

File reference No.: 2022-07-25

Applicant: TITAN INC.

Address: 3530 Nw 115 Ave, Miami, Florida 33178, United States

Product: Speaker box / Parlante

Model No.: MS-P15BW

Trademark:

moonki

Test Standards: FCC Part 15.249

Test result: It is herewith confirmed and found to comply with the requirements set up by ANSI C63.10 & FCC Part 15 Subpart C,

Paragraph 15.249 regulations for the evaluation of

electromagnetic compatibility

Approved By STING LABOR TO THE TANK Manager

Dated: July 25, 2022

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

Tel (755) 83448688, Fax (755) 83442996, E-Mail: info@timeway-lab.com

Date: 2022-07-25



Page 2 of 55

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 meet 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 17025:2017 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

Date: 2022-07-25



Test Report Conclusion

Conte	11

1.0	General Details	4
1.1	Test Lab Details.	4
1.2	Applicant Details	4
1.3	Description of EUT	4
1.4	Submitted Sample	4
1.5	Test Duration.	5
1.6	Test Uncertainty	5
1.7	Test By	5
2.0	List of Measurement Equipment	6
3.0	Technical Details	7
3.1	Summary of Test Results.	7
3.2	Test Standards	7
4.0	EUT Modification.	7
5.0	Power Line Conducted Emission Test.	8
5.1	Schematics of the Test.	8
5.2	Test Method and Test Procedure.	8
5.3	Configuration of the EUT	8
5.4	EUT Operating Condition.	9
5.5	Conducted Emission Limit.	9
5.6	Test Result.	9
6.0	Radiated Emission test	12
6.1	Test Method and Test Procedure.	12
6.2	Configuration of the EUT	13
6.3	EUT Operation Condition.	13
6.4	Radiated Emission Limit.	13
6.5	Test Result.	15
7.0	Band Edge	23
7.1	Test Method and Test Procedure.	23
7.2	Radiated Test Setup	23
7.3	Configuration of the EUT	23
7.4	EUT Operating Condition.	23
7.5	Band Edge Limit	23
7.6	Band Edge Test Result	24
8.0	Antenna Requirement.	28
9.0	20dB bandwidth measurement	29
10.0	FCC ID Label	38
11.0	Photo of Test Setup and EUT View	39

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Date: 2022-07-25



Page 4 of 55

1.1 General Details

1.2 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

Site on File with the Federal Communications Commission – United Sates

Registration Number: 744189 For 3m Anechoic Chamber

1.3 Applicant Details

Applicant: TITAN INC.

Address: 3530 Nw 115 Ave, Miami, Florida 33178, United States

Telephone: 305-369-6040 Fax: 305-320-3198

1.3 Description of EUT

Trademark:

Model Number:

Product: Speaker box / Parlante
Manufacturer: MAXTRONIX CO., LTD.

Address: NO.12, HEXIANG ROAD, WUJIN ECONOMIC DEVELOPMENT ZONE,

CHANGZHOU, JIANGSU, CHINA

Additional Model Name N/A

Rating: AC110V, 50/60Hz, 300W

Modulation Type: GFSK, Л/4DQPSK, 8DPSK for Bluetooth

MS-P15BW

Operation Frequency: 2402-2480MHz

Channel Number: 79
Channel Separation: 1MHz

Hardware Version: RC183(6C)V1.0-20200917

Software Version: RC183M-MS-6C-04-5301A-MS-P15BW-TWS-001

Serial No.: 20220712P15BW

Antenna Designation PCB antenna with gain 1.7dBi Max (Get from the antenna specification)

1.4 Submitted Sample: 1 Samples

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Date: 2022-07-25



Page 5 of 55

1.5 Test Duration

2022-07-05 to 2022-07-25

1.6 Test Uncertainty

Conducted Emissions Uncertainty = 3.6dB

Radiated Emissions below 1GHz Uncertainty =4.7dB

Radiated Emissions above 1GHz Uncertainty =6.0dB

Conducted Power Uncertainty = 6.0dB

Occupied Channel Bandwidth Uncertainty = 5%

Conducted Emissions Uncertainty = 3.6dB

Note: The measurement uncertainty is for coverage factor of k=2 and a level of confidence of 95%.

1.7 Test Engineer

The sample tested by

Print Name: Andy

Page 6 of 55

Report No.: TW2207057-01E

Date: 2022-07-25



2.0 Test Equipment					
Instrument Type	Manufacturer	Model	Serial No.	Date of Cal.	Due Date
ESPI Test Receiver	R&S	ESPI 3	100379	2022-06-17	2023-06-16
LISN	R&S	EZH3-Z5	100294	2022-06-17	2023-06-16
LISN	R&S	EZH3-Z5	100253	2022-06-17	2023-06-16
Impuls-Begrenzer	R&S	ESH3-Z2	100281	2022-06-17	2023-06-16
Loop Antenna	EMCO	6507	00078608	2021-06-18	2024-06-17
Spectrum	R&S	FSIQ26	100292	2022-06-17	2023-06-16
Horn Antenna	A-INFO	LB-180400-KF	J211060660	2021-07-02	2024-07-01
Horn Antenna	R&S	BBHA 9120D	9120D-631	2021-07-02	2024-07-01
Power meter	Anritsu	ML2487A	6K00003613	2022-06-17	2023-06-16
Power sensor	Anritsu	MA2491A	32263	2022-06-17	2023-06-16
Bilog Antenna	Schwarebeck	VULB9163	9163/340	2021-07-02	2024-07-01
9*6*6 Anechoic			N/A	2022-06-17	2023-06-16
EMI Test Receiver	RS	ESVB	826156/011	2022-06-17	2023-06-16
EMI Test Receiver	RS	ESH3	860904/006	2022-06-17	2023-06-16
Spectrum	HP/Agilent	ESA-L1500A	US37451154	2022-06-17	2023-06-16
Spectrum	HP/Agilent	E4407B	MY50441392	2022-06-17	2023-06-16
Spectrum	RS	FSP	1164.4391.38	2022-01-05	2023-01-04
RF Cable	Zhengdi	ZT26-NJ-NJ-8M/FA		2022-06-17	2023-06-16
RF Cable	Zhengdi	7m		2022-06-17	2023-06-16
RF Switch	EM	EMSW18	060391	2022-06-17	2023-06-16
Pre-Amplifier	Schwarebeck	BBV9743	#218	2022-06-17	2023-06-16
Pre-Amplifier	HP/Agilent	8449B	3008A00160	2022-06-17	2023-06-16
LISN	SCHAFFNER	NNB42	00012	2022-01-05	2023-01-04

2.2 Automation Test Software

For Conducted Emission Test

Name	Version
EZ-EMC	Ver.EMC-CON 3A1.1

For Radiated Emissions

Name	Version
EMI Test Software BL410-EV18.91	V18.905
EMI Test Software BL410-EV18.806 High Frequency	V18.06

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Report No.: TW2207057-01E Page 7 of 55

Date: 2022-07-25



3.1 Technical Details

3.2 Summary of test results

The EUT has been tested according to the following specifications:

Standard	Test Type	Result	Notes
FCC Part 15, Paragraph 15.203	Antenna Requirement	Pass	Complies
FCC Part 15, Paragraph 15.207	Conducted Emission Test	Pass	Complies
FCC Part 15 Subpart C Paragraph 15.249(a) & 15.249(b) Limit	Field Strength of Fundamental	Pass	Complies
FCC Part 15, Paragraph 15.209 and RSS-210	Radiated Emission Test	Pass	Complies
FCC Part 15 Subpart C Paragraph 15.249(d) Limit	Band Edge Test	Pass	Complies

3.3 Test Standards

FCC Part 15 Subpart C, Paragraph 15.249, ANSI C63.4:2014 and ANSI C63.10:2013

4.1 EUT Modification

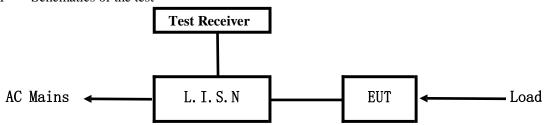
No modification by SHENZHEN TIMEWAY TESTINGLABORATORIES

Date: 2022-07-25



5. Power Line Conducted Emission Test

5.1 Schematics of the test

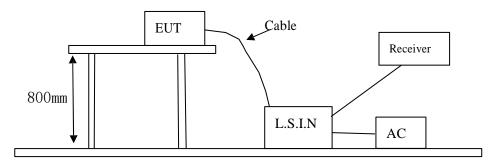


EUT: Equipment Under Test

5.2 Test Method and test Procedure

The EUT was tested according to ANSI C63.4-2014. The Frequency spectrum From 0.15MHz to 30MHz was investigated. The LISN used was 500hm/50uH as specified by section 5.1 of ANSI C63.4 -2014.

Test Voltage: 110V~, 60Hz Block diagram of Test setup



5.3 Configuration of The EUT

The EUT was configured according to ANSI C63.4-2014. All interface ports were connected to the appropriate peripherals. All peripherals and cables are listed below.

79 channels are provided to the EUT

A. EUT

Device	Manufacturer	Model	FCC ID
Speaker box /	MAXTRONIX CO., LTD.	MS-P15BW	2A6R4-MSP15BW
Parlante	MAATRONIA CO., LID.	M3-F13DW	2AUK4-WISF 13D W

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Report No.: TW2207057-01E Page 9 of 55

Date: 2022-07-25



B. Internal Device

Device	Manufacturer	Model	FCC ID/DOC
N/A			

C. Peripherals

Device	Manufacturer	Model	Rating
Power Supply	KEYU	KA23-0502000DEU	Input: 100-240V~, 50/60Hz, 0.35A;
			Output: DC5V, 2A

5.4 EUT Operating Condition

Operating condition is according to ANSI C63.4 -2014

- 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 ~ 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:

Date: 2022-07-25



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

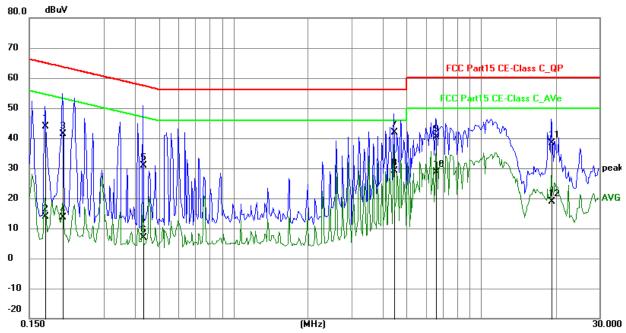
EUT Operating Environment

Temperature: 25°C Humidity: 65% RH Atmospheric Pressure: 101 kPa

EUT set Condition: Communication by BT

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	0.1734	34.00	9.77	43.77	64.80	-21.03	QP	Р
2	0.1734	4.07	9.77	13.84	54.80	-40.96	AVG	Р
3	0.2046	31.65	9.75	41.40	63.42	-22.02	QP	Р
4	0.2046	3.86	9.75	13.61	53.42	-39.81	AVG	Р
5	0.4308	21.04	9.77	30.81	57.24	-26.43	QP	Р
6	0.4308	-2.80	9.77	6.97	47.24	-40.27	AVG	Р
7	4.4352	31.86	9.91	41.77	56.00	-14.23	QP	Р
8	4.4352	19.30	9.91	29.21	46.00	-16.79	AVG	Р
9	6.5802	30.37	9.99	40.36	60.00	-19.64	QP	Р
10	6.5802	18.66	9.99	28.65	50.00	-21.35	AVG	А
11	19.1889	27.72	10.63	38.35	60.00	-21.65	QP	Р
12	19.1889	8.13	10.63	18.76	50.00	-31.24	AVG	Р

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Date: 2022-07-25



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

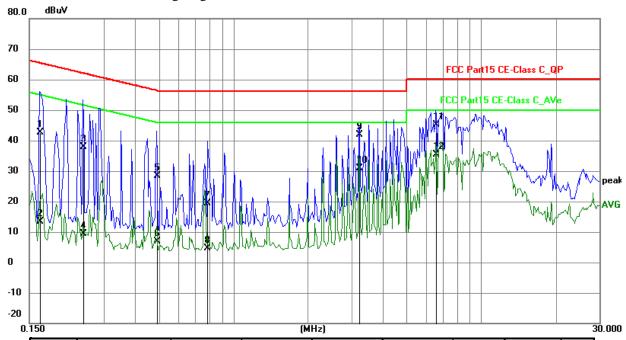
EUT Operating Environment

Temperature: 25°C Humidity: 65%RH Atmospheric Pressure: 101 kPa

EUT set Condition: Communication by BT

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	0.1655	32.81	9.77	42.58	65.18	-22.60	QP	Р
2	0.1655	3.69	9.77	13.46	55.18	-41.72	AVG	Р
3	0.2475	28.03	9.75	37.78	61.84	-24.06	QP	Р
4	0.2475	-0.27	9.75	9.48	51.84	-42.36	AVG	Р
5	0.4893	18.54	9.77	28.31	56.18	-27.87	QP	Р
6	0.4893	-3.00	9.77	6.77	46.18	-39.41	AVG	Р
7	0.7857	9.64	9.78	19.42	56.00	-36.58	QP	Р
8	0.7857	-5.17	9.78	4.61	46.00	-41.39	AVG	Р
9	3.2223	31.92	9.85	41.77	56.00	-14.23	QP	Р
10	3.2223	20.93	9.85	30.78	46.00	-15.22	AVG	Р
11	6.5880	35.26	9.99	45.25	60.00	-14.75	QP	Р
12	6.5880	25.41	9.99	35.40	50.00	-14.60	AVG	Р

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Date: 2022-07-25

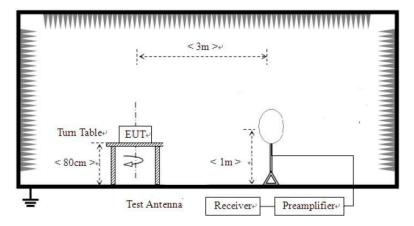


6 Radiated Emission Test

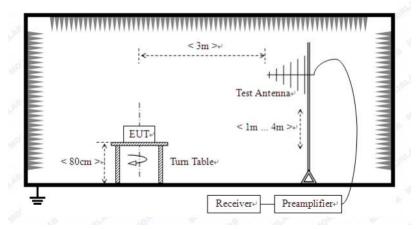
- 6.1 Test Method and test Procedure:
- (1) The EUT was tested according to ANSI C63.10-2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) The EUT, peripherals were put on the turntable which table size 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 25 GHz was investigated. All readings from 30 MHz to 1 GHz are quasi-peak values with a resolution bandwidth of 120 kHz. All readings are above 1 GHz, peak values with a resolution bandwidth of 1 MHz (Note: for Fundamental frequency radiated emission measurement, RBW=3MHz, VBW=10MHz). 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) The antenna polarization: Vertical polarization and Horizontal polarization.

Block diagram of Test setup

For radiated emissions from 9kHz to 30MHz



For radiated emissions from 30MHz to1GHz



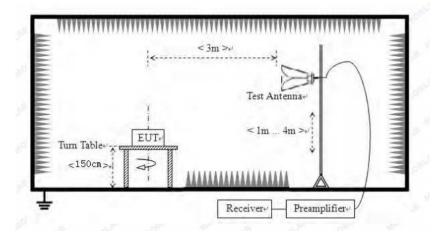
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Date: 2022-07-25



For radiated emissions above 1GHz



- 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.
- 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:

A FCC Part 15 Subpart C Paragraph 15.249(a) Limit

Fundamental Frequency	Field Stre	ength of Fundame	ntal (3m)	Field Strength of Harmonics (3m)			
(MHz)	mV/m	dBuV/m uV/m			dBu	V/m	
2400-2483.5	50	94 (Average) 114 (Peak) 500 54 (Average) 74 (74 (Peak)			

Note:

- 1. RF Field Strength (dBuV) = 20 log RF Voltage (uV)
- 2.Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.
- 3. The emission limit in this paragraph is based on measurement instrumentation employing an average detector.

Page 14 of 55

Report No.: TW2207057-01E

Date: 2022-07-25



B. Frequencies in restricted band are complied to limit on Paragraph 15.209.

Frequency Range (MHz)	Distance (m)	Field strength (dB μ V/m)
0.009-0.490	3	20log(2400/F(kHz)) +40log (300/3)
0.490-1.705	3	20log(24000/F(kHz)) +40log (30/3)
1.705-30	3	69.5
30-80	3	40.0
88-216	3	43.5
216-960	3	46.0
Above 960	3	54.0

Note:

- 1. RF Voltage $(dBuV) = 20 \log RF \text{ Voltage } (uV)$
- 2. In the Above Table, the tighter limit applies at the band edges.
- 3. Distance refers to the distance in meters between the measuring instrument antenna and the EUT
- 4. All scanning using PK detector. And the final emission level was get using QP detector for frequency range from 30-1000MHz.As to 1G-25G, the final emission level got using PK. For fundamental measurement, PK detector used.
- 5. The three modulation modes of GFSK, Pi/4D-QPSK and 8DPSK were tested. And only the worst case was recorded in the test report. GFSK was the worst case.

Report No.: TW2207057-01E Page 15 of 55

Date: 2022-07-25

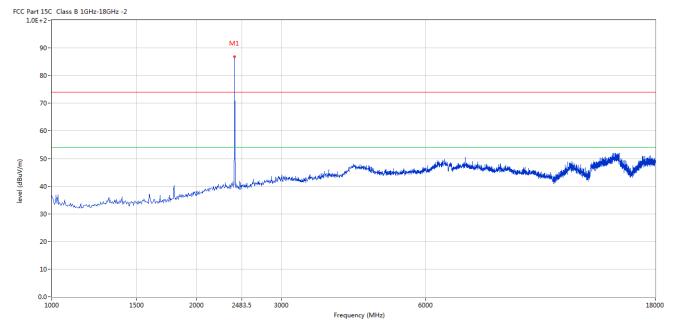


6.5 Test result

A Fundamental & Harmonics Radiated Emission Data

Please refer to the following test plots for details: Low Channel-2402MHz

Horizontal



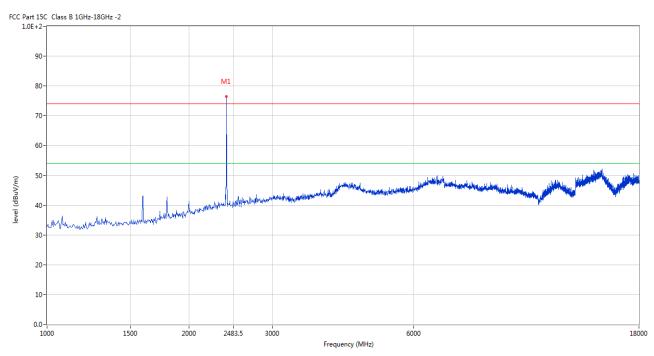
No.	Frequency	Results	Factor	Limit	Over	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)		(o)	(cm)		
1	2402	86.77	-3.57	114.0	-27.23	Peak	220.00	100	Horizontal	Pass

Report No.: TW2207057-01E Page 16 of 55

Date: 2022-07-25



Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	2402	76.65	-3.57	114.0	-37.35	Peak	165.00	100	Vertical	Pass

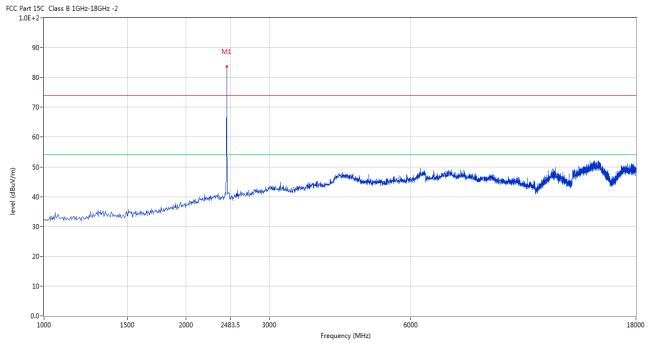
Report No.: TW2207057-01E Page 17 of 55

Date: 2022-07-25



Please refer to the following test plots for details: Middle Channel-2441MHz

Horizontal



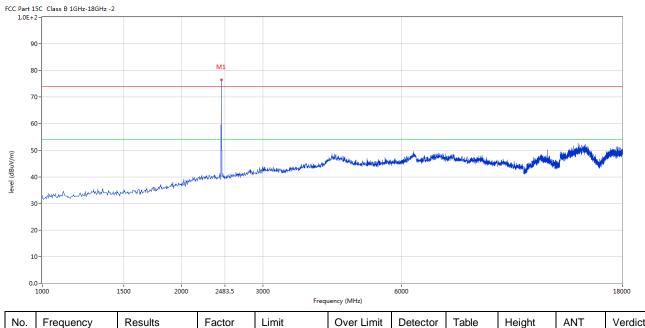
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	2441	83.60	-3.57	114.0	-30.40	Peak	197.00	100	Horizontal	Pass

Report No.: TW2207057-01E Page 18 of 55

Date: 2022-07-25



Vertical



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2441	76.40	-3.57	114.0	-37.60	Peak	205.00	100	Vertical	Pass

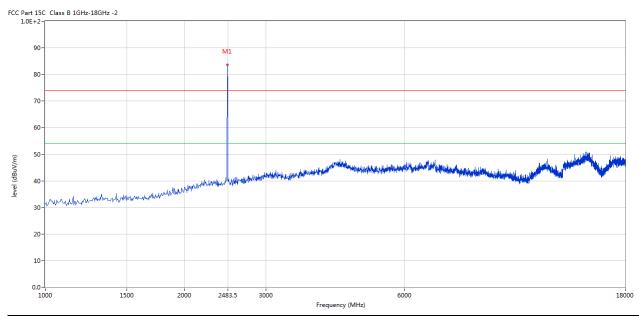
Report No.: TW2207057-01E Page 19 of 55

Date: 2022-07-25



Please refer to the following test plots for details: High Channel-2480MHz

Horizontal



No.	Frequency	Results	Factor	Limit	Over	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	Limit (dB)		(o)	(cm)		
1	2480	83.69	-3.57	114.0	-30.31	Peak	2.00	100	Horizontal	Pass

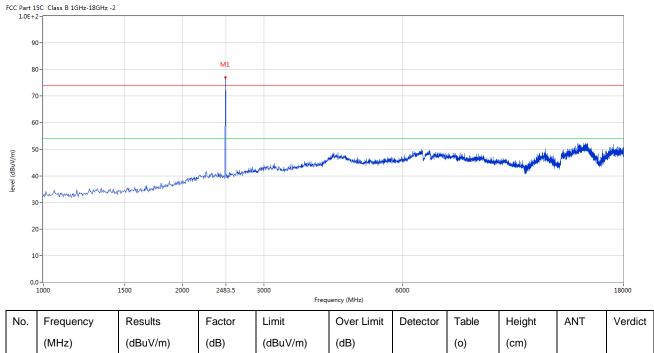
Page 20 of 55

Report No.: TW2207057-01E

Date: 2022-07-25



Vertical



2480 76.96 -3.57 114.0 -37.04 169.00 100 Pass Peak Vertical

(2) Emission Level = Reading Level + Antenna Factor + Cable Loss-Amplifier Note:

- (3)Margin=Emission-Limits
- (4))According to section 15.35(b), the peak limit is 20dB higher than the average limit
- (5) For test purpose, keep EUT continuous transmitting
- (5) For emission above 18GHz and Below 30MHz, It is only the floor noise. No necessary to take down.
- (6) the measured PK value less than the AV limit.

Page 21 of 55

Date: 2022-07-25

Report No.: TW2207057-01E

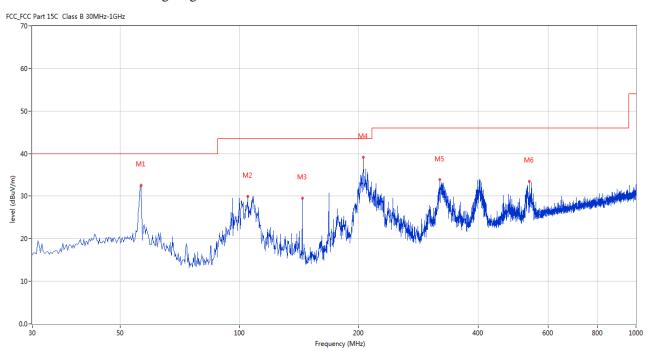


B. General Radiated Emission Data Radiated Emission In Horizontal (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

Results: Pass

Please refer to following diagram for individual



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table (o)	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)			(cm)		
1	56.426	32.56	-12.15	40.0	-7.44	Peak	112.00	200	Horizontal	Pass
2	104.914	29.88	-13.23	43.5	-13.62	Peak	261.00	200	Horizontal	Pass
3	143.947	29.51	-17.10	43.5	-13.99	Peak	80.00	200	Horizontal	Pass
4	205.284	39.20	-13.61	43.5	-4.30	Peak	214.00	100	Horizontal	Pass
5	319.958	33.82	-10.60	46.0	-12.18	Peak	228.00	200	Horizontal	Pass
6	537.426	33.54	-6.39	46.0	-12.46	Peak	256.00	200	Horizontal	Pass

Report No.: TW2207057-01E Page 22 of 55

Date: 2022-07-25

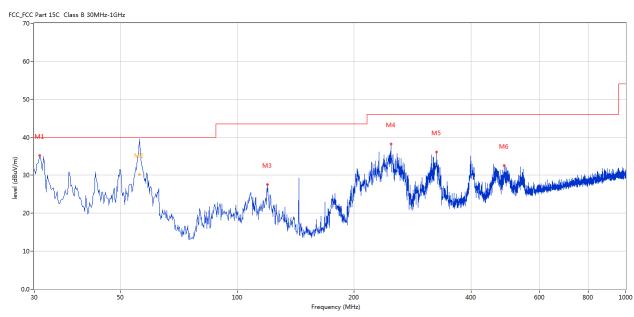


Radiated Emission In Vertical (30MHz----1000MHz)

EUT set Condition: Keep Tx transmitting

Results: Pass

Please refer to following diagram for individual



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	30.000	31.65	-14.19	40.0	-8.35	Peak	30.00	100	Vertical	Pass
2	55.901	38.62	-12.00	40.0	-1.38	Peak	260.00	200	Vertical	Pass
2*	55.901	30.22	-12.00	40.0	-9.78	QP	260.00	200	Vertical	Pass
3	119.703	27.52	-15.26	43.5	-15.98	Peak	103.00	100	Vertical	Pass
4	248.438	38.18	-12.19	46.0	-7.82	Peak	153.00	200	Vertical	Pass
5	326.261	36.17	-10.33	46.0	-9.83	Peak	137.00	200	Vertical	Pass
6	485.786	32.59	-7.27	46.0	-13.41	Peak	116.00	100	Vertical	Pass

Date: 2022-07-25

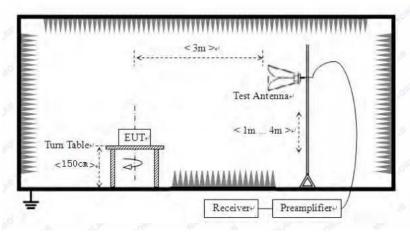


7. Band Edge

7.1 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) Set Spectrum as RBW=1MHz, VBW=3MHz and Peak detector used for PK value. RBW=1MHz, VBW=10Hz and Peak detector used for AV value.
- (3) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (4) The antenna polarization: Vertical polarization and Horizontal polarization.

7. 2 Radiated Test Setup



For the actual test configuration, please refer to the related items – Photos of Testing

7.3 Configuration of The EUT

Same as section 5.3 of this report

7.4 EUT Operating Condition

Same as section 5.4 of this report.

7.5 Band Edge Limit

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

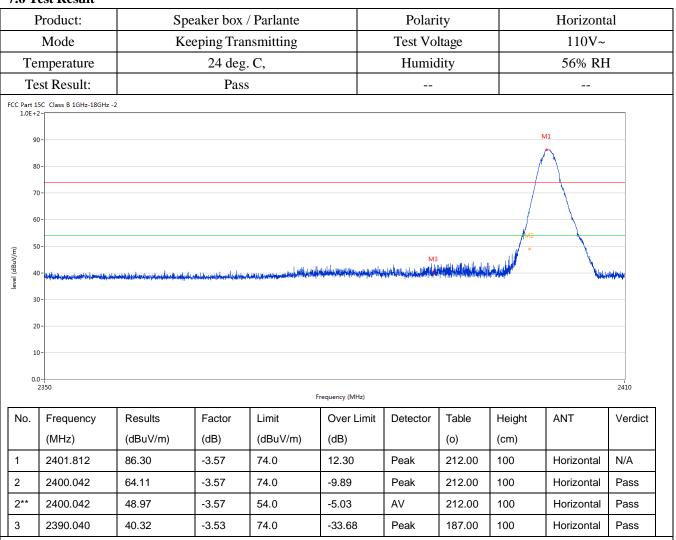
The report refers only to the sample tested and does not apply to the bulk.

Report No.: TW2207057-01E Page 24 of 55

Date: 2022-07-25



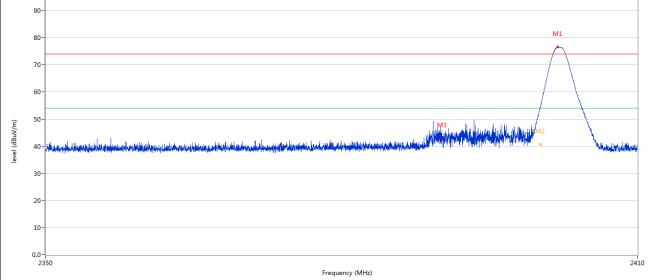
7.6 Test Result



Report No.: TW2207057-01E Page 25 of 55



Product:	Speaker box / Parlante	Detector	Vertical
Mode	Keeping Transmitting	Test Voltage	110V~
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass		
90-			
80-			M1
70-			
			/



No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verdict
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
1	2401.842	76.59	-3.57	74.0	2.59	Peak	154.00	100	Vertical	N/A
2	2400.042	54.20	-3.57	74.0	-19.80	Peak	154.00	100	Vertical	Pass
2**	2400.042	40.21	-3.57	54.0	-13.79	AV	154.00	100	Vertical	Pass
3	2390.055	42.68	-3.53	74.0	-31.32	Peak	118.00	100	Vertical	Pass
			•		•	•				

Page 26 of 55 Report No.: TW2207057-01E



F	Product:		Speake	r box / Parlaı	nte		Polarity	7	Horizon	ıtal
	Mode		Keepin	g Transmitti	ng	,	Test Volta	oltage 110V-		~
Te	mperature		2	4 deg. C,			Humidity		56% R	H
Te	est Result:			Pass						
C Part 1: 1.0E+2	5C Class B 1GHz-18GHz 2-	-2								
90)-		M1							
80)-									
70			/							
			N							
60)-			M2						
. 50		مرابع المعالمة	4		<u> </u>					
40	D-	animal desired and the second			A Special Control of the Special Control of t	entre d'un année de la destate	olad Marad page playthanadyo issiy	eller bilder de per le principal de la constante de la constan	had a the same of the same of	madely later
30										
20)-									
10)-									
0.0)-									
:	2470			2483.5	Frequency (MHz)					2500
No.	Frequency	Results	Factor	Limit	Over Limit	Detector	Table	Height	ANT	Verd
	(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dB)		(o)	(cm)		
	2479.838	83.37	-3.57	74.0	9.37	Peak	212.00	100	Horizontal	N/A
2	2483.392	50.20	-3.57	74.0	-23.80	Peak	221.00	100	Horizontal	Pass

Report No.: TW2207057-01E Page 27 of 55

Date: 2022-07-25



]	Product:		Speake	er box / Parla	inte		Detecto	or	Vertica	al
	Mode		Keepii	ng Transmitt	ing	,	Test Volta	age	110V	~
Те	emperature		2	24 deg. C,			Humidi	ty	56% R	Н
Те	est Result:			Pass						
C Part 1	15C Class B 1GHz-18GHz	-2						•		
9	90-									
8	30-		475							
7	70-			1						
			<i>/</i>							
6	50-		/							
	50-									
	50-			M2						
		hadisələr də də qərə qəri əqalər əsəkər ibi əkər i		M2	الإرواد الإرب المتعاط بالماليون أوروا المتارك والمتارك وا	والمدادة والماران العرب والمراوان	a mandan salah da sala adalah	nojemonikla dinciphi plensijsk	Uhada waxa dhi dhillada ah da waxa dh	http://h
5	50-	hadisələdə qərə qortaq and		M2	digitaliya, biratal bilana basiliyadi dig	white we will have been	ampleyddir faith a chindir	mirandiya di di udiyildi biraşid	illy de sage alle de la chandale	Ad _{undak} a,
5 4	50-	hadisələrin quantum karaktırılırı karaktırılırı		M2	الإرواد الريب الاستاما العادي أد بالاستام الا	والمرافع وا	a moderni di berita di kasaka adi bad	neviewakiakishusiphi kirajik	illydd arfar oldi allall all ad en odd a	M. de constante à
3	50	hadisələrin quantum karalında karalında karalında karalında karalında karalında karalında karalında karalında k		M2	ikyte Nyay hindulohasa kudiyadi da ji	indificial six agricul six del palega	and algebraich when	nyandhidadhidhlingih	il pharmal della descript	M. A. Lindalije A.
5 4	50	hadisələrini fadiyan esti ayan sabirdirinin kalı		M2	digasi Ngapalinda da dibebada da	چياد (افاون اوريد دند اسافاني	annologische Schools de die nich abbei	nova, aktali disapili dinapil	ille physicae Mad Mille Lach according	de de constitute de
50 4 30 20 10	50	hadigan da da gana perlaga an anda anda an an an		M2	iliyasi Mayo, birada kobabya da piliya airid di	added is signed in the help of	and a late to the state of	mpranadaja disemplektorijih	ilk pharmacht deil de aband de	2500
50 4 30 20 10	10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	hadisələdə in equina de indicate de e			requency (MHz)	چهداه فار اهریدند. استان او	annologische Schools als als als als als als als als als a	nove, altek észépilelényik	ille physicae Madd Meleo Iwan ish	
50 4 30 20 10	10 - 10 - 10 - 10 - 10 - 10 - 10 - 10 -	Results	Factor			Detector	Table	Height	ANT	2500
3 3 2 1 1 O.	00	THE TOTAL PRINT OF THE TOTAL PRI	Factor (dB)	F	requency (MHz)					2500
3 3 2 1 1 O.	50	Results		Limit	requency (MHz) Over Limit		Table	Height		

Note: 1. The PK emission level less than the AV limit. No necessary to record the AV emission level.

2. All modulation Types were tested and only the worst case was recorded in the test report and GFSK modulation was the worst case.

Report No.: TW2207057-01E Page 28 of 55

Date: 2022-07-25



8.0 Antenna Requirement

Applicable Standard

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

This product has a PCB antenna. The antenna gain is 1.7dBi Max. It fulfills the requirement of this section. Test Result: Pass

Page 29 of 55

Report No.: TW2207057-01E



FSK								
Product:	Speaker box /	Parlante	Г	Test Mode:		Keep tran	smitting	
Mode	Keeping Trans	smitting	Т	est Voltage		110V~		
Temperature	24 deg.	C,		Humidity		56%	RH	
Test Result:	Pass			Detector		PI	Κ	
20dB Bandwidth	865.73kl	Hz					-	
Ref Lvl	Marker 1 [T1 ndB 2	ndB] 0.00 dB	RBW VBW	30 kHz		7 Att	20 dB	
10 dBm	BW 865.7314		SWT	8.5 ms		nit	dBn	n
10				▼1	[T1]	_1	74 dBm	1 .
		1			[++]	2.40183	467 GHz	<u> </u>
0		Ž ₀ 0		ndB		20	.00 dB	
		$1 / \sim \sim$		BW ▽ ⊤i		5.73146		
-10			~	VT.	[T1]	2.40154	.33 dBm	
		\mathcal{N}	/	V T2	[T1]	-22	.07 dBm	ı
-20 <u>T1</u>	T2			47.4024	0581 GF	lz		
-30	~							1N
-40	\\\^\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\				Yy .			
-50					\	~		
	V				V	My	while	
-60							- William	
-70								
-80								
-90								
Center 2.4	102 GHz	300 kHz	./			Spa	ın 3 MHz	

Page 30 of 55

Report No.: TW2207057-01E



GFSK										
Product:		Speaker	box / Par	lante	,	Test Mode:		Keep tra	ansmitting	
Mode		Keepin	g Transmi	tting	7	est Voltage		11	0V~	
Temperature		2	4 deg. C,			Humidity		56%	% RH	
Test Result:			Pass			Detector		PK		
20dB Bandwidth		86	55.73kHz							
į į		Marker	1 [T1 n	ndB]	RBW	30 k	Hz Rl	F Att	20 dB	
Ref Lvl		ndB		00 dB	VBW		Hz			
10 dBm		BW 865	.731462	93 kHz	SWT	8.5 m	ıs Uı	nit	dBm	•
				1		V 1	[T1]	-0 2.44083	.12 dBm 467 GHz	A
0						ndE BW V ⊤	86 [[T1]	20 5.73146	.00 dB 293 kHz	
-10	T		$ \wedge$		V _{T2} ∨ _{T2}	2.440		54008 GHz 20.36 dBm		
-20 1MAX		~				V		2.44140	581 GHz	1MA
-40										
-50							V	M		
Comment of the second	V							W	www	
-60										
-70										
-80										
-90 Center 2	-90 Center 2.441 GHz			300	kHz/			Spa	ın 3 MHz	
Date: 18	3.JUL.2	022 10	:07:35							

Page 31 of 55

Report No.: TW2207057-01E



Product:		Speaker	box / Par	lante		T	est Mode:		Keep tra	ansmitting		
Mode			g Transmi				st Voltage		110V~			
Temperature			4 deg. C,			Humidity			56% RH			
Test Result:			Pass]	Detector]	PK		
20dB Bandwidth		85	59.72kHz									
(A)	Marker 1 [T1 ndB]				RI	3W	30 k	Hz R	F Att	20 dB		
Ref Lvl	ndB 20.00 dB			VE	ЗW	100 k	Hz					
10 dBm		BW 859	.719438	88 kHz	SV	VΤ	8.5 m	ıs U	nit	dBm	ı	
10							v ₁	[T1]	(1 58 dBm		
				1			_	[++]	2.47983	8467 GHz	7	
0				M	\		ndE		20	.00 dB		
					Vh		BW ▽ ⊤	8! [[T1]	59.71943	888 kHz		
-10				\sim		T	,	[11]	2.47954	.66 GHz		
	T1					V <u>r</u> 2 ∨ _T 2	[T1]	-19	.64 dBm			
-20			$\overline{}$				<u> </u>		2.48040	581 GHz		
-30		^					\sim	_			1MA	
-30								4				
-40	Jun .								m			
-50	<u> </u>								W	Mehry		
-60												
-70												
-80												
-90 <u> </u>	40.00			200	1-11- /					2 247		
Center 2	.48 GH2	∠		300	kHz/				spa	an 3 MHz		

Page 32 of 55

Report No.: TW2207057-01E



Product:		Speaker box / Pa	arlante		Te	st Mode:		Keep tran	nsmitting		
Mode		Keeping Transn	nitting		Tes	st Voltage		110	V~		
Temperature		24 deg. C			Humidity		56% RH				
Test Result:		Pass				Detector		PK			
0dB Bandwidth	1.226MHz								-		
	Marker 1 [T1 ndB]			RI	BW	30 kH	z Ri	7 Att	20 dB		
Ref Lvl				VI	B₩	100 k	Hz				
10 dBm	I	3W 1.22645	291 MHz	SI	TW	8.5 m	s U:	nit	dBn	n	
10						v ₁	[T1]	-1	.36 dBm		
			1					2.40183	467 GHz	•	
0			\ \			ndB		20	.00 dB	1	
				\		BW V⊤1		1.22645	291 MHz		
-10		~~^	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	_		$\sqrt{\frac{v_{\text{T}}}{\sqrt{1}}}$	[T1]	2.40136	.78 dBm		
		\sim				V _V	5 [T1]	-2	1.38 dBm		
-20		<u> </u>			+	1		2.40259	218 GHz		
1MAX -30							\			1M	
-40	\mathcal{N}	V					lγ	√			
-50								Lung Lung	www	•	
-60											
-70											
-80	-										
-90	•										
Center 2.4	402 GH	Z	300	kHz/				Spa	an 3 MHz		

Page 33 of 55

Report No.: TW2207057-01E



Product:	Speaker box /	Parlante	Test Mode:	Keep tr	ansmitting	
Mode	Keeping Tran		Test Voltage		10V~	
Temperature	24 deg.		Humidity	56% RH		
Test Result:	Pass	*	Detector	_	PK	
0dB Bandwidth	1.251M	Hz				
\wedge	Marker 1 [T	1 ndB]	RBW 30 kH	z RF Att	20 dB	
Ref Lvl		20.00 dB	VBW 100 kH			
10 dBm	BW 1.250	50100 MHz	SWT 8.5 ms	Unit	dBm	
10			V 1	[T1]	0.14 dBm	
		<u>1</u>		2.4408	3467 GHz	
0		T A	ndB	2	0.00 dB	
			BW BW	1.2505	0100 MHz	
-10		~ ~ ~ ~	V V V TI	[T1] -1 2.4403	9.28 dBm 6573 GHz	
	T		∇ _{T2T}	2.4403 [2[T1] -1	9.89 dBm	
-20	7		 	2.4416	1623 GHz	
-30					1M2	
-40	$\wedge^{\mathcal{M}}$			hard .		
-50						
-60						
-70						
-80						
-90						

Page 34 of 55

Report No.: TW2207057-01E



Product:	Speake	r box / Par	lante	,	Test Mode:		Keep tra	ansmitting	
Mode		g Transmi			Test Voltage			0V~	
Temperature		4 deg. C,	<u>U</u>		Humidity			% RH	
Test Result:		Pass			Detector			PK	
20dB Bandwidth	1.	226MHz							
	Marker 1 [T1 ndB]			RBW	30 k	Hz R	F Att	20 dB	
Ref Lvl	ndB 20.00 dB			VBW	100 k	Hz			
10 dBm	BW 1	1.226452	91 MHz	SWT	8.5 m	s U	nit	dBm	ı
10					v ₁	[T1]		.58 dBm	
			1				2.47983	467 GHz	7
0			\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\	\	ndl	3	20	.00 dB	
		^		my ~	M N N N N N N N N N N N N N N N N N N N		1.22645	291 MHz .79 dBm	
-10		1000			1	7	2.47936	573 GHz	
	T	~			▽ 1	2 [T1]	-19	.52 dBm	
-20						\downarrow	2.48059	218 GHz	1M7
						\			
-30						<u> </u>			
						\			
-40	$\overline{\mathcal{M}}$					py	\wedge		
-50	(lung	N otes 1	
								" Wy	
-60									
-70									
-80									
-90									
Center 2.4	8 GHz		300 kHz/				Spa	ın 3 MHz	

Page 35 of 55

Report No.: TW2207057-01E



8DPSK										
Product:	Spea	ker box / Pa	rlante		Tes	st Mode:		Keep tran	smitting	
Mode	Keep	oing Transm	itting		Tes	t Voltage		110	V~	
Temperature		24 deg. C,			Humidity			56%	RH	
Test Result:		Pass			D	etector		PI	K	
20dB Bandwidth		1.226MHz							-	
	Marke	c 1 [T1 n	idB]	RI	ВW	30 k	Hz R	F Att	20 dB	
Ref Lvl	ndB		00 dB		ВW	100 k				
10 dBm	BW	1.226452	91 MHz	SV	VΤ	8.5 m	s Ui	nit	dBm	
						\mathbf{v}_1	[T1]	-1	.42 dBm	A
0			1					2.40183	467 GHz	
			\bigwedge			ndB BW		20	.00 dB 291 MHz	
-10		^		lm.		$oldsymbol{ abla}_{ ext{T1}}$	[T1]	-21	.33 dBm	
		\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\			7	\ \ 		2.40136	573 GHz	
2.0	7						[T1]	-21	.83 dBm	
-20	^	/				V	\	2.40259	218 GHz	1MA
							7			
-30	j									
							\			
-40	_									
								\sim		
-50	<i>y</i> ************************************						-	Ψ,		
ww								, w	White	
-60										
-70										
-80										
-90	100.07			1 /					0	
Center 2.			300	kHz/				Spa	ın 3 MHz	
Date: 22.	JUL.2022 1	5:53:19								

Page 36 of 55

Report No.: TW2207057-01E



Product:		Speaker box / Parlante				т	est Mode:		Keen to	ansmitting	
Mode										0V~	
			g Transmi	ung			est Voltage			0 v ~ % RH	
Temperature Test Result:			4 deg. C, Pass				Humidity Detector			<u>жн</u> РК	
20dB Bandwidth		1	.251MHz								
200B Bandwidth											
	Marker 1 [T1 ndB] ndB 20.00 dB				RBW	30 k		F Att	20 dB		
Ref Lvl 10 dBm			.20 1.250501			BW WT	100 k 8.5 m	Hz s II	nit	dBm	
10		DW -	. 230301	100 11112		, W I		.5 0	1111	Q DIN	1
							V 1	[T1]	(.25 dBm	A
0				1					2.44083	467 GHz	
				<i> </i>			nd! BW	8	1.25050	0.00 dB 0100 MHz	
1.0				JW	γ	<i>~</i> ~	$\bigwedge_{\sim} \nabla_{\mathbb{T}}$	[T1]	-19	3.24 dBm	
-10				, i			\sim	,,	2.44036	573 GHz	
		T	~				∠ <u>J</u>	T2[T1]	-19	.76 dBm	
-20		- 1						(2.44161	623 GHz	1 2 4 7
-30											1MA
-40		\bigvee						by	W .		
-50									lowly	Musik	
-60											
-70											
-80											
-00											
-90 Center 2	-90 Center 2.441 GHz		300 kHz/						Spa	an 3 MHz	
Date: 22	.JUL.20										

Page 37 of 55

Report No.: TW2207057-01E



DPSK				1					
Product:		er box / Par			Test Mode:			ansmitting	
Mode		ng Transmi	tting		Test Voltage	;		0V~	
Temperature		24 deg. C,			Humidity			% RH	
Test Result:		Pass			Detector		I	PK	
OdB Bandwidth	-	1.232MHz							
ÍK.	Marker 1 [T1 ndB]				30 k	Hz R	F Att	20 dB	
Ref Lvl	ndB		00 dB	VBV		Hz			
10 dBm	BW	1.232464	93 MHz	SWI	8.5 m	s U	nit	dBm	ı
10					v ₁	[T1]		.88 dBm	
			1				2.47983	467 GHz	7
0			\wedge		ndP	3	20	.00 dB	
		. ^		Ly,	MBW BW		1.23246	493 MHz	
-10			~	\\ \	V Cy VIII	L [T1]	-19	.71 dBm	
	T	\mathcal{N}			\\	2 [T1]	2.47935	972 GHz .30 dBm	
-20	<u> </u>				V		2.48059	218 GHz	
1MAX -30									1MZ
-40						lun	\sim		
-50 Lun							7	~ when	
-60									
-70									
-80									
-90									
•	48 GHz	-	300	kHz/	•		Spa	ın 3 MHz	
Date: 22	.JUL.2022 1	Center 2.48 GHz							

Report No.: TW2207057-01E Page 38 of 55

Date: 2022-07-25



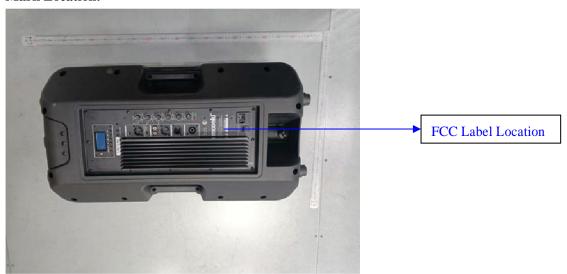
10.0 FCC ID Label

FCC ID: 2A6R4-MSP15BW

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation

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:



Page 39 of 55

Report No.: TW2207057-01E

Date: 2022-07-25



11.0 Photo of testing

11.1 Conducted test View

