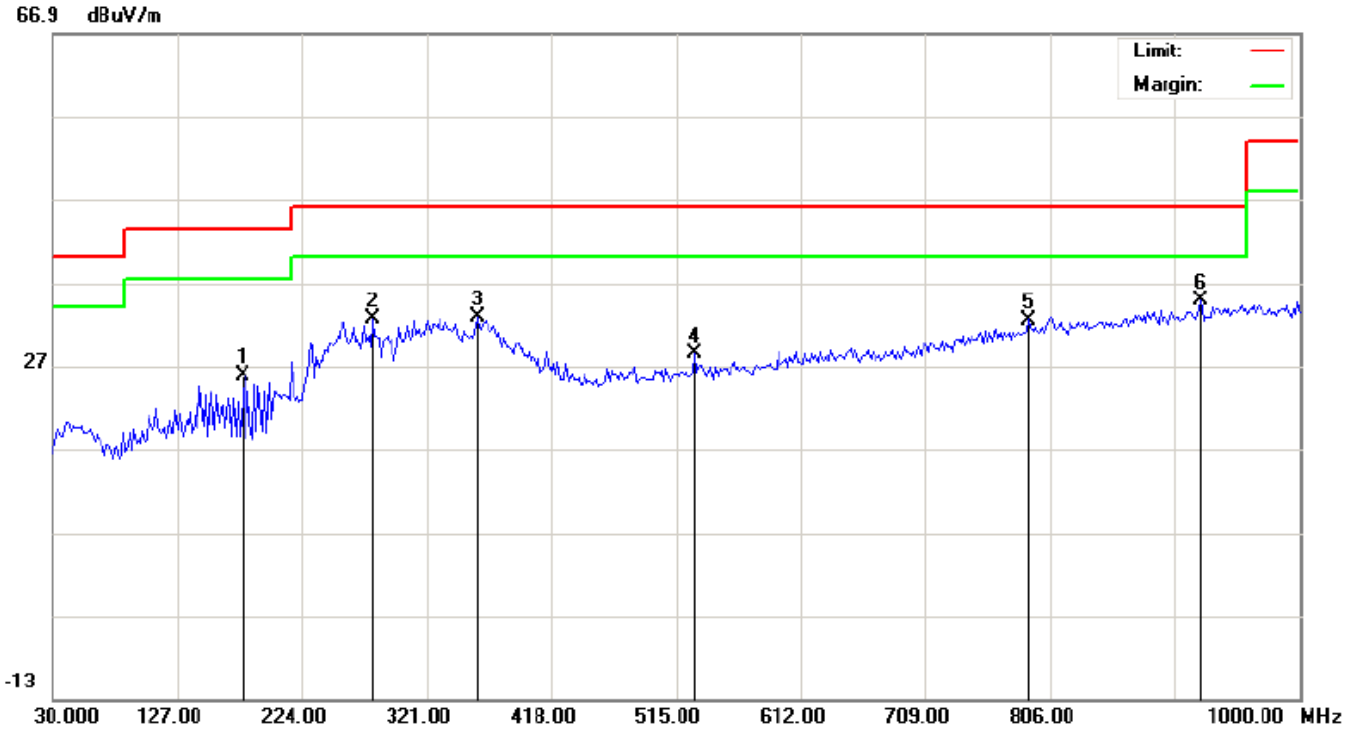
RADIATED EMISSION BELOW 1GHZ

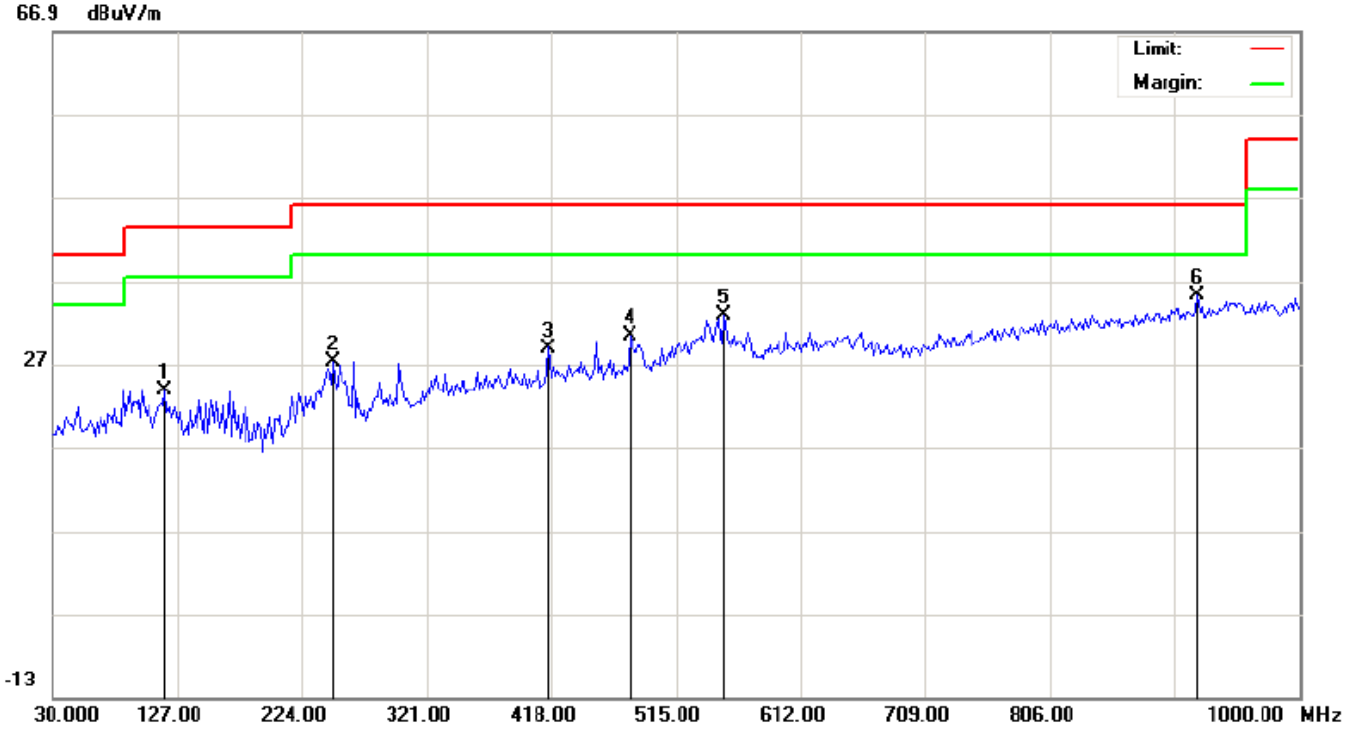
EUT	Dual Band Wireless USB Adapter	**Model Name**	Techkey-6B06
Temperature	25.2°C	**Relative Humidity**	55.6%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11b with date rate 1 2412MHZ	**Antenna**	Horizontal



No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		178.7332	8.57	17.26	25.83	43.50	-17.67	peak			
2		278.9667	12.68	19.86	32.54	46.00	-13.46	peak			
3		359.8000	11.18	21.57	32.75	46.00	-13.25	peak			
4		529.5500	2.91	25.57	28.48	46.00	-17.52	peak			
5		789.8333	2.32	30.18	32.50	46.00	-13.50	peak			
6	*	922.4000	2.98	31.89	34.87	46.00	-11.13	peak			

RESULT: PASS

EUT	Dual Band Wireless USB Adapter	Model Name	Techkey-6B06
Temperature	25.2°C	Relative Humidity	55.6%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with date rate 1 2412MHZ	Antenna	Vertical



No.	Mk	Freq.	Reading	Factor	Measurement	Limit	Over	Detector	Antenna Height	Table Degree	Comment
		MHz	dBuV	dB/m	dBuV/m	dBuV/m	dB		cm	degree	
1		117.3000	6.17	17.71	23.88	43.50	-19.62	peak			
2		248.2500	8.76	18.52	27.28	46.00	-18.72	peak			
3		416.3833	5.59	23.31	28.90	46.00	-17.10	peak			
4		479.4333	5.87	24.58	30.45	46.00	-15.55	peak			
5		552.1833	6.88	26.01	32.89	46.00	-13.11	peak			
6	*	920.7833	3.28	31.88	35.16	46.00	-10.84	peak			

RESULT: PASS

Note: 1. Factor=Antenna Factor + Cable loss, Margin=Measurement-Limit.

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

3. 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	Dual Band Wireless USB Adapter	**Model Name**	Techkey-6B06
Temperature	25.2°C	**Relative Humidity**	55.6%
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
4824.036	47.25	3.72	50.97	74	-23.03	peak
4824.031	36.37	3.72	40.09	54	-13.91	AVG
7236.087	43.18	8.15	51.33	74	-22.67	peak
7236.084	33.39	8.15	41.54	54	-12.46	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT	Dual Band Wireless USB Adapter	**Model Name**	Techkey-6B06
Temperature	25.2°C	**Relative Humidity**	55.6%
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
4824.079	47.32	3.72	51.04	74	-22.96	peak
4824.107	36.46	3.72	40.18	54	-13.82	AVG
7236.051	43.21	8.15	51.36	74	-22.64	peak
7236.068	33.87	8.15	42.02	54	-11.98	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT	Dual Band Wireless USB Adapter	Model Name	Techkey-6B06
Temperature	25.2°C	Relative Humidity	55.6%
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
4874.051	44.56	3.75	48.31	74	-25.69	peak
4874.071	34.78	3.75	38.53	54	-15.47	AVG
7311.115	41.35	8.16	49.51	74	-24.49	peak
7311.106	31.09	8.16	39.25	54	-14.75	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT	Dual Band Wireless USB Adapter	Model Name	Techkey-6B06
Temperature	25.2°C	Relative Humidity	55.6%
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
4874.102	45.11	3.75	48.86	74	-25.14	peak
4874.049	35.34	3.75	39.09	54	-14.91	AVG
7311.074	42.56	8.16	50.72	74	-23.28	peak
7311.028	32.87	8.16	41.03	54	-12.97	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT	Dual Band Wireless USB Adapter	Model Name	Techkey-6B06
Temperature	25.2°C	Relative Humidity	55.6%
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
4924.056	43.88	3.81	47.69	74	-26.31	peak
4924.102	34.06	3.81	37.87	54	-16.13	AVG
7386.119	41.53	8.19	49.72	74	-24.28	peak
7386.072	32.12	8.19	40.31	54	-13.69	AVG
Remark:						
Factor = Antenna Factor + Cable Loss – Pre-amplifier.						

EUT	Dual Band Wireless USB Adapter	Model Name	Techkey-6B06
Temperature	25.2°C	Relative Humidity	55.6%
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
4924.099	45.02	3.81	48.83	74	-25.17	peak
4924.093	34.86	3.81	38.67	54	-15.33	AVG
7386.094	41.82	8.19	50.01	74	-23.99	peak
7386.115	32.96	8.19	41.15	54	-12.85	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 7.2

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.

12.3. TEST RESULT

EUT	Dual Band Wireless USB Adapter	Model Name	Techkey-6B06
Temperature	25.2˚C	Relative Humidity	55.6%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2412MHZ	Antenna	Horizontal

PK

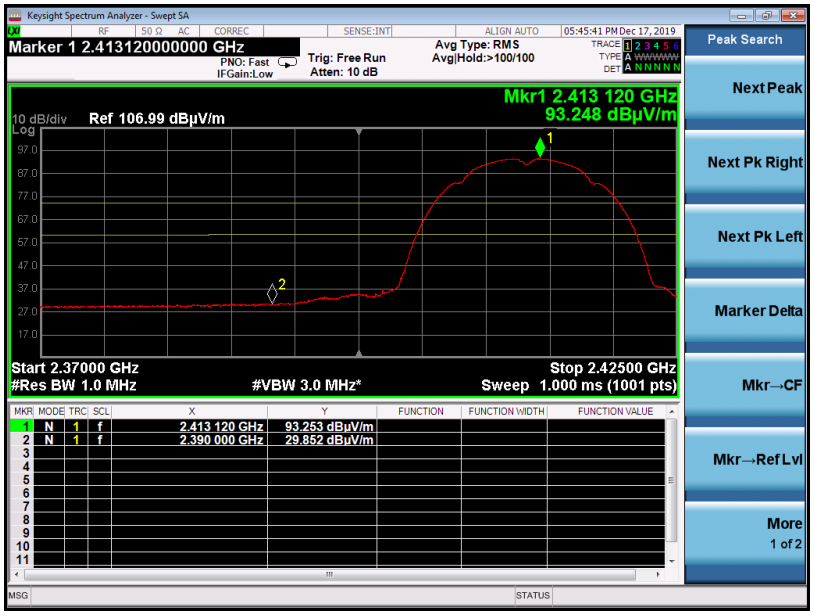
AV

RESULT: PASS

EUT	Dual Band Wireless USB Adapter	Model Name	Techkey-6B06
Temperature	25.2˚C	Relative Humidity	55.6%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2412MHZ	Antenna	Vertical

PK

AV



RESULT: PASS

EUT	Dual Band Wireless USB Adapter	**Model Name**	Techkey-6B06
Temperature	25.2℃	**Relative Humidity**	55.6%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11b with data rate 1 2462MHZ	**Antenna**	Horizontal

PK

AV

RESULT: PASS

EUT	Dual Band Wireless USB Adapter	Model Name	Techkey-6B06
Temperature	25.2℃	Relative Humidity	55.6%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11b with data rate 1 2462MHZ	Antenna	Vertical

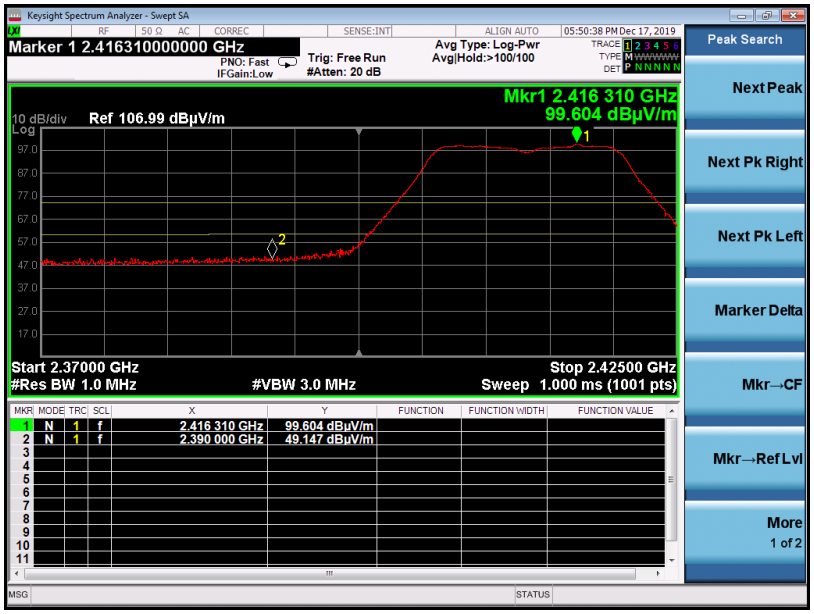
PK

AV

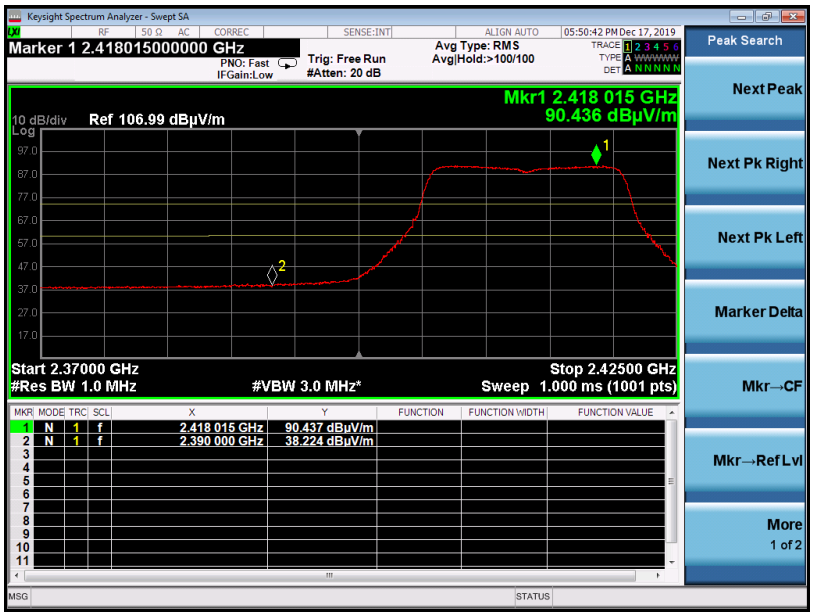
RESULT: PASS

EUT	Dual Band Wireless USB Adapter	**Model Name**	Techkey-6B06
Temperature	25.2℃	**Relative Humidity**	55.6%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11g with data rate 6 2412MHZ	**Antenna**	Horizontal

PK



AV

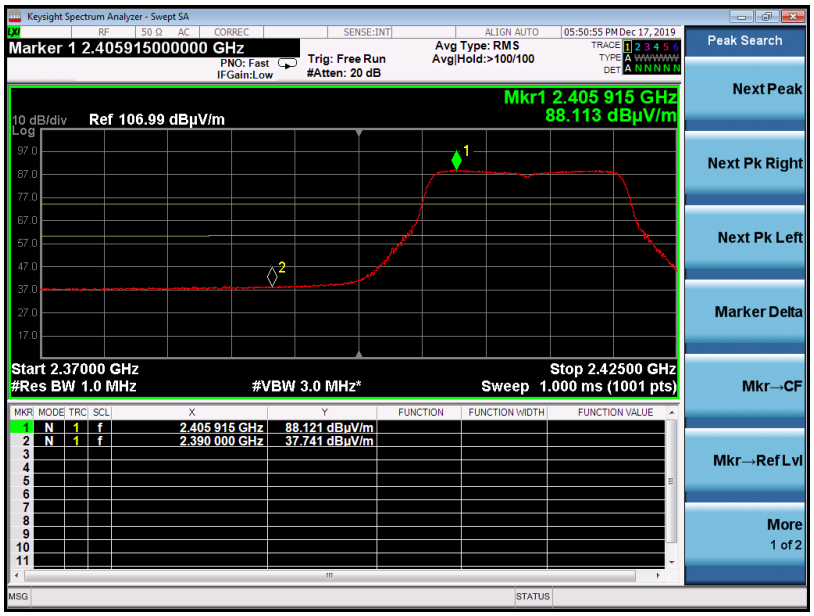


RESULT: PASS

EUT	Dual Band Wireless USB Adapter	Model Name	Techkey-6B06
Temperature	25.2℃	Relative Humidity	55.6%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11g with data rate 6 2412MHZ	Antenna	Vertical

PK

AV



RESULT: PASS

EUT	Dual Band Wireless USB Adapter	**Model Name**	Techkey-6B06
Temperature	25.2℃	**Relative Humidity**	55.6%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11g with data rate 6 2462MHZ	**Antenna**	Horizontal

PK

AV

RESULT: PASS

EUT	Dual Band Wireless USB Adapter	Model Name	Techkey-6B06
Temperature	25.2℃	Relative Humidity	55.6%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11g with data rate 6 2462MHZ	Antenna	Vertical

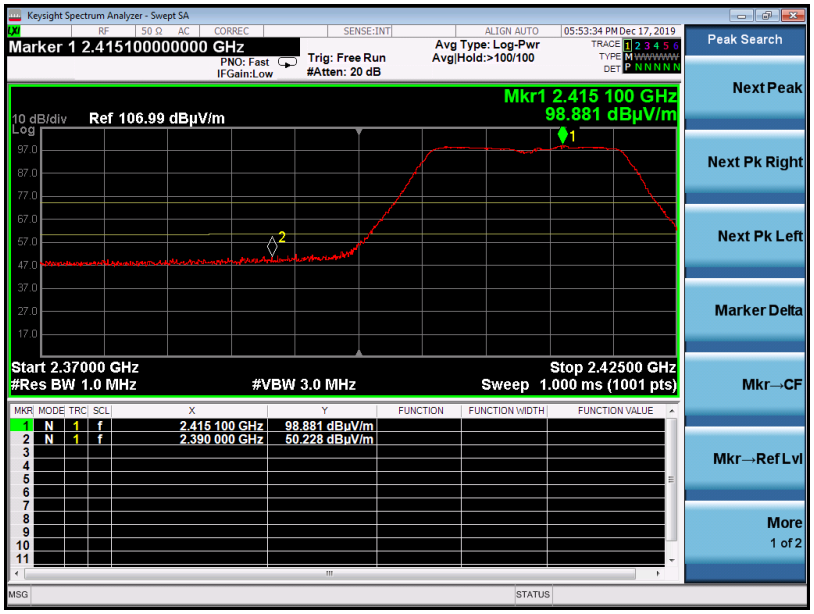
PK

AV

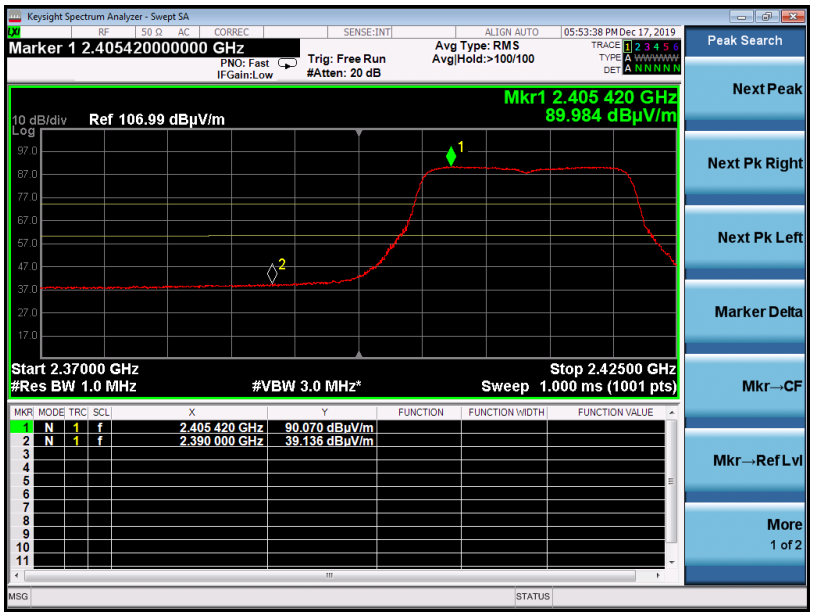
RESULT: PASS

EUT	Dual Band Wireless USB Adapter	Model Name	Techkey-6B06
Temperature	25.2℃	Relative Humidity	55.6%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 20 with data rate 6.5 2412MHZ	Antenna	Horizontal

PK



AV

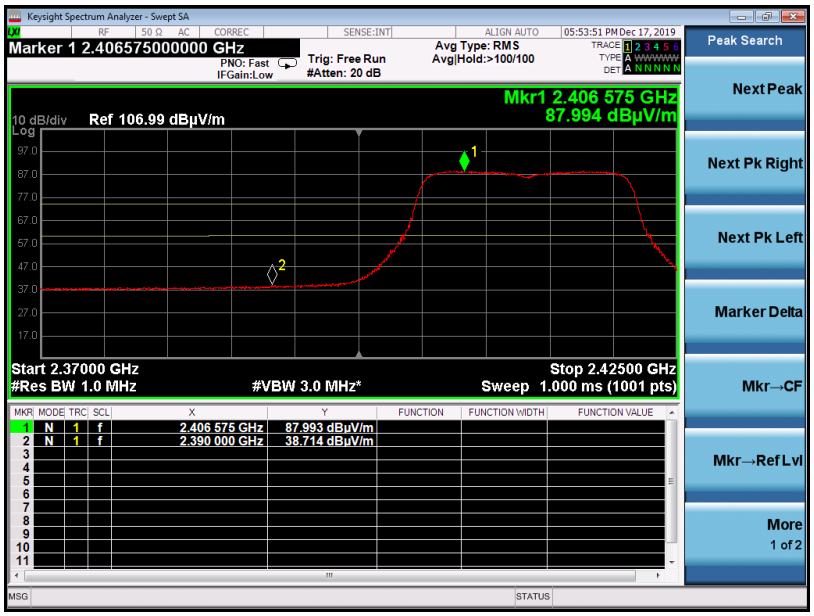


RESULT: PASS

EUT	Dual Band Wireless USB Adapter	Model Name	Techkey-6B06
Temperature	25.2℃	Relative Humidity	55.6%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 20 with data rate 6.5 2412MHZ	Antenna	Vertical

PK

AV

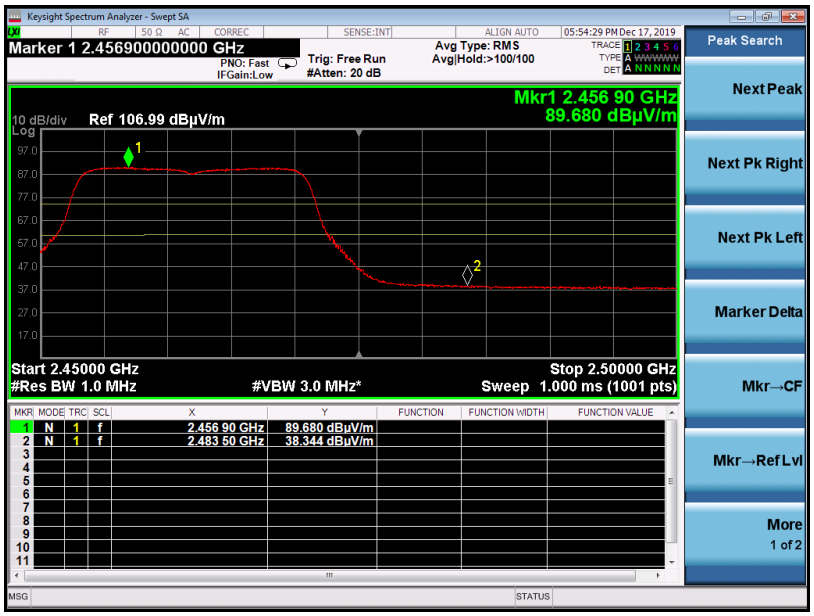


RESULT: PASS

EUT	Dual Band Wireless USB Adapter	Model Name	Techkey-6B06
Temperature	25.2℃	Relative Humidity	55.6%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 20 with data rate 6.5 2462MHZ	Antenna	Horizontal

PK

AV



RESULT: PASS

EUT	Dual Band Wireless USB Adapter	Model Name	Techkey-6B06
Temperature	25.2℃	Relative Humidity	55.6%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 20 with data rate 6.5 2462MHZ	Antenna	Vertical

PK

AV

RESULT: PASS

EUT	Dual Band Wireless USB Adapter	**Model Name**	Techkey-6B06
Temperature	25.2℃	**Relative Humidity**	55.6%
Pressure	960hPa	**Test Voltage**	Normal Voltage
Test Mode	802.11n 40with data rate 13.5 2422MHZ	**Antenna**	Horizontal

PK

AV

RESULT: PASS

EUT	Dual Band Wireless USB Adapter	Model Name	Techkey-6B06
Temperature	25.2℃	Relative Humidity	55.6%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 40 with data rate 13.5 2422MHZ	Antenna	Vertical

PK

AV

RESULT: PASS

EUT	Dual Band Wireless USB Adapter	Model Name	Techkey-6B06
Temperature	25.2℃	Relative Humidity	55.6%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	802.11n 40with data rate 13.5 2452MHZ	Antenna	Horizontal

PK

AV

RESULT: PASS

EUT	Dual Band Wireless USB Adapter	Model Name	Techkey-6B06
Temperature	25.2℃	Relative Humidity	55.6%
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

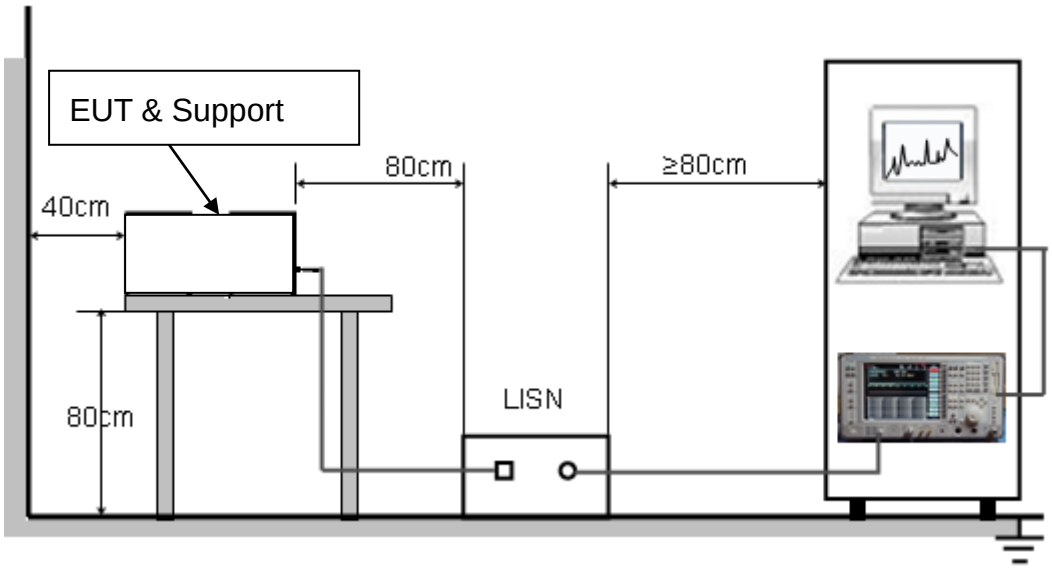
13.1. LIMITS OF LINE CONDUCTED EMISSION TEST

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 DC 5V power from PC which received AC120V/60Hz power from 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.

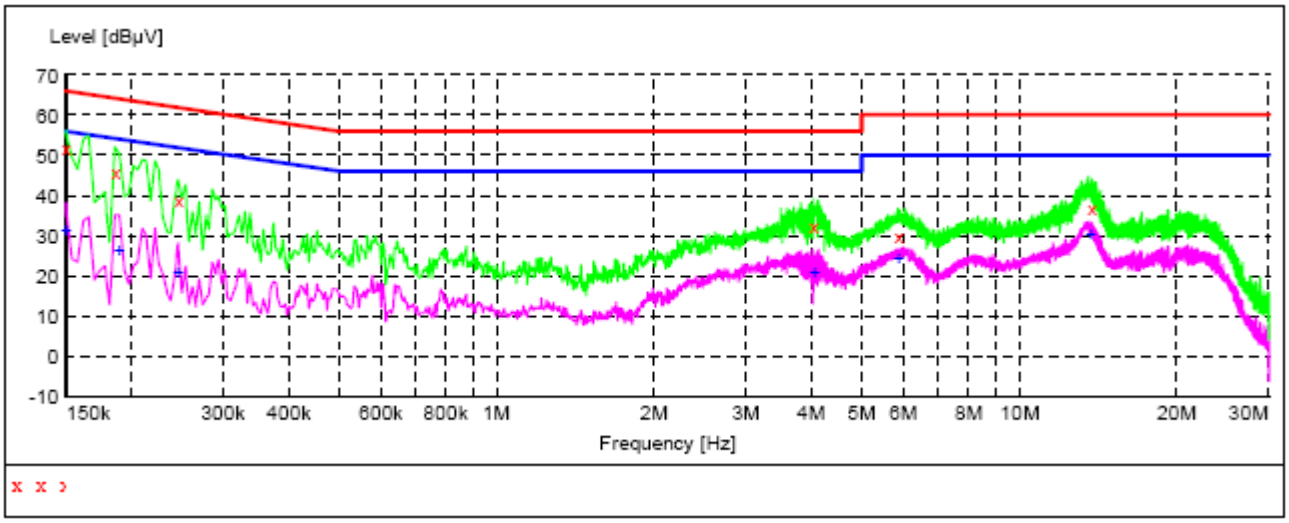
Then, the EUT configuration and cable configuration of the above highest emission level were recorded for reference of final testing.

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

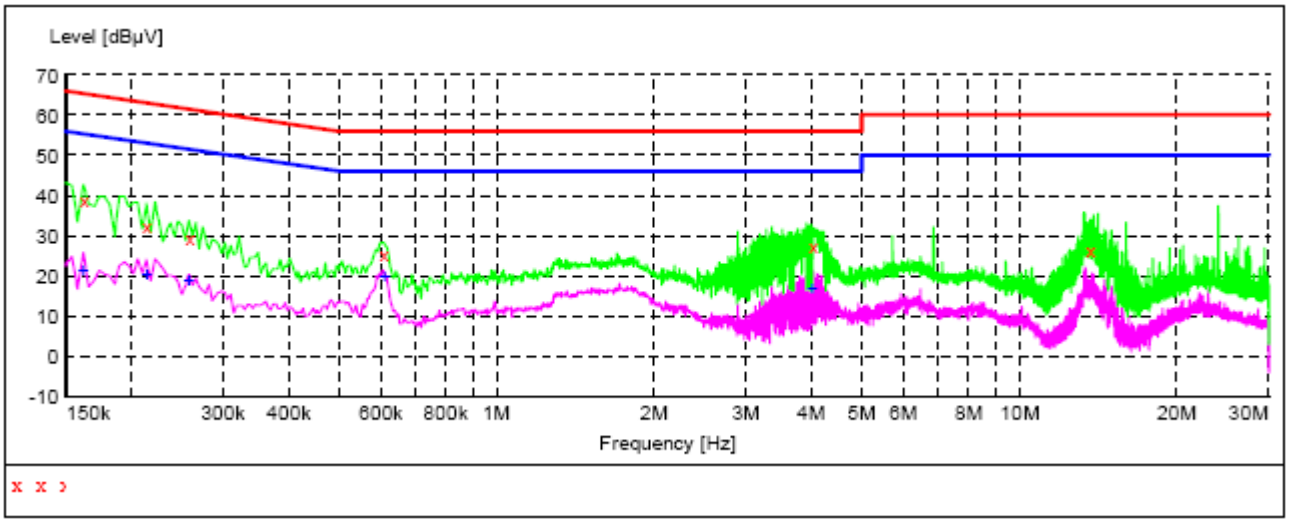
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.150000	51.90	10.3	66	14.1	QP	L1
0.186000	45.70	10.3	64	18.5	QP	L1
0.246000	38.70	10.3	62	23.2	QP	L1
4.026000	32.30	10.4	56	23.7	QP	L1
5.878000	30.10	10.5	60	29.9	QP	L1
13.726000	37.10	10.8	60	22.9	QP	L1

MEASUREMENT RESULT

Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.150000	31.30	10.3	56	24.7	AV	L1
0.190000	26.50	10.3	54	27.5	AV	L1
0.246000	21.10	10.3	52	30.8	AV	L1
4.062000	21.00	10.4	46	25.0	AV	L1
5.878000	24.30	10.5	50	25.7	AV	L1
13.726000	30.60	10.8	50	19.4	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
0.162000	39.10	10.3	65	26.3	QP	N
0.214000	32.70	10.3	63	30.3	QP	N
0.258000	29.50	10.2	62	32.0	QP	N
0.606000	25.70	10.3	56	30.3	QP	N
4.018000	27.30	10.4	56	28.7	QP	N
13.646000	26.20	10.8	60	33.8	QP	N

MEASUREMENT RESULT

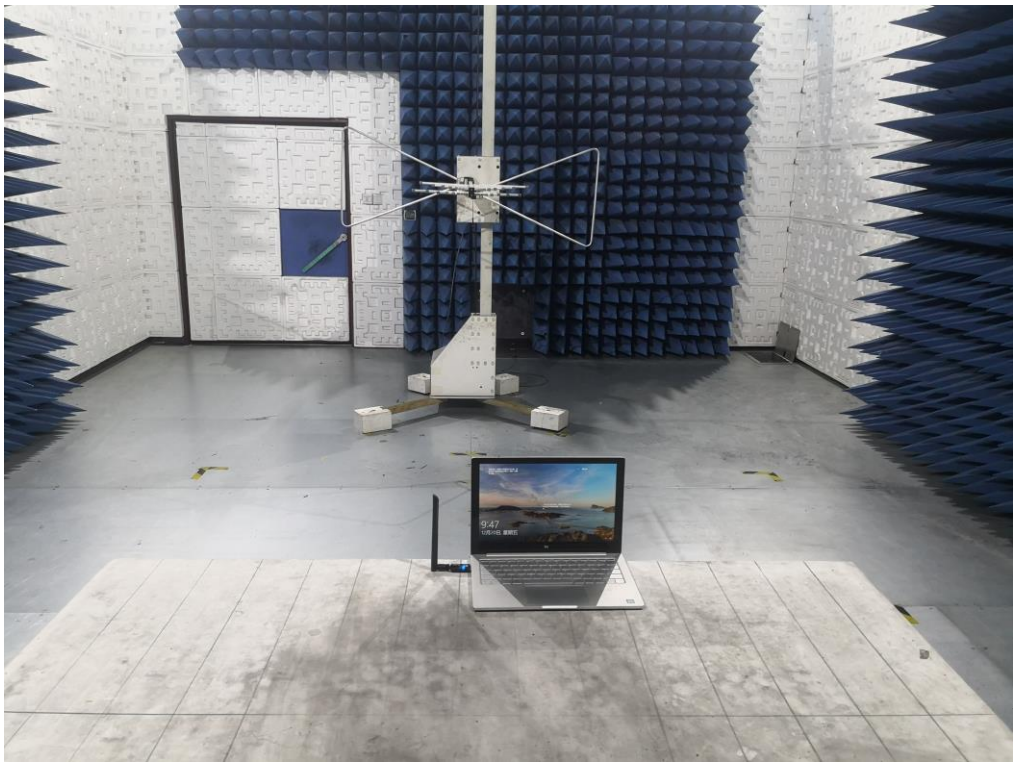
Frequency MHz	Level dBµV	Transd dB	Limit dBµV	Margin dB	Detector	Line
0.162000	21.60	10.3	55	33.8	AV	N
0.214000	20.30	10.3	53	32.7	AV	N
0.258000	18.80	10.2	52	32.7	AV	N
0.610000	20.10	10.3	46	25.9	AV	N
4.018000	16.80	10.4	46	29.2	AV	N

RESULT: PASS

Note: All the test modes had been tested, the mode 1 was the worst case. Only the data of the worst case would be record in this test report.

APPENDIX A: PHOTOGRAPHS OF TEST SETUP

FCC RADIATED EMISSION TEST SETUP BELOW 1GHZ

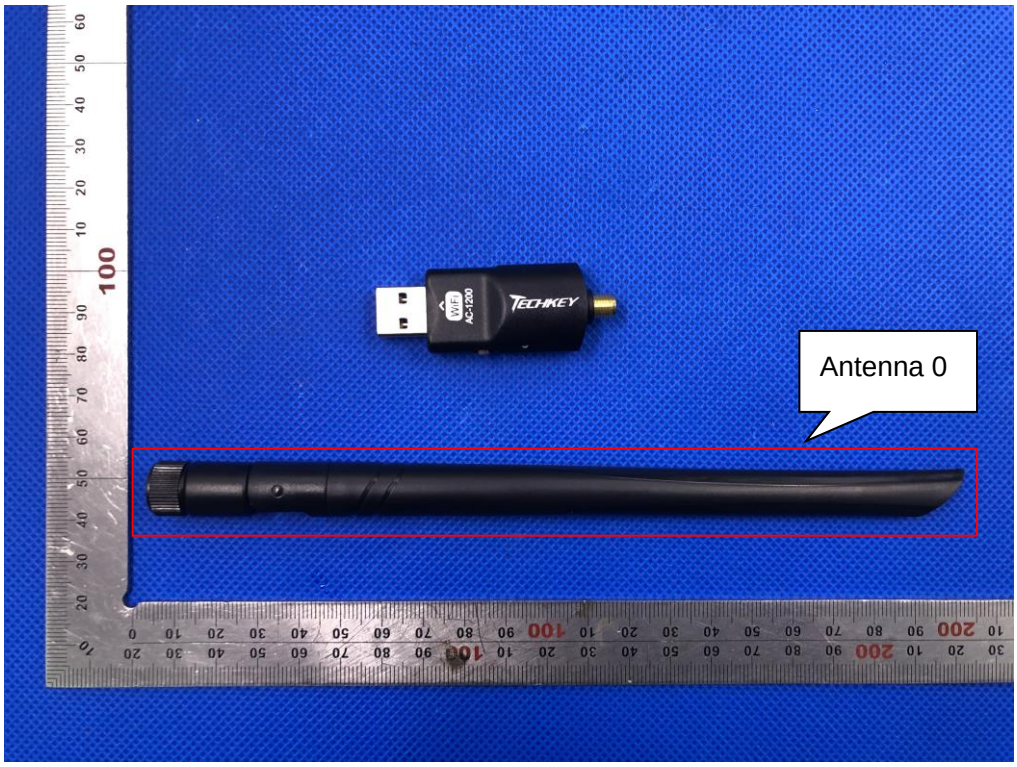


FCC RADIATED EMISSION TEST SETUP ABOVE 1GHZ

FCC LINE CONDUCTED EMISSION TEST SETUP

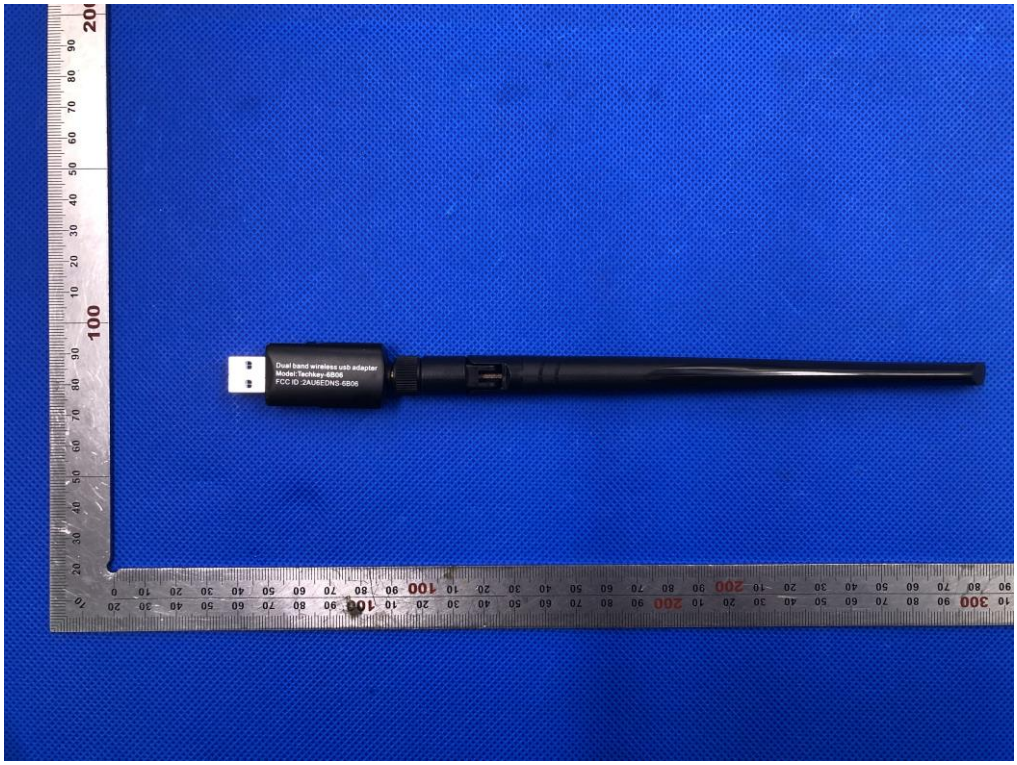
APPENDIX B: PHOTOGRAPHS OF EUT

ALL VIEW OF EUT



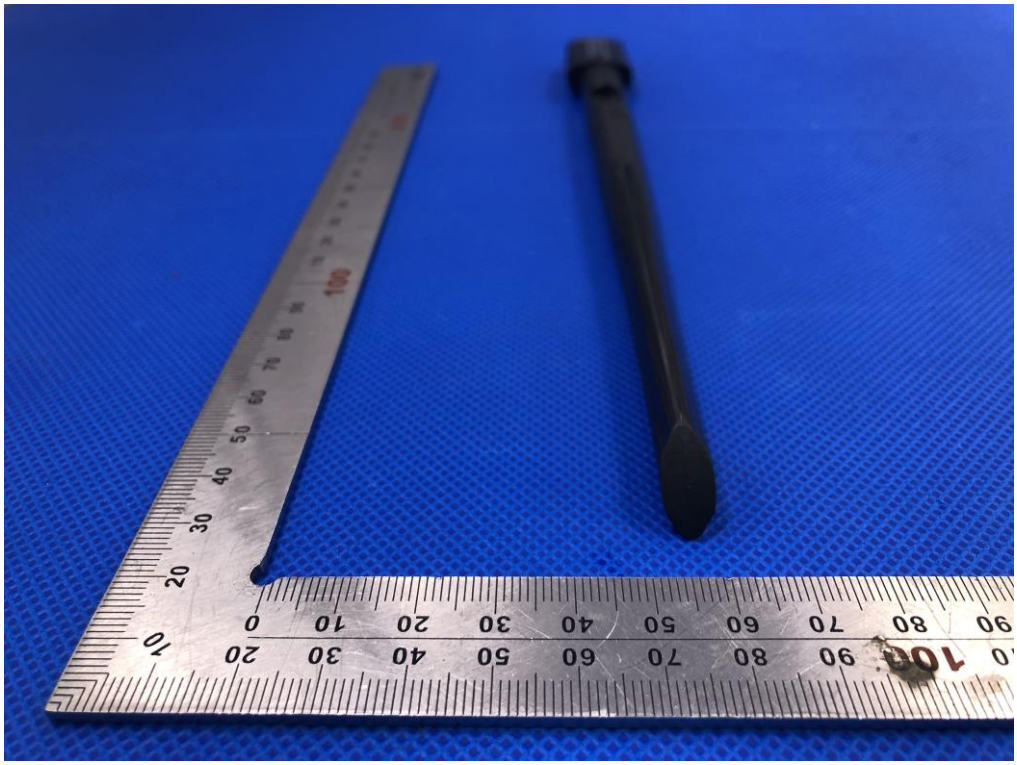
TOP VIEW OF EUT

BOTTOM VIEW OF EUT



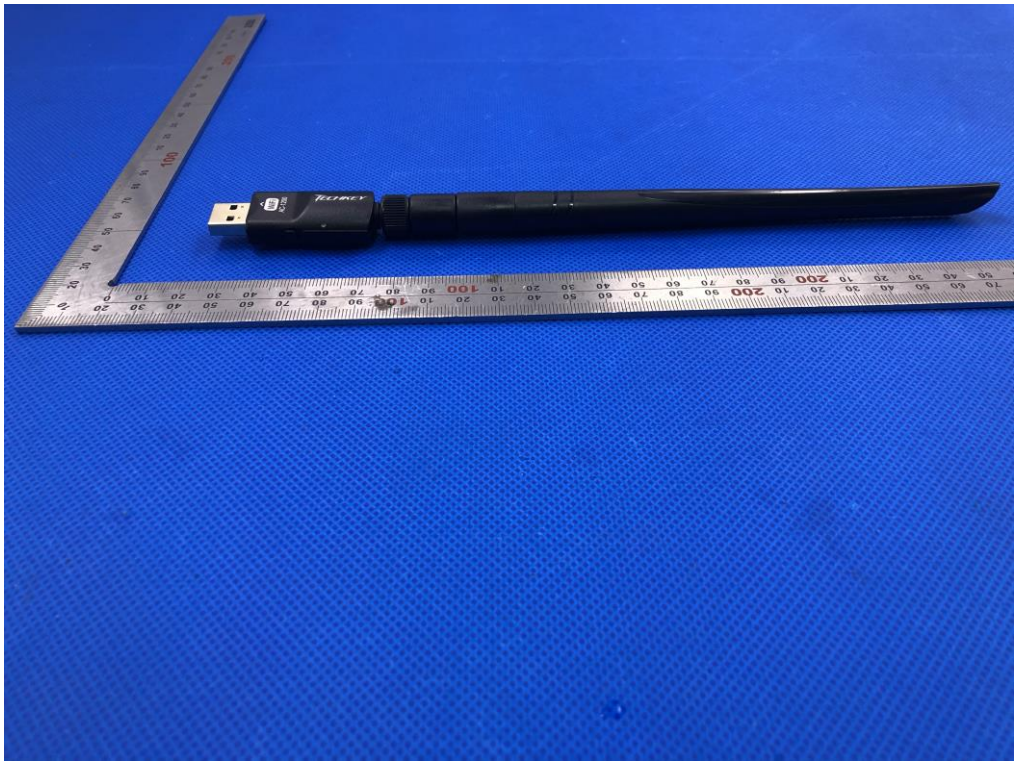
FRONT VIEW OF EUT

BACK VIEW OF EUT

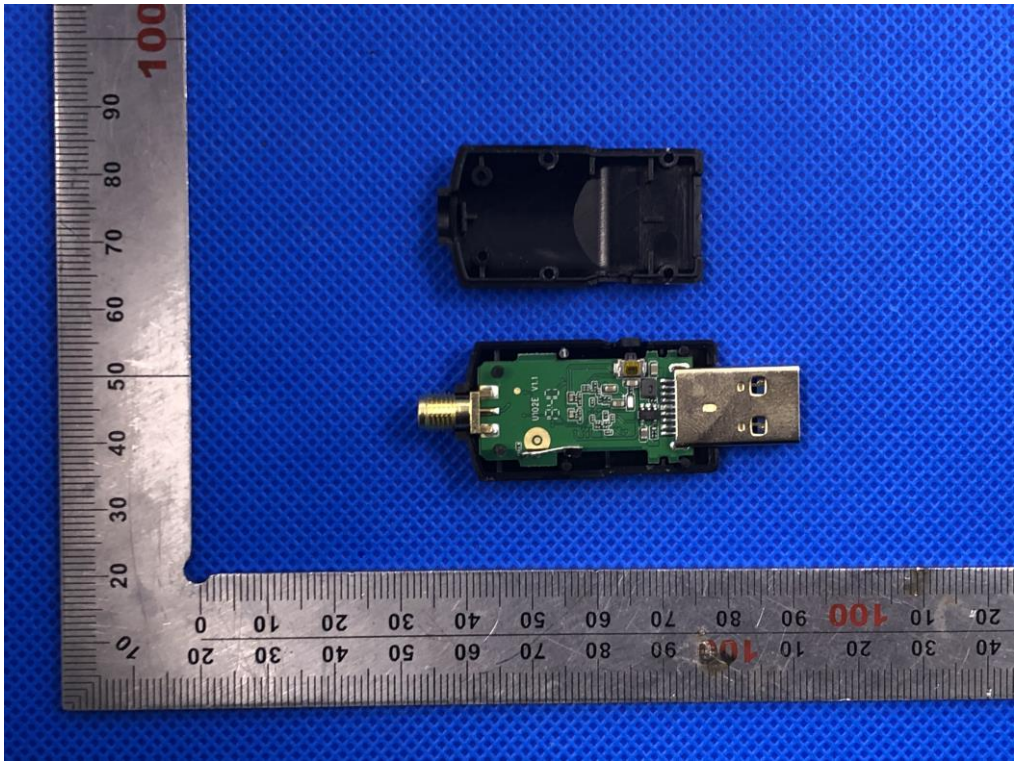


LEFT VIEW OF EUT

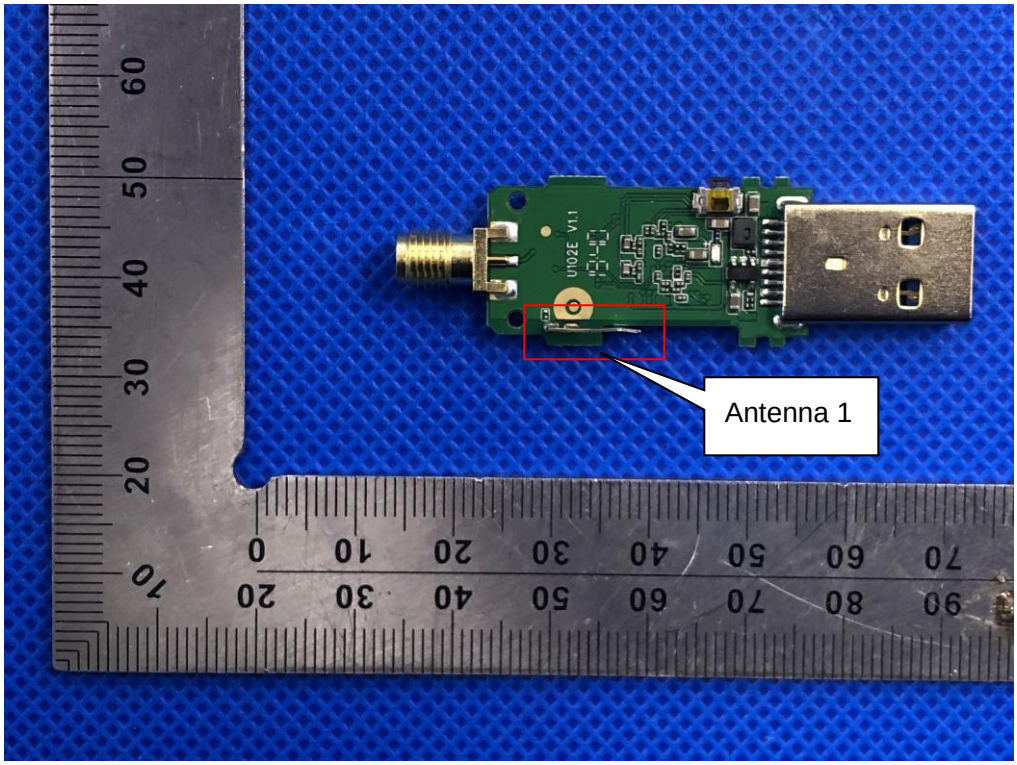
RIGHT VIEW OF EUT



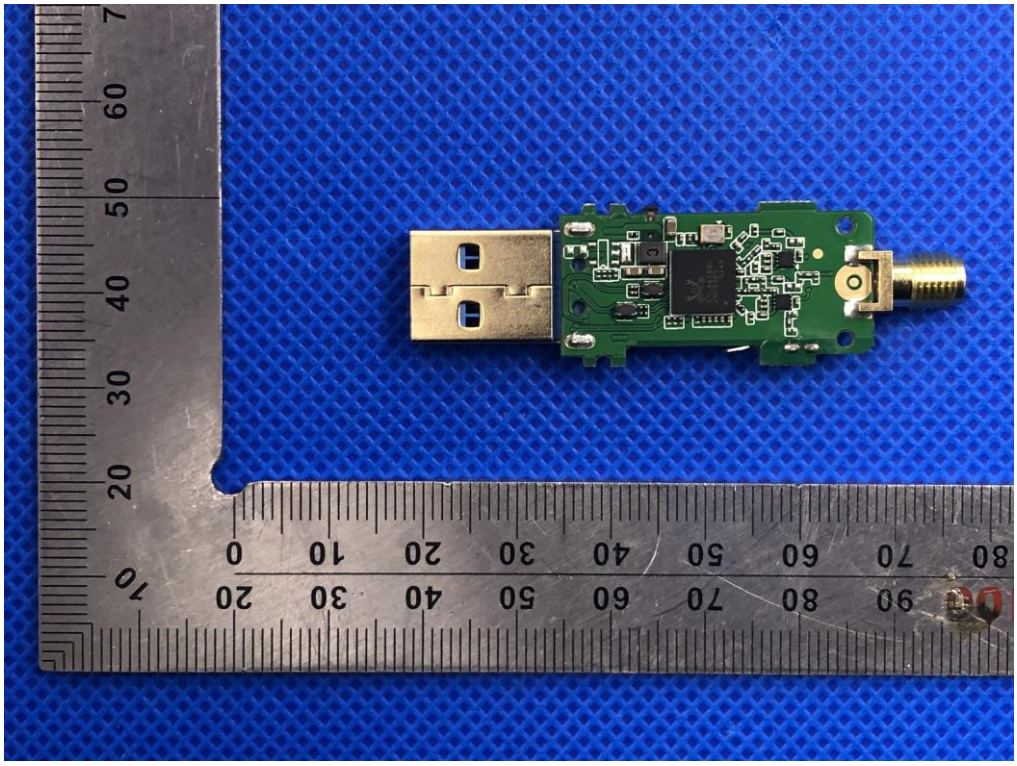
OPEN VIEW OF EUT



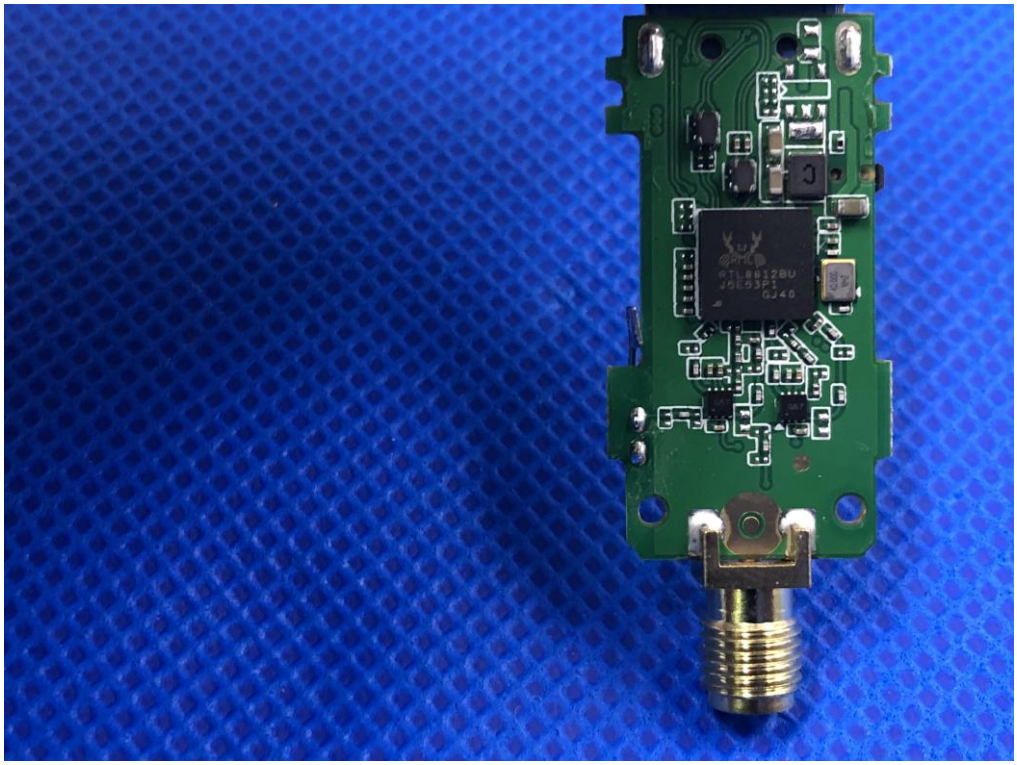
INTERNAL VIEW OF EUT-1



INTERNAL VIEW OF EUT-2



INTERNAL VIEW OF EUT-3



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