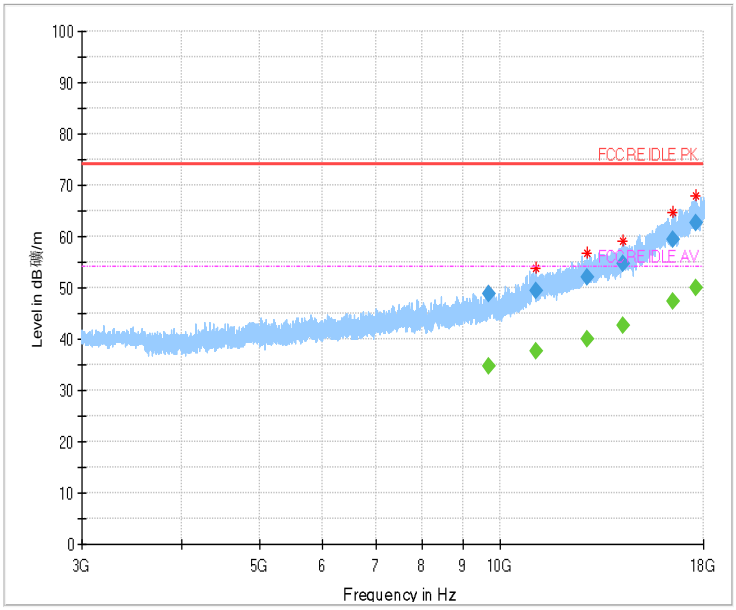
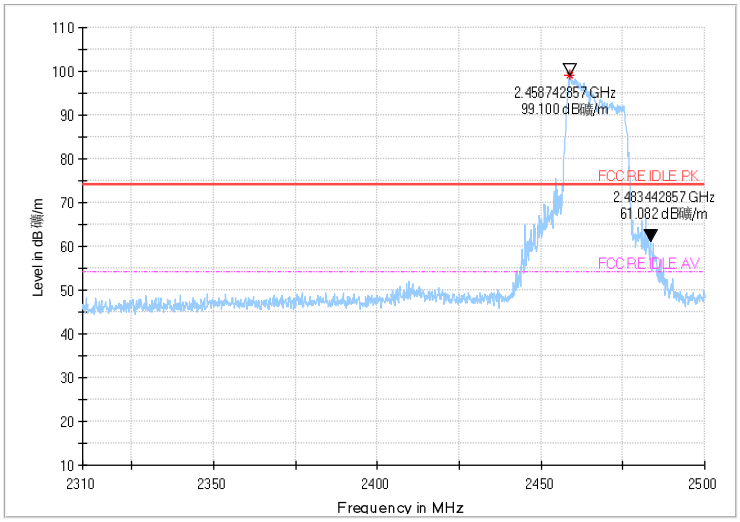
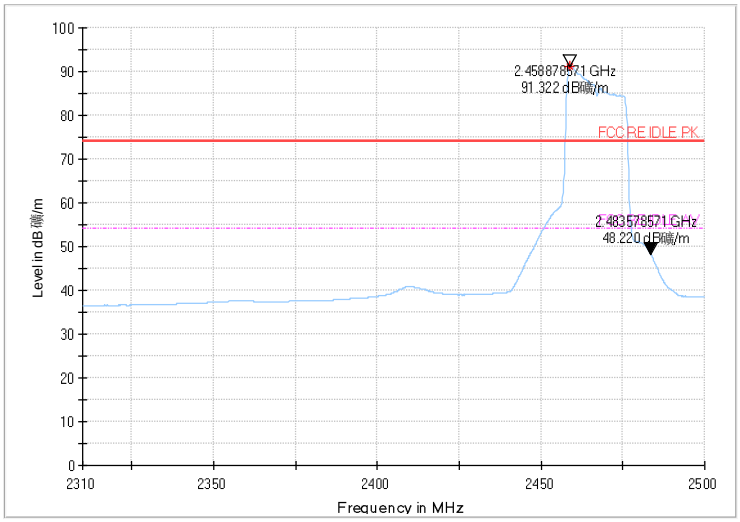


Fig.57 Radiated Spurious Emission (802.11 n-20MHz,Ch11,3GHz~18GHz)



Peak detector



Radiated emission (Power): 802.11n, low channel

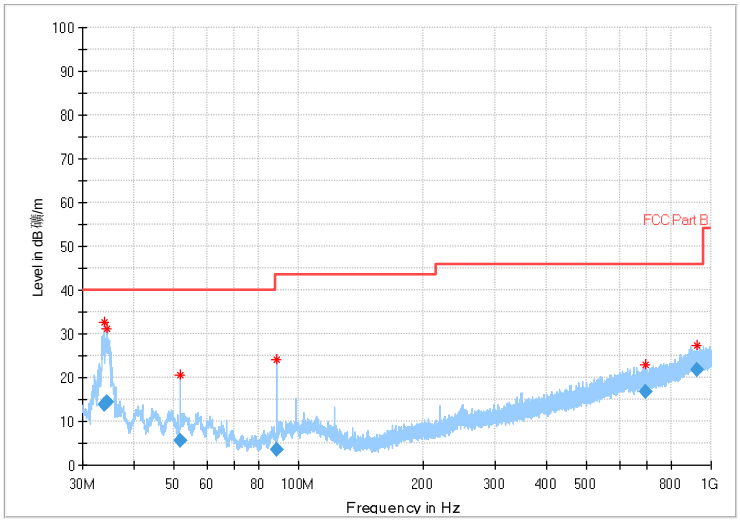


Fig.48 Radiated Spurious Emission (802.11n,Ch12,30MHz~1GHz)

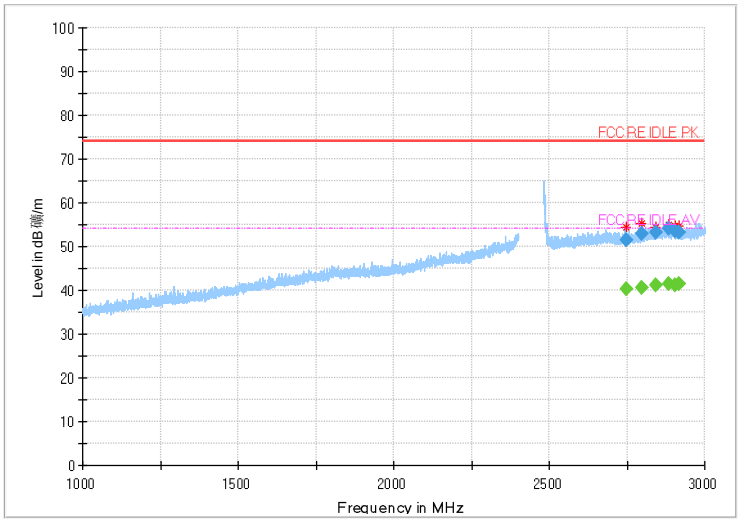


Fig.49 Radiated Spurious Emission (802.11n,Ch12,1GHz~3GHz)

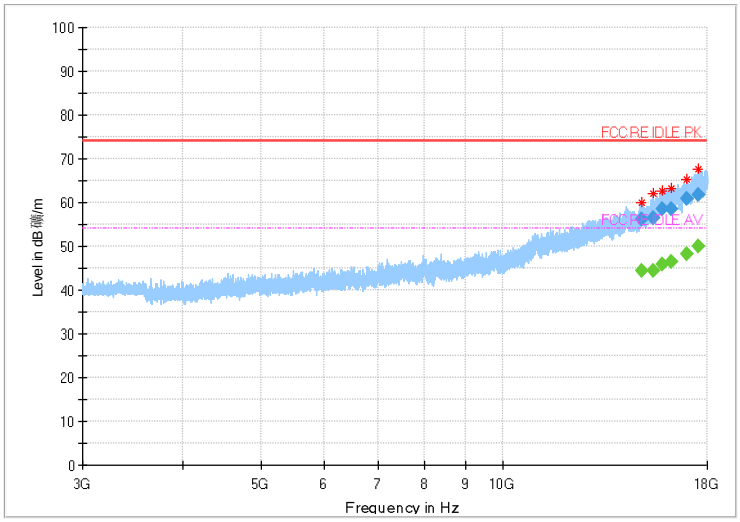
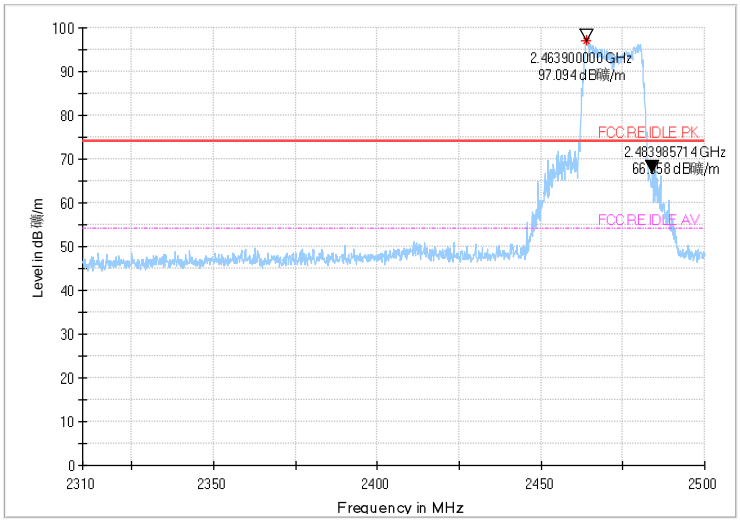
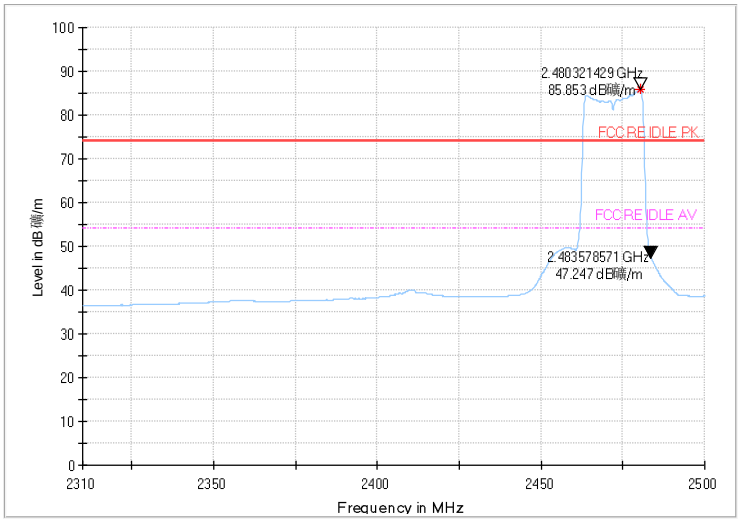


Fig.50 Radiated Spurious Emission (802.11n,Ch12,3GHz~18GHz)



Peak detector



Radiated emission (Power): 802.11n, channel 13

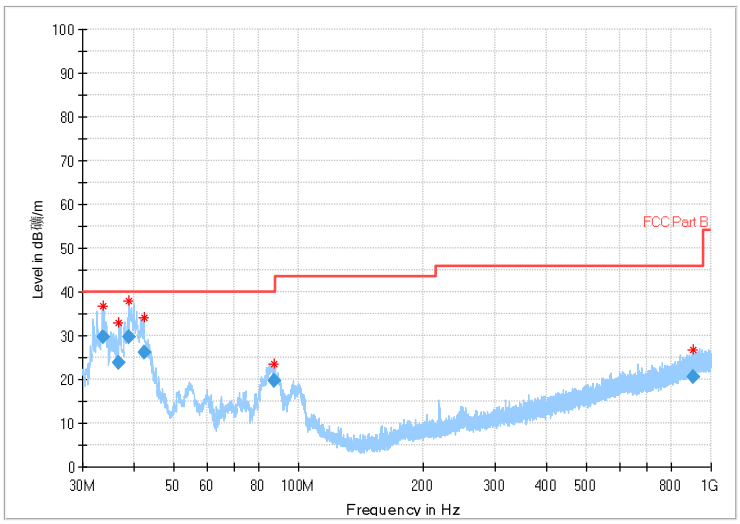


Fig.51 Radiated Spurious Emission (802.11n,Ch13,30MHz~1GHz)

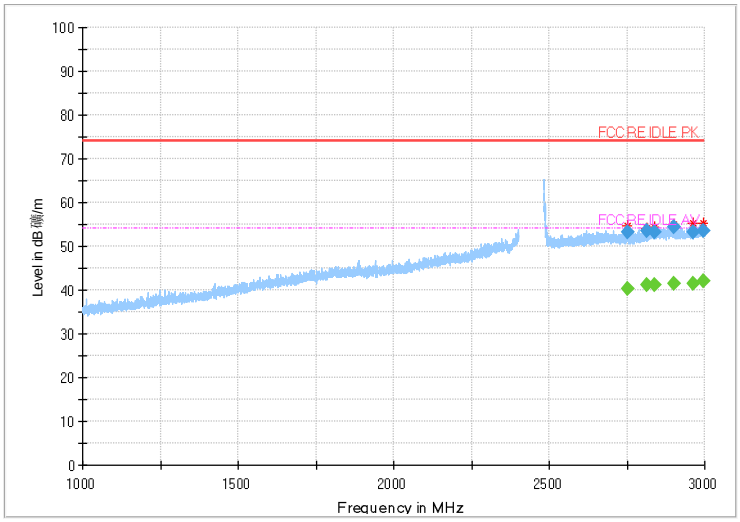


Fig.52 Radiated Spurious Emission (802.11n,Ch13,1GHz~3GHz)

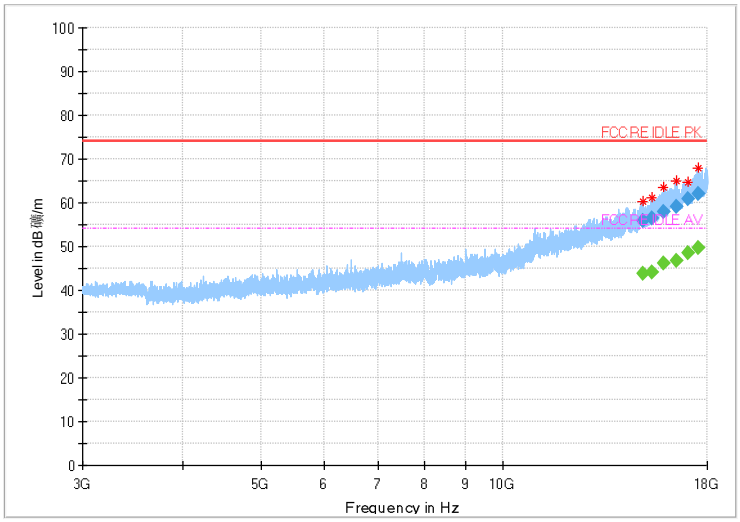


Fig.53 Radiated Spurious Emission (802.11n,Ch13,3GHz~18GHz)

7. Test Equipment and Ancillaries Used For Tests

The test equipment and ancillaries used are as follows.

Conducted test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration date	Cal.interval
1	Vector Signal	FSQ26	101096	R&S	2016-05-12	1 Year
2	DC Power Supply	ZUP60-14	LOC-220Z006	TDL-Lambda	2016-05-12	1 Year

Radiated emission test system

No.	Equipment	Model	Serial Number	Manufacturer	Calibration Due date	Cal.interval
1	Universal Radio Communication Tester	CMU200	123101	R&S	2016-05-12	1 Year
3	Test Receiver	ESU40	100307	R&S	2016-05-12	1 Year
4	Trilog Antenna	VULB9163	VULB9163-515	Schwarzbeck	2014-11-05	3 Year
5	Double Ridged Guide Antenna	ETS-3117	135885	ETS	2014-05-06	3 Year
8	2-Line V-Network	ENV216	101380	R&S	2016-05-12	1 Year

Anechoic chamber

Fully anechoic chamber by Frankonia German.

8. Test Environment

Shielding Room1 (6.0 meters×3.0 meters×2.7 meters) did not exceed following limits along the conducted RF performance testing:

Temperature	Min. = 15 ℃, Max. = 35 ℃
Relative humidity	Min. = 25 %, Max. = 75 %
Shielding effectiveness	> 110 dB
Ground system resistance	< 0.5 Ω

Control room did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 35 ℃
Relative humidity	Min. =25 %, Max. = 75 %
Shielding effectiveness	> 110 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω

Fully-anechoic chamber1 (6.9 meters×10.9 meters×5.4 meters) did not exceed following limits along the EMC testing:

Temperature	Min. = 15 ℃, Max. = 35 ℃
Relative humidity	Min. = 25 %, Max. = 75 %
Shielding effectiveness	> 100 dB
Electrical insulation	> 10 kΩ
Ground system resistance	< 0.5 Ω
VSWR	Between 0 and 6 dB, from 1GHz to 18GHz
Site Attenuation Deviation	Between -4 and 4 dB,30MHz to 1GHz
Uniformity of field strength	Between 0 and 6 dB, from 80MHz to 3000 MHz

ANNEX A. Deviations from Prescribed Test Methods

No deviation from Prescribed Test Methods.

ANNEX B. Product Change Description

As the applicant of the below model, [Hisense International Co., Ltd.] declares that the product,

Product description: Smartphone
Brand name: Hisense
Model name: Hisense F102

is the variant of the initial certified product,

Product description: Smartphone
Brand name: Hisense
Model name: Hisense F102

SOFTWARE MODIFICATIONS:

Protocol Stack changes: NO
MMS/STK changes: NO
JAVA changes: NO
Other changes detailed: NO

HARDWARE MODIFICATION:

Band changes: NO
Power Amplifier changes: NO
Antenna changes: NO
PCB Layout changes: NO
Components on PCB changes: NO
LCD+CTP changes: Yes, only increased a new supplier.
Speaker changes: Yes, only increased a new supplier.
Camera changes: NO
Vibrator changes: Yes, only increased a new supplier.
Bluetooth changes: NO
FM changes: NO
Memory changes: Yes, only increased a new supplier.
Other changes: NO

MECHANICAL MODIFICATIONS:

Use new metal front/back cover or keypad: NO
Mechanical shell changes: NO.
Other changes detailed: NO

ACCESSORY MODIFICATIONS:

Battery changes: Yes, only increased a new supplier.
AC Adaptor changes: NO
USB Cable changed: NO
Earphone changes: NO

Original Client:

Name：Hisense International Co., Ltd.
Address：Floor 22, Hisense Tower, 17 Donghai Xi Road, Qingdao, 266071, China

Original manufacturer：

Name: Hisense Communications Co., Ltd.
Address ： No.218, Qianwangang Road, Economic & Technological Development Zone, Qingdao, China

New Client:

Name: Hisense International Co., Ltd. Address: Floor 22, Hisense Tower, 17 Donghai Xi Road, Qingdao, 266071, China

New manufacturer：

Name: Hisense Communications Co., Ltd.
Address ： No.218, Qianwangang Road, Economic & Technological Development Zone, Qingdao, China

APPROVED BY: 

Date:2017/2/14

Company: Hisense International Co., Ltd.

Address: Floor 22, Hisense Tower, 17 Donghai Xi Road, Qingdao, 266071, China

Tel: +86-532-80875571

ANNEX C. Accreditation Certificate

Accredited Laboratory

A2LA has accredited

EAST CHINA INSTITUTE OF TELECOMMUNICATIONS

Shanghai, People's Republic of China

for technical competence in the field of

Electrical Testing

This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2005 *General requirements for the competence of testing and calibration laboratories*. This laboratory also meets the requirements of any additional program requirements in the field of Electrical. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009*).

Presented this 10th day of December 2014.

President & CEO
For the Accreditation Council
Certificate Number 3682.01
Valid to February 28, 2017

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

************End The Report************