



Report No.: TW2008237E File reference No.: 2020-09-09

Applicant: Maxell Corporation of America

Product: Bluetooth Wireless Earphone

Model No.: Jelleez-TW

Trademark: MAXELL

Test Standards: FCC Part 15.247

Test result:

It is herewith confirmed and found to comply with the

requirements set up by ANSI C63.10, FCC Part 15.247 for the

evaluation of electromagnetic compatibility

Approved By

Jack Chung

Jack Chung

Manager

Dated: September 09, 2020

Results appearing herein relate only to the sample tested The technical reports is issued errors and omissions exempt and is subject to withdrawal at

SHENZHEN TIMEWAY TESTING LABORATORIES

Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le Village, Nanshan District, Shenzhen, China

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Special Statement:

The testing quality ability of our laboratory meet with "Quality Law of People's Republic of China" Clause 19.

The testing quality system of our laboratory meets with ISO/IEC-17025 requirements, which is approved by CNAS. This approval result is accepted by MRA of APLAC.

Our test facility is recognized, certified, or accredited by the following organizations:

CNAS-LAB Code: L2292

The EMC Laboratory has been assessed and in compliance with CNAS-CL01 accreditation criteria for testing Laboratories (identical to ISO/IEC 17025:2005 General Requirements) for the Competence of testing Laboratories.

FCC-Registration No.: 744189

The EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 744189.

Industry Canada (IC) —Registration No.:5205A

The EMC Laboratory has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 5205A.

A2LA (Certification Number:5013.01)

The EMC Laboratory has been accredited by the American Association for Laboratory Accreditation (A2LA). Certification Number:5013.01

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Test Report Conclusion

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1.0 General Details

1.1 Test Lab Details

Name: SHENZHEN TIMEWAY TESTING LABORATORIES.

Address: Zone C, 1st Floor, Block B, Jun Xiang Da Building, Zhongshan Park Road West, Tong Le

Village, Nanshan District, Shenzhen, China

Telephone: (755) 83448688 Fax: (755) 83442996

1.2 Applicant Details

Applicant: Maxell Corporation of America

Address: 3 Garret Mountain Plaza, Woodland Park, New Jersey 07424, United States

Telephone: -Fax: --

1.3 Description of EUT

Product: Bluetooth Wireless Earphone

Manufacturer: Shenzhen Swetz Sound Technology Co., Limited

Address: No.18, Xiantian Road, Xinsheng Community, Longgang Street,

Longgang District, Shenzhen, China

Brand Name: MAXELL
Model Number: Jelleez-TW

Additional Model Number: N/A

Type of Modulation GFSK, 月/4DQPSK, 8DPSK for Bluetooth

Frequency range 2402-2480MHz for Bluetooth

Channel Spacing 1MHz for Bluetooth

Frequency Selection By software

Channel Number 79 channels for Bluetooth

Antenna: PCB Antenna. The gain of the antennas is 1.0dBi (Declared by the applicant)

Input Voltage: DC5.0V

Battery: DC3.7V, 50mAh Li-ion battery

1.4 Submitted Sample: 1 Samples

1.5 Test Duration

2020-08-24 to 2020-09-08

1.6 Test Uncertainty

Conducted Emissions Uncertainty = 3.6dB

Radiated Emissions below 1GHz Uncertainty =4.7dB

The report refers only to the sample tested and does not apply to the bulk.

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Radiated Emissions above 1GHz Uncertainty =6.0dB Conducted Power Uncertainty =6.0dB Occupied Channel Bandwidth Uncertainty = 5%

1.7 Test Engineer

Terry Tang

The sample tested by

Print Name: Terry Tang

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2.0 Test Equipment					
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	R&S	ESPI 3	100379	2020-06-23	2021-06-22
TWO Line-V-NETW	R&S	EZH3-Z5	100294	2020-06-23	2021-06-22
TWO Line-V-NETW	R&S	EZH3-Z5	100253	2020-06-23	2021-06-22
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2020-06-23	2021-06-22
Loop Antenna	EMCO	6507	00078608	2020-06-23	2021-06-22
Spectrum	R&S	FSIQ26	100292	2020-06-23	2021-06-22
Horn Antenna	A-INFO	LB-180400-KF	J211060660	2020-06-23	2021-06-22
Horn Antenna	R&S	BBHA 9120D	9120D-631	2018-07-09	2021-07-08
Power meter	Anritsu	ML2487A	6K00003613	2020-06-23	2021-06-22
Power sensor	Anritsu	MA2491A	32263	2020-06-23	2021-06-22
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2018-07-04	2021-07-03
9*6*6 Anechoic			N/A	2018-02-07	2021-02-06
EMI Test Receiver	RS	ESVB	826156/011	2020-06-23	2021-06-22
EMI Test Receiver	RS	ESH3	860904/006	2020-06-23	2021-06-22
Spectrum	HP/Agilent	ESA-L1500A	US37451154	2020-06-23	2021-06-22
Spectrum	HP/Agilent	E4407B	MY50441392	2020-06-23	2021-06-22
Spectrum	RS	FSP	1164.4391.38	2020-01-18	2021-01-17
RF Cable	Zhengdi	ZT26-NJ-NJ-8 M/FA		2020-06-23	2021-06-22
RF Cable	Zhengdi	7m		2020-06-23	2021-06-22
RF Switch	EM	EMSW18	060391	2020-06-23	2021-06-22
Pre-Amplifier	Schwarebeck	BBV9743	#218	2020-06-23	2021-06-22
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2020-06-23	2021-06-22
LISN	SCHAFFNER	NNB42	00012	2020-01-07	2021-01-06

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3.0 **Technical Details**

3.1 **Summary of test results**

The EUT has been tested according to the following specifications:

Requirement	CFR 47 Section	Result	Notes
Antenna Requirement	15.203, 15.247(b)(4)	PASS	Complies
Maximum Peak Out Power	15.247 (b)(1), (4)	PASS	Complies
Carrier Frequency Separation	15.247(a)(1)	PASS	Complies
20dB Channel Bandwidth	15.247 (a)(1)	PASS	Complies
Number of Hopping Channels	15.247(a)(iii), 15.247(b)(1)	PASS	Complies
Time of Occupancy (Dwell Time)	15.247(a)(iii)	PASS	Complies
Spurious Emission, Band Edge, and Restricted bands	15.247(d),15.205(a), 15.209 (a),15.109	PASS	Complies
Conducted Emissions	15.207(a), 15.107	PASS	Complies
RF Exposure	15.247(i), 1.1307(b)(1)	PASS	Complies

3.2 **Test Standards**

FCC Part 15 Subpart & Subpart C, Paragraph 15.247

4.0 **EUT Modification**

No modification by SHENZHEN TIMEWAY TESTING LABORATORIES.

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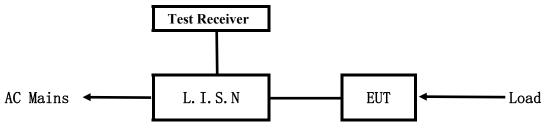
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5. Power Line Conducted Emission Test

5.1 Schematics of the test

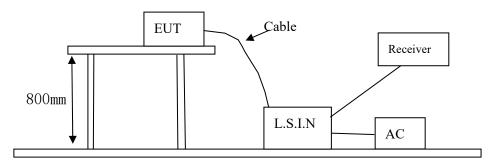


EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.10-2013. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 50ohm/50uH as specified by section 5.1 of ANSI C63.10-2013.

Test Voltage: 120V~60Hz Block diagram of Test setup



5.3 Configuration of The EUT

The EUT was configured according to ANSI C63.10-2013. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

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A. EUT

Device	Manufacturer	Model	FCC ID
Bluetooth Wireless	Shenzhen Swetz Sound Technology	Jelleez-TW	WIZA CC TWOO2DO2
Earphone	Co., Limited	Jeneez-1 w	WKA-SS-TW003B02

B. Internal Device

Device	Manufacturer	Model	Rating

C. Peripherals

Device	Manufacturer	Model	Rating
Power Supply	KEYU	KA23-0502000DEU	Input: 100-240V~, 50/60Hz, 0.35A;
			Output: DC3.7V, 2A

5.4 EUT Operating Condition

Operating condition is according to ANSI C63.10-2013.

- A Setup the EUT and simulators as shown on follow
- B Enable AF signal and confirm EUT active to normal condition

5.5 Power line conducted Emission Limit according to Paragraph 15.207

Frequency	Limits (dB μ V)				
(MHz)	Quasi-peak Level	Average Level			
$0.15 \sim 0.50$	66.0~56.0*	56.0~46.0*			
$0.50 \sim 5.00$	56.0	46.0			
$5.00 \sim 30.00$	60.0	50.0			

Notes:

- 1. *Decreasing linearly with logarithm of frequency.
- 2. The tighter limit shall apply at the transition frequencies

5.6 Test Results

The frequency spectrum from 0.15MHz to 30MHz was investigated. All reading are quasi-peak values with a resolution bandwidth of 9kHz.

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Conducted Emission on Live Terminal (150kHz to 30MHz) A:

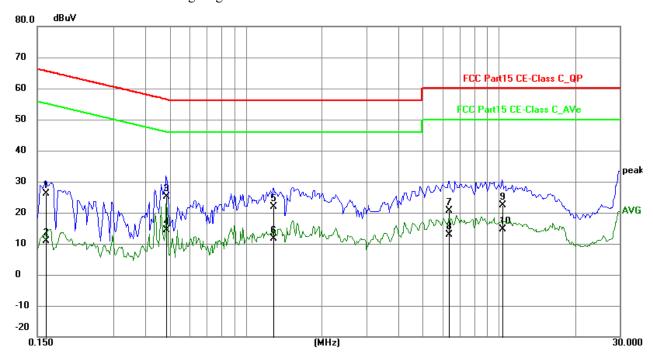
EUT Operating Environment

Humidity: 65%RH Atmospheric Pressure: 101 KPa Temperature: 26°C

EUT set Condition: Keep Bluetooth Transmitting

Results: PASS

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1617	16.37	9.78	26.15	65.38	-39.23	QP	Р
2	0.1617	1.00	9.78	10.78	55.38	-44.60	AVG	Р
3	0.4854	15.28	9.77	25.05	56.25	-31.20	QP	Р
4	0.4854	4.73	9.77	14.50	46.25	-31.75	AVG	Р
5	1.2888	11.98	9.79	21.77	56.00	-34.23	QP	Р
6	1.2888	1.90	9.79	11.69	46.00	-34.31	AVG	Р
7	6.3462	10.76	9.98	20.74	60.00	-39.26	QP	Р
8	6.3462	3.00	9.98	12.98	50.00	-37.02	AVG	Р
9	10.3242	12.24	10.17	22.41	60.00	-37.59	QP	Р
10	10.3242	4.39	10.17	14.56	50.00	-35.44	AVG	Р

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B: Conducted Emission on Neutral Terminal (150kHz to 30MHz)

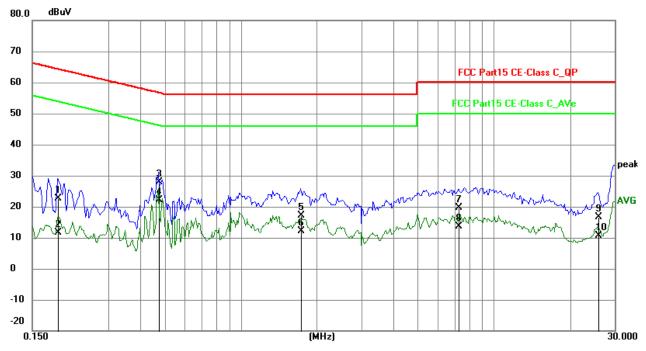
EUT Operating Environment

Humidity: 65%RH Atmospheric Pressure: 101 KPa Temperature: 26°C

EUT set Condition: Keep Bluetooth Transmitting

Results: Pass

Please refer to following diagram for individual



No.	Frequency (MHz)	Reading (dBuV)	Factor (dB)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.1890	12.94	9.76	22.70	64.08	-41.38	QP	Р
2	0.1890	1.90	9.76	11.66	54.08	-42.42	AVG	Р
3	0.4737	18.20	9.77	27.97	56.45	-28.48	QP	Р
4	0.4737	12.43	9.77	22.20	46.45	-24.25	AVG	Р
5	1.7256	7.41	9.80	17.21	56.00	-38.79	QP	Р
6	1.7256	2.22	9.80	12.02	46.00	-33.98	AVG	Р
7	7.2393	9.49	10.02	19.51	60.00	-40.49	QP	Ъ
8	7.2393	3.68	10.02	13.70	50.00	-36.30	AVG	Р
9	25.7876	5.68	11.04	16.72	60.00	-43.28	QP	Р
10	25.7876	-0.29	11.04	10.75	50.00	-39.25	AVG	Р

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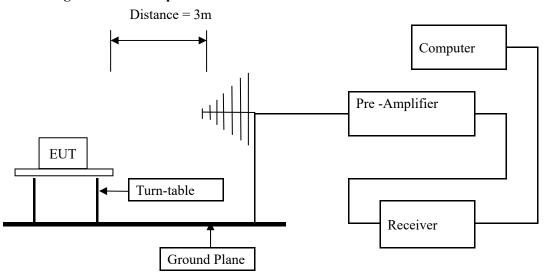


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6 Radiated Emission Test

- 6.1 Test Method and test Procedure:
- (1) The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) The EUT, peripherals were put on the turntable which table size is 1m x 1.5 m, table high 0.8 m. All set up is according to ANSI C63.10-2013.
- (3) The frequency spectrum from 30 MHz to 25GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 kHz. For measurement above 1GHz, peak values with RBW=VBW=1MHz and PK detector. AV value with RBW=1MHz, VBW=10Hz and PK detector. Measurements were made at 3 meters.
- (4) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (5) Maximizing procedure was performed on the six (6) highest emissions to ensure EUT compliance is with all installation combinations. All data was recorded in the peak detection mode. Quasi-peak readings was performed only when an emission was found to be marginal (within -4 dB of specification limit), and are distinguished with a "QP" in the data table.
- (6) The antenna polarization: Vertical polarization and Horizontal polarization.

Block diagram of Test setup



- 6.2 Configuration of The EUT

 Same as section 5.3 of this report
- 6.3 EUT Operating Condition
 Same as section 5.4 of this report.

The report refers only to the sample tested and does not apply to the bulk.

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6.4 Radiated Emission Limit

All emission from a digital device, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strength specified below:

Frequencies in restricted band are complied to limit on Paragraph 15.209 and 15.109 and RSS-210

	_	
Frequency Range (MHz)	Distance (m)	Field strength (dB µ V/m)
30-88	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note:

- 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
- 2. In the Above Table, the higher limit applies at the band edges.
- 3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
- 4. 8DPSK was the worst case because it has highest output power
- 5. This is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.

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Test result

General Radiated Emission Data and Harmonics Radiated Emission Data

Radiated Emission In Horizontal/Vertical (30MHz----1000MHz)

Keep Bluetooth Transmitting EUT set Condition:

Results: Pass

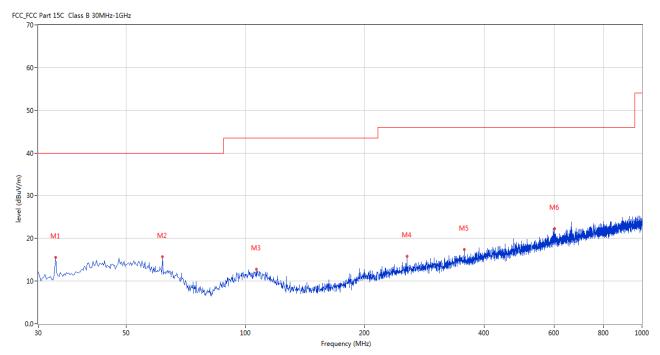
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Test Figure:

H



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		_
1	33.152	15.56	-14.39	40.0	-24.44	Peak	17.00	100	Horizontal	Pass
2	61.760	15.71	-13.22	40.0	-24.29	Peak	47.00	100	Horizontal	Pass
3	106.368	12.82	-13.34	43.5	-30.68	Peak	30.00	100	Horizontal	Pass
4	255.226	15.78	-11.96	46.0	-30.22	Peak	15.00	100	Horizontal	Pass
5	355.839	17.45	-9.47	46.0	-28.55	Peak	179.00	100	Horizontal	Pass
6	602.399	22.27	-5.08	46.0	-23.73	Peak	209.00	100	Horizontal	Pass

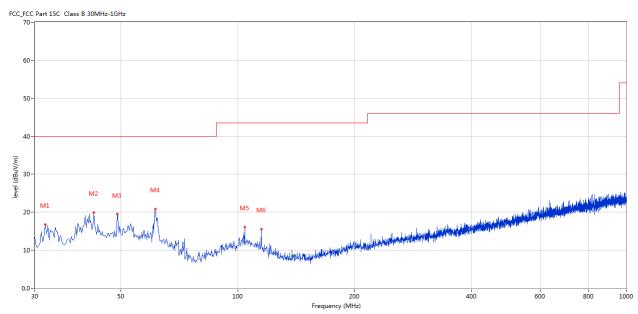
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Test Figure:

V



No.	Frequency	Results	Factor	Limit	Over	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)			(cm)		
1	31.212	14.86	-14.58	40.0	-25.14	Peak	338.00	100	Vertical	Pass
2	42.607	19.89	-11.55	40.0	-20.11	Peak	126.00	100	Vertical	Pass
3	48.910	19.45	-11.21	40.0	-20.55	Peak	202.00	100	Vertical	Pass
4	61.275	20.87	-13.14	40.0	-19.13	Peak	80.00	100	Vertical	Pass
5	104.186	16.15	-13.30	43.5	-27.35	Peak	80.00	100	Vertical	Pass
6	114.854	15.51	-14.40	43.5	-27.99	Peak	80.00	100	Vertical	Pass

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Operation Mode: Transmitting under Low Channel (2402MHz)

Frequency (MHz)	Level@3m (dBμV/m)	Antenna Polarity	Limit@3m (dB µ V/m)
4804	ı	Н	74(Peak)/ 54(AV)
4804	1	V	74(Peak)/ 54(AV)
7206	1	H/V	74(Peak)/ 54(AV)
9608	1	H/V	74(Peak)/ 54(AV)
12010		H/V	74(Peak)/ 54(AV)
14412		H/V	74(Peak)/ 54(AV)
16814		H/V	74(Peak)/ 54(AV)
19216		H/V	74(Peak)/ 54(AV)
21618	1	H/V	74(Peak)/ 54(AV)
24020		H/V	74(Peak)/ 54(AV)

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

2. Remark "---" means that the emissions level is too low to be measured

Operation Mode: Transmitting g under Middle Channel (2441MHz)

Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \(\mu \)V/m)
4882	-	Н	74(Peak)/ 54(AV)
4882		V	74(Peak)/ 54(AV)
7323		H/V	74(Peak)/ 54(AV)
9764		H/V	74(Peak)/ 54(AV)
12205		H/V	74(Peak)/ 54(AV)
14646		H/V	74(Peak)/ 54(AV)
17087		H/V	74(Peak)/ 54(AV)
19528		H/V	74(Peak)/ 54(AV)
21969		H/V	74(Peak)/ 54(AV)
24410		H/V	74(Peak)/ 54(AV)

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

2. Remark "---" means that the emissions level is too low to be measured

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Operation Mode: Transmitting under High Channel (2480MHz)

	8 8	, ,	
Frequency (MHz)	Level@3m (dB \u03b4 V/m)	Antenna Polarity	Limit@3m (dB \(\mu \)V/m)
4960		Н	74(Peak)/ 54(AV)
4960		V	74(Peak)/ 54(AV)
7440		H/V	74(Peak)/ 54(AV)
9920		H/V	74(Peak)/ 54(AV)
12400		H/V	74(Peak)/ 54(AV)
14880		H/V	74(Peak)/ 54(AV)
17360		H/V	74(Peak)/ 54(AV)
19840		H/V	74(Peak)/ 54(AV)
22320		H/V	74(Peak)/ 54(AV)
24800		H/V	74(Peak)/ 54(AV)

Note: 1. Level = Reading + AF + Cable - Preamp + Filter - Dist, Margin = Level - Limit

^{2.} Remark "---" means that the emissions level is too low to be measured

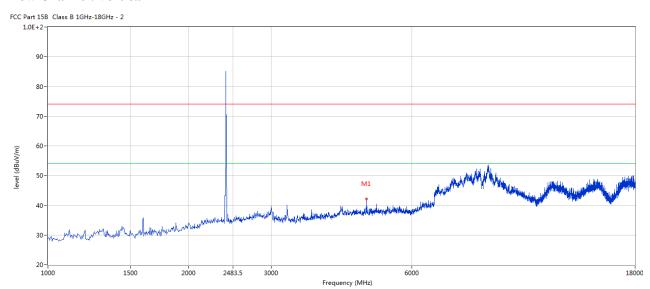
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Please refer to the following test plots for details:

Low Channel: Vertical



Ī	No	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
		(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
Ī	1	4802.799	42.22	3.12	74.0	-31.78	Peak	168.00	100	V	Pass

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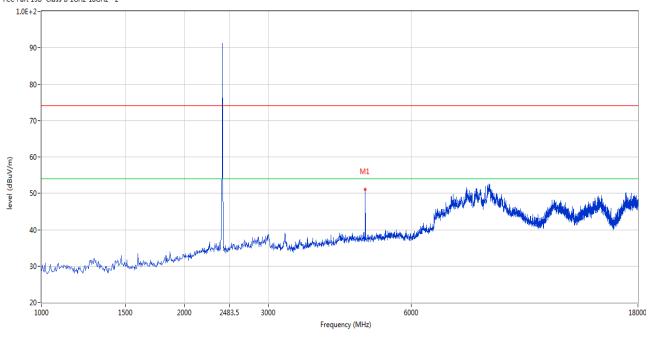
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Low Channel: Horizontal

FCC Part 15B Class B 1GHz-18GHz - 2



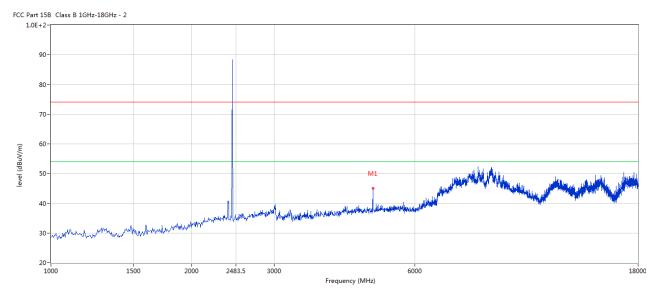
No.	Frequency	Results	Factor (dB)	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)		(dBuV/m)	(dB)		(o)	(cm)		
1	4802.799	50.99	3.12	54.0	-3.01	Peak	242.00	100	Н	Pass

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Middle Channel: Horizontal



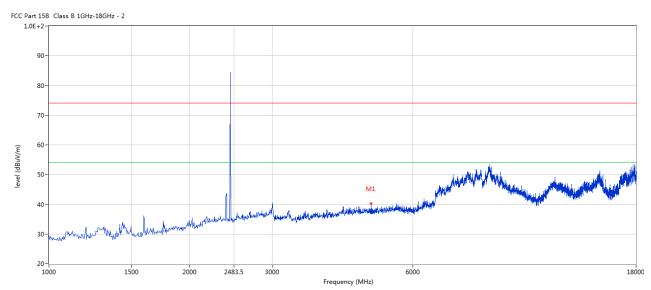
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	4883.529	45.01	3.20	54.0	-8.99	Peak	241.00	100	Н	Pass

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Middle Channel: Vertical



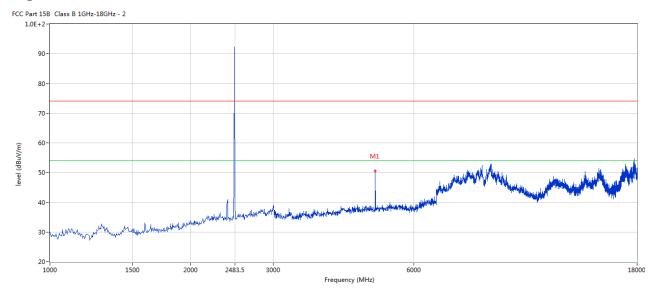
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	4883.529	40.32	3.20	54.0	-13.68	Peak	0.00	100	V	Pass

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High Channel: Horizontal



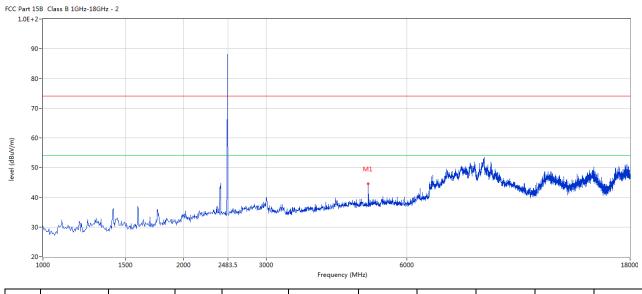
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	4960.010	50.61	3.36	54.0	-3.39	Peak	197.00	100	Н	Pass

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High Channel: Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	4960.010	44.58	3.36	54.0	-9.42	Peak	356.00	100	V	Pass

Note: 1. for the radiated emissions above 18G and below 30MHz, it is the floor noise.

2. the measured PK radiated emissions level less than the AV limit, so no necessary to take down the AV result

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7.0 20dB Bandwidth Measurement

7.1 Regulation

Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in Subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated.

7.2 Limits of 20dB Bandwidth Measurement

N/A

7.3 Test Procedure.

- 1. Check the calibration of the measuring instrument (spectrum analyzer) using either an internal calibrator or a known signal from an external generator.
- 2. Set the spectrum analyzer as follows: Span =3MHz, RBW =30 kHz, VBW=100 kHz, Sweep = auto Detector function = peak, Trace = max hold
- 3. Measure the highest amplitude appearing on spectral display and record the level to calculate results. 6. Repeat above procedures until all frequencies measured were complete.

7.4 Test Result

Type of Modulation: GFSK

EUT	Bluetooth '	Wireless Earphone	Model	Jelleez-TW
Mode	Keep	Transmitting	Input Voltage	DC3.7V
Temperat	ure 2	4 deg. C,	Humidity	56% RH
Channel	Channel Frequency (MHz)	20 dB Bandwidth (kHz)	Minimum Limit (kHz)	Pass/ Fail
Low	2402	782		Pass
Middle	2441	782		Pass
High	2480	782		Pass

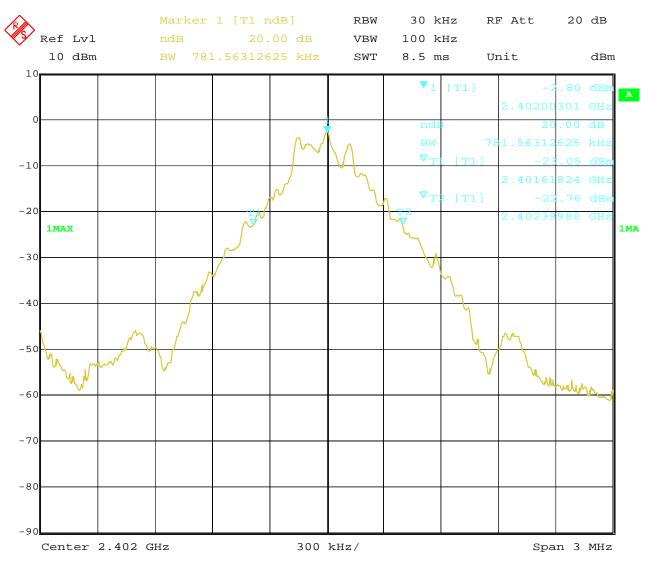
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Test Figure:

1. Condition: Low Channel



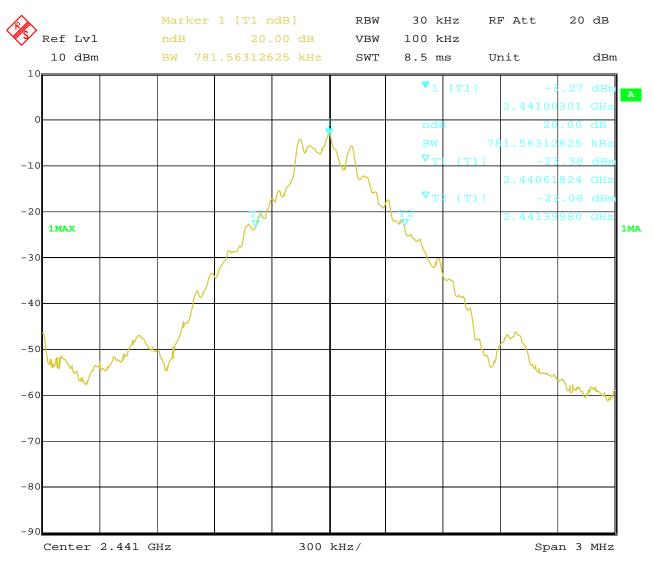
Date: 8.SEP.2020 14:19:25

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2. Condition: Middle Channel



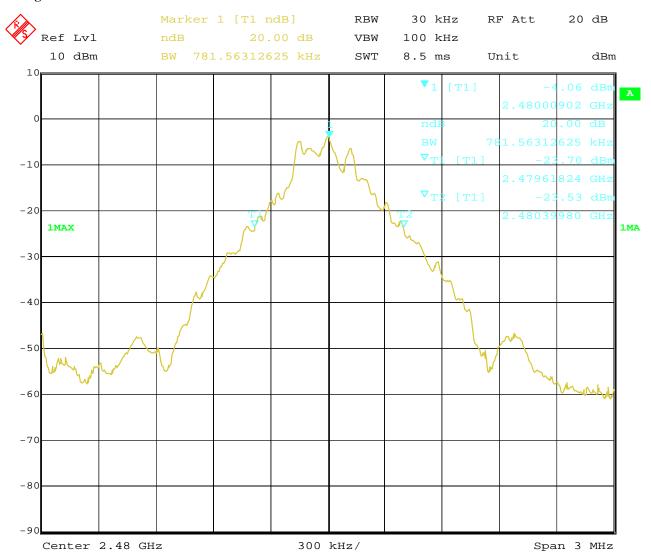
8.SEP.2020 Date: 14:20:49

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3. High Channel



8.SEP.2020 Date: 14:22:14 Report No.: TW2008237E Page 29 of 87

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Test Result

Type of Modulation: $\sqrt{1/4}$ DQPSK

EUT	Bluetooth	Wireless Earphone	Model	Jelleez-TW
Mode	Keep	Transmitting	Input Voltage	DC3.7V
Temperature	2	24 deg. C,	Humidity	56% RH
Channel	Channel Frequency (MHz)	20 dB Bandwidth (kHz)	Maximum Limit (kHz)	Pass/ Fail
Low	2402	1220		Pass
Middle	2441	1220		Pass
High	2480	1220		Pass

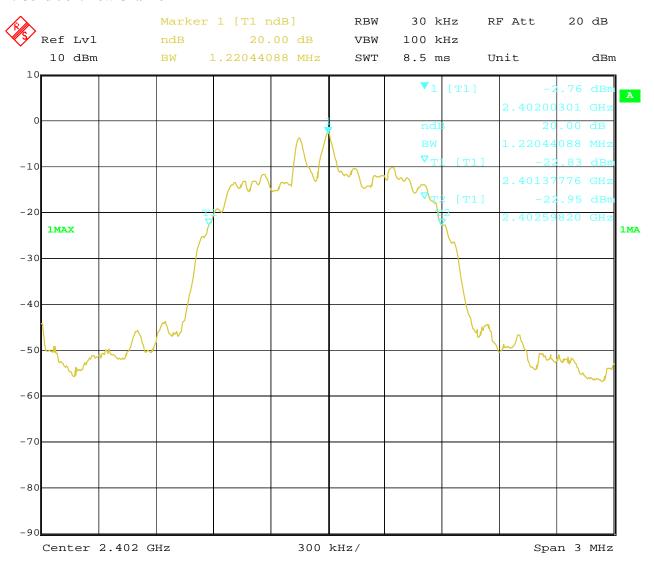
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Test Figure:

1. Condition: Low Channel



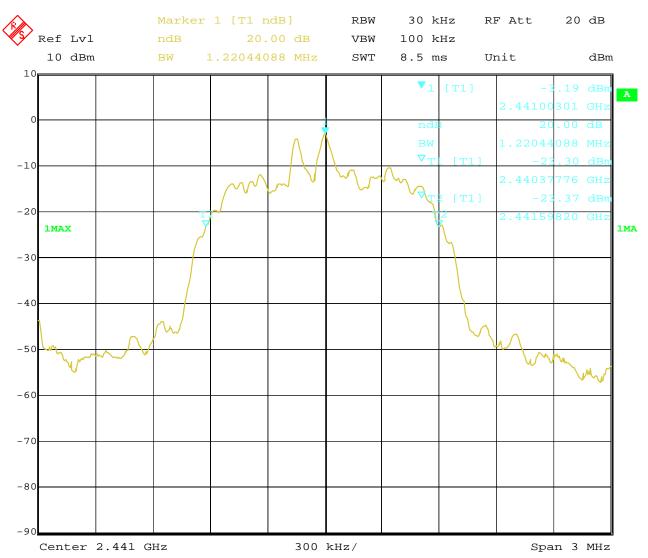
Date: 8.SEP.2020 14:18:44

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2. Condition: Middle Channel



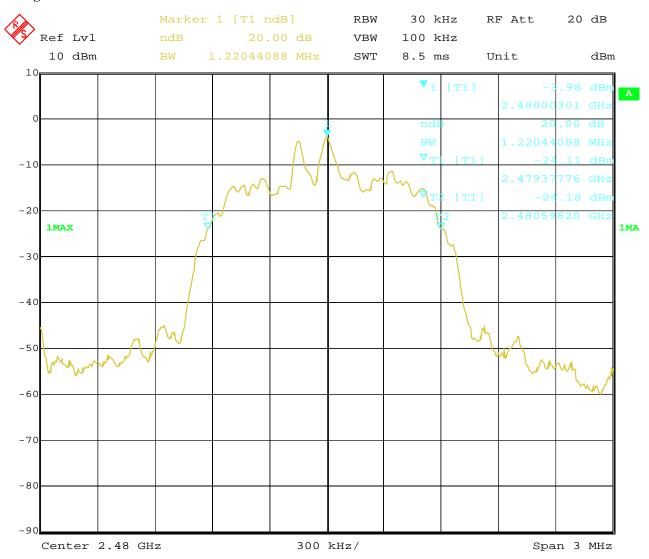
8.SEP.2020 Date: 14:11:06

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3. High Channel



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Test Result

Type of Modulation: 8DPSK

EUT	Bluetooth	Wireless Earphone	Model	Jelleez-TW
Mode	Keep	Transmitting	Input Voltage	DC3.7V
Temperature	2	4 deg. C,	Humidity	56% RH
Channel	Channel Frequency (MHz)	20 dB Bandwidth (kHz)	Maximum Limit (kHz)	Pass/ Fail
Low	2402	1214		Pass
Middle	2441	1214		Pass
High	2480	1220		Pass

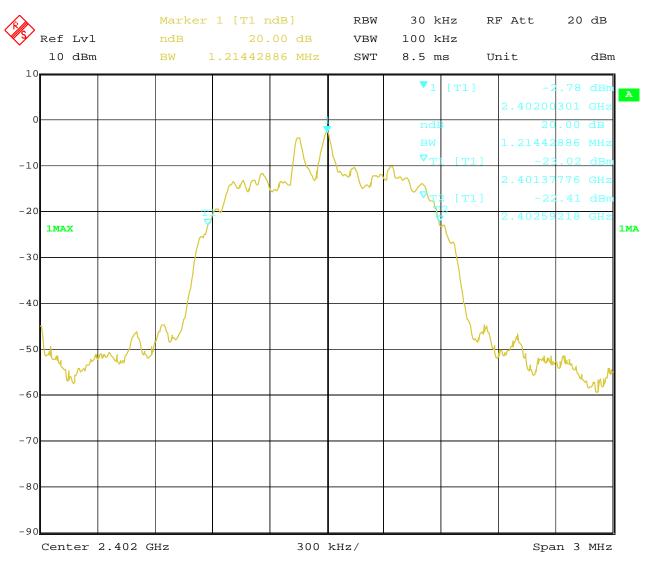
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Test Figure:

1. Condition: Low Channel



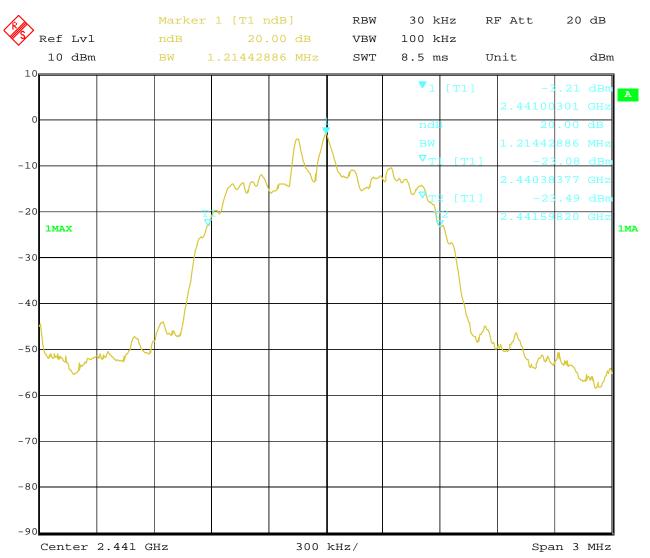
Date: 8.SEP.2020 14:14:08

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2. Condition: Middle Channel



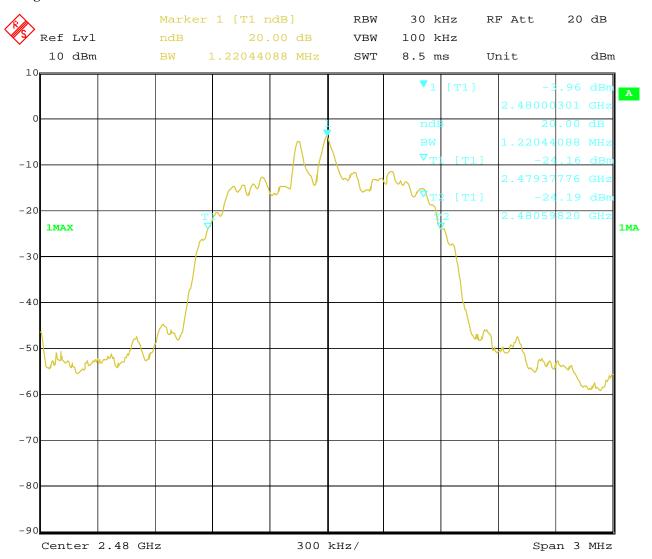
8.SEP.2020 Date: 14:13:29

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3. High Channel



8.SEP.2020 Date: 13:51:19 Report No.: TW2008237E

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8. Maximum Output Power

8.1 Regulation

According to §15.247(b)(1), for frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5MHz band:0.125 watts. According to §15.247(b)(4), the conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

8.2 Limits of Maximum Output Power

The Maximum Output Power Measurement is 30dBm.

8.3 Test Procedure

- 1. Check the calibration of the measuring instrument (spectrum analyzer) using either an internal calibrator or a known signal from an external generator.
- 2. Set the spectrum analyzer as follows: Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel; RBW > the 20 dB bandwidth of the emission being measured; VBW = RBW=3MHz; Sweep = 60s; Detector function = PK; Trace = max hold
- 3. Measure the highest amplitude appearing on spectral display and record the level to calculate results.
- 4. Repeat above procedures until all frequencies measured were complete.

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8.4Test Results

Type of Modulation: GFSK

EUT	Bluetooth Wireless Earphone		Model	Jelleez-TW
Mode	Kee	Keep Transmitting		DC3.7V
Temperature	24 deg. C, Humidity		Humidity	56% RH
Channel	Channel Frequency (MHz)	Max. Power Output (dBm)	Peak Power Limit (dBm)	Pass/ Fail
Low	2402	-2.15	30	Pass
Middle	2441	-2.47	30	Pass
High	2480	-2.85	30	Pass

Note: 1. the result basic equation calculation as follow:

Max. Power Output = Power Reading + Cable loss + Attenuator

- 2. The worse case was recorded
- 3. The **Peak** power was measured

Type of Modulation: JI/4DQPSK

EUT	Blue	etooth Wireless Earphone	Model	Jelleez-TW
Mode		Keep Transmitting	Input Voltage	DC3.7V
Temperature	24 deg. C,		Humidity	56% RH
	Channel Frequency	Max. Power Output (dBm)	Peak Power Limit	Pass/ Fail
	(MHz)	Peak	(dBm)	
Low	2402	-1.99	30	Pass
Middle	2441	-1.46	30	Pass
High	2480	-1.87	30	Pass

Note: 1. the result basic equation calculation as follow:

Max. Power Output = Power Reading + Cable loss + Attenuator

- 2. The worse case was recorded
- 3. The **Peak** power was measured

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Type of Modulation: 8DPSK

EUT	Bluetoo	Bluetooth Wireless Earphone		Jelleez-TW
Mode	Ke	Keep Transmitting		DC3.7V
Temperature	e	24 deg. C,		56% RH
Channel	Channel Frequency	Max. Power Output (dBm)	Peak Power Limit	Pass/ Fail
Chamer	(MHz)	Peak	(dBm)	
Low	2402	-1.99	30	Pass
Middle	2441	-1.37	30	Pass
High	2480	-1.87	30	Pass

Note: 1. the result basic equation calculation as follow:

Max. Power Output = Power Reading + Cable loss + Attenuator

- 2. The worse case was recorded
- 3. The **Peak** power was measured

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9. Carrier Frequency Separation

9.1 Regulation

According to §15.247(a)(1), frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5 MHz band may have hopping channel carrier frequencies that are separated by 25 kHz or two-thirds of the 20 dB bandwidth of the hopping channel, whichever is greater, provided the systems operate with an output power no greater than 125 mW.

9.2 Limits of Carrier Frequency Separation

The Maximum Power Spectral Density Measurement is 25kHz or two-thirds of the 20dB bandwidth of the hopping Channel which is great.

9.3 Test Procedure

- 1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- 2. Set the spectrum analyzer as follows: Span = wide enough to capture the peaks of two adjacent channels: Resolution (or IF) Bandwidth (RBW) \geq 1% of the span; Video (or Average) Bandwidth (VBW) \geq RBW; Sweep = auto; Detector function = peak; Trace = max hold
- 3. Measure the separation between the peaks of the adjacent channels using the marker-delta function.
- 4. Repeat above procedures until all frequencies measured were complete.

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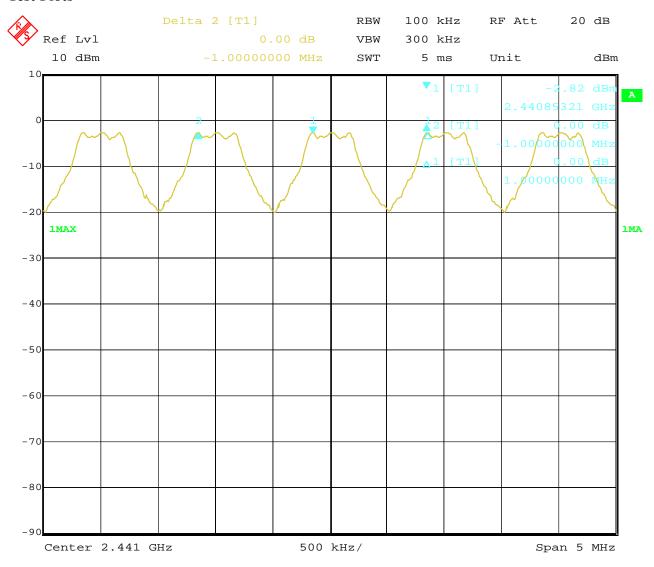


9.4Test Result

Type of Modulation: GFSK

EUT	Bluetooth Wireless	Model	J	elleez-TW	
Mode	Hopping O	Input Voltage		DC3.7V	
Temperature	24 deg. C,	24 deg. C,		56% RH	
Carrier I	Frequency Separation		Limit		Pass/ Fail
	1.000MHz	≥ 25 kHz or 2/3	of the 20 dB ban	dwidth	Pass

Test Plots



30.AUG.2020 Date: 15:58:47

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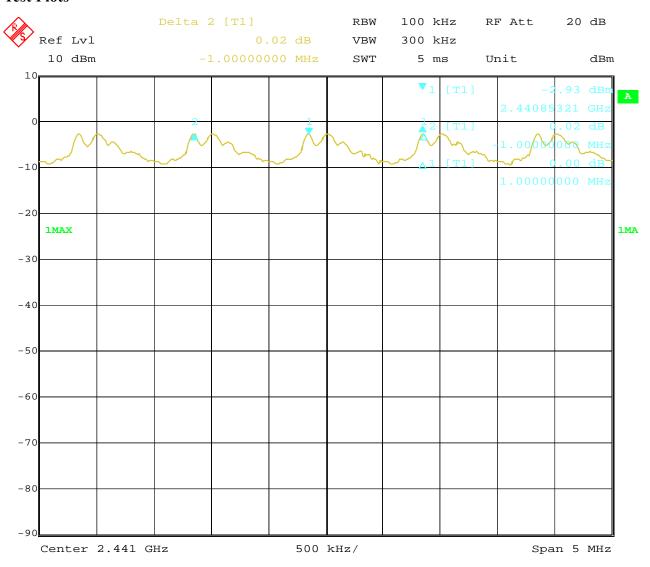
Date: 2020-09-09



Type of Modulation: √ //4DQPSK

EUT	Bluetooth Wireless	Model	J	elleez-TW	
Mode	Hopping O	Input Voltage		DC3.7V	
Temperature	24 deg. C,		Humidity	56% RH	
Carrier Frequency Separation			Limit		Pass/ Fail
	1.000MHz	≥ 25 kHz or 2	2/3 of 20 dB bandy	width	Pass

Test Plots



30.AUG.2020 16:25:42 Date:

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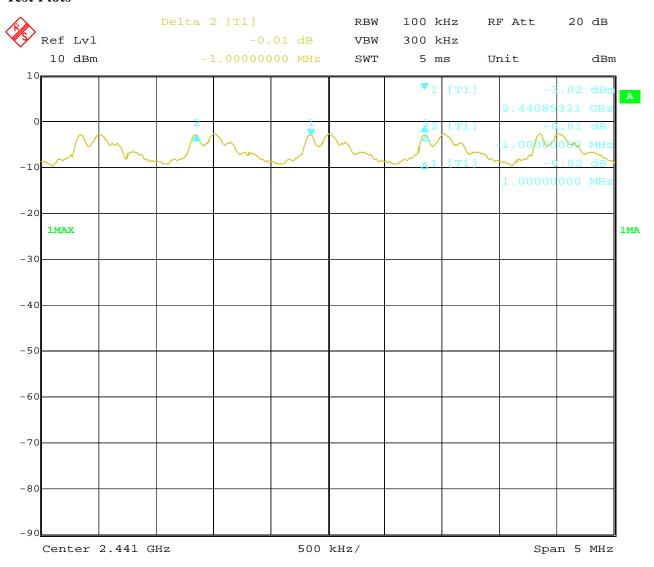
Date: 2020-09-09



Type of Modulation: 8DPSK

EUT	Bluetooth Wireless	Model	J	elleez-TW	
Mode	Hopping On I		Input Voltage		DC3.7V
Temperature	24 deg. C,		Humidity	56% RH	
Carrier Frequency Separation			Limit		Pass/ Fail
	1.000MHz	≥ 25 kHz or 2/3 of 20 dB bandwidth		width	Pass

Test Plots



30.AUG.2020 16:41:14 Date:

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Jaie: 2020-09-09

10. Number of Hopping Channels

10.1 Regulation

According to §15.247(a)(1)(iii), frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used. According to §15.247(b)(1), for frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band: 0.125 watts.

10.2 Limits of Number of Hopping Channels

The frequency hopping systems in the 2400-2483.5MHz band shall use at least 15 channels.

10.3 Test Procedure

- 1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- 2. Set the spectrum analyzer as follows: Span = the frequency band of operation; RBW=100 kHz, VBW=300 kHz; Sweep = auto; Detector function = peak; Trace = max hold
- 3. Record the number of hopping channels.

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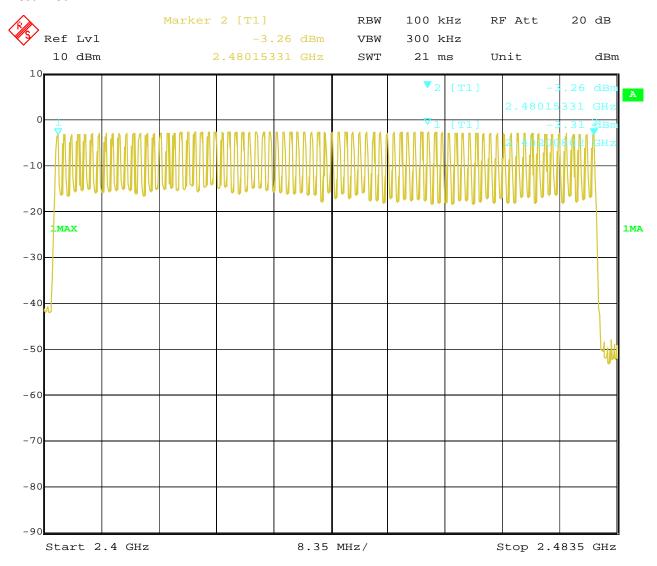


10.4Test Result

Type of Modulation: GFSK

EUT	Bluetooth Wireless Earphone		Model	Jelleez-TW	
Mode	Hopping On		Input Voltage	DC3.7V	
Temperature	24 deg. C,		Humidity	56% RH	
Operating Frequency Number of hop		Number of hopp	oing channels	Limit	Pass/ Fail
2402-2480MHz		79		≥ 15	Pass

Test Plot



Date: 30.AUG.2020 15:34:13

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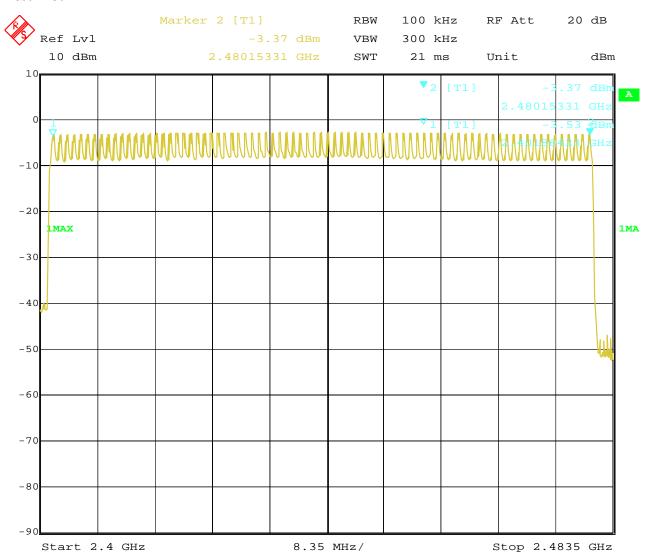
Date: 2020-09-09



Type of Modulation: √1/4DQPSK

EUT	Bluetooth Wireless Earphone		Mode	el	,	Jelleez-TW
Mode	Hopping On		Input Voltage		DC3.7V	
Temperature	24 deg. C,		Hum	idity		56% RH
Operating Frequency		Number of hopping channels		Lir	nit	Pass/ Fail
2402-2480MHz		79		>	15	Pass

Test Plot



Date: 30.AUG.2020 17:01:55

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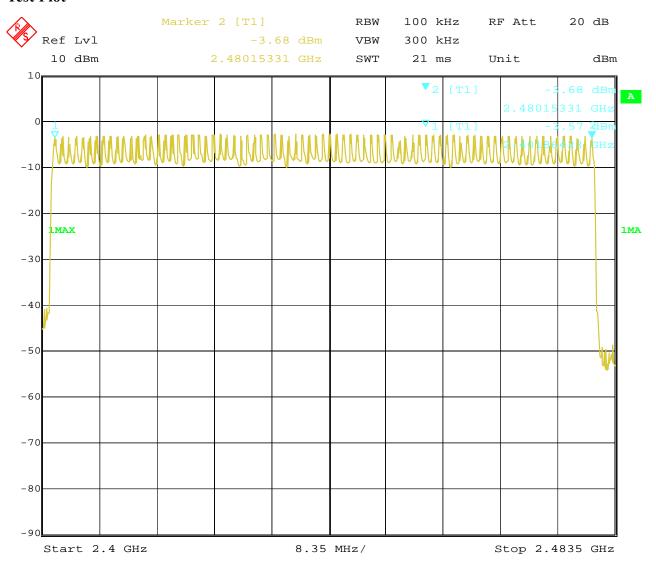
Date: 2020-09-09



Type of Modulation: 8DPSK

EUT	Bluetooth	Bluetooth Wireless Earphone		Model		Jelleez-TW	
Mode	Н	opping On	Input V	oltage		DC3.7V	
Temperature	2	24 deg. C,	Humidi	ity		56% RH	
Operating Frequency		Number of hopping channels		Liı	nit	Pass/ Fail	
2402-2480MHz		79		<u>></u>	15	Pass	

Test Plot



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11. Time of Occupancy (Dwell Time)

11.1 Regulation

According to §15.247(a)(1)(iii), frequency hopping systems in the 2400-2483.5 MHz band shall use at least 15 channels. The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed. Frequency hopping systems may avoid or suppress transmissions on a particular hopping frequency provided that a minimum of 15 channels are used.

11.2 Limits of Carrier Frequency Separation

The average time of occupancy on any channel shall not be greater than 0.4 seconds within a period of 0.4 seconds multiplied by the number of hopping channels employed

11.3 Test Procedure

- 1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
- 2. Set the spectrum analyzer as follows: Span = zero span, centered on a hopping channel; RBW = 1 MHz; VBW \geq RBW; Sweep = as necessary to capture the entire dwell time per hopping channel; Detector function = peak; Trace = max hold
- 3. Measure the dwell time using the marker-delta function.
- 4. Repeat above procedures until all frequencies measured were complete.
- 5. Repeat this test for different modes of operation (e.g., data rate, modulation format, etc.), if applicable.

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11.4 Test Result

Type of Modulation: GFSK

EUT	Bluetooth Wi	Bluetooth Wireless Earphone		Je	lleez-TW				
Mode	Keep Tra	Keep Transmitting		I	DC3.7V				
Temperatur	e 24 d	eg. C,	Humidity	5	56% RH				
Channel	Reading	Hopin	Hoping Rate		Limit				
	DH5								
Middle	2.986ms	266.66	7 hop/s	0.319s	0.4s				
			DH3						
Middle	1.743ms	400 1	400 hop/s		0.4s				
DH1									
Middle	0.461ms	800 1	nop/s	0.148s	0.4s				

Actual = Reading \times (Hopping rate / Number of channels) \times Test period, Test period = 0.4 [seconds / channel] \times 79 [channel] = 31.6 [seconds] NOTE: The EUT makes worst case 1600 hops per second or 1 time slot has a length of 625 μ s with 79 channels.

A DH5 Packet needs 5 time slot for transmitting and 1 time slot for receiving. Then the EUT makes worst case 266.667 hops per second with 79 channels.

A DH3 Packet needs 3 time slot for transmitting and 1 time slot for receiving. Then the EUT makes worst case 400 hops per second with 79 channels.

A DH1 Packet needs 1 time slot for transmitting and 1 time slot for receiving. Then the EUT makes worst case 800 hops per second with 79 channels.

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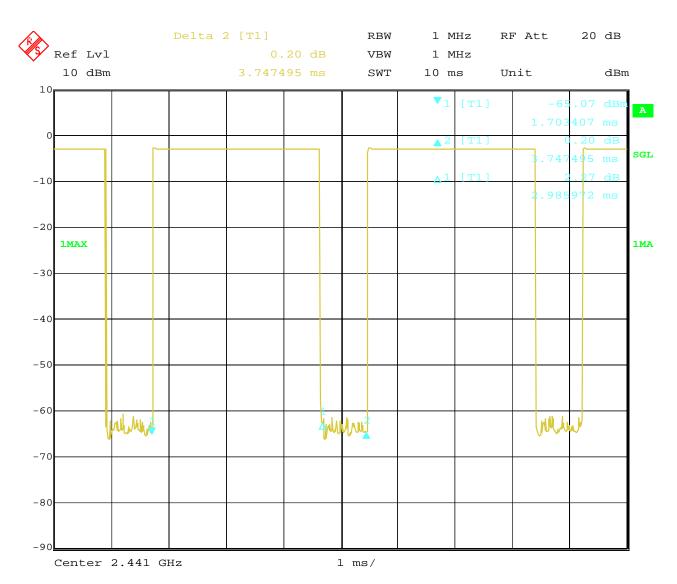
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Test Plots:

DH5



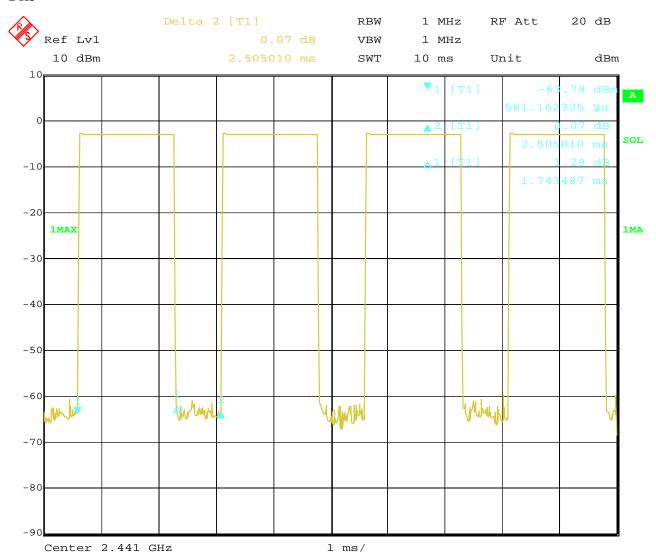
31.AUG.2020 13:18:43 Date:

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DH3



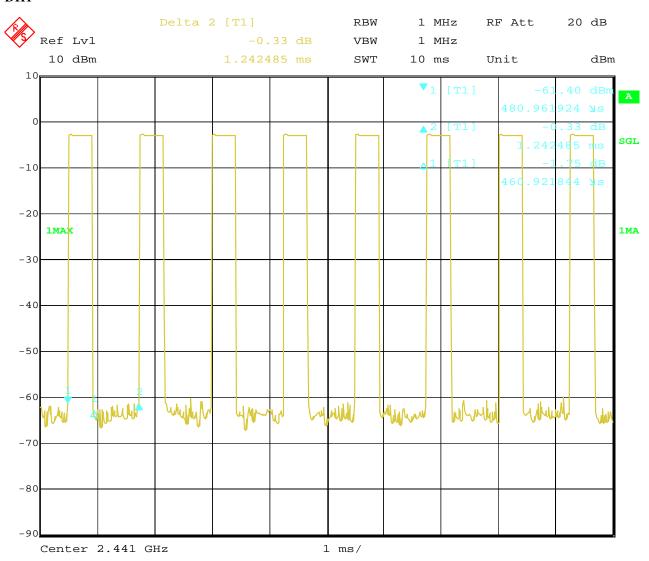
31.AUG.2020 13:18:12 Date:

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DH1



31.AUG.2020 13:17:20 Date:

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Test Result

Type of Modulation: $\sqrt{1/4}$ DQPSK

EUT	Bluetooth Wi	Bluetooth Wireless Earphone		Jel	leez-TW				
Mode	Keep Tra	ansmitting	Input Voltage	DC3.7V					
Temperature	e 24 d	24 deg. C,		5	6% RH				
Channel	Reading	Hoping	Hoping Rate		Limit				
	2DH5								
Middle	2.986ms	266.66	7 hop/s	0.319s	0.4s				
			2DH3						
Middle	1.743ms	400 l	nop/s	0.279s	0.4s				
	2DH1								
Middle	0.481ms	800 l	nop/s	0.154s	0.4s				

Actual = Reading \times (Hopping rate / Number of channels) \times Test period, Test period = 0.4 [seconds / channel] \times 79 [channel] = 31.6 [seconds] NOTE: The EUT makes worst case 1600 hops per second or 1 time slot has a length of 625 μ s with 79 channels.

A DH5 Packet needs 5 time slot for transmitting and 1 time slot for receiving. Then the EUT makes worst case 266.667 hops per second with 79 channels.

A DH3 Packet needs 3 time slot for transmitting and 1 time slot for receiving. Then the EUT makes worst case 400 hops per second with 79 channels.

A DH1 Packet needs 1 time slot for transmitting and 1 time slot for receiving. Then the EUT makes worst case 800 hops per second with 79 channels.

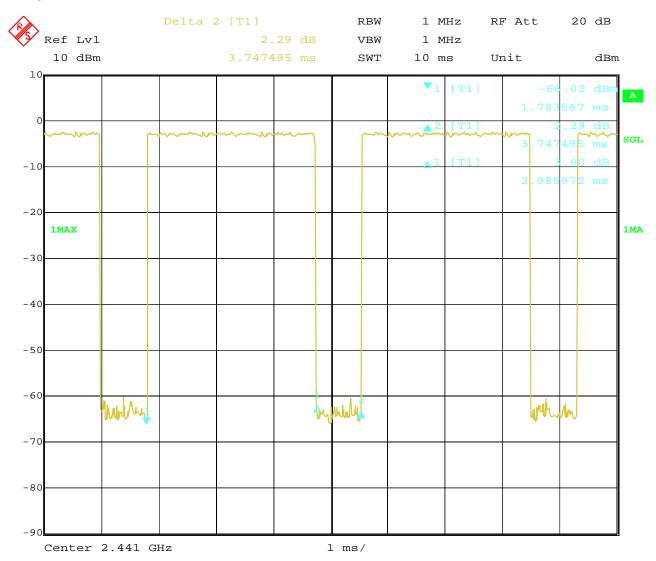
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Test Plots:

2DH5



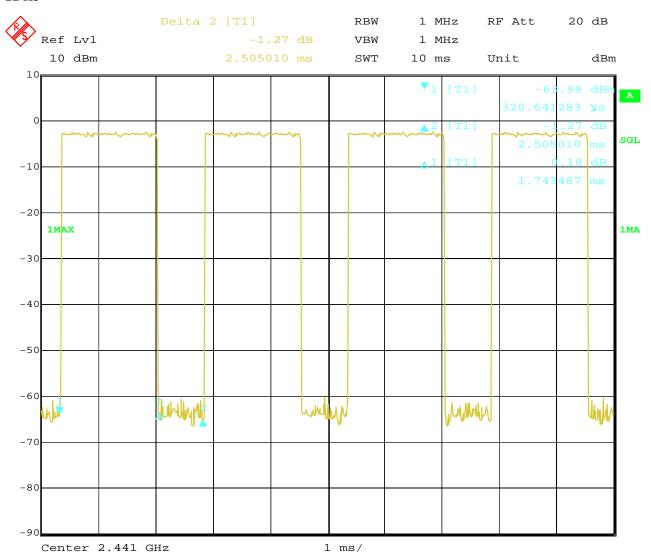
Date: 31.AUG.2020 13:16:09

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2DH3



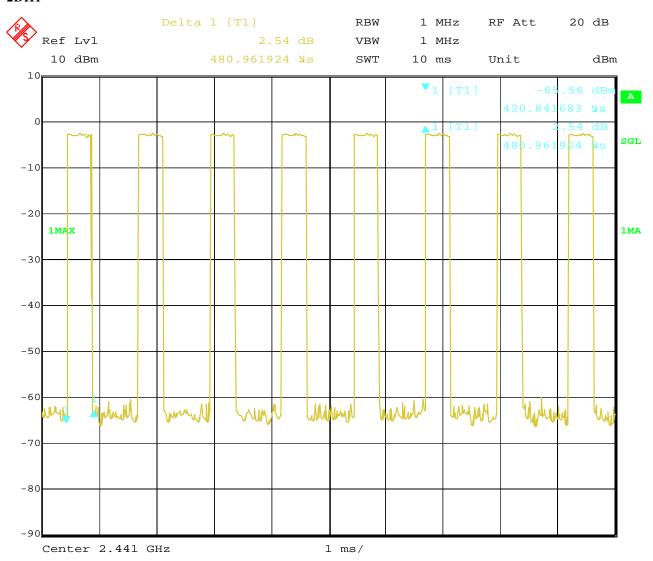
31.AUG.2020 13:15:06 Date:

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2DH1



31.AUG.2020 Date: 13:12:55 Report No.: TW2008237E Page 57 of 87

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Type of Modulation: 8DPSK

EUT	Bluetooth Wireless Earphone		Model	Jell	eez-TW				
Mode	Keep Transmitting		Input Voltage	DC3.7V					
Temperature	24 d	24 deg. C,		56	5% RH				
Channel	Reading	Hoping	Hoping Rate		Limit				
3DH5									
Middle	2.986ms	266.66	7 hop/s	0.319s	0.4s				
			3DH3						
Middle	1.723ms	400 l	nop/s	0.276s	0.4s				
	3DH1								
Middle	0.481ms	800 1	nop/s	0.154s	0.4s				

Actual = Reading × (Hopping rate / Number of channels) × Test period, Test period = 0.4 [seconds / channel] × 79 [channel] = 31.6 [seconds] NOTE: The EUT makes worst case 1600 hops per second or 1 time slot has a length of 625µs with 79 channels.

A DH5 Packet needs 5 time slot for transmitting and 1 time slot for receiving. Then the EUT makes worst case 266.667 hops per second with 79 channels.

A DH3 Packet needs 3 time slot for transmitting and 1 time slot for receiving. Then the EUT makes worst case 400 hops per second with 79 channels.

A DH1 Packet needs 1 time slot for transmitting and 1 time slot for receiving. Then the EUT makes worst case 800 hops per second with 79 channels.

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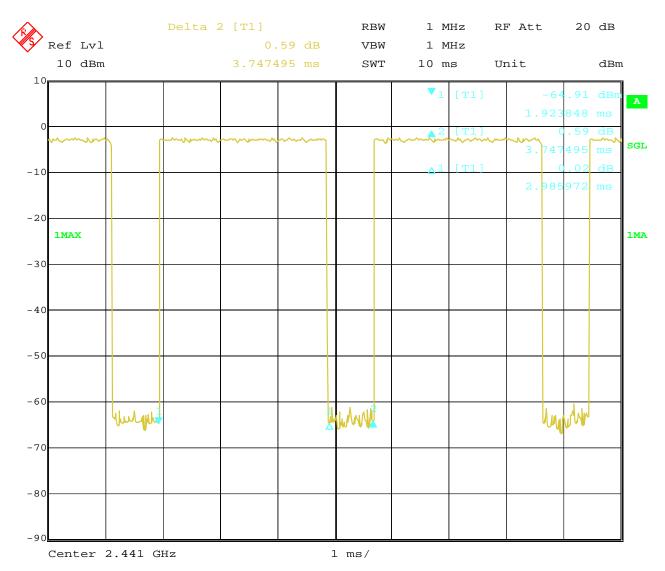
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Test Plots:

3DH5



31.AUG.2020 13:16:40 Date:

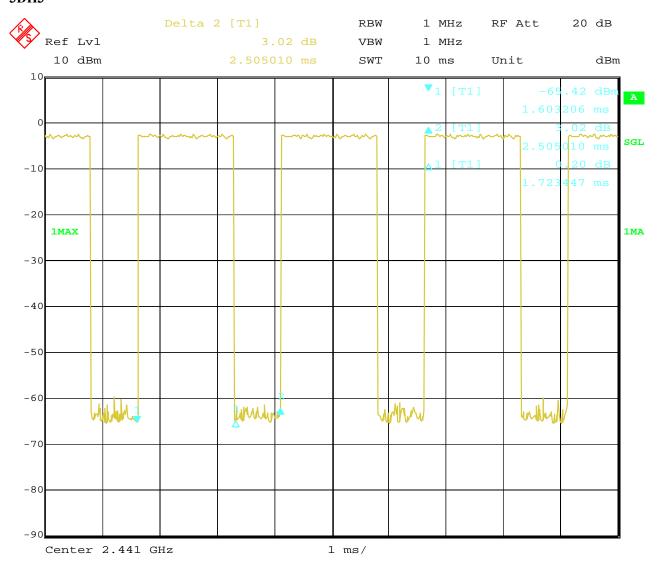
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3DH3



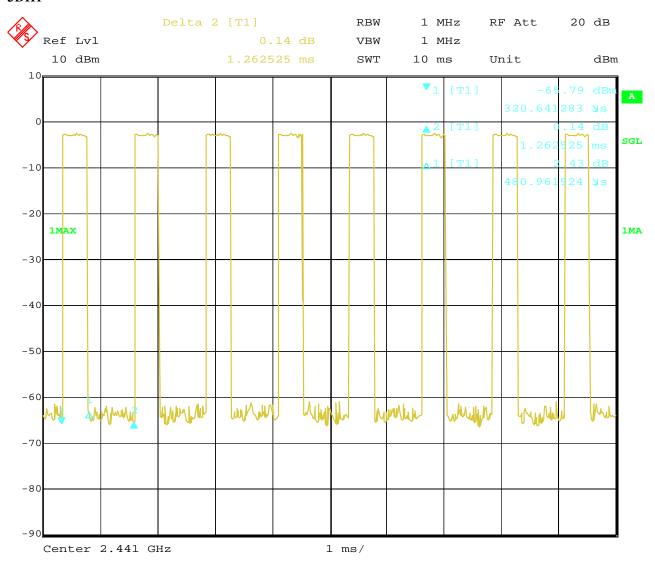
31.AUG.2020 13:14:26 Date:

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Date: 2020-09-09



3DH1



31.AUG.2020 Date: 13:13:36 Report No.: TW2008237E

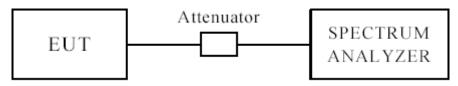
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12 Out of Band Measurement

12.1 Test Setup



The restricted band requirement based on radiated emission test; please see the clause 6 for the test setup

12.2 Limits of Out of Band Emissions Measurement

- 1. Below –20dB of the highest emission level of operating band (in 100kHz Resolution Bandwidth).
- 2. Fall in the restricted bands listed in section 15.205. The maximum permitted average field strength is listed in section 15.209.

12.3 Test Procedure

For signals in the restricted bands above and below the 2.4-2.483GHz allocated band a measurement was made of radiated emission test. Peak values with RBW=VBW=1MHz and PK detector.

For bandage test, the spectrum set as follows: RBW=100kHz, VBW=300 kHz. A conducted measurement used

Note: 1. For band-edge measurement, the frequency from 30MHz-25GHz was tested. And It met the FCC rule.

2. This is a handhold device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.

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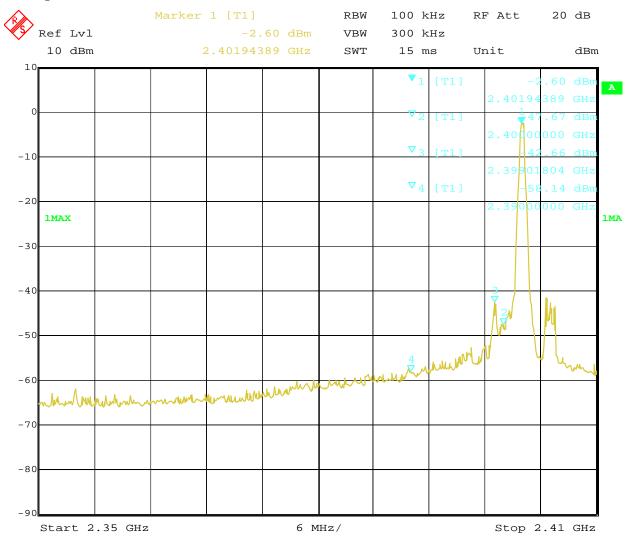


Type of Modulation: GFSK

Band Edge Test Result 12.4

Product:	Bluetooth Wireless	Test Mode:	Jelleez-TW
	Earphone		
Mode	Keeping Transmitting	Input Voltage	DC3.7V
Temperature	24 deg. C	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



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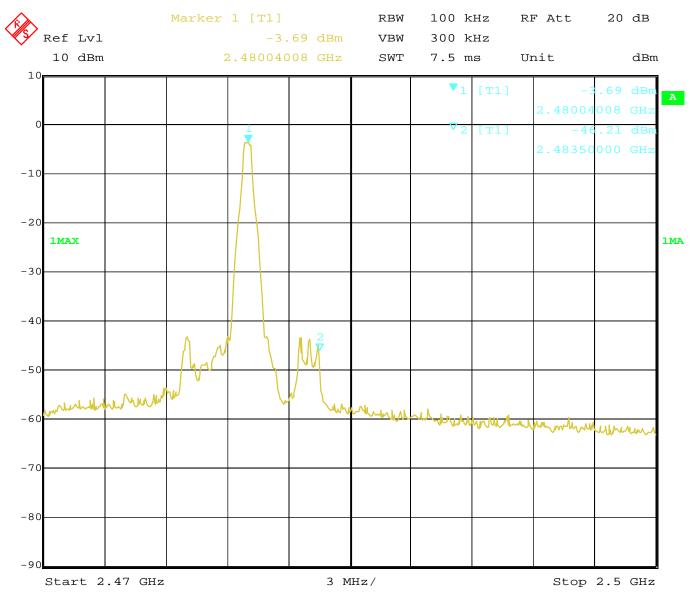


Type of Modulation: GFSK

12.4 Band Edge Test Result

Product:	Bluetooth Wireless	Test Mode:	Jelleez-TW
	Earphone		
Mode	Keeping Transmitting	Input Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



Date: 8.SEP.2020 13:42:50

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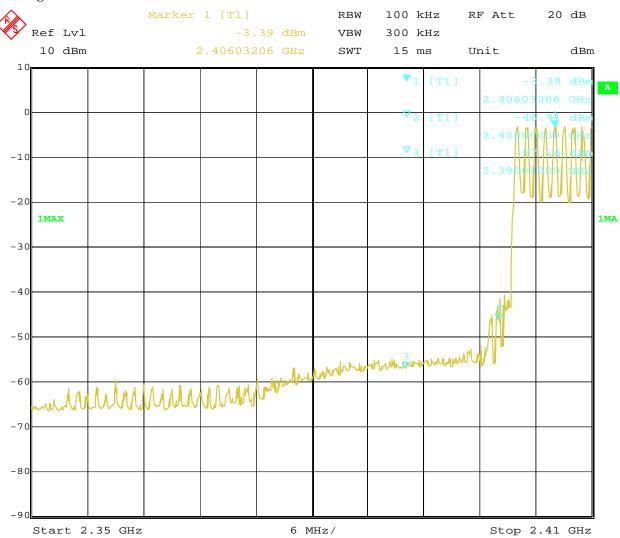


Type of Modulation: GFSK

Band Edge Test Result

Product:	Bluetooth Wireless	Test Mode:	Jelleez-TW
	Earphone		
Mode	Hopping On	Input Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



Date: 30.AUG.2020 17:13:46

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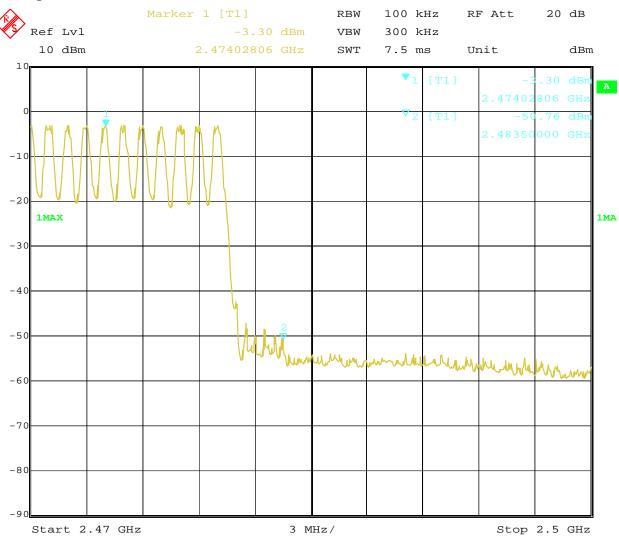


Type of Modulation: GFSK

Band Edge Test Result

Product:	Bluetooth Wireless	Test Mode:	Jelleez-TW
	Earphone		
Mode	Hopping On	Input Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



Date: 30.AUG.2020 17:11:42

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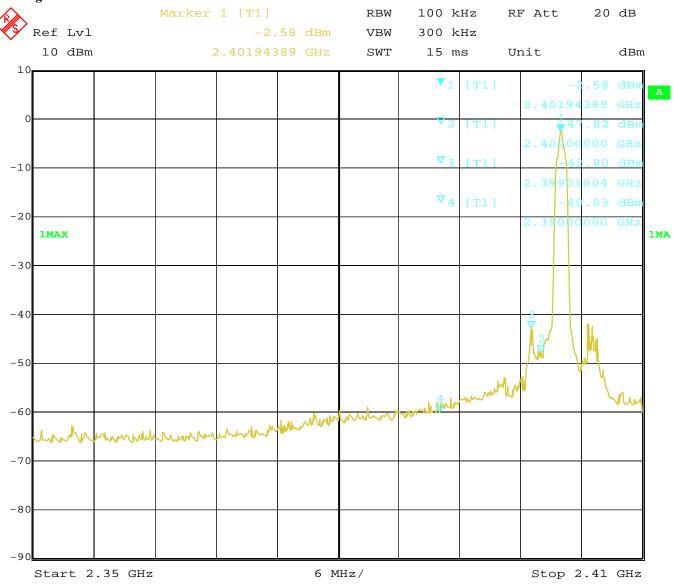


Type of Modulation: √√4DQPSK

Out of Band Test Result 12.4

Product:	Bluetooth Wireless	Test Mode:	Jelleez-TW
	Earphone		
Mode	Keeping Transmitting	Input Voltage	DC3.7V
Temperature	24 deg. C	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



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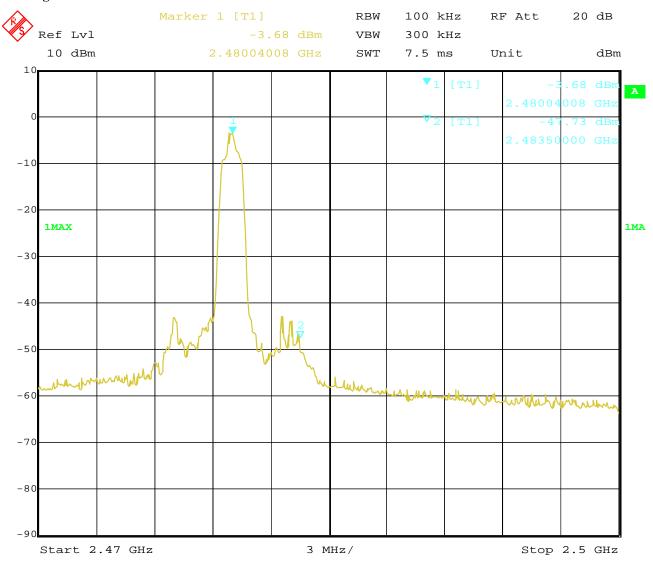


Type of Modulation: √ //4DQPSK

Band Edge Test Result 12.4

Product:	Bluetooth Wireless Earphone	Test Mode:	Jelleez-TW
Mode	Keeping Transmitting	Input Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



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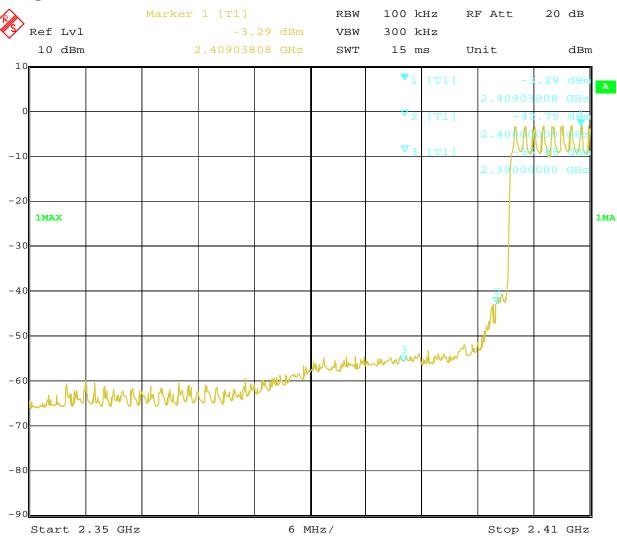


Type of Modulation: √ //4DQPSK

Out of Band Test Result

Product:	Bluetooth Wireless	Test Mode:	Jelleez-TW
	Earphone		
Mode	Hopping On	Input Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



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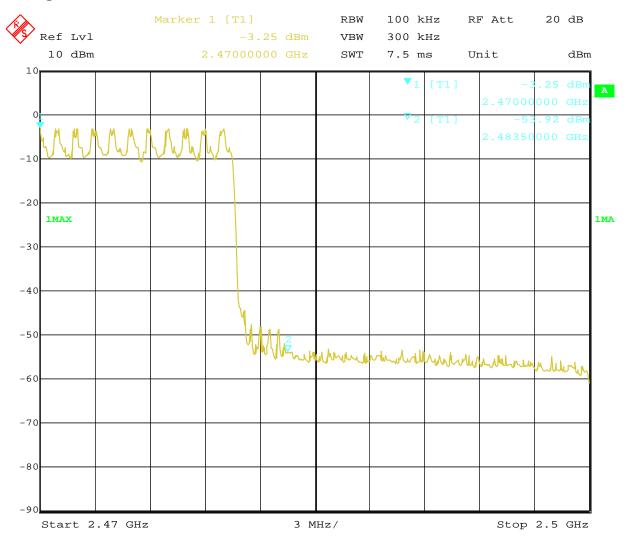


Type of Modulation: √ //4DQPSK

Out of Band Test Result

Product:	Bluetooth Wireless	Test Mode:	Jelleez-TW
	Earphone		
Mode	Hopping On	Input Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



30.AUG.2020 17:06:05 Date:

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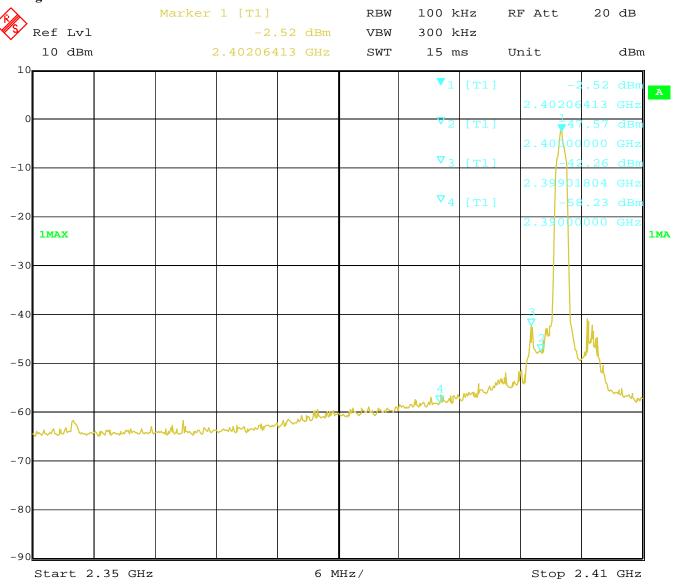


Type of Modulation: 8DPSK

12.4 Band Edge Test Result

Product:	Bluetooth Wireless	Test Mode:	Jelleez-TW
	Earphone		
Mode	Keeping Transmitting	Input Voltage	DC3.7V
Temperature	24 deg. C	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



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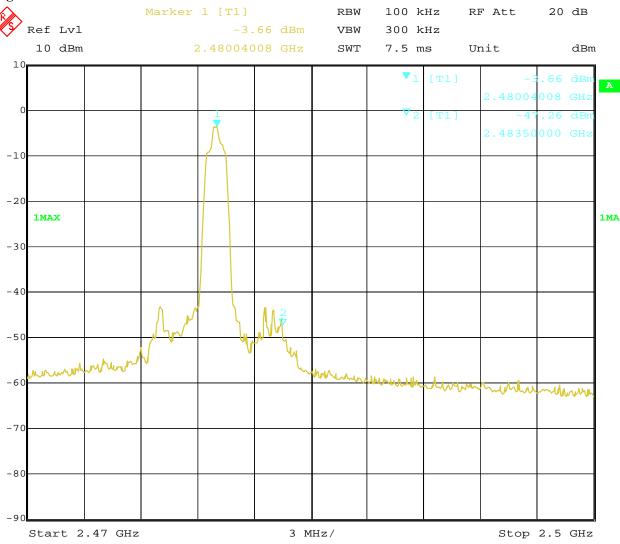


Type of Modulation: 8DPSK

Band Edge Test Result 12.4

Product:	Bluetooth Wireless		Test Mode:	Jelleez-TW
	Earphone			
Mode	Keeping Transmitting		Input Voltage	DC3.7V
Temperature	24 deg. C,		Humidity	56% RH
Test Result:	Pass		Detector	PK
The Max. FS in	PK (dBμV/m)			74(dBμV/m)
Restrict Band	AV(dBμV/m)		Limit	54(dBμV/m)
2483.5MHz				

Test Figure:



Date: 8.SEP.2020 13:48:58

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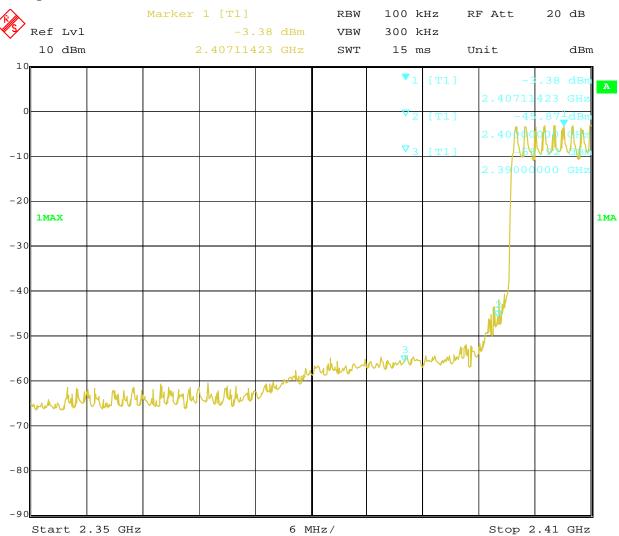


Type of Modulation: 8DPSK

Band Edge Test Result

Product:	Bluetooth Wireless	Test Mode:	Jelleez-TW
1 Toddet.		Test Wiode.	Selice2 1 VV
	Earphone		
Mode	Hopping On	Input Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



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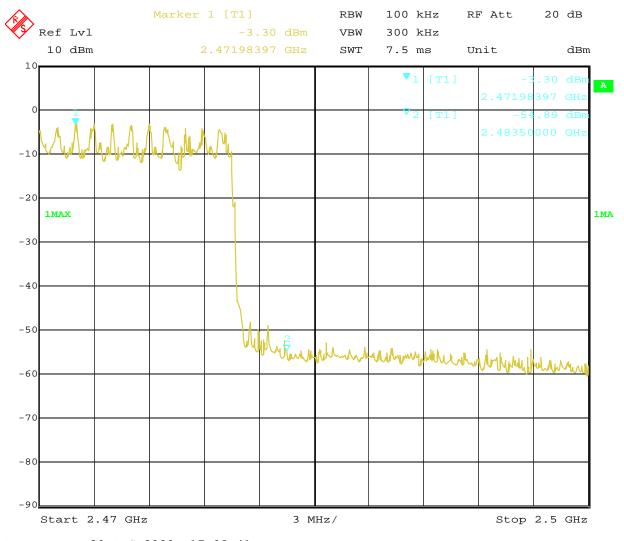


Type of Modulation: 8DPSK

Band Edge Test Result

Product:	Bluetooth Wireless Earphone	Test Mode:	Jelleez-TW
Mode	Hopping On	Input Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK

Test Figure:



Date: 30.AUG.2020 17:08:41

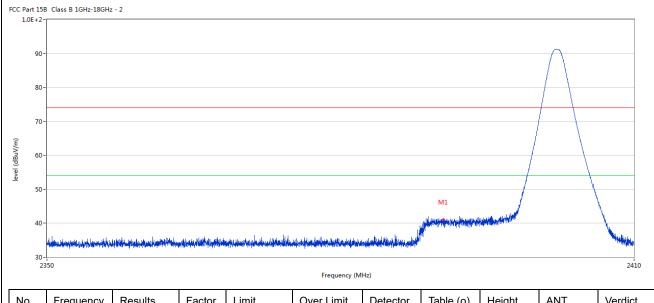
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12.4 Restrict Band Measurement

EUT	Bluetooth Wireless	Model	Jelleez-TW
	Earphone		
Mode	Keep Transmitting	Input Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Modulation Type	8DPSK



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2390.340	41.09	-3.53	54.0	-12.91	Peak	227.00	100	Н	Pass

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12.4 Restrict Band Measurement

EUT			Blueto	oth Wire	less Earphor	UT Bluetooth Wireless Earphone Model				Jelleez-TW			
Mode		K	eep Tran	smitting	Inj	out Voltage	;	DC3.7V					
,	Tem	perature		24 deg	g. C,	I	Humidity			56% RH			
	Test	t Result:		Pas	SS	Mod	lulation Ty	pe	8DPSK				
	art 15B .0E+2-	Class B 1GHz-18GH:	z - 2										
	90-									\cap			
	80-									f = f			
0	70-												
level (dBuV/m)	60-												
9	50-							M1	and the second section of the section of t				
	- 1	. Majorphis of his agridence of	Madelitation of the second	Latel will mystery by a	ale and the subsequent of	aller for his first the fi	Andrews Ware properties		ter to the second s		Add the state of t		
	30-l 23	50				Frequency (N	ЛНz)				2410		
No	Э.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict		
		(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)				
1		2390.325	44.27	-3.53	54.0	-9.73	Peak	166.00	100	V	Pass		

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	EUT		ooth Wireles Earphone	SS	Model			Jelle	eez-TW	
	Mode		Transmittin	g	Input Volt	age		DO	C3.7V	
Ter	mperature	24 deg. C, Humidity 56% RH Pass Modulation Type 8DPSK					56% RH			
Tes	st Result:		Pass		Modulation	Туре		8DPSK		
1.0E+2	art 15B Class B 1GHz-1	8GHz - 2								
90	0-									
80	0-			$\overline{}$						
70	0-									
60	0-									
(appa) 50	0-		<u>/</u>	<u> </u>						
40	I	ann dan dan dan dan dan dan dan dan dan				ALL MARKET BEAUTIFUL TO THE REAL PROPERTY OF THE RE			Antelland Robotskin	lekenijis jara dak kali semiji ka relah
30	0-					1,100	A section of section of		en benes e um s	
20	0- 2470			248	33.5 Frequency (MHz)					25
No.	Frequency	Results	Factor (dB)	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dRu\//m)		(dBu\//m)	(dB)		(0)	(cm)		

	No.	Frequency	Results	Factor (dB)	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
		(MHz)	(dBuV/m)		(dBuV/m)	(dB)		(0)	(cm)		
	1	2483.339	50.16	-3.57	54.0	-3.84	Peak	239.00	100	Н	Pass
H	l	<u>I</u>	<u>I</u>	<u> </u>	<u>I</u>	<u> </u>	<u> </u>	l	<u> </u>	-	

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12.4 Restrict Band Measurement

]	EUT	Blue	etooth Wi Earphon		M	odel		Jelleez-TW				
	N	Mode	Kee	p Transn		Input	Voltage		DC3.7V				
7	Гет	perature		24 deg. (nidity			56% RH			
		t Result:		Pass			tion Type			8DPSK			
		Class B 1GHz-18GH:	z - 2										
1.0	0E+2-												
	90-												
	80-	0-											
	70-												
(m//													
level (dBuV/m)	60-												
<u>ē</u>	50-												
	40-	historia di sa					in the suite leading of the suite of the sui	n daya in daya da	advances at the late	. Na real the sale has to care.	والمحتوال المقادي والمراد		
	30- 24		And the state of state of				and the state of t						
	24	70				2483.5 Frequency (N	ИHz)				2500		
).	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict		
No		(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)				
No		, ,			54.0	-2.60	Peak	357.00	100	V	Pass		

Note: 1. For Restricted band test, only the worst case was reported and 8DPSK was the worst case

2. The measured PK radiated emissions level less than the AV limit, so no necessary to take down the AV result

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13.0 Antenna Requirement

13.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if transmitter antennas of directional gain greater than 6 dBi are used, the power shall be reduced by the mount in dB that the directional gain of the antenna exceeds 6 dBi.

13.2 Antenna Connected constructions

PCB antenna used. The gain is 1.0dBi.

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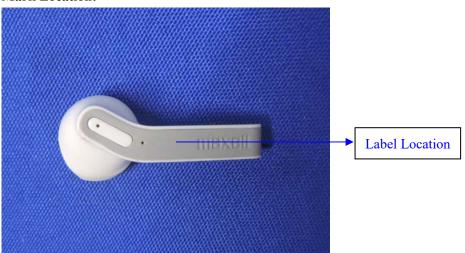


14.0 FCC ID Label

FCC ID: WKA-SS-TW003B02

The label must not be a stick-on paper label. The label on these products must be permanently affixed to the product and readily visible at the time of purchase and must last the expected lifetime of the equipment not be readily detachable.

Mark Location:



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15.0 **Photo of testing**

Conducted Emission Test Setup:



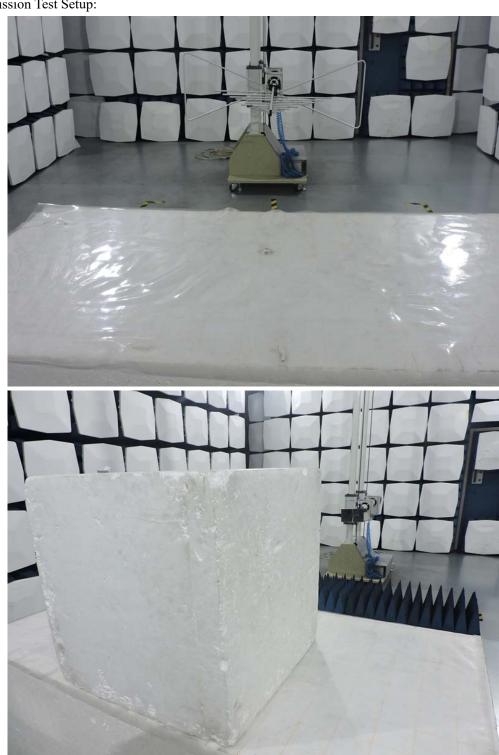
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Radiated Emission Test Setup:



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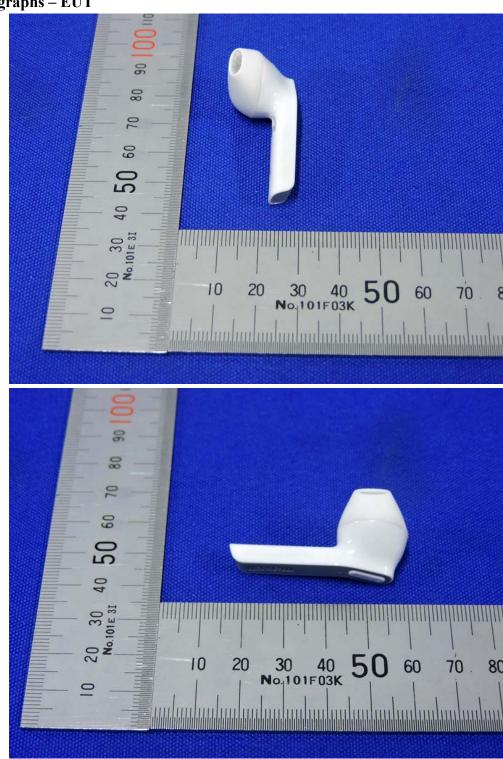
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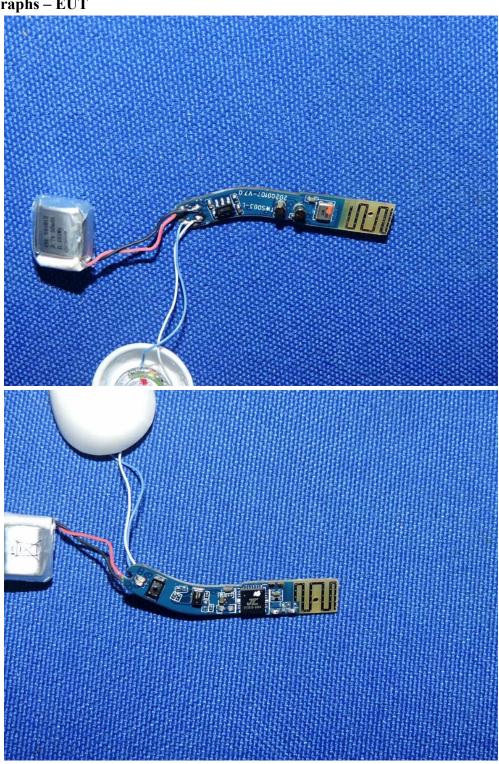
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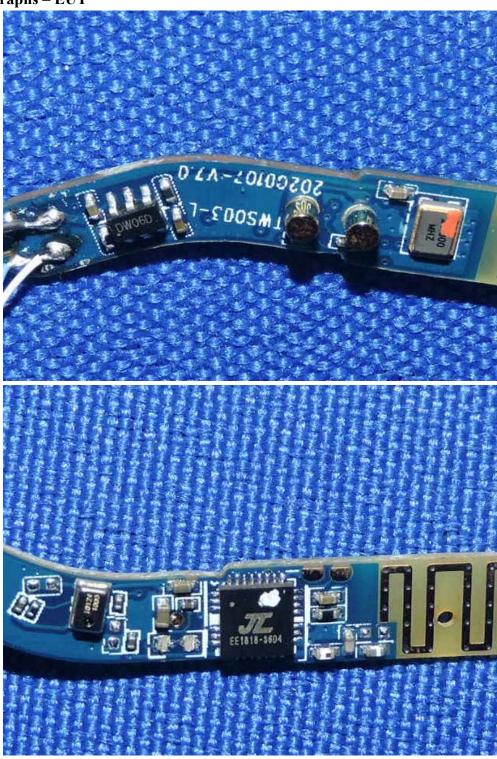
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End of Report

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