

Test Report

Verified code: 036574

Report No.: E202112276794-3

Customer: NunoErin, LLC

Address: 533 Commerce Street, Jackson MS 39201 USA

Sample Name: Table top touch screen

Sample Model: UCTTA-42

Receive Sample Date: Dec.29,2021

Test Date: Dec.31,2021 ~ Apr.21,2022

Reference Document: CFR 47, FCC Part 15 Subpart C
RADIO FREQUENCY DEVICES:Subpart C—Intentional Radiators

Test Result: Pass

Prepared by: *Wen. Wen*

Reviewed by: *Jiang Tao*

Approved by: *Xiao Liang*

GUANGZHOU GRG METROLOGY & TEST CO., LTD

Issued Date: 2022-06-02

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REPORT ISSUED HISTORY

Report Version	Report No.	Description	Compile Date
1.0	E202112276794-3	Original Issue	2022-04-27

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1. TEST RESULT SUMMARY

Standard	Item	Limit / Severity	Result
CFR 47, FCC Part 15 Subpart C (§15.247) ANSI C63.10-2013 KDB 558074 D01 15.247 measurement guidance v05r02	Antenna Requirement	§15.203	PASS
	Conducted Emissions	§15.207 (a)	PASS
	Radiated Spurious Emission	§15.247(d) §15.205 §15.209	PASS
	6 dB Bandwidth	§15.247 (a)(2)	PASS
	Maximum Peak Output Power	§15.247(b)(3)	PASS
	Power Spectral Density	§15.247(e)	PASS
	Conducted band edges and Spurious Emission	§15.247(d)	PASS
	Restricted bands of operation	§15.205 §15.209 §15.247(d)	PASS

The EUT have one antenna. The antenna is Internal antenna. The max gain of Antenna is 3dBi, which accordance 15.203 is considered sufficient to comply with the provisions of this section.

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2. GENERAL DESCRIPTION OF EUT

2.1 APPLICANT

Name: NunoErin, LLC

Address: 533 Commerce Street, Jackson MS 39201 USA

2.2 MANUFACTURER

Name: Chengdu Vantron Technology Co., Ltd.

Address: No.5 GaoPeng Road, Hi-Tech Zone, Chengdu, SiChuan, P.R. China 610045

2.3 FACTORY

Name: Chengdu Vantron Technology Co., Ltd.

Address: No.5 GaoPeng Road, Hi-Tech Zone, Chengdu, SiChuan, P.R. China 610045

2.4 BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Product Name: Table top touch screen

Product Model: UCTTA-42

Adding Model: /

Trade Name: NunoErin

FCC ID: 2A5VA-UCTTA42

Rating: Input: 100-240V~ 50/60Hz 2A

Frequency Band: 2412MHz-2462MHz for IEEE 802.11b/g/n HT20

Modulation Type: DSSS for IEEE 802.11b mode;
OFDM for IEEE 802.11g/n mode

Antenna Specification: Internal antenna with 3dBi gain (Max)

Temperature Range: 0°C~ 50°C

Hardware Version: V 2.0

Software Version: Android 10

Sample submitting way: ☒ Provided by customer ☐ Sampling

Sample No: E202112276794-0003

2.5 CHANNEL LIST

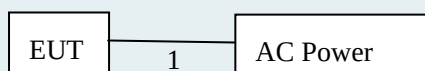
CH01 - CH11 for IEEE 802.11b, IEEE 802.11g, IEEE 802.11n HT20							
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	04	2427	07	2442	10	2457
02	2417	05	2432	08	2447	11	2462
03	2422	06	2437	09	2452		

2.6 TEST OPERATION MODE

Mode No.	Description of the modes
1	2.4G Wi-Fi TX mode

2.7 LOCAL SUPPORTIVE

Name of Equipment	Manufacturer	Model	Serial Number	Note
/	/	/	/	/
Cable				
AC cable(No.1)	/	/	/	Unshield 1.2m

2.8 CONFIGURATION OF SYSTEM UNDER TEST**Test software:**

Software version	Test level
Ampak RF testTool	Default

Power Setting:

Mode	Date Rate	Frequency (MHz)	Power Setting
IEEE 802.11b	1M	2412	Default
		2437	Default
		2462	Default
IEEE 802.11g	6M	2412	Default
		2437	Default
		2462	Default
IEEE 802.11n HT20	MCS0	2412	Default
		2437	Default
		2462	Default

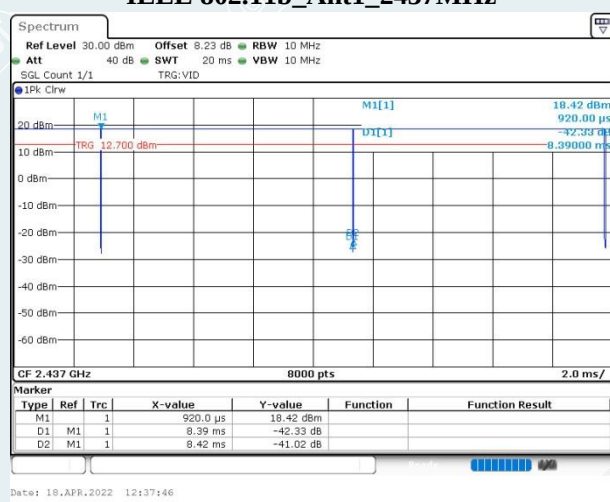
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2.9 DUTY CYCLE

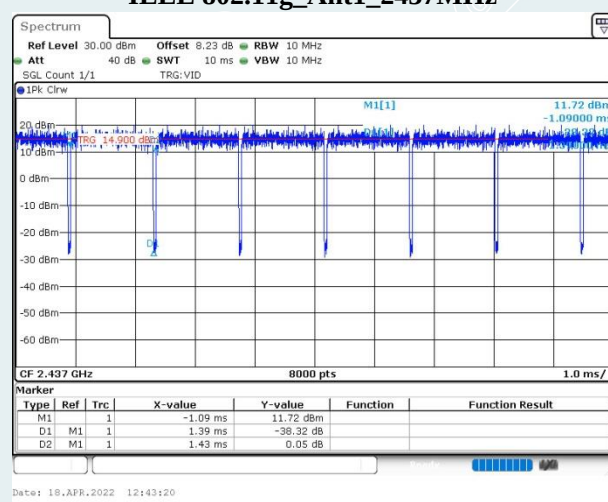
EUT Name	Table top touch screen	Model	UCTTA-42
Environmental Conditions	22.6°C/48%RH	Test Voltage	AC 120V/60Hz
Tested By	Deng Weihao	Tested Date	2022-04-18

Test Mode	Antenna	Frequency (MHz)	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	T [s]
IEEE 802.11b	Ant1	2437	8.39	8.42	99.64	0.00839
IEEE 802.11g	Ant1	2437	1.39	1.43	97.20	0.00139
IEEE 802.11n HT20	Ant1	2437	1.30	1.34	97.01	0.00130

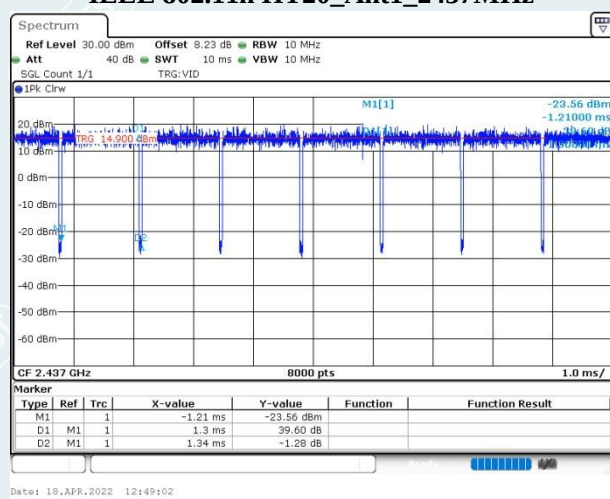
IEEE 802.11b_Ant1_2437MHz



IEEE 802.11g_Ant1_2437MHz



IEEE 802.11n HT20_Ant1_2437MHz



3. LABORATORY AND ACCREDITATIONS

3.1 LABORATORY

The tests & measurements refer to this report were performed by Shenzhen EMC Laboratory of Guangzhou GRG Metrology & Test Co., Ltd.

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P.C. : 518110

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3.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025.

USA A2LA(Certificate#:2861.01)

The measuring facility of laboratories has been authorized or registered by the following approval agencies.

Canada ISED (Company Number: 24897, CAB identifier:CN0069)

USA FCC (Registration Number: 759402, Designation Number:CN1198)

Copies of granted accreditation certificates are available for downloading from our web site,
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3.3 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

Measurement		Frequency	Uncertainty
Radiated Emission	Horizontal	9kHz~30MHz	4.46dB
		30MHz~1000MHz	4.30dB
		1GHz~18GHz	5.60dB
		18GHz~26.5GHz	3.65dB
	Vertical	9kHz~30MHz	4.46dB
		30MHz~1000MHz	4.30dB
		1GHz~18GHz	5.60dB
		18GHz~26.5GHz	3.65dB
Conduction Emission		9kHz~150kHz	2.80dB
		150kHz~10MHz	2.80dB
		10MHz~30MHz	2.20dB

Measurement	Uncertainty
RF frequency	6.0×10^{-6}
RF power conducted	0.78 dB
Occupied channel bandwidth	0.4 dB
Unwanted emission, conducted	0.68 dB
Humidity	6 %
Temperature	2 °C

This uncertainty represents an expanded uncertainty factor of $k=2$.

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4. LIST OF USED TEST EQUIPMENT AT GRGT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Conducted Emissions				
EZ-EMC	EZ	CCS-3A1-CE	/	/
EMI Receiver	R&S	ESCI	100783	2022-09-13
LISN(EUT)	R&S	ENV216	101543	2022-09-14
Radiated Spurious Emission&Restricted bands of operation				
Test S/W	EZ	CCS-03A1		
Loop Antenna	TESEQ	HLA6121	52599	2023-04-02
Test Receiver	R&S	ESR7	102444	2022-09-21
Preamplifier	EMEC	EM330	I00426	2023-03-05
Bi-log Antenna	Schwarzbeck	VULB9160	VULB9160-3401	2022-10-27
Spectrum Analyzer	Agilent	N9020B	MY57120179	2022-08-08
Horn Antenna	Schwarzbeck	BBHA9120D(1201)	02143	2022-10-22
Board-Band Horn Antenna	Schwarzbeck	BBHA 9170	BBHA 9170-497	2022-10-16
Amplifier	Tonscend	TAP01018048	AP20E8060075	2022-05-09
Amplifier	Tonscend	TAP184050	AP20E806071	2022-05-17
Test S/W	Tonscend	JS32-RE/2.5.1.5		
6 dB Bandwidth				
Spectrum Analyzer	R&S	FSV30	104381	2022-12-10
Output Power				
Pulse power sensor	Anristu	MA2411B	1126150	2023-03-01
Power meter	Anristu	ML2495A	1204003	2023-02-28
Conducted band edges and Spurious Emission				
Spectrum Analyzer	R&S	FSV30	104381	2022-12-10
Power Spectral Density				
Spectrum Analyzer	R&S	FSV30	104381	2022-12-10

Note: The calibration interval of the above test instruments is 12 months.

5. CONDUCTED EMISSION MEASUREMENT

5.1 LIMITS

Frequency range	Limits (dB μ V)	
	Quasi-peak	Average
150kHz~0.5MHz	66~56	56~46
0.5MHz~5MHz	56	46
5MHz~30MHz	60	50

NOTE: (1) The lower limit shall apply at the transition frequencies.

(2) The limit decreases in line with the logarithm of the frequency in the range of 150 kHz to 0.5MHz.

5.2 TEST PROCEDURES

Procedure of Preliminary Test

Test procedures follow ANSI C63.10:2013.

For measurement of the disturbance voltage the equipment under test (EUT) is connected to the power supply mains and any other extended network via one or more artificial network(s). An EUT, whether intended to be grounded or not, and which is to be used on a table is configured as follows:

– Either the bottom or the rear of the EUT shall be at a controlled distance of 40 cm from a reference ground plane. This ground plane is normally the wall or floor of a shielded room. It may also be a grounded metal plane of at least 2 m by 2 m. This is physically accomplished as follows:

1) place the EUT on a table of non-conducting material which is at least 80 cm high. Place the EUT so that it is 40 cm from the wall of the shielded room, or

2) place the EUT on a table of non-conducting material which is 40 cm high so that the bottom of the EUT is 40 cm above the ground plane;

– All other conductive surfaces of the EUT shall be at least 80 cm from the reference ground plane;

– The EUT are placed on the floor that one side of the housings is 40 cm from the vertical reference ground plane and other metallic parts;

– Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth forming a bundle 30 cm to 40 cm long, hanging approximately in the middle between the ground plane and the table.

– I/O cables that are connected to a peripheral shall be bundled in the centre. The end of the cable may be terminated if required using correct terminating impedance. The total length shall not exceed 1 m.

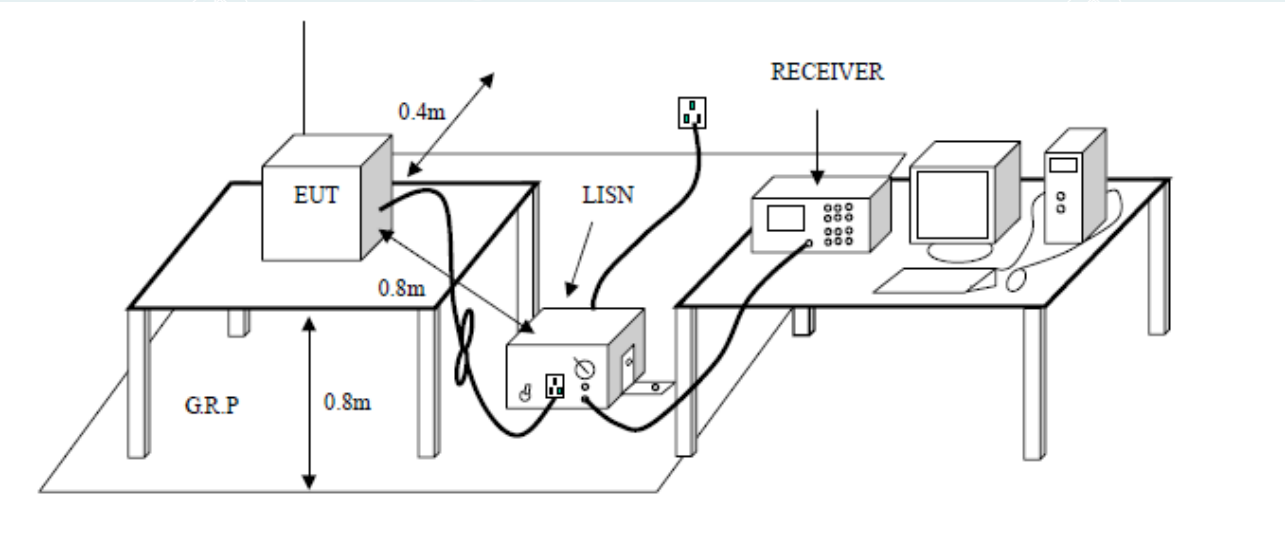
– Use serial board or connecting line to make EUT and notebook to communicate, according to the actual need to make EUT send constant frequency signal continuously.

The test mode(s) described in Item 2.6 were scanned during the preliminary test. After the preliminary scan, we found the test mode described in Item 2.6 producing the highest emission level. The EUT configuration and cable configuration of the above highest emission levels were recorded for reference of the final test.

Procedure of Final Test

EUT and support equipment were set up on the test bench as per the configuration with highest emission level in the preliminary test. A scan was taken on both power lines, 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. The test data of the worst-case condition(s) was recorded.

5.3 TEST SETUP



5.4 DATA SAMPLE

Frequency (MHz)	QuasiPeak Reading (dBuV)	Average Reading (dBuV)	Correction Factor (dB)	QuasiPeak Result (dBuV)	Average Result (dBuV)	QuasiPeak Limit (dBuV)	Average Limit (dBuV)	QuasiPeak Margin (dB)	Average Margin (dB)	Remark (Pass/Fail)
X.XXXX	32.69	25.65	11.52	44.21	37.17	65.78	55.79	-21.57	-18.62	Pass

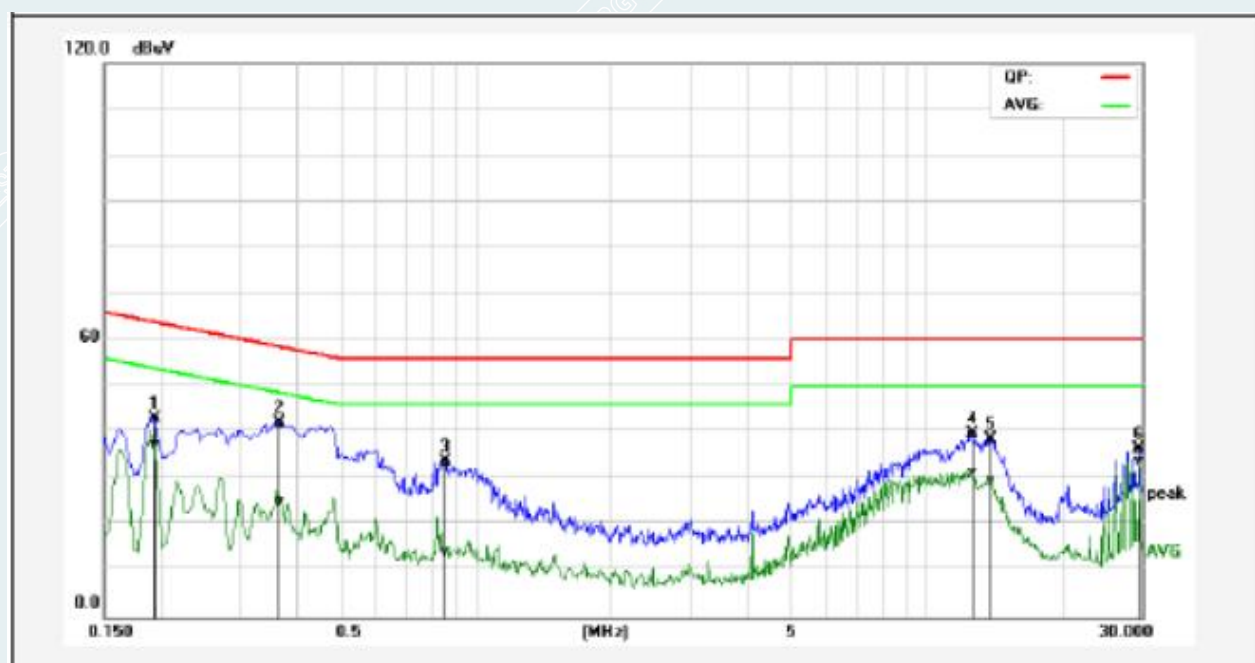
- Factor = Insertion loss of LISN + Cable Loss
- Result = Quasi-peak Reading/ Average Reading + Factor
- Limit = Limit stated in standard
- Margin = Result (dBuV) – Limit (dBuV)

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5.5 TEST RESULTS

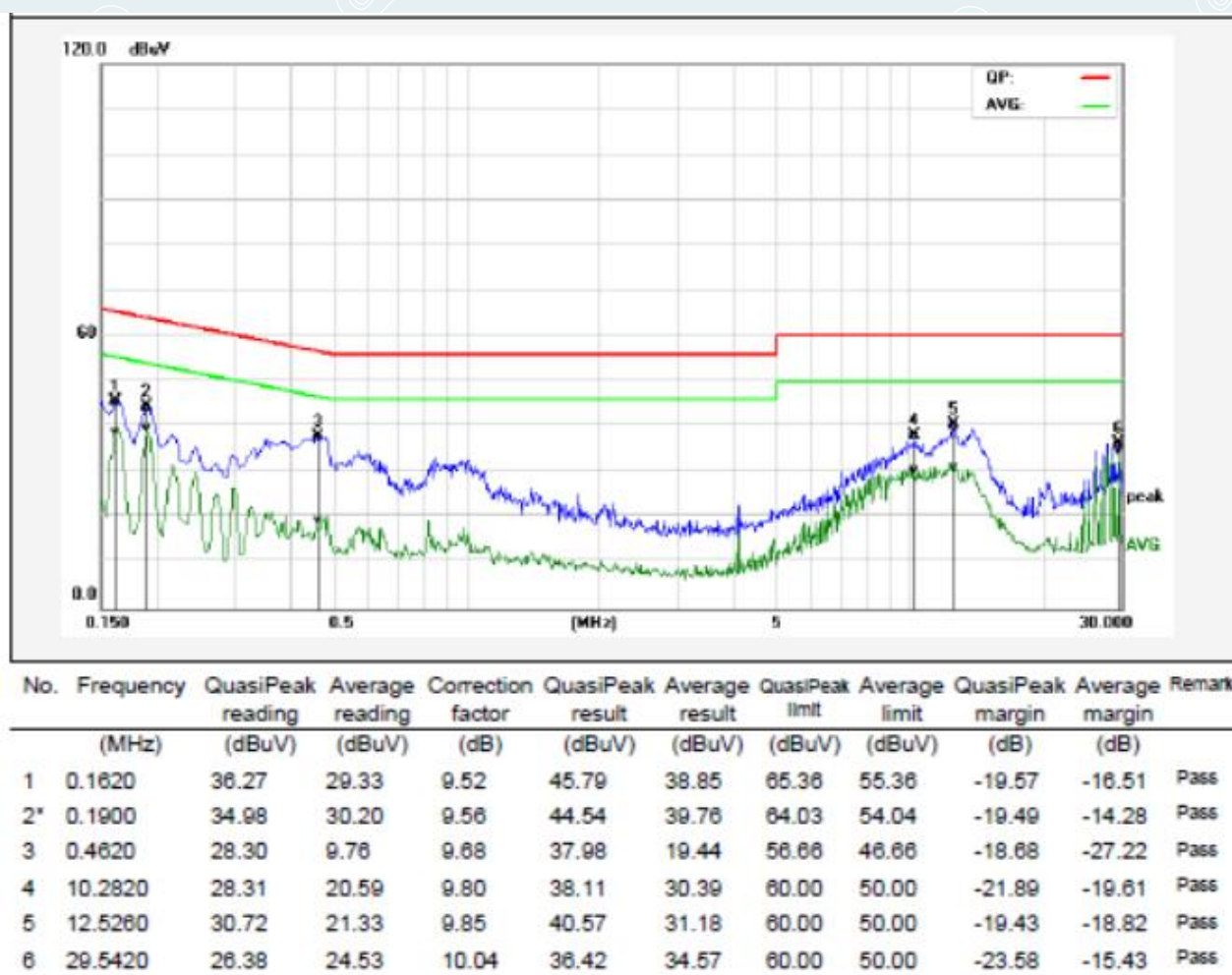
All models were pretested and the worst modes and channels were recorded in this report. (IEEE 802.11b 2412MHz)

EUT Name	Table top touch screen	Model	UCTTA-42
Environmental Conditions	22.5°C/45%RH	Test Mode	Mode 1
Tested By	Zeng Xianglong	Line	L
Tested Date	2022-02-15	Test Voltage	AC120V/60Hz



No.	Frequency (MHz)	QuasiPeak reading (dBμV)	Average reading (dBμV)	Correction factor (dB)	QuasiPeak result (dBμV)	Average result (dBμV)	QuasiPeak limit (dBμV)	Average limit (dBμV)	QuasiPeak margin (dB)	Average margin (dB)	Remark
1	0.1940	33.46	27.72	9.54	43.00	37.26	63.86	53.86	-20.86	-16.60	Pass
2	0.3680	32.50	15.64	9.56	42.06	25.20	58.59	48.59	-16.53	-23.39	Pass
3	0.8580	24.18	4.56	9.59	33.77	14.15	56.00	46.00	-22.23	-31.85	Pass
4	12.6340	29.81	21.48	9.82	39.63	31.30	60.00	50.00	-20.37	-18.70	Pass
5	13.8940	28.77	19.58	9.83	38.60	29.41	60.00	50.00	-21.40	-20.59	Pass
6*	29.5380	26.66	23.99	9.87	36.53	33.86	60.00	50.00	-23.47	-16.14	Pass

EUT Name	Table top touch screen	Model	UCTTA-42
Environmental Conditions	22.5°C/45%RH	Test Mode	Mode 1
Tested By	Zeng Xianglong	Line	N
Tested Date	2022-02-15	Test Voltage	AC120V/60Hz



6. RADIATED SPURIOUS EMISSIONS

6.1 LIMITS

In any 100kHz 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 100kHz 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 30dB instead of 20dB. Attenuation below the general limits specified in §15.209(a) is not required.

Frequency (MHz)	Quasi-peak($\mu\text{V/m}$)	Measurement distance(m)	Quasi-peak(dB $\mu\text{V/m}$)@distance 3m
0.009-0.490	$2400/F(\text{kHz})$	300	128.5~93.8
0.490-1.705	$24000/F(\text{kHz})$	30	73.8~63
1.705-30.0	30	30	69.5
30~88	100	3	40
88~216	150	3	43.5
216~960	200	3	46
Above 960	500	3	54

NOTE:

- (1) The emission limits for the ranges 9-90kHz and 110-490kHz are based on measurements employing a linear average detector.
- (2) The lower limit shall apply at the transition frequencies.
- (3) Above 18GHz test distance is 1m, so the PeakLimit= $74+20*\log(3/1)=83.54$ (dB $\mu\text{V/m}$).
The Avg Limit= $54+20*\log(3/1)=63.54$ (dB $\mu\text{V/m}$).

6.2 TEST PROCEDURES

1) Sequence of testing 9kHz to 30MHz

Setup:

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a rotatable table with 0.8 m height is used.
- If the EUT is a floor standing device, it is placed on the ground.
- Use serial board or connecting line to make EUT and notebook to communicate, according to the actual need to make EUT send constant frequency signal continuously.
- The EUT is placed on a desktop position in the center of the turntable.
- The measurement distance is 3 meter.
- The EUT was set into operation.

Pre measurement:

- The turntable rotates from 0 ° to 360 °.
- The antenna height is 1.0 meter.
- At each turntable position the analyzer sweeps with peak detection to find the maximum of all emissions

Final measurement:

--- Identified emissions during the pre measurement the software maximizes by rotating the turntable position (0 ° to 360 °) and by rotating the elevation axes (0 ° to 360 °).

--- The final measurement will be done in the position (turntable and elevation) causing the highest emissions with QP detector.

--- The final levels, frequency, measuring time, bandwidth, turntable position, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the pre measurement and the limit will be stored.

2) Sequence of testing 30MHz to 1GHz**Setup:**

--- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.

--- If the EUT is a tabletop system, a table with 0.8 m height is used, which is placed on the ground plane.

--- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.

--- Use serial board or connecting line to make EUT and notebook to communicate, according to the actual need to make EUT send constant frequency signal continuously.

--- The EUT is placed on a desktop position in the center of the turntable.

--- The measurement distance is 3 meter.

--- The EUT was set into operation.

Pre measurement:

--- The turntable rotates from 0 ° to 360 °.

--- The antenna is polarized vertical and horizontal.

--- The antenna height changes from 1 to 4 meter.

--- At each turntable position, antenna polarization and height the analyzer sweeps three times in peak to find the maximum of all emissions.

Final measurement:

--- The final measurement will be performed with minimum the six highest peaks.

--- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable rotates from 0 ° to 360 ° and antenna movement between 1 and 4 meter.

--- The final measurement will be done with QP detector with an EMI receiver.

--- The final levels, frequency, measuring time, bandwidth, antenna height, antenna polarization, turntable angle, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement with marked maximum final measurements and the limit will be stored.

3) Sequence of testing 1GHz to 18GHz

Setup:

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a rotatable table with 1.5 m height is used.
- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- Use serial board or connecting line to make EUT and notebook to communicate, according to the actual need to make EUT send constant frequency signal continuously.
- The EUT is placed on a desktop position in the center of the turntable.
- The measurement distance is 3 meter.
- The EUT was set into operation.

Pre measurement:

- The turntable rotates from 0 °to 360 °.
- The antenna is polarized vertical and horizontal.
- The antenna height scan range is 1 meter to 4 meter.
- At each turntable position and antenna polarization the analyzer sweeps with peak detection to find the maximum of all emissions.

Final measurement:

- The final measurement will be performed with minimum the six highest peaks.
- According to the maximum antenna and turntable positions of premeasurement the software maximize the peaks by changing turntable rotates from 0 °to 360 °and antenna movement between 1 and 4 meter. This procedure is repeated for both antenna polarizations.
- The final measurement will be done in the position (turntable, EUT-table and antenna polarization) causing the highest emissions with Peak and Average detector.
- The final levels, frequency, measuring time, bandwidth, turntable position, EUT-table position, antenna polarization, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the pre measurement with marked maximum final measurements and the limit will be stored.

4) Sequence of testing above 18GHz

Setup:

- The equipment was set up to simulate a typical usage like described in the user manual or described by manufacturer.
- If the EUT is a tabletop system, a rotatable table with 1.5 m height is used.
- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- Use serial board or connecting line to make EUT and notebook to communicate, according to the actual need to make EUT send constant frequency signal continuously.
- The EUT is placed on a desktop position in the center of the turntable.
- The measurement distance is 1 meter.
- The EUT was set into operation.

Pre measurement:

--- The antenna is moved spherical over the EUT in different polarisations of the antenna.

Final measurement:

--- The final measurement will be performed at the position and antenna orientation for all detected emissions that were found during the premeasurements with Peak and Average detector.

--- The final levels, frequency, measuring time, bandwidth, correction factor, margin to the limit and limit will be recorded. Also a plot with the graph of the premeasurement and the limit will be stored.

NOTE:

(a).The frequency from 9kHz to 150kHz, Set RBW=300Hz(for Peak&AVG), RBW=300Hz(for Peak&AVG). the frequency from 150kHz to 30MHz, Set RBW=9kHz, RBW=9kHz,(for QP Detector).

(b).The frequency from 30MHz to 1GHz, Set RBW=120kHz, RBW=300kHz,(for QP Detector).

(c).The frequency above 1GHz, for Peak detector: Set RBW=1MHz, RBW=3MHz.

(d). The frequency above 1GHz, for Avg detector: Set RBW=1MHz, if the EUT is configured to transmit with duty cycle $\geq 98\%$, set $VBW \leq RBW/100$ (i.e., 10kHz) but not less than 10Hz. Where duty cycle is defined in section 2.9. If the EUT duty cycle is $< 98\%$, set $VBW \geq 1/T$, Where T is defined in section 2.9.

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6.3 TEST SETUP

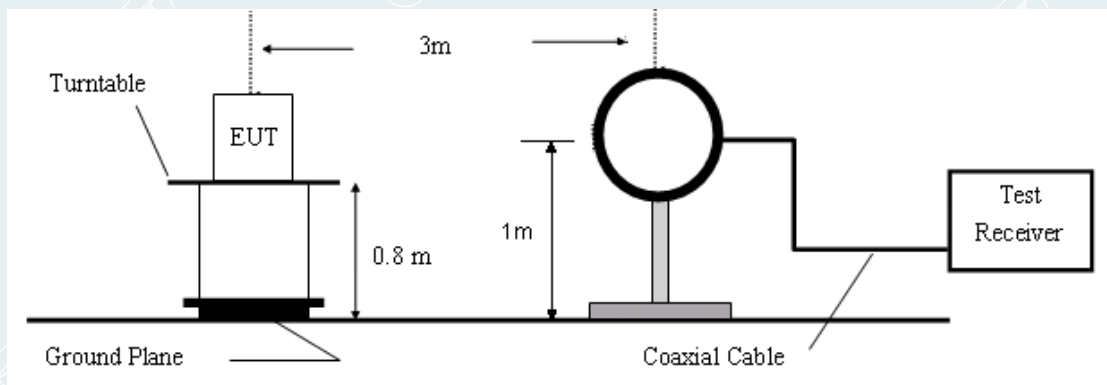


Figure 1. 9kHz to 30MHz radiated emissions test configuration

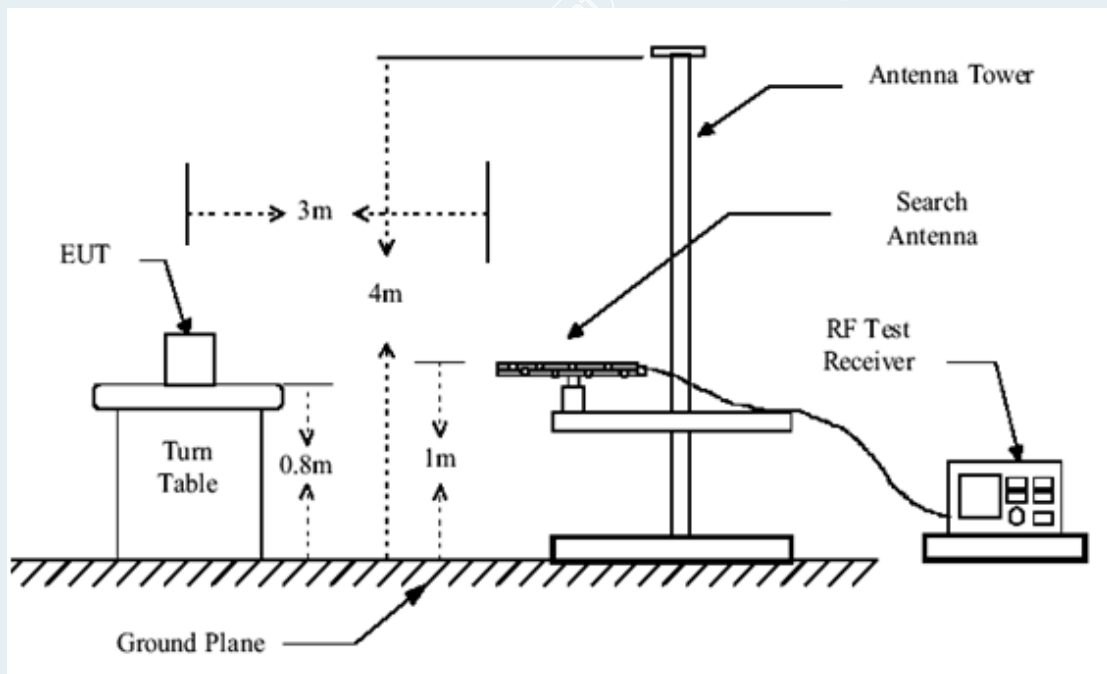


Figure 2. 30MHz to 1GHz radiated emissions test configuration

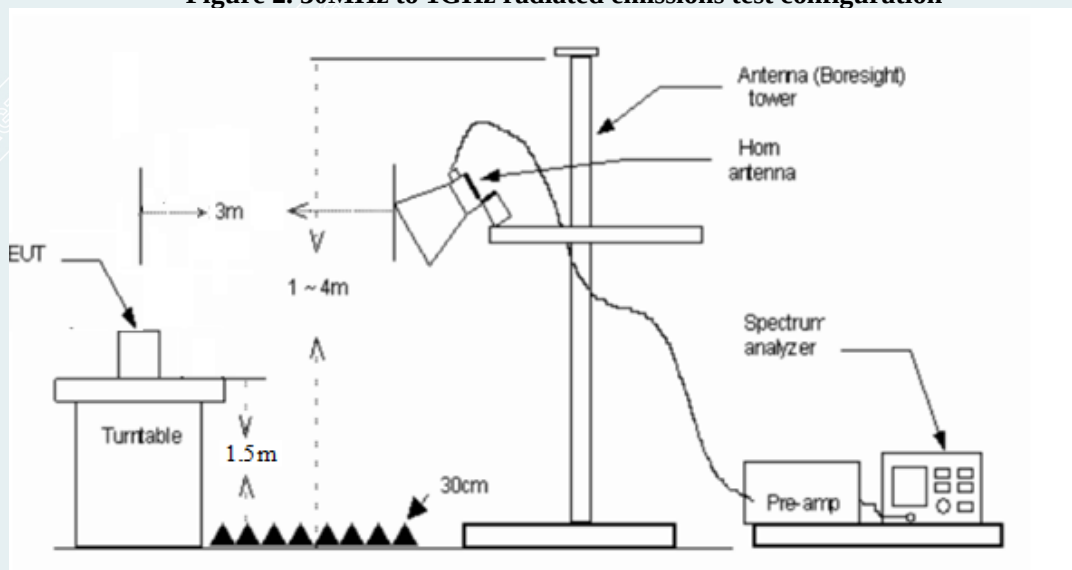


Figure 3. 1GHz to 18GHz radiated emissions test configuration

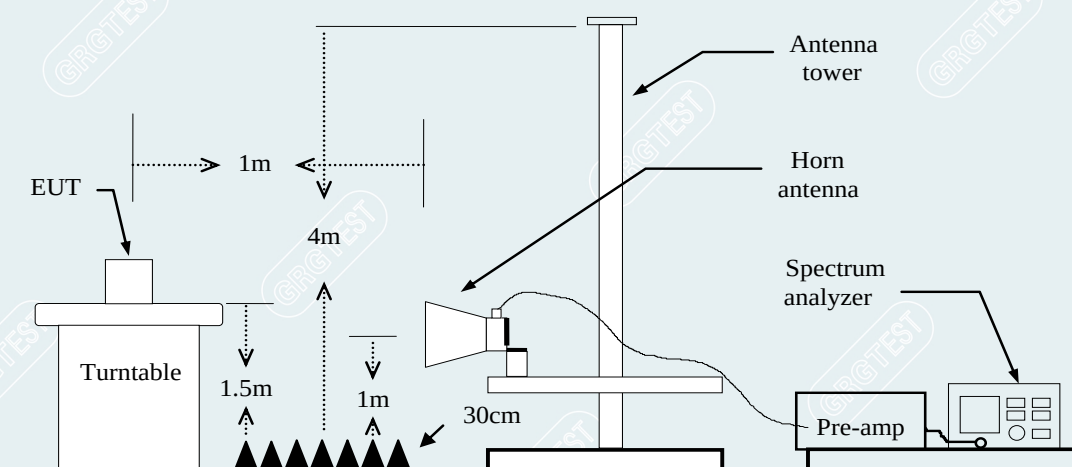


Figure 4.18GHz to 26.5GHz radiated emissions test configuration

6.4 DATA SAMPLE

30MHz to 1GHz

No.	Frequency (MHz)	Reading (dBuV/m)	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Pole
xxx	xxx	37.06	-15.48	21.58	40.00	-18.42	QP	Vertical

1GHz-18GHz

No.	Frequency (MHz)	Reading (dBuV/m)	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Pole
xxx	xxx	65.45	-11.12	54.33	74.00	-19.67	peak	Vertical
xxx	xxx	63.00	-11.12	51.88	54.00	-2.12	AVG	Vertical

Above 18GHz

No.	Frequency (MHz)	Reading (dBuV/m)	Factor (dB)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Remark	Pole
xxx	xxx	68.86	57.66	-11.20	83.54	25.88	peak	Vertical
xxx	xxx	68.89	-11.20	57.69	63.54	5.85	AVG	Vertical

Frequency (MHz) = Emission frequency in MHz

Ant.Pol. (H/V) = Antenna polarization

Reading (dBuV) = Uncorrected Analyzer / Receiver reading

Correction Factor (dB/m) = Antenna factor + Cable loss – Amplifier gain

Result (dBuV/m) = Reading (dBuV) + Correction Factor (dB/m)

Limit (dBuV/m) = Limit stated in standard

Margin (dB) = Remark Result (dBuV/m) – Limit (dBuV/m)

Peak = Peak Reading

QP = Quasi-peak Reading

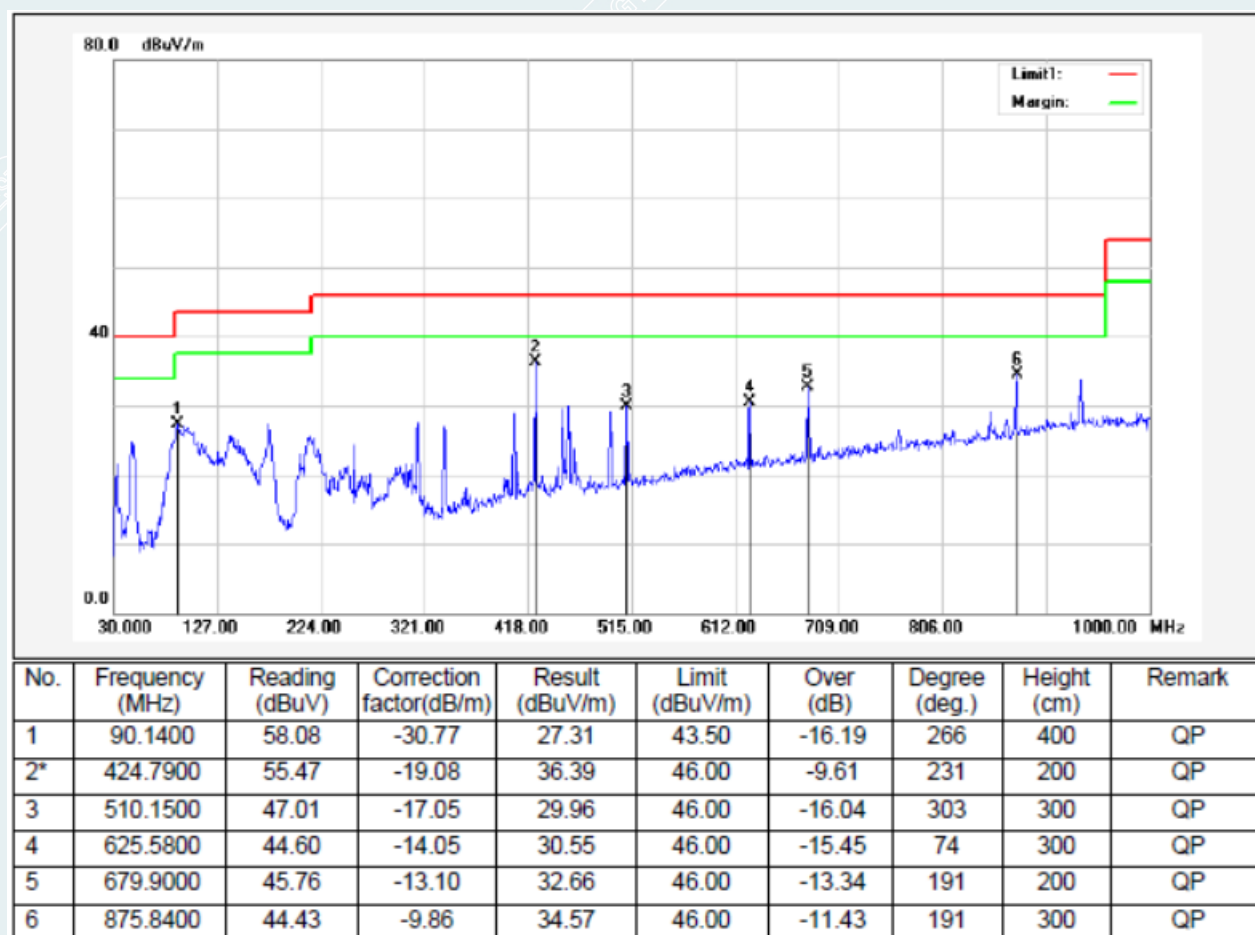
AVG = Average Reading

6.5 TEST RESULTS

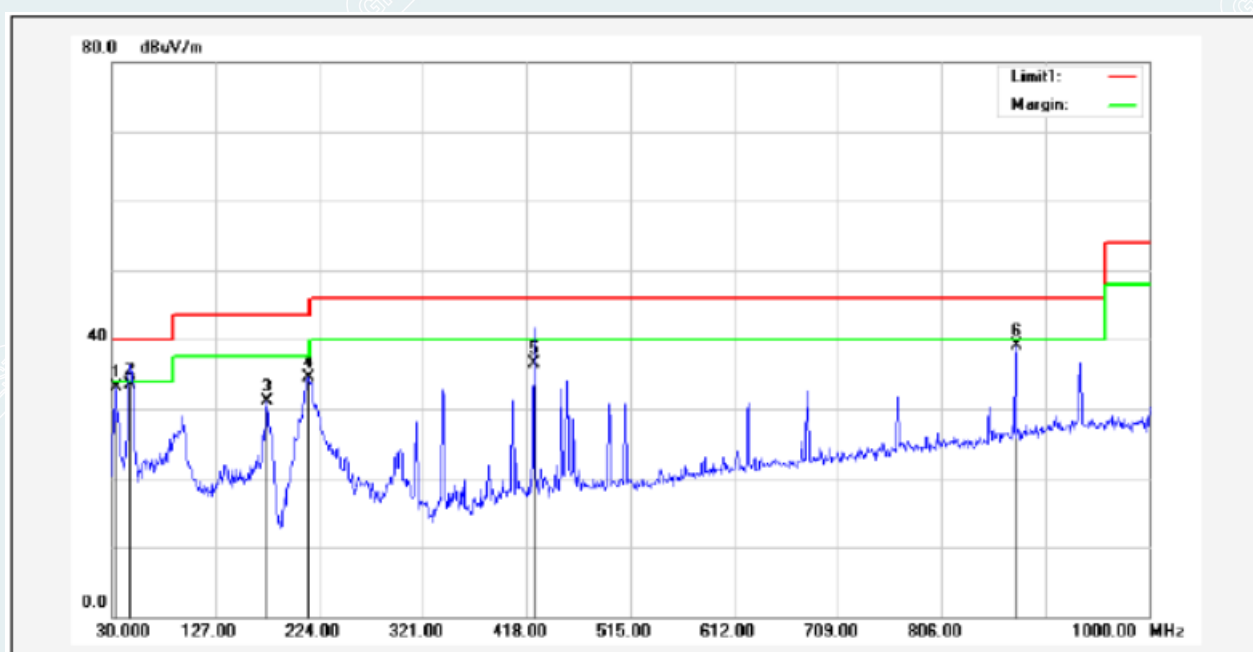
Below 1GHz

All models were pretested and the worst modes and channels were recorded in this report. (IEEE 802.11b 2462MHz)

EUT Name	Table top touch screen	Model	UCTTA-42
Environmental Conditions	23.9°C / 50%RH	Test Voltage	AC 120V/60Hz
Test Mode	IEEE 802.11b (2462MHz)	Polarity	Horizontal
Tested By	Tang Shenghui	Tested Date	2022-01-17



EUT Name	Table top touch screen	Model	UCTTA-42
Environmental Conditions	23.9°C / 50%RH	Test Voltage	AC 120V/60Hz
Test Mode	IEEE 802.11b (2462MHz)	Polarity	Vertical
Tested By	Tang Shenghui	Tested Date	2022-01-17



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over (dB)	Degree (deg.)	Height (cm)	Remark
1	33.8800	60.65	-27.59	33.06	40.00	-6.94	186	100	QP
2*	47.4600	60.19	-26.59	33.60	40.00	-6.40	154	100	QP
3	175.5000	56.29	-25.27	31.02	43.50	-12.48	8	100	QP
4	214.3000	61.10	-26.65	34.45	43.50	-9.05	356	100	QP
5	424.7900	55.68	-19.08	36.60	46.00	-9.40	58	100	QP
6	875.8400	49.03	-9.86	39.17	46.00	-6.83	235	100	QP

Remark:

- 1 No emission found between lowest internal used/generated frequency to 30MHz.
- 2 Radiated emissions measured in frequency range from 9 kHz to 1GHz were made with an instrument using Quasi-peak detector mode.
- 3 Data of measurement within this frequency range shown “---” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- 4 The IF bandwidth of Receiver between 30MHz to 1GHz was 120 kHz.

1GHz-18GHz:

According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

Mode: IEEE 802.11b

Lowest Frequency (2412MHz)

Environment: 25°C/60%RH

Tested By:Lu Qiang

Date: 2022-04-12

Voltage:AC 120V/60Hz

Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1368.2960	69.04	47.52	-21.52	74.00	26.48	200	40	Vertical
2	1700.3375	64.13	42.69	-21.44	74.00	31.31	200	344	Vertical
3	2275.1594	65.31	46.25	-19.06	74.00	27.75	200	161	Vertical
4	3193.1491	56.01	38.59	-17.42	74.00	35.41	200	187	Vertical
5	7198.6498	44.81	41.44	-3.37	74.00	32.56	100	227	Vertical
6	10039.6300	43.12	44.31	1.19	74.00	29.69	200	174	Vertical

Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1020.2525	63.47	39.23	-24.24	74.00	34.77	100	336	Horizontal
2	1368.2960	60.51	37.48	-23.03	74.00	36.52	200	46	Horizontal
3	1700.3375	59.69	36.85	-22.84	74.00	37.15	200	323	Horizontal
4	2275.1594	60.17	41.25	-18.92	74.00	32.75	200	212	Horizontal
5	3720.0900	51.73	35.97	-15.76	74.00	38.03	200	97	Horizontal
6	10176.5221	42.77	44.55	1.78	74.00	29.45	200	118	Horizontal

----- The following blanks -----

Mode: IEEE 802.11b
 Middle Frequency (2437MHz)
 Environment: 25°C/60%RH
 Tested By:Lu Qiang

Date: 2022-04-12
 Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1020.0025	64.50	40.27	-24.23	74.00	33.73	200	134	Horizontal
2	1368.7961	63.12	40.08	-23.04	74.00	33.92	100	306	Horizontal
3	1700.0875	58.78	35.94	-22.84	74.00	38.06	200	230	Horizontal
4	2274.9094	59.41	40.50	-18.91	74.00	33.50	200	115	Horizontal
5	2866.7333	54.99	37.67	-17.32	74.00	36.33	100	269	Horizontal
6	4980.2475	48.31	37.17	-11.14	74.00	36.83	100	323	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1020.5026	69.11	44.72	-24.39	74.00	29.28	200	130	Vertical
2	1368.2960	69.30	47.78	-21.52	74.00	26.22	200	305	Vertical
3	1700.3375	64.85	43.41	-21.44	74.00	30.59	200	227	Vertical
4	2274.4093	64.27	45.20	-19.07	74.00	28.80	200	70	Vertical
5	2637.2047	60.16	42.05	-18.11	74.00	31.95	200	124	Vertical
6	3198.7748	57.07	39.58	-17.49	74.00	34.42	200	30	Vertical

----- The following blanks -----

Mode: IEEE 802.11b
 Highest Frequency (2462MHz)
 Environment: 25°C/60%RH
 Tested By:Lu Qiang

Date: 2022-04-12
 Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1020.5026	62.14	37.90	-24.24	74.00	36.10	200	164	Horizontal
2	1368.0460	61.75	38.72	-23.03	74.00	35.28	200	6	Horizontal
3	1700.3375	58.98	36.14	-22.84	74.00	37.86	200	233	Horizontal
4	1869.8587	54.99	33.69	-21.30	74.00	40.31	200	252	Horizontal
5	2275.1594	58.90	39.98	-18.92	74.00	34.02	200	118	Horizontal
6	3532.5666	52.04	36.28	-15.76	74.00	37.72	200	96	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1020.2525	69.30	44.90	-24.40	74.00	29.10	200	46	Vertical
2	1368.2960	69.93	48.41	-21.52	74.00	25.59	200	309	Vertical
3	1700.0875	64.67	43.23	-21.44	74.00	30.77	200	227	Vertical
4	2275.4094	64.30	45.24	-19.06	74.00	28.76	200	74	Vertical
5	3193.1491	56.63	39.21	-17.42	74.00	34.79	200	96	Vertical
6	7206.1508	45.08	41.56	-3.52	74.00	32.44	200	202	Vertical

----- The following blanks -----

Mode: IEEE 802.11g
 Lowest Frequency (2412MHz)
 Environment: 25°C/60%RH
 Tested By:Lu Qiang

Date: 2022-04-12
 Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1020.0025	62.72	38.49	-24.23	74.00	35.51	200	351	Horizontal
2	1368.2960	61.13	38.10	-23.03	74.00	35.90	200	310	Horizontal
3	1700.5876	59.58	36.74	-22.84	74.00	37.26	200	232	Horizontal
4	2275.1594	58.46	39.54	-18.92	74.00	34.46	200	118	Horizontal
5	4976.4971	48.57	37.40	-11.17	74.00	36.60	100	96	Horizontal
6	7845.6057	45.55	42.05	-3.50	74.00	31.95	100	28	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1020.0025	71.52	47.11	-24.41	74.00	26.89	200	16	Vertical
2	1368.2960	69.04	47.52	-21.52	74.00	26.48	200	309	Vertical
3	1700.3375	64.43	42.99	-21.44	74.00	31.01	200	254	Vertical
4	2275.4094	64.27	45.21	-19.06	74.00	28.79	200	71	Vertical
5	3195.0244	56.49	39.04	-17.45	74.00	34.96	200	94	Vertical
6	7200.5251	45.34	42.00	-3.34	74.00	32.00	100	224	Vertical

----- The following blanks -----

Mode: IEEE 802.11g
Middle Frequency (2437MHz)
Environment: 25°C/60%RH
Tested By:Lu Qiang

Date: 2022-04-12
Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1020.0025	64.09	39.86	-24.23	74.00	34.14	200	33	Horizontal
2	1368.5461	62.76	39.72	-23.04	74.00	34.28	200	6	Horizontal
3	1700.0875	59.65	36.81	-22.84	74.00	37.19	200	232	Horizontal
4	2275.4094	61.14	42.22	-18.92	74.00	31.78	200	120	Horizontal
5	4372.6716	50.74	37.07	-13.67	74.00	36.93	100	211	Horizontal
6	10099.6375	42.71	44.23	1.52	74.00	29.77	100	17	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1020.2525	71.94	47.54	-24.40	74.00	26.46	200	113	Vertical
2	1368.2960	70.06	48.54	-21.52	74.00	25.46	100	304	Vertical
3	1700.8376	64.45	43.01	-21.44	74.00	30.99	200	229	Vertical
4	2275.4094	64.04	44.98	-19.06	74.00	29.02	200	71	Vertical
5	3195.0244	55.18	37.73	-17.45	74.00	36.27	200	93	Vertical
6	9165.7707	44.26	45.10	0.84	74.00	28.90	100	254	Vertical

----- The following blanks -----

Mode: IEEE 802.11g
 Highest Frequency (2462MHz)
 Environment: 25°C/60%RH
 Tested By:Lu Qiang

Date: 2022-04-12
 Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1020.5026	61.15	36.91	-24.24	74.00	37.09	200	360	Horizontal
2	1368.2960	62.30	39.27	-23.03	74.00	34.73	200	42	Horizontal
3	1700.3375	58.87	36.03	-22.84	74.00	37.97	200	233	Horizontal
4	2275.1594	59.96	41.04	-18.92	74.00	32.96	200	121	Horizontal
5	3701.3377	52.25	36.49	-15.76	74.00	37.51	200	136	Horizontal
6	9147.0184	43.95	44.24	0.29	74.00	29.76	200	52	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1020.0025	68.21	43.80	-24.41	74.00	30.20	200	111	Vertical
2	1368.2960	69.52	48.00	-21.52	74.00	26.00	200	306	Vertical
3	1700.3375	65.13	43.69	-21.44	74.00	30.31	200	228	Vertical
4	1955.3694	60.18	38.90	-21.28	74.00	35.10	200	346	Vertical
5	2274.9094	65.18	46.11	-19.07	74.00	27.89	200	67	Vertical
6	3191.2739	57.81	40.41	-17.40	74.00	33.59	200	95	Vertical

----- The following blanks -----

Mode: IEEE 802.11n HT20
 Lowest Frequency (2412MHz)
 Environment: 25°C/60%RH
 Tested By:Lu Qiang

Date: 2022-04-12
 Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1020.5026	65.75	41.51	-24.24	74.00	32.49	200	360	Horizontal
2	1368.0460	61.16	38.13	-23.03	74.00	35.87	200	41	Horizontal
3	1700.8376	59.58	36.74	-22.84	74.00	37.26	200	232	Horizontal
4	2275.4094	60.53	41.61	-18.92	74.00	32.39	200	117	Horizontal
5	4342.6678	51.38	37.44	-13.94	74.00	36.56	200	60	Horizontal
6	7157.3947	46.19	40.89	-5.30	74.00	33.11	100	284	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1373.5467	67.65	46.15	-21.50	74.00	27.85	200	234	Vertical
2	1700.5876	64.93	43.49	-21.44	74.00	30.51	200	228	Vertical
3	1955.3694	59.37	38.09	-21.28	74.00	35.91	200	345	Vertical
4	2285.9107	64.16	45.14	-19.02	74.00	28.86	200	71	Vertical
5	3193.1491	55.29	37.87	-17.42	74.00	36.13	200	94	Vertical
6	7196.7746	45.24	41.79	-3.45	74.00	32.21	200	290	Vertical

----- The following blanks -----

Mode: IEEE 802.11n HT20
Middle Frequency (2437 MHz)
Environment: 25°C/60%RH
Tested By:Lu Qiang

Date: 2022-04-12
Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1020.2525	64.23	39.99	-24.24	74.00	34.01	200	2	Horizontal
2	1368.2960	62.25	39.22	-23.03	74.00	34.78	200	243	Horizontal
3	1700.5876	59.99	37.15	-22.84	74.00	36.85	200	234	Horizontal
4	2274.9094	59.51	40.60	-18.91	74.00	33.40	200	119	Horizontal
5	4153.2692	52.83	38.01	-14.82	74.00	35.99	100	124	Horizontal
6	9210.7763	43.96	44.34	0.38	74.00	29.66	100	212	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1020.2525	70.71	46.31	-24.40	74.00	27.69	200	136	Vertical
2	1368.0460	69.98	48.46	-21.52	74.00	25.54	200	308	Vertical
3	1700.5876	64.70	43.26	-21.44	74.00	30.74	200	227	Vertical
4	2274.9094	64.64	45.57	-19.07	74.00	28.43	200	69	Vertical
5	2550.1938	60.58	41.64	-18.94	74.00	32.36	200	124	Vertical
6	7204.2755	46.08	42.62	-3.46	74.00	31.38	100	321	Vertical

----- The following blanks -----

Mode: IEEE 802.11n HT20
 Highest Frequency (2462MHz)
 Environment: 25°C/60%RH
 Tested By:Lu Qiang

Date: 2022-04-12
 Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1020.2525	63.72	39.48	-24.24	74.00	34.52	200	192	Horizontal
2	1368.2960	61.70	38.67	-23.03	74.00	35.33	200	313	Horizontal
3	1700.5876	59.49	36.65	-22.84	74.00	37.35	200	231	Horizontal
4	2275.1594	58.54	39.62	-18.92	74.00	34.38	200	116	Horizontal
5	5064.6331	48.40	38.11	-10.29	74.00	35.89	100	106	Horizontal
6	10727.8410	42.17	44.70	2.53	74.00	29.30	200	79	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1020.5026	72.39	48.00	-24.39	74.00	26.00	200	118	Vertical
2	1368.0460	72.07	50.55	-21.52	74.00	23.45	200	240	Vertical
3	1700.0875	64.77	43.33	-21.44	74.00	30.67	200	228	Vertical
4	2275.1594	63.61	44.55	-19.06	74.00	29.45	200	215	Vertical
5	2636.4546	62.91	44.80	-18.11	74.00	29.20	200	122	Vertical
6	3185.6482	56.36	39.02	-17.34	74.00	34.98	200	30	Vertical

----- The following blanks -----

18GHz-26.5GHz:

According to C63.10, if the peak (or quasi-peak) measured value complies with the average limit, it is unnecessary to perform an average measurement, so AV emission value did not show in below table if the peak value complies with average limit.

Pre-scan all modes and recorded the worst case results in this report (IEEE 802.11b)

Mode: IEEE 802.11b

Lowest Frequency (2412MHz)

Environment: 25°C/60%RH

Tested By:Lu Qiang

Date: 2022-01-19

Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18393.1250	59.84	48.31	-11.53	83.54	35.23	150	254	Horizontal
2	20153.0500	57.57	46.83	-10.74	83.54	36.71	150	154	Horizontal
3	22272.9500	56.12	46.48	-9.64	83.54	37.06	150	245	Horizontal
4	23877.7500	55.98	47.59	-8.39	83.54	35.95	150	22	Horizontal
5	25014.6250	55.82	47.94	-7.88	83.54	35.60	150	245	Horizontal
6	25710.7750	56.22	48.20	-8.02	83.54	35.34	150	287	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18300.9000	59.38	47.82	-11.56	83.54	35.72	150	131	Vertical
2	19492.1750	59.14	48.21	-10.93	83.54	35.33	150	40	Vertical
3	21103.7750	57.52	47.23	-10.29	83.54	36.31	150	222	Vertical
4	21735.3250	56.74	46.80	-9.94	83.54	36.74	150	0	Vertical
5	23716.6750	55.90	47.35	-8.55	83.54	36.19	150	98	Vertical
6	25654.6750	56.44	48.48	-7.96	83.54	35.06	150	82	Vertical

Note: Above 18G test distance is 1m, so the Peak Limit=74+20*log(3/1)=83.54 (dBμV/m).

----- The following blanks -----

Mode: IEEE 802.11b
 Middle Frequency (2437MHz)
 Environment: 25°C/60%RH
 Tested By:Lu Qiang

Date: 2022-01-19
 Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18317.0500	59.13	47.57	-11.56	83.54	35.97	150	188	Horizontal
2	19487.9250	57.97	47.04	-10.93	83.54	36.50	150	347	Horizontal
3	21023.4500	56.92	46.62	-10.30	83.54	36.92	150	230	Horizontal
4	23085.9750	55.98	47.09	-8.89	83.54	36.45	150	296	Horizontal
5	24979.7750	55.78	47.87	-7.91	83.54	35.67	150	347	Horizontal
6	26267.5250	55.44	47.67	-7.77	83.54	35.87	150	330	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18449.2250	58.63	47.13	-11.50	83.54	36.41	150	320	Vertical
2	19869.5750	57.65	46.79	-10.86	83.54	36.75	150	154	Vertical
3	21608.2500	56.72	46.80	-9.92	83.54	36.74	150	55	Vertical
4	23034.9750	56.39	47.47	-8.92	83.54	36.07	150	38	Vertical
5	24114.4750	57.10	48.87	-8.23	83.54	34.67	150	22	Vertical
6	26215.6750	55.85	47.97	-7.88	83.54	35.57	150	196	Vertical

Note: Above 18G test distance is 1m, so the Peak Limit=74+20*log(3/1)=83.54 (dBμV/m).

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Mode: IEEE 802.11b
 Highest Frequency (2462MHz)
 Environment: 25°C/60%RH
 Tested By:Lu Qiang

Date: 2022-01-19
 Voltage:AC 120V/60Hz

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18280.0750	58.11	46.54	-11.57	83.54	37.00	150	212	Horizontal
2	19325.1500	58.07	47.06	-11.01	83.54	36.48	150	328	Horizontal
3	20657.5250	56.69	46.29	-10.40	83.54	37.25	150	171	Horizontal
4	22816.9500	56.29	47.23	-9.06	83.54	36.31	150	1	Horizontal
5	25035.8750	55.87	48.02	-7.85	83.54	35.52	150	187	Horizontal
6	26284.5250	55.46	47.73	-7.73	83.54	35.81	150	105	Horizontal

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18458.5750	58.67	47.18	-11.49	83.54	36.36	150	330	Vertical
2	19482.8250	57.47	46.54	-10.93	83.54	37.00	150	206	Vertical
3	20568.2750	57.68	47.23	-10.45	83.54	36.31	150	66	Vertical
4	21729.3750	57.56	47.62	-9.94	83.54	35.92	150	247	Vertical
5	23823.7750	55.63	47.19	-8.44	83.54	36.35	150	57	Vertical
6	26199.9500	56.13	48.21	-7.92	83.54	35.33	150	223	Vertical

Note: Above 18G test distance is 1m, so the Peak Limit= $74+20*\log(3/1)=83.54$ (dBμV/m).

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7. 6DB BANDWIDTH

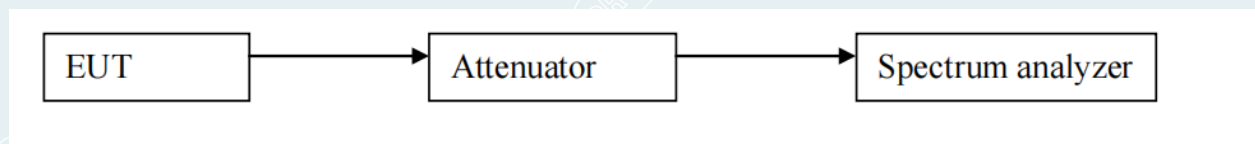
7.1 LIMITS

Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

7.2 TEST PROCEDURES

- 1) Remove the antenna from the EUT, and then connect a low loss RF cable from antenna port to the spectrum analyzer.
- 2) Set resolution bandwidth (RBW) = 100kHz. Set the video bandwidth (VBW) $\geq 3 \times$ RBW. Detector = Peak. Trace mode = max hold. Sweep = auto couple. Allow the trace to stabilize, record 6dB bandwidth value.
- 3) Repeat above procedures until all frequencies measured were complete.

7.3 TEST SETUP



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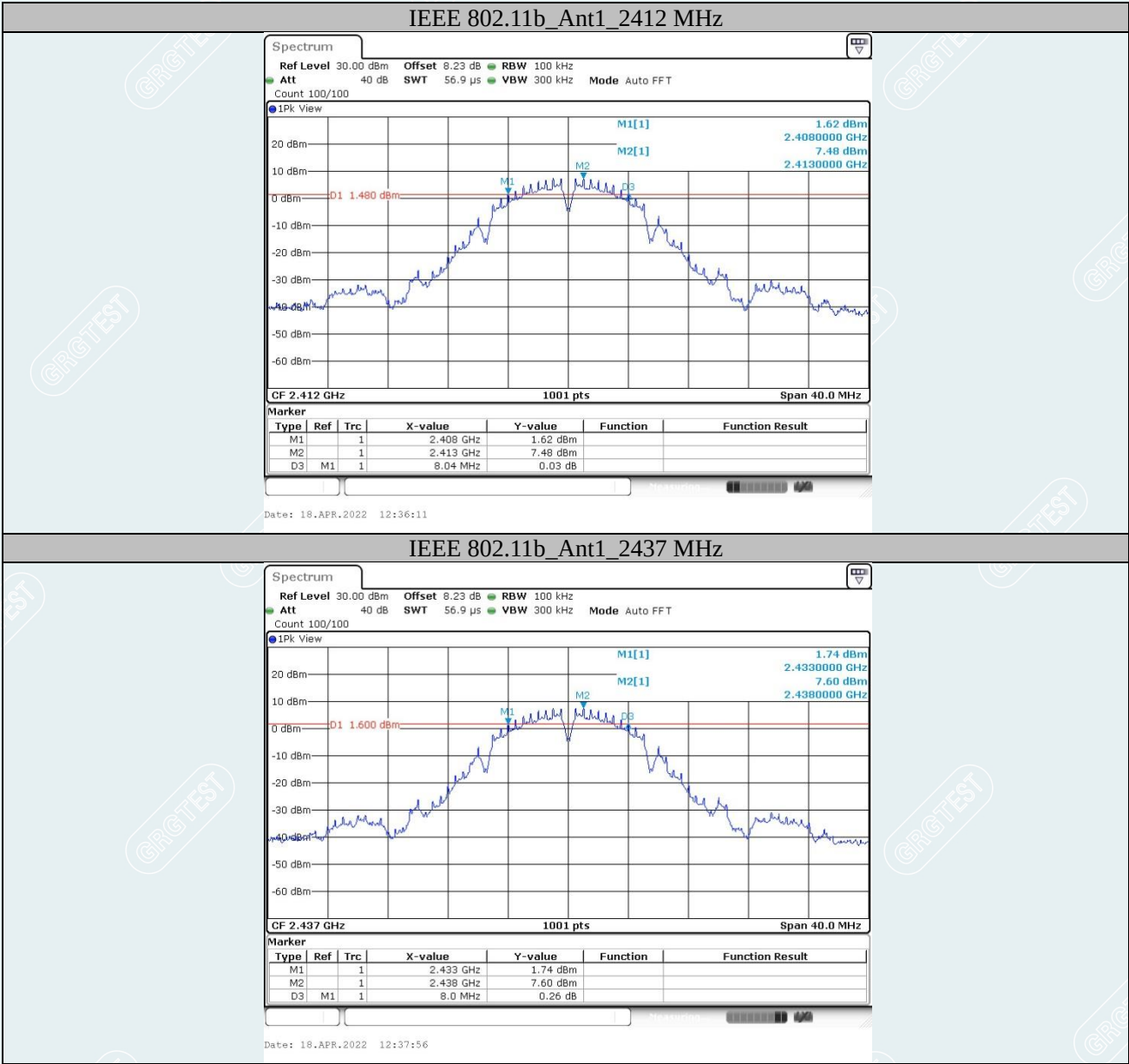
7.4 TEST RESULTS

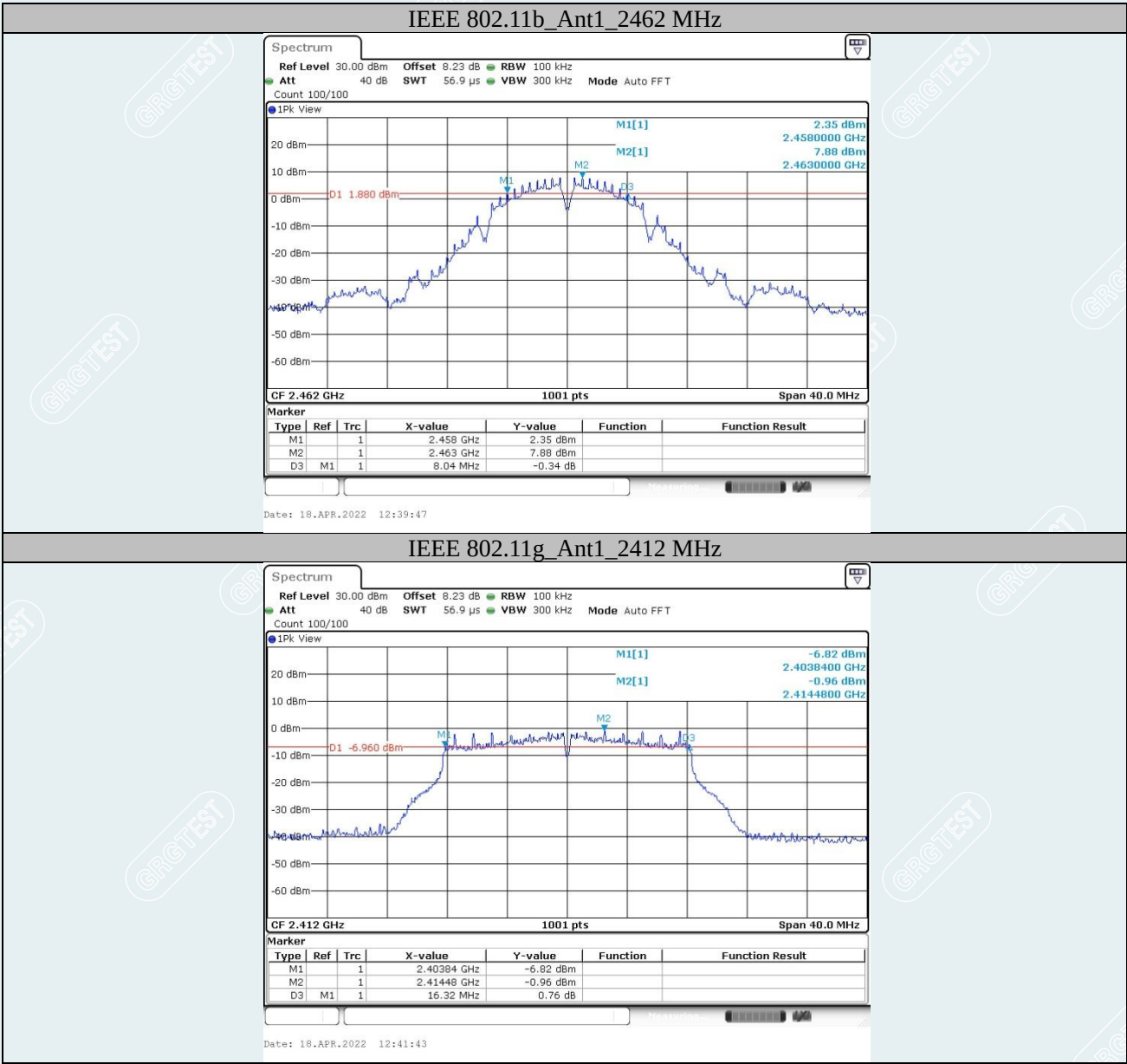
Environment: 22.6℃/48%RH
Tested By:Deng Weihao

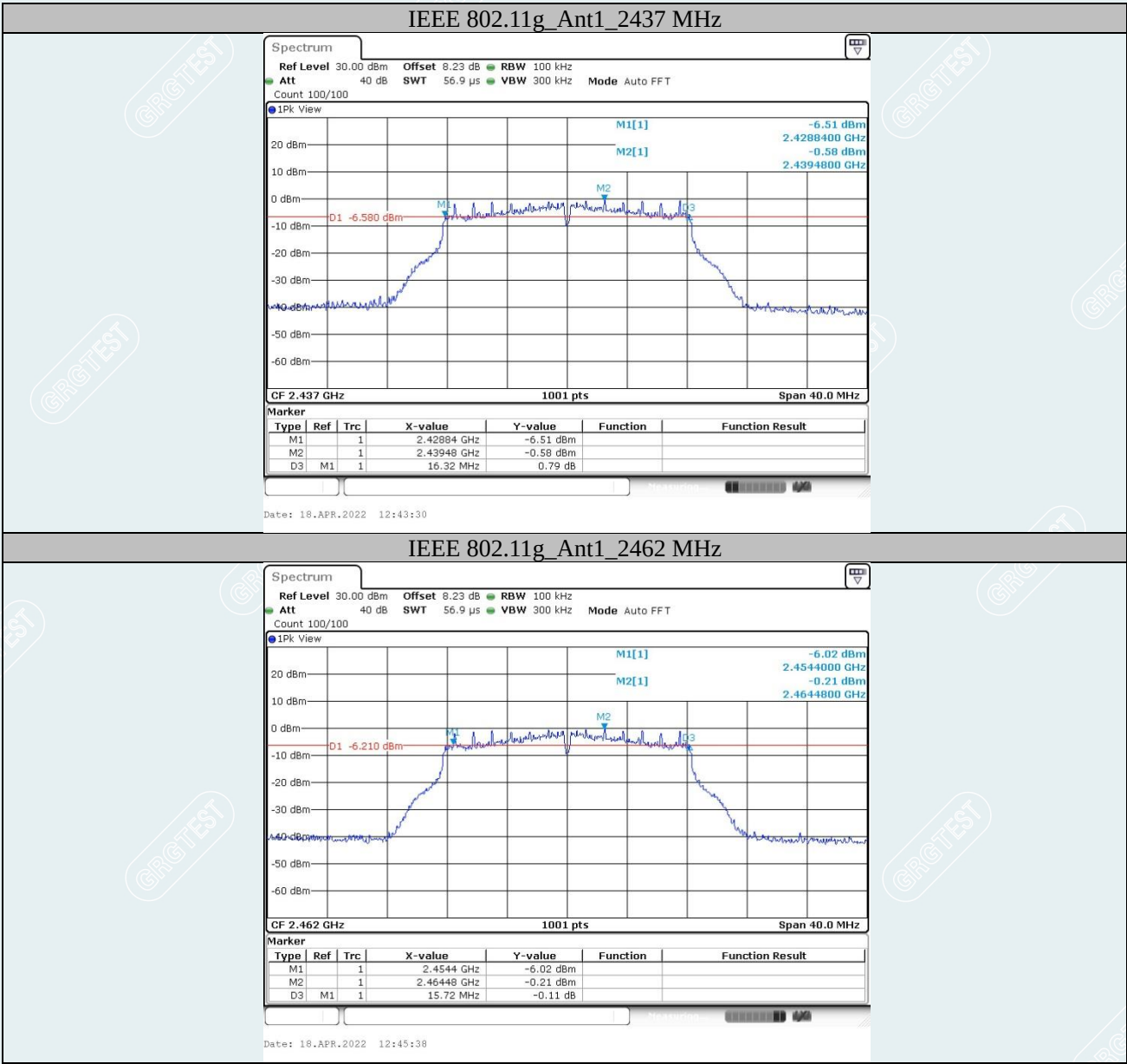
Voltage:AC 120V/60Hz
Date: 2022-04-18

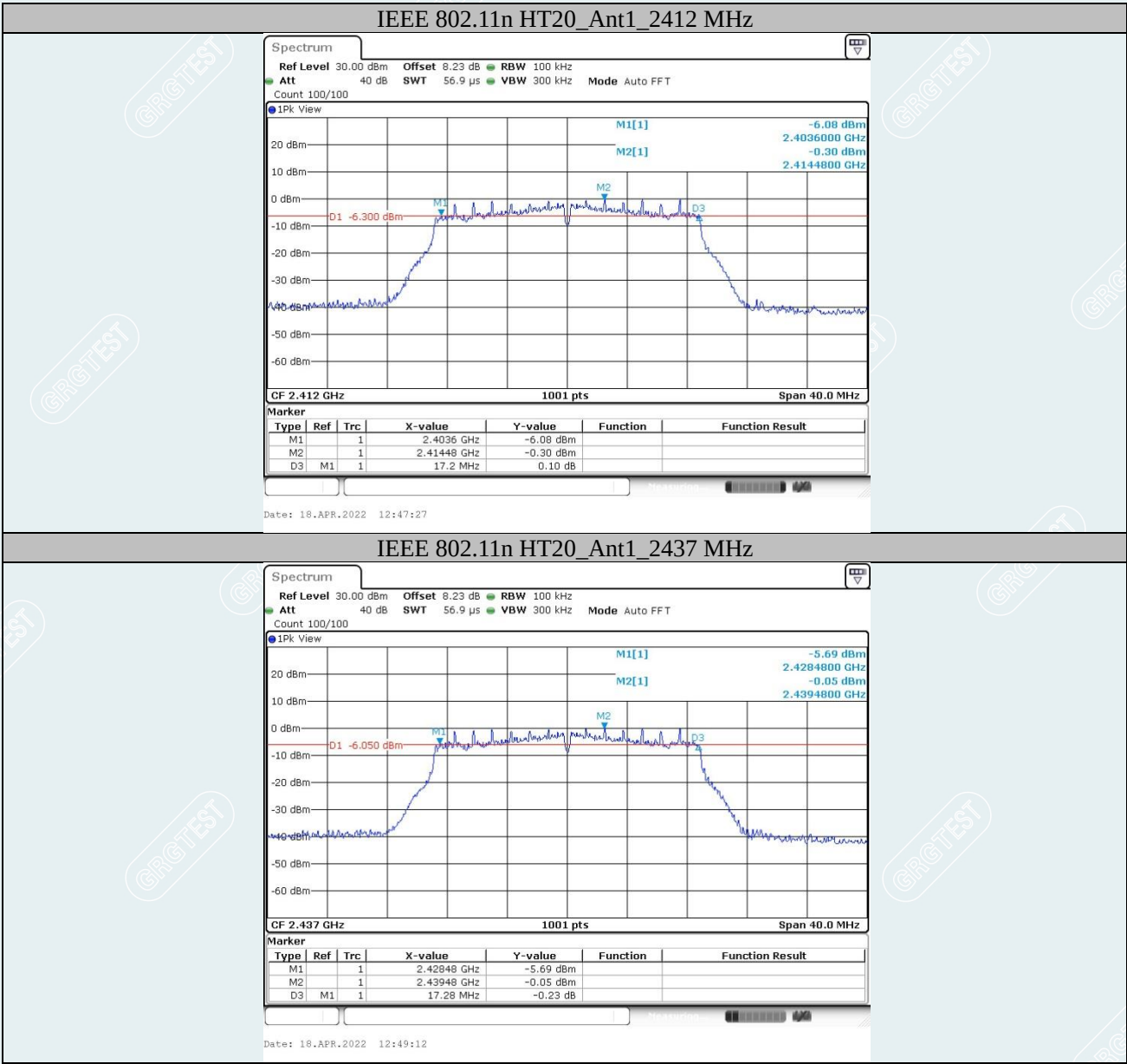
Test Mode	Antenna	Frequency[MHz]	DTS BW [MHz]	Limit[MHz]	Verdict
IEEE 802.11b	Ant1	2412	8.04	≥0.5	PASS
		2437	8.00	≥0.5	PASS
		2462	8.04	≥0.5	PASS
IEEE 802.11g	Ant1	2412	16.32	≥0.5	PASS
		2437	16.32	≥0.5	PASS
		2462	15.72	≥0.5	PASS
IEEE 802.11n HT20	Ant1	2412	17.20	≥0.5	PASS
		2437	17.28	≥0.5	PASS
		2462	15.72	≥0.5	PASS

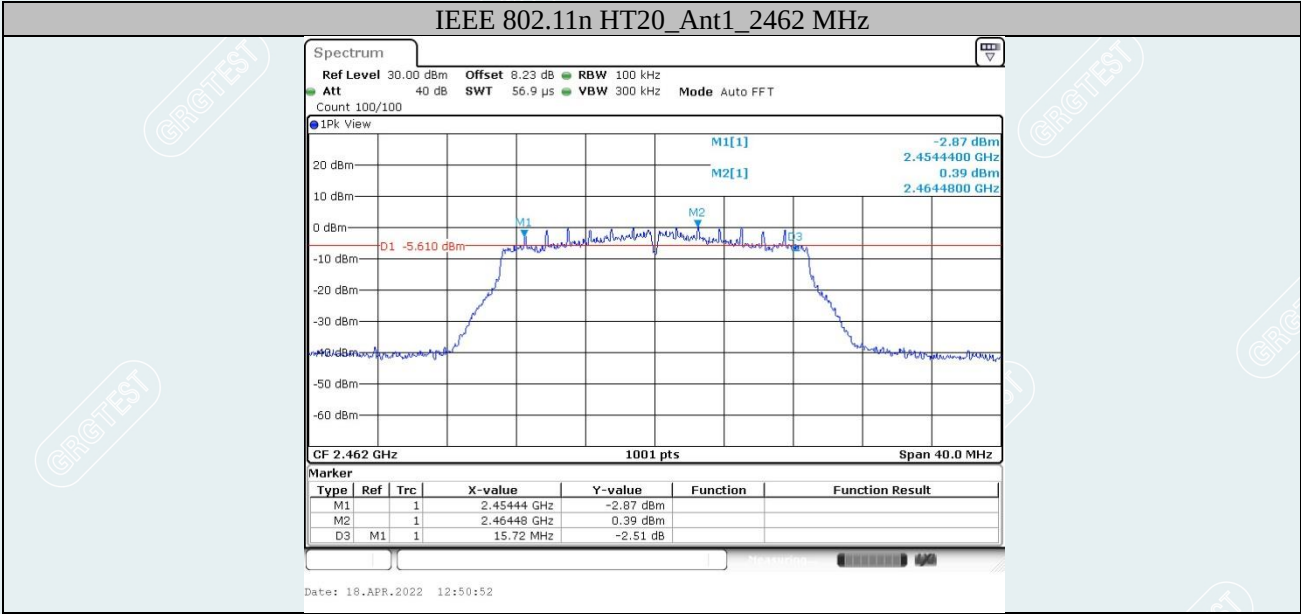
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8. MAXIMUM PEAK OUTPUT POWER

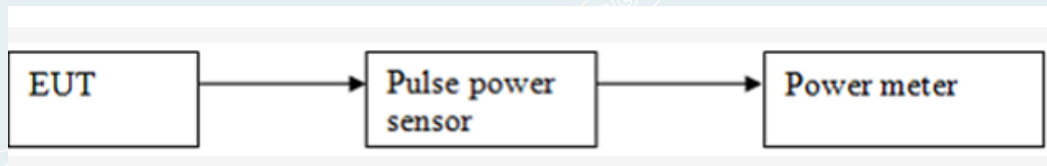
8.1 LIMITS

The maximum Peak output power measurement is 1W

8.2 TEST PROCEDURES

- 1) RF output of EUT was connected to the broadband peak RF power meter by RF cable. The path loss was compensated to the results for each measurement.
- 2) Set to the maximum power setting and enable the EUT transmit continuously.
- 3) Measure the conducted output power and record the results in the test report.

8.3 TEST SETUP



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8.4 TEST RESULT

Environment: 22.6°C/48%RH
Tested By:Deng Weihao

Voltage:AC 120V/60Hz
Date: 2022-04-18

IEEE 802.11b Mode:

Channel No.	Frequency (MHz)	Measured Channel Power (dBm)	Peak / AVG	Limit	Result
1	2412	15.32	Peak	30dBm	Pass
6	2437	15.54			Pass
11	2462	15.75			Pass

IEEE 802.11g Mode:

Channel No.	Frequency (MHz)	Measured Channel Power (dBm)	Peak / AVG	Limit	Result
1	2412	10.48	Peak	30dBm	Pass
6	2437	10.88			Pass
11	2462	11.07			Pass

IEEE 802.11n HT20 Mode:

Channel No.	Frequency (MHz)	Measured Channel Power (dBm)	Peak/ AVG	Limit	Result
1	2412	10.77	Peak	30dBm	Pass
6	2437	11.06			Pass
11	2462	11.19			Pass

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9. POWER SPECTRAL DENSITY

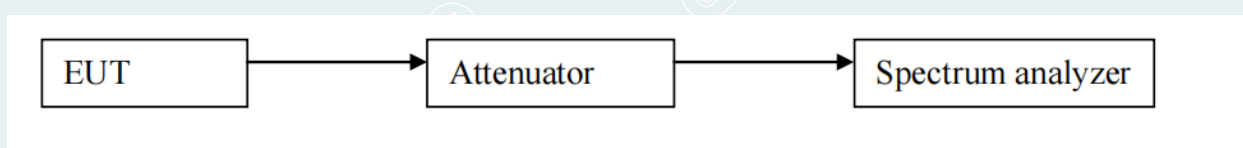
9.1 LIMITS

For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission. This power spectral density shall be determined in accordance with the provisions of paragraph (b) of this section. The same method of determining the conducted output power shall be used to determine the power spectral density.

9.2 TEST PROCEDURES

- 1) Remove the antenna from the EUT, and then connect a low loss RF cable from antenna port to the spectrum analyzer.
- 2) Position the EUT was set without connection to measurement instrument. Turn on the EUT and connect its antenna terminal to measurement instrument via a low loss cable. Then set it to any one measured frequency within its operating range, and make sure the instrument is operated in its linear range.
- 3) The following procedure shall be used if maximum peak conducted output power was used to determine compliance, and it is optional if the maximum conducted (average) output power was used to determine compliance:
 - a) Set analyzer center frequency to DTS channel center frequency.
 - b) Set the span to 1.5 times the DTS bandwidth.
 - c) Set the RBW to $3 \text{ kHz} \leq \text{RBW} \leq 100 \text{ kHz}$.
 - d) Set the VBW $\geq [3 \times \text{RBW}]$.
 - e) Detector = peak
 - f) Sweep time = auto couple.
 - g) Trace mode = max hold.
 - h) Allow trace to fully stabilize.
 - i) Use the peak marker function to determine the maximum amplitude level within the RBW.
 - j) If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.
- 4) Repeat above procedures until all frequencies measured were complete.

9.3 TEST SETUP



----- The following blanks -----

9.4 TEST RESULTS

Environment: 22.6°C/48%RH

Tested By:Deng Weihao

Voltage:AC 120V/60Hz

Date: 2022-04-20

IEEE 802.11b Mode:

Channel No.	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
1	2412	-14.82	8.00	Pass
6	2437	-14.89	8.00	Pass
11	2462	-15.17	8.00	Pass

IEEE 802.11g Mode:

Channel No.	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
1	2412	-13.59	8.00	Pass
6	2437	-13.54	8.00	Pass
11	2462	-13.14	8.00	Pass

IEEE 802.11n HT20 Mode:

Channel No.	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
1	2412	-17.02	8.00	Pass
6	2437	-16.79	8.00	Pass
11	2462	-16.43	8.00	Pass

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