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检测
TESTING
CNAS L0446



Page 1 of 46

Test Report

Verified code: 029317

Report No.: E20220414157601-4

Customer: Lumi United Technology Co., Ltd.

Address: B1, Chongwen Park, Nanshan iPark, Liuxian Avenue, Taoyuan Residential District,
Nanshan District, Shenzhen, China

Sample Name: Cube T1 Pro

Sample Model: CTP-R01

Receive Sample
Test Date: Apr.15,2022

Test Date: Apr.19,2022 ~ May.11,2022

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

Test Result: Pass

Prepared by: Huang Lifang

Reviewed by: Wu Haoting

Approved by: Xiao Liang

GUANGZHOU GRG METROLOGY & TEST CO., LTD

Issued Date: 2022-05-24

GUANGZHOU GRG METROLOGY & TEST CO., LTD.

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REPORT ISSUED HISTORY

Report Version	Report No.	Description	Compile Date
1.0	E20220414157601-4	Original Issue	2022-05-12

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1. TEST RESULT SUMMARY

Technical Requirements		
CFR 47 FCC Part 15 Subpart C (§15.247)		
Limit / Severity	Item	Result
§15.247(b)(3)	Maximum peak output power	Pass
§15.207 (a)	Conducted Emissions	N/A
§15.247(e)	Power spectral density	Pass
§15.247(a)(2)	6dB bandwidth	Pass
§15.247(d)	Restricted bands of operation	Pass
§15.247(d)	Conducted band edges and spurious emissions	Pass
§15.247(d) & §15.209 & §15.205	Radiated spurious emissions	Pass
§15.203	Antenna requirement	Pass

Note: N/A is the DC power supply does not need to test the item.

The EUT has one antenna. The antenna is internal antenna.

The max gain of antenna is 0.5dBi, which accordance 15.203 is considered sufficient to comply with the provisions of this section.

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

2. GENERAL DESCRIPTION OF EUT

2.1 APPLICANT

Name: Lumi United Technology Co., Ltd.
Address: B1, Chongwen Park, Nanshan iPark, Liuxian Avenue, Taoyuan Residential District, Nanshan District, Shenzhen, China

2.2 MANUFACTURER

Name: Lumi United Technology Co., Ltd.
Address: B1, Chongwen Park, Nanshan iPark, Liuxian Avenue, Taoyuan Residential District, Nanshan District, Shenzhen, China

2.3 BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Equipment: Cube T1 Pro
Model No.: CTP-R01
Adding Model: /
Trade Name: Aqara
FCC ID: 2AKIT-CTP-R01
Power Supply: Power Supply By Button batteries
Battery Specification: Button batteries: CR2450 DC 3V,3mA
Frequency Range: 2405MHz-2475MHz
Transmit Power: 7.81dBm
Modulation type: OQPSK
Antenna Specification: Internal antenna 0.5dBi gain (Max.)
Temperature Range: -10 ℃~55 ℃
Hardware Version: X1.0
Software Version: 0.0.0_0023
Sample No: E20220414157601-0002,E20220414157601-0005
Note: /

2.4 CHANNEL LIST

Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)	Channel No.	Frequency (MHz)
11	2405	12	2410	13	2415	14	2420
15	2425	16	2430	17	2435	18	2440
19	2445	20	2450	21	2455	22	2460
23	2465	24	2470	25	2475	/	/

2.5 TEST OPERATION MODE

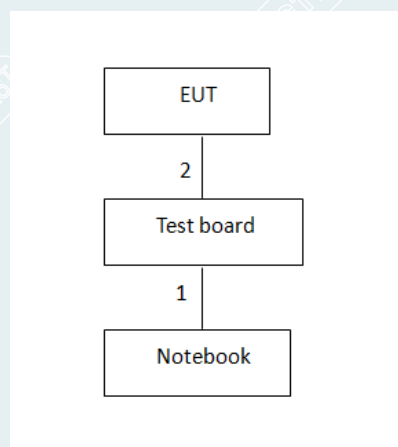
Test Item	Mode No.	Description of the modes
Radiated Emission	1	Zigbee TX mode

2.6 LOCAL SUPPORTIVE

Name of Equipment	Manufacturer	Model	Serial Number	Note
Notebook	LENOVO	TianYi 310-14ISK	MP18DLC6	/
Test board	/	/	/	/
Cable				
1	USB cable	/	/	UnShielded, 1m
2	DC cable	/	/	UnShielded, 0.2m

Note :The notebook is just used to produce fixed frequency transmitting.

2.7 CONFIGURATION OF SYSTEM UNDER TEST



Test software:

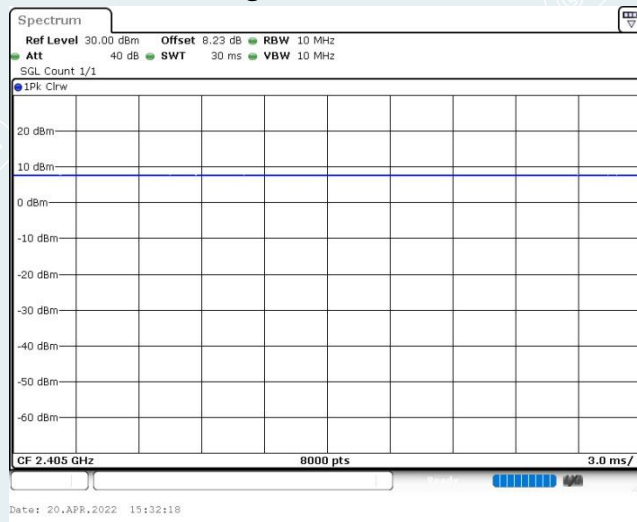
Software version	Test level
QCOM_V1.0	2405MHz: 8 2440MHz: 8 2475MHz: 8

2.8 DUTY CYCLE

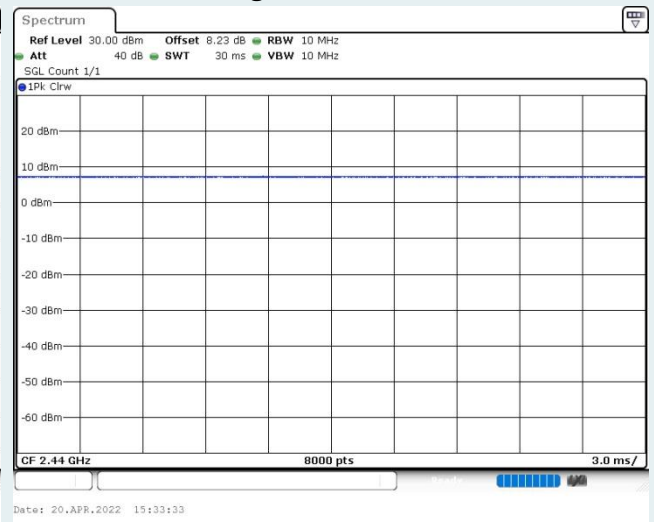
EUT Name	Cube T1 Pro	Model	CTP-R01
Environmental Conditions	21.3°C/60%RH	Test Voltage	DC 3V
Tested By	Qin Tingting	Tested Date	2022-04-20

Test Mode	Antenna	Frequency (MHz)	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]
Zigbee	Ant1	2405	30	30	100
		2440	30	30	100
		2475	30	30	100

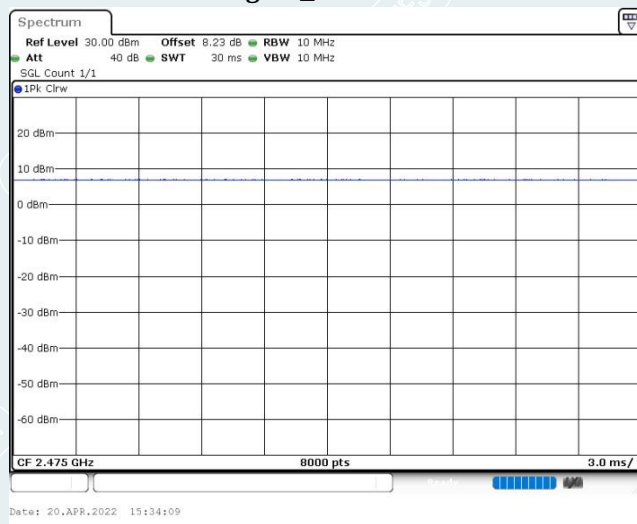
Zigbee_2405MHz



Zigbee_2440MHz



Zigbee_2475MHz



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. : 518000

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3.2 ACCREDITATIONS

Our laboratories are accredited and approved by the following approval agencies according to ISO/IEC 17025:2017.

USA A2LA(Certificate #2861.01)

China CNAS(L0446)

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, <http://www.grgtest.com>

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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	4.3dB
		1GHz~18GHz	5.6dB
		18GHz~26.5GHz	3.65dB
	Vertical	9kHz~30MHz	4.46dB
		30MHz~1000MHz	4.3dB
		1GHz~18GHz	5.6dB
		18GHz~26.5GHz	3.65dB

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 $k=2$.

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

4. LIST OF USED TEST EQUIPMENT AT GRGT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due
Radiated Spurious Emission(Below 1GHz)				
Test S/W	EZ	CCS-2ANT	/	/
Test Receiver	R&S	ESR7	102444	2022-09-22
Amplifier	EMEC	EM330	N/A	2023-03-05
Bi-log Antenna	Schwarzbeck	VULB9160	VULB9160-3401	2022-10-27
Radiated Spurious Emission(Above 1GHz)&Restricted bands of operation				
Spectrum Analyzer	KEYSIGHT	N9020B	MY57120179	2022-08-08
Loop Antenna	TESEQ	HLA6121	52599	2023-04-02
Horn Antenna	Schwarzbeck	BBHA 9120D	02143	2022-10-22
Board-Band Horn Antenna	Schwarzbeck	BBHA 9170	BBHA 9170-497	2022-10-16
Amplifier	Tonscend	TAP9E6343	AP20E806065	2022-06-03
Amplifier	Tonscend	TAP01018048	AP20E8060075	2023-05-05
Amplifier	Tonscend	TAP184050	AP20E806071	2023-05-05
Test S/W	Tonscend	JS32-RE/2.5.2.4		
Test S/W	Tonscend	JS36-RSE/2.5.1.5		
6dB Bandwidth				
Spectrum Analyzer	R&S	FSV30	104381	2022-12-10
Maximum Peak Output Power				
Pulse power sensor	Agilent	MA2411B	1126150	2023-03-01
Power meter	Anritsu	ML2495A	1204003	2023-02-28
Conducted band edges and Spurious Emission				
Spectrum Analyzer	R&S	FSV30	104381	2022-12-10
Peak Output Spectral Density Measurement				
Spectrum Analyzer	R&S	FSV30	104381	2022-12-10

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

5. RADIATED SPURIOUS EMISSIONS

5.1 LIMITS

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.

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(kHz)	300	128.5~93.8
0.490-1.705	24000/F(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 lower limit shall apply at the transition frequencies.

(2) Above 18GHz test distance is 1m, so the Peak Limit= $74+20*\log(3/1)=83.54$ (dB $\mu\text{V/m}$).

The Avg Limit= $54+20*\log(3/1)=63.54$ (dB $\mu\text{V/m}$).

5.2 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, the EUT is configured to transmit with duty cycle $\geq 98\%$, set VBW $\leq RBW/100$ (i.e., 10kHz) but not less than 10 Hz.

5.3 TEST SETUP

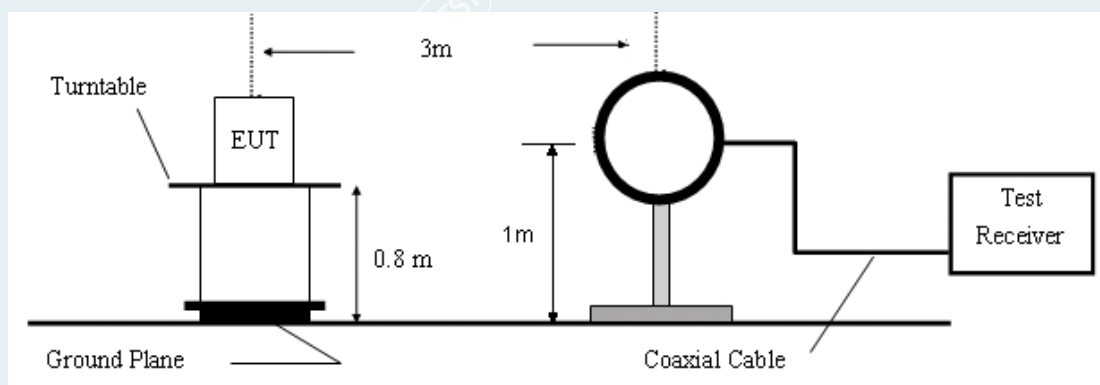


Figure 1. 9kHz to 30MHz radiated emissions test configuration

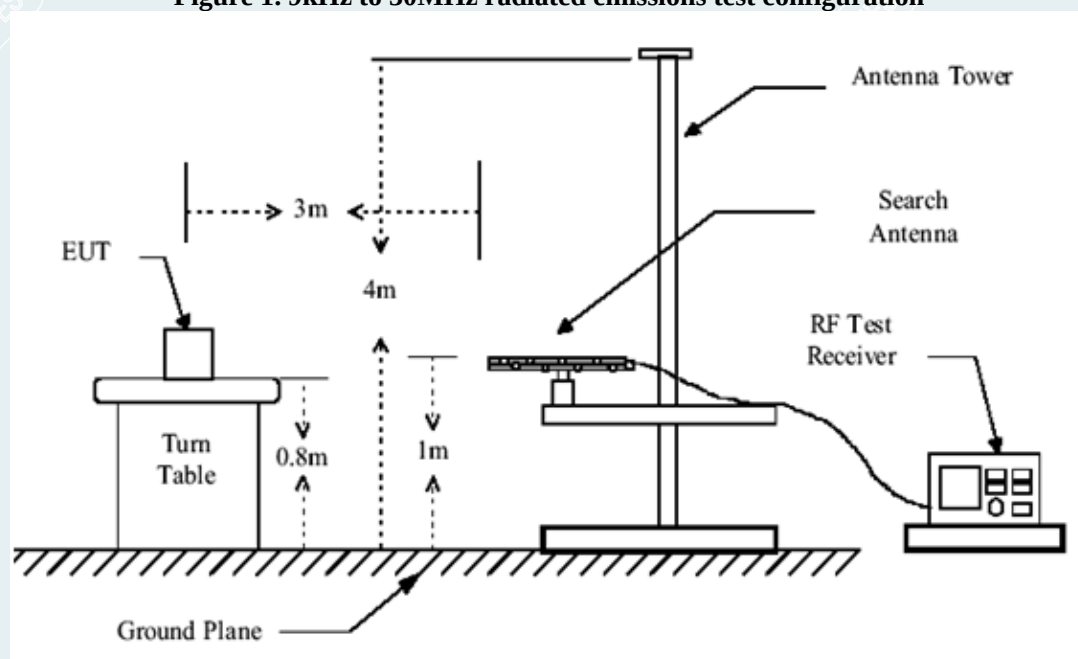


Figure 2. 30MHz to 1GHz radiated emissions test configuration

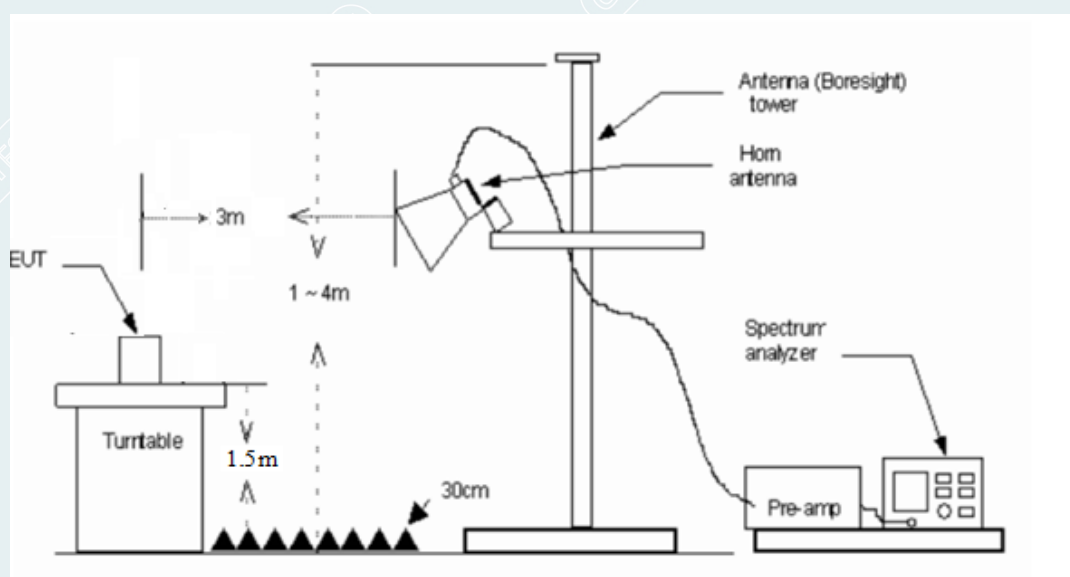


Figure 3. 1GHz-18GHz radiated emissions test configuration



30MHz to 1GHz

1GHz to 18GHz

Above 18GHz

No.	Frequency	Reading	Factor	Level	Limit	Margin	Remark	Pole
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/m)	(dB)		
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

$$\text{Reading (dBuV)} = \text{Uncorrected Analyzer / Receiver reading}$$
$$\text{Correction Factor (dB/m)} = \text{Antenna factor} + \text{Cable loss} - \text{Amplifier gain}$$
$$\text{Result (dBuV/m)} = \text{Reading (dBuV)} + \text{Correction Factor (dB/m)}$$

Limit (dBuV/m) = Limit stated in standard

$$\text{Margin (dB)} = \text{Remark Result (dBuV/m)} - \text{Limit (dBuV/m)}$$

Peak = Peak Reading

QP = Quasi-peak Reading

AVG = Average Reading

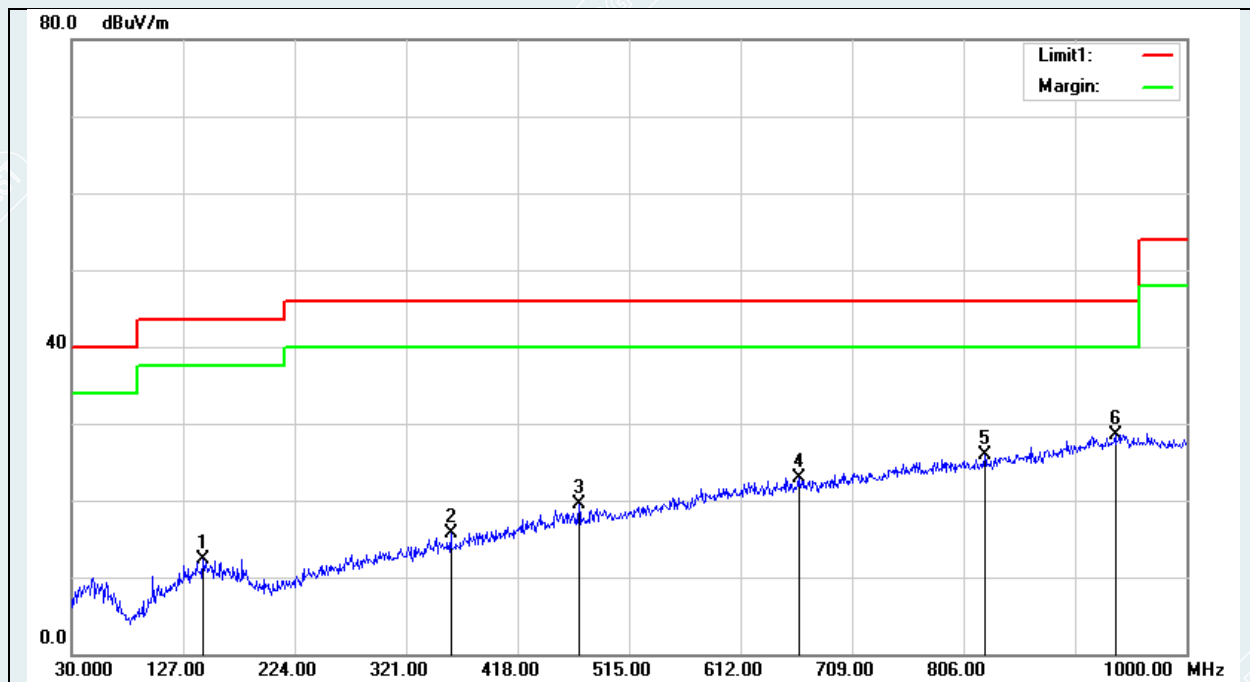
5.5 TEST RESULTS

All directions were pretested, the worst direction is the face of six point is up and the face of four point face to antenna. Only the worst direction recorded in this report.

Below 1GHz

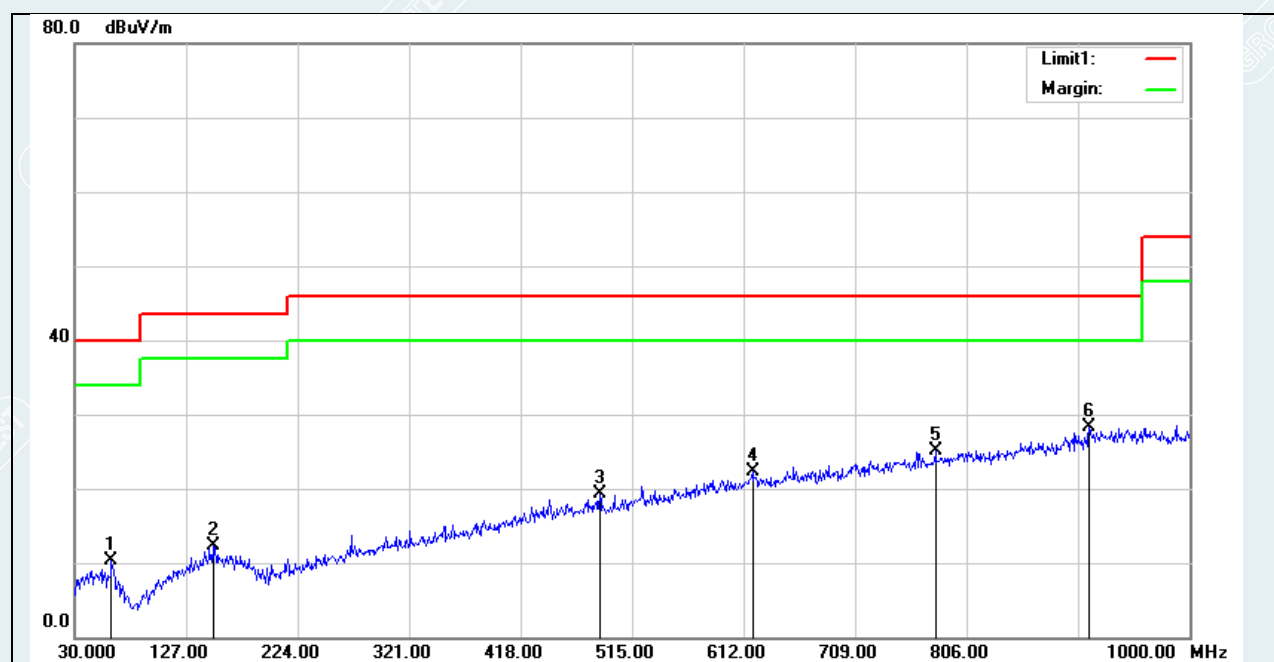
Only the worst mode and channel were recorded in this report. (Zigbee 2405MHz)

EUT Name:	Cube T1 Pro	Test Mode:	Mode 1
Model:	CTP-R01	Sample No:	E20220414157601-0002
Power supply:	DC 3V	Environmental Conditions:	24.9°C/50%RH
Test Engineer:	Zengxianglong	Test Date:	2022-04-28
Channel	Lowest channel (2405MHz)	Polarity:	Horizontal



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	144.4600	37.31	-25.10	12.21	43.50	-31.29	199	162	QP
2	359.8000	37.73	-21.98	15.75	46.00	-30.25	100	358	QP
3	471.3500	37.96	-18.39	19.57	46.00	-26.43	199	223	QP
4	662.4400	37.04	-14.05	22.99	46.00	-23.01	400	284	QP
5	824.4300	37.15	-11.22	25.93	46.00	-20.07	100	144	QP
6*	937.9200	38.16	-9.57	28.59	46.00	-17.41	120	0	QP

EUT Name:	Cube T1 Pro	Test Mode:	Mode 1
Model:	CTP-R01	Sample No:	E20220414157601-0002
Power supply:	DC 3V	Environmental Conditions:	24.9°C/50%RH
Test Engineer:	Zengxianglong	Test Date:	2022-04-28
Channel	Lowest channel (2405MHz)	Polarity:	Vertical



No.	Frequency (MHz)	Reading (dBuV)	Correct Factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Degree (deg.)	Remark
1	62.0100	38.32	-27.98	10.34	40.00	-29.66	100	4	QP
2	150.2800	37.06	-24.82	12.24	43.50	-31.26	100	319	QP
3	486.8700	37.42	-18.13	19.29	46.00	-26.71	200	322	QP
4	619.7600	36.99	-14.74	22.25	46.00	-23.75	100	42	QP
5	778.8400	36.86	-11.83	25.03	46.00	-20.97	198	0	QP
6*	912.7000	38.16	-9.92	28.24	46.00	-17.76	200	195	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.

EUT Name:	Cube T1 Pro	Test Mode:	Mode 1
Model:	CTP-R01	Sample No:	E20220414157601-0002
Power supply:	DC 3V	Environmental Conditions:	23.3°C/52%RH
Test Engineer:	Lu Qiang	Test Date:	2022-05-10
Channel	Lowest channel (2405MHz)	/	/

Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1250.0313	56.22	34.24	-21.98	74.00	39.76	100	30	Horizontal
2	2790.4738	55.09	37.67	-17.42	74.00	36.33	100	7	Horizontal
3	3648.8311	53.43	37.45	-15.98	74.00	36.55	100	221	Horizontal
4	4811.4764	52.67	40.05	-12.62	74.00	33.95	200	170	Horizontal
5	7856.8571	47.46	44.07	-3.39	74.00	29.93	100	194	Horizontal
6	12027.3784	44.87	49.40	4.53	74.00	24.60	200	40	Horizontal

AV Final Data List

NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	12026.2959	4.52	35.53	40.05	54.00	13.95	200	316.2	Horizontal
2	12027.3784	4.52	39.20	43.72	54.00	10.28	200	222.3	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	1083.2604	57.28	35.16	-22.12	74.00	38.84	200	220	Vertical
2	1421.0526	56.77	35.06	-21.71	74.00	38.94	200	23	Vertical
3	3648.8311	53.49	38.20	-15.29	74.00	35.80	200	237	Vertical
4	4809.6012	54.84	41.94	-12.90	74.00	32.06	200	40	Vertical
5	7202.4003	47.37	43.97	-3.40	74.00	30.03	100	39	Vertical
6	12021.7527	44.44	49.19	4.75	74.00	24.81	200	243	Vertical

AV Final Data List

NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	12026.4412	4.74	35.33	40.07	54.00	13.93	200	273.8	Vertical
2	12027.4029	4.74	38.26	43.00	54.00	11.00	200	89.3	Vertical

EUT Name:	Cube T1 Pro	Test Mode:	Mode 1
Model:	CTP-R01	Sample No:	E20220414157601-0002
Power supply:	DC 3V	Environmental Conditions:	23.3°C/52%RH
Test Engineer:	Lu Qiang	Test Date:	2022-05-10
Channel	Middle channel (2440MHz)	/	/

Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1251.7815	56.49	34.50	-21.99	74.00	39.50	100	160	Horizontal
2	2826.9784	54.27	37.01	-17.26	74.00	36.99	100	21	Horizontal
3	4340.7926	52.08	38.11	-13.97	74.00	35.89	100	33	Horizontal
4	5891.6115	50.08	40.43	-9.65	74.00	33.57	200	244	Horizontal
5	7843.7305	47.45	43.91	-3.54	74.00	30.09	100	354	Horizontal
6	12201.7752	47.09	51.74	4.65	74.00	22.26	200	223	Horizontal

AV Final Data List

NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	12197.8706	4.65	40.98	45.63	54.00	8.37	200	227.1	Horizontal
2	12201.2871	4.65	36.83	41.48	54.00	12.52	200	222.2	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	1365.5457	56.51	34.99	-21.52	74.00	39.01	100	192	Vertical
2	2040.3800	55.64	35.70	-19.94	74.00	38.30	200	111	Vertical
3	4331.4164	51.82	38.02	-13.80	74.00	35.98	100	266	Vertical
4	4880.8601	53.34	41.29	-12.05	74.00	32.71	200	232	Vertical
5	8813.2267	45.70	44.39	-1.31	74.00	29.61	100	153	Vertical
6	12198.0248	46.88	51.46	4.58	74.00	22.54	200	93	Vertical

AV Final Data List

NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	12197.7808	4.58	40.20	44.78	54.00	9.22	200	89.3	Vertical
2	12201.3183	4.58	36.14	40.72	54.00	13.28	200	101.4	Vertical

EUT Name:	Cube T1 Pro	Test Mode:	Mode 1
Model:	CTP-R01	Sample No:	E20220414157601-0002
Power supply:	DC 3V	Environmental Conditions:	23.3°C/52%RH
Test Engineer:	Lu Qiang	Test Date:	2022-05-10
Channel	Highest channel (2475MHz)	/	/

Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	1302.7878	57.20	34.95	-22.25	74.00	39.05	100	161	Horizontal
2	2203.6505	55.24	37.39	-17.85	74.00	36.61	100	58	Horizontal
3	3667.5834	53.83	37.94	-15.89	74.00	36.06	100	130	Horizontal
4	4950.2438	51.92	40.59	-11.33	74.00	33.41	200	342	Horizontal
5	7881.2352	47.24	43.87	-3.37	74.00	30.13	200	239	Horizontal
6	12372.4216	48.27	52.51	4.24	74.00	21.49	200	227	Horizontal

AV Final Data List

NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	12372.7928	4.24	41.25	45.49	54.00	8.51	200	140.2	Horizontal
2	12376.5045	4.24	37.64	41.88	54.00	12.12	200	144.1	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	1368.5461	56.12	34.61	-21.51	74.00	39.39	100	247	Vertical
2	1691.3364	55.24	33.60	-21.64	74.00	40.40	100	288	Vertical
3	4948.3685	53.32	42.27	-11.05	74.00	31.73	200	224	Vertical
4	7198.6498	47.29	43.92	-3.37	74.00	30.08	100	18	Vertical
5	9538.9424	45.97	46.02	0.05	74.00	27.98	200	151	Vertical
6	12372.4216	45.48	49.54	4.06	74.00	24.46	200	60	Vertical

AV Final Data List

NO.	Freq. [MHz]	Factor [dB]	AV Reading [dBμV/m]	AV Value [dBμV/m]	AV Limit [dBμV/m]	AV Margin [dB]	Height [cm]	Angle [°]	Polarity
1	12372.669	4.06	39.62	43.68	54.00	10.32	200	96.8	Vertical
2	12376.2571	4.06	35.18	39.24	54.00	14.76	200	64.5	Vertical

Above 18GHz-26.5GHz:

EUT Name:	Cube T1 Pro	Test Mode:	Mode 1
Model:	CTP-R01	Sample No:	E20220414157601-0002
Power supply:	DC 3V	Environmental Conditions:	23.3°C/52%RH
Test Engineer:	Lu Qiang	Test Date:	2022-05-11
Channel	Lowest channel (2405MHz)	/	/

Suspected Data List

NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18860.2000	53.72	41.83	-11.89	83.54	41.71	150	12	Horizontal
2	20576.3500	53.36	42.93	-10.43	83.54	40.61	150	320	Horizontal
3	21237.6500	53.46	43.44	-10.02	83.54	40.10	150	67	Horizontal
4	23142.5000	51.82	43.14	-8.68	83.54	40.40	150	73	Horizontal
5	24720.9500	50.53	42.98	-7.55	83.54	40.56	150	320	Horizontal
6	26308.3250	48.89	41.55	-7.34	83.54	41.99	150	46	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	18203.1500	52.91	40.52	-12.39	83.54	43.02	150	80	Vertical
2	19323.4500	54.42	42.87	-11.55	83.54	40.67	150	74	Vertical
3	20548.7250	53.94	43.61	-10.33	83.54	39.93	150	115	Vertical
4	23182.4500	52.08	43.46	-8.62	83.54	40.08	150	183	Vertical
5	24706.9250	49.71	42.23	-7.48	83.54	41.31	150	0	Vertical
6	26378.4500	48.67	41.63	-7.04	83.54	41.91	150	60	Vertical

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EUT Name:	Cube T1 Pro	Test Mode:	Mode 1
Model:	CTP-R01	Sample No:	E20220414157601-0002
Power supply:	DC 3V	Environmental Conditions:	23.3°C/52%RH
Test Engineer:	Lu Qiang	Test Date:	2022-05-11
Channel	Middle channel (2440MHz)	/	/

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18317.9000	53.34	41.02	-12.32	83.54	42.52	150	46	Horizontal
2	19708.5000	53.79	42.55	-11.24	83.54	40.99	150	259	Horizontal
3	20584.0000	53.50	43.08	-10.42	83.54	40.46	150	102	Horizontal
4	22647.8000	51.84	42.90	-8.94	83.54	40.64	150	190	Horizontal
5	25057.1250	49.70	42.46	-7.24	83.54	41.08	150	354	Horizontal
6	26301.1000	48.83	41.48	-7.35	83.54	42.06	150	348	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	18168.7250	54.74	42.32	-12.42	83.54	41.22	150	340	Vertical
2	19019.5750	54.19	42.41	-11.78	83.54	41.13	150	12	Vertical
3	20572.9500	53.36	43.06	-10.30	83.54	40.48	150	360	Vertical
4	23207.1000	53.48	44.86	-8.62	83.54	38.68	150	134	Vertical
5	24732.8500	50.71	43.27	-7.44	83.54	40.27	150	230	Vertical
6	26471.1000	48.79	41.77	-7.02	83.54	41.77	150	87	Vertical

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EUT Name:	Cube T1 Pro	Test Mode:	Mode 1
Model:	CTP-R01	Sample No:	E20220414157601-0002
Power supply:	DC 3V	Environmental Conditions:	23.3°C/52%RH
Test Engineer:	Lu Qiang	Test Date:	2022-05-11
Channel	Highest channel (2475MHz)	/	/

Suspected Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Level [dBμV/m]	Factor [dB]	Limit [dBμV/m]	Margin [dB]	Height [cm]	Angle [°]	Polarity
1	18362.5250	53.58	41.27	-12.31	83.54	42.27	150	287	Horizontal
2	19325.1500	54.08	42.53	-11.55	83.54	41.01	150	287	Horizontal
3	20557.2250	53.48	43.04	-10.44	83.54	40.50	150	115	Horizontal
4	21283.5500	52.41	42.42	-9.99	83.54	41.12	150	218	Horizontal
5	23168.0000	52.16	43.47	-8.69	83.54	40.07	150	267	Horizontal
6	25258.1500	50.02	42.87	-7.15	83.54	40.67	150	334	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	18329.8000	53.48	41.19	-12.29	83.54	42.35	150	116	Vertical
2	20537.6750	54.05	43.71	-10.34	83.54	39.83	150	307	Vertical
3	21264.4250	52.99	43.09	-9.90	83.54	40.45	150	184	Vertical
4	23258.1000	51.83	43.21	-8.62	83.54	40.33	150	41	Vertical
5	24716.2750	50.77	43.30	-7.47	83.54	40.24	150	225	Vertical
6	25291.3000	51.01	43.92	-7.09	83.54	39.62	150	334	Vertical

Remark:

- 1 Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2 Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin>20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3 Radiated emissions measured in frequency above 1000MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4 Above 18G test distance is 1m, so the Peak Limit=74+20*log(3/1)=83.54 (dBμV/m), The limits are relaxed.

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6. 6dB BANDWIDTH

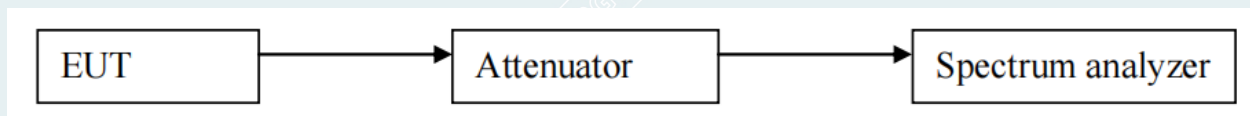
6.1 LIMITS

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.

6.2 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.

6.3 TEST SETUP

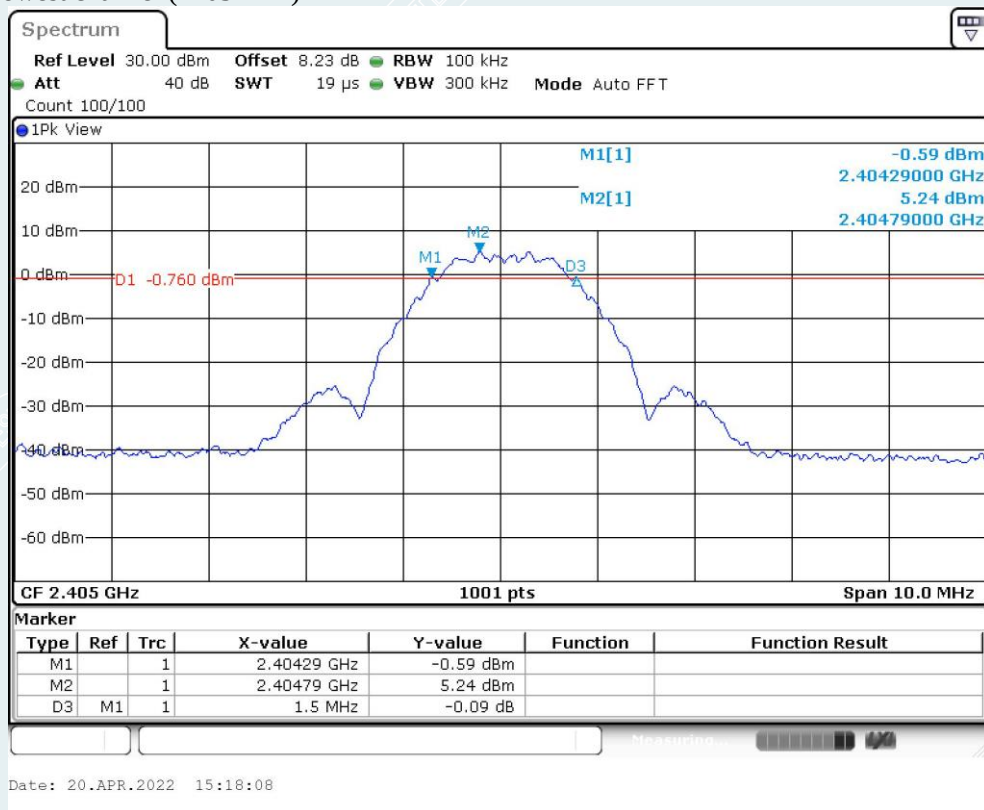


6.4 TEST RESULTS

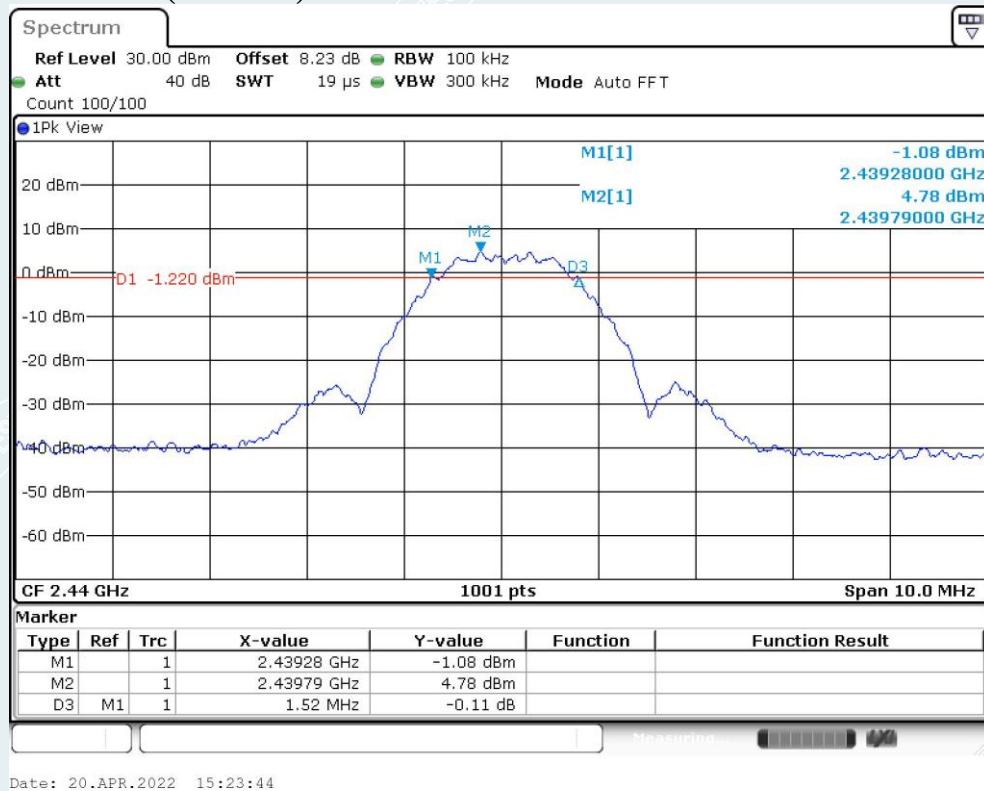
EUT Name:	Cube T1 Pro	Test Mode:	Mode 1
Model:	CTP-R01	Sample No:	E20220414157601-0005
Test Engineer:	Qin Tingting	Test Date:	2022-04-20
Environmental Conditions:	21.3°C/60%RH	/	/

ChName	Frequency (MHz)	Bandwidth [kHz]	Limit[kHz]	Verdict
Lowest	2405	1500	≥ 500	PASS
Middle	2440	1520		PASS
Highest	2475	1520		PASS

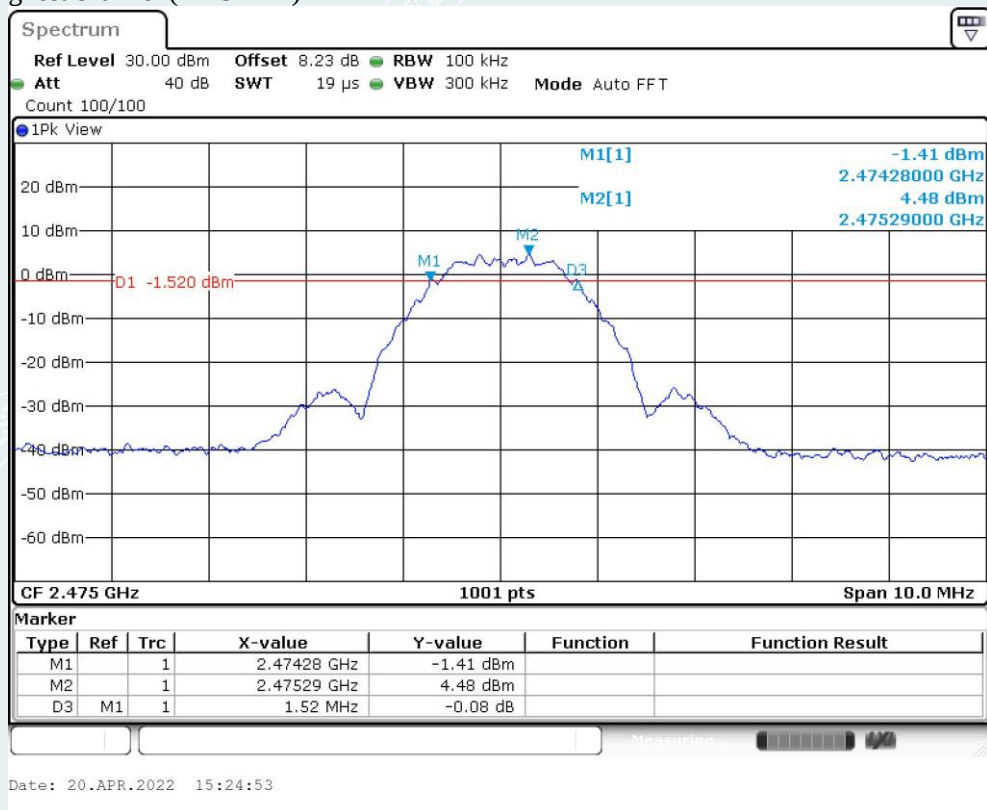
Lowest channel (2405MHz)



Middle channel (2440 MHz)



Highest channel (2475MHz)



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7. MAXIMUM PEAK OUTPUT POWER

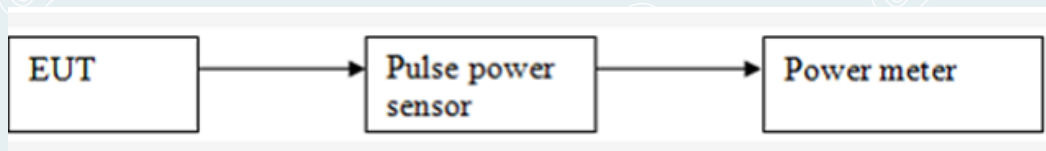
7.1 LIMITS

The maximum Peak output power measurement is 1W

7.2 TEST PROCEDURES

- 1) According to the test mode, the channel requirements set EUT to continuous transmission mode.
- 2) Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter.

7.3 TEST SETUP



7.4 TEST RESULTS

EUT Name:	Cube T1 Pro	Test Mode:	Mode 1
Model:	CTP-R01	Sample No:	E20220414157601-0005
Test Engineer:	Qin Tingting	Test Date:	2022-04-20
Environmental Conditions:	21.3°C/60%RH	/	/

ChName	Frequency (MHz)	Measured Channel Power (dBm)	Limit	Peak/Average	Result
Lowest	2405	7.81	1W (30dBm)	Peak	Pass
Middle	2440	7.54			Pass
Highest	2475	7.22			Pass

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8. POWER SPECTRAL DENSITY

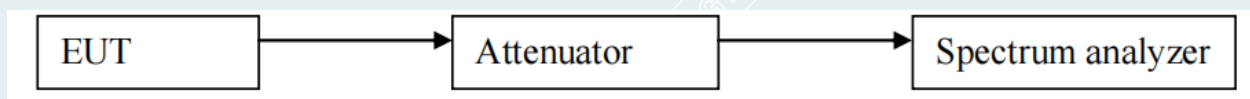
8.1 LIMITS

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.

8.2 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.

8.3 TEST SETUP

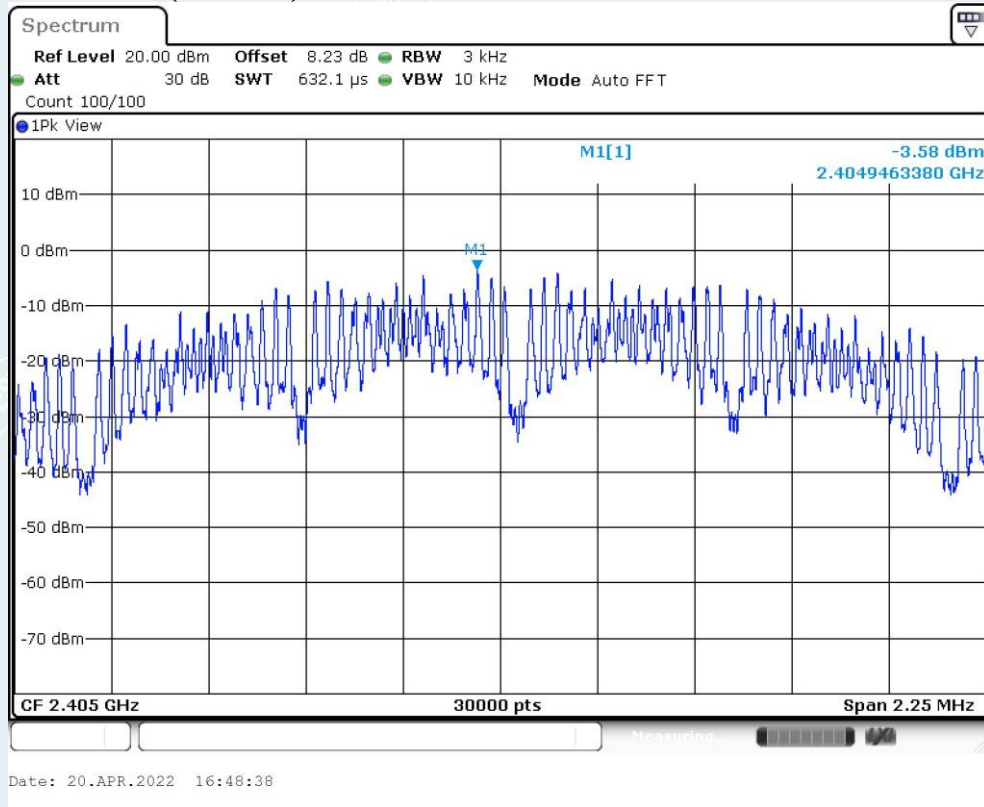


8.4 TEST RESULTS

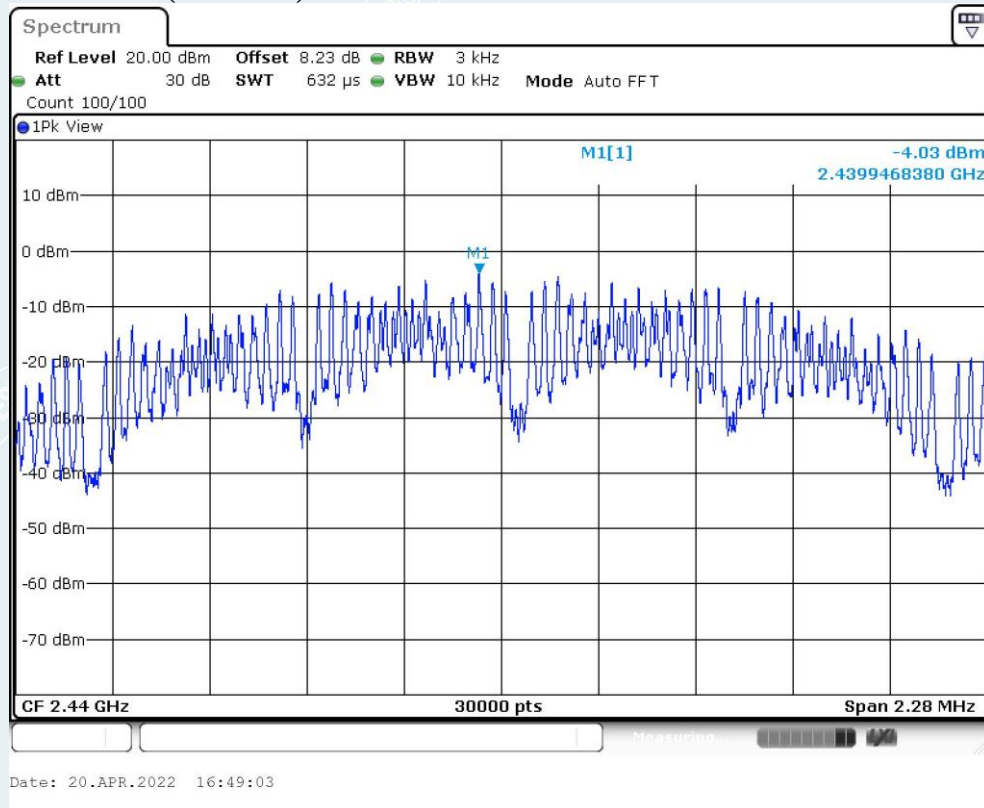
EUT Name:	Cube T1 Pro	Test Mode:	Mode 1
Model:	CTP-R01	Sample No:	E20220414157601-0005
Test Engineer:	Qin Tingting	Test Date:	2022-04-20
Environmental Conditions:	21.3°C/60%RH	/	/

ChName	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
Lowest	2405	-3.58	8.00	Pass
Middle	2440	-4.03	8.00	Pass
Highest	2475	-4.43	8.00	Pass

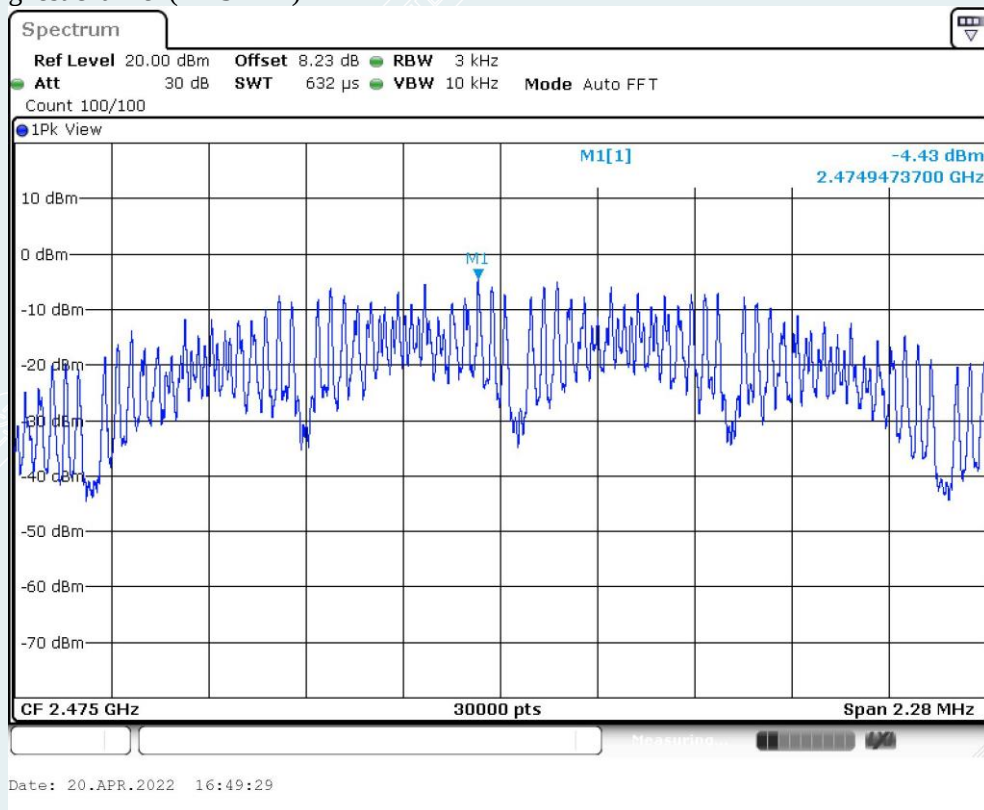
Lowest channel (2405MHz)



Middle channel (2440 MHz)



Highest channel (2475MHz)



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9. CONDUCTED BAND EDGES AND SPURIOUS EMISSIONS

9.1 LIMITS

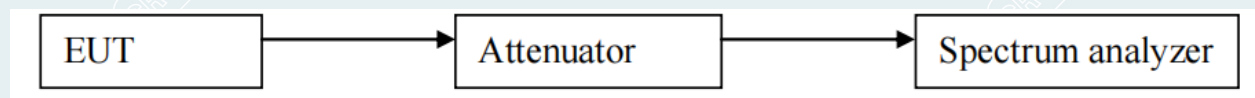
(d) In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains 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.

9.2 TEST PROCEDURES

Remove the antenna from the EUT and then connect a low attenuation cable from the antenna port to the spectrum.

- 1) Remove the antenna from the EUT and then connect a low attenuation cable from the antenna port to the spectrum.
- 2) Set the spectrum analyzer: RBW=100kHz; VBW=300kHz, Span=10MHz to 26.5GHz; Sweep=auto; Detector Function=Peak. Trace=Max, hold.
- 3) Measure and record the results in the test report.
- 4) The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
- 5) Measurements are made from 30MHz to 26.5GHz with the transmitter set to the lowest, middle, and highest channels.

9.3 TEST SETUP



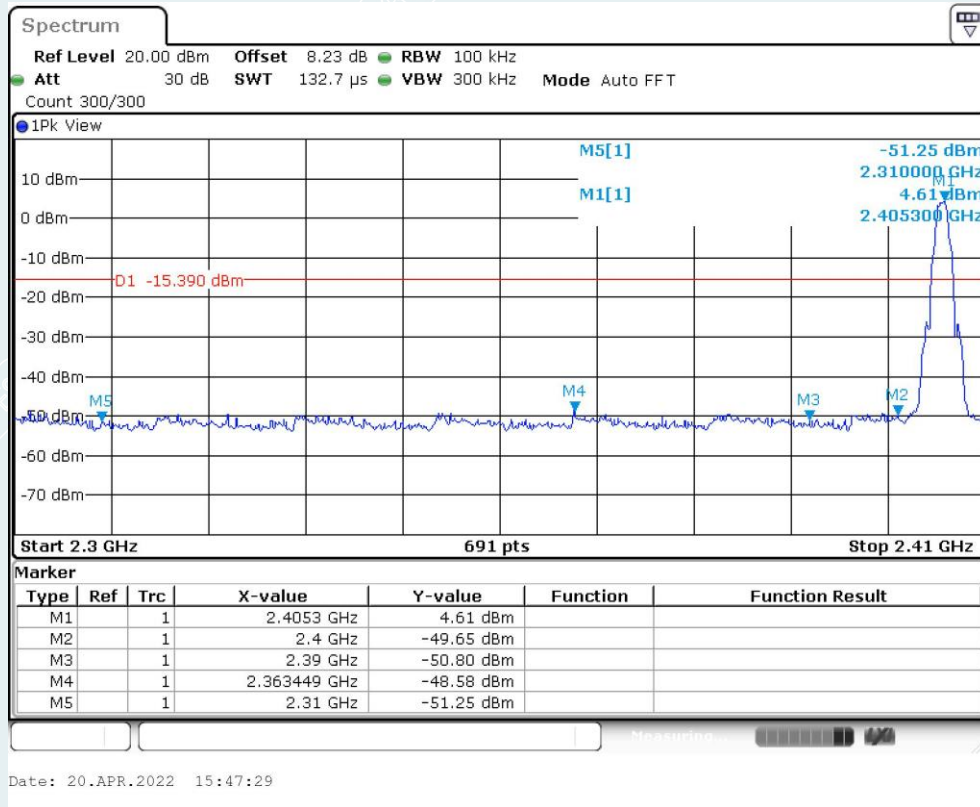
9.4 TEST RESULTS

EUT Name:	Cube T1 Pro	Test Mode:	Mode 1
Model:	CTP-R01	Sample No:	E20220414157601-0005
Test Engineer:	Qin Tingting	Test Date:	2022-04-20
Environmental Conditions:	21.3°C/60%RH	/	/

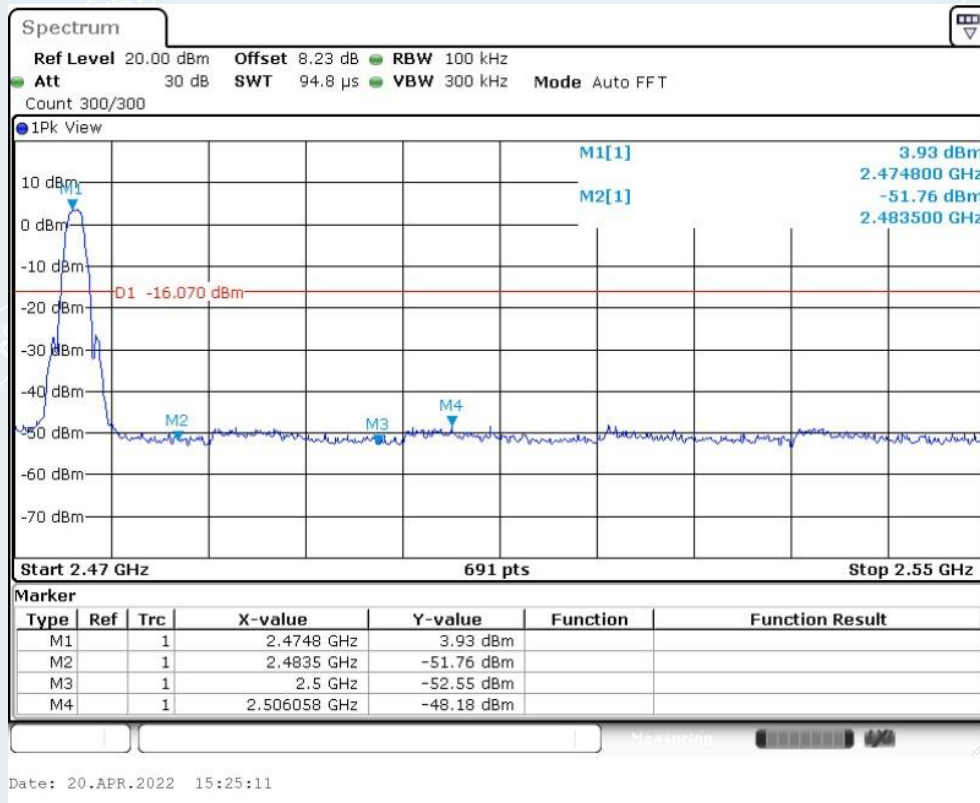
Band edge

TestMode	Antenna	ChName	Frequency [MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
Zigbee	Ant1	Lowest	2405	4.61	-48.58	≤-15.39	PASS
		Highest	2475	3.93	-48.18	≤-16.07	PASS

Lowest channel (2405MHz)
2.30GHz-2.41GHz



Highest channel (2475MHz)
2.47GHz-2.55GHz



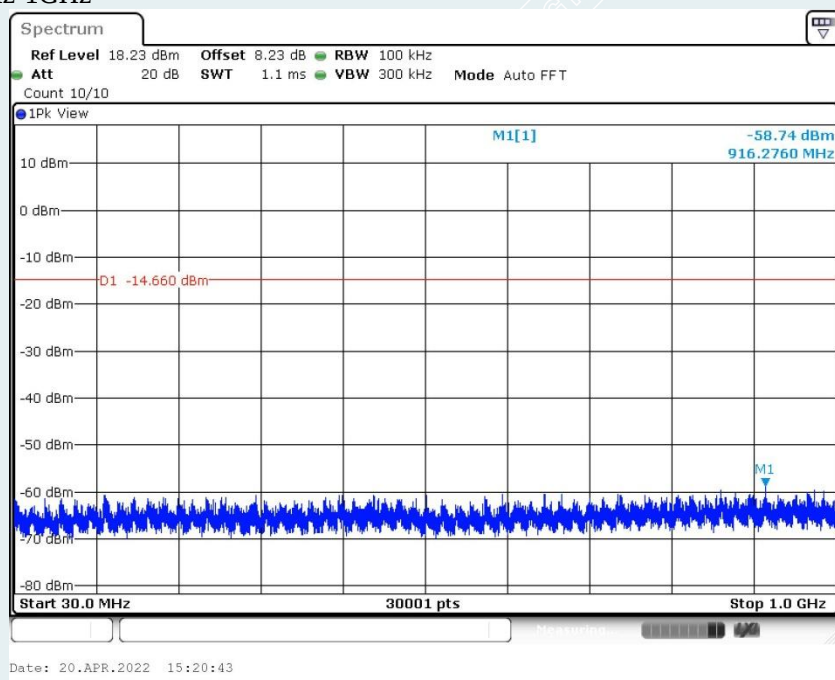
Conducted Spurious Emission

TestMode	Antenna	Frequency [MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
Zigbee	Ant1	2405	Reference	5.34	5.34	---	PASS
			30~1000	5.34	-58.74	≤-14.66	PASS
			1000~26500	5.34	-55.41	≤-14.66	PASS
		2440	Reference	4.86	4.86	---	PASS
			30~1000	4.86	-58.9	≤-15.14	PASS
			1000~26500	4.86	-52.93	≤-15.14	PASS
		2475	Reference	4.47	4.47	---	PASS
			30~1000	4.47	-59.13	≤-15.53	PASS
			1000~26500	4.47	-55.36	≤-15.53	PASS

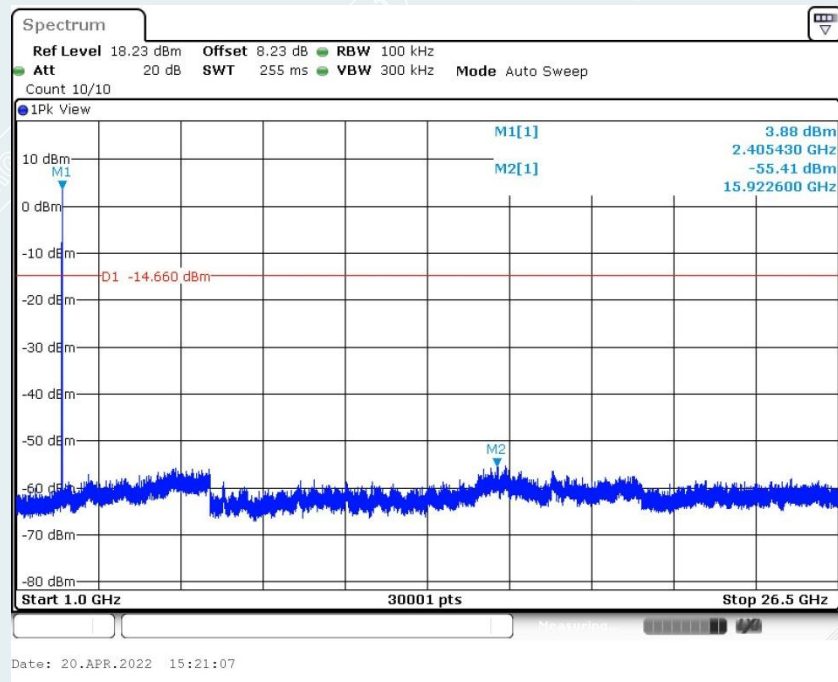
Lowest channel (2405MHz)



0.03GHz-1GHz



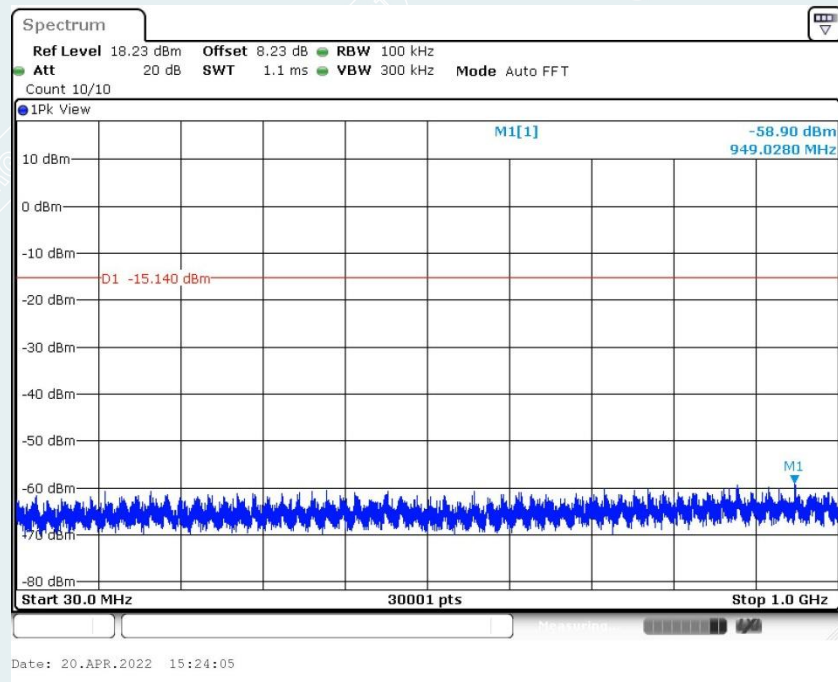
1GHz-26.5GHz



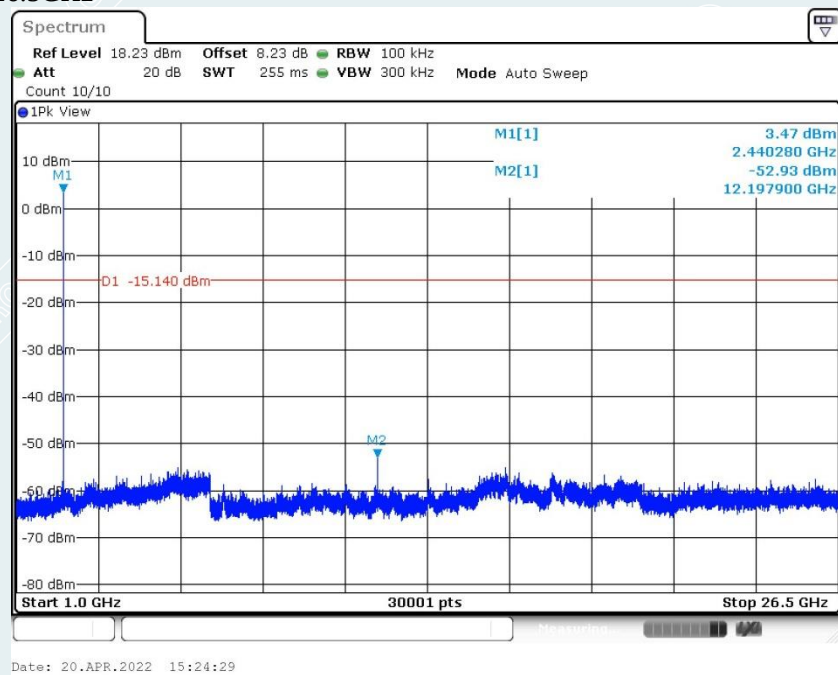
Middle channel (2440MHz)



0.03GHz-1GHz



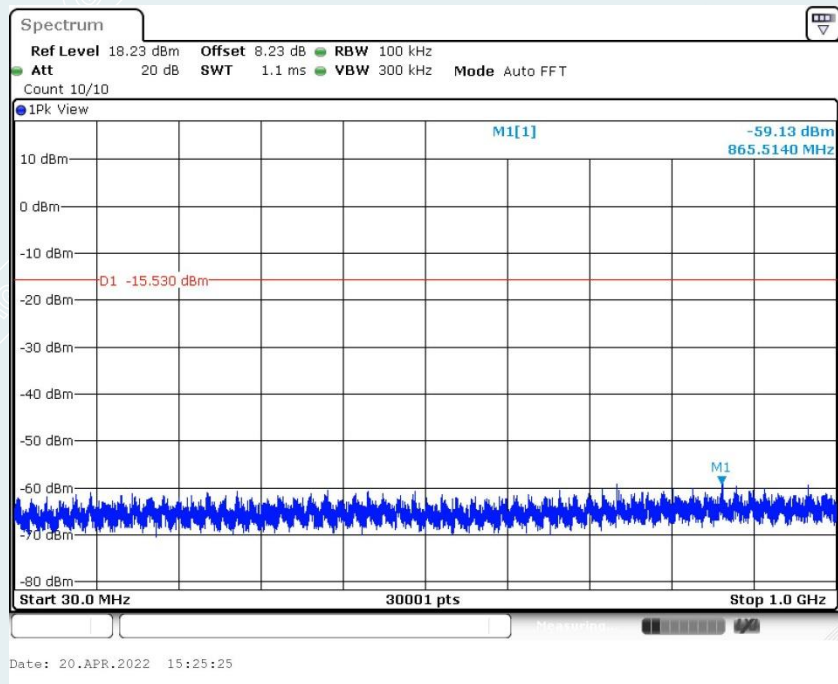
1GHz-26.5GHz



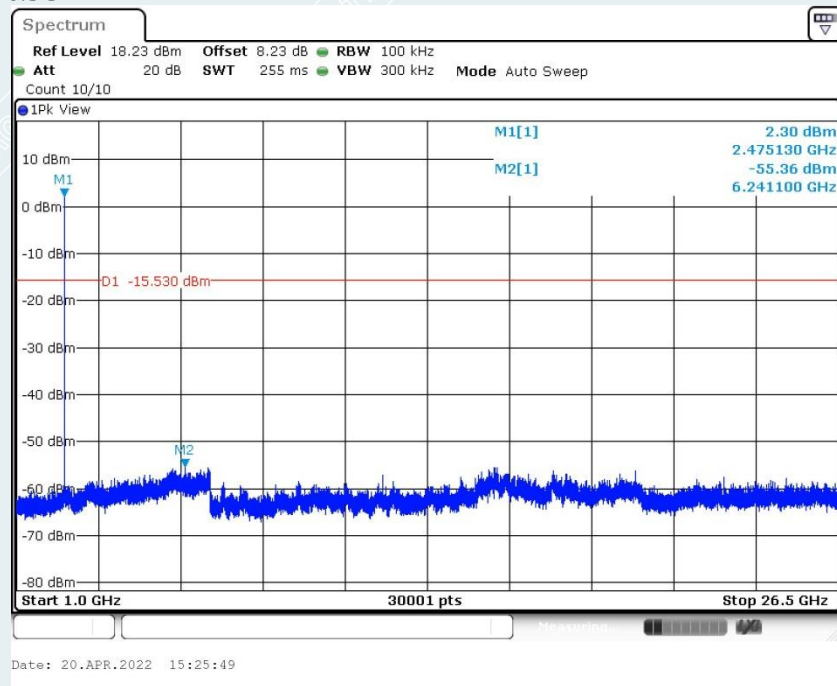
Highest channel (2475MHz)



0.03GHz-1GHz



1GHz-26.5GHz



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

10. RESTRICTED BANDS OF OPERATION

10.1 LIMITS

Section 15.247(d) 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)).

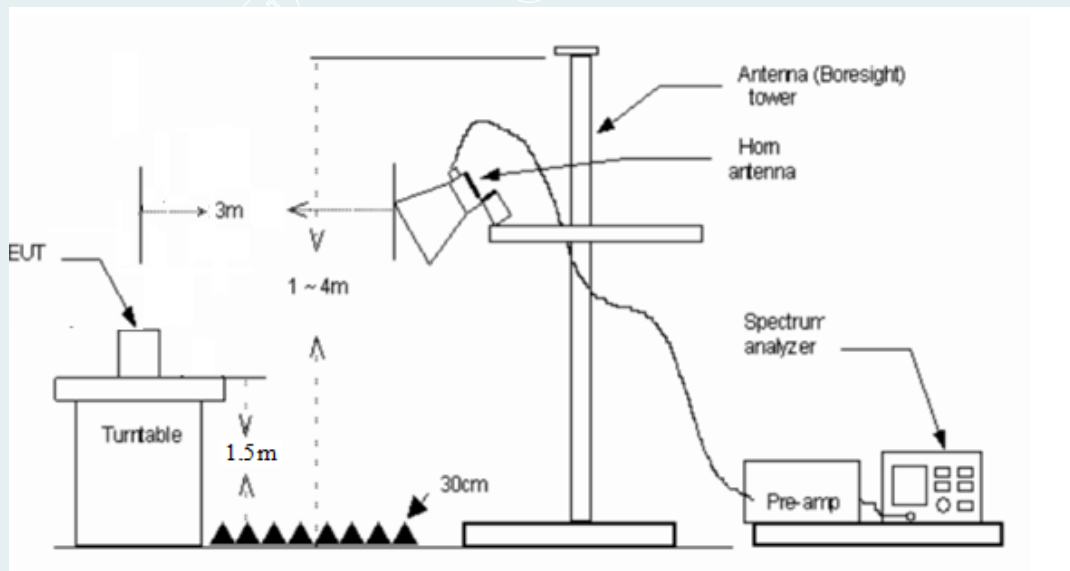
MHz	MHz	MHz	GHz
0.090 - 0.110	16.42 - 16.423	399.9 - 410	4.5 - 5.15
¹ 0.495 - 0.505	16.69475 - 16.69525	608 - 614	5.35 - 5.46
2.1735 - 2.1905	16.80425 - 16.80475	960 - 1240	7.25 - 7.75
4.125 - 4.128	25.5 - 25.67	1300 - 1427	8.025 - 8.5
4.17725 - 4.17775	37.5 - 38.25	1435 - 1626.5	9.0 - 9.2
4.20725 - 4.20775	73 - 74.6	1645.5 - 1646.5	9.3 - 9.5
6.215 - 6.218	74.8 - 75.2	1660 - 1710	10.6 - 12.7
6.26775 - 6.26825	108 - 121.94	1718.8 - 1722.2	13.25 - 13.4
6.31175 - 6.31225	123 - 138	2200 - 2300	14.47 - 14.5
8.291 - 8.294	149.9 - 150.05	2310 - 2390	15.35 - 16.2
8.362 - 8.366	156.52480 - 156.52525	2483.5 - 2500	17.7 - 21.4
8.37625 - 8.38675	156.7 - 156.9	2655 - 2900	22.01 - 23.12
8.41425 - 8.41475	162.0125 - 167.17	3260 - 3267	23.6 - 24.0
12.29 - 12.293	167.72 - 173.2	3332 - 3339	31.2 - 31.8
12.51975 - 12.52025	240 - 285	3345.8 - 3358	36.43 - 36.5
12.57675 - 12.57725	322 - 335.4	3600 - 4400	
13.36 - 13.41			

Frequency (MHz)	Quasi-peak(μ V/m)	Measurement distance(m)	Quasi-peak(dB μ V/m)@distance 3m
0.009-0.490	2400/F(kHz)	300	128.5~93.8
0.490-1.705	24000/F(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

10.2 TEST PROCEDURES

- 1) The EUT is placed on a turntable, which is 1.5m above the ground plane.
- 2) The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- 3) EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emission.
- 4) Set the spectrum analyzer in the following setting in order to capture the lower and upper band-edges of the emission:
 - a) For Peak detector: Set RBW=1MHz, RBW=3MHz, Sweep=AUTO.
 - b) For Avg detector: Set RBW=1MHz, Sweep=AUTO, the EUT is configured to transmit with duty cycle $\geq 98\%$, set VBW $\leq$ RBW/100 (i.e., 10kHz) but not less than 10 Hz.
- 5) Repeat the procedures until all the PEAK and AVERAGE versus polarization are measured.

10.3 TEST SETUP



All directions were pretested, the worst direction is the face of six point is up and the face of four point face to antenna. Only the worst direction recorded in this report.

10.4 TEST RESULTS

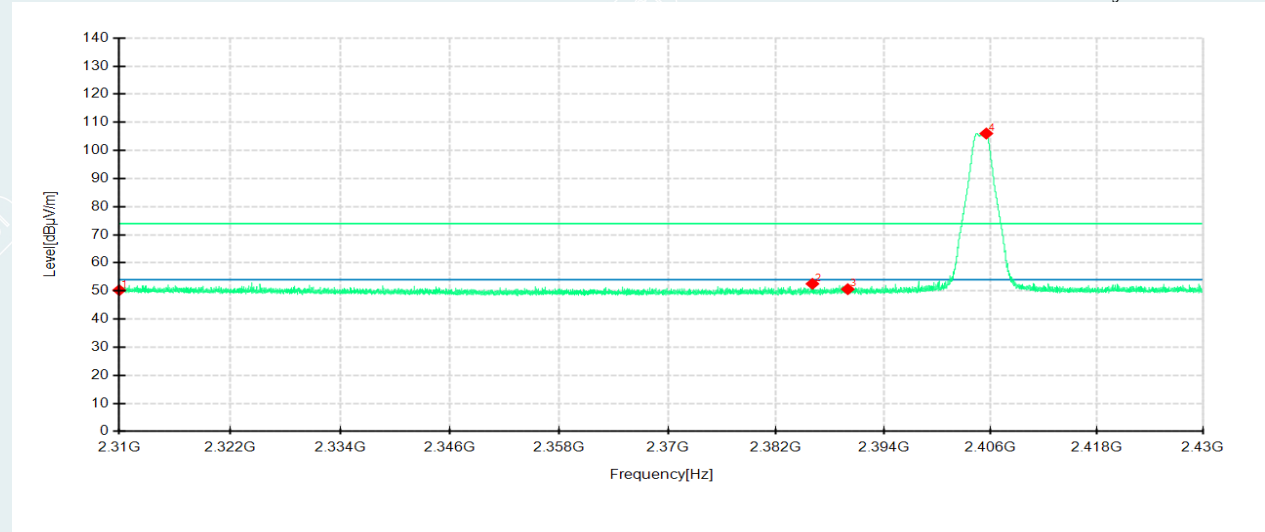
EUT Name:	Cube T1 Pro	Test Mode:	Mode 1
Model:	CTP-R01	Sample No:	E20220414157601-0002
Test Engineer:	Lu Qiang	Test Date:	2022-04-27 to 2022-04-28
Environmental Conditions:	23.3°C/52%RH	/	/

Lowest Channel

Channel 2405MHz

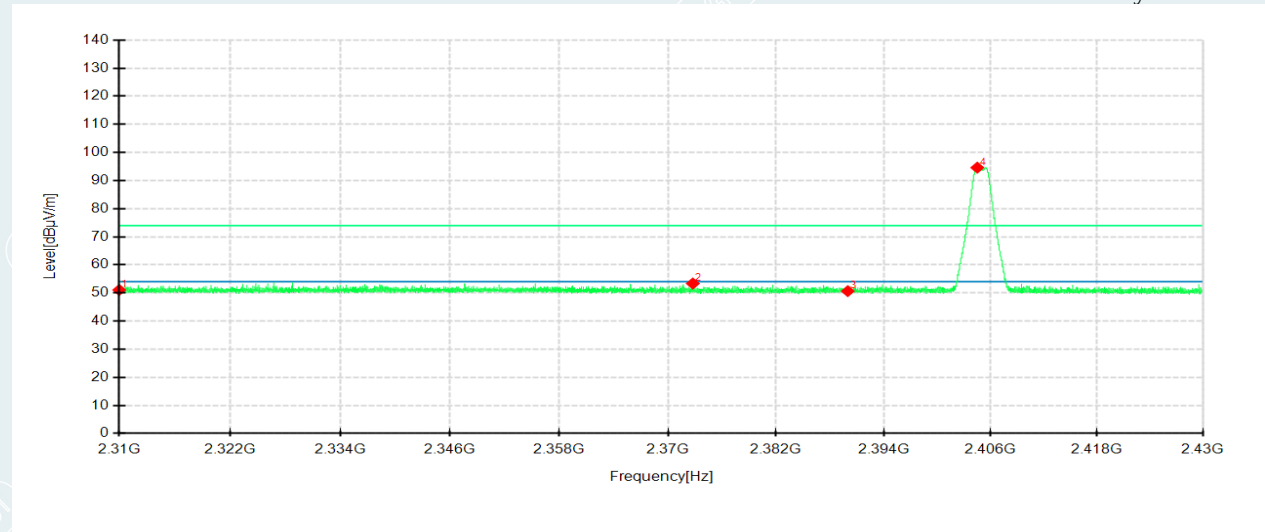
Detector mode: Peak

Polarity: Horizontal



Detector mode: Peak

Polarity: Vertical



No.	Frequency MHz	Reading dB μ V/m	Level dB μ V/m	Factor dB	Limit dB μ V/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2310	46.36	50.29	3.93	74.00	23.71	100	258	Horizontal	/
2	2386.056	49.43	52.55	3.12	74.00	21.45	100	258	Horizontal	/
3	2390	47.51	50.64	3.13	74.00	23.36	200	101	Horizontal	
4	2405.52	102.79	106.02	3.23	74.00	-32.02	100	207	Horizontal	No limit
1	2310	46.57	51.08	4.51	74.00	22.92	100	307	Vertical	/
2	2372.76	48.92	53.36	4.44	74.00	20.64	100	101	Vertical	/
3	2390	46.39	50.66	4.27	74.00	23.34	100	320	Vertical	/
4	2404.512	90.48	94.60	4.12	74.00	-20.60	100	101	Vertical	No limit

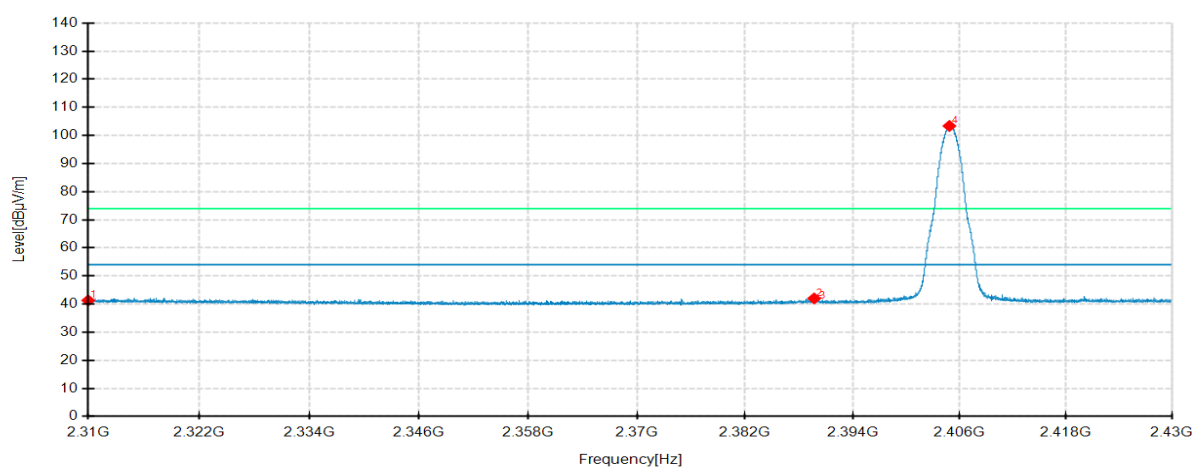
----- The following blanks -----

Lowest Channel

Channel 2405MHz

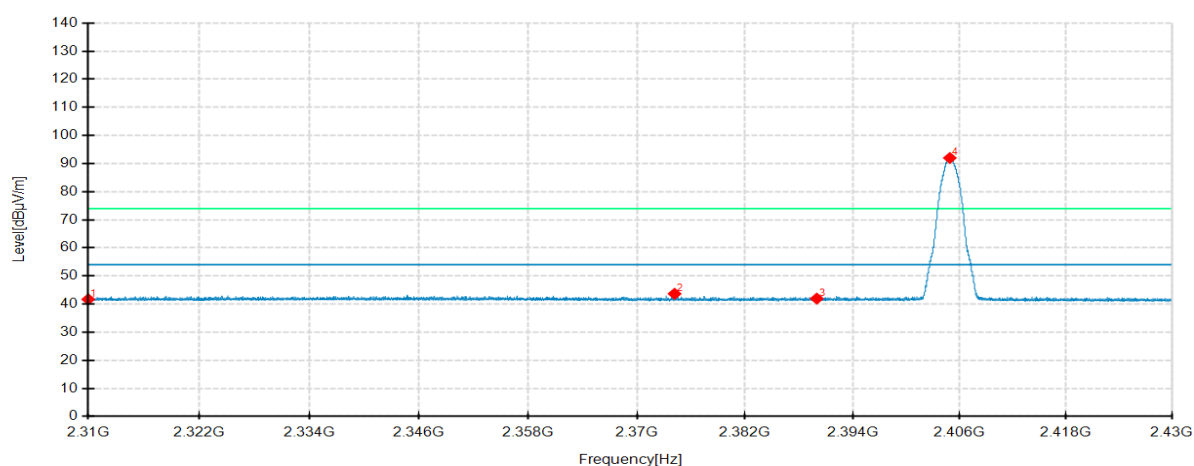
Detector mode: Average

Polarity: Horizontal



Detector mode: Average

Polarity: Vertical



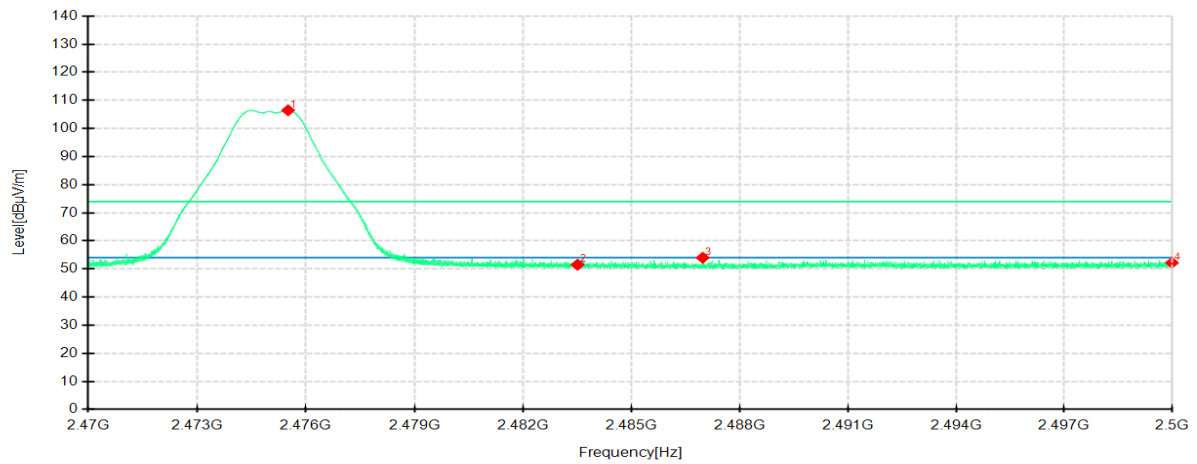
No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2310	37.38	41.31	3.93	54.00	12.69	200	102	Horizontal	/
2	2389.704	38.87	42.00	3.13	54.00	12.00	100	203	Horizontal	/
3	2390	37.87	41.00	3.13	54.00	13.00	200	222	Horizontal	/
4	2404.86	100.15	103.38	3.23	54.00	-49.38	100	206	Horizontal	No limit
1	2310	37.18	41.69	4.51	54.00	12.31	200	258	Vertical	/
2	2374.176	39.24	43.66	4.42	54.00	10.34	100	258	Vertical	/
3	2390	37.68	41.95	4.27	54.00	12.05	100	202	Vertical	/
4	2404.908	87.87	91.99	4.12	54.00	-37.99	100	102	Vertical	No limit

Highest Channel

Channel 2475MHz

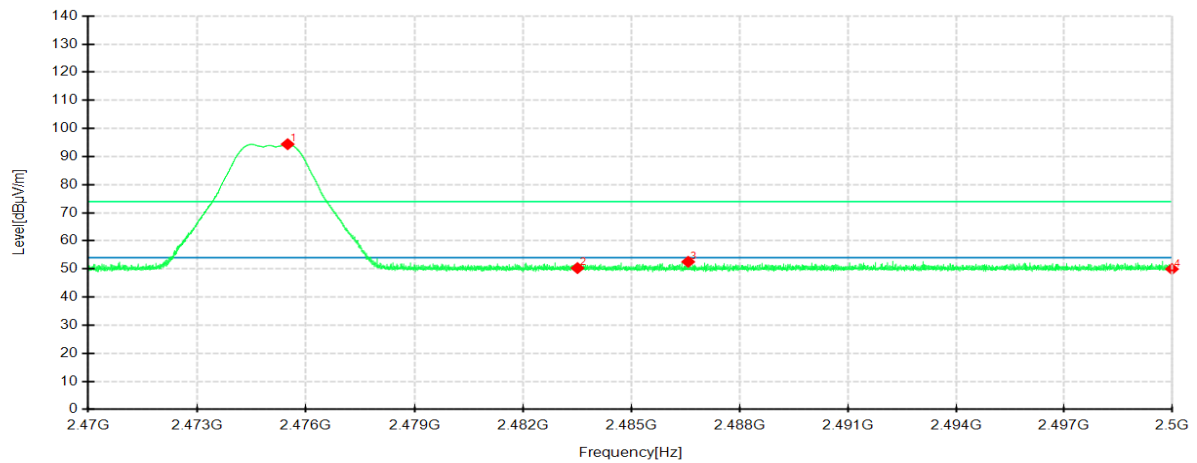
Detector mode: Peak

Polarity: Horizontal



Detector mode: Peak

Polarity: Vertical



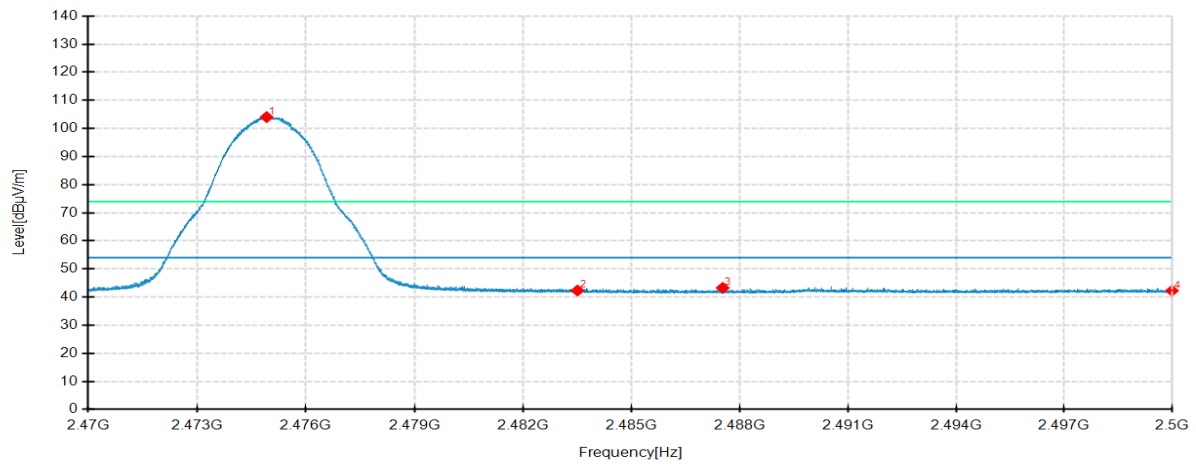
No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBuV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2475.505	102.29	106.46	4.17	74.00	-32.46	100	206	Horizontal	No limit
2	2483.5	47.18	51.51	4.33	74.00	22.49	200	143	Horizontal	/
3	2486.965	49.59	53.98	4.39	74.00	20.02	100	169	Horizontal	/
4	2500	47.55	52.20	4.65	74.00	21.80	200	347	Horizontal	/
1	2475.493	90.74	94.40	3.66	74.00	-20.40	200	260	Vertical	No limit
2	2483.5	46.62	50.31	3.69	74.00	23.69	200	187	Vertical	/
3	2486.563	48.85	52.55	3.70	74.00	21.45	200	260	Vertical	/
4	2500	46.22	49.97	3.75	74.00	24.03	200	213	Vertical	/

Highest Channel

Channel 2475MHz

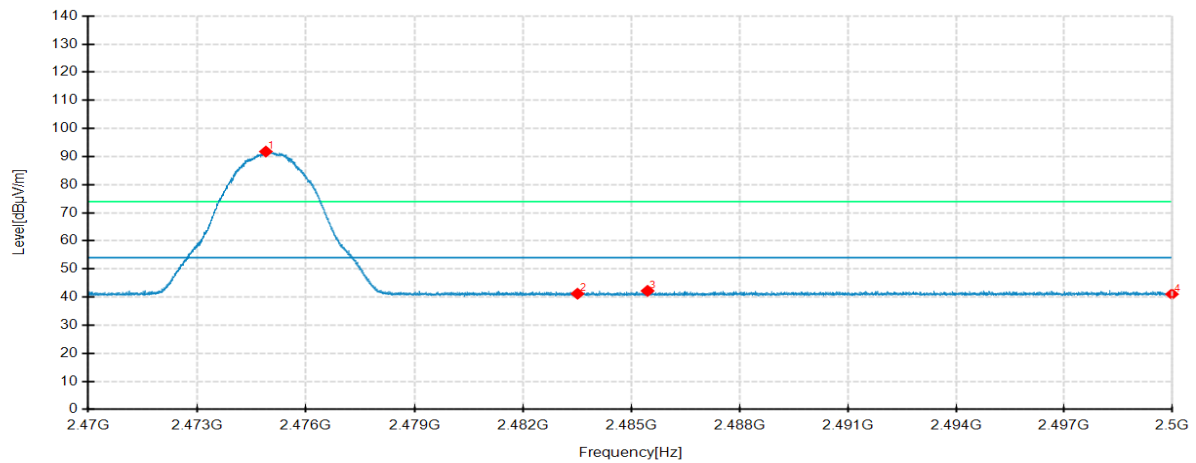
Detector mode: Average

Polarity: Horizontal



Detector mode: Average

Polarity: Vertical



No.	Frequency MHz	Reading dBμV/m	Level dBμV/m	Factor dB	Limit dBμV/m	Margin dB	Height cm	Angle °	Pole	Comment
1	2474.914	99.87	104.03	4.16	54.00	-50.03	100	210	Horizontal	No limit
2	2483.5	38.00	42.33	4.33	54.00	11.67	200	317	Horizontal	/
3	2487.52	38.86	43.27	4.41	54.00	10.73	100	148	Horizontal	/
4	2500	37.61	42.26	4.65	54.00	11.74	100	0	Horizontal	/
1	2474.893	88.11	91.77	3.66	54.00	-37.77	200	259	Vertical	No limit
2	2483.5	37.50	41.19	3.69	54.00	12.81	200	134	Vertical	/
3	2485.438	38.51	42.21	3.70	54.00	11.79	200	131	Vertical	/
4	2500	37.29	41.04	3.75	54.00	12.96	200	259	Vertical	/

Remark: Max field strength in 3m distance. No any other emission which falls in restricted bands can be detected and be reported.

APPENDIX A. PHOTOGRAPH OF THE TEST CONNECTION DIAGRAM

Please refer to the attached document E20220414157601-10-Test photo.

APPENDIX B. PHOTOGRAPH OF THE EUT

Please refer to the attached document E20220414157601-11-EUT photo.

----- **End of Report** -----