



FCC PART 15.249

TEST REPORT

For

SHANTOU SUBOTECH TOY Co., LTD.

XIN XINGHUA ROAD, CHENGHUA DISTRICT, CHENGHAI OF SHANTOU, CHINA

FCC ID: 2A4PA-BG1544

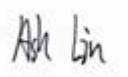
Report Type: Original	Product Name: Remote controller
Report Number:	2507S22551E-RF-01
Report Date:	2025-05-28
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REPORT REVISION HISTORY

Number of Revisions	Report No.	Version	Issue Date	Description
0	2507S22551E-RF-01	R1V1	2025-05-28	Initial Release

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	SHANTOU SUBOTECH TOY Co., LTD.
Product Name:	Remote controller
Tested Model:	BG1544
Power Supply:	DC 3V from Battery
RF Function:	SRD
Operating Band/Frequency:	2420MHz, 2442MHz, 2464MHz
Channel Number:	3
Modulation Type:	GFSK
Antenna Type:	PCB Antenna
★Maximum Antenna Gain:	0.59 dBi
<i>Note:</i> 1. The maximum antenna gain is provided by the applicant. 2. All measurement and test data in this report was gathered from production sample serial number: 3IZ6-1 (Assigned by the BACL (Xiamen). The EUT supplied by the applicant was received on 2025-04-25)	

Objective

This test report is prepared for *SHANTOU SUBOTECH TOY Co., LTD.* in accordance with Part 2-Subpart J, and Part 15-Subparts A and C of the Federal Communication Commission rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.209, 15.215 and 15.249 rules.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

Measurement Uncertainty

Item		U _{lab}
Conducted Emissions	150kHz-30MHz(LISN)	2.45 dB
Radiated Disturbance	9kHz-150kHz	2.82 dB
	150kHz-30MHz	2.74 dB
	30MHz~200MHz	3.47 dB
	200MHz ~1GHz	4.86 dB
	1GHz~6GHz	4.88 dB
	6GHz~18GHz	4.95 dB
Occupied Bandwidth		2%
Temperature		±1 °C
Humidity		±5%

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Xiamen) to collect test data is located on the Unit 102, No. 902 Meifeng South Road, Binhai West Avenue, Science and Technology Innovation Park, Torch High tech Zone XiaMen.

Bay Area Compliance Laboratories Corp. (Xiamen) Lab is accredited to ISO/IEC 17025 by A2LA (Certificate Number: 7134.01) and the lab has been recognized as the FCC accredited lab under the KDB 974614 D01, FCC Registration No.: 485720, the FCC Designation No.: CN1384.

SYSTEM TEST CONFIGURATION**Test Mode and Voltage**

The system was configured for testing in a typical mode (as normally used by a typical user).	
Test mode:	Test Model 1: Transmitting
Test voltage:	DC 3V from Battery
Remark:	During all emission tests, the EUT was configured to measure its highest possible emission level and the worst case's test data was presented in this test report.

Justification

The system was configured in testing mode which was provided by manufacturer.

Channel List:

Channel	Frequency (MHz)
1	2420
2	2442
3	2464

EUT Exercise Software

Engineering Mode was provided by manufacturer.

Equipment Modifications

No modification was made to the EUT.

Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
/	/	/	/

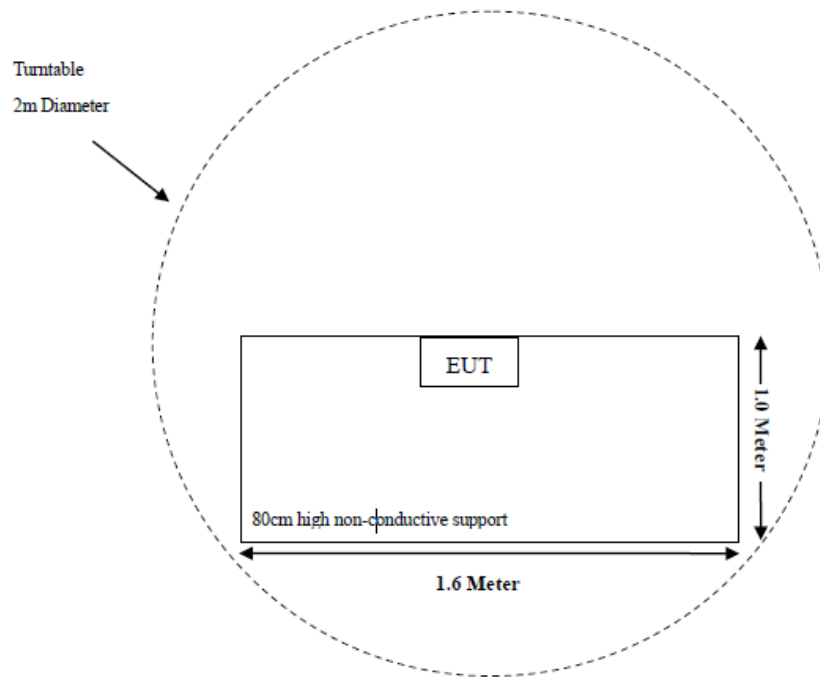
External I/O Cable

Cable Description	Length (m)	From Port	To Port
/	/	/	/

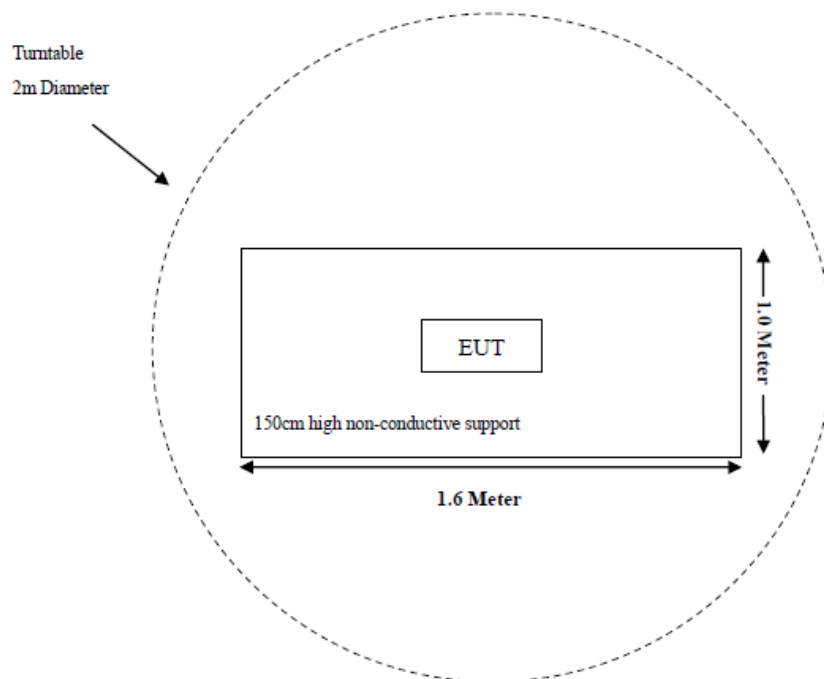
Block Diagram of Test Setup

For Radiated Emissions:

Below 1GHz:



Above 1GHz



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result
§15.203	Antenna Requirement	Compliant
§15.207(a)	Conducted Emissions	Not applicable (See Note 1)
§15.205, §15.209, §15.249	Radiated Emissions & Fundamental Test & Out-of-band Emissions Test	Compliant
§15.215 (c)	20 dB Bandwidth	Compliant

Note:

1. The EUT is powered by battery.

TEST EQUIPMENT LIST

Test Equipment	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emissions Below 1 GHz					
EMI Test Receiver	Rohde & Schwarz	ESR	103103	2025/02/20	2026/02/19
Loop Antenna	Rohde & Schwarz	HFH2-Z2	830749/001	2023/07/27	2026/07/26
Antenna	Sunol Sciences	JB6	A122022-5	2023/07/27	2026/07/26
Amplifier	Sonoma	310B	120903	2025/02/20	2026/02/19
Coaxial Cable	XINHANGWEIBO	XH400T-N-4M	CC002	2025/02/20	2026/02/19
Coaxial Cable	XINHANGWEIBO	XH460B-N-2M	CC006	2025/02/20	2026/02/19
Coaxial Cable	XINHANGWEIBO	XH460B-N-12M	CC007	2025/02/20	2026/02/19
Coaxial Cable	XINHANGWEIBO	HFH2-CC	335.3609	2025/02/20	2026/02/19
Test Software	Audix	E3	18621a	N/A	N/A
Radiated Emissions Above 1 GHz					
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102051	2025/02/20	2026/02/19
Filter Switch Unit	Decentest	DT7220FSU	DS79904	2025/02/21	2026/02/20
Multiplex Switch Test Control Set	Decentest	DT7220SCU	DS79901	2025/02/21	2026/02/20
Horn Antenna	EMCO	3115	9002-3355	2024/11/19	2027/11/18
Preamplifier	GLOBAL	1313-A100M18G	4121301	2025/01/16	2026/01/15
Coaxial Cable	XINHANGWEIBO	XH800A-N-6M	CC003	2025/02/20	2026/02/19
Coaxial Cable	XINHANGWEIBO	XH800A-N-1M	CC005	2025/02/20	2026/02/19
Horn Antenna	EMCO	3116	9407-2232	2023/07/31	2026/07/30
Preamplifier	A.H.Systems	PAM-1840	200	2025/02/20	2026/02/19
Coaxial Cable	XINHANGWEIBO	XH360A-2.92-3M	CC008	2025/02/20	2026/02/19
Coaxial Cable	XINHANGWEIBO	XH360A-2.92-1M	CC009	2025/02/20	2026/02/19
Test Software	Audix	E3	18621a	N/A	N/A
RF Conducted Test (20 dB Bandwidth)					
Spectrum Analyzer	Rohde & Schwarz	FSV40-N	102051	2025/02/20	2026/02/19
Coaxial Cable	Lianxun	RF113	N/A	2025/02/20	2026/02/19

Statement of Traceability: Bay Area Compliance Laboratories Corp. (Xiamen) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

FCC§15.203 - ANTENNA REQUIREMENT

Applicable Standard

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

Antenna Connected Construction

The EUT has a PCB antenna which was permanently attached and the antenna gain is 0.59dBi; fulfill the requirement of this section. Please refer to EUT photos.

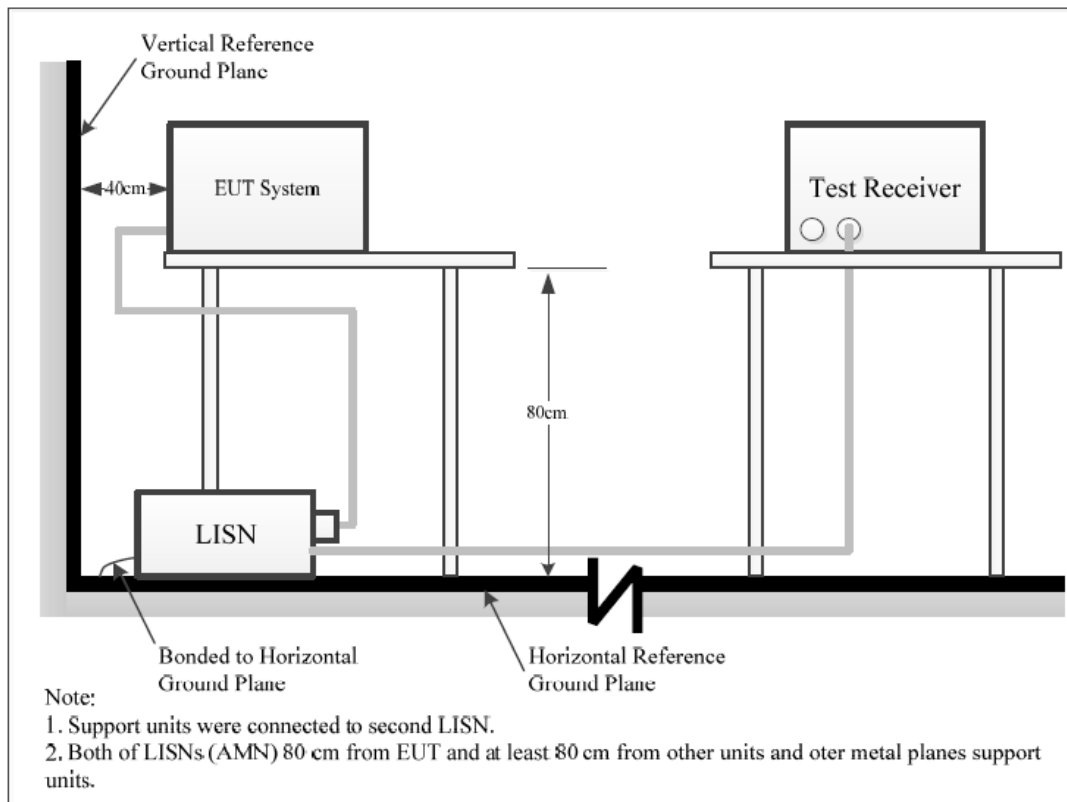
Result: Compliant.

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207(a)

Test System Setup



The measurement procedure of EUT setup is according with ANSI C63.10-2013. The related limit was specified in FCC Part 15.207.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

During the conducted emission test, the EMI test receiver was set with the following configurations:

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

ANSI C63.10-2013 clause 6.2

During the conducted emission test, the EUT was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

If the maximum peak value of the emissions is below the average limit, the QP value and average value measurement will not need to be performed and only record the maximum peak measured value to meet the requirements.

Result & Margin Calculation

The Result is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation from the Meter Reading. The basic equation is as follows:

$$\begin{aligned}\text{Factor (dB)} &= \text{LISN VDF (dB)} + \text{Cable Loss (dB)} + \text{Transient Limiter Attenuation (dB)} \\ \text{Result (dB}\mu\text{V)} &= \text{Reading (dB}\mu\text{V)} + \text{Factor (dB)}\end{aligned}$$

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

$$\text{Margin (dB)} = \text{Limit (dB}\mu\text{V)} - \text{Result (dB}\mu\text{V)}$$

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, FCC Part 15.207.

Test Data

Test Result: N/A.

Note: The EUT is powered by battery.

FCC §15.205, §15.209, §15.249 - RADIATED EMISSIONS & OUT OF BAND EMISSION

Applicable Standard

As per FCC§15.249 (a), except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

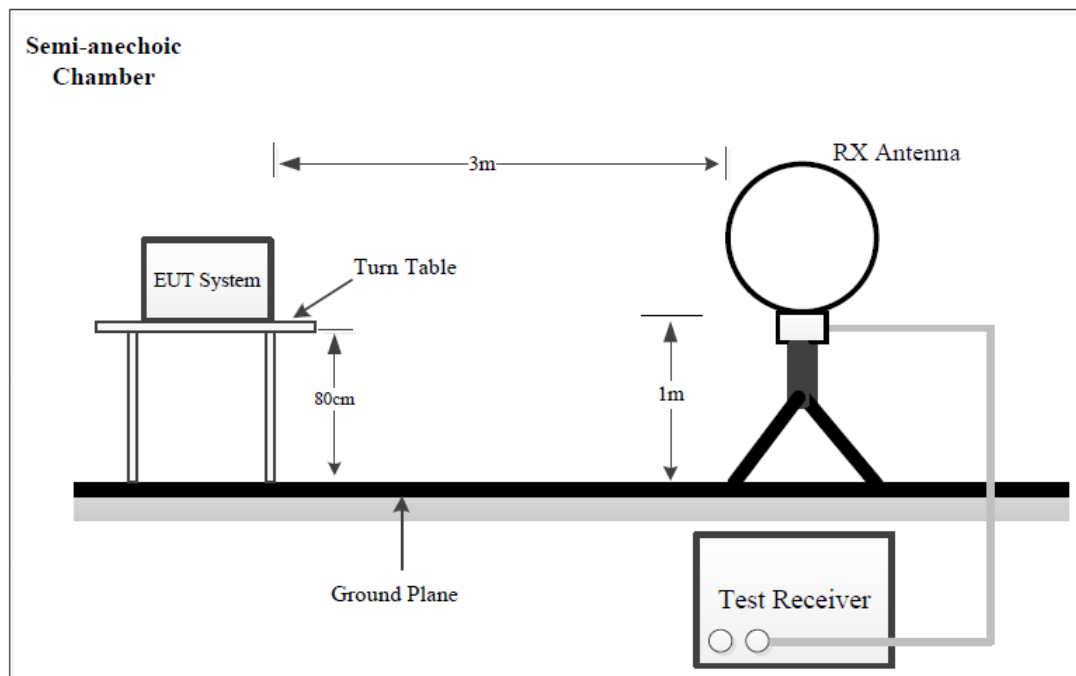
Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902–928 MHz	50	500
2400–2483.5 MHz	50	500
5725–5875 MHz	50	500
24.0–24.25 GHz	250	2500

As per FCC§15.249 (c), Field strength limits are specified at a distance of 3 meters.

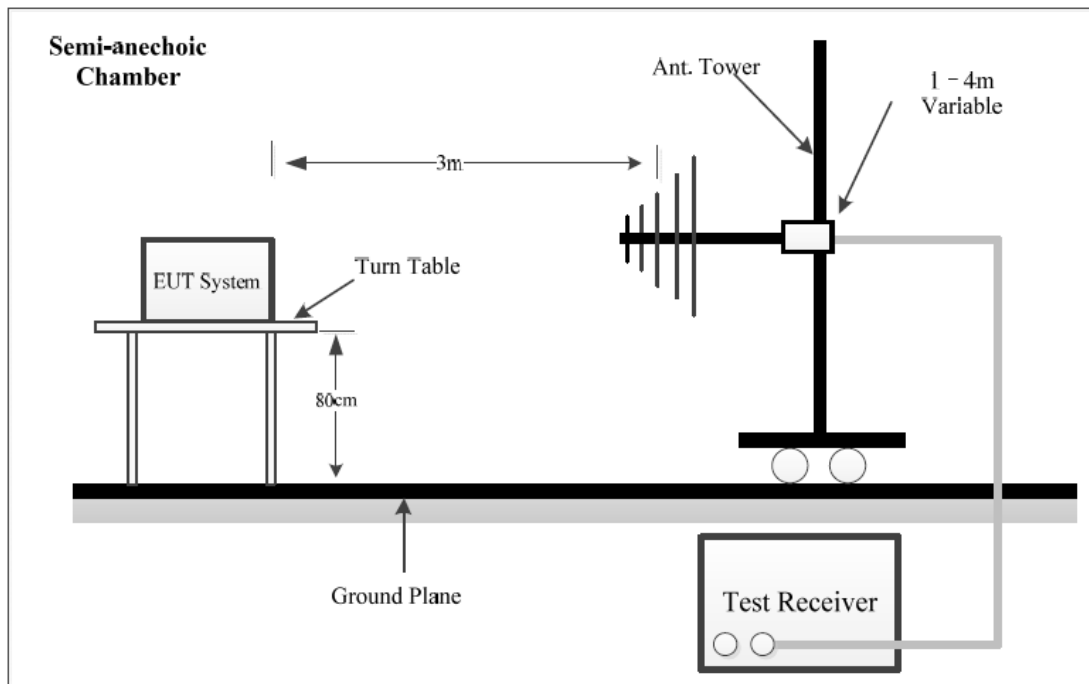
(d) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

Test System Setup

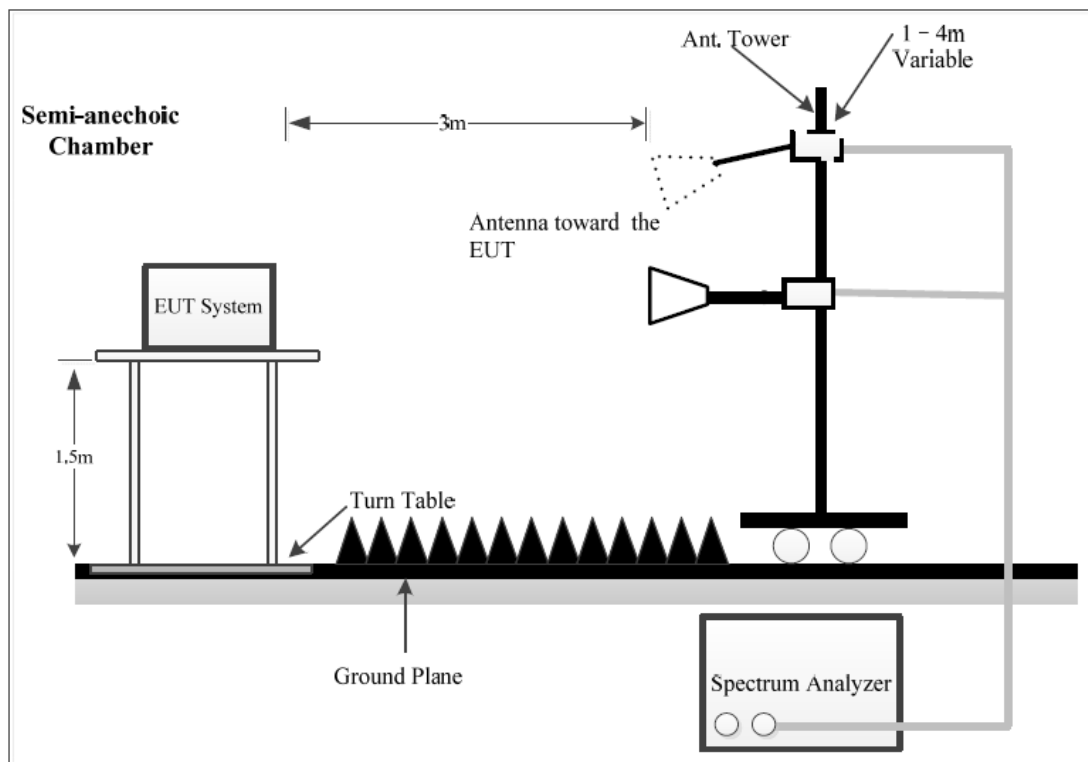
9 kHz-30MHz:



30MHz-1GHz:



Above 1GHz:



The radiated emission tests using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.249 limits.

NOTE: d is testing distance;

For Radiated Emission test (1GHz-18GHz) and Bandedge Emission test, which was performed at 3 m distance.

For Radiated Emission test (18GHz-25GHz), which was performed at 1.5m distance, according to ANSI C63.10-2013, the test result shall be extrapolated to the specified distance using an extrapolation Factor of 20dB/decade from 3m to 1.5m.

Distance extrapolation Factor = $20 \log (\text{specific distance [3m]}/\text{test distance [1.5m]})$ dB = 6 dB

EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 9 kHz to 25GHz.

During the radiated emission test, the EMI Test Receiver & Spectrum Analyzer Setup was set with the following configurations:

Frequency Range	RBW	Video B/W	IF B/W	Measurement
9 kHz – 150 kHz	300Hz	1 kHz	200Hz	QP
150 kHz – 30 MHz	10 kHz	30 kHz	9 kHz	QP
30 MHz – 1000 MHz	100 kHz	300 kHz	/	PK
	/	/	120kHz	QP

1GHz~25GHz:

Pre-scan:

Measurement	RBW	Video B/W	Detector
PK	1MHz	3MHz	PK
Ave.	1MHz	5kHz	PK

Final measurement for emission identified during the pre-scan:

Measurement	RBW	Video B/W	Detector
PK	1MHz	3MHz	PK
Ave.	1MHz	10Hz	PK

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

For each measurement antenna alignment, the EUT shall be rotated through 0° to 360° on a turntable. The report shall list the six emissions with the smallest margin relative to the limit, for each of the three antenna orientations (parallel, perpendicular, and ground parallel) unless the margin is greater than 20 dB, then the following statement shall be made: “all emissions were greater than 20 dB below the limit.”

Below 1GHz, if the measured peak level of the emissions that the measuring receiver reading level plus corrected factor is at least 6 dB below the QP emission limit, there's no need to record the measured QP level of the emissions in the report.

Above 1GHz, if the measured peak level of the emissions that the measuring receiver reading level plus corrected factor is below the AV emission limit, there's no need to record the measured AV level of the emissions in the report.

Result & Margin Calculation

The Result is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

For 9 kHz to 18GHz Radiated emission test

Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) - Amplifier Gain (dB)

For 18GHz to 25GHz Radiated emission test and Bandedge emissions test

Factor (dB/m) = Antenna Factor (dB/m) + Cable Loss (dB) - Amplifier Gain (dB) - Extrapolation factor (dB)

Extrapolation factor=6dB (distance=1.5m)

Result (dBμV/m) = Reading (dBμV) + Factor (dB/m)

The “**Margin**” column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin (dB) = Limit (dBμV/m) – Result (dBμV/m)

Test Results Summary

According to the data in the following table, the EUT complied with the FCC Part 15.209 &15.205 & 15.249.

Test Data

Frequency Range:	Below 1 GHz	Above 1 GHz	Fundamental Test & Out-of-band Emissions Test:
Temperature:	21.3℃	23.1℃	23.1℃
Relative Humidity:	49%	49%	49%
ATM Pressure:	100.1kPa	100.1kPa	100.1kPa
Test Date:	2025-05-16	2025-05-16	2025-05-16
Test Engineer:	Wlif Wu	Wlif Wu	Wlif Wu

Note: Pre-scan in the X, Y and Z axes of orientation, the worst case Z-axis of orientation was recorded.

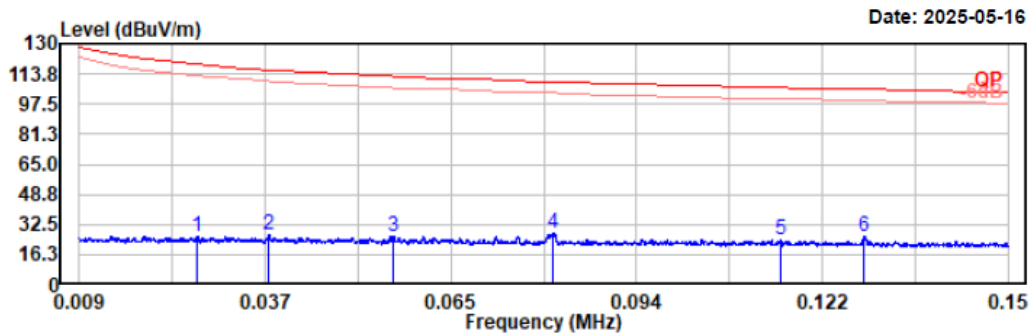
1) 9 kHz~30MHz

Pre-scan in parallel, ground-parallel and perpendicular of orientation of loop antenna, parallel is worst case

Note: The maximum output power mode: middle channel was tested.

Project No.: 2507S22551E-RF
Test Mode: mid channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V

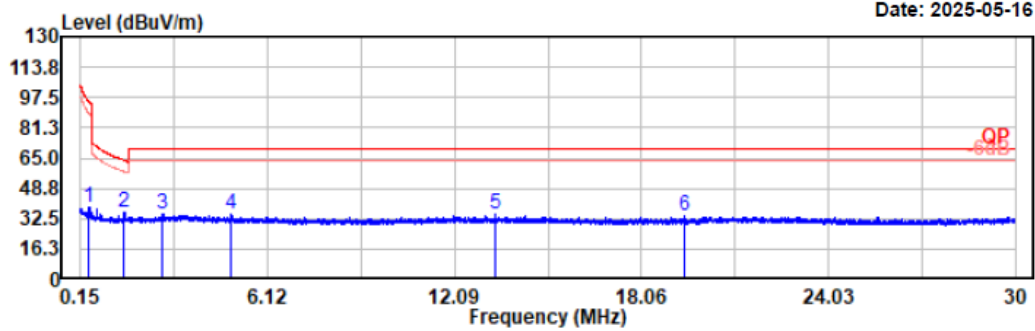


Condition: PK RBW:300Hz VBW:1kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Remark
0.027	6.44	19.88	26.32	119.03	92.71	Peak
0.038	6.82	19.91	26.73	116.08	89.35	Peak
0.057	6.38	19.91	26.29	112.55	86.26	Peak
0.081	8.11	19.72	27.83	109.45	81.62	Peak
0.115	4.80	19.73	24.53	106.36	81.83	Peak
0.128	6.48	19.73	26.21	105.45	79.24	Peak

Project No.: 2507S22551E-RF
Test Mode: mid channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Condition: PK RBW:300Hz VBW:1kHz SWT:auto

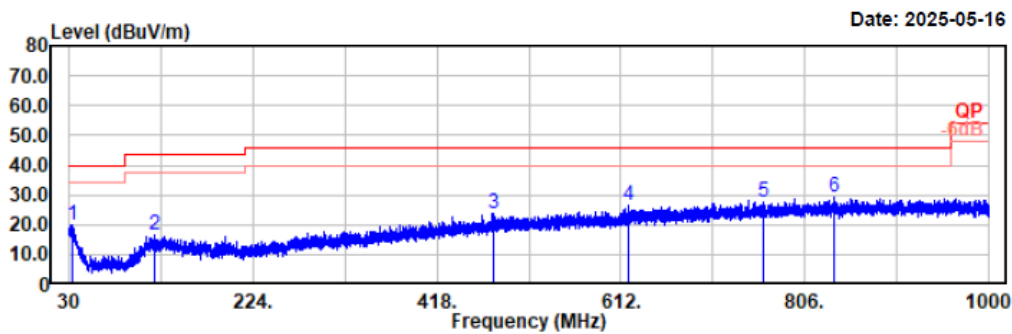
Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Remark
0.431	18.65	19.78	38.43	94.92	56.49	Peak
1.553	16.51	19.64	36.15	63.78	27.63	Peak
2.783	15.34	19.79	35.13	69.54	34.41	Peak
4.974	14.87	19.67	34.54	69.54	35.00	Peak
13.377	14.88	19.74	34.62	69.54	34.92	Peak
19.442	13.67	20.06	33.73	69.54	35.81	Peak

2) 30MHz~ 1GHz

Note: The maximum output power mode: middle channel was tested.

Project No.: 2507S22551E-RF
Test Mode: mid channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V

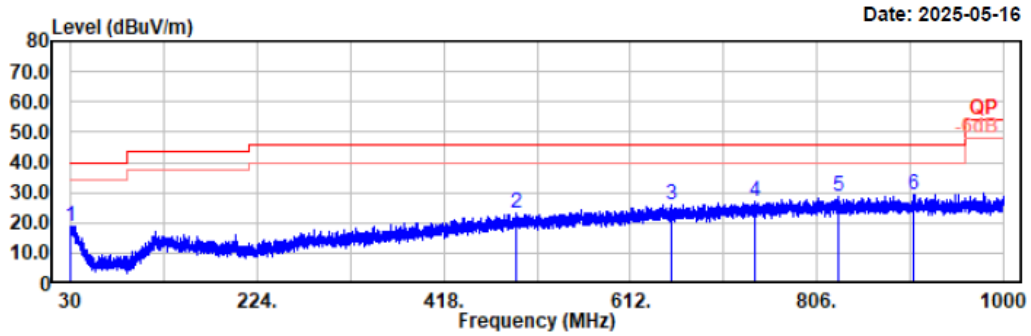


Condition: PK RBW:100kHz VBW:300kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
32.52	26.73	-6.68	20.05	40.00	19.95	Horizontal	Peak
120.50	26.77	-10.33	16.44	43.50	27.06	Horizontal	Peak
476.88	27.71	-3.97	23.74	46.00	22.26	Horizontal	Peak
620.34	28.20	-1.60	26.60	46.00	19.40	Horizontal	Peak
761.67	27.21	0.63	27.84	46.00	18.16	Horizontal	Peak
836.56	27.43	1.79	29.22	46.00	16.78	Horizontal	Peak

Project No.: 2507S22551E-RF
Test Mode: mid channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



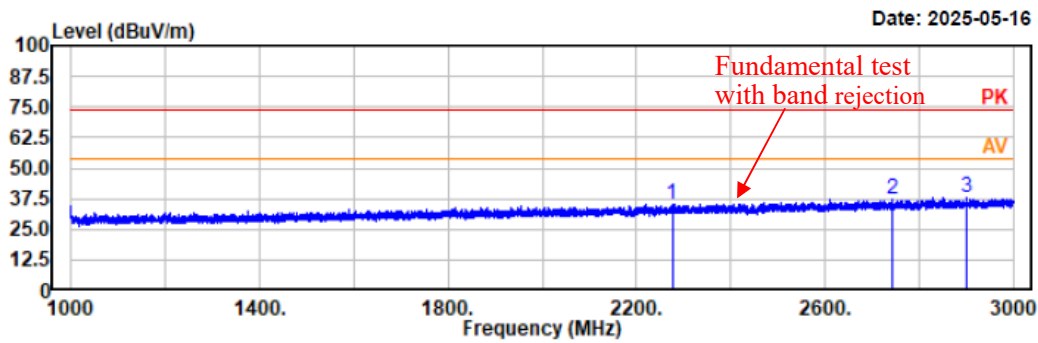
Condition: PK RBW:100kHz VBW:300kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
30.29	24.42	-5.68	18.74	40.00	21.26	Vertical	Peak
494.05	26.64	-3.56	23.08	46.00	22.92	Vertical	Peak
654.39	26.76	-0.98	25.78	46.00	20.22	Vertical	Peak
741.98	26.63	0.37	27.00	46.00	19.00	Vertical	Peak
828.70	26.78	1.73	28.51	46.00	17.49	Vertical	Peak
907.37	26.66	2.62	29.28	46.00	16.72	Vertical	Peak

3) 1GHz~3 GHz

Project No.: 2507S22551E-RF
Test Mode: low channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V

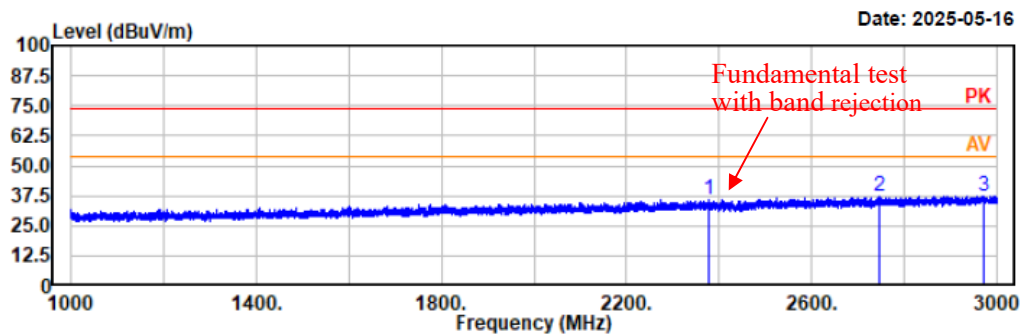


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2275.80	46.94	-11.61	35.33	74.00	38.67	horizontal	Peak
2742.60	47.04	-9.95	37.09	74.00	36.91	horizontal	Peak
2899.00	47.72	-9.55	38.17	74.00	35.83	horizontal	Peak

Project No.: 2507S22551E-RF
Test Mode: low channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V

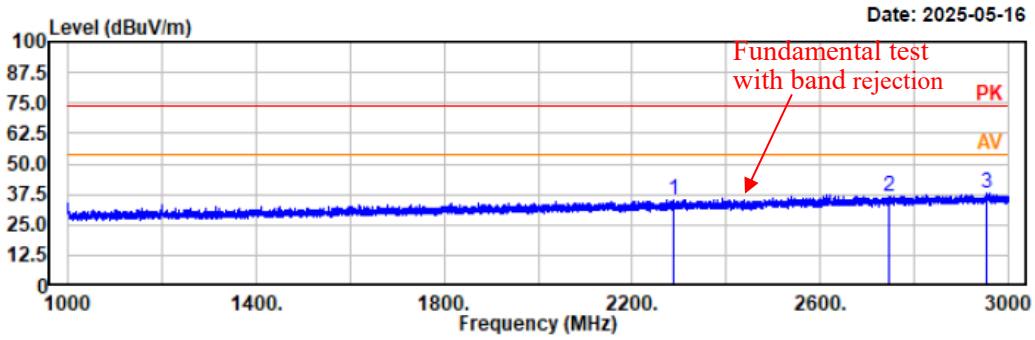


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2378.40	47.34	-11.21	36.13	74.00	37.87	vertical	Peak
2747.60	47.11	-9.95	37.16	74.00	36.84	vertical	Peak
2972.80	46.59	-9.08	37.51	74.00	36.49	vertical	Peak

Project No.: 2507S22551E-RF
Test Mode: mid channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V

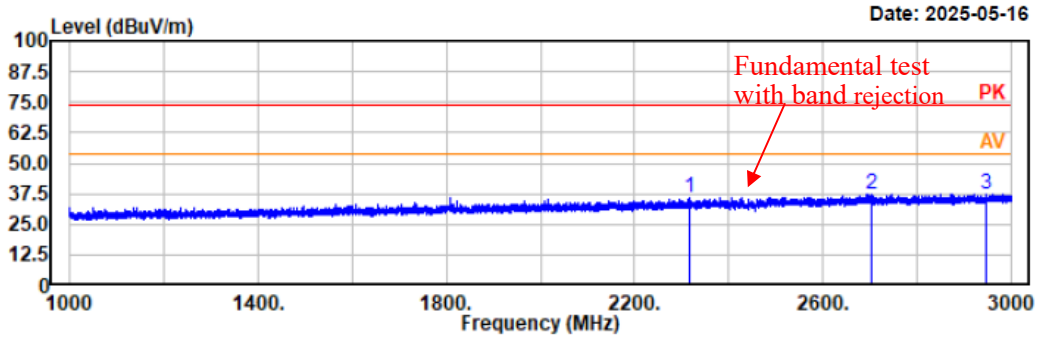


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2288.80	46.89	-11.51	35.38	74.00	38.62	horizontal	Peak
2747.80	46.81	-9.95	36.86	74.00	37.14	horizontal	Peak
2954.20	47.24	-9.18	38.06	74.00	35.94	horizontal	Peak

Project No.: 2507S22551E-RF
Test Mode: mid channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V

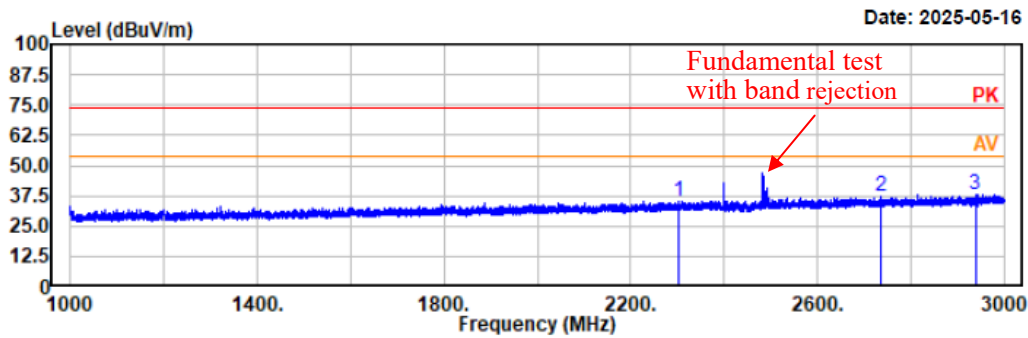


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2316.20	47.21	-11.39	35.82	74.00	38.18	vertical	Peak
2702.00	47.51	-10.00	37.51	74.00	36.49	vertical	Peak
2948.20	46.73	-9.22	37.51	74.00	36.49	vertical	Peak

Project No.: 2507S22551E-RF
Test Mode: high channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V

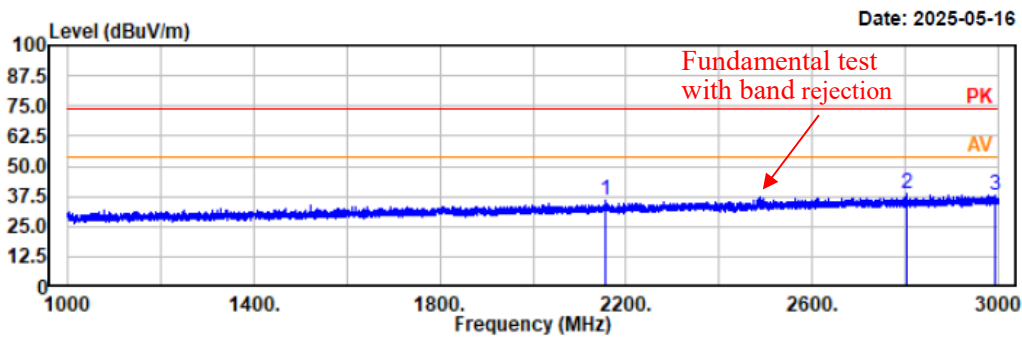


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2303.00	46.59	-11.41	35.18	74.00	38.82	horizontal	Peak
2736.40	47.22	-9.97	37.25	74.00	36.75	horizontal	Peak
2938.00	47.16	-9.29	37.87	74.00	36.13	horizontal	Peak

Project No.: 2507S22551E-RF
Test Mode: high channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



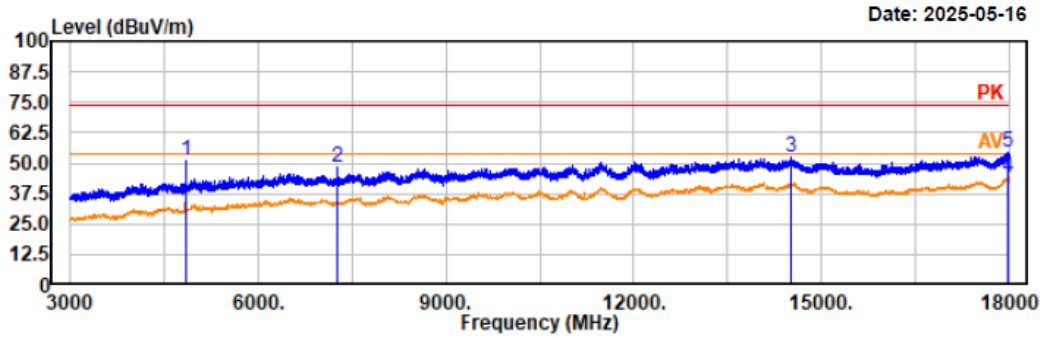
Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2157.20	47.72	-12.11	35.61	74.00	38.39	vertical	Peak
2802.20	48.11	-9.78	38.33	74.00	35.67	vertical	Peak
2993.80	46.84	-8.98	37.86	74.00	36.14	vertical	Peak

4) 3GHz~18 GHz

Project No.: 2507S22551E-RF
Test Mode: low channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Trace: 1

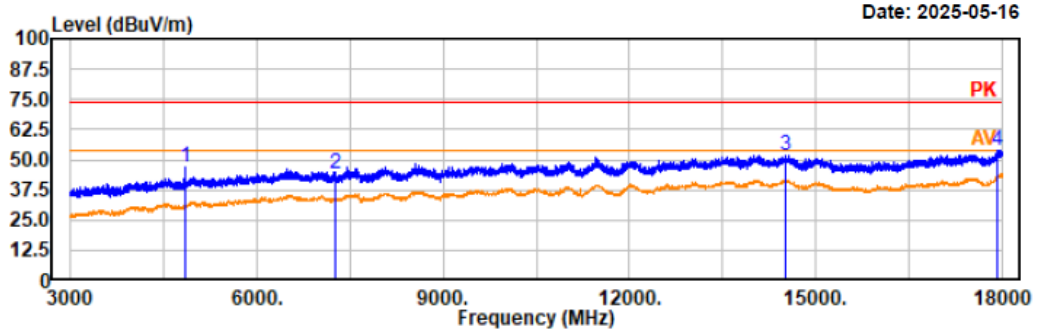
Condition: PK RBW:1MHz VBW:3MHz SWT:auto

AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4840.00	56.40	-5.27	51.13	74.00	22.87	horizontal	Peak
7260.00	50.59	-2.40	48.19	74.00	25.81	horizontal	Peak
14505.00	47.07	5.06	52.13	74.00	21.87	horizontal	Peak
17973.00	37.15	6.88	44.03	54.00	9.97	horizontal	Average
17973.00	47.51	6.88	54.39	74.00	19.61	horizontal	Peak

Project No.: 2507S22551E-RF
Test Mode: low channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Trace: 1

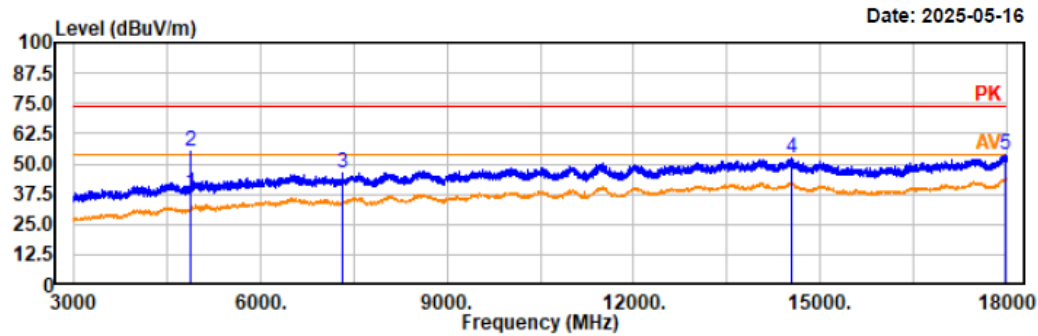
Condition: PK RBW:1MHz VBW:3MHz SWT:auto

AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4839.00	52.08	-5.27	46.81	74.00	27.19	vertical	Peak
7260.00	46.70	-2.40	44.30	74.00	29.70	vertical	Peak
14520.00	46.95	5.06	52.01	74.00	21.99	vertical	Peak
17929.50	47.05	6.84	53.89	74.00	20.11	vertical	Peak

Project No.: 2507S22551E-RF
Test Mode: mid channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



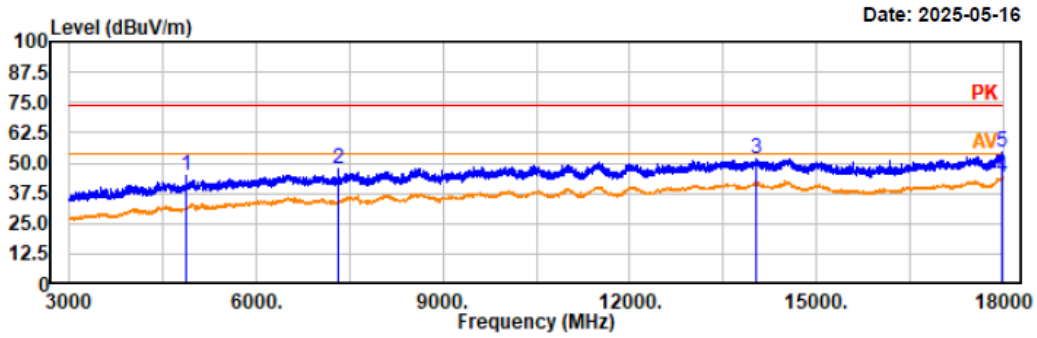
Trace: 1

Condition: PK RBW:1MHz VBW:3MHz SWT:auto
AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4884.00	48.37	-5.30	43.07	54.00	10.93	horizontal	Average
4884.00	60.35	-5.30	55.05	74.00	18.95	horizontal	Peak
7326.00	48.72	-2.23	46.49	74.00	27.51	horizontal	Peak
14544.00	47.09	5.05	52.14	74.00	21.86	horizontal	Peak
17973.00	47.03	6.88	53.91	74.00	20.09	horizontal	Peak

Project No.: 2507S22551E-RF
Test Mode: mid channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Trace: 1

Condition: PK RBW:1MHz VBW:3MHz SWT:auto

AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4884.00	50.13	-5.30	44.83	74.00	29.17	vertical	Peak
7326.00	49.77	-2.23	47.54	74.00	26.46	vertical	Peak
14037.00	46.27	5.25	51.52	74.00	22.48	vertical	Peak
17986.50	37.50	6.89	44.39	54.00	9.61	vertical	Average
17986.50	47.65	6.89	54.54	74.00	19.46	vertical	Peak

Project No.: 2507S22551E-RF

Test Mode: high channel Transmitting

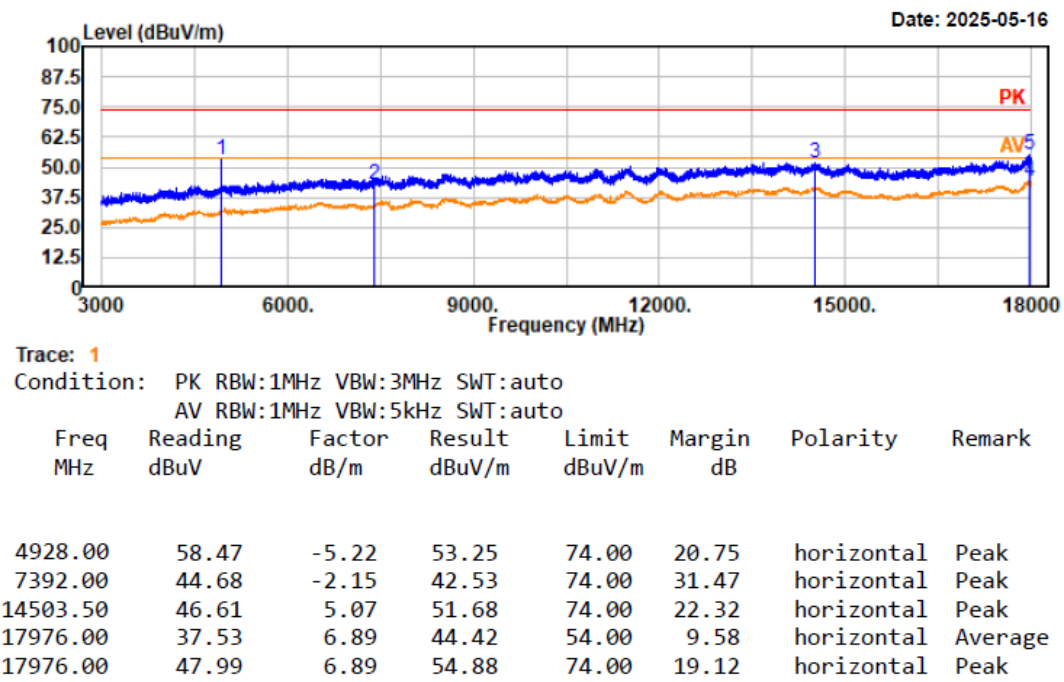
EUT Model: BG1544

Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa

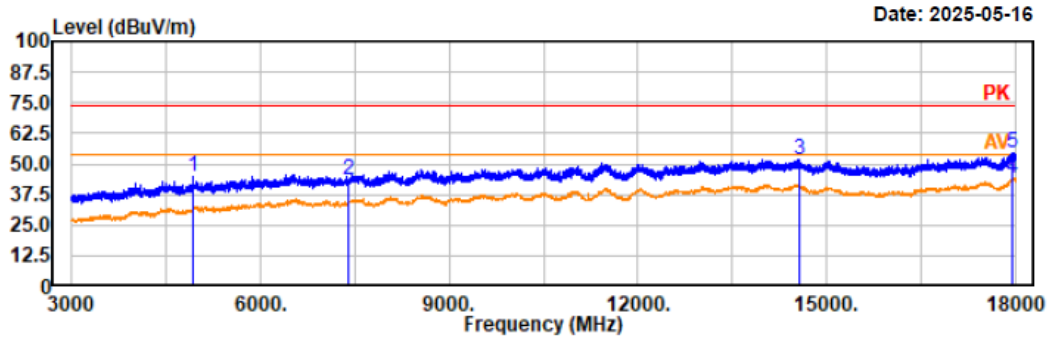
Tested by: Wlif Wu

Power Source: DC 3V



Project No.: 2507S22551E-RF
Test Mode: high channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Trace: 1

Condition: PK RBW:1MHz VBW:3MHz SWT:auto

AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
4928.00	50.14	-5.22	44.92	74.00	29.08	vertical	Peak
7392.00	45.59	-2.15	43.44	74.00	30.56	vertical	Peak
14557.50	46.64	5.04	51.68	74.00	22.32	vertical	Peak
17955.00	37.53	6.87	44.40	54.00	9.60	vertical	Average
17955.00	47.68	6.87	54.55	74.00	19.45	vertical	Peak

5) 18 GHz~ 25 GHz

Note: The maximum output power mode: middle channel was tested.

Project No.: 2507S22551E-RF

Test Mode: mid channel Transmitting

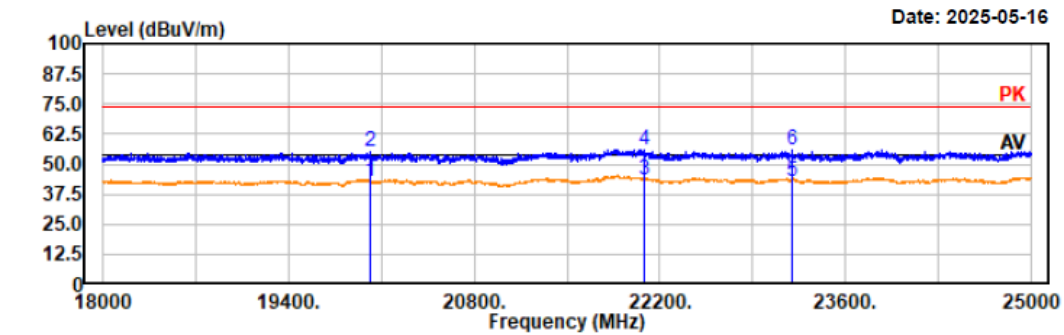
EUT Model: BG1544

Test distance: 1.5m

Temp/Humi/ATM: 21.3℃/49%/100.1kPa

Tested by: Wlif Wu

Power Source: DC 3V



Trace: 1

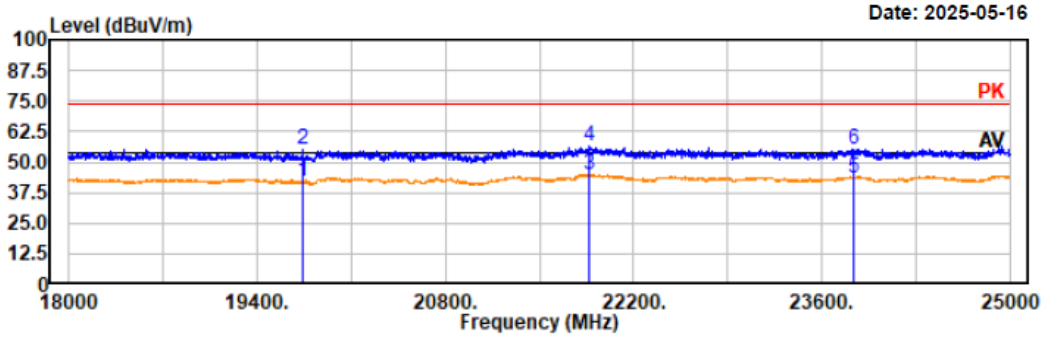
Condition: PK RBW:1MHz VBW:3MHz SWT:auto

AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
20013.00	39.17	3.55	42.72	54.00	11.28	horizontal	Average
20013.00	51.70	3.55	55.25	74.00	18.75	horizontal	Peak
22085.40	38.63	5.04	43.67	54.00	10.33	horizontal	Average
22085.40	51.00	5.04	56.04	74.00	17.96	horizontal	Peak
23203.00	38.12	4.90	43.02	54.00	10.98	horizontal	Average
23203.00	50.97	4.90	55.87	74.00	18.13	horizontal	Peak

Project No.: 2507S22551E-RF
Test Mode: mid channel Transmitting
EUT Model: BG1544
Test distance: 1.5m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Trace: 1

Condition: PK RBW:1MHz VBW:3MHz SWT:auto

AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
19740.20	38.47	3.37	41.84	54.00	12.16	vertical	Average
19740.20	51.65	3.37	55.02	74.00	18.98	vertical	Peak
21865.40	39.62	5.16	44.78	54.00	9.22	vertical	Average
21865.40	51.48	5.16	56.64	74.00	17.36	vertical	Peak
23836.60	38.29	5.28	43.57	54.00	10.43	vertical	Average
23836.60	49.90	5.28	55.18	74.00	18.82	vertical	Peak

Fundamental Test & Out-of-band Emissions Test:

Project No.: 2507S22551E-RF

Test Mode: low channel Transmitting

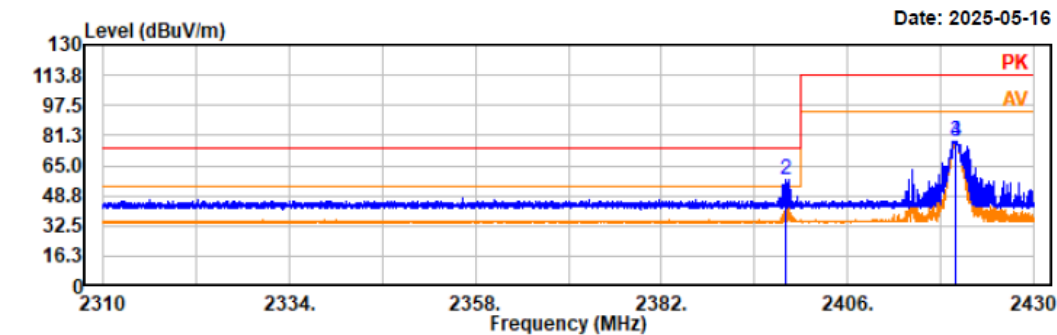
EUT Model: BG1544

Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa

Tested by: Wlif Wu

Power Source: DC 3V



Trace: 1

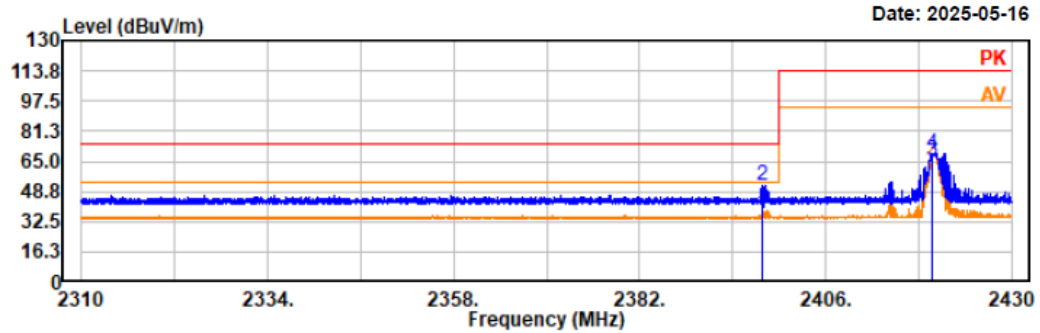
Condition: PK RBW:1MHz VBW:3MHz SWT:auto

AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2398.12	41.84	-1.13	40.71	54.00	13.29	horizontal	Average
2398.12	58.74	-1.13	57.61	74.00	16.39	horizontal	Peak
2420.02	79.22	-1.03	78.19	94.00	15.81	horizontal	Average
2420.02	79.41	-1.03	78.38	114.00	35.62	horizontal	Peak

Project No.: 2507S22551E-RF
Test Mode: low channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Trace: 1

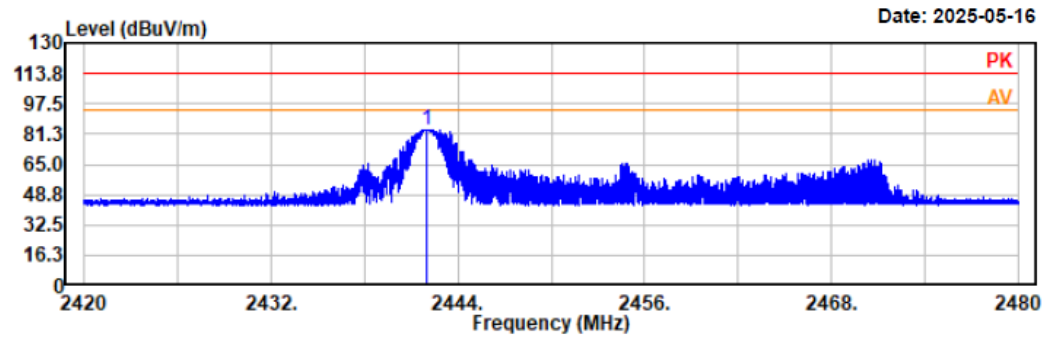
Condition: PK RBW:1MHz VBW:3MHz SWT:auto

AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2397.92	38.16	-1.13	37.03	54.00	16.97	vertical	Average
2397.92	53.55	-1.13	52.42	74.00	21.58	vertical	Peak
2419.67	66.29	-1.03	65.26	94.00	28.74	vertical	Average
2419.67	70.31	-1.03	69.28	114.00	44.72	vertical	Peak

Project No.: 2507S22551E-RF
Test Mode: mid channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V

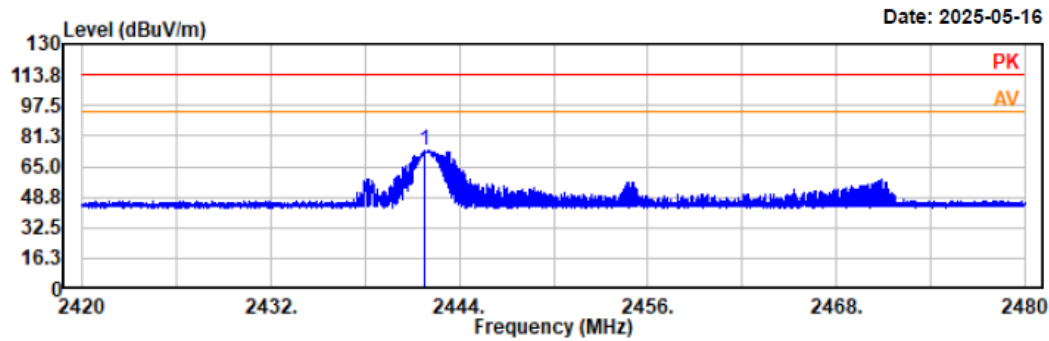


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2442.03	84.60	-0.94	83.66	114.00	30.34	horizontal	Peak

Project No.: 2507S22551E-RF
Test Mode: mid channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V

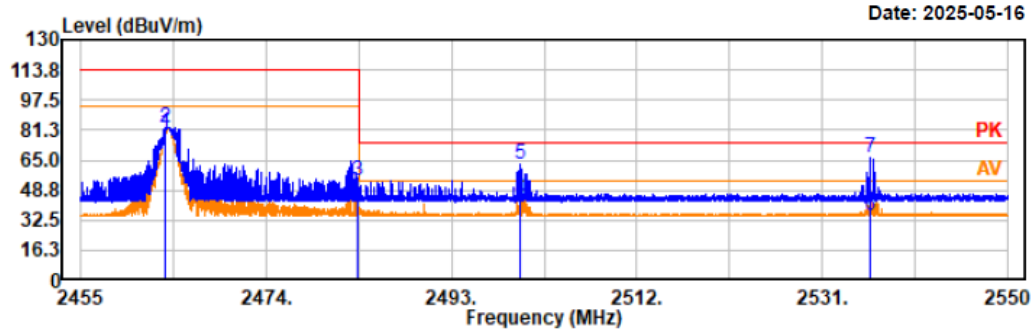


Condition: PK RBW:1MHz VBW:3MHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2441.79	74.03	-0.94	73.09	114.00	40.91	vertical	Peak

Project No.: 2507S22551E-RF
Test Mode: high channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3°C/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Trace: 1

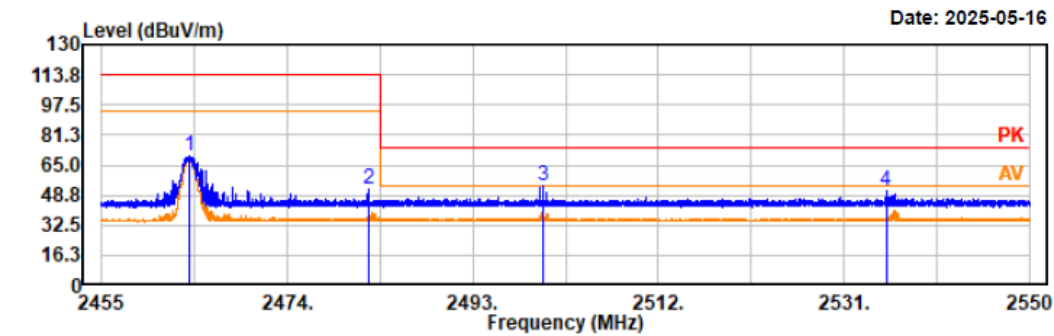
Condition: PK RBW:1MHz VBW:3MHz SWT:auto

AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2463.70	80.39	-0.86	79.53	94.00	14.47	horizontal	Average
2463.70	83.55	-0.86	82.69	114.00	31.31	horizontal	Peak
2483.50	54.56	-0.77	53.79	74.00	20.21	horizontal	Peak
2500.09	44.25	-0.70	43.55	54.00	10.45	horizontal	Average
2500.09	63.20	-0.70	62.50	74.00	11.50	horizontal	Peak
2535.85	35.81	-0.62	35.19	54.00	18.81	horizontal	Average
2535.85	66.70	-0.62	66.08	74.00	7.92	horizontal	Peak

Project No.: 2507S22551E-RF
Test Mode: high channel Transmitting
EUT Model: BG1544
Test distance: 3m

Temp/Humi/ATM: 21.3℃/49%/100.1kPa
Tested by: Wlif Wu
Power Source: DC 3V



Trace: 1

Condition: PK RBW:1MHz VBW:3MHz SWT:auto

AV RBW:1MHz VBW:5kHz SWT:auto

Freq MHz	Reading dBuV	Factor dB/m	Result dBuV/m	Limit dBuV/m	Margin dB	Polarity	Remark
2463.95	70.51	-0.85	69.66	114.00	44.34	vertical	Peak
2482.31	53.16	-0.77	52.39	114.00	61.61	vertical	Peak
2500.23	54.20	-0.70	53.50	74.00	20.50	vertical	Peak
2535.32	51.37	-0.63	50.74	74.00	23.26	vertical	Peak

FCC §15.215(c) - 20dB EMISSION BANDWIDTH TESTING

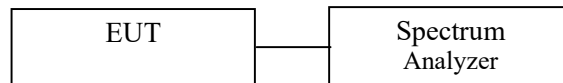
Applicable Standard

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

Test Procedure

According to section 6.9 of standard ANSI C63.10-2013.

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Measure the frequency difference of two frequencies that were attenuated 20 dB from the reference level. Record the frequency difference as the emission bandwidth.
3. Repeat above procedures until all frequencies measured were complete.

Test Setup

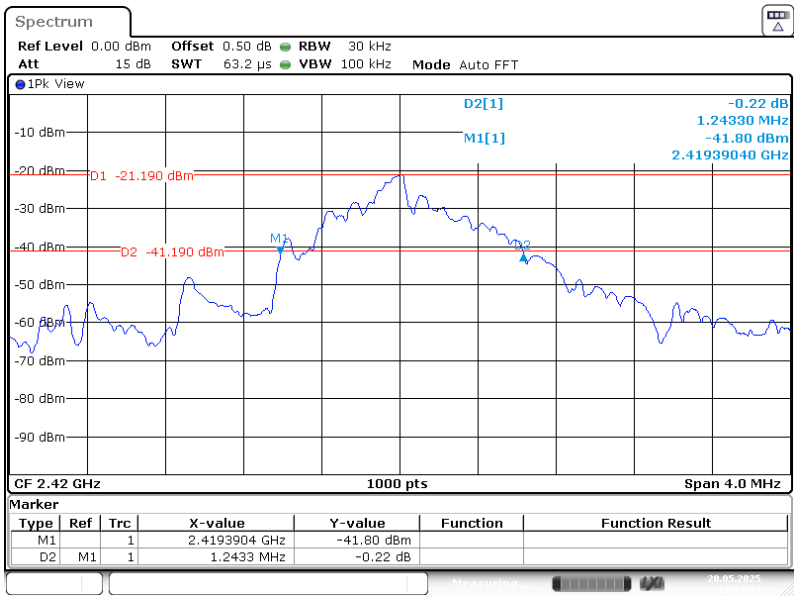
Test Data

Test Mode:	Transmitting	Test Engineer:	Braylon Ma
Test Date:	2025-05-20	Test Voltage:	DC 3V from battery
Test Frequency:	2420MHz, 2442MHz, 2464MHz	Environment:	Temp.: 21.3°C Humi.: 60% Atm:100.2kPa

Test Result: Compliant.

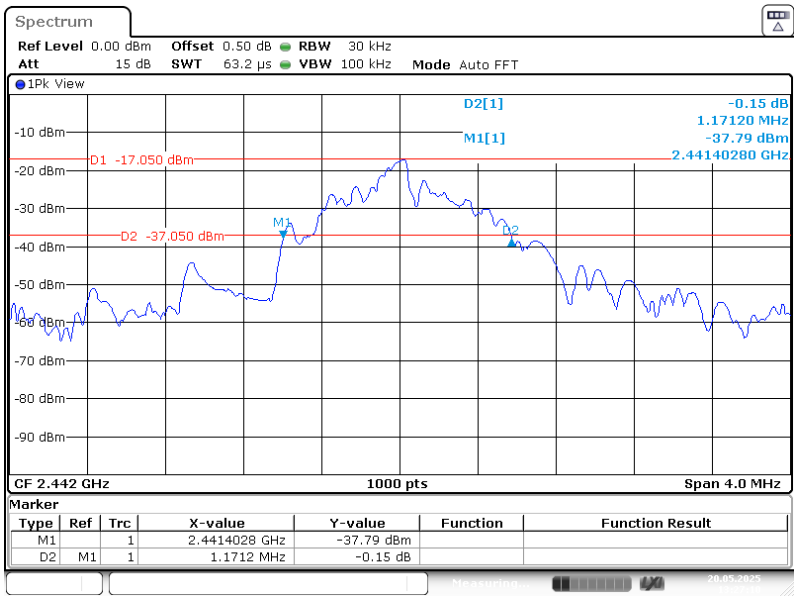
Channel	Frequency (MHz)	20 dB Bandwidth (MHz)
1	2420	1.243
2	2442	1.171
3	2464	1.309

2420 MHz



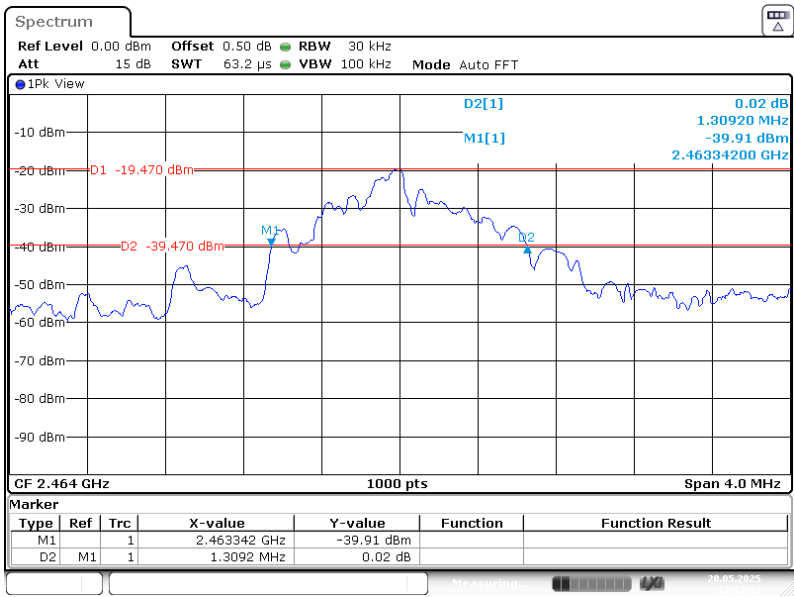
ProjectNo.:2507S22551E-RF Tester:Braylon Ma
Date: 20.MAY.2025 13:13:33

2442MHz



ProjectNo.:2507S22551E-RF Tester:Braylon Ma
Date: 20.MAY.2025 13:27:10

2464 MHz



ProjectNo.:2507S22551E-RF Tester:Braylon Ma
Date: 20.MAY.2025 13:17:51

EUT PHOTOGRAPHS

Please refer to the attachment 2507S22551E-RF-EXP EUT EXTERNAL PHOTOGRAPHS and 2507S22551E-RF-INP EUT INTERNAL PHOTOGRAPHS.

TEST SETUP PHOTOGRAPHS

Please refer to the attachment 2507S22551E-RF-TSP TEST SETUP PHOTOGRAPHS.

Declarations

1. Bay Area Compliance Laboratories Corp. (Xiamen) is not responsible for authenticity of any information provided by the applicant. Information from the applicant that may affect test results are marked with an asterisk “★”.
2. Unless otherwise stated, the results shown in this test report refer only to the sample(s) tested.
3. Unless required by the rule provided by the applicant or product regulations, then decision rule in this report did not consider the uncertainty.
4. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor $k=2$ with the 95% confidence interval.
5. This report cannot be reproduced except in full, without prior written approval of Bay Area Compliance Laboratories Corp. (Xiamen).
6. This report is valid only with a valid digital signature. The digital signature may be available only under the adobe software above version 7.0.

******* END OF REPORT *******