FCC Part 15.407

TEST REPORT

For

Noorio Innovations Limited

Office 216 2nd Floor, Alpha House, 27-33 Nathan Road, Tsim Sha Tsui, Kowloon, Hong Kong

FCC ID: 2A6TG-T410

Report Type:	**Product Type:**
Original Report	Noorio cam T410

Report Producer : Coco Lin

Report Number : RLK231024082RF02

Report Date : 2024-03-06

Reviewed By: Rory Cheng

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Revision History

Revision	No.	Report Number	Issue Date	Description	Author/ Revised by
0.0	RLK231024082	RLK231024082RF02	2024-03-06	Original Report	Coco Lin

TABLE OF CONTENTS

1 General Information

1.1 Product Description for Equipment under Test (EUT)

Applicant	Noorio Innovations Limited
	Office 216 2nd Floor, Alpha House, 27-33 Nathan Road, Tsim Sha Tsui, Kowloon, Hong Kong
Brand(Trade) Name	Noorio
Product (Equipment) / PMN	Noorio cam T410
Main Model Name	T410
Series Model Name	T420
Model Discrepancy	The model, T410 is the testing sample, and the final test data are shown on this test report. Please refer to the difference declaration letter provided by the manufacturer.
HVIN	T410、T420
Frequency Range	5150 MHz ~ 5250 MHz, 5725 MHz ~ 5850 MHz
Maximum Conducted Average Output Power	5150-5250 MHz: 9.48 dBm 5725-5850 MHz: 9.85 dBm
Modulation Technique	IEEE 802.11a Mode: OFDM IEEE 802.11n 20 Mode: OFDM
Power Operation (Voltage Range)	☒ AC 120V/60Hz ☒ Brand Name: Zhuzhou Dachuan Electronic Model: DCT10W050200US-C0 I/P: 100-240V~ 50/60Hz 0.3A O/P: 5.0V / 2.0A ☐ By AC Power Cord ☐ PoE:
Received Date	10/25/2023
Date of Test	11/06/2023~ 03/04/2024

*All measurement and test data in this report was gathered from production sample serial number: RLK231024082-1(Assigned by BACL, Linkou Laboratory).

1.2 Objective

This report is prepared on behalf of Noorio Innovations Limited in accordance with Part 2, Subpart J, Part 15, Subparts A, and E of the Federal Communication Commission's rules

1.3 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.
KDB 789033 D02 General UNII Test Procedures New Rules v02r01

1.4 Statement

Decision Rule: No, (The test results do not include MU judgment)

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.
The determination of the test results does not require consideration of the uncertainty of the measurement, unless the assessment is required by customer agreement, regulation or standard document specification. Bay Area Compliance Laboratories Corp. (Linkou Laboratory) is not responsible for the authenticity of the information provided by the applicant that affects the test results.

1.5 Measurement Uncertainty

Parameter		Uncertainty
AC Mains		±3.38 (dB)
RF output power, conducted		±3.74 (dB)
Power Spectral Density, conducted		±0.69 (dBm)
Occupied Bandwidth		±0.09 (%)
Unwanted Emissions, conducted		±1.13 (dB)
Emissions, radiated	9 kHz~30MHz	±2.57 (dB)
	30 MHz~1GHz	±5.34 (dB)
	1 GHz~18 GHz	±5.89 (dB)
	18 GHz~40 GHz	±5.52 (dB)
Temperature		±0.44 (%)
Humidity		±0.78 (℃)

1.6 Environmental Conditions

Test Site	Test Data	Temperature (℃)	Relative Humidity (%)	ATM Pressure (hPa)	Test Engineer
AC Line Conducted Emissions	2023/11/07	23.5	55	1010	Kevin
Radiation Spurious Emissions	2023/11/16~2024/03/04	16.5~19.1	62~69	1010	Bruce
26dB attenuated below the channel power	2023/11/06	23.7	56	1010	Kevin
Emission Bandwidth And Occupied Bandwidth	2023/11/06	23.7	56	1010	Kevin
Maximum Output Power	2023/11/06	23.7	56	1010	Kevin
Power Spectral Density	2024/03/04	23.7	56	1010	Kevin

1.7 Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Linkou Laboratory) to collect test data is located on

☒ No.6, Wende 2Rd., Guishan Dist., Taoyuan City 33382, Taiwan (R.O.C.).

Bay Area Compliance Laboratories Corp. (Linkou Laboratory) Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 3546) by Mutual Recognition Agreement (MRA). The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database.

2 System Test Configuration

2.1 Description of Test Configuration

The system was configured for testing in an engineering mode, which is provided by manufacturer.

The system support 802.11a/n 20

For 5150 ~ 5250MHz

4 channels are provided for 802.11a, 802.11n 20:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
36	5180	44	5220
40	5200	48	5240

802.11a/n20 mode Channel 36, 40, 48 were tested.

For 5725 ~ 5825MHz:

5 channels are provided for 802.11a, 802.11n 20:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
149	5745	161	5805
153	5765	165	5825
157	5785	/	/

802.11a/n20 mode Channel 149, 157, 165 were tested.

2.2 Equipment Modifications

No modification was made to the EUT.

2.3 EUT Exercise Software

The system was configured for testing in an engineering mode, which is provided by manufacturer.

The software was used "SecureCRTPortable_v7.0.0".

UNII Band	Mode	Channel	Frequency (MHz)	Power setting
UNII-1	802.11a	36	5180	9
		40	5200	9
		48	5240	9
UNII-3		149	5745	9
		157	5785	9
		165	5825	9
UNII-1	802.11n HT20	36	5180	9
		40	5200	9
		48	5240	9
UNII-3		149	5745	9
		157	5785	9
		165	5825	9

The EUT was configured for testing in an engineering mode which was provided by the manufacturer.

The worst-case data rates are determined to be as follows for each mode based upon investigations by measuring the average power and PSD across all data rates bandwidths, and modulations.

802.11a: 6Mbps

802.11n 20: MCS0

2.4 Test Mode

Mode 1: T410 tested all measure item.

2.5 Support Equipment List and Details

Description	Manufacturer	Model Number
Adapter	Zhuzhou Dachuan Electronic Technology Co., Ltd.	DCT10W050200US-C0
Notebook	DELL	E6410
fixture	N/A	N/A
SD Card	SanDisk	3215DXDN60CK

2.6 External Cable List and Details

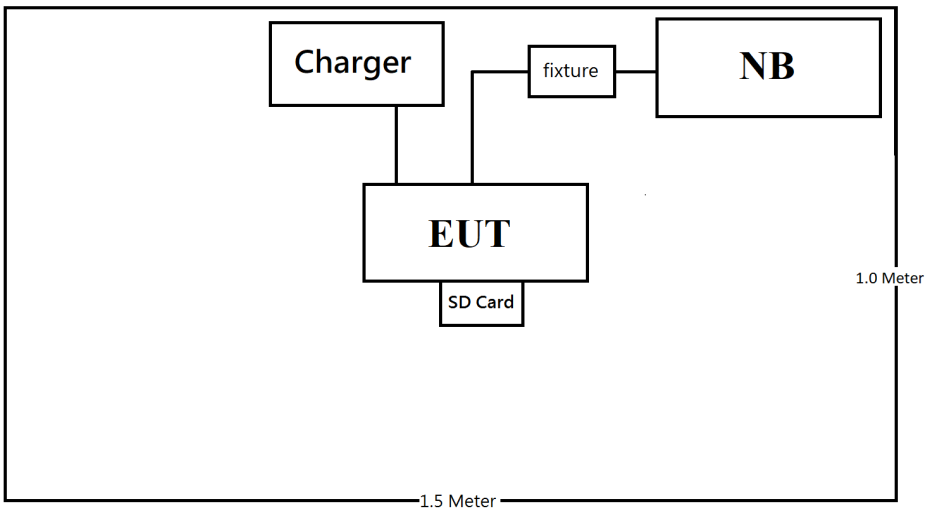
Description	Manufacturer	Model Number
USB Cable	BACL	5.0m
RS-232 Cable	BACL	2m

2.7 Block Diagram of Test Setup

See test photographs attached in setup photos for the actual connections between EUT and support equipment.

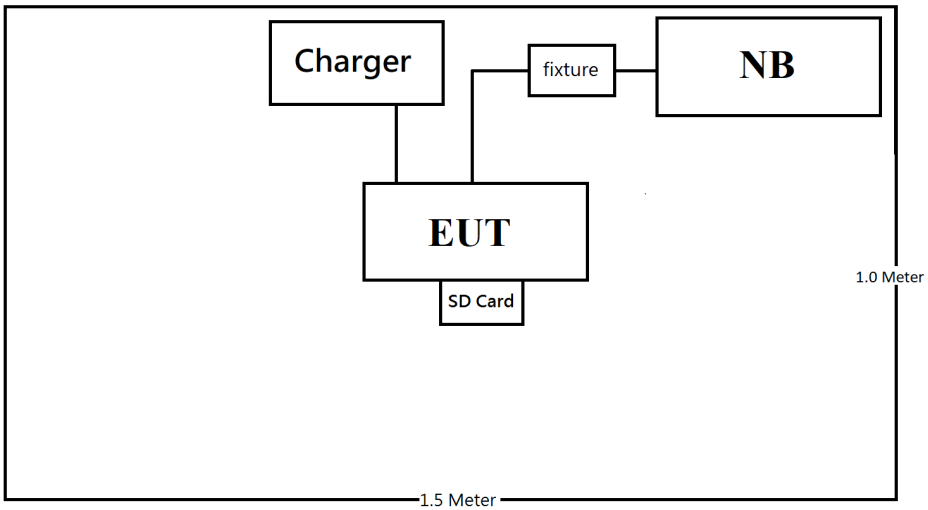
Radiation:

Below 1GHz



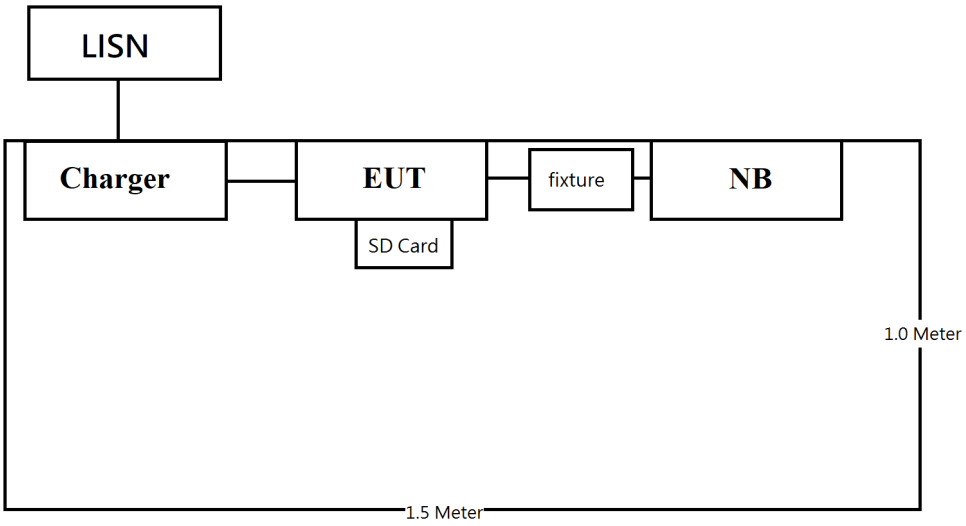
Non – Conductive Table 80cm above Ground Plane

Above 1GHz:



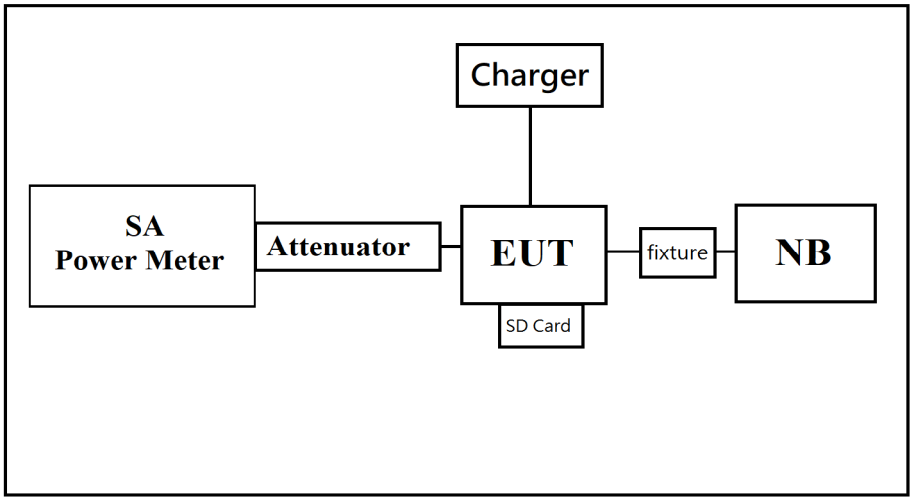
Non – Conductive Table 150cm above Ground Plane

Conduction:



Non – Conductive Table 80cm above Ground Plane

Conducted:



2.8 Duty Cycle

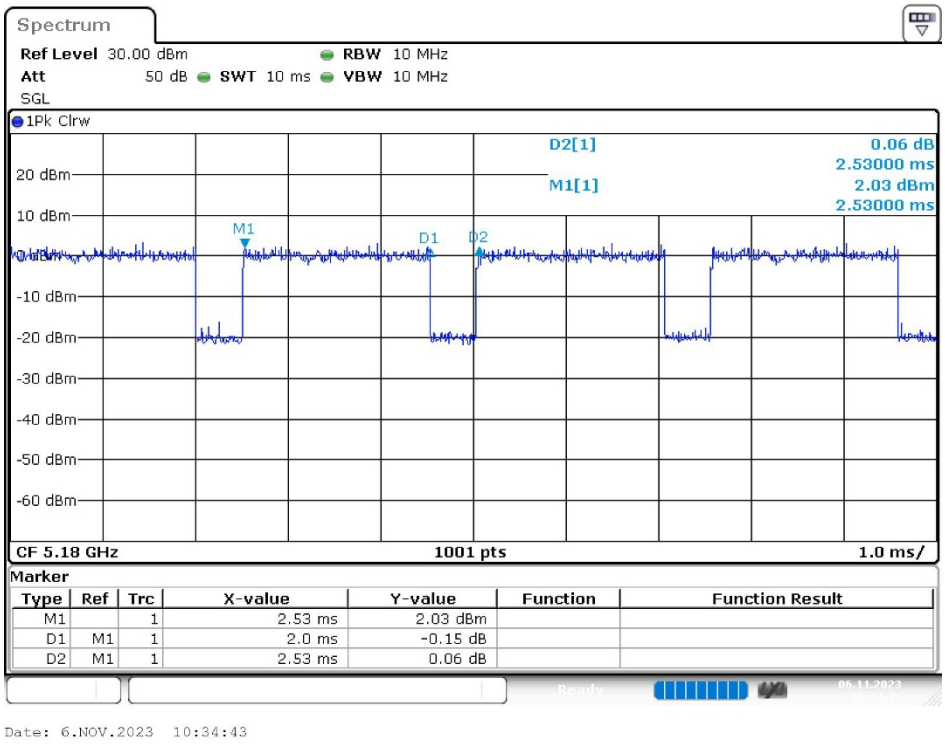
The duty cycle as below:

Radio Mode	Ton (ms)	Ton+off (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)	1/T (kHz)	VBW Setting (kHz)
802.11a	2.00	2.53	79	1.02	0.50	0.5
802.11n 20	1.87	2.39	78	1.08	0.53	1.0

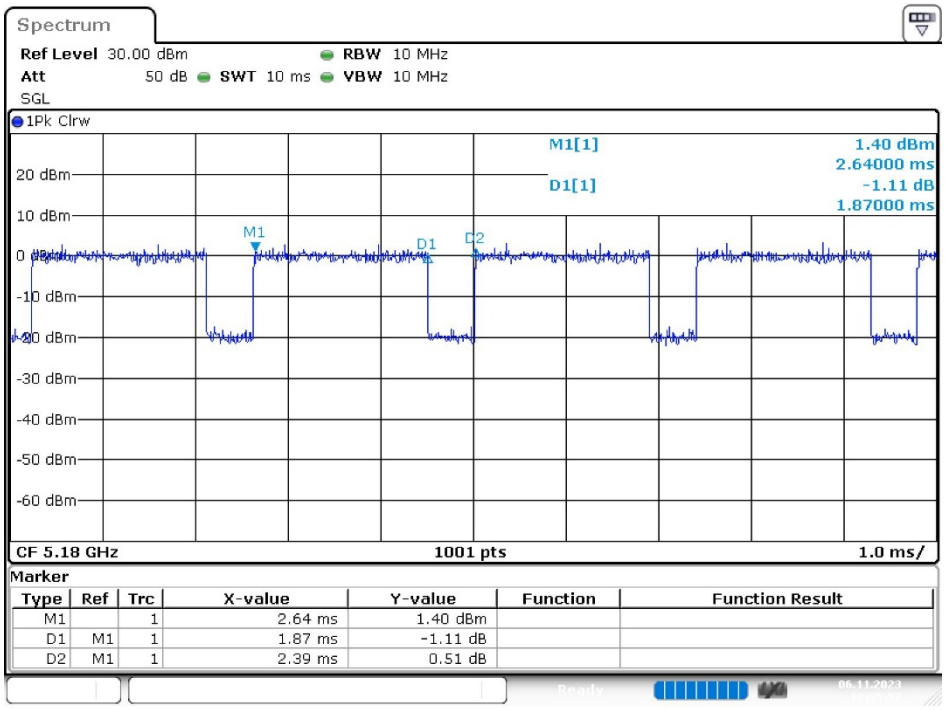
Note: Duty Cycle Correction Factor = 10*log(1/duty cycle)

Please refer to the following plots.

802.11a Mode



802.11n 20 Mode



Date: 6.NOV.2023 10:35:57

3 Summary of Test Results

Standard(s) Section	Description of Test	Results
§15.407(f), §1.1307(b)(3)(i)	RF Exposure	Compliance
§15.203	Antenna Requirement	Compliance
§15.407(b)(9) & §15.207(a)	AC Line Conducted Emissions	Compliance
§15.205 & §15.209 & §15.407(b)	Unwanted Emission	Compliance
§15.407(a)(e)	Emission Bandwidth	Compliance
§15.407(a)	Conducted Transmitter Output Power	Compliance
§15.407(a)	Power Spectral Density	Compliance

4 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Calibration Date	Calibration Due Date
AC Line Conduction Room (CON-A)					
Two-Line-V-Network	Rohde & Schwarz	ENV216	100037	2023/09/13	2024/09/11
EMI Test Receiver	Rohde & Schwarz	ESCI 7	100769	2023/03/09	2024/03/07
Pulse Limiter	SCHWARZBECK	VTSD 9561-F	00432	2023/08/14	2024/08/12
RF Cable	EMCI	EMCCFD300-BM-BM-3000	221013	2023/10/17	2024/10/15
Software	Audix	e3 v9	E3LK-03	N.C.R	N.C.R
Radiation 3M Room (966-A)					
Active Loop Antenna	ETS-Lindgren	6502	0001-3322	2023/03/23	2024/03/22
Bilog Antenna with 6 dB Attenuator	SUNOL SCIENCES & EMCI	JB3 & N-6-06	A111513 & AT-N0668	2023/4/13	2024/4/11
Horn Antenna	EMCO	3115	2058	2023/03/25	2024/03/23
Horn Antenna	ETS-Lindgren	3160-09	123852	2023/07/21	2024/07/19
Double ridged waveguide horn antenna	ETS-Lindgren	3116	00060023	2023/07/07	2024/07/05
Preamplifier	A.H. Systems	PAM-1840VH	174	2023/3/24	2024/3/22
Preamplifier	A.H. Systems	PAM-0118P	470	2023/03/24	2024/03/22
Band Reject Filter	Xi'an Xingbo	XBLBQ-DZA106	190329-1-05	2023/04/06	2024/04/05
High Pass Filter	Xi'an Xingbo	XBLBQ-GTA29	190329-1-29	2023/04/06	2024/04/05
Band Reject Filter	Xi'an Xingbo	XBLBQ-DZA104	190329-1-04	2023/04/06	2024/04/05
ESR EMI Test Receiver	Rohde & Schwarz	ESR3	102759	2023/09/14	2024/09/12
Spectrum Analyzer	Rohde & Schwarz	FSV40	101940	2023/12/15	2024/12/14
Microflex Cable (0.9m)	UTIFLEX	W6103	LKTE381	2023/06/26	2024/06/24
Microflex Cable (2m)	EMCI	EMC106-SM-SM-2000	180515	2023/08/03	2024/08/01
Microflex Cable (8m)	UTIFLEX	UFA210A-1-3149-300300	MFR 64639 232490-001	2023/08/03	2024/08/01
Software	AUDIX	E3 V9	E3LK-01	N.C.R	N.C.R
Conducted Room					
Spectrum Analyzer	Rohde & Schwarz	FSV40	101938	2022/12/7	2023/12/6
Cable	MTJ	MT40S	620620-MT40S-100	2022/12/23	2023/12/22
USB Wideband Power Sensor	AGILENT	U2021XA	MY54080011	2023/08/30	2024/08/28
10dB Attenuator	MCL	BW-S10W5+	605	2023/03/22	2024/03/20

***Statement of Traceability:** BACL Corp. attests that all of the calibrations on the equipment items listed above were traceable to the SI System of Units via the R.O.C. Center for Measurement Standards of the Electronics Testing Center, Taiwan (ETC) or to another internationally recognized National Metrology Institute (NMI), and were compliant with the current Taiwan Accreditation Foundation (TAF) requirements.

5 FCC §15.407(f), §1.1307(b)(3)(i) – RF Exposure

5.1 Applicable Standard

According to subpart 15.407(f) and subpart §1.1307(b)(3)(i), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

For single RF sources (*i.e.,* any single fixed RF source, mobile device, or portable device, as defined in paragraph (b)(2) of this section): A single RF source is exempt if:

(A) The available maximum time-averaged power is no more than 1 mW, regardless of separation distance. This exemption may not be used in conjunction with other exemption criteria other than those in paragraph (b)(3)(ii)(A) of this section. Medical implant devices may only use this exemption and that in paragraph (b)(3)(ii)(A);

(B) Or the available maximum time-averaged power or effective radiated power (ERP), whichever is greater, is less than or equal to the threshold *Pth* (mW) described in the following formula. This method shall only be used at separation distances (cm) from 0.5 centimeters to 40 centimeters and at frequencies from 0.3 GHz to 6 GHz (inclusive). *Pth* is given by:

$$P_{th}\ (\text{mW}) = \begin{cases} ERP_{20\ cm}(d/20\ \text{cm})^{x} & d \le 20\ \text{cm} \\ ERP_{20\ cm} & 20\ \text{cm} < d \le 40\ \text{cm} \end{cases}$$

Where

$$x = -\log_{10}\left(\frac{60}{ERP_{20\ cm}\sqrt{f}}\right) \text{ and } f \text{ is in GHz;}$$

and

$$ERP_{20\ cm}\ (\text{mW}) = \begin{cases} 2040f & 0.3\ \text{GHz} \le f < 1.5\ \text{GHz} \\ 3060 & 1.5\ \text{GHz} \le f \le 6\ \text{GHz} \end{cases}$$

(C) Or using Table 1 and the minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates, the ERP (watts) is no more than the calculated value prescribed for that frequency. For the exemption in Table 1 to apply, R must be at least λ/2π, where λ is the free-space operating wavelength in meters. If the ERP of a single RF source is not easily obtained, then the available maximum time-averaged power may be used in lieu of ERP if the physical dimensions of the radiating structure(s) do not exceed the electrical length of λ/4 or if the antenna gain is less than that of a half-wave dipole (1.64 linear value).

Table 1 to § 1.1307(b)(3)(i)(C) - Single RF Sources Subject to Routine Environmental Evaluation

RF Source frequency (MHz)	Threshold ERP (watts)
0.3-1.34	1,920 R^2.
1.34-30	3,450 R^2/f^2.
30-300	3.83 R^2.
300-1,500	0.0128 R^2f.
1,500-100,000	19.2R^2.

5.2 RF Exposure Evaluation Result

MPE evaluation:

Band	Freq (MHz)	Tune up power (dBm)	Ant Gain (dBi)	Distances (mm)	Duty (%)	Tune up powe (mW)	ERP (dBm)	ERP (mW)
5G WIFI Band 1	5180	9.5	4.12	200	100%	8.91	11.47	14.03
5G WIFI Band 4	5825	10	3.99	200	100%	10.00	11.84	15.28

§ 1.1307(b)(3)(i)(A) method is not applicable.

Band	Freq (MHz)	Result
5G WIFI Band 1	5180	not exempt
5G WIFI Band 4	5825	not exempt

§ 1.1307(b)(3)(i)(C)

Band	Freq (MHz)	λ/2π (mm)	Distances applies	ERP Limit (mW)	Result
5G WIFI Band 1	5180	9.22	apply	768.00	exempt
5G WIFI Band 4	5825	8.2	apply	768.00	exempt

The minimum separation distance (R in meters) from the body of a nearby person for the frequency (f in MHz) at which the source operates
ERP (watts) is no more than the calculated value prescribed for that frequency
R must be at least $\lambda/2\pi$
λ is the free-space operating wavelength in meters

Result: MPE evaluation of single and simultaneous transmission meet 20cm the requirement of standard.

6 FCC §15.203 – Antenna Requirements

6.1 Applicable Standard

For intentional device, according to §15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used.

According to RSS-Gen §6.8, The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. fo transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.

For expediting the testing, measurements may be performed using only the antenna with highest gain of each combination of transmitter and antenna type, with the transmitter output power set at the maximum level. However, the transmitter shall comply with the applicable requirements under all operational conditions and when in combination with any type of antenna from the list provided in the test report (and in the notice to be included in the user manual, provided below).

When measurements at the antenna port are used to determine the RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna's manufacturer. The test report shall state the RF power, output power setting and spurious emission measurements with each antenna type that is used with the transmitter being tested. For licence-exempt equipment with detachable antennas, the user manual shall also contain the following notice in a conspicuous location:

This radio transmitter [enter the device's ISED certification number] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.

Immediately following the above notice, the manufacturer shall provide a list of all antenna types which can be used with the transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna type.

6.2 Antenna Information

Manufacturer	Antenna Type	Antenna Gain (dBi)	Input impedance
Dongguan RF Electronic Technology Co., Ltd	FPC Antenna	5150~5250 MHz: 4.12 5725~5850 MHz: 3.99	50Ω

Result: Compliance

7 FCC §15.407(b)(9), §15.207(a) – AC Line Conducted Emissions

7.1 Applicable Standard

As per FCC §15.407(b) (9)

Further, any U-NII devices using an AC power line are required to comply also with the conducted limits set forth in §15.207

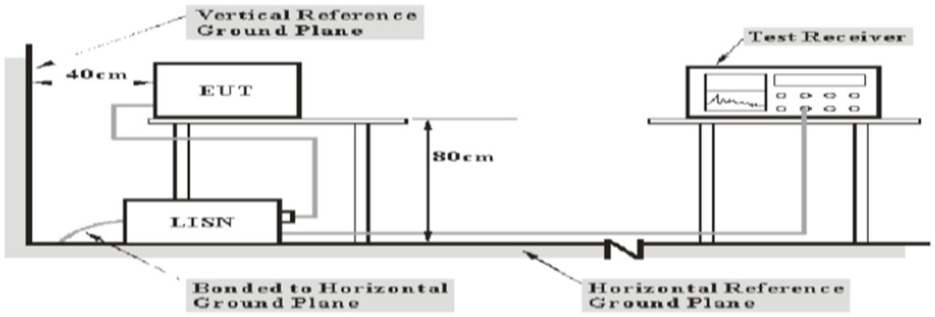
For an EUT that connects to the AC power lines indirectly, through another device, the requirement for compliance with the limits in table 4 shall apply at the terminals of the AC power-line mains cable of a representative support device, while it provides power to the EUT. The lower limit applies at the boundary between the frequency ranges. The device used to power the EUT shall be representative of typical applications.

The lower limit applies at the boundary between the frequencies ranges.

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15-0.5	66 to 56 Note 1	56 to 46 Note 1
0.5-5	56	46
5-30	60	50

Note 1: Decreases with the logarithm of the frequency.

7.2 EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.207 limits.

7.3 EMI Test Receiver Setup

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

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

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

7.4 Test Procedure

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

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

All data was recorded in the Quasi-peak and average detection mode.

7.5 Corrected Factor & Over Limit Calculation

The factor is calculated by adding LISN/ISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

Factor = LISN VDF + Cable Loss + Transient Limiter Attenuation

The “Over Limit” column of the following data tables indicates the degree of compliance with the applicable limit. For example, an over limit of -7 dB means the emission is 7 dB below the limit. The equation for Over Limit calculation is as follows:

Over Limit = Level – Limit Line

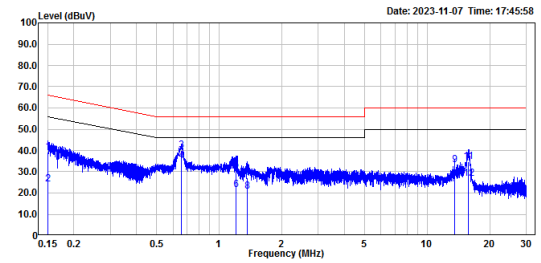
7.6 Test Results

Test Mode: Transmitting

Main: AC120 V, 60 Hz

(Worst case is 802.11a Mode, 5180 MHz)

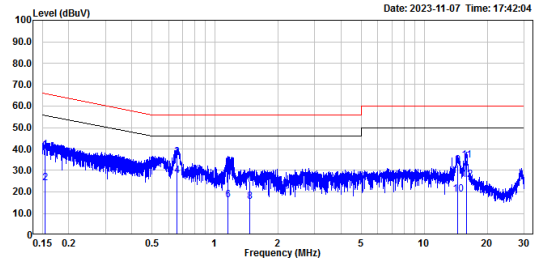
UNII-1 Line



Site : Conduction
Condition: Line
Job No : RLK231024082
Test By : Kevin
Power : AC 120V/60Hz
Temp.(℃)/Hum.(%RH): 23.5℃/55%
Mode : WiFi 5G Band 1

	Freq	Read Level	Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	
1	0.151	19.39	39.35	19.96	65.97	-26.62	QP
2	0.151	4.26	24.22	19.96	55.97	-31.75	Average
3	0.658	19.99	39.95	19.96	56.00	-16.05	QP
4	0.658	15.05	35.01	19.96	46.00	-10.99	Average
5	1.210	10.57	30.53	19.96	56.00	-25.47	QP
6	1.210	1.53	21.49	19.96	46.00	-24.51	Average
7	1.369	7.13	27.09	19.96	56.00	-28.91	QP
8	1.369	0.93	20.89	19.96	46.00	-25.11	Average
9	13.566	12.88	33.04	20.16	60.00	-26.96	QP
10	13.566	5.85	26.01	20.16	50.00	-23.99	Average
11	15.745	14.61	34.80	20.19	60.00	-25.20	QP
12	15.745	6.46	26.65	20.19	50.00	-23.35	Average

UNII-1 Neutral

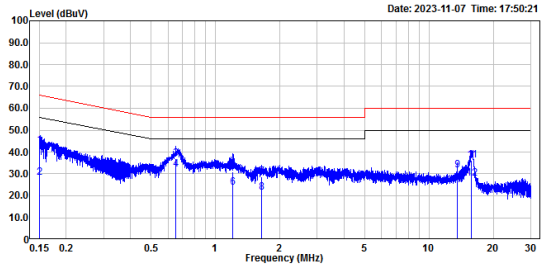


Site : Conduction
Condition: Neutral
Job No : RLK231024082
Test By : Kevin
Power : AC 120V/60Hz
Temp.(℃)/Hum.(%RH): 23.5℃/55%
Mode : WiFi 5G Band 1

	Freq	Read Level	Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	
1	0.154	19.82	39.78	19.96	65.76	-25.98	QP
2	0.154	4.27	24.23	19.96	55.76	-31.53	Average
3	0.660	16.39	36.35	19.96	56.00	-19.65	QP
4	0.660	7.61	27.57	19.96	46.00	-18.43	Average
5	1.157	11.24	31.20	19.96	56.00	-24.80	QP
6	1.157	-3.58	16.38	19.96	46.00	-29.62	Average
7	1.472	4.98	24.94	19.96	56.00	-31.06	QP
8	1.472	-4.44	15.52	19.96	46.00	-30.48	Average
9	14.448	12.21	32.38	20.17	60.00	-27.62	QP
10	14.448	-1.19	18.98	20.17	50.00	-31.02	Average
11	15.887	14.55	34.73	20.18	60.00	-25.27	QP
12	15.887	5.56	25.74	20.18	50.00	-24.26	Average

(Worst case is 802.11n 20 Mode, 5825 MHz)

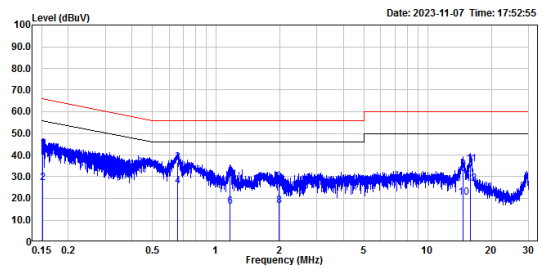
UNII-3 Line



Site : Conduction
Condition: Line
Job No : RLK231024082
Test By : Kevin
Power : AC 120V/60Hz
Temp.(℃)/Hum.(%RH): 23.5℃/55%
Mode : WiFi 5G Band 4

	Freq	Read Level	Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	
1	0.151	23.03	42.99	19.96	65.97	-22.98	QP
2	0.151	8.17	28.13	19.96	55.97	-27.84	Average
3	0.653	17.11	37.07	19.96	56.00	-18.93	QP
4	0.653	11.99	31.95	19.96	46.00	-14.05	Average
5	1.205	11.04	31.00	19.96	56.00	-25.00	QP
6	1.205	3.92	23.88	19.96	46.00	-22.12	Average
7	1.651	8.61	28.58	19.97	56.00	-27.42	QP
8	1.651	1.71	21.68	19.97	46.00	-24.32	Average
9	13.566	11.67	31.83	20.16	60.00	-28.17	QP
10	13.566	5.23	25.39	20.16	50.00	-24.61	Average
11	15.824	16.09	36.28	20.19	60.00	-23.72	QP
12	15.824	7.66	27.85	20.19	50.00	-22.15	Average

UNII-3 Neutral



Site : Conduction
Condition: Neutral
Job No : RLK231024082
Test By : Kevin
Power : AC 120V/60Hz
Temp.(℃)/Hum.(%RH): 23.5℃/55%
Mode : WiFi 5G Band 4

	Freq	Read Level	Level	Factor	Limit Line	Over Limit	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	
1	0.151	23.15	43.11	19.96	65.93	-22.82	QP
2	0.151	7.02	26.98	19.96	55.93	-28.95	Average
3	0.656	16.59	36.55	19.96	56.00	-19.45	QP
4	0.656	5.58	25.54	19.96	46.00	-20.46	Average
5	1.159	9.17	29.13	19.96	56.00	-26.87	QP
6	1.159	-3.84	16.12	19.96	46.00	-29.88	Average
7	1.993	5.16	25.12	19.96	56.00	-30.88	QP
8	1.993	-3.17	16.79	19.96	46.00	-29.21	Average
9	14.652	13.05	33.22	20.17	60.00	-26.78	QP
10	14.652	0.32	20.49	20.17	50.00	-29.51	Average
11	15.999	15.85	36.03	20.18	60.00	-23.97	QP
12	15.999	6.50	26.68	20.18	50.00	-23.32	Average

Note:

Level = Read Level + Factor

Over Limit = Level – Limit Line

Factor = (LISN, ISN, PLC or current probe) Factor + Cable Loss + Attenuator

8 FCC §15.209, §15.205, §15.407(b) – Spurious Emissions

8.1 Applicable Standard

As Per FCC §15.205(a) except as show in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090 – 0.110	16.42 – 16.423	608 – 614	4.5 – 5.15
0.495 – 0.505	16.69475 – 16.69525	960 – 1240	5.35 – 5. 46
2.1735 – 2.1905	16.80425 – 16.80475	1300 – 1427	7.25 – 7.75
4.125 – 4.128	25.5 – 25.67	1435 – 1626.5	8.025 – 8.5
4.17725 – 4.17775	37.5 – 38.25	1645.5 – 1646.5	9.0 – 9.2
4.20725 – 4.20775	73 – 74.6	1660 – 1710	9.3 – 9.5
6.215 – 6.218	74.8 – 75.2	1718.8 – 1722.2	10.6 – 12.7
6.26775 – 6.26825	108 – 121.94	2200 – 2300	13.25 – 13.4
6.31175 – 6.31225	123 – 138	2310 – 2390	14.47 – 14.5
8.291 – 8.294	149.9 – 150.05	2483.5 – 2500	15.35 – 16.2
8.362 – 8.366	156.52475 – 156.52525	2690 – 2900	17.7 – 21.4
8.37625 – 8.38675	156.7 – 156.9	3260 – 3267	22.01 – 23.12
8.41425 – 8.41475	162.0125 –167.17	3.332 – 3.339	23.6 – 24.0
12.29 – 12.293	167.72 – 173.2	3 3458 – 3 358	31.2 – 31.8
12.51975 – 12.52025	240 – 285	3.600 – 4.400	36.43 – 36.5
12.57675 – 12.57725	322 – 335.4		Above 38.6
13.36 – 13.41	399.9 – 410		

As per FCC §15.209(a): Except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Fundamental frequency	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (millivolts/meter)
920-928 MHz	50	500
2400-2483.5 MHz	50	500
5725-5875 MHz	50	500
24.0-24.25 GHz	250	2500

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

Note 1: Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g., Sections 15.231 and 15.241.

According to ANSI C63.10-2013, section 5.3.3

Measurements may be performed at a distance other than the limit distance provided they are not performed in the near field, and the emissions to be measured can be detected by the measurement equipment (see 4.3.4). Measurements shall not be performed at a distance greater than 30 m for frequencies above 30 MHz, unless it can be further demonstrated that measurements at a distance of 30 m or less are impractical. Measurements from 18 GHz to 40 GHz are typically made at distances significantly less than 3 m from the EUT. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade of distance (inverse of linear distance for field-strength measurements or inverse of linear distance-squared for power-density measurements).

Convert the test distance limit of 3 meters to a limit of 1 meter:

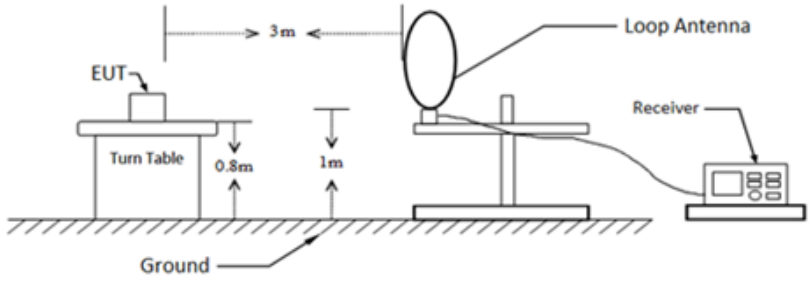
Conversion factor = 20 log (1m/3m) = 9.5 dB , Limit = 63.50 dBuV/m @ 1m

As per FCC Part 15.407 (b)

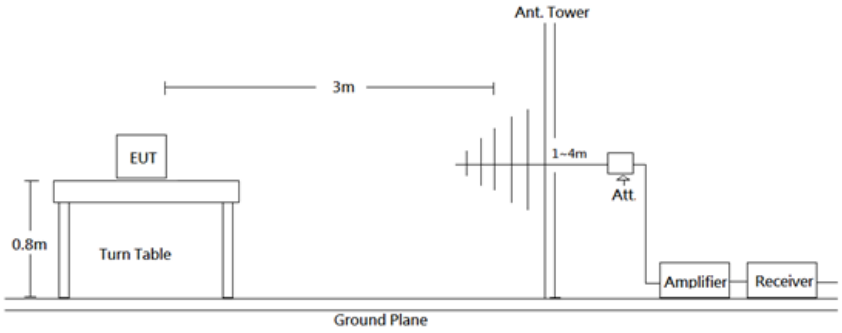
- For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
- For transmitters operating in the 5.25–5.35 GHz band: All emissions outside of the 5.15–5.35 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
- For transmitters operating in the 5.47–5.725 GHz band: All emissions outside of the 5.47–5.725 GHz band shall not exceed an e.i.r.p. of −27 dBm/MHz.
- For transmitters operating in the 5.725-5.85 GHz band: All emissions shall be limited to a level of −27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.
- Devices certified before March 2, 2017 with antenna gain greater than 10 dBi may demonstrate compliance with the emission limits in § 15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease by March 2, 2018. Devices certified before March 2, 2018 with antenna gain of 10 dBi or less may demonstrate compliance with the emission limits in §15.247(d), but manufacturing, marketing and importing of devices certified under this alternative must cease before March 2, 2020.
- The emission measurements shall be performed using a minimum resolution bandwidth of 1 MHz. A lower resolution bandwidth may be employed near the band edge, when necessary, provided the measured energy is integrated to show the total power over 1 MHz.
- Unwanted emissions below 1 GHz must comply with the general field strength limits set forth in §15.209.

8.2 EUT Setup

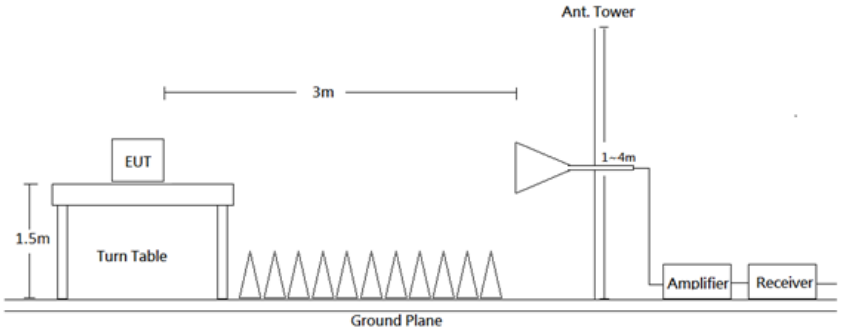
9kHz-30MHz:



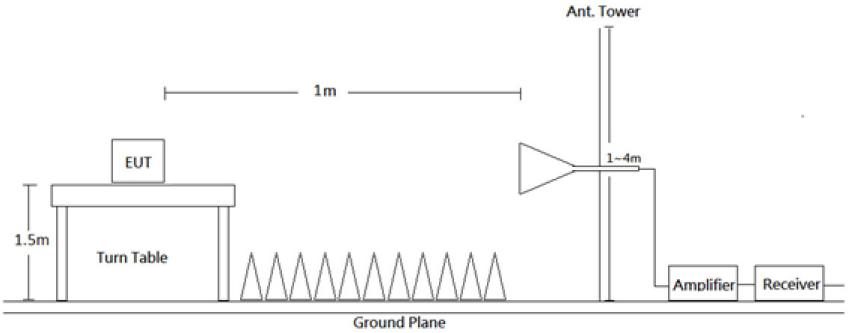
30MHz-1GHz:



1-18 GHz:



18-40 GHz:



Radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC Part 15.209 and FCC 15.247 Limits.

8.3 EMI Test Receiver & Spectrum Analyzer Setup

The system was investigated from 30 MHz to 40 GHz. During the radiated emission test, the EMI test receiver was set with the following configurations measurement method 6.3 in ANSI C63.10.

Frequency Range	RBW	VBW	Duty cycle	Measurement method
9 kHz - 150 kHz	300 Hz	1 kHz	/	QP/AV
150 kHz - 30 MHz	10 kHz	30 kHz	/	QP/AV
30-1000 MHz	120 kHz	/	/	QP
Above 1 GHz	1 MHz	3 MHz	/	PK
	1 MHz	10 Hz	>98%	Ave
	1 MHz	1/T	<98%	Ave

Note: T is minimum transmission duration

If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform an QP/Average measurement.

8.4 Test Procedure

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

All data was recorded in the Quasi-peak detector mode from 30 MHz to 1 GHz and PK and average detector modes for frequencies above 1 GHz.

According to C63.10, emission shall be computed as: E [dBμV/m] = EIRP[dBm] + 95.2, for d = 3 meters.

All emissions under the average limit and under the noise floor have not recorded in the report

8.5 Corrected Factor & Over Limit Calculation

The Correct Factor 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:

Correct Factor = Antenna Factor + Cable Loss – Amplifier Gain

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

Over Limit = Level – Limit

8.6 Test Results

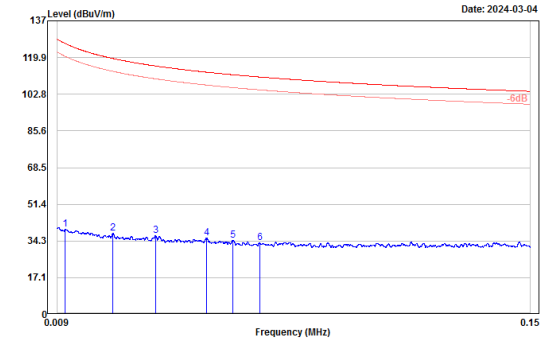
Test Mode: Transmitting

(Pre-scan with three orthogonal axis, and worse case as Y axis.)

9kHz-30MHz (Loop Antenna Pre-scan with three orthogonal axis, and worse case as perpendicular.)

(Worst case is 802.11a Mode, 5180 MHz)

9kHz-150kHz

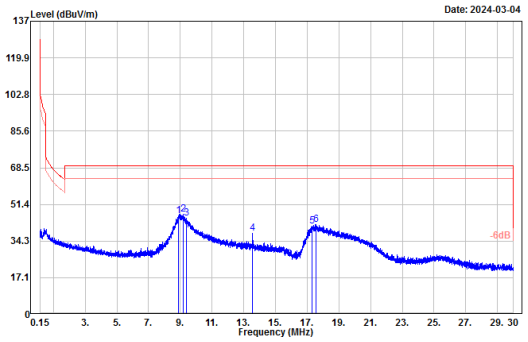


Site : LK-966A
Condition: 3m

Note : Temp/RH:16.5°C/69%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	0.011	39.90	126.39	-86.49	25.17	14.73	Peak
2	0.026	37.94	119.41	-81.47	23.95	13.99	Peak
3	0.038	36.68	115.93	-79.25	23.19	13.49	Peak
4	0.054	35.69	113.03	-77.34	22.55	13.14	Peak
5	0.061	34.69	111.84	-77.15	22.07	12.62	Peak
6	0.069	33.42	110.79	-77.37	20.80	12.62	Peak

150kHz-30MHz



Site : LK-966A
Condition:

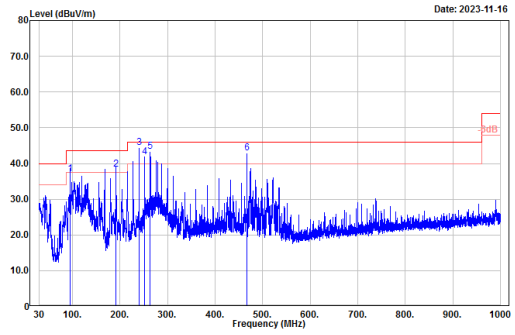
Note : Temp/RH:16.5°C/69%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	8.887	46.04	69.54	-23.50	33.95	12.09	Peak
2	9.168	46.82	69.54	-22.72	34.73	12.09	Peak
3	9.365	44.88	69.54	-24.66	32.76	12.12	Peak
4	13.559	37.76	69.54	-31.78	25.97	11.79	Peak
5	17.302	41.24	69.54	-28.30	29.24	12.00	Peak
6	17.541	42.04	69.54	-27.50	30.02	12.02	Peak

30MHz-1GHz:

(Worst case is 802.11a Mode, 5180 MHz)

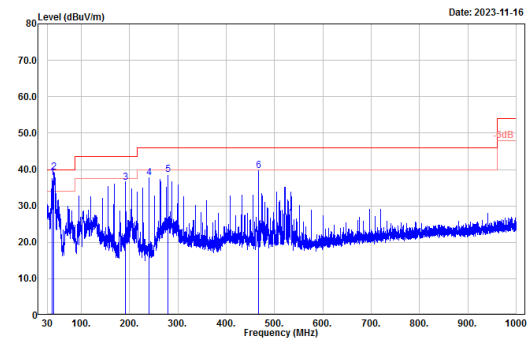
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : N20 TX-5745MHz
Note : Temp/RH:21.1°C/55%
Tester: Bruce

		Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1		95.960	37.18	43.50	-6.32	60.30	-23.12	QP
2	!	191.990	38.41	43.50	-5.09	59.04	-20.63	QP
3	!	240.005	44.45	46.00	-1.55	65.25	-20.80	QP
4	!	251.936	41.77	46.00	-4.23	62.53	-20.76	QP
5	!	263.964	43.43	46.00	-2.57	63.57	-20.14	QP
6	!	466.694	42.85	46.00	-3.15	58.44	-15.59	QP

Vertical



Site : LK-966A
Condition: 3m vertical
Mode : N20 TX-5745MHz
Note : Temp/RH:21.1°C/55%
Tester: Bruce

		Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
		MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	!	39.312	37.71	40.00	-2.29	52.61	-14.90	QP
2	!	43.289	39.20	40.00	-0.80	57.20	-18.00	QP
3		191.990	36.34	43.50	-7.16	56.97	-20.63	QP
4		240.005	37.66	46.00	-8.34	58.46	-20.80	QP
5		279.969	38.57	46.00	-7.43	58.17	-19.60	QP
6		466.694	39.71	46.00	-6.29	55.30	-15.59	QP

Note:

Level = Reading + Factor.

Over Limit = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

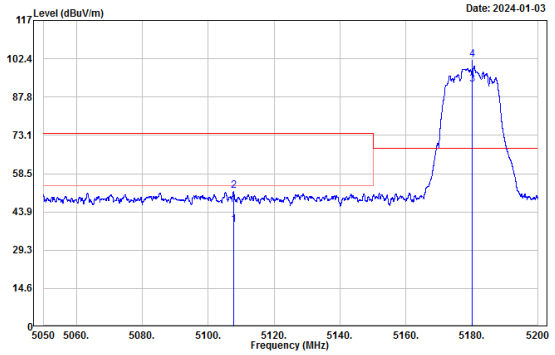
The other spurious emission which is 20dB to the limit or in noise floor was not recorded.

Band-Edge

(802.11a Mode)

5180MHz

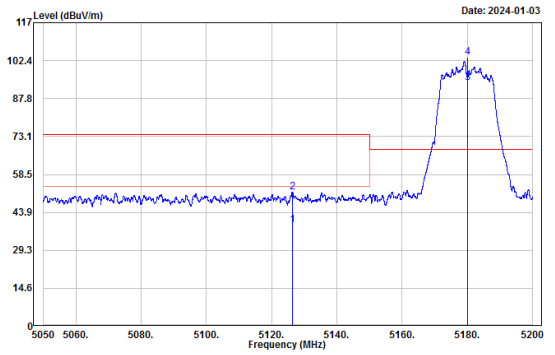
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : A TX-5180MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5107.630	39.03	54.00	-14.97	39.85	-0.82	Average
2	5107.630	52.02	74.00	-21.98	52.84	-0.82	Peak
3	5180.000	92.57	------	------	93.21	-0.64	Average
4	5180.000	102.04	------	------	102.68	-0.64	Peak

Vertical

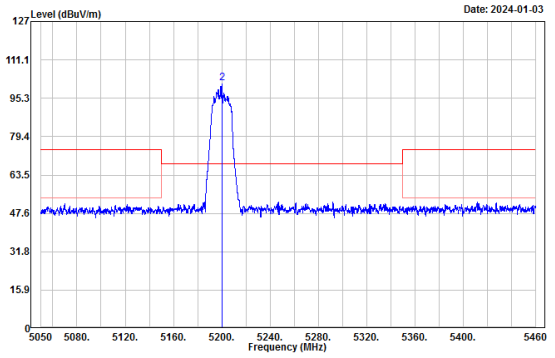


Site : LK-966A
Condition: 3m vertical
Mode : A TX-5180MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5126.365	39.05	54.00	-14.95	39.82	-0.77	Average
2	5126.365	51.72	74.00	-22.28	52.49	-0.77	Peak
3	5180.000	93.80	------	------	94.44	-0.64	Average
4	5180.000	103.71	------	------	104.35	-0.64	Peak

5200MHz

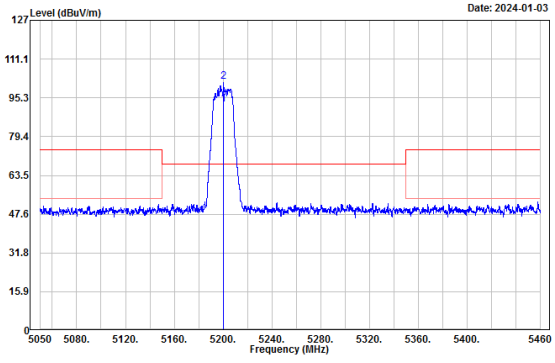
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : A TX-5200MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5200.000	91.73	------	------	92.31	-0.58	Average
2	5200.000	101.42	------	------	102.00	-0.58	Peak

Vertical

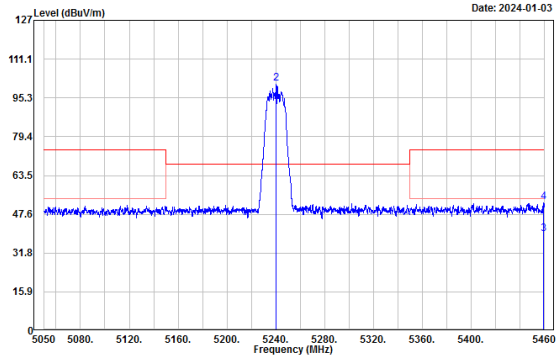


Site : LK-966A
Condition: 3m vertical
Mode : A TX-5200MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5200.000	92.62	------	------	93.20	-0.58	Average
2	5200.000	101.83	------	------	102.41	-0.58	Peak

5240MHz

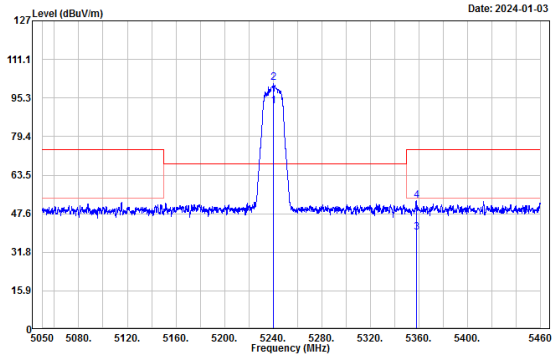
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : A TX-5240MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5240.000	91.51	------	------	91.98	-0.47	Average
2	5240.000	101.35	------	------	101.82	-0.47	Peak
3	5459.344	39.72	54.00	-14.28	39.88	-0.16	Average
4	5459.344	52.78	74.00	-21.22	52.94	-0.16	Peak

Vertical

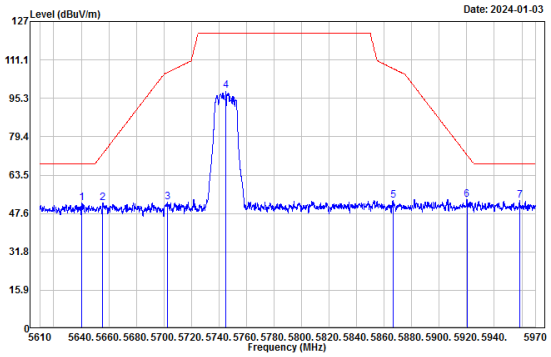


Site : LK-966A
Condition: 3m vertical
Mode : A TX-5240MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5240.000	91.90	------	------	92.37	-0.47	Average
2	5240.000	101.62	------	------	102.09	-0.47	Peak
3	5357.746	39.83	54.00	-14.17	40.13	-0.30	Average
4	5357.746	52.96	74.00	-21.04	53.26	-0.30	Peak

5745MHz

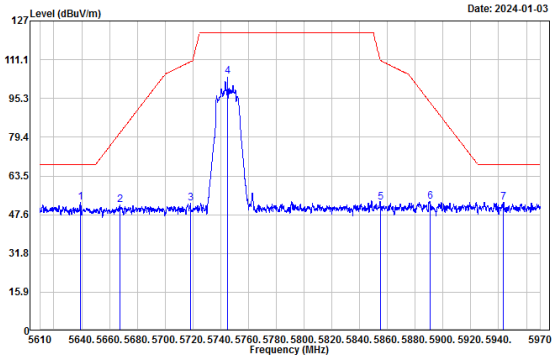
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : A TX-5745MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5640.492	51.81	68.20	-16.39	51.99	-0.18	Peak
2	5655.720	51.99	72.45	-20.46	52.18	-0.19	Peak
3	5702.556	52.37	105.92	-53.55	52.58	-0.21	Peak
4	5745.000	98.58	122.20	-23.62	98.83	-0.25	Peak
5	5866.392	53.09	107.61	-54.52	52.95	0.14	Peak
6	5920.068	53.38	71.84	-18.46	53.05	0.33	Peak
7	5958.336	52.93	68.20	-15.27	52.47	0.46	Peak

Vertical

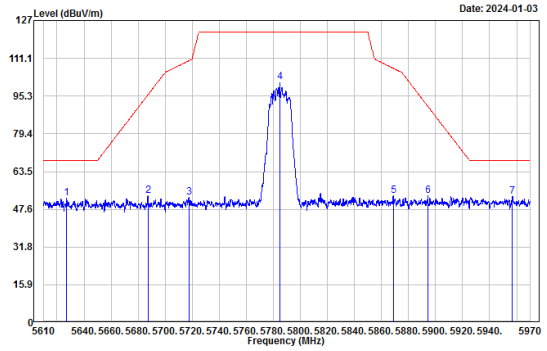


Site : LK-966A
Condition: 3m vertical
Mode : A TX-5745MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5639.124	52.56	68.20	-15.64	52.74	-0.18	Peak
2	5667.456	51.49	81.15	-29.66	51.69	-0.20	Peak
3	5718.288	52.36	110.32	-57.96	52.59	-0.23	Peak
4	5745.000	104.12	122.20	-18.08	104.37	-0.25	Peak
5	5854.980	52.63	110.85	-58.22	52.52	0.11	Peak
6	5890.548	52.93	93.66	-40.73	52.70	0.23	Peak
7	5943.540	52.75	68.20	-15.45	52.34	0.41	Peak

5785MHz

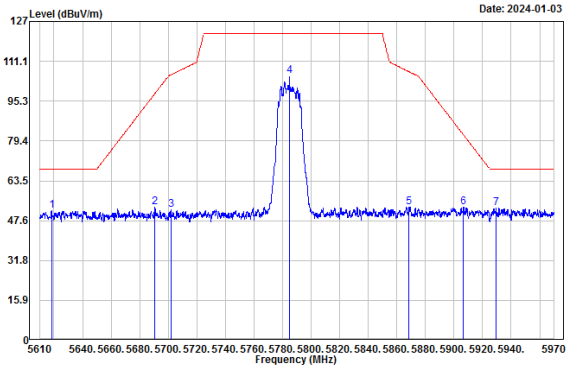
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : A TX-5785MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5627.100	52.19	68.20	-16.01	52.37	-0.18	Peak
2	5687.292	53.18	95.83	-42.65	53.39	-0.21	Peak
3	5717.532	52.62	110.11	-57.49	52.85	-0.23	Peak
4	5785.000	101.17	122.20	-21.03	101.30	-0.13	Peak
5	5868.768	53.41	106.94	-53.53	53.26	0.15	Peak
6	5894.292	53.21	90.89	-37.68	52.96	0.25	Peak
7	5956.896	52.92	68.20	-15.28	52.47	0.45	Peak

Vertical

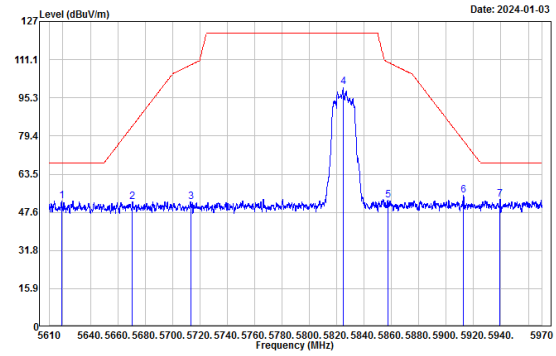


Site : LK-966A
Condition: 3m vertical
Mode : A TX-5785MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5618.352	51.46	68.20	-16.74	51.63	-0.17	Peak
2	5690.640	52.83	98.30	-45.47	53.05	-0.22	Peak
3	5701.872	51.93	105.73	-53.80	52.15	-0.22	Peak
4	5785.000	105.18	122.20	-17.02	105.31	-0.13	Peak
5	5868.552	53.03	107.00	-53.97	52.89	0.14	Peak
6	5906.640	53.14	81.75	-28.61	52.85	0.29	Peak
7	5929.428	52.52	68.20	-15.68	52.16	0.36	Peak

5825MHz

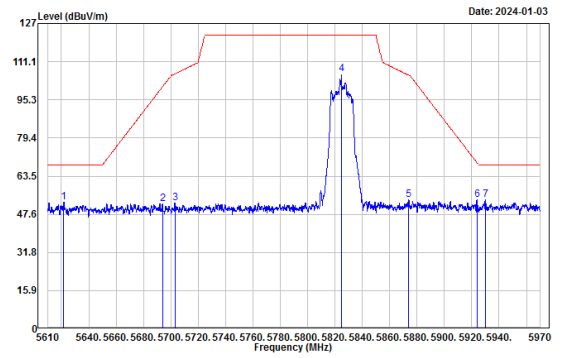
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : A TX-5825MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5619.036	52.26	68.20	-15.94	52.43	-0.17	Peak
2	5670.840	52.06	83.66	-31.60	52.26	-0.20	Peak
3	5713.248	52.02	108.91	-56.89	52.25	-0.23	Peak
4	5825.000	99.89	122.20	-22.31	99.88	0.01	Peak
5	5857.320	52.69	110.15	-57.46	52.57	0.12	Peak
6	5912.580	54.58	77.36	-22.78	54.28	0.30	Peak
7	5939.328	53.04	68.20	-15.16	52.66	0.38	Peak

Vertical



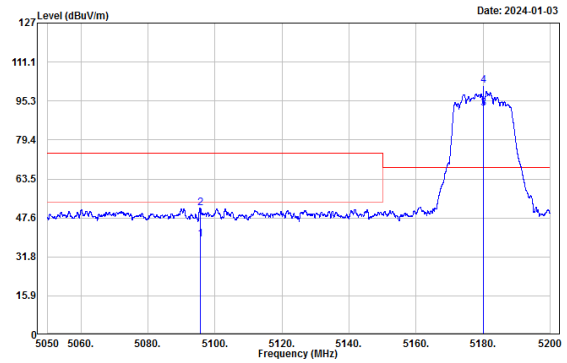
Site : LK-966A
Condition: 3m vertical
Mode : A TX-5825MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5621.772	52.81	68.20	-15.39	52.98	-0.17	Peak
2	5693.988	52.11	100.77	-48.66	52.33	-0.22	Peak
3	5703.096	52.34	106.07	-53.73	52.55	-0.21	Peak
4	5825.000	106.03	122.20	-16.17	106.02	0.01	Peak
5	5873.844	53.77	105.52	-51.75	53.59	0.18	Peak
6	5923.848	53.67	69.05	-15.38	53.32	0.35	Peak
7	5929.968	53.83	68.20	-14.37	53.47	0.36	Peak

(802.11n 20 Mode)

5180MHz

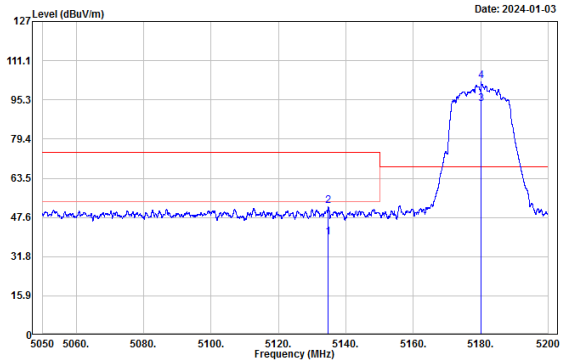
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : N20 TX-5180MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5095.600	38.95	54.00	-15.05	39.80	-0.85	Average
2	5095.600	51.72	74.00	-22.28	52.57	-0.85	Peak
3	5180.000	92.28	------	------	92.92	-0.64	Average
4	5180.000	101.45	------	------	102.09	-0.64	Peak

Vertical

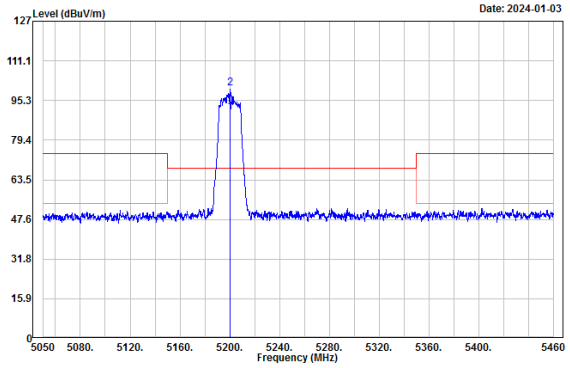


Site : LK-966A
Condition: 3m vertical
Mode : N20 TX-5180MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5134.810	39.67	54.00	-14.33	40.43	-0.76	Average
2	5134.810	52.42	74.00	-21.58	53.18	-0.76	Peak
3	5180.000	93.45	------	------	94.09	-0.64	Average
4	5180.000	102.77	------	------	103.41	-0.64	Peak

5200MHz

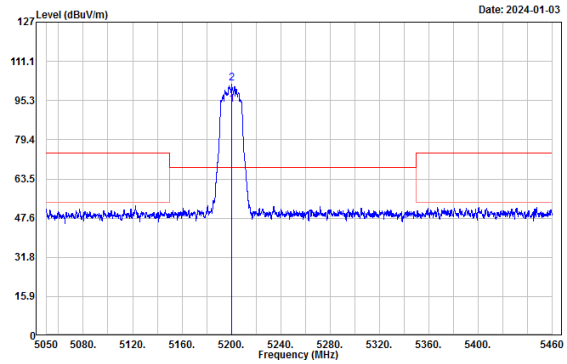
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : N20 TX-5200MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5200.000	90.67	------	------	91.25	-0.58	Average
2	5200.000	100.05	------	------	100.63	-0.58	Peak

Vertical

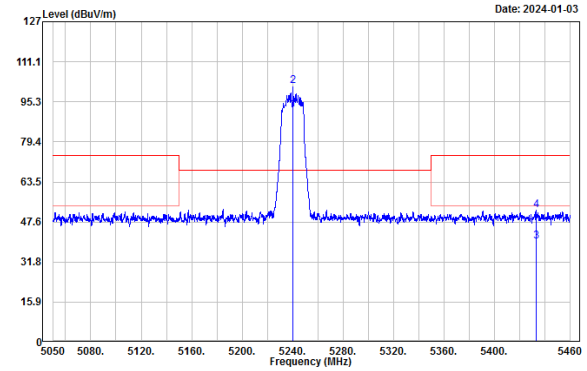


Site : LK-966A
Condition: 3m vertical
Mode : N20 TX-5200MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5200.000	93.52	------	------	94.10	-0.58	Average
2	5200.000	102.29	------	------	102.87	-0.58	Peak

5240MHz

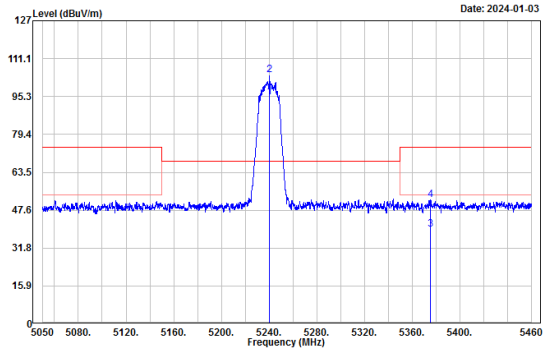
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : N20 TX-5240MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5240.000	92.15	------	------	92.62	-0.47	Average
2	5240.000	101.39	------	------	101.86	-0.47	Peak
3	5432.899	39.78	54.00	-14.22	39.97	-0.19	Average
4	5432.899	52.46	74.00	-21.54	52.65	-0.19	Peak

Vertical

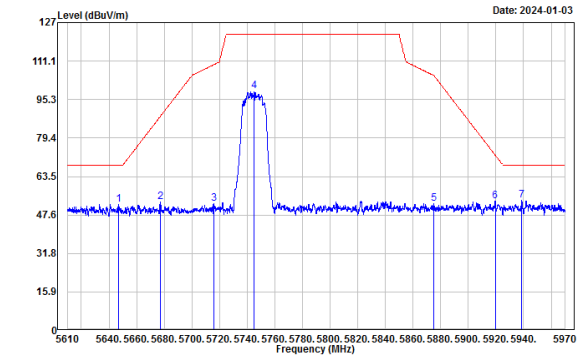


Site : LK-966A
Condition: 3m vertical
Mode : N20 TX-5240MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5240.000	94.87	------	------	95.34	-0.47	Average
2	5240.000	104.33	------	------	104.80	-0.47	Peak
3	5375.458	39.66	54.00	-14.34	39.94	-0.28	Average
4	5375.458	51.86	74.00	-22.14	52.14	-0.28	Peak

5745MHz

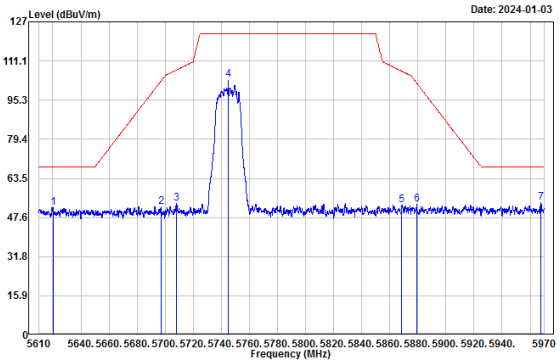
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : N20 TX-5745MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5647.008	52.05	68.20	-16.15	52.24	-0.19	Peak
2	5677.176	52.97	88.35	-35.38	53.18	-0.21	Peak
3	5715.696	52.34	109.60	-57.26	52.57	-0.23	Peak
4	5745.000	98.65	122.20	-23.55	98.90	-0.25	Peak
5	5874.996	52.44	105.20	-52.76	52.26	0.18	Peak
6	5919.456	53.20	72.29	-19.09	52.87	0.33	Peak
7	5938.608	53.76	68.20	-14.44	53.38	0.38	Peak

Vertical

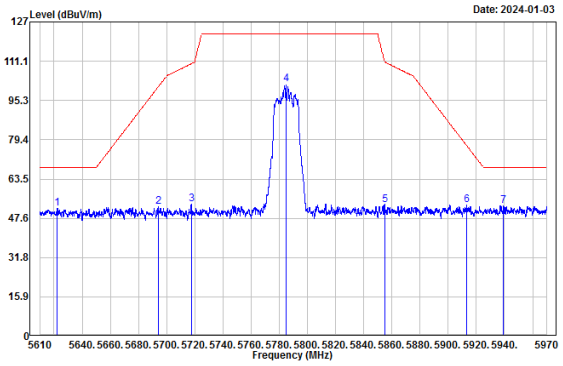


Site : LK-966A
Condition: 3m vertical
Mode : N20 TX-5745MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5620.116	51.61	68.20	-16.59	51.78	-0.17	Peak
2	5697.120	52.13	103.08	-50.95	52.36	-0.23	Peak
3	5708.064	53.23	107.46	-54.23	53.45	-0.22	Peak
4	5745.000	103.76	122.20	-18.44	104.01	-0.25	Peak
5	5868.552	52.80	107.00	-54.20	52.66	0.14	Peak
6	5879.136	52.87	102.13	-49.26	52.68	0.19	Peak
7	5967.588	53.66	68.20	-14.54	53.17	0.49	Peak

5785MHz

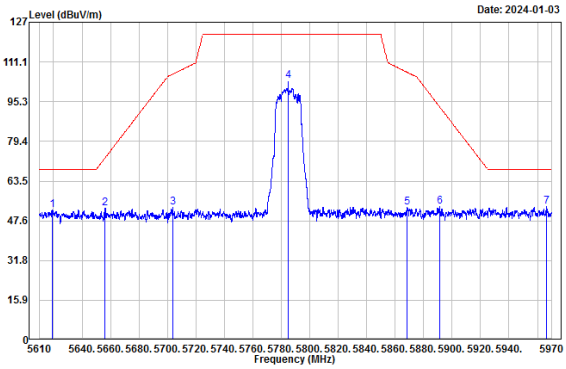
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : N20 TX-5785MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5622.420	51.76	68.20	-16.44	51.94	-0.18	Peak
2	5694.024	52.25	100.79	-48.54	52.47	-0.22	Peak
3	5717.532	53.29	110.11	-56.82	53.52	-0.23	Peak
4	5785.000	101.97	122.20	-20.23	102.10	-0.13	Average
5	5854.980	53.17	110.85	-57.68	53.06	0.11	Peak
6	5913.120	53.07	76.96	-23.89	52.77	0.30	Peak
7	5939.292	52.70	68.20	-15.50	52.32	0.38	Peak

Vertical

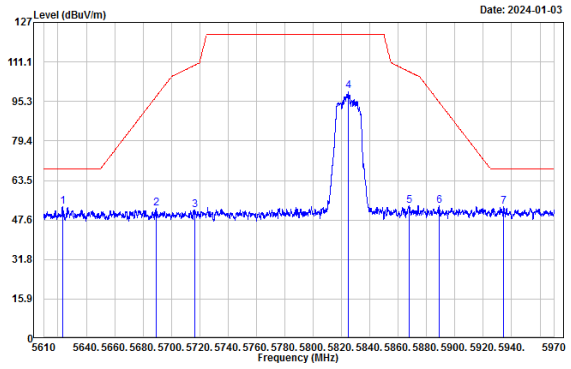


Site : LK-966A
Condition: 3m vertical
Mode : N20 TX-5785MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5618.964	52.02	68.20	-16.18	52.19	-0.17	Peak
2	5656.188	52.71	72.80	-20.09	52.90	-0.19	Peak
3	5703.780	52.93	106.26	-53.33	53.15	-0.22	Peak
4	5785.000	103.57	122.20	-18.63	103.70	-0.13	Peak
5	5868.372	53.07	107.05	-53.98	52.93	0.14	Peak
6	5891.304	53.21	93.10	-39.89	52.98	0.23	Peak
7	5966.328	53.20	68.20	-15.00	52.71	0.49	Peak

5825MHz

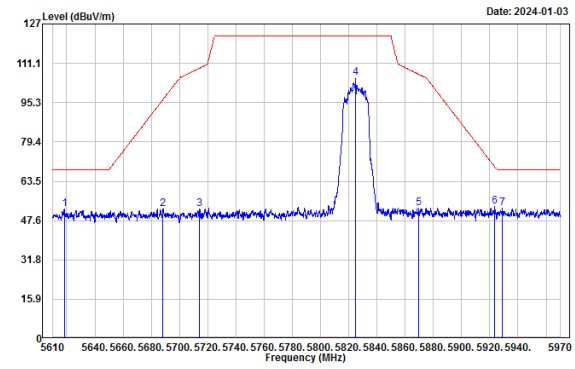
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : N20 TX-5825MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5623.212	53.16	68.20	-15.04	53.34	-0.18	Peak
2	5689.236	52.24	97.26	-45.02	52.45	-0.21	Peak
3	5716.632	51.61	109.86	-58.25	51.84	-0.23	Peak
4	5825.000	99.44	122.20	-22.76	99.43	0.01	Peak
5	5867.832	53.47	107.20	-53.73	53.33	0.14	Peak
6	5888.712	53.19	95.02	-41.83	52.97	0.22	Peak
7	5934.360	52.98	68.20	-15.22	52.61	0.37	Peak

Vertical



Site : LK-966A
Condition: 3m vertical
Mode : N20 TX-5825MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	5618.388	52.21	68.20	-15.99	52.38	-0.17	Peak
2	5688.264	52.42	96.54	-44.12	52.63	-0.21	Peak
3	5714.256	52.28	109.19	-56.91	52.51	-0.23	Peak
4	5825.000	105.42	122.20	-16.78	105.41	0.01	Peak
5	5869.524	52.62	106.73	-54.11	52.46	0.16	Peak
6	5923.380	53.42	69.39	-15.97	53.07	0.35	Peak
7	5928.852	52.56	68.20	-15.64	52.20	0.36	Peak

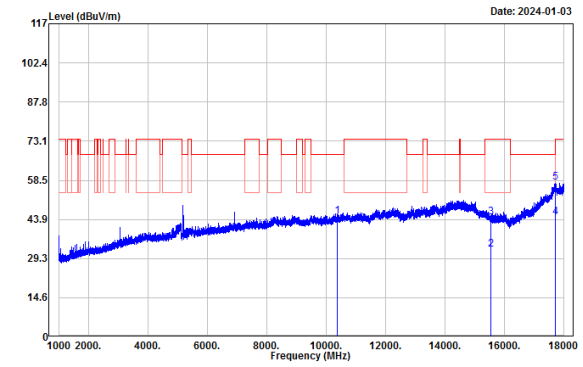
1GHz-18GHz:

5150-5250MHz

802.11a Mode:

5180 MHz

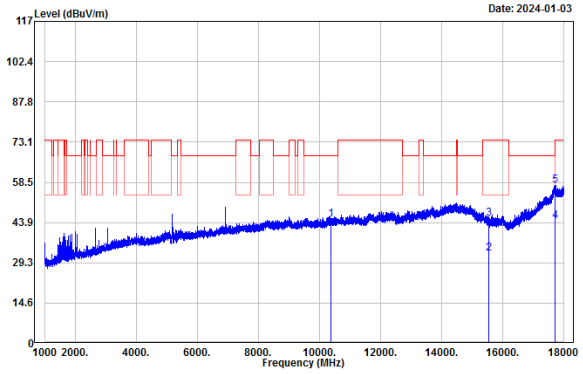
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : A TX-5180MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	10360.000	44.96	68.20	-23.24	36.97	7.99	Peak
2	15540.000	32.65	54.00	-21.35	22.98	9.67	Average
3	15540.000	44.81	74.00	-29.19	35.14	9.67	Peak
4	17710.000	44.55	54.00	-9.45	23.03	21.52	Average
5	17710.000	57.82	74.00	-16.18	36.30	21.52	Peak

Vertical

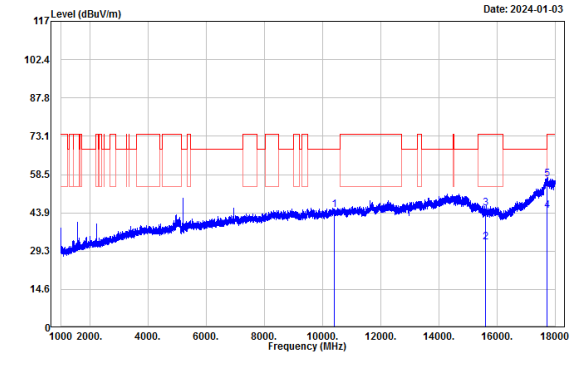


Site : LK-966A
Condition: 3m vertical
Mode : A TX-5180MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	10360.000	45.16	68.20	-23.04	37.17	7.99	Peak
2	15540.000	32.70	54.00	-21.30	23.03	9.67	Average
3	15540.000	45.49	74.00	-28.51	35.82	9.67	Peak
4	17710.000	44.42	54.00	-9.58	22.90	21.52	Average
5	17710.000	57.51	74.00	-16.49	35.99	21.52	Peak

5200 MHz

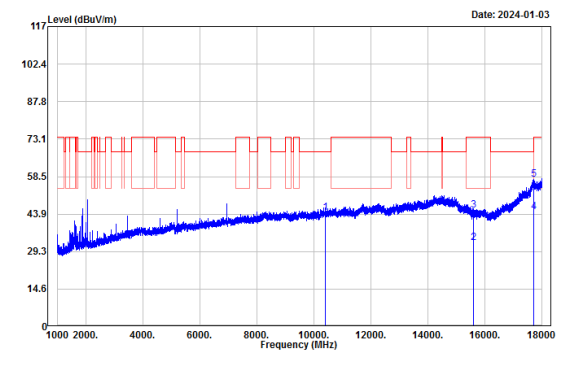
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : A TX-5200MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	10400.000	45.11	68.20	-23.09	37.09	8.02	Peak
2	15600.000	32.66	54.00	-21.34	23.22	9.44	Average
3	15600.000	45.59	74.00	-28.41	36.15	9.44	Peak
4	17710.000	44.72	54.00	-9.28	23.20	21.52	Average
5	17710.000	56.90	74.00	-17.10	35.38	21.52	Peak

Vertical

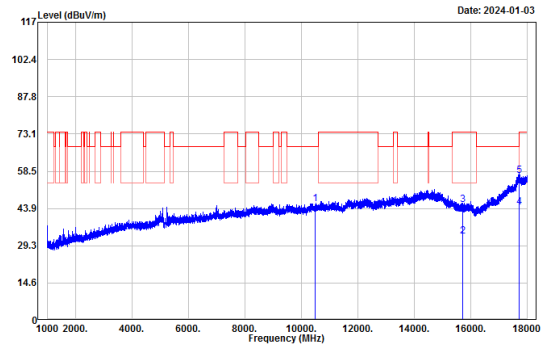


Site : LK-966A
Condition: 3m vertical
Mode : A TX-5200MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	10400.000	44.35	68.20	-23.85	36.33	8.02	Peak
2	15600.000	32.71	54.00	-21.29	23.27	9.44	Average
3	15600.000	45.42	74.00	-28.58	35.98	9.44	Peak
4	17710.000	44.59	54.00	-9.41	23.07	21.52	Average
5	17710.000	57.45	74.00	-16.55	35.93	21.52	Peak

5240 MHz

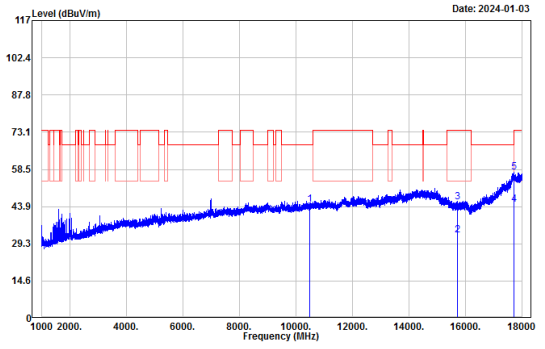
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : A TX-5240MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	10480.000	45.68	68.20	-22.52	37.59	8.09	Peak
2	15720.000	32.90	54.00	-21.10	23.86	9.04	Average
3	15720.000	45.29	74.00	-28.71	36.25	9.04	Peak
4	17710.000	44.49	54.00	-9.51	22.97	21.52	Average
5	17710.000	56.71	74.00	-17.29	35.19	21.52	Peak

Vertical



Site : LK-966A
Condition: 3m vertical
Mode : A TX-5240MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	10480.000	44.64	68.20	-23.56	36.55	8.09	Peak
2	15720.000	32.72	54.00	-21.28	23.68	9.04	Average
3	15720.000	45.61	74.00	-28.39	36.57	9.04	Peak
4	17710.000	44.61	54.00	-9.39	23.09	21.52	Average
5	17710.000	57.35	74.00	-16.65	35.83	21.52	Peak

Note:

Level = Reading + Factor.

Over Limit = Level – Limit.

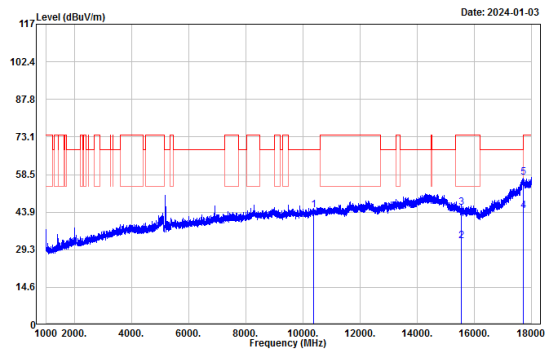
Factor = Antenna Factor + Cable Loss – Amplifier Gain.

The other spurious emission which is 20dB to the limit or in noise floor was not recorded.

802.11n 20 Mode:

5180 MHz

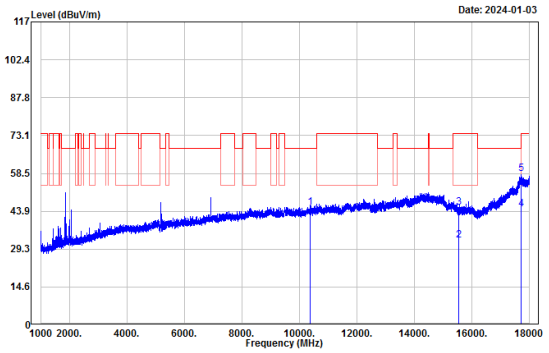
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : N20 TX-5180MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	10360.000	44.83	68.20	-23.37	36.84	7.99	Peak
2	15540.000	32.58	54.00	-21.42	22.91	9.67	Average
3	15540.000	45.70	74.00	-28.30	36.03	9.67	Peak
4	17710.000	44.54	54.00	-9.46	23.02	21.52	Average
5	17710.000	57.27	74.00	-16.73	35.75	21.52	Peak

Vertical

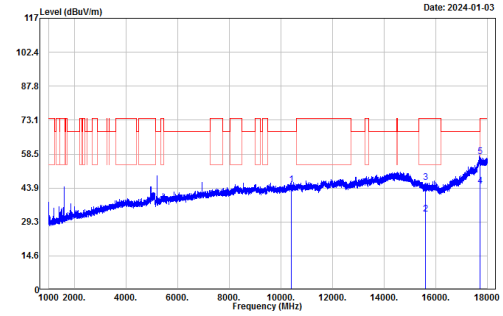


Site : LK-966A
Condition: 3m vertical
Mode : N20 TX-5180MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	10360.000	45.37	68.20	-22.83	37.38	7.99	Peak
2	15540.000	32.69	54.00	-21.31	23.02	9.67	Average
3	15540.000	45.25	74.00	-28.75	35.58	9.67	Peak
4	17710.000	44.68	54.00	-9.32	23.16	21.52	Average
5	17710.000	58.31	74.00	-15.69	36.79	21.52	Peak

5200 MHz

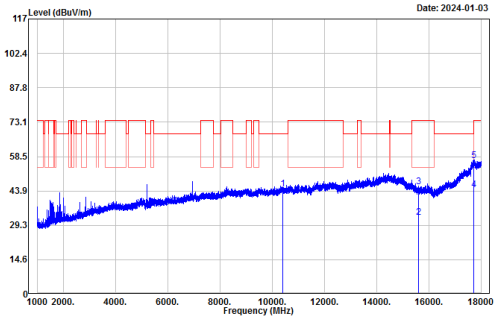
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : N20 TX-5200MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	10400.000	45.31	68.20	-22.89	37.29	8.02	Peak
2	15600.000	32.67	54.00	-21.33	23.23	9.44	Average
3	15600.000	46.16	74.00	-27.84	36.72	9.44	Peak
4	17710.000	44.67	54.00	-9.33	23.15	21.52	Average
5	17710.000	57.29	74.00	-16.71	35.77	21.52	Peak

Vertical

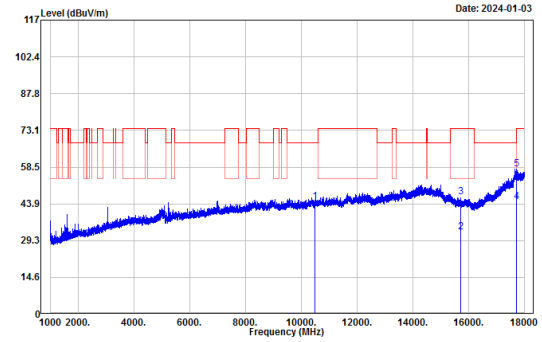


Site : LK-966A
Condition: 3m vertical
Mode : N20 TX-5200MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	10400.000	44.77	68.20	-23.43	36.75	8.02	Peak
2	15600.000	32.60	54.00	-21.40	23.16	9.44	Average
3	15600.000	45.58	74.00	-28.42	36.14	9.44	Peak
4	17710.000	44.47	54.00	-9.53	22.95	21.52	Average
5	17710.000	56.68	74.00	-17.32	35.16	21.52	Peak

5240 MHz

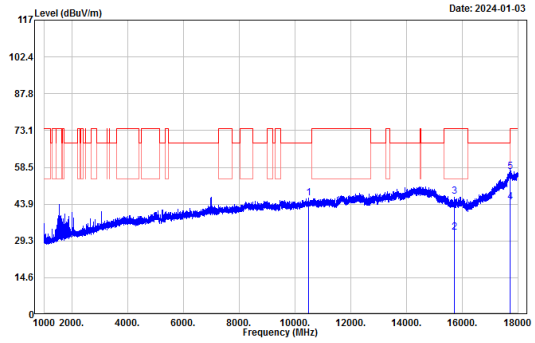
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : N20 TX-5240MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	10480.000	44.81	68.20	-23.39	36.72	8.09	Peak
2	15720.000	32.73	54.00	-21.27	23.69	9.04	Average
3	15720.000	46.57	74.00	-27.43	37.53	9.04	Peak
4	17710.000	44.61	54.00	-9.39	23.09	21.52	Average
5	17710.000	57.57	74.00	-16.43	36.05	21.52	Peak

Vertical



Site : LK-966A
Condition: 3m vertical
Mode : N20 TX-5240MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	10480.000	46.23	68.20	-21.97	38.14	8.09	Peak
2	15720.000	32.80	54.00	-21.20	23.76	9.04	Average
3	15720.000	46.94	74.00	-27.06	37.90	9.04	Peak
4	17710.000	44.58	54.00	-9.42	23.06	21.52	Average
5	17710.000	56.61	74.00	-17.39	35.09	21.52	Peak

Note:

Level = Reading + Factor.

Over Limit = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

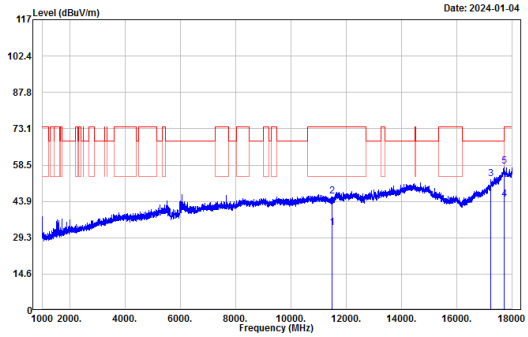
The other spurious emission which is 20dB to the limit or in noise floor was not recorded.

5725-5850MHz

802.11a Mode:

5745 MHz

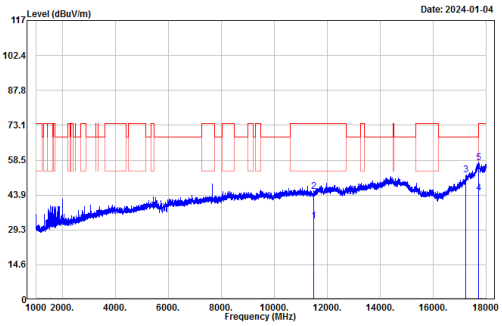
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : A TX-5745MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11490.000	33.34	54.00	-20.66	24.47	8.87	Average
2	11490.000	46.02	74.00	-27.98	37.15	8.87	Peak
3	17235.000	52.90	68.20	-15.30	36.65	16.25	Peak
4	17710.000	44.62	54.00	-9.38	23.10	21.52	Average
5	17710.000	58.07	74.00	-15.93	36.55	21.52	Peak

Vertical

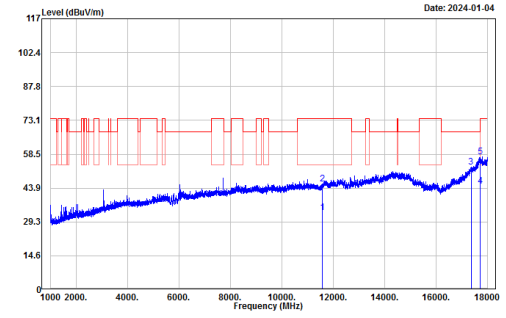


Site : LK-966A
Condition: 3m vertical
Mode : A TX-5745MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11490.000	32.86	54.00	-21.14	23.99	8.87	Average
2	11490.000	45.27	74.00	-28.73	36.40	8.87	Peak
3	17235.000	52.37	68.20	-15.83	36.12	16.25	Peak
4	17710.000	44.86	54.00	-9.14	23.34	21.52	Average
5	17710.000	57.41	74.00	-16.59	35.89	21.52	Peak

5785 MHz

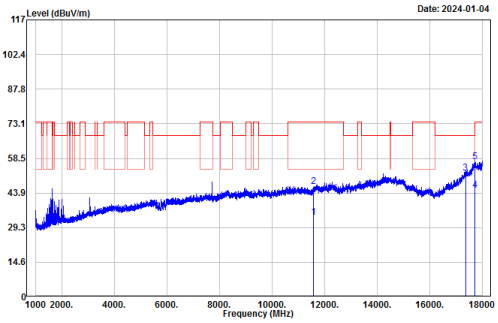
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : A TX-5785MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11570.000	33.31	54.00	-20.69	24.09	9.22	Average
2	11570.000	45.75	74.00	-28.25	36.53	9.22	Peak
3	17355.000	53.06	68.20	-15.14	35.71	17.35	Peak
4	17710.000	44.63	54.00	-9.37	23.11	21.52	Average
5	17710.000	57.24	74.00	-16.76	35.72	21.52	Peak

Vertical

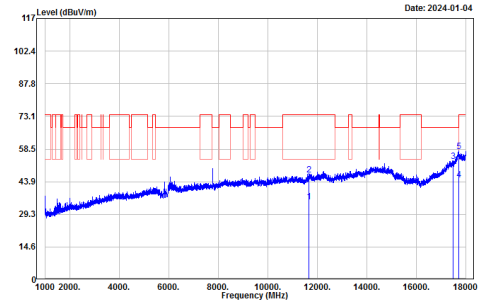


Site : LK-966A
Condition: 3m vertical
Mode : A TX-5785MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11570.000	33.47	54.00	-20.53	24.25	9.22	Average
2	11570.000	46.49	74.00	-27.51	37.27	9.22	Peak
3	17355.000	52.39	68.20	-15.81	35.04	17.35	Peak
4	17710.000	44.98	54.00	-9.02	23.46	21.52	Average
5	17710.000	57.07	74.00	-16.93	35.55	21.52	Peak

5825 MHz

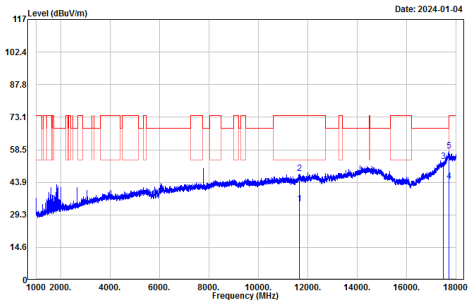
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : A TX-5825MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11650.000	34.73	54.00	-19.27	25.09	9.64	Average
2	11650.000	46.79	74.00	-27.21	37.15	9.64	Peak
3	17475.000	52.80	68.20	-15.40	34.36	18.44	Peak
4	17710.000	44.77	54.00	-9.23	23.25	21.52	Average
5	17710.000	57.32	74.00	-16.68	35.80	21.52	Peak

Vertical



Site : LK-966A
Condition: 3m vertical
Mode : A TX-5825MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11650.000	34.20	54.00	-19.80	24.56	9.64	Average
2	11650.000	47.82	74.00	-26.18	38.18	9.64	Peak
3	17475.000	53.23	68.20	-14.97	34.79	18.44	Peak
4	17710.000	44.48	54.00	-9.52	22.96	21.52	Average
5	17710.000	58.17	74.00	-15.83	36.65	21.52	Peak

Note:

Level = Reading + Factor.

Over Limit = Level – Limit.

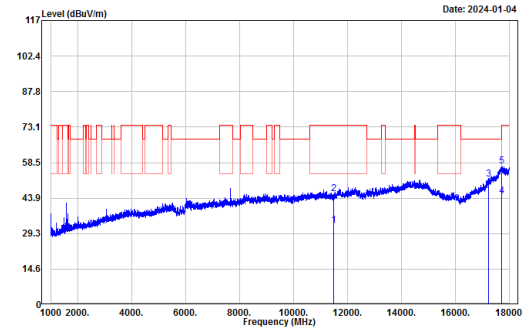
Factor = Antenna Factor + Cable Loss – Amplifier Gain.

The other spurious emission which is 20dB to the limit or in noise floor was not recorded.

802.11n 20 Mode:

5745 MHz

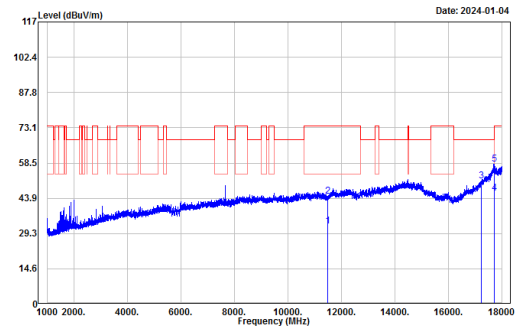
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : N20 TX-5745MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11490.000	32.61	54.00	-21.39	23.74	8.87	Average
2	11490.000	45.64	74.00	-28.36	36.77	8.87	Peak
3	17235.000	51.52	68.20	-16.68	35.27	16.25	Peak
4	17710.000	44.85	54.00	-9.15	23.33	21.52	Average
5	17710.000	57.04	74.00	-16.96	35.52	21.52	Peak

Vertical

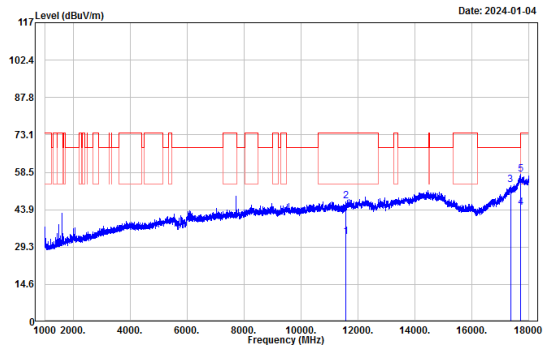


Site : LK-966A
Condition: 3m vertical
Mode : N20 TX-5745MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11490.000	32.19	54.00	-21.81	23.32	8.87	Average
2	11490.000	44.86	74.00	-29.14	35.99	8.87	Peak
3	17235.000	50.93	68.20	-17.27	34.68	16.25	Peak
4	17710.000	45.98	54.00	-8.02	24.46	21.52	Average
5	17710.000	57.96	74.00	-16.04	36.44	21.52	Peak

5785 MHz

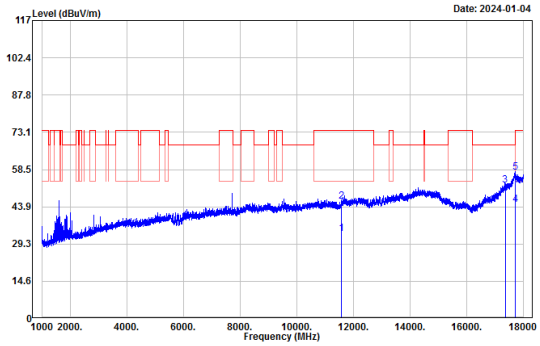
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : N20 TX-5785MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11570.000	33.22	54.00	-20.78	24.00	9.22	Average
2	11570.000	47.16	74.00	-26.84	37.94	9.22	Peak
3	17355.000	53.55	68.20	-14.65	36.20	17.35	Peak
4	17710.000	44.71	54.00	-9.29	23.19	21.52	Average
5	17710.000	57.76	74.00	-16.24	36.24	21.52	Peak

Vertical

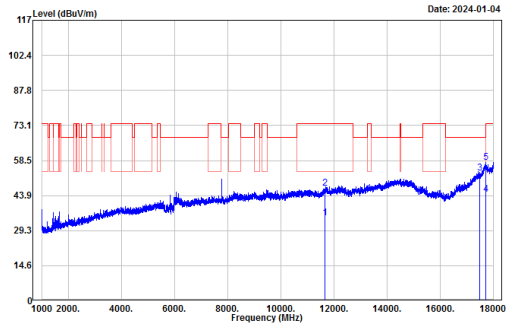


Site : LK-966A
Condition: 3m vertical
Mode : N20 TX-5785MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11570.000	33.15	54.00	-20.85	23.93	9.22	Average
2	11570.000	46.04	74.00	-27.96	36.82	9.22	Peak
3	17355.000	52.40	68.20	-15.80	35.05	17.35	Peak
4	17710.000	44.72	54.00	-9.28	23.20	21.52	Average
5	17710.000	57.44	74.00	-16.56	35.92	21.52	Peak

5825 MHz

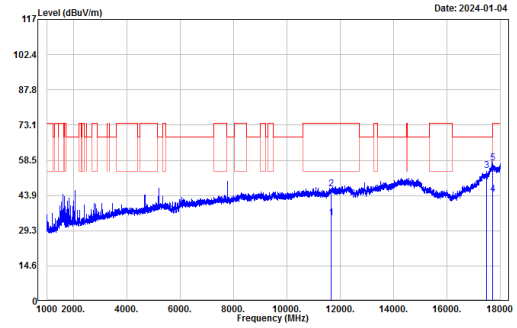
Horizontal



Site : LK-966A
Condition: 3m horizontal
Mode : N20 TX-5825MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11650.000	34.46	54.00	-19.54	24.82	9.64	Average
2	11650.000	46.78	74.00	-27.22	37.14	9.64	Peak
3	17475.000	53.20	68.20	-15.00	34.76	18.44	Peak
4	17710.000	44.53	54.00	-9.47	23.01	21.52	Average
5	17710.000	57.59	74.00	-16.41	36.07	21.52	Peak

Vertical



Site : LK-966A
Condition: 3m vertical
Mode : N20 TX-5825MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	11650.000	34.41	54.00	-19.59	24.77	9.64	Average
2	11650.000	46.54	74.00	-27.46	36.90	9.64	Peak
3	17475.000	54.16	68.20	-14.04	35.72	18.44	Peak
4	17710.000	44.53	54.00	-9.47	23.01	21.52	Average
5	17710.000	57.47	74.00	-16.53	35.95	21.52	Peak

Note:

Level = Reading + Factor.

Over Limit = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

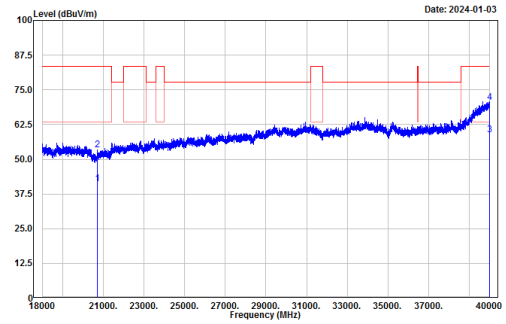
The other spurious emission which is 20dB to the limit or in noise floor was not recorded.

18GHz-40GHz:

802.11a Mode:

5180 MHz

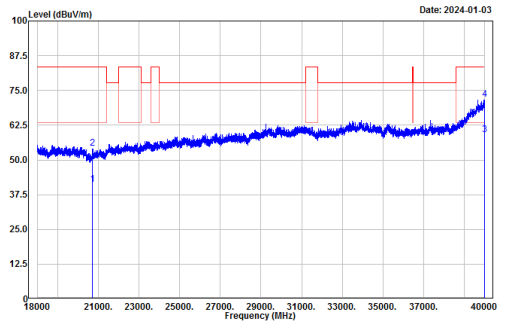
Horizontal



Site : LK-966A
Condition: 1m horizontal
Mode : A TX-5180MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	20720.000	41.19	63.50	-22.31	21.33	19.86	Average
2	20720.000	53.45	83.50	-30.05	33.59	19.86	Peak
3	40000.000	58.84	63.50	-4.66	23.80	35.04	Average
4	40000.000	70.42	83.50	-13.08	35.38	35.04	Peak

Vertical

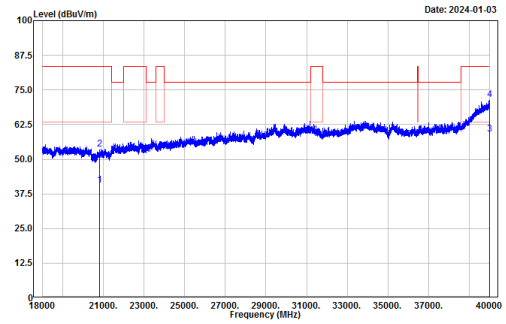


Site : LK-966A
Condition: 1m vertical
Mode : A TX-5180MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	20720.000	41.10	63.50	-22.40	21.24	19.86	Average
2	20720.000	54.25	83.50	-29.25	34.39	19.86	Peak
3	40000.000	59.00	63.50	-4.50	23.96	35.04	Average
4	40000.000	71.77	83.50	-11.73	36.73	35.04	Peak

5200 MHz

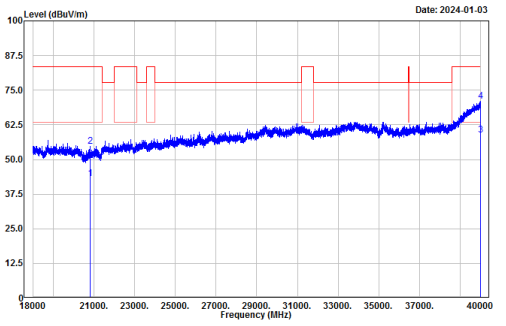
Horizontal



Site : LK-966A
Condition: 1m horizontal
Mode : A TX-5200MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	20800.000	40.62	63.50	-22.88	20.63	19.99	Average
2	20800.000	53.53	83.50	-29.97	33.54	19.99	Peak
3	40000.000	59.01	63.50	-4.49	23.97	35.04	Average
4	40000.000	71.53	83.50	-11.97	36.49	35.04	Peak

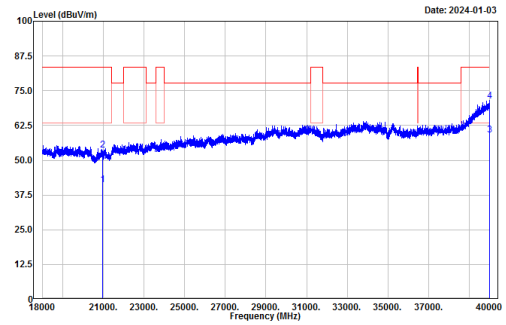
Vertical



Site : LK-966A
Condition: 1m vertical
Mode : A TX-5200MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

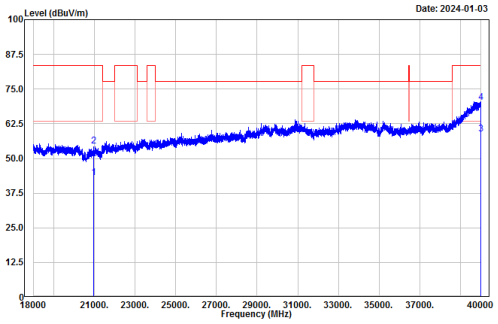
	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	20800.000	43.08	63.50	-20.42	23.09	19.99	Average
2	20800.000	54.85	83.50	-28.65	34.86	19.99	Peak
3	40000.000	58.94	63.50	-4.56	23.90	35.04	Average
4	40000.000	71.00	83.50	-12.50	35.96	35.04	Peak

5240 MHz	
Horizontal	**Vertical**



Site : LK-966A
Condition: 1m horizontal
Mode : A TX-5240MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	20960.000	41.09	63.50	-22.41	20.89	20.20	Average
2	20960.000	53.68	83.50	-29.82	33.48	20.20	Peak
3	40000.000	59.00	63.50	-4.50	23.96	35.04	Average
4	40000.000	71.35	83.50	-12.15	36.31	35.04	Peak



Site : LK-966A
Condition: 1m vertical
Mode : A TX-5240MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	20960.000	43.00	63.50	-20.50	22.80	20.20	Average
2	20960.000	54.47	83.50	-29.03	34.27	20.20	Peak
3	40000.000	58.92	63.50	-4.58	23.88	35.04	Average
4	40000.000	70.21	83.50	-13.29	35.17	35.04	Peak

Note:

Level = Reading + Factor.

Over Limit = Level – Limit.

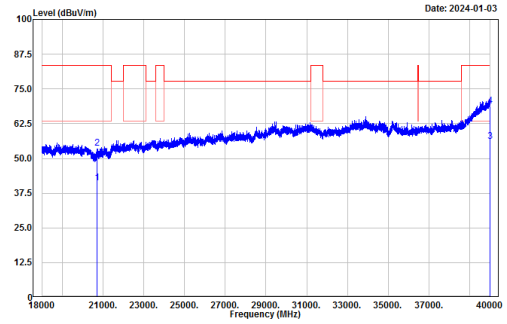
Factor = Antenna Factor + Cable Loss – Amplifier Gain.

The other spurious emission which is 20dB to the limit or in noise floor was not recorded.

802.11n 20 Mode:

5180 MHz

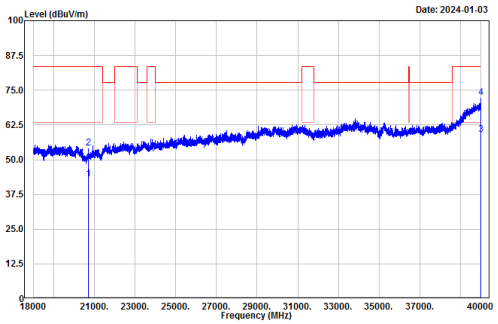
Horizontal



Site : LK-966A
Condition: 1m horizontal
Mode : N20 TX-5180MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	20720.000	41.22	63.50	-22.28	21.36	19.86	Average
2	20720.000	53.65	83.50	-29.85	33.79	19.86	Peak
3	40000.000	56.01	63.50	-7.49	20.97	35.04	Average
4	40000.000	68.74	83.50	-14.76	33.70	35.04	Peak

Vertical

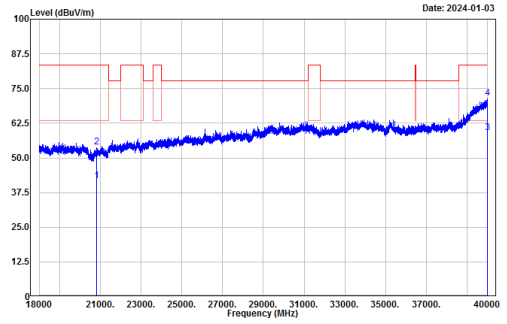


Site : LK-966A
Condition: 1m vertical
Mode : N20 TX-5180MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	20720.000	43.10	63.50	-20.40	23.24	19.86	Average
2	20720.000	54.21	83.50	-29.29	34.35	19.86	Peak
3	40000.000	59.01	63.50	-4.49	23.97	35.04	Average
4	40000.000	72.42	83.50	-11.08	37.38	35.04	Peak

5200 MHz

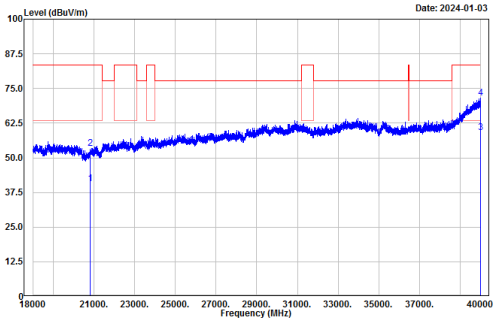
Horizontal



Site : LK-966A
Condition: 1m horizontal
Mode : N20 TX-5200MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	20800.000	41.76	63.50	-21.74	21.77	19.99	Average
2	20800.000	54.02	83.50	-29.48	34.03	19.99	Peak
3	40000.000	59.16	63.50	-4.34	24.12	35.04	Average
4	40000.000	71.54	83.50	-11.96	36.50	35.04	Peak

Vertical

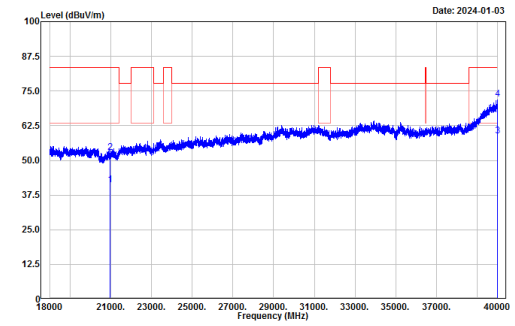


Site : LK-966A
Condition: 1m vertical
Mode : N20 TX-5200MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	20800.000	40.63	63.50	-22.87	20.64	19.99	Average
2	20800.000	53.37	83.50	-30.13	33.38	19.99	Peak
3	40000.000	59.17	63.50	-4.33	24.13	35.04	Average
4	40000.000	71.43	83.50	-12.07	36.39	35.04	Peak

5240 MHz

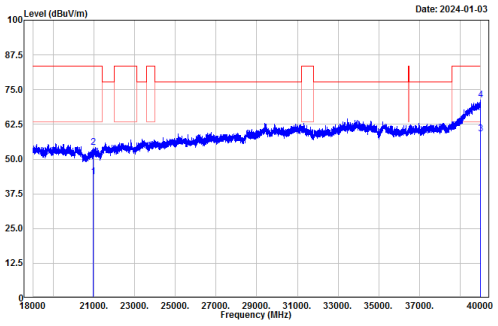
Horizontal



Site : LK-966A
Condition: 1m horizontal
Mode : N20 TX-5240MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	20960.000	41.30	63.50	-22.20	21.10	20.20	Average
2	20960.000	52.89	83.50	-30.61	32.69	20.20	Peak
3	40000.000	58.81	63.50	-4.69	23.77	35.04	Average
4	40000.000	72.16	83.50	-11.34	37.12	35.04	Peak

Vertical



Site : LK-966A
Condition: 1m vertical
Mode : N20 TX-5240MHz
Note : Temp/RH:19.1°C/64%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	20960.000	43.63	63.50	-19.87	23.43	20.20	Average
2	20960.000	54.21	83.50	-29.29	34.01	20.20	Peak
3	40000.000	59.16	63.50	-4.34	24.12	35.04	Average
4	40000.000	71.35	83.50	-12.15	36.31	35.04	Peak

Note:

Level = Reading + Factor.

Over Limit = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

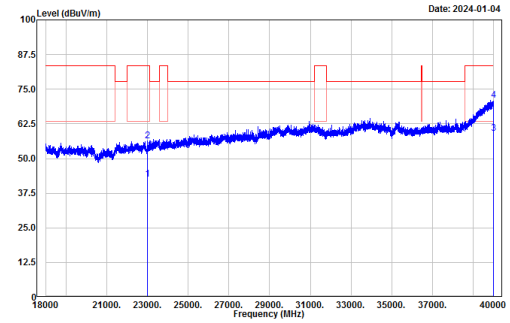
The other spurious emission which is 20dB to the limit or in noise floor was not recorded.

5725-5850MHz

802.11a Mode:

5745 MHz

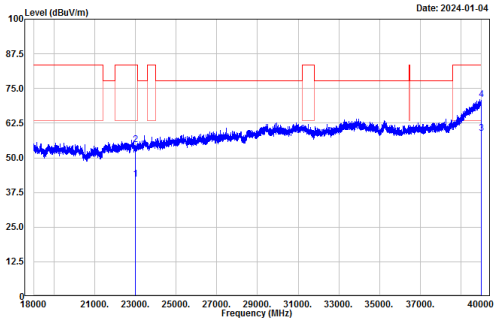
Horizontal



Site : LK-966A
Condition: 1m horizontal
Mode : A TX-5745MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	22980.000	42.66	63.50	-20.84	20.16	22.50	Average
2	22980.000	56.31	83.50	-27.19	33.81	22.50	Peak
3	40000.000	58.99	63.50	-4.51	23.95	35.04	Average
4	40000.000	71.06	83.50	-12.44	36.02	35.04	Peak

Vertical

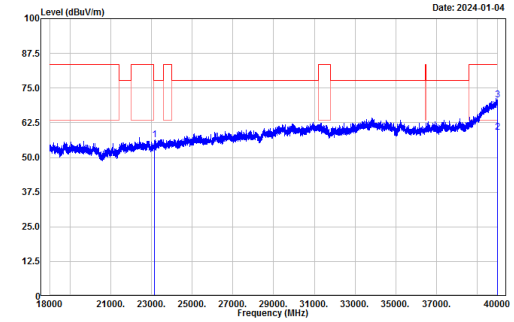


Site : LK-966A
Condition: 1m vertical
Mode : A TX-5745MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	22980.000	42.25	63.50	-21.25	19.75	22.50	Average
2	22980.000	54.80	83.50	-28.70	32.30	22.50	Peak
3	40000.000	58.90	63.50	-4.60	23.86	35.04	Average
4	40000.000	70.87	83.50	-12.63	35.83	35.04	Peak

5785 MHz

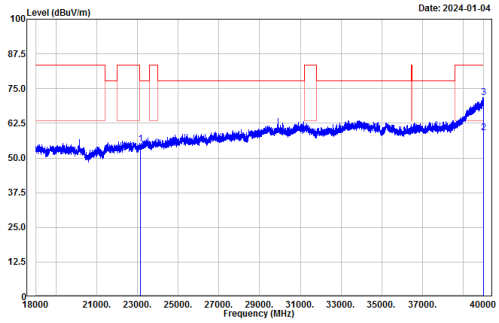
Horizontal



Site : LK-966A
Condition: 1m horizontal
Mode : A TX-5785MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	23140.000	56.46	77.70	-21.24	33.75	22.71	Peak
2	40000.000	59.10	63.50	-4.40	24.06	35.04	Average
3	40000.000	70.76	83.50	-12.74	35.72	35.04	Peak

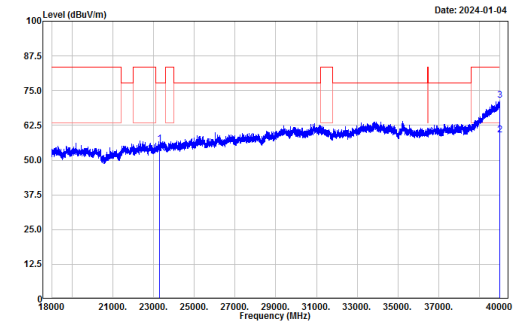
Vertical



Site : LK-966A
Condition: 1m vertical
Mode : A TX-5785MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

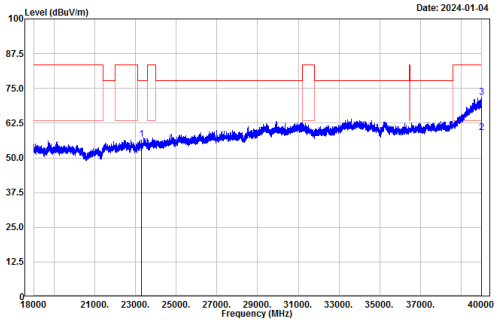
	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	23140.000	54.91	77.70	-22.79	32.20	22.71	Peak
2	40000.000	59.13	63.50	-4.37	24.09	35.04	Average
3	40000.000	71.76	83.50	-11.74	36.72	35.04	Peak

5825 MHz	
Horizontal	**Vertical**



Site : LK-966A
Condition: 1m horizontal
Mode : A TX-5825MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	23300.000	55.85	77.70	-21.85	32.96	22.89	Peak
2	40000.000	59.09	63.50	-4.41	24.05	35.04	Average
3	40000.000	71.44	83.50	-12.06	36.40	35.04	Peak



Site : LK-966A
Condition: 1m vertical
Mode : A TX-5825MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	23300.000	56.53	77.70	-21.17	33.64	22.89	Peak
2	40000.000	59.05	63.50	-4.45	24.01	35.04	Average
3	40000.000	71.89	83.50	-11.61	36.85	35.04	Peak

Note:

Level = Reading + Factor.

Over Limit = Level – Limit.

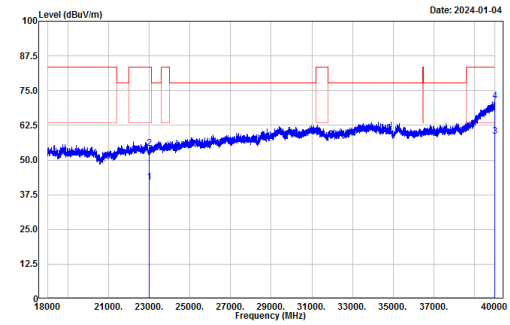
Factor = Antenna Factor + Cable Loss – Amplifier Gain.

The other spurious emission which is 20dB to the limit or in noise floor was not recorded.

802.11n 20 Mode:

5745 MHz

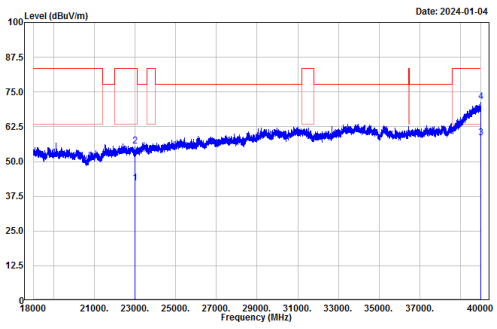
Horizontal



Site : LK-966A
Condition: 1m horizontal
Mode : N20 TX-5745MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	22980.000	42.03	63.50	-21.47	19.53	22.50	Average
2	22980.000	54.26	83.50	-29.24	31.76	22.50	Peak
3	40000.000	58.61	63.50	-4.89	23.57	35.04	Average
4	40000.000	71.37	83.50	-12.13	36.33	35.04	Peak

Vertical

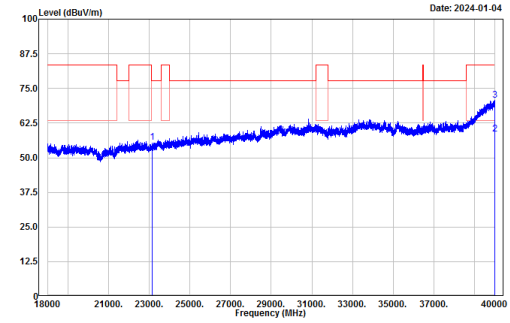


Site : LK-966A
Condition: 1m vertical
Mode : N20 TX-5745MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	22980.000	42.27	63.50	-21.23	19.77	22.50	Average
2	22980.000	55.44	83.50	-28.06	32.94	22.50	Peak
3	40000.000	58.66	63.50	-4.84	23.62	35.04	Average
4	40000.000	71.60	83.50	-11.90	36.56	35.04	Peak

5785 MHz

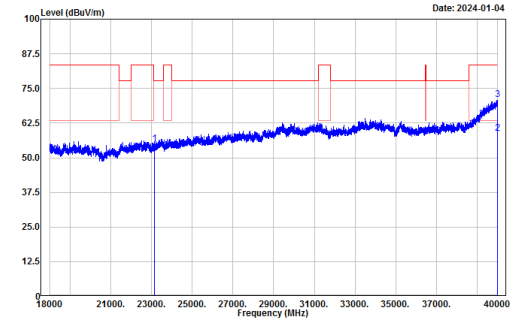
Horizontal



Site : LK-966A
Condition: 1m horizontal
Mode : N20 TX-5785MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	23140.000	55.57	77.70	-22.13	32.86	22.71	Peak
2	40000.000	58.63	63.50	-4.87	23.59	35.04	Average
3	40000.000	70.65	83.50	-12.85	35.61	35.04	Peak

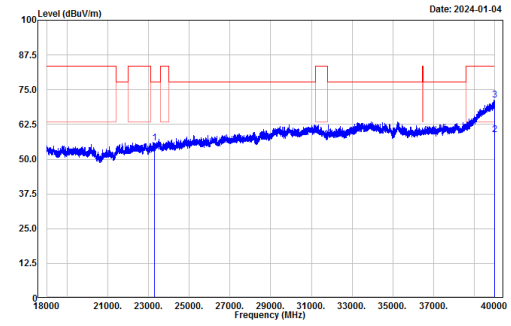
Vertical



Site : LK-966A
Condition: 1m vertical
Mode : N20 TX-5785MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

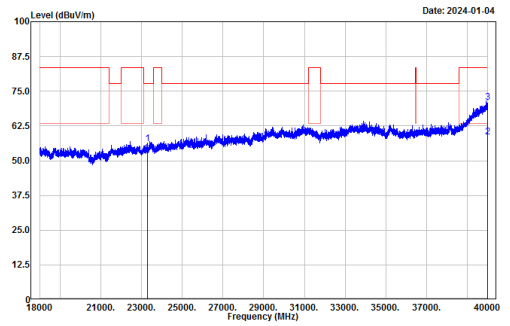
	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	23140.000	55.08	77.70	-22.62	32.37	22.71	Peak
2	40000.000	58.71	63.50	-4.79	23.67	35.04	Average
3	40000.000	71.06	83.50	-12.44	36.02	35.04	Peak

5825 MHz	
Horizontal	**Vertical**



Site : LK-966A
Condition: 1m horizontal
Mode : N20 TX-5825MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	23300.000	55.81	77.70	-21.89	32.92	22.89	Peak
2	40000.000	58.88	63.50	-4.62	23.84	35.04	Average
3	40000.000	71.24	83.50	-12.26	36.20	35.04	Peak



Site : LK-966A
Condition: 1m vertical
Mode : N20 TX-5825MHz
Note : Temp/RH:18.1°C/62%
Tester: Bruce

	Freq	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB/m	
1	23300.000	56.21	77.70	-21.49	33.32	22.89	Peak
2	40000.000	58.67	63.50	-4.83	23.63	35.04	Average
3	40000.000	71.03	83.50	-12.47	35.99	35.04	Peak

Note:

Level = Reading + Factor.

Over Limit = Level – Limit.

Factor = Antenna Factor + Cable Loss – Amplifier Gain.

The other spurious emission which is 20dB to the limit or in noise floor was not recorded.