FCC/ISED Test Report

Product Name	Mesa Pro
Model No.	ST1
Contains FCC ID	VSF29579, N7NEM74B
Contains IC	7980A-29579, 2417C-EM74B

Applicant	Juniper Systems, Inc.
Address (FCC)	1132 W 1700 N, Logan, Utah, 84321 United States
Address (IC)	1132 W 1700 N, Logan UT 84321, United States

Date of Receipt	Jun. 29, 2022
Issued Date	Sep. 23, 2022
Report No.	2260935R-RFUSOTHV14-A
Report Version	V1.0

Testing Laboratory
3023

Test Report

Issued Date: Sep. 23, 2022
Report No.: 2260935R-RFUSOTHV14-A

Product Name	Mesa Pro
Applicant	Juniper Systems, Inc.
Address (FCC)	1132 W 1700 N, Logan, Utah, 84321 United States
Address (IC)	1132 W 1700 N, Logan UT 84321, United States
Manufacturer	Juniper Systems INC
Model No.	ST1
Contains FCC ID	VSF29579, N7NEM74B
Contains IC	7980A-29579, 2417C-EM74B
EUT Rated Voltage	AC 100-240V, 50-60Hz
EUT Test Voltage	AC 120V/60Hz
Trade Name	Juniper Systems
Applicable Standard	Simultaneous Transmit (co-location)
Test Result	Complied

Documented By : Joanne Lin
(Senior Project Specialist / Joanne Lin)

Tested By : Ivan Chuang
(Senior Engineer / Ivan Chuang)

Approved By : Alan Chen
(Senior Engineer / Alan Chen)

TABLE OF CONTENTS

Revision History

Report No.	Version	Description	Issued Date
2260935R-RFUSOTHV14-A	V1.0	Initial issue of report.	Sep. 23, 2022

1. GENERAL INFORMATION

1.1. EUT Description

Product Name	Mesa Pro
Trade Name	Juniper Systems
Model No.	ST1
Contains FCC ID	VSF29579, N7NEM74B
Contains IC	7980A-29579, 2417C-EM74B
Antenna Type	Monopole
Antenna Gain	Refer to the table “Antenna List”
Power Adapter	MFR: CWT, M/N: 2AEC060KC Input: AC 100-240V~50-60Hz, 1.7A Output: 19.0V⎓3.16A, 60.0W Power Cord: Non-shielded, 1.8m

Note: The RF specifications of EUT refer to Intel 9260NGW and Sierra EM7411, follow above FCC ID and IC.

Antenna List

No.	Manufacturer	Part No.	Antenna Type	Peak Gain
1	Juniper Systems	29552 (WLAN Main)	PIFA	3.1dBi for 2.4 GHz 3.0dBi for 5150-5250MHz 3.4dBi for 5250-5350MHz 1.5dBi for 5470-5725MHz 1.1dBi for 5725-5850MHz
		29554 (WLAN Aux)	PIFA	2.8dBi for 2.4 GHz 2.4dBi for 5150-5250MHz 2.7dBi for 5250-5350MHz 1.1dBi for 5470-5725MHz 0.0dBi for 5725-5850MHz
2	Juniper Systems	29552 (Cellular main TX)	Monopole	3.3dBi for WCDMA Band 2 2.0dBi for WCDMA Band 4 0.3dBi for WCDMA Band 5 3.3dBi for LTE Band 2 2.0dBi for LTE Band 4 0.3dBi for LTE Band 5 0.5dBi for LTE Band 7 2.3dBi for LTE Band 12 1.9dBi for LTE Band 13 1.6dBi for LTE Band 14 3.1dBi for LTE Band 25 1.1dBi for LTE Band 26 1.0dBi for LTE Band 41 3.6dBi for LTE Band 42 3.9dBi for LTE Band 43 1.9dBi for LTE Band 48 2.0dBi for LTE Band 66 2.5dBi for LTE Band 71
		29554 (Cellular diversity RX)	Monopole	3.3dBi for WCDMA Band 2 3.8dBi for WCDMA Band 4 0.7dBi for WCDMA Band 5 3.3dBi for LTE Band 2 3.8dBi for LTE Band 4 0.7dBi for LTE Band 5 3.6dBi for LTE Band 7 1.4dBi for LTE Band 12 1.5dBi for LTE Band 13 2.1dBi for LTE Band 14 3.3dBi for LTE Band 25 0.7dBi for LTE Band 26 3.8dBi for LTE Band 41 4.3dBi for LTE Band 42 3.9dBi for LTE Band 43 3.3dBi for LTE Band 48 4.4dBi for LTE Band 66 1.6dBi for LTE Band 71

Note: The WLAN antenna of EUT is conform to FCC 15.203.

1.2. Test Summary

Simultaneous Transmit (co-location) Requirement

Requirement – Test Item	Result
Radiated Emissions	Pass

Note:

1. The EUT is a Mesa Pro, which contains functions on WWAN and 2.4GHz/5GHz band WIFI with Bluetooth card module transceiver.
2. These tests were conducted on a sample for the purpose of demonstrating compliance of transmitter with simultaneous transmit (co-location).
3. There consider simultaneous transmit (co-location) based on KDB 996369 D02 Question 1 and KDB 996369 D04 for Radiated Emission.
4. The antenna gain and output power are both comply with the original certification, the final product complies with the ERP/EIRP rules.
5. The final test results meets all the applicable FCC/ISED rules.

Test Mode (Simultaneous Transmit)	Mode 1: LTE B13-10M-CH23230 (1RB#0) + BLE-2440MHz Mode 2: LTE B14-10M-CH23330 (1RB#0) + BLE-2440MHz Mode 3: WCDMA B2-CH9538 + BLE-2440MHz Mode 4: WCDMA B5-CH4233 + BLE-2440MHz Mode 5: LTE B13-10M-CH23230 (1RB#0) + 11n20-2442MHz Mode 6: LTE B14-10M-CH23330 (1RB#0) + 11n20-2442MHz Mode 7: WCDMA B2-CH9538 + 11n20-2442MHz Mode 8: WCDMA B5-CH4233 + 11n20-2442MHz

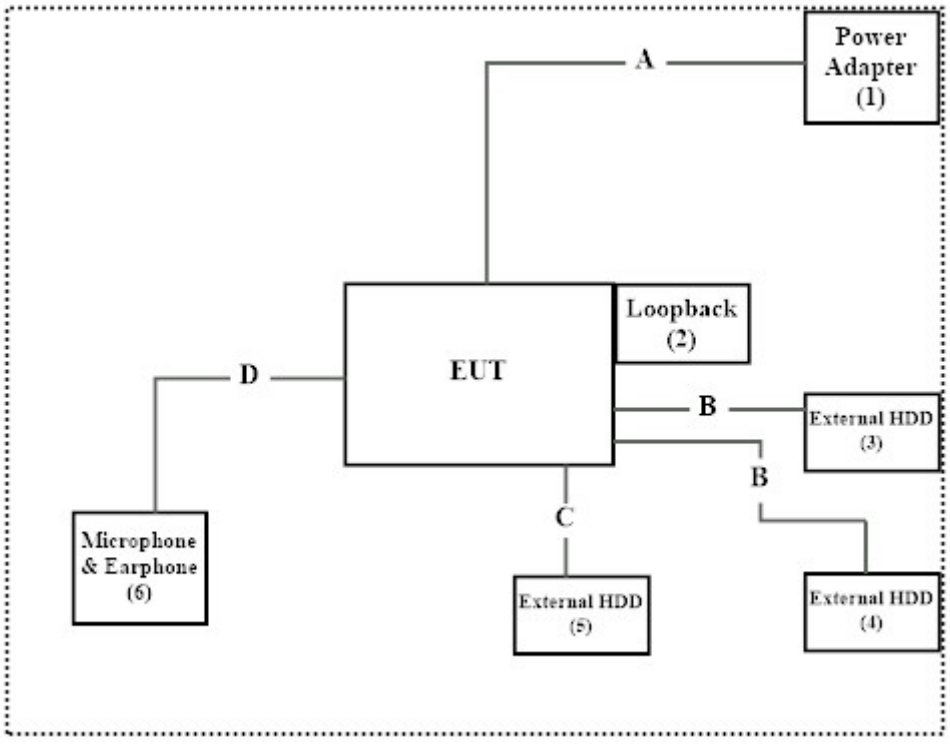
1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Power Adapter	CWT	2AEC060KC	N/A	Non-shielded, 1.8m
2	Loopback	N/A	N/A	N/A	N/A
3	External HDD	Transcend	TS1TSJ25H3B	F21786-0125	N/A
4	External HDD	Transcend	TS1TSJ25H3B	F21786-0103	N/A
5	External HDD	Transcend	TS1TSJ25MC	F30467-0011	N/A
6	Microphone & Earphone	Verbatim	C09024VB	N/A	N/A

Signal Cable Type		Signal cable Description
A	Power Cable	Non-shielded, 1.8m
B	USB Cable	Shielded, 0.5m
C	USB Cable	Shielded, 0.5m
D	Microphone & Earphone	Non-shielded, 1.2m

1.4. Configuration of Tested System



1.5. EUT Exercise Software

(1) Setup the EUT as shown on 1.5.

(2) Execute software “DRTU Version 22.21050.0.0-OEM.DRTUU.12004” on the EUT.

(3) The Communication Analyzer (MT8820C) uses in controlling EUT to transmit continuously.

(4) Configure the test mode, the test channel, and the data rate.

(5) Start the continuous transmission.

(6) Verify that the EUT works properly.

1.6. Test Facility

Ambient conditions in the laboratory:

Performed Item	Items	Required	Actual
Radiated Emission	Temperature (°C)	10~40 ℃	21.9 ℃
	Humidity (%RH)	10~90 %	67 %

USA : FCC Registration Number: TW0033

Canada : CAB Identifier Number: TW3023 / Company Number: 26930

Site Description : Accredited by TAF
Accredited Number: 3023

Test Laboratory : DEKRA Testing and Certification Co., Ltd
Address : No. 5-22, Ruishukeng Linkou District, New Taipei City, 24451, Taiwan
Performed Location : No. 26, Huaya 1st Rd., Guishan Dist.,Taoyuan City 333411, Taiwan, R.O.C.
Phone number : +886-3-275-7255
Fax number : +886-3-327-8031
Email address : info.tw@dekra.com
Website : http://www.dekra.com.tw

1.7. List of Test Item and Equipment

For Radiated measurements / HY-CB01

Equipment	Manufacturer	Model No.	Serial No.	Cal. Date	Due. Date
Loop Antenna	AMETEK	HLA6121	49611	2022/03/18	2023/03/17
Bi-Log Antenna	SCHWARZBECK	VULB9168	9168-0675	2021/08/11	2023/08/10
Horn Antenna	ETS-Lindgren	3117	00201259	2021/11/09	2023/11/08
Horn Antenna	Com-Power	AH-840	101101	2021/11/30	2023/11/29
Pre-Amplifier	SGH	0301	20211007-7	2022/02/22	2023/02/21
Pre-Amplifier	EMCI	EMC051835SE	980312	2022/02/22	2023/02/21
Pre-Amplifier	EMCI	EMC184045SE	980369	2022/05/12	2023/05/11
Coaxial Cable	EMCI	EMC102-KM-KM-600	1160314		
Coaxial Cable	EMCI	EMC102-KM-KM-7000	170242		
Filter	MICRO TRONICS	BRM50702	G251	2021/09/16	2022/09/15
				2022/07/27	2023/07/26
EMI Test Receiver	R&S	ESR3	102792	2021/12/15	2022/12/14
Spectrum Analyzer	R&S	FSV3044	101115	2022/01/10	2023/01/09
Radio Communication Tester	Anritsu	MT8820C	6201465467	2021/08/13	2022/08/12
				2022/08/10	2023/08/09
Coaxial Cable	SUHNER	SUCOFLEX 106	25450/6	2022/03/22	2023/03/21
Coaxial Cable	SGH	HA800	GD20110222-8		
Coaxial Cable	SGH	SGH18	2021003-8		
Coaxial Cable	EMCI	EMC106	151113		

Note: Test Software version: AUDIX e3 V9.

1.8. Uncertainty

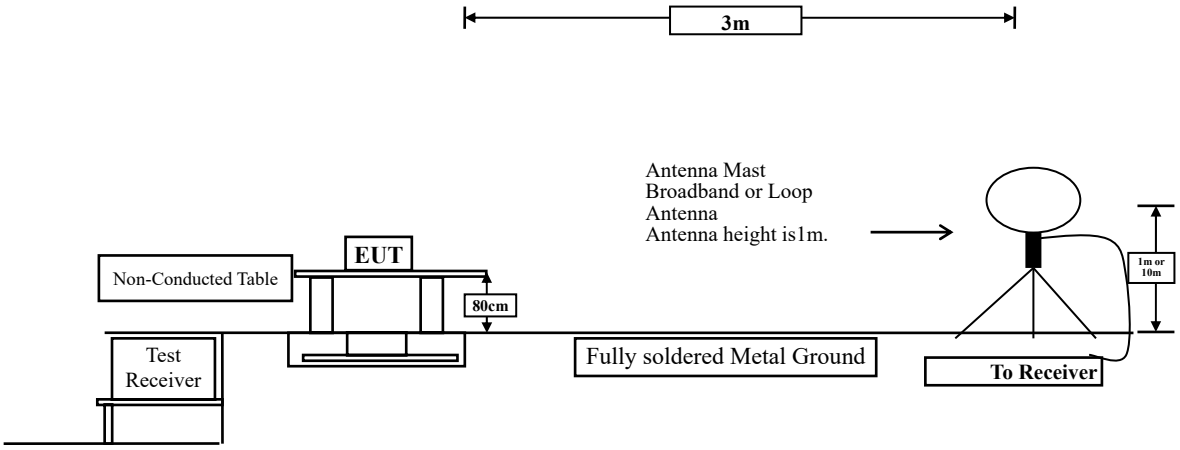
Uncertainties have been calculated according to the DEKRA internal document.
The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.
Measurement uncertainties evaluated for each testing system and associated connections are given here to provide the system information for reference. Compliance determinations do not take into account measurement uncertainties for each testing system, but are based on the results of the compliance measurement.

Test item	Uncertainty	
Radiated Emission	Under 1GHz ±4.06 dB	Above 1GHz ±3.73 dB

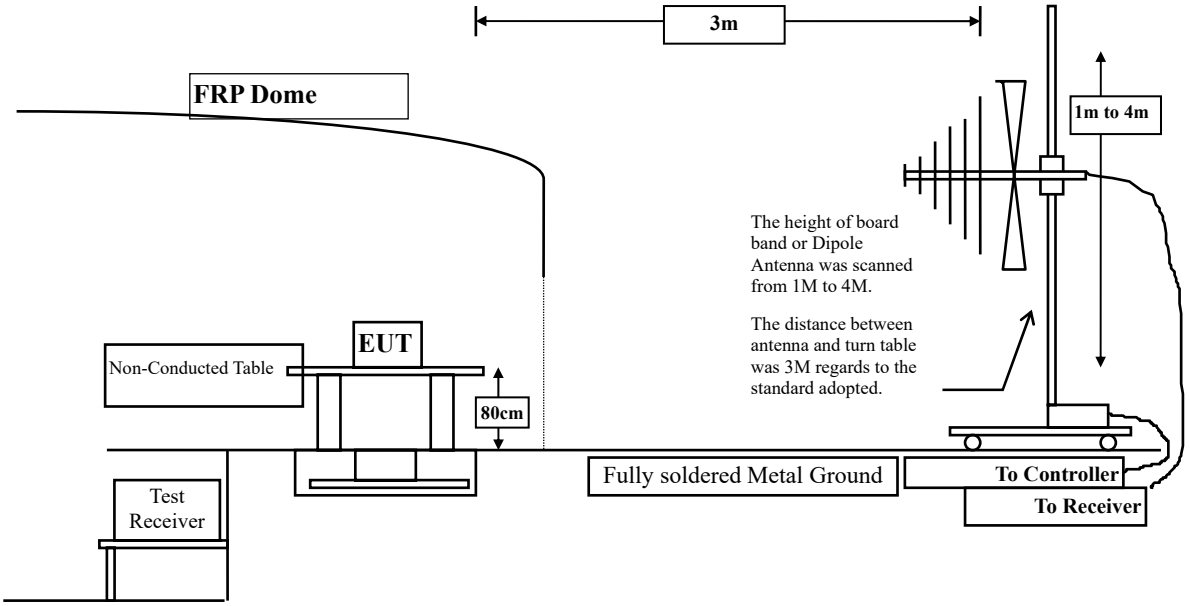
2. Radiated Emission

2.1. Test Setup

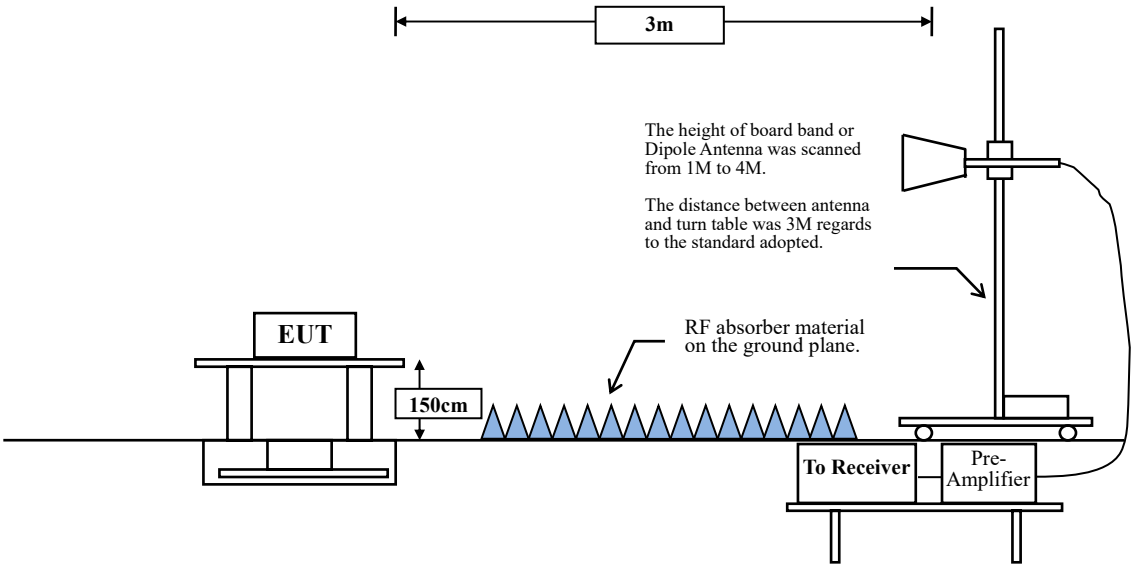
Under 30MHz



Below 1GHz



Above 1GHz


3m
The height of board band or Dipole Antenna was scanned from 1M to 4M.
The distance between antenna and turn table was 3M regards to the standard adopted.
EUT
150cm
RF absorber material on the ground plane.
To Receiver
Pre-Amplifier

2.2. Limits

➢ General Radiated Emission Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	Field strength (microvolts/meter)	Measurement distance (meter)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Remarks: 1. RF Voltage (dBuV) = 20 log RF Voltage (uV)
2. In the Above Table, the tighter limit applies at the band edges.
3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

2.3. Test Procedure

The EUT was setup according to ANSI C63.10: 2013 and tested according to DTS test procedure of KDB558074 for compliance to FCC 47CFR 15.247 requirements.

Measuring the frequency range below 1GHz, the EUT is placed on a turn table which is 0.8 meter above ground,when measuring the frequency range above 1GHz, the EUT is placed on a turn table which is 1.5 meter above ground.

The turn table is rotated 360 degrees to determine the position of the maximum emission level.

The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna is scanned between 1 meter and 4 meters to find out the maximum emission level. This is repeated for both horizontal and vertical polarization of the antenna. In order to find the maximum emission, all of the interface cables were manipulated according to ANSI C63.10: 2013 on radiated measurement.

The resolution bandwidth below 30MHz setting on the field strength meter is 9kHz and 30MHz~1GHz is 120kHz and above 1GHz is 1MHz.

Radiated emission measurements below 30MHz are made using Loop Antenna and 30MHz~1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

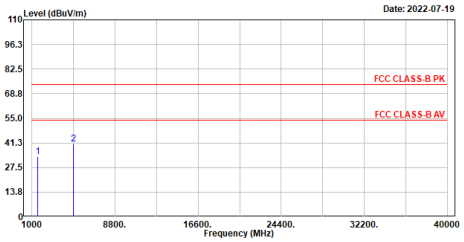
The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB bandwidth of the antenna.

The worst radiated emission is measured in the Open Area Test Site on the Final Measurement.

The measurement frequency range form 9kHz - 10th Harmonic of fundamental was investigated.

2.4. Test Result of Radiated Emission

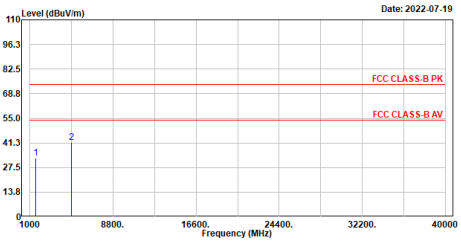
Site :HY-CB01
Condition :3m ,HORIZONTAL
Mode :TX_Lte B13-10M_CH23230+BLE_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	1564.000	33.74	74.00	-40.26	45.20	-11.46	Peak
2	4880.000	40.76	74.00	-33.24	43.99	-3.23	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

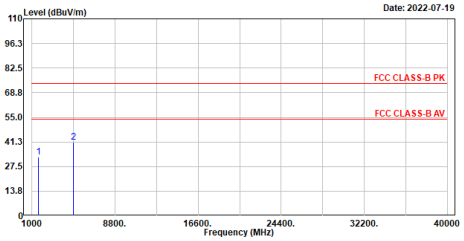
Site :HY-CB01
Condition :3m ,VERTICAL
Mode :TX_Lte B13-10M_CH23230+BLE_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	1564.000	32.86	74.00	-41.14	44.32	-11.46	Peak
2	4880.000	41.50	74.00	-32.50	44.73	-3.23	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

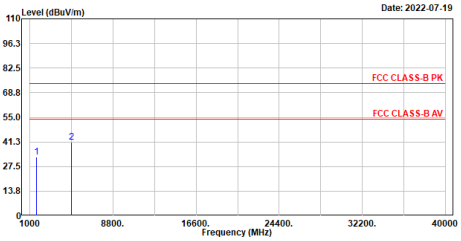
Site :HY-CB01
Condition :3m ,HORIZONTAL
Mode :TX_Lte B14-10M_CH23330+BLE_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	1586.000	32.93	74.00	-41.07	44.16	-11.23	Peak
2	4880.000	41.07	74.00	-32.93	44.30	-3.23	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

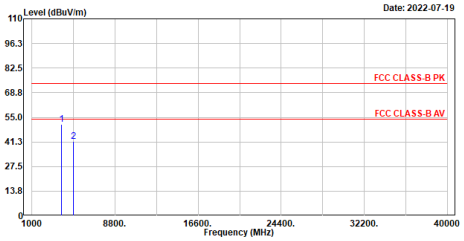
Site :HY-CB01
Condition :3m ,VERTICAL
Mode :TX_Lte B14-10M_CH23330+BLE_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	1586.000	32.67	74.00	-41.33	43.90	-11.23	Peak
2	4880.000	40.98	74.00	-33.02	44.21	-3.23	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

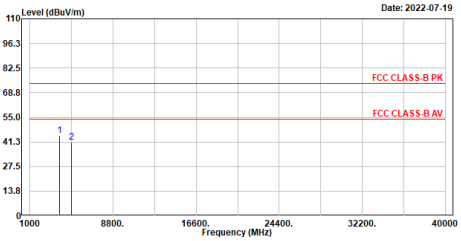
Site :HY-CB01
Condition :3m ,HORIZONTAL
Mode :TX_WCDMA B2-CH9538_1907.6Mhz+BLE_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	3815.000	51.14	74.00	-22.86	55.34	-4.20	Peak
2	4880.000	41.68	74.00	-32.32	44.91	-3.23	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

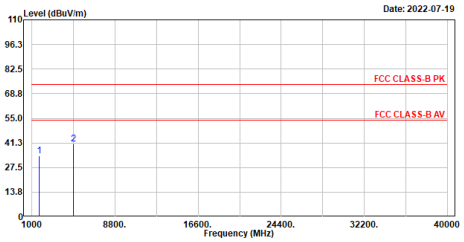
Site :HY-CB01
Condition :3m ,VERTICAL
Mode :TX_WCDMA B2-CH9538_1907.6Mhz+BLE_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	3815.000	44.91	74.00	-29.09	49.11	-4.20	Peak
2	4880.000	41.29	74.00	-32.71	44.52	-3.23	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

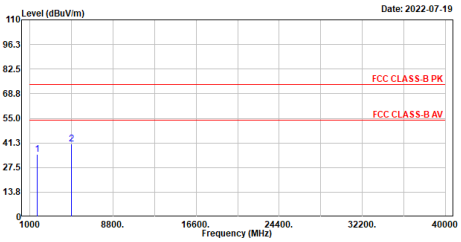
Site :HY-CB01
Condition :3m ,HORIZONTAL
Mode :TX_WCDMA B5-CH4233_846.6Mhz+BLE_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	1693.000	34.15	74.00	-39.85	44.30	-10.15	Peak
2	4880.000	40.78	74.00	-33.22	44.01	-3.23	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

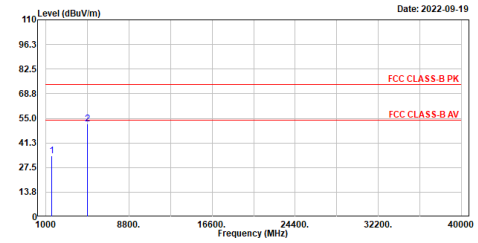
Site :HY-CB01
Condition :3m ,VERTICAL
Mode :TX_WCDMA B5-CH4233_846.6Mhz+BLE_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	1693.000	34.80	74.00	-39.20	44.95	-10.15	Peak
2	4880.000	40.66	74.00	-33.34	43.89	-3.23	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

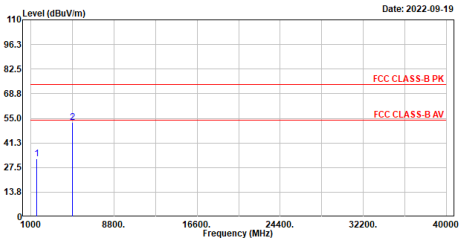
Site :HY-CB01
Condition :3m ,HORIZONTAL
Mode :TX_Lte B13-10M_CH23230+N20_2442MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	1564.000	34.02	74.00	-39.98	45.48	-11.46	Peak
2	4884.000	51.88	74.00	-22.12	55.13	-3.25	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

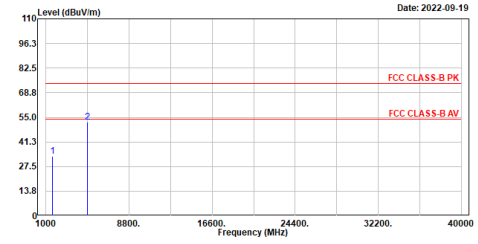
Site :HY-CB01
Condition :3m ,VERTICAL
Mode :TX_Lte B13-10M_CH23230+N20_2442MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	1564.000	32.57	74.00	-41.43	44.03	-11.46	Peak
2	4884.000	52.63	74.00	-21.37	55.88	-3.25	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

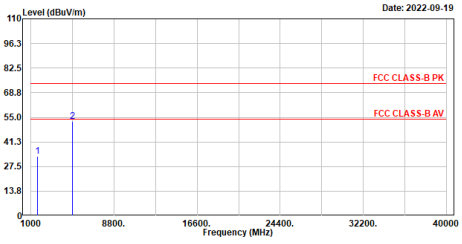
Site :HY-CB01
Condition :3m ,HORIZONTAL
Mode :TX_Lte B14-10M_CH23330+N20_2442MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	1586.000	33.11	74.00	-40.89	44.34	-11.23	Peak
2	4884.000	52.48	74.00	-21.52	55.73	-3.25	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

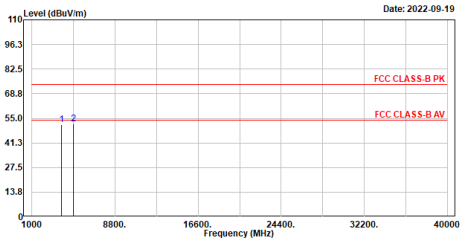
Site :HY-CB01
Condition :3m ,VERTICAL
Mode :TX_Lte B14-10M_CH23330+N20_2442MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	1586.000	33.07	74.00	-40.93	44.30	-11.23	Peak
2	4884.000	52.60	74.00	-21.40	55.85	-3.25	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

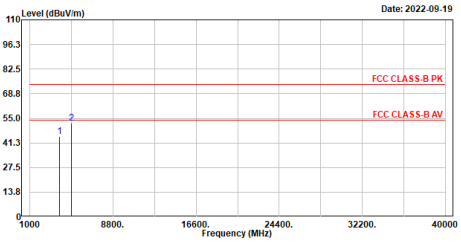
Site :HY-CB01
Condition :3m ,HORIZONTAL
Mode :TX_WCDMA B2-CH9538_1907.6Mhz+N20_2442MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	3815.000	51.55	74.00	-22.45	55.75	-4.20	Peak
2	4884.000	51.86	74.00	-22.14	55.11	-3.25	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

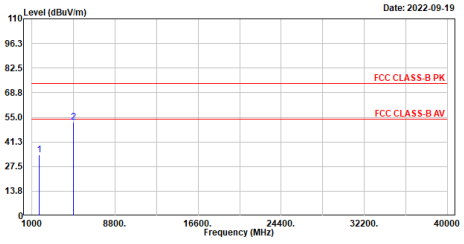
Site :HY-CB01
Condition :3m ,VERTICAL
Mode :TX_WCDMA B2-CH9538_1907.6Mhz+N20_2442MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	3815.000	44.85	74.00	-29.15	49.05	-4.20	Peak
2	4884.000	52.44	74.00	-21.56	55.69	-3.25	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

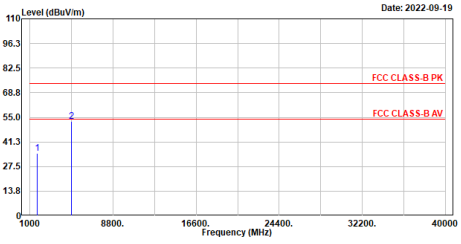
Site :HY-CB01
Condition :3m ,HORIZONTAL
Mode :TX_WCDMA B5-CH4233_846.6Mhz+N20_2442MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	1693.000	34.07	74.00	-39.93	44.22	-10.15	Peak
2	4884.000	52.36	74.00	-21.64	55.61	-3.25	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

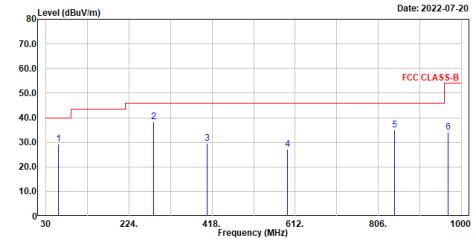
Site :HY-CB01
Condition :3m ,VERTICAL
Mode :TX_WCDMA B5-CH4233_846.6Mhz+N20_2442MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	1693.000	35.03	74.00	-38.97	45.18	-10.15	Peak
2	4884.000	52.91	74.00	-21.09	56.16	-3.25	Peak

Note:
1. Level = Read Level + Factor
2. Factor = Antenna- Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line

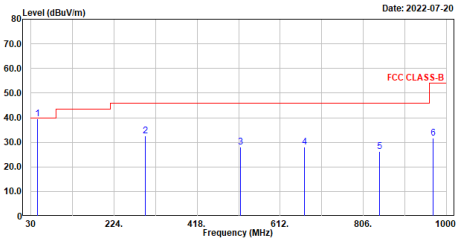
Site :HY-CB01
Condition :3m ,HORIZONTAL
Mode :TX_Lte B13-10M_CH23230+BLE_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	60.070	29.21	40.00	-10.79	53.82	-24.61	QP
2	281.230	38.32	46.00	-7.68	62.32	-24.00	QP
3	406.360	29.53	46.00	-16.47	50.31	-20.78	QP
4	594.540	27.04	46.00	-18.96	43.17	-16.13	QP
5	843.830	35.05	46.00	-10.95	47.99	-12.94	QP
6	968.960	34.17	54.00	-19.83	45.59	-11.42	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

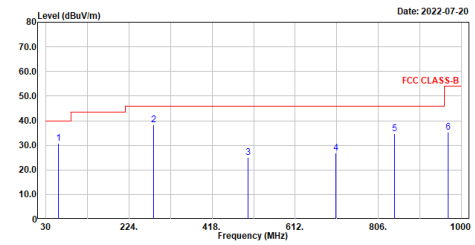
Site :HY-CB01
Condition :3m ,VERTICAL
Mode :TX_Lte B13-10M_CH23230+BLE_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	44.550	39.59	40.00	-0.41	63.40	-23.81	QP
2	296.750	32.59	46.00	-13.41	56.20	-23.61	QP
3	519.850	28.05	46.00	-17.95	46.11	-18.06	QP
4	668.260	28.02	46.00	-17.98	43.30	-15.28	QP
5	843.830	26.21	46.00	-19.79	39.15	-12.94	QP
6	968.960	31.82	54.00	-22.18	43.24	-11.42	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

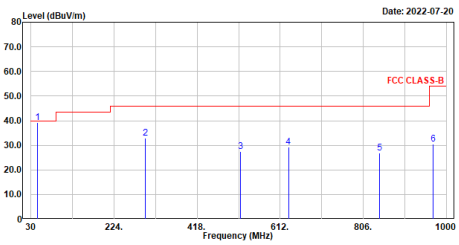
Site :HY-CB01
Condition :3m ,HORIZONTAL
Mode :TX_Lte B14-10M_CH23330+BLE_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	60.070	30.67	40.00	-9.33	55.28	-24.61	QP
2	281.230	38.20	46.00	-7.80	62.20	-24.00	QP
3	501.420	25.14	46.00	-20.86	43.44	-18.30	QP
4	706.090	26.77	46.00	-19.23	41.44	-14.67	QP
5	843.830	34.68	46.00	-11.32	47.62	-12.94	QP
6	968.960	35.38	54.00	-18.62	46.80	-11.42	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

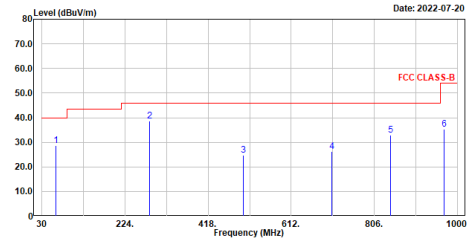
Site :HY-CB01
Condition :3m ,VERTICAL
Mode :TX_Lte B14-10M_CH23330+BLE_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	44.550	39.19	40.00	-0.81	63.00	-23.81	QP
2	296.750	33.02	46.00	-12.98	56.63	-23.61	QP
3	519.850	27.40	46.00	-18.60	45.46	-18.06	QP
4	631.400	29.43	46.00	-16.57	45.12	-15.69	QP
5	843.830	26.86	46.00	-19.14	39.80	-12.94	QP
6	968.960	30.44	54.00	-23.56	41.86	-11.42	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

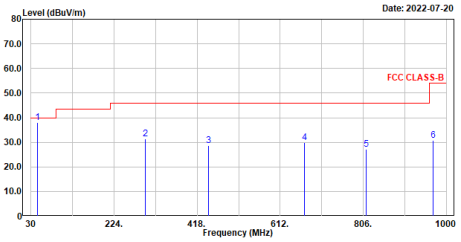
Site :HY-CB01
Condition :3m ,HORIZONTAL
Mode :TX_WCDMA B2-CH9538_1907.6Mhz+BLE_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	62.010	28.59	40.00	-11.41	53.71	-25.12	QP
2	281.230	38.62	46.00	-7.38	62.62	-24.00	QP
3	499.480	24.68	46.00	-21.32	42.96	-18.28	QP
4	706.090	26.29	46.00	-19.71	40.96	-14.67	QP
5	843.830	33.04	46.00	-12.96	45.98	-12.94	QP
6	968.960	35.47	54.00	-18.53	46.89	-11.42	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

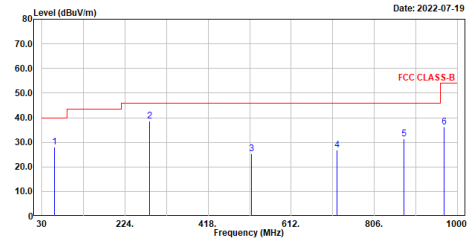
Site :HY-CB01
Condition :3m ,VERTICAL
Mode :TX_WCDMA B2-CH9538_1907.6Mhz+BLE_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	44.550	38.09	40.00	-1.91	61.90	-23.81	QP
2	296.750	31.36	46.00	-14.64	54.97	-23.61	QP
3	445.160	28.53	46.00	-17.47	48.09	-19.56	QP
4	668.260	29.98	46.00	-16.02	45.26	-15.28	QP
5	812.790	27.22	46.00	-18.78	40.54	-13.32	QP
6	968.960	30.83	54.00	-23.17	42.25	-11.42	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

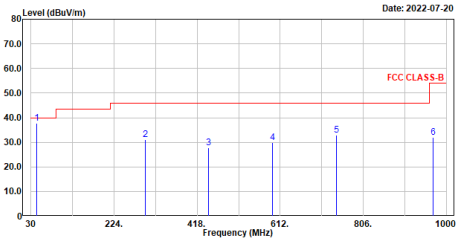
Site :HY-CB01
Condition :3m ,HORIZONTAL
Mode :TX_WCDMA B5-CH4233_846.6Mhz+BLE_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	60.070	28.14	40.00	-11.86	52.75	-24.61	QP
2	281.230	38.74	46.00	-7.26	62.74	-24.00	QP
3	519.850	25.38	46.00	-20.62	43.44	-18.06	QP
4	718.700	27.02	46.00	-18.98	41.60	-14.58	QP
5	875.840	31.32	46.00	-14.68	44.05	-12.73	QP
6	968.960	36.29	54.00	-17.71	47.71	-11.42	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

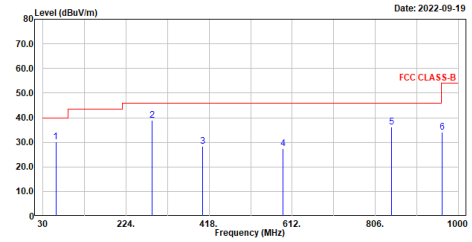
Site :HY-CB01
Condition :3m ,VERTICAL
Mode :TX_WCDMA B5-CH4233_846.6Mhz+BLE_2440MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	43.580	37.81	40.00	-2.19	61.70	-23.89	QP
2	296.750	31.24	46.00	-14.76	54.85	-23.61	QP
3	445.160	27.76	46.00	-18.24	47.32	-19.56	QP
4	594.540	29.92	46.00	-16.08	46.05	-16.13	QP
5	742.950	33.04	46.00	-12.96	46.94	-13.90	QP
6	968.960	32.12	54.00	-21.88	43.54	-11.42	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

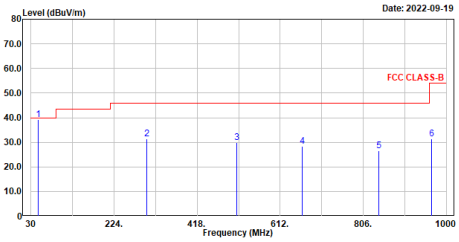
Site :HY-CB01
Condition :3m ,HORIZONTAL
Mode :TX_Lte B13-10M_CH23230+N20_2442MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	60.088	30.11	40.00	-9.89	54.73	-24.62	QP
2	284.944	38.90	46.00	-7.10	62.80	-23.90	QP
3	402.450	28.46	46.00	-17.54	49.29	-20.83	QP
4	589.763	27.55	46.00	-18.45	43.89	-16.34	QP
5	844.110	36.15	46.00	-9.85	49.09	-12.94	QP
6	962.840	34.08	54.00	-19.92	45.59	-11.51	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

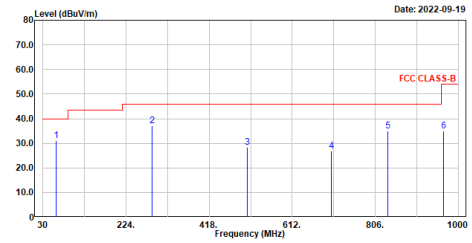
Site :HY-CB01
Condition :3m ,VERTICAL
Mode :TX_Lte B13-10M_CH23230+N20_2442MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	46.711	39.22	40.00	-0.78	62.96	-23.74	QP
2	300.450	31.54	46.00	-14.46	55.05	-23.51	QP
3	511.468	29.91	46.00	-16.09	48.11	-18.20	QP
4	662.733	28.30	46.00	-17.70	43.61	-15.31	QP
5	842.188	26.45	46.00	-19.55	39.40	-12.95	QP
6	964.840	31.53	54.00	-22.47	43.03	-11.50	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

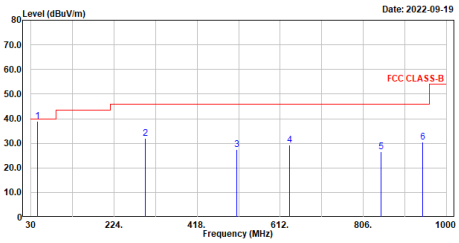
Site :HY-CB01
Condition :3m ,HORIZONTAL
Mode :TX_Lte B14-10M_CH23330+N20_2442MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	61.188	31.22	40.00	-8.78	56.10	-24.88	QP
2	284.533	37.20	46.00	-8.80	61.12	-23.92	QP
3	507.688	28.44	46.00	-17.56	46.75	-18.31	QP
4	704.180	26.86	46.00	-19.14	41.53	-14.67	QP
5	835.625	35.11	46.00	-10.89	48.15	-13.04	QP
6	965.448	34.94	54.00	-19.06	46.43	-11.49	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

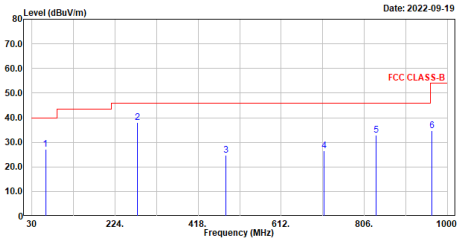
Site :HY-CB01
Condition :3m ,VERTICAL
Mode :TX_Lte B14-10M_CH23330+N20_2442MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	45.852	38.89	40.00	-1.11	62.69	-23.80	QP
2	297.180	31.85	46.00	-14.15	55.45	-23.60	QP
3	510.830	27.36	46.00	-18.64	45.56	-18.20	QP
4	633.455	29.35	46.00	-16.65	45.00	-15.65	QP
5	847.789	26.70	46.00	-19.30	39.62	-12.92	QP
6	944.582	30.42	46.00	-15.58	42.18	-11.76	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

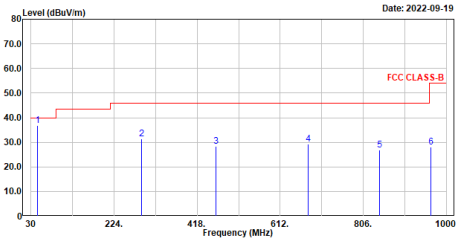
Site :HY-CB01
Condition :3m ,HORIZONTAL
Mode :TX_WCDMA B2-CH9538_1907.6Mhz+N20_2442MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	61.844	27.03	40.00	-12.97	52.10	-25.07	QP
2	276.950	37.96	46.00	-8.04	62.13	-24.17	QP
3	482.153	24.81	46.00	-21.19	43.75	-18.94	QP
4	712.940	26.53	46.00	-19.47	41.18	-14.65	QP
5	833.725	32.94	46.00	-13.06	46.04	-13.10	QP
6	963.150	34.72	54.00	-19.28	46.23	-11.51	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

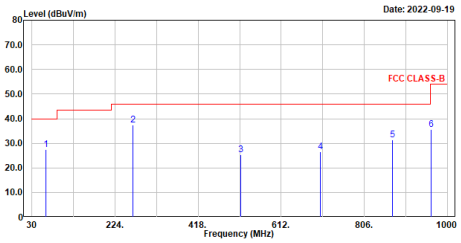
Site :HY-CB01
Condition :3m ,VERTICAL
Mode :TX_WCDMA B2-CH9538_1907.6Mhz+N20_2442MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	45.810	36.94	40.00	-3.06	60.73	-23.79	QP
2	288.633	31.52	46.00	-14.48	55.34	-23.82	QP
3	462.793	28.46	46.00	-17.54	47.63	-19.17	QP
4	677.511	29.20	46.00	-16.80	44.47	-15.27	QP
5	844.822	26.85	46.00	-19.15	39.79	-12.94	QP
6	963.182	27.94	54.00	-26.06	39.45	-11.51	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

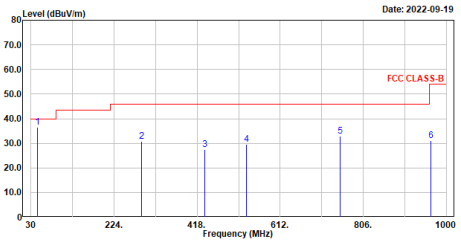
Site :HY-CB01
Condition :3m ,HORIZONTAL
Mode :TX_WCDMA B5-CH4233_846.6Mhz+N20_2442MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	62.540	27.50	40.00	-12.50	52.62	-25.12	QP
2	266.133	37.52	46.00	-8.48	62.38	-24.86	QP
3	517.153	25.33	46.00	-20.67	43.47	-18.14	QP
4	703.820	26.51	46.00	-19.49	41.18	-14.67	QP
5	872.188	31.52	46.00	-14.48	44.29	-12.77	QP
6	962.345	35.70	54.00	-18.30	47.21	-11.51	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

Site :HY-CB01
Condition :3m ,VERTICAL
Mode :TX_WCDMA B5-CH4233_846.6Mhz+N20_2442MHz
TEST BY :Caster



No.	Frequency	Level	Limit Line	Over Limit	Read Level	Factor	Remark
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	
1	45.576	36.52	40.00	-3.48	60.29	-23.77	QP
2	288.188	30.88	46.00	-15.12	54.71	-23.83	QP
3	435.796	27.54	46.00	-18.46	47.30	-19.76	QP
4	533.811	29.70	46.00	-16.30	47.60	-17.90	QP
5	752.544	32.86	46.00	-13.14	46.72	-13.86	QP
6	963.811	31.05	54.00	-22.95	42.55	-11.50	QP

Note:
1. Level = Read Level + Factor
2. Factor = Antenna Factor + Cable Loss - Preamp Factor
3. Over Limit = Level - Limit Line
4. The emission under 30MHz was not included since the emission levels are very low against the limit.

3. EMI Reduction Method During Compliance Testing

No modification was made during testing.