



FCC RADIO TEST REPORT

FCC ID	: 2BNGI-ANS86
Equipment	: Tusk Frequnce Dash Hub
Brand Name	: Tusk
Model Name	: 2138500001
Applicant	: Rocky Mountain ATV/MC 1551 American Way, Payson, UT 84651
Manufacturer	: Rocky Mountain ATV/MC 1551 American Way, Payson, UT 84651
Standard	: FCC Part 15 Subpart C §15.247

The product was received on Dec. 23, 2024 and testing was performed from Jan. 08, 2025 to Apr. 03, 2025. We, Sporton International (USA) Inc., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval from Sporton International (USA) Inc., the test report shall not be reproduced except in full.

Mil Kao

Approved by: Neil Kao

Sporton International (USA) Inc. 1175 Montague Expressway, Milpitas, CA 95035

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History of this test report

Report No.	Version	Description	Issue Date
FR241204002-01B	01	Initial issue of report	Mar. 28, 2025
FR241204002-01B	02	Revising the Conducted test item in Appendix A1 & A2. This report is an updated version, replacing the report issued on Mar. 28, 2025	Apr. 10, 2025



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark		
3.1	15.247(a)(2)	6dB Bandwidth	Pass	-		
3.1	2.1049	99% Occupied Bandwidth	99% Occupied Bandwidth Pass			
3.2	15.247(b)(3) 15.247(b)(4)	Output Power	Pass	-		
3.3	15.247(e)	Power Spectral Density	Pass	-		
3.4	15.247(d)	Conducted Band Edges and Spurious Emission	Pass	-		
3.5	15.247(d)	Radiated Band Edges and Spurious Emission	Pass	-		
-	15.207	AC Conducted Emission	Not Required	See Note		
3.6	15.203	Antenna Requirement	Pass	-		

Note: The power source method of the EUT is to use power supply (DC power source), and there is no other AC power port, after assessing, AC Conduction Emission test is not required.

Conformity Assessment Condition:

- 1. The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
- The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty". 2.

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature				
General Specs				
Bluetooth.				
Antenna Type				
Bluetooth: Monopole Antenna				
Antenna information				

Remark: The EUT's information above is declared by manufacturer. Please refer to Disclaimer in report summary.

1.18

Peak Gain (dBi)

1.2 Modification of EUT

2400 MHz ~ 2483.5 MHz

No modifications made to the EUT during the testing.

1.3 Testing Location

Test Site Sporton International (USA) Inc.				
Test Site Location1175 Montague Expressway, Milpitas, CA 95035 TEL : 408 9043300				
Toot Site No	Sporton Site No.			
Test Sile NO.	TH01-CA, 03CH02-CA			

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC Designation No.: US1250

1.4 Applicable Standards

According to the specifications declared by the manufacturer, the EUT must comply with the requirements of the following standards:

- FCC Part 15 Subpart C §15.247
- FCC KDB Publication No. 558074 D01 15.247 Meas Guidance v05r02
- FCC KDB 414788 D01 Radiated Test Site v01r01
- ANSI C63.10-2020

Remark: All the test items were validated and recorded in accordance with the standards without any modification during the testing.

2 Test Configuration of Equipment Under Test

2.1 Carrier Frequency Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
	0	2402	21	2444
	1	2404	22	2446
	2	2406	23	2448
	3	2408	24	2450
	4	2410	25	2452
	5	2412	26	2454
	6	2414	27	2456
	7	2416	28	2458
	8	2418	29	2460
	9	2420	30	2462
2400-2483.5 MHz	10	2422	31	2464
	11	2424	32	2466
	12	2426	33	2468
	13	2428	34	2470
	14	2430	35	2472
	15	2432	36	2474
	16	2434	37	2476
	17	2436	38	2478
	18	2438	39	2480
	19	2440	-	-
	20	2442	-	-

2.2 Test Mode

a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower). For radiated measurement, the measured emission level of the EUT was maximized by rotating the EUT on a turntable, adjusting the orientation of the EUT and EUT antenna in three orthogonal axis (X: flat, Y: portrait, Z: landscape), and adjusting the measurement antenna orientation, following C63.10 exploratory test procedures and only the worst case emissions were reported in this report.

The following summary table is showing all test modes to demonstrate in compliance with the standard.

	Summary table of Test Cases					
Test Item	Data Rate / Modulation					
	Bluetooth – LE / GFSK					
	Mode 1: Bluetooth Tx CH00_2402 MHz_1Mbps					
Conducted	Mode 2: Bluetooth Tx CH19_2440 MHz_1Mbps					
	Mode 3: Bluetooth Tx CH39_2480 MHz_1Mbps					
Test Cases	Mode 4: Bluetooth Tx CH01_2404 MHz_2Mbps					
	Mode 5: Bluetooth Tx CH19_2440 MHz_2Mbps					
	Mode 6: Bluetooth Tx CH37_2476 MHz_2Mbps					
Remark:						
1. For radiation	1. For radiation spurious emission, the modulation and the data rate picked for testing are					
determined by the Max. RF conducted power.						

2. The detailed Radiated test modes are shown in Appendix C.

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2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

ltem	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	ASUS	ASUS EXPERTBOOK B1402CVA_B1408CVA	PD9AX211NG	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m

2.5 EUT Operation Test Setup

The RF test items, utility "Tera Term Version 4.95" was installed in Notebook which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.



2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example :

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10 dB attenuator.

Offset(dB) = RF cable loss(dB) + attenuator factor(dB).

= 4.2 + 10 = 14.2 (dB)



3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

3.1.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.1.3 Test Procedures

- 1. The testing follows the ANSI C63.10 Section 6.9.3 (OBW) and 11.8.1 (6dB BW).
- 2. The RF output of EUT is connected to the spectrum analyzer by RF cable and attenuator. The path loss is compensated to the results for each measurement.
- 3. Set the maximum power setting and enable the EUT to transmit continuously.
- Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6dB bandwidth must be greater than 500 kHz.
- 5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the emission bandwidth and set the Video bandwidth (VBW) \ge 3 * RBW.
- 6. Measure and record the results in the test report.

3.1.4 Test Setup



Spectrum Analyzer

3.1.5 Test Result of 6dB Bandwidth

Please refer to Appendix A.

3.1.6 Test Result of 99% Occupied Bandwidth



3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5 MHz, the limit for output power is 30 dBm. If transmitting antenna of directional gain greater than 6 dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

3.2.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.2.3 Test Procedures

- 1. For Average Power, the testing follows ANSI C63.10 Section 11.9.2.3.2 Method AVGPM-G
- 2. The RF output of EUT is connected to the power meter by RF cable and attenuator.
- 3. The path loss is compensated to the results for each measurement.
- 4. Set the maximum power setting and enable the EUT to transmit continuously.
- 5. Measure the conducted output power and record the results in the test report.

3.2.4 Test Setup



3.2.5 Test Result of Average Output Power



3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8 dBm in any 3 kHz band at any time interval of continuous transmission.

3.3.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.3.3 Test Procedures

- 1. The testing follows the ANSI C63.10 Section 11.10.2 Method PKPSD.
- 2. The RF output of EUT is connected to the spectrum analyzer by RF cable and attenuator. The path loss is compensated to the results for each measurement.
- 3. Set the maximum power setting and enable the EUT to transmit continuously.
- Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz.
 Video bandwidth (VBW) = 10 kHz. In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6 dB BW)
- 5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
- 6. Measure and record the results in the test report.
- 7. The Measured power density (dBm)/ 100 kHz is a reference level and is used as 20 dBc down limit line for Conducted Band Edges and Conducted Spurious Emission.

3.3.4 Test Setup



Spectrum Analyzer

3.3.5 Test Result of Power Spectral Density

3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission

All harmonics/spurious must be at least 30 dB down from the highest emission level within the authorized band.

3.4.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.4.3 Test Procedure

- 1. The testing follows the ANSI C63.10 Section 11.11.3 Emission level measurement.
- 2. The RF output of EUT is connected to the spectrum analyzer by RF cable and attenuator. The path loss is compensated to the results for each measurement.
- 3. Set the maximum power setting and enable the EUT to transmit continuously.
- 4. Set RBW = 100 kHz, VBW = 300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.
- 5. Measure and record the results in the test report.
- 6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.4.4 Test Setup



3.4.5 Test Result of Conducted Band Edges Plots

Please refer to Appendix A.

3.4.6 Test Result of Conducted Spurious Emission Plots

3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated Band Edges and Spurious Emission

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

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

3.5.2 Measuring Instruments

Please refer to the measuring equipment list in this test report.

3.5.3 Test Procedures

- 1. The testing follows the ANSI C63.10 Section 11.12.1 Radiated emission measurements.
- 2. The EUT is arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
- 3. The EUT is placed on a turntable with 0.8 meter for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz respectively above ground.
- 4. The EUT is set 3 meters away from the receiving antenna, which is mounted on the top of a variable height antenna tower.
- 5. Corrected Reading: Antenna Factor + Cable Loss + Read Level Preamp Factor = Level
- 6. Radiated testing below 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading. When there is no suspected emission found and the emission level is with at least 6 dB margin against QP limit line, the position is marked as "-".
- 7. Radiated testing above 1 GHz is performed by adjusting the antenna tower from 1 m to 4 m and by rotating the turn table from 0 degree to 360 degrees to find the peak maximum hold reading for scanning all frequencies. When there is no suspected emission found and the harmonic emission level is with at least 6 dB margin against average limit line, the position is marked as "-".
- 8. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW = 100 kHz for f < 1 GHz; VBW ≥ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW = 3 MHz for f \geq 1 GHz for peak measurement. For average measurement:
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.



3.5.4 Test Setup

For radiated test below 30MHz



Metal Full Soldered Ground Plane

Spectrum Analyzer / Receiver

For radiated test above 18GHz



3.5.5 Test Results of Radiated Spurious Emissions (9 kHz ~ 30 MHz)

The low frequency, which starts from 9 kHz to 30 MHz, is pre-scanned and the result which is 20 dB lower than the limit line is not reported.

There is adequate comparison measurement of both open-field test site and alternative test site -

semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result comes out very similar.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix B.

3.5.7 Duty Cycle

Please refer to Appendix C.

3.5.8 Test Result of Radiated Spurious Emission (30 MHz ~ 10th Harmonic)



3.6 Antenna Requirements

3.6.1 Standard Applicable

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. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited. This requirement does not apply to carrier current devices or to devices operated under the provisions of § 15.211, 15.213, 15.217, 15.219, 15.221, or § 15.236. Further, this requirement does not apply to intentional radiators that must be professionally installed, such as perimeter protection systems and some field disturbance sensors, or to other intentional radiators which, in accordance with § 15.31(d), must be measured at the installation site. However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.

3.6.2 Antenna Anti-Replacement Construction

Antenna permanently attached.



4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Bilog Antenna	TESEQ	6111D	54683	30MHz~1GHz	Nov. 15, 2024	Jan. 08, 2025~ Feb. 26, 2025	Nov. 14, 2025	Radiation (03CH01-CA)
Loop Antenna	R&S	HFH2-Z2E	100840	9kHz~30MHz	May 02, 2024	Jan. 08, 2025~ Feb. 26, 2025	May 01, 2025	Radiation (03CH01-CA)
Horn Antenna	SCHWARZBE CK	BBHA 9120D	02113	1GHz~18GHz	Apr. 26, 2024	Jan. 08, 2025~ Feb. 26, 2025	Apr. 25, 2025	Radiation (03CH01-CA)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA9170	00841	18GHz~40GHz	Aug. 07, 2024	Jan. 08, 2025~ Feb. 26, 2025	Aug. 06, 2025	Radiation (03CH01-CA)
Amplifier	SONOMA	310N	372241	9kHz~1GHz	Apr. 24, 2024	Jan. 08, 2025~ Feb. 26, 2025	Apr. 23, 2025	Radiation (03CH01-CA)
Spectrum Analyzer	Keysight	N9010A	MY57420221	10Hz~44GHz	Aug. 14, 2024	Jan. 08, 2025~ Feb. 26, 2025	Aug. 13, 2025	Radiation (03CH01-CA)
Spectrum Analyzer	Keysight	N9010B	MY63440343	10Hz~44GHz	Jan. 29, 2025	Jan. 08, 2025~ Feb. 26, 2025	Jan. 28, 2026	Radiation (03CH01-CA)
Filter	Wainwright	WHKX12-2700 -3000-18000-6 0ST	SN9	3GHz High Pass Filter	Jun. 04, 2024	Jan. 08, 2025~ Feb. 26, 2025	Jun. 03, 2025	Radiation (03CH01-CA)
Filter	Wainwright	WLK12-1200-1 272-11000-40 SS	SN1	1.2GHz Low Pass Filter	Jun. 04, 2024	Jan. 08, 2025~ Feb. 26, 2025	Jun. 03, 2025	Radiation (03CH01-CA)
Preamplifier	Keysight	83017A	MY53270321	1GHz~26.5GHz	Apr. 25, 2024	Jan. 08, 2025~ Feb. 26, 2025	Apr. 24, 2025	Radiation (03CH01-CA)
Preamplifier	E-instrument	ERA-100M-18 G-56-01-A70	EC1900252	1GHz~18GHz	Apr. 25, 2024	Jan. 08, 2025~ Feb. 26, 2025	Apr. 24, 2025	Radiation (03CH01-CA)
Preamplifier	EMEC	EMC18G40G	060726	18G-40G	Apr. 04, 2024	Jan. 08, 2025~ Feb. 26, 2025	Apr. 03, 2025	Radiation (03CH01-CA)
RF Cable	HUBER+SUH NER	SUCOFLEX 102	8015932/2, 8015762/2, 804938/2	N/A	Mar. 05, 2024	Jan. 08, 2025~ Feb. 26, 2025	Mar. 04, 2025	Radiation (03CH01-CA)
Hygrometer	TESEO	608-H1	45142559	N/A	Aug. 14, 2024	Jan. 08, 2025~ Feb. 26, 2025	Aug. 13, 2025	Radiation (03CH01-CA)
Controller	Chaintek	EM-1000	060881	Control Turn Table & Antenna Mast	N/A	Jan. 08, 2025~ Feb. 26, 2025	N/A	Radiation (03CH01-CA)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Jan. 08, 2025~ Feb. 26, 2025	N/A	Radiation (03CH01-CA)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Jan. 08, 2025~ Feb. 26, 2025	N/A	Radiation (03CH01-CA)
Test Software	Audix E3	E3 230621 Sporton US, V9	PK-002093	N/A	N/A	Jan. 08, 2025~ Feb. 26, 2025	N/A	Radiation (03CH01-CA)
Hygrometer	Testo	608-H1	45141354	N/A	Aug. 14, 2024	Apr. 03, 2025	Aug. 13, 2025	Conducted (TH01-CA
Power Sensor	DARE!!	RPR3006W	RPR6W-1901 027	10MHz-8GHz	Apr. 24, 2024	Apr. 03, 2025	Apr. 23, 2025	Conducted (TH01-CA)
Spectrum analyzer	Rhodes & Schwarz	FSV40	101089	10Hz~40GHz	Apr. 24, 2024	Apr. 03, 2025	Apr. 23, 2025	Conducted (TH01-CA)
Switch Box	EM Electronics	EMSW26	1090304	N/A	Oct. 04, 2024	Apr. 03, 2025	Oct. 03, 2025	Conducted (TH01-CA)



5 Measurement Uncertainty

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence	
of 95% (U = 2Uc(y))	4.7 dB

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence	E E dP
of 95% (U = 2Uc(y))	5.5 UB

Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence	
of 95% (U = 2Uc(y))	4.5 UB

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Appendix A. Test Result of Conducted Test Items

Test Engineer:	Venkata Kondepudi	Temperature:	18.9~20.5	°C
Test Date:	2025/4/3	Relative Humidity:	43.2~45.2	%

<u>TEST RESULTS DATA</u> 6dB and 99% Occupied Bandwidth										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail		
BLE	1Mbps	1	0	2402	1.074	0.724	0.50	Pass		
BLE	1Mbps	1	19	2440	1.068	0.740	0.50	Pass		
BLE	1Mbps	1	39	2480	1.069	0.699	0.50	Pass		

<u>TEST RESULTS DATA</u> <u>Average Power Table</u> <u>(Reporting Only)</u>											
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	
BLE	1Mbps	1	0	2402	20.98	30.00	1.18	22.16	36.00	Pass	
BLE	1Mbps	1	19	2440	21.69	30.00	1.18	22.87	36.00	Pass	
BLE	1Mbps	1	39	2480	21.07	30.00	1.18	22.25	36.00	Pass	

Average Power Density										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm /100kHz)	Peak PSD (dBm /3kHz)	DG (dBi)	Peak PSD Limit (dBm /3kHz)	Pass/Fail	
BLE	1Mbps	1	0	2402	14.35	1.26	1.18	8.00	Pass	
BLE	1Mbps	1	19	2440	14.94	1.69	1.18	8.00	Pass	
BLE	1Mbps	1	39	2480	14.36	1.71	1.18	8.00	Pass	

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Appendix A. Test Result of Conducted Test Items

Test Engineer:	Venkata Kondepudi	Temperature:	18.9~20.5	°C
Test Date:	2025/4/3	Relative Humidity:	43.2~45.2	%

	TEST RESULTS DATA 6dB and 99% Occupied Bandwidth										
					99%		6dB BW				
Мо	d. Data Rate	NTX	CH.	Freq. (MHz)	Occupied BW (MHz)	6dB BW (MHz)	Limit (MHz)	Pass/Fail			
BLE!	5.0 2Mbps	1	1	2404	2.152	1.196	0.50	Pass			
BLE!	5.0 2Mbps	1	19	2440	2.141	1.396	0.50	Pass			
BLE	5.0 2Mbps	1	37	2476	2.143	1.229	0.50	Pass			

<u>TEST RESULTS DATA</u> <u>Average Power Table</u> <u>(Reporting Only)</u>											
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Average Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail	
BLE5.0	2Mbps	1	1	2404	20.88	30.00	1.18	22.06	36.00	Pass	1
BLE5.0	2Mbps	1	19	2440	21.54	30.00	1.18	22.72	36.00	Pass	i
BLE5.0	2Mbps	1	37	2476	21.14	30.00	1.18	22.32	36.00	Pass	1

Average Power Density										
Mod.	Data Rate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm /100kHz)	Peak PSD (dBm /3kHz)	DG (dBi)	Peak PSD Limit (dBm /3kHz)	Pass/Fail	
BLE5.0	2Mbps	1	1	2404	11.42	-0.49	1.18	8.00	Pass	1
BLE5.0	2Mbps	1	19	2440	12.27	0.20	1.18	8.00	Pass	
BLE5.0	2Mbps	1	37	2476	11.92	0.27	1.18	8.00	Pass	



6dB Bandwidth

<1M>





<2M>







99% Occupied Bandwidth

<1M>









Power Spectral Density (dBm/3kHz)

<1M>





<2M>





Band Edge and Conducted Spurious Emission

<1M>















<2M>















Appendix B. Radiated Spurious Emission Test Data

Toot Engineer	Edward Line	Temperature :	15.4~20.9°C
Test Engineer :		Relative Humidity :	43.4~47.5%

Note symbol

-L	Low channel location
-R	High channel location

B1. Radiated Spurious Emission Test Modes

Mode	Band (MHz)	Antenna	Modulation	Channel	Frequency	Data Rate	RU	Remark
Mode 9	2400-2483.5	1	Bluetooth-LE_GFSK	00	2402	1Mbps	-	-
Mode 10	2400-2483.5	1	Bluetooth-LE_GFSK	19	2440	1Mbps	-	-
Mode 11	2400-2483.5	1	Bluetooth-LE_GFSK	39	2480	1Mbps	-	-
Mode 12	2400-2483.5	1	Bluetooth-LE_GFSK	00	2402	2Mbps	-	-
Mode 13	2400-2483.5	1	Bluetooth-LE_GFSK	19	2440	2Mbps	-	-
Mode 14	2400-2483.5	1	Bluetooth-LE_GFSK	39	2480	2Mbps	-	-
Mode 15	2400-2483.5	1	Bluetooth-LE_GFSK	39	2480	2Mbps	-	LF
Mode 16	2400-2483.5	1	Bluetooth-LE_GFSK	39	2480	2Mbps	-	SHF



B2. Summary of each worse mode

Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	RU	Remark
9	Bluetooth-LE_GFSK	00	2370.08	44.42	54.00	-9.58	Н	Avg.	Pass	-	Band Edge
	Bluetooth-LE_GFSK	00	7206.00	45.43	74.00	-28.57	Н	Peak	Pass	-	Harmonic
10	Bluetooth-LE_GFSK	19	2499.40	44.88	54.00	-9.12	V	Avg.	Pass	-	Band Edge
	Bluetooth-LE_GFSK	19	7320.00	48.96	74.00	-25.04	V	Peak	Pass	-	Harmonic
11	Bluetooth-LE_GFSK	39	2487.98	46.00	54.00	-8.00	V	Avg.	Pass	-	Band Edge
	Bluetooth-LE_GFSK	39	7440.00	46.71	74.00	-27.29	V	Peak	Pass	-	Harmonic
12	Bluetooth-LE_GFSK	00	2388.57	44.29	54.00	-9.71	V	Avg.	Pass	-	Band Edge
	Bluetooth-LE_GFSK	00	7206.00	45.66	74.00	-28.34	V	Peak	Pass	-	Harmonic
13	Bluetooth-LE_GFSK	19	2499.94	45.13	54.00	-8.87	Н	Avg.	Pass	-	Band Edge
	Bluetooth-LE_GFSK	19	7320.00	48.66	74.00	-25.34	V	Peak	Pass	-	Harmonic
14	Bluetooth-LE_GFSK	39	2483.52	47.80	54.00	-6.20	Н	Avg.	Pass	-	Band Edge
	Bluetooth-LE_GFSK	39	7440.00	46.31	74.00	-27.69	V	Peak	Pass	-	Harmonic
15	LF	39	959.26	32.63	46.00	-13.37	V	Peak	Pass	-	LF
16	SHF	39	-	-	-	-	-	-	-	-	SHF



























































































































Appendix C. Duty Cycle Plots

Band	Duty Cycle(%)	T(us)	1/T(kHz)	VBW Setting
Bluetooth - LE for 1Mbps	100.00	-	-	10Hz
Bluetooth - LE for 2Mbps	100.00	-	-	10Hz

