TEST REPORT

Product Name	:	Tablet pc
Brand Mark	:	tibuta
Model No.	:	E100
Extension Model	:	E101, E102, E103
Report Number	:	BLA-EMC-202106-A2601
FCC ID	:	2AXUI-E100
Date of Sample Receipt	:	2021/6/8
Date of Test	:	2021/6/8 to 2021/7/16
Date of Issue	:	2021/7/16
Test Standard	:	47 CFR Part 15, Subpart C 15.247
Test Result	:	Pass

Prepared for:

CHITECH SHENZHEN TECHNOLOGY CO.,LTD
Chitech industrial Park, NO.48, Xiashijia Road, Gongming Town, Guangming New Dist., Shenzhen, China

Prepared by:

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Review by: Sweely

Approved by:

Date: 2021/7/16

REPORT REVISE RECORD

Version No.	Date	Description
00	2021/7/16	Original

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1 TEST SUMMARY

Test item	Test Requirement	Test Method	Class/Severity	Result
Minimum 6dB Bandwidth	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.8.1	47 CFR Part 15, Subpart C 15.247a(2)	Pass
Conducted Emissions at AC Power Line (150kHz-30MHz)	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.2	47 CFR Part 15, Subpart C 15.207	Pass
Antenna Requirement	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.203 & 15.247(c)	Pass
Radiated Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.4,6.5,6.6	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass
Radiated Emissions which fall in the restricted bands	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.209 & 15.247(d)	Pass
Conducted Band Edges Measurement	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.8 & Section 11.13.3.2	47 CFR Part 15, Subpart C 15.247(d)	Pass
Power Spectrum Density	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 11.10.2	47 CFR Part 15, Subpart C 15.247(e)	Pass
Conducted Peak Output Power	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.5 & Section 11.9.1	47 CFR Part 15, Subpart C 15.247(b)(1) & 15.247(b)(3)	Pass

2 GENERAL INFORMATION

Applicant	CHITECH SHENZHEN TECHNOLOGY CO.,LTD
Address	Chitech industrial Park,NO.48,Xiashijia Road,Gongming Town,Guangming New Dist.,Shenzhen,China
Manufacturer	CHITECH SHENZHEN TECHNOLOGY CO.,LTD
Address	Chitech industrial Park,NO.48,Xiashijia Road,Gongming Town,Guangming New Dist.,Shenzhen,China
Factory	CHITECH SHENZHEN TECHNOLOGY CO.,LTD
Address	Chitech industrial Park,NO.48,Xiashijia Road,Gongming Town,Guangming New Dist.,Shenzhen,China
Product Name	Tablet pc
Test Model No.	E100

3 GENERAL DESCRIPTION OF E.U.T.

Hardware Version	863A_MB_V5.1
Software Version	Tibuta_MasterPad-E100_20210717

Operation Frequency:	2402MHz-2480MHz
Modulation Type:	GFSK
Channel Spacing:	2MHz
Number of Channels:	40
Antenna Type:	Internal Antenna
Antenna Gain:	1.52dBi
Power supply:	Rechargeable Li-ion Battery DC3.7V-6000mAh
AC adapter:	Model: JK050200-S86USU Input: AC100~240V, 50/60Hz 0.5A Output: DC 5.0V⎓2000Ma, 10.0W

4 TEST ENVIRONMENT

Environment	Temperature	Voltage
Normal	+25°C	3.7Vdc

5 TEST MODE

TEST MODE	TEST MODE DESCRIPTION
TX	Keep the EUT in transmitting mode with modulation
Remark:Only the data of the worst mode would be recorded in this report.	

6 MEASUREMENT UNCERTAINTY

Parameter	Expanded Uncertainty (Confidence of 95%)
Radiated Emission(9kHz-30MHz)	±4.34dB
Radiated Emission(30Mz-1000MHz)	±4.24dB
Radiated Emission(1GHz-18GHz)	±4.68dB
AC Power Line Conducted Emission(150kHz-30MHz)	±3.45dB

7 DESCRIPTION OF SUPPORT UNIT

Device Type	Manufacturer	Model Name	Serial No.	Remark
N/A	N/A	N/A	N/A	N/A

8 LABORATORY LOCATION

All tests were performed at:
BlueAsia of Technical Services(Shenzhen) Co., Ltd.
Building C, No. 107, Shihuan Road, Shiyan Sub-District, Baoan District, Shenzhen, Guangdong Province, China
Telephone: TEL: +86-755-28682673 FAX: +86-755-28682673
No tests were sub-contracted.

9 TEST INSTRUMENTS LIST

Test Equipment Of Minimum 6dB Bandwidth					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11
Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

Test Equipment Of Conducted Emissions at AC Power Line (150kHz-30MHz)					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Shield room	SKET	833	N/A	2020/11/25	2023/11/24
Receiver	R&S	ESPI3	101082	2020/10/12	2021/10/11
LISN	R&S	ENV216	3560.6550.15	2020/10/12	2021/10/11
LISN	AT	AT166-2	AKK1806000003	2020/10/12	2021/10/11
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A

Test Equipment Of Radiated Spurious Emissions					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Chamber	SKET	966	N/A	2020/11/10	2023/11/9
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Receiver	R&S	ESR7	101199	2020/10/12	2021/10/11
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	2020/9/26	2022/9/25
Horn Antenna	Schwarzbeck	9120D	01892 P:00331	2020/9/26	2022/9/25

Amplifier	SKET	PA-000318G-45	N/A	2020/10/16	2021/10/15
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	2020/9/26	2022/9/25
Controller	SKET	N/A	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-02	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-03	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-01	N/A	N/A	N/A

Test Equipment Of Radiated Emissions which fall in the restricted bands					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Chamber	SKET	966	N/A	2020/11/10	2023/11/9
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Receiver	R&S	ESR7	101199	2020/10/12	2021/10/11
broadband Antenna	Schwarzbeck	VULB9168	00836 P:00227	2020/9/26	2022/9/25
Horn Antenna	Schwarzbeck	9120D	01892 P:00331	2020/9/26	2022/9/25
Amplifier	SKET	PA-000318G-45	N/A	2020/10/16	2021/10/15
EMI software	EZ	EZ-EMC	EEMC-3A1	N/A	N/A
Loop antenna	SCHNARZBECK	FMZB1519B	00102	2020/9/26	2022/9/25
Controller	SKET	N/A	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-02	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-03	N/A	N/A	N/A
Coaxial Cable	BlueAsia	BLA-XC-01	N/A	N/A	N/A

Test Equipment Of Conducted Band Edges Measurement					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11

Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11
Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

Test Equipment Of Power Spectrum Density					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11
Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

Test Equipment Of Conducted Peak Output Power					
Equipment	**Manufacturer**	**Model**	**S/N**	**Cal.Date**	**Cal.Due**
Spectrum	R&S	FSP40	100817	2020/10/12	2021/10/11
Spectrum	Agilent	N9020A	MY49100060	2020/10/12	2021/10/11
Signal Generator	Agilent	N5182A	MY49060650	2020/10/12	2021/10/11
Signal Generator	Agilent	E8257D	MY44320250	2020/10/12	2021/10/11

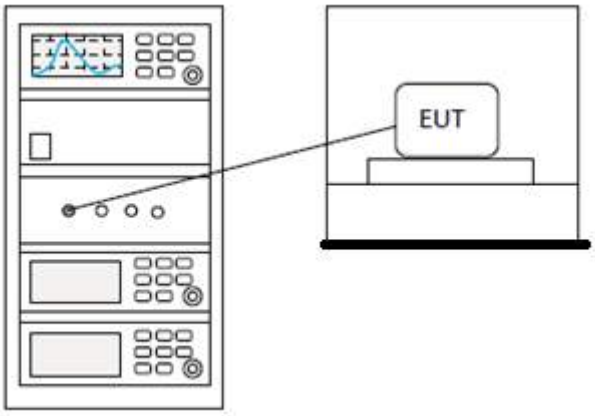
1 MINIMUM 6DB BANDWIDTH

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 11.8.1
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

1.1 LIMITS

Limit:	≥500 kHz

1.2 BLOCK DIAGRAM OF TEST SETUP



1.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

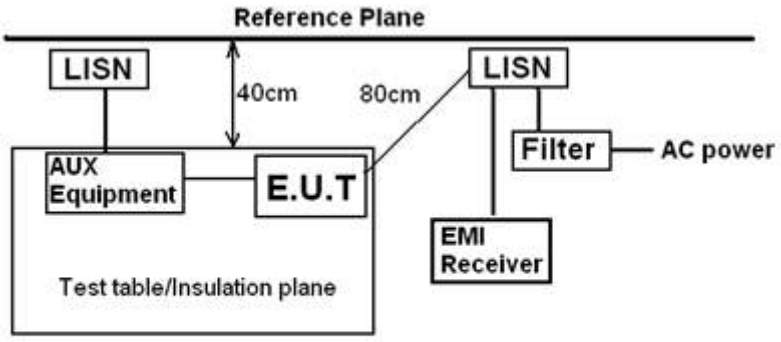
2 CONDUCTED EMISSIONS AT AC POWER LINE (150KHZ-30MHZ)

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 6.2
Test Mode (Pre-Scan)	TX mode
Test Mode (Final Test)	TX mode
Tester	Jozu
Temperature	25℃
Humidity	60%

2.1 LIMITS

Frequency of emission(MHz)	Conducted limit(dBμV)	
	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50
*Decreases with the logarithm of the frequency.		

2.2 BLOCK DIAGRAM OF TEST SETUP



Remark
E.U.T: Equipment Under Test
LISN: Line Impedence Stabilization Network
Test table height=0.8m

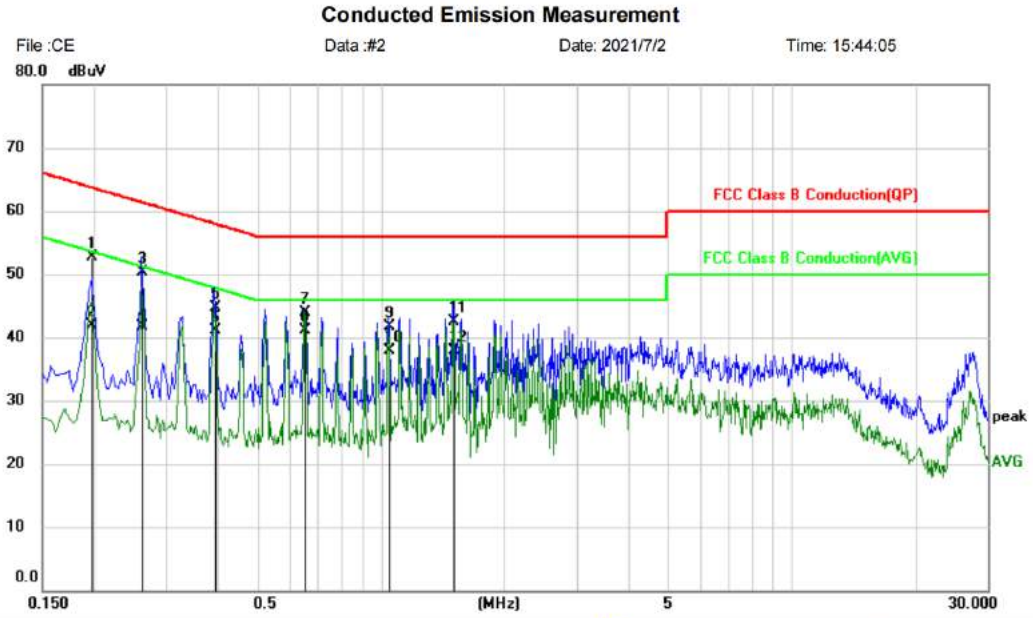
2.3 PROCEDURE

1) The mains terminal disturbance voltage test was conducted in a shielded room.
2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50H + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.

3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.
Remark: LISN=Read Level+ Cable Loss+ LISN Factor

2.4 TEST DATA

[TestMode: Transmitting mode]; [Line: Line]



Site
Limit: FCC Class B Conduction(QP)
EUT: Tablet pc
M/N: BLE mode
Mode: Tibuta_MasterPad_E100
Note:

Phase: *L1*
Power:

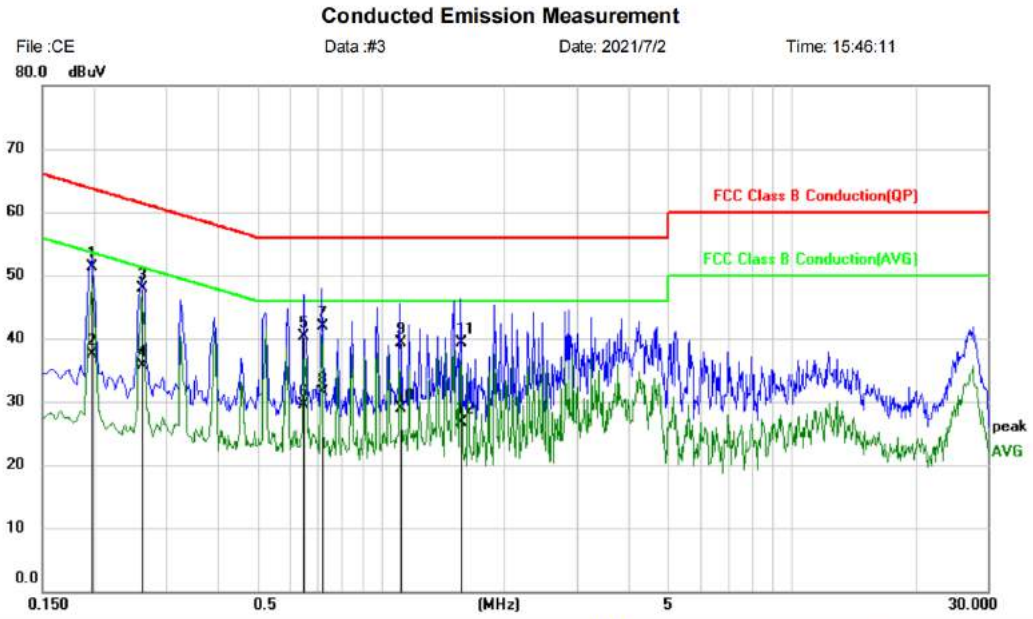
Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1		0.1980	42.92	9.83	52.75	63.69	-10.94	QP	
2		0.1980	32.01	9.83	41.84	53.69	-11.85	AVG	
3		0.2620	40.38	9.84	50.22	61.37	-11.15	QP	
4		0.2620	31.82	9.84	41.66	51.37	-9.71	AVG	
5		0.3940	34.76	9.85	44.61	57.98	-13.37	QP	
6		0.3940	31.29	9.85	41.14	47.98	-6.84	AVG	
7		0.6540	34.08	9.88	43.96	56.00	-12.04	QP	
8	*	0.6540	31.24	9.88	41.12	46.00	-4.88	AVG	
9		1.0460	31.88	9.92	41.80	56.00	-14.20	QP	
10		1.0460	28.00	9.92	37.92	46.00	-8.08	AVG	
11		1.5020	32.55	9.93	42.48	56.00	-13.52	QP	
12		1.5020	27.89	9.93	37.82	46.00	-8.18	AVG	

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[TestMode: Transmitting mode]; [Line: Nutral]



Site | Phase: N | Temperature:
Limit: FCC Class B Conduction(QP) | Power: | Humidity: %
EUT: Tablet pc
M/N: BLE mode
Mode: Tibuta_MasterPad_E100
Note:

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		
		MHz	dBuV	dB	dBuV	dBuV	dB	Detector	Comment
1	*	0.1980	41.64	9.75	51.39	63.69	-12.30	QP	
2		0.1980	27.77	9.75	37.52	53.69	-16.17	AVG	
3		0.2620	38.23	9.76	47.99	61.37	-13.38	QP	
4		0.2620	25.86	9.76	35.62	51.37	-15.75	AVG	
5		0.6500	30.50	9.81	40.31	56.00	-15.69	QP	
6		0.6500	19.63	9.81	29.44	46.00	-16.56	AVG	
7		0.7180	32.07	9.82	41.89	56.00	-14.11	QP	
8		0.7180	21.69	9.82	31.51	46.00	-14.49	AVG	
9		1.1140	29.39	9.84	39.23	56.00	-16.77	QP	
10		1.1140	18.97	9.84	28.81	46.00	-17.19	AVG	
11		1.5660	29.40	9.85	39.25	56.00	-16.75	QP	
12		1.5660	16.76	9.85	26.61	46.00	-19.39	AVG	

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

3 ANTENNA REQUIREMENT

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	N/A

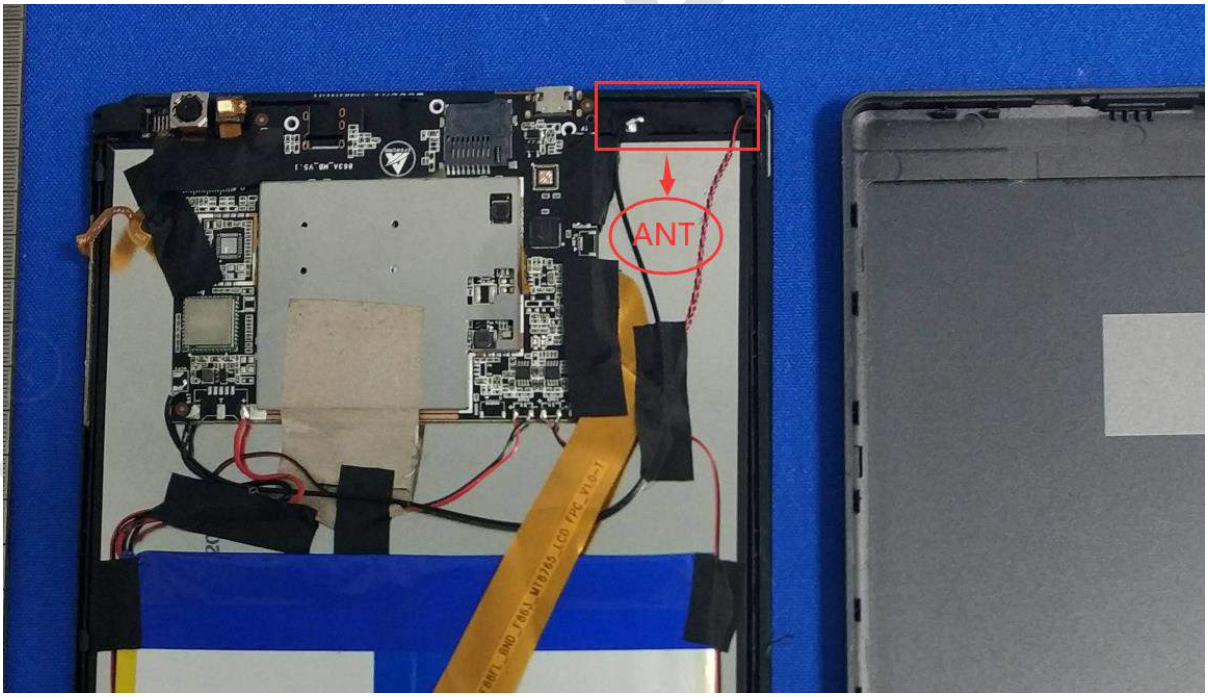
3.1 CONCLUSION

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 antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit permanently attached antenna or of an so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 1.52dBi.



4 RADIATED SPURIOUS EMISSIONS

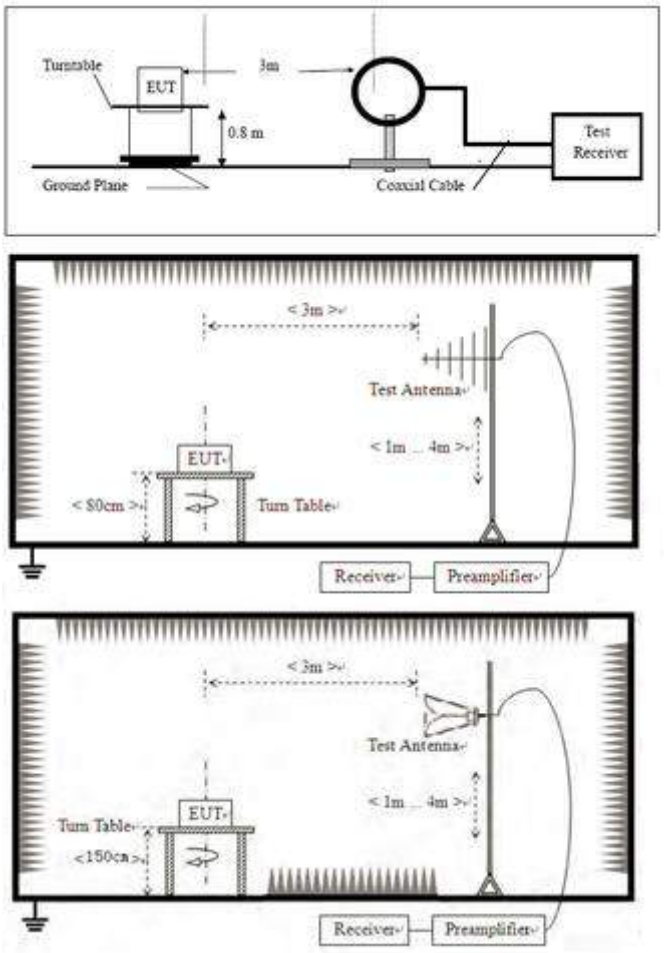
Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 6.4,6.5,6.6
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

4.1 LIMITS

Frequency(MHz)	Field strength(microvolts/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

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, 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.

4.2 BLOCK DIAGRAM OF TEST SETUP



4.3 PROCEDURE

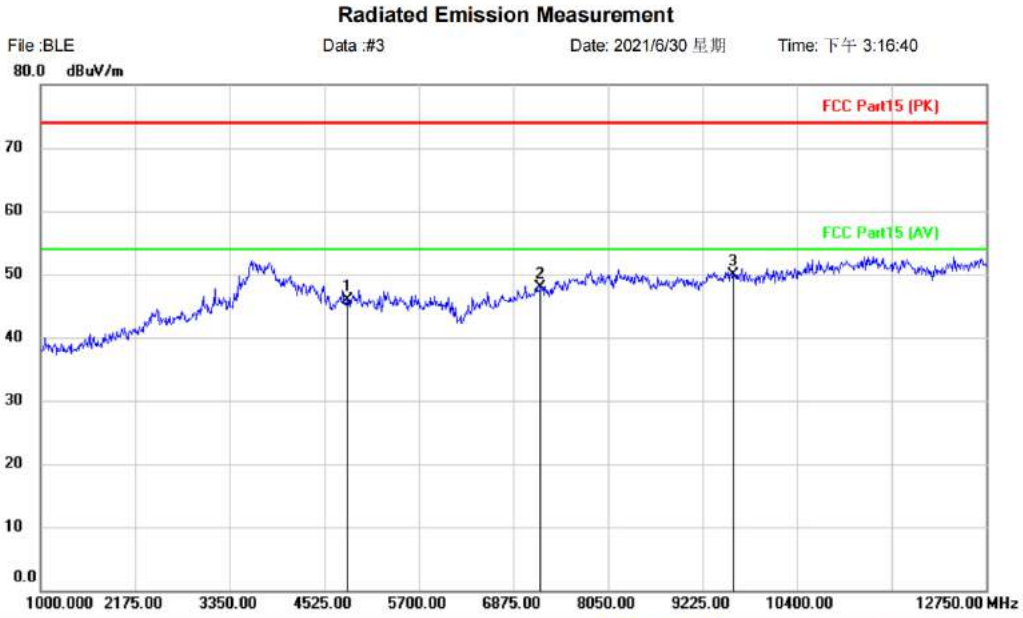
a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
j. Repeat above procedures until all frequencies measured was complete.

Remark:
1) For emission below 1GHz, through pre-scan found the worst case is the lowest channel. Only the worst case is recorded in the report.
2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:
Final Test Level =Receiver Reading + Antenna Factor + Cable Factor - Preamplifier Factor
3) Scan from 9kHz to 25GHz, the disturbance above 12.75GHz and below 30MHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported. fundamental frequency is blocked by filter, and only spurious emission is shown.
4) For frequencies above 1GHz, 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. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

4.4 TEST DATA

[TestMode: TX low channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: Tablet pc
M/N: Tibuta_MasterPad_E100
Mode: TX-L
Note:

Polarization: ***Horizontal***
Power:
Distance:

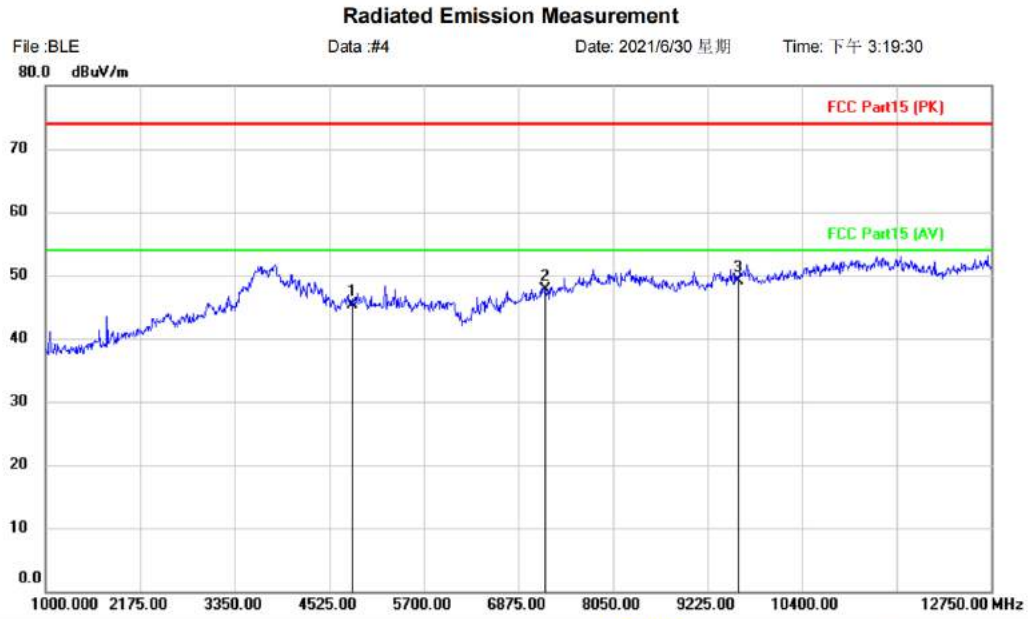
Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4804.000	42.13	3.71	45.84	74.00	-28.16	peak			
2		7206.000	41.89	5.96	47.85	74.00	-26.15	peak			
3	*	9608.000	40.52	9.29	49.81	74.00	-24.19	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[TestMode: TX low channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: Tablet pc
M/N: Tibuta_MasterPad_E100
Mode: TX-L
Note:

Polarization: *Vertical*
Power:
Distance:

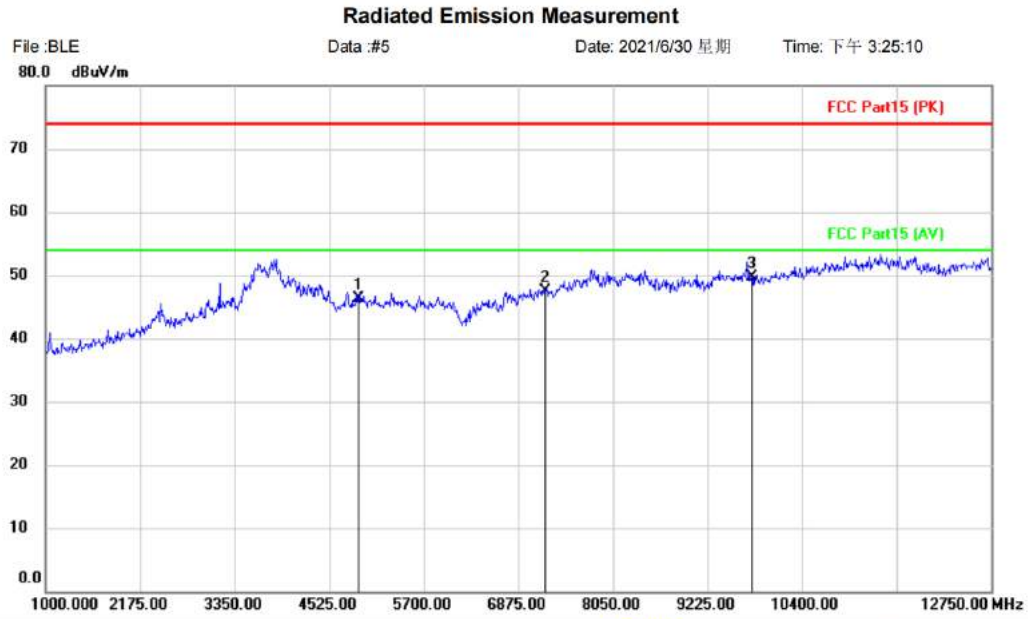
Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4804.000	41.61	3.71	45.32	74.00	-28.68	peak			
2		7206.000	41.83	5.96	47.79	74.00	-26.21	peak			
3	*	9608.000	39.91	9.29	49.20	74.00	-24.80	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[TestMode: TX mid channel];[Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: Tablet pc
M/N: Tibuta_MasterPad_E100
Mode: TX-M
Note:

Polarization: *Vertical*
Power:
Distance:

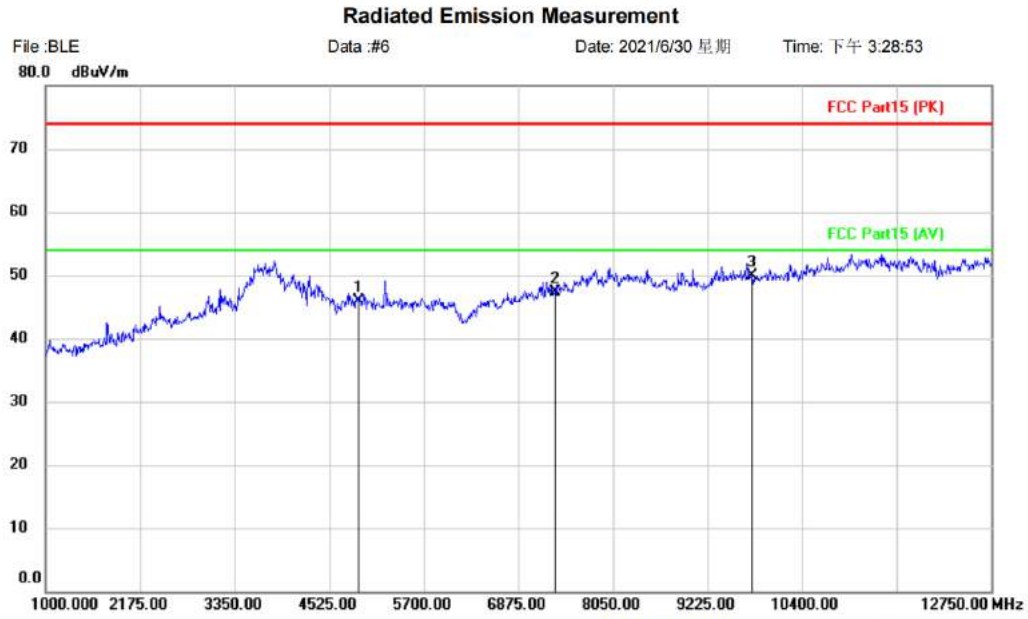
Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4884.000	42.93	3.34	46.27	74.00	-27.73	peak			
2		7206.000	41.62	5.96	47.58	74.00	-26.42	peak			
3	*	9768.000	40.09	9.63	49.72	74.00	-24.28	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[TestMode: TX mid channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: Tablet pc
M/N: Tibuta_MasterPad_E100
Mode: TX-M
Note:

Polarization: ***Horizontal***
Power:
Distance:

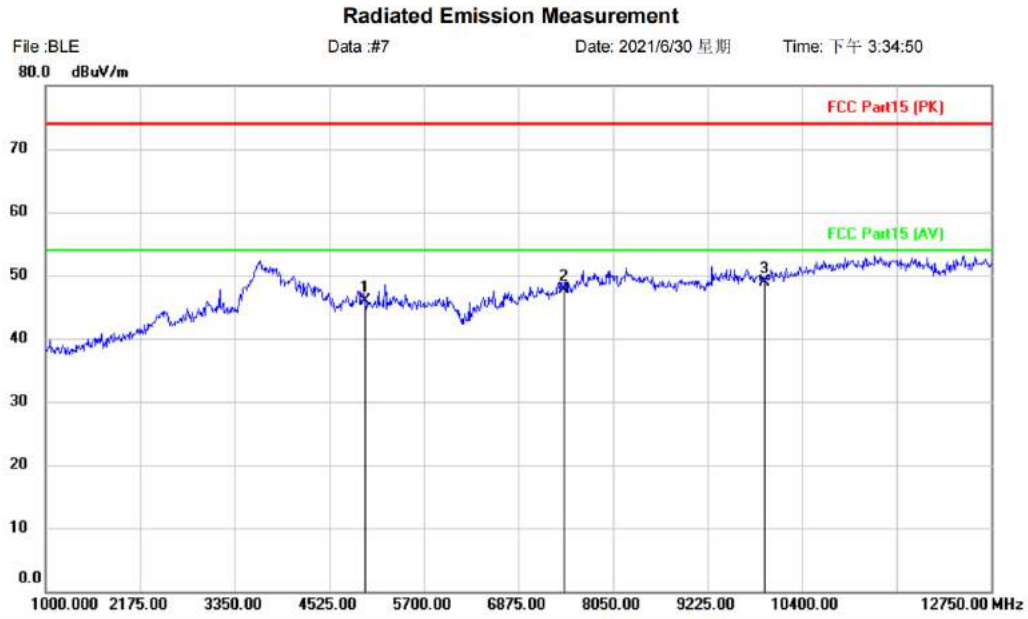
Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4884.000	42.65	3.34	45.99	74.00	-28.01	peak			
2		7326.000	40.89	6.44	47.33	74.00	-26.67	peak			
3	*	9768.000	40.37	9.63	50.00	74.00	-24.00	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[TestMode: TX high channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: Tablet pc
M/N: Tibuta_MasterPad_E100
Mode: TX-H
Note:

Polarization: ***Horizontal***
Power:
Distance:

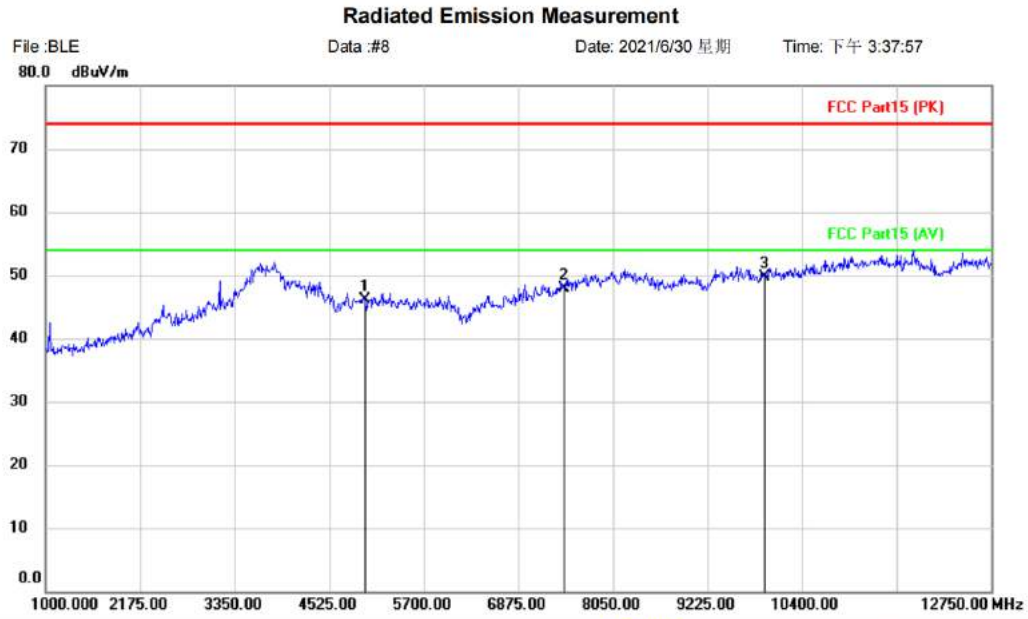
Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4960.000	42.16	3.75	45.91	74.00	-28.09	peak			
2		7440.000	40.90	6.86	47.76	74.00	-26.24	peak			
3	*	9920.000	38.81	10.16	48.97	74.00	-25.03	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[TestMode: TX high channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: Tablet pc
M/N: Tibuta_MasterPad_E100
Mode: TX-H
Note:

Polarization: *Vertical*
Power:
Distance:

Temperature:
Humidity: %

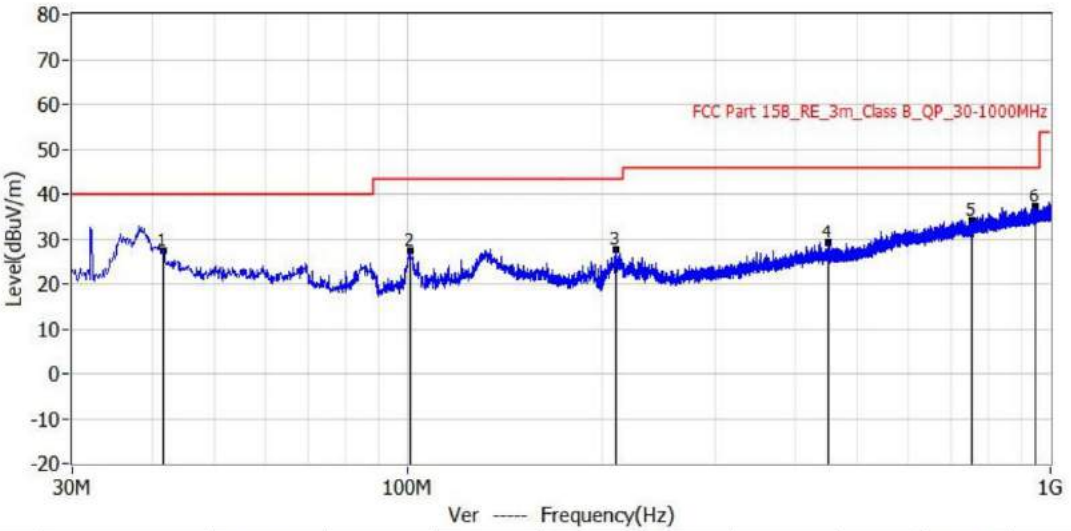
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		4960.000	42.34	3.75	46.09	74.00	-27.91	peak			
2		7440.000	41.09	6.86	47.95	74.00	-26.05	peak			
3	*	9920.000	39.51	10.16	49.67	74.00	-24.33	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[TestMode: TX]; [Polarity: Vertical]

Test Lab: BlueAsia EMC Lab（RE #1）	Project: BLA-EMC 202106-A26
EUT: Tablet pc	Test Engineer: Charlie
M/N: Tibuta_MastrePad_E100	Temperature: 25℃
S/N:	Humidity: 53%RH
Test Mode: BLE mode	Test Voltage:
Note:	Test Data: 2021-07-02 11:39:47

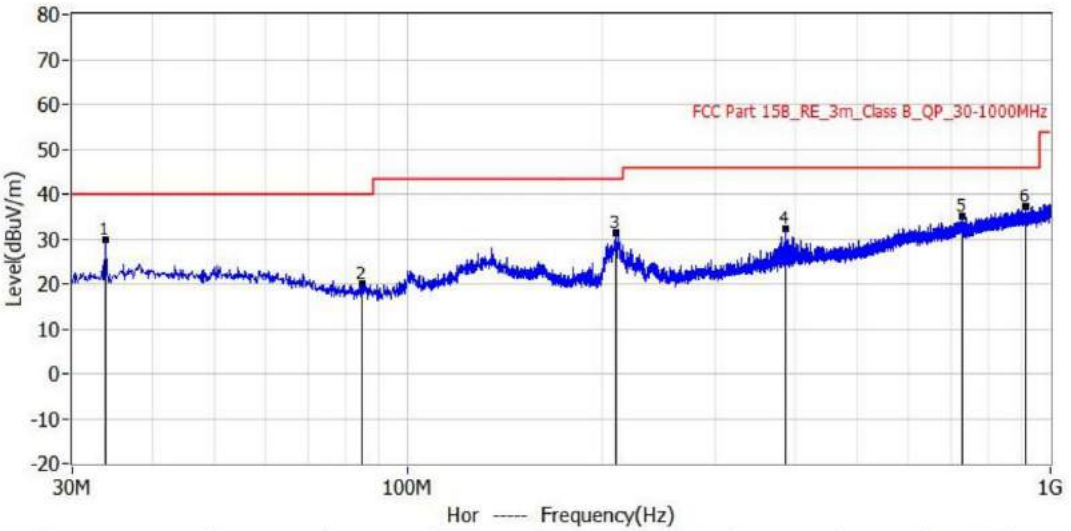


No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	41.640MHz	40.0	27.3	-12.7	3.3	24.0	QP	Ver	100.0	184.0
2*	100.568MHz	43.5	27.4	-16.1	6.7	20.7	QP	Ver	100.0	219.0
3*	210.056MHz	43.5	27.6	-15.9	6.4	21.2	QP	Ver	100.0	214.0
4*	450.253MHz	46.0	29.1	-16.9	1.2	27.9	QP	Ver	100.0	20.0
5*	753.135MHz	46.0	34.1	-11.9	1.0	33.1	QP	Ver	100.0	35.0
6*	947.135MHz	46.0	37.2	-8.8	1.7	35.5	QP	Ver	100.0	0.0

Test Result: Pass

[TestMode: TX]; [Polarity: Horizontal]

Test Lab: BlueAsia EMC Lab（RE #1）	Project: BLA-EMC 202106-A26
EUT: Tablet pc	Test Engineer: Charlie
M/N: Tibuta_MastrePad_E100	Temperature: 25℃
S/N:	Humidity: 53%RH
Test Mode: BLE mode	Test Voltage:
Note:	Test Data: 2021-07-02 11:43:16



No.	Frequency	Limit dBuV/m	Level dBuV/m	Delta dB	Reading dBuV	Factor dB/m	Detector	Polar	Height cm	Angle deg
1*	33.759MHz	40.0	29.7	-10.3	6.5	23.2	QP	Hor	100.0	254.0
2*	84.926MHz	40.0	20.0	-20.0	0.5	19.5	QP	Hor	100.0	0.0
3*	210.056MHz	43.5	31.4	-12.1	10.2	21.2	QP	Hor	100.0	75.0
4*	386.354MHz	46.0	32.2	-13.8	5.4	26.8	QP	Hor	100.0	293.0
5*	729.491MHz	46.0	35.0	-11.0	2.4	32.6	QP	Hor	100.0	136.0
6*	912.821MHz	46.0	37.3	-8.7	2.2	35.1	QP	Hor	100.0	87.0

Test Result: Pass

5 RADIATED EMISSIONS WHICH FALL IN THE RESTRICTED BANDS

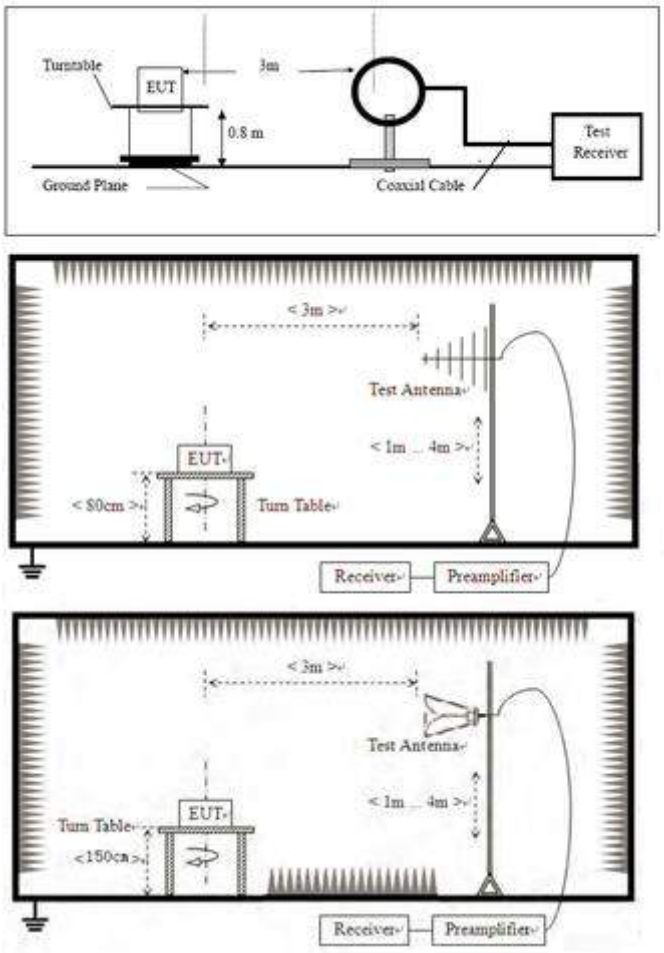
Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 6.10.5
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

5.1 LIMITS

Frequency(MHz)	Field strength(microvolts/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

Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector, 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.

5.2 BLOCK DIAGRAM OF TEST SETUP



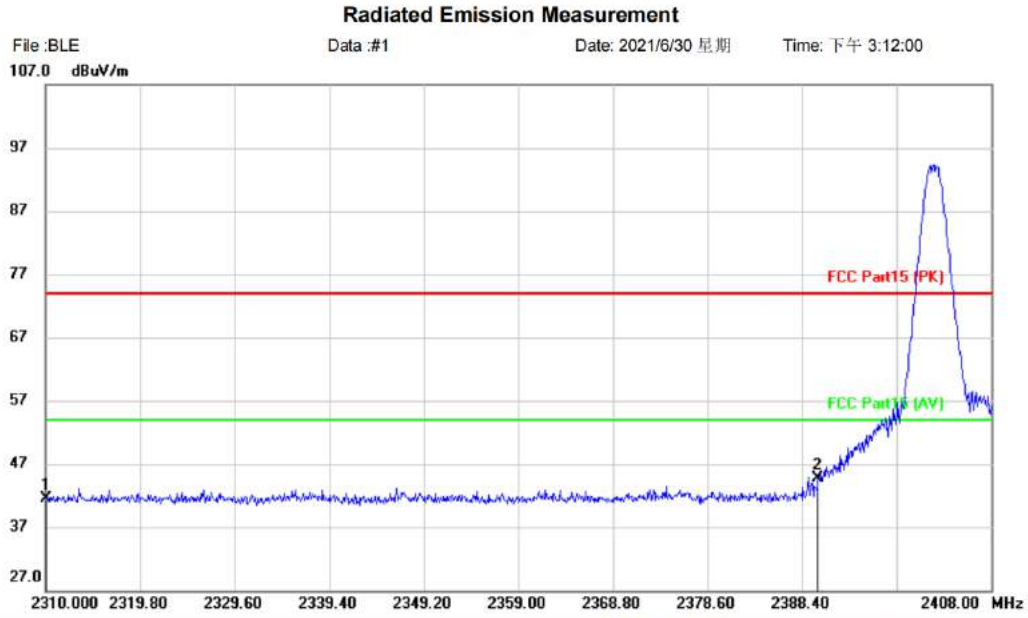
5.3 PROCEDURE

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.
c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.
j. Repeat above procedures until all frequencies measured was complete.
Remark 1: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
Remark 2: For frequencies above 1GHz, 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. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.

5.4 TEST DATA

[TestMode: TX low channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: Tablet pc
M/N: Tibuta_MasterPad_E100
Mode: TX-L
Note:

Polarization: ***Horizontal***
Power:
Distance:

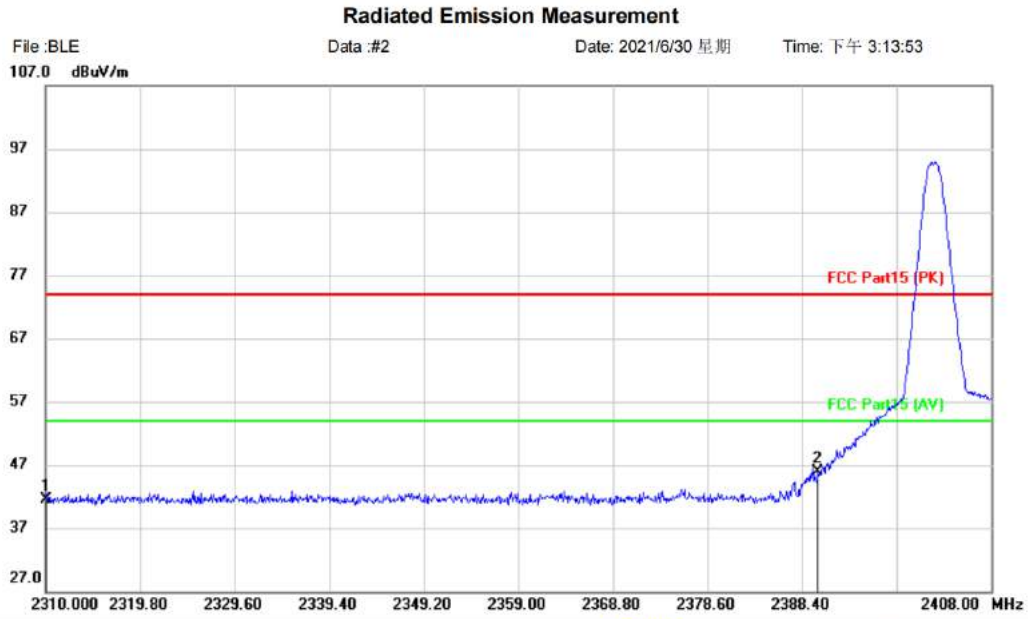
Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2310.000	46.17	-4.61	41.56	74.00	-32.44	peak			
2	*	2390.000	48.95	-4.27	44.68	74.00	-29.32	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[TestMode: TX low channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: Tablet pc
M/N: Tibuta_MasterPad_E100
Mode: TX-L
Note:

Polarization: *Vertical*
Power:
Distance:

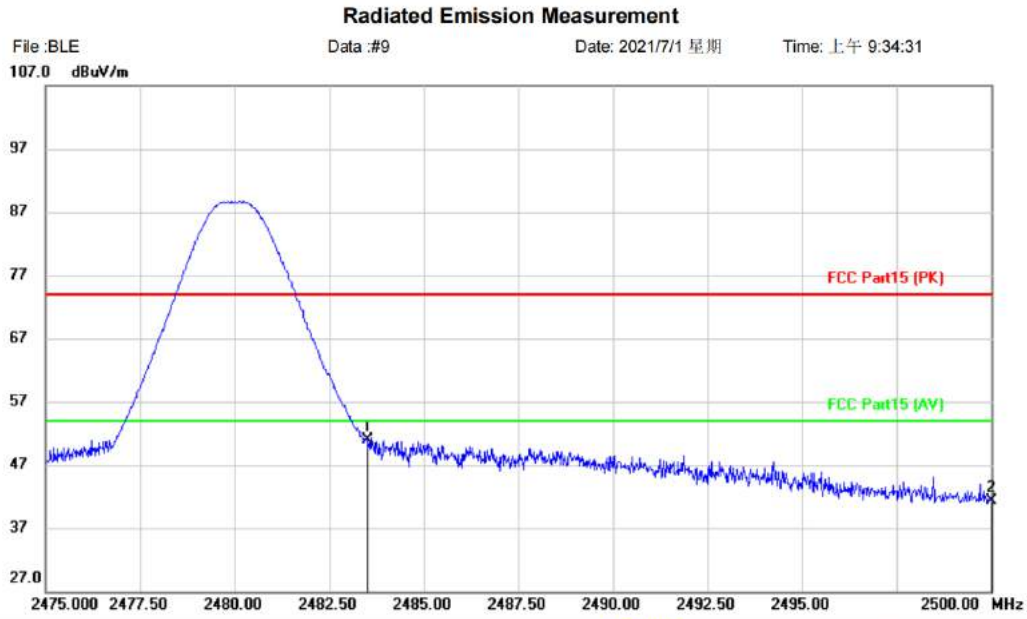
Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1		2310.000	46.21	-4.61	41.60	74.00	-32.40	peak			
2	*	2390.000	50.16	-4.27	45.89	74.00	-28.11	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[TestMode: TX high channel]; [Polarity: Vertical]



Site
Limit: FCC Part15 (PK)
EUT: Tablet pc
M/N: Tibuta_MasterPad_E100
Mode: TX-H
Note:

Polarization: *Vertical*
Power:
Distance:

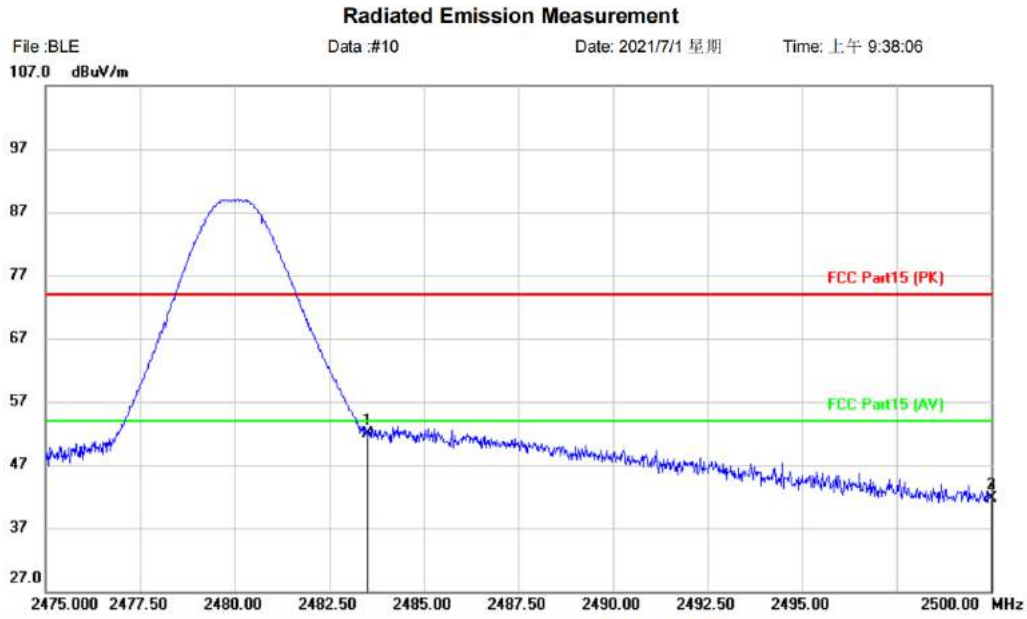
Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	2483.500	54.74	-3.84	50.90	74.00	-23.10	peak			
2		2500.000	45.01	-3.78	41.23	74.00	-32.77	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

[TestMode: TX high channel]; [Polarity: Horizontal]



Site
Limit: FCC Part15 (PK)
EUT: Tablet pc
M/N: Tibuta_MasterPad_E100
Mode: TX-H
Note:

Polarization: ***Horizontal***
Power:
Distance:

Temperature:
Humidity: %

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Over		Antenna Height	Table Degree	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	cm	degree	Comment
1	*	2483.500	55.83	-3.84	51.99	74.00	-22.01	peak			
2		2500.000	45.51	-3.78	41.73	74.00	-32.27	peak			
3		2500.000	45.51	-3.78	41.73	74.00	-32.27	peak			

*:Maximum data x:Over limit !:over margin 〈Reference Only

Test Result: Pass

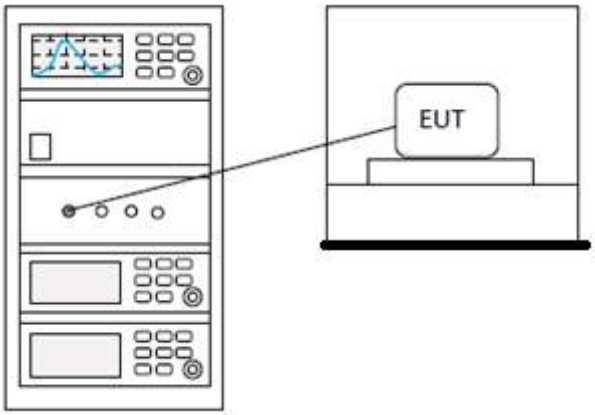
6 CONDUCTED BAND EDGES MEASUREMENT

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.8 & Section 11.13.3.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

6.1 LIMITS

Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

6.2 BLOCK DIAGRAM OF TEST SETUP



6.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

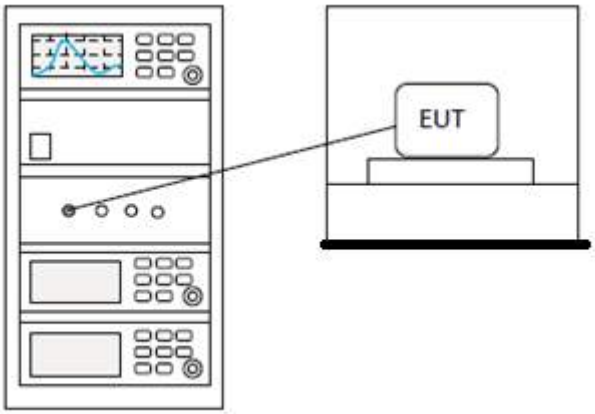
7 POWER SPECTRUM DENSITY

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 11.10.2
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

7.1 LIMITS

Limit:	≤8dBm in any 3 kHz band during any time interval of continuous transmission

7.2 BLOCK DIAGRAM OF TEST SETUP



7.3 TEST DATA

Pass: Please Refer To Appendix: Appendix1 For Details

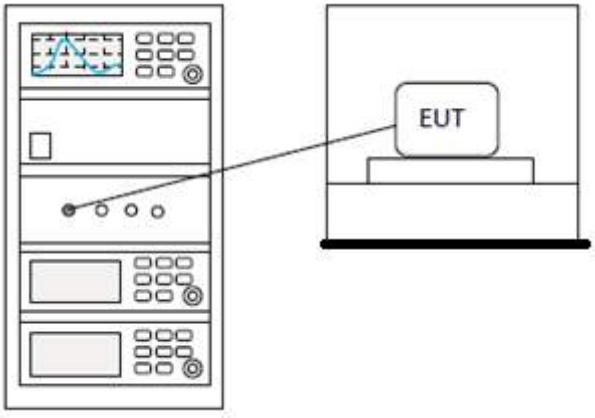
8 CONDUCTED PEAK OUTPUT POWER

Test Standard	47 CFR Part 15, Subpart C 15.247
Test Method	ANSI C63.10 (2013) Section 7.8.5 & Section 11.9.1
Test Mode (Pre-Scan)	TX
Test Mode (Final Test)	TX
Tester	Jozu
Temperature	25℃
Humidity	60%

8.1 LIMITS

Frequency range(MHz)	Output power of the intentional radiator(watt)
902-928	1 for ≥50 hopping channels
	0.25 for 25≤ hopping channels <50
	1 for digital modulation
2400-2483.5	1 for ≥75 non-overlapping hopping channels
	0.125 for all other frequency hopping systems
	1 for digital modulation
5725-5850	1 for frequency hopping systems and digital modulation

8.2 BLOCK DIAGRAM OF TEST SETUP



8.3 TEST DATA

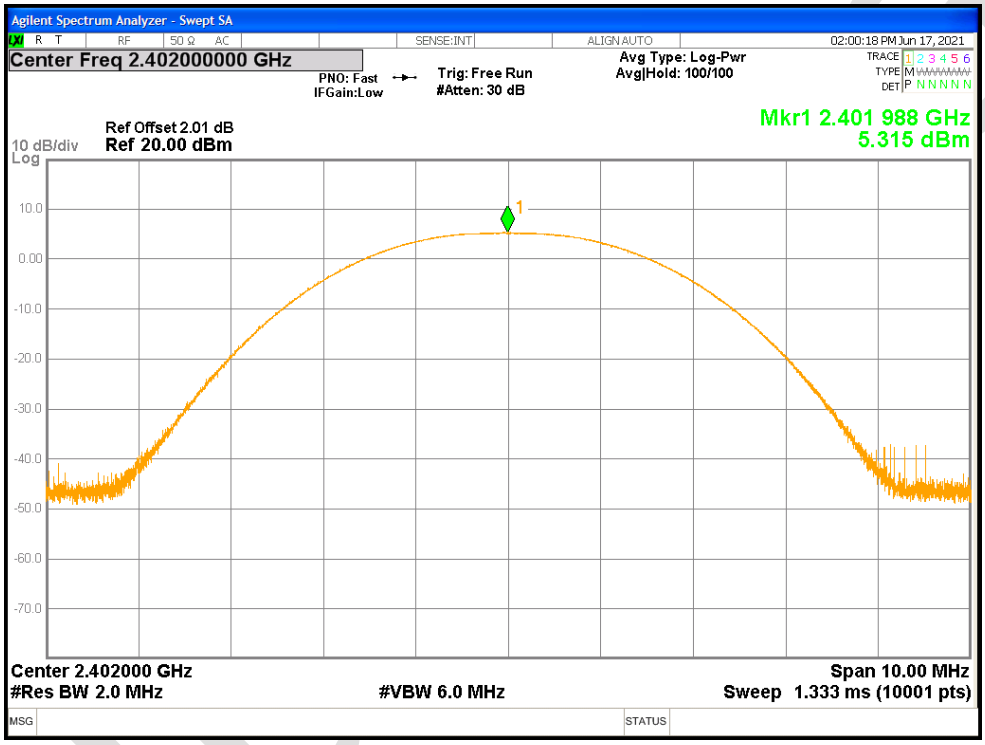
Pass: Please Refer To Appendix: Appendix1 For Details

9 APPENDIX

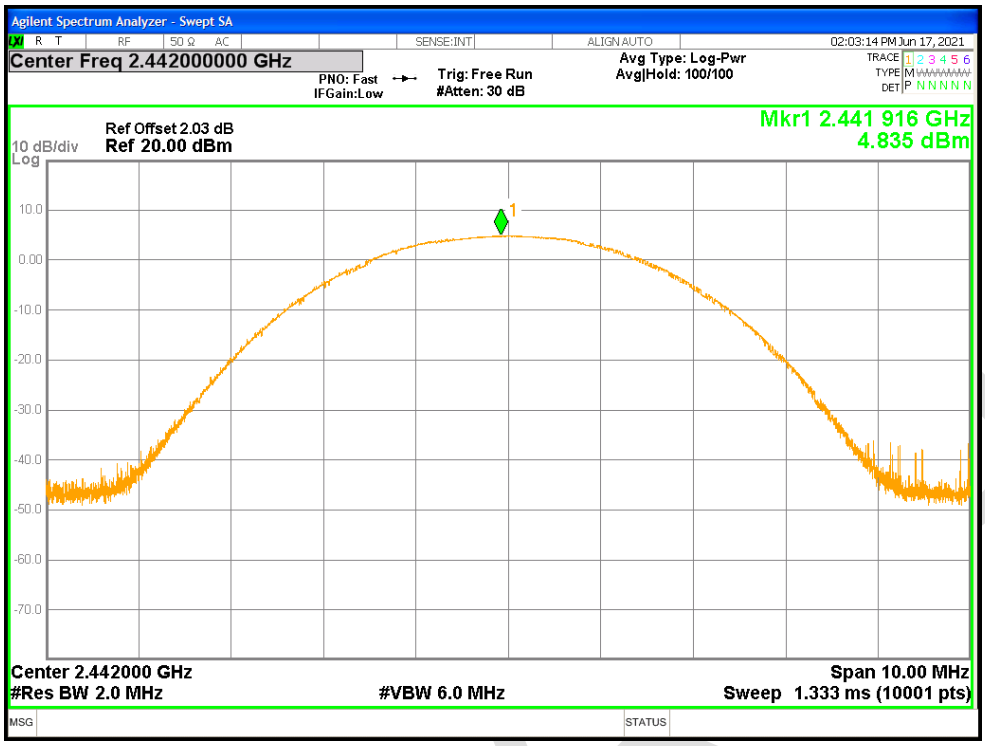
9.1 MAXIMUM CONDUCTED OUTPUT POWER

Condition	Mode	Frequency (MHz)	Antenna	Total Power (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	5.315	30	Pass
NVNT	BLE 1M	2442	Ant1	4.835	30	Pass
NVNT	BLE 1M	2480	Ant1	5.984	30	Pass

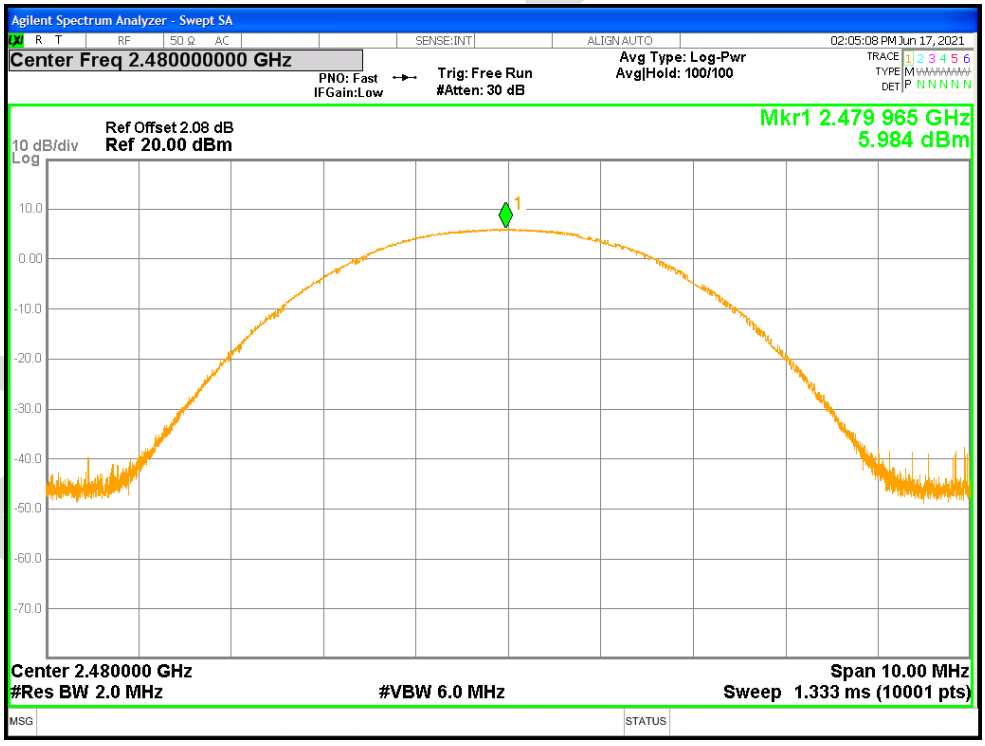
Power NVNT BLE 1M 2402MHz Ant1



Power NVNT BLE 1M 2442MHz Ant1



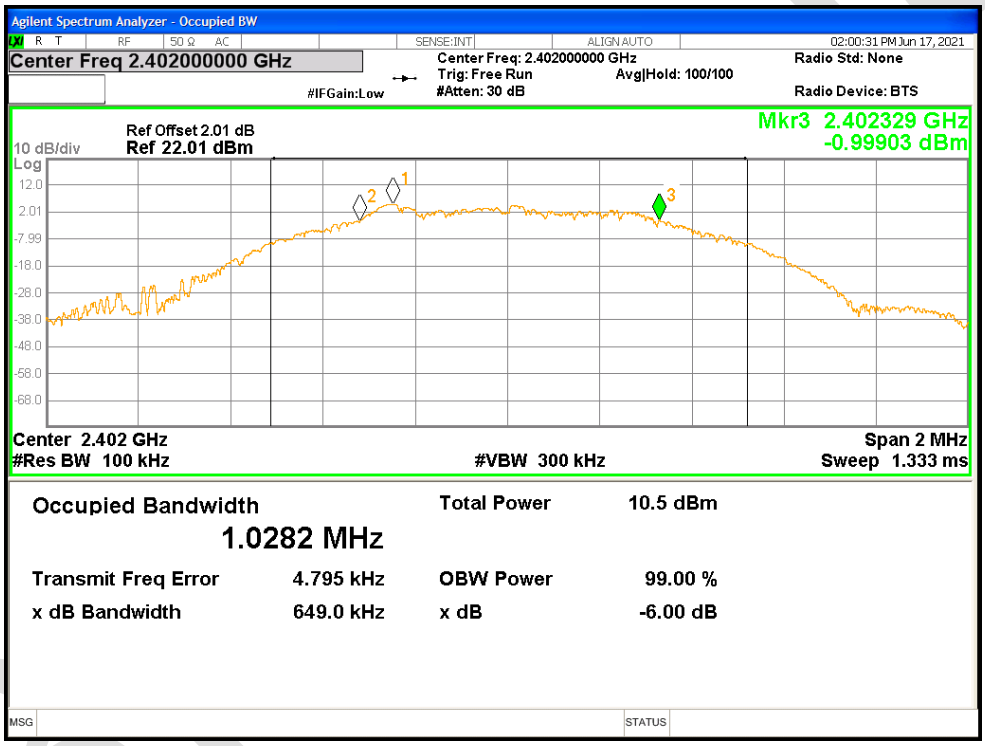
Power NVNT BLE 1M 2480MHz Ant1



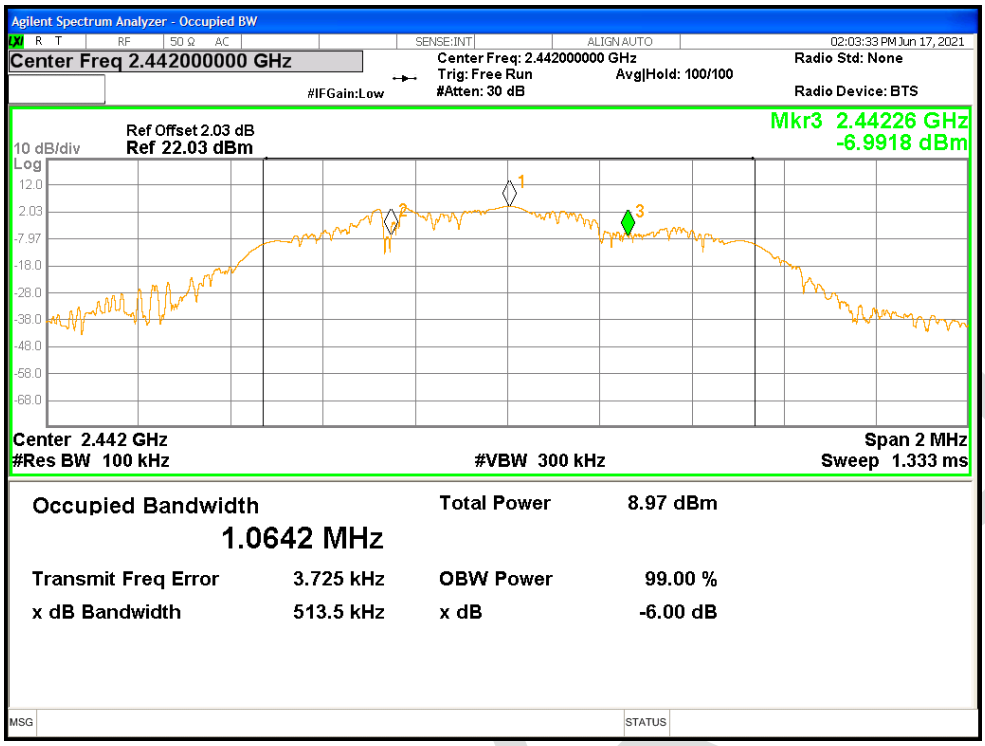
9.2 -6DB BANDWIDTH

Condition	Mode	Frequency (MHz)	Antenna	-6 dB Bandwidth (MHz)	Limit -6 dB Bandwidth (MHz)	Verdict
NVNT	BLE 1M	2402	Ant1	0.649	0.5	Pass
NVNT	BLE 1M	2442	Ant1	0.513	0.5	Pass
NVNT	BLE 1M	2480	Ant1	0.526	0.5	Pass

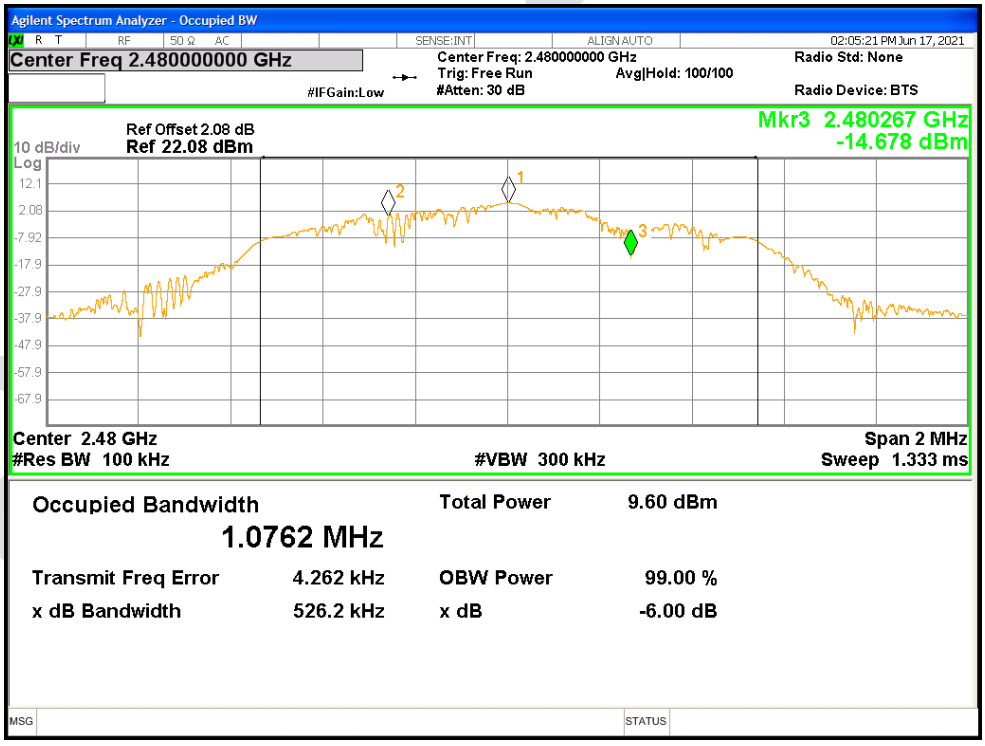
-6dB Bandwidth NVNT BLE 1M 2402MHz Ant1



-6dB Bandwidth NVNT BLE 1M 2442MHz Ant1



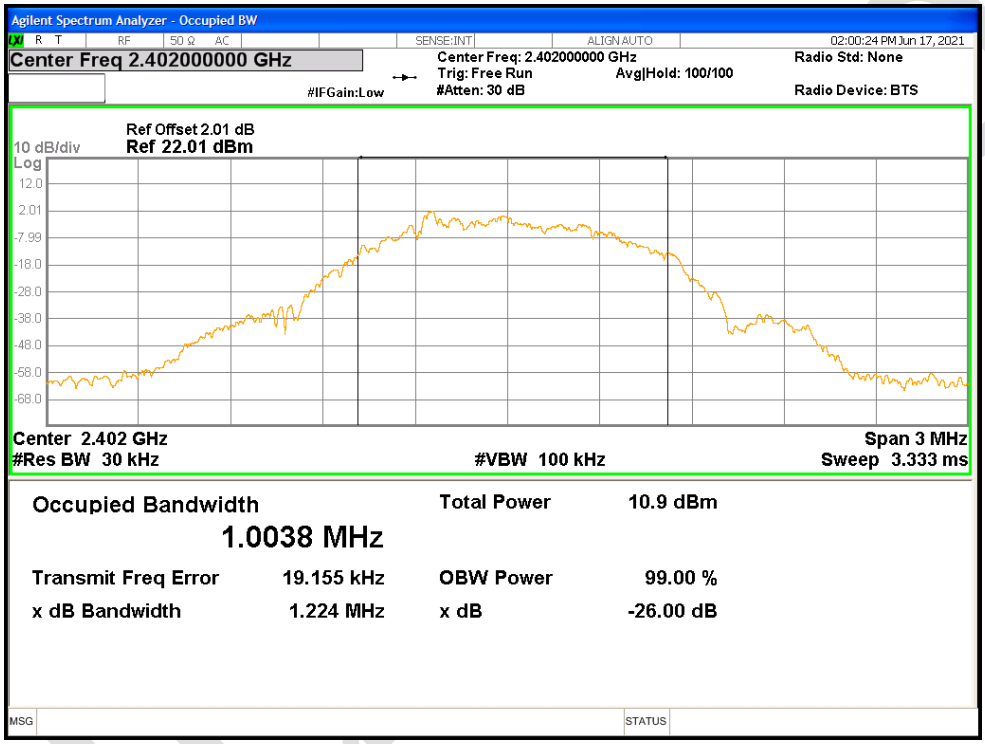
-6dB Bandwidth NVNT BLE 1M 2480MHz Ant1



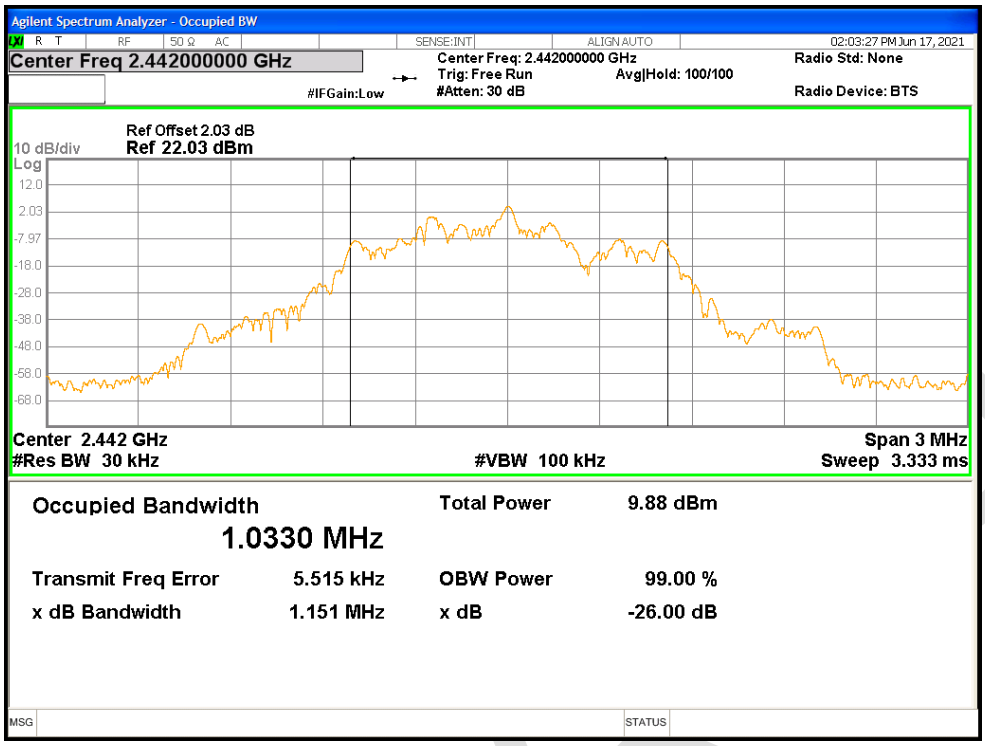
9.3 OCCUPIED CHANNEL BANDWIDTH

Condition	Mode	Frequency (MHz)	Antenna	99% OBW (MHz)
NVNT	BLE 1M	2402	Ant1	1.003760675
NVNT	BLE 1M	2442	Ant1	1.033025217
NVNT	BLE 1M	2480	Ant1	1.03624261

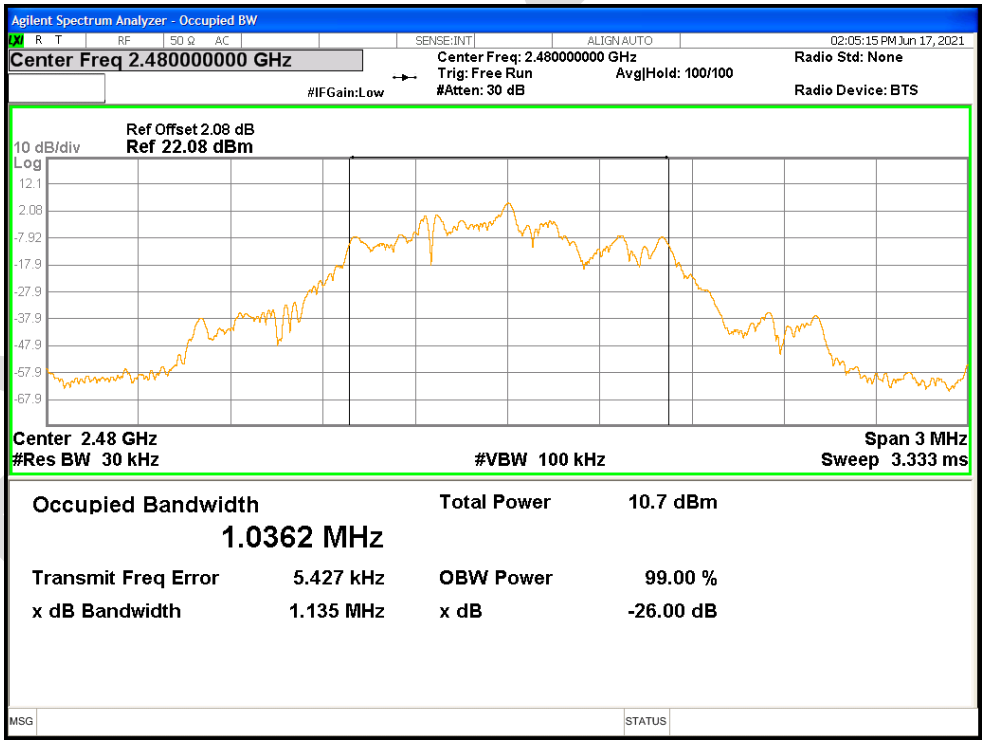
OBW NVNT BLE 1M 2402MHz Ant1



OBW NVNT BLE 1M 2442MHz Ant1



OBW NVNT BLE 1M 2480MHz Ant1



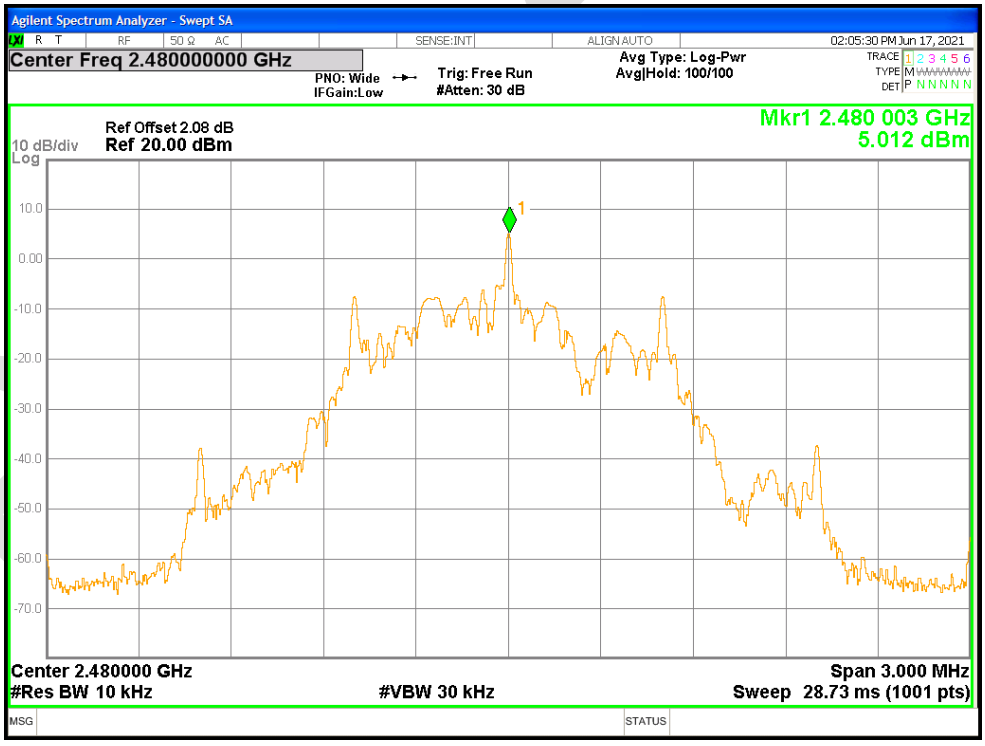
9.4 MAXIMUM POWER SPECTRAL DENSITY LEVEL

Condition	Mode	Frequency (MHz)	Antenna	Max PSD (dBm)	Limit (dBm)	Verdict
NVNT	BLE 1M	2402	Ant1	-4.114	8	Pass
NVNT	BLE 1M	2442	Ant1	4.034	8	Pass
NVNT	BLE 1M	2480	Ant1	5.012	8	Pass

PSD NVNT BLE 1M 2402MHz Ant1

PSD NVNT BLE 1M 2442MHz Ant1

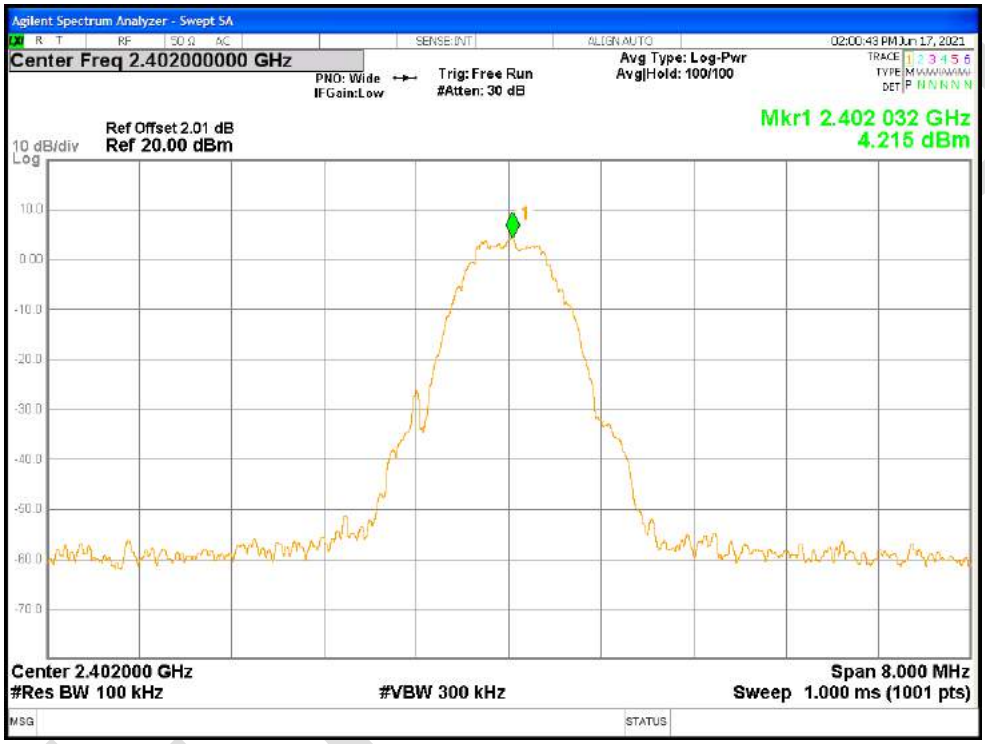
PSD NVNT BLE 1M 2480MHz Ant1



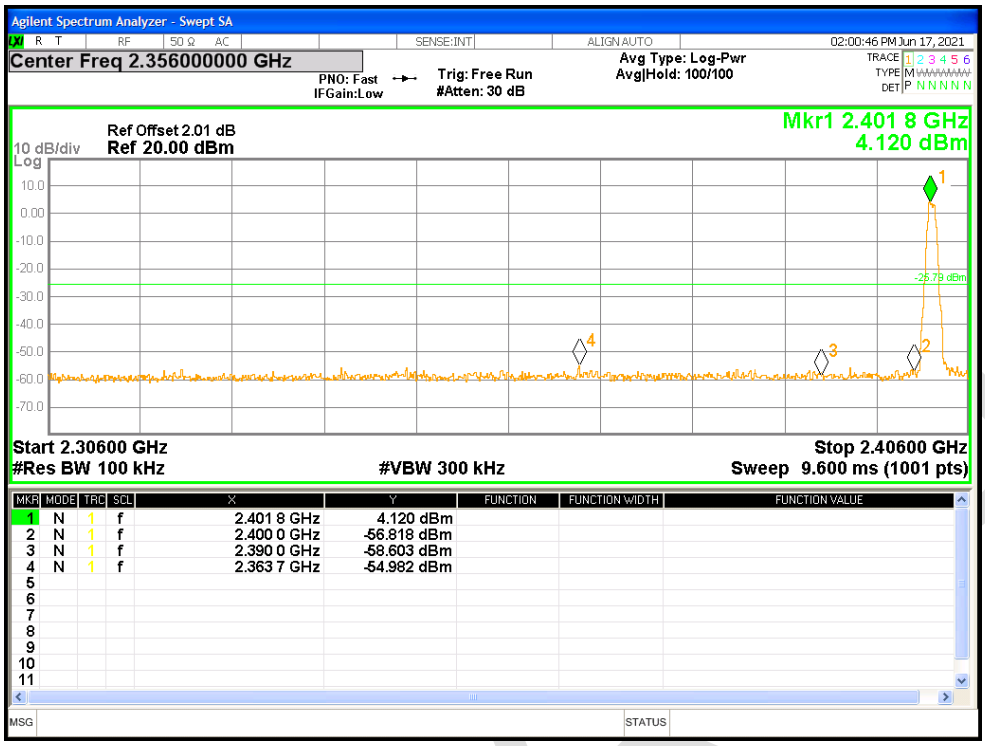
9.5 BAND EDGE

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-59.2	-30	Pass
NVNT	BLE 1M	2480	Ant1	-61.08	-30	Pass

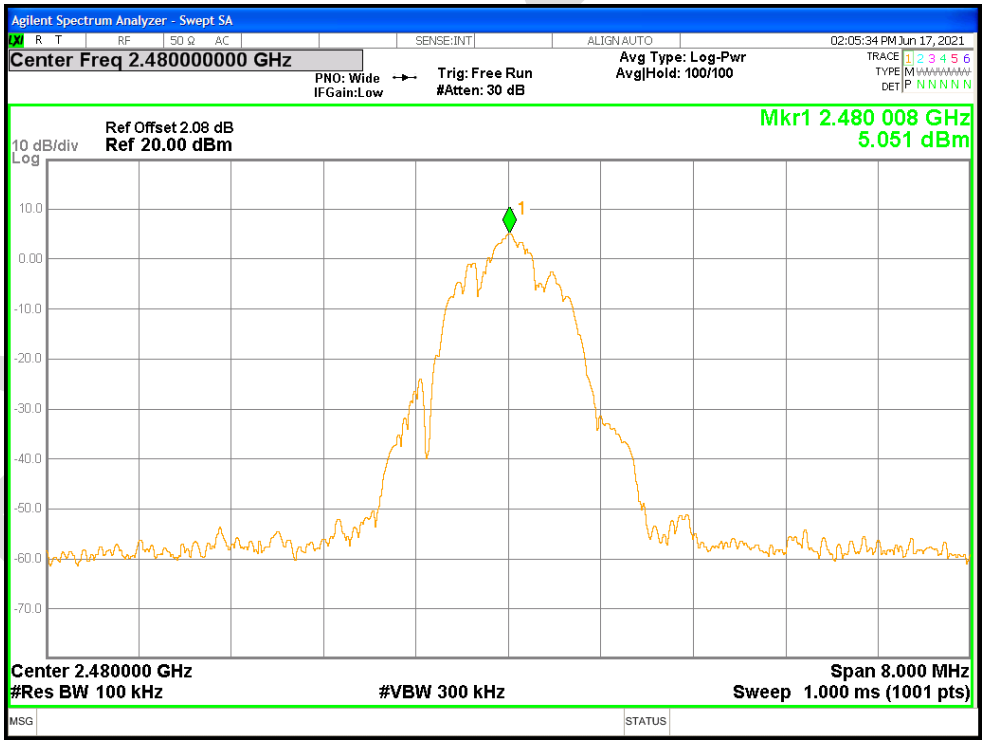
Band Edge NVNT BLE 1M 2402MHz Ant1 Ref



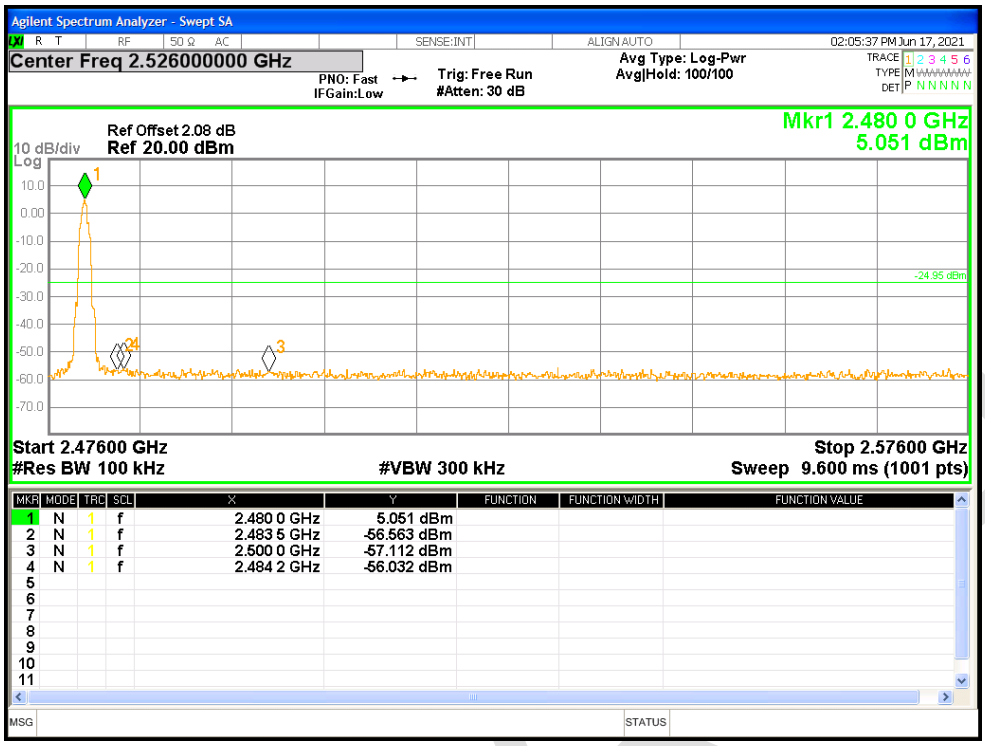
Band Edge NVNT BLE 1M 2402MHz Ant1 Emission



Band Edge NVNT BLE 1M 2480MHz Ant1 Ref



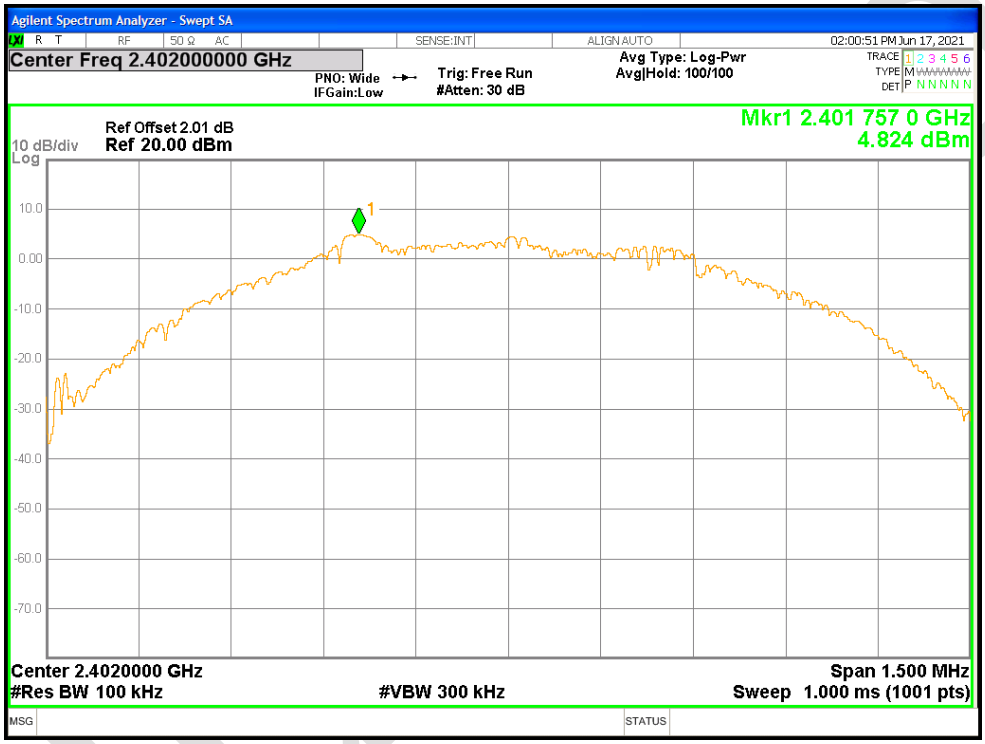
Band Edge NVNT BLE 1M 2480MHz Ant1 Emission


Agilent Spectrum Analyzer - Swept SA
Center Freq 2.526000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 100/100
02:05:37 PM Jun 17, 2021
Ref Offset 2.08 dB
10 dB/div
Log
Ref 20.00 dBm
Mkr1 2.480 0 GHz
5.051 dBm
-24.95 dBm
Start 2.47600 GHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 2.57600 GHz
Sweep 9.600 ms (1001 pts)
1 N 1 f 2.480 0 GHz 5.051 dBm
2 N 1 f 2.483 5 GHz -56.563 dBm
3 N 1 f 2.500 0 GHz -57.112 dBm
4 N 1 f 2.484 2 GHz -56.032 dBm

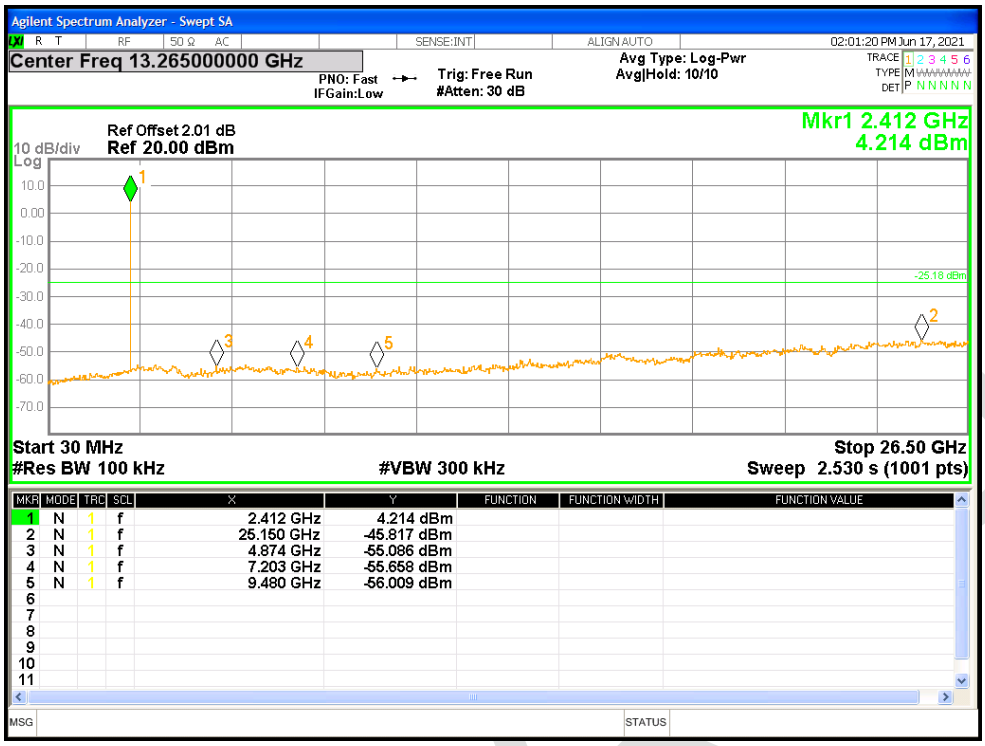
9.6 CONDUCTED RF SPURIOUS EMISSION

Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	BLE 1M	2402	Ant1	-50.63	-30	Pass
NVNT	BLE 1M	2442	Ant1	-49.1	-30	Pass
NVNT	BLE 1M	2480	Ant1	-50.37	-30	Pass

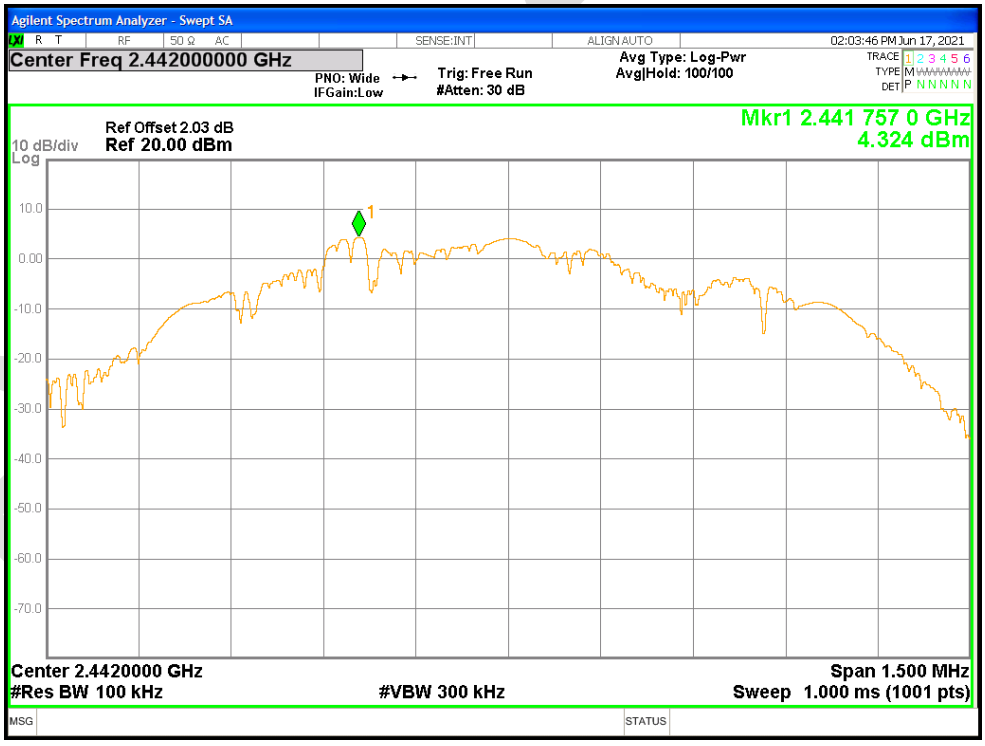
Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Ref



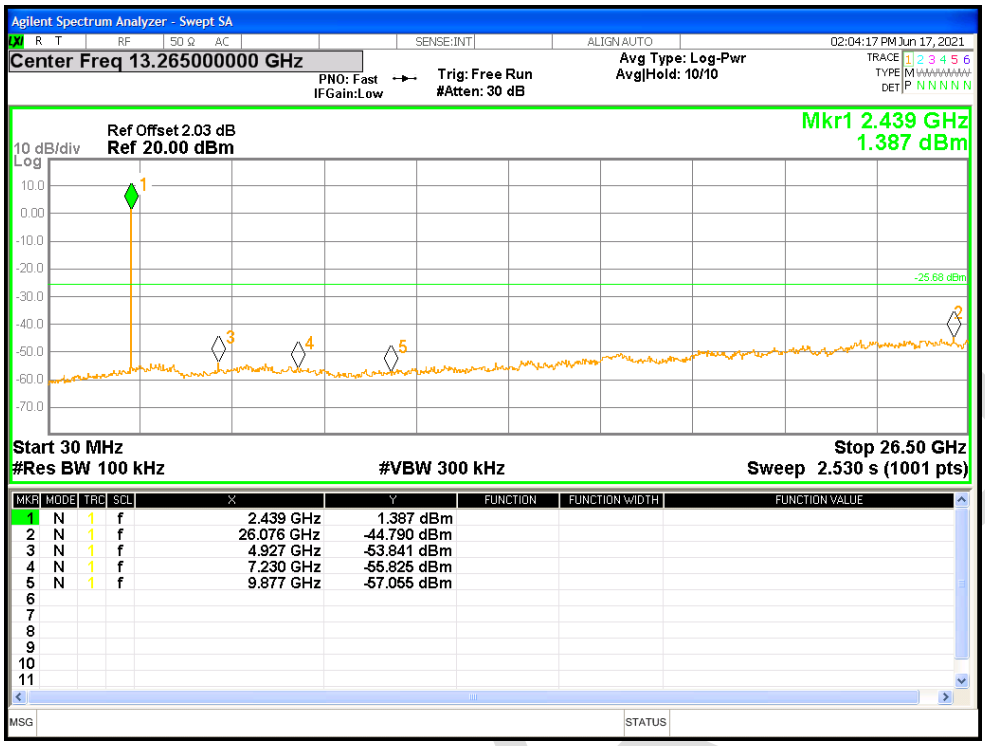
Tx. Spurious NVNT BLE 1M 2402MHz Ant1 Emission



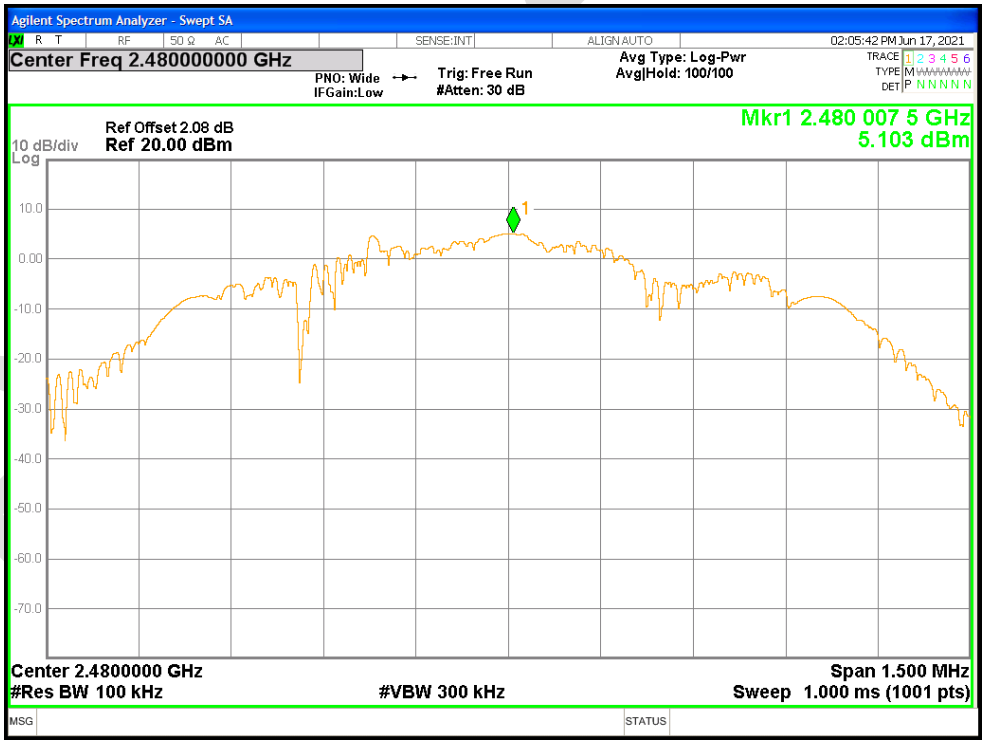
Tx. Spurious NVNT BLE 1M 2442MHz Ant1 Ref



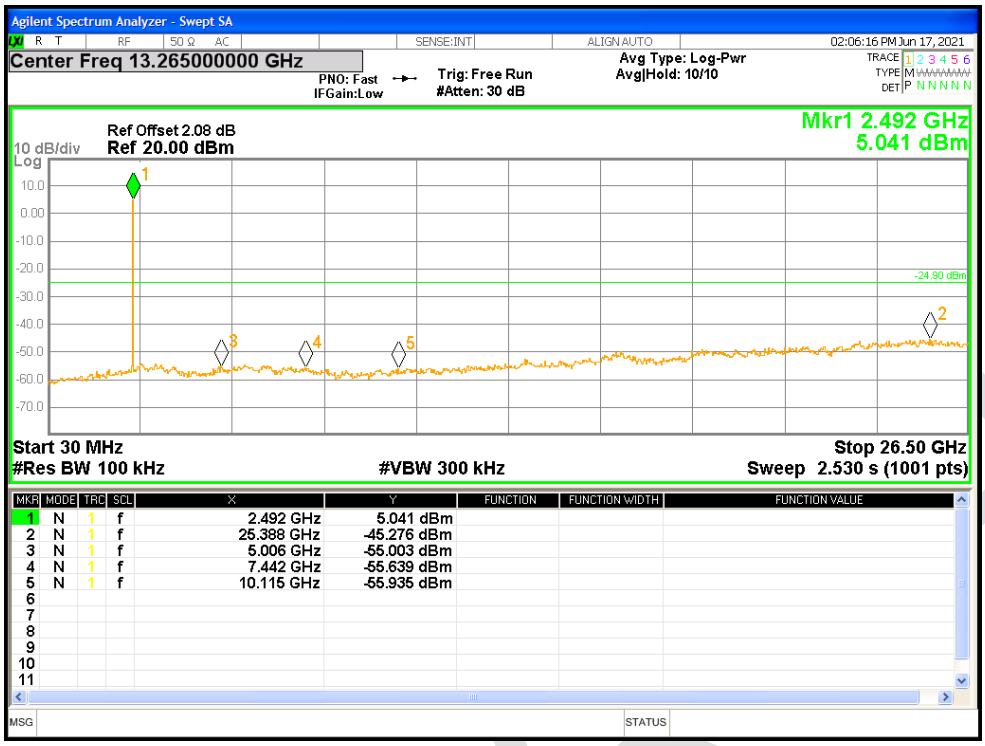
Tx. Spurious NVNT BLE 1M 2442MHz Ant1 Emission



Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Ref



Tx. Spurious NVNT BLE 1M 2480MHz Ant1 Emission

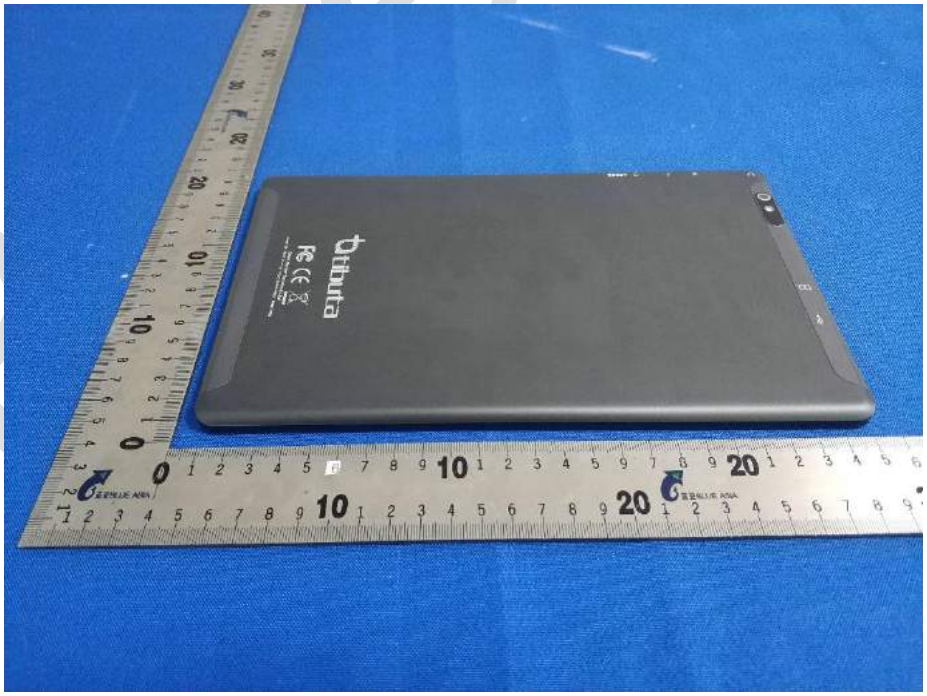

Agilent Spectrum Analyzer - Swept SA
Center Freq 13.265000000 GHz
PNO: Fast
IFGain:Low
Trig: Free Run
#Atten: 30 dB
Avg Type: Log-Pwr
Avg|Hold: 10/10
02:06:16 PM Jun 17, 2021
Ref Offset 2.08 dB
10 dB/div
Ref 20.00 dBm
Mkr1 2.492 GHz
5.041 dBm
-24.90 dBm
Start 30 MHz
#Res BW 100 kHz
#VBW 300 kHz
Stop 26.50 GHz
Sweep 2.530 s (1001 pts)
1 N 1 f 2.492 GHz 5.041 dBm
2 N 1 f 25.388 GHz -45.276 dBm
3 N 1 f 5.006 GHz -55.003 dBm
4 N 1 f 7.442 GHz -55.639 dBm
5 N 1 f 10.115 GHz -55.935 dBm

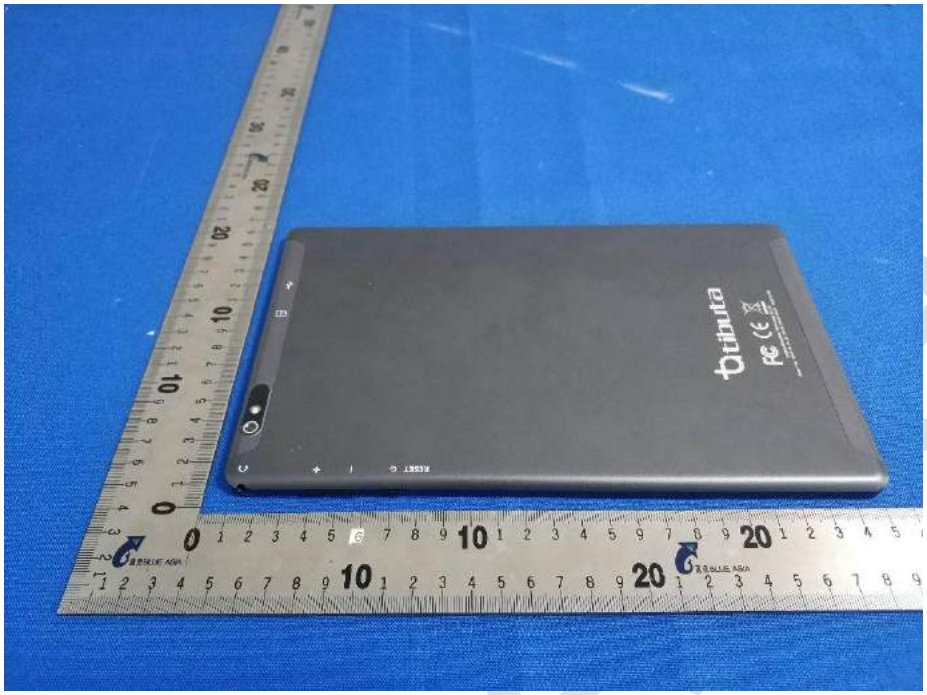
APPENDIX A: PHOTOGRAPHS OF TEST SETUP

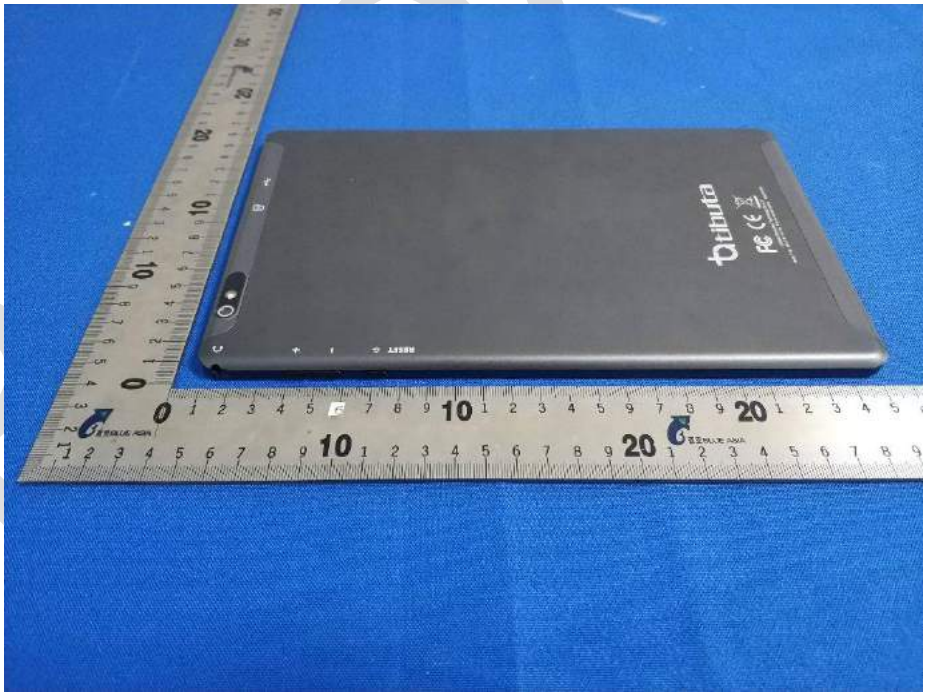
Conducted Emissions at AC Power Line (150kHz-30MHz)

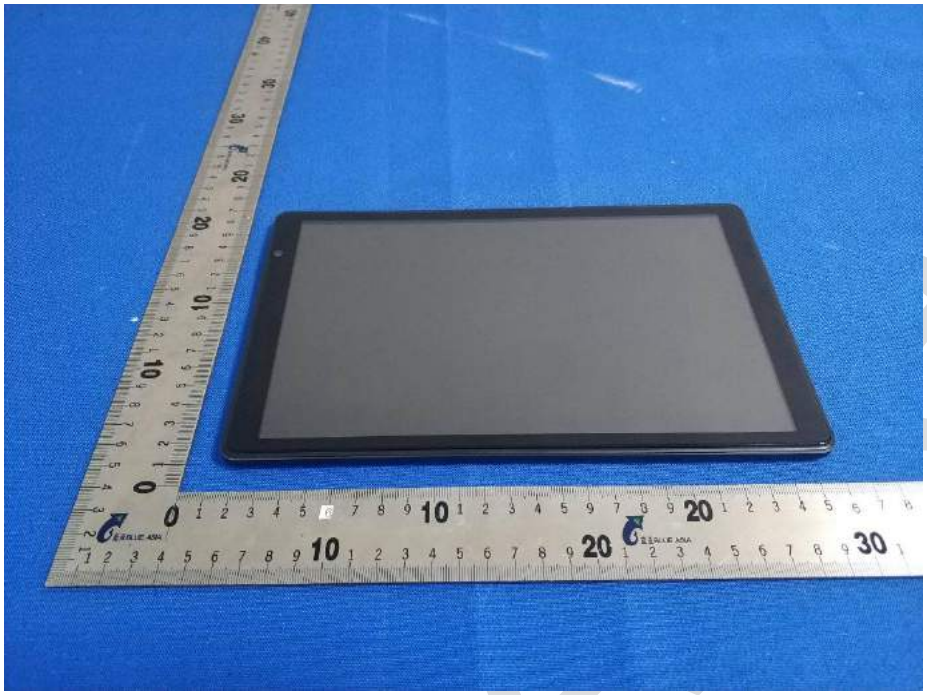
Radiated Spurious Emissions

APPENDIX B: PHOTOGRAPHS OF EUT

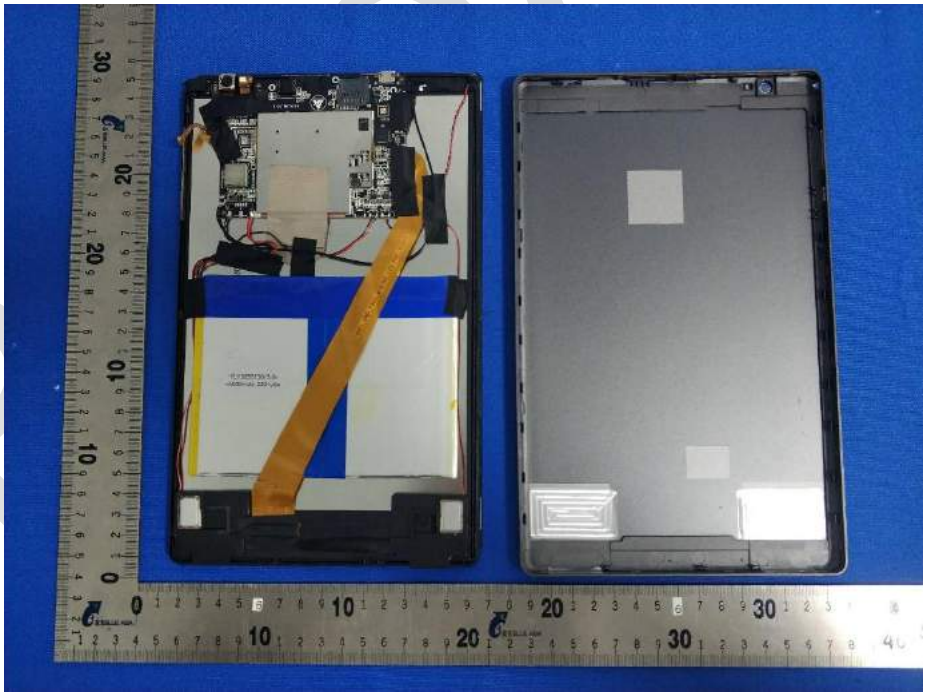


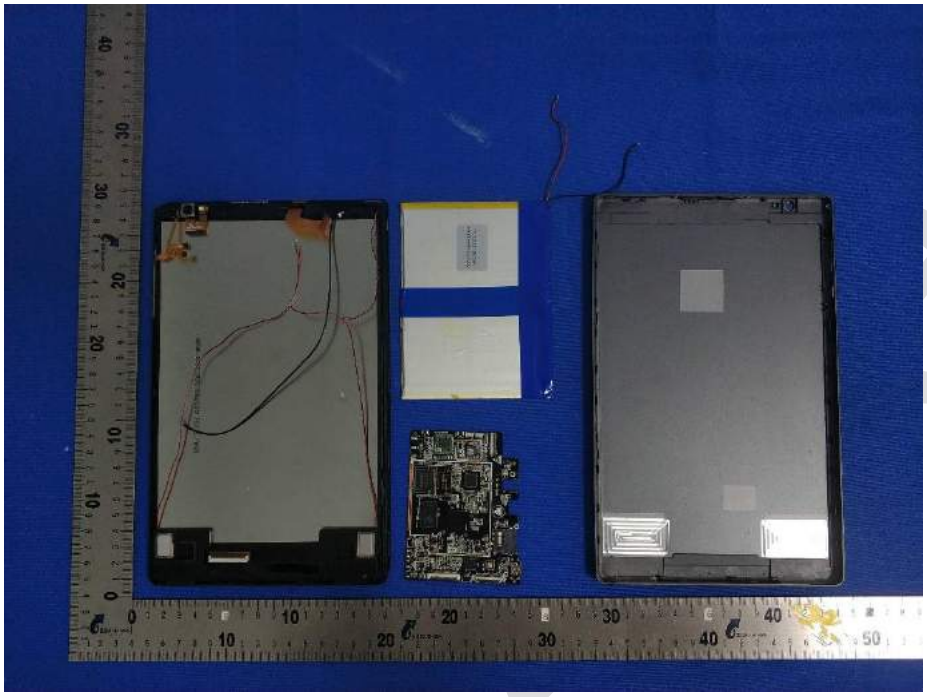


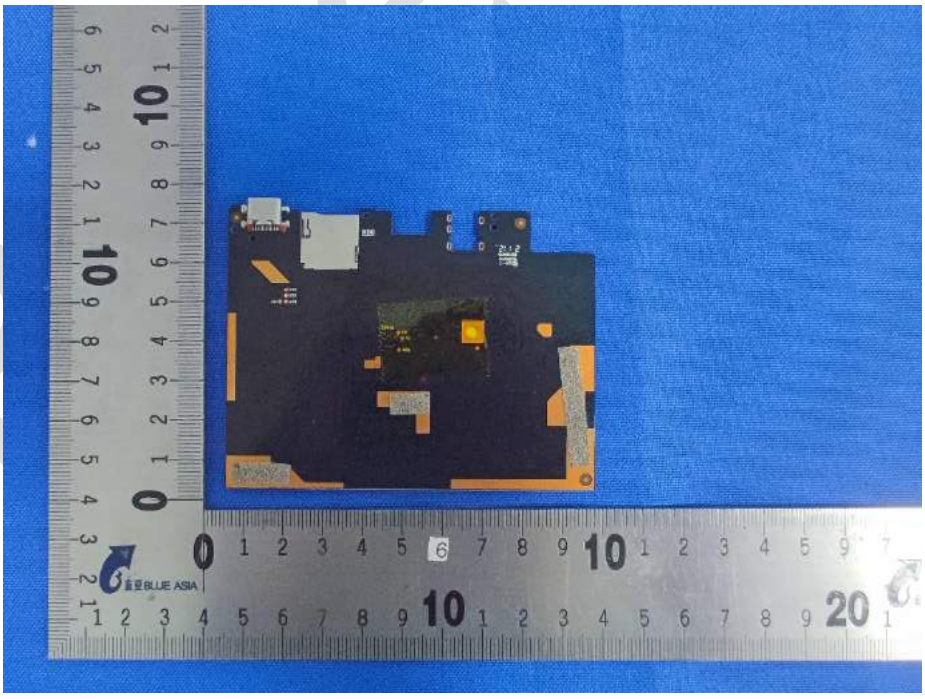


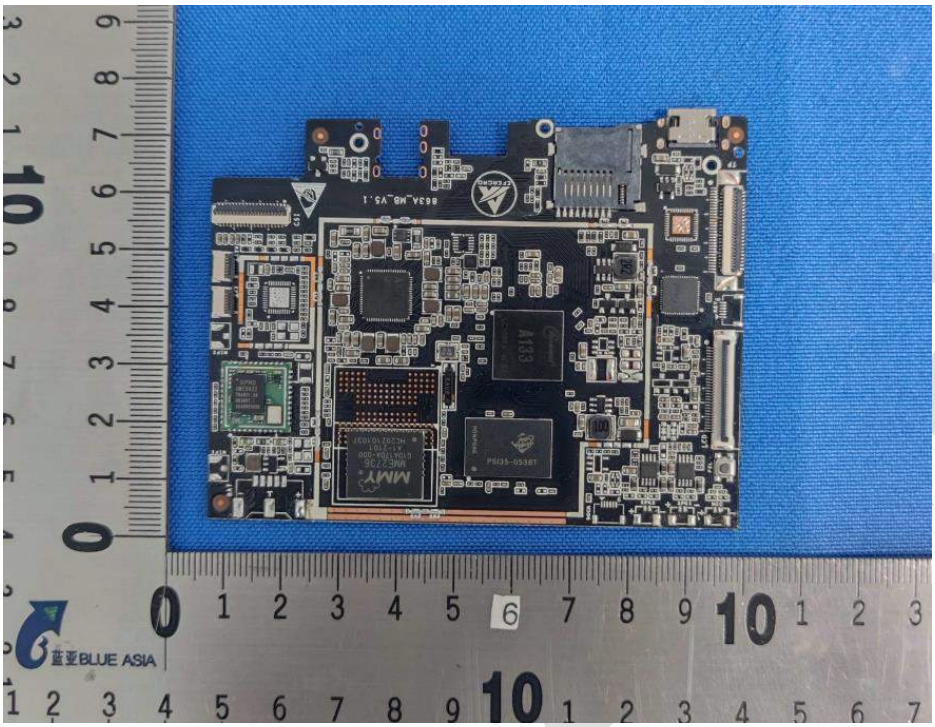


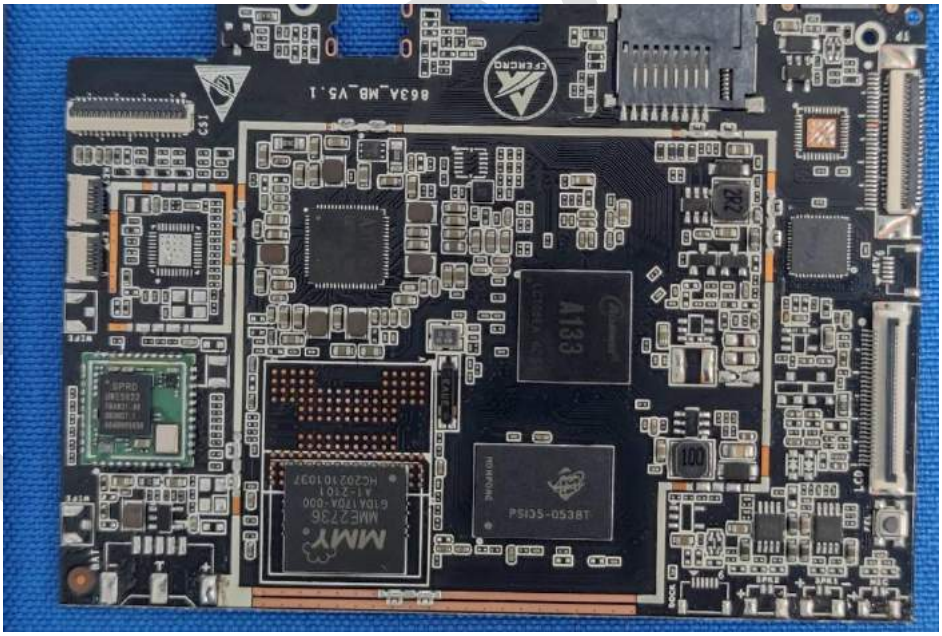

tibuta

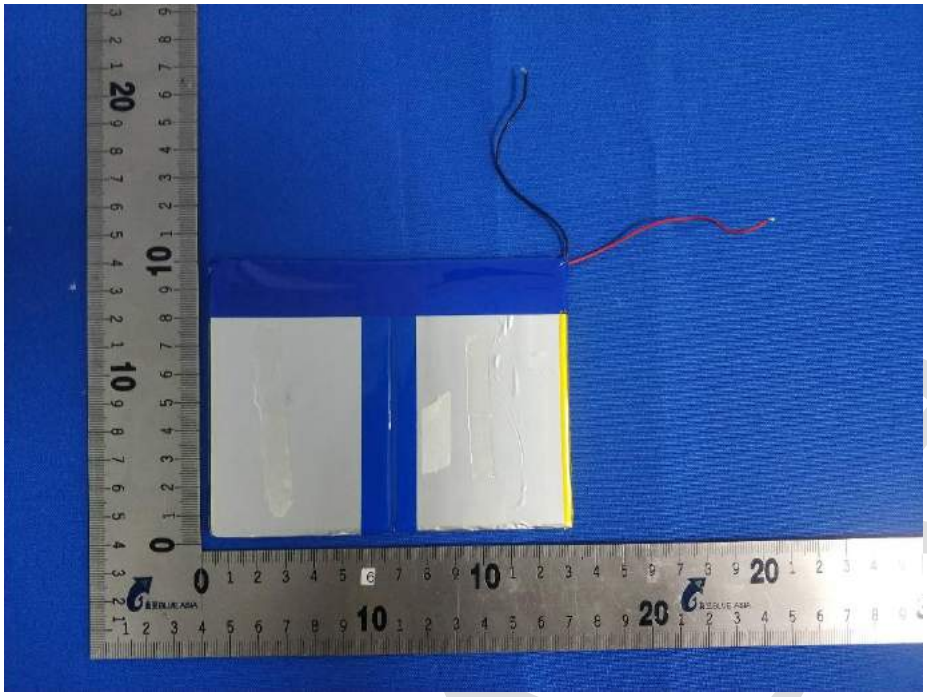


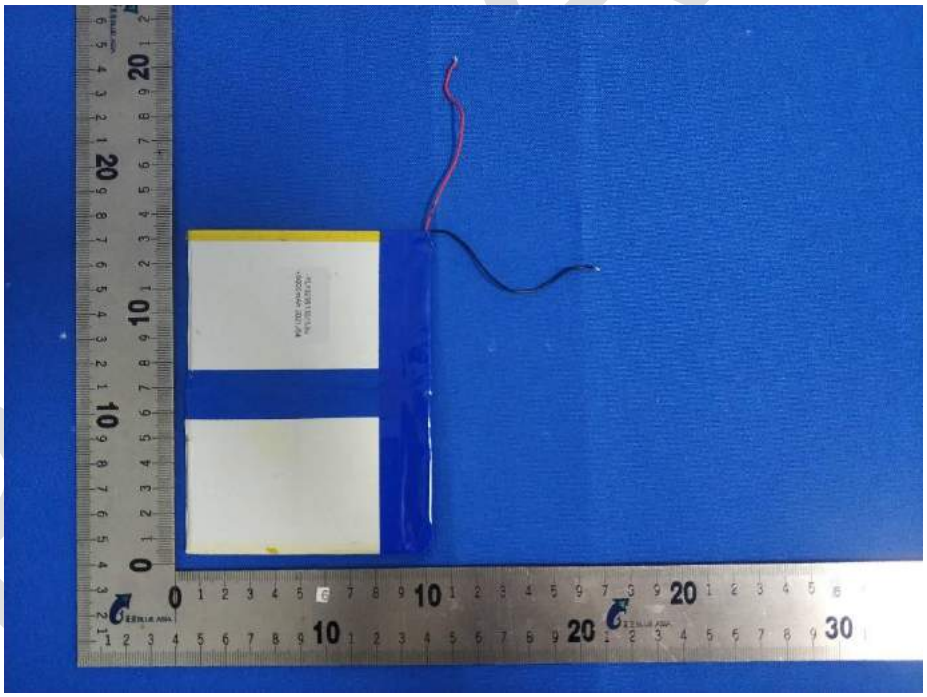












----END OF REPORT----

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