

FCC Test Report

Report No.: AGC08328210102FE02

FCC ID : 2AG68-TWS-817K7

APPLICATION PURPOSE : Original Equipment

PRODUCT DESIGNATION: Wireless Bluetooth Earbuds

BRAND NAME : N/A

MODEL NAME : TWS-817K7

APPLICANT: Dongguan Koppo Electronics Co., Ltd.

DATE OF ISSUE : Feb. 03, 2021

STANDARD(S) : FCC Part 15.247

REPORT VERSION : V1.0

Attestation of Global Compliance (Shenzhen) Co., Ltd



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REPORT REVISE RECORD

Report Version	Revise Time	Issued Date	Valid Version	Notes
V1.0	9/	Feb. 03, 2021	Valid	Initial Release

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1. VERIFICATION OF COMPLIANCE

Applicant	Dongguan Koppo Electronics Co., Ltd.
Address	No.2 3 Road, Buxinji Industrial Area, Guanjingtou Village, Fenggang Town, Dongguan City, Guangdong Province, China
Manufacturer	Dongguan Koppo Electronics Co., Ltd.
Address	No.2 3 Road, Buxinji Industrial Area, Guanjingtou Village, Fenggang Town, Dongguan City, Guangdong Province, China
Factory	Dongguan Koppo Electronics Co., Ltd.
Address	No.2 3 Road, Buxinji Industrial Area, Guanjingtou Village, Fenggang Town, Dongguan City, Guangdong Province, China
Product Designation	Wireless Bluetooth Earbuds
Brand Name	N/A
Test Model	TWS-817K7
Series Model	TWS- XXX (Note: "XXX' can represent the number "1 to 9" in arabesques or the letter "A to Z")
Difference Description	All the same except for the model name.
Date of test	Jan. 29, 2021 to Feb. 03, 2021
Deviation	No any deviation from the test method
Condition of Test Sample	Normal
Test Result	Pass
Report Template	AGCRT-US-BLE/RF

We hereby certify that:

The above equipment was tested by Attestation of Global Compliance (Shenzhen) Co., Ltd. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10 (2013) and the energy emitted by the sample EUT tested as described in this report is in compliance with radiated emission limits of FCC part 15.247.

Prepared By	Then Huony	
PCC N	Thea Huang Project Engineer	Feb. 03, 2021
Reviewed By	Max Zhang	
	Max Zhang Reviewer	Feb. 03, 2021
Approved By	Towasties	
	Forrest Lei Authorized Officer	Feb. 03, 2021

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2. GENERAL INFORMATION

2.1. PRODUCT DESCRIPTION

The EUT is designed as a "Bluetooth Module". It is designed by way of utilizing the GFSK technology to achieve the system operation.

A major technical description of EUT is described as following

Operation Frequency	2.402 GHz to 2.480GHz		
RF Output Power	5.146dBm (Max)		
Bluetooth Version	V5.2		
Modulation	BLE ⊠GFSK 1Mbps □GFSK 2Mbps		
Number of channels	40 Channel		
Antenna Designation	FPC Antenna (Comply with requirements of the FCC part 15.203)		
Antenna Gain	-1.13dBi		
Hardware Version	V1.1		
Software Version	V0.0.7		
Power Supply	DC 3.7V by battery or DC 5V by adapter		

Note: The EUT includes left and right channel earphones, the schematic diagram is the same, but the PCB Layout is different. The RF output power of each earphone has been tested and recorded in the report. For other test items, due to the higher power, the left headset has been tested and recorded in this report, which is the worst case.

2.2. TABLE OF CARRIER FREQUENCYS

Frequency Band	Channel Number	Frequency
CO °	0	2402 MHz
No CO	0 1	2404 MHz
2400~2483.5MHz		
GO C	38	2478 MHz
100	39	2480 MHz

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2.3. RELATED SUBMITTAL(S)/GRANT(S)

This submittal(s) (test report) is intended for **FCC ID: 2AG68-TWS-817K7** filing to comply with the FCC Part 15.247 requirements.

2.4. TEST METHODOLOGY

Both conducted and radiated testing was performed according to the procedures in ANSI C63.10 (2013). Radiated testing was performed at an antenna to EUT distance 3 meters.

2.5. SPECIAL ACCESSORIES

Refer to section 5.2.

2.6. EQUIPMENT MODIFICATIONS

Not available for this EUT intended for grant.

2.7. ANTENNA REQUIREMENT

This intentional radiator is designed with a permanently attached antenna of an antenna to ensure that no antenna other than that furnished by the responsible party shall be used with the device. For more information of the antenna, please refer to the APPENDIX B: PHOTOGRAPHS OF EUT.

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3. MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement y ±U, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

- Uncertainty of Conducted Emission, Uc = ±3.1 dB
- Uncertainty of Radiated Emission below 1GHz, Uc = ±4.0 dB
- Uncertainty of Radiated Emission above 1GHz, Uc = ±4.8 dB
- Uncertainty of total RF power, conducted, Uc = ±0.8 dB
- Uncertainty of RF power density, conducted, $Uc = \pm 2.6 \text{ dB}$
- Uncertainty of spurious emissions, conducted, Uc = ±2.7 dB
 Uncertainty of Occupied Channel Bandwidth: Uc = ±2 %

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4. DESCRIPTION OF TEST MODES

NO.	TEST MODE DESCRIPTION		
1	Low channel TX		
2	Middle channel TX		
3	High channel TX		

Note:

- 1. Only the result of the worst case was recorded in the report, if no other cases.
- 2. For Radiated Emission, 3axis were chosen for testing for each applicable mode.
- 3. For Conducted Test method, a temporary antenna connector is provided by the manufacture.

Software Setting

BlueTest3 - Test Command Mode

Test Commands

CFG FEED RS

CFG TA LIF

CFG TA LIF

CFG TA TRIM

CFG TA FOWER

BLE TEST TX

Test Results

FHE (1-2)

Test Results

Test Results

C: Weers UPELL'AppData Local QTILL'EluaTest2\testapplog txt

Opening USB TRB (175381).

Transport active.

Chip Family 0C3020 (aux) (Family ID 0x2049).

BT firmware version 1444.

Audio firmware version 2745.

Apps1 firmware version 1458682473.

BLE TEST TX successful

BLE TEST TX successful

BLE TEST TX successful

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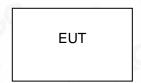


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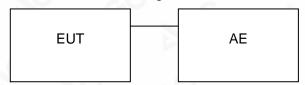
5. SYSTEM TEST CONFIGURATION

5.1. CONFIGURATION OF TESTED SYSTEM

Radiated Emission Configure:



Conducted Emission Configure:



5.2. EQUIPMENT USED IN TESTED SYSTEM

Item	Equipment	Model No.	ID or Specification	Remark
1	Wireless Bluetooth Earbuds	TWS-817K7	2AG68-TWS-817K7	EUT
2	Control Box	QUALCOMM TRBI200	FCC CC	AE

5.3. SUMMARY OF TEST RESULTS

FCC RULES	DESCRIPTION OF TEST	RESULT
15.247 (b)(3)	Peak Output Power	Compliant
15.247 (a)(2)	6 dB Bandwidth	Compliant
15.247 (d)	Conducted Spurious Emission	Compliant
15.247 (e)	Maximum Conducted Output Power Density	Compliant
15.209	Radiated Emission	Compliant
15.207	Conducted Emission	Not applicable

Note: The EUT is powered by battery. The EUT can not use the BT function with charging

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6. TEST FACILITY

Test Site	Attestation of Global Compliance (Shenzhen) Co., Ltd		
Location	1-2/F, Building 19, Junfeng Industrial Park, Chongqing Road, Heping Community, Fuhai Street, Bao'an District, Shenzhen, Guangdong, China		
Designation Number	CN1259		
FCC Test Firm Registration Number	975832		
A2LA Cert. No.	5054.02		
Description	Attestation of Global Compliance (Shenzhen) Co., Ltd is accredited by A2LA		

TEST EQUIPMENT OF RADIATED EMISSION TEST

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Due
TEST RECEIVER	R&S	ESCI	10096	May 15, 2020	May 14, 2021
EXA Signal Analyzer	Aglient	N9010A	MY53470504	Dec. 07, 2020	Dec.06, 2021
2.4GHz Filter	EM Electronics	2400-2500MHz	N/A	Mar. 23, 2020	Mar. 22, 2022
Attenuator	ZHINAN	E-002	N/A	Sep. 03, 2020	Sep. 02, 2022
Horn antenna	SCHWARZBECK	BBHA 9170	#768	Sep. 21, 2019	Sep. 20, 2021
Active loop antenna (9K-30MHz)	ZHINAN	ZN30900C	18051	May 22, 2020	May 21, 2022
Double-Ridged Waveguide Horn	ETS LINDGREN	3117	00034609	May 17, 2019	May 16, 2021
Broadband Preamplifier	ETS LINDGREN	3117PA	00225134	Sep. 03, 2020	Sep. 02, 2022
ANTENNA	SCHWARZBECK	VULB9168	494	Jan. 08,2021	Jan. 07,2023
Test software	Tonscend	JS32-RE (Ver.2.5)	N/A	N/A	N/A

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7. PEAK OUTPUT POWER

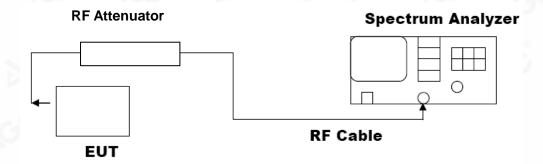
7.1. MEASUREMENT PROCEDURE

For peak power test:

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. RBW ≥ DTS bandwidth
- 3. VBW≥3*RBW.
- 4. SPAN≥VBW.
- 5. Sweep: Auto.
- 6. Detector function: Peak.
- 7. Trace: Max hold.

Allow trace to stabilize. Use the marker-to-peak function to set the marker to the peak of the emission. The indicated level is the peak output power, after any corrections for external attenuators and cables.

7.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION) PEAK POWER TEST SETUP



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a/Inspection The test results he test report.

7.3. LIMITS AND MEASUREMENT RESULT

The left ear

PEAK OUTPUT POWER MEASUREMENT RESULT FOR GFSK MOUDULATION				
Frequency Peak Power Applicable Limits (GHz) (dBm) Pass				
2.402	4.106	30	Pass	
2.440	4.491	30	Pass	
2.480	5.146	30	Pass	

CH₀



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CH19



CH39



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The right ear

PEAK OUTPUT POWER MEASUREMENT RESULT						
FOR GFSK MOUDULATION						
Frequency Peak Power Applicable Limits (GHz) (dBm) Pass or Fail						
2.402	2.775	30	Pass			
2.440	3.058	30	Pass			
2.480	3.149	30	Pass			

CH₀



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CH19



CH39



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8. 6 DB BANDWIDTH

8.1. MEASUREMENT PROCEDURE

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2. Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set SPA Centre Frequency = Operation Frequency, RBW= 100 kHz, VBW ≥ 3×RBW.
- 4. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to ANSI C63.10 for compliance to FCC PART 15.247 requirements.

8.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 7.2.

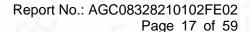
8.3. LIMITS AND MEASUREMENT RESULTS

LIMITS AND MEASUREMENT RESULT					
Applicable Limite	Applicable Limits				
Applicable Limits	Test Data	(kHz)	Criteria		
>500KHZ	Low Channel	710.9	PASS		
	Middle Channel	710.5	PASS		
	High Channel	708.5	PASS		

TEST PLOT OF BANDWIDTH FOR LOW CHANNEL



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TEST PLOT OF BANDWIDTH FOR MIDDLE CHANNEL



TEST PLOT OF BANDWIDTH FOR HIGH CHANNEL



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9. CONDUCTED SPURIOUS EMISSION

9.1. MEASUREMENT PROCEDURE

- 1. Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- 2, Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- 3. Set SPA Trace 1 Max hold, then View.

Note: The EUT was tested according to ANSI C63.10 for compliance to FCC PART 15.247 requirements.

9.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

The same as described in section 7.2.

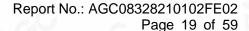
9.3. MEASUREMENT EQUIPMENT USED

The same as described in section 6.

9.4. LIMITS AND MEASUREMENT RESULT

LIMITS AND MEASUREMENT RESULT					
Annii alda I inii	Measurement Result				
Applicable Limits	Test Data	Criteria			
In any 100 kHz Bandwidth Outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produce by the intentional radiator shall be at least 20 dB below that in 100KHz bandwidth within the band that contains the highest level of the desired power.	At least -20dBc than the reference level	PASS			

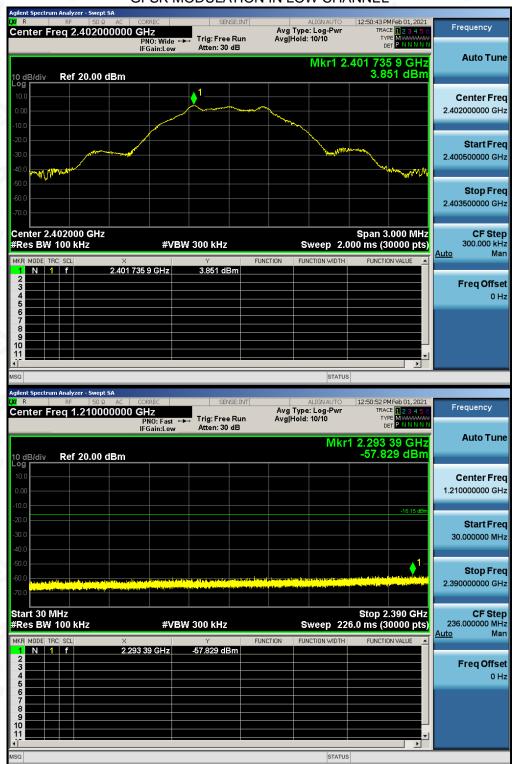
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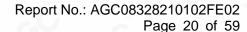


TEST RESULT FOR ENTIRE FREQUENCY RANGE

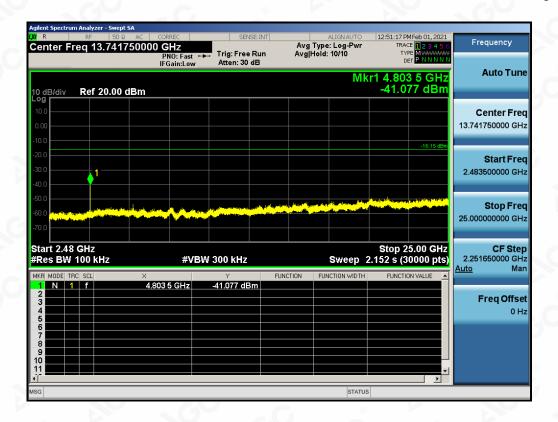
GFSK MODULATION IN LOW CHANNEL



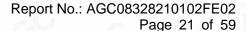
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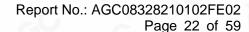




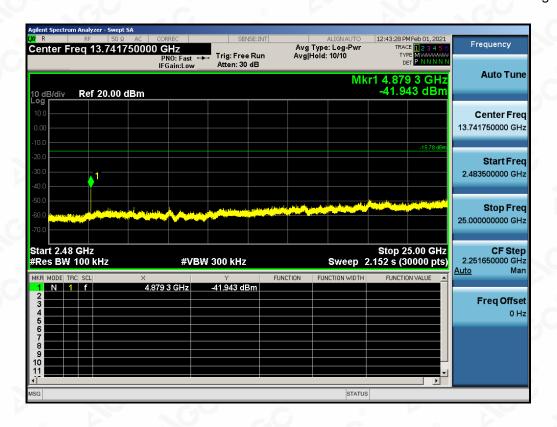
GFSK MODULATION IN MIDDLE CHANNEL



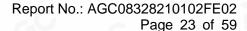
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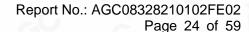




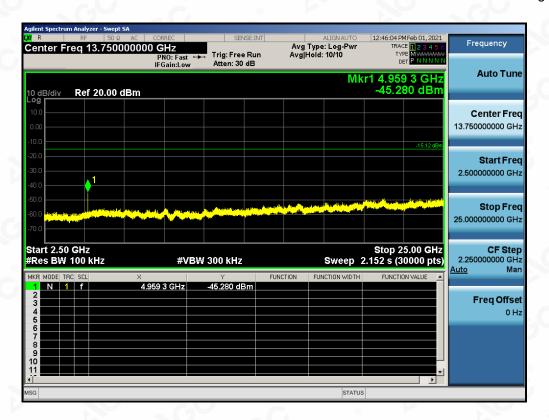
GFSK MODULATION IN HIGH CHANNEL



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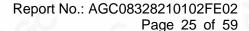






Note: The peak emissions without marker on the above plots are fundamental wave and need not to compare with the limit.

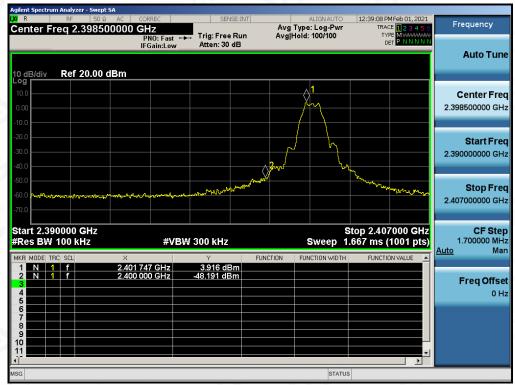
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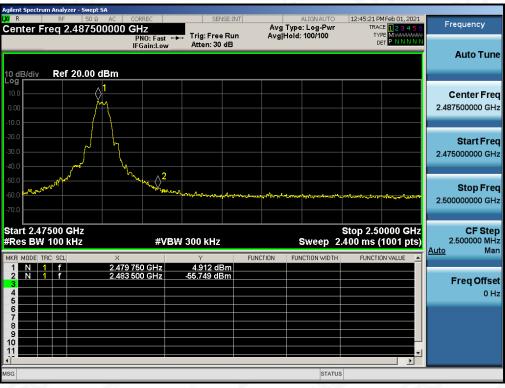


TEST RESULT FOR BAND EDGE

GFSK MODULATION IN LOW CHANNEL



GFSK MODULATION IN HIGH CHANNEL



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10. MAXIMUM CONDUCTED OUTPUT POWER SPECTRAL DENSITY

10.1. MEASUREMENT PROCEDURE

- (1). Connect EUT RF output port to the Spectrum Analyzer through an RF attenuator
- (2). Set the EUT Work on the top, the middle and the bottom operation frequency individually.
- (3). Set the SPA Trace 1 Max hold, then View.

Note: The method of PKPSD in the KDB 558074 item 8.4 was used in this testing.

10.2. TEST SET-UP (BLOCK DIAGRAM OF CONFIGURATION)

Refer to Section 7.2.

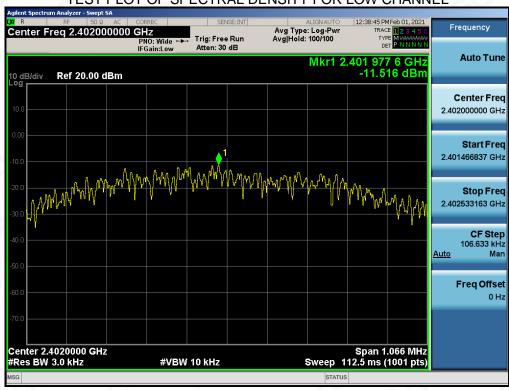
10.3. MEASUREMENT EQUIPMENT USED

Refer to Section 6.

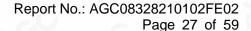
10.4. LIMITS AND MEASUREMENT RESULT

Channel No.	PSD (dBm/3kHz)	Limit (dBm/3kHz)	Result
Low Channel	-11.516	8	Pass
Middle Channel	-11.176	8	Pass
High Channel	-10.442	8	Pass

TEST PLOT OF SPECTRAL DENSITY FOR LOW CHANNEL

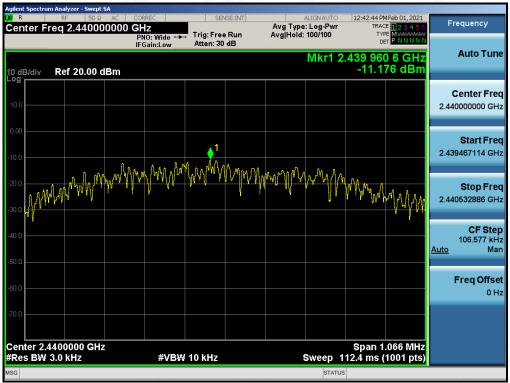


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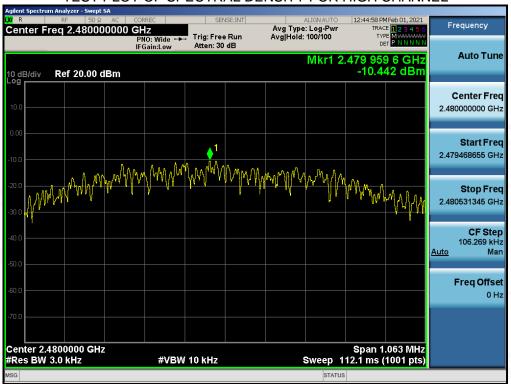




TEST PLOT OF SPECTRAL DENSITY FOR MIDDLE CHANNEL



TEST PLOT OF SPECTRAL DENSITY FOR HIGH CHANNEL



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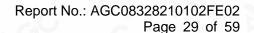
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11. RADIATED EMISSION

11.1. MEASUREMENT PROCEDURE

- 1. The EUT was placed on the top of the turntable 0.8 or 1.5 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
- 2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
- 3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
- 4. For each suspected emission, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
- Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
- 6. For emissions above 1GHz, use 1MHz RBW and 3MHz VBW for peak reading. Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- 7. When the radiated emissions limits are expressed in terms of the average value of the emissions, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum values.
- 8.If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
- 9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
- 10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High Low scan is not required in this case.

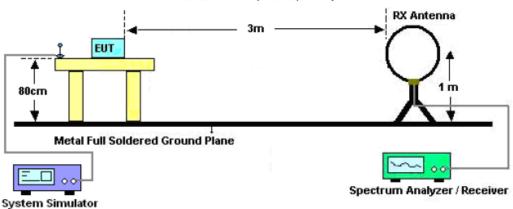
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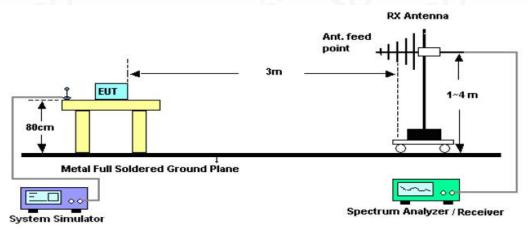


11.2. TEST SETUP

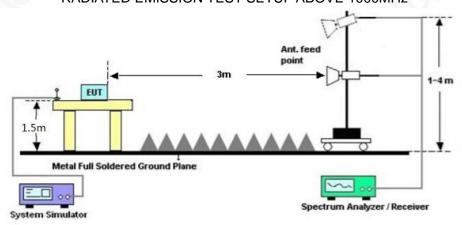
Radiated Emission Test-Setup Frequency Below 30MHz



RADIATED EMISSION TEST SETUP 30MHz-1000MHz



RADIATED EMISSION TEST SETUP ABOVE 1000MHz



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11.3. LIMITS AND MEASUREMENT RESULT

15.209 Limit in the below table has to be followed

Frequencies (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(kHz)	300
0.490~1.705	24000/F(kHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Note: All modes were tested for restricted band radiated emission, the test records reported below are the worst result compared to other modes.

11.4. TEST RESULT

RADIATED EMISSION BELOW 30MHz

The amplitude of spurious emissions from 9kHz to 30MHz which are attenuated more than 20 dB below the permissible value need not be reported.

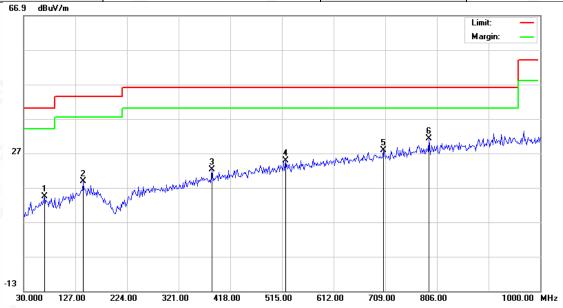
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RADIATED EMISSION BELOW 1GHZ

EUT	Wireless Bluetooth Earbuds	Model Name	TWS-817K7
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		68.7999	-2.64	16.96	14.32	40.00	-25.68	peak
2		141.5500	-0.50	19.23	18.73	43.50	-24.77	peak
3		384.0500	-0.31	22.42	22.11	46.00	-23.89	peak
4		521.4666	-0.68	25.41	24.73	46.00	-21.27	peak
5		705.7667	-0.55	28.28	27.73	46.00	-18.27	peak
6	*	791.4500	0.96	30.22	31.18	46.00	-14.82	peak

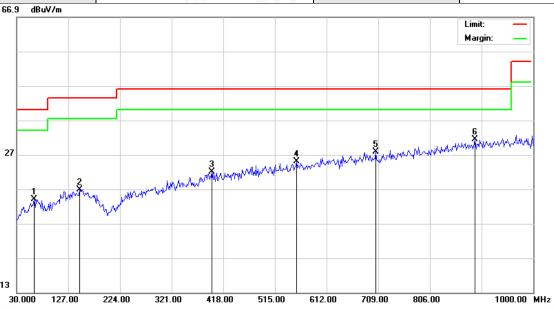
RESULT: PASS

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EUT	Wireless Bluetooth Earbuds	Model Name	TWS-817K7
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Over	
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector
1		62.3333	-2.19	16.16	13.97	40.00	-26.03	peak
2		148.0167	-2.31	19.21	16.90	43.50	-26.60	peak
3	,	396.9833	-0.80	22.87	22.07	46.00	-23.93	peak
4		555.4167	-1.12	26.08	24.96	46.00	-21.04	peak
5		704.1500	-0.53	28.24	27.71	46.00	-18.29	peak
6	*	890.0667	-0.11	31.57	31.46	46.00	-14.54	peak

RESULT: PASS Note:

- 1. Factor=Antenna Factor + Cable loss, Over= Measurement -Limit.
- 2. All test modes had been tested. The mode 3 is the worst case and recorded in the report.

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g/Inspection The test results

RADIATED EMISSION ABOVE 1GHZ

EUT	Wireless Bluetooth Earbuds	Model Name	TWS-817K7
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4804.000	43.28	0.08	43.36	74	-30.64	peak
4804.000	35.69	0.08	35.77	54	-18.23	AVG
7206.000	38.47	2.21	40.68	74	-33.32	peak
7206.000	31.25	2.21	33.46	54	-20.54	AVG
30		0	10	<0 [℃]	_6	0
emark:						
actor = Anter	nna Factor + Cabl	e Loss – Pre-	amplifier.			

EUT	Wireless Bluetooth Earbuds	Model Name	TWS-817K7
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4804.000	44.86	0.08	44.94	74	-29.06	peak
4804.000	34.39	0.08	34.47	54	-19.53	AVG
7206.000	38.47	2.21	40.68	74	-33.32	peak
7206.000	30.51	2.21	32.72	54	-21.28	AVG
		100		(8)		
emark:						
actor = Anter	nna Factor + Cab	le Loss – Pre-	amplifier.			®

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g/Inspection
The test results
the test report.

EUT	Wireless Bluetooth Earbuds	Model Name	TWS-817K7
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4880.000	44.95	0.14	45.09	74	-28.91	peak
4880.000	35.48	0.14	35.62	54	-18.38	AVG
7320.000	39.63	2.36	41.99	74	-32.01	peak
7320.000	31.27	2.36	33.63	54	-20.37	AVG
@				©		
	(8)				(8)	
Remark:	- C	(8)			- 0	8
actor = Anter	nna Factor + Cable	Loss – Pre-	amplifier.			C

EUT	Wireless Bluetooth Earbuds	Model Name	TWS-817K7
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 2	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4880.000	46.36	0.14	46.5	74	-27.5	peak
4880.000	38.28	0.14	38.42	54	-15.58	AVG
7320.000	40.47	2.36	42.83	74	-31.17	peak
7320.000	32.71	2.36 [©]	35.07	54	-18.93	AVG
		C_	(2)			
				®		
emark:						
actor = Anter	nna Factor + Cabl	e Loss – Pre-	-amplifier.		G	®

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EUT	Wireless Bluetooth Earbuds	Model Name	TWS-817K7
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4960.000	44.28	0.22	44.5	74	-29.5	peak
4960.000	35.36	0.22	35.58	54	-18.42	AVG
7440.000	38.41	2.64	41.05	74	-32.95	peak
7440.000	29.25	2.64	31.89	54	-22.11	AVG
®				@		
	8				8	
emark:	- 0	©		10	- 0	8
actor = Anter	nna Factor + Cable	Loss – Pre-	amplifier.			- C

EUT	Wireless Bluetooth Earbuds	Model Name	TWS-817K7
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Value Type
(MHz)	(dBµV)	(dB)	(dBµV/m)	(dBµV/m)	(dB)	value Type
4960.000	42.36	0.22	42.58	74	-31.42	peak
4960.000	34.59	0.22	34.81	54	-19.19	AVG
7440.000	38.48	2.64	41.12	74	-32.88	peak
7440.000	29.37	2.64	32.01	54	-21.99	AVG
emark:	100		8			60

RESULT: PASS

Note:

The amplitude of other spurious emissions from 1G to 25 GHz which are attenuated more than 20 dB below the permissible value need not be reported.

Factor = Antenna Factor + Cable loss - Amplifier gain, Margin= Level-Limit.

The "Factor" value can be calculated automatically by software of measurement system.

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The test results

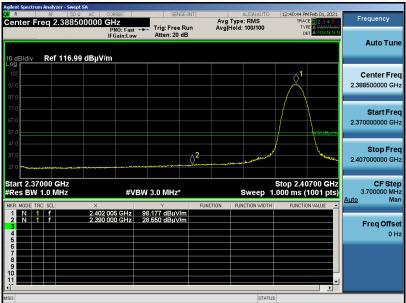
TEST RESULT FOR RESTRICTED BANDS REQUIREMENTS

EUT	Wireless Bluetooth Earbuds	Model Name	TWS-817K7
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Horizontal









RESULT: PASS

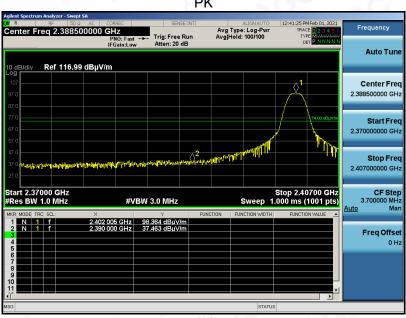
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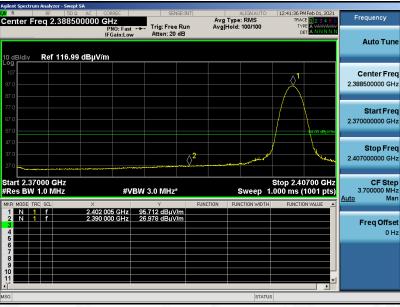
Report No.: AGC08328210102FE02 Page 37 of 59

EUT	Wireless Bluetooth Earbuds	Model Name	TWS-817K7
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 1	Antenna	Vertical



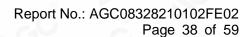






RESULT: PASS

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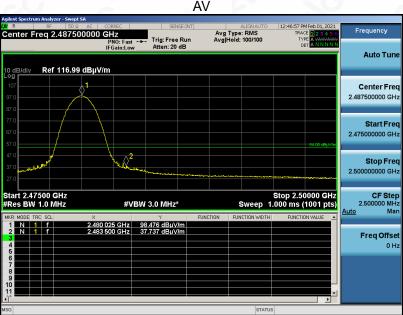




EUT	Wireless Bluetooth Earbuds	Model Name	TWS-817K7
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Horizontal

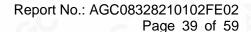






RESULT: PASS

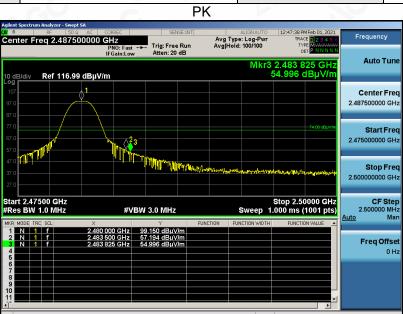
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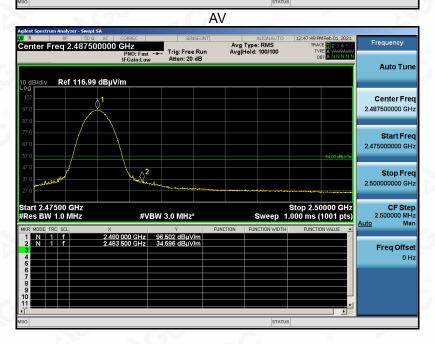


g/Inspection
The test results
the test report.



EUT	Wireless Bluetooth Earbuds	Model Name	TWS-817K7
Temperature	25° C	Relative Humidity	55.4%
Pressure	960hPa	Test Voltage	Normal Voltage
Test Mode	Mode 3	Antenna	Vertical





RESULT: PASS

Note: The factor had been edited in the "Input Correction" of the Spectrum Analyzer.

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APPENDIX A: PHOTOGRAPHS OF TEST SETUP

RADIATED EMISSION TEST SETUP BELOW 1GHZ



RADIATED EMISSION TEST SETUP ABOVE 1GHZ



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