

11.3. LIMITS AND MEASUREMENT RESULT

15.209(a) Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (micorvolts/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

Note: All modes were tested For restricted band radiated emission,
the test records reported below are the worst result compared to other modes.

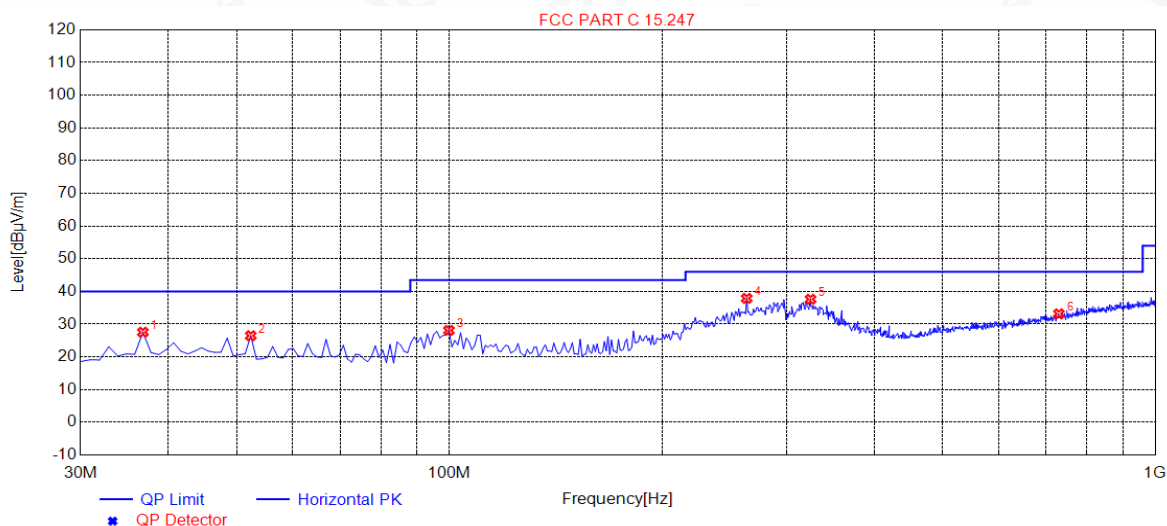
11.4. TEST RESULT

RADIATED EMISSION BELOW 30MHZ

No emission found between lowest internal used/generated frequencies to 30MHz.

RADIATED EMISSION BELOW 1GHZ

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2412MHZ	Antenna	Horizontal



NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	36.7900	27.56	14.16	40.00	12.44	200	291	Horizontal
2	52.3100	26.48	14.49	40.00	13.52	100	210	Horizontal
3	99.8400	28.11	11.35	43.50	15.39	200	124	Horizontal
4	263.7700	37.89	14.88	46.00	8.11	100	138	Horizontal
5	324.8800	37.62	16.88	46.00	8.38	100	51	Horizontal
6	730.3400	33.19	26.72	46.00	12.81	100	40	Horizontal

RESULT: PASS



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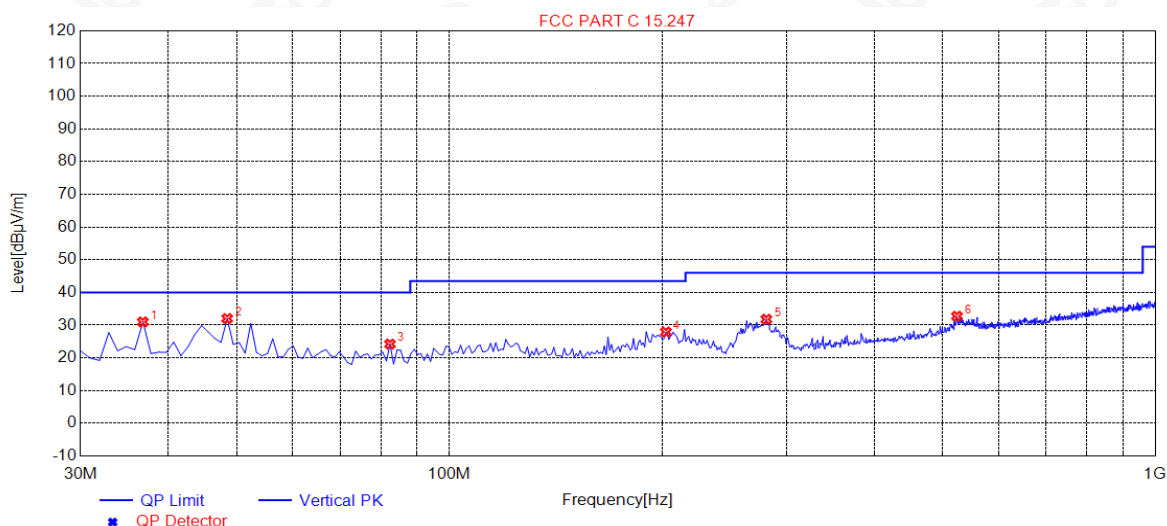
Add: 2/F., Building 2, Sanwei Chaxi Industrial Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

Service Hotline: 400 089 2118

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2412MHZ	Antenna	Vertical



NO.	Freq. [MHz]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	36.7900	31.00	14.16	40.00	9.00	100	238	Vertical
2	48.4300	32.04	14.71	40.00	7.96	100	227	Vertical
3	82.3800	24.23	10.17	40.00	15.77	100	272	Vertical
4	202.6600	27.92	12.23	43.50	15.58	100	291	Vertical
5	281.2300	31.82	16.28	46.00	14.18	100	288	Vertical
6	523.7300	32.74	22.69	46.00	13.26	100	9	Vertical

RESULT: PASS

Note:

- Factor=Antenna Factor + Cable loss, Margin=Measurement-Limit.
- The "Factor" value can be calculated automatically by software of measurement system.
- All test modes had been pre-tested. The 802.11b at low channel is the worst case and recorded in the report.

RADIATED EMISSION ABOVE 1GHZ

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2412MHZ	Antenna	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4824.062	52.33	3.72	56.05	74.00	-17.95	peak
4824.062	44.61	3.72	48.33	54.00	-5.67	AVG
7236.093	51.24	8.15	59.39	74.00	-14.61	peak
7236.093	36.47	8.15	44.62	54.00	-9.38	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2412MHZ	Antenna	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4824.062	51.02	3.72	54.74	74.00	-19.26	peak
4824.062	43.19	3.72	46.91	54.00	-7.09	AVG
7236.093	44.84	8.15	52.99	74.00	-21.01	peak
7236.093	36.07	8.15	44.22	54.00	-9.78	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2437MHZ	Antenna	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4874.062	48.06	3.75	51.81	74.00	-22.19	peak
4874.062	39.97	3.75	43.72	54.00	-10.28	AVG
7311.093	43.38	8.16	51.54	74.00	-22.46	peak
7311.093	36.72	8.16	44.88	54.00	-9.12	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2437MHZ	Antenna	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4874.062	49.17	3.75	52.92	74.00	-21.08	peak
4874.062	44.58	3.75	48.33	54.00	-5.67	AVG
7311.093	47.29	8.16	55.45	74.00	-18.55	peak
7311.093	35.86	8.16	44.02	54.00	-9.98	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2462MHZ	Antenna	Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4924.062	48.74	3.81	52.55	74.00	-21.45	peak
4924.062	43.41	3.81	47.22	54.00	-6.78	AVG
7386.093	42.78	8.19	50.97	74.00	-23.03	peak
7386.093	35.63	8.19	43.82	54.00	-10.18	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2462MHZ	Antenna	Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
4924.062	49.73	3.81	53.54	74.00	-20.46	peak
4924.062	42.85	3.81	46.66	54.00	-7.34	AVG
7386.093	43.96	8.19	52.15	74.00	-21.85	peak
7386.093	35.77	8.19	43.96	54.00	-10.04	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

RESULT: PASS

Note:

Other emissions from 1G to 25 GHz are considered as ambient noise. No recording in the test report.
Factor = Antenna Factor + Cable loss - Amplifier gain, Over=Measure-Limit.

The "Factor" value can be calculated automatically by software of measurement system.

All test modes had been pre-tested. The 802.11b mode is the worst case and recorded in the report.

12. BAND EDGE EMISSION

12.1. MEASUREMENT PROCEDURE

Radiated restricted band edge measurements

The radiated restricted band edge measurements are measured with an EMI test receiver connected to the receive antenna while the EUT is transmitting

12.2. TEST SET-UP

same as 11.2

Note:

1. Factor=Antenna Factor + Cable loss - Amplifier gain. Field Strength=Factor + Reading level
2. The factor had been edited in the "Input Correction" of the Spectrum Analyzer. So the Amplitude of test plots is equal to Reading level plus the Factor in dB. Use the A dB(μ V) to represent the Amplitude. Use the F dB(μ V/m) to represent the Field Strength. So A=F.



12.3. Test Result

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2412MHZ	Antenna	Horizontal

PK



AV



RESULT: PASS

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2412MHZ	Antenna	Vertical

PK



AV



RESULT: PASS

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2462MHZ	Antenna	Horizontal

PK



AV



RESULT: PASS

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2462MHZ	Antenna	Vertical

PK



AV



RESULT: PASS

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11g with data rate 6 2412MHZ	Antenna	Horizontal

PK



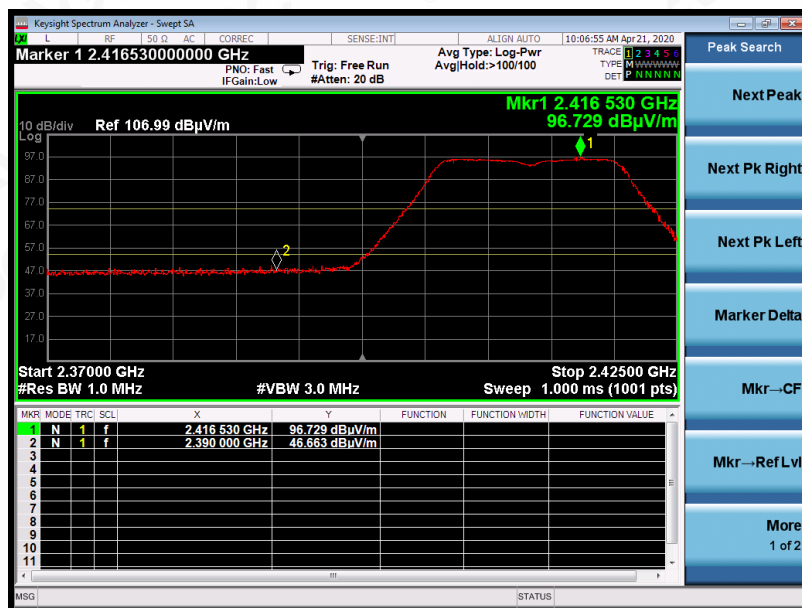
AV



RESULT: PASS

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11g with data rate 6 2412MHZ	Antenna	Vertical

PK



AV



RESULT: PASS

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11g with data rate 6 2462MHZ	Antenna	Horizontal

PK



AV



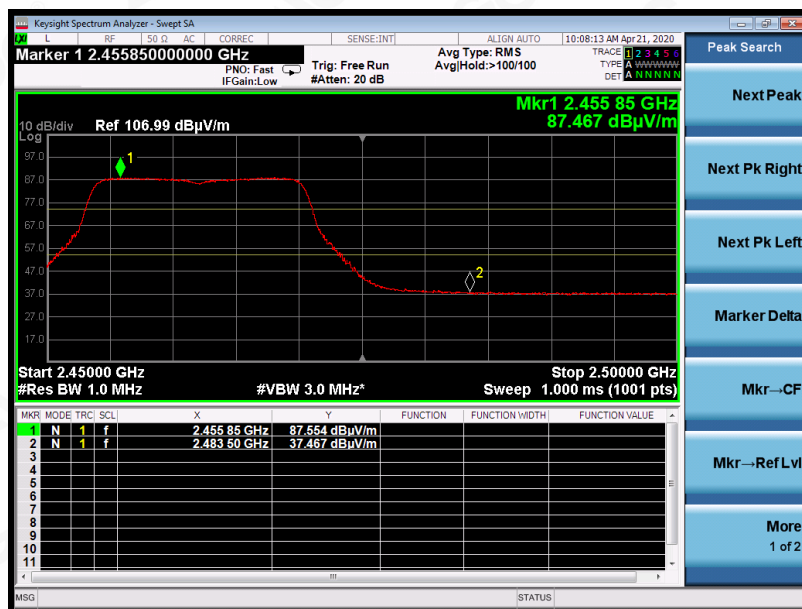
RESULT: PASS

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11g with data rate 6 2462MHZ	Antenna	Vertical

PK



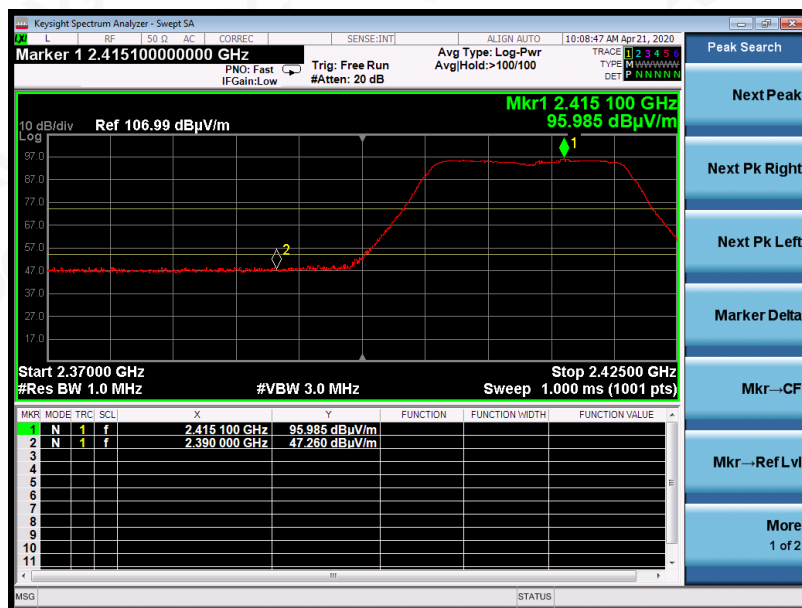
AV



RESULT: PASS

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 20 with data rate 6.5 2412MHZ	Antenna	Horizontal

PK



AV



RESULT: PASS

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 20 with data rate 6.5 2412MHZ	Antenna	Vertical

PK



AV



RESULT: PASS

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 20 with data rate 6.5 2462MHZ	Antenna	Horizontal

PK



AV



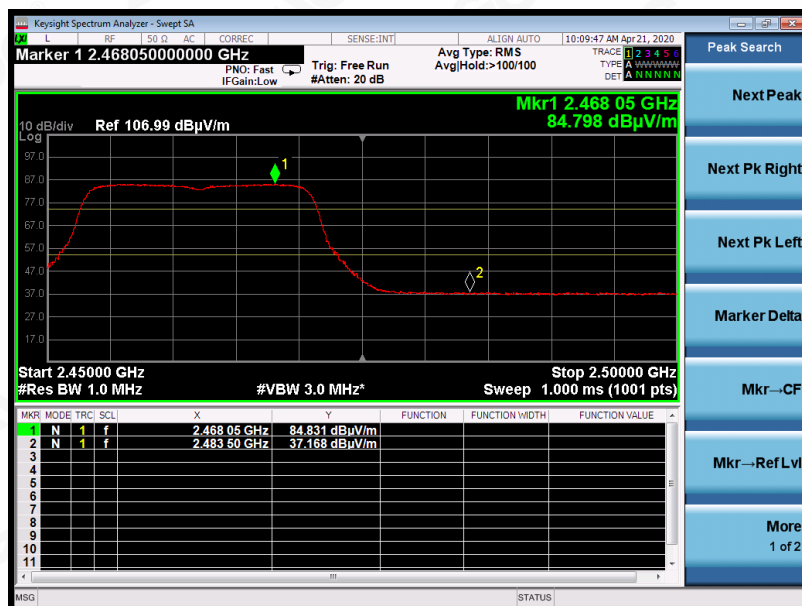
RESULT: PASS

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 20 with data rate 6.5 2462MHZ	Antenna	Vertical

PK



AV



RESULT: PASS



Attestation of Global Compliance

Attestation of Global Compliance(Shenzhen)Co.,Ltd.

Add: 2/F., Building 2, Sanwei Chaxi Industrial Park, Sanwei Community,
Hangcheng Street, Bao'an District, Shenzhen, Guangdong, China

Tel: +86-755 2523 4088

E-mail: agc@agc-cert.com

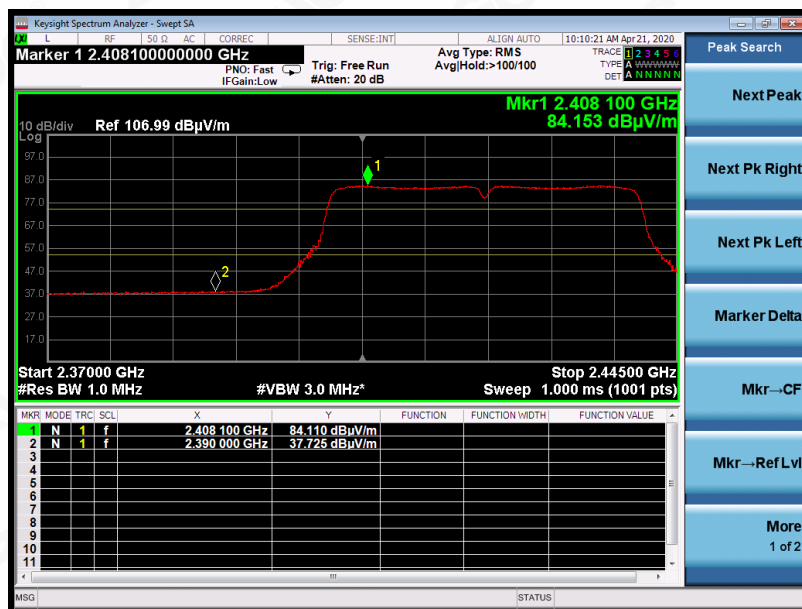
Service Hotline: 400 089 2118

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 40 with data rate 13.5 2422MHZ	Antenna	Horizontal

PK



AV



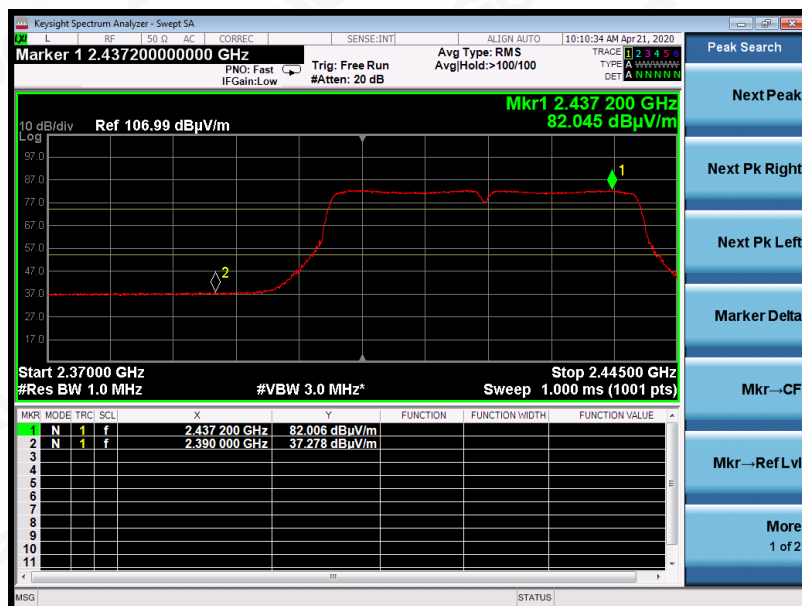
RESULT: PASS

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 40 with data rate 13.5 2422MHZ	Antenna	Vertical

PK



AV



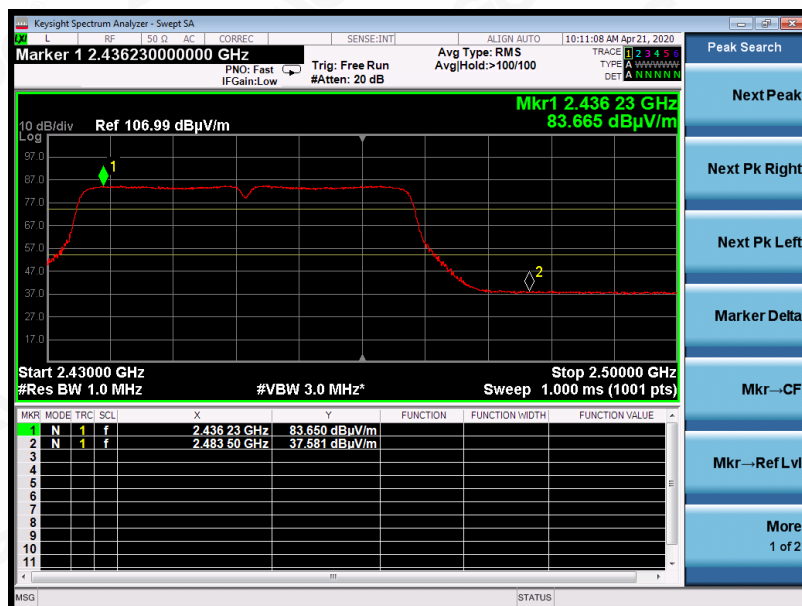
RESULT: PASS

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 40with data rate 13.5 2452MHZ	Antenna	Horizontal

PK



AV



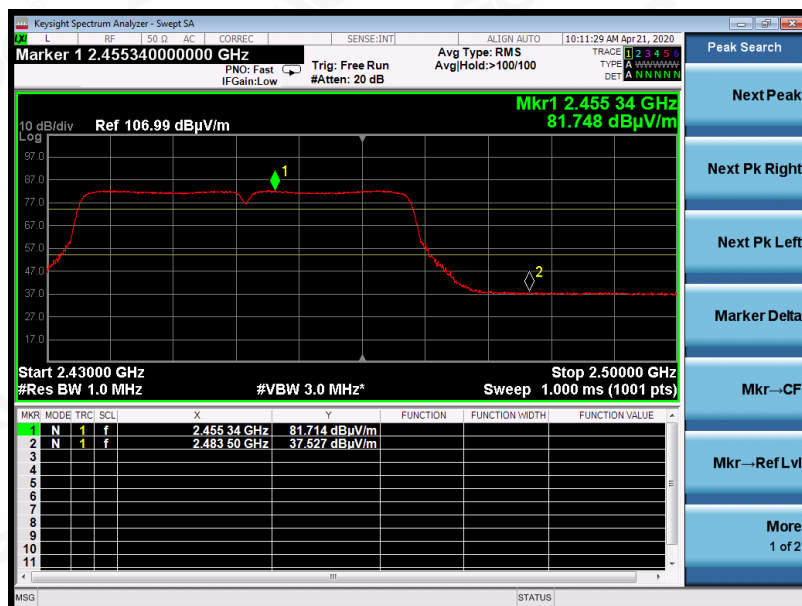
RESULT: PASS

EUT	WIRELESS USB ADAPTER	Model Name	6B24
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 40 with data rate 13.5 2452MHZ	Antenna	Vertical

PK



AV



RESULT: PASS

13. FCC LINE CONDUCTED EMISSION TEST

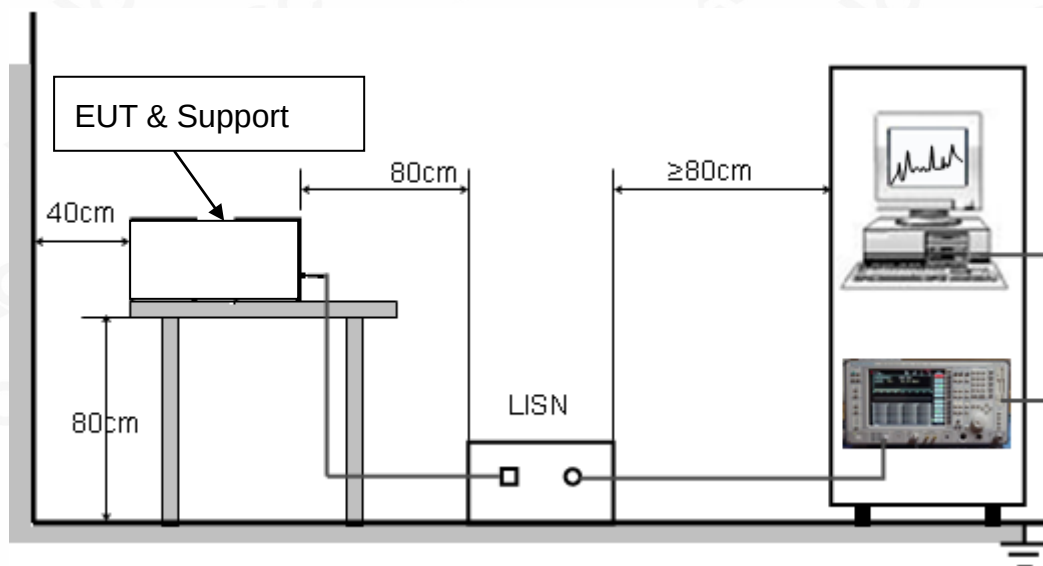
13.1. LIMITS OF LINE CONDUCTED EMISSION TEST

Frequency	Maximum RF Line Voltage	
	Q.P.(dBuV)	Average(dBuV)
150kHz~500kHz	66-56	56-46
500kHz~5MHz	56	46
5MHz~30MHz	60	50

Note:

1. The lower limit shall apply at the transition frequency.
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

13.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST



13.3. PRELIMINARY PROCEDURE OF LINE CONDUCTED EMISSION TEST

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. When the EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10 (see Test Facility for the dimensions of the ground plane used). When the EUT is a floor-standing equipment, it is placed on the ground plane which has a 3-12 mm non-conductive covering to insulate the EUT from the ground plane.
2. Support equipment, if needed, was placed as per ANSI C63.10.
3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10.
4. All support equipments received AC120V/60Hz power from a LISN, if any.
5. The EUT received charging voltage by adapter which received 120V/60Hz power by a LISN..
6. The test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7. Analyzer / Receiver scanned from 150 kHz to 30MHz for emissions in each of the test modes.
8. During the above scans, the emissions were maximized by cable manipulation.
9. The test mode(s) were scanned during the preliminary test.

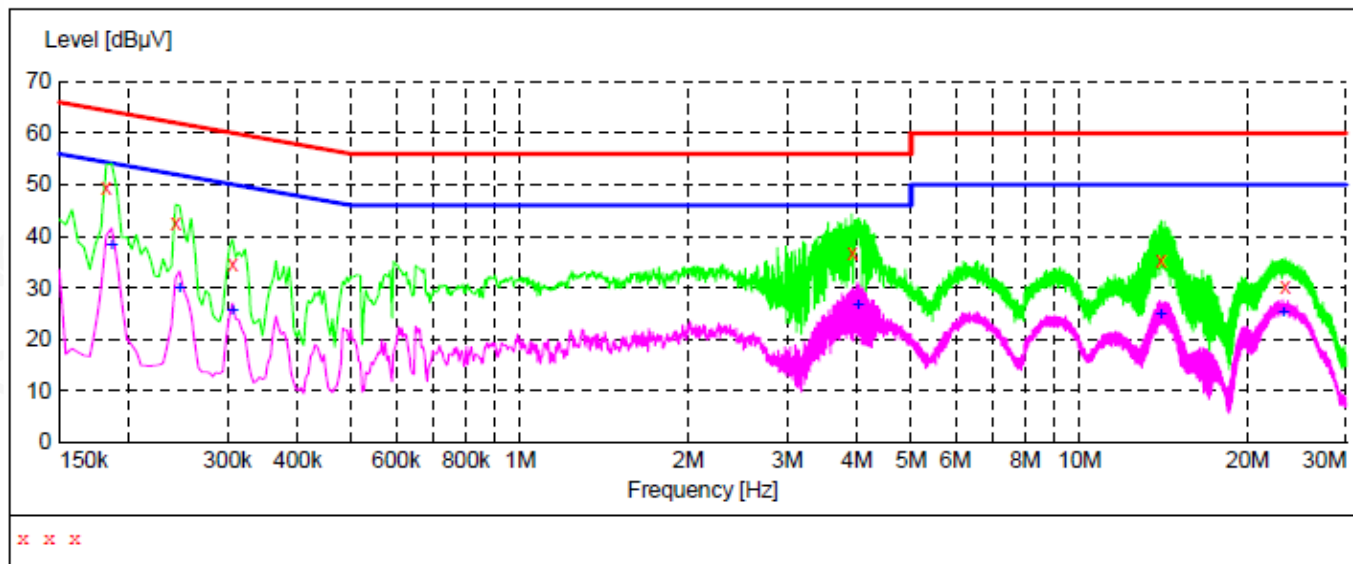
Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

13.4. FINAL PROCEDURE OF LINE CONDUCTED EMISSION TEST

1. EUT and support equipment was set up on the test bench as per step 2 of the preliminary test.
2. A scan was taken on both power lines, Line 1 and Line 2, recording at least the six highest emissions. Emission frequency and amplitude were recorded into a computer in which correction factors were used to calculate the emission level and compare reading to the applicable limit. If EUT emission level was less -2dB to the A.V. limit in Peak mode, then the emission signal was re-checked using Q.P and Average detector.
3. The test data of the worst case condition(s) was reported on the Summary Data page.

13.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

LINE CONDUCTED EMISSION TEST LINE 1-L



MEASUREMENT RESULT

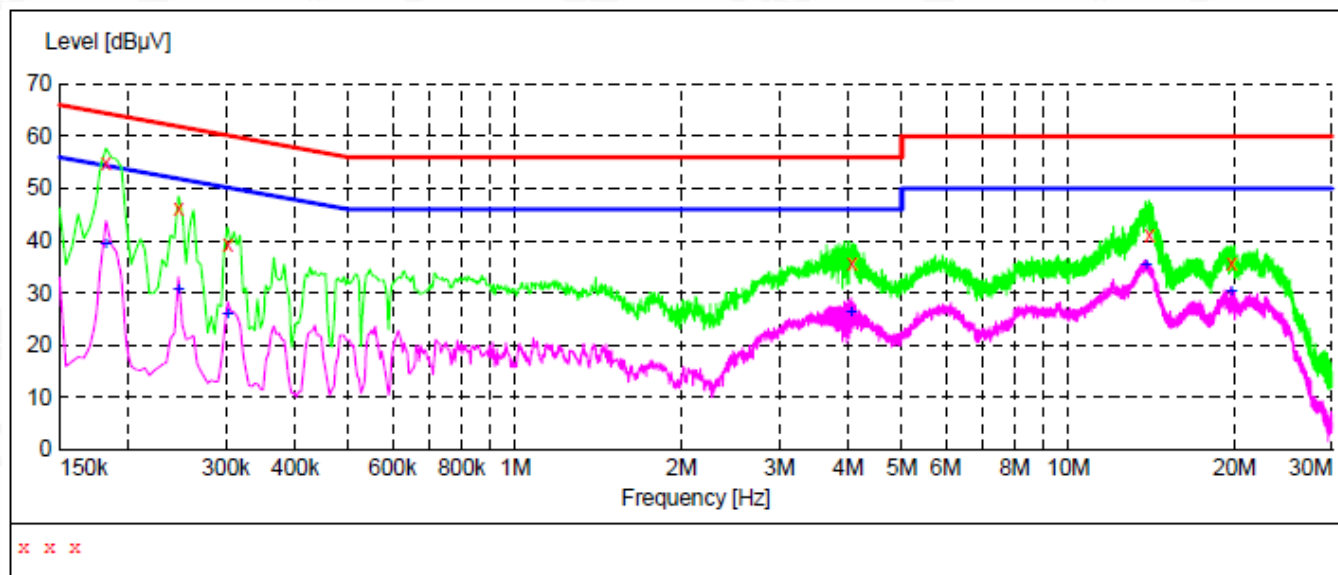
Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.182000	49.50	11.3	64	14.9	QP	L1
0.242000	42.50	11.3	62	19.5	QP	L1
0.306000	34.70	11.3	60	25.4	QP	L1
3.918000	36.60	11.4	56	19.4	QP	L1
13.982000	35.20	11.9	60	24.8	QP	L1
23.322000	30.10	12.5	60	29.9	QP	L1

MEASUREMENT RESULT

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.186000	38.00	11.3	54	16.2	AV	L1
0.246000	30.00	11.3	52	21.9	AV	L1
0.306000	25.40	11.3	50	15.7	AV	L1
4.010000	26.40	11.4	46	19.6	AV	L1
13.962000	24.90	11.9	50	25.1	AV	L1
23.122000	25.20	12.4	50	24.8	AV	L1

RESULT: PASS

Line Conducted Emission Test Line 2-N



MEASUREMENT RESULT

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.182000	55.00	11.3	64	9.4	QP	N
0.246000	46.30	11.3	62	15.6	QP	N
0.302000	39.20	11.3	60	21.0	QP	N
4.058000	35.60	11.4	56	20.4	QP	N
13.998000	41.20	11.9	60	18.8	QP	N
19.694000	35.50	12.3	60	24.5	QP	N

MEASUREMENT RESULT

Frequency MHz	Level dBμV	Transd dB	Limit dBμV	Margin dB	Detector	Line
0.182000	39.10	11.3	54	15.3	AV	N
0.246000	30.40	11.3	52	21.5	AV	N
0.302000	25.90	11.3	50	24.3	AV	N
4.046000	26.20	11.4	46	19.8	AV	N
13.814000	35.30	11.9	50	14.7	AV	N
19.694000	30.30	12.3	50	19.7	AV	N

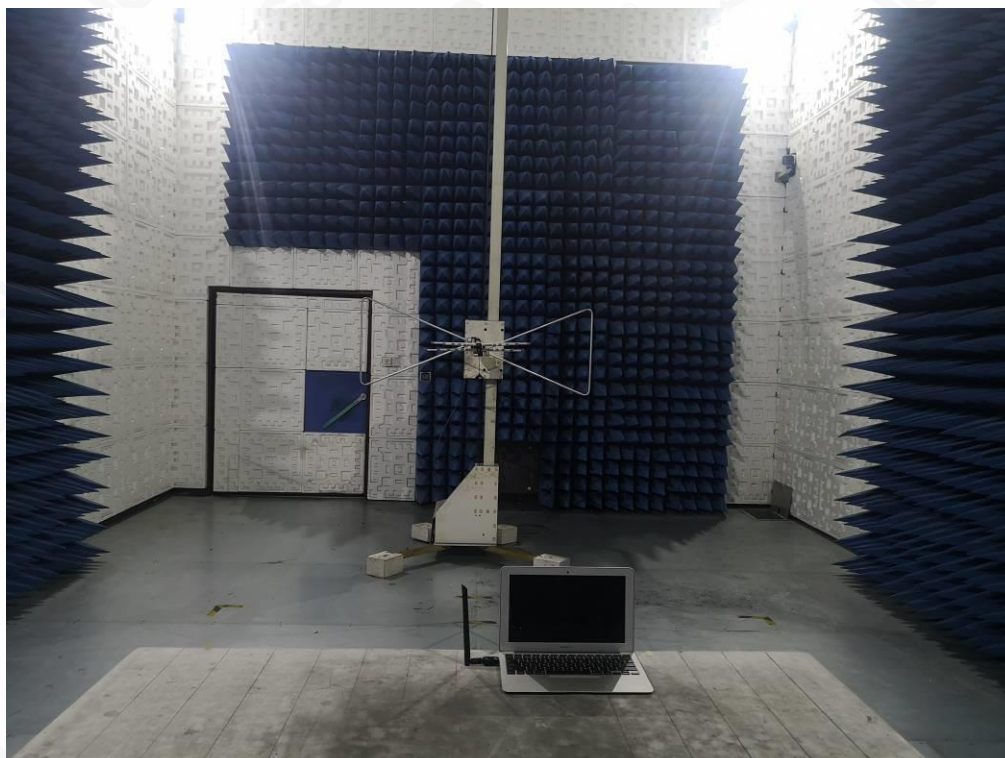
RESULT: PASS

APPENDIX A: PHOTOGRAPHS OF TEST SETUP

FCC LINE CONDUCTED EMISSION TEST SETUP



FCC RADIATED EMISSION TEST SETUP BELOW 1GHZ



FCC RADIATED EMISSION TEST SETUP ABOVE 1GHZ



APPENDIX B: PHOTOGRAPHS OF EUT

ALL VIEW OF EUT



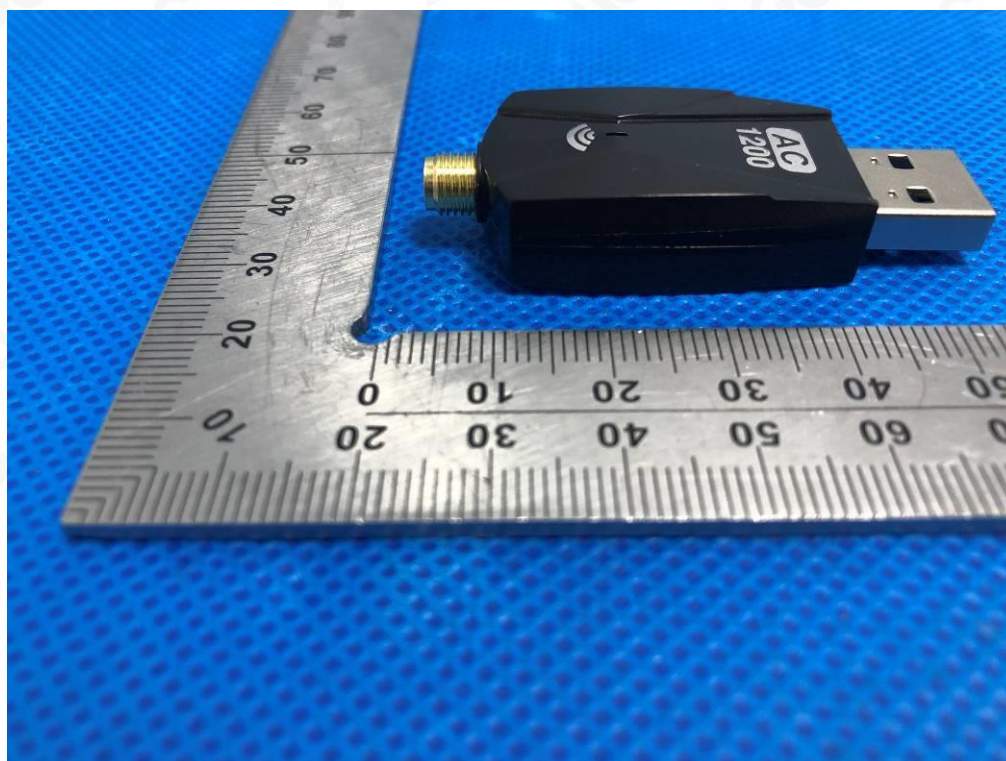
TOP VIEW OF EUT



BOTTOM VIEW OF EUT



FRONT VIEW OF EUT



BACK VIEW OF EUT



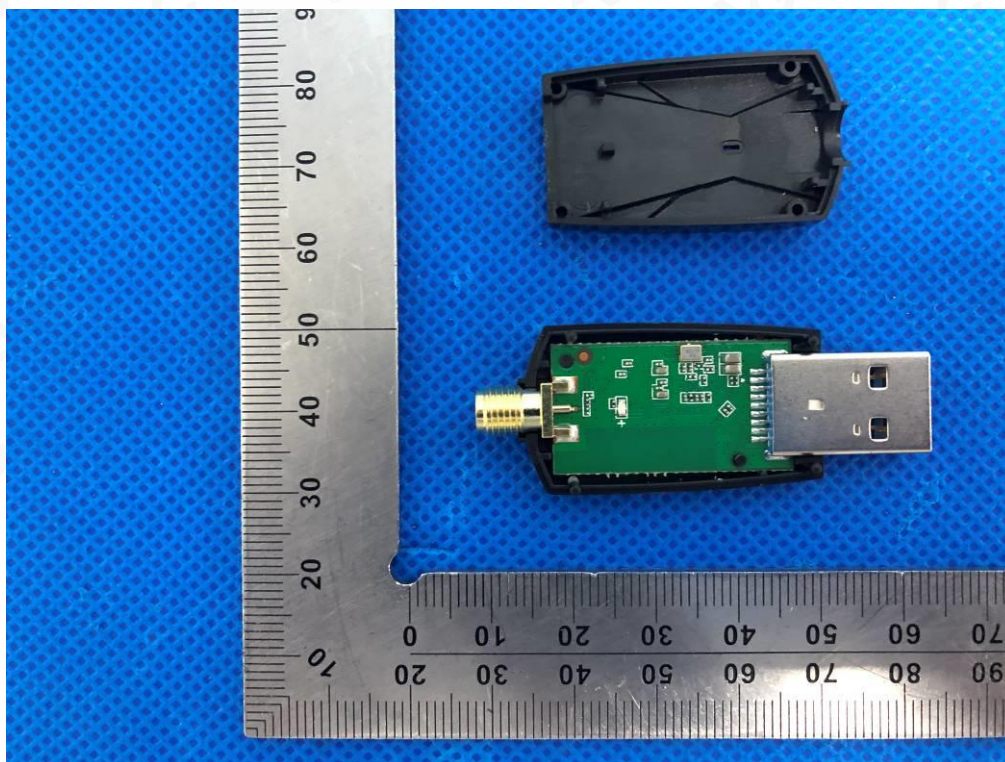
LEFT VIEW OF EUT



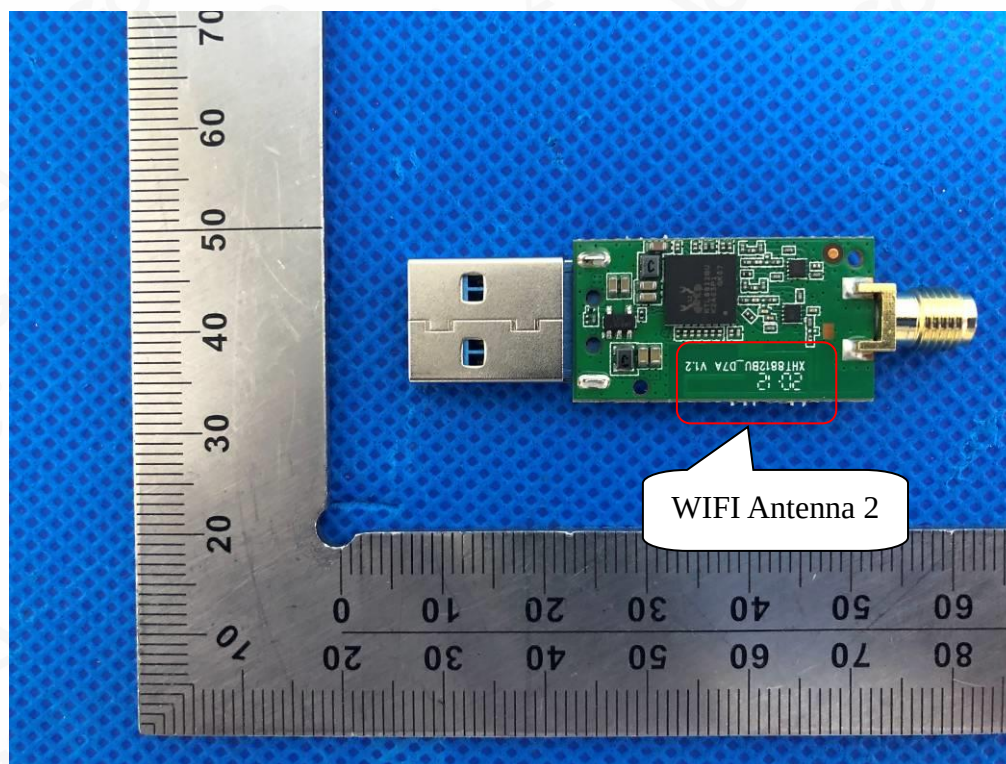
RIGHT VIEW OF EUT



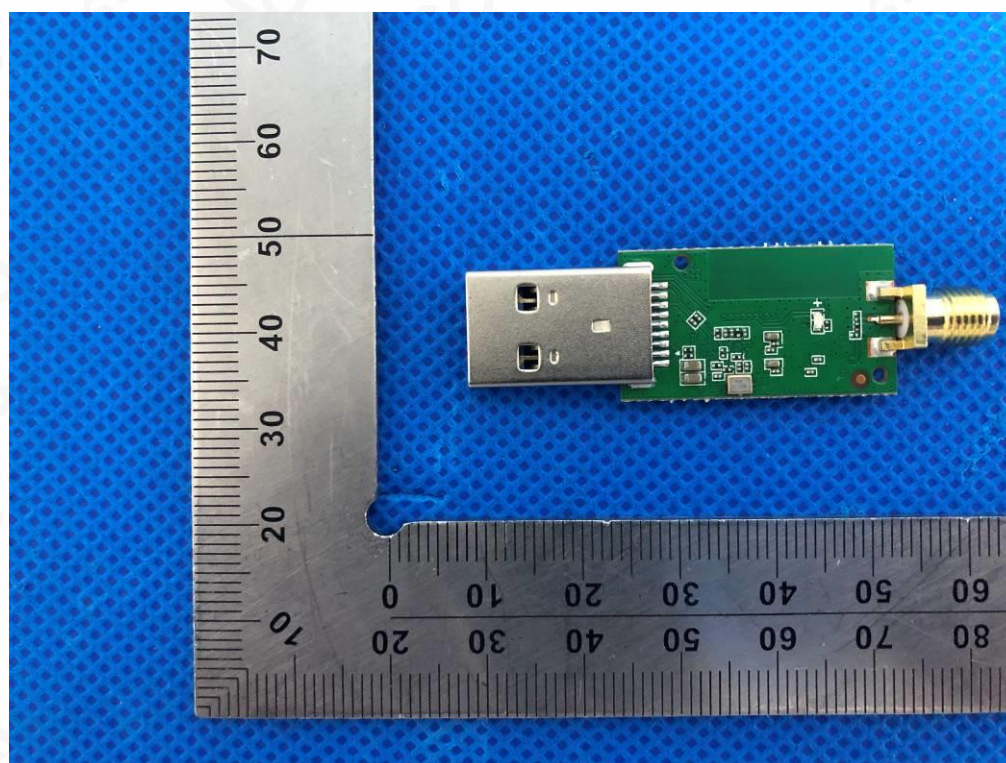
OPEN VIEW OF EUT



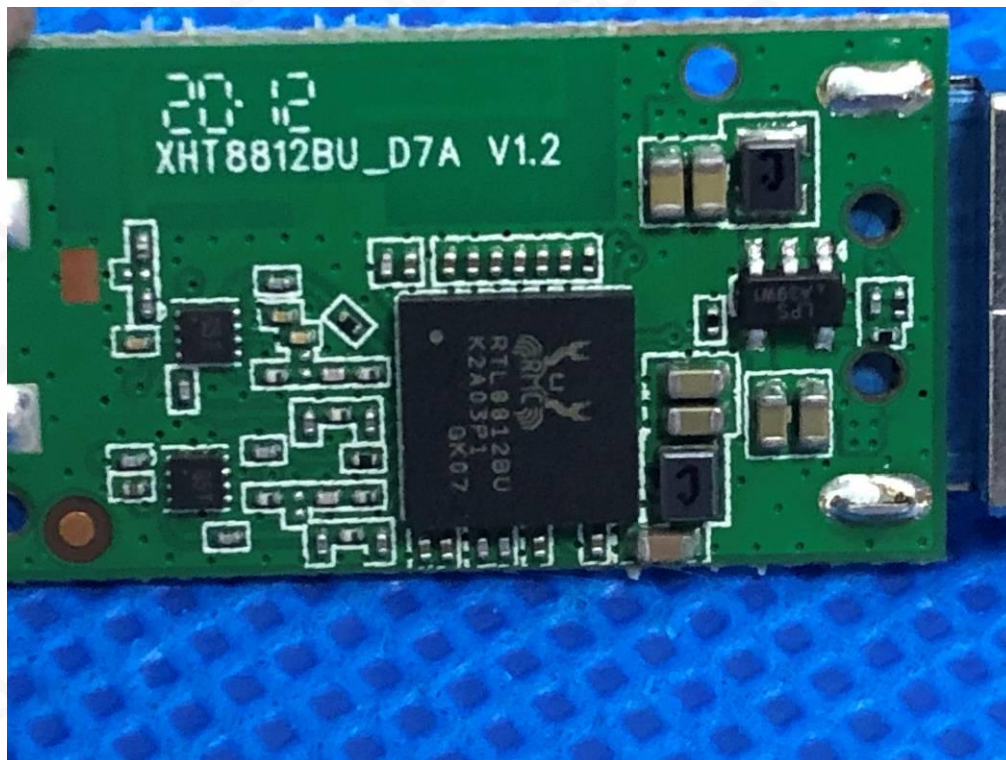
INTERNAL VIEW-1 OF EUT



INTERNAL VIEW-2 OF EUT



INTERNAL VIEW-3 OF EUT



All Sample



----END OF REPORT----