

TEST REPORT

of

FCC CFR Title 47 Part 15 Subpart C

Product: **Bluetooth 5.0, 802.15.4 module**
Brand: **Fanstel**
Main Model: **BT840-1**
Series Model: **BT840F-1, BT840E-1, BT840H**
FCC ID: **X8WBT840F**
Standard: **§15.247, Cat: DTS**
Reference: **ANSI C63.10: 2020**
KDB 558074 D01 v05r02
Applicant: **Fanstel Corporation, Taipei**
Address: **10F-10, No. 79, Sec. 1, Hsin Tai Wu Rd., Hsi-Chih, New Taipei City 221 Taiwan**

Test Performed by:



International Standards Laboratory Corp. LT Lab.

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Report No.: **ISL-19LR205FC-R3**

Issue Date : **January 28, 2026**



FCC Registration Number: 487532

Test results given in this report apply only to the specific sample(s) tested and are traceable to national or international standard through calibration of the equipment and evaluating measurement uncertainty herein. According to customer agreement, the laboratory issues test reports based on the regulations or standards specifications, the measurement uncertainty is not considered in conformity decision rules.

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VERIFICATION OF COMPLIANCE

Applicant: Fanstel Corporation, Taipei
Equipment Under Test: Bluetooth 5.0, 802.15.4 module
Brand: Fanstel
Main Model: BT840-1
Series Model: BT840F-1, BT840E-1, BT840H
Model Difference: Antenna differences
FCC ID: X8WBT840F
Date of Test: January 14, 2026 ~ January 28, 2026
Date of EUT Received: January 14, 2026

APPLICABLE STANDARDS	
STANDARD	TEST RESULT
FCC Part 15.247	Complied

We hereby certify that:

All the tests in this report have been performed and recorded in accordance with the standards described above and performed by an independent electromagnetic compatibility consultant, International Standards Laboratory Corp.

The test results contained in this report accurately represent the measurements of the characteristics and the energy generated by sample equipment under test at the time of the test. The sample equipment tested as described in this report is in compliance with the limits of above standards.

Prepared By: Gigi Yeh

Test By: Barry Lee
Barry Lee

Approved By: Jerry Liu
Jerry Liu / Manager

Version

Version No.	Date	Description
00	2019/08/29	Initial creation of document
01	2026/1/28	This report is prepared for FCC class II permissive change of the original report no.: ISL-19LR205FCBLE. The difference from the original report is to add one antenna. (Ant. NO.: BLE-DMTL_ Printed Pattern Antennas) Therefore, test items for RF output power & radiated emission are performed. Refer to original report for the other test data.

TABLE OF CONTENTS

1.	Description of Equipment under Test (EUT)	5
2.	Description of Test Modes	6
2.1	CONFIGURATION OF TESTED SYSTEM	6
2.2	STANDARDS, REFERENCE DOCUMENTS AND APPLICABLE TEST METHODS	7
3.	Summary of Test Results	7
4.	AC Line Conducted Emission Test	8
4.1	STANDARD APPLICABLE	8
4.2	MEASUREMENT PROCEDURE	8
4.3	MEASUREMENT RESULT	9
5.	Peak Output Power Measurement	11
5.1	STANDARD APPLICABLE	11
5.2	MEASUREMENT PROCEDURE	11
5.3	MEASUREMENT RESULT	12
6.	Radiated Spurious Emission Test	13
6.1	STANDARD APPLICABLE	13
6.2	MEASUREMENT PROCEDURE	13
6.3	FIELD STRENGTH CALCULATION	14
6.4	MEASUREMENT RESULT	15
7.	100kHz Bandwidth of Band Edges Measurement	51
7.1	STANDARD APPLICABLE	51
7.2	MEASUREMENT PROCEDURE	51
7.3	FIELD STRENGTH CALCULATION	51
7.4	MEASUREMENT RESULT	52
8.	Appendix	64
8.1	APPENDIX A: EQUIPMENT LIST	64
8.2	APPENDIX B: UNCERTAINTY OF MEASUREMENT	66
8.3	APPENDIX C: TEST SETUP	67
8.4	APPENDIX D: PHOTOGRAPHS OF SETUP	70
8.5	APPENDIX E: PHOTOGRAPHS OF EUT	76

1. Description of Equipment under Test (EUT)

General Information	
Product Name:	Bluetooth 5.0, 802.15.4 module
Brand Name:	Fanstel
Model Name:	BT840-1, BT840F-1, BT840E-1, BT840H
Model Difference:	Antenna. Please see table below for detail.
Power Rating:	5VDC from USB (JIG)
Information	
Product HW version	BT840-V5
Radio SW version	nrf52840 s140
PMN (Product Marketing Name)	BT840-1
HVIN (Hardware Version Identification Number)	BT840-1, BT840F-1, BT840E-1, BT840H
FVIN (Firmware Version Identification Number)	nrf52840 s140
Test Software Version	Putty ver.0.60.0.0
RF power setting:	Pos8dBm
Bluetooth Information	
Frequency Range (MHz):	2402 – 2480
Bluetooth Version:	V5.0
Max Output Power:	8.49 dBm
Channel number:	40 channels
Modulation type:	GFSK
IEEE 802.15.4 (Thread, Zigbee) Information	
Frequency Range (MHz):	2405 – 2480
Max Output Power:	8.43 dBm
Channel number:	16 channels
Modulation type:	GFSK

Model Summaries

module	BT840F-1	BT840-1	BT840E-1	BT840H	BT840E-1
SoC	nRF52840-QIAA	nRF52840-QIAA	nRF52840-QIAA	nRF52840-QIAA	nRF52840-QIAA
Size	15x20.8x1.9mm	14x16x1.9mm	14x16x1.9mm	14x16x1.9mm	14x16x1.9mm
BT Antenna	F-PCB ANT	L-PCB ANT	u.FL	MHF4	u.FL (BLE-DMTL)
BT Antenna Gain	0.34dBi 50ohm	-3.52dBi 50ohm	6dBi 50ohm	6dBi 50ohm	-6.48dBi 50ohm

2. Description of Test Modes

The EUT has been tested under engineering operating condition.

Test program used to control the EUT for staying in continuous transmitting mode is programmed.

BLE:

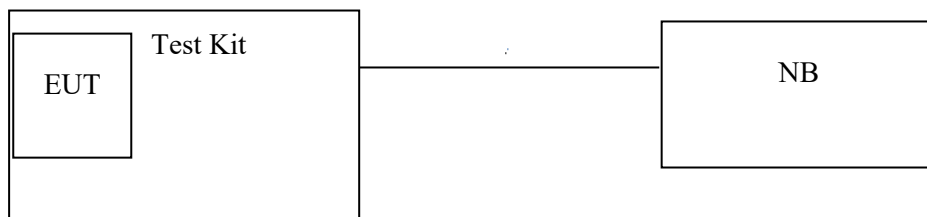
Channel low (2402MHz), mid (2442MHz), (2480MHz) with each modulation were chosen for full testing.

IEEE 802.15.4 (Thread, Zigbee):

Channel low (2405MHz), mid (2445MHz) and high (2480MHz) are chosen for full testing.

2.1 Configuration of Tested System

Configuration of Tested System (Fixed channel)



Equipment Used in Tested System

Item	Equipment	Brand	Model	S/N	Data Cable	Power Cord
1	Notebook	Lenovo	X220i	N/A	N/A	Non-shielded
2	Test Kit	N/A	N/A	N/A	N/A	N/A

2.2 Standards, reference documents and applicable test methods

The EUT According to the Specifications, it must comply with the requirements of the following standards:

1. FCC Title 47 CFR part 15 - Subpart C – §15.247 Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.
2. FCC Title 47 CFR part 15 - Subpart C – §15.207 Conducted limits.
3. FCC Title 47 CFR part 15 - Subpart C – §15.209 Radiated emission limits; general requirements.
4. FCC OET KDB 558074 D01 v05r02 - Guidance for compliance measurements on digital transmission system, frequency hopping spread spectrum system, and hybrid system devices operating under section 15.247 of the FCC rules
5. FCC OET KDB 662911 D01 v02r01 - Emissions Testing of Transmitters with Multiple Outputs in the Same Band
6. ANSI C63.10-2020 - American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

3. Summary of Test Results

FCC Rules	Description Of Test	Result
§15.207(a)	AC Power Line Conducted Emission	Compliant
§15.247(b) (3), (4)	Peak Output Power/ EIRP	Compliant
§15.247(d)	100 kHz Bandwidth of Frequency Band Edges	Compliant

Test data of model BT840E-1 is the worst case which is reported.

Note: Test item list below has been re-verify:

1. RF Output power
2. Transmitter spurious emissions below 1GHz
3. Transmitter spurious emissions above 1GHz
4. 100 kHz Bandwidth of Frequency Band Edges

4. AC Line Conducted Emission Test

4.1 Standard Applicable

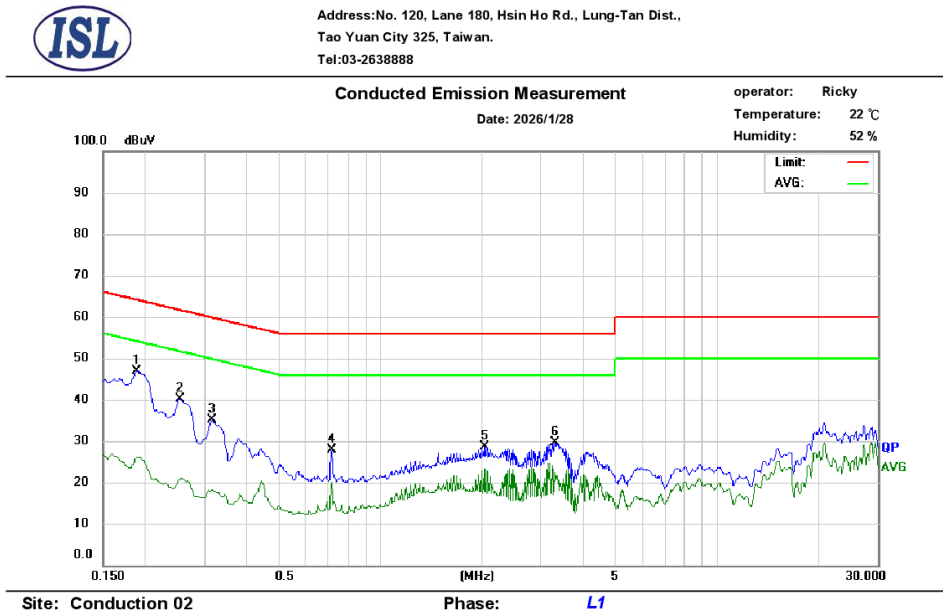
According to §15.207, frequency range within 150kHz to 30MHz shall not exceed the Limit table as below.

Frequency range MHz	Limits dB(μV)	
	Quasi-peak	Average
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5	56	46
5 - 30	60	50
Note 1.The lower limit shall apply at the transition frequencies 2.The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.		

4.2 Measurement Procedure

1. The EUT was placed on a table which is 0.8m above ground plane.
2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
3. Repeat above procedures until all frequency measured were complete.
4. Both 120V & 240V have been verified, and 120V/60Hz was defined as the worst-case and record in the report.

4.3 Measurement Result



No.	Frequency (MHz)	QP_R (dBuV)	AVG_R (dBuV)	Correct Factor (dB)	QP Emission (dBuV)	QP Limit (dBuV)	QP Margin (dB)	AVG Emission (dBuV)	AVG Limit (dBuV)	AVG Margin (dB)
1*	0.188	37.20	16.34	9.77	46.97	64.11	-17.14	26.11	54.11	-28.00
2	0.254	30.39	11.00	9.77	40.16	61.64	-21.48	20.77	51.64	-30.87
3	0.317	25.32	8.35	9.78	35.10	59.80	-24.70	18.13	49.80	-31.67
4	0.717	18.13	10.43	9.80	27.93	56.00	-28.07	20.23	46.00	-25.77
5	2.038	18.81	13.42	9.85	28.66	56.00	-27.34	23.27	46.00	-22.73
6	3.307	19.65	12.54	9.89	29.54	56.00	-26.46	22.43	46.00	-23.57

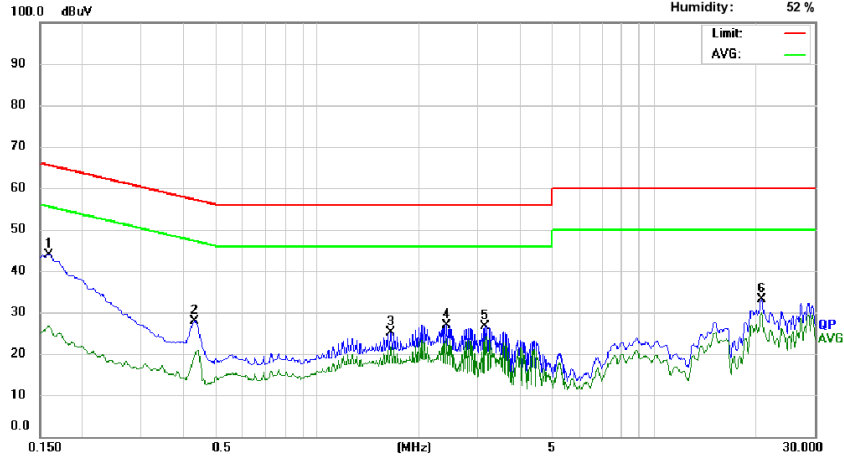


Address: No. 120, Lane 180, Hsin Ho Rd., Lung-Tan Dist.,
Tao Yuan City 325, Taiwan.
Tel: 03-2638888

Conducted Emission Measurement

Date: 2026/1/28

operator: Ricky
Temperature: 22 °C
Humidity: 52 %



Site: Conduction 02

Phase: N

No.	Frequency (MHz)	QP_R (dBuV)	AVG_R (dBuV)	Correct Factor (dB)	QP Emission (dBuV)	QP Limit (dBuV)	QP Margin (dB)	AVG Emission (dBuV)	AVG Limit (dBuV)	AVG Margin (dB)
1	0.159	34.15	16.89	9.78	43.93	65.52	-21.59	26.67	55.52	-28.85
2	0.431	18.19	9.57	9.79	27.98	57.23	-29.25	19.36	47.23	-27.87
3	1.653	15.41	11.69	9.84	25.25	56.00	-30.75	21.53	46.00	-24.47
4	2.422	17.04	13.65	9.87	26.91	56.00	-29.09	23.52	46.00	-22.48
5	3.154	16.84	14.23	9.89	26.73	56.00	-29.27	24.12	46.00	-21.88
6*	20.846	22.78	19.60	10.23	33.01	60.00	-26.99	29.83	50.00	-20.17

5. Peak Output Power Measurement

5.1 Standard Applicable

According to §15.247

(3) For systems using digital modulation in the 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz bands: 1 Watt. As an alternative to a peak power measurement, compliance with the one Watt limit can be based on a measurement of the maximum conducted output power. Maximum Conducted Output Power is defined as the total transmit power delivered to all antennas and antenna elements averaged across all symbols in the signaling alphabet when the transmitter is operating at its maximum power control level. Power must be summed across all antennas and antenna elements. The average must not include any time intervals during which the transmitter is off or is transmitting at a reduced power level. If multiple modes of operation are possible (e.g., alternative modulation methods), the maximum conducted output power is the highest total transmit power occurring in any mode.

(4) The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

(c) Operation with directional antenna gains greater than 6 dBi.

(1) Fixed point-to-point operation:

(i) Systems operating in the 2400 - 2483.5 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi provided the maximum conducted output power of the intentional radiator is reduced by 1 dB for every 3 dB that the directional gain of the antenna exceeds 6 dBi.

(ii) Systems operating in the 5725 - 5850 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter conducted output power.

5.2 Measurement Procedure

1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the power meter or spectrum analyzer with proper instrument's parameters.
3. Record the max. reading.
4. Repeat above procedures until all frequency measured were complete.

5.3 Measurement Result

BLE Mode 1M

Frequency (MHz)	Original	New	Output Power (Max) (W)	Limit (W)
	Output Power (dBm)			
Low	8.16	8.00	0.00655	1
Mid	8.23	8.03	0.00666	1
High	8.49	8.11	0.00706	1

BLE Mode 2M

Frequency (MHz)	Original	New	Output Power (Max) (W)	Limit (W)
	Output Power (dBm)			
Low	8.13	8.01	0.0065	1
Mid	8.22	8.02	0.00664	1
High	8.46	8.23	0.00701	1

IEEE 802.15.4 (Thread, Zigbee)

Frequency (MHz)	Original	New	Output Power (Max)	Limit
	Output Power (dBm)		(W)	(W)
Low	8.13	8.01	0.00651	1
Mid	8.25	8.13	0.00668	1
High	8.43	8.22	0.00696	1

6. Radiated Spurious Emission Test

6.1 Standard Applicable

According to §15.247(d), all other emissions outside these bands shall not exceed the general radiated emission limits specified in §15.209(a). And according to §15.33(a)(1), for an intentional radiator operates below 10GHz, the frequency range of measurements: to the tenth harmonic of the highest fundamental frequency or to 40GHz, whichever is lower.

6.2 Measurement Procedure

1. The EUT was placed on a turn table which is 0.8m/1.5m above ground plane in 966 chamber.
2. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
3. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
4. When measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made “while keeping the antenna in the ‘cone of radiation’ from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response.” is still within the 3dB illumination BW of the measurement antenna.
5. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
6. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
7. Repeat above procedures until all frequency measured were complete.

Test receiver setting	: Blew 1GHz
Detector	: Average (9kHz - 90kHz, 110kHz - 90kHz), Quasi-Peak
Bandwidth	: 200Hz, 120kHz
Test spectrum setting	: Above 1GHz
Peak	: RBW=1MHz, VBW $\geq$ 3*RBW, Sweep=auto
Average	: RBW=1MHz, VBW $\geq$ 1/T _{on} , Sweep=auto

6.3 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

Where	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

Remark:

<1GHz

1. No further spurious emissions detected from the lowest internal frequency and 30MHz.
2. Measuring frequencies from the lowest internal frequency to the 1GHz.
3. Radiated emissions measured in frequency range from 9kHz to 1000MHz were made with an instrument detector setting 9 - 90kHz/110 - 490kHz using PK/AV and other Frequency Band using PK/QP
4. Measurement result within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

>1GHz

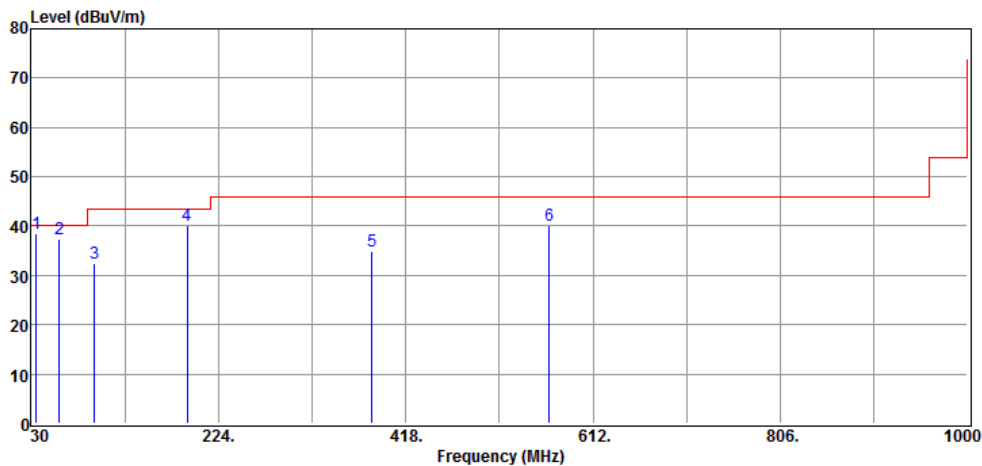
- 5 Measuring frequencies from the lowest internal frequency to the 10th of fundamental frequency
- 6 Field strength limits for frequency above 1000MHz are based on average limits. However, Peak mode field strength shall not exceed the average limits specified plus 20dB.
- 7 Measurement of data within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

6.4 Measurement Result

6.4.1 Radiated Spurious Emission Measurement Result (below 1GHz)

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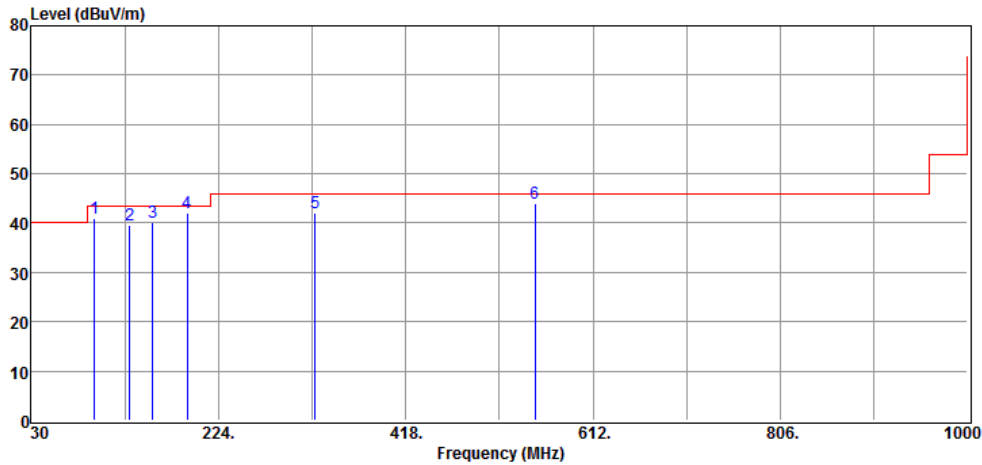
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE 1M Tx Low ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	35.82	51.40	-12.94	38.46	40.00	-1.54	Peak	VERTICAL
2	59.10	49.57	-12.10	37.47	40.00	-2.53	Peak	VERTICAL
3	95.96	49.60	-17.09	32.51	43.50	-10.99	Peak	VERTICAL
4	191.99	54.28	-14.27	40.01	43.50	-3.49	Peak	VERTICAL
5	383.08	43.54	-8.52	35.02	46.00	-10.98	Peak	VERTICAL
6	566.41	44.77	-4.66	40.11	46.00	-5.89	Peak	VERTICAL

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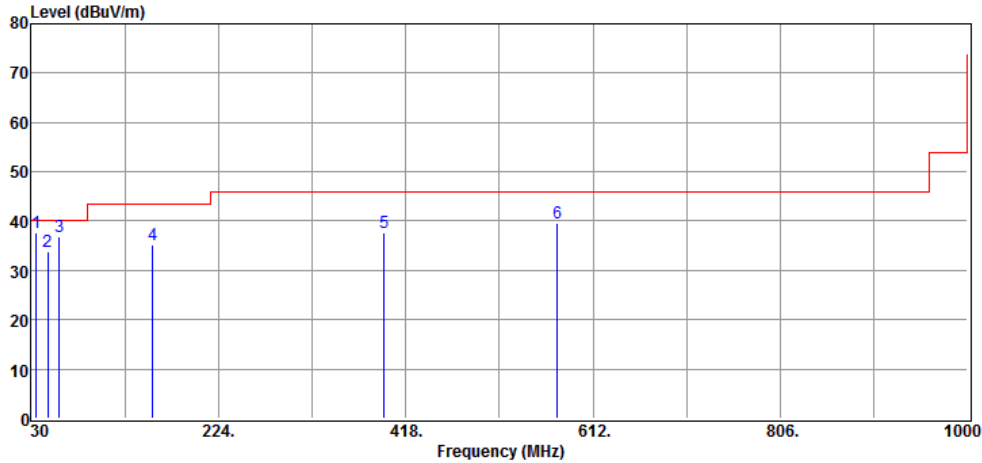
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE 1M Tx Low ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	95.96	58.06	-17.09	40.97	43.50	-2.53	Peak	HORIZONTAL
2	131.85	52.66	-13.15	39.51	43.50	-3.99	Peak	HORIZONTAL
3	156.10	51.52	-11.44	40.08	43.50	-3.42	Peak	HORIZONTAL
4	191.99	56.28	-14.27	42.01	43.50	-1.49	Peak	HORIZONTAL
5	323.91	52.26	-10.12	42.14	46.00	-3.86	Peak	HORIZONTAL
6	551.86	48.95	-5.01	43.94	46.00	-2.06	Peak	HORIZONTAL

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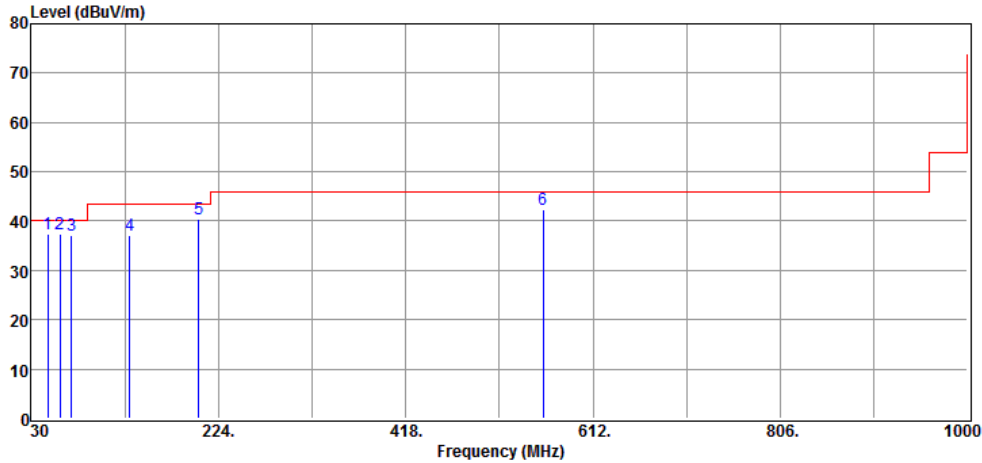
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE 1M Tx Mid ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	35.82	50.64	-12.94	37.70	40.00	-2.30	Peak	VERTICAL
2	47.46	45.64	-11.73	33.91	40.00	-6.09	Peak	VERTICAL
3	59.10	48.86	-12.10	36.76	40.00	-3.24	Peak	VERTICAL
4	156.10	46.65	-11.44	35.21	43.50	-8.29	Peak	VERTICAL
5	395.69	45.96	-8.32	37.64	46.00	-8.36	Peak	VERTICAL
6	575.14	43.93	-4.39	39.54	46.00	-6.46	Peak	VERTICAL

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Date: 2026-01-26

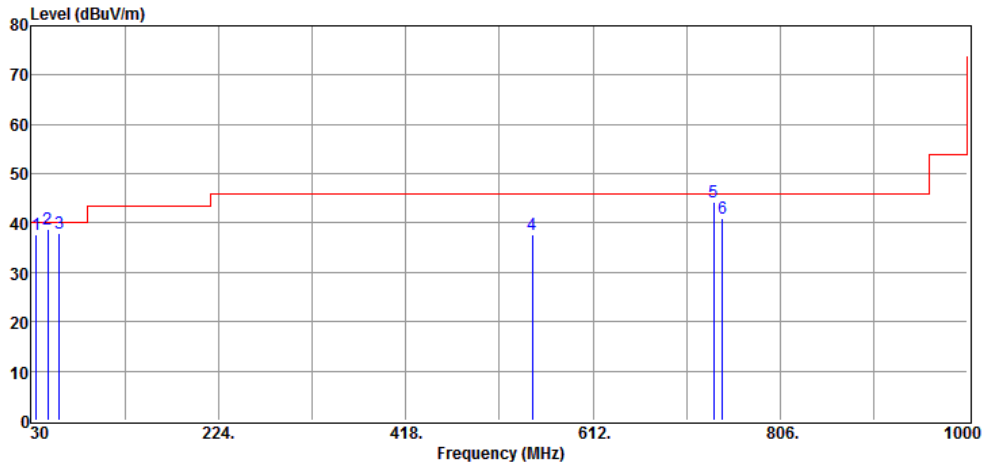
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE 1M Tx Mid ch Tested by : Barry Lee



No	Freq MHz	Reading dBUV	Factor dB/m	Level dBUV/m	Limit dBUV/m	Margin dB	Remark	Pol V/H
1	47.46	49.13	-11.73	37.40	40.00	-2.60	Peak	HORIZONTAL
2	60.07	49.47	-12.11	37.36	40.00	-2.64	Peak	HORIZONTAL
3	71.71	51.45	-14.37	37.08	40.00	-2.92	Peak	HORIZONTAL
4	131.85	50.33	-13.15	37.18	43.50	-6.32	Peak	HORIZONTAL
5	203.63	55.13	-14.69	40.44	43.50	-3.06	Peak	HORIZONTAL
6	560.59	47.23	-4.82	42.41	46.00	-3.59	Peak	HORIZONTAL

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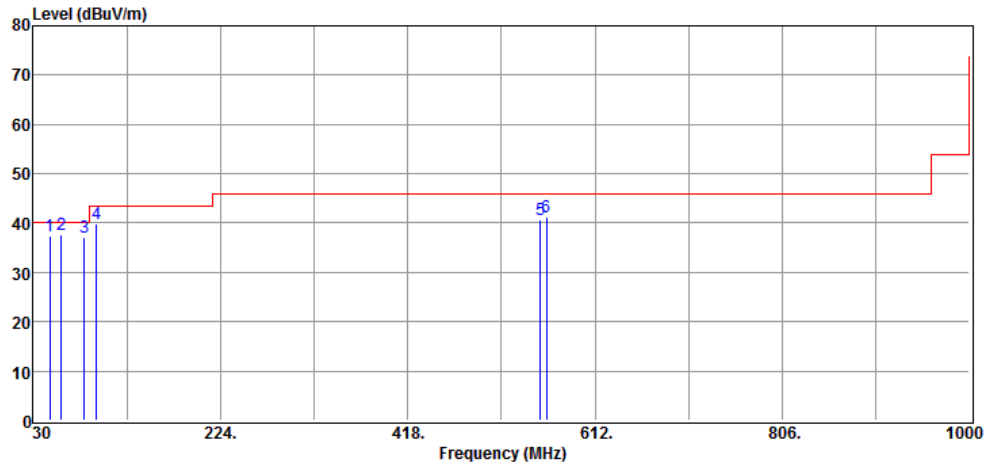
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE 1M Tx High ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	35.82	50.59	-12.94	37.65	40.00	-2.35	Peak	VERTICAL
2	47.46	50.40	-11.73	38.67	40.00	-1.33	Peak	VERTICAL
3	59.10	50.14	-12.10	38.04	40.00	-1.96	Peak	VERTICAL
4	548.95	42.79	-5.06	37.73	46.00	-8.27	Peak	VERTICAL
5	737.13	45.71	-1.42	44.29	46.00	-1.71	Peak	VERTICAL
6	745.86	41.92	-1.07	40.85	46.00	-5.15	Peak	VERTICAL

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Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

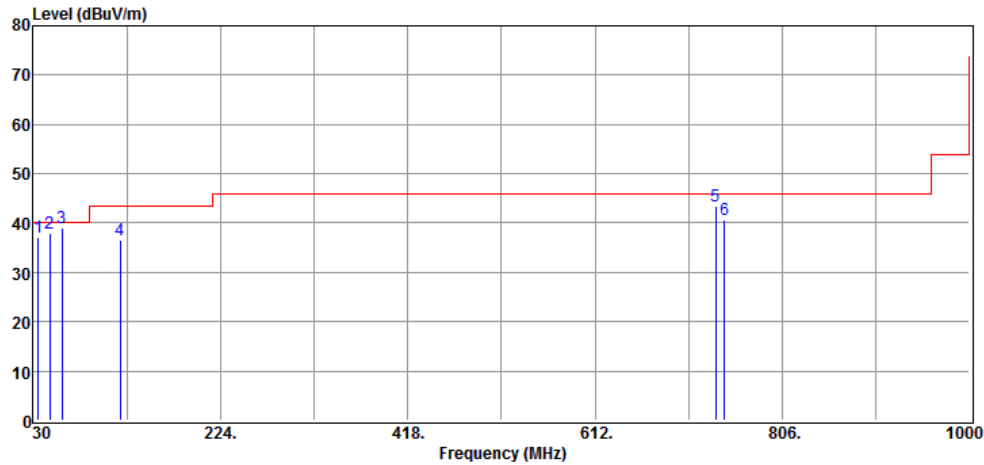
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Test Mode : BLE 1M Tx High ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	47.46	49.12	-11.73	37.39	40.00	-2.61	Peak	HORIZONTAL
2	59.10	49.79	-12.10	37.69	40.00	-2.31	Peak	HORIZONTAL
3	83.35	54.64	-17.41	37.23	40.00	-2.77	Peak	HORIZONTAL
4	95.96	56.94	-17.09	39.85	43.50	-3.65	Peak	HORIZONTAL
5	555.74	45.70	-4.93	40.77	46.00	-5.23	Peak	HORIZONTAL
6	561.56	46.11	-4.80	41.31	46.00	-4.69	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

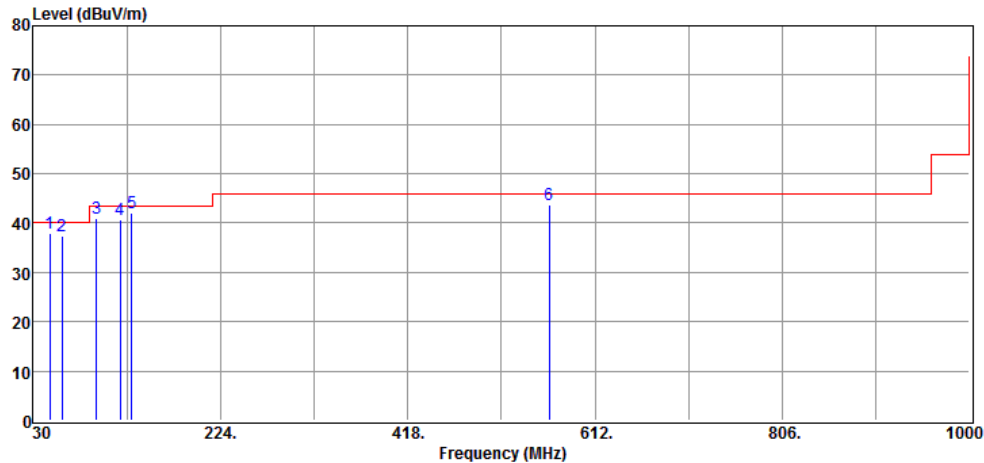
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE 2M Tx Low ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	35.82	49.96	-12.94	37.02	40.00	-2.98	Peak	VERTICAL
2	47.46	49.62	-11.73	37.89	40.00	-2.11	Peak	VERTICAL
3	60.07	51.22	-12.11	39.11	40.00	-0.89	Peak	VERTICAL
4	120.21	50.69	-14.14	36.55	43.50	-6.95	Peak	VERTICAL
5	737.13	44.86	-1.42	43.44	46.00	-2.56	Peak	VERTICAL
6	745.86	41.68	-1.07	40.61	46.00	-5.39	Peak	VERTICAL

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Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

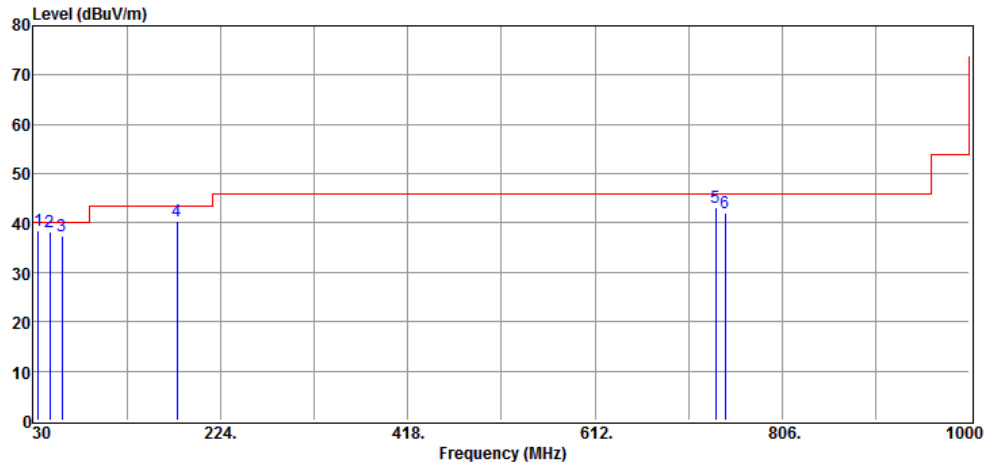
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE 2M Tx Low ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	47.46	49.60	-11.73	37.87	40.00	-2.13	Peak	HORIZONTAL
2	60.07	49.48	-12.11	37.37	40.00	-2.63	Peak	HORIZONTAL
3	95.96	57.94	-17.09	40.85	43.50	-2.65	Peak	HORIZONTAL
4	120.21	54.71	-14.14	40.57	43.50	-2.93	Peak	HORIZONTAL
5	131.85	55.09	-13.15	41.94	43.50	-1.56	Peak	HORIZONTAL
6	564.47	48.32	-4.73	43.59	46.00	-2.41	Peak	HORIZONTAL

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Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

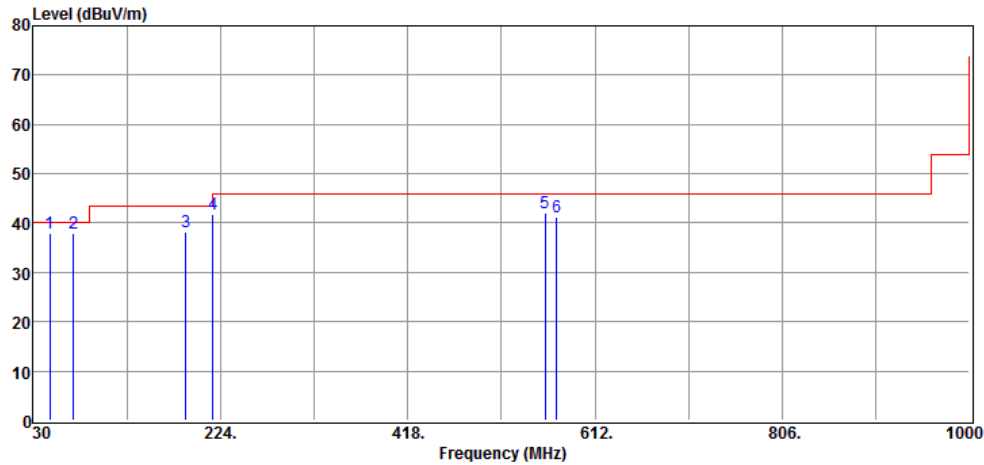
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE 2M Tx Mid ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	35.82	51.50	-12.94	38.56	40.00	-1.44	Peak	VERTICAL
2	47.46	50.08	-11.73	38.35	40.00	-1.65	Peak	VERTICAL
3	60.07	49.57	-12.11	37.46	40.00	-2.54	Peak	VERTICAL
4	179.38	53.59	-13.07	40.52	43.50	-2.98	Peak	VERTICAL
5	737.13	44.57	-1.42	43.15	46.00	-2.85	Peak	VERTICAL
6	746.83	42.99	-1.05	41.94	46.00	-4.06	Peak	VERTICAL

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Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

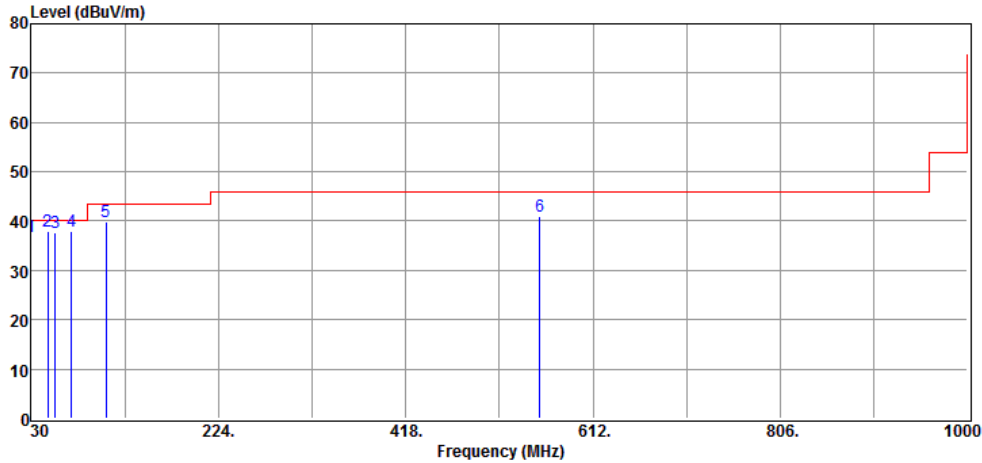
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE 2M Tx Mid ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	47.46	49.53	-11.73	37.80	40.00	-2.20	Peak	HORIZONTAL
2	71.71	52.37	-14.37	38.00	40.00	-2.00	Peak	HORIZONTAL
3	188.11	52.26	-14.01	38.25	43.50	-5.25	Peak	HORIZONTAL
4	216.24	56.42	-14.56	41.86	46.00	-4.14	Peak	HORIZONTAL
5	560.59	46.89	-4.82	42.07	46.00	-3.93	Peak	HORIZONTAL
6	572.23	45.81	-4.47	41.34	46.00	-4.66	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

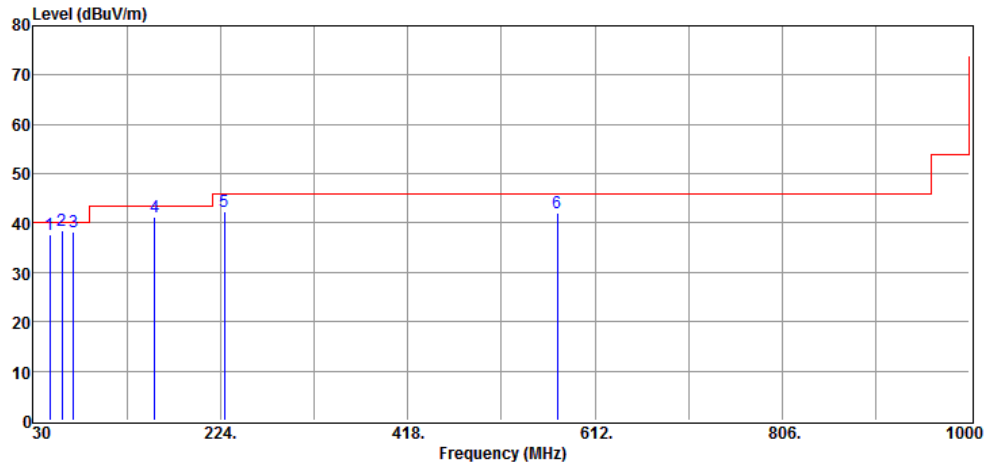
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE 2M Tx High ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	30.00	50.11	-13.30	36.81	40.00	-3.19	Peak	VERTICAL
2	47.46	49.71	-11.73	37.98	40.00	-2.02	Peak	VERTICAL
3	55.22	49.49	-11.81	37.68	40.00	-2.32	Peak	VERTICAL
4	71.71	52.30	-14.37	37.93	40.00	-2.07	Peak	VERTICAL
5	107.60	55.02	-15.15	39.87	43.50	-3.63	Peak	VERTICAL
6	556.71	45.84	-4.91	40.93	46.00	-5.07	Peak	VERTICAL

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Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

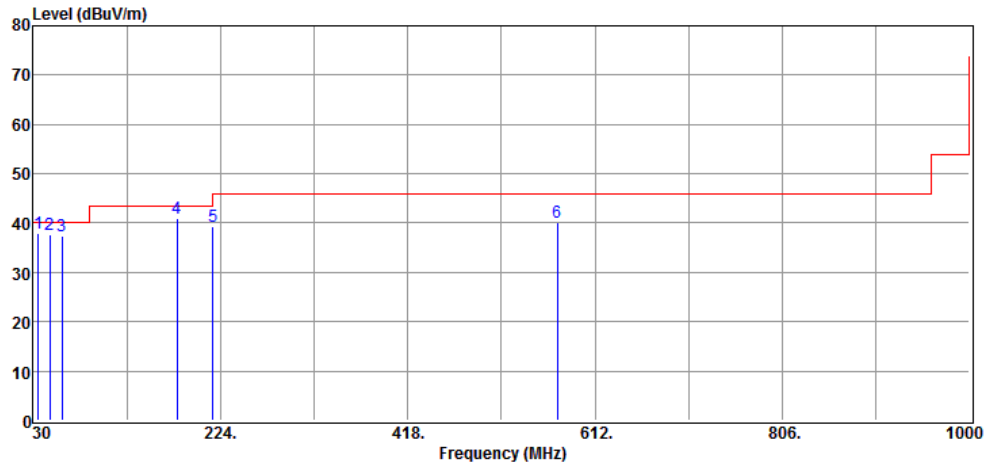
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE 2M Tx High ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	47.46	49.48	-11.73	37.75	40.00	-2.25	Peak	HORIZONTAL
2	60.07	50.56	-12.11	38.45	40.00	-1.55	Peak	HORIZONTAL
3	71.71	52.50	-14.37	38.13	40.00	-1.87	Peak	HORIZONTAL
4	156.10	52.72	-11.44	41.28	43.50	-2.22	Peak	HORIZONTAL
5	227.88	56.80	-14.57	42.23	46.00	-3.77	Peak	HORIZONTAL
6	573.20	46.65	-4.45	42.20	46.00	-3.80	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

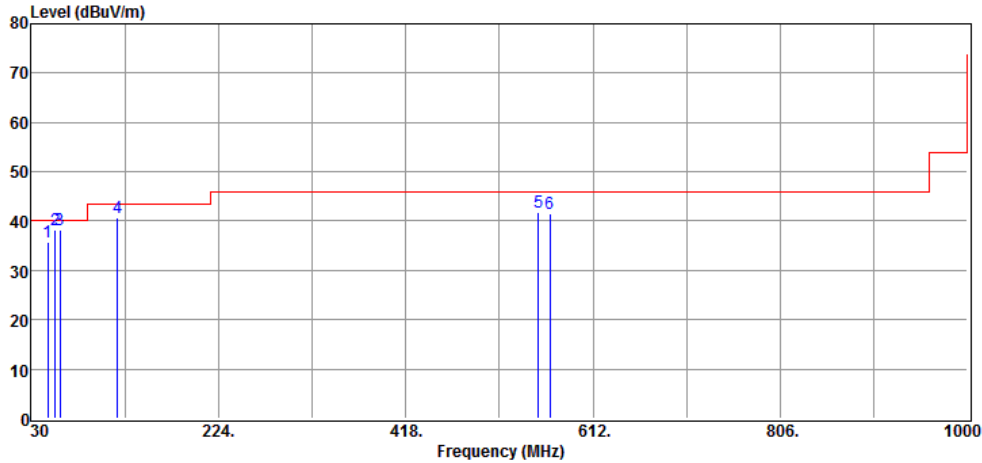
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : Zigbee Tx Low ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	35.82	50.82	-12.94	37.88	40.00	-2.12	Peak	VERTICAL
2	47.46	49.52	-11.73	37.79	40.00	-2.21	Peak	VERTICAL
3	60.07	49.44	-12.11	37.33	40.00	-2.67	Peak	VERTICAL
4	179.38	54.13	-13.07	41.06	43.50	-2.44	Peak	VERTICAL
5	216.24	54.00	-14.56	39.44	46.00	-6.56	Peak	VERTICAL
6	573.20	44.63	-4.45	40.18	46.00	-5.82	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

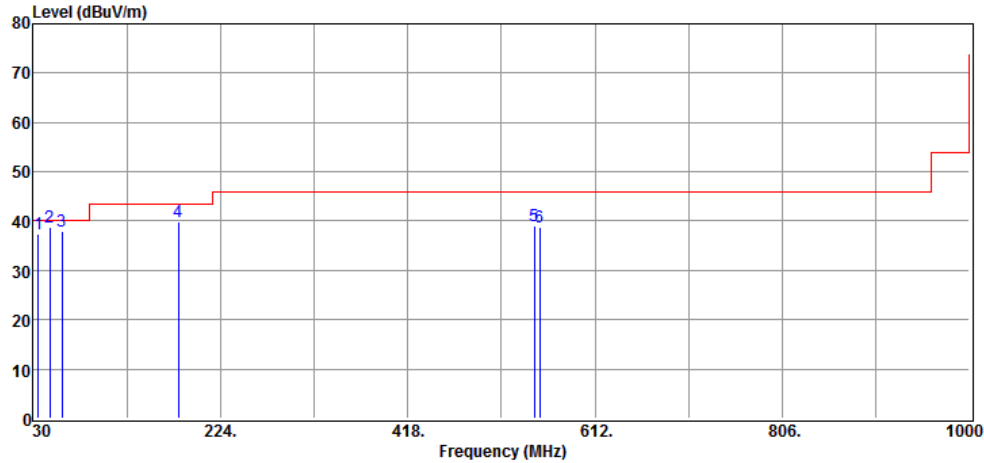
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : Zigbee Tx Low ch Tested by : Barry Lee



No	Freq MHz	Reading dBUV	Factor dB/m	Level dBUV/m	Limit dBUV/m	Margin dB	Remark	Pol V/H
1	47.46	47.34	-11.73	35.61	40.00	-4.39	Peak	HORIZONTAL
2	55.22	49.93	-11.81	38.12	40.00	-1.88	Peak	HORIZONTAL
3	60.07	50.19	-12.11	38.08	40.00	-1.92	Peak	HORIZONTAL
4	119.24	54.95	-14.20	40.75	43.50	-2.75	Peak	HORIZONTAL
5	555.74	46.77	-4.93	41.84	46.00	-4.16	Peak	HORIZONTAL
6	567.38	46.07	-4.62	41.45	46.00	-4.55	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
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Date: 2026-01-26

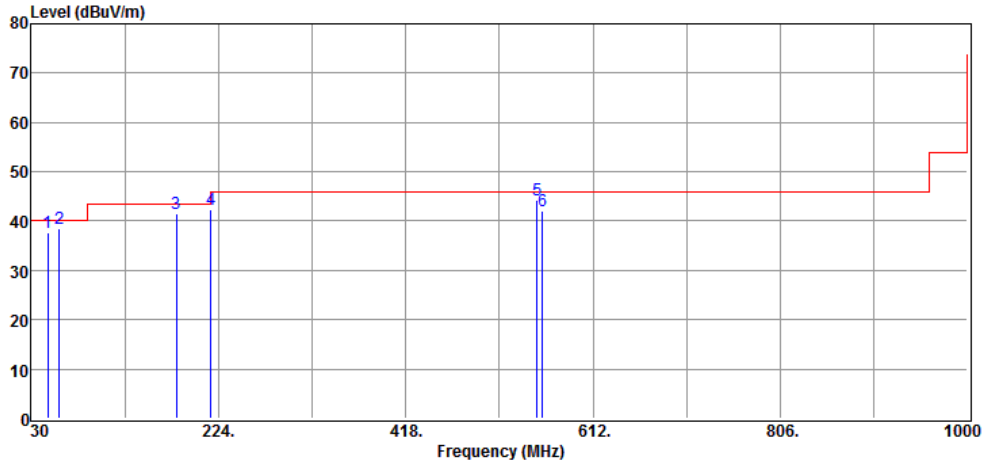
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : Zigbee Tx Mid ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	35.82	50.27	-12.94	37.33	40.00	-2.67	Peak	VERTICAL
2	47.46	50.47	-11.73	38.74	40.00	-1.26	Peak	VERTICAL
3	60.07	50.09	-12.11	37.98	40.00	-2.02	Peak	VERTICAL
4	180.35	52.93	-13.18	39.75	43.50	-3.75	Peak	VERTICAL
5	548.95	44.15	-5.06	39.09	46.00	-6.91	Peak	VERTICAL
6	554.77	43.76	-4.94	38.82	46.00	-7.18	Peak	VERTICAL

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Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

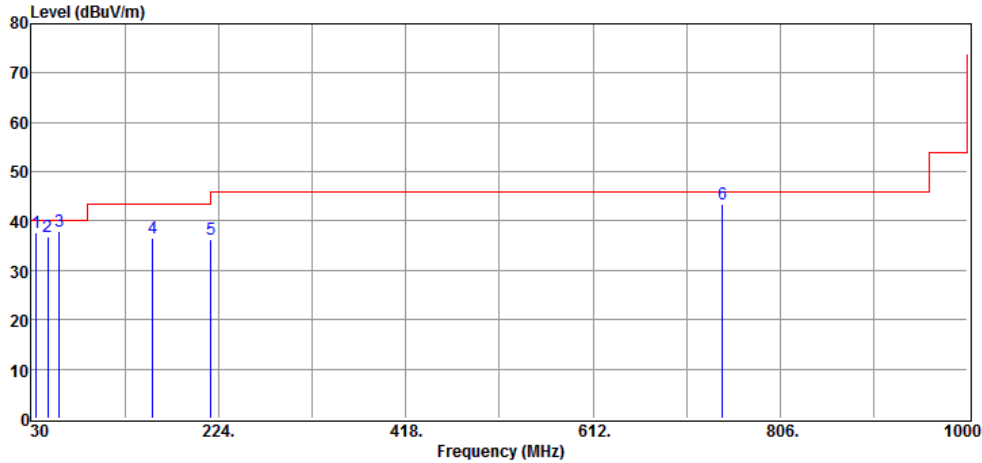
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : Zigbee Tx Mid ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	47.46	49.27	-11.73	37.54	40.00	-2.46	Peak	HORIZONTAL
2	59.10	50.66	-12.10	38.56	40.00	-1.44	Peak	HORIZONTAL
3	180.35	54.62	-13.18	41.44	43.50	-2.06	Peak	HORIZONTAL
4	216.24	56.80	-14.56	42.24	46.00	-3.76	Peak	HORIZONTAL
5	553.80	49.17	-4.97	44.20	46.00	-1.80	Peak	HORIZONTAL
6	559.62	46.99	-4.84	42.15	46.00	-3.85	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

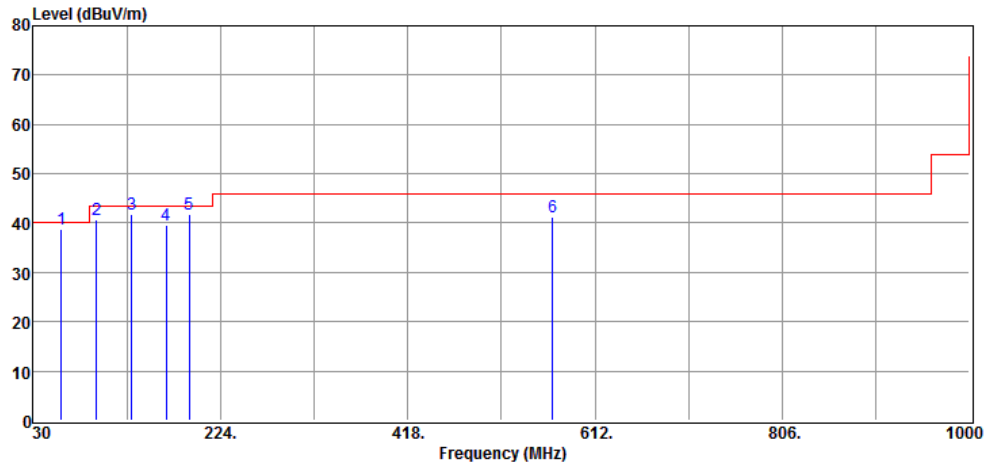
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : Zigbee Tx High ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	35.82	50.59	-12.94	37.65	40.00	-2.35	Peak	VERTICAL
2	47.46	48.48	-11.73	36.75	40.00	-3.25	Peak	VERTICAL
3	59.10	50.13	-12.10	38.03	40.00	-1.97	Peak	VERTICAL
4	156.10	48.00	-11.44	36.56	43.50	-6.94	Peak	VERTICAL
5	216.24	50.98	-14.56	36.42	46.00	-9.58	Peak	VERTICAL
6	745.86	44.58	-1.07	43.51	46.00	-2.49	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : Zigbee Tx High ch Tested by : Barry Lee



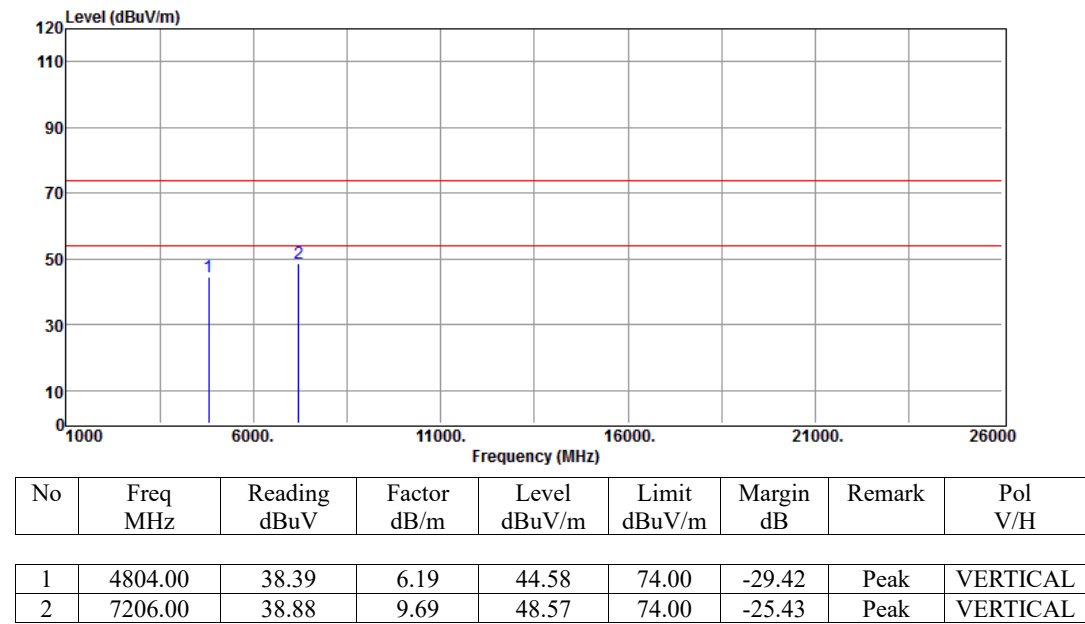
No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	59.10	50.80	-12.10	38.70	40.00	-1.30	Peak	HORIZONTAL
2	95.96	57.77	-17.09	40.68	43.50	-2.82	Peak	HORIZONTAL
3	131.85	54.89	-13.15	41.74	43.50	-1.76	Peak	HORIZONTAL
4	167.74	51.34	-11.78	39.56	43.50	-3.94	Peak	HORIZONTAL
5	191.99	56.04	-14.27	41.77	43.50	-1.73	Peak	HORIZONTAL
6	568.35	45.83	-4.59	41.24	46.00	-4.76	Peak	HORIZONTAL

6.4.2 Radiated Spurious Emission Measurement Result (above1GHz)

International Standard Laboratory Corp.
Company Address:No.120,Lane 180, Hsin Ho Rd.
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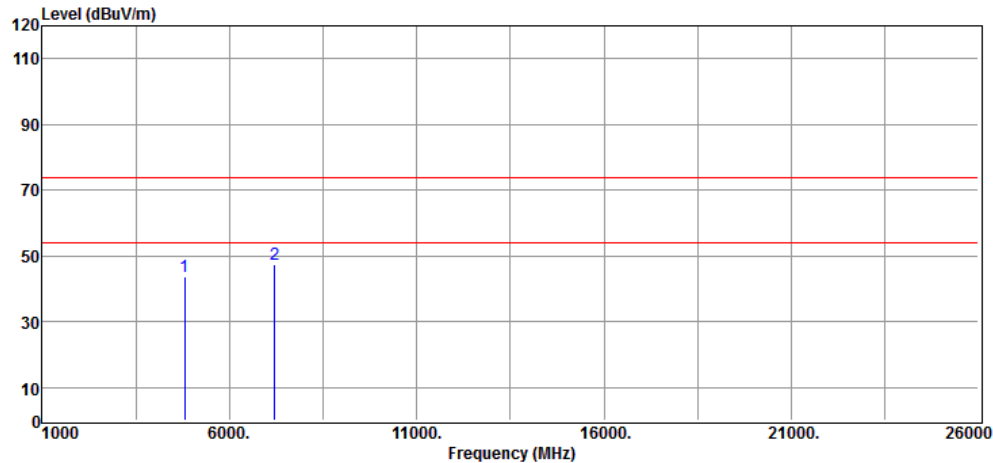
Date: 2026-01-26

Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE Tx Low ch Tested by : Barry Lee



International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

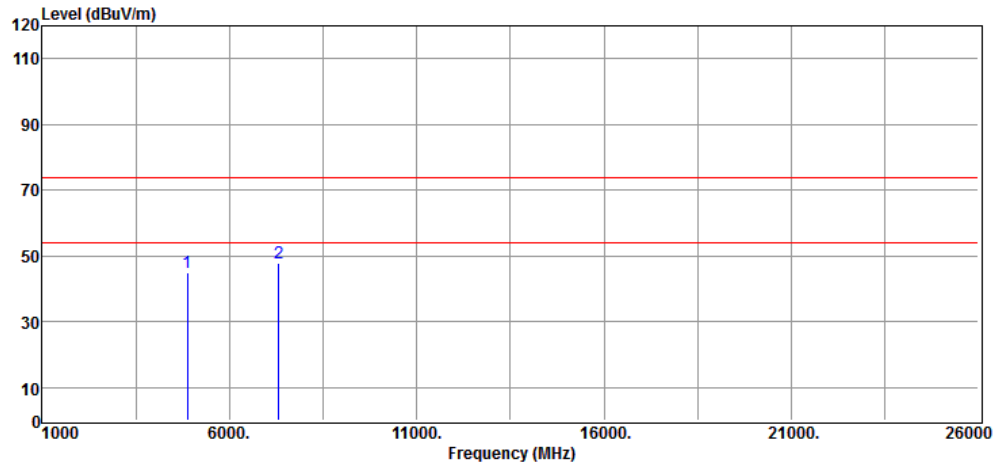
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE Tx Low ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	4804.00	37.53	6.19	43.72	74.00	-30.28	Peak	HORIZONTAL
2	7206.00	37.89	9.69	47.58	74.00	-26.42	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

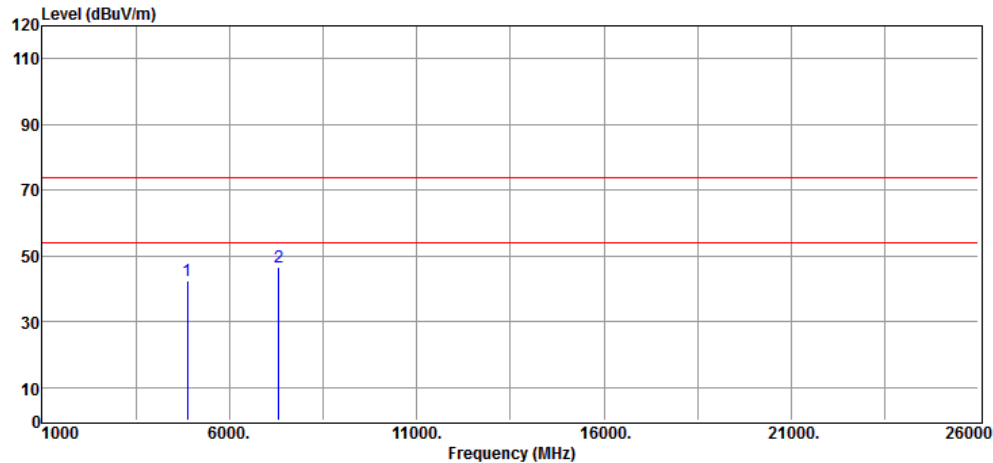
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE Tx Mid ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	4884.00	38.49	6.44	44.93	74.00	-29.07	Peak	VERTICAL
2	7326.00	38.34	9.62	47.96	74.00	-26.04	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

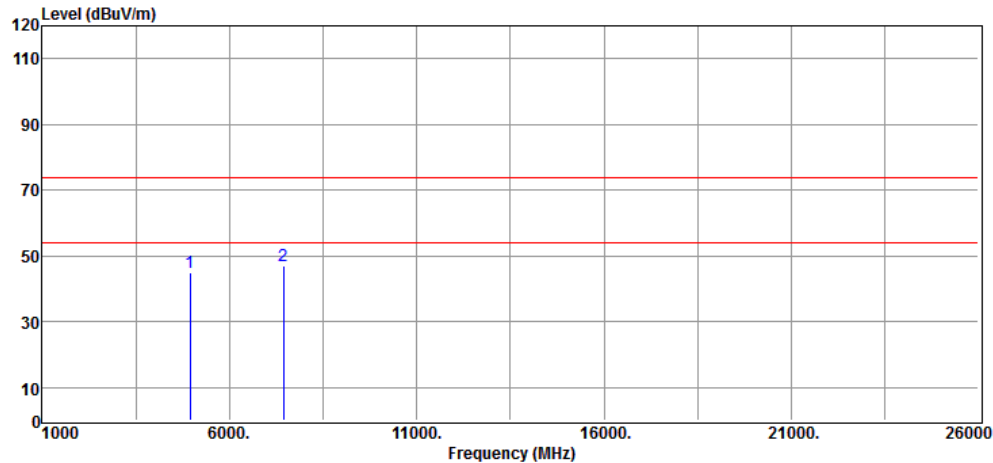
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE Tx Mid ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	4884.00	36.19	6.44	42.63	74.00	-31.37	Peak	HORIZONTAL
2	7326.00	37.11	9.62	46.73	74.00	-27.27	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

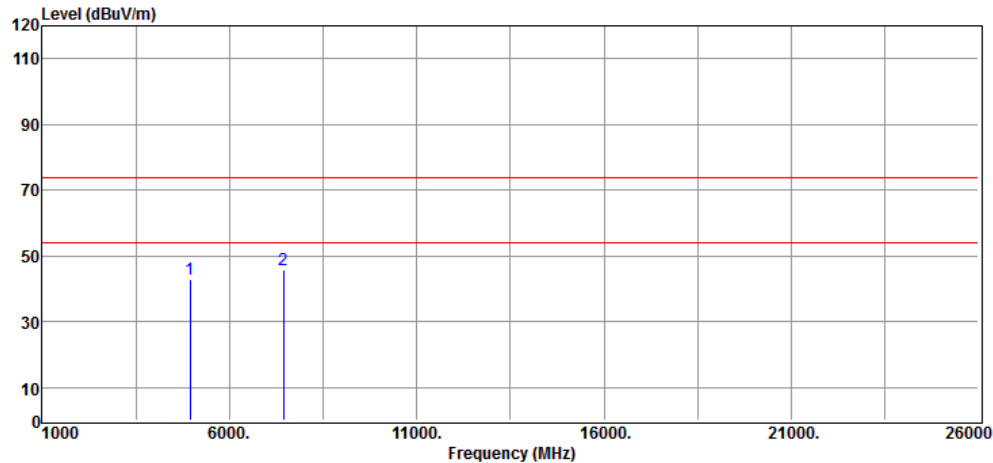
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE Tx High ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	4960.00	38.06	6.69	44.75	74.00	-29.25	Peak	VERTICAL
2	7440.00	37.39	9.65	47.04	74.00	-26.96	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

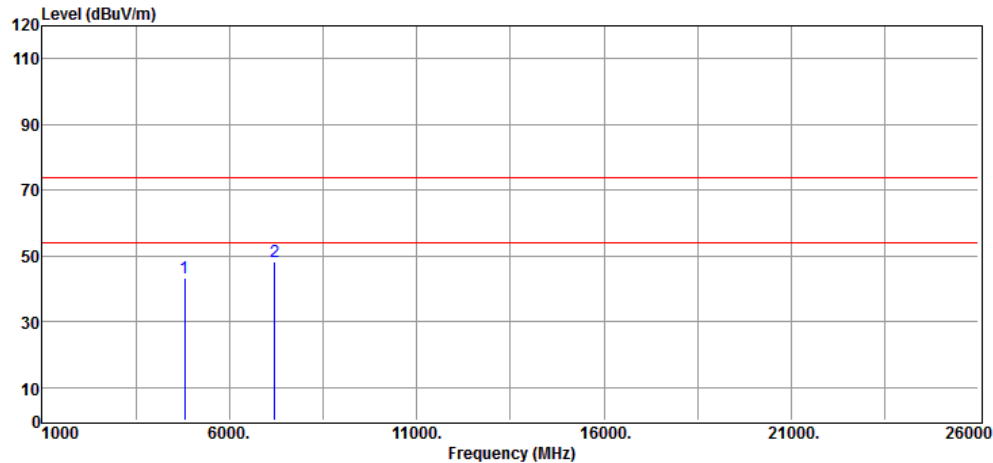
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE Tx High ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	4960.00	36.28	6.69	42.97	74.00	-31.03	Peak	HORIZONTAL
2	7440.00	36.04	9.65	45.69	74.00	-28.31	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
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Date: 2026-01-26

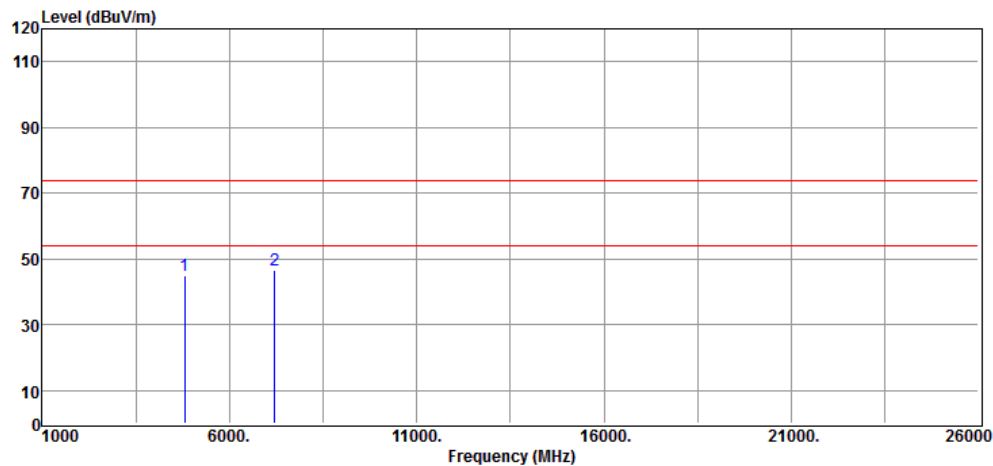
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE 2M Tx Low ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	4804.00	36.96	6.19	43.15	74.00	-30.85	Peak	VERTICAL
2	7206.00	38.53	9.69	48.22	74.00	-25.78	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

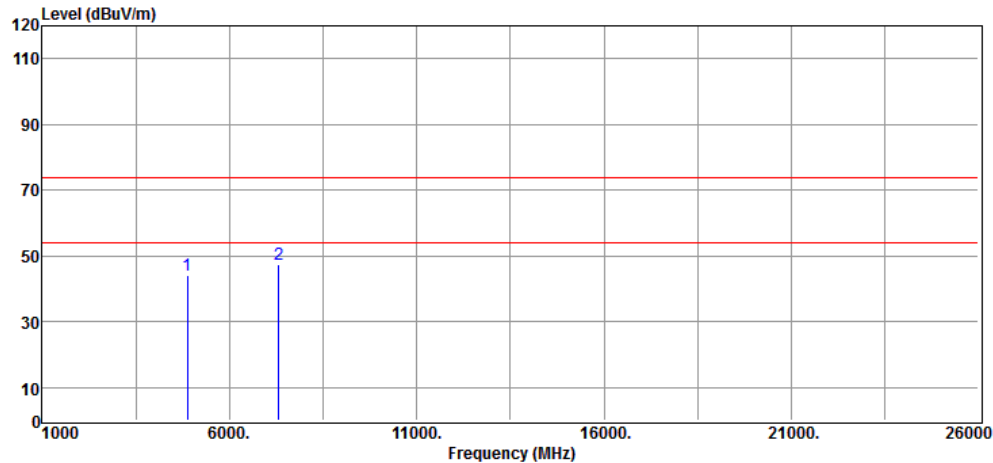
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE 2M Tx Low ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	4804.00	38.80	6.19	44.99	74.00	-29.01	Peak	HORIZONTAL
2	7206.00	37.06	9.69	46.75	74.00	-27.25	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

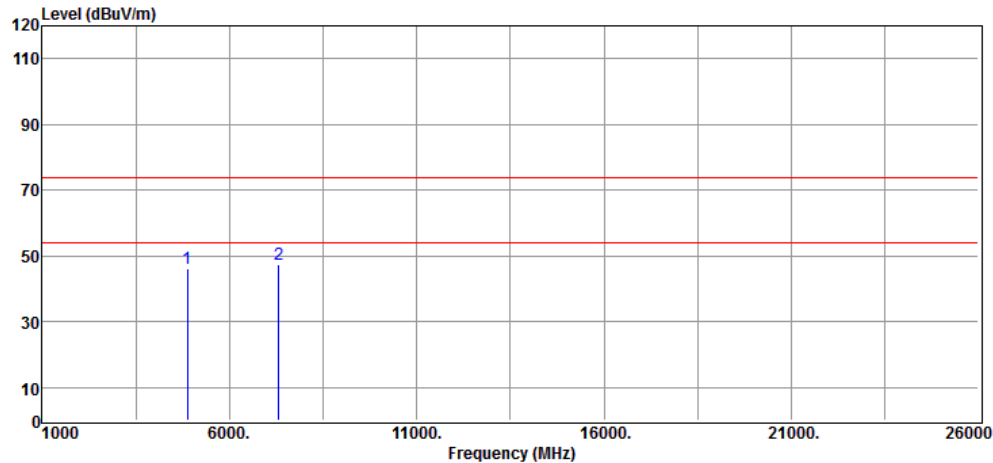
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE 2M Tx Mid ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	4884.00	37.82	6.44	44.26	74.00	-29.74	Peak	VERTICAL
2	7326.00	37.72	9.62	47.34	74.00	-26.66	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

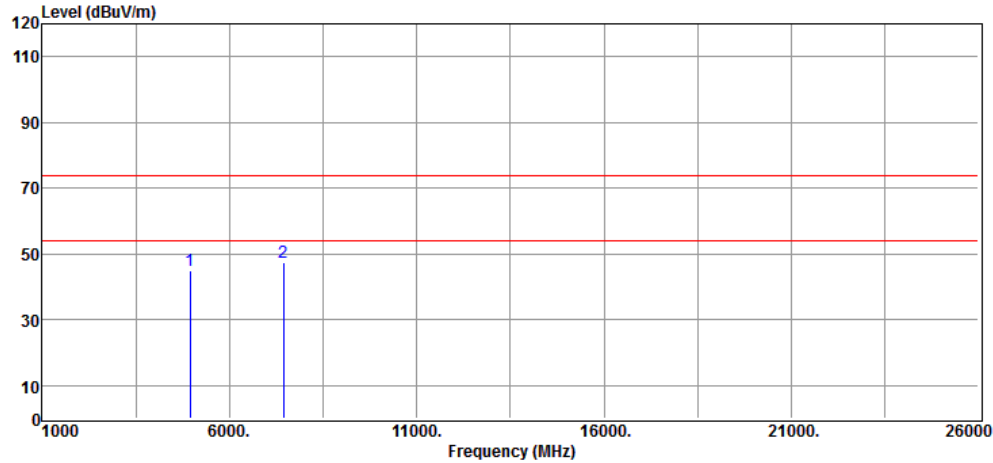
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE 2M Tx Mid ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	4884.00	39.57	6.44	46.01	74.00	-27.99	Peak	HORIZONTAL
2	7326.00	37.64	9.62	47.26	74.00	-26.74	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

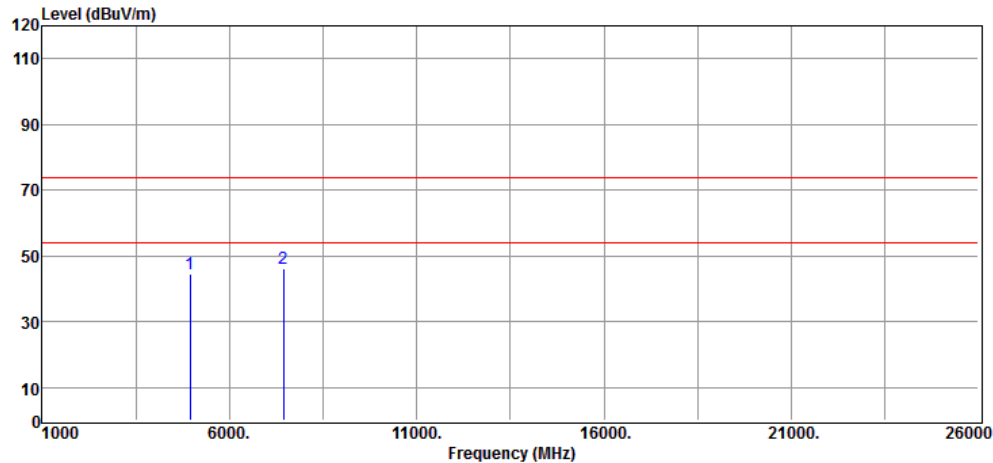
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE 2M Tx High ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	4960.00	38.31	6.69	45.00	74.00	-29.00	Peak	VERTICAL
2	7440.00	37.97	9.65	47.62	74.00	-26.38	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

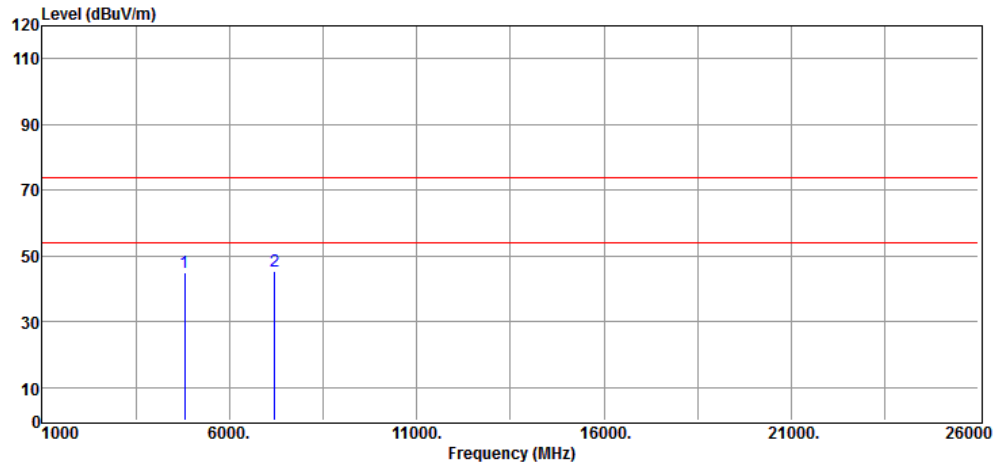
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : BLE 2M Tx High ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	4960.00	37.81	6.69	44.50	74.00	-29.50	Peak	HORIZONTAL
2	7440.00	36.46	9.65	46.11	74.00	-27.89	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

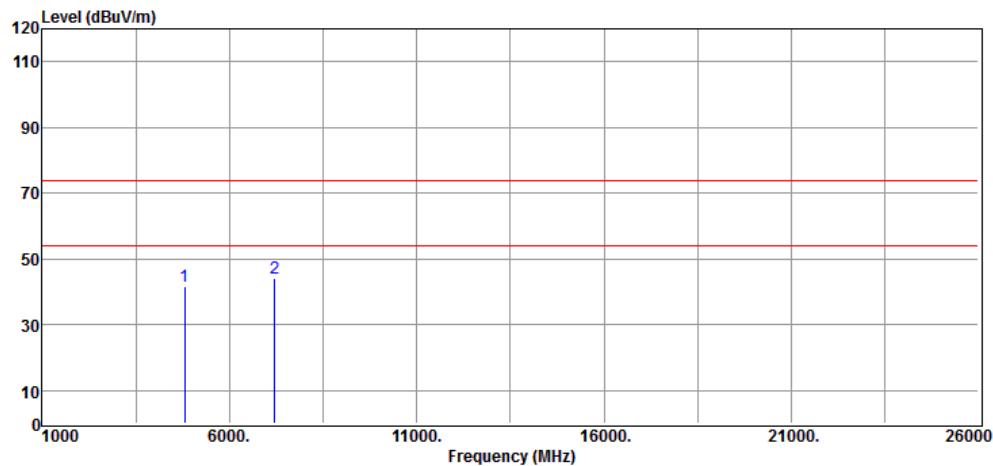
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : Zigbee Tx Low ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	4810.00	38.55	6.21	44.76	74.00	-29.24	Peak	VERTICAL
2	7215.00	35.88	9.65	45.53	74.00	-28.47	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

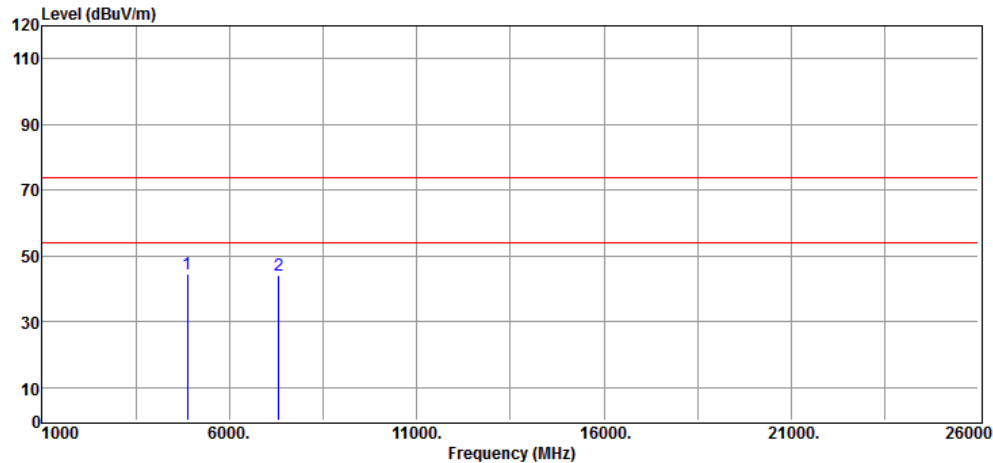
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : Zigbee Tx Low ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	4810.00	35.43	6.21	41.64	74.00	-32.36	Peak	HORIZONTAL
2	7215.00	34.43	9.65	44.08	74.00	-29.92	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

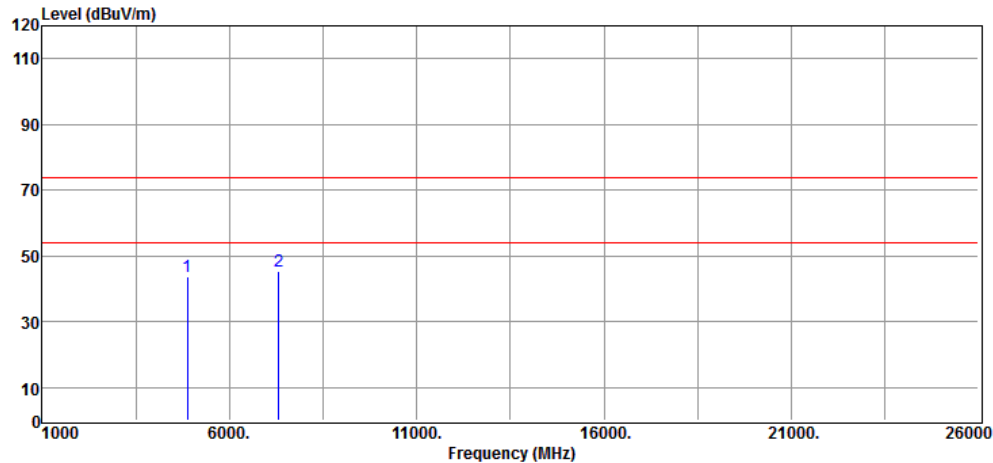
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Test Mode : Zigbee Tx Mid ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	4880.00	38.05	6.44	44.49	74.00	-29.51	Peak	VERTICAL
2	7320.00	34.55	9.62	44.17	74.00	-29.83	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

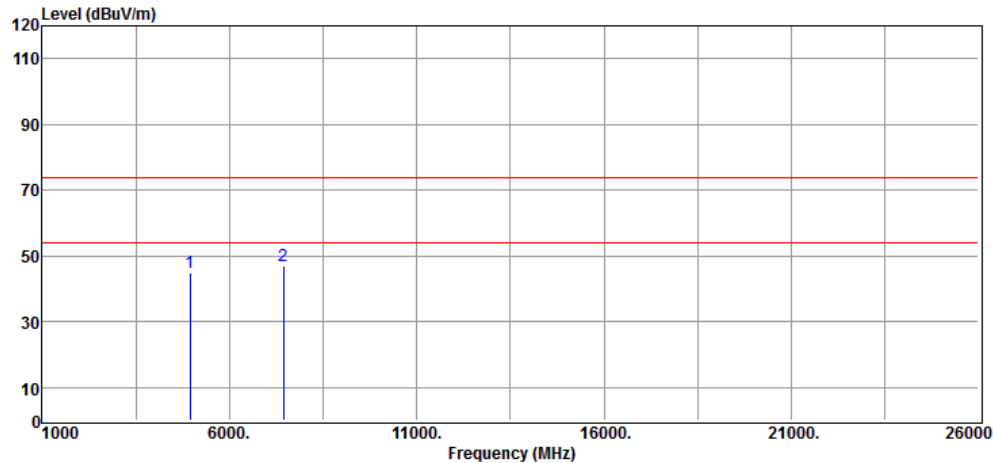
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : Zigbee Tx Mid ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	4880.00	37.16	6.44	43.60	74.00	-30.40	Peak	HORIZONTAL
2	7320.00	35.68	9.62	45.30	74.00	-28.70	Peak	HORIZONTAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

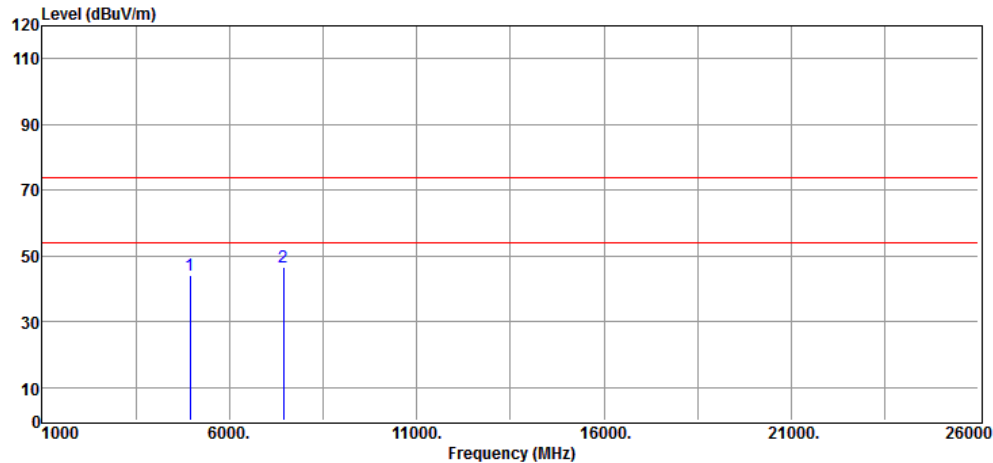
Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : Zigbee Tx high ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	4960.00	38.14	6.69	44.83	74.00	-29.17	Peak	VERTICAL
2	7440.00	37.37	9.65	47.02	74.00	-26.98	Peak	VERTICAL

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : Zigbee Tx high ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	4960.00	37.39	6.69	44.08	74.00	-29.92	Peak	HORIZONTAL
2	7440.00	37.10	9.65	46.75	74.00	-27.25	Peak	HORIZONTAL

7. 100kHz Bandwidth of Band Edges Measurement

7.1 Standard Applicable

According to §15.247(d), in any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a).

7.2 Measurement Procedure

1. Place the EUT on the table and set it in transmitting mode.
2. Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the spectrum analyzer.
3. Set center frequency of spectrum analyzer = operating frequency.
4. Set the spectrum analyzer as RBW=1MHz, VBW $\geq$ 3*RBW (for Peak); VBW $\geq$ 1/T_{on} (for Average), Sweep = auto.
5. Mark Peak, 2.390GHz and 2.4835GHz and record the max. level.
6. Repeat above procedures until all frequency measured were complete.

7.3 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL - AG$$

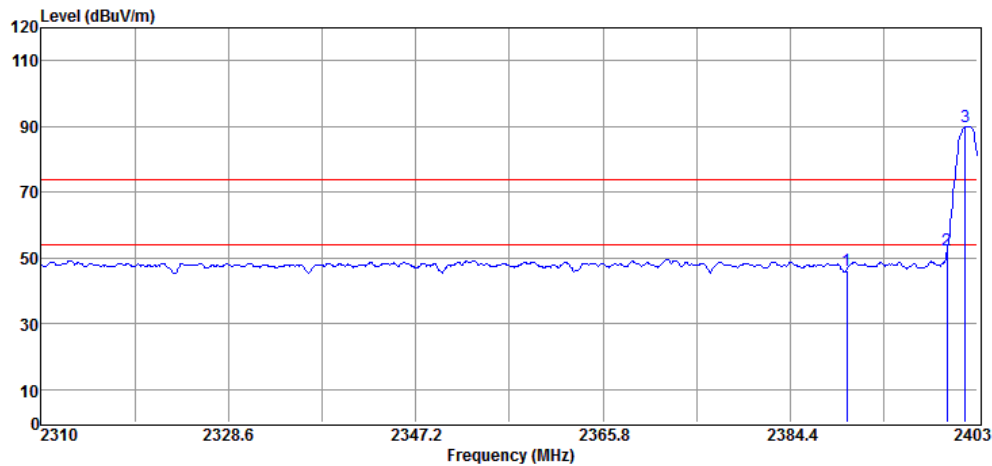
Where	FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
	RA = Reading Amplitude	AG = Amplifier Gain
	AF = Antenna Factor	

7.4 Measurement Result

7.4.1 Radiated Band Edges Measurement Result

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : 1M Bandedge Low ch Tested by : Barry Lee

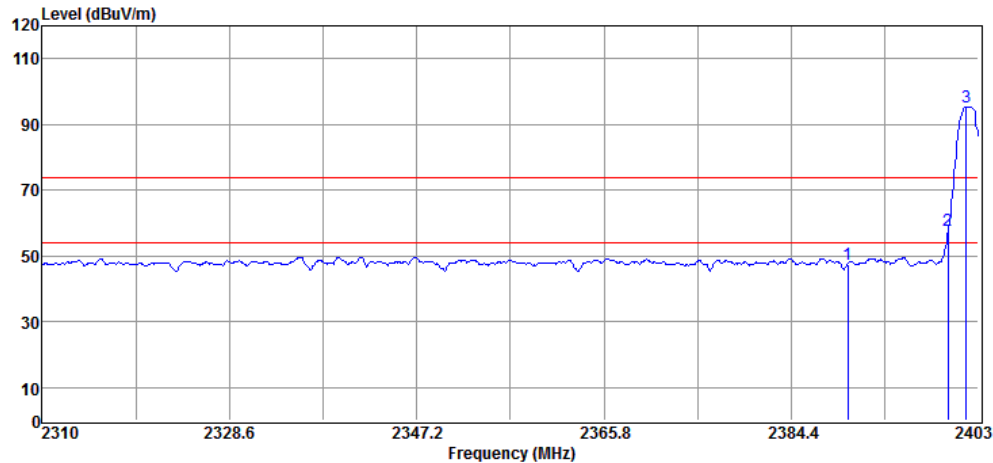


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2390.00	43.68	2.61	46.29	74.00	-27.71	Peak	VERTICAL
2	2400.00	49.74	2.65	52.39	79.88	-27.49	Peak	VERTICAL
3	2401.79	87.23	2.65	89.88	F	--	Peak	VERTICAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : 1M Bandedge Low ch Tested by : Barry Lee

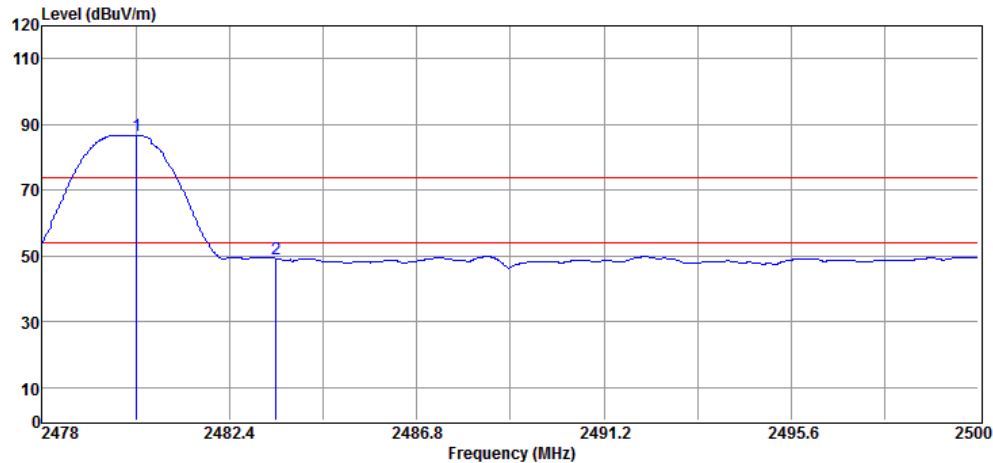


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2390.00	44.86	2.61	47.47	74.00	-26.53	Peak	HORIZONTAL
2	2400.00	55.27	2.65	57.92	75.40	-17.48	Peak	HORIZONTAL
3	2401.79	92.75	2.65	95.40	F	--	Peak	HORIZONTAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : 1M Bandedge High ch Tested by : Barry Lee

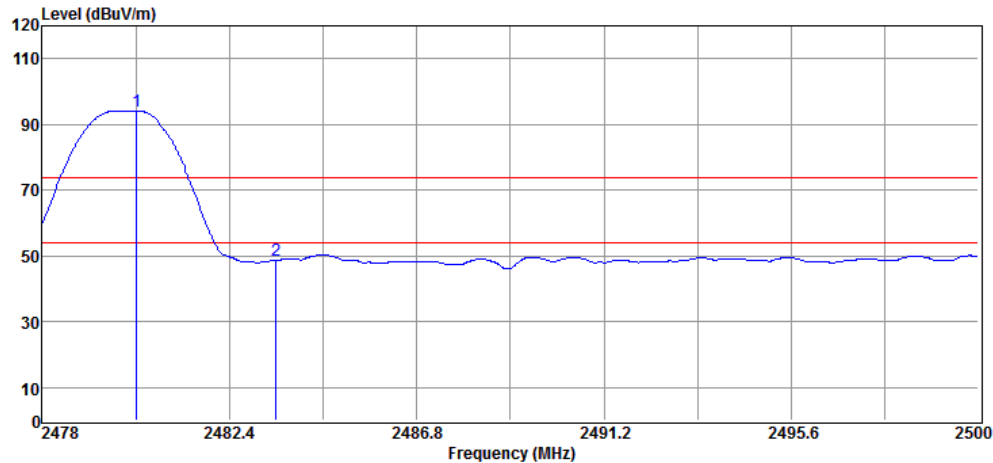


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2480.22	83.41	3.24	86.65	F	--	Peak	VERTICAL
2	2483.50	45.95	3.28	49.23	74.00	-24.77	Peak	VERTICAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : 1M Bandedge High ch Tested by : Barry Lee

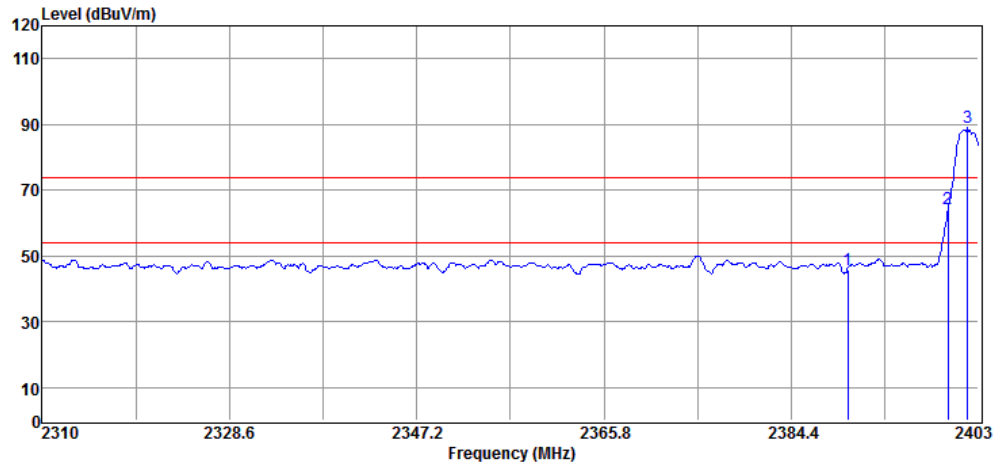


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2480.22	90.94	3.24	94.18	F	--	Peak	HORIZONTAL
2	2483.50	45.33	3.28	48.61	74.00	-25.39	Peak	HORIZONTAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : 2M Bandedge Low ch Tested by : Barry Lee

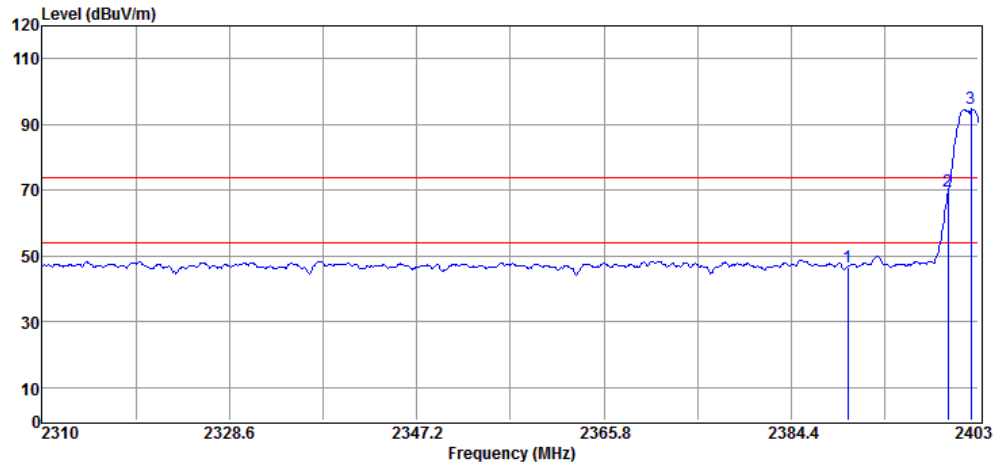


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2390.00	43.27	2.61	45.88	74.00	-28.12	Peak	VERTICAL
2	2400.00	61.50	2.65	64.15	69.1	-4.95	Peak	VERTICAL
3	2401.88	86.45	2.65	89.10	F	--	Peak	VERTICAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : 2M Bandedge Low ch Tested by : Barry Lee

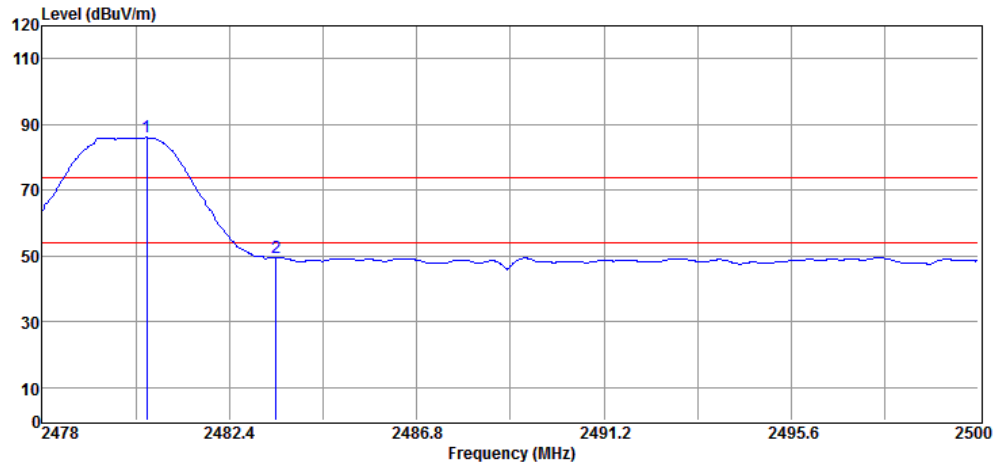


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2390.00	44.14	2.61	46.75	74.00	-27.25	Peak	HORIZONTAL
2	2400.00	67.10	2.65	69.75	74.92	-5.17	Peak	HORIZONTAL
3	2402.26	92.27	2.65	94.92	F	--	Peak	HORIZONTAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : 2M Bandedge High ch Tested by : Barry Lee

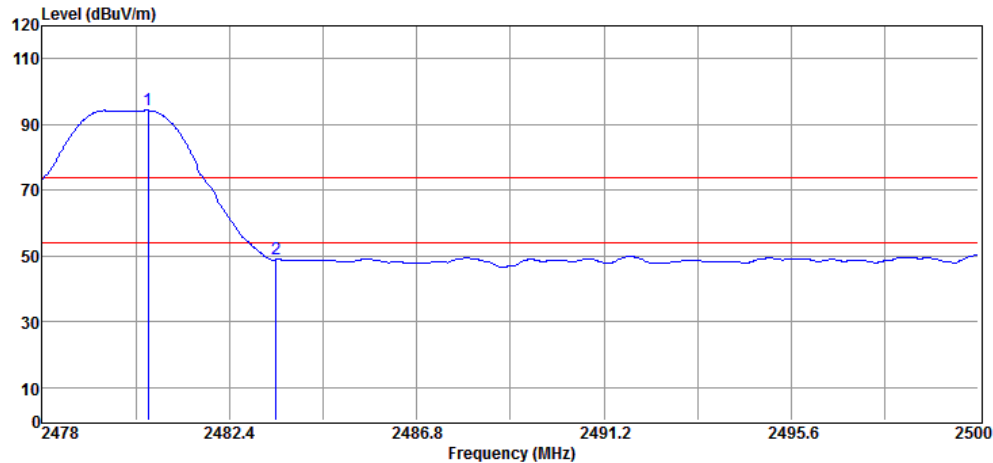


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2480.46	82.73	3.25	85.98	F	--	Peak	VERTICAL
2	2483.50	46.19	3.28	49.47	74.00	-24.53	Peak	VERTICAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : 2M Bandedge High ch Tested by : Barry Lee

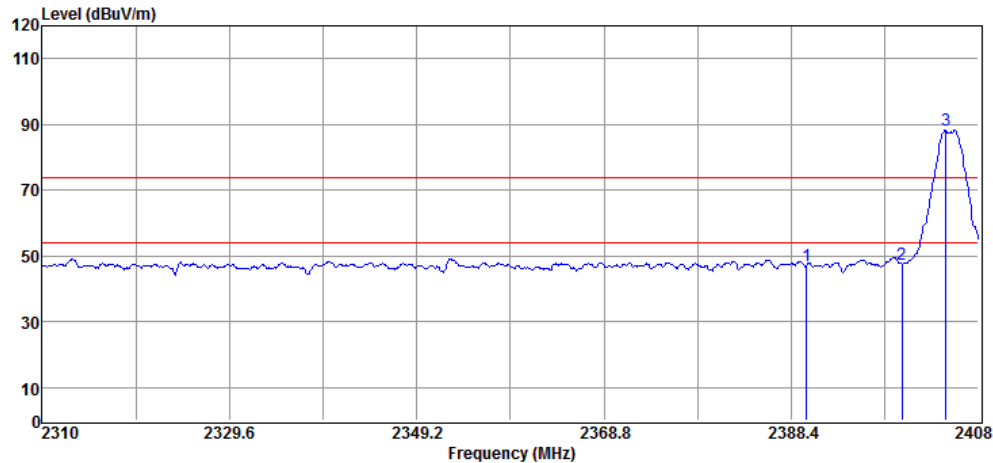


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2480.49	91.00	3.25	94.25	F	--	Peak	HORIZONTAL
2	2483.50	45.59	3.28	48.87	74.00	-25.13	Peak	HORIZONTAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : Zigbee Bandedge Low ch Tested by : Barry Lee

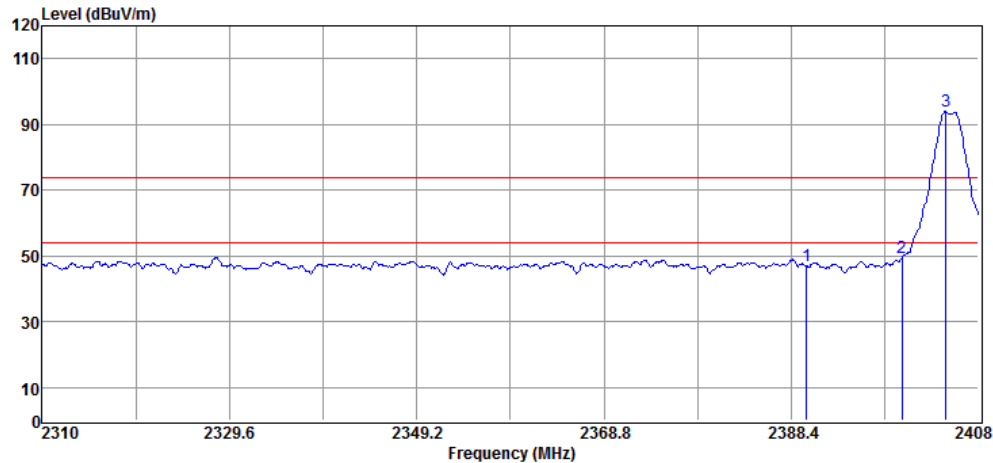


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2390.00	44.52	2.61	47.13	74.00	-26.87	Peak	VERTICAL
2	2400.00	44.86	2.65	47.51	68.18	-20.67	Peak	VERTICAL
3	2404.57	85.52	2.66	88.18	F	--	Peak	VERTICAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : Zigbee Bandedge Low ch Tested by : Barry Lee

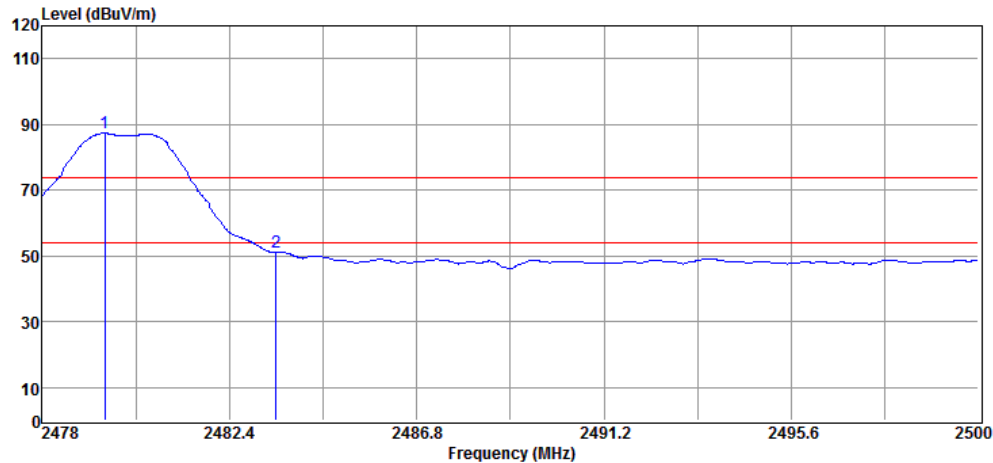


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2390.00	44.53	2.61	47.14	74.00	-26.86	Peak	HORIZONTAL
2	2400.00	46.86	2.65	49.51	73.88	-24.37	Peak	HORIZONTAL
3	2404.57	91.22	2.66	93.88	F	--	Peak	HORIZONTAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
Company Address: No. 120, Lane 180, Hsin Ho Rd.
Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : Zigbee Bandedge high ch Tested by : Barry Lee

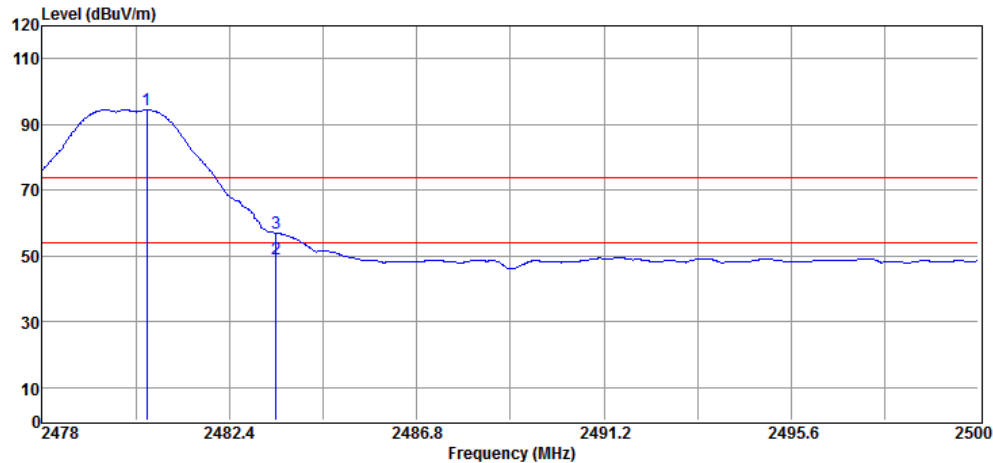


No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2479.47	84.08	3.23	87.31	F	--	Peak	VERTICAL
2	2483.50	47.80	3.28	51.08	74.00	-22.92	Peak	VERTICAL

Note: "F" denotes fundamental frequency.

International Standard Laboratory Corp.
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Lung-Tan Dist., Tao Yuan City 325, Taiwan
Date: 2026-01-26

Project Number. : 19LR205-R3 Temp.(°C)/RH(%) : 21/66
Test Mode : Zigbee Bandedge high ch Tested by : Barry Lee



No	Freq MHz	Reading dBuV	Factor dB/m	Level dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol V/H
1	2480.46	91.11	3.25	94.36	F	--	Peak	HORIZONTAL
2	2483.50	45.92	3.28	49.20	54.00	-4.80	Average	HORIZONTAL
3	2483.50	53.74	3.28	57.02	74.00	-16.98	Peak	HORIZONTAL

Note: "F" denotes fundamental frequency.

8. Appendix

8.1 Appendix A: Equipment List

Location	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Conduction 02	EMI Receiver 20	R&S	ESR7	101326	04/25/2025	04/25/2026
Conduction 02	Conduction 02-1 01 Cable	WOKEN	CFD 300-NL	Conduction 02 -	08/29/2025	08/29/2026
Conduction 02	LISN 26	R&S	ENV216	102378	11/14/2025	11/14/2026
Conduction 02	LISN 21	R&S	ENV216	101476	07/05/2025	07/05/2026
Conduction 02	ISN T8 CAT6A 02	SCHWARZBECK	NTFM 8158	NTFM 8158-00370	09/19/2025	09/19/2026
Conduction 02	ISN T4 07	TESEQ	ISN T400A	30449	08/26/2025	08/26/2026
Conduction 02	ISN T8 10	TESEQ	ISN T800	42773	06/04/2025	06/04/2026
Conduction 02	CDN ISN ST08A 01	TESEQ	CDN ISN ST08A	43352	08/07/2025	08/07/2026
Conduction 02	Capacitive Voltage Probe 01	SCHAFFNER	CVP 2200A	18711	12/29/2025	12/29/2026
Conduction 02	Current Probe 01	SCHAFFNER	SMZ 11	18030	12/23/2025	12/23/2026
Conduction 02 (EN_IEC_5501 4-1)	High Voltage Probe_01	SCHWARZBECK	TK 9420	TK 9420-796	08/02/2024	08/02/2026

Location Conducted	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Chamber 19	Spectrum Analyzer	R&S	FSV40	101919	07/22/2025	07/22/2026
Chamber 19	EMI Receiver	R&S	ESR3	102461	05/12/2025	05/12/2026
Chamber 19	Loop Antenna	EM	EM-6879	271	09/25/2025	09/25/2026
Chamber 19	Bilog Antenna (30MHz-1GHz)	Schwarzbeck	VULB9168 w 5dB Att.	9168-736	04/21/2025	04/21/2026
Chamber 19	Horn antenna (1GHz-18GHz)	ETS • LINDGREN	3117	00218718	10/03/2025	10/03/2026
Chamber 19	Broadband Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170470	03/27/2025	03/27/2026
Chamber 19	Preamplifier (9kHz-3GHz)	EM	EM330	060822	04/22/2025	04/22/2026
Chamber 19	Preamplifier (1GHz-26GHz)	HP	8449B	3008A02471	10/29/2025	10/29/2026
Chamber 19	Preamplifier (26GHz-40GHz)	MITEQ	JS4-26004000-27-5A	818471	05/06/2025	05/06/2026
Chamber 19	RF Cable (9kHz-26.5GHz)	Huber Suhner	Sucoflex 104A	MY1394/4A & 50886/4A	07/17/2025	07/17/2026
Chamber 19	RF Cable (18GHz-40GHz)	HUBER SUHNER	Sucoflex 102	27963/2&37421/2	11/25/2025	11/25/2026
Chamber 19	MXG Vector Signal Generator	KEYSIGHT	N5182B	MY53052399	12/26/2025	12/26/2027
Chamber 19	Test Software	Audix	e3 Ver:6.120203	N/A	N/A	N/A

Location Conducted	Equipment Name	Brand	Model	S/N	Last Cal. Date	Next Cal. Date
Conducted	Power Meter	Anritsu	ML2495A	1116010	09/23/2025	09/23/2026
Conducted	Power Sensor	Anritsu	MA2411B	1027421	09/23/2025	09/23/2026
Conducted	Temperature Chamber	KSON	THS-B4H100	2287	05/23/2025	05/23/2026
Conducted	DC Power supply	ABM	8185D	D010172	12/29/2025	12/29/2026
Conducted	AC Power supply	EXTECH	CFC105W	NA	N/A	N/A
Conducted	EXA Signal Analyzer	AGILENT	N9010A	MY52100117	07/22/2025	07/22/2026
Conducted	Test Software	DARE	Radiation Ver:2013.1.23	NA	NA	NA
Conducted	Wideband Radio Comm. Tester	R&S	CMW500	108793	10/23/2025	10/23/2026
Conducted	Radio Communication Test Station	Anritsu	MT8000A	6272539604	08/29/2025	08/29/2026
Conducted	MT8000A Test Software	Anritsu	MX800000A Application Launcher V10.10.34.0	NA	NA	NA
Conducted	BT Simulator	Agilent	N4010A	MY48100200	NA	NA
Conducted	MXG Vector Signal Generator	Keysight	N5182B	MY53052399	12/26/2025	12/26/2027
Conducted (TS8997)	Wideband Radio Comm. Tester	R&S	CMW500	168811	09/15/2025	09/15/2026
Conducted (TS8997)	UP/DOWN converter	R&S	CMW-Z800A	100566	09/15/2025	09/15/2026
Conducted (TS8997)	Signal Generator	R&S	SMB100A	183701	09/09/2025	09/09/2026
Conducted (TS8997)	Vector Signal Generator	R&S	SMM100A	101908	09/09/2025	09/09/2026
Conducted (TS8997)	Signal analyzer 40GHz	R&S	FSV40	101884	09/12/2025	09/12/2026
Conducted (TS8997)	OSP150 extension unit CAM-BUS	R&S	OSP150	101107	09/11/2025	09/11/2026
Conducted (TS8997)	Test Software	R&S	EMC32 Ver: 12.00.00	NA	NA	NA

8.2 Appendix B: Uncertainty of Measurement

ISO/IEC 17025 requires that an estimate of measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor ($k=2$)).

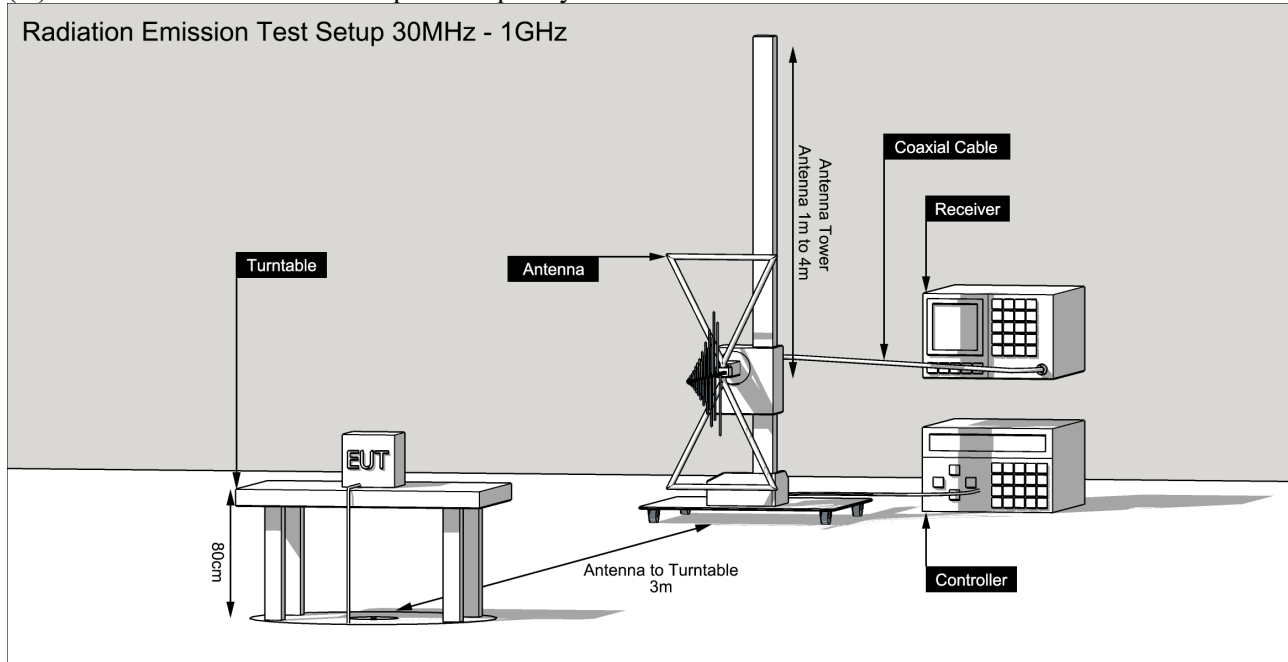
Parameter	Uncertainty ($k=2$)
Conducted Emission (AC power line)	± 1.6 dB
Spurious emissions, radiated	± 4.8 dB
RF power, conducted	± 2.2 dB
Power Density	± 2.3 dB
RF Frequency	± 1.5 %
DC Voltage	± 2.2 %

AC Line Conduced Emission Test Setup

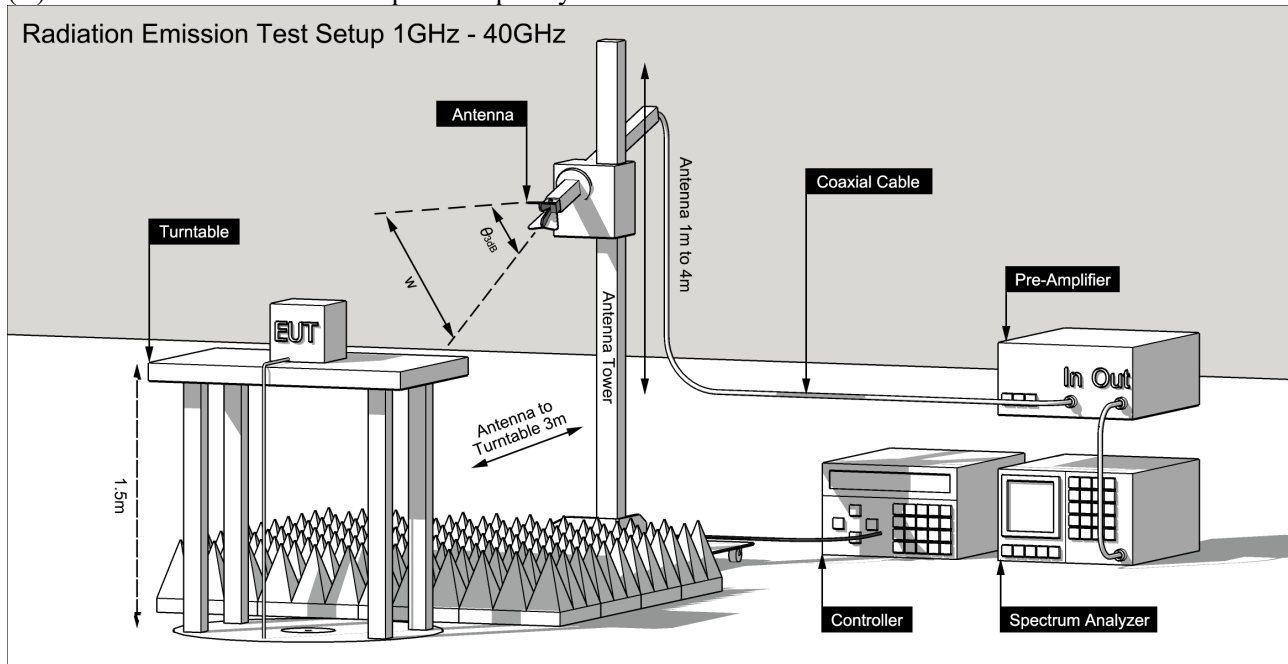
-
- Conducted Emission Test Setup**
- The diagram illustrates the setup for a conducted emission test. Key components and their specifications are as follows:
- EUT/AE PSU**: The Equipment Under Test (EUT) and Auxiliary Equipment (AE) are connected to the Power Supply Unit (PSU).
 - Cable to AE**: A cable connecting the PSU to the AE.
 - Cable 0.04 m from VRGP**: A cable connecting the PSU to the Vertical Reference Ground Plane (VRGP).
 - CVP**: Current Voltage Probe, connected to the PSU.
 - Current probe**: Connected to the PSU.
 - AMN / LISN**: Anomalous Noise / Line Impedance Stabilization Network, connected to the PSU.
 - Distances**:
 - ≥ 0.8 m to other metallic objects
 - 0.1 m (between PSU and EUT/AE)
 - 0.3 m (between PSU and EUT/AE)
 - 0.8 m (between PSU and EUT/AE)
 - 0.4 m (between PSU and EUT/AE)
 - 0.8 m (between PSU and EUT/AE)
 - 0.4 m to vertical reference ground plane
 - Vertical reference ground plan**: A ground plane for the test setup.
 - AMNs bonded to a reference ground plan**: Anomalous Noise Networks bonded to a reference ground plane.

Radiated Spurious Emission Test & 100kHz Bandwidth of Band Edges Measurement Test Setup

(A) Radiated Emission Test Setup for frequency below 1000MHz



(B) Radiated Emission Test Setup for frequency above 1 GHz



RF Conducted Measurement Test Setup

