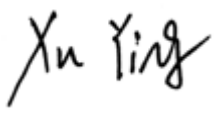
RF TEST REPORT

Applicant	Quectel Wireless Solutions Co., Ltd
FCC ID	XMR2019SC650TNA
Product	Smart Module
Brand	Quectel
Model	SC650T-NA
Report No.	R2210A0926-R6V2
Issue Date	November 8, 2022

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC CFR47 Part 15C (2021)**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.



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Version	Revision description	Issue Date
Rev.0	Initial issue of report.	October 24, 2022
Rev.1	Update FCC ID.	November 7, 2022
Rev.2	Update Model.	November 8, 2022
Note: This revised report (Report No. R2210A0926-R6V2) supersedes and replaces the previously issued report (Report No. R2210A0926-R6V1). Please discard or destroy the previously issued report and dispose of it accordingly.		

Summary of measurement results

Number	Test Case	Clause in FCC rules	Verdict
1	Maximum output power	15.247(b)(3)	PASS
2	6 dB bandwidth	15.247(a)(2)	NA
3	Power spectral density	15.247(e)	NA
4	Band Edge	15.247(d)	PASS
5	Spurious RF Conducted Emissions	15.247(d)	PASS
6	Unwanted Emissions	15.247(d),15.205,15.209	PASS
7	Conducted Emissions	15.207	NA
Date of Testing: October 12, 2022 ~ October 18, 2022 Date of Sample Received: October 12, 2022			
Note: All indications of Pass/Fail in this report are opinions expressed by TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.			

1. Test Laboratory

1.1. Notes of the test report

This report shall not be reproduced in full or partial, without the written approval of **TA technology (shanghai) co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein .Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2. Test facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

A2LA (Certificate Number: 3857.01)

TA Technology (Shanghai) Co., Ltd. has been listed by American Association for Laboratory Accreditation to perform measurement.

1.3. Testing Location

Company:	TA Technology (Shanghai) Co., Ltd.
Address:	Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China
City:	Shanghai
Post code:	201201
Country:	P. R. China
Contact:	Xu Kai
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Website:	http://www.ta-shanghai.com
E-mail:	xukai@ta-shanghai.com

2. General Description of Equipment under Test

2.1. Applicant and Manufacturer Information

Applicant	Quectel Wireless Solutions Co., Ltd
Applicant address	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233
Manufacturer	Quectel Wireless Solutions Co., Ltd
Manufacturer address	Building 5, Shanghai Business Park Phase III (Area B), No.1016 Tianlin Road, Minhang District, Shanghai, China 200233

2.2. General information

EUT Description	
Model	SC650T-NA
IMEI	IMEI1:865920060002568 IMEI2:865920060002576
Hardware Version	R1.0
Software Version	SC650TNALPAR05A01
Power Supply	External power supply
Antenna Type	The EUT don't have standard Antenna, The Antenna used for testing in this report is the after-market accessory (Dipole Antenna)
Antenna Connector	A permanently attached antenna (meet with the standard FCC Part 15.203 requirement)
Antenna Gain	5.38dBi
additional beamforming gain	NA
Operating Frequency Range(s)	802.11b/g/n(HT20): 2412 ~ 2462 MHz 802.11n(HT40): 2422 ~ 2452 MHz Bluetooth LE V5.0: 2402 ~2480 MHz
Modulation Type	802.11b: DSSS 802.11g/n(HT20/HT40): OFDM Bluetooth LE: GFSK
Max. Output Power	Wi-Fi 2.4G: 12.20 dBm Bluetooth LE: 0.43 dBm
Note: 1. The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant.	

3. Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

Test standards:

FCC CFR47 Part 15C (2021) Radio Frequency Devices

ANSI C63.10-2013

Reference standard:

KDB 558074 D01 15.247 Meas Guidance v05r02

4. Test Configuration

Test Mode

The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

The radiated emission was measured in the following position: EUT stand-up position (Z axis), lie-down position (X, Y axis). The worst emission was found in lie-down position (X axis) and the loop antenna is vertical, the others are vertical and horizontal. and the worst case was recorded.

In order to find the worst case condition, Pre-tests are needed at the presence of different data rate. Preliminary tests have been done on all the configuration for confirming worst case. Data rate below means worst-case rate of each test item.

Worst-case data rates are shown as following table.

Test Mode	Data Rate
Bluetooth(Low Energy)	1Mbps
802.11n HT40	MCS0

5. Test Case Results

5.1. Maximum output power

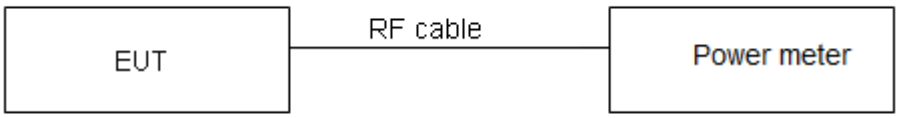
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

During the process of the testing, The EUT was connected to Power meter with a known loss. The EUT is max power transmission with proper modulation.

Test Setup



Limits

Rule Part 15.247 (b) (3) specifies that “For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz: 1 Watt.”

Average Output Power	≤ 1W (30dBm)

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 2, U= 0.44 dB.

Test Results

Power Index			
Channel	**Bluetooth**	**Channel**	**802.11n HT40**
CH0	default	**CH6**	14

Test Mode	Duty cycle	Duty cycle correction Factor(dB)
802.11n HT40	0.87	0.62
Bluetooth LE	0.653	1.85
Note: when Duty cycle⩾0.98, Duty cycle correction Factor not required.		

Test Mode	Carrier frequency (MHz))/ Channel	Average Power Measured (dBm)	Average Power with duty factor (dBm)	Limit (dBm)	Conclusion
802.11n HT40	2437/CH6	11.58	12.20	30	PASS
Bluetooth (Low Energy)	2402/CH0	-1.42	0.43	30	PASS
Note: Average Power with duty factor = Average Power Measured +Duty cycle correction factor					

5.2. Band Edge

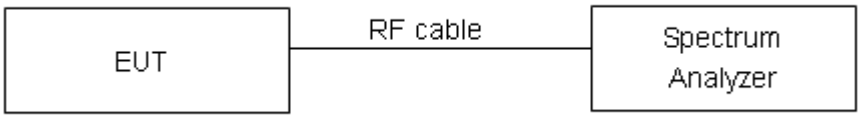
Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer through an external attenuator (20dB) and a known loss cable the band edge of the lowest and highest channels were measured. The peak detector is used and RBW is set to 100 kHz and VBW is set to 300 kHz on spectrum analyzer. Spectrum analyzer plots are included on the following pages.

Test Setup



Limits

Rule Part 15.247(d) specifies that “In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits.” If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB.”

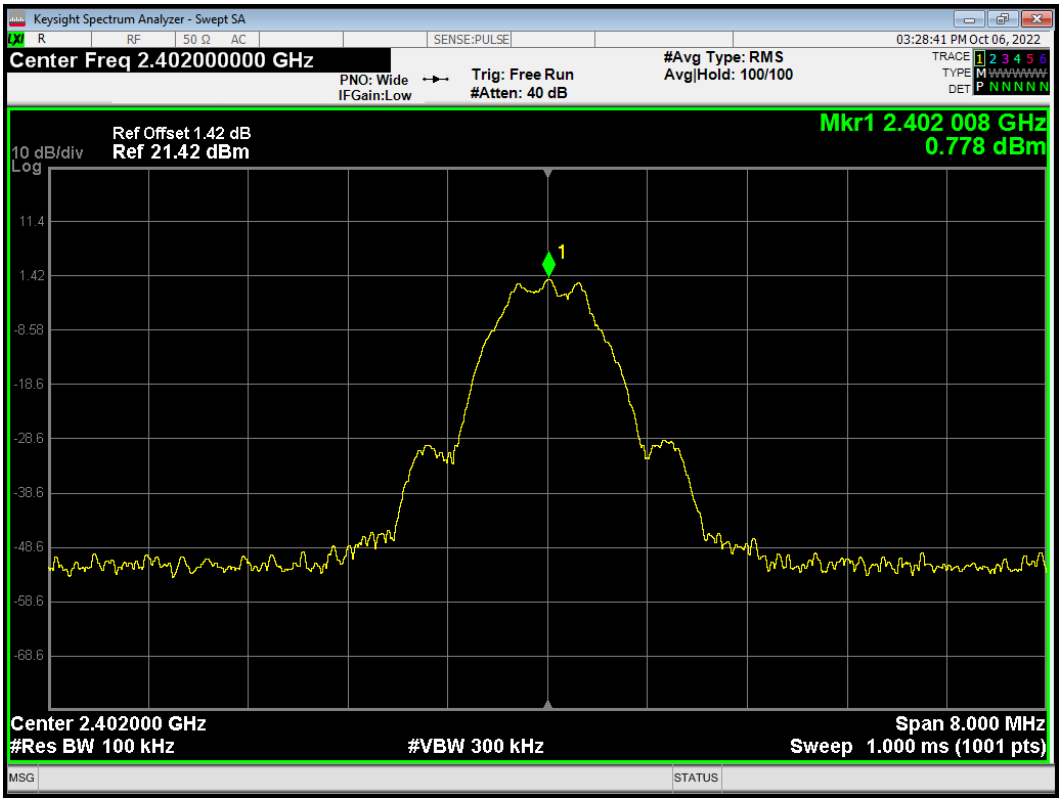
Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96.

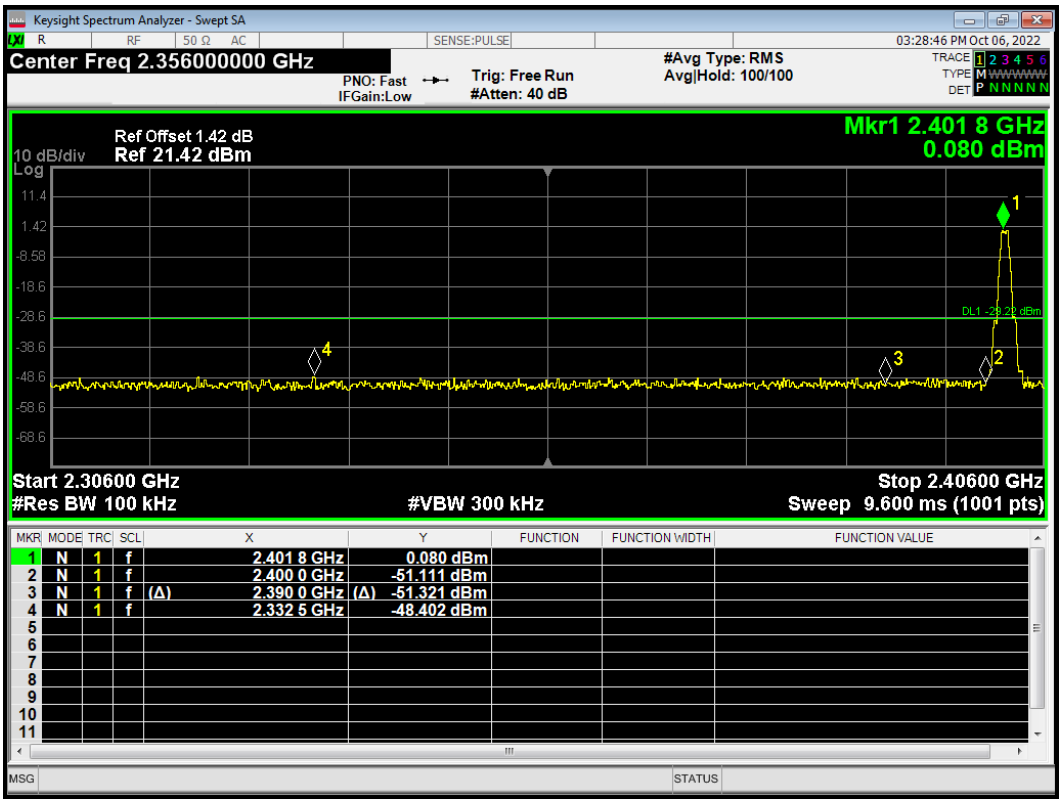
Frequency	Uncertainty
2GHz-3GHz	1.407 dB

Test Results: PASS

Band Edge NVNT BLE 2402MHz



Band Edge NVNT BLE 2402MHz



5.3. Spurious RF Conducted Emissions

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to the spectrum analyzer with a known loss. The spectrum analyzer scans from 30MHz to the 10th harmonic of the carrier. The peak detector is used. Set RBW to 100 kHz and VBW to 300 kHz, Sweep is set to ATUO.
The test is in transmitting mode.

Test setup

Limits

Rule Part 15.247(d) pacifies that “In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. ”

Test Mode	Carrier frequency (MHz)	Reference value (dBm)	Limit
802.11n	2437	-0.87	-30.87

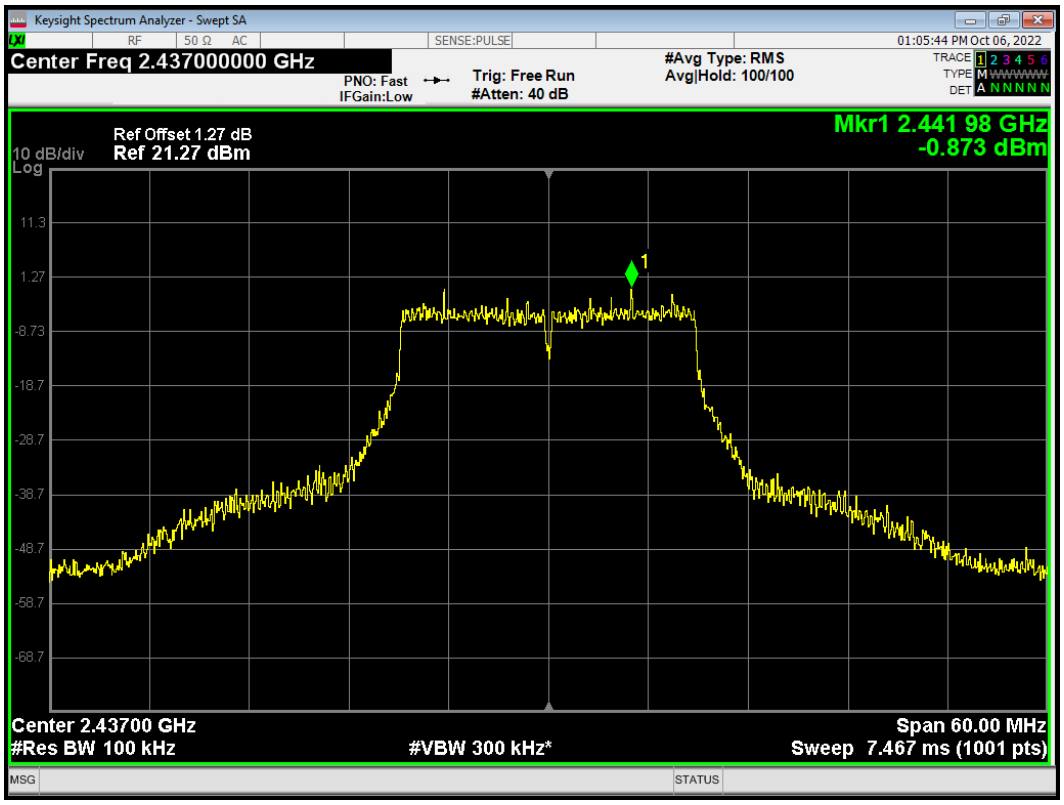
Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96.

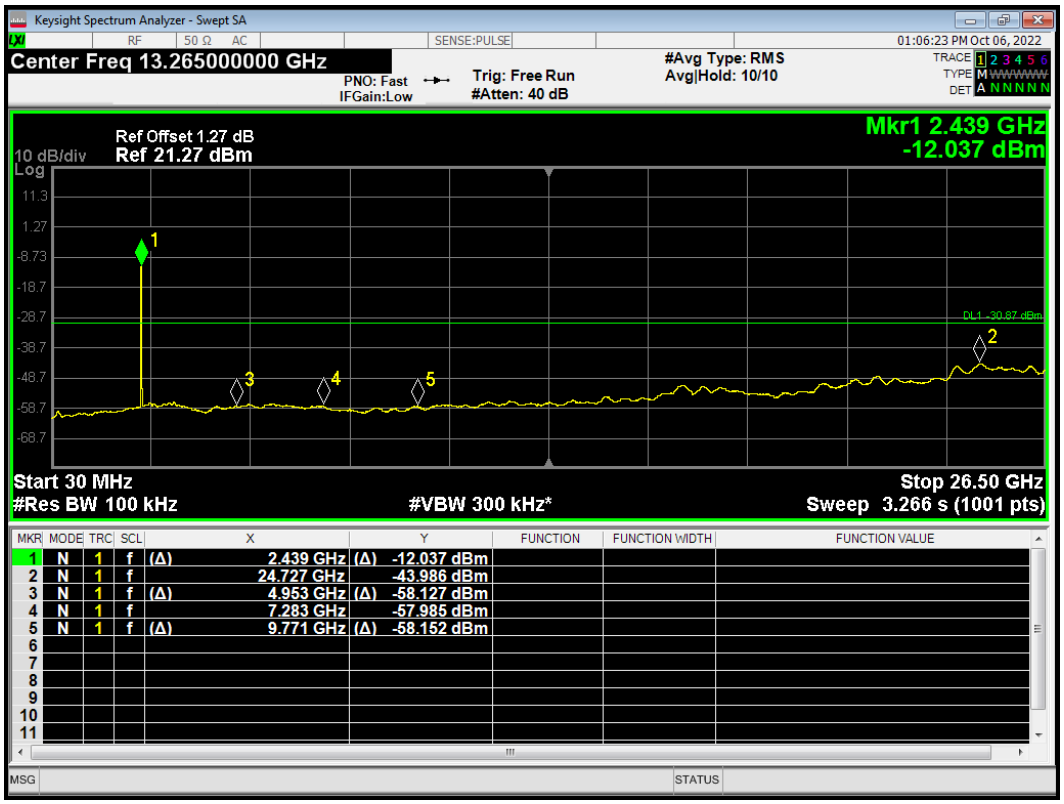
Frequency	Uncertainty
100kHz-2GHz	0.684 dB
2GHz-26GHz	1.407 dB

Test Results:

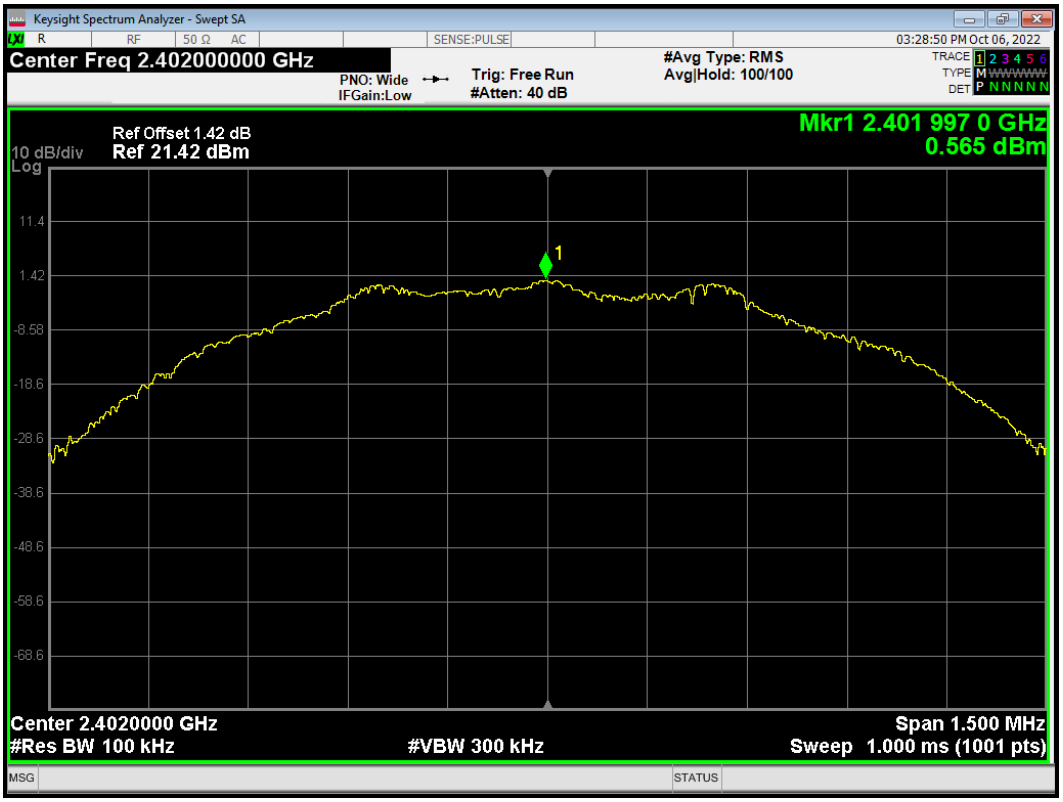
Tx. Spurious NVNT 802.11n (HT40) 2437MHz



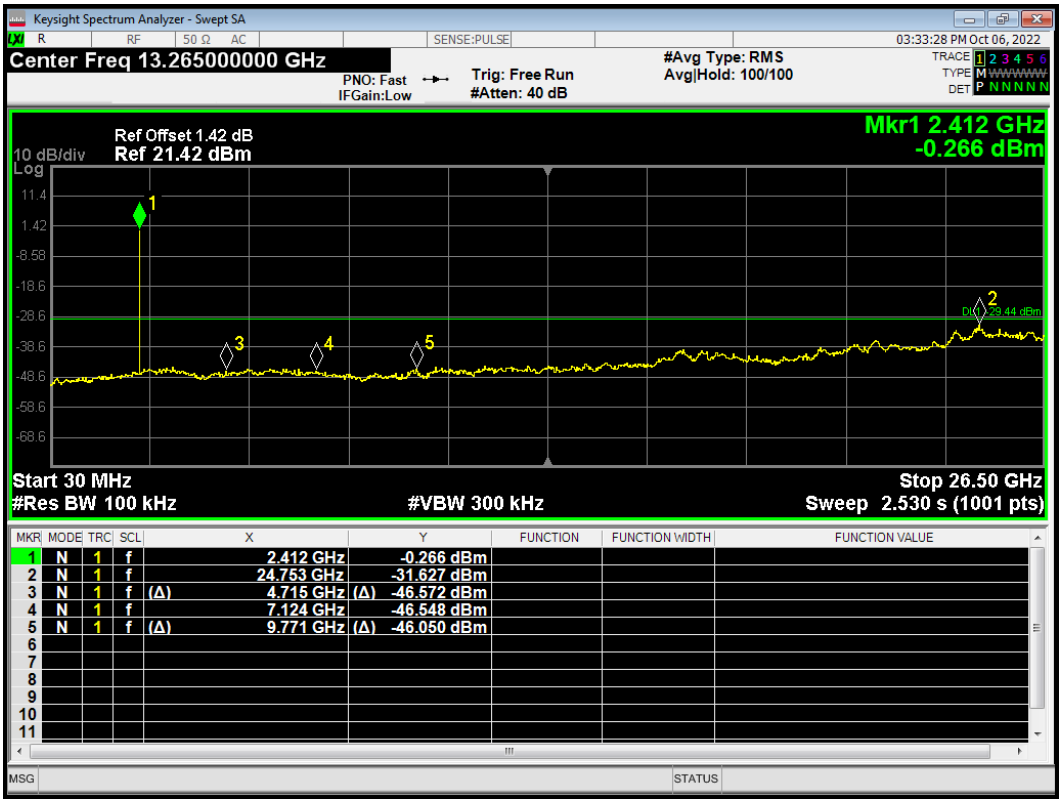
Tx. Spurious NVNT 802.11n (HT40) 2437MHz



Tx. Spurious NVNT BLE 2402MHz



Tx. Spurious NVNT BLE 2402MHz



5.4. Unwanted Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	102.5kPa

Method of Measurement

The test set-up was made in accordance to the general provisions of ANSI C63.10.
The Equipment Under Test (EUT) was set up on a non-conductive table in the semi-anechoic chamber. The test was performed at the distance of 3 m between the EUT and the receiving antenna.

The turntable shall be rotated from 0 to 360 degrees for detecting the maximum of radiated spurious signal level. The measurements shall be repeated with orthogonal polarization of the test antenna.The data of cable loss and antenna factor has been calibrated in full testing frequency range before the testing. Sweep the Restricted Band and the emissions less than 20 dB below the permissible value are reported.
The radiated emissions measurements were made in a typical installation configuration.
Sweep the whole frequency band through the range from 9 kHz to the 10th harmonic of the carrier, and the emissions less than 20 dB below the permissible value are reported.

This method refer to ANSI C63.10.
The procedure for peak unwanted emissions measurements above 1000 MHz is as follows:
Set the spectrum analyzer in the following:
9kHz~150 kHz
RBW=200Hz, VBW=1kHz/ Sweep=AUTO
150 kHz~30MHz
RBW=9KHz, VBW=30KHz,/ Sweep=AUTO
Below 1GHz
RBW=100kHz / VBW=300kHz / Sweep=AUTO
a) Peak emission levels are measured by setting the instrument as follows:
Above 1GHz
PEAK: RBW=1MHz VBW=3MHz/ Sweep=AUTO
b) Average emission levels are measured by setting the instrument as follows:
Above 1GHz
AVERAGE: RBW=1MHz / VBW=3MHz / Sweep=AUTO
c) Detector: The measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
d) Averaging type = power (i.e., rms) (As an alternative, the detector and averaging type may be set for linear voltage averaging. Some instruments require linear display mode to use linear voltage

averaging. Log or dB averaging shall not be used.)

e) Sweep time = auto.

f) Perform a trace average of at least 100 traces if the transmission is continuous. If the transmission is not continuous, then the number of traces shall be increased by a factor of 1 / D, where D is the duty cycle. For example, with 50% duty cycle, at least 200 traces shall be averaged. (If a specific emission is demonstrated to be continuous—i.e., 100% duty cycle—then rather than turning ON and OFF with the transmit cycle, at least 100 traces shall be averaged.)

g) If tests are performed with the EUT transmitting at a duty cycle less than 98%, then a correction factor shall be added to the measurement results prior to comparing with the emission limit, to compute the emission level that would have been measured had the test been performed at 100% duty cycle. The correction factor is computed as follows:

1) If power averaging (rms) mode was used in the preceding step e), then the correction factor is [10 log (1 / D)], where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 3 dB shall be added to the measured emission levels.

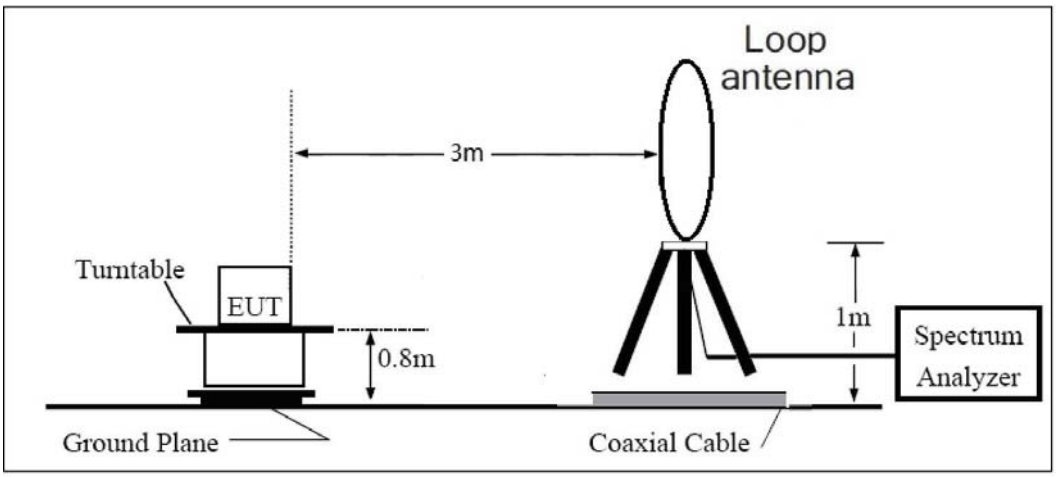
2) If linear voltage averaging mode was used in the preceding step e), then the correction factor is [20 log (1 / D)], where D is the duty cycle. For example, if the transmit duty cycle was 50%, then 6 dB shall be added to the measured emission levels.

3) If a specific emission is demonstrated to be continuous (100% duty cycle) rather than turning ON and OFF with the transmit cycle, then no duty cycle correction is required for that emission.

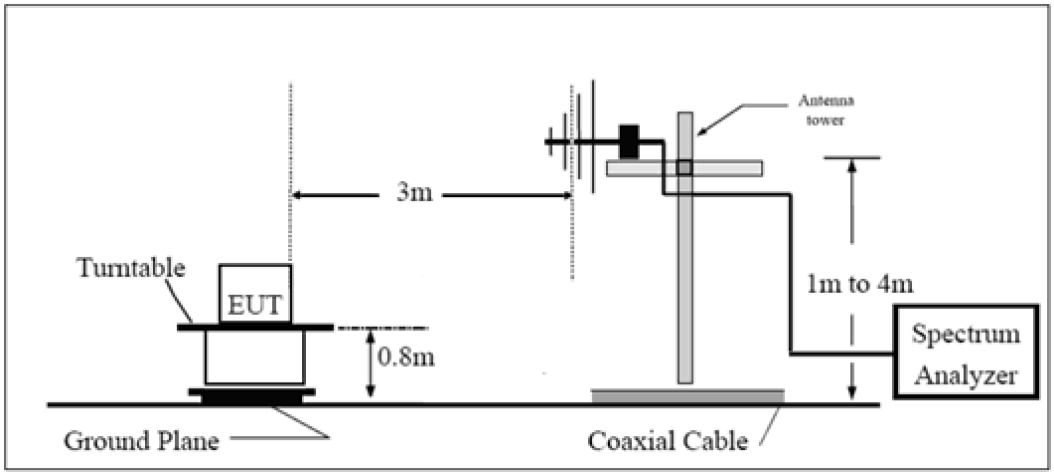
The test is in transmitting mode.

Test setup

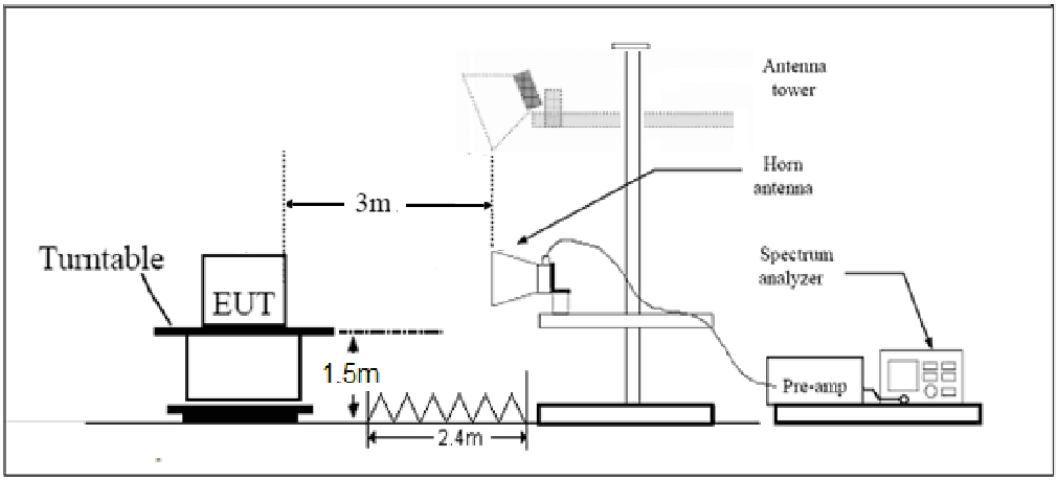
9KHz~ 30MHz



30MHz~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

Limits

Rule Part 15.247(d) specifies that “In addition, radiated emissions which fall in the restricted bands, as defined in § 15.205(a), must also comply with the radiated emission limits specified in § 15.209(a) (see § 15.205(c)).”

Limit in restricted band

Frequency of emission (MHz)	Field strength(uV/m)	Field strength(dBuV/m)
0.009–0.490	2400/F(kHz)	/
0.490–1.705	24000/F(kHz)	/
1.705–30.0	30	/
30-88	100	40
88-216	150	43.5
216-960	200	46
Above960	500	54

§15.35(b)

There is also a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20 dB above the maximum permitted average limit.

Peak Limit=74 dBuV/m

Average Limit=54 dBuV/m

Spurious Radiated Emissions are permitted in any of the frequency bands listed below:

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
[1] 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	([2])
13.36-13.41			

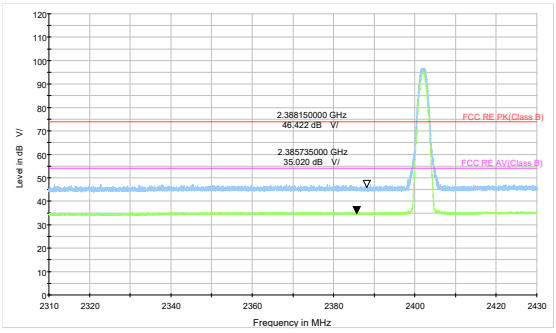
Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor *k* = 1.96.

Frequency	Uncertainty
9KHz-30MHz	3.55 dB
30MHz-200MHz	4.17 dB
200MHz-1GHz	4.84 dB
1-18GHz	4.35 dB
18-26.5GHz	5.90 dB
26.5GHz~40GHz	5.92 dB

Test Results:

A symbol (dB V/) in the test plot below means (dBuV/m)



Bluetooth LE Channel 0 Peak+ Average

Result of RE

Test result

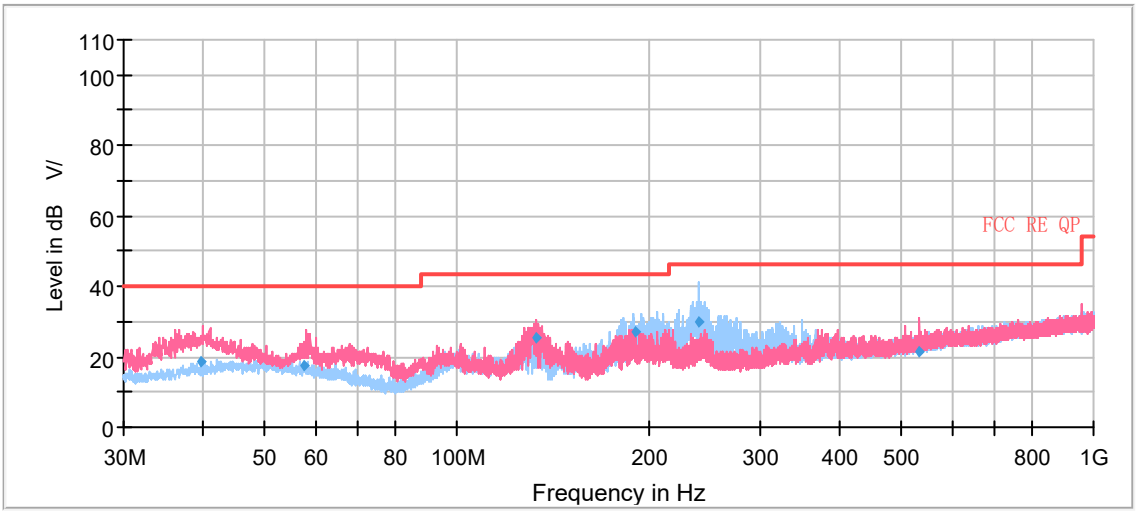
Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the Emissions in the frequency band 9kHz-30MHz are more than 20dB below the limit are not reported.

The following graphs display the maximum values of horizontal and vertical by software.
For above 1GHz, Blue trace uses the peak detection, Green trace uses the average detection.

A symbol (dB V/) in the test plot below means (dBuV/m)

Continuous TX mode:

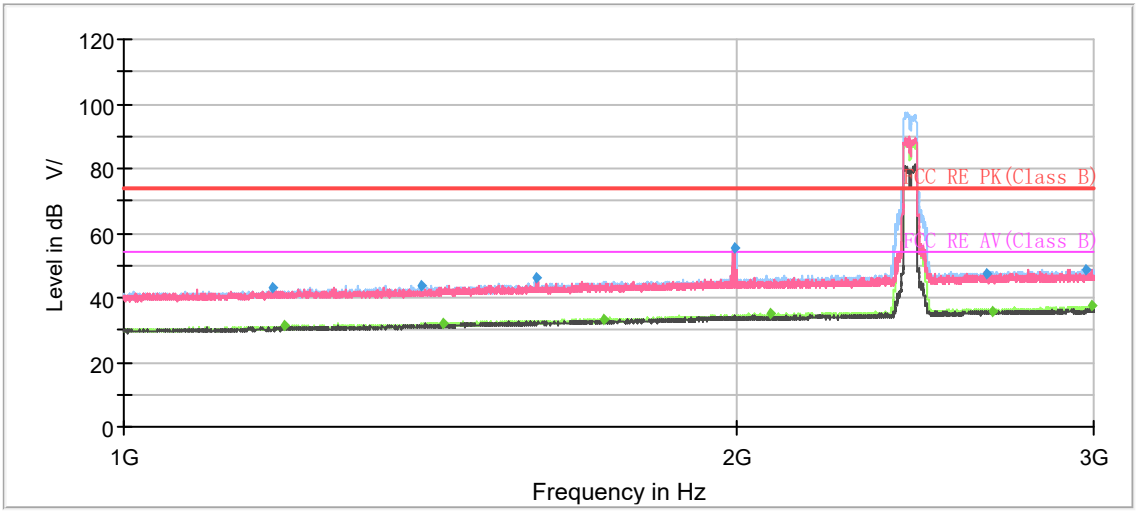
802.11n (HT40) CH6



Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
39.56	18.73	40.00	21.27	100.0	V	267.00	19
57.81	17.67	40.00	22.33	100.0	V	27.00	20
133.61	25.63	43.50	17.88	100.0	V	174.00	15
190.34	26.90	43.50	16.60	175.0	H	87.00	18
240.01	29.81	46.00	16.19	125.0	H	308.00	19
531.03	21.42	46.00	24.58	186.0	V	151.00	25

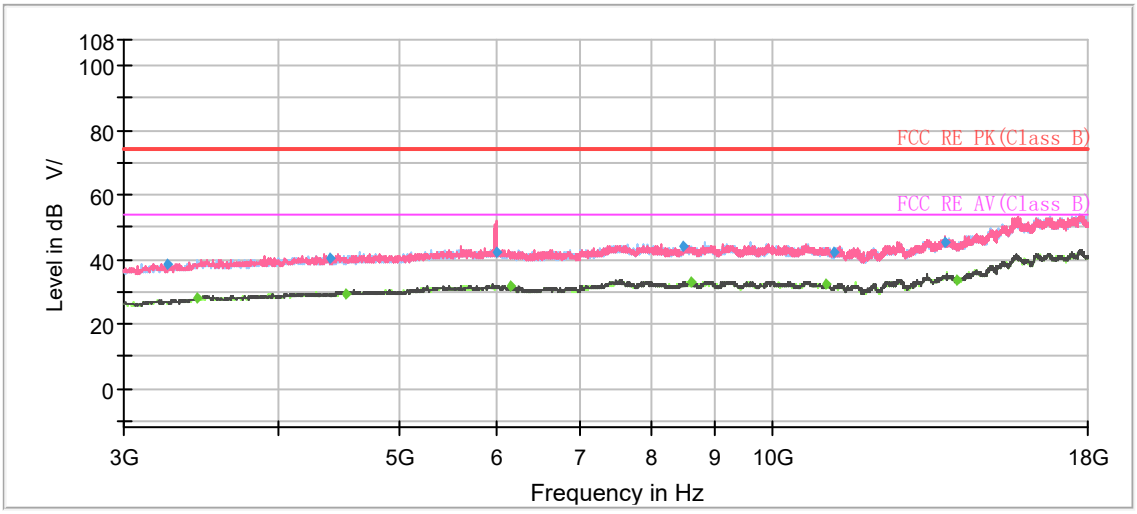
Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)
2. Margin = Limit – Quasi-Peak



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1182.50	42.94	---	74.00	31.06	500.00	100.0	H	208.00	-8
1200.75	---	31.28	54.00	22.72	500.00	100.0	H	38.00	-7
1400.25	43.91	---	74.00	30.09	500.00	200.0	H	240.00	-6
1436.50	---	32.08	54.00	21.92	500.00	100.0	H	231.00	-6
1596.25	46.41	---	74.00	27.59	500.00	200.0	V	270.00	-5
1723.75	---	33.37	54.00	20.63	500.00	200.0	H	121.00	-4
1999.50	55.68	---	74.00	18.32	500.00	200.0	V	284.00	-3
2079.50	---	34.81	54.00	19.19	500.00	200.0	H	222.00	-3
2655.00	47.41	---	74.00	26.59	500.00	100.0	H	62.00	0
2673.00	---	35.97	54.00	18.03	500.00	100.0	H	275.00	0
2973.25	48.86	---	74.00	25.14	500.00	100.0	H	62.00	1
2995.50	---	37.27	54.00	16.73	500.00	100.0	H	109.00	1

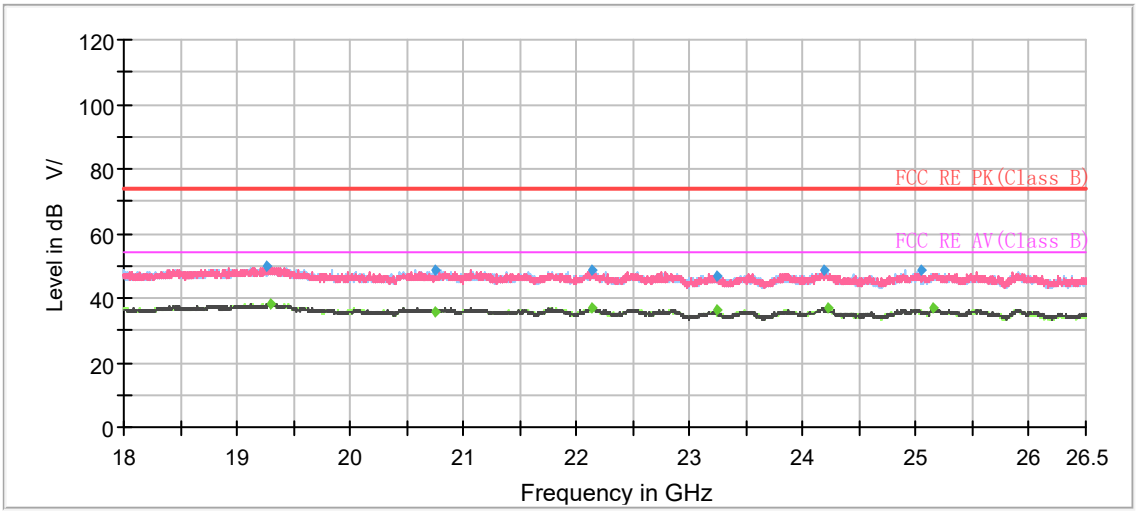


Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3253.13	38.72	---	74.00	35.28	500.00	100.0	H	275.00	-8
3442.50	---	28.14	54.00	25.86	500.00	100.0	V	167.00	-7
4400.63	40.54	---	74.00	33.46	500.00	100.0	H	236.00	-4
4541.25	---	29.03	54.00	24.97	500.00	100.0	H	155.00	-3
5998.13	42.22	---	74.00	31.78	500.00	200.0	H	221.00	-1
6159.38	---	31.46	54.00	22.54	500.00	100.0	H	13.00	-1
8493.75	44.26	---	74.00	29.74	500.00	200.0	V	164.00	1
8598.75	---	32.85	54.00	21.15	500.00	200.0	V	36.00	1
11077.50	---	32.36	54.00	21.64	500.00	200.0	H	226.00	3
11216.25	42.45	---	74.00	31.55	500.00	100.0	H	102.00	3
13800.00	45.09	---	74.00	28.91	500.00	100.0	H	81.00	8
14120.63	---	33.78	54.00	20.22	500.00	100.0	H	54.00	8

Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)

2. Margin = Limit –MAX Peak/ Average



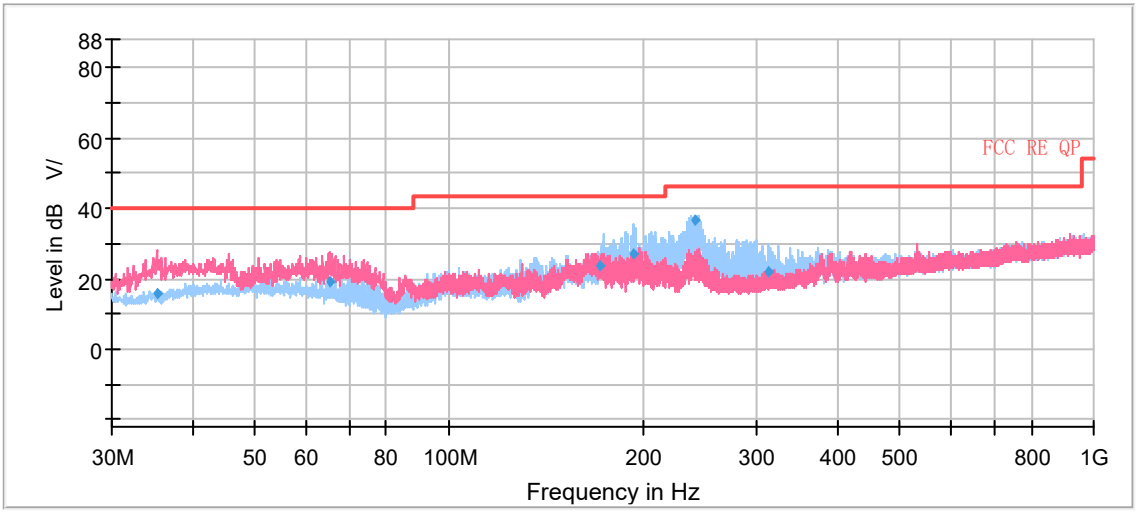
Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
19267.56	49.69	---	74.00	24.31	500.00	100.0	V	215.00	-6
19299.44	---	38.34	54.00	15.66	500.00	100.0	H	154.00	-6
20744.44	48.58	---	74.00	25.42	500.00	100.0	H	208.00	-7
20751.88	---	35.80	54.00	18.20	500.00	100.0	H	55.00	-7
22142.69	48.62	---	74.00	25.38	500.00	100.0	H	104.00	-6
22143.75	---	37.13	54.00	16.87	500.00	100.0	H	60.00	-6
23231.75	47.04	---	74.00	26.96	500.00	100.0	H	31.00	-6
23242.38	---	36.05	54.00	17.95	500.00	100.0	H	1.00	-6
24194.38	48.55	---	74.00	25.45	500.00	200.0	H	293.00	-4
24218.81	---	36.86	54.00	17.14	500.00	100.0	H	75.00	-4
25047.56	48.62	---	74.00	25.38	500.00	200.0	V	53.00	-3
25159.13	---	36.80	54.00	17.20	500.00	200.0	V	101.00	-3

Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)

2. Margin = Limit –MAX Peak/ Average

Bluetooth LE-Channel 0

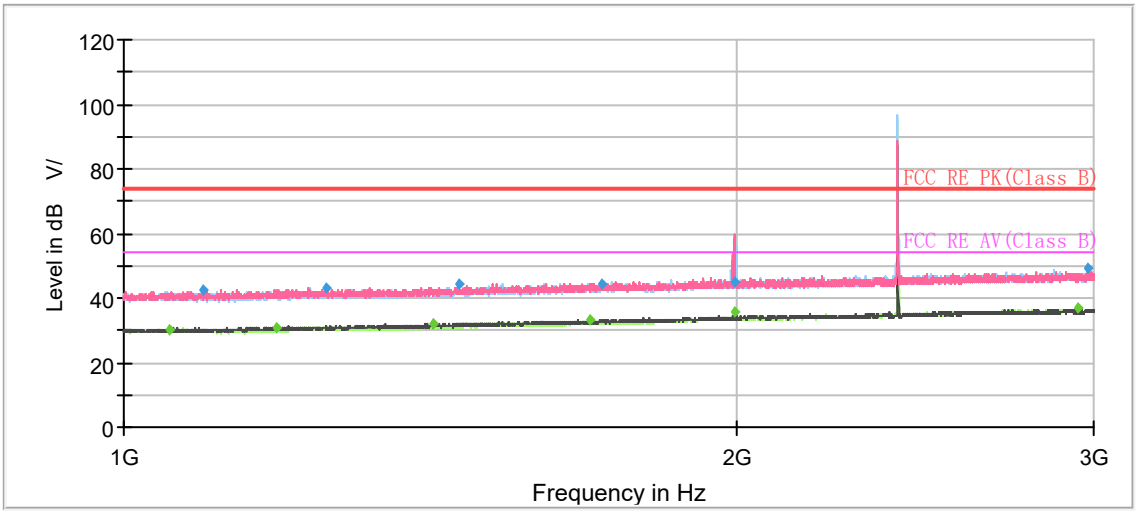


Radiates Emission from 30MHz to 1GHz

Frequency (MHz)	Quasi-Peak (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Height (cm)	Polarization	Azimuth (deg)	Correct Factor (dB)
35.40	15.96	40.00	24.04	100.0	V	79.00	18
65.22	19.42	40.00	20.58	100.0	V	353.00	18
171.68	23.97	43.50	19.53	100.0	H	9.00	16
193.13	26.98	43.50	16.52	109.0	H	36.00	18
240.02	36.80	46.00	9.20	100.0	H	327.00	19
313.27	22.01	46.00	23.99	100.0	H	352.00	21

Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)

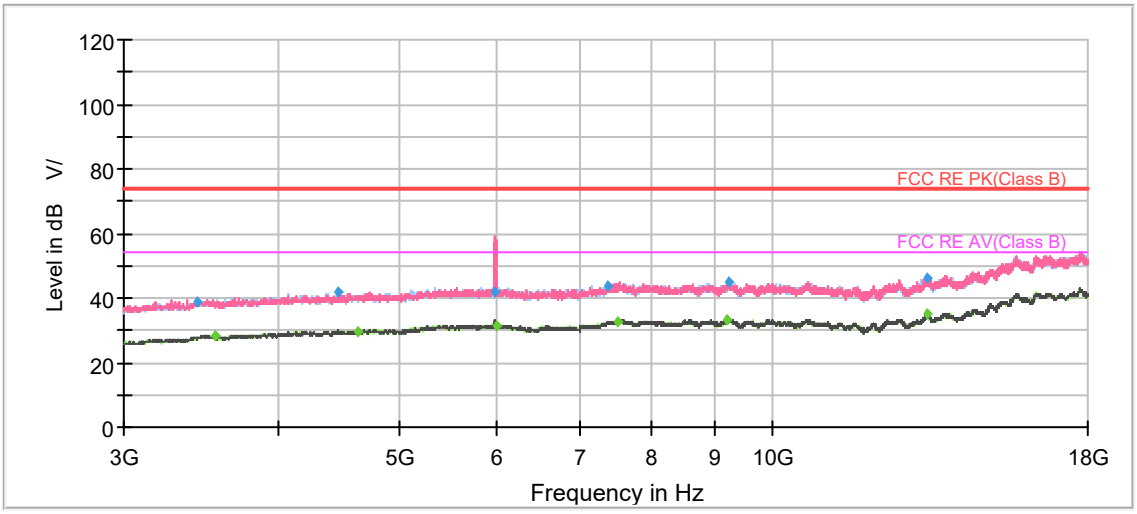
2. Margin = Limit – Quasi-Peak



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
1053.00	---	30.35	54.00	23.65	500.00	100.0	V	246.00	-8
1093.00	42.65	---	74.00	31.35	500.00	100.0	H	321.00	-8
1187.75	---	30.89	54.00	23.11	500.00	200.0	V	190.00	-8
1257.75	43.03	---	74.00	30.97	500.00	100.0	H	61.00	-7
1420.00	---	31.85	54.00	22.15	500.00	200.0	V	143.00	-6
1460.50	44.58	---	74.00	29.42	500.00	100.0	V	0.00	-6
1694.25	---	33.27	54.00	20.73	500.00	200.0	V	257.00	-5
1720.25	44.07	---	74.00	29.93	500.00	200.0	V	186.00	-4
1995.50	44.79	---	74.00	29.21	500.00	200.0	H	327.00	-3
1998.25	---	35.75	54.00	18.25	500.00	200.0	V	297.00	-3
2944.00	---	36.62	54.00	17.38	500.00	200.0	H	231.00	1
2983.00	49.06	---	74.00	24.94	500.00	100.0	H	6.00	1

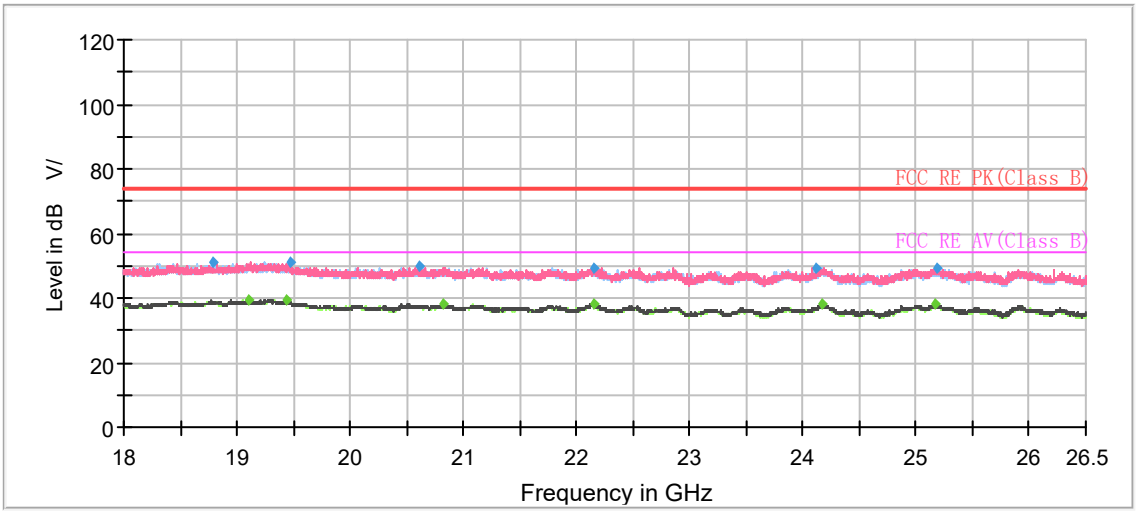


Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
3438.75	38.88	---	74.00	35.12	500.00	200.0	H	0.00	-7
3549.38	---	28.21	54.00	25.79	500.00	200.0	H	261.00	-6
4468.13	41.94	---	74.00	32.06	500.00	200.0	V	113.00	-3
4640.63	---	29.44	54.00	24.56	500.00	100.0	H	28.00	-3
5983.13	41.86	---	74.00	32.14	500.00	200.0	H	273.00	-1
5992.50	---	31.30	54.00	22.70	500.00	100.0	H	176.00	-1
7366.88	43.75	---	74.00	30.25	500.00	100.0	H	202.00	0
7516.88	---	32.34	54.00	21.66	500.00	100.0	H	92.00	1
9200.63	---	33.37	54.00	20.63	500.00	200.0	V	244.00	2
9230.63	45.13	---	74.00	28.87	500.00	200.0	H	68.00	2
13333.13	---	35.02	54.00	18.98	500.00	100.0	V	135.00	7
13342.50	45.87	---	74.00	28.13	500.00	200.0	V	113.00	7

Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)

2. Margin = Limit –MAX Peak/ Average



Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	MaxPeak (dB μ V/m)	Average (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18787.31	51.30	---	74.00	22.70	500.00	200.0	V	214.00	-7
19106.06	---	39.34	54.00	14.66	500.00	200.0	H	121.00	-7
19441.81	---	39.45	54.00	14.55	500.00	200.0	V	158.00	-7
19468.38	51.04	---	74.00	22.96	500.00	100.0	V	264.00	-7
20607.38	49.65	---	74.00	24.35	500.00	200.0	V	312.00	-7
20813.50	---	38.24	54.00	15.76	500.00	100.0	V	146.00	-7
22149.06	---	38.16	54.00	15.84	500.00	200.0	H	131.00	-6
22161.81	49.50	---	74.00	24.50	500.00	100.0	H	338.00	-6
24117.88	49.36	---	74.00	24.64	500.00	100.0	V	160.00	-4
24177.38	---	38.07	54.00	15.93	500.00	100.0	H	265.00	-4
25164.44	---	38.10	54.00	15.90	500.00	100.0	V	127.00	-3
25187.81	49.12	---	74.00	24.88	500.00	200.0	H	112.00	-3

Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)

2. Margin = Limit –MAX Peak/ Average

6. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Power sensor	R&S	OSP-B157W8	100924	2021-12-12	2022-12-11
Spectrum Analyzer	KEYSIGHT	N9020A	MY54420163	2021-12-12	2022-12-11
EMI Test Receiver	R&S	ESR	102389	2022-05-25	2023-05-24
Signal Analyzer	R&S	FSV40	100816	2021-12-12	2022-12-11
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2020-04-02	2023-04-01
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	1023	2020-05-05	2023-05-04
Horn Antenna	R&S	HF907	102723	2020-08-11	2023-08-10
Horn Antenna	ETS-Lindgren	3160-09	00102643	2021-10-10	2024-10-09
Software	R&S	EMC32	9.26.01	/	/

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

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

ANNEX B: Test Setup Photos

The Test Setup Photos are submitted separately.