



Report No.: TW2312061E

Applicant: Shenzhen SQT Electronics Co., Ltd

Product: Dongle

Model No.: **R116 HTX** 

Trademark: N/A

Test Standards: FCC Part 15.249

It is herewith confirmed and found to comply with the Test result:

requirements set up by ANSI C63.10 & FCC Part 15 Subpart C, Paragraph 15.249 regulations for the evaluation

electromagnetic compatibility

Approved By

Terry Tang

Manager

Dated: December 15, 2023

Results appearing herein relate only to the sample tested The technical reports is issued errors and omissions exempt and is subject to withdrawal at

# SHENZHEN TIMEWAY TESTING LABORATORIES

Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China

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# **Special Statement:**

# FCC-Registration No.: 744189

The EMC Laboratory has been registered 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.: 744189.

# Industry Canada (IC) — Registration No.:5205A

The EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5205A.

# A2LA (Certification Number:5013.01)

The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (A2LA). Certification Number:5013.01

CAB identifier: CN0033

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#### 1.0 General Details

#### 1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TESTING LABORATORIES.

Address: Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le

Village, Nanshan District, Shenzhen, China

Telephone: (755) 83448688 Fax: (755) 83442996

Site on File with the Federal Communications Commission – United Sates

Registration Number: 744189 For 3m Anechoic Chamber

## 1.2 Applicant Details

Applicant: Shenzhen SQT Electronics Co., Ltd

Address: Zheng Cheng Feng technology Park, ShaYi Village, ShaJing Town, BaoAn, Shenzhen, China

-518104

Telephone: 0755-27568078 Fax: 0755-27568223

#### 1.3 Description of EUT

Product: Dongle

Manufacturer: Shenzhen SOT Electronics Co., Ltd

Address: Zheng Cheng Feng technology Park, ShaYi Village, ShaJing Town, BaoAn,

Shenzhen, China -518104

Trademark: N/A

Model Number: R116 HTX

Additional Model Name N/A

Rating: Input: DC5V

Hardware Version: V11
Software Version: 98
Serial No.: N/A

Operation Frequency: 2402-2480MHz

Channel Number: 40
Channel Separation: 2MHz
Modulation Type: GFSK

Antenna Designation PCB antenna with gain -2.36dB maximum (Get from the antenna

specification)

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1.4 Submitted Sample: 2 Samples

1.5 Test Duration

2023-12-06 to 2023-12-15

1.6 Test Uncertainty

Conducted Emissions Uncertainty =3.6dB

Radiated Emissions below 1GHz Uncertainty =4.7dB

Radiated Emissions above 1GHz Uncertainty =6.0dB

Conducted Power Uncertainty = 6.0dB

Occupied Channel Bandwidth Uncertainty =5%

Conducted Emissions Uncertainty = 3.6dB

Note: The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

1.7 Test Engineer

The sample tested by

Print Name: Andy Xing

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2.0 Test Equipment					
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Dongle	R&S	ESPI 3	100379	2023-07-14	2024-07-13
LISN	R&S	EZH3-Z5	100294	2023-07-14	2024-07-13
LISN	R&S	EZH3-Z5	100253	2023-07-14	2024-07-13
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2023-07-14	2024-07-13
Loop Antenna	EMCO	6507	00078608	2022-07-18	2025-07-17
Spectrum	R&S	FSIQ26	100292	2023-07-14	2024-07-13
Horn Antenna	A-INFO	LB-180400-KF	J211060660	2022-07-18	2025-07-17
Horn Antenna	R&S	BBHA 9120D	9120D-631	2022-07-18	2024-07-17
Power meter	Anritsu	ML2487A	6K00003613	2023-07-14	2024-07-13
Power sensor	Anritsu	MA2491A	32263	2023-07-14	2024-07-13
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2022-07-18	2025-07-17
9*6*6 Anechoic			N/A	2022-07-26	2025-07-25
EMI Test Dongle	RS	ESVB	826156/011	2023-07-14	2024-07-13
EMI Test Dongle	RS	ESCS 30	834115/006	2023-07-14	2024-07-13
Spectrum	HP/Agilent	E4407B	MY50441392	2023-07-14	2024-07-13
Spectrum	RS	FSP	1164.4391.38	2023-07-14	2024-07-13
RF Cable	Zhengdi	ZT26-NJ-NJ-8M/FA		2023-07-14	2024-07-13
RF Cable	Zhengdi	7m		2023-07-14	2024-07-13
Pre-Amplifier	Schwarebeck	BBV9743	#218	2023-07-14	2024-07-13
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2023-07-14	2024-07-13
LISN	SCHAFFNER	NNB42	00012	2023-07-14	2024-07-13
ESPI Test Dongle	R&S	ESPI 3	100379	2023-07-14	2024-07-13
LISN	R&S	EZH3-Z5	100294	2023-07-14	2024-07-13

# 2.2 Automation Test Software

# For Conducted Emission Test

Name	Version
EZ-EMC	Ver.EMC-CON 3A1.1

## For Radiated Emissions

Name	Version
EMI Test Software BL410-EV18.91	V18.905
EMI Test Software BL410-EV18.806 High Frequency	V18.06

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#### 3.0 Technical Details

# 3.1 Summary of test results

The EUT has been tested according to the following specifications:	The EUT has	been tested	l according to th	he following s	specifications:
--	-------------	-------------	-------------------	----------------	-----------------

Standard	Test Type	Result	Notes
FCC Part 15, Paragraph 15.203	Antenna Requirement	Pass	Complies
FCC Part 15, Paragraph 15.207	Conducted Emission Test	Pass	Complies
FCC Part 15 Subpart C Paragraph 15.249(a) & 15.249(b) Limit	Field Strength of Fundamental	Pass	Complies
FCC Part 15, Paragraph 15.209	Radiated Emission Test	Pass	Complies
FCC Part 15 Subpart C Paragraph 15.249(d) Limit	Band Edge Test	Pass	Complies
FCC Part 15.215(c)	20dB bandwidth	Pass	Complies

#### 3.2 Test Standards

FCC Part 15 Subpart C, Paragraph 15.249, ANSI C63.4:2014 and ANSI C63.10:2013

# 4.0 EUT Modification

No modification by SHENZHEN TIMEWAY TESTING LABORATORIES

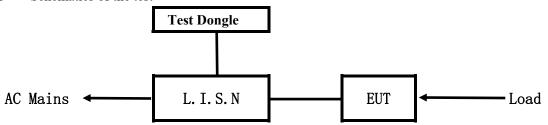
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#### 5.0 Power Line Conducted Emission Test

#### 5.1 Schematics of the test

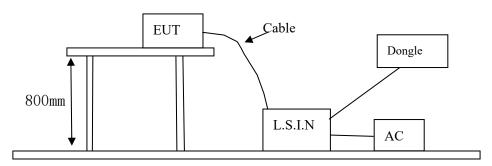


**EUT: Equipment Under Test** 

#### 5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.10-2013. The Frequency spectrum from 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.10-2013.

Test Voltage: 120V~, 60Hz Block diagram of Test setup



# 5.3 Configuration of the EUT

The EUT was configured according to ANSI C63.10-2013. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

40 channels are provided to the EUT

#### A. EUT

Device	Manufacturer	Model	FCC ID
Dongle	Shenzhen SQT Electronics Co., Ltd	R116 HTX	WOX-R116HTX

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#### B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
N/A			

# C. Peripherals

Device	Manufacturer	Model	Rating
PC	ThinkPad	R4	DC19.5V, 2.31A

5.4 EUT Operating Condition

Operating condition is according to ANSI C63.10-2013

- A Setup the EUT and simulators as shown on follow
- B Enable AF signal and confirm EUT active to normal condition

5.5 Power line conducted Emission Limit according to Paragraph 15.207

Frequency	Limits (dB µ V)			
(MHz)	Quasi-peak Level	Average Level		
$0.15 \sim 0.50$	66.0~56.0*	56.0~46.0*		
$0.50 \sim 5.00$	56.0	46.0		
5.00 ~ 30.00	60.0	50.0		

Notes: 1. \*Decreasing linearly with logarithm of frequency.

2. The tighter limit shall apply at the transition frequencies

#### 5.6 Test Results:

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# A: Conducted Emission on Live Terminal (150kHz to 30MHz)

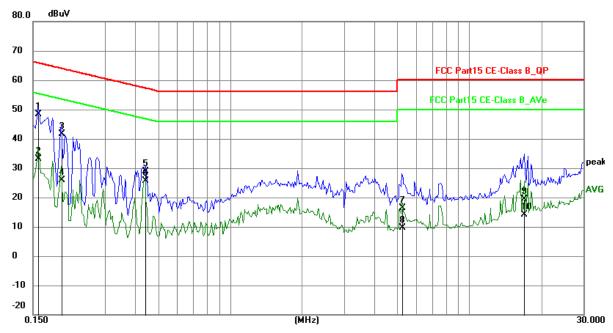
**EUT Operating Environment** 

Temperature: 25°C Humidity: 65%RH Atmospheric Pressure: 101 kPa

**EUT set Condition: Keep Transmitting** 

**Results: Pass** 

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1578	38.61	9.78	48.39	65.58	-17.19	QP	Р
2	0.1578	23.44	9.78	33.22	55.58	-22.36	AVG	Р
3	0.1968	31.90	9.75	41.65	63.74	-22.09	QP	Р
4	0.1968	16.25	9.75	26.00	53.74	-27.74	AVG	Р
5	0.4425	19.18	9.77	28.95	57.01	-28.06	QP	Р
6	0.4425	15.89	9.77	25.66	47.01	-21.35	AVG	Ч
7	5.2347	6.39	9.94	16.33	60.00	-43.67	QP	Р
8	5.2347	-0.32	9.94	9.62	50.00	-40.38	AVG	Р
9	16.9971	8.83	10.50	19.33	60.00	-40.67	QP	Р
10	16.9971	3.72	10.50	14.22	50.00	-35.78	AVG	Р

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# B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

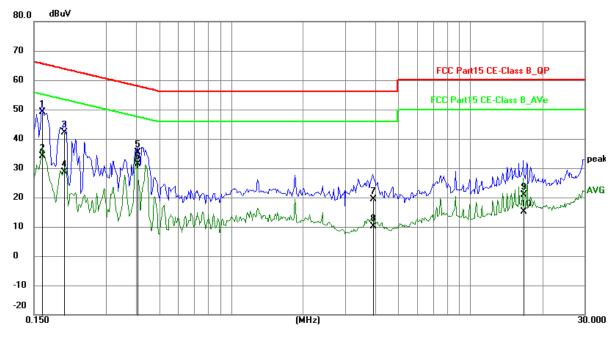
**EUT Operating Environment** 

Temperature: 25°C Humidity: 65%RH Atmospheric Pressure: 101 kPa

**EUT set Condition: Keep Transmitting** 

**Results: Pass** 

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1617	39.29	9.78	49.07	65.38	-16.31	QP	Р
2	0.1617	24.38	9.78	34.16	55.38	-21.22	AVG	Р
3	0.2007	32.48	9.75	42.23	63.58	-21.35	QP	Р
4	0.2007	18.97	9.75	28.72	53.58	-24.86	AVG	Ч
5	0.4074	25.72	9.76	35.48	57.70	-22.22	QP	Р
6	0.4074	21.50	9.76	31.26	47.70	-16.44	AVG	Р
7	3.9087	9.50	9.88	19.38	56.00	-36.62	QP	Ч
8	3.9087	0.34	9.88	10.22	46.00	-35.78	AVG	Р
9	16.6617	10.35	10.48	20.83	60.00	-39.17	QP	Р
10	16.6617	4.71	10.48	15.19	50.00	-34.81	AVG	Р

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#### **6** Radiated Emission Test

- 6.1 Test Method and test Procedure:
- (1) The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.10-2013.
- (3) The frequency spectrum from 9kHz to 25 GHz was investigated. The frequency spectrum is set as follows:

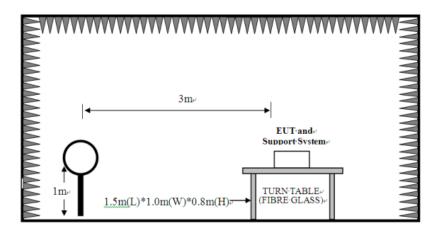
Frequency	Detector	RBW	VBW	Value
9KHz-150KHz	Quasi-peak	200Hz	600Hz	Quasi-peak
150KHz-30MHz	Quasi-peak	9KHz	30KHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120KHz	300KHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
ADOVE IGHZ	Peak	1MHz	10Hz	Average

(Note: for Fundamental frequency radiated emission measurement, RBW=3MHz, VBW=10MHz). Measurements were made at 3 meters.

- (4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5) The antenna polarization: Vertical polarization and Horizontal polarization.

#### **Block diagram of Test setup**

For radiated emissions from 9kHz to 30MHz

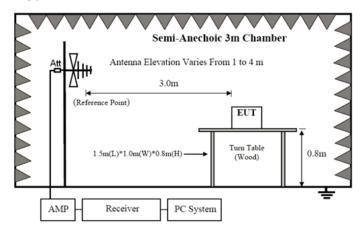


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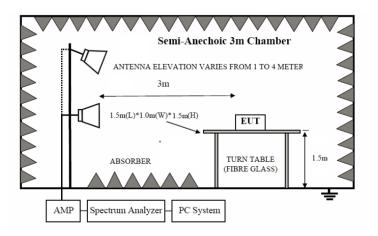
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For radiated emissions from 30MHz to1GHz



For radiated emissions above 1GHz



- 6.2 Configuration of the EUT
  Same as section 5.3 of this report
- 6.3 EUT Operating Condition

  Same as section 5.4 of this report.
- 6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

# A FCC Part 15 Subpart C Paragraph 15.249(a) Limit

Fundamental Frequency	Field Stre	ength of Fundamental (3m)	Field Strength of Harmonics (3m)			
(MHz)	mV/m	dBuV/m	uV/m	dBuV/m		

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2400-2483.5 50	94 (Average)	114 (Peak) 50	00 54 (Average)	74 (Peak)
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Note:

- 1. RF Field Strength (dBuV) = 20 log RF Voltage (uV)
- 2.Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
- 3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

# B. Frequencies in restricted band are complied to limit on Paragraph 15.209.

	-	÷ •
Frequency Range (MHz)	Distance (m)	Field strength (dB $\mu$ V/m)
0.009-0.490	3	20log(2400/F(kHz)) +40log (300/3)
0.490-1.705	3	20log(24000/F(kHz)) +40log (30/3)
1.705-30	3	69.5
30-80	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note:

- 1. RF Voltage  $(dBuV) = 20 \log RF \text{ Voltage } (uV)$
- 2. In the Above Table, the tighter limit applies at the band edges.
- 3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
- 4. All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30-1000MHz.As to 1G-25G, the final emission level got using PK. For fundamental measurement, PK detector used.

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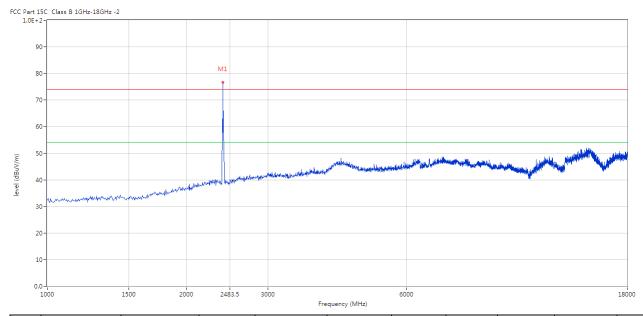


# 6.5 Test result

# A Fundamental & Harmonics Radiated Emission Data

Please refer to the following test plots for details: Low Channel-2402MHz

#### Horizontal



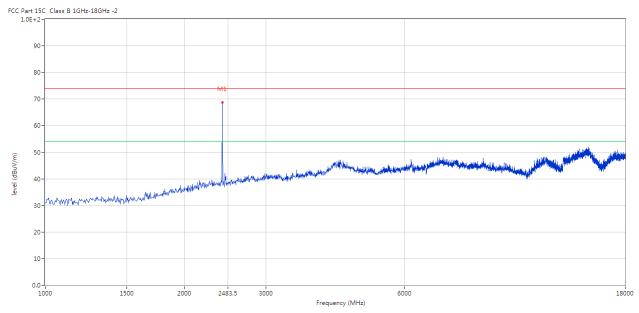
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2402	76.65	-3.57	114.0	-37.35	Peak	194.00	100	Horizontal	Pass

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## Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2402	68.82	-3.57	114.0	-45.18	Peak	360.00	100	Vertical	Pass

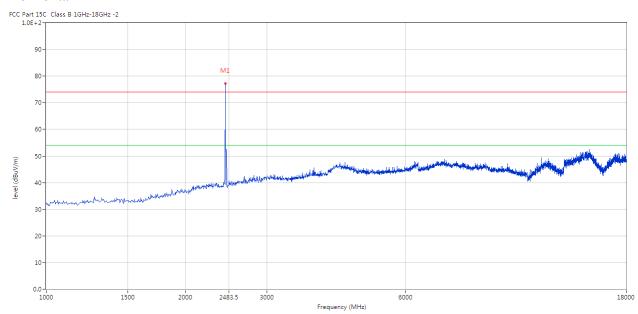
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Please refer to the following test plots for details: Middle Channel-2440MHz

#### Horizontal



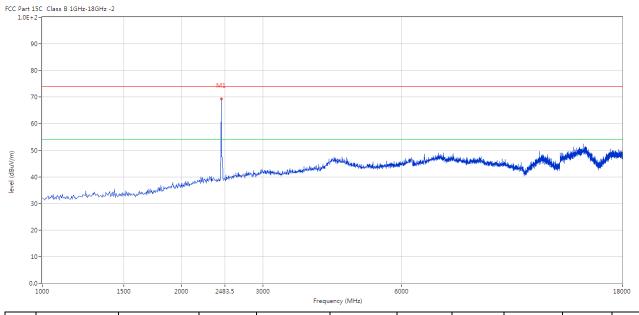
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2440	76.24	-3.57	114.0	-37.76	Peak	343.00	100	Horizontal	Pass

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## Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2440	69.25	-3.57	114.0	-44.75	Peak	151.00	100	Vertical	Pass

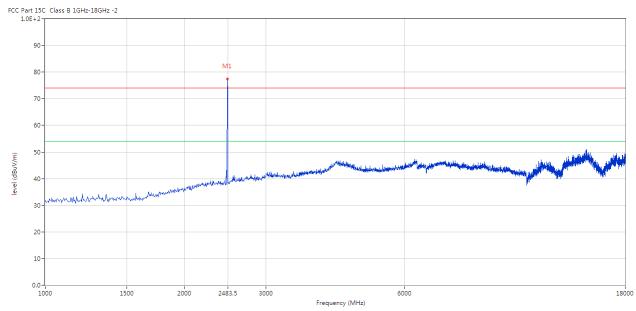
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Please refer to the following test plots for details: High Channel-2480MHz

#### Horizontal



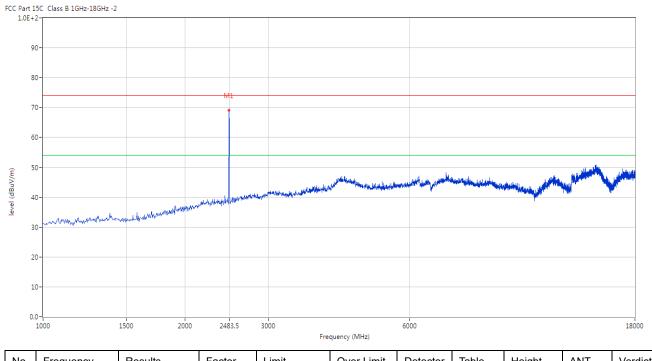
Ī	No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
		(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
	1	2480	77.38	-3.57	114.0	-36.62	Peak	239.00	100	Horizontal	dongle

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#### Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2480	69.09	-3.57	114.0	-44.91	Peak	360.00	100	Vertical	Pass

Note: (1) Emission Level = Reading Level + Antenna Factor + Cable Loss-Amplifier

- (2) Margin=Emission-Limits
- (3) According to section 15.35(b), the peak limit is 20dB higher than the average limit
- (4) For test purpose, keep EUT continuous transmitting
- (5) For emission above 18GHz and Below 30MHz, It is only the floor noise and less than the limit for more than 20dB. No necessary to take down.
- (6) the measured PK value less than the AV limit.

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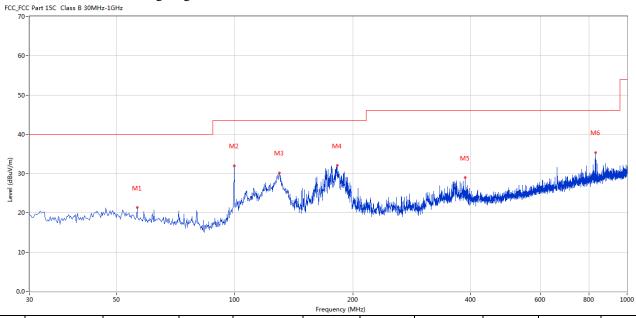


# B. General Radiated Emission Data Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

**Results:** Pass

Please refer to following diagram for individual



No.	Frequency	Results	Factor	Limit	Margin	Detector	Table	Height	Antenna	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(Degree)	(cm)		
1	56.426	21.29	-12.15	40.0	18.71	Peak	46.00	100	Horizontal	Pass
2	99.580	31.97	-13.60	43.5	11.53	Peak	10.00	100	Horizontal	Pass
3	129.885	30.20	-16.79	43.5	13.30	Peak	0.00	100	Horizontal	Pass
4	182.252	32.03	-15.00	43.5	11.47	Peak	255.00	100	Horizontal	Pass
5	386.871	28.92	-9.03	46.0	17.08	Peak	273.00	100	Horizontal	Pass
6	831.505	35.36	-2.89	46.0	10.64	Peak	286.00	100	Horizontal	Pass

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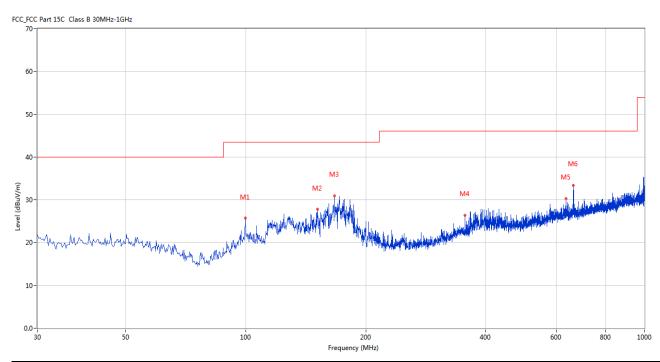


# Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

Results: Pass

Please refer to following diagram for individual



No.	Frequency	Results	Factor	Limit	Margin	Detector	Table	Height	Antenna	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(Degree)	(cm)		
1	99.580	25.72	-13.60	43.5	17.78	Peak	256.00	100	Vertical	Pass
2	151.220	27.77	-16.97	43.5	15.73	Peak	159.00	100	Vertical	Pass
3	166.978	30.97	-16.08	43.5	12.53	Peak	167.00	100	Vertical	Pass
4	354.869	26.44	-9.42	46.0	19.56	Peak	318.00	100	Vertical	Pass
5	635.856	30.31	-4.78	46.0	15.69	Peak	335.00	100	Vertical	Pass
6	663.737	33.42	-4.42	46.0	12.58	Peak	331.00	100	Vertical	Pass

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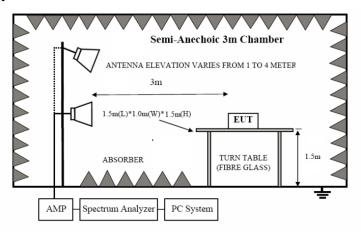


#### 7. Band Edge

#### 7.1 Test Method and test Procedure:

- (1) The EUT was tested according to ANSI C63.10–2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) Set Spectrum as RBW=1MHz, VBW=3MHz and Peak detector used for PK value. RBW=1MHz, VBW=10Hz and Peak detector used for AV value.
- (3) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (4) The antenna polarization: Vertical polarization and Horizontal polarization.

# 7. 2 Radiated Test Setup



For the actual test configuration, please refer to the related items – Photos of Testing

# 7.3 Configuration of the EUT

Same as section 5.3 of this report

#### 7.4 EUT Operating Condition

Same as section 5.4 of this report.

# 7.5 Band Edge Limit

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.

The report refers only to the sample tested and does not apply to the bulk.

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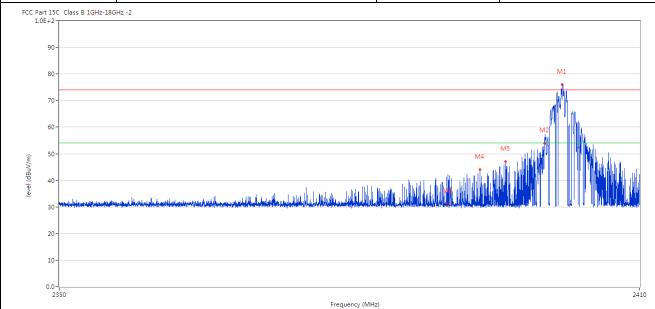
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#### 7.6 Test Result

Product:	Dongle	Polarity	Horizontal
Mode	Keeping Transmitting	Test Voltage	DC5.0V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass		

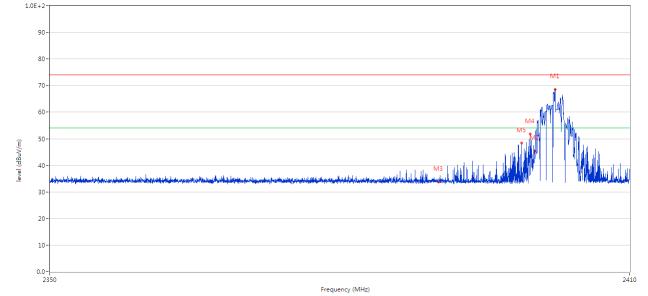


No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(0)	(cm)		
1	2401.902	76.03	-3.57	74.0	2.03	Peak	190.00	100	Horizontal	N/A
2	2400.057	53.90	-3.57	74.0	-20.10	Peak	344.00	100	Horizontal	Pass
2**	2400.057	40.23	-3.57	54.0	-13.77	AV	344.00	100	Horizontal	Pass
3	2390.010	31.12	-3.53	74.0	-42.88	Peak	47.00	100	Horizontal	Pass
4	2393.354	44.05	-3.54	74.0	-29.95	Peak	169.00	100	Horizontal	Pass
5	2395.979	47.12	-3.55	74.0	-26.88	Peak	190.00	100	Horizontal	Pass

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Product:	Dongle	Detector	Vertical
Mode	Keeping Transmitting	Test Voltage	DC5.0V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass		
FCC Part 15C Class B 1GHz-18GHz -2 1.0E+2			
90-			
80-			



Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
2402.202	68.65	-3.57	74.0	-5.35	Peak	264.00	100	Vertical	Pass
2400.042	45.37	-3.57	74.0	-28.63	Peak	52.00	100	Vertical	Pass
2390.040	33.71	-3.53	74.0	-40.29	Peak	127.00	100	Vertical	Pass
2399.608	51.77	-3.57	74.0	-22.23	Peak	278.00	100	Vertical	Pass
2398.708	48.38	-3.56	74.0	-25.62	Peak	281.00	100	Vertical	Pass
	(MHz) 2402.202 2400.042 2390.040 2399.608	(MHz) (dBuV/m) 2402.202 68.65 2400.042 45.37 2390.040 33.71 2399.608 51.77	(MHz) (dBuV/m) (dB) 2402.202 68.65 -3.57 2400.042 45.37 -3.57 2390.040 33.71 -3.53 2399.608 51.77 -3.57	(MHz)     (dBuV/m)     (dB)     (dBuV/m)       2402.202     68.65     -3.57     74.0       2400.042     45.37     -3.57     74.0       2390.040     33.71     -3.53     74.0       2399.608     51.77     -3.57     74.0	(MHz)     (dBuV/m)     (dB)     (dBuV/m)     (dB)       2402.202     68.65     -3.57     74.0     -5.35       2400.042     45.37     -3.57     74.0     -28.63       2390.040     33.71     -3.53     74.0     -40.29       2399.608     51.77     -3.57     74.0     -22.23	(MHz)     (dBuV/m)     (dB)     (dBuV/m)     (dB)       2402.202     68.65     -3.57     74.0     -5.35     Peak       2400.042     45.37     -3.57     74.0     -28.63     Peak       2390.040     33.71     -3.53     74.0     -40.29     Peak       2399.608     51.77     -3.57     74.0     -22.23     Peak	(MHz)     (dBuV/m)     (dB)     (dB)     (o)       2402.202     68.65     -3.57     74.0     -5.35     Peak     264.00       2400.042     45.37     -3.57     74.0     -28.63     Peak     52.00       2390.040     33.71     -3.53     74.0     -40.29     Peak     127.00       2399.608     51.77     -3.57     74.0     -22.23     Peak     278.00	(MHz)         (dBuV/m)         (dB)         (dB)         (o)         (cm)           2402.202         68.65         -3.57         74.0         -5.35         Peak         264.00         100           2400.042         45.37         -3.57         74.0         -28.63         Peak         52.00         100           2390.040         33.71         -3.53         74.0         -40.29         Peak         127.00         100           2399.608         51.77         -3.57         74.0         -22.23         Peak         278.00         100	(MHz)         (dBuV/m)         (dB)         (dB)         (o)         (cm)           2402.202         68.65         -3.57         74.0         -5.35         Peak         264.00         100         Vertical           2400.042         45.37         -3.57         74.0         -28.63         Peak         52.00         100         Vertical           2390.040         33.71         -3.53         74.0         -40.29         Peak         127.00         100         Vertical           2399.608         51.77         -3.57         74.0         -22.23         Peak         278.00         100         Vertical

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Product:	Dongle	Polarity	Horizontal		
Mode	Keeping Transmitting				
Temperature	24 deg. C,	Humidity	56% RH		
Test Result:	Pass				
FCC Part 15C Class B 1GHz-18GHz -2 1.0E+2-	2				
90- 80- 70- 60- 50- 40- 30- 20- 10- 0.0 2470	2483.5 Frequency (Mi		2500		

N	Ο.	Frequency	Results	Factor	Limit	Over	Detector	Table	Height	ANT	Verdict
		(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)		(o)	(cm)		
1		2480.452	76.46	-3.57	74.0	2.46	Peak	89.00	100	Horizontal	N/A
2		2483.500	46.27	-3.57	74.0	-27.73	Peak	149.43	100	Horizontal	Pass

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	Product:	2				2						Vertical	
	Mode	1 6 6				Test Vo	ltage		DC5.0V				
Te	mperature		24 deg. C, Humidity								56% RH		
Te	est Result:		Pas	SS									
	rt 15C Class B 1GHz-18GH E+2- 90- 80- 70-	Iz -2			<u> </u>								
level (dBuV/m)	30- 20-			M2		المثار أوا المدار والماران المثار المدار	Heitellerike was had skeen	الجريانيدي المتاويد	one was the second in which the desired	ilinte againte papet			
(m/\ngp)  ava	30- 20- 10- 2470	Results	Factor	Limit (dD) (dD)	5 Frequency (MHz)	Detector	Table	Height	ANT	2500			
No.	50- 40- 20- 10- 0.0- 2470 Frequency (MHz)	Results (dBuV/m)	(dB)	Limit (dBuV/m)	5 Frequency (MHz)  Over Limit (dB)	Detector	Table (o)	Height (cm)		Verdic			
	30- 20- 10- 2470	Results		Limit	5 Frequency (MHz)		Table	Height	ANT  Vertical  Vertical	2500  Verdic  Pass  Pass			

Note: The PK emission level less than the AV limit. No necessary to record the AV emission level.

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# 8.0 Antenna Requirement

# **Applicable Standard**

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.

This product has a PCB antenna with gain -2.36dBi maximum. It fulfills the requirement of this section.

Test Result: Pass

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#### 9.0 20dB Bandwidth Measurement

# **Test Configuration**



# **Test Procedure**

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with 100kHz RBW and 300kHz VBW.

The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

#### Limit

N/A

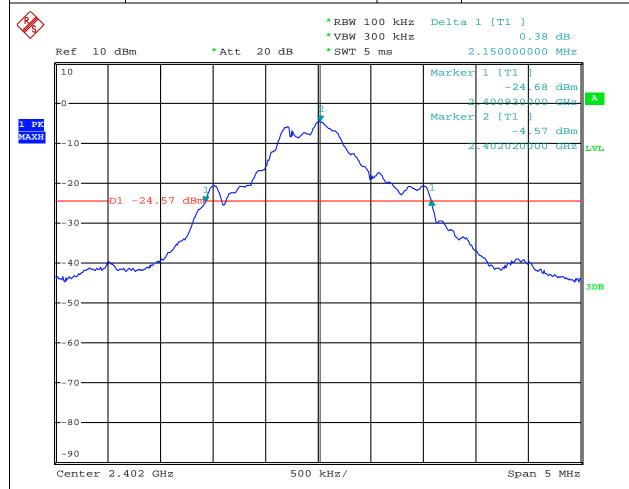
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#### **Test Result**

Product:	Dongle	Test Mode:	Keep transmitting
Mode	Keeping Transmitting	Test Voltage	DC5.0V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK
20dB Bandwidth	2.150MHz		



Date: 13.DEC.2023 09:32:22

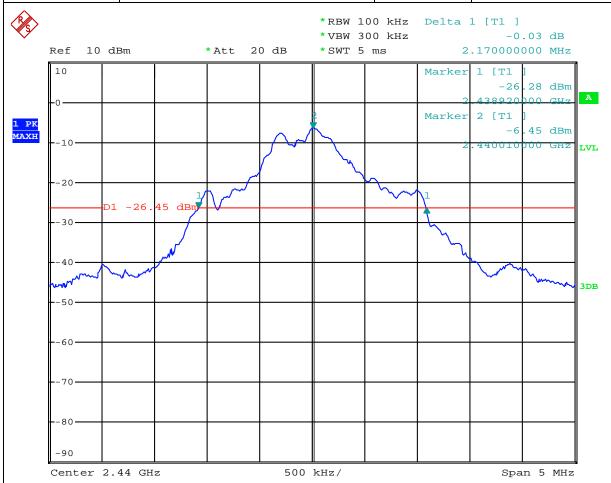
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Product:	Dongle	Test Mode:	Keep transmitting
Mode	Keeping Transmitting	Test Voltage	DC5.0V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK
20dB Bandwidth	2.170MHz		



Date: 13.DEC.2023 09:25:39

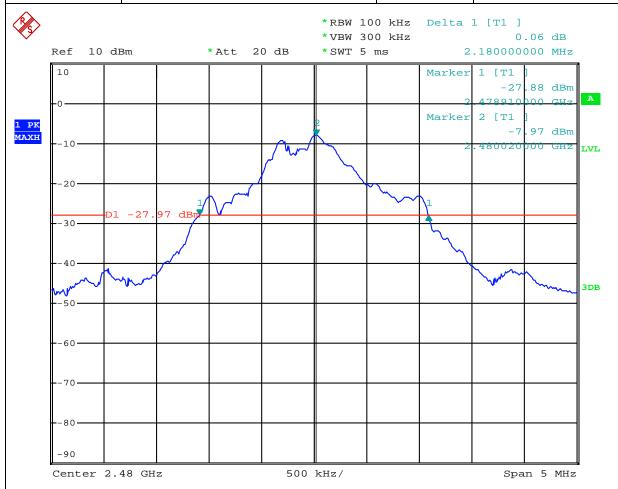
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Product:	Dongle	Test Mode:	Keep transmitting
Mode	Keeping Transmitting	Test Voltage	DC5.0V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK
20dB Bandwidth	2.180MHz		



Date: 13.DEC.2023 09:22:31

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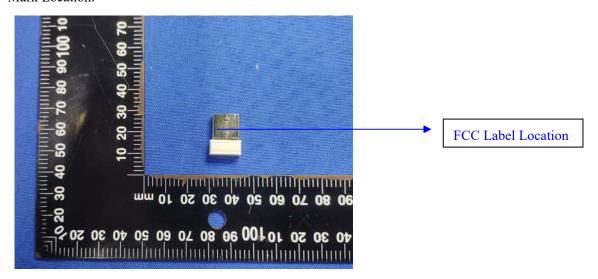


#### 10.0 FCC ID Label

#### FCC ID: WOX-R116HTX

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

#### Mark Location:



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#### 11.0 Photo of testing

#### 11.1 Conducted test View



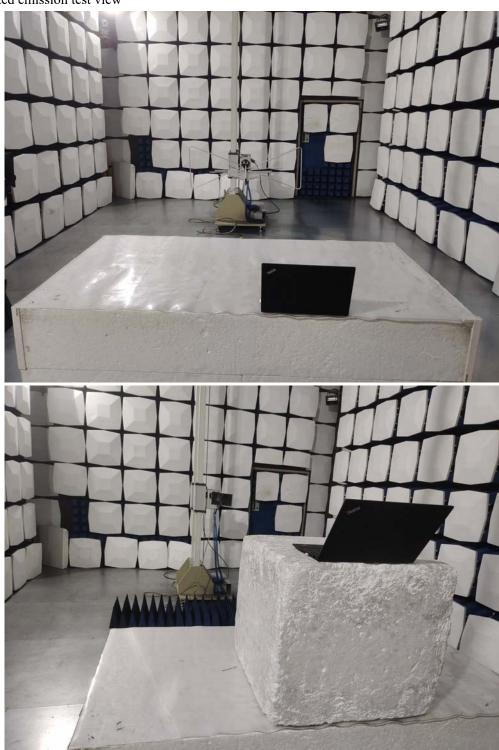
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#### Radiated emission test view



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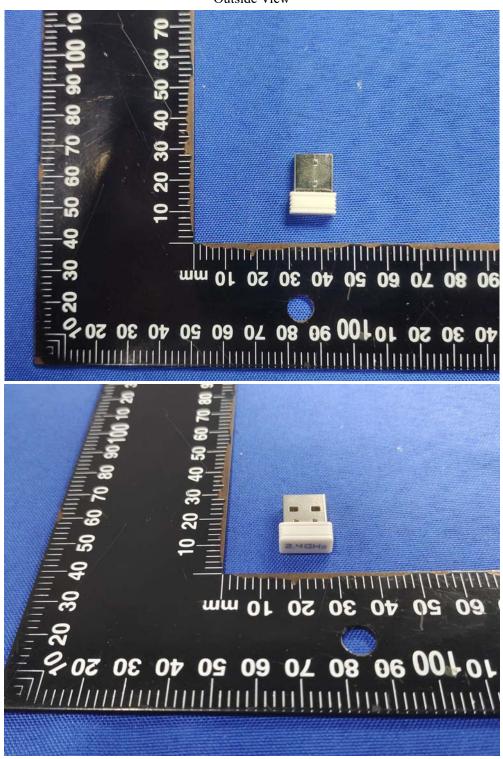
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#### 11.2 Photographs – EUT

Outside View



The report refers only to the sample tested and does not apply to the bulk.

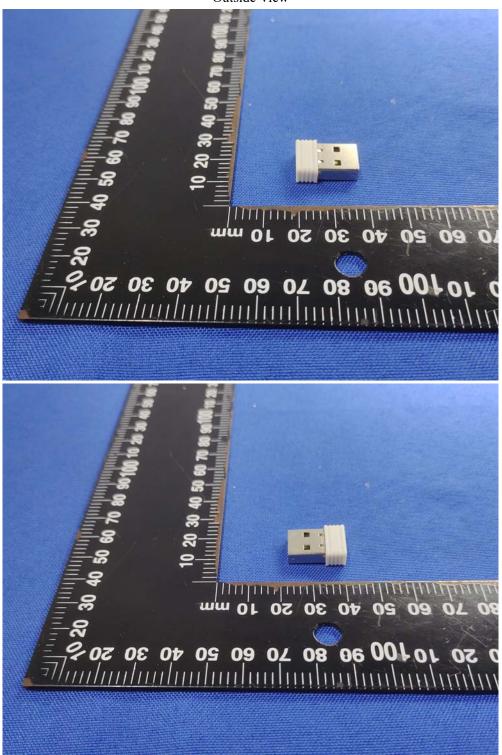
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Outside View



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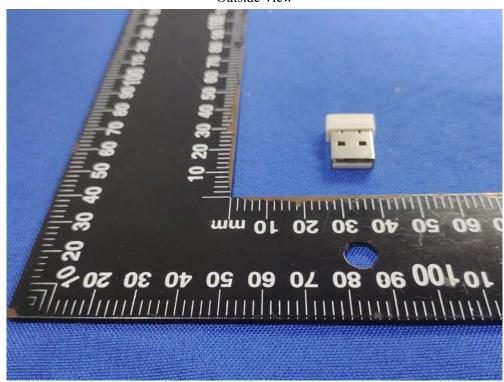
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Outside View



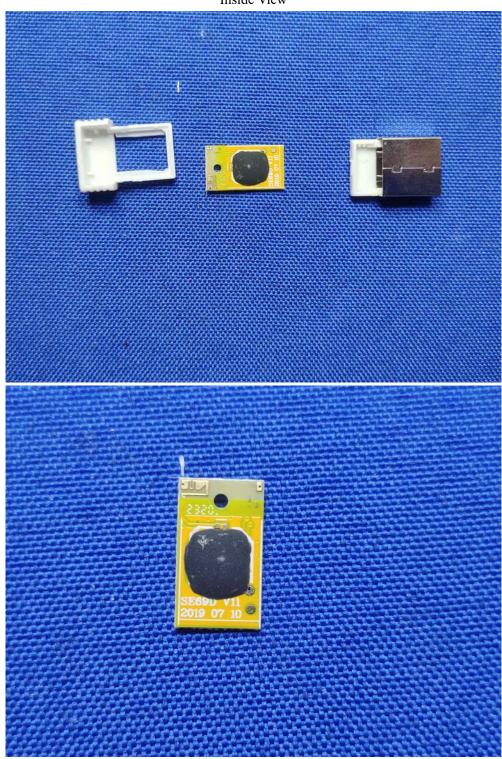
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Inside View



The report refers only to the sample tested and does not apply to the bulk.

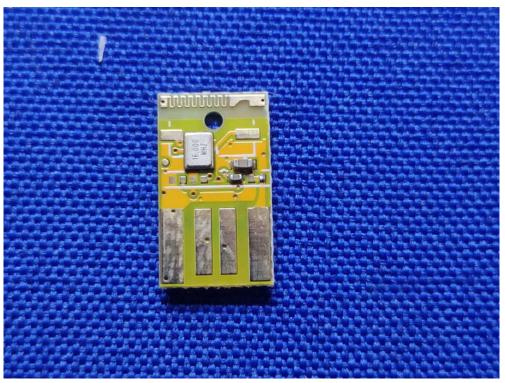
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Inside View



-- End of the report--