



Page 1 of 47

Verified code: 764275

Test Report

Report No.: E20220126055701-4

Customer:	OnePlus Technology (Shenzhen) Co., Ltd.
Address:	18C02, 18C03, 18C04 and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen, China
Sample Name:	Wireless earphones
Sample Model:	E505A
Receive Sample Date:	Feb.14,2022
Test Date:	Feb.15,2022 ~ Mar.03,2022
Reference Document:	CFR 47, FCC Part 15 Subpart C RADIO FREQUENCY DEVICES:Subpart C—Intentional Radiators
Test Result:	Pass

Prepared by: Yong Zhaoyun Reviewed by: Jing Tors

Approved by: Lion Lion

GUANGZHOU GRG METROLOGY & TEST CO., LTD

Issued Date: 2022-03-24

GUANGZHOU GRG METROLOGY & TEST CO., LTD.

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Statement

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2. The sample information is provided by the client and responsible for its authenticity; The content of the report is only valid for the samples sent this time.

3. When there are reports in both Chinese and English, the Chinese version will prevail when the language problems are inconsistent.

4. If there is any objection concerning the report, please inform us within 15 days from the date of receiving the report.

5. Without the agreement of the laboratory, the client is not authorized to use the test results for unapproved propaganda.

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1. TEST RESULT SUMMARY

Technical Requirements FCC 47 CFR Part 15 Subpart C 15.247 ANSI C63.10-2013 KDB 558074 D01 15.247 measurement guidance v05r02					
Limit / Severity Item Result					
§15.203	Antenna Requirement	Pass			
§15.207(a)	Conducted Emission	Not Applicable			
§15.247(d)	Radiated Spurious Emission	Pass			
§15.247(b)(3)	Maximum Peak Output Power	Pass			
§15.247(e)	Power Spectral Density	Pass			
§15.247(a)(2)	6dB bandwidth	Pass			
§15.247(d)	Conducted band edges and Spurious Emission	Pass			
§15.205	Restricted bands of operation	Pass			

The EUT has one antenna. The antenna is FPC antenna.

The max gain of antenna is -0.5dBi.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:	OnePlus Technology (Shenzhen) Co., Ltd.
Address:	18C02, 18C03, 18C04 and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen, China

2.2 MANUFACTURER

Name:	OnePlus Technology (Shenzhen) Co., Ltd.
Address:	18C02, 18C03, 18C04 and 18C05, Shum Yip Terra Building, Binhe Avenue North, Futian District, Shenzhen, China

2.3 FACTORY

Name:	Jiangxi Risound Electronics Co., Ltd.
Address:	No.271, Innovation Avenue, Jinggangshan Economic and Technological Development Zone, Ji'an City, Jiangxi Province

2.4 BASIC DESCRIPTION OF EQUIPMENT UNDER TEST

Equipment:	Wireless earphones
Model No.:	E505A
Adding Model:	
Models discrepancy:	
Trade Name:	ONEPLUS
FCC ID:	2ABZ2-E505AL
Power supply:	DC 3.8V power supplied by earphones battery DC 5V power supplied by E505A charging case or DC 3.7V power supplied by charging case battery
Charging Case:	E505A Input: 5.0V 0.9A Output: 5.0V 0.3A Rated Capacity:480mAh 1.77Wh
	Rechargeable Li-ion Battery, Model:751443-1
Charging Case	Rated Voltage:3.7Vdc
Battery Specification:	Rated Capacity:480mAh 1.77Wh
	Limited Charge voltage:4.35Vdc
Fambonas Dattany	Rechargeable Li-ion Cell, Model:1058PF3
Earphones Battery Specification:	Rated Voltage:3.8Vdc
Specification.	Rated Capacity:41mAh 0.155Wh
Frequency Band:	2402 ~ 2480MHz
Transmit Power:	GFSK:5.78dBm
Modulation type:	GFSK
Channel space:	2MHz
Antenna Specification:	FPC antenna -0.5dBi gain (Max.)

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Temperature Range:	0°C~35°C
Hardware Version:	AA460_0
Software Version:	V1.0.0
Sample No:	E20220126055701-0005
Sample No.	E20220126055701-0009
Note:	Earphone is E505A, Charging Case is E505A

2.5 CHANNELLIST

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
00	2402	10	2422	20	2442	30	2462
01	2404	11	2424	21	2444	31	2464
02	2406	12	2426	22	2446	32	2466
03	2408	13	2428	23	2448	33	2468
04	2410	ه 14	2430	24	2450	34	2470
05	2412	15	2432	25	2452	35	2472
06	2414	16	2434	26	2454	36	2474
07	2416	17	2436	27	2456	37	2476
08	2418	18	2438	28	2458	38	2478
09	2420	19	2440	29	2460	39	2480

2.6 TEST OPERATION MODE

Mode No.	Description of the modes
1	Bluetooth BLE fixed frequency transmitting

2.7 LOCAL SUPPORTIVE

Name of Equipment	Manufacturer	Model	Serial Number	Note
Notebook	LENOVO	TianYi 310-14ISK	MP18DLC6	/ ()

2.8 CONFIGURATION OF SYSTEM UNDER TEST

EUT

Test software:

$\langle \rangle$	Software version	Test level
	BQB.exe	

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2.9 DUTY CYCLE

Environment: 23.4°C/52%RH Tested By: Lu Wei Voltage: DC 3.8V Date: 2022/02/16

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Test Mode	Antenna	Frequency [MHz]	ON Time [ms]	Period [ms]	DC [%]	T [s]
BLE_1M	Ant1	2440	0.41	0.63	65.08	0.00041

	ight Spec																				× 1
LXI RL		RF		50 Ω	AC					SENSE:				ALIGN AUT	0		M Feb 16, 20		F	requency	v
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						IFGai	n:Low		#Atten	. 20 uc	, ,							_		Auto T	
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<u>3</u>	1 1	t	(Δ)			630.) µs (/	Δ)		23 dB										Freq Of	ffset
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5		-																			
6																					
8		+																		Scale T	Type
9																					3100
10																			Log		Lin
11																		-			
•									III								F.				
MSG														STA	TUS						
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BLE_1M _2440

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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.

Add	:	No.1301 Guanguang Road Xinlan Community,	Guanlan	Street,	Longhua	District	
		Shenzhen, 518110, People's Republic of China					
P.C.	:	518000					
Tel	:	0755-61180008					
Fax	:	0755-61180008					

3.2 ACCREDITATIONS

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

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:

Measurem	ent	Frequency	Uncertainty
	A A	9kHz~30MHz	4.46dB
	Horizontal	30MHz~1000MHz	4.30dB
		1GHz~18GHz	5.60dB
Radiated Emission		18GHz~26.5GHz	3.65dB
Radiated Emission		9kHz~30MHz	4.46dB
	Vertical	30MHz~1000MHz	4.30dB
	vertical	1GHz~18GHz	5.60dB
		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.

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4. LIST OF USED TEST EQUIPMENT AT GRGT

Name of Equipment	Manufacturer	Model	Serial Number	Calibration Due	
Radiated Spurious Emission	on&Restricted bar	nds of operation	ŀ	-	
Test S/W	EZ	CCS-2ANT	/	/	
Test Receiver	R&S	ESCI	100088	2022-10-31	
Preamplifier	EMEC	EM330	1	2022-03-21	
Loop Antenna	TESEQ	HLA6121	52599	2022-04-21	
Bi-log Antenna	TESEQ	CBL6143A	32399	2022-11-25	
Spectrum Analyzer	Agilent	N9010A	MY52221469	2022-04-16	
Loop Antenna	TESEQ	HLA6121	52599	2022-04-21	
Horn Antenna	Schwarzbeck	BBHA9120D (1201)	02143	2022-10-22	
Board-Band Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170-497	2022-10-16	
Amplifier	Tonscend	TAP01018048	AP20E8060075	2022-05-09	
Amplifier	Tonscend	TAP184050	AP20E806071	2022-05-17	
Test S/W	Tonscend	JS36-RSE/2.5.1.5			
6dB Bandwidth					
Spectrum Analyzer	Agilent	N9010A	MY52221469	2022-04-16	
Maximum Peak Output Pe	ower	•		-	
Pulse power sensor	Agilent	MA2411B	1126150	2022-03-21	
Power meter	Anritsu	ML2495A	1204003	2022-03-21	
Conducted band edges and	l Spurious Emissi	on			
Spectrum Analyzer	Agilent	N9010A	MY52221469	2022-04-16	
Power Spectral Density					
Spectrum Analyzer	Agilent	N9010A	MY52221469	2022-04-16	

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

5. RADIATED SPURIOUS EMISSIONS

5.1 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 20dB 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(µV/m)	Measurement distance(m)	Quasi-peak(dBµV/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 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 Peak Limit= $74+20*\log(3/1)=83.54$ (dBµV/m). The Avg Limit= $54+20*\log(3/1)=63.54$ (dBµV/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 0.8m height is used.
- --- If the EUT is a floor standing device, it is placed on the ground.
- --- Auxiliary equipment and cables were positioned to simulate normal operation conditions.
- --- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- --- The measurement distance is 3meter.
- --- The EUT was set into operation.

Pre measurement:

- --- The turntable rotates from 0 ° to 360 °.
- --- The antenna height is 1.0 meter.
- --- The antenna is polarized X,Y and Z.

--- 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 0.8m 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.

--- Auxiliary equipment and cables were positioned to simulate normal operation conditions

- --- The AC power port of the EUT (if available) is connected to a power outlet below 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 pre measurement 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 pre measurement 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 1.5m height is used.
- --- If the EUT is a floor standing device, it is placed on the ground plane with insulation between both.
- --- Auxiliary equipment and cables were positioned to simulate normal operation conditions
- --- The AC power port of the EUT (if available) is connected to a power outlet below 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 pre measurement 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.
- --- Auxiliary equipment and cables were positioned to simulate normal operation conditions
- --- The AC power port of the EUT (if available) is connected to a power outlet below 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 pre measurements 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 pre measurement and the limit will be stored.

NOTE:

(a).The frequency from 9kHz to 150kHz, Set RBW=300Hz(for Peak & AVG), VBW=300Hz(for Peak & AVG). The frequency from 150kHz to 30MHz, Set RBW=9kHz, VBW=9kHz, (for QP Detector).
(b).The frequency from 30MHz to 1GHz, Set RBW=120kHz, VBW=300kHz, (for QP Detector).

(c). The frequency above 1GHz, for Peak detector: Set RBW=1MHz, VBW=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 10 Hz. If the EUT duty cycle is <98%, set VBW \geq 1/T, Where T is defined in section 2.9.

(e). For radiated measurement, pre-scanned in three orthogonal panels, X, Y, Z. The worst cases (X plane) were recorded in this report.

5.3 TEST SETUP

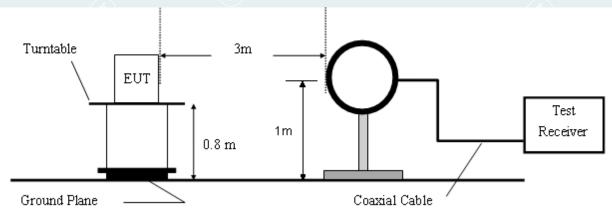


Figure 1. 9kHz to 30MHz radiated emissions test configuration

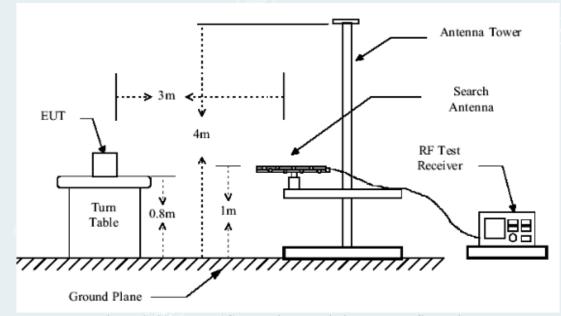


Figure 2. 30MHz to 1GHz radiated emissions test configuration

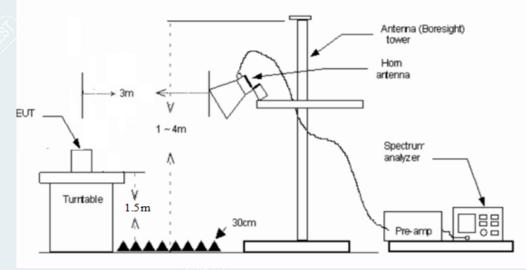


Figure 3. 1GH to 18GHz radiated emissions test configuration

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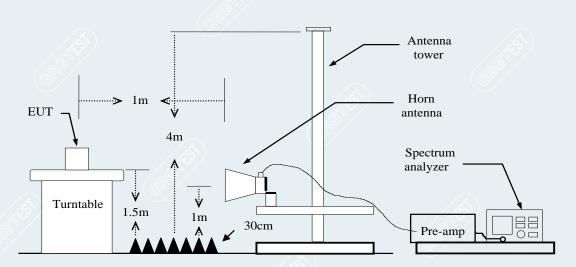


Figure 4. 18GHz to 26.5GHz radiated emissions test configuration

5.4 DATA SAMPLE

30MHz to 1GHz

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

1GHz to 18GHz

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

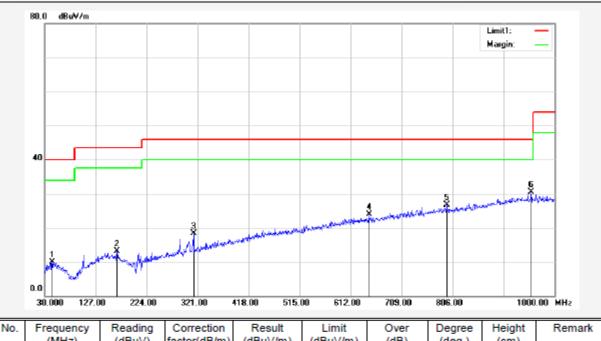
Frequency (MHz)	= Emission frequency in MHz
Ant.Pol. (H/V)	= Antenna polarization
Reading (dBuV)	= Uncorrected Analyzer / Receiver reading
Correction Factor (dB/m)	= Antenna factor + Cable loss – Amplifier gain
Result (dBuV/m)	= Reading (dBuV) + Correction Factor (dB/m)
Limit (dBuV/m)	= Limit stated in standard
Margin (dB)	= Remark Result (dBuV/m) – Limit (dBuV/m)
Peak	= Peak Reading
QP	= Quasi-peak Reading
AVG	= Average Reading

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5.5 TEST RESULTS

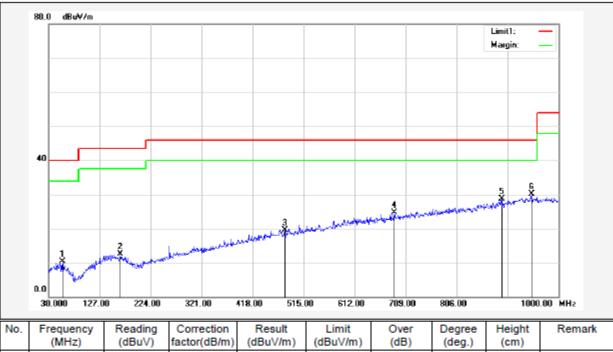
9kHz to 1GHz

EUT Name	Wireless earphones	Model	E505A
Environmental Conditions	23.1°C/42%RH	Test Voltage	DC 3.8V
Test Mode	TX/1Mbps (2402MHz)	Polarity	Vertical
Tested By	Tang Shenghui	Tested Date	2022/02/22



No.	Frequency (MHz)	Reading (dBuV)	Correction factor(dB/m)	Result (dBuV/m)	Limit (dBuV/m)	Over (dB)	Degree (deg.)	Height (cm)	Remark
1	44.5500	36.69	-26.71	9.98	40.00	-30.02	212	300	QP
2	167.7400	37.94	-24.77	13.17	43.50	-30.33	304	200	QP
3	313.2400	41.08	-22.76	18.32	46.00	-27.68	314	300	QP
4	646.9200	37.68	-13.73	23.95	46.00	-22.05	326	400	QP
5	794.3600	37.79	-11.01	26.78	46.00	-19.22	11	300	QP
6*	955.3800	39.27	-8.67	30.60	46.00	-15.40	73	300	QP

EUT Name	Wireless earphones	Model	E505A
Environmental Conditions	23.1°C/42%RH	Test Voltage	DC 3.8V
Test Mode	TX/1Mbps (2402MHz)	Polarity	Horizontal
Tested By	Tang Shenghui	Tested Date	2022/02/22



	(MHz)	(dBuV)	factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(deg.)	(cm)	
1	56.1900	37.24	-26.98	10.26	40.00	-29.74	44	200	QP
2	166.7700	37.18	-24.74	12.44	43.50	-31.06	1	300	QP
3	479.1100	37.24	-17.68	19.56	46.00	-26.44	37	200	QP
4	687.6600	37.66	-12.95	24.71	46.00	-21.29	26	100	QP
5	891.3600	38.33	-9.59	28.74	46.00	-17.26	0	187	QP
6*	948.5900	38.84	-8.75	30.09	46.00	-15.91	163	300	QP

4

5 6* 286.0800

637.2200

946.6500

40.84

37.76

39.75

-23.61

-13.88

-8.77

17.23

23.88

30.98

46.00

46.00

46.00

-28.77

-22.12

-15.02

118

233

295

400

100

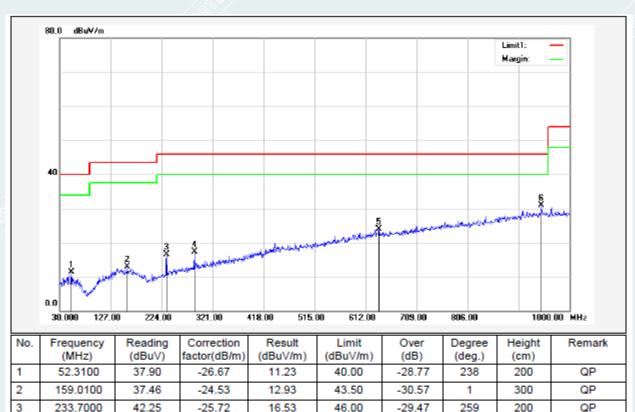
300

QP

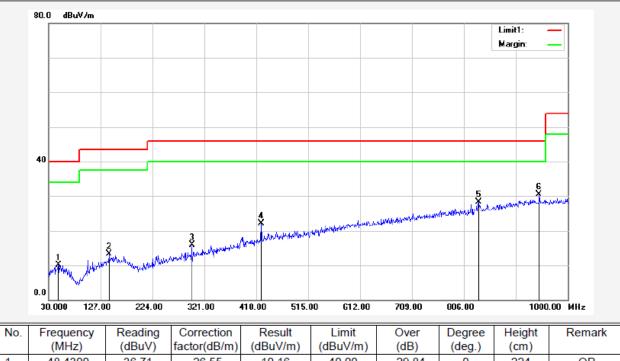
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QP

EUT Name	Wireless earphones	Model	E505A
Environmental Conditions	23.1°C/42%RH	Test Voltage	DC 3.8V
Test Mode	TX/1Mbps (2440MHz)	Polarity	Vertical
Tested By	Tang Shenghui	Tested Date	2022/02/22



EUT Name	Wireless earphones	Model	E505A
Environmental Conditions	23.1°C/42%RH	Test Voltage	DC 3.8V
Test Mode	TX/1Mbps (2440MHz)	Polarity	Horizontal
Tested By	Tang Shenghui	Tested Date	2022/02/22



(MHz) (dBuV) factor(dB/m) (dBuV/m) (dBuV/m) (dB) (deg.) (cm) 1 48.4300 36.71 -26.55 10.16 40.00 -29.84 0 224 QP 2 142.5200 37.99 -24.75 13.24 43.50 -30.26 104 400 QP 3 297.7200 39.15 -23.18 15.97 46.00 -30.03 1 100 QP 4 427.7000 41.13 -18.97 22.16 46.00 -23.84 28 200 QP 5 833.1600 38.88 -10.50 28.38 46.00 -17.62 2 100 QP 6* 946.6500 39.18 -8.77 30.41 46.00 -15.59 358 200 QP	I	110.	ricquency	ricedung	Concedent	rtooun	E	0.00	Degree	rieigin	rtomant
2 142.5200 37.99 -24.75 13.24 43.50 -30.26 104 400 QP 3 297.7200 39.15 -23.18 15.97 46.00 -30.03 1 100 QP 4 427.7000 41.13 -18.97 22.16 46.00 -23.84 28 200 QP 5 833.1600 38.88 -10.50 28.38 46.00 -17.62 2 100 QP			(MHz)	(dBuV)	factor(dB/m)	(dBuV/m)	(dBuV/m)	(dB)	(deg.)	(cm)	
3 297.7200 39.15 -23.18 15.97 46.00 -30.03 1 100 QP 4 427.7000 41.13 -18.97 22.16 46.00 -23.84 28 200 QP 5 833.1600 38.88 -10.50 28.38 46.00 -17.62 2 100 QP		1	48.4300	36.71	-26.55	10.16	40.00	-29.84	0	224	QP
4 427.7000 41.13 -18.97 22.16 46.00 -23.84 28 200 QP 5 833.1600 38.88 -10.50 28.38 46.00 -17.62 2 100 QP		2	142.5200	37.99	-24.75	13.24	43.50	-30.26	104	400	QP
5 833.1600 38.88 -10.50 28.38 46.00 -17.62 2 100 QP		3	297.7200	39.15	-23.18	15.97	46.00	-30.03	1	100	QP
		4	427.7000	41.13	-18.97	22.16	46.00	-23.84	28	200	QP
6* 946.6500 39.18 -8.77 30.41 46.00 -15.59 358 200 QP	ĺ	5	833.1600	38.88	-10.50	28.38	46.00	-17.62	2	100	QP
	I	6*	946.6500	39.18	-8.77	30.41	46.00	-15.59	358	200	QP

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6

914.6400

38.60

-9.24

29.36

46.00

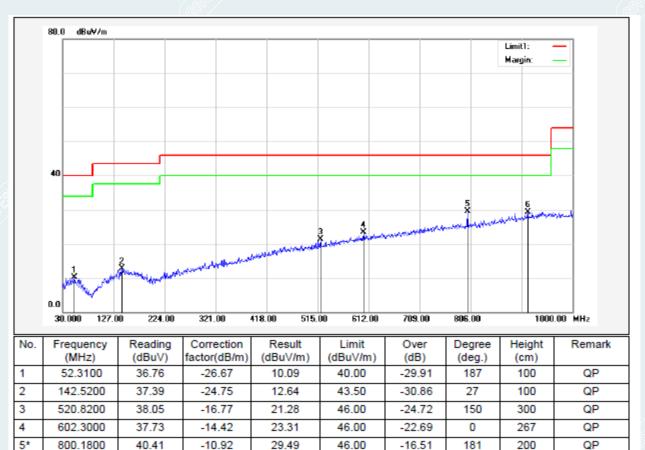
-16.64

208

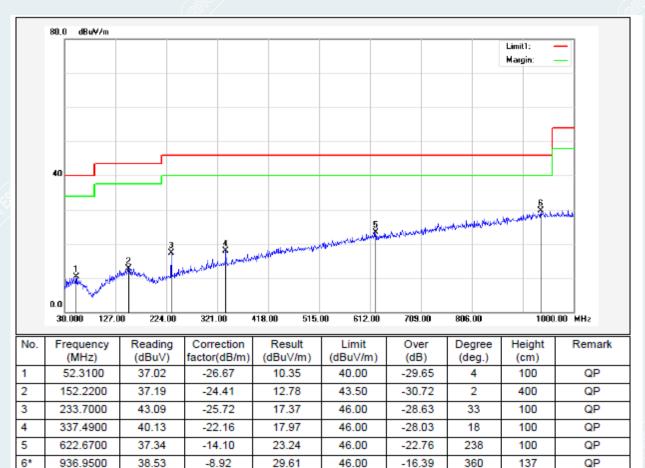
400

QP

EUT Name	Wireless earphones	Model	E505A
Environmental Conditions	23.1°C/42%RH	Test Voltage	DC 3.8V
Test Mode	TX/1Mbps (2480MHz)	Polarity	Vertical
Tested By	Tang Shenghui	Tested Date	2022/02/22



EUT Name	Wireless earphones	Model	E505A
Environmental Conditions	23.1°C/42%RH	Test Voltage	DC 3.8V
Test Mode	TX/1Mbps (2480MHz)	Polarity	Horizontal
Tested By	Tang Shenghui	Tested Date	2022/02/22



Remark:

- 1 No emission found between lowest internal used/generated frequency to 30MHz.
- 2 Data of measurement within this frequency range in the table above the reading of PK detector are more 6dB than QP limit, therefore it's unnecessary to performed QP scan.
- out that QI minit, increase it is unnecessary to performed QI scale.
- 3 The IF bandwidth of Receiver between 30MHz to 1GHz was 120kHz.

Above 1GHz:

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: TX/1Mbps Lowest Frequency (2402MHz) Environment: 25°C/60%RH Tested By: Lu Qiang

Date: 2022/02/24 Voltage: DC 3.8V

Suspect	ted Data List								
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle	Polarity
1	1039.5049	58.03	32.94	-25.09	74.00	41.06	100	48	Horizontal
2	1631.5789	57.14	34.47	-22.67	74.00	39.53	100	170	Horizontal
3	3603.8255	53.80	39.50	-14.30	74.00	34.50	100	359	Horizontal
4	4803.9755	56.31	46.53	-9.78	74.00	27.47	100	47	Horizontal
5	7159.2699	48.30	45.08	-3.22	74.00	28.92	200	244	Horizontal
6	9985.2482	46.80	48.62	1.82	74.00	25.38	100	340	Horizontal
									3

Suspect	ted Data List								
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle []	Polarity
1	1000.2500	57.83	32.67	-25.16	74.00	41.33	100	82	Vertical
2	1288.0360	57.87	33.87	-24.00	74.00	40.13	200	265	Vertical
3	1587.3234	57.64	34.74	-22.90	74.00	39.26	100	164	Vertical
4	3603.8255	53.98	39.68	-14.30	74.00	34.32	100	312	Vertical
~ 5	4803.9755	54.98	45.20	-9.78	74.00	28.80	100	80	Vertical
6	7194.8994	49.42	46.29	-3.13	74.00	27.71	100	0	Vertical
7	9645.8307	45.34	47.49	2.15	74.00	26.51	200	67	Vertical

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



Mode: TX/1Mbps Middle Frequency (2440MHz) Environment: 25°C/60%RH Tested By: Lu Qiang

Date: 2022/02/24 Voltage: DC 3.8V

Suspect	ed Data List								
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle []	Polarity
1	1122.0153	57.91	33.16	-24.75	74.00	40.84	100	8	Horizontal
2	1540.3175	56.78	33.92	-22.86	74.00	40.08	< 200	259	Horizontal
3	3013.1266	54.76	37.98	-16.78	74.00	36.02	200	80	Horizontal
4	3607.5759	53.32	38.98	-14.34	74.00	35.02	200	162	Horizontal
5	4878.9849	56.74	46.86	-9.88	74.00	27.14	100	33	Horizontal
6	7956.2445	48.55	46.71	-1.84	74.00	27.29	200	189	Horizontal

Suspect	ed Data List									
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle []	Polarity	5
1	1079.7600	57.87	32.91	-24.96	74.00	41.09	100	41	Vertical	
2_0	1586.0733	57.95	35.05	-22.90	74.00	38.95	200	334	Vertical	
3	1892.6116	57.49	35.61	-21.88	74.00	38.39	200	218	Vertical	
4	3410.6763	54.54	38.53	-16.01	74.00	35.47	200	238	Vertical	
5	4880.8601	55.33	45.44	-9.89	74.00	28.56	100	66	Vertical	
6	7194.8994	49.72	46.59	·3.13	74.00	27.41	100	60	Vertical	

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



Mode: TX/1Mbps Highest Frequency (2480MHz) Environment: 25°C/60%RH Tested By: Lu Qiang

Date: 2022/02/24 Voltage: DC 3.8V

Suspect	ed Data List								
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle []	Polarity
1	1151.5189	66.70	42.11	-24.59	74.00	31.89	100	75	Horizontal
2	1394.7994	65.11	41.59	-23.52	74.00	32.41	<100	34	Horizontal
3	1993.1241	66.95	45.35	-21.60	74.00	28.65	100	280	Horizontal
4	2989.4987	64.82	47.11	-17.71	74.00	26.89	100	252	Horizontal
5	4959.6200	57.24	47.23	-10.01	74.00	26.77	100	32	Horizontal
6	7228.6536	49.11	45.66	-3.45	74.00	28.34	100	0	Horizontal

Suspect	ed Data List	-				-		-	
NO.	Freq. [MHz]	Reading [dBµV/m]	Level [dBµV/m]	Factor [dB]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle []	Polarity
1	1419.5524	65.71	42.35	-23.36	74.00	31.65	200	48	Vertical
2_0	1793.0991	64.57	42.46	-22.11	74.00	31.54	200	334	Vertical
3	1993.8742	66.73	45.13	-21.60	74.00	28.87	100	102	Vertical
4	3198.7748	59.97	44.11	-15.86	74.00	29.89	100	210	Vertical
5	4787.0984	52.35	42.64	-9.71	74.00	31.36	200	278	Vertical
6	7558.6948	48.72	45.30	·3.42	74.00	28.70	100	128	Vertical

Remark:

- 1 Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2 The amplitude of 18GHz to 26.5GHz spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.
- 3 Radiated emissions measured in frequency above 1000MHz were made with an instrument using peak/average detector mode.
- 4 Average test would be performed if the peak result were greater than the average limit or as required by the applicant.
- 5 Measurements above show only up to 6 maximum emissions noted, or would be lesser, with "N/A" remark, 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.

6. 6dB BANDWIDTH

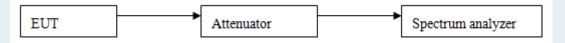
6.1 LIMITS

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) $\ge 3 \times RBW$. 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

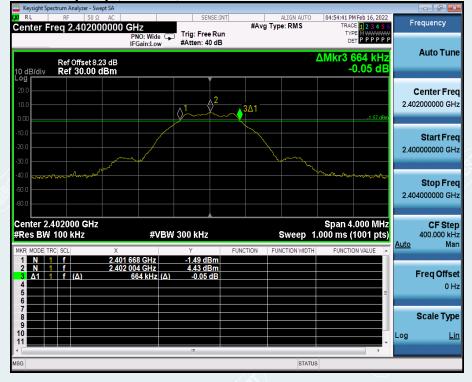


6.4 TEST RESULTS

Environment: 23.4°C/52%RH Tested By: Lu Wei Voltage: DC 3.8V Date: 2022/02/16

Channel	Frequency (MHz)	Bandwidth (kHz)	Limit (kHz)	Test Result
Lowest	2402	664		PASS
Middle	2440	664	≥500	PASS
Highest	2480	664		PASS

Lowest Frequency (2402MHz)



Middle Frequency (2440 MHz)

Keysight Spectrum Analyzer -	Swept SA	,			
RL RF 50 Center Freq 2.440	0 Ω AC 000000 GHz PNO: Wide C	SENSE:INT	ALIGN AUTO #Avg Type: RMS	05:15:10 PM Feb 16, 2022 TRACE 1 2 3 4 5 6 TYPE MWWWW	Frequency
Ref Offset 10 dB/div Ref 30.00	IFGain:Low _	#Atten: 40 dB		ΔMkr3 664 kHz 0.05 dB	Auto Tune
20.0 10.0 0.00			3Δ1	-1.48 dBm	Center Freq 2.440000000 GHz
-10.0					Start Fred 2.438000000 GHz
-40.0				and the second s	Stop Fred 2.442000000 GH2
Center 2.440000 GH #Res BW 100 kHz		W 300 kHz	Sweep 1	Span 4.000 MHz .000 ms (1001 pts)	CF Step 400.000 kHz <u>Auto</u> Mar
1 N 1 f 2 N 1 f 3 Δ1 1 f (Δ) 4 5 6	2.439 664 GHz 2.440 000 GHz 664 kHz (Δ	-1.33 dBm 4.52 dBm) 0.05 dB			Freq Offse 0 H
7 8 9 10 11		111		•	Scale Type Log <u>Lir</u>
MSG			STATUS	,	

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Highest Frequency (2480MHz)



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7. MAXIMUM PEAK OUTPUT POWER

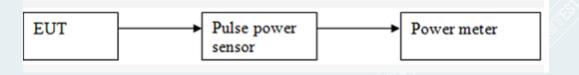
7.1 LIMITS

The maximum Peak output power measurement is 1W

7.2 TEST PROCEDURES

- 1) RF output of EUT was connected to the broadband peak RF power meter by RF cable and attenuator. 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.

7.3 TEST SETUP



7.4 TEST RESULTS

Environment: 23.4°C/52%RH Tested By: Lu Wei Voltage: DC 3.8V Date: 2022/02/16

Channel	Frequency (MHz)	Measured Channel Power (dBm)	Limit	Peak/ Average	Result
Lowest	2402	5.00			Pass
Middle	2440	5.49	1W (30dBm)	Peak	Pass
Highest	2480	5.78	(JouDill)		Pass

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8. POWER SPECTRAL DENSITY

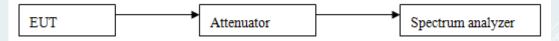
8.1 LIMITS

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) Set the analyzer span to 1.5 times the DTS bandwidth. Set the RBW to $3 \text{ kHz} \le \text{RBW} \le 100 \text{ kHz}$. Set the VBW $\ge [3 \times \text{RBW}]$. Detector = peak. Sweep time = auto couple. Trace mode = max hold. Allow trace to fully stabilize. Use the peak marker function to determine the maximum amplitude level within the RBW. 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

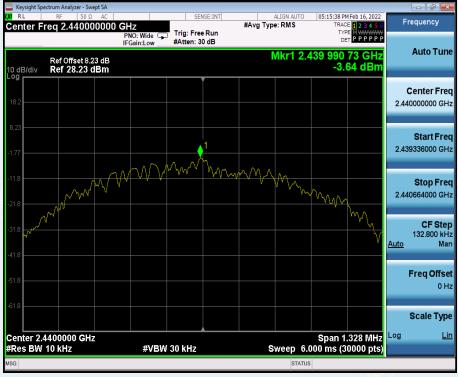
Environment: 23.4°C/52%RH Tested By: Lu Wei Voltage: DC 3.8V Date: 2022/02/16

Channel	Frequency (MHz)	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Test Result
Lowest	2402	-3.88		PASS
Middle	2440	-3.64	8.00	PASS
Highest	2480	-3.18		PASS

Lowest Frequency (2402MHz)



Middle Frequency (2440 MHz)





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Highest Frequency (2480MHz)



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9. CONDUCTED BAND EDGES AND SPURIOUS EMISSIONS

9.1 LIMITS

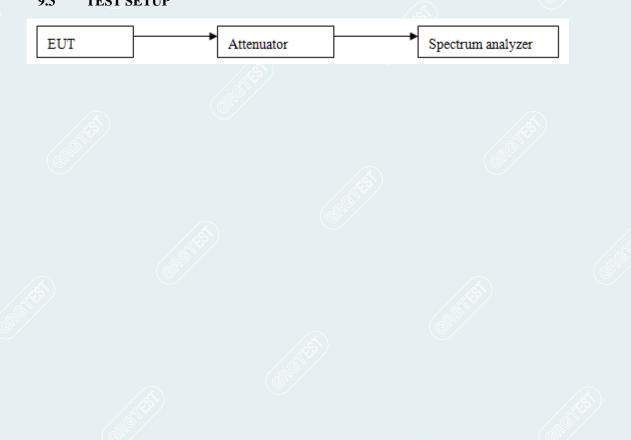
In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the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

9.2 **TEST PROCEDURES**

Test procedures follow KDB 558074 D01 DTS Measurement Guidance v05r02.

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

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



9.3 **TEST SETUP**

9.4 TEST RESULTS

Environment: 23.4°C/52%RH Tested By: Lu Wei

> Lowest Frequency (2402MHz) 2.30GHz-2.405GHz

RL	RF	50 Ω AC		SENSE:		ALIGN AUTO		M Feb 16, 2022	En	equency
nter Fr	eq 2.3		NO: Fast C Gain:Low	Trig: Free Ru #Atten: 30 df	in	g Type: RMS	TY	CE 1 2 3 4 5 6 PE M WWWW ET P P P P P P		
dB/div		set 8.23 dB).00 dBm				Mkr5	2.349 8 -47.	75 GHz 55 dBm		Auto Tu
										enter Fi 2500000 0
				5				-15.78 cBm	2.300	Start F
.0		frantsfragtagtigtigten verdinarft	ערוניה, אטא יי גענייני ע	and a start of the second	ur construction	an weather and a second and a second and a second	arranan arrange		2.405	Stop F
	000 GH 100 kH		#VB	W 300 kHz		Sweep 3		0500 GHz 1001 pts)	10 Auto	CF S 500000 I
R MODE TR	C SCL	X		Y	FUNCTION	FUNCTION WIDTH	FUNCTI	ON VALUE	Auto	
N 1 N 1 N 1 N 1 N 1	f f f f	2.402 06 2.400 00 2.390 00 2.310 00 2.349 87	00 GHz 00 GHz 00 GHz	4.22 dBm -48.20 dBm -52.56 dBm -52.04 dBm -47.55 dBm					F	Freq Off
									Log	Scale T
									LUg	

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Voltage: DC 3.8V Date: 2022/02/16

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Highest Frequency (2480MHz) 2.47GHz-2.55GHz

	ectrum Analyzer - Swept SA							
Center F	RF 50 Ω AC req 2.51000000	0 GHz	SENSE:I	#Avg	ALIGN AUTO Type: RMS	05:18:33 PM Feb 16, 202 TRACE 1 2 3 4 5	6 F	requency
10 dB/div	Ref Offset 8.23 dB Ref 20.00 dBm	PNO: Fast IFGain:Low	Trig: Free Ru #Atten: 30 dB		Mkr	4 2.520 08 GH -48.48 dBn		Auto Tune
Log 10.0 0.00								Center Free 10000000 GH
-20.0 -30.0 -40.0				4		-15.21 dB	2.4	Start Free 70000000 GH
-50.0 אנגואים -60.0	yr rifer a stranger rawe	Terrandon and a second and as		เรงารุ _{นไปให} ้มาให้ - รับไป	9444944444 		2.5	Stop Fre 50000000 GH
#Res BW			300 kHz		Sweep 3	Stop 2.55000 GH 000 ms (1001 pts		CF Stej 8.000000 MH Ma
MKR MODE T 1 N 2 N 3 N 4 N 5 6	1 f 2. 1 f 2. 1 f 2.	480 00 GHz 483 50 GHz 500 00 GHz 520 08 GHz	¥ 4.79 dBm -50.68 dBm -49.23 dBm -48.48 dBm	FUNCTION	FUNCTION WIDTH	FUNCTION VALUE		Freq Offse 0 H
7 8 9 10							Log	Scale Type
			ш			Þ		
MSG					STATUS			

Lowest Frequency (2402MHz)



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RL	RF 50 Ω			SEN		#Avg Typ	ALIGN AUTO	05:11:36 P	E 1 2 3 4 5 6	Frequency
enter Fi	req 515.0000	PNC): Fast 🔾	Trig: Free #Atten: 20		#Avg typ	e. KW 3		PE MWWWW T P P P P P P	
	Ref Offset 8.23	dB	in:Low	#Atten: 20	dB		M	kr1 810.	20 MHz 70 dBm	Auto Ti
0 dB/div . ^{og}	Ref 18.23 dE			Y						
8.23										Center F
0.23										515.0000001
1.77										Etart E
11.8										Start F 30.000000 I
11.0									-15.78 dBm	
21.8										Stop F
31.8										1.000000000
										05.0
41.8										CF S 97.000000 I
51.8										Auto
								∮ ¹		Freq Off
51.8 <mark>17 119 1</mark> 1	ang Ang ang papilan kalak	eda kerena harrikan	ann an ann an					a deserved a server	. Un auf line all fille and the	(
<mark>Վեսվեր։</mark> 71.8	istana moti pinin italiyani in	و مغادمان (أخراما	eland a del del del		a di sense di sense di persona di Persona di persona di pe	a sure hap and	The second se	fination of all a se	al contration and the set	
										Scale T
start 0.03								Stop 1.0		Log
								otop in	JUUU GHZ	
Res BW			#VBW	/ 300 kHz		s	_	.00 ms (3	0000 GH2 0001 pts)	
Res BW	100 kHz	C 1	#VBW	/ 300 kHz		S	weep 36	.00 ms (3	0000 GH2 00001 pts)	
Res BW SG Keysight Spe U RL	100 KHz ctrum Analyzer - Swep RF 50 Ω	AC			SE:INT		STATUS	.00 ms (3	0001 pts)	
Res BW SG Keysight Spe U RL	100 KHz ctrum Analyzer - Swep	AC 0000 GH PNC	Z D: Fast G	SEN:	Run		STATUS	00 ms (3	MFeb 16, 2022	
Res BW SG Keysight Spe U RL	100 kHz ctrum Analyzer - Swep RF 50 Ω req 13.75000	AC 10000 GH PNC IFGa	lz	SEN	Run		STATUS ALIGN AUTO e: RMS	00 ms (3 05:12:01 P TRAC TYP D	MFeb 16, 2022	
Res BW sg RL RL Center Fi	100 KHz ctrum Analyzer - Swep RF 50 Ω	AC DOOOO GH PNC IFGa dB	Z D: Fast G	SEN:	Run		STATUS ALIGN AUTO e: RMS	.00 ms (3 05:12:01 Pl TRAC TYJ DI 26.214	MFeb 16, 2022	Frequency
Res BW sg RL Center Fr	100 kHz ctrum Analyzer - Swep RF 50 Ω req 13.75000 Ref Offset 8.23 Ref 18.23 dB	AC DOOOO GH PNC IFGa dB	Z D: Fast G	SEN:	Run		STATUS ALIGN AUTO e: RMS	.00 ms (3 05:12:01 Pl TRAC TYJ DI 26.214	MFeb 16, 2022 E 1 2 3 4 5 6 M M M A 5 6 P P P P P P P 40 GHz	Frequency Auto Tr
Res BW sg keysight Spe RL Center Fr Center Fr 0 dB/div 0 dB/div	100 kHz ctrum Analyzer - Swep RF 50 Ω req 13.75000 Ref Offset 8.23 Ref 18.23 dB	AC DOOOO GH PNC IFGa dB	Z D: Fast G	SEN:	Run		STATUS ALIGN AUTO e: RMS	.00 ms (3 05:12:01 Pl TRAC TYJ DI 26.214	MFeb 16, 2022 E 1 2 3 4 5 6 M M M A 5 6 P P P P P P P 40 GHz	Frequency
Res BW sc keysight Spe RL Center Fr 0 dB/div 0 dB/div 0 dB/div 1,77	100 kHz ctrum Analyzer - Swep RF 50 Ω req 13.75000 Ref Offset 8.23 Ref 18.23 dB	AC DOOOO GH PNC IFGa dB	Z D: Fast G	SEN:	Run		STATUS ALIGN AUTO e: RMS	.00 ms (3 05:12:01 Pl TRAC TYJ DI 26.214	MFeb 16, 2022 E 1 2 3 4 5 6 M M M A 5 6 P P P P P P P 40 GHz	Frequency Auto Tr
Res BW sc keysight Spe enter Fr enter Fr 8.23 1.77 1.18	100 kHz ctrum Analyzer - Swep RF 50 Ω req 13.75000 Ref Offset 8.23 Ref 18.23 dB	AC DOOOO GH PNC IFGa dB	Z D: Fast G	SEN:	Run		STATUS ALIGN AUTO e: RMS	.00 ms (3 05:12:01 Pl TRAC TYJ DI 26.214	MFeb 16,2022 E 1 2 3 4 5 6 E 1 2 3 4 5 6 E M M M M M T P P P P P P 40 GHz 40 GHz	Frequency Auto Tr Center F 13.750000000
Res BW sc Reysight Spectrum RL Center Fr 0 dB/div 0 g 1.77 1.77 1.77 1.8 31.8	100 kHz ctrum Analyzer - Swep RF 50 Ω req 13.75000 Ref Offset 8.23 Ref 18.23 dB	AC DOOOO GH PNC IFGa dB	Z D: Fast G	SEN:	Run		STATUS ALIGN AUTO e: RMS	.00 ms (3 05:12:01 Pl TRAC TYJ DI 26.214	0001 pts)	Frequency Auto Tu Center F 13.750000000
Res BW sc keysight Spe d RL Center Fr center Fr 0 dB/div 0 dB/div 1.77 1.77 1.77	100 kHz ctrum Analyzer - Swep RF 50 Ω req 13.75000 Ref Offset 8.23 Ref 18.23 dB	AC DOOOO GH PNC IFGa dB	Z D: Fast G	SEN:	Run		STATUS ALIGN AUTO e: RMS	.00 ms (3 05:12:01 Pl TRAC TYJ DI 26.214	MFeb 16,2022 E 1 2 3 4 5 6 E 1 2 3 4 5 6 E M M M M M T P P P P P P 40 GHz 40 GHz	Frequency Auto Tr Center F 13.750000000 Start F 1.000000000
Res BW sc Reysight Spe RL Center Fr 0 dB/div 0 dB/	100 kHz ctrum Analyzer - Swep RF 50 Ω req 13.75000 Ref Offset 8.23 Ref 18.23 dB	AC DOOOO GH PNC IFGa dB	Z D: Fast G	SEN:	Run		STATUS ALIGN AUTO e: RMS	.00 ms (3 05:12:01 Pl TRAC TYJ DI 26.214	0001 pts)	Frequency Auto Tr Center F 13.750000000
Res BW sci Reysight Spe RL Center Fr Center Fr 0.005/div 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.	100 kHz ctrum Analyzer - Swep RF 50 Ω req 13.75000 Ref Offset 8.23 Ref 18.23 dB	AC DOOOO GH PNC IFGa dB	Z D: Fast G	SEN:	Run		STATUS ALIGN AUTO e: RMS	.00 ms (3 05:12:01 Pl TRAC TYJ DI 26.214	0001 pts)	Frequency Auto Tr Center F 13.750000000 Start F 1.000000000
Res BW sc keysight Spe RL Center Fr Center Fr 21.8 31.8 41.8 51.8 51.8 51.8 51.8 51.8 51.8 51.8 5	100 kHz ktum Analyzer - Swep RF 50 Ω reg 13.75000 Ref Offset 8.23 dB 1 1 1 1 1 1 1 1 1 1 1 1 1	AC DOOOO GH PNC IFGa dB	IZ D: Fast in:Low	Trig: Free #Atten: 20	Run	#Avg Typ	STATUS	.00 ms (3	0001 pts)	Frequency Auto Tr Auto Tr 13.750000000 Start F 1.000000000 Stop F 26.500000000
Res BW SG SG Keysight Spe G RL Center Fr Center Fr 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.78 1.71	100 kHz ctum Analyzer - Swep RF 50 0 req 13.75000 Ref 0ffset 8.23 Ref 18.23 dB 1	AC PONO GH PNN IFGa dB 3m	IZ D: Fast in:Low	SEN:	Run dB	#Avg Typ	STATUS	00 ms (3 05:12:01 Pl ۲۲۲ 26.214 -42. 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 1 2 8.0 ms (3	40001 pts)	Frequency Auto Tr Center F 13.750000000 Start F 1.000000000 Stop F 26.500000000
Res BW so Reysight Spe RL Center Fr Center Fr 2 8 23 1.77 1.6 2 1.8 3 4.8 5 1.8 5	100 kHz ctrum Analyzer - Swep RF 50 Ω req 13.75000 Ref Offset 8.23 Ref 18.23 dt 1 GHz 100 kHz Ici Scl. f	AC 00000 GH PPOK IFGa dB 3m 4 2.401 65	Iz : Fast : Fast : Low #VBW GHz	Trig: Free #Atten: 20		#Avg Typ	STATUS	00 ms (3 05:12:01 Pl ۲۲۲ 26.214 -42. 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 1 2 8.0 ms (3	0001 pts)	Frequency Auto Tr Auto Tr 13.750000000 Start F 1.000000000 Stop F 26.500000000
Research Start 1.00 Content Start 1.00	100 kHz ctrum Analyzer - Swep RF 50 Ω req 13.75000 Ref Offset 8.23 Ref 18.23 dt 1 GHz 100 kHz Ici Scl. f	AC 0000 GH PPoN IFGa dB 3m	Iz : Fast : Fast : Low #VBW GHz	SEN Trig: Free #Atten: 20		#Avg Typ	STATUS	00 ms (3 05:12:01 Pl ۲۲۲ 26.214 -42. 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 1 2 8.0 ms (3	40001 pts)	Frequency Auto Tr Auto Tr 13.750000000 Start F 1.000000000 Stop F 26.500000000 Auto
Res BW SG Keysight Spe Resident Spe Resident Spe Resident Spe Resident Spe Resident Spe Res BW 0 dB/div 0 dB/div 2 g 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.8 1.9 1.9 1.00 Keys BW MKR MODE TR 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	100 kHz ctrum Analyzer - Swep RF 50 Ω req 13.75000 Ref Offset 8.23 Ref 18.23 dt 1 GHz 100 kHz Ici Scl. f	AC 00000 GH PPOK IFGa dB 3m 4 2.401 65	Iz : Fast : Fast : Low #VBW GHz	Trig: Free #Atten: 20		#Avg Typ	STATUS	00 ms (3 05:12:01 Pl ۲۲۲ 26.214 -42. 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 1 2 8.0 ms (3	40001 pts)	Frequency Auto Tr Auto Tr 13.750000000 Start F 1.000000000 Stop F 26.500000000 CF S 2.550000000
Res BW SG Keysight Spe R RL Center Fr Center Fr 20 21.0 31.8 41.8 51.8	100 kHz ctrum Analyzer - Swep RF 50 Ω req 13.75000 Ref Offset 8.23 Ref 18.23 dt 1 GHz 100 kHz Ici Scl. f	AC 00000 GH PPOK IFGa dB 3m 4 2.401 65	Iz : Fast : Fast : Low #VBW GHz	Trig: Free #Atten: 20		#Avg Typ	STATUS	00 ms (3 05:12:01 Pl ۲۲۲ 26.214 -42. 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 1 2 8.0 ms (3	0001 pts)	Frequency Auto Tr Auto Tr 13.750000000 Start F 1.000000000 Stop F 25.500000000 Auto
Res BW sc keysight Spe R RL Resident Spe R RL Center Fr Res BW 0.00 8.23 1.77 11.6 21.8 31.8 41.8 51.8 71.8 71.8 71.8 71.8 71.8 71.8 71.8	100 kHz ctrum Analyzer - Swep RF 50 Ω req 13.75000 Ref Offset 8.23 Ref 18.23 dt 1 GHz 100 kHz Ici Scl. f	AC 00000 GH PPOK IFGa dB 3m 4 2.401 65	Iz : Fast : Fast : Low #VBW GHz	Trig: Free #Atten: 20		#Avg Typ	STATUS	00 ms (3 05:12:01 Pl ۲۲۲ 26.214 -42. 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 1 2 8.0 ms (3	0001 pts)	Frequency Auto Tri Center F 13.750000000 f Start F 1.00000000 f Stop F 26.50000000 f Auto Freq Off Scale T
Res BW SG Keysight Spe (RL Center Fr Center Fr 21.0 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.77 1.8 1.9 1.100 KR MODE TR 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 2.1 1.1 1.1 1.1 1.1 1.1 1.1 1.1 <tr tr=""> <tr tr=""> <</tr></tr>	100 kHz ctrum Analyzer - Swep RF 50 Ω req 13.75000 Ref Offset 8.23 Ref 18.23 dt 1 GHz 100 kHz Ici Scl. f	AC 00000 GH PPOK IFGa dB 3m 4 2.401 65	Iz : Fast : Fast : Low #VBW GHz	Trig: Free #Atten: 20		#Avg Typ	STATUS	00 ms (3 05:12:01 Pl ۲۲۲ 26.214 -42. 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 1 2 8.0 ms (3	0001 pts)	Frequency Auto Tr Auto Tr 13.750000000 Start F 1.000000000 Stop F 25.500000000 Auto

Middle Frequency (2440MHz)



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Keysight Spectrum Analyzer - Swept SA			- đ -
KI RF 50 Ω AC Center Freq 13.75000000	00 GHz	ALIGN AUTO 05:16:13 PM F #Avg Type: RMS TRACE	123456 Frequency
Ref Offset 8.23 dB 10 dB/div Ref 18.23 dBm	PN0: Fast Trig: Free Run IFGain:Low #Atten: 20 dB	DET Mkr2 25.667 8	5 GHz Auto Tune
Log 8.23 -1.77 -11.8			Center Fred 13.750000000 GH
-21.8			Start Free 1.000000000 GH:
-51.8 -61.8			26.500000000 GH2
Start 1.00 GHz #Res BW 100 kHz MKR MODE TRC SCL X		Stop 26. Sweep 938.0 ms (300 FUNCTION FUNCTION WIDTH FUNCTION	001 pts) 2.550000000 GH
	139 90 GHz 3.79 dBm 67 85 GHz -42.64 dBm		Freq Offse
7 8 9 10			Log Lir
MSG	ill	STATUS	

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

Highest Frequency (2480MHz)



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----- 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	156.52475 - 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			
			15)

Frequency (MHz)	Quasi-peak(µV/m)	Measurement distance(m)	Quasi-peak(dBµV/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

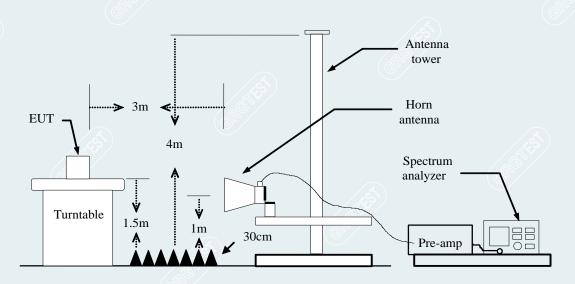
10.2 TEST PROCEDURES

Test procedures follow KDB 558074 D01 DTS Meas Guidance v05r02.

- 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) PEAK: RBW=1MHz / VBW=1MHz / Sweep=AUTO
 - b) AVERAGE: RBW=1MHz / VBW=1/T / Sweep=AUTO

5) Repeat the procedures until all the PEAK and AVERAGE versus polarization are measured. **Note:** For radiated measurement,pre-scanned in three orthogonal panels,X,Y,Z.The worst cases(X plane) were recorded in this report.

10.3 TEST SETUP



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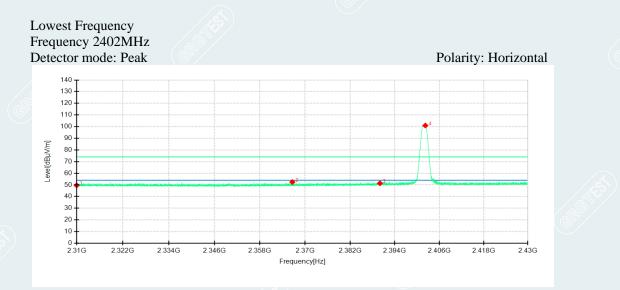
GRG N

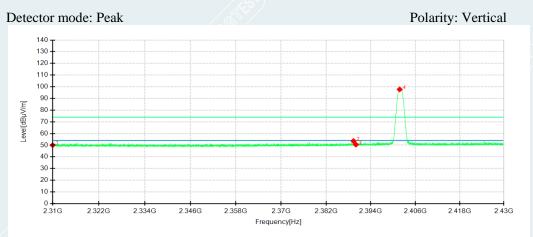
GR

1PPF

10.4 TEST RESULTS

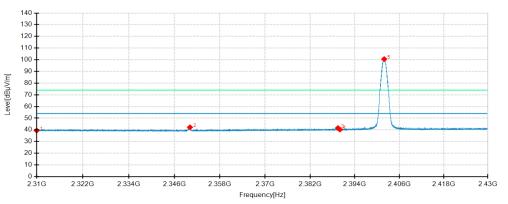
Equipment:	Wireless earphones	Test Date	2022/02/25
Model No.:	E505A	Test Engineer:	Lu Qiang
Test Voltage:	DC 3.8V	1/~~	/





No.	Frequency	Reading	Level	Factor	Limit	Margin	Height	Angle	Pole	Remark
	MHz	dBµV/m	$dB\mu V/m$	dB	dBuV/m	dB	cm	0		
1	2310.0000	46.14	49.62	3.48	74.00	24.38	200	218	Horizontal	/
2	2366.6160	49.07	52.48	3.41	74.00	21.52	100	142	Horizontal	/
3	2390.0000	47.60	51.41	3.81	74.00	22.59	100	142	Horizontal	/
4	2402.2320	96.96	100.95	3.99	74.00	-26.95	200	40	Horizontal	No limit
1	2310.0000	46.52	50.00	3.48	74.00	24.00	100	218	Vertical	/
2	2389.3560	49.78	53.58	3.80	74.00	20.42	200	142	Vertical	/
3	2390.0000	46.63	50.44	3.81	74.00	23.56	200	142	Vertical	/
4	2401.7640	93.76	97.75	3.99	74.00	-23.75	100	218	Vertical	No limit

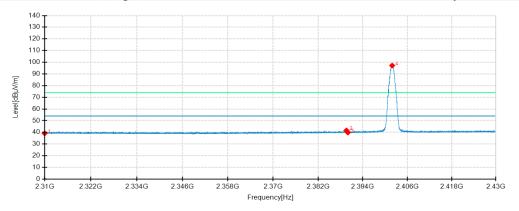
Lowest Frequency Frequency 2402MHz Detector mode: Average



Detector mode: Average

Polarity: Vertical

Polarity: Horizontal



NI-	Encourse	Deathra	T1	Es stan	T :	M	II.: 1.4	A	D-1-	D
No.	Frequency	Reading	Level	Factor	Limit	Margin	Height	Angle	Pole	Remark
	MHz	dBµV/m	dBµV/m	dB	dBuV/m	dB	cm	0		
1	2310.0000	35.92	39.40	3.48	54.00	14.60	200	67	Horizontal	
2	2350.1040	39.10	42.23	3.13	54.00	11.77	100	142	Horizontal	
3	2389.4760	37.75	41.55	3.80	54.00	12.45	100	142	Horizontal	/
4	2390.0000	36.42	40.23	3.81	54.00	13.77	100	142	Horizontal	/
5	2401.9080	96.59	100.58	3.99	54.00	-46.58	200	33	Horizontal	No limit
1	2310.0000	35.67	39.15	3.48	54.00	14.85	100	218	Vertical	/
2	2389.6200	37.82	41.62	3.80	54.00	12.38	200	341	Vertical	
3	2390.0000	36.04	39.85	3.81	54.00	14.15	200	142	Vertical	1
4	2401.9080	93.23	97.22	3.99	54.00	-43.22	100	218	Vertical	No limit

ETROL

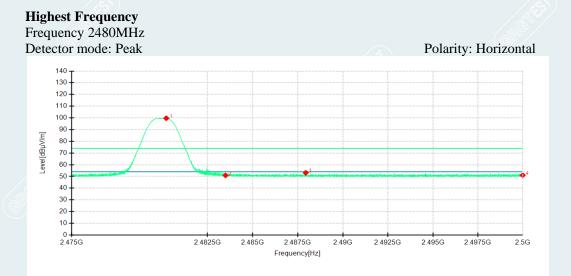
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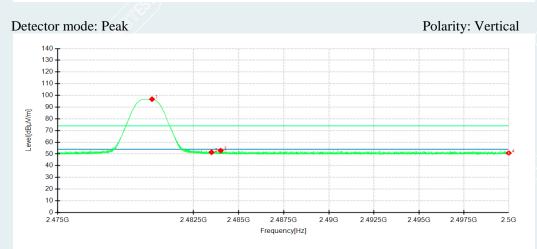
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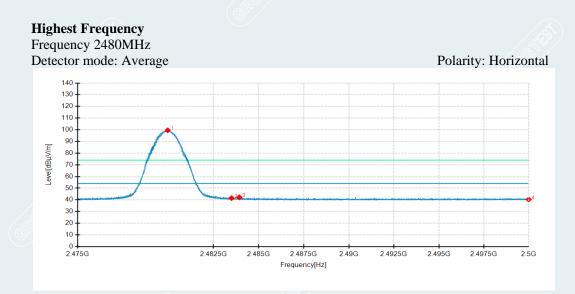
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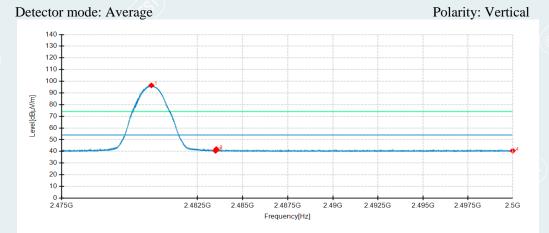




No.	Frequency	Reading	Level	Factor	Limit	Margin	Height	Angle	Pole	Remark
	MHz	$dB\mu V/m$	dBµV/m	dB	dBuV/m	dB	cm	0		
1	2480.2250	95.38	99.70	4.32	74.00	-25.70	100	314	Horizontal	No limit
2	2483.5000	46.58	50.91	4.33	74.00	23.09	100	335	Horizontal	/
3	2487.9425	48.78	53.12	4.34	74.00	20.88	200	101	Horizontal	/
4	2500.0000	46.68	51.06	4.38	74.00	22.94	200	218	Horizontal	/
1	2480.2100	92.46	96.78	4.32	74.00	-22.78	100	80	Vertical	No limit
2	2483.5000	47.10	51.43	4.33	74.00	22.57	200	307	Vertical	/
3	2484.0050	48.52	52.85	4.33	74.00	21.15	100	2	Vertical	
4	2500.0000	46.41	50.79	4.38	74.00	23.21	100	176	Vertical	/

TEST





No.	Frequency	Reading	Level	Factor	Limit	Margin	Height	Angle	Pole	Remark
	MHz	dBµV/m	dBµV/m	dB	dBuV/m	dB	cm	0		
1	2479.9700	95.19	99.51 (®	4.32	54.00	-45.51	100	314	Horizontal	No limit
2	2483.5000	37.16	41.49	4.33	54.00	12.51	100	218	Horizontal	/
3	2483.9325	37.86	42.19	4.33	54.00	11.81	100	314	Horizontal	/
4	2500.0000	35.99	40.37	4.38	54.00	13.63	100	353	Horizontal	/
1	2479.9525	92.16	96.48	4.32	54.00	-42.48	100	80	Vertical	No limit
2	2483.5000	36.11	40.44	4.33	54.00	13.56	100	80	Vertical	/
3	2483.5425	37.59	41.92	4.33	54.00	12.08	200	273	Vertical	
4	2500.0000	36.17	40.55	4.38	54.00	13.45	200	142	Vertical	1

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 E20220126055701-10 Test Photo.

APPENDIX B. PHOTOGRAPH OF THE EUT

Please refer to the attached document E20220126055701-8 EUT Photo.

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