



Report No.: FR3D0610

: 02

FCC RADIO TEST REPORT

FCC ID : TVE-110T17

Equipment : Bluetooth Low Energy Module

Brand Name : FORTINET FIRTINET

Model Name : FBLE-2024TI

Marketing Name: Bluetooth Low Energy Module

Applicant : Fortinet Inc.

899 KIFER RD

SUNNYVALE CA 94086

UNITED STATES

Manufacturer : Fortinet Inc.

899 KIFER RD

SUNNYVALE CA 94086

UNITED STATES

Standard : FCC Part 15 Subpart C §15.247

The product was received on Dec. 06, 2023 and testing was performed from Jan. 12, 2024 to Jan. 30, 2024. We, Sporton International Inc. Wensan Laboratory, 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 Inc. Wensan Laboratory, the test report shall not be reproduced except in full.

Approved by: Louis Wu

Louis Win

Sporton International Inc. Wensan Laboratory

No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.)

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History of this test report

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Report No.	Version	Description	Issue Date
FR3D0610	01	Initial issue of report	Feb. 21, 2024
FR3D0610	02	Revise Product Feature of Equipment Under Test This report is an updated version, replacing the report issued on Feb. 21, 2024.	Mar. 14, 2024

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Summary of Test Result

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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	Reporting only	-
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	2.68 dB under the limit at 7440.00 MHz
3.6	15.207	AC Conducted Emission	Pass	6.97 dB under the limit at 0.34 MHz
3.7	15.203	Antenna Requirement	Pass	-

Conformity Assessment Condition:

- 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.
- 2. The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty".

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.

Reviewed by: Yun Huang Report Producer: Clio Lo

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1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature				
SKU 1	FWF-50G-5G, FWF-51G-5G			
SKU 2	FG-50G-5G, FG-51G-5G			
	Equipment Name: Network Security Gateway Brand Name: FORTINET Model Name:			
	FortiGate 50G-5Gxxxxxxxxxxx,			
	FORTIGATE-50G-5Gxxxxxxxxxxx, FG-50G-5Gxxxxxxxxxxx,			
	FortiGate 51G-5Gxxxxxxxxxx,			
	FORTIGATE-51G-5Gxxxxxxxxxxx, FG-51G-5Gxxxxxxxxxxx,			
	FortiWiFi 50G-5Gxxxxxxxxxxx, FORTIWIFI-50G-5Gxxxxxxxxxxx,			
Installed into the Host	FWF-50G-5Gxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx			
	FortiWiFi 51G-5Gxxxxxxxxxxx, FORTIWIFI-51G-5Gxxxxxxxxxxx,			
	FWF-51G-5Gxxxxxxxxxx			
	(where "x" can be used as "A-Z", or "0-9", or "-", or blank for			
	software purposes or marketing purposes only)			
	Marketing Name:			
	FortiGate 50G-5G, FortiGate 51G-5G, FortiWiFi 50G-5G,			
	FortiWiFi 51G-5G			
General Specs	Bluetooth-LE			
Antenna Type	Monopole			

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Antenna information			
2400 MHz ~ 2483.5 MHz	Peak Gain (dBi)	1.53	

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

1.2 Modification of EUT

No modifications made to the EUT during the testing.

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1.3 Testing Location

Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	Sporton Site No. TH05-HY, CO07-HY, 03CH23-HY

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

FCC designation No.: TW3786

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 C63.10-2013

Remark:

- 1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
- 2. The TAF code is not including all the FCC KDB listed without accreditation.

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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 17	2434	37	2476
		2436	38	2478
	18	2438	39	2480
	19	2440	-	-
	20	2442	-	-

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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: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).

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b. AC power line Conducted Emission was tested under maximum output power.

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_125Kbps			
	Mode 2: Bluetooth Tx CH19_2440 MHz_125Kbps			
	Mode 3: Bluetooth Tx CH39_2480 MHz_125Kbps			
	Mode 4: Bluetooth Tx CH00_2402 MHz_500Kbps			
Conducted	Mode 5: Bluetooth Tx CH19_2440 MHz_500Kbps			
Test Cases	Mode 6: Bluetooth Tx CH39_2480 MHz_500Kbps			
rest cases	Mode 7: Bluetooth Tx CH00_2402 MHz_1Mbps			
	Mode 8: Bluetooth Tx CH19_2440 MHz_1Mbps			
	Mode 9: Bluetooth Tx CH39_2480 MHz_1Mbps			
	Mode 10: Bluetooth Tx CH00_2402 MHz_2Mbps			
	Mode 11: Bluetooth Tx CH19_2440 MHz_2Mbps			
	Mode 12: Bluetooth Tx CH39_2480 MHz_2Mbps			

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	Summary table of Test Cases
Test Item	Data Rate / Modulation
	Bluetooth – LE / GFSK
	<sku 1=""></sku>
	Mode 1: Bluetooth Tx CH00_2402 MHz_1Mbps
	Mode 2: Bluetooth Tx CH19_2440 MHz_1Mbps
	Mode 3: Bluetooth Tx CH39_2480 MHz_1Mbps
	Mode 4: Bluetooth Tx CH00_2402 MHz_2Mbps
	Mode 5: Bluetooth Tx CH19_2440 MHz_2Mbps
	Mode 6: Bluetooth Tx CH39_2480 MHz_2Mbps
	Mode 7: Bluetooth Tx CH00_2402 MHz_125Kbps
	Mode 8: Bluetooth Tx CH19_2440 MHz_125Kbps
	Mode 9: Bluetooth Tx CH39_2480 MHz_125Kbps
	Mode 10: Bluetooth Tx CH00_2402 MHz_500Kbps
Radiated	Mode 11: Bluetooth Tx CH19_2440 MHz_500Kbps
Test Cases	Mode 12: Bluetooth Tx CH39_2480 MHz_500Kbps
	<sku 2=""></sku>
	Mode 13: Bluetooth Tx CH00_2402 MHz_500Kbps
	Mode 14: Bluetooth Tx CH19_2440 MHz_500Kbps
	Mode 15: Bluetooth Tx CH39_2480 MHz_500Kbps
	Mode 16: Bluetooth Tx CH00_2402 MHz_1Mbps
	Mode 17: Bluetooth Tx CH19_2440 MHz_1Mbps
	Mode 18: Bluetooth Tx CH39_2480 MHz_1Mbps
	Mode 19: Bluetooth Tx CH00_2402 MHz_2Mbps
	Mode 20: Bluetooth Tx CH19_2440 MHz_2Mbps
	Mode 21: Bluetooth Tx CH39_2480 MHz_2Mbps
	Mode 22: Bluetooth Tx CH00_2402 MHz_125Kbps
	Mode 23: Bluetooth Tx CH19_2440 MHz_125Kbps
	Mode 24: Bluetooth Tx CH39_2480 MHz_125Kbps

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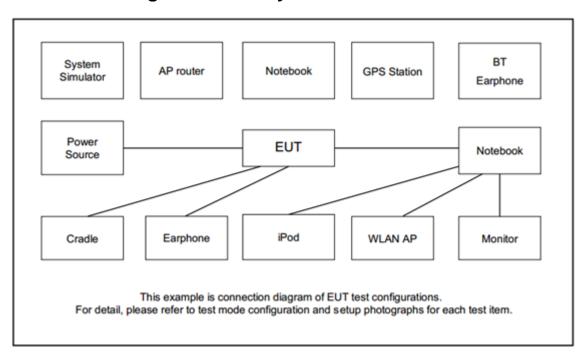
Summary table of Test Cases				
Test Item	Data Rate / Modulation			
AC Conducted	Bluetooth – LE / GFSK			
AC Conducted Emission	Mode 1: Bluetooth-LE Link + AC Adapter for SKU 1			
Emission	Mode 2: Bluetooth-LE Link + AC Adapter for SKU 2			

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Remark:

- 1. The worst case of Conducted Emission is mode 2; only the test data of it was reported.
- For radiation spurious emission, the modulation and the data rate picked for testing are determined by the Max. RF conducted power.

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model Name	FCC ID	Data Cable	Power Cord
1.	Notebook	DELL	Latitude 3400	FCC DoC	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
2.	Notebook	Lenovo	ideaPad Gaming	PD9AX201NG	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
3.	Smartphone	ASUS	Zenfone5	N/A	N/A	N/A

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2.5 EUT Operation Test Setup

The RF test items, utility "About SmartRF Studio version8.0.0.12 ALPHA" 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.

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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)

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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.

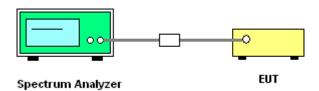
3.1.3 Test Procedures

- 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.

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- 3. Set the maximum power setting and enable the EUT to transmit continuously.
- 4. 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.
- 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) ≥ 3 * RBW.
- 6. Measure and record the results in the test report.

3.1.4 Test Setup



3.1.5 Test Result of 6dB Bandwidth

Please refer to Appendix A.

3.1.6 Test Result of 99% Occupied Bandwidth

Please refer to Appendix A.

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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.

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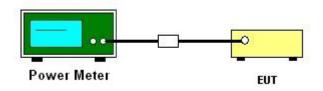
3.2.2 Measuring Instruments

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

Please refer to Appendix A.

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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.

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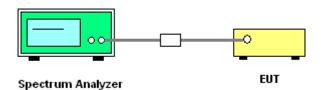
3.3.2 Measuring Instruments

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



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.

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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.

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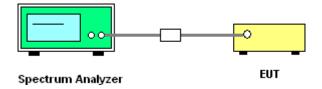
3.4.2 Measuring Instruments

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

Please refer to Appendix A.

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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 output power of this device is measured by spectrum analyzer, the attenuation under this paragraph 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.

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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.

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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.

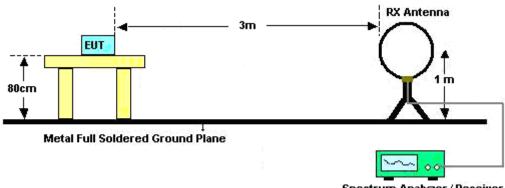
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- 3. The EUT is placed on a turntable with 0.8 meter for frequency below 1 GHz and 1.5 meter for frequency above 1 GHz respectively above ground.
- 4. The EUT is set 3 meters away from the receiving antenna, which is mounted on the top of a variable 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 $f \ge 1$ 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.

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3.5.4 Test Setup

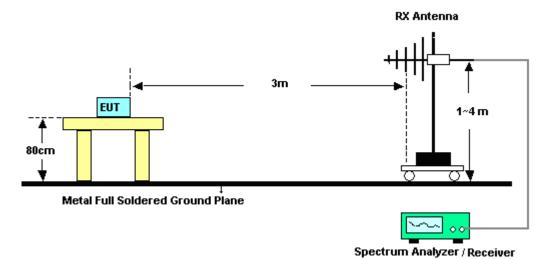
For radiated test below 30MHz



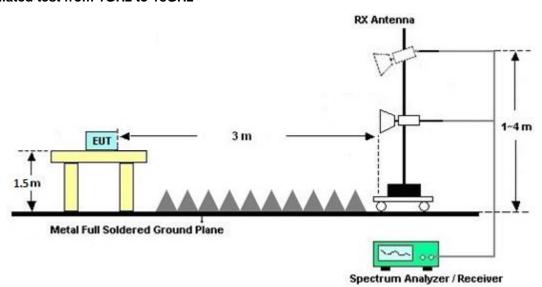
Spectrum Analyzer / Receiver

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For radiated test from 30MHz to 1GHz

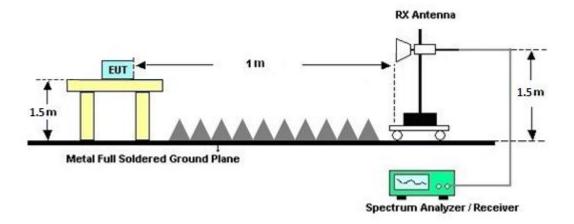


For radiated test from 1GHz to 18GHz



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For radiated test above 18GHz



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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 C.

3.5.7 Duty Cycle

Please refer to Appendix D.

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

Please refer to Appendix C.

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3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

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Eroquonov of omission (MHz)	Conducted limit (dBμV)					
Frequency of emission (MHz)	Quasi-peak	Average				
0.15-0.5	66 to 56*	56 to 46*				
0.5-5	56	46				
5-30	60	50				

^{*}Decreases with the logarithm of the frequency.

3.6.2 Measuring Instruments

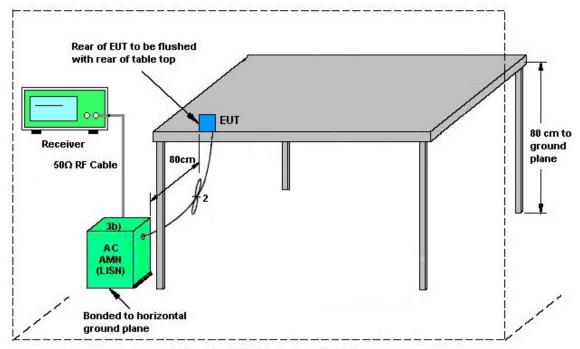
Please refer to the measuring equipment list in this test report.

3.6.3 Test Procedures

- 1. The EUT is placed 0.4 meter away from the conducting wall of the shielding room, and is kept at least 80 centimeters from any other grounded conducting surface.
- 2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
- 3. All the support units are connecting to the other LISN.
- 4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
- 5. The FCC states that a 50 ohm, 50 microhenry LISN shall be used.
- 6. Both Line and Neutral shall be tested in order to find out the maximum conducted emission.
- 7. The frequency range from 150 kHz to 30 MHz is scanned.
- Set the test-receiver system to Peak Detect Function and specified bandwidth (IF Bandwidth = 9 kHz) with Maximum Hold Mode. Then measurement is also conducted by Average Detector and Quasi-Peak Detector Function respectively.

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3.6.4 Test Setup



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AMN = Artificial mains network (LISN)

AE = Associated equipment

EUT = Equipment under test

ISN = Impedance stabilization network

3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

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3.7 Antenna Requirements

3.7.1 Standard Applicable

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 rule.

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3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

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4 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Sep. 12, 2023	Jan. 12, 2024~ Jan. 28, 2024	Sep. 11, 2024	Radiation (03CH23-HY)
Bilog Antenna with 6dB pad	TESEQ & WOKEN	CBL 6111D & 00802N1D-06	62028 & 003	N/A	Oct. 15, 2023	Jan. 12, 2024~ Jan. 28, 2024	Oct. 14, 2024	Radiation (03CH23-HY)
Amplifier	SONOMA	310N	421582	N/A	Jul. 15, 2023	Jan. 12, 2024~ Jan. 28, 2024	Jul. 14, 2024	Radiation (03CH23-HY)
Double Ridged Guide Horn Antenna	RFSPIN	DRH18-E	LE2C05A18EN	1GHz~18GHz	Jul. 12, 2023	Jan. 12, 2024~ Jan. 28, 2024	Jul. 11, 2024	Radiation (03CH23-HY)
SHF-EHF Horn Antenna	SCHWARZBE CK	BBHA9170	1225	18GHz-40GHz	Jul. 10, 2023	Jan. 12, 2024~ Jan. 28, 2024	Jul. 09, 2024	Radiation (03CH23-HY)
Amplifier	EMEC	EM01G18GA	060877	N/A	Sep. 28, 2023	Jan. 12, 2024~ Jan. 28, 2024	Sep. 27, 2024	Radiation (03CH23-HY)
Preamplifier	EMEC	EM18G40G	060871	18-40GHz	Aug. 30, 2023	Jan. 12, 2024~ Jan. 28, 2024	Aug. 29, 2024	Radiation (03CH23-HY)
Signal Analyzer	Keysight	N9010B	MY62170337	N/A	Aug. 17, 2023	Jan. 12, 2024~ Jan. 28, 2024	Aug. 16, 2024	Radiation (03CH23-HY)
Hygrometer	TECPEL	DTM-303B	TP211542	N/A	Oct. 30, 2023	Jan. 12, 2024~ Jan. 28, 2024	Oct. 29, 2024	Radiation (03CH23-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Jan. 12, 2024~ Jan. 28, 2024	N/A	Radiation (03CH23-HY)
Antenna Mast	ChainTek	MBS-520-1	N/A	1m~4m	N/A	Jan. 12, 2024~ Jan. 28, 2024	N/A	Radiation (03CH23-HY)
Turn Table	ChainTek	T-200-S-1	N/A	0~360 Degree	N/A	Jan. 12, 2024~ Jan. 28, 2024	N/A	Radiation (03CH23-HY)
Software	Audix	E3 6.09824_2019122	RK-002348	N/A	N/A	Jan. 12, 2024~ Jan. 28, 2024	N/A	Radiation (03CH23-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9kHz~30MHz	Mar. 07, 2023	Jan. 12, 2024~ Jan. 28, 2024	Mar. 06, 2024	Radiation (03CH23-HY)
RF Cable	EMC	EMC101Y	231115/231119/ 231122	N/A	Nov. 27, 2023	Jan. 12, 2024~ Jan. 28, 2024	Nov. 26, 2024	Radiation (03CH23-HY)
Hygrometer	TECPEL	DTM-303A	TP201996	N/A	Nov. 07, 2023	Jan. 30, 2024	Nov. 06, 2024	Conducted (TH05-HY)
Power Sensor	DARE	RPR3006W	16I00054SNO1 2 (NO:113)	10MHz~6GHz	Dec. 12, 2023	Jan. 30, 2024	Dec. 11, 2024	Conducted (TH05-HY)
Signal Analyzer	Rohde & Schwarz	FSV40	101566	10Hz~40GHz	Aug. 23, 2023	Jan. 30, 2024	Aug. 22, 2024	Conducted (TH05-HY)
AC Power Source	ACPOWER	AFC-11003G	F317040033	N/A	N/A	Jan. 17, 2024~ Jan. 26, 2024	N/A	Conduction (CO07-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Jan. 17, 2024~ Jan. 26, 2024	N/A	Conduction (CO07-HY)
Pulse Limiter	SCHWARZBE CK	VTSD 9561-F N	9561-F N00373	9kHz-200MHz	Oct. 20, 2023	Jan. 17, 2024~ Jan. 26, 2024	Oct. 19, 2024	Conduction (CO07-HY)
RF Cable	HUBER + SUHNER	RG 214/U	1358175	9kHz~30MHz	Mar. 15, 2023	Jan. 17, 2024~ Jan. 26, 2024	Mar. 14, 2024	Conduction (CO07-HY)
Two-Line V-Network	TESEQ	NNB 51	45051	N/A	Mar. 05, 2023	Jan. 17, 2024~ Jan. 26, 2024	Mar. 04, 2024	Conduction (CO07-HY)
Four-Line V-Network	TESEQ	NNB 52	36122	N/A	Mar. 13, 2023	Jan. 17, 2024~ Jan. 26, 2024	Mar. 12, 2024	Conduction (CO07-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102317	9kHz~3.6GHz	Sep. 20, 2023	Jan. 17, 2024~ Jan. 26, 2024	Sep. 19, 2024	Conduction (CO07-HY)

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5 Measurement Uncertainty

Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence	3.44 dB
of 95% (U = 2Uc(y))	3.44 UB

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

Measuring Uncertainty for a Level of Confidence	5.80 dB
of 95% (U = 2Uc(y))	3.00 UB

Uncertainty of Radiated Emission Measurement (1000 MHz ~ 6000 MHz)

Measuring Uncertainty for a Level of Confidence	4.40 dB	
of 95% (U = 2Uc(y))	4.40 UB	

Uncertainty of Radiated Emission Measurement (6000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence	4 20 AB
of 95% (U = 2Uc(y))	4.30 dB

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

Measuring Uncertainty for a Level of Confidence	5.20 dB
of 95% (U = 2Uc(y))	5.20 dB

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Appendix A. Test Result of Conducted Test Items

Test Engineer:	Eason Huang	Temperature:	21~25	°C
Test Date:	2024/1/30	Relative Humidity:	51~54	%

TEST RESULTS DATA 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
ſ	BLE	125kbps	1	0	2402	1.108	0.766	0.50	Pass
	BLE	125kbps	1	19	2440	1.104	0.766	0.50	Pass
	BLE	125kbps	1	39	2480	1.094	0.767	0.50	Pass

TEST RESULTS DATA Average Power Table

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	125kbps	1	0	2402	7.80	30.00	1.53	9.33	36.00	Pass
BLE	125kbps	1	19	2440	6.90	30.00	1.53	8.43	36.00	Pass
BLE	125kbps	1	39	2480	6.90	30.00	1.53	8.43	36.00	Pass

TEST RESULTS DATA Peak Power Density

Mod.	Data Rate	N⊤x	CH.	Freq. (MHz)	Peak PSD (dBm /100kHz)	Peak PSD (dBm /3kHz)	DG (dBi)	Peak PSD Limit (dBm /3kHz)	Pass/Fail
BLE	125kbps	1	0	2402	4.63	1.99	1.53	8.00	Pass
BLE	125kbps	1	19	2440	3.41	0.84	1.53	8.00	Pass
BLE	125kbps	1	39	2480	3.97	0.86	1.53	8.00	Pass

TEST RESULTS DATA 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	500kbps	1	0	2402	1.066	0.712	0.50	Pass
BLE	500kbps	1	19	2440	1.058	0.725	0.50	Pass
BLE	500kbps	1	39	2480	1.056	0.730	0.50	Pass

TEST RESULTS DATA Average Power Table

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	500kbps	1	0	2402	7.80	30.00	1.53	9.33	36.00	Pass
BLE	500kbps	1	19	2440	6.90	30.00	1.53	8.43	36.00	Pass
BLE	500kbps	1	39	2480	6.90	30.00	1.53	8.43	36.00	Pass

TEST RESULTS DATA Peak Power Density

Мо	n I	ata ate	NTX	CH.	Freq. (MHz)	Peak PSD (dBm /100kHz)	Peak PSD (dBm /3kHz)	DG (dBi)	Peak PSD Limit (dBm /3kHz)	Pass/Fail
BL	E 500	kbps	1	0	2402	7.80	-5.19	1.53	8.00	Pass
BL	E 500	kbps	1	19	2440	6.68	-5.67	1.53	8.00	Pass
BL	E 500I	kbps	1	39	2480	6.81	-5.51	1.53	8.00	Pass

TEST RESULTS DATA 6dB and 99% Occupied Bandwidth

Mod.	Data Rate	N⊤x	CH.	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail
BLE	1Mbps	1	0	2402	1.076	0.716	0.50	Pass
BLE	1Mbps	1	19	2440	1.088	0.724	0.50	Pass
BLE	1Mbps	1	39	2480	1.070	0.709	0.50	Pass

TEST RESULTS DATA Average Power Table

Mod.	Data Rate	N⊤x	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	7.80	30.00	1.53	9.33	36.00	Pass
BLE	1Mbps	1	19	2440	6.90	30.00	1.53	8.43	36.00	Pass
BLE	1Mbps	1	39	2480	6.90	30.00	1.53	8.43	36.00	Pass

TEST RESULTS DATA Peak Power Density

Мо	d.	Data Rate	N⊤x	CH.	Freq. (MHz)	Peak PSD (dBm /100kHz)	Peak PSD (dBm /3kHz)	DG (dBi)	Peak PSD Limit (dBm /3kHz)	Pass/Fail
BL	Е	1Mbps	1	0	2402	7.79	-3.77	1.53	8.00	Pass
BL	Е	1Mbps	1	19	2440	6.70	-6.31	1.53	8.00	Pass
BL	E	1Mbps	1	39	2480	6.82	-5.55	1.53	8.00	Pass

TEST RESULTS DATA 6dB and 99% Occupied Bandwidth

Mod.	Data Rate	N⊤x	CH.	Freq. (MHz)	99% Occupied BW (MHz)	6dB BW (MHz)	6dB BW Limit (MHz)	Pass/Fail
BLE	2Mbps	1	0	2402	2.069	1.366	0.50	Pass
BLE	2Mbps	1	19	2440	2.065	1.362	0.50	Pass
BLE	2Mbps	1	39	2480	2.073	1.337	0.50	Pass

TEST RESULTS DATA Average Power Table

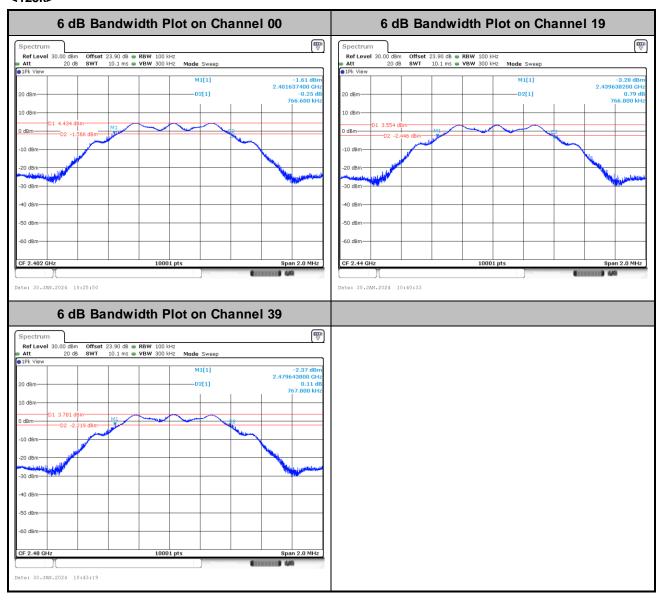
Mod.	Data Rate	N⊤x	CH.	Freq. (MHz)	Average Conducted Power (dBm)	Conducted Power Limit (dBm)	DG (dBi)	EIRP Power (dBm)	EIRP Power Limit (dBm)	Pass /Fail
BLE	2Mbps	1	0	2402	7.80	30.00	1.53	9.33	36.00	Pass
BLE	2Mbps	1	19	2440	6.90	30.00	1.53	8.43	36.00	Pass
BLE	2Mbps	1	39	2480	6.90	30.00	1.53	8.43	36.00	Pass

TEST RESULTS DATA Peak Power Density

Mod.	Data Rate	N⊤x	CH.	Freq. (MHz)	Peak PSD (dBm /100kHz)	Peak PSD (dBm /3kHz)	DG (dBi)	Peak PSD Limit (dBm /3kHz)	Pass/Fail
BLE	2Mbps	1	0	2402	6.63	-7.14	1.53	8.00	Pass
BLE	2Mbps	1	19	2440	5.56	-7.68	1.53	8.00	Pass
BLE	2Mbps	1	39	2480	5.95	-7.46	1.53	8.00	Pass

6dB Bandwidth

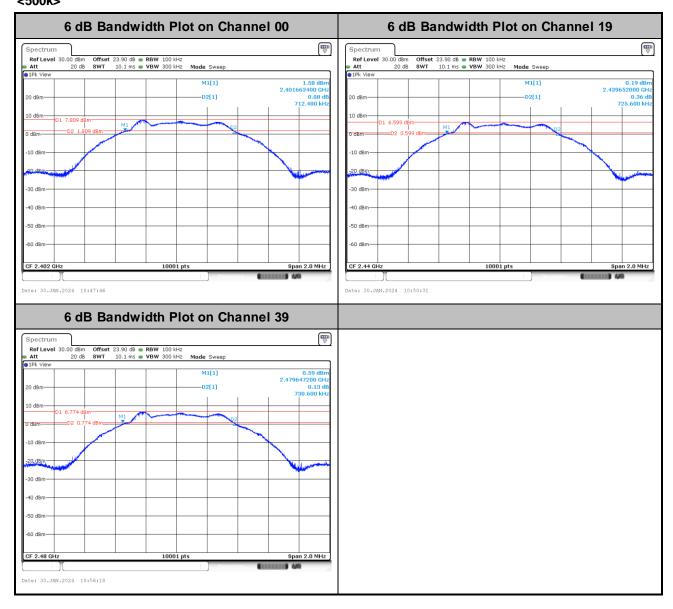
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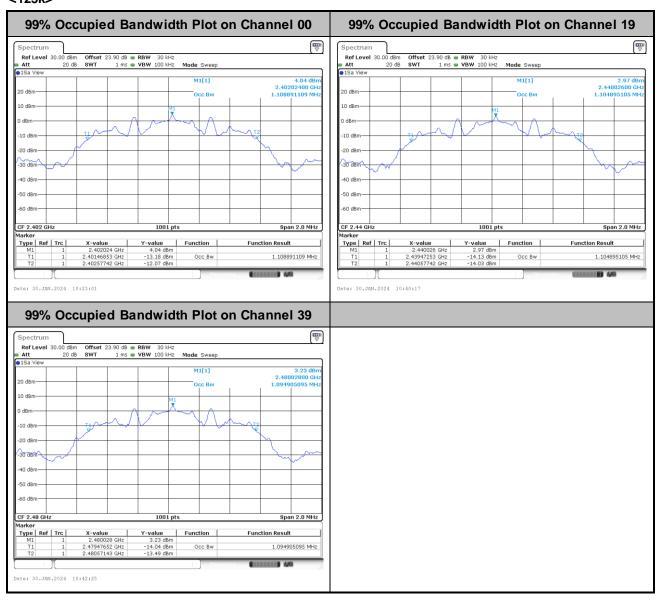


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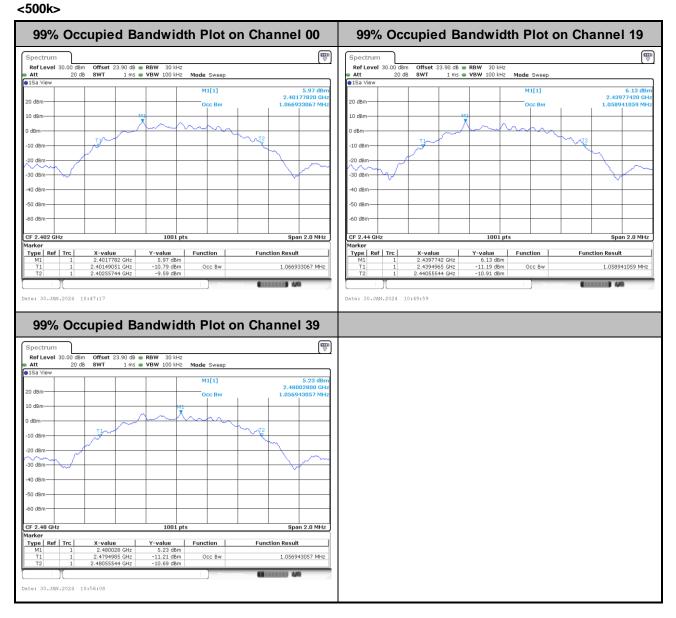
99% Occupied Bandwidth

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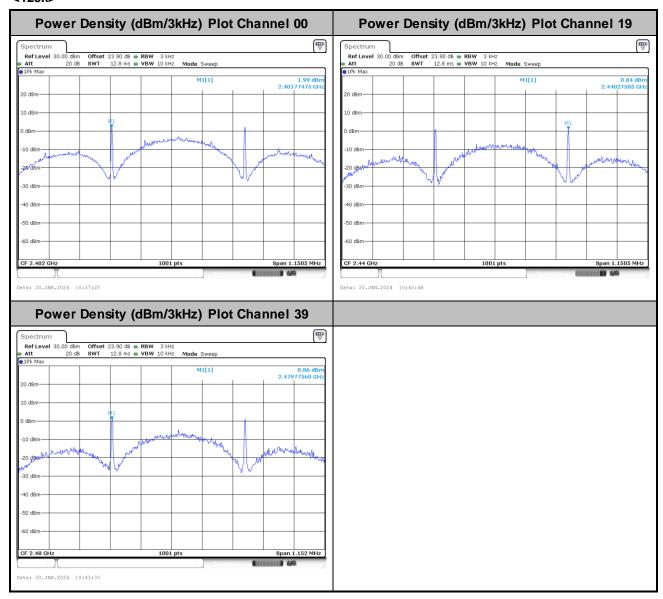


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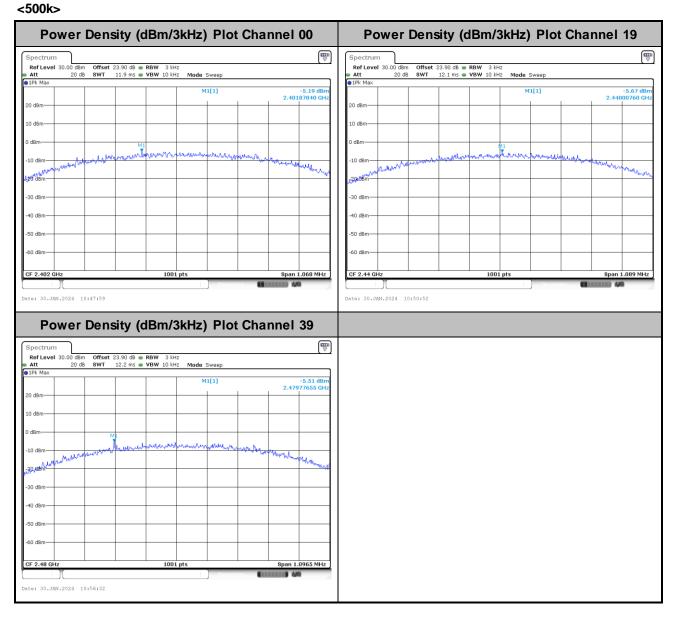
Power Spectral Density (dBm/3kHz)

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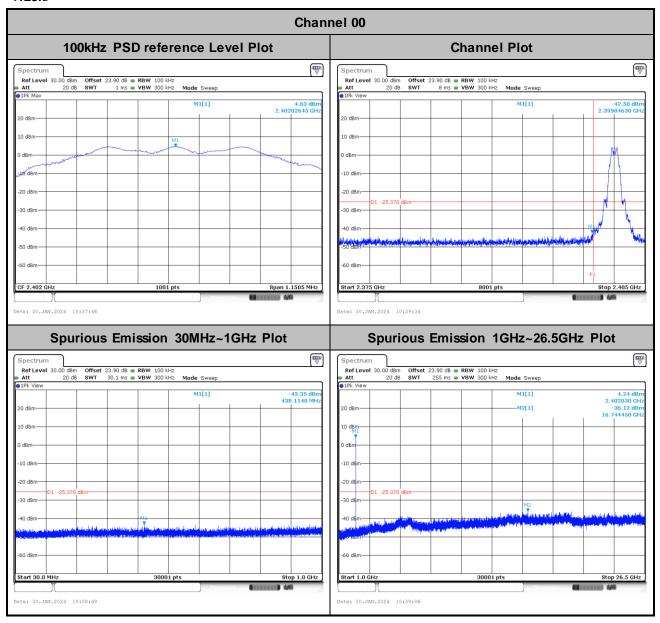


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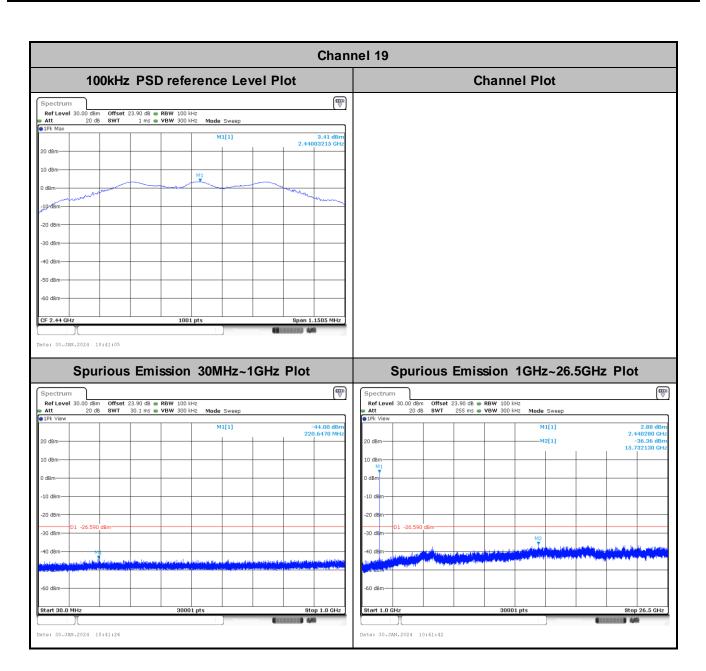
Band Edge and Conducted Spurious Emission

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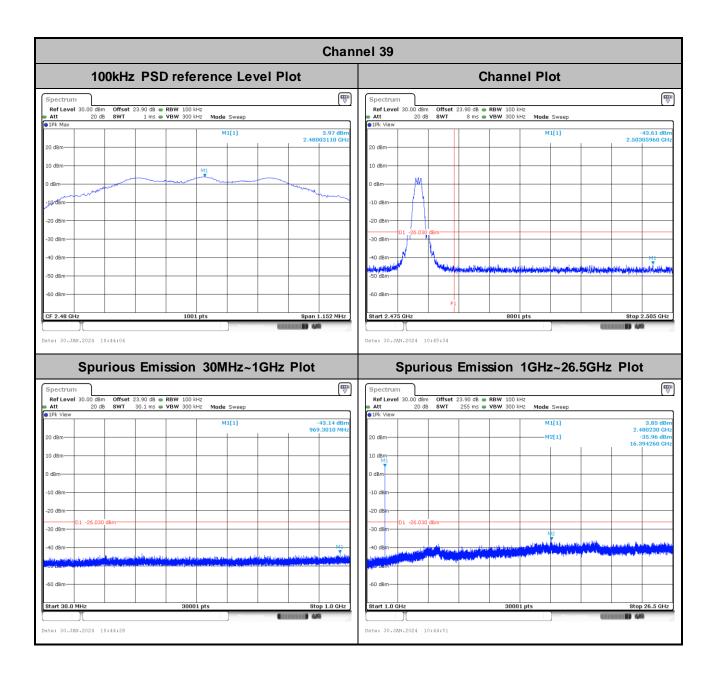
Report No.: FR3D0610

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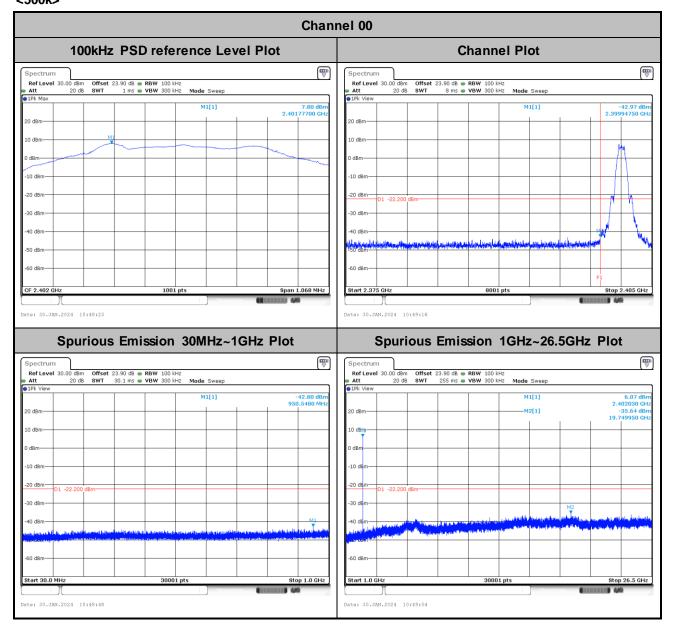
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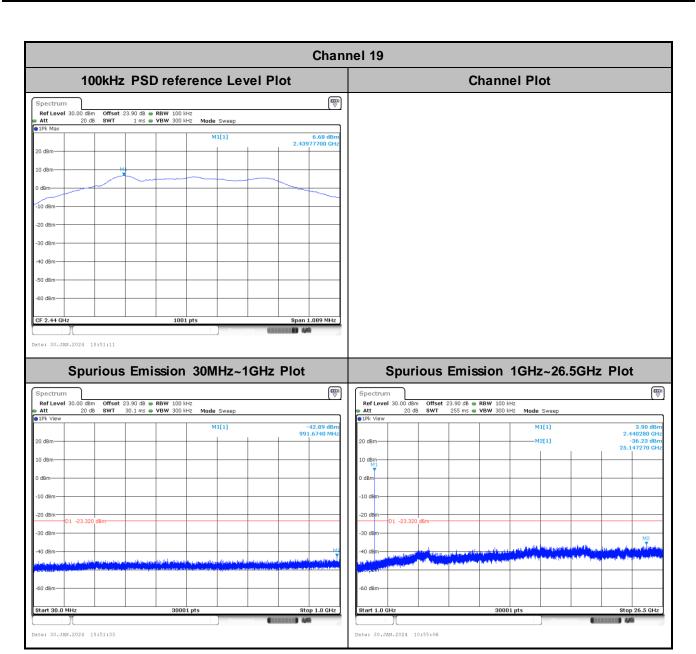
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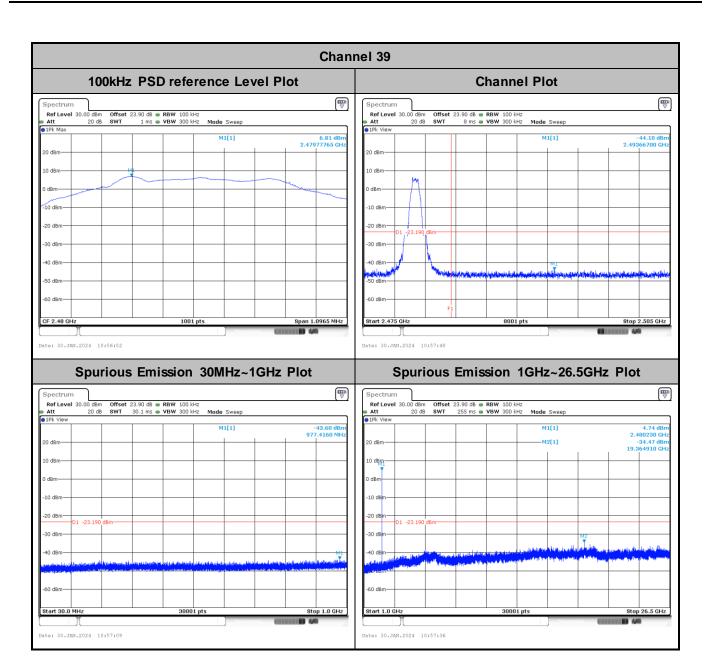


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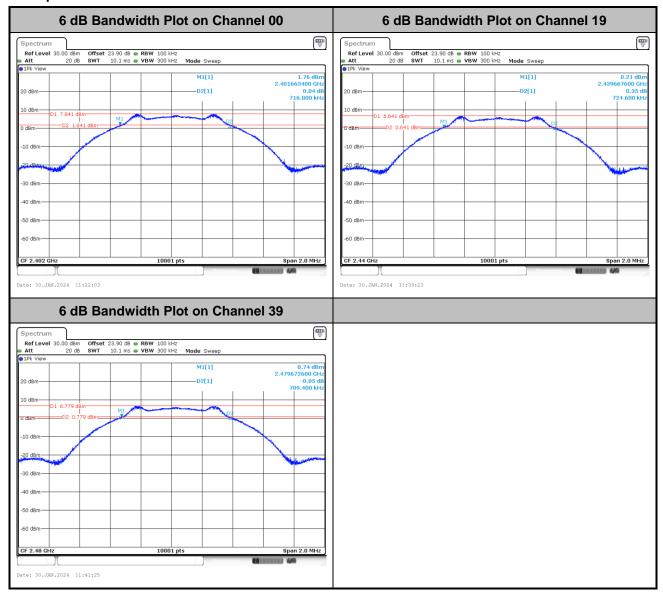
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6dB Bandwidth

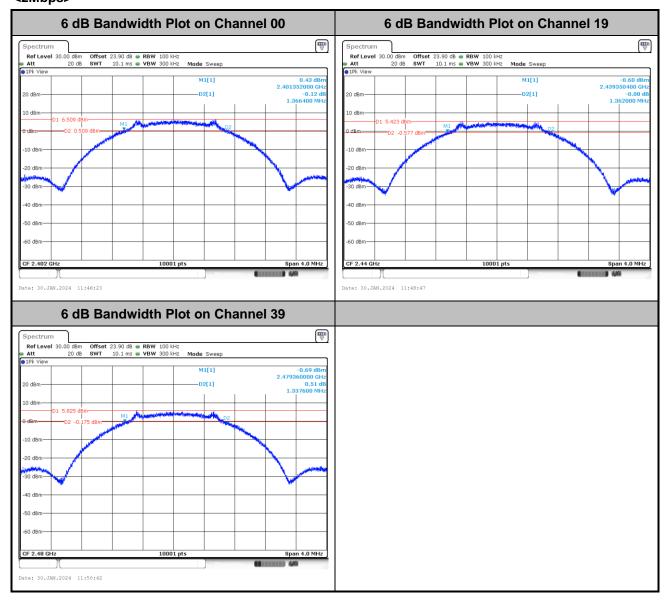
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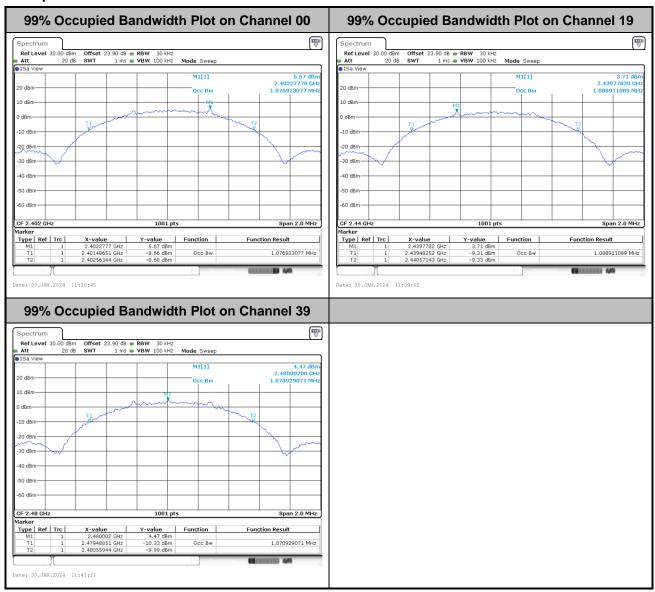


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99% Occupied Bandwidth

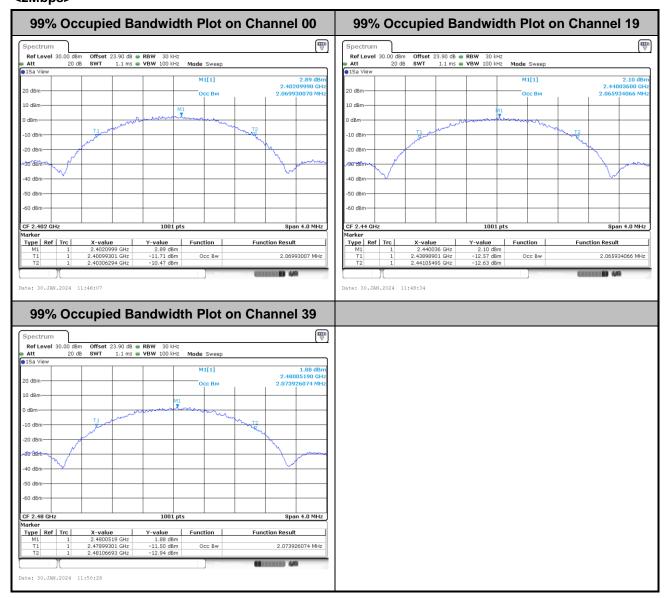
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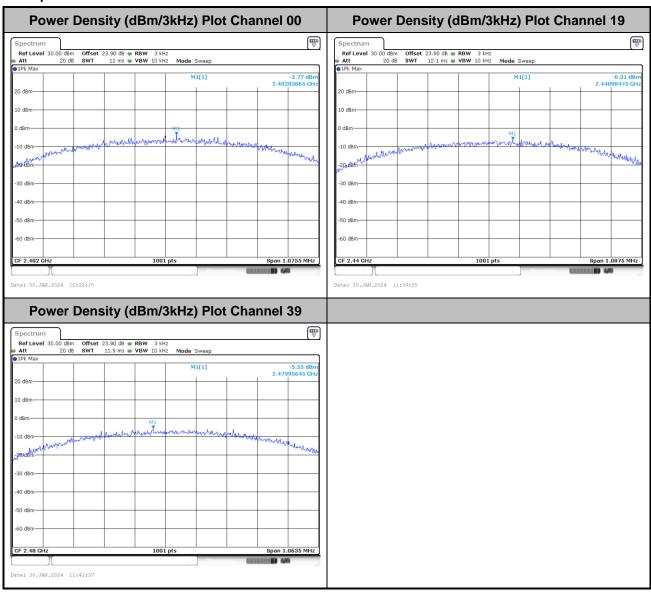


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Power Spectral Density (dBm/3kHz)

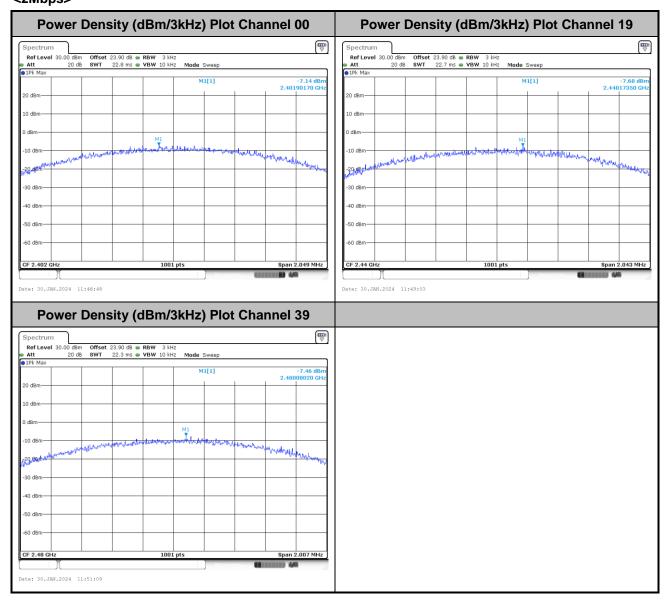
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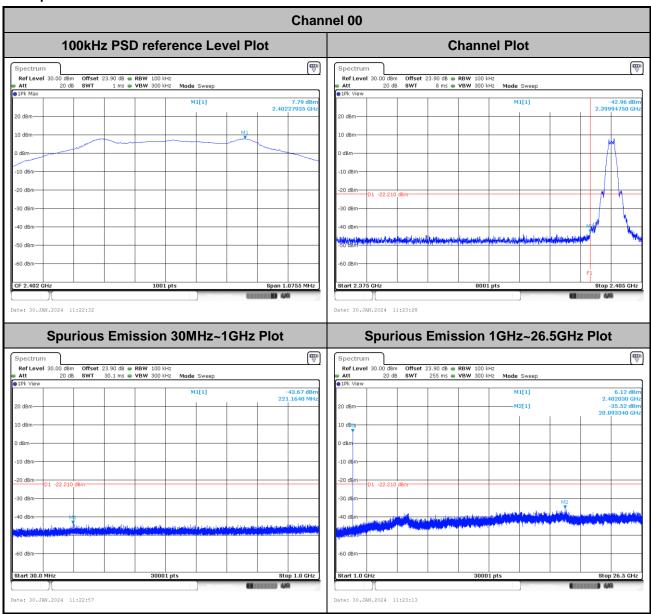


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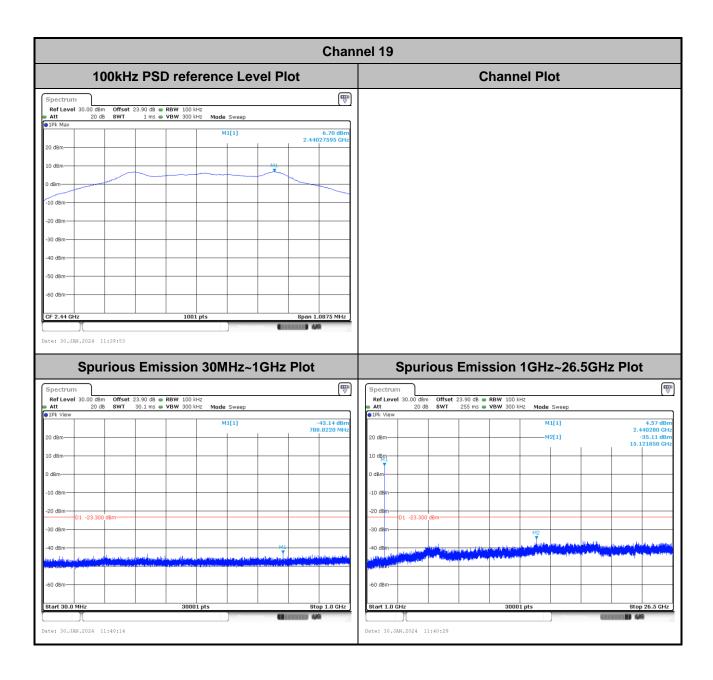
Band Edge and Conducted Spurious Emission

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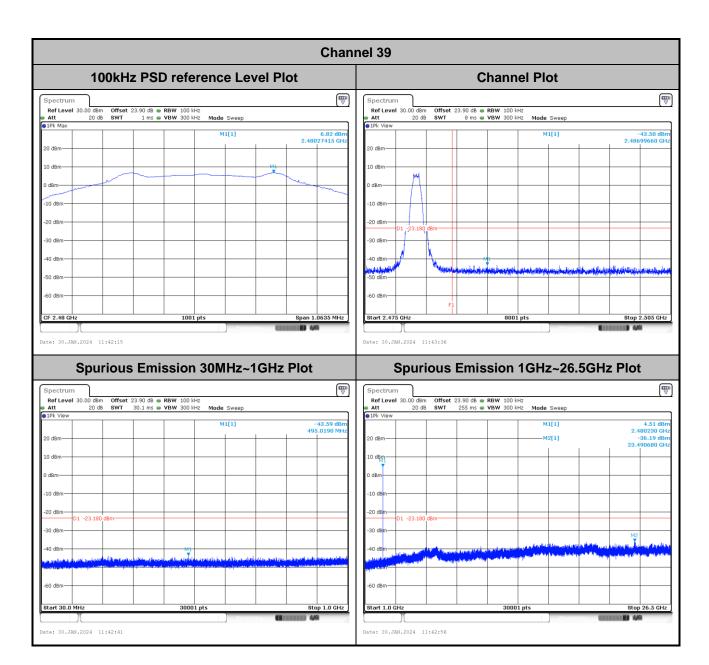


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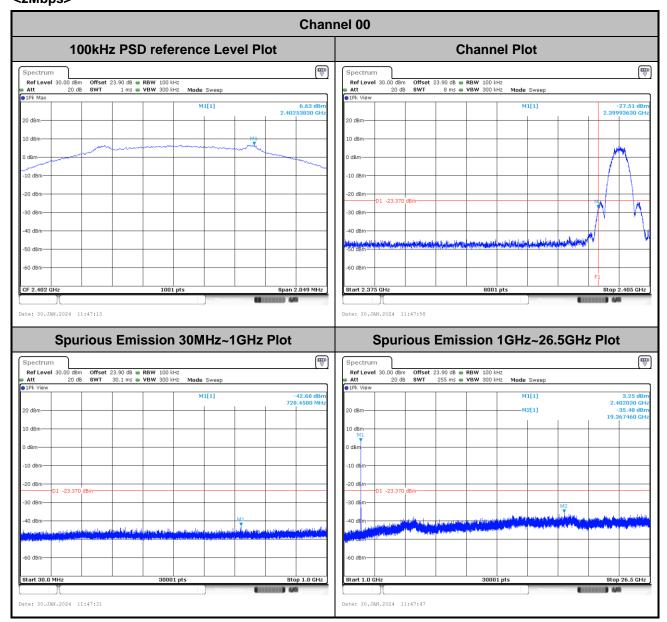


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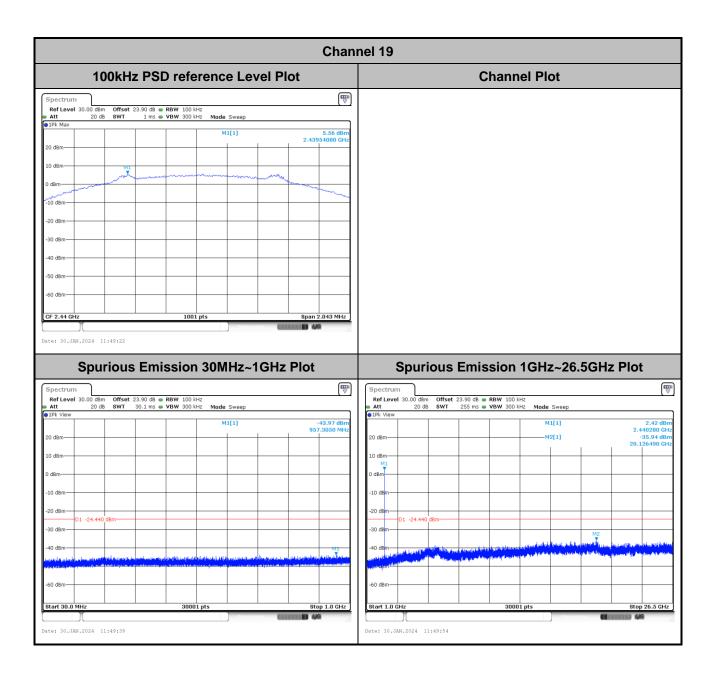
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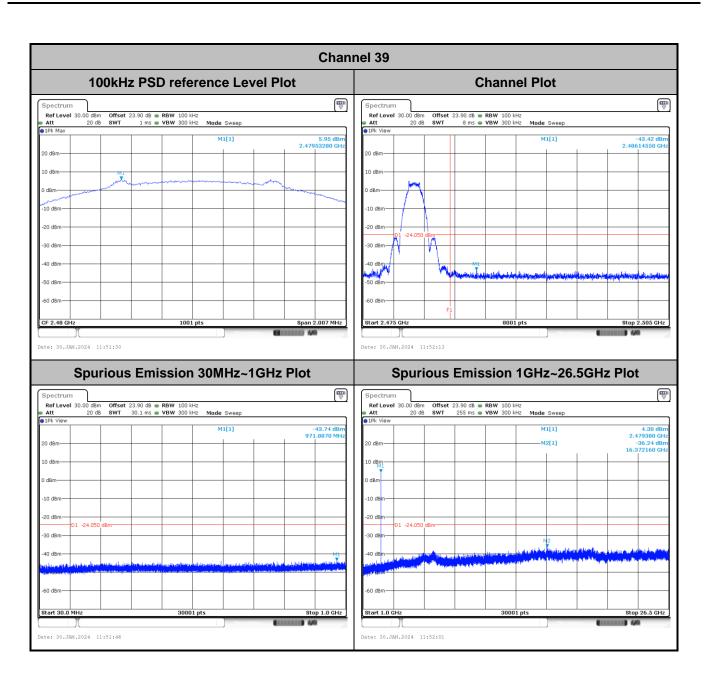


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Appendix B. AC Conducted Emission Test Results

Test Engineer :	Lauia Chung	Temperature :	22.2~23°C
	Louis Chung	Relative Humidity :	47.9~53.2%

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EUT Information

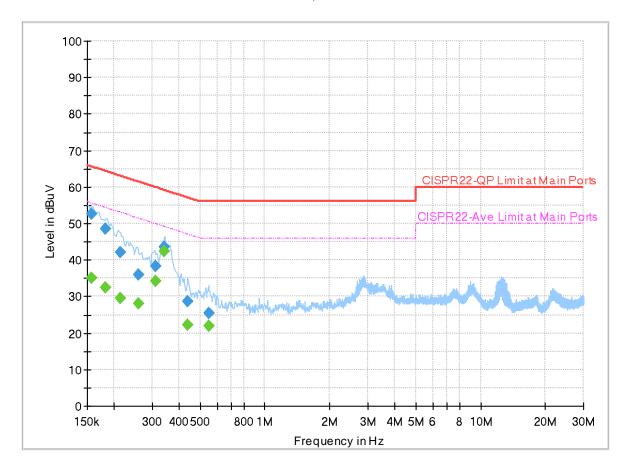
 Report NO :
 3D0610

 Test Mode :
 Mode 2

 Test Voltage :
 120Vac/60Hz

Phase: Line

Full Spectrum



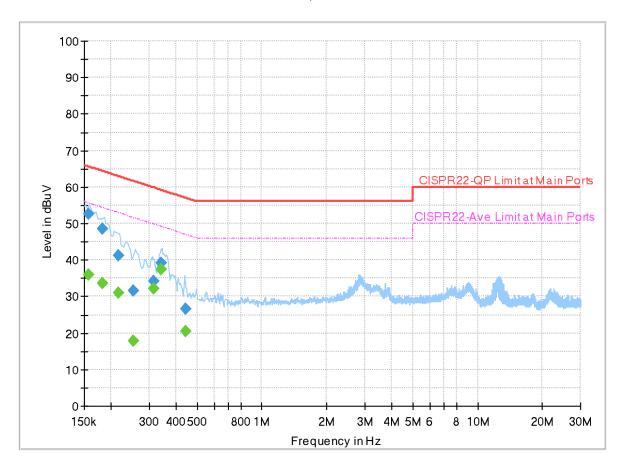
Final_Result

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.157110	52.58		65.62	13.04	L1	OFF	19.9
0.157110		35.08	55.62	20.54	L1	OFF	19.9
0.183030	48.47		64.35	15.88	L1	OFF	19.9
0.183030		32.57	54.35	21.78	L1	OFF	19.9
0.213000	42.06		63.09	21.03	L1	OFF	19.9
0.213000		29.48	53.09	23.61	L1	OFF	19.9
0.260250	35.88		61.42	25.54	L1	OFF	19.9
0.260250		27.94	51.42	23.48	L1	OFF	19.9
0.312000	38.20		59.92	21.72	L1	OFF	19.9
0.312000		34.14	49.92	15.78	L1	OFF	19.9
0.339000	43.48		59.23	15.75	L1	OFF	19.9
0.339000		42.26	49.23	6.97	L1	OFF	19.9
0.439260	28.75		57.08	28.33	L1	OFF	19.9
0.439260		22.08	47.08	25.00	L1	OFF	19.9
0.552750	25.40		56.00	30.60	L1	OFF	19.9
0.552750		21.98	46.00	24.02	L1	OFF	19.9

EUT Information

Report NO: 3D0610
Test Mode: Mode 2
Test Voltage: 120Vac/60Hz
Phase: Neutral

Full Spectrum



Final_Result

Frequency	QuasiPeak	CAverage	Limit	Margin	Line	Filter	Corr.
(MHz)	(dBuV)	(dBuV)	(dBuV)	(dB)			(dB)
0.157470		35.95	55.60	19.65	N	OFF	19.9
0.157470	52.65		65.60	12.95	N	OFF	19.9
0.182670		33.73	54.36	20.63	N	OFF	19.9
0.182670	48.47		64.36	15.89	N	OFF	19.9
0.215430		30.90	52.99	22.09	N	OFF	19.9
0.215430	41.25		62.99	21.74	N	OFF	19.9
0.253500		17.76	51.64	33.88	N	OFF	19.9
0.253500	31.60		61.64	30.04	N	OFF	19.9
0.314250		32.18	49.86	17.68	N	OFF	19.9
0.314250	34.16		59.86	25.70	N	OFF	19.9
0.339720		37.42	49.21	11.79	N	OFF	19.9
0.339720	39.05		59.21	20.16	N	OFF	19.9
0.442500		20.38	47.02	26.64	N	OFF	19.9
0.442500	26.55		57.02	30.47	N	OFF	19.9

Appendix C. Radiated Spurious Emission Test Data

Test Engineer :	Leo Li and Karl Hou	Temperature :	21.2~23.3°C	
		Relative Humidity :	55~60%	

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C1. Radiated Spurious Emission Test Modes

<SKU 1>

<3NU								
Mode	Band (MHz)	Antenna	Modulation	Channel	Frequency	Data Rate	RU	Remark
Mode 1	2400-2483.5	SISO	Bluetooth-LE_GSFK	00	2402	1Mbps	-	-
Mode 2	2400-2483.5	SISO	Bluetooth-LE_GSFK	19	2440	1Mbps	1	-
Mode 3	2400-2483.5	SISO	Bluetooth-LE_GSFK	39	2480	1Mbps	-	-
Mode 4	2400-2483.5	SISO	SHF	-	-	1Mbps	-	-
Mode 5	2400-2483.5	SISO	LF	-	-	1Mbps	-	-
Mode 6	2400-2483.5	SISO	Bluetooth-LE_GSFK	00	2402	2Mbps	-	-
Mode 7	2400-2483.5	SISO	Bluetooth-LE_GSFK	19	2440	2Mbps	-	-
Mode 8	2400-2483.5	SISO	Bluetooth-LE_GSFK	39	2480	2Mbps	-	-
Mode 9	2400-2483.5	SISO	SHF	-	-	2Mbps	-	-
Mode 10	2400-2483.5	SISO	LF	-	-	2Mbps	-	-
Mode 11	2400-2483.5	SISO	Bluetooth-LE_GSFK	00	2402	125kbps	-	-
Mode 12	2400-2483.5	SISO	Bluetooth-LE_GSFK	19	2440	125kbps	-	-
Mode 13	2400-2483.5	SISO	Bluetooth-LE_GSFK	39	2480	125kbps	-	-
Mode 14	2400-2483.5	SISO	SHF	-	-	125kbps	-	-
Mode 15	2400-2483.5	SISO	LF	-	-	125kbps	-	-
Mode 16	2400-2483.5	SISO	Bluetooth-LE_GSFK	00	2402	500kbps	-	-
Mode 17	2400-2483.5	SISO	Bluetooth-LE_GSFK	19	2440	500kbps	-	-
Mode 18	2400-2483.5	SISO	Bluetooth-LE_GSFK	39	2480	500kbps	-	-
Mode 19	2400-2483.5	SISO	SHF	-	-	500kbps	-	-
Mode 20	2400-2483.5	SISO	LF	-	-	500kbps	-	-

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FCC RADIO TEST REPORT

<SKU 2>

Mode	Band (MHz)	Antenna	Modulation	Channel	Frequency	Data Rate	RU	Remark
Mode 21	2400-2483.5	SISO	Bluetooth-LE_GSFK	0	2402	500kbps	-	-
Mode 22	2400-2483.5	SISO	Bluetooth-LE_GSFK	19	2440	500kbps	-	-
Mode 23	2400-2483.5	SISO	Bluetooth-LE_GSFK	39	2480	500kbps	-	-
Mode 24	2400-2483.5	SISO	Bluetooth-LE_GSFK	00	2402	1Mbps	-	-
Mode 25	2400-2483.5	SISO	Bluetooth-LE_GSFK	19	2440	1Mbps	-	-
Mode 26	2400-2483.5	SISO	Bluetooth-LE_GSFK	39	2480	1Mbps	-	-
Mode 27	2400-2483.5	SISO	Bluetooth-LE_GSFK	00	2402	2Mbps	-	-
Mode 28	2400-2483.5	SISO	Bluetooth-LE_GSFK	19	2440	2Mbps	-	-
Mode 29	2400-2483.5	SISO	Bluetooth-LE_GSFK	39	2480	2Mbps	-	-
Mode 30	2400-2483.5	SISO	Bluetooth-LE_GSFK	00	2402	125kbps	-	-
Mode 31	2400-2483.5	SISO	Bluetooth-LE_GSFK	19	2440	125kbps	-	-
Mode 32	2400-2483.5	SISO	Bluetooth-LE_GSFK	39	2480	125kbps	-	-
Mode 33	2400-2483.5	SISO	Bluetooth-LE_GSFK	39	2480	500kbps	-	SHF
Mode 34	2400-2483.5	SISO	Bluetooth-LE_GSFK	39	2480	500kbps	-	LF

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C2. Summary of each worse mode

<SKU 1>

	KU I>		Freq.	Level	Limit	Margin		Peak			
Mode	Modulation	Ch.	(MHz)	(dBuV/m)	(dBuV/m)	(dB)	Pol.	Avg.	Result	RU	Remark
1	Bluetooth-LE_GSFK (1Mbps)	00	2389.86	40.29	54.00	-13.71	V	Avg.	Pass	ı	Band Edge
1	Bluetooth-LE_GSFK (1Mbps)	00	4804.00	45.36	54.00	-8.64	V	Avg.	Pass	1	Harmonic
2	Bluetooth-LE_GSFK (1Mbps)	19	2493.27	40.16	54.00	-13.84	Н	Avg.	Pass	'	Band Edge
2	Bluetooth-LE_GSFK (1Mbps)	19	7320.00	49.33	54.00	-4.67	Н	Avg.	Pass	-	Harmonic
3	Bluetooth-LE_GSFK (1Mbps)	39	2483.52	42.58	54.00	-11.42	Н	Avg.	Pass	1	Band Edge
3	Bluetooth-LE_GSFK (1Mbps)	39	7440.00	48.61	54.00	-5.39	Н	Avg.	Pass	1	Harmonic
4	Bluetooth-LE_GSFK (1Mbps)		23203.00	40.13	74.00	-33.87	V	Peak	Pass	1	SHF
5	Bluetooth-LE_GSFK (1Mbps)	-	798.24	39.95	46.00	-6.05	Н	Peak	Pass	-	LF
6	Bluetooth-LE_GSFK (2Mbps)	00	2342.66	40.51	54.00	-13.49	V	Avg.	Pass	1	Band Edge
6	Bluetooth-LE_GSFK (2Mbps)	00	4804.00	42.33	54.00	-11.67	V	Avg.	Pass	1	Harmonic
7	Bluetooth-LE_GSFK (2Mbps)	19	2499.88	40.21	54.00	-13.79	V	Avg.	Pass	1	Band Edge
7	Bluetooth-LE_GSFK (2Mbps)	19	7320.00	48.50	54.00	-5.50	Н	Avg.	Pass	-	Harmonic

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Freq. Level Limit Margin **Peak** Mode Modulation Ch. Pol. Result RU Remark (dBuV/m) (dBuV/m) (MHz) (dB) Avg. Bluetooth-LE_GSFK 8 39 2483.52 46.12 54.00 -7.88 Н Avg. Pass Band Edge (2Mbps) Bluetooth-LE_GSFK 8 39 7440.00 48.83 54.00 -5.17 Н Pass Harmonic Avg. (2Mbps) Bluetooth-LE_GSFK 9 SHF 25260.00 40.45 74.00 -33.55 Н Peak **Pass** (2Mbps) Bluetooth-LE_GSFK 10 LF -32.91 33.61 40.00 -6.39٧ Peak **Pass** (2Mbps) Bluetooth-LE_GSFK 11 00 2389.95 40.37 54.00 ٧ Band Edge -13.63Avg. **Pass** (125kbps) Bluetooth-LE_GSFK 11 00 4804.00 44.53 54.00 -9.47 ٧ Avg. **Pass** Harmonic (125kbps) Bluetooth-LE_GSFK 12 19 2500.00 40.16 54.00 -13.84 ٧ Pass Band Edge Avg. (125kbps) Bluetooth-LE_GSFK 12 19 7320.00 50.73 54.00 -3.27Н Avg. **Pass** Harmonic (125kbps) Bluetooth-LE_GSFK 13 39 2483.52 42.64 54.00 -11.36 Н Pass Band Edge Avg. (125kbps) Bluetooth-LE_GSFK 13 39 7440.00 50.52 54.00 -3.48 Н **Pass** Harmonic Avg. (125kbps) ${\bf Blue to oth\text{-}LE_GSFK}$ 14 ٧ -23203.00 39.84 74.00 -34.16 Peak **Pass** -SHF (125kbps) Bluetooth-LE_GSFK 15 798.24 39.86 46.00 -6.14 Н Peak **Pass** LF (125kbps)

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Freq. Level Limit Margin Peak Mode Modulation Ch. Pol. Result RU Remark (dBuV/m) (dBuV/m) (dB) (MHz) Avg. Bluetooth-LE_GSFK 16 00 2386.08 40.30 54.00 -13.70 ٧ Avg. Pass Band Edge (500kbps) Bluetooth-LE_GSFK 16 00 4804.00 44.68 54.00 -9.32 ٧ Pass Harmonic Avg. (500kbps) Bluetooth-LE_GSFK 17 19 2491.21 54.00 Band Edge 40.18 -13.82 Н Avg. **Pass** (500kbps) Bluetooth-LE_GSFK 17 19 7320.00 51.22 54.00 -2.78Н Avg. **Pass** Harmonic (500kbps) Bluetooth-LE_GSFK 18 39 2483.52 42.17 54.00 -11.83 Н **Pass** Band Edge Avg. (500kbps) Bluetooth-LE_GSFK 18 39 7440.00 51.32 54.00 -2.68 Н Avg. **Pass** Harmonic (500kbps) Bluetooth-LE_GSFK 19 25260.00 39.91 74.00 -34.09 Н Peak Pass SHF (500kbps) Bluetooth-LE_GSFK 20 -39.83 46.00 Н Peak Pass LF 798.24 -6.17 -(500kbps)

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<SKU 2>

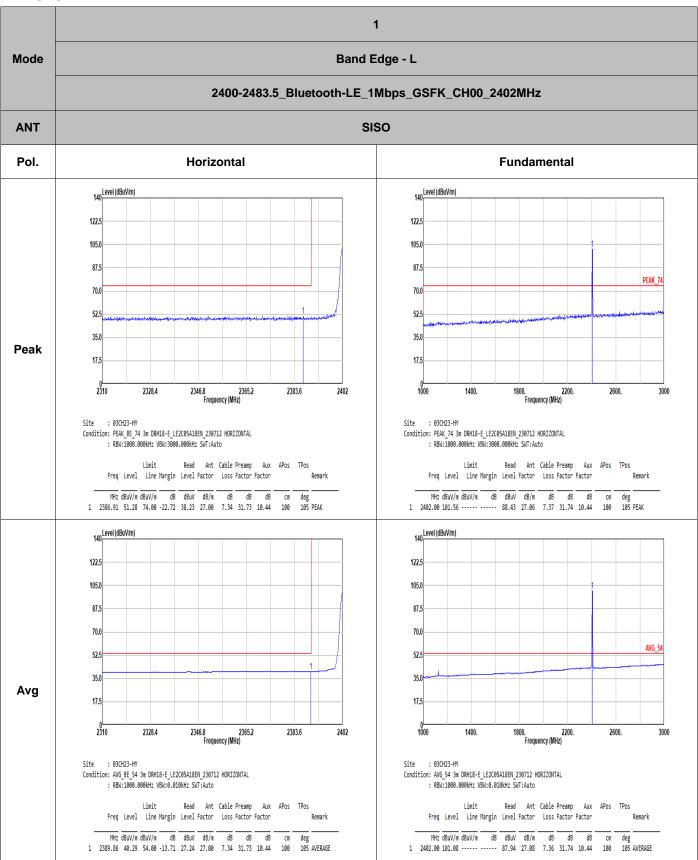
	KU 2>		<u> </u>								
Mode	Modulation	Ch.	Freq. (MHz)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Pol.	Peak Avg.	Result	RU	Remark
21	Bluetooth-LE_GSFK (500kbps)	0	4804.00	46.24	74.00	-27.76	Н	Peak	Pass	-	Harmonic
22	Bluetooth-LE_GSFK (500kbps)	19	7320.00	49.92	54.00	-4.08	Н	Avg.	Pass	-	Harmonic
23	Bluetooth-LE_GSFK (500kbps)	39	7440.00	51.31	54.00	-2.69	Н	Avg.	Pass	-	Harmonic
24	Bluetooth-LE_GSFK (1Mbps)	00	4804.00	39.05	54.00	-14.95	V	Avg.	Pass	-	Harmonic
25	Bluetooth-LE_GSFK (1Mbps)	19	7320.00	49.89	54.00	-4.11	Н	Avg.	Pass	-	Harmonic
26	Bluetooth-LE_GSFK (1Mbps)	39	7440.00	50.88	54.00	-3.12	Н	Avg.	Pass	-	Harmonic
27	Bluetooth-LE_GSFK (2Mbps)	00	4804.00	38.82	54.00	-15.18	V	Avg.	Pass	-	Harmonic
28	Bluetooth-LE_GSFK (2Mbps)	19	7320.00	49.06	54.00	-4.94	Н	Avg.	Pass	-	Harmonic
29	Bluetooth-LE_GSFK (2Mbps)	39	7440.00	49.77	54.00	-4.23	Н	Avg.	Pass	-	Harmonic
30	Bluetooth-LE_GSFK (125kbps)	00	4804.00	39.01	54.00	-14.99	V	Avg.	Pass	-	Harmonic
31	Bluetooth-LE_GSFK (125kbps)	19	7320.00	49.90	54.00	-4.10	Н	Avg.	Pass	-	Harmonic
32	Bluetooth-LE_GSFK (125kbps)	39	7440.00	50.65	54.00	-3.35	Н	Avg.	Pass	-	Harmonic
33	Bluetooth-LE_GSFK (500kbps)	-	26447.89	40.28	74.00	-33.72	Н	Peak	Pass	-	SHF
34	Bluetooth-LE_GSFK (500kbps)	-	796.30	39.90	46.00	-6.10	Н	Peak	Pass	-	LF

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TEL: 886-3-327-0868 FAX: 886-3-327-0855 Mode Band Edge - L 2400-2483.5_Bluetooth-LE_1Mbps_GSFK_CH00_2402MHz **ANT** SISO Vertical Pol. **Fundamental** 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 PEAK_74 52.5 52.5 35.0 35.0 **Peak** 17.5 17.5 2310 1000 2328.4 2346.8 2365.2 Frequency (MHz) 2383.6 2402 1400. 1800. 2200. Frequency (MHz) 2600. 3000 : 03CH23-HY Site : 03CH23-HY Site Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_230712 VERTICAL Condition: PEAK_74 3m DRH18-E_LE2C05A18EN_230712 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Freq Level Line Margin Level Factor Loss Factor Factor Remark Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm 1 2356.09 51.84 74.00 -22.16 38.74 27.10 7.28 31.71 10.43 392 deg 28 PEAK 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 70.0 70.0 52.5 52.5 35.0 35.0 Avg 17.5 17.5 2310 1000 0. 2200. Frequency (MHz) 2328.4 2365.2 2383.6 2402 1400. 2600. 3000 Frequency (MHz) Site : 03CH23-HY Site : 03CH23-HV Condition: AVG BE 54 3m DRH18-E LE2C05A18EN 230712 VERTICAL Condition: AVG 54 3m DRH18-E LE2C05A18EN 230712 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Freq Level Line Margin Level Factor Loss Factor Factor Remark Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2389.86 40.29 54.00 -13.71 27.24 27.00 7.34 31.73 10.44 392 28 MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB dB 1 2402.00 101.57 ----- 88.44 27.06 7.37 31.74 10.44 cm deg

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Mode Harmonic 2400-2483.5_Bluetooth-LE_1Mbps_GSFK_CH00_2402MHz SISO **ANT** Horizontal Pol. Vertical 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 PEAK_74 PEAK_74 70.0 70.0 52.5 52.5 35.0 Peak 17.5 17.5 Avg 3000 3000 6000. 15000. 18000 6000. 15000 18000 12000. Frequency (MHz) Frequency (MHz) Site : 03CH23-HY Site : 03CH23-HY Condition: PEAK_74 3m DRH18-E_LE2C05A18EN_230712 VERTICAL Condition: PEAK_74 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark Freq Level Line Margin Level Factor Loss Factor Factor MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB deg deg MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm 1 4804.00 51.16 74.00 -22.84 39.44 32.32 10.56 32.98 1.82 240 Peak 1 4804.00 48.35 74.00 -25.65 36.63 32.32 10.56 32.98 1.82 400 212 Peak 240 Average 2 4804.00 45.36 54.00 -8.64 33.64 32.32 10.56 32.98 1.82 100 2 4804.00 41.16 54.00 -12.84 29.44 32.32 10.56 32.98 1.82 400 212 Average 3 7206.00 52.90 74.00 -21.10 37.00 36.94 12.36 35.45 2.05 -- Peak 3 7206.00 54.45 74.00 -19.55 38.55 36.94 12.36 35.45 2.05 -- Peak

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Remark: #3 is not included in the restricted band.

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1 Mode Harmonic 2400-2483.5_Bluetooth-LE_1Mbps_GSFK_CH00_2402MHz ANT SISO Pol. Horizontal Vertical 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 70.0 70.0 10.6G AVG_54 AVG_54 ~18G 52.5 52.5 Avg 35.0 35.0 17.5 17.5 10600 10600 12080. 16520. 12080. 16520. 18000 18000 Frequency (MHz) Frequency (MHz) Condition: AVG_54 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL Condition: AVG_54 3m DRH18-E_LE2C05A18EN_230712 VERTICAL

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Mode Band Edge - L 2400-2483.5_Bluetooth-LE_1Mbps_GSFK_CH19_2440MHz **ANT** SISO Horizontal **Fundamental** Pol. 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 PEAK_74 52.5 52.5 35.0 35.0 **Peak** 17.5 17.5 2310 1000 2336.2 2362.4 2388.6 Frequency (MHz) 2414.8 2441 1400. 1800. 2200. Frequency (MHz) 2600. 3000 : 03CH23-HY Site : 03CH23-HY Site Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL Condition: PEAK_74 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark Remark | MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg | 1 2379.04 51.53 74.00 -22.47 38.50 27.01 7.32 31.73 10.43 10.0 122 PEAK 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 70.0 70.0 52.5 52.5 35.0 35.0 Avg 17.5 17.5 2310 1000 0. 2200. Frequency (MHz) 2336.2 2388.6 2414.8 2441 1400. 2600. 3000 Site : 03CH23-HY Site : 03CH23-HV Condition: AVG BE 54 3m DRH18-E LE2C05A18EN 230712 HORIZONTAL Condition: AVG 54 3m DRH18-E LE2C05A18EN 230712 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Freq Level Line Margin Level Factor Loss Factor Factor Remark Remark | MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg | 1 2342.49 39.93 54.00 -14.07 26.05 27.10 7.25 31.70 10.43 100 122 AVERAGE MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB dB 1 2440.00 100.63 ----- 87.62 26.90 7.41 31.76 10.46 cm deg

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2 Mode Band Edge - R 2400-2483.5_Bluetooth-LE_1Mbps_GSFK_CH19_2440MHz SISO **ANT** Pol. Horizontal **Fundamental** 140 Level (dBuV/m) 122.5 105.0 87.5 PEAK BE 74 70.0 52.5 35.0 **Peak Blank** 17.5 2441 2452.8 2464.6 2476.4 Frequency (MHz) 2488.2 2500 Site : 03CH23-HY Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos
Freq Level Line Margin Level Factor Loss Factor Factor Remark | MHz | dBuV/m | dBuV/m | dB | dBuV | dB/m | dB | dB | dB | cm | deg | |
| 1 | 2497.99 | 51.43 | 74.00 | -22.57 | 38.36 | 26.90 | 7.49 | 31.80 | 10.48 | 100 | 122 | PEAK 140 Level (dBuV/m) 122.5 105.0 87.5 70.0 52.5 35.0 **Blank** Avg 17.5 2441 2464.6 2476.4 Frequency (MHz) 2452.8 2488.2 2500 Site : 03CH23-HY Condition: AVG BE 54 3m DRH18-E LE2C05A18EN 230712 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Freq Level Limit Read Ant Cable Preamp Aux APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2493.27 40.16 54.00 -13.84 27.09 26.90 7.49 31.80 10.48 100 122

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100 122 AVERAGE

Mode Band Edge - L 2400-2483.5_Bluetooth-LE_1Mbps_GSFK_CH19_2440MHz **ANT** SISO Vertical Pol. **Fundamental** 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 PEAK_74 52.5 52.5 35.0 35.0 **Peak** 17.5 17.5 2310 1000 2336.2 2362.4 2388.6 Frequency (MHz) 2414.8 2441 1400. 1800. 2200. Frequency (MHz) 2600. 3000 : 03CH23-HY Site : 03CH23-HY Site Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_230712 VERTICAL Condition: PEAK_74 3m DRH18-E_LE2C05A18EN_230712 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Freq Level Line Margin Level Factor Loss Factor Factor Remark Remark | MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg | 1 2338.03 51.26 74.00 -22.74 38.17 27.12 7.25 31.70 10.42 377 32 PEAK 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 70.0 70.0 52.5 52.5 35.0 35.0 Avg 17.5 17.5 2310 1000 0, 2200. Frequency (MHz) 2336.2 2414.8 2441 1400. 2600. 3000 Site : 03CH23-HY Site : 03CH23-HV Condition: AVG BE 54 3m DRH18-E LE2C05A18EN 230712 VERTICAL Condition: AVG 54 3m DRH18-E LE2C05A18EN 230712 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark Remark | MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg | 1 2389.39 39.92 54.00 -14.08 26.87 27.00 7.34 31.73 10.44 377 32 MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB 1 2440.00 99.61 ----- 86.59 26.90 7.42 31.76 10.46 cm deg 32 AVERAGE

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Report No.: FR3D0610 2 Mode Band Edge - R 2400-2483.5_Bluetooth-LE_1Mbps_GSFK_CH19_2440MHz SISO **ANT** Pol. Vertical **Fundamental** 140 Level (dBuV/m) 122.5 105.0 87.5 PEAK BE 74 70.0 52.5 35.0 **Peak Blank** 17.5 2441 2452.8 2464.6 2476.4 Frequency (MHz) 2488.2 2500 Site : 03CH23-HY Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_230712 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos
Freq Level Line Margin Level Factor Loss Factor Factor Remark | MHz | dBuV/m | dBuV/m | dB | dBuV | dB/m | dB | dB | dB | cm | deg | |
| 1 | 2485.31 | 50.95 | 74.00 | -23.05 | 37.93 | 26.85 | 7.48 | 31.79 | 10.48 | 377 | 32 | PEAK 140 Level (dBuV/m) 122.5 105.0 87.5 70.0 52.5 35.0 **Blank** Avg 17.5 2441 2464.6 2476.4 Frequency (MHz) 2452.8 2488.2 2500 Site : 03CH23-HY Condition: AVG BE 54 3m DRH18-E LE2C05A18EN 230712 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Freq Level Limit Read Ant Cable Preamp Aux APos TPos

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Remark

| MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB dB cm deg | 1 2489.56 40.10 54.00 -13.90 27.03 26.90 7.48 31.79 10.48 377 32 AVERAGE



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2 Harmonic Mode 2400-2483.5_Bluetooth-LE_1Mbps_GSFK_CH19_2440MHz ANT SISO Pol. Horizontal Vertical 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 10.6G 70.0 70.0 AVG_54 AVG_54 ~18G 52.5 52.5 Avg 35.0 35.0 17.5 17.5 10600 10600 12080. 15040. 16520. 18000 12080. 15040. 16520. 18000 Frequency (MHz) Frequency (MHz) Site : Condition: AVG_54 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL Condition: AVG_54 3m DRH18-E_LE2C05A18EN_230712 VERTICAL

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3 Mode **Band Edge** 2400-2483.5_Bluetooth-LE_1Mbps_GSFK_CH39_2480MHz **ANT** SISO Pol. Horizontal **Fundamental** 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 PEAK BE 74 PEAK_74 70.0 52.5 35.0 35.0 **Peak** 17.5 17.5 2480 1000 2484. 2488. 2492. Frequency (MHz) 2496. 2500 1400. 1800. 2200. Frequency (MHz) 2600. 3000 : 03CH23-HY Site : 03CH23-HY Site Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL Condition: PEAK_74 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm 1 2483.66 53.43 74.00 -20.57 40.43 26.84 7.47 31.79 10.48 104 deg 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 70.0 70.0 52.5 52.5 35.0 35.0 Avg 17.5 17.5 2480 1000 2488. 2 Frequency (MHz) 0. 2200. Frequency (MHz) 2484. 2496. 2500 1400. 2600. 3000 Site : 03CH23-HY Site : 03CH23-HV Condition: AVG BE 54 3m DRH18-E LE2C05A18EN 230712 HORIZONTAL Condition: AVG 54 3m DRH18-E LE2C05A18EN 230712 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Freq Level Line Margin Level Factor Loss Factor Factor Remark Remark | MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg | 1 2483.52 42.58 54.00 -11.42 29.58 26.84 7.47 31.79 10.48 104 112 AVERAGE MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB dB 1 2480.00 101.09 ----- 88.11 26.82 7.47 31.79 10.48 dB cm deg

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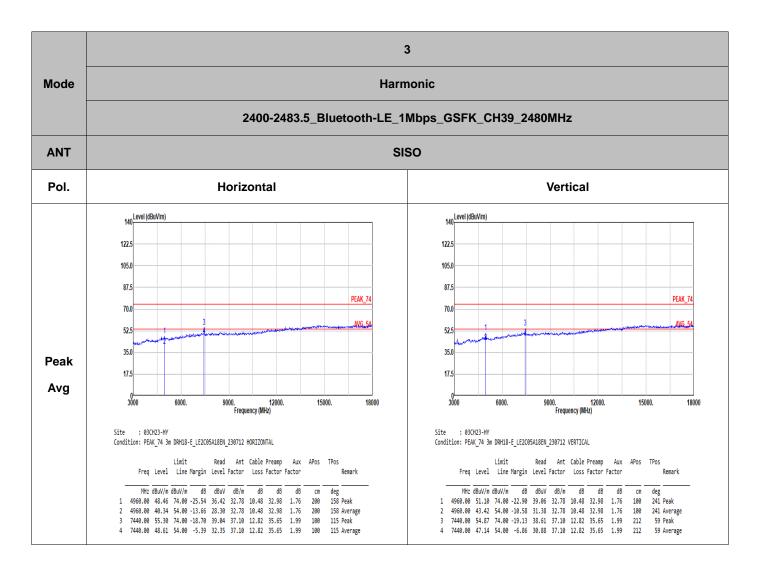
TEL: 886-3-327-0868 Page Number : C18 of C97

3 Mode **Band Edge** 2400-2483.5_Bluetooth-LE_1Mbps_GSFK_CH39_2480MHz **ANT** SISO Vertical Pol. **Fundamental** 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 PEAK BE 74 PEAK_74 70.0 52.5 52.5 35.0 35.0 **Peak** 17.5 17.5 2480 1000 2484. 2488. 2492. Frequency (MHz) 2496. 2500 1400. 1800. 2200. Frequency (MHz) 2600. 3000 : 03CH23-HY Site : 03CH23-HY Site Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_230712 VERTICAL Condition: PEAK_74 3m DRH18-E_LE2C05A18EN_230712 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Freq Level Line Margin Level Factor Loss Factor Factor Remark Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm 1 2483.82 51.83 74.00 -22.17 38.83 26.84 7.47 31.79 10.48 400 | MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB dB cm deg | 1 2480.00 99.25 ----- 86.27 26.82 7.47 31.79 10.48 400 21 PEAK deg 21 PEAK 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 70.0 70.0 52.5 52.5 35.0 35.0 Avg 17.5 17.5 2488. Frequency (MHz) 2200. Frequency (MHz) 2480 1000 2484. 2496. 2500 1400. 2600. 3000 Site : 03CH23-HY Site : 03CH23-HV Condition: AVG BE 54 3m DRH18-E LE2C05A18EN 230712 VERTICAL Condition: AVG 54 3m DRH18-E LE2C05A18EN 230712 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Freq Level Line Margin Level Factor Loss Factor Factor Remark Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg
1 2483.52 41.42 54.00 -12.58 28.42 26.84 7.47 31.79 10.48 400 21 MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB dB 1 2480.00 98.80 ----- 85.82 26.82 7.47 31.79 10.48 cm deg

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3 Harmonic Mode 2400-2483.5_Bluetooth-LE_1Mbps_GSFK_CH39_2480MHz ANT SISO Pol. Horizontal Vertical 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 10.6G 70.0 70.0 AVG_54 AVG_54 ~18G 52.5 52.5 Avg 35.0 35.0 17.5 17.5 10600 10600 12080. 15040. 16520. 18000 12080. 15040. 16520. 18000 Frequency (MHz) Frequency (MHz) Site : Condition: AVG_54 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL Condition: AVG_54 3m DRH18-E_LE2C05A18EN_230712 VERTICAL

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4 Mode SHF 2400-2483.5_Bluetooth-LE_1Mbps_GSFK_SHF SISO **ANT** Pol. Vertical Horizontal 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 PEAK_74 PEAK_74 70.0 70.0 52.5 52.5 35.0 35.0 **Peak** 17.5 18000 18000 19700. 21400. 23100. Frequency (MHz) 24800. 19700. 21400. 23100. Frequency (MHz) 24800. 26500 26500 Site : 03CH23-HY Condition: PEAK_74 1m BBHA9170_1225_230710 VERTICAL Site : 03CH23-HY Condition: PEAK_74 1m BBHA9170_1225_230710 HORIZONTAL Read Ant Cable Preamp Aux APos TPos Limit Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark Freq Level Line Margin Level Factor Loss Factor Factor Remark | MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg | 1 23203.00 40.13 74.00 -33.87 50.72 39.22 19.87 60.14 -9.54 --- --- Peak

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5 Mode LF 2400-2483.5_Bluetooth-LE_1Mbps_GSFK_LF SISO **ANT** Pol. Horizontal Vertical 80 Level (dBuV/m) 80 Level (dBuV/m) 70.0 70.0 60.0 60.0 50.0 50.0 40.0 30.0 30.0 20.0 QP/ 10.0 10.0 Peak 418. Frequency (MHz) 612. 418. Frequency (MHz) 612. 806. 1000 1000 : 03CH23-HY Condition: QP 3m CBL6111D_62028 & 003_231015 HORIZONTAL Condition: QP 3m CBL6111D_62028 & 003_231015 VERTICAL Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Hargin Level Factor Loss Factor Factor deg -- Peak -- Peak -- Peak deg -- Peak -- Peak -- Peak MHz dBuV/m dBuV/m dB dBuV dB/m cm cm -- Peak -- Peak -- Peak

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Mode **Band Edge** 2400-2483.5_Bluetooth-LE_2Mbps_GSFK_CH00_2402MHz **ANT** SISO Pol. Horizontal **Fundamental** 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 PEAK_74 52.5 35.0 35.0 **Peak** 17.5 17.5 2310 1000 2328.4 2346.8 2365.2 Frequency (MHz) 2383.6 2402 1400. 1800. 2200. Frequency (MHz) 2600. 3000 : 03CH23-HY Site : 03CH23-HY Site Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL Condition: PEAK_74 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm 1 2384.24 51.12 74.00 -22.88 38.08 27.00 7.33 31.73 10.44 100 deg 108 PEAK 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 70.0 70.0 52.5 52.5 35.0 35.0 Avg 17.5 17.5 2310 1000 0. 2200. Frequency (MHz) 2328.4 2365.2 2383.6 2402 1400. 2600. 3000 Frequency (MHz) Site : 03CH23-HY Site : 03CH23-HV Condition: AVG BE 54 3m DRH18-E LE2C05A18EN 230712 HORIZONTAL Condition: AVG 54 3m DRH18-E LE2C05A18EN 230712 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Freq Level Line Margin Level Factor Loss Factor Factor Remark Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2389.40 40.26 54.00 -13.74 27.21 27.00 7.34 31.73 10.44 100 108 MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB 1 2402.00 99.84 ----- 86.71 27.06 7.37 31.74 10.44 cm deg 100 108 AVERAGE

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Mode **Band Edge** 2400-2483.5_Bluetooth-LE_2Mbps_GSFK_CH00_2402MHz **ANT** SISO Vertical Pol. **Fundamental** 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 PEAK_74 52.5 35.0 35.0 **Peak** 17.5 17.5 2310 1000 2328.4 2346.8 2365.2 Frequency (MHz) 2383.6 2402 1400. 1800. 2200. Frequency (MHz) 2600. 3000 : 03CH23-HY Site : 03CH23-HY Site Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_230712 VERTICAL Condition: PEAK_74 3m DRH18-E_LE2C05A18EN_230712 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm 1 2380.10 51.66 74.00 -22.34 38.63 27.00 7.32 31.73 10.44 100 | MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB dB cm deg | 1 2402.00 92.53 ----- 79.39 27.08 7.36 31.74 10.44 100 163 PEAK deg 163 PEAK 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 70.0 70.0 52.5 52.5 35.0 35.0 Avg 17.5 17.5 2310 1000 .8 2365.2 Frequency (MHz) 0. 2200. Frequency (MHz) 2328.4 2383.6 2402 1400. 2600. 3000 Site : 03CH23-HY Site : 03CH23-HV Condition: AVG BE 54 3m DRH18-E LE2C05A18EN 230712 VERTICAL Condition: AVG 54 3m DRH18-E LE2C05A18EN 230712 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Freq Level Line Margin Level Factor Loss Factor Factor Remark Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm 1 2342.66 40.51 54.00 -13.49 27.43 27.10 7.25 31.70 10.43 100 MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB 1 2402.00 91.28 ----- 78.14 27.08 7.36 31.74 10.44 cm deg

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6 Mode Harmonic 2400-2483.5_Bluetooth-LE_2Mbps_GSFK_CH00_2402MHz SISO **ANT** Pol. Horizontal Vertical 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 PEAK_74 PEAK_74 70.0 70.0 52.5 52.5 35.0 35.0 Peak 17.5 17.5 Avg 3000 6000. 3000 6000. 9000. 12 Frequency (MHz) 15000. 18000 Frequency (MHz) Site : 03CH23-HY Site : 03CH23-HY Condition: PEAK 74 3m DRH18-E LE2C05A18EN 230712 HORIZONTAL Condition: PEAK_74 3m DRH18-E_LE2C05A18EN_230712 VERTICAL Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark Freq Level Line Margin Level Factor Loss Factor Factor Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB deg CM MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 4804.00 47.57 74.00 -26.43 35.85 32.32 10.56 32.98 1.82 100 180 Peak 1 4804.00 50.88 74.00 -23.12 39.16 32.32 10.56 32.98 1.82 243 Peak

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2 4804.00 42.33 54.00 -11.67 30.61 32.32 10.56 32.98 1.82 100 243 Average

-- Peak

3 7206.00 52.46 74.00 -21.54 36.56 36.94 12.36 35.45 2.05

Remark: #3 is not included in the restricted band.

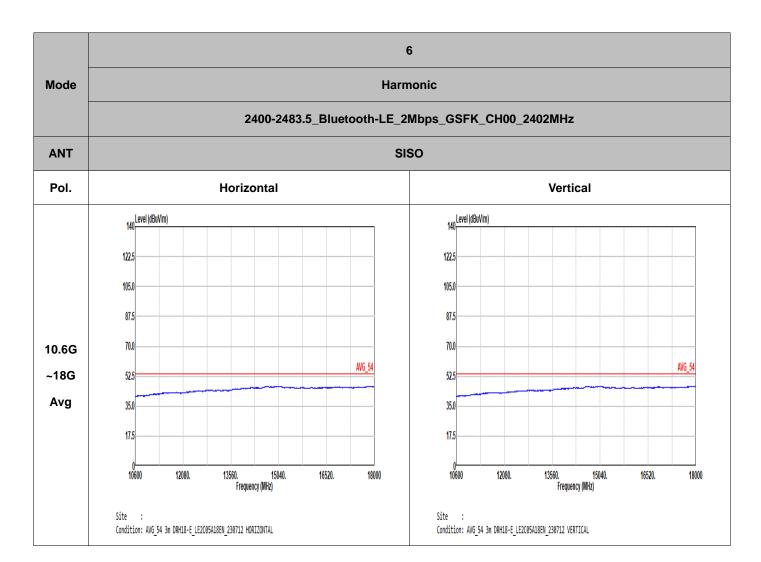
2 4804.00 39.12 54.00 -14.88 27.40 32.32 10.56 32.98 1.82 100

3 7206.00 53.63 74.00 -20.37 37.73 36.94 12.36 35.45 2.05

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180 Average

-- Peak



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Mode Band Edge - L 2400-2483.5_Bluetooth-LE_2Mbps_GSFK_CH19_2440MHz **ANT** SISO Horizontal **Fundamental** Pol. 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 PEAK_74 52.5 35.0 35.0 **Peak** 17.5 17.5 2310 1000 2336.2 2362.4 2388.6 Frequency (MHz) 2414.8 2441 1400. 1800. 2200. Frequency (MHz) 2600. 3000 : 03CH23-HY Site : 03CH23-HY Site Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL Condition: PEAK_74 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Remark Remark | MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg | 1 2375.50 | 51.68 | 74.00 -22.32 | 38.61 | 27.05 | 7.31 | 31.72 | 10.43 | 100 | 117 PEAK 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 70.0 70.0 52.5 52.5 35.0 35.0 Avg 17.5 17.5 2310 1000 0. 2200. Frequency (MHz) 2336.2 2414.8 2441 1400. 2600. 3000 Site : 03CH23-HY Site : 03CH23-HV Condition: AVG BE 54 3m DRH18-E LE2C05A18EN 230712 HORIZONTAL Condition: AVG 54 3m DRH18-E LE2C05A18EN 230712 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Freq Level Line Margin Level Factor Loss Factor Factor Remark Remark | MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg | 1 2389.65 39.98 54.00 -14.02 26.93 27.00 7.34 31.73 10.44 100 117 AVERAGE MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB 1 2440.00 99.41 ----- 86.40 26.90 7.41 31.76 10.46 cm deg

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Mode Band Edge - R 2400-2483.5_Bluetooth-LE_2Mbps_GSFK_CH19_2440MHz SISO **ANT** Pol. Horizontal **Fundamental** 140 Level (dBuV/m) 122.5 105.0 87.5 PEAK BE 74 70.0 52.5 35.0 **Peak** Blank 17.5 2441 2452.8 2464.6 2476.4 Frequency (MHz) 2488.2 2500 Site : 03CH23-HY Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_230712 HORIZONTAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos
Freq Level Line Margin Level Factor Loss Factor Factor Remark 140 Level (dBuV/m) 122.5 105.0 87.5 70.0 52.5 35.0 **Blank** Avg 17.5 2441 2464.6 2476.4 Frequency (MHz) 2452.8 2488.2 2500 Site : 03CH23-HY Condition: AVG BE 54 3m DRH18-E LE2C05A18EN 230712 HORIZONTAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Freq Level Limit Read Ant Cable Preamp Aux APos TPos Remark MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg 1 2490.38 40.17 54.00 -13.83 27.10 26.90 7.48 31.79 10.48 100 117 100 117 AVERAGE

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Mode Band Edge - L 2400-2483.5_Bluetooth-LE_2Mbps_GSFK_CH19_2440MHz **ANT** SISO Vertical **Fundamental** Pol. 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 PEAK_74 52.5 35.0 35.0 **Peak** 17.5 17.5 2310 1000 2336.2 2362.4 2388.6 Frequency (MHz) 2414.8 2441 1400. 1800. 2200. Frequency (MHz) 2600. 3000 : 03CH23-HY Site : 03CH23-HY Site Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_230712 VERTICAL Condition: PEAK_74 3m DRH18-E_LE2C05A18EN_230712 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Freq Level Line Margin Level Factor Loss Factor Factor Remark Remark | MHz | dBuV/m | dBuV/m | dB | dBuV | dB/m | dB | dB | dB | cm | | 1 | 2318.25 | 50.82 | 74.00 | -23.18 | 37.70 | 27.18 | 7.21 | 31.69 | 10.42 | 400 | deg 18 PEAK 140 Level (dBuV/m) 140 Level (dBuV/m) 122.5 122.5 105.0 105.0 87.5 87.5 70.0 70.0 52.5 52.5 35.0 35.0 Avg 17.5 17.5 2310 1000 0. 2200. Frequency (MHz) 2336.2 2414.8 2441 1400. 2600. 3000 Site : 03CH23-HY Site : 03CH23-HV Condition: AVG BE 54 3m DRH18-E LE2C05A18EN 230712 VERTICAL Condition: AVG 54 3m DRH18-E LE2C05A18EN 230712 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos Limit Read Ant Cable Preamp Aux APos TPos Freq Level Line Margin Level Factor Loss Factor Factor Freq Level Line Margin Level Factor Loss Factor Factor Remark Remark | MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg | 1 2389.26 40.01 54.00 -13.99 26.96 27.00 7.34 31.73 10.44 400 18 MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB dB 1 2440.00 98.23 ----- 85.21 26.90 7.42 31.76 10.46 cm deg 18 AVERAGE 18 AVERAGE

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Mode Band Edge - R 2400-2483.5_Bluetooth-LE_2Mbps_GSFK_CH19_2440MHz SISO **ANT** Pol. Vertical **Fundamental** 140 Level (dBuV/m) 122.5 105.0 87.5 PEAK BE 74 70.0 52.5 35.0 **Peak Blank** 17.5 2441 2452.8 2464.6 2476.4 Frequency (MHz) 2488.2 2500 Site : 03CH23-HY Condition: PEAK_BE_74 3m DRH18-E_LE2C05A18EN_230712 VERTICAL : RBW:1000.000kHz VBW:3000.000kHz SWT:Auto Limit Read Ant Cable Preamp Aux APos TPos
Freq Level Line Margin Level Factor Loss Factor Factor Remark cm deg 18 PEAK 140 Level (dBuV/m) 122.5 105.0 87.5 70.0 52.5 35.0 **Blank** Avg 17.5 2441 2464.6 2476.4 Frequency (MHz) 2452.8 2488.2 2500 Site : 03CH23-HY Condition: AVG_BE_54 3m DRH18-E_LE2C05A18EN_230712 VERTICAL : RBW:1000.000kHz VBW:0.010kHz SWT:Auto Freq Level Limit Read Ant Cable Preamp Aux APos TPos Remark

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18 AVERAGE

FAX: 886-3-327-0855

MHz dBuV/m dBuV/m dB dBuV dB/m dB dB dB cm deg
1 2499.88 40.21 54.00 -13.79 27.14 26.90 7.49 31.80 10.48 400 18