FCC RF Test Report

APPLICANT	:	Motorola Mobility LLC
EQUIPMENT	:	Mobile Cellular Phone
BRAND NAME	:	Motorola
MODEL NAME	:	XT1962-1
FCC ID	:	IHDT56XP1
STANDARD	:	FCC Part 15 Subpart C §15.247
CLASSIFICATION	:	(DTS) Digital Transmission System

This is a partial report. The product testing was completed on Oct. 21, 2018. We, Sporton International (Kunshan) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International (Kunshan) Inc., the test report shall not be reproduced except in full.

James Huang

Approved by: James Huang / Manager

TESTING
NVLAP LAB CODE 600155-0

Sporton International (Kunshan) Inc.
No. 1098, Pengxi North Road, Kunshan Economic Development Zone, Jiangsu Province 215335, China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR891009	Rev. 01	Initial issue of report	Oct. 25, 2018

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.1	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	15.209(a) & 15.247(d)	Pass	Under limit 3.51 dB at 2389.82 MHz
3.2	15.203 & 15.247(b)	Antenna Requirement	N/A	Pass	-

1 General Description

1.1 Applicant

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.2 Manufacturer

Motorola Mobility LLC
222 W,Merchandise Mart Plaza, Chicago IL 60654 USA

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	Mobile Cellular Phone
Brand Name	Motorola
Model Name	XT1962-1
FCC ID	IHDT56XP1
EUT supports Radios application	CDMA/EV-DO/GSM/GPRS/EGPRS/WCDMA/HSPA/ DC-HSDPA/HSPA+ (16QAM uplink is not supported)/LTE WLAN 2.4GHz 802.11b/g/n HT20 WLAN 5GHz 802.11a/n HT20/HT40 Bluetooth BR/EDR/LE
IMEI Code	Radiation: 355569090025235
HW Version	DVT1B
SW Version	PPO29.62
EUT Stage	Identical Prototype

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx/Rx Channel Frequency Range	2412 MHz ~ 2462 MHz
Antenna Type / Gain	Monopole Antenna with gain 3.00 dBi
Type of Modulation	802.11b : DSSS (DBPSK / DQPSK / CCK) 802.11g/n : OFDM (BPSK / QPSK / 16QAM / 64QAM)

1.5 Specification of Accessory

Specification of Accessory				
AC Adapter 1 (US)	**Brand Name**	Motorola(Salom)	**Model Name**	SC-51
	Power Rating	I/P: 100 - 240 Vac, 600mA; O/P: 5/9/12Vdc~3000/2000/1500mA		
AC Adapter 2 (US)	**Brand Name**	Motorola(Chenyang)	**Model Name**	SC-51
	Power Rating	I/P: 100 - 240 Vac, 600mA; O/P: 5/9/12Vdc~3000/2000/1500mA		
USB Cable 1	**Brand Name**	Motorola(Luxshare)	**Model Name**	SKN6473A
	Signal Line	1.0 meter, shielded cable, without ferrite core		
USB Cable 2	**Brand Name**	Motorola (Cabletech)	**Model Name**	SKN6473A
	Signal Line	1.0 meter, shielded cable, without ferrite core		
USB Cable 3	**Brand Name**	Motorola (Saibao)	**Model Name**	SKN6473A
	Signal Line	1.0 meter, shielded cable, without ferrite core		
Earphone	**Brand Name**	Motorola (Lyand)	**Model Name**	SH38C37773
	Signal Line	1.1 meter, non-shielded cable, without ferrite core		
Battery	**Brand Name**	Motorola (Amperex)	**Model Name**	JG30
	Power Rating	3.8Vdc, 3000mAh	**Type**	Li-ion

1.6 Modification of EUT

No modifications are made to the EUT during all test items.

1.7 Testing Location

Sporton International (Kunshan) Inc. is accredited to ISO 17025 by National Voluntary Laboratory Accreditation Program (NVLAP code: 600155-0).

Test Site	Sporton International (Kunshan) Inc.		
Test Site Location	No. 1098, Pengxi North Road, Kunshan Economic Development Zone, Jiangsu Province 215335, China TEL : 86-512-57900158 FAX : 86-512-57900958		
Test Site No.	**Sporton Site No.**	**FCC designation No.**	**FCC Test Firm Registration No.**
	03CH05-KS	CN5013	630927

1.8 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.247
- FCC KDB 558074 D01 15.247 Meas Guidance v05
- ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (Z plane) were recorded in this report.

2.1 Carrier Frequency and Channel

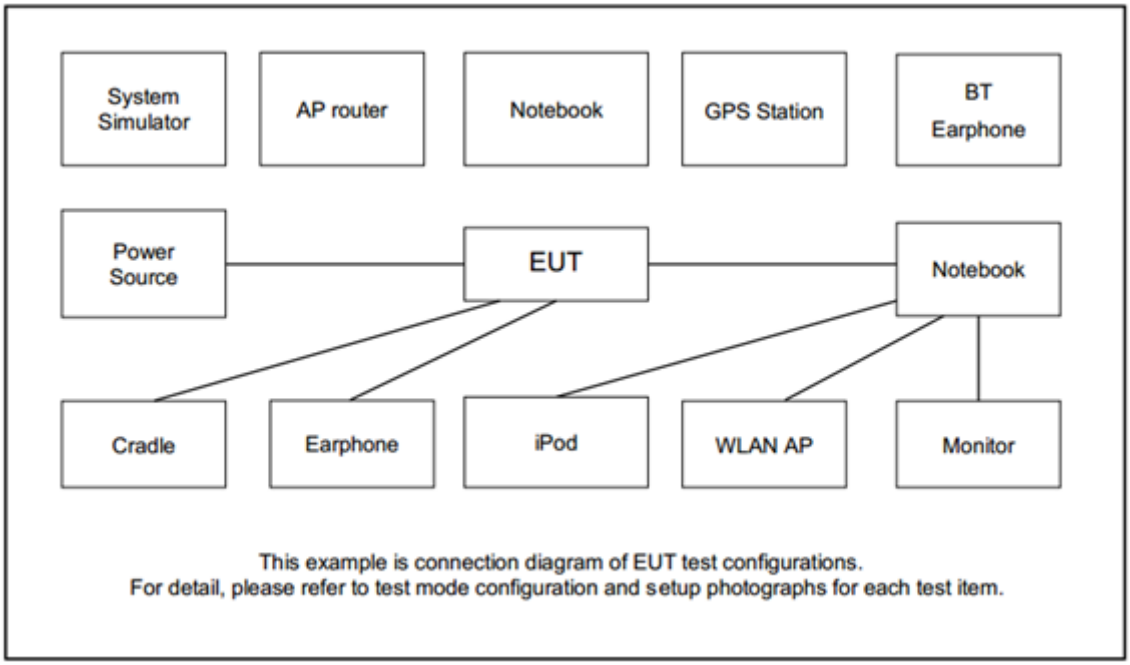
Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	1	2412	7	2442
	2	2417	8	2447
	3	2422	9	2452
	4	2427	10	2457
	5	2432	11	2462
	6	2437		

2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table.

Modulation	Data Rate
802.11b	**1 Mbps**
802.11g	**6 Mbps**
802.11n HT20	**MCS0**

2.3 Connection Diagram of Test System



2.4 EUT Operation Test Setup

For WLAN function, the engineering test program was provided and enabled to make EUT continuous transmit/receive.

3 Test Result

3.1 Radiated Band Edges and Spurious Emission Measurement

3.1.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.1.2 Measuring Instruments

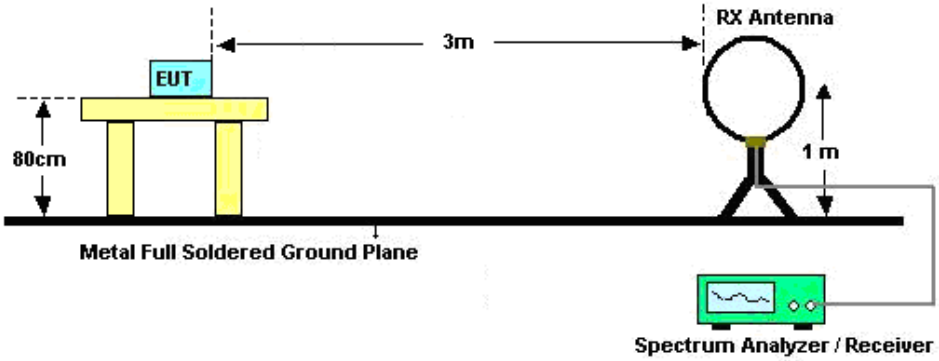
The measuring equipment is listed in the section 4 of this test report.

3.1.3 Test Procedures

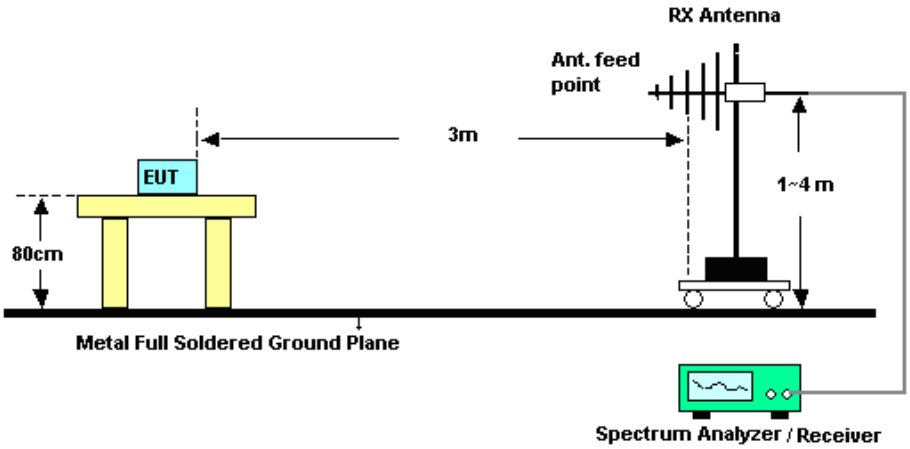
1. The testing follows ANSI C63.10-2013 clause 11.11 & 11.12
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. 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 average mode also complies with the limit in average mode), then peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
8. Use the following spectrum analyzer settings:
   (1) Span shall wide enough to fully capture the emission being measured;
   (2) Set RBW=100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
   (3) Set RBW = 1 MHz, VBW= 3MHz for f ≥ 1 GHz for peak measurement.
   For average measurement:
   - VBW = 10 Hz, when duty cycle is no less than 98 percent.
   - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.1.4 Test Setup

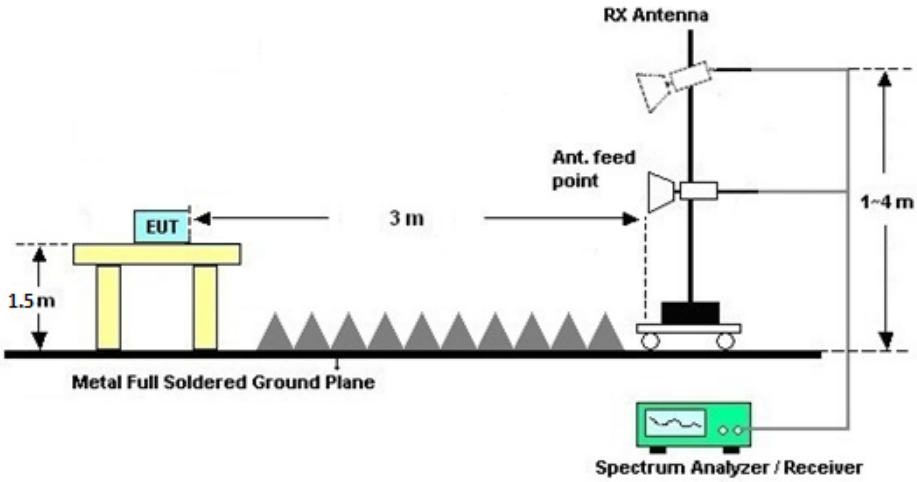
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.1.5 Test Results of Radiated Spurious Emissions (9kHz ~ 30MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.1.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix A & B.

3.1.7 Duty Cycle

Please refer to Appendix C.

3.1.8 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix A & B.

3.2 Antenna Requirements

3.2.1 Standard Applicable

If directional gain of transmitting Antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. The use of a permanently attached Antenna or of an Antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the rule.

3.2.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.2.3 Antenna Gain

The antenna peak gain of EUT is less than 6 dBi. Therefore, it is not necessary to reduce maximum peak output power limit.

4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
EMI Test Receiver	Keysight	N9038A	MY57290151	3Hz~8.5GHz;Max 30dBm	Jun. 25, 2018	Oct. 21, 2018	Jun. 24, 2019	Radiation (03CH05-KS)
EXA Spectrum Analyzer	Keysight	N9010A	MY55150244	10Hz-44GHz	Apr. 17, 2018	Oct. 21, 2018	Apr. 16, 2019	Radiation (03CH05-KS)
Loop Antenna	R&S	HFH2-Z2	100321	9kHz~30MHz	Oct. 23, 2017	Oct. 21, 2018	Oct. 22, 2018	Radiation (03CH05-KS)
Bilog Antenna	TeseQ	CBL6112D	23188	30MHz-1GHz	Apr. 19, 2018	Oct. 21, 2018	Apr. 18, 2019	Radiation (03CH05-KS)
Double Ridge Horn Antenna	ETS-Lindgren	3117	75959	1GHz~18GHz	Jan. 21, 2018	Oct. 21, 2018	Jan. 20, 2019	Radiation (03CH05-KS)
SHF-EHF Horn	Schwarzbeck	BBHA 9170	BBHA170249	15GHz~40GHz	Feb. 07, 2018	Oct. 21, 2018	Feb. 06, 2019	Radiation (03CH05-KS)
Amplifier	com-power	PA-103A	161069	1MHz ~1000MHz / 32 dB	Apr. 17, 2018	Oct. 21, 2018	Apr. 16, 2019	Radiation (03CH05-KS)
high gain Amplifier	MITEQ	AMF-7D-00101800-30-10P	2025788	1Ghz-18Ghz	Apr. 17, 2018	Oct. 21, 2018	Apr. 16, 2019	Radiation (03CH05-KS)
Amplifier	Keysight	83017A	MY57280106	500MHz~26.5GHz	Apr. 18, 2018	Oct. 21, 2018	Apr. 17, 2019	Radiation (03CH05-KS)
AC Power Source	Chroma	61601	F104090004	N/A	NCR	Oct. 21, 2018	NCR	Radiation (03CH05-KS)
Turn Table	ChamPro	EM 1000-T	060762-T	0~360 degree	NCR	Oct. 21, 2018	NCR	Radiation (03CH05-KS)
Antenna Mast	ChamPro	EM 1000-A	060762-A	1 m~4 m	NCR	Oct. 21, 2018	NCR	Radiation (03CH05-KS)

NCR: No Calibration Required

5 Uncertainty of Evaluation

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.0 dB

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.0 dB

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	5.0 dB

Appendix A. Radiated Spurious Emission

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2389.82	48.31	-25.69	74	42.63	32	5.48	31.8	388	182	P	H
		2389.95	38.3	-15.7	54	32.62	32	5.48	31.8	388	182	A	H
	*	2412	106	-	-	100.19	32.13	5.48	31.8	388	182	P	H
	*	2410	102.72	-	-	96.91	32.13	5.48	31.8	388	182	A	H
		2389.95	48.89	-25.11	74	43.21	32	5.48	31.8	166	20	P	V
		2389.95	40.31	-13.69	54	34.63	32	5.48	31.8	166	20	A	V
	*	2412	109.02	-	-	103.21	32.13	5.48	31.8	166	20	P	V
	*	2410	106.08	-	-	100.27	32.13	5.48	31.8	166	20	A	V
802.11b CH 11 2462MHz	*	2462	107.18	-	-	101.14	32.33	5.51	31.8	299	355	P	H
	*	2460	103.34	-	-	97.3	32.33	5.51	31.8	299	355	A	H
		2483.98	50.52	-23.48	74	44.5	32.27	5.55	31.8	299	355	P	H
		2484.52	40.33	-13.67	54	34.31	32.27	5.55	31.8	299	355	A	H
	*	2462	109.51	-	-	103.47	32.33	5.51	31.8	143	297	P	V
	*	2464	106.13	-	-	100.05	32.33	5.55	31.8	143	297	A	V
		2484.28	52.3	-21.7	74	46.28	32.27	5.55	31.8	143	297	P	V
		2484.52	42.98	-11.02	54	36.96	32.27	5.55	31.8	143	297	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		4824	39.35	-34.65	74	60.8	34.2	8.1	63.75	100	0	P	H
		4824	43.22	-30.78	74	64.67	34.2	8.1	63.75	100	0	P	V
802.11b CH 06 2437MHz		4872	40.43	-33.57	74	61.94	34.13	8.09	63.73	100	360	P	H
		7311	43.74	-30.26	74	61.76	36.6	9.75	64.37	100	360	P	H
		4874	39.6	-34.4	74	61.11	34.13	8.09	63.73	100	360	P	V
		7308	43.07	-30.93	74	61.09	36.6	9.75	64.37	100	360	P	V
802.11b CH 11 2462MHz		4926	38.79	-35.21	74	60.34	34.1	8.06	63.71	100	360	P	H
		7386	43.14	-30.86	74	61.21	36.5	9.81	64.38	100	360	P	H
		4924	40.04	-33.96	74	61.59	34.1	8.06	63.71	100	52	P	V
		7386	43.02	-30.98	74	61.09	36.5	9.81	64.38	100	52	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2389.82	60.13	-13.87	74	54.45	32	5.48	31.8	390	176	P	H
		2389.95	44.31	-9.69	54	38.63	32	5.48	31.8	390	176	A	H
	*	2406	105.1	-	-	99.29	32.13	5.48	31.8	390	176	P	H
	*	2408	97.81	-	-	92	32.13	5.48	31.8	390	176	A	H
		2389.95	64.04	-9.96	74	58.36	32	5.48	31.8	164	18	P	V
	!	2389.95	49.76	-4.24	54	44.08	32	5.48	31.8	164	18	A	V
	*	2406	109.85	-	-	104.04	32.13	5.48	31.8	164	18	P	V
	*	2406	102.29	-	-	96.48	32.13	5.48	31.8	164	18	A	V
802.11g CH 11 2462MHz	*	2458	105.02	-	-	98.98	32.33	5.51	31.8	338	360	P	H
	*	2456	97.23	-	-	91.19	32.33	5.51	31.8	338	360	A	H
		2483.98	64.77	-9.23	74	58.75	32.27	5.55	31.8	338	360	P	H
		2483.5	47	-7	54	40.98	32.27	5.55	31.8	338	360	A	H
	*	2462	105.31	-	-	99.27	32.33	5.51	31.8	100	332	P	V
	*	2468	97.36	-	-	91.28	32.33	5.55	31.8	100	332	A	V
		2484.4	65.81	-8.19	74	59.79	32.27	5.55	31.8	100	332	P	V
	!	2483.8	48.06	-5.94	54	42.04	32.27	5.55	31.8	100	332	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		4824	41.43	-32.57	74	62.88	34.2	8.1	63.75	100	0	P	H
		4824	41.12	-32.88	74	62.57	34.2	8.1	63.75	100	360	P	V
802.11g CH 06 2437MHz		4872	40.66	-33.34	74	62.17	34.13	8.09	63.73	100	0	P	H
		7311	42.29	-31.71	74	60.31	36.6	9.75	64.37	100	0	P	H
		4874	40.89	-33.11	74	62.4	34.13	8.09	63.73	100	0	P	V
		7308	42.82	-31.18	74	60.84	36.6	9.75	64.37	100	0	P	V
802.11g CH 11 2462MHz		4926	39.27	-34.73	74	60.82	34.1	8.06	63.71	100	360	P	H
		7386	43.73	-30.27	74	61.8	36.5	9.81	64.38	100	360	P	H
		4924	40.81	-33.19	74	62.36	34.1	8.06	63.71	100	0	P	V
		7386	41.95	-32.05	74	60.02	36.5	9.81	64.38	100	0	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		2389.95	63.87	-10.13	74	58.19	32	5.48	31.8	389	185	P	H
	!	2389.95	48.29	-5.71	54	42.61	32	5.48	31.8	389	185	A	H
	*	2404	106.51	-	-	100.7	32.13	5.48	31.8	389	185	P	H
	*	2406	98.96	-	-	93.15	32.13	5.48	31.8	389	185	A	H
		2389.95	66.53	-7.47	74	60.85	32	5.48	31.8	100	22	P	V
	!	2389.82	50.49	-3.51	54	44.81	32	5.48	31.8	100	22	A	V
	*	2406	108.84	-	-	103.03	32.13	5.48	31.8	100	22	P	V
	*	2406	101.78	-	-	95.97	32.13	5.48	31.8	100	22	A	V
802.11n HT20 CH 11 2462MHz	*	2456	103.95	-	-	97.91	32.33	5.51	31.8	304	40	P	H
	*	2456	96.07	-	-	90.03	32.33	5.51	31.8	304	40	A	H
		2483.86	67.4	-6.6	74	61.38	32.27	5.55	31.8	304	40	P	H
	!	2483.62	48.9	-5.1	54	42.88	32.27	5.55	31.8	304	40	A	H
	*	2458	105.69	-	-	99.65	32.33	5.51	31.8	287	291	P	V
	*	2456	98.45	-	-	92.41	32.33	5.51	31.8	287	291	A	V
	!	2483.68	70.38	-3.62	74	64.36	32.27	5.55	31.8	287	291	P	V
	!	2483.5	49.6	-4.4	54	43.58	32.27	5.55	31.8	287	291	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		4824	41	-33	74	62.45	34.2	8.1	63.75	100	360	P	H
		4824	40.89	-33.11	74	62.34	34.2	8.1	63.75	100	0	P	V
802.11n HT20 CH 06 2437MHz		4874	40.87	-33.13	74	62.38	34.13	8.09	63.73	100	117	P	H
		7308	42.05	-31.95	74	60.07	36.6	9.75	64.37	100	117	P	H
		4872	39.59	-34.41	74	61.1	34.13	8.09	63.73	100	360	P	V
		7311	42.23	-31.77	74	60.25	36.6	9.75	64.37	100	360	P	V
802.11n HT20 CH 11 2462MHz		4926	40.15	-33.85	74	61.7	34.1	8.06	63.71	100	360	P	H
		7386	42.78	-31.22	74	60.85	36.5	9.81	64.38	100	360	P	H
		4924	37.96	-36.04	74	59.51	34.1	8.06	63.71	100	360	P	V
		7386	43.25	-30.75	74	61.32	36.5	9.81	64.38	100	360	P	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11n HT20 (LF)

WIFI Ant.	Note	Frequency	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Peak Avg.	Pol.
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
2.4GHz 802.11n HT20 LF		37.76	29.5	-10.5	40	41.83	19.46	0.71	32.5	100	0	P	H
		143.49	25.74	-17.76	43.5	39.52	17.01	1.32	32.11			P	H
		155.13	28.55	-14.95	43.5	43.11	16.16	1.37	32.09			P	H
		250.19	27.08	-18.92	46	38.47	18.66	1.75	31.8			P	H
		437.4	25.06	-20.94	46	32.1	22.38	2.3	31.72			P	H
		856.44	31.3	-14.7	46	33.43	26.33	3.23	31.69			P	H
		36.79	36.01	-3.99	40	47.87	20.04	0.7	32.6	110	15	P	V
		61.04	30.76	-9.24	40	49.76	12.52	0.88	32.4			P	V
		76.56	28.66	-11.34	40	47.33	12.7	0.98	32.35			P	V
		120.21	25.3	-18.2	43.5	38.05	18.2	1.21	32.16			P	V
		152.22	26.25	-17.25	43.5	40.61	16.37	1.36	32.09			P	V
		235.64	26.87	-19.13	46	40.04	16.98	1.7	31.85			P	V
Remark	1. No other spurious found. 2. All results are PASS against limit line.												

Note symbol

*	**Fundamental Frequency** which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is not under limit 6dB.
P/A	**P**eak or **A**verage
H/V	**H**orizontal or **V**ertical

A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Cable	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Level(dBμV/m) =

Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

2. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)

= 55.45 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 55.45(dBμV/m) – 74(dBμV/m)

= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)

= Antenna Factor(dB/m) + Cable Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)

= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)

= 43.54 (dBμV/m)

2. Over Limit(dB)

= Level(dBμV/m) – Limit Line(dBμV/m)

= 43.54(dBμV/m) – 54(dBμV/m)

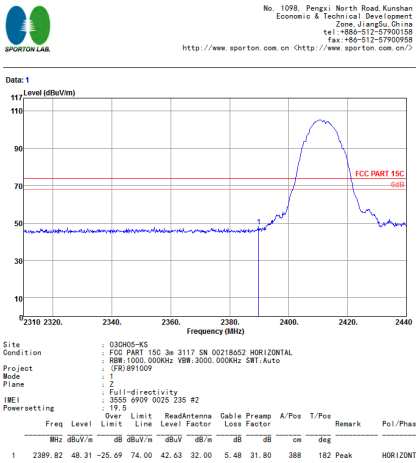
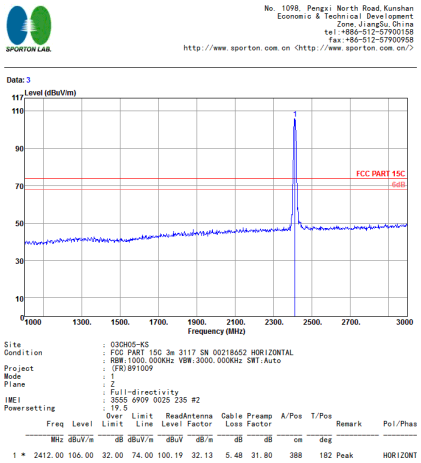
= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is "PASS".

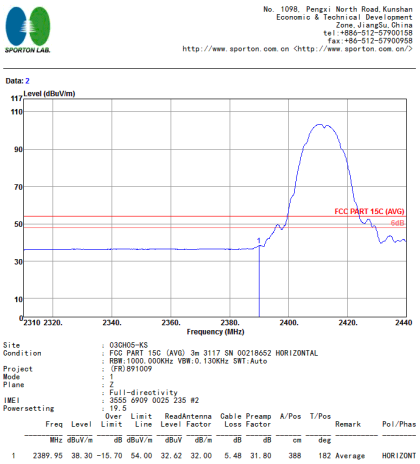
Appendix B. Radiated Spurious Emission Plots

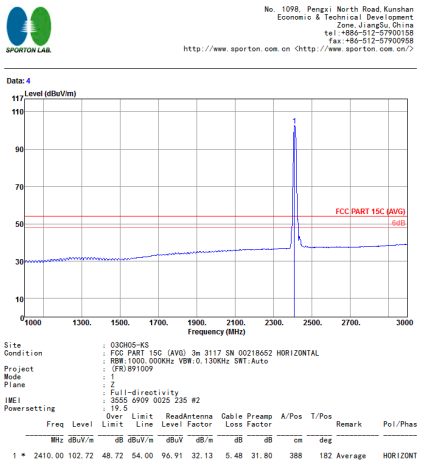
2.4GHz 2400~2483.5MHz

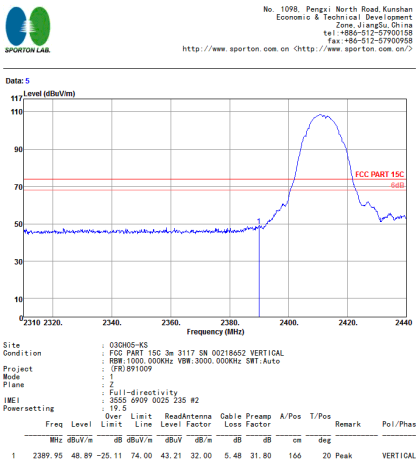
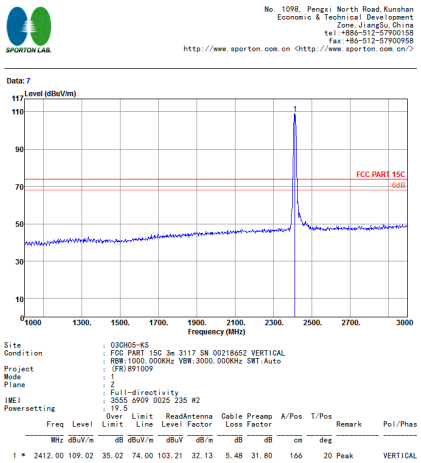
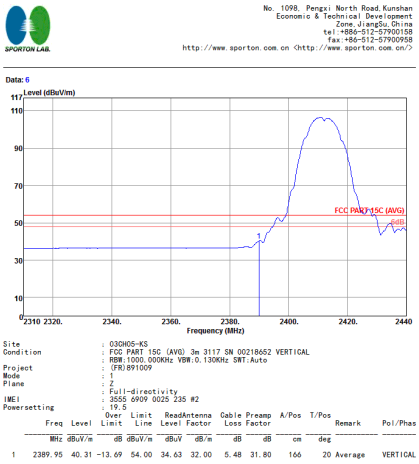
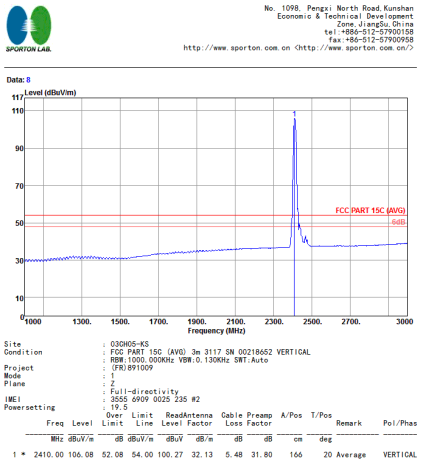
WIFI 802.11b (Band Edge @ 3m)

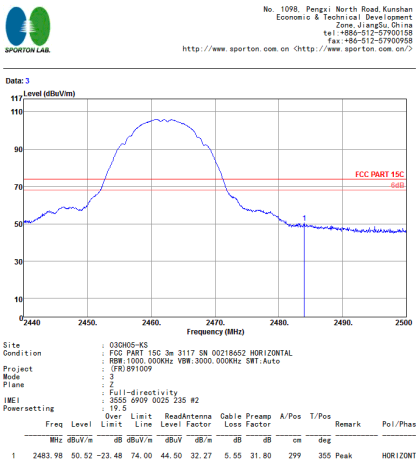
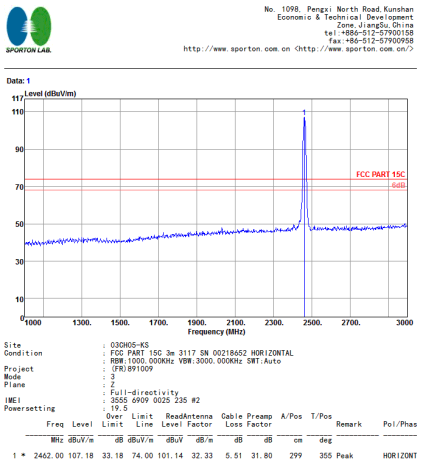
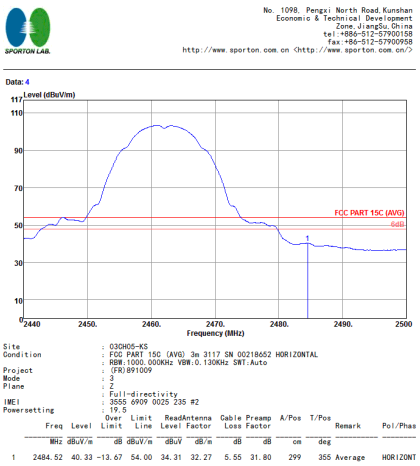
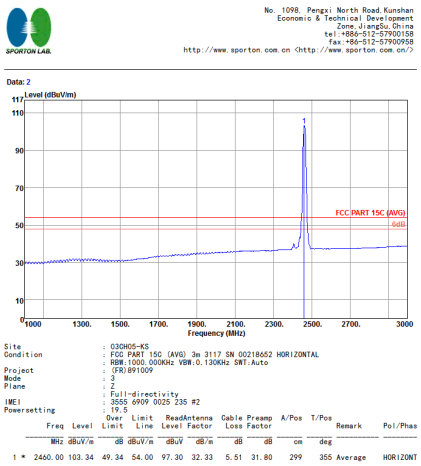
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Fundamental
Peak		

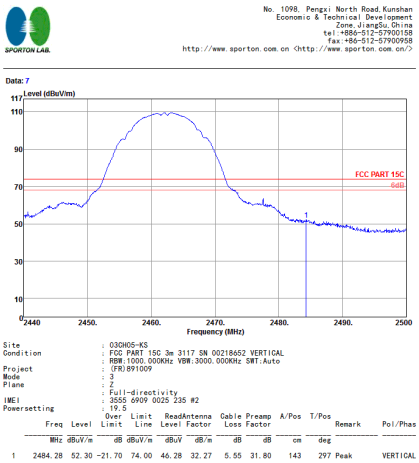
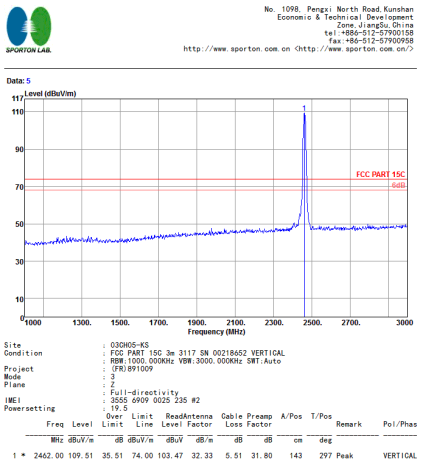
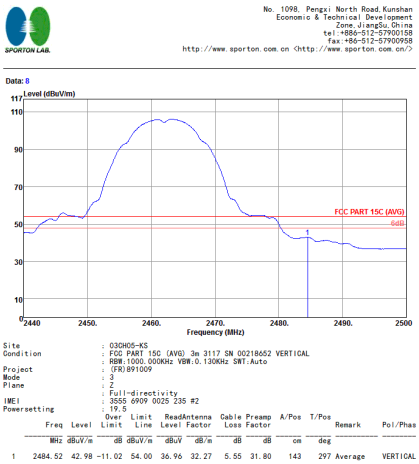
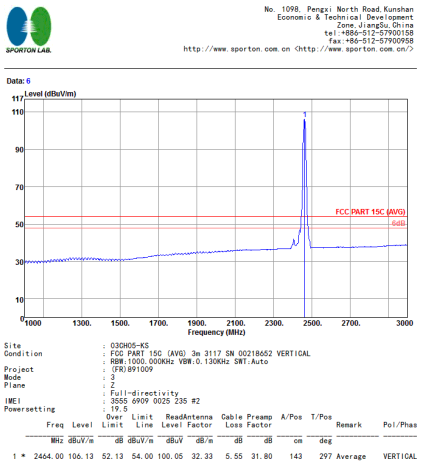
Avg.


No. 1098, Pengxi North Road,Kunshan
Economic & Technical Development
Zone,JiangSu,China
tel:+86-512-57900158
fax:+86-512-57900958
http://www.sporton.com.cn <http://www.sporton.com.cn/>
Data: 2
Level (dBuV/m)
FCC PART 15C (AVG)
6dB
Frequency (MHz)
Site : 03CH05-KS
Condition : FCC PART 15C (AVG) 3m 3117 SN 00218652 HORIZONTAL
: RBW:1000.000KHz VBW:0.130KHz SWT:Auto
Project : (FR)891009
Mode : 1
Plane : Z
: Full-directivity
IMEI : 3555 6909 0025 235 #2
Powersetting : 19.5
Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Preamp Loss Factor A/Pos T/Pos Remark Pol/Phas
MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg
1 2389.95 38.30 -15.70 54.00 32.62 32.00 5.48 31.80 388 182 Average HORIZONT


No. 1098, Pengxi North Road,Kunshan
Economic & Technical Development
Zone,JiangSu,China
tel:+86-512-57900158
fax:+86-512-57900958
http://www.sporton.com.cn <http://www.sporton.com.cn/>
Data: 4
Level (dBuV/m)
FCC PART 15C (AVG)
6dB
Frequency (MHz)
Site : 03CH05-KS
Condition : FCC PART 15C (AVG) 3m 3117 SN 00218652 HORIZONTAL
: RBW:1000.000KHz VBW:0.130KHz SWT:Auto
Project : (FR)891009
Mode : 1
Plane : Z
: Full-directivity
IMEI : 3555 6909 0025 235 #2
Powersetting : 19.5
Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Preamp Loss Factor A/Pos T/Pos Remark Pol/Phas
MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg
1 * 2410.00 102.72 48.72 54.00 96.91 32.13 5.48 31.80 388 182 Average HORIZONT

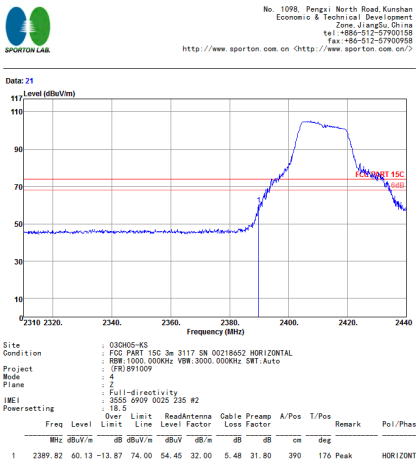
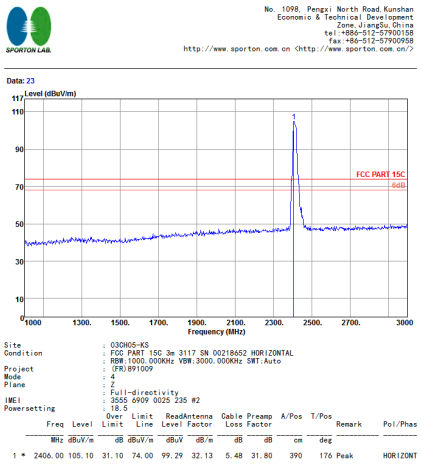
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH01 2412MHz	
1	Vertical	Fundamental
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Fundamental
Peak		
Avg.		

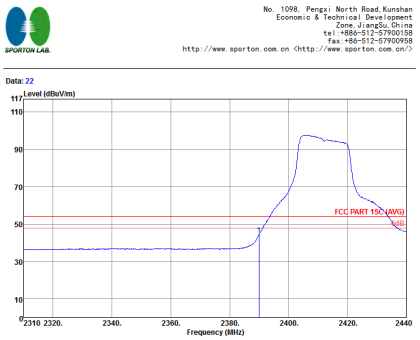
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11b CH11 2462MHz	
1	Vertical	Fundamental
Peak		
Avg.		

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Fundamental
Peak		

Avg.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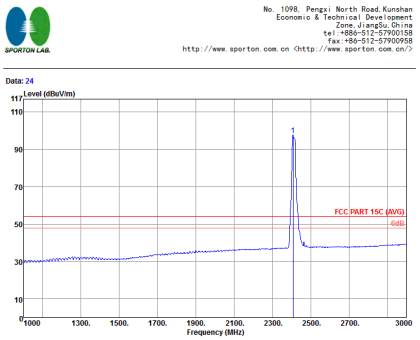
Zone, JiangSu, China
tel:+886-512-57900158
fax:+86-512-57900958
http://www.sporton.com.cn <http://www.sporton.com.cn/>
Data: 22
Level (dBuV/m)
FCC PART 15C (AVG)
Frequency (MHz)
Site : 03CH05-KS
Condition : FCC PART 15C (AVG) 3m 3117 SN 00218652 HORIZONTAL
: RBW:1000.000KHz VBW:0.750KHz SWT:Auto
Project : (FR)891009
Mode : 4
Plane : Z
: Full-directivity
IMEI : 3555 6909 0025 235 #2
Powersetting : 18.5
Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos cm T/Pos deg Remark Pol/Phas
MHz dBuV/m dB dBuV/m dBuV dB/m dB dB
1 2389.95 44.31 -9.69 54.00 38.63 32.00 5.48 31.80 390 176 Average HORIZONT


No. 1098, Pengxi North Road, Kunshan
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Zone, JiangSu, China
tel:+886-512-57900158
fax:+86-512-57900958
http://www.sporton.com.cn <http://www.sporton.com.cn/>
Data: 24
Level (dBuV/m)
FCC PART 15C (AVG)
Frequency (MHz)
Site : 03CH05-KS
Condition : FCC PART 15C (AVG) 3m 3117 SN 00218652 HORIZONTAL
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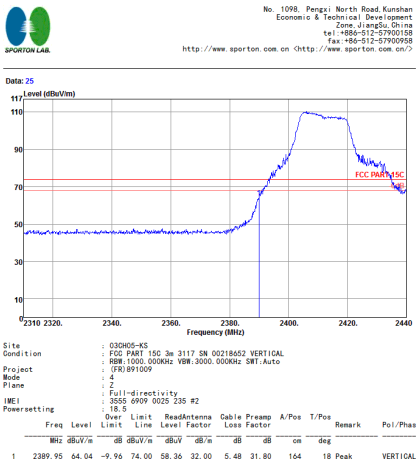
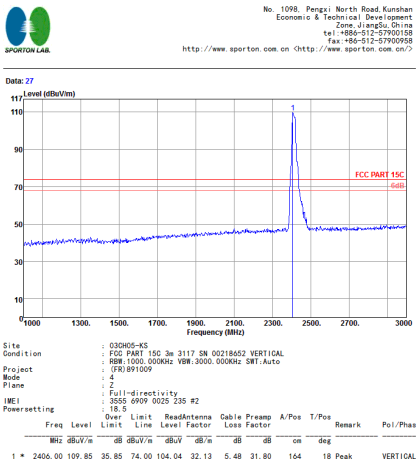
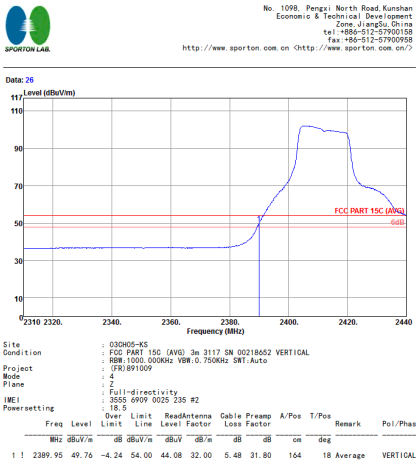
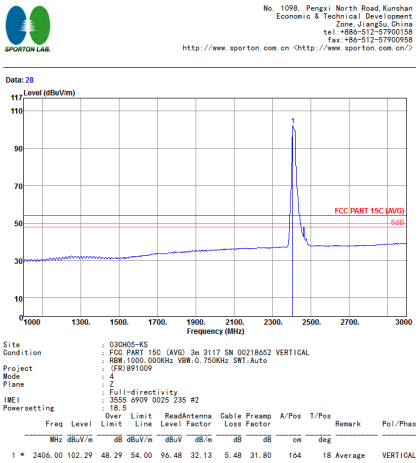
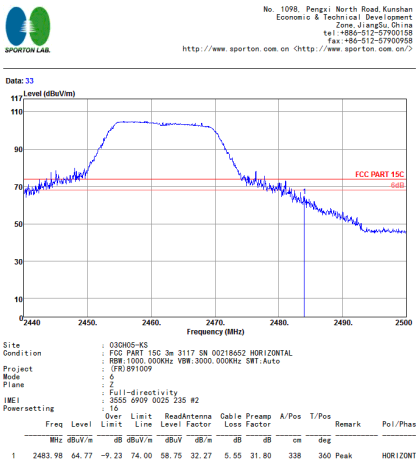
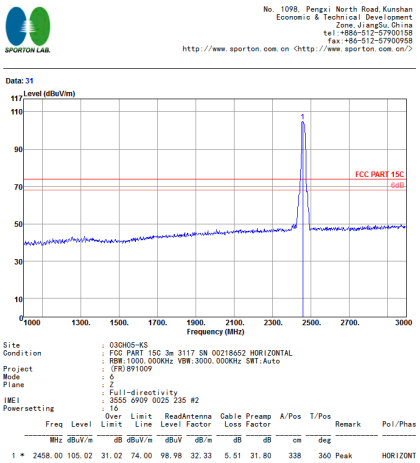
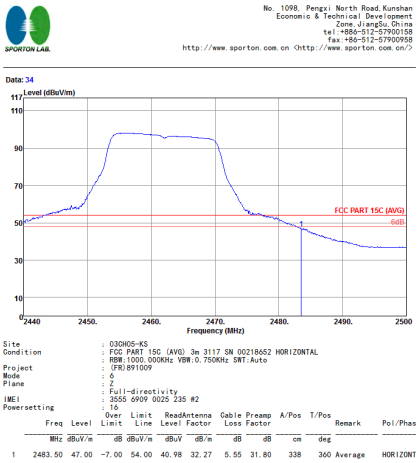
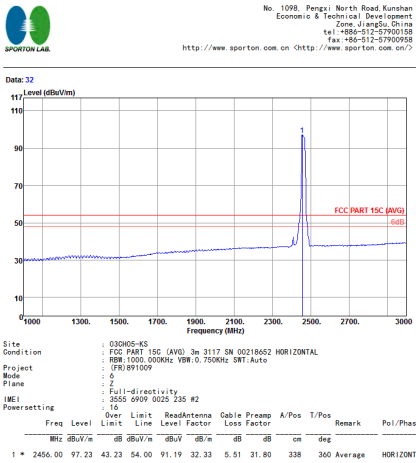
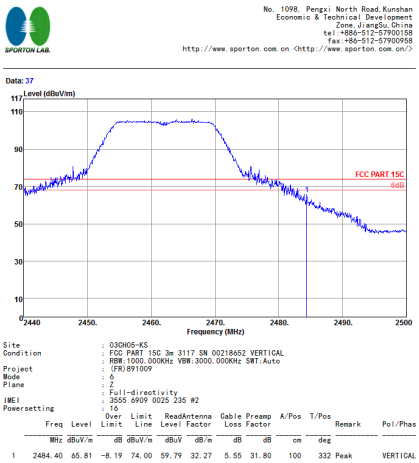
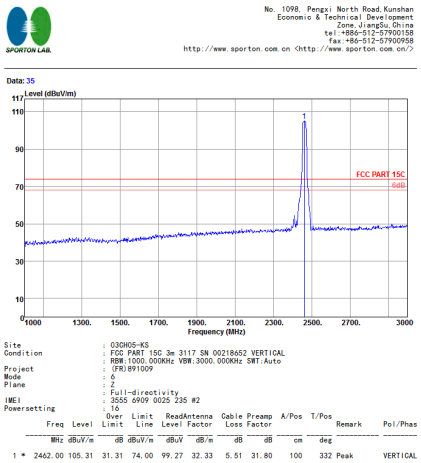
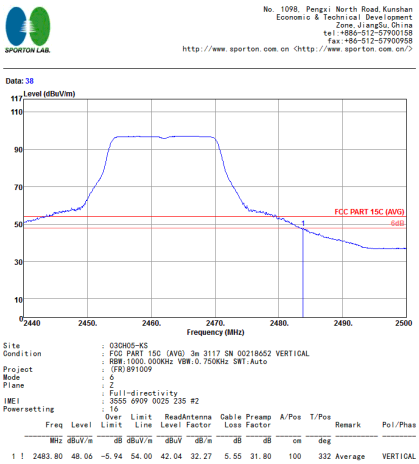
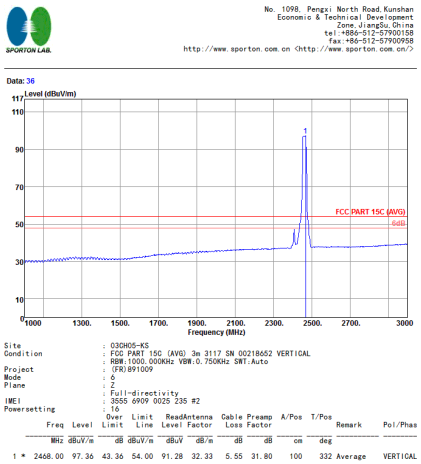
Project : (FR)891009
Mode : 4
Plane : Z
: Full-directivity
IMEI : 3555 6909 0025 235 #2
Powersetting : 18.5
Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos cm T/Pos deg Remark Pol/Phas
MHz dBuV/m dB dBuV/m dBuV dB/m dB dB
1 * 2408.00 97.81 43.81 54.00 92.00 32.13 5.48 31.80 390 176 Average HORIZONT

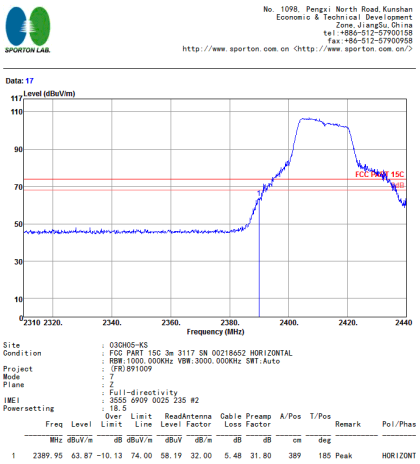
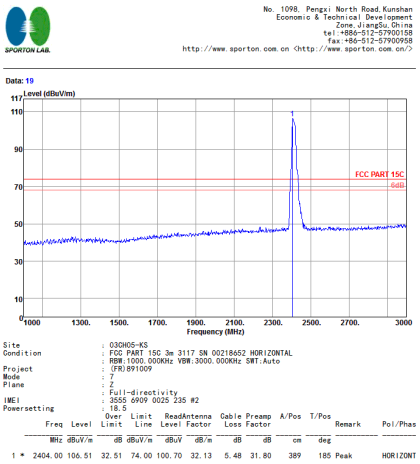
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH01 2412MHz	
1	Vertical	Fundamental
Peak		
Avg.		

WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Fundamental
Peak		
Avg.		

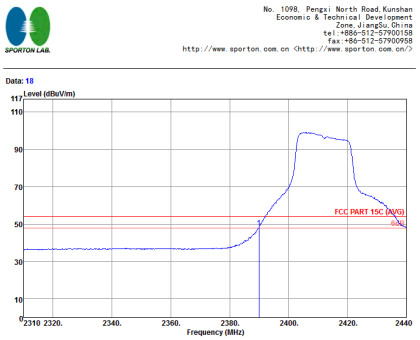
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11g CH11 2462MHz	
1	Vertical	Fundamental
Peak		
Avg.		

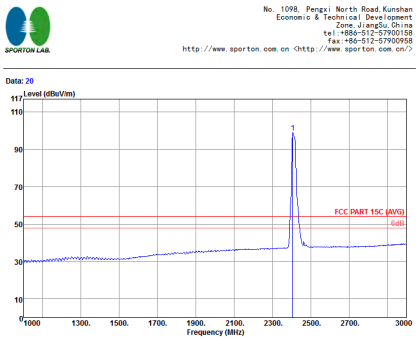
2.4GHz 2400~2483.5MHz

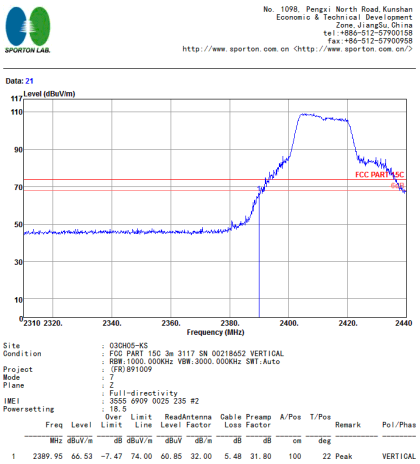
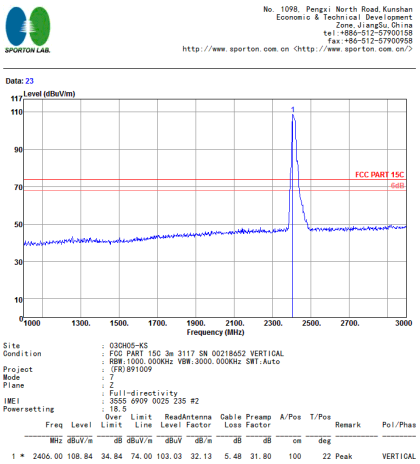
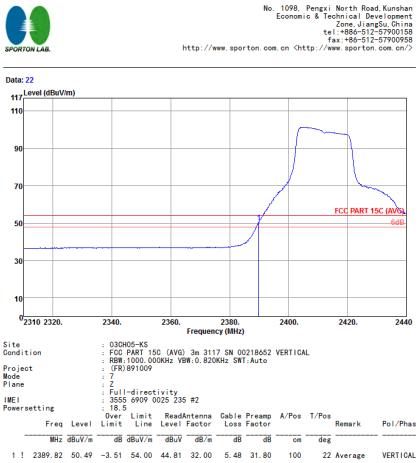
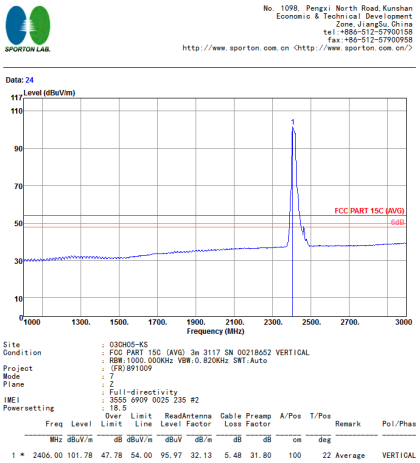
WIFI 802.11n HT20 (Band Edge @ 3m)

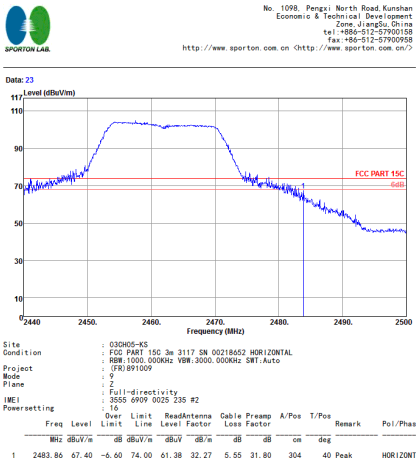
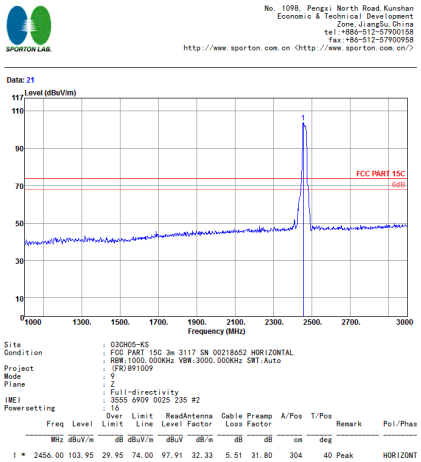
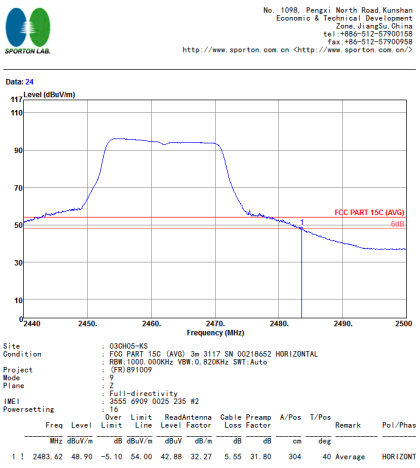
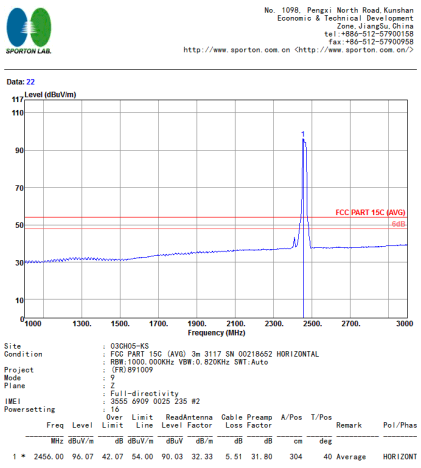
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Fundamental
Peak		

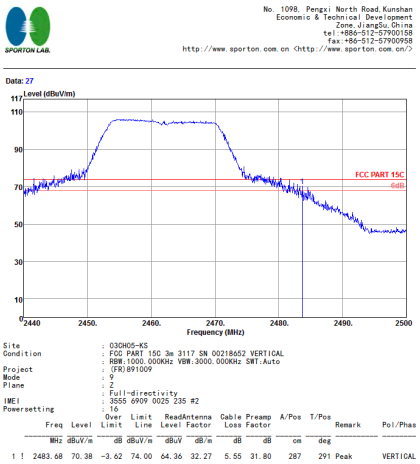
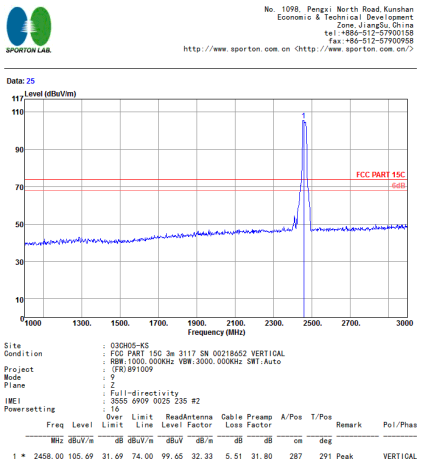
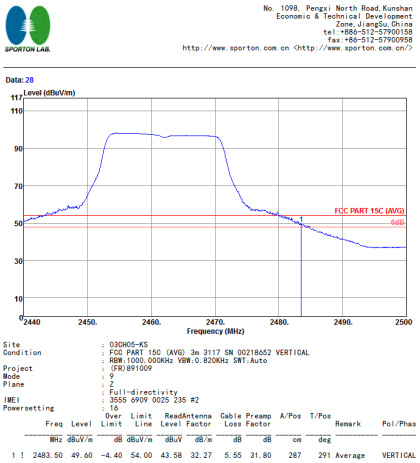
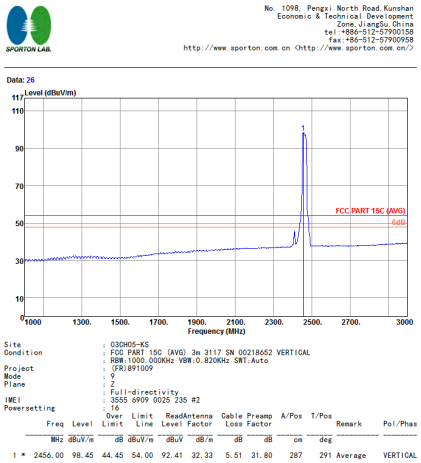
Avg.


No. 1098, Pengxi North Road, Kunshan
Economic & Technical Development
Zone, JiangSu, China
tel:+886-512-57900158
fax:+86-512-57900958
http://www.sporton.com.cn <http://www.sporton.com.cn/>
Data: 18
Level (dBuV/m)
FCC PART 15C (AVG)
Frequency (MHz)
Site : 03CH05-KS
Condition : FCC PART 15C (AVG) 3m 3117 SN 00218652 HORIZONTAL
: RBW:1000.000KHz VBW:0.820KHz SWT:Auto
Project : (FR)891009
Mode : 7
Plane : Z
: Full-directivity
IMEI : 3555 6909 0025 235 #2
Powersetting : 18.5
Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos cm T/Pos deg Remark Pol/Phas
MHz dBuV/m dB dBuV/m dBuV dB/m dB dB
1 ! 2389.95 48.29 -5.71 54.00 42.61 32.00 5.48 31.80 389 185 Average HORIZONT


No. 1098, Pengxi North Road, Kunshan
Economic & Technical Development
Zone, JiangSu, China
tel:+886-512-57900158
fax:+86-512-57900958
http://www.sporton.com.cn <http://www.sporton.com.cn/>
Data: 20
Level (dBuV/m)
FCC PART 15C (AVG)
Frequency (MHz)
Site : 03CH05-KS
Condition : FCC PART 15C (AVG) 3m 3117 SN 00218652 HORIZONTAL
: RBW:1000.000KHz VBW:0.820KHz SWT:Auto
Project : (FR)891009
Mode : 7
Plane : Z
: Full-directivity
IMEI : 3555 6909 0025 235 #2
Powersetting : 18.5
Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Factor Preamp Factor A/Pos cm T/Pos deg Remark Pol/Phas
MHz dBuV/m dB dBuV/m dBuV dB/m dB dB
1 * 2406.00 98.96 44.96 54.00 93.15 32.13 5.48 31.80 389 185 Average HORIZONT

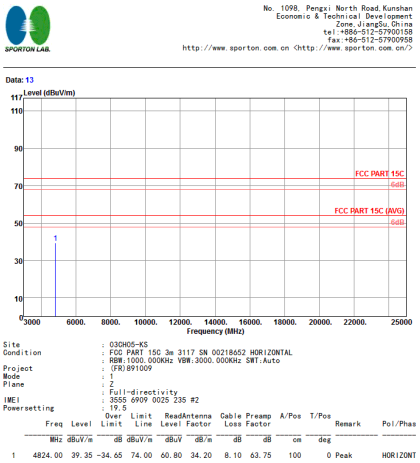
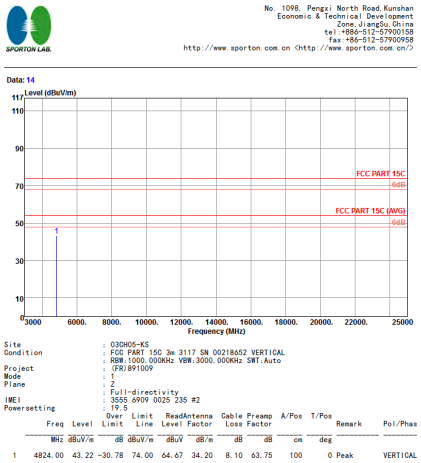
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Vertical	Fundamental
Peak		
Avg.		

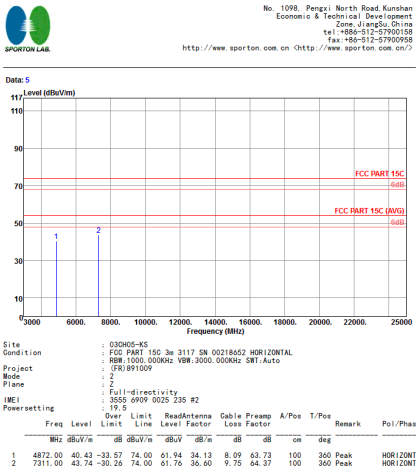
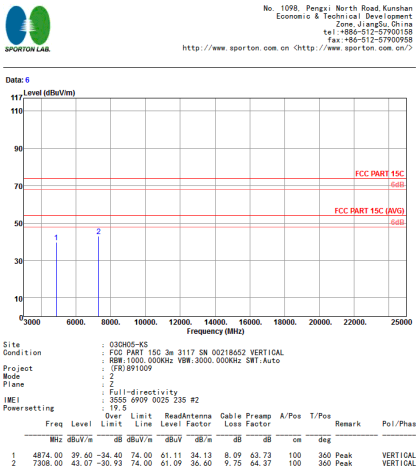
WIFI	2.4GHz 2400~2483.5MHz Band Edge @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Fundamental
Peak		
Avg.		

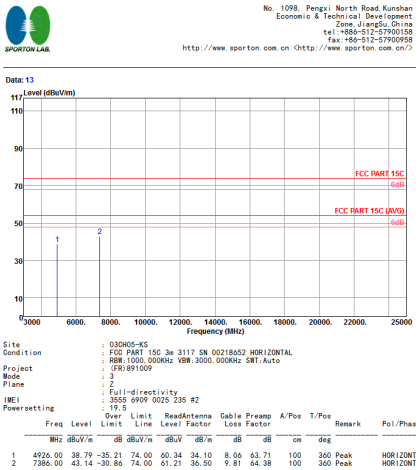
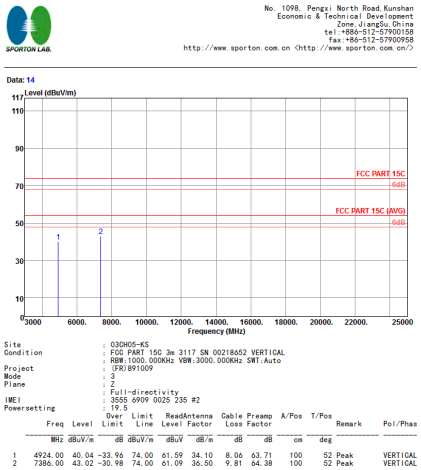
WIFI	2.4GHz 2400~2483.5MHz Fundamental @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Vertical	Fundamental
Peak		
Avg.		

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

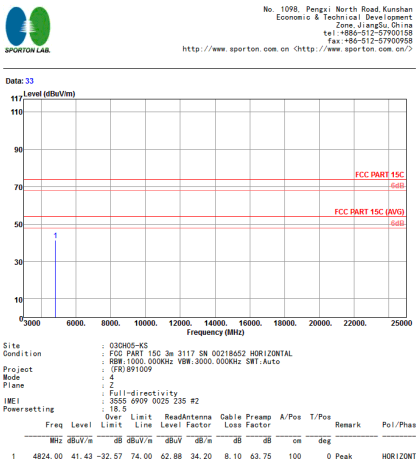
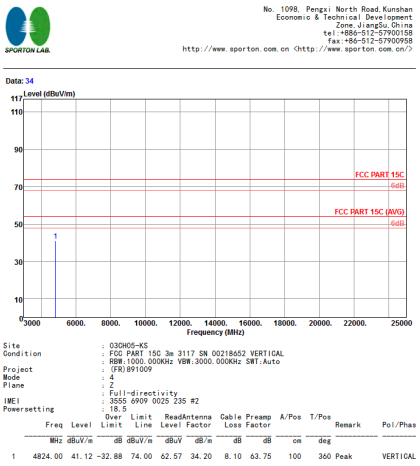
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.		

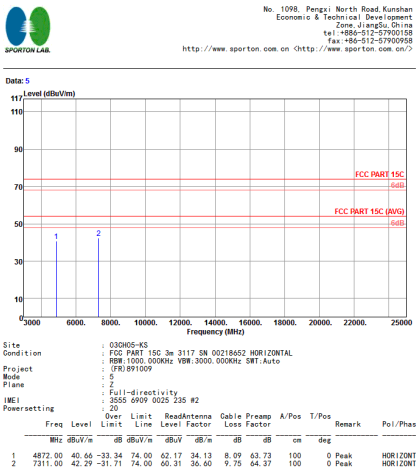
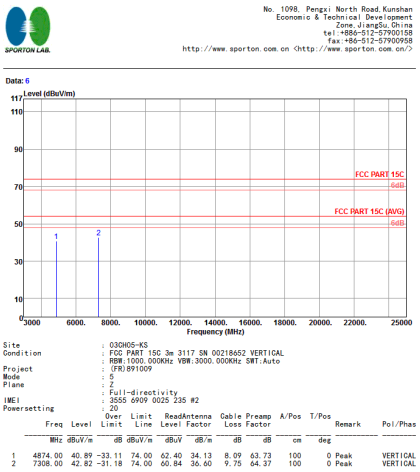
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH05-KS Condition : FCC PART 15C 3m 3117 SN 00218652 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : (FR)891009 Mode : 2 Plane : Z : Full-directivity IMEI : 3555 6909 0025 235 #2 Powersetting : 19.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark Pol/Phas MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4872.00 40.43 -33.57 74.00 61.94 34.13 8.09 63.73 100 360 Peak HORIZONT 2 7311.00 43.74 -30.26 74.00 61.76 36.60 9.75 64.37 100 360 Peak HORIZONT	 Site : 03CH05-KS Condition : FCC PART 15C 3m 3117 SN 00218652 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : (FR)891009 Mode : 2 Plane : Z : Full-directivity IMEI : 3555 6909 0025 235 #2 Powersetting : 19.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark Pol/Phas MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4874.00 39.60 -34.40 74.00 61.11 34.13 8.09 63.73 100 360 Peak VERTICAL 2 7308.00 43.07 -30.93 74.00 61.09 36.60 9.75 64.37 100 360 Peak VERTICAL

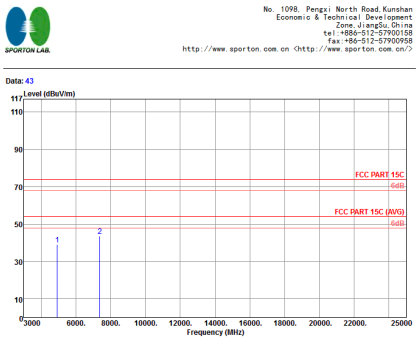
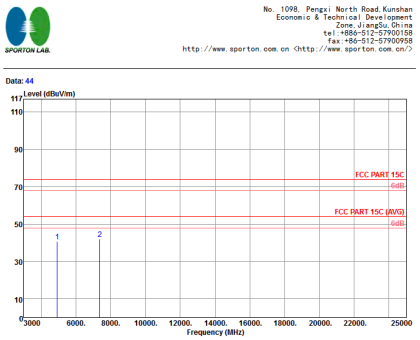
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11b CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	 Data: 13 Site : 03CH05-KS Condition : FCC PART 15C 3m 3117 SN 00218652 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : (FR)891009 Mode : 3 Plane : Z : Full-directivity IMEI : 3555 6909 0025 235 #2 Powersetting : 19.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark Pol/Phas MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4926.00 38.79 -35.21 74.00 60.34 34.10 8.06 63.71 100 360 Peak HORIZONT 2 7386.00 43.14 -30.86 74.00 61.21 36.50 9.81 64.38 100 360 Peak HORIZONT	 Data: 14 Site : 03CH05-KS Condition : FCC PART 15C 3m 3117 SN 00218652 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : (FR)891009 Mode : 3 Plane : Z : Full-directivity IMEI : 3555 6909 0025 235 #2 Powersetting : 19.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark Pol/Phas MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4924.00 40.04 -33.96 74.00 61.59 34.10 8.06 63.71 100 52 Peak VERTICAL 2 7386.00 43.02 -30.98 74.00 61.09 36.50 9.81 64.38 100 52 Peak VERTICAL

2.4GHz 2400~2483.5MHz

WIFI 802.11g (Harmonic @ 3m)

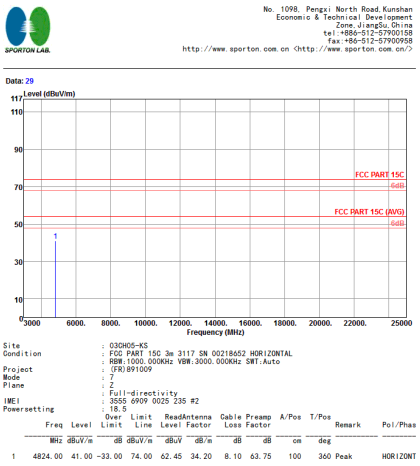
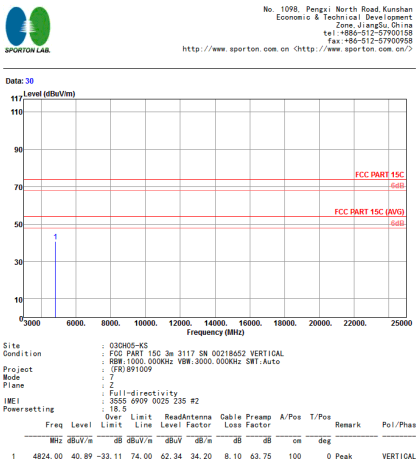
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.	 No. 1098, Pengxi North Road,Kunshan Economic & Technical Development Zone,JiangSu,China tel:+86-512-57900158 fax:+86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 33 Level (dBuV/m) FCC PART 15C 6dB FCC PART 15C (AVG) 6dB Frequency (MHz) Site : 03CH05-KS Condition : FCC PART 15C 3m 3117 SN 00218652 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : (FR)891009 Mode : 4 Plane : Z : Full-directivity IMEI : 3555 6909 0025 235 #2 Powersetting : 18.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark Pol/Phas MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4824.00 41.43 -32.57 74.00 62.88 34.20 8.10 63.75 100 0 Peak HORIZONT	 No. 1098, Pengxi North Road,Kunshan Economic & Technical Development Zone,JiangSu,China tel:+86-512-57900158 fax:+86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 34 Level (dBuV/m) FCC PART 15C 6dB FCC PART 15C (AVG) 6dB Frequency (MHz) Site : 03CH05-KS Condition : FCC PART 15C 3m 3117 SN 00218652 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : (FR)891009 Mode : 4 Plane : Z : Full-directivity IMEI : 3555 6909 0025 235 #2 Powersetting : 18.5 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark Pol/Phas MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4824.00 41.12 -32.88 74.00 62.57 34.20 8.10 63.75 100 360 Peak VERTICAL

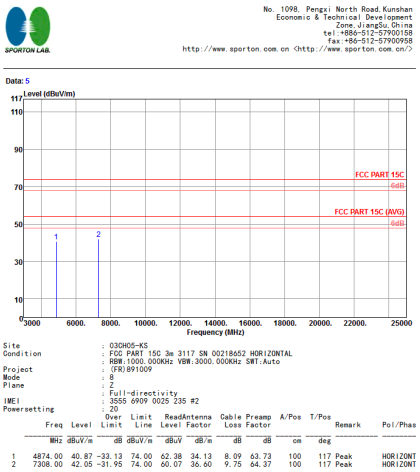
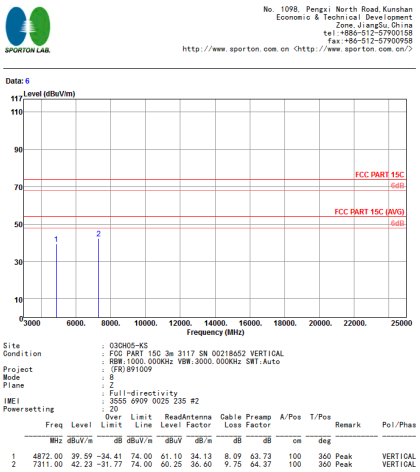
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	 Data: 5 Level (dBuV/m) FCC PART 15C 6dB FCC PART 15C (AVG) 6dB Frequency (MHz) Site : 03CH05-KS Condition : FCC PART 15C 3m 3117 SN 00218652 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : (FR)891009 Mode : 5 Plane : Z : Full-directivity IMEI : 3555 6909 0025 235 #2 Powersetting : 20 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark Pol/Phas MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4872.00 40.66 -33.34 74.00 62.17 34.13 8.09 63.73 100 0 Peak HORIZONT 2 7311.00 42.29 -31.71 74.00 60.31 36.60 9.75 64.37 100 0 Peak HORIZONT	 Data: 6 Level (dBuV/m) FCC PART 15C 6dB FCC PART 15C (AVG) 6dB Frequency (MHz) Site : 03CH05-KS Condition : FCC PART 15C 3m 3117 SN 00218652 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : (FR)891009 Mode : 5 Plane : Z : Full-directivity IMEI : 3555 6909 0025 235 #2 Powersetting : 20 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark Pol/Phas MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4874.00 40.89 -33.11 74.00 62.40 34.13 8.09 63.73 100 0 Peak VERTICAL 2 7308.00 42.82 -31.18 74.00 60.84 36.60 9.75 64.37 100 0 Peak VERTICAL

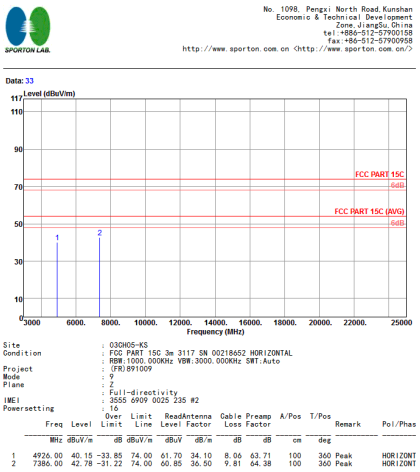
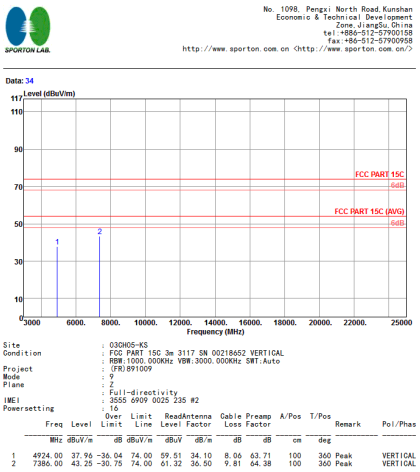
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11g CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	 Site : 03CH05-KS Condition : FCC PART 15C 3m 3117 SN 00218652 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : (FR)891009 Mode : 6 Plane : 2 : Full-directivity IMEI : 3555 6909 0025 235 #2 Powersetting : 16 Data: 43 Level (dBuV/m) Frequency (MHz) FCC PART 15C 6dB FCC PART 15C (AVG) 6dB 1 4926.00 39.27 -34.73 74.00 60.82 34.10 8.06 63.71 100 360 Peak HORIZONT 2 7386.00 43.73 -30.27 74.00 61.80 36.50 9.81 64.38 100 360 Peak HORIZONT	 Site : 03CH05-KS Condition : FCC PART 15C 3m 3117 SN 00218652 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : (FR)891009 Mode : 6 Plane : 2 : Full-directivity IMEI : 3555 6909 0025 235 #2 Powersetting : 16 Data: 44 Level (dBuV/m) Frequency (MHz) FCC PART 15C 6dB FCC PART 15C (AVG) 6dB 1 4924.00 40.81 -33.19 74.00 62.36 34.10 8.06 63.71 100 0 Peak VERTICAL 2 7386.00 41.95 -32.05 74.00 60.02 36.50 9.81 64.38 100 0 Peak VERTICAL

2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

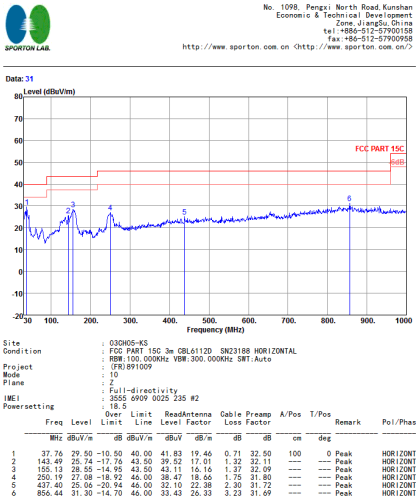
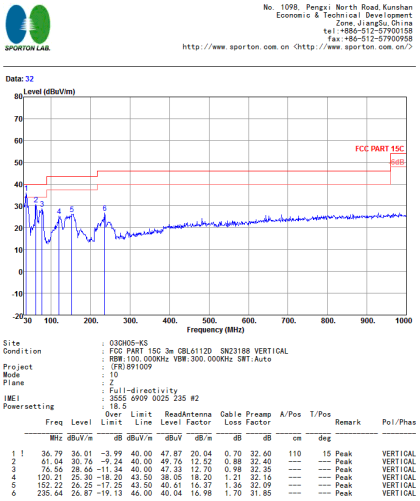
WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH01 2412MHz	
1	Horizontal	Vertical
Peak Avg.	 No. 1098, Pengxi North Road,Kunshan Economic & Technical Development Zone,JiangSu,China tel:+86-512-57900158 fax:+86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 29 Site : 03CH05-KS Condition : FCC PART 15C 3m 3117 SN 00218652 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : (FR)891009 Mode : 7 Plane : Z : Full-directivity IMEI : 3555 6909 0025 235 #2 Powersetting : 18.5 Freq Level Over Limit Limit Line Read Level Antenna Factor Cable Loss Preamp Factor A/Pos T/Pos Remark Pol/Phas MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4824.00 41.00 -33.00 74.00 62.45 34.20 8.10 63.75 100 360 Peak HORIZONT	 No. 1098, Pengxi North Road,Kunshan Economic & Technical Development Zone,JiangSu,China tel:+86-512-57900158 fax:+86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 30 Site : 03CH05-KS Condition : FCC PART 15C 3m 3117 SN 00218652 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : (FR)891009 Mode : 7 Plane : Z : Full-directivity IMEI : 3555 6909 0025 235 #2 Powersetting : 18.5 Freq Level Over Limit Limit Line Read Level Antenna Factor Cable Loss Preamp Factor A/Pos T/Pos Remark Pol/Phas MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4824.00 40.89 -33.11 74.00 62.34 34.20 8.10 63.75 100 0 Peak VERTICAL

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH06 2437MHz	
1	Horizontal	Vertical
Peak Avg.	 No. 1098, Pengxi North Road,Kunshan Economic & Technical Development Zone,JiangSu,China tel:+86-512-57900158 fax:+86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 5 Site : 03CH05-KS Condition : FCC PART 15C 3m 3117 SN 00218652 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : (FR)891009 Mode : 8 Plane : Z : Full-directivity IMEI : 3555 6909 0025 235 #2 Powersetting : 20 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark Pol/Phas MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4874.00 40.87 -33.13 74.00 62.38 34.13 8.09 63.73 100 117 Peak HORIZONT 2 7308.00 42.05 -31.95 74.00 60.07 36.60 9.75 64.37 100 117 Peak HORIZONT	 No. 1098, Pengxi North Road,Kunshan Economic & Technical Development Zone,JiangSu,China tel:+86-512-57900158 fax:+86-512-57900958 http://www.sporton.com.cn <http://www.sporton.com.cn/> Data: 6 Site : 03CH05-KS Condition : FCC PART 15C 3m 3117 SN 00218652 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : (FR)891009 Mode : 8 Plane : Z : Full-directivity IMEI : 3555 6909 0025 235 #2 Powersetting : 20 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark Pol/Phas MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4872.00 39.59 -34.41 74.00 61.10 34.13 8.09 63.73 100 360 Peak VERTICAL 2 7311.00 42.23 -31.77 74.00 60.25 36.60 9.75 64.37 100 360 Peak VERTICAL

WIFI	2.4GHz 2400~2483.5MHz Harmonic @ 3m	
ANT	802.11n HT20 CH11 2462MHz	
1	Horizontal	Vertical
Peak Avg.	 Data: 33 Site : 03CH05-KS Condition : FCC PART 15C 3m 3117 SN 00218652 HORIZONTAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : (FR)891009 Mode : 9 Plane : Z : Full-directivity IMEI : 3555 6909 0025 235 #2 Powersetting : 16 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark Pol/Phas MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4926.00 40.15 -33.85 74.00 61.70 34.10 8.06 63.71 100 360 Peak HORIZONT 2 7386.00 42.78 -31.22 74.00 60.85 36.50 9.81 64.38 100 360 Peak HORIZONT	 Data: 34 Site : 03CH05-KS Condition : FCC PART 15C 3m 3117 SN 00218652 VERTICAL : RBW:1000.000KHz VBW:3000.000KHz SWT:Auto Project : (FR)891009 Mode : 9 Plane : Z : Full-directivity IMEI : 3555 6909 0025 235 #2 Powersetting : 16 Freq Level Over Limit Limit Line ReadAntenna Level Factor Cable Loss Preamp Factor A/Pos T/Pos Remark Pol/Phas MHz dBuV/m dB dBuV/m dBuV dB/m dB dB cm deg 1 4924.00 37.96 -36.04 74.00 59.51 34.10 8.06 63.71 100 360 Peak VERTICAL 2 7386.00 43.25 -30.75 74.00 61.32 36.50 9.81 64.38 100 360 Peak VERTICAL

Emission below 1GHz

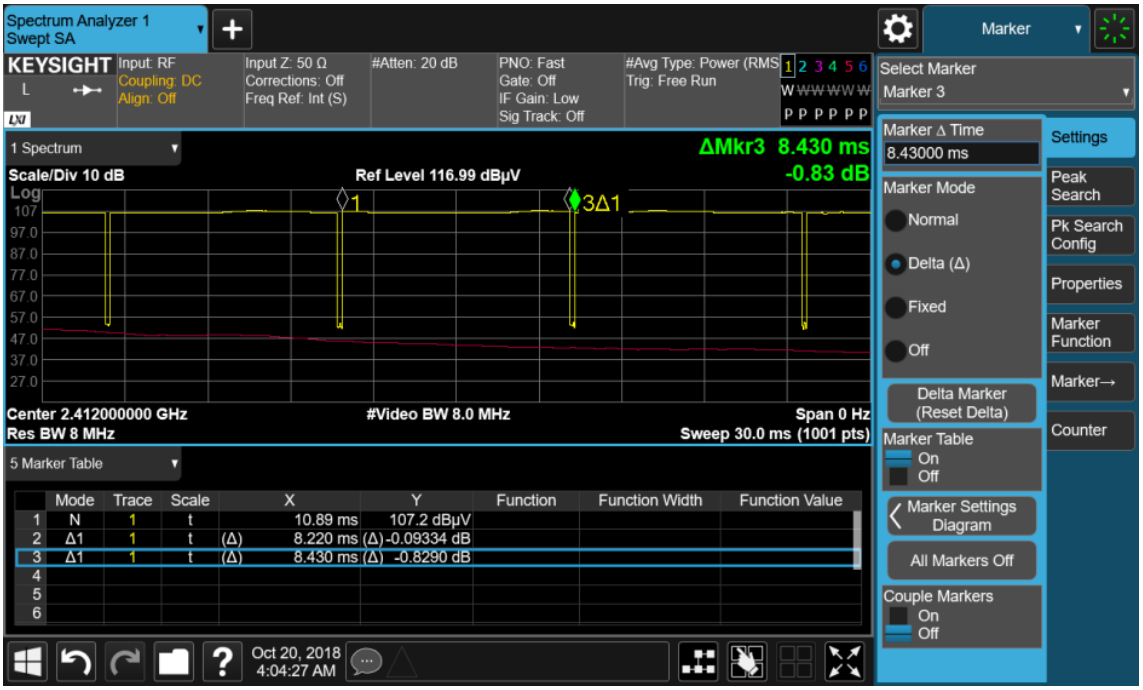
2.4GHz WIFI 802.11n HT20 (LF)

WIFI	2.4GHz 2400~2483.5MHz	
ANT	802.11n HT20 LF	
1	Horizontal	Vertical
QP / Peak		

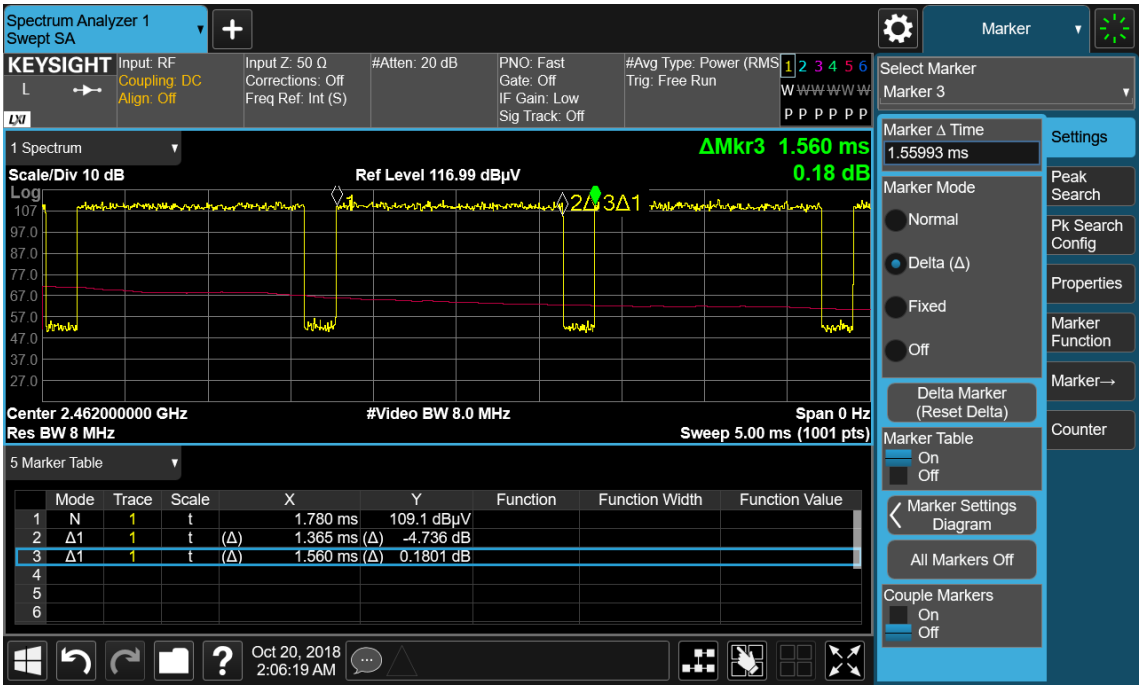
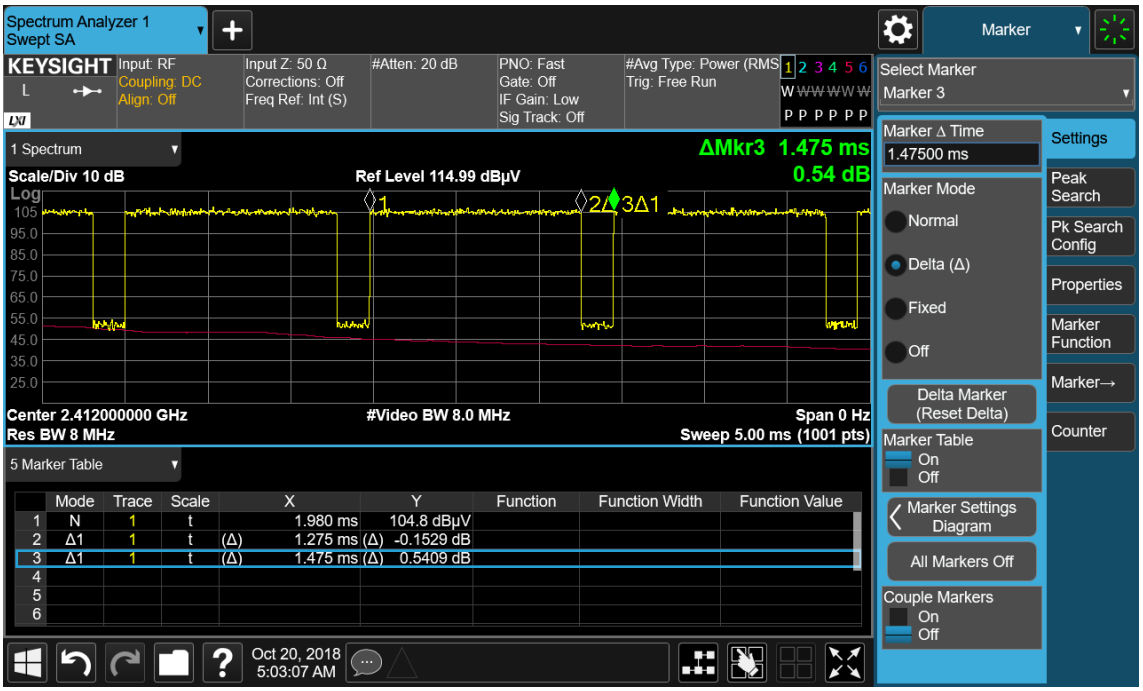
Appendix C. Duty Cycle Plots

Band	Duty Cycle(%)	T(ms)	1/T(kHz)	VBW Setting
802.11b	97.51	8.220	0.122	0.13KHz
802.11g	87.50	1.365	0.733	0.75KHz
802.11n HT20	86.44	1.275	0.784	0.82KHz

802.11b



802.11g



802.11n HT20