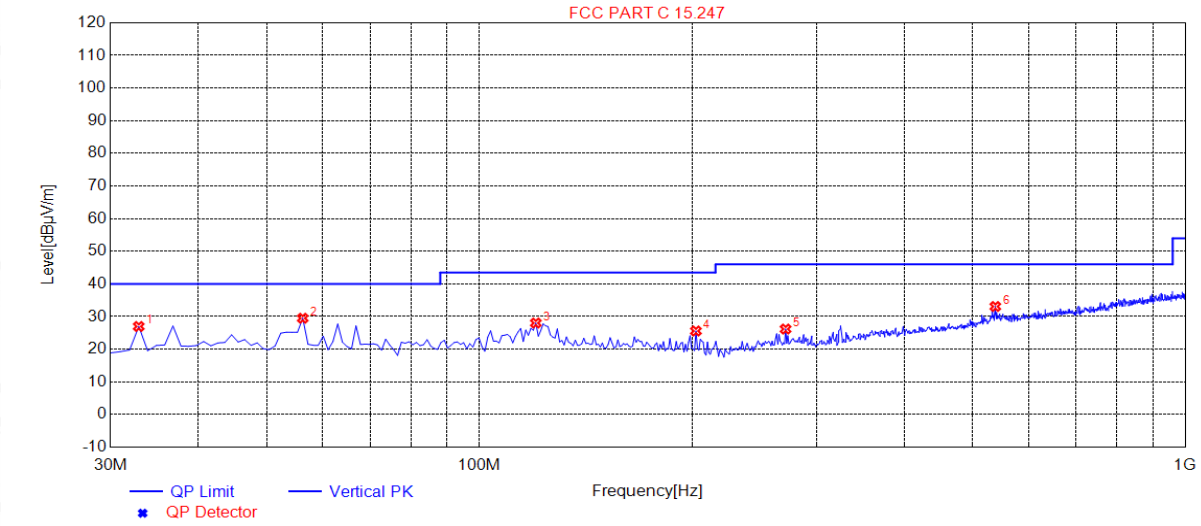
EUT	WIRELESS USB ADAPTER	Model Name	6B29
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5180MHz	Antenna	Vertical



NO.	Freq. [MHz]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	32.9100	26.98	13.36	40.00	13.02	100	231	Vertical
2	56.1900	29.50	14.20	40.00	10.50	100	136	Vertical
3	120.2100	28.04	13.48	43.50	15.46	100	260	Vertical
4	202.6600	25.59	12.23	43.50	17.91	100	204	Vertical
5	271.5300	26.19	15.55	46.00	19.81	100	279	Vertical
6	538.2800	33.09	23.01	46.00	12.91	100	1	Vertical

RESULT: PASS

Note: All test channels had been tested. The 802.11a20 at 5180MHz is the worst case and recorded in the test report.

Factor = Antenna Factor + Cable loss - Amplifier gain, Margin= Limit-Level.

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

RADIATED EMISSION ABOVE 1GHZ

EUT	WIRELESS USB ADAPTER	Model Name	6B29
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5180MHz	Antenna	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10360.042	48.79	9.14	57.93	74.00	-16.07	peak
10360.042	38.34	9.14	47.48	54.00	-6.52	AVG
15540.063	43.48	10.22	53.70	74.00	-20.30	peak
15540.063	35.71	10.22	45.93	54.00	-8.07	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10360.042	46.58	9.14	55.72	74.00	-18.28	peak
10360.042	37.49	9.14	46.63	54.00	-7.37	AVG
15540.063	42.14	10.22	52.36	74.00	-21.64	peak
15540.063	34.31	10.22	44.53	54.00	-9.47	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT	WIRELESS USB ADAPTER	Model Name	6B29
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5240MHz	Antenna	Horizontal/Vertical

RADIATED EMISSION ABOVE 1GHZ–Horizontal

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10480.042	46.28	9.27	55.55	74.00	-18.45	peak
10480.042	36.29	9.27	45.56	54.00	-8.44	AVG
15720.063	43.79	10.38	54.17	74.00	-19.83	peak
15720.063	35.74	10.38	46.12	54.00	-7.88	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

RADIATED EMISSION ABOVE 1GHZ–Vertical

Frequency (MHz)	Meter Reading (dBμV)	Factor (dB)	Emission Level (dBμV/m)	Limits (dBμV/m)	Margin (dB)	Value Type
10480.042	45.79	9.27	55.06	74.00	-18.94	peak
10480.042	36.17	9.27	45.44	54.00	-8.56	AVG
15720.063	43.12	10.38	53.50	74.00	-20.50	peak
15720.063	34.78	10.38	45.16	54.00	-8.84	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

Note: All the case had been tested. The 802.11a modulation is the worst case and recorded in the test report. Other frequencies radiation emission from 1GHz to 40GHz at least have 20dB margin and not recorded in the test report.

Factor = Antenna Factor + Cable loss - Amplifier gain, Margin= Limit-Level.

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

12. BAND EDGE EMISSION

12.1. MEASUREMENT PROCEDURE

1. The EUT operates at transmitting mode. The operate channel is tested to verify the largest transmission and spurious emissions power at the continuous transmission mode.

2. Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission: (a) PEAK: RBW=1MHz, VBW=3MHz / Sweep=AUTO

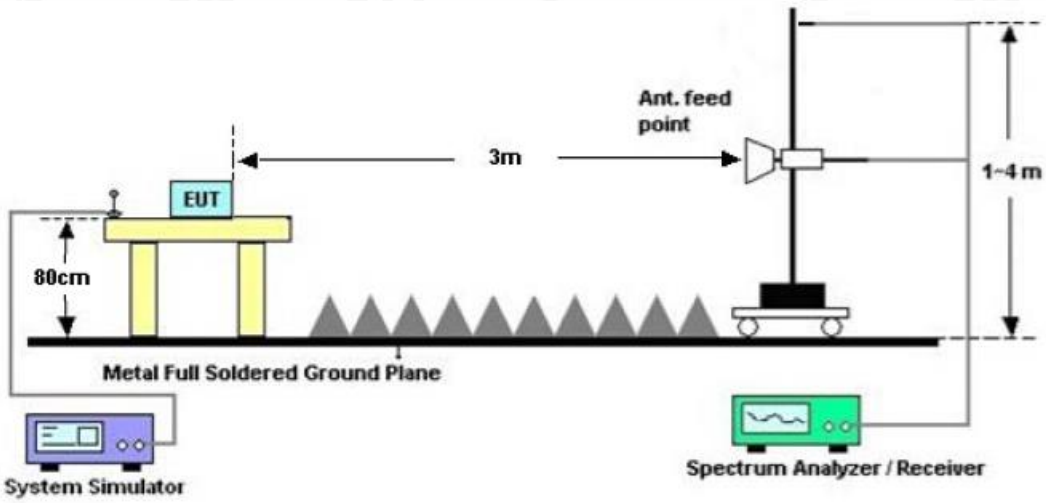
(b) AVERAGE: RBW=1MHz ; VBW=1/on time(1KHz) / Sweep=AUTO

3. Other procedures refer to clause 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(μV) to represent the Amplitude. Use the F dB(μV/m) to represent the Field Strength. So A=F.
3. Only the data of band edge emission at the restricted band 4.5GHz-5.15GHz record in the report. Other restricted band 5.35GHz-5.46GHz and 7.25GHz-7.77GHz were considered as ambient noise. No recording in the test report.

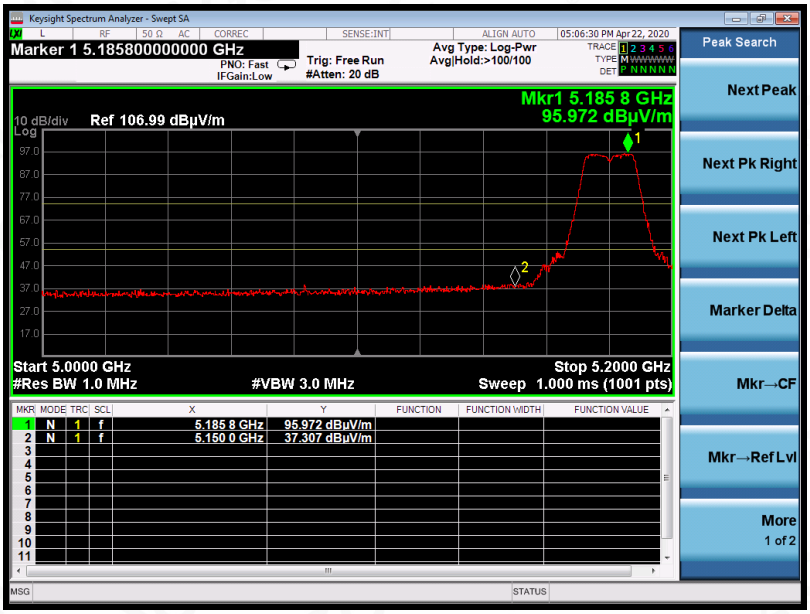
12.2. TEST SET-UP



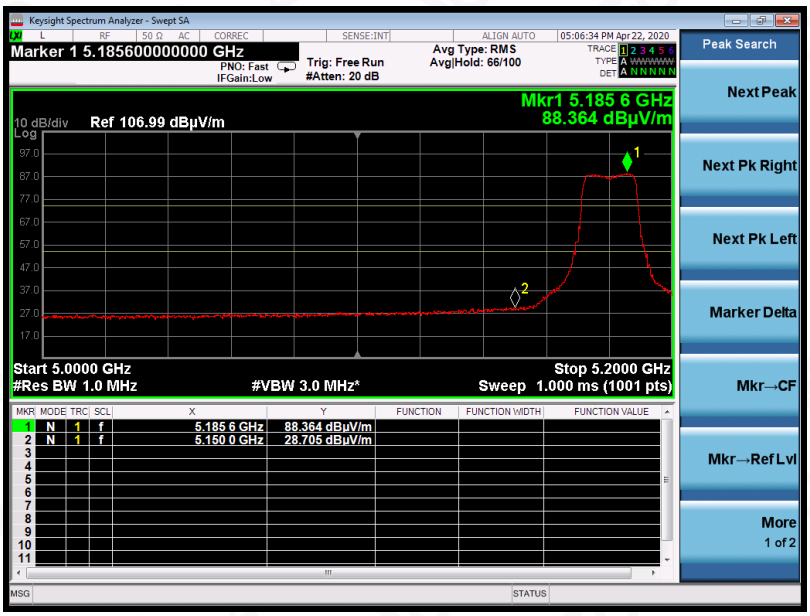
12.3. TEST RESULT

EUT	WIRELESS USB ADAPTER	Model Name	6B29
Temperature	25℃	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5180MHz	Antenna	Horizontal

PK Value

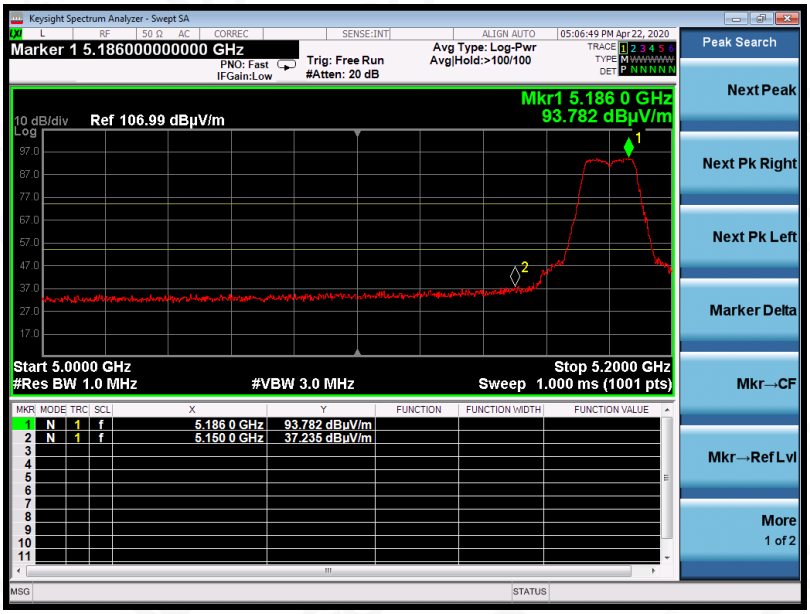


AV Value

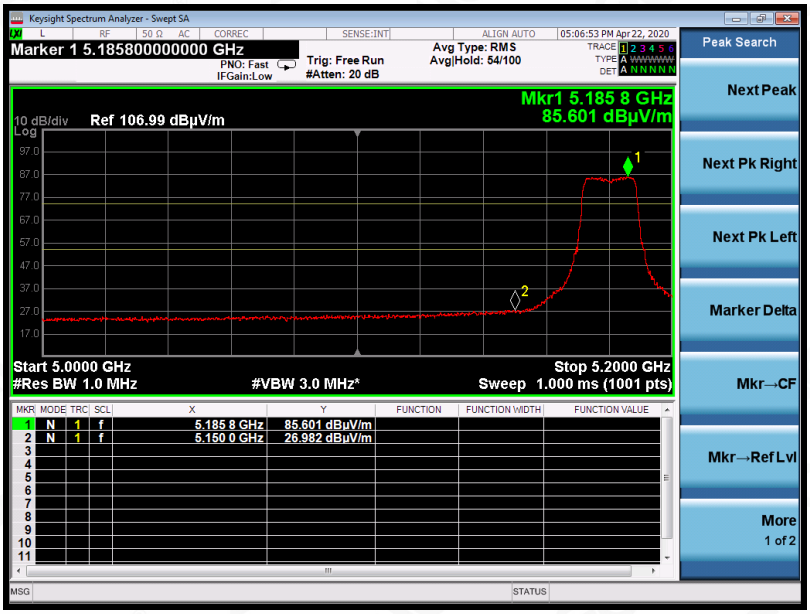


EUT	WIRELESS USB ADAPTER	Model Name	6B29
Temperature	25°C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11a20 5180MHz	Antenna	Vertical

PK Value

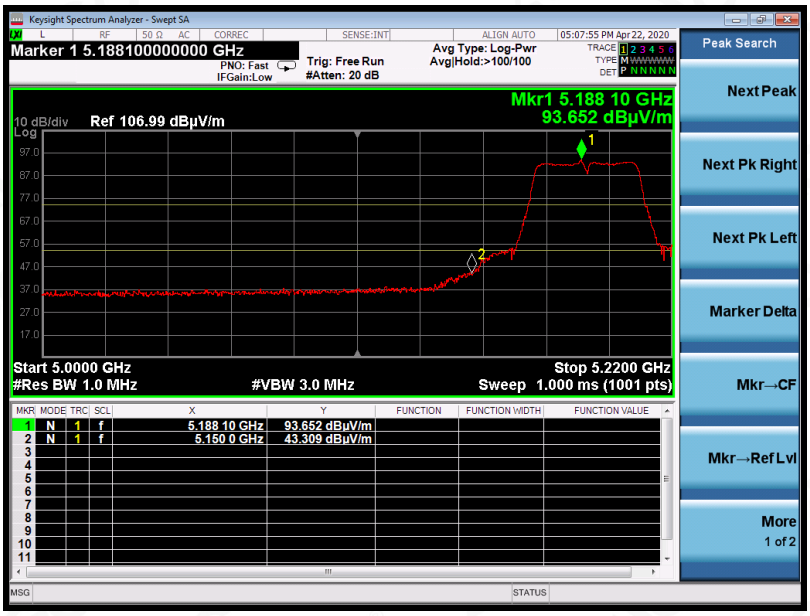


AV Value



EUT	WIRELESS USB ADAPTER	Model Name	6B29
Temperature	25℃	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n40 5190MHz	Antenna	Horizontal

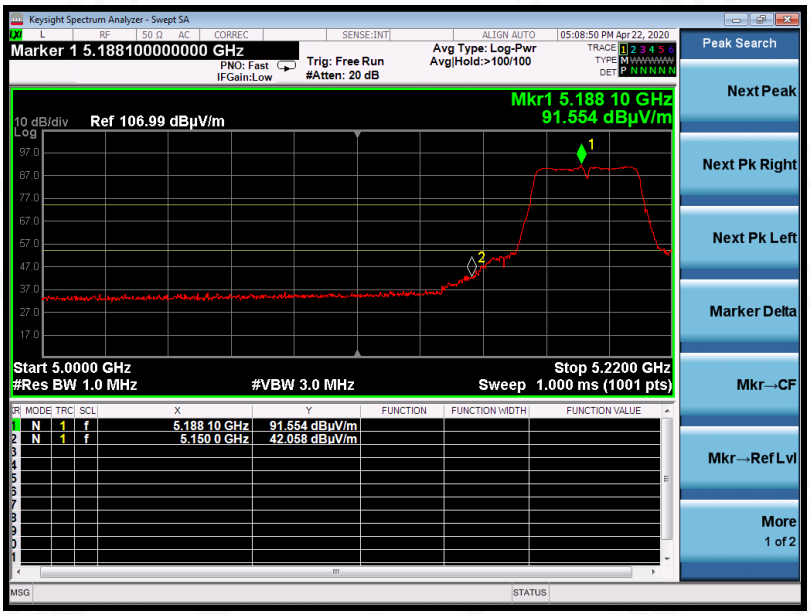
PK Value



AV Value

EUT	WIRELESS USB ADAPTER	Model Name	6B29
Temperature	25℃	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n40 5190MHz	Antenna	Vertical

PK Value

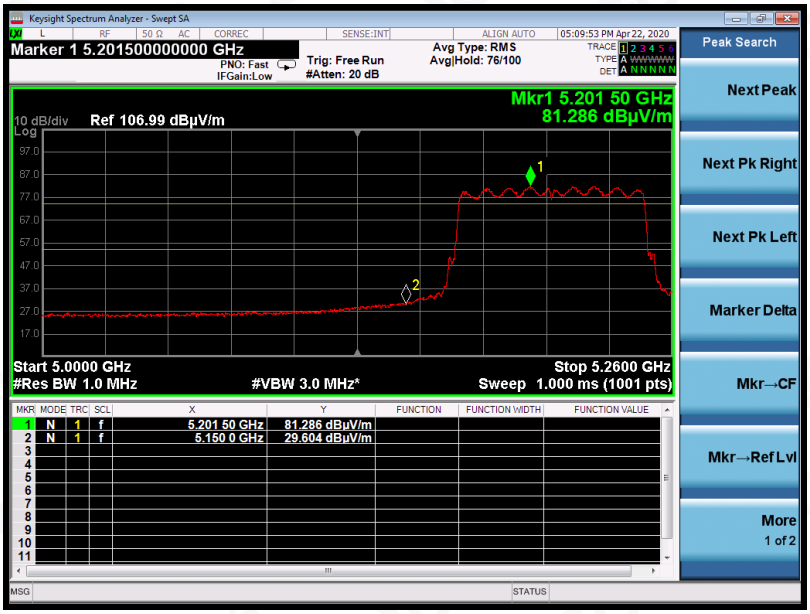


AV Value

EUT	WIRELESS USB ADAPTER	Model Name	6B29
Temperature	25℃	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11ac80 5210MHz	Antenna	Horizontal

PK Value

AV Value



EUT	WIRELESS USB ADAPTER	Model Name	6B29
Temperature	25℃	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11ac80 5210MHz	Antenna	Vertical

PK Value

AV Value

RESULT: PASS

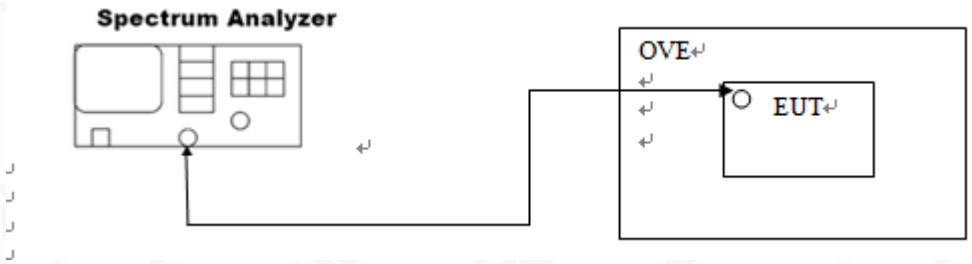
Note: All the 20MHz bandwidth modulation had been tested, the 802.11a20 was the worst case and record in his test report. All the 40MHz bandwidth modulation had been tested, the 802.11N40 was the worst case and record in his test report.

13. FREQUENCY STABILITY

13.1. MEASUREMENT PROCEDURE

1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
2. Set the EUT Work on the operation frequency.
3. Set SPA Centre Frequency = Operation Frequency. SPAN=enough to measure the emission is maintained within the band
4. Set SPA Trace 1 Max hold, then View.
5. Extreme temperature rule is -10°C~60°C.

13.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)



13.3. MEASUREMENT RESULTS

Test Mode	Temperature	Measurement Frequency (MHz)	Result	Conclusion
802.11a	- 10℃	5180	within the band	PASS
	0℃	5180	within the band	PASS
	10℃	5180	within the band	PASS
	20℃	5180	within the band	PASS
	30℃	5180	within the band	PASS
	40℃	5180	within the band	PASS
	50℃	5180	within the band	PASS
	60℃	5180	within the band	PASS
	- 10℃	5240	within the band	PASS
	0℃	5240	within the band	PASS
	10℃	5240	within the band	PASS
	20℃	5240	within the band	PASS
	30℃	5240	within the band	PASS
	40℃	5240	within the band	PASS
	50℃	5240	within the band	PASS
	60℃	5240	within the band	PASS

Test Mode	Temperature	Measurement Frequency (MHz)	Result	Conclusion
802.11n20	- 10℃	5180	within the band	PASS
	0℃	5180	within the band	PASS
	10℃	5180	within the band	PASS
	20℃	5180	within the band	PASS
	30℃	5180	within the band	PASS
	40℃	5180	within the band	PASS
	50℃	5180	within the band	PASS
	60℃	5180	within the band	PASS
	- 10℃	5240	within the band	PASS
	0℃	5240	within the band	PASS
	10℃	5240	within the band	PASS
	20℃	5240	within the band	PASS
	30℃	5240	within the band	PASS
	40℃	5240	within the band	PASS
	50℃	5240	within the band	PASS
	60℃	5240	within the band	PASS

Test Mode	Temperature	Measurement Frequency (MHz)	Result	Conclusion
802.11ac20	- 10℃	5180	within the band	PASS
	0℃	5180	within the band	PASS
	10℃	5180	within the band	PASS
	20℃	5180	within the band	PASS
	30℃	5180	within the band	PASS
	40℃	5180	within the band	PASS
	50℃	5180	within the band	PASS
	60℃	5180	within the band	PASS
	- 10℃	5240	within the band	PASS
	0℃	5240	within the band	PASS
	10℃	5240	within the band	PASS
	20℃	5240	within the band	PASS
	30℃	5240	within the band	PASS
	40℃	5240	within the band	PASS
	50℃	5240	within the band	PASS
	60℃	5240	within the band	PASS

Test Mode	Temperature	Measurement Frequency (MHz)	Result	Conclusion
802.11n40	- 10℃	5190	within the band	PASS
	0℃	5190	within the band	PASS
	10℃	5190	within the band	PASS
	20℃	5190	within the band	PASS
	30℃	5190	within the band	PASS
	40℃	5190	within the band	PASS
	50℃	5190	within the band	PASS
	60℃	5190	within the band	PASS
	- 10℃	5230	within the band	PASS
	0℃	5230	within the band	PASS
	10℃	5230	within the band	PASS
	20℃	5230	within the band	PASS
	30℃	5230	within the band	PASS
	40℃	5230	within the band	PASS
	50℃	5230	within the band	PASS
	60℃	5230	within the band	PASS

Test Mode	Temperature	Measurement Frequency (MHz)	Result	Conclusion
802.11ac40	- 10℃	5190	within the band	PASS
	0℃	5190	within the band	PASS
	10℃	5190	within the band	PASS
	20℃	5190	within the band	PASS
	30℃	5190	within the band	PASS
	40℃	5190	within the band	PASS
	50℃	5190	within the band	PASS
	60℃	5190	within the band	PASS
	- 10℃	5230	within the band	PASS
	0℃	5230	within the band	PASS
	10℃	5230	within the band	PASS
	20℃	5230	within the band	PASS
	30℃	5230	within the band	PASS
	40℃	5230	within the band	PASS
	50℃	5230	within the band	PASS
	60℃	5230	within the band	PASS

Test Mode	Temperature	Measurement Frequency (MHz)	Result	Conclusion
802.11ac80	- 10℃	5210	within the band	PASS
	0℃	5210	within the band	PASS
	10℃	5210	within the band	PASS
	20℃	5210	within the band	PASS
	30℃	5210	within the band	PASS
	40℃	5210	within the band	PASS
	50℃	5210	within the band	PASS
	60℃	5210	within the band	PASS

14. FCC LINE CONDUCTED EMISSION TEST

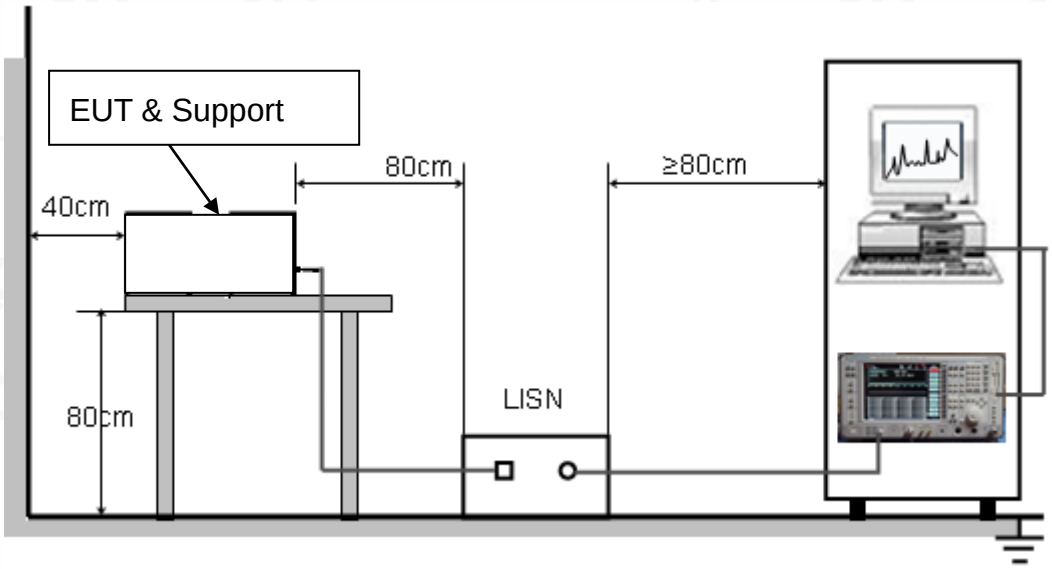
14.1. LIMITS OF LINE CONDUCTED EMISSION TEST

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 0.50MHz.

14.2. BLOCK DIAGRAM OF LINE CONDUCTED EMISSION TEST



14.3. 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.

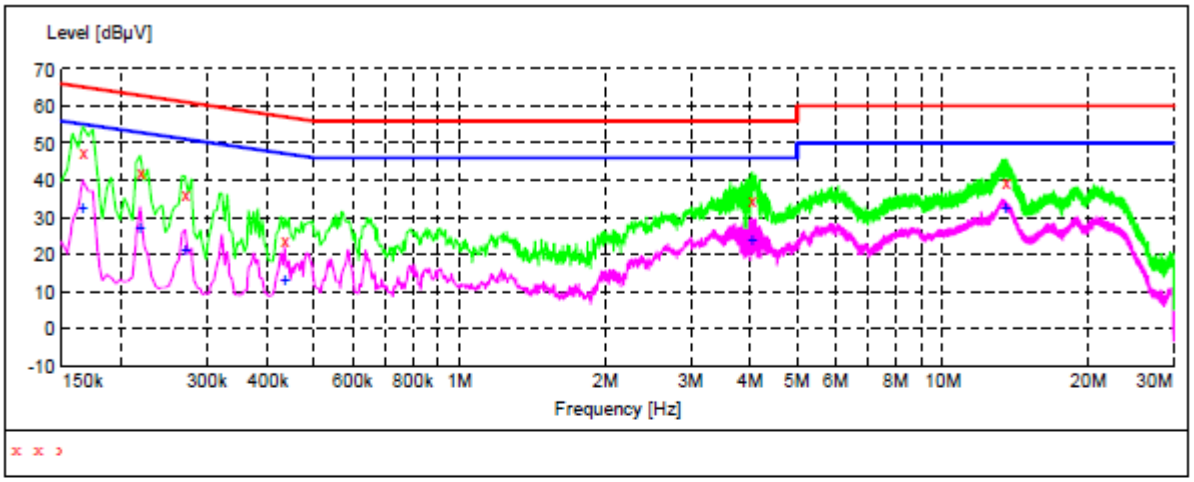
Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

14.4. 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.

14.5. TEST RESULT OF LINE CONDUCTED EMISSION TEST

LINE CONDUCTED EMISSION TEST-L



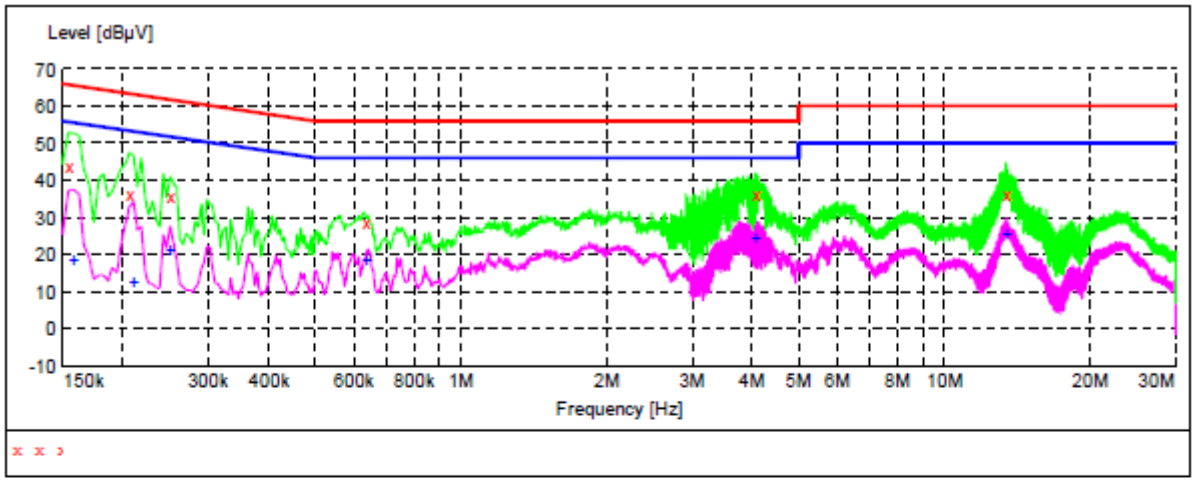
MEASUREMENT RESULT

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.166000	47.50	10.3	65	17.7	QP	L1
0.218000	42.20	10.3	63	20.7	QP	L1
0.270000	36.30	10.2	61	24.8	QP	L1
0.434000	23.70	10.6	57	33.5	QP	L1
4.018000	34.70	11.1	56	21.3	QP	L1
13.462000	39.60	11.1	60	20.4	QP	L1

MEASUREMENT RESULT

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.166000	33.30	10.3	55	21.9	AV	L1
0.218000	27.70	10.3	53	25.2	AV	L1
0.270000	21.80	10.2	51	29.3	AV	L1
0.434000	13.70	10.6	47	33.5	AV	L1
4.026000	24.50	11.1	46	21.5	AV	L1
13.462000	33.10	11.1	50	16.9	AV	L1

LINE CONDUCTED EMISSION TEST-N



MEASUREMENT RESULT

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.154000	43.80	10.3	66	22.0	QP	N
0.206000	36.10	10.3	63	27.3	QP	N
0.250000	35.80	10.3	62	26.0	QP	N
0.634000	28.70	10.6	56	27.3	QP	N
4.058000	36.20	11.2	56	19.8	QP	N
13.394000	36.40	11.2	60	23.6	QP	N

MEASUREMENT RESULT

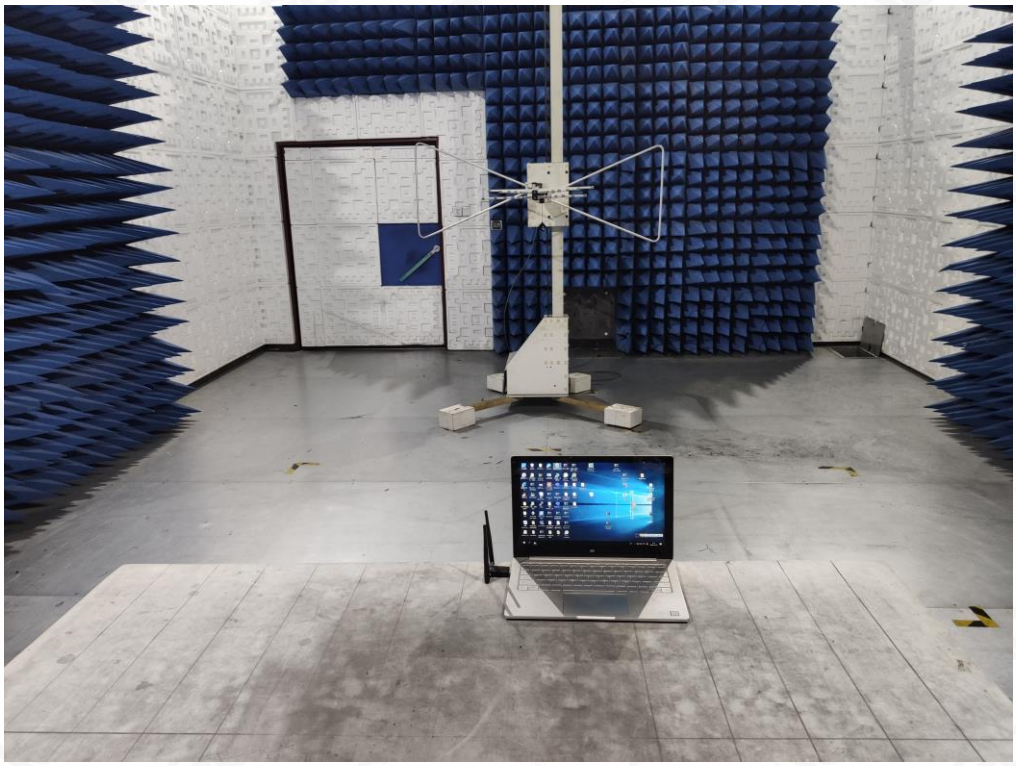
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.158000	19.30	10.3	56	36.3	AV	N
0.210000	13.00	10.3	53	40.2	AV	N
0.250000	22.00	10.3	52	29.8	AV	N
0.638000	19.00	10.6	46	27.0	AV	N
4.058000	24.90	11.2	46	21.1	AV	N
13.430000	26.30	11.2	50	23.7	AV	N

RESULT: PASS

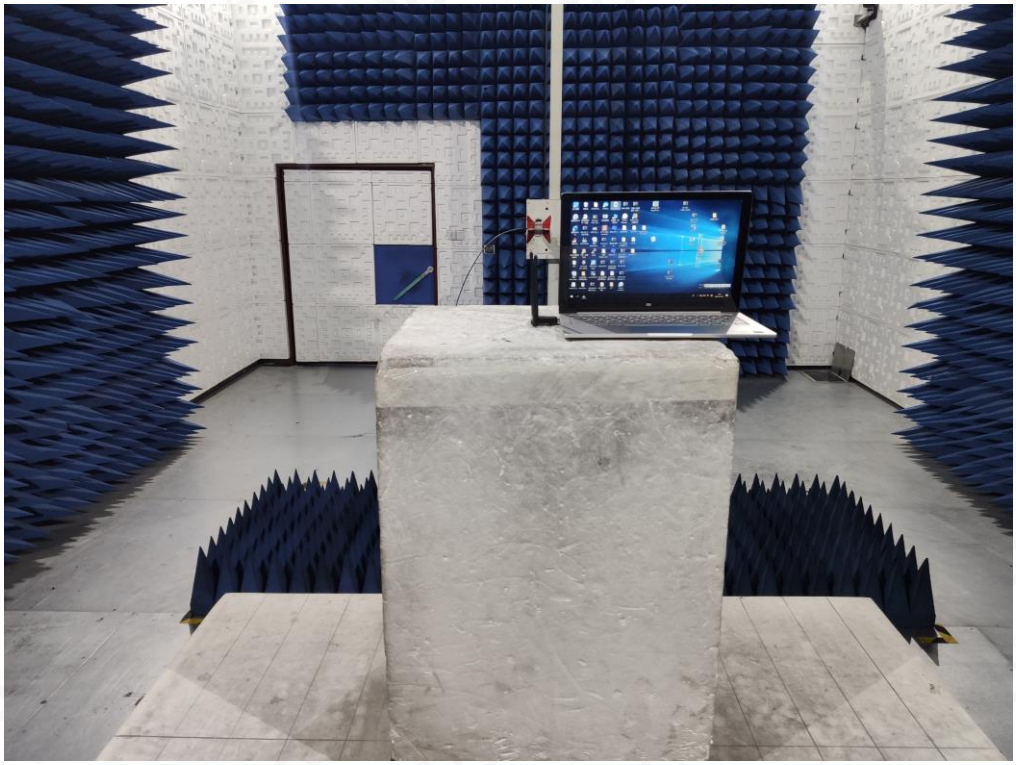
APPENDIX A: PHOTOGRAPHS OF TEST SETUP

FCC LINE CONDUCTED EMISSION TEST SETUP

FCC RADIATED EMISSION TEST SETUP BELOW 1GHZ

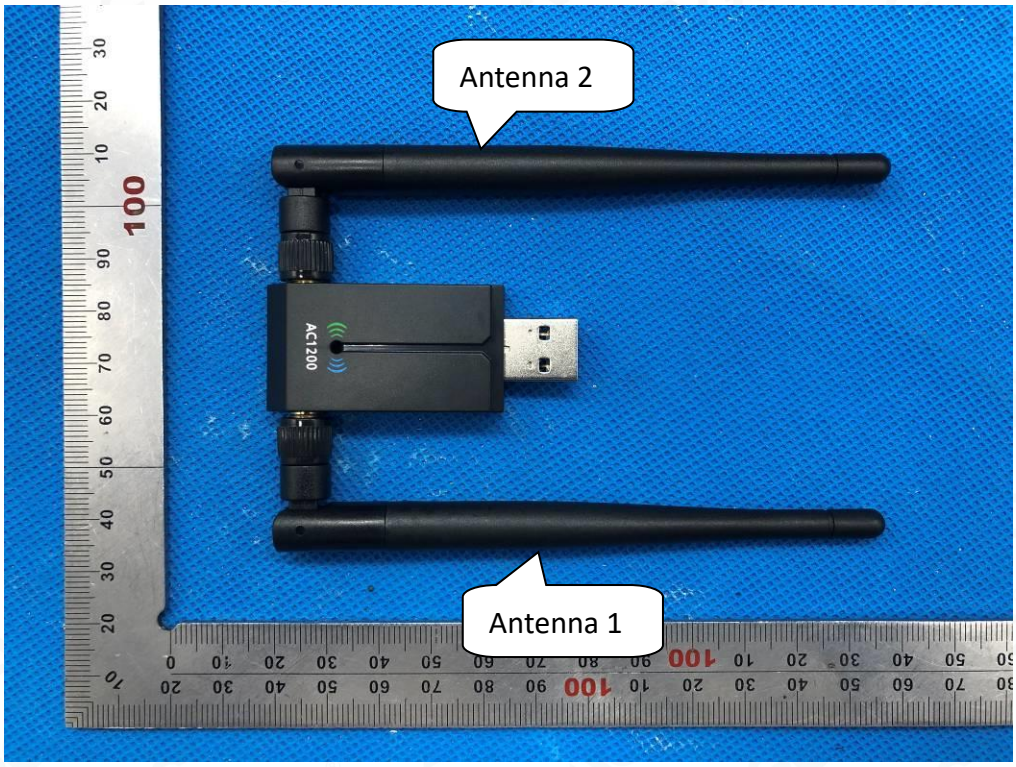


FCC RADIATED EMISSION TEST SETUP ABOVE 1GHZ



APPENDIX B: PHOTOGRAPHS OF EUT

TOP VIEW OF EUT

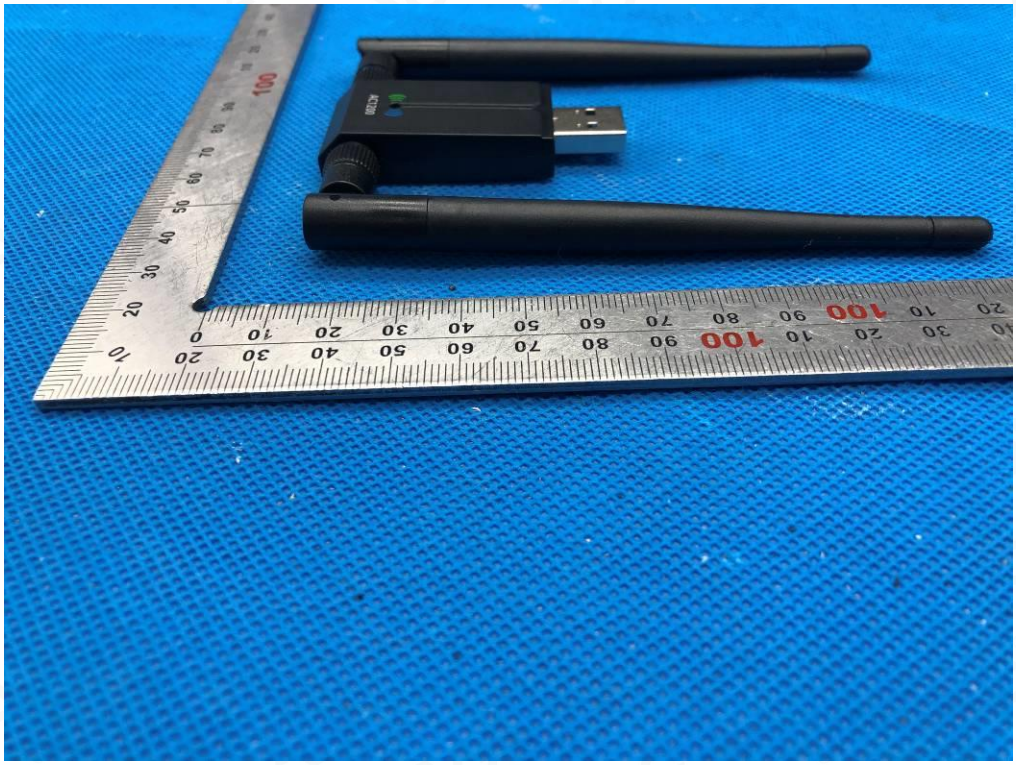


BOTTOM VIEW OF EUT

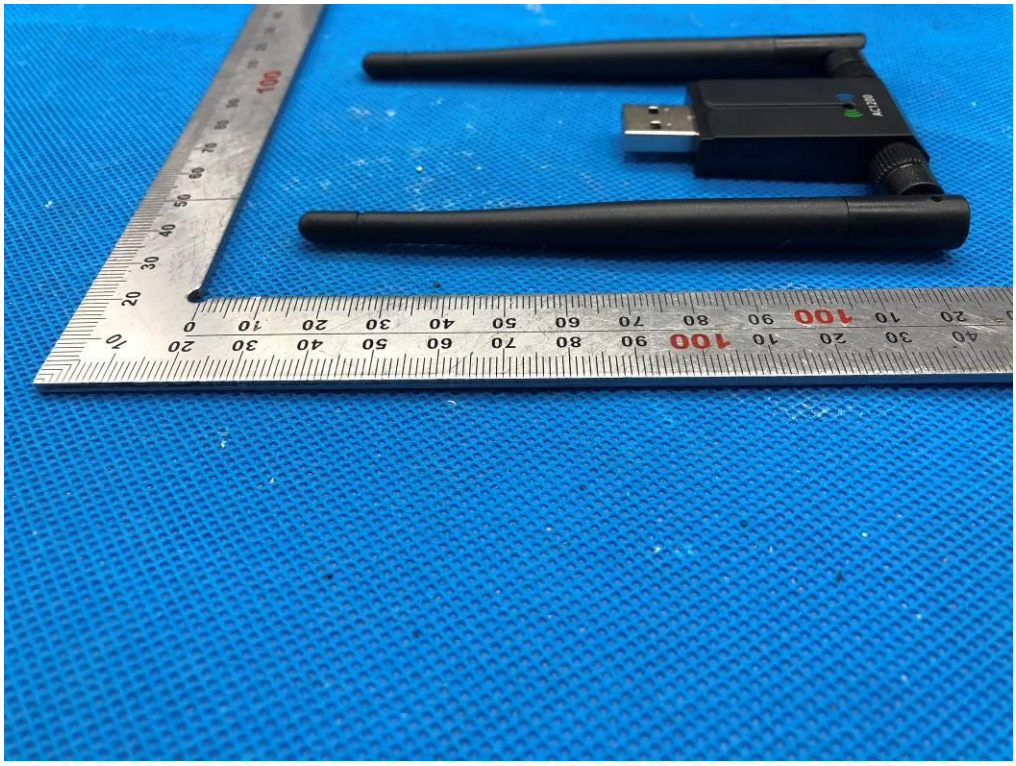
FRONT VIEW OF EUT

BACK VIEW OF EUT

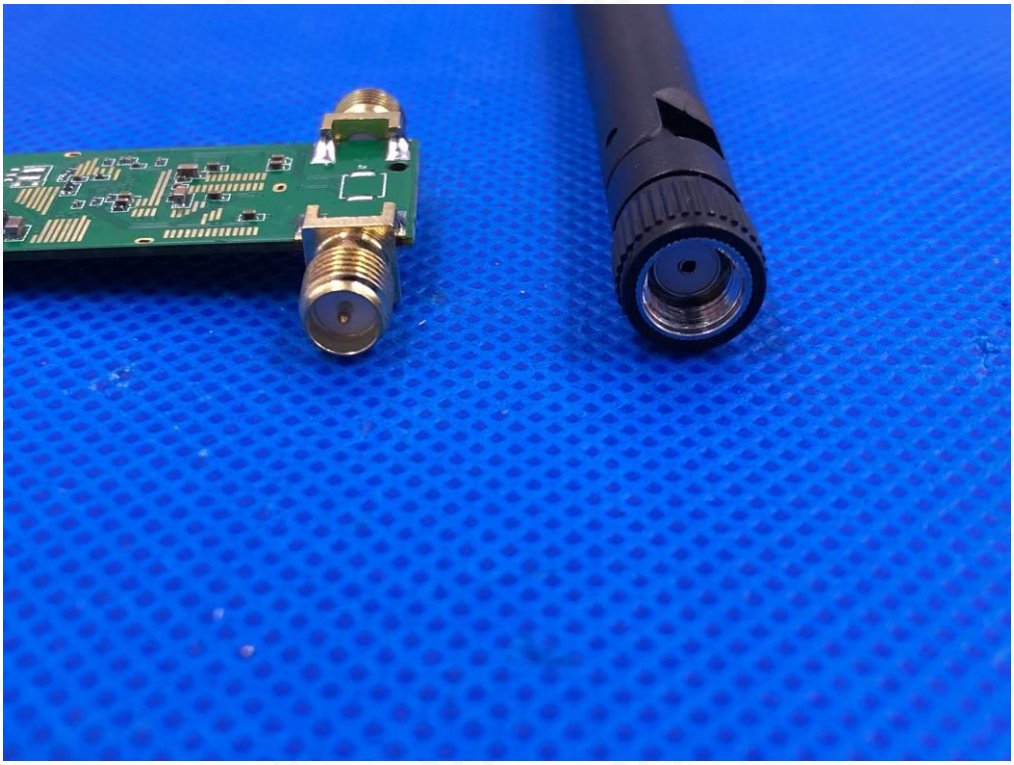
LEFT VIEW OF EUT



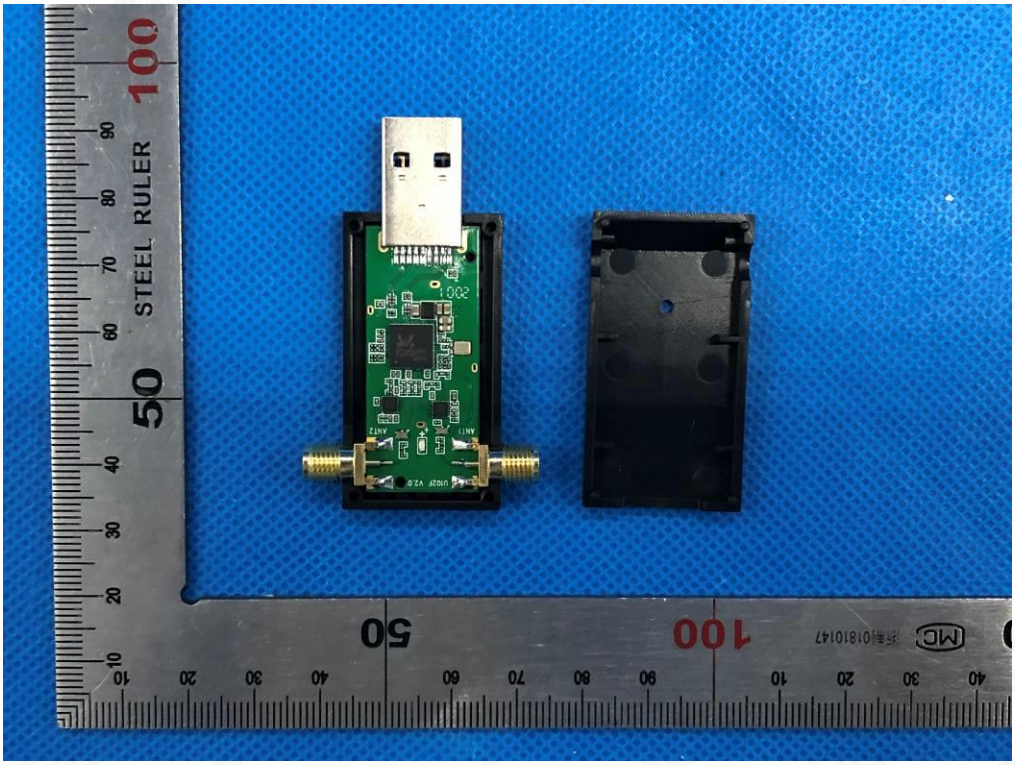
RIGHT VIEW OF EUT



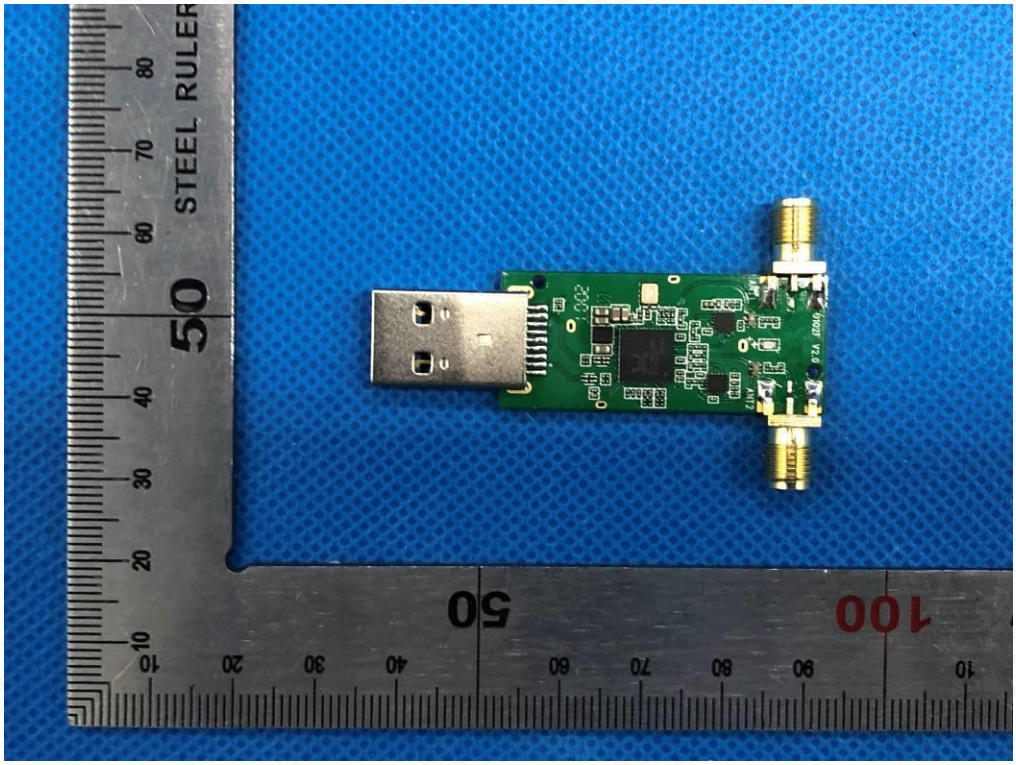
OPEN VIEW OF EUT-1



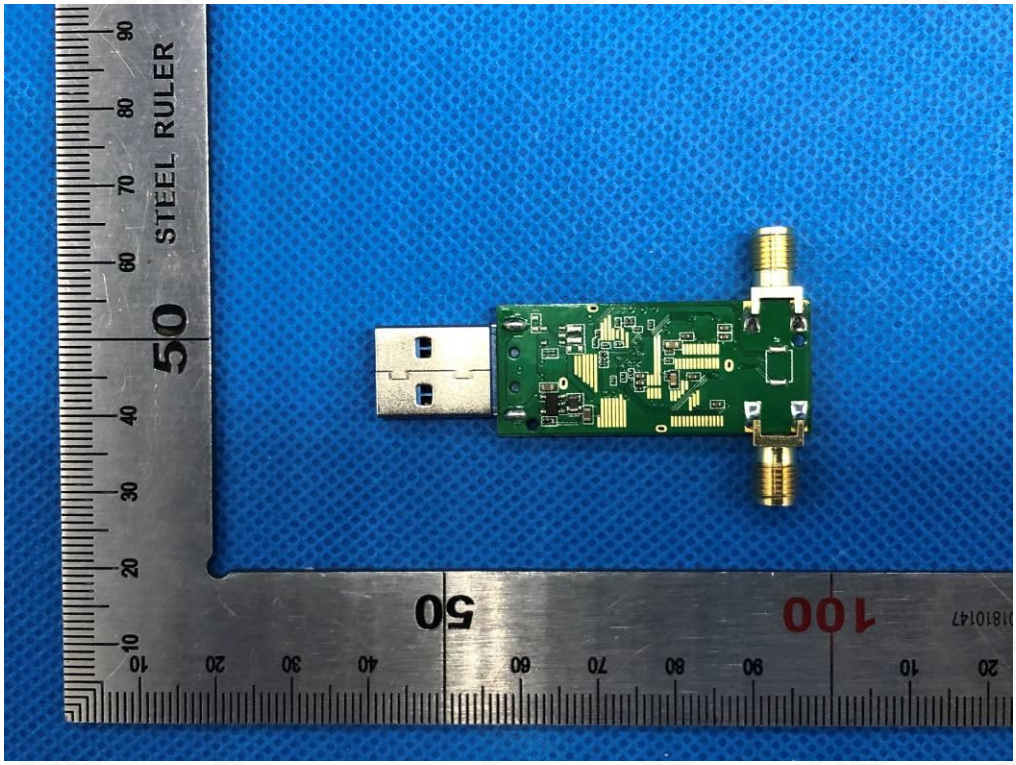
OPEN VIEW OF EUT-2



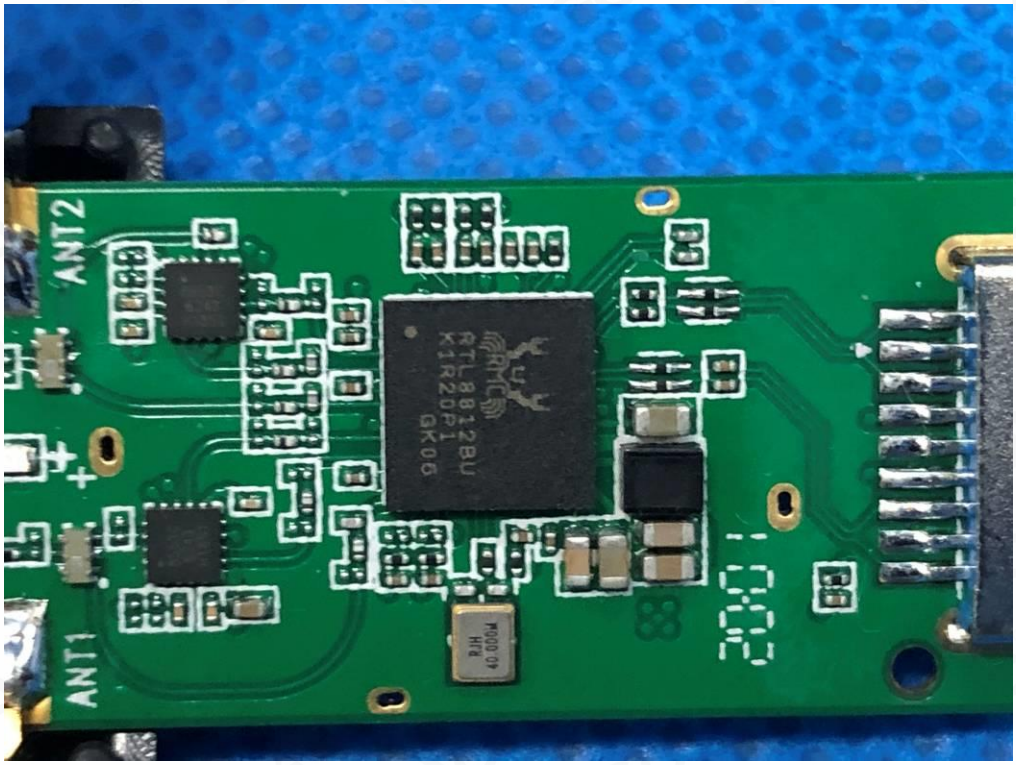
INTERNAL VIEW-1 OF EUT



INTERNAL VIEW-2 OF EUT



INTERNAL VIEW-3 OF EUT



TOP VIEW OF EUT-6B30

BOTTOM VIEW OF EUT-6B30

----END OF REPORT----