

FCC TEST REPORT

For

Shenzhen SQT Electronics Co., Ltd.

2.4GHz Wireless Mouse

Model No.: SM-388AG, SM-388SAG, SM-387AG, SM-390AG

Prepared For Shenzhen SQT Electronics Co., Ltd.

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Report Number SZAWW190122012-01

Date of Receipt Jan. 22, 2019

Date of Test Jan. 22~Feb. 15, 2019

Date of Report Feb. 15, 2019



Contents

1. General Information		<u> </u>	U.,	gtel	104		4
1.1. Client Information		otek	Mport	Þu.	, to K	Motek	
1.2. Description of Device (EUT)			Anhote	Aup		"holek	4
1.3. Auxiliary Equipment Used During Test 1.4. Description of Test Modes	st			tek p	upore	br.,	y 4
1.4. Description of Test Modes	(potek	Aupor			Mipofer	Anbe	
1.5 List of Channels							
1.6. Description of Test Setup	Anv		watek	Anbor	Pri.	Yay.	
1.6. Description of Test Setup 1.7. Test Equipment List	Anbor		usek	Kepo _{fe} ,	Ant		
Neasurement Uncertainty Description of Test Facility	pb	3 ⁴⁶ .	Yur.		tek	Mpor	
1.9. Description of Test Facility		Nootek	Anbo		WOYEK	Kepo _{fer}	8
2 Summary of Test Results							* (
Conducted Emission Test 3.1. Test Standard and Limit	pore	Anv	g¥	to Otek	Anbo	Pr	10
3.1. Test Standard and Limit	"upote _k	Anbo		otek	pobote	Anu	10
3.2. Test Setup 3.3. Test Procedure	r gotel		Pore	An-		otek A	10
3.3. Test Procedure	Pitte		Mpotek	Anbo		-Hotek	10
3.4. Test Data	Anbe		Hotek	- Mbo	P		10
4. Radiated Emission and Band Edge	ek hi	por	br.,	, X.,	poter	Anbo	11
4.1. Test Standard and Limit	- Ney-	Kupoter.	Anb		Botek	Puporo	11
4.2. Test Setup	·····		7.4	por	Vi. Vol	24,,,,	11
4.3. Test Procedure	Anbor K	b.,		Tupo _{fer}	Ambo	106	13
4.4. Test Data	Repoter	ΑÑ		gotek	, nbc		13
5. 20dB Bandwidth Test	امرييين	ek.	Anbor	Pm.		poter	23
5.1. Test Standard and Limit	Pr.	worek	_{Ke} boter	Anb		otek	23
5.2. Test Setup	N.	······································	امیرا	λ ^γ	00,	Yayı	23
5.3. Test Procedure	otek	Anbo		orek	Kupoter	Anb	23
5.4. Test Data	Hotek	poboti	Vu.		otek	Mpo	23
5.3. Test Procedure	An W		otek	Anbo.	P2.	, y ₂	26
6.1. Test Standard and Requirement	And		18K	wopor.	VI		26
6.2. Antenna Connected Construction	rodna		Yu.	1001	sk. V	(po.	26
APPENDIX I TEST SETUP PHOTOGRAPH APPENDIX II EXTERNAL PHOTOGRAPH	ł	ootek	Anbo		, Jek	pobote.	27
APPENDIX II EXTERNAL PHOTOGRAPH	ł	Hotek	hopoti	An		, wotek	28
ADDENIDIV III INTERNAI DIIOTOCDADI							N 21



TEST REPORT

Applicant : Shenzhen SQT Electronics Co., Ltd.

Manufacturer : Shenzhen SQT Electronics Co., Ltd.

Product Name : 2.4GHz Wireless Mouse

Model No. : SM-388AG, SM-388SAG, SM-387AG, SM-390AG

Trade Mark : N.A.

Rating(s) : Input: DC 1.5V, 12mA "AA"

Test Standard(s) : FCC Part15 Subpart C, Paragraph 15.249

Test Method(s) : **ANSI C63.10: 2013**

The device described above is tested by Shenzhen Anbotek Compliance Laboratory Limited to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The measurement results are contained in this test report and Shenzhen Anbotek Compliance Laboratory Limited is assumed full of responsibility for the accuracy and completeness of these measurements. Also, this report shows that the EUT (Equipment Under Test) is technically compliant with the FCC Part 15 Subpart C requirements.

This report applies to above tested sample only and shall not be reproduced in part without written approval of Shenzhen Anbotek Compliance Laboratory Limited.

Date of Test	botek Anbo	Jan. 22~Feb. 15, 20	
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		Snavy Meny	
Reviewer	Anbotek Anbotek An	ien upo	
Reviewer		(Supervisor / Snowy M	leng) kindalek Anbak
		and And	botek Anbotek Ant
		Sally Zhong	botek Anbotek
Approved & Authorized Signer	Anbotek Anbotek Anbot	otek unbotek	
	Anbotek Anbotek An	(Manager / Sally Zha	ng)



1. General Information

1.1. Client Information

Applicant	: Shenzhen SQT Electronics Co., Ltd.
Address	ZhengChengFeng TechnologyZone Xinsha Road, ShaYi Village, Sha jing Town, Baoan Area, Shenzhen, China 518104
Manufacturer	: Shenzhen SQT Electronics Co., Ltd.
Address	ZhengChengFeng TechnologyZone Xinsha Road, ShaYi Village, Sha jing Town, Baoan Area, Shenzhen, China 518104
Factory	: Shenzhen SQT Electronics Co., Ltd.
Address	ZhengChengFeng TechnologyZone Xinsha Road, ShaYi Village, Sha jing Town, Baoan Area, Shenzhen, China 518104

1.2. Description of Device (EUT)

	not not	Die	100	K - Ole All
	Product Name	:	2.4GHz Wireless Mouse	
	Model No.	:	SM-388AG, SM-388SAG, SM-38 (Note: All samples are the same established "SM-388AG" for test only.)	87AG, SM-390AG except the model name, so we prepare
	Trade Mark	:	N.A. Anbotek Anbotek	Anbotek Anbotek Anbotek Anbot
	Test Power Supply	:	DC 1.5V battery inside	Anbotek Anbotek Anbotek An
	Test Sample No.	:	S1(Normal Sample), S2(Engineer	ring Sample)
			Operation Frequency:	2408-2474MHz
			Number of Channel:	34 Channels
	Product Description :	: Modulation T		FSK Anbotek Anbotek Anbotek An
			Antenna Type:	PCB Antenna
			Antenna Gain(Peak):	-0.61 dBi
	199		1 11 1 0 -W 1 1 100 1	Ann about A

Remark: 1)For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

1.3. Auxiliary Equipment Used During Test

	N/A		Anbo. atek	A. nbotek	Anbote.	Anna	Anbotek	Anbore
--	-----	--	------------	-----------	---------	------	---------	--------



1.4. Description of Test Modes

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

	Pretest Mode			I	Description	on		
	Mode 1	botek	Anbotek	Aupo	CH01	hotek	Anbore	Ann
N.	Mode 2	Allotek	Anboten	Anbo	CH17	anbotek	Anbore	Yu.
otek	Mode 3	A. nbotek	Anbote.	K VUI	CH34	Anbotek	Anbott	* 6K

	For Radiated Emission								
	Final Test Mo	ode			Description	on			
	Mode 1	nbotek	Anbolo	Ann	CH01	Anbo	abotek	Anbo	
164	Mode 2	Anbotek	Anbolo	Ann	CH17	Anbountek	Anbotek	P	
upote.	Mode 3	Anbotek	Anboto	k abotek	СН34	Anbo	k anbote	K	

Note:

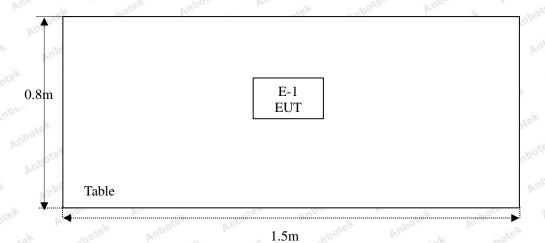
- 1. The engineering test program was provided and the EUT was programmed to be in continuously transmitting mode.
- 2. EUT built-in battery-powered, fully-charged battery use of the test battery.

1.5. List of Channels

Channel	Freq.	Channel	Freq.	Channel	Freq.	Channel	Freq.
	(MHz)		(MHz)		(MHz)		(MHz)
Aupo	2408	10 abote	2426	× 19 nbots	2444	28	2462
2 Ambo	2410	otek 11 Anbo	2428	20	2446	29	2464
potek 3 Ant	2412	12 N	2430	21	2448	30	2466
nbote4	2414	13	2432	22	2450	31	2468
nb5.ek	2416	14 ₁₀ ×	2434	23	2452	32	2470
6 otek	2418	15 15 15 N	2436	24	2454	33	2472
x 7 note	2420	16	2438	25	2456	⁶⁴ 34 _M ⁶⁰	2474
8 A	2422	17 Ano	2440	otek 26 Anb	2458	notek An	ooten An
9	2424	18 AT	2442	27	2460	notek	Anbotek



1.6. Description of Test Setup





1.7. Test Equipment List

1/-	-V	V///-	100	Y'	46.	C 1
Item	Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Cal. Interval
otek 1. nbotek	L.I.S.N. Artificial Mains Network	Rohde & Schwarz	ENV216	100055	Nov. 05, 2018	1 Year
2.00	EMI Test Receiver	Rohde & Schwarz	ESPI3	101604	Nov. 05, 2018	1 Year
3.	RF Switching Unit	Compliance Direction	RSU-M2	38303	Nov. 05, 2018	1 Year
4.	Spectrum Analysis	Agilent	E4407B	US39390582	Nov. 05, 2018	1 Year
5. Sk	MAX Spectrum Analysis	Agilent	N9020A	MY51170037	Nov. 05, 2018	1 Year
6.	Preamplifier	SKET Electronic	BK1G18G30D	KD17503	Nov. 05, 2018	1 Year
Anbox 7.	Double Ridged Horn Antenna	Instruments corporation	GTH-0118	351600	Nov. 20, 2018	1 Year
8.	Bilog Broadband Antenna	Schwarzbeck	VULB9163	VULB 9163-289	Nov. 19, 2018	1 Year
9.	Loop Antenna	Schwarzbeck	FMZB1519B	00053	Nov. 20, 2018	1 Year
10.	Horn Antenna	A-INFO	LB-180400-KF	J211060628	Nov. 20, 2018	1 Year
AT.	Pre-amplifier	SONOMA	310N	186860	Nov. 05, 2018	1 Year
12.	EMI Test Software EZ-EMC	SHURPLE	N/A	N/A	N/A	N/A
13.	RF Test Control System	YIHENG	YH3000	2017430	Nov. 05, 2018	1 Year
14.	Power Sensor	DAER	RPR3006W	15I00041SN045	Nov. 05, 2018	1 Year
15.	Power Sensor	DAER	RPR3006W	15I00041SN046	Nov. 05, 2018	1 Year
16.	MXA Spectrum Analysis	Agilent	N9020A	MY51170037	Nov. 05, 2018	1 Year
17.	MXG RF Vector Signal Generator	Agilent	N5182A	MY48180656	Nov. 05, 2018	1 Year
18.	Signal Generator	Agilent	E4421B	MY41000743	Nov. 05, 2018	1 Year
19.	DC Power Supply	IVYTECH	IV3605	1804D360510	Apr. 02, 2018	1 Year
20.	Constant Temperature Humidity Chamber	ZHONGJIAN	ZJ-KHWS80B	N/A	Nov. 01, 2018	1 Year

1.8. Measurement Uncertainty

10 Pak Por		Ar ater was
Radiation Uncertainty	:	Ur = 3.9 dB (Horizontal)
		Ur = 3.8 dB (Vertical)
		otek Anbote, Anbotek Anbotek Anbotek Anbote
Conduction Uncertainty	:	Uc = 3.4 dB

1.9. Description of Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

FCC-Registration No.: 184111

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registed and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No. 184111, July 31, 2017.

ISED-Registration No.: 8058A-1

Shenzhen Anbotek Compliance Laboratory Limited, EMC Laboratory has been registered and fully described in a report filed with the (ISED) Innovation, Science and Economic Development Canada. The acceptance letter from the ISED is maintained in our files. Registration 8058A-1, June 13, 2016.

Test Location

Shenzhen Anbotek Compliance Laboratory Limited.

1/F, Building D, Sogood Science and Technology Park, Sanwei community, Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China.518102

2. Summary of Test Results

Standard Section	Test Item	Result
15.203	Antenna Requirement	PASS
15.207	Conducted Emission	N/A
15.249	Radiated Emission	PASS
15.215(c)	20dB Bandwidth	PASS
15.249(c)	Band Edge	PASS
Remark: "N/A" is an abbre	eviation for Not Applicable.	K Anboten A



3. Conducted Emission Test

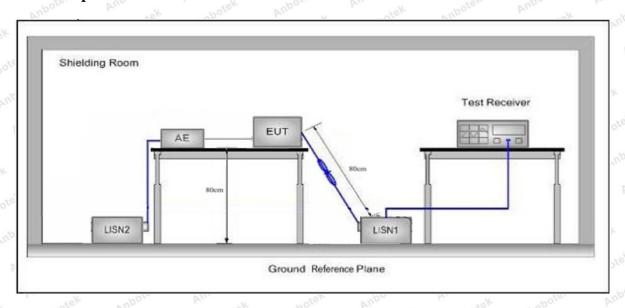
3.1. Test Standard and Limit

Test Standard	FCC Part15 Section 15.207	Anbore And botek	Anbotek Anbo tek
	E	Maximum RF	Line Voltage (dBuV)
	Frequency	Quasi-peak Level	Average Level
Test Limit	150kHz~500kHz	66 ~ 56 *	56 ~ 46 *
	500kHz~5MHz	56 See See See See See See See See See Se	46
	5MHz~30MHz	60	50 potes Am

Remark: (1) *Decreasing linearly with logarithm of the frequency.

(2) The lower limit shall apply at the transition frequency.

3.2. Test Setup



3.3. Test Procedure

The EUT system is connected to the power mains through a line impedance stabilization network (L.I.S.N.). This provides a 50ohm coupling impedance for the EUT system. Please refer the block diagram of the test setup and photographs. Both sides of AC line are checked to find out the maximum conducted emission. In order to find the maximum emission levels, the relative positions of equipment and all of the interface cables shall be changed according to FCC ANSI C63.10-2013 on Conducted Emission Measurement.

The bandwidth of test receiver (ESCI) set at 9kHz.

The frequency range from 150kHz to 30MHz is checked.

3.4. Test Data

The EUT is powered by DC 1.5V battery inside, so there is no need to conduct this test.



4. Radiated Emission and Band Edge

4.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.20	99 and 15.205	An	Anboten	rupo dek
	Frequency (MHz)	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
	0.009MHz~0.490MHz	2400/F(kHz)	obotek - Anbo	co Fun	300
	0.490MHz-1.705MHz	24000/F(kHz)	Anbotek Ar	Pose Vin	notel 30 Anb
	1.705MHz-30MHz	30	Anbatek	Anbore A	30
Test Limit	30MHz~88MHz	100	40.0	Quasi-peak	3.04
	88MHz~216MHz	150	43.5	Quasi-peak	3 _{botek}
	216MHz~960MHz	200	46.0	Quasi-peak	iek 3 nbotek
	960MHz~1000MHz	500	54.0	Quasi-peak	3 and
	Ah ana 1000MI	500	54.0	Average	otel3
	Above 1000MHz	botek - Anbote	74.0	Peak	Anb. 3ek

Remark:

- (1) The lower limit shall apply at the transition frequency.
- (2) 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

Test Standard	FCC Part15 C	Section 15.249	Al abotek A	'upote.' k	'up otek	Anbotek
	Frequency (MHz)	Field Strength of fundamental ((millivolts /meter)	Field Strength of Harmonics (microvolts/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)
Test Limit	2400~2483.5	50	Anbotek - Anbo	114.0	Peak	3 And
	2400~2483.5	50	Anbotek Anb	94.0	Average	3
	2400~2483.5	ore Am	500	74.0	Peak	Anbox 3
	2400~2483.5	upote. Aup	500	54.0	Average	3

Remark:

(1) 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

4.2. Test Setup



Figure 1. Below 30MHz

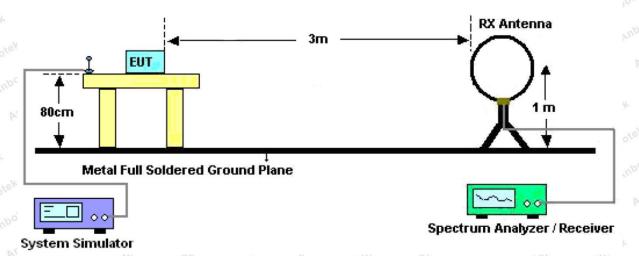


Figure 2. 30MHz to 1GHz

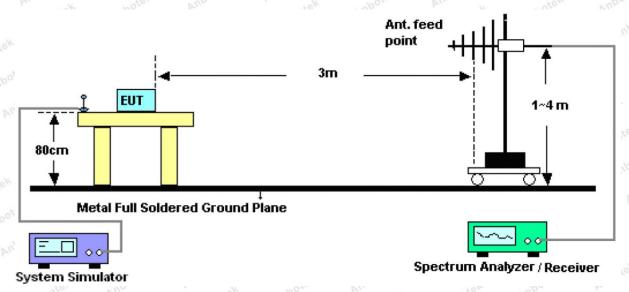
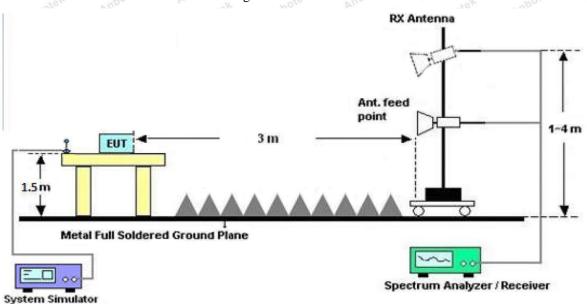


Figure 3. Above 1 GHz





4.3. Test Procedure

For below 1GHz: The EUT is placed on a turntable, which is 0.8m above the ground plane. For above 1GHz: The EUT is placed on a turntable, which is 1.5m above the ground plane.

The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT is set 3 meters away from the receiving antenna which is mounted on a antenna tower. The antenna can be moved up and down from 1 to 4 meters to find out the maximum emission level. Rotated the EUT through three orthogonal axes to determine the maximum emissions, both horizontal and vertical polarization of the antenna are set on test. The EUT is tested in 9*6*6 Chamber. The device is evaluated in xyz orientation.

For the radiated emission test above 1GHz:

Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.

For 9kHz to 150kHz, Set the spectrum analyzer as:

RBW = 200Hz, VBW = 1kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 150kHz to 30MHz, Set the spectrum analyzer as:

RBW = 9KHz, VBW = 30kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

For 30MHz to 1000MHz, Set the spectrum analyzer as:

RBW = 100kHz, VBW = 300kHz, Detector= Quasi-Peak, Trace mode= Max hold, Sweep- auto couple.

POJEK

For above 1GHz,Set the spectrum analyzer as:

RBW =1MHz, VBW =1MHz, Detector= Peak, Trace mode= Max hold, Sweep- auto couple.

RBW =1MHz, VBW =10Hz, Detector= Average, Trace mode= Max hold, Sweep- auto couple.

4.4. Test Data

PASS

During the test, Pre-scan all kind of the place mode (X-axis, Y-axis, Z-axis), and found the X-axis is the worst case.

The test results of 9kHz-30MHz was attenuated more than 20dB below the permissible limits, so the results don't record in the report.

During the test, pre-scan all the mode, and found the Middle channel which is the worst case, only the worst case is recorded in the report

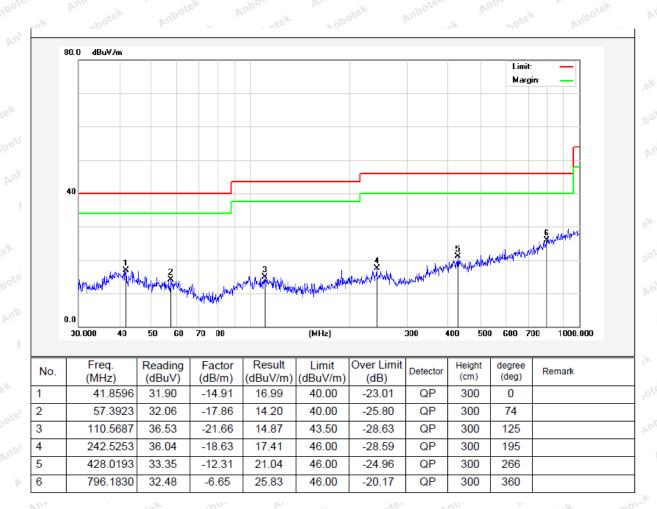


Test Results (30~1000MHz)

Job No.: SZAWW190122012-01 Temp.(°C)/Hum.(%RH): 24.3 °C/54%RH

Standard: FCC PART 15C Power Source: DC 1.5V battery inside

Test Mode: Mode 2 Polarization: Horizontal



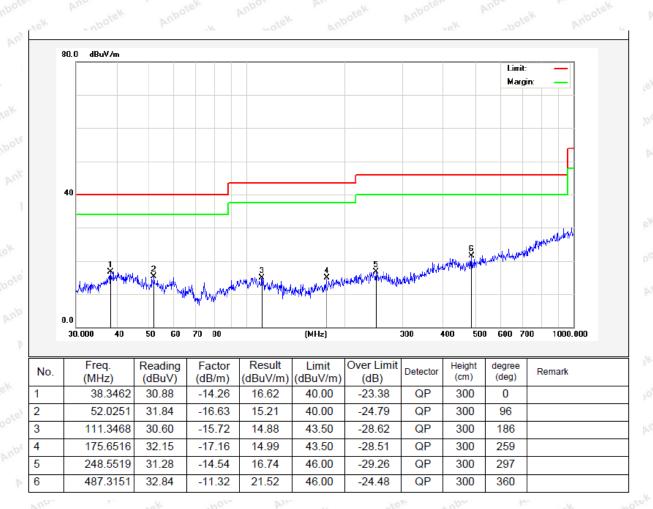


Test Results (30~1000MHz)

Job No.: SZAWW190122012-01 Temp.(°C)/Hum.(%RH): 24.3°C/54%RH

Standard: FCC PART 15C Power Source: DC 1.5V battery inside

Test Mode: Mode 2 Polarization: Vertical



Test Results (1GHz-25GHz)

Test Mode: C	CH01 (Low cl	nannei)							
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Detecto
2408.0000	94.96	31.12	2.18	35.33	92.93	114.00	-21.07	V	Peak
2408.0000	85.07	31.12	2.18	35.33	83.04	94.00	-10.96	V	AVG
4816.0000	48.18	34.01	2.58	34.65	50.12	74.00	-23.88	V	Peak
4816.0000	38.35	34.01	2.58	34.65	40.29	54.00	-13.71	V	AVG
7224.0000	48.09	36.16	2.97	35.07	52.15	74.00	-21.85	V	Peak
7224.0000	35.98	36.16	2.97	35.07	40.04	54.00	-13.96	V	AVG
9632.0000	nbote*	Anbo otek	nbotek	Anbo	's V	notek	Anbotek	Anb.	*ek
12040.0000	*	Aupo	k nbot	ek Ar	pole	York Potek	Anbotek	P	upor
14448.0000	A.*>Otor	Aupor	rek w	potek	Anboton	Aup	c anbo	ek	Aupore
16856.0000	*Anbote	Anb	o. b.	abotek	Aupoten	K VUD	rek an	potek	Aupo
2408.0000	96.11	31.12	2.18	35.33	94.08	114.00	-19.92	Hick	Peak
2408.0000	82.28	31.12	2.18	35.33	80.25	94.00	-13.75	Habo	AVG
4816.0000	47.86	34.01	2.58	34.65	49.80	74.00	-24.20	Н	Peak
4816.0000	41.63	34.01	2.58	34.65	43.57	54.00	-10.43	o⊬ H	AVG
7224.0000	47.72	36.16	2.97	35.07	51.78	74.00	-22.22	Н	Peak
7224.0000	37.71	36.16	2.97	35.07	41.77	54.00	-12.23	H	AVG
9632.0000	*	otek P	Anbotek	Aupore	rk bus	otek A	botek	Vupo.	ek An
12040.0000	bote*	upo potek	Anbotek	Anbot	Aug Burn	wotek	Anbotek	Anbo	* e K
14448.0000	*	Anbo	nbote	k Au	oor p	,nbotek	Anbotek	PL	Por
16856.0000	*	Vupo.	rok -n	otek	Aupotei	Am	hodos.	, K	Anbor

Note:

- 1. Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. "*" means the test results were attenuated more than 20dB below the permissible limits, so the results don't record in the report.

Test Mode: O	CH17 (Middle	channel)							
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Detector
2440.0000	96.72	31.12	2.20	34.51	95.53	114.00	-18.47	Note	Peak
2440.0000	85.74	31.22	2.20	34.51	84.65	94.00	-9.35	V	AVG
4880.0000	47.55	34.98	2.49	34.14	50.88	74.00	-23.12	V	Peak
4880.0000	40.33	34.98	2.49	34.14	43.66	54.00	-10.34	V	AVG
7320.0000	45.97	36.01	3.01	34.56	50.43	74.00	-23.57	V	Peak
7320.0000	37.33	36.01	3.01	34.56	41.79	54.00	-12.21	V	AVG
9760.0000	* *	, sek	nbotek	Anbote	K VU	otek i	nbotek	Aupore	rok by
12200.0000	nbote*	Yupo, otek	abotek	Anbo	ion Vu	notek	Anbotek	Aup,	rek
14640.0000	*	Vupo.	K NOOK	ex Pr	pole	Yupa	Anbotek	P	^u pos
17080.0000	***************************************	Aupor	rek w	potek	Anboten	Auprote	, nbo	.ek	Anbore
2440.0000	94.17	31.12	2.20	34.51	92.98	114.00	-21.02	hoo'H	Peak
2440.0000	84.45	31.12	2.20	34.51	83.26	94.00	-10.74	Hick	AVG
4880.0000	47.61	34.98	2.49	34.14	50.94	74.00	-23.06	Habe	Peak
4880.0000	41.25	34.98	2.49	34.14	44.58	54.00	-9.42	Н	AVG
7320.0000	48.26	36.01	3.01	34.56	52.72	74.00	-21.28	e√ H	Peak
7320.0000	38.64	36.01	3.01	34.56	43.10	54.00	-10.90	Н	AVG
9760.0000	*	tek	abotek	Yupote.	Anu vote	K Anb	tek An	por rek	by.
12200.0000	*	"Otek	abotek	Anboten	K Pup	otek A	botek	Vupor	ek bu
14640.0000	*	Wp. rek	abotek	Anbot	r Vup	botek	Anbotek	Anbo	Lo.K
17080.0000	Anbotek	Anbore	, abote	K An'	oter b	utek.	Anbotek	PZ	por

Note:

- 1. Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. "*" means the test results were attenuated more than 20dB below the permissible limits, so the results don't record in the report.

Test Mode: 0	CH34 (High c	hannel)							
Frequency (MHz)	Read Level (dBuV)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Over Limit (dB)	Pol.	Detector
2474.0000	93.96	31.65	2.23	36.07	91.77	114.00	-22.23	Vote	Peak
2474.0000	82.42	31.65	2.23	36.07	80.23	94.00	-13.77	V	AVG
4948.0000	49.72	35.06	2.60	34.93	52.45	74.00	-21.55	V	Peak
4948.0000	40.89	35.06	2.60	34.93	43.62	54.00	-10.38	V	AVG
7422.0000	46.33	36.19	3.12	35.11	50.53	74.00	-23.47	V	Peak
7422.0000	36.66	36.19	3.12	35.11	40.86	54.00	-13.14	V	AVG
9896.0000	* *	-tek	nbotek	Aupote	K Vun	otek	nbotek	Aupore	rak br
12370.0000	nbote*	Yupo, otek	abotek	Anbo	ion Vu	notek	Anbotek	Aup,	.o.k
14844.0000	*	Vupor	K Not	8K PZ	Poter	Yupo - Otek	Anbotek	P	upose
17318.0000	***************************************	Aupor	rek w	potek	Anboten	Aupe	, nbo	.ek	Anbore
2474.0000	95.95	31.65	2.23	36.07	93.76	114.00	-20.24	hoo'H	Peak
2474.0000	82.17	31.65	2.23	36.07	79.98	94.00	-14.02	Hick	AVG
4948.0000	48.62	35.06	2.60	34.93	51.35	74.00	-22.65	Habe	Peak
4948.0000	40.65	35.06	2.60	34.93	43.38	54.00	-10.62	Н	AVG
7422.0000	45.87	36.19	3.12	35.11	50.07	74.00	-23.93	e√ H	Peak
7422.0000	36.73	36.19	3.12	35.11	40.93	54.00	-13.07	Н	AVG
9896.0000	*	rek b.	obotek	Anbote	Anu vote	K Anb	rek Mu	por Lok	bu.
12370.0000	* Anb	-otek	nbotek	Anbote	k Plup	otek A	botek	Vupor	ek All
14844.0000	*	Up.	abotek	Anbot	r Vup	hotek	anbotek	Anbo	· oK
17318.0000	Anbotek	Anbors	An	K An'	oter b	up stek	anbotek	P.	por

Note:

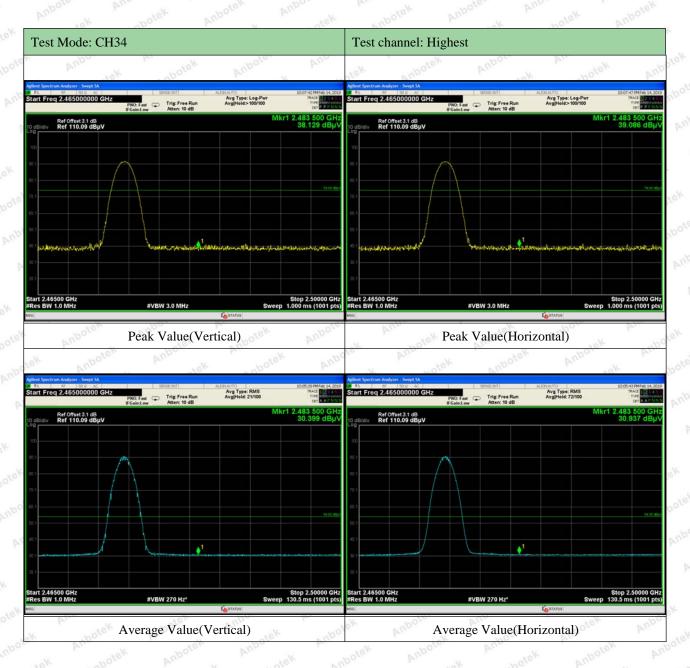
- 1. Level =Receiver Read level + Antenna Factor + Cable Loss Preamplifier Factor
- 2. "*" means the test results were attenuated more than 20dB below the permissible limits, so the results don't record in the report.



Radiated Band Edge:





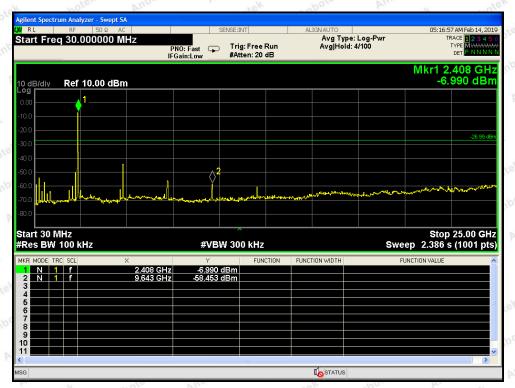


Remark:

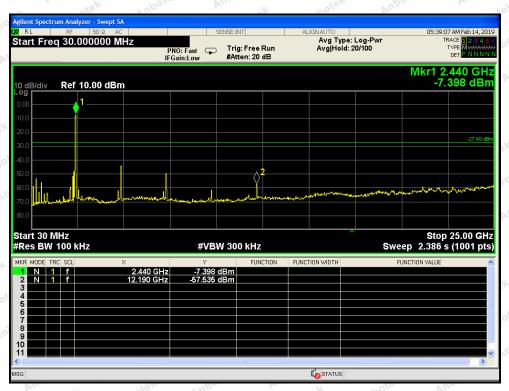
1. Level = Receiver Read level + Antenna Factor + Cable Loss - Preamplifier Factor



Conducted Emission Method

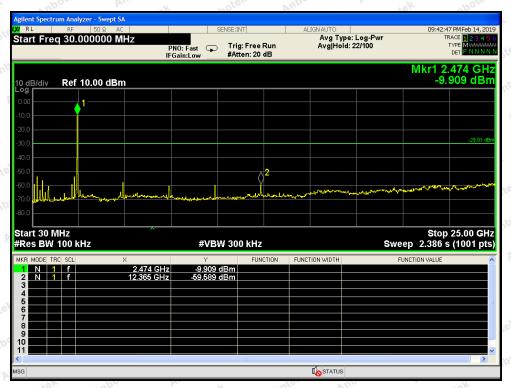


CH: Low



CH: Middle





CH: High



5. 20dB Bandwidth Test

5.1. Test Standard and Limit

Test Standard	FCC Part15 C Section 15.249		
100		100	

5.2. Test Setup



5.3. Test Procedure

- 1. Place the EUT on the table and set it in the transmitting mode.
- 2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
- 3. Set the spectrum analyzer as:

 $RBW = 30kHz, VBW \ge 3*RBW = 100kHz,$

Detector= Average

Trace mode= Max hold.

Sweep- auto couple.

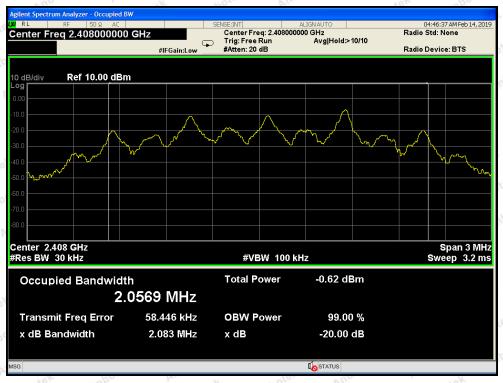
- 4. Mark the peak frequency and -20dB (upper and lower) frequency.
- 5. Repeat until all the rest channels are investigated.

5.4. Test Data

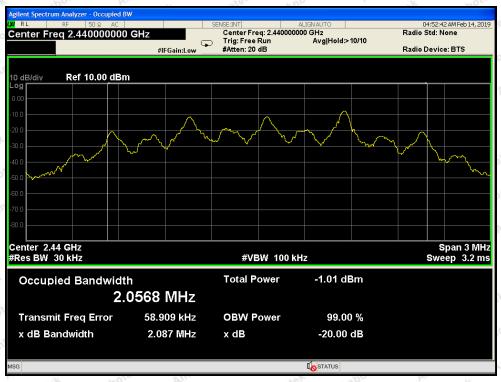
Test Item	:	20dB Bandwidth	Test Mode :	Mode 1
Test Voltage	:	DC 1.5V battery inside	Temperature :	24℃
Test Result	:	PASS	Humidity :	55%RH

	Frequency (MHz)		В	andwidth (kHz)	*10		Result	V
All abotek	2408MHZ	Auprotek	Anbotek	2083	Anabote	K Anbo	PASS	Anbo.
by.	2440MHZ	Anb	Anbotek	2087	VII.	otek Ar	PASS	Anbo
48	2474MHZ	Ans	lek upotek	2087	ok bu	notek	PASS	Anbo



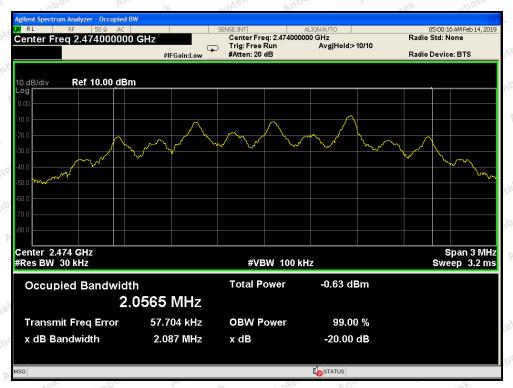


Test Mode: Low



Test Mode: Middle





Test Mode: High



6. Antenna Requirement

6.1. Test Standard and Requirement

Test Standard	FCC Part15 Section 15.203
Requirement	1) 15.203 requirement: An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

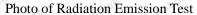
6.2. Antenna Connected Construction

The antenna is a PCB Antenna which permanently attached, and the best case gain of the antenna is -0.61 dBi. It complies with the standard requirement.





APPENDIX I -- TEST SETUP PHOTOGRAPH









APPENDIX II -- EXTERNAL PHOTOGRAPH





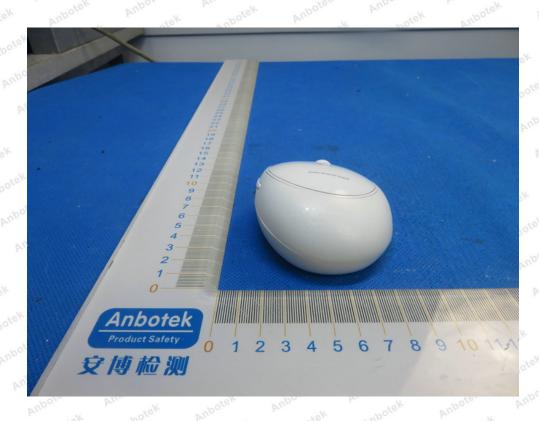








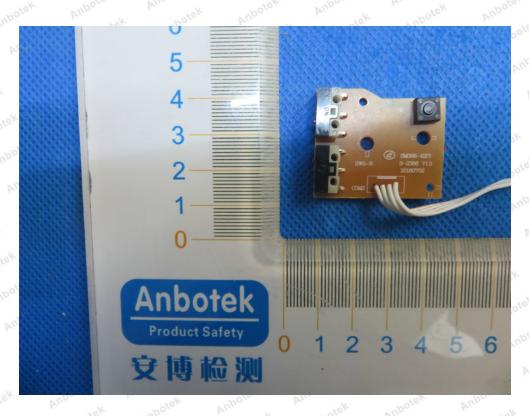




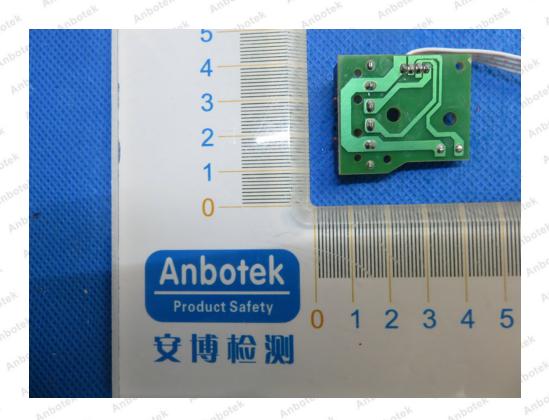


APPENDIX III -- INTERNAL PHOTOGRAPH



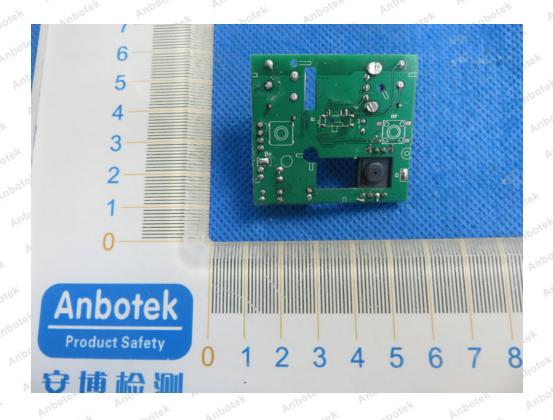


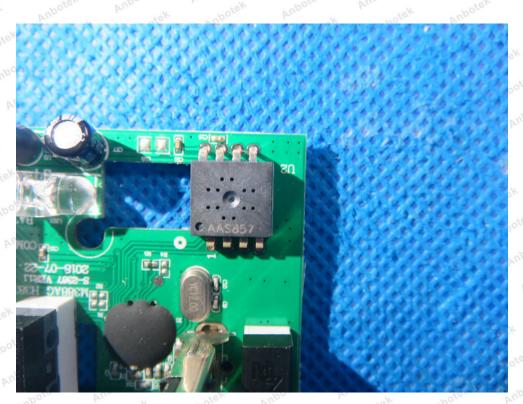












----- End of Report -----