

FCC TEST REPORT

FCC ID: 2AJJ2-DETECTOR

On Behalf of

NOKTA MUHENDISLIK A.S.

METAL DETECTOR

Model No.: GOLD FINDER 2000, EZ GOLD

Prepared for	: NOKTA MUHENDISLIK A.S.
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Date of Receipt	:	May 24, 2021
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		TEST REPORT DECLARATI	ON
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Address	:	EMEK MAH. SAKIZ SOK. NO: 4/1, 34785 S TURKEY	ANCAKTEPE, ISTANBUL,
Manufacturer	:	NOKTA MUHENDISLIK A.S.	
Address	:	EMEK MAH. SAKIZ SOK. NO: 4/1, 34785 S TURKEY	ANCAKTEPE, ISTANBUL,
EUT Description	:	METAL DETECTOR	
		(A) Model No. : GOLD FINDER 2000,	EZ GOLD
		(B) Trademark : NOKTA MAKRO DET	TECTION TECHNOLOGIES

Measurement Standard Used:

FCC Rules and Regulations Part 15 Subpart C Section 15.249 ANSI C63.10:2013

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device and the severe levels of the device can endure and its performance criterion. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed full responsibility for the accuracy and completeness of test. Also, this report shows that the EUT is technically compliant with the FCC Part 15 requirements.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Approved by (name + signature).....:

Lucas Pang Project Engineer

Simple Guan Project Manager

Lucas Pourg

Date of issue.....

June 18, 2021

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Revision History

Revision	Issue Date	Revisions	Revised By	
V0	June 18, 2021	Initial released Issue	Lucas Pang	

1. Summary of Standards and Results

1.1.Description of Standards and Results

The EUT have been tested according to the applicable standards as referenced below:

EMISSION				
Description of Test ItemTest RequirementStandard ParagraphResults				
Power Line Conducted Emission Test	FCC Part 15	Section 15.207	Р	
Spurious Emission Test	FCC Part 15	Section 15.249&15.209	Р	
Occupied bandwidth	FCC Part 15	Section 15. 249	Р	
Band edge Requirement	FCC Part 15	Section 15.249	Р	
Antenna Requirement	FCC Part 15	Section 15.203	Р	
Note: 1. P is an abbreviation for Pass.				

2. F is an abbreviation for Fail.

3. N/A is an abbreviation for Not Applicable.

2. General Information

2.1.Description of	f I	Device (EUT)
EUT Name	:	METAL DETECTOR
Trademark	:	NOKTA MAKRO DETECTION TECHNOLOGIES
Model No.	:	GOLD FINDER 2000, EZ GOLD
DIFF.	:	There is no difference except for the appearance color and model name.
		So all the test were performed on the model GOLD FINDER 2000.
Power supply	:	DC 3.7V from battery, DC 5V from Notebook
2.4G Technology		
Operation frequency	:	2440MHz-2460MHz
Channel No.	:	21
Modulation type	:	GFSK
Antenna Type	:	Internal antenna, Maximum Gain is 0dBi
Hardware version	:	EZG-01MBR-0221R00
Software version	:	V1.0

2.2.Accessories of Device (EUT)

Accessories1	:	/
Manufacturer	:	/
Model	:	/
Power supply	:	/

2.3. Tested Supporting System Details

No.	Description	Manufacturer	Model	Serial Number	Certification or SDOC	
1.						

2.4.Block Diagram of Connection Between EUT and Simulators

EUT

2.5.Test Mode Description

Test mode:

	Mode	Channel	Frequency (MHz)
	GFSK	Low :CH0	2440
	GFSK	Middle: CH10	2450
	GFSK	High: CH20	2460
Note:	channel, wireless mode	ontrol EUT work in Continuous T	
	3 New battery is used d	uring all tests	

3. New battery is used during all tests.

4. For the relevant Conducted Measurement, the temporary antenna connector is used during the measurement. Antenna Connector Impedance: 50Ω , Cable Loss: 1.0 dB

Channel li	Channel list:											
Channel	el Frequency Channel		Frequency	Channel	Frequency	Channel	Frequency					
	(MHz)		(MHz)		(MHz)		(MHz)					
0CH	2440	5CH	2445	10CH	2450	15CH	2455					
1CH	2441	6CH	2446	11CH	2451	16CH	2456					
2CH	2442	7CH	2447	12CH	2452	17CH	2457					
3CH	2443	8CH	2448	13CH	2453	18CH	2458					
4CH	2444	9CH	2449	14CH	2454	19CH	2459					
						20CH	2460					

2.6.Test Conditions

Temperature range	21-25°C		
Humidity range	40-75%		
Pressure range	86-106kPa		

2.7.Test Facility

Shenzhen Alpha Product Testing Co., Ltd. Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

June 21, 2018 File on Federal Communication Commission Registration Number: 293961

July 15, 2019 Certificated by IC Registration Number: CN0085

2.8.Measurement Uncertainty

(95% confidence levels, k=2)

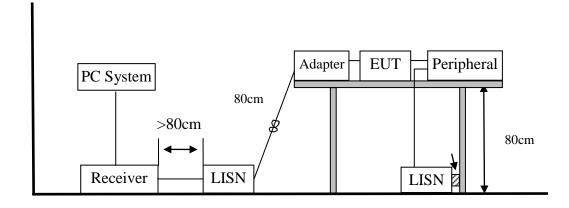
Item	Uncertainty		
Uncertainty for Power point Conducted Emissions Test	2.74dB		
Uncertainty for Radiation Emission test in 3m chamber	2.13 dB(Polarize: V)		
(below 30MHz)	2.57dB(Polarize: H)		
Uncertainty for Radiation Emission test in 3m chamber	3.77 dB (Distance: 3m Polarize: V)		
(30MHz to 1GHz)	3.80 dB (Distance: 3m Polarize: H)		
Uncertainty for Radiation Emission test in 3m chamber	4.13 dB (Distance: 3m Polarize: V)		
(1GHz to 25GHz)	4.16 dB (Distance: 3m Polarize: H)		
Uncertainty for radio frequency	5.8×10-8		
Uncertainty for conducted RF Power	0.37dB		
Uncertainty for temperature	0.2°C		
Uncertainty for humidity	1%		
Uncertainty for DC and low frequency voltages	0.06%		

2.9.Test Equipment List

Equipment	Manufacture	Model No.	Serial No.	Last cal.	Cal Interval
9*6*6 anechoic chamber			N/A	2020.09.02	1 Year
Spectrum analyzer	ROHDE&SCHW ARZ	FSU	1166.1660.26	2020.09.02	1Year
Spectrum analyzer	Agilent	N9020A	MY499100060	2020.09.02	1Year
Receiver	ROHDE&SCHW ARZ	ESR	1316.3003K03-10208 2-Wa	2020.09.02	1 Year
Receiver	R&S	ESCI	101165	2020.09.02	1Year
Bilog Antenna	Schwarzbeck	VULB 9168	VULB9168-438	2019.09.07	2Year
Horn Antenna	SCHWARZBEC K	BBHA 9120 D	BBHA 9120 D(1201)	2020.04.12	2Year
Loop Antenna	SCHWARZBEC K	FMZB 1519B	00059	2019.09.07	2Year
Cable	Resenberger	N/A	No.1	2020.09.02	1Year
Cable	SCHWARZBEC K	N/A	No.2	2020.09.02	1 Year
Cable	SCHWARZBEC K	N/A	No.3	2020.09.02	1Year
Pre-amplifier	HP	HP8347A	2834A00455	2020.09.02	1Year
Pre-amplifier	Agilent	8449B	3008A02664	2020.09.02	1 Year
Temperature controller	Terchy	MHQ	120	2020.09.02	1 Year
L.I.S.N.#1	Schwarzbeck	NSLK8126	8126-466	2020.09.02	1 Year
L.I.S.N.#2	ROHDE&SCHW ARZ	ENV216	101043	2020.09.02	1 Year
20db Attenuator	ICPROBING	IATS1	82347	2020.09.02	1 Year

3. Power Line Conducted Emission Test

3.1.Block Diagram of Test Setup



3.2.Test Limits

	Maximum RF Line Voltage					
Frequency	Quasi-Peak Level	Average Level				
	dB(µV)	dB(µV)				
150kHz ~ 500kHz	66 ~ 56*	56 ~ 46*				
500kHz ~ 5MHz	56	46				
5MHz ~ 30MHz	60	50				

- Notes: 1. Emission level=Read level + LISN factor-Preamp factor + Cable loss
 - 2. * Decreasing linearly with logarithm of frequency.
 - 3. The lower limit shall apply at the transition frequencies.

3.3.Configuration of EUT on Test

The following equipment are installed on Power Line Conducted Emission Test to meet the commission requirement and operating regulations in a manner which tends to maximize its emission characteristics in a normal application.

3.4. Operating Condition of EUT

- (1) Setup the EUT as shown as Section 3.1.
- (2) Turn on the power of all equipment.
- (3) Let the EUT work in test mode taking the test.

3.5.Test Procedure

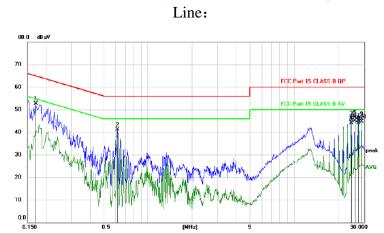
- (1) The EUT was placed on a non-metallic table, 80cm above the ground plane. The EUT Power connected to the power mains through a line impedance stabilization network (L.I.S.N. 1#). This provided a 50-ohm coupling impedance for the EUT (Please refer to the block diagram of the test setup and photographs). The other peripheral devices power cord connected to the power mains through a line impedance stabilization network (L.I.S.N.#2). Both sides of power line were checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10:2013 on conducted Emission test.
- (2) The frequency range from 150kHz to 30MHz is checked, the bandwidth of test receiver is set at 9kHz.
- (3) The frequency range from 30MHz to 1000MHz was pre-scanned with a Peak detector and all final readings of measurement from Test Receiver are Quasi-Peak and Average values.
- (4) The test results are reported on Section 3.6.

3.6.Test Results

PASS

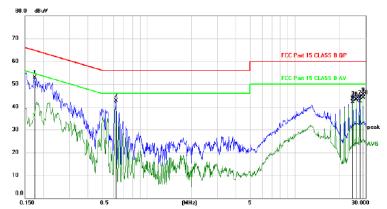
The test results are listed in next pages.





No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margir	1	
		MHz	dBu∨	dB	dBu∀	dBuV	dB	Detector	Comment
1		0.1710	42.87	9.93	52.80	64.91	-12.11	peak	
2		0.6179	31.18	9.92	41.10	56.00	-14.90	peak	
3		24.5369	35.58	10.44	46.02	60.00	-13.98	QP	
4		24.5369	33.74	10.44	44.18	50.00	-5.82	AVG	
5		25.9770	36.03	10.48	46.51	60.00	-13.49	QP	
6	*	25.9770	34.55	10.48	45.03	50.00	-4.97	AVG	
7		27.4229	34.71	10.55	45.26	60.00	-14.74	QP	
8		27.4229	33.56	10.55	44.11	50.00	-5.89	AVG	
9		28.8659	35.32	10.62	45.94	60.00	-14.06	QP	
10		28.8659	34.00	10.62	44.62	50.00	-5.38	AVG	



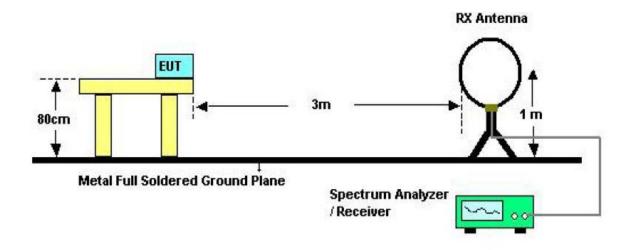


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margir	n	
		MHz	dBu∨	dB	dBu∀	dBu∨	dB	Detector	Comment
1		0.1740	42.98	9.93	52.91	64.77	-11.86	peak	
2		0.6180	32.85	9.92	42.77	56.00	-13.23	peak	
3		24.5369	33.17	10.44	43.61	60.00	-16.39	QP	
4		24.5369	31.59	10.44	42.03	50.00	-7.97	AVG	
5		25.9800	32.80	10.48	43.28	60.00	-16.72	QP	
6		25.9800	32.53	10.48	43.01	50.00	-6.99	AVG	
7		27.4200	33.36	10.55	43.91	60.00	-16.09	QP	
8		27.4200	31.88	10.55	42.43	50.00	-7.57	AVG	
9		28.8630	34.75	10.62	45.37	60.00	-14.63	QP	
10	*	28.8630	33.44	10.62	44.06	50.00	-5.94	AVG	

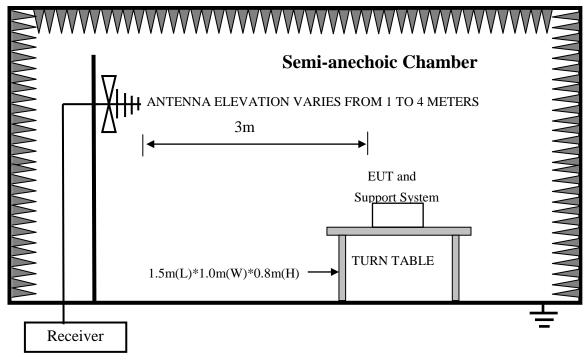
4. Radiated Emission Test

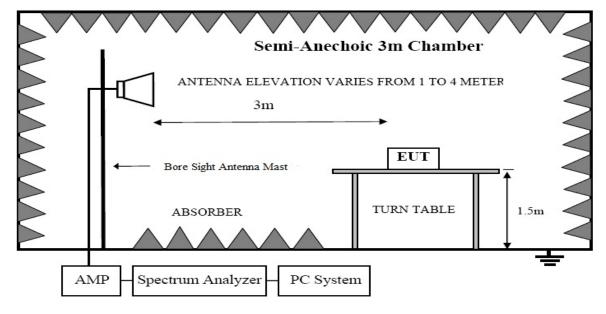
4.1.Block Diagram of Test Setup

In Semi Anechoic Chamber (3m) Test Setup Diagram for 9KHz~30MHz



In Semi Anechoic Chamber (3m) Test Setup Diagram for 30MHz~1000MHz





In Semi Anechoic Chamber (3m) Test Setup Diagram for Above 1GHz

4.2.Test Limit

Frequency		Distance	Field Strengths Limits			
MI	Hz	(Meters)	uV/m	dB uV/m		
0.009 ~	- 0.490	300	2400/F(kHz)			
0.490	1.705	30	24000/F(kHz)			
1.705	30	30	30	29.5		
30	88	3	100(3nW)	40		
88	216	3	150(6.8nW)	43.5		
216	960	3	200(12nW)	46		
Abov	e 960	3	500(75nW)	54		
Carrier fr	requency	3	50000(avg)	113.97(peak) 93.97(avg)		

Notes: 1. Emission level = Read level + Antenna Factor - Preamp Factor + Cable Loss

2. The smaller limit shall apply at the cross point between two frequency bands.

3. Distance is the distance in meters between the measuring instrument, antenna and the closest point of any part of the device or system.

4. For frequencies above 1000 MHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation.

4.3.Configuration of EUT on Test

The following equipment are installed on Radiated Emission Test to meet the commission requirements and operating regulations in a manner that tends to maximize its emission characteristics in normal application.

4.4.Operating Condition of EUT

- (1) Setup the EUT as shown as Section 4.1.
- (2) Turn on the power of all equipment.
- (3) Let the EUT work in test mode taking the test.

4.5.Test Procedure

- (1) The EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber for below 1GHz and 150 cm above the ground plane inside a semi-anechoic chamber for above 1GHz. An antenna was located 3m from the EUT on an adjustable mast. A pre-scan was first performed in order to find prominent radiated emissions. For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10: 2013 on Radiated Emission test.
- (2) 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.

(3) Test antenna was located 4m from the EUT on an adjustable mast. Below pre-scan procedure was first performed in order to find prominent radiated emissions.(a) Change work frequency or channel of device if practicable.

(b) Change modulation type of device if practicable.

(c) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions

- (4) For harmonic emissions test a appropriate high pass filter was inserted in the input port of AMP
- (5) The frequency range from 9KHz to 150KHz is checked, the bandwidth of test receiver is

set at 200Hz.

The frequency range from 150KHz to 30MHz is checked, the bandwidth of test receiver is set at 9KHz.

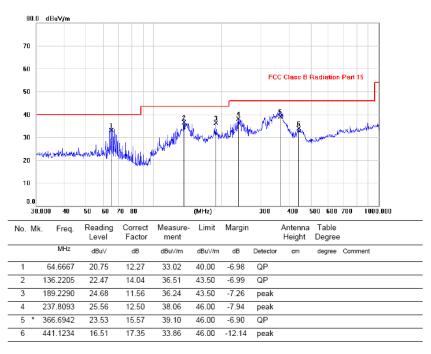
The frequency range from 30MHz to 1000MHz is checked, the bandwidth of test receiver is set at 120kHz.

The frequency range from above 1GHz is checked, the bandwidth of Signal Analyzer is set at 1MHz.

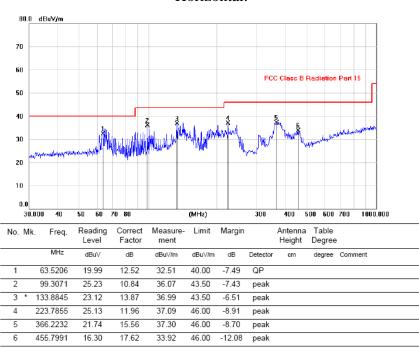
- (6) The frequency range from 30MHz to 1000MHz was pre-scanned with a peak detector and all final readings of measurement from Test Receiver are Quasi-Peak values, the frequency range from 1GHz to 6GHz was pre-scanned with a peak detector and all final readings of measurement from Spectrum Analyzer are peak and average values checked, all measurement distance is 3m in 3m semi anechoic chamber.
- (7) Test for all x, y, z axes is performed and only the worst case of X xes was recorded in the test report.
- (8) The test results are reported on Section 4.6.

4.6.Test Results

Frequency Range	:	30MHz~1000MHz
Test Mode		TX 2440MHz
Test Results	:	PASS
Note: 1. The test 1	esi	ilts are listed in next pages.
2. This mod	le i	s worst case mode, and this report only reflected the worst mode.
3. If the lim	its	for the measurement with the quasi-peak detector are met when using a
receiver wit	th a	peak detector, the test unit shall be deemed to meet both limits and the
measureme	nt v	with the quasi-peak detector need not be carried out.









Note: This report only shall the worst case mode for TX 2440MHz.

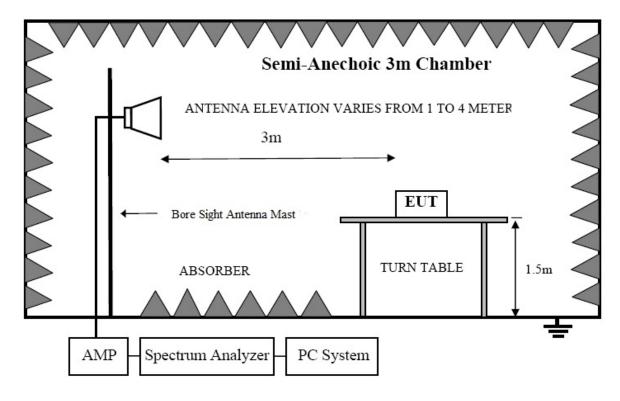
Freque	ency Rang	e : 1G	Hz~25GHz						
EUT		: ME	Te	est Date	: 2021.0	06.04			
M/N		: GO	Te	emperature	: 24°C				
Test E	Engineer	: Luc		Ηι	umidity	: 56%			
Test N	/Iode		2440MHz						
Test R	Results	: PA	SS						
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/n		Limit (dBuV/m)	Margin	Remark
1	2440	Н	90.60	-3.41	87.19		113.97	-26.78	Peak
2	2440	Н		-3.41			93.97		Avg
3	4880	Н	48.29	3.23	51.52		74	-22.48	Peak
4	4880	Н		3.23			54		Avg
		I		I	I			I	
1	2440	V	90.89	-3.38	87.51		113.97	-26.46	Peak
2	2440	V		-3.38			93.97		Avg
3	4880	V	48.00	3.23	51.23		74	-22.77	Peak
4	4880	V		3.23			54		Avg
Note:	20dB ma 2. Correct Result=F Margin= 3. Spectr Detector 4. Spectr Detector 5. If the receiver	argin. ct Factor=0 Reading + 0 Result-Lin rum Set for : PK. rum Set for : Avg. limits for t with a pea	uency and m Cable Loss+ A Correct Facto mit. • PK measure • AV measure he measurem k detector, the the average d	Antenna Fa r. : RBW=1M :: RBW=1 ent with th e test unit :	actor-Amp MHz, VBV MHz, VBV ne average shall be de	V=1 W=3 dete	er Gain. MHz, Sweep 3MHz, Sweep ector are met ed to meet bo	o time=Aut p time=Au when usin	to, to, ig a

Freque	ency Rang	e : 1G	Hz~25GHz						
EUT : METAL DETECTOR					Test Date : 2021.06.04				
M/N : GOLD FINDER 2000,EZ GOLD					GOLD	Temperature : 24°C			
Test Engineer : Lucas Pang						Humidity : 56%			
Test N	/Iode	: TX	2450MHz						
Test R	Results	: PA	SS						
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m)		Limit (dBuV/m)	Margin	Remark
1	2450	Н	88.23	-3.41	84.82		113.97	-29.15	Peak
2	2450	Н		-3.41			93.97		Avg
3	4900	Н	46.47	3.23	49.70		74	24.30	Peak
4	4900	Н		3.23			54		Avg
		I		I	I				
1	2450	V	89.34	-3.38	85.96		113.97	-28.01	Peak
2	2450	V		-3.38			93.97		Avg
3	4900	V	47.73	3.23	50.96		74	-23.04	Peak
4	4900	V		3.23			54		Avg
Note:	4900V3.2354Avg1. Means other frequency and mode comply with standard requirements and at least have 20dB margin.2.Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain.2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain.Result=Reading + Correct Factor.Margin= Result-Limit.3.Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK.4. Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: Avg.State of the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.								

Freque	ency Rang	e : 1G	Hz~25GHz						
EUT : METAL DETECTOR					Test Date : 2021.06.04				
M/N : GOLD FINDER 2000,EZ GOLD Te						Tempe	rature	: 24°C	
Test Engineer : Lucas Pang Humidit						ity	: 56%		
Test M	/Iode	: TX	2460MHz			I			
Test R	Results	: PA	SS						
No.	Freq MHz	Polarity	Reading (dBuV/m)	Correct Factor	Result (dBuV/m		imit uV/m)	Margin	Remark
1	2460	Н	100.60	-3.41	97.19	11	3.97	-16.78	Peak
2	2460	Н	75.83	-3.41	72.42	9	3.97	-21.55	Avg
3	4920	Н	49.99	3.23	53.22	53.22 74		-20.78	Peak
4	4920	Н		3.23			54		Avg
	I	I		I	I				I
1	2460	V	100.40	-3.38	97.02	11	3.97	-16.95	Peak
2	2460	V	75.14	-3.38	71.75	9	3.97	-22.22	Avg
3	4920	V	50.69	3.23	53.92		74	-20.08	Peak
4	4920	V		3.23			54		Avg
Note:	4920V3.2354Avg1. Means other frequency and mode comply with standard requirements and at least have 20dB margin.20dB margin.2. Correct Factor=Cable Loss+ Antenna Factor-Amplifier Gain. Result=Reading + Correct Factor. Margin= Result-Limit.3. Spectrum Set for PK measure: RBW=1MHz, VBW=1MHz, Sweep time=Auto, Detector: PK.4. Spectrum Set for AV measure: RBW=1MHz, VBW=3MHz, Sweep time=Auto, Detector: Avg.5. If the limits for the measurement with the average detector are met when using a receiver with a peak detector, the test unit shall be deemed to meet both limits and the measurement with the average detector need not be carried out.								

5. Band Edge Test

5.1.Block Diagram of Test Setup



5.2.Test Limit

Please refer section 15.249 and section 15.205.

249(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in section 15.209, whichever is the lesser attenuation.

249(e) As show in section 15.35(b), for frequencies above 1000MHz,the above field strength limits in paragraphs (a) and (b) of this section are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. For point-to-point operation under paragraph (b) of this section, the peak filed strength shall not exceed 2500 millivolts/meter at 3meters along the antenna azimuth.

5.3.Configuration of EUT on Test

The following equipment are installed on Radiated Emission Test to meet the commission requirements and operating regulations in a manner that tends to maximize its emission characteristics in normal application.

5.4. Operating Condition of EUT

- (1) Setup the EUT as shown as Section 5.1.
- (2) Turn on the power of all equipment.
- (3) Let the EUT work in test mode taking the test.

5.5.Test Procedure

- (1) The EUT was placed on a non-metallic table, 150 cm above the ground plane inside a semi-anechoic chamber. An antenna was located 3m from the EUT on an adjustable mast. A pre-scan was first performed in order to find prominent radiated emissions. For final emissions measurements at each frequency of interest, the EUT were rotated and the antenna height was varied between 1m and 4m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipments and all of the interface cables were changed according to ANSI C63.10: 2013 on Radiated Emission test.
- (2) 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.

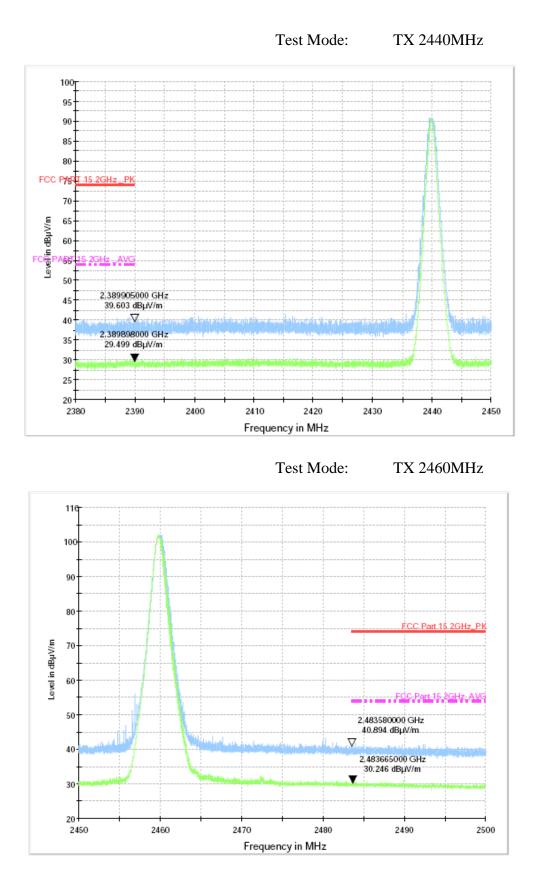
(3) Test antenna was located 4m from the EUT on an adjustable mast. Below pre-scan procedure was first performed in order to find prominent radiated emissions.(a) Change work frequency or channel of device if practicable.

(b) Change modulation type of device if practicable.

(c) Rotated EUT though three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions

- (5) The frequency range from above 1GHz is checked, the bandwidth of Signal Analyzer is set at 1MHz.
- (6) The frequency range from 1GHz to 6GHz was pre-scanned with a peak detector and all final readings of measurement from Spectrum Analyzer are peak and average values checked, all measurement distance is 3m in 3m semi anechoic chamber.
- (7) Test for all x, y, z axes is performed and only the worst case of X xes was recorded in the test report.
- (8) The test results are reported on Section 5.6.

5.6.Test Results



6. Occupied Bandwidth Test

6.1.Block Diagram of Test Setup



6.2.Test Limit

Please refer section 15.249 and section 15.205.

6.3.Test Procedure

- (1) The bandwidth is measured at an amplitude level reduced 20dB from the reference level. The reference level is the level of the highest amplitude signal observed from the transmitter at the fundamental frequency. Once the reference level is established, the equipment is conditioned with typical modulating signal to produce the worst-case (i.e. the widest) bandwidth.
- (2) The test receiver RBW set 30KHz,VBW set 100KHz,Sweep time set auto.

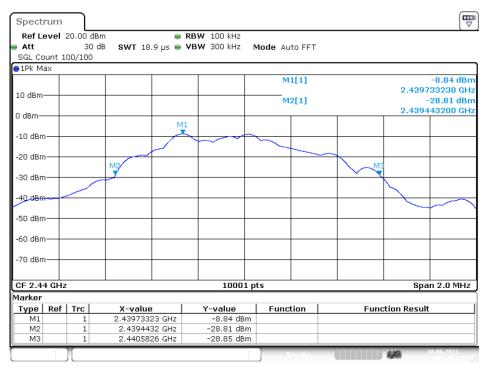
6.4.Test Results

Mode		Frequency	20dB Bandwidth	99% Bandwidth	Limit
		MHz	(MHz)	(KHz)	(kHz)
		2440	1.1394	1.2765	/
GFSK	ANT1	2450	1.0538	1.2457	/
		2460	1.1792	1.2055	/
Note: 1	. The test	results are listed in 1	next pages.		

RefLevel 20.00 dBm	RBW 300 kHz Is VBW 1 MHz		
SGL Count 100/100	is 👄 VBW 1 MHz	MODE AUTO FFT	
1Pk Max			
		M1[1]	-8.65 dBn
10 dBm		Occ Bw	2.439734630 GH: 1.276472353 MH:
0 dBm			
	M1		
-10 dBm		+	
-20 dBm			
-30 dBm			
-40 dBm			
-50 dBm			
-60 dBm			
-70 dBm			
CF 2.44 GHz	100)01 pts	Span 2.0 MHz

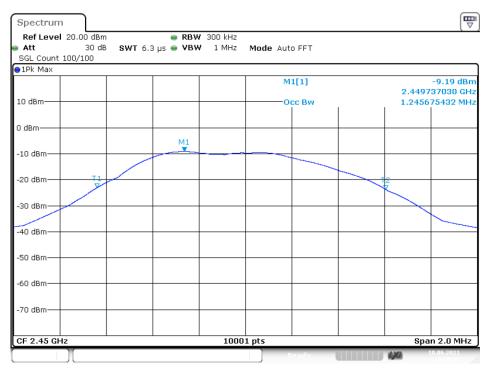
OBW NVNT user 2440MHz Ant1

Date: 18.JUN.2021 10:34:28



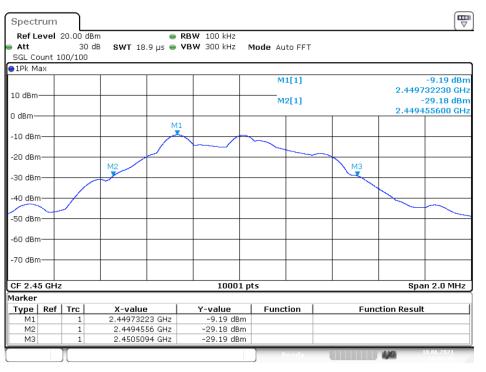
-20 dB BW NVNT user 2440MHz Ant1

Date: 18.JUN.2021 10:34:31



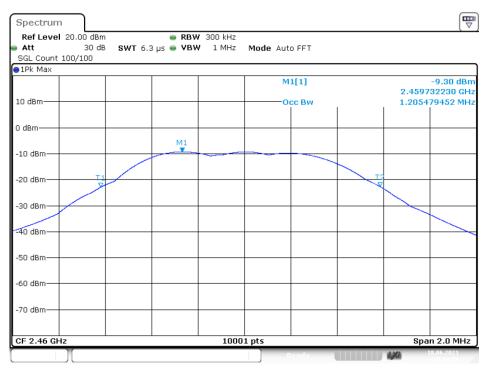
Page 29 of 46 Rep OBW NVNT user 2450MHz Ant1

Date: 18.JUN.2021 10:28:37



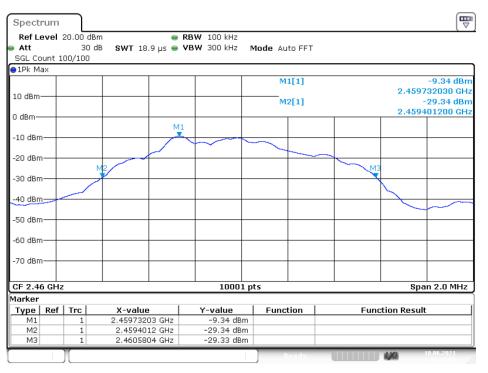
-20 dB BW NVNT user 2450MHz Ant1

Date: 18.JUN.2021 10:28:40



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Date: 18.JUN.2021 10:30:57



-20 dB BW NVNT user 2460MHz Ant1

Date: 18.JUN.2021 10:31:00

7. Antenna Requirement

7.1.Standard 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 shall be considered sufficient to comply with the provisions of this Section. 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.

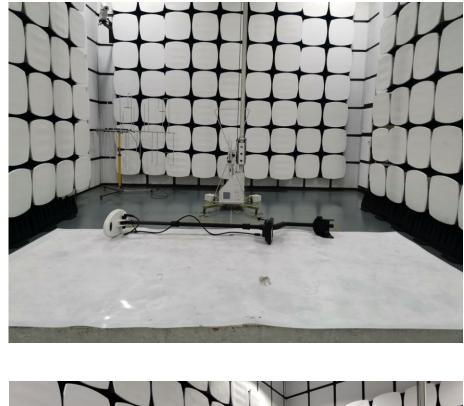
7.2. Antenna Connected Construction

The directional gains of antenna used for transmitting is 0dBi, and the antenna is fixed antenna no consideration of replacement. Please see EUT photo for details.

7.3.Results

The EUT antenna is PCB Antenna. It complies with the standard requirement.

8. Photograph



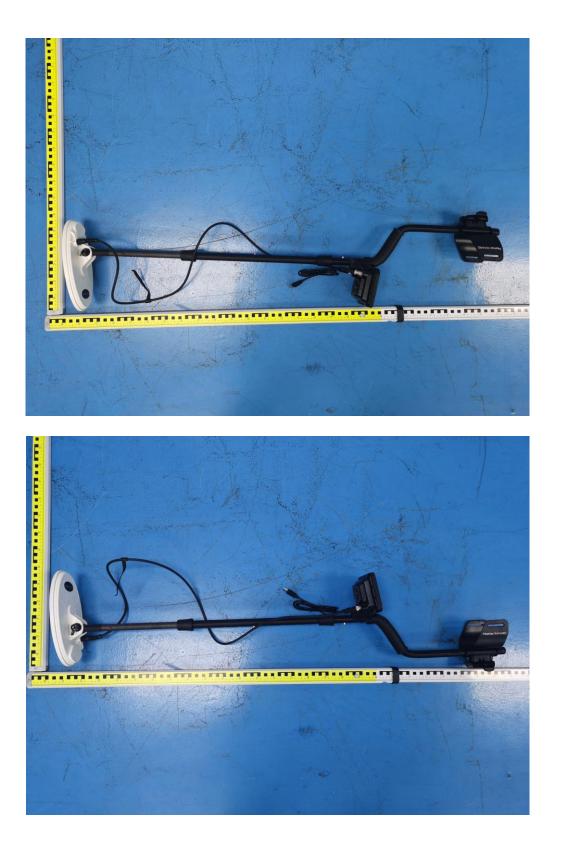
8.1.Photos of Radiated Emission Test





8.2.Photos of Power Line Conducted Emission Test

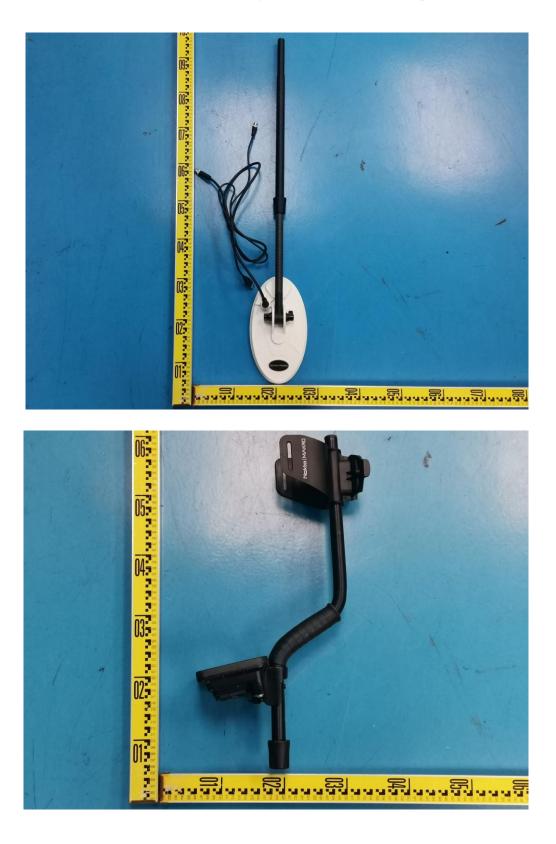
9. Photos of The EUT



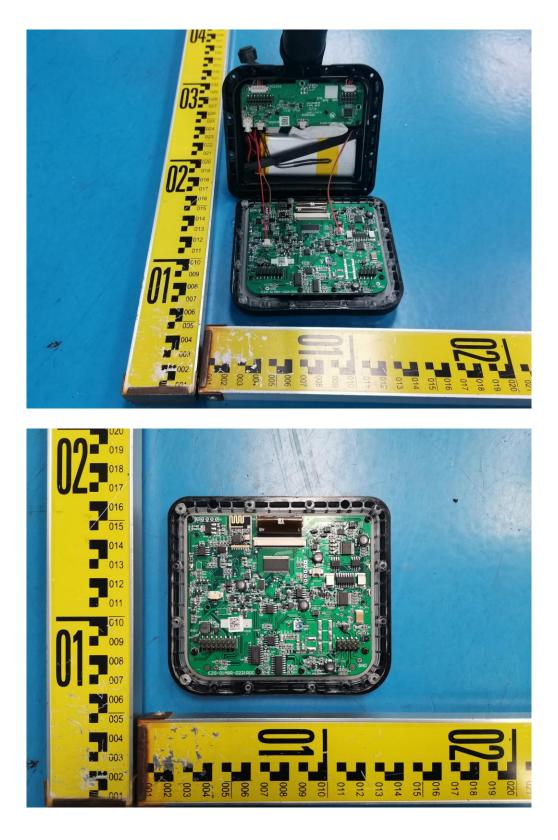








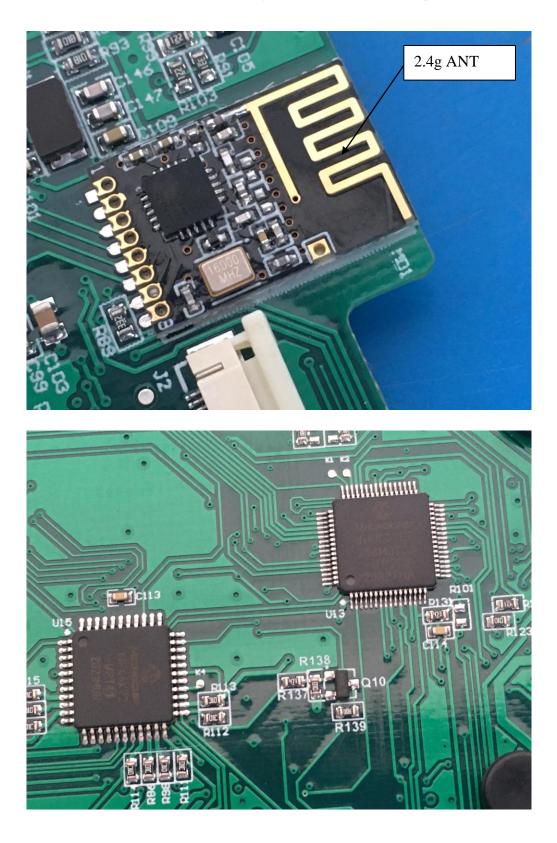


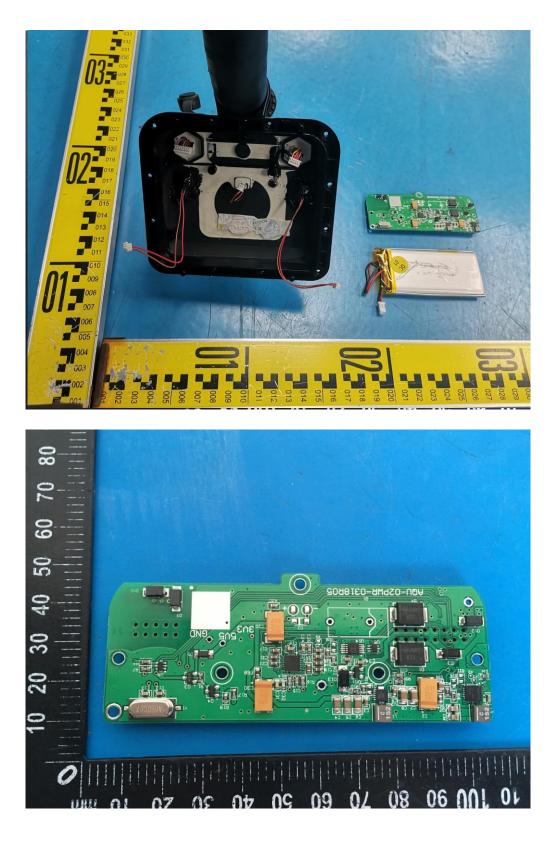


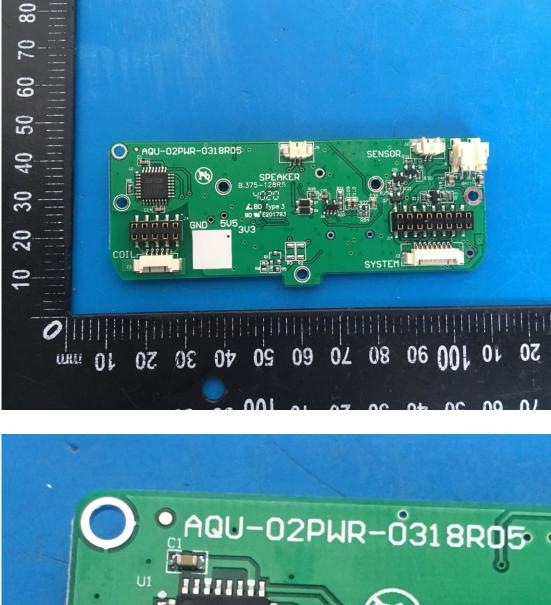




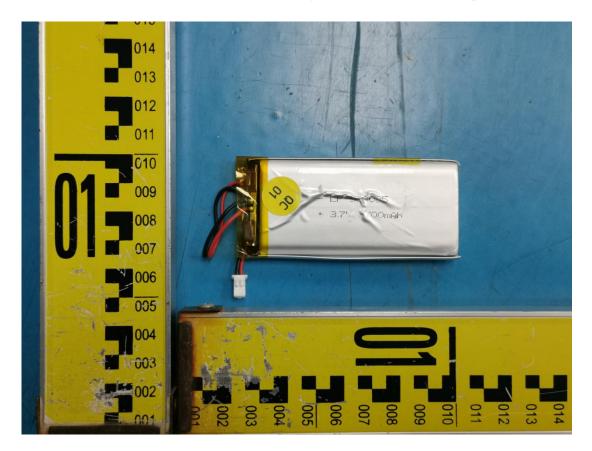












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