

# FCC 47 CFR PART 15 SUBPART C ISED RSS-247 ISSUE 3

**TEST REPORT** 

For

**Robotic Vacuum Cleaner** 

# MODEL NUMBER: RRE0VSC

# PROJECT NUMBER: 4791666005

## **REPORT NUMBER: 4791666005-8**

FCC ID: 2AN2O-RRE0VSC01

IC: 23317-RRE0VSC01

HVIN: RRE0VSC-FG62

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Prepared for

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Prepared by

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## **Revision History**

Rev.	Issue Date	Revisions	Revised By
V0	03/10/2025	Initial Issue	



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		Form-ULID-008536-14 V3.0



# **1. ATTESTATION OF TEST RESULTS**

## **Applicant Information**

et		TEST DESIN TS
	APPLICABLE STANDARDS	
Test Date:	Feb. 13, 2025~ Mar. 06, 2025	
Data of Receipt Sample:	Feb. 13, 2025	
Sample Number:	8130800	
Model Difference:	/	
Series Model Name:	/	
Model Name:	RRE0VSC	
Product Name:	Robotic Vacuum Cleaner	
EUT Description		
	Changping District, Beijing, P.R. China	, <b>je</b> e.e.,
Address:	Room 1001, Floor 10, Building 3, Yard	17. Aniu Road.
Manufacturer Information	Beijing Roborock Technology Co., I td.	
Address:	Room 1001, Floor 10, Building 3, Yard Changping District, Beijing, P.R. China	17, Anju Road,
Company Name:	Beijing Roborock Technology Co. 1 td	

STANDARD	TEST RESU
CFR 47 Part 15 Subpart C	
ISED RSS-247 Issue 3	PASS
ISED RSS-GEN Issue 5	



Summary of Test Results					
Clause	Test Items	Test Results			
1	6 dB Bandwidth and 99% Occupied Bandwidth	FCC 15.247 (a) (2) RSS-247 Clause 5.2 (a) RSS-Gen Clause 6.7	PASS		
2	Conducted Power	FCC 15.247 (b) (3) RSS-247 Clause 5.4 (d) RSS-Gen Clause 6.12	PASS		
3	Power Spectral Density	FCC 15.247 (e) RSS-247 Clause 5.2 (b)	PASS		
4	Conducted Band edge And Spurious emission	FCC 15.247 (d) RSS-247 Clause 5.5 RSS-GEN Clause 6.13	PASS		
5	Radiated Band edges and Spurious emission	FCC 15.247 (d) FCC 15.209 FCC 15.205 RSS-247 Clause 5.5 RSS-GEN Clause 6.13 RSS-GEN Clause 8.9 RSS-GEN Clause 8.10	PASS		
6	Conducted Emission Test for AC Power Port	FCC 15.207 RSS-GEN Clause 8.8	PASS		
7	Antenna Requirement	FCC 15.203 RSS-GEN Clause 6.8	PASS		
Note:					

The measurement result for the sample received is < Pass > according to < ANSI C63.10-2013, FCC CFR 47 Part 2, FCC CFR 47 Part 15C > when < Simple Acceptance > decision rule is applied.

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# 2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with KDB 558074 D01 15.247 Meas Guidance v05r02, 414788 D01 Radiated Test Site v01r01, FCC 47 CFR Part 2, FCC 47 CFR Part 15, ANSI C63.10-2013, ISED RSS-247 Issue 3 and ISED RSS-GEN Issue 5.

# 3. FACILITIES AND ACCREDITATION

Accreditation Certificate	A2LA (Certificate No.: 4829.01) UL-CCIC COMPANY LIMITED has been assessed and proved to be in compliance with A2LA. FCC (FCC Designation No.: CN1247) UL-CCIC COMPANY LIMITED has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules. IC (IC Designation No.: 25056; CAB No.: CN0073) UL-CCIC COMPANY LIMITED has been recognized to perform compliance testing on equipment subject to the Commission's Declaration of Conformity (DoC) and Certification rules.
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Note 1: All tests measurement facilities use to collect the measurement data are located at No. 2, Chengwan Road, Suzhou Industrial Park, Suzhou 215122, China

Note 2: For below 30MHz, lab had performed measurements at test anechoic chamber and comparing to measurements obtained on an open field site. These measurements below 30MHz had been correlated to measurements performed on an OFS.

Note 3: The test anechoic chamber in UL-CCIC COMPANY LIMITED had been calibrated and compared to the open field sites and the test anechoic chamber is shown to be equivalent to or worst case from the open field site.



# 4. CALIBRATION AND UNCERTAINTY

# 4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

# 4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty		
Conduction emission	3.1dB		
DTS Bandwidth	1.9%		
Maximum Conducted Output Power	1.3dB		
Maximum Power Spectral Density Level	1.5dB		
Band-edge Compliance	1.9%		
Unwanted Emissions in Non-restricted Freq Bands	9kHz-30MHz: ±0.90dB 30MHz-1GHz: ±1.5 dB 1GHz-12.75GHz: ±1.9dB 12.75GHz-26.5GHz: ±2.1dB		
Radiation Emission test (include Fundamental emission) (9kHz-30MHz)	3.4dB		
Radiation Emission test (include Fundamental emission) (30MHz-1GHz)	3.4dB		
Radiation Emission test (1GHz to 26GHz) (include Fundamental emission)	3.5dB (1GHz-18GHz)		
	3.9dB (18GHz-26.5GHz)		
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.			



# 5. EQUIPMENT UNDER TEST

# 5.1. DESCRIPTION OF EUT

Equipment:	Robotic Vacuum Cleaner		
Model Name:	RRE0VSC		
Technology:	Bluetooth - Low Ener	ду	
Transmit Frequency Range:	2402 MHz ~ 2480 MHz		
Modulation:	GFSK		
Data Rate:	LE 1M 1 Mbps		
Test Software of EUT:	ADB (manufacturer declare)		
Antenna Type:	PCB Antenna		
	2.29 dBi		
Antenna Gain:	Note: This data is provided by customer and our lab isn't responsible for this data.		



# 5.2. MAXIMUM OUTPUT POWER

Bluetooth Mode	Frequency (MHz)	Channel Number	Max Output Power(dBm)
BLE 1M	2402-2480	0-39[40]	4.17

# 5.3. CHANNEL LIST

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	2402	11	2424	22	2446	33	2468
1	2404	12	2426	23	2448	34	2470
2	2406	13	2428	24	2450	35	2472
3	2408	14	2430	25	2452	36	2474
4	2410	15	2432	26	2454	37	2476
5	2412	16	2434	27	2456	38	2478
6	2414	17	2436	28	2458	39	2480
7	2416	18	2438	29	2460	/	/
8	2418	19	2440	30	2462	/	/
9	2420	20	2442	31	2464	/	/
10	2422	21	2444	32	2468	/	/

# 5.4. TEST CHANNEL CONFIGURATION

Test Mode	Test C	Frequency	
	Low Channel	CH 0	2402MHz
GFSK	Middle Channel	CH 19	2440MHz
	High Channel	CH 39	2480MHz

# 5.5. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter under 2400 ~ 2483.5MHz Band					
Test Software ADB					
	Transmit Antenna	Test Channel			
	Number	LCH	MCH	HCH	
GFSK	1	default	default	default	



# 5.6. DESCRIPTION OF AVAILABLE ANTENNAS

Ant.	Frequency (MHz)	Antenna Type	Antenna Gain (dBi)
1	2400-2483.5	PCB Antenna	2.29 dBi

Note: This data is provided by customer and our lab isn't responsible for this data.

Test Mode	Transmit and Receive Mode	Description
BLE 1M	⊠1TX, 1RX	Antenna1 can be used as transmitting/receiving antenna independently.

# 5.7. THE WORSE CASE CONFIGURATIONS

For BLE module, the product only supports 1 Mbps, only the test result of 1 Mbps was recorded in this report.

# 5.8. TEST ENVIRONMENT

Environment Parameter	Selected Values During Tests			
Relative Humidity	55 ~ 65%			
Atmospheric Pressure:	101kPa			
Temperature	TN 23 ~ 28°C			
	VL	N/A		
Voltage:	VN AC 120V			
	VH	N/A		

Note: VL= Lower Extreme Test Voltage VN= Nominal Voltage VH= Upper Extreme Test Voltage TN= Normal Temperature



# 5.9. DESCRIPTION OF TEST SETUP

#### SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	Description
1	Laptop	ThinkPad	E590	/

### I/O PORT

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	USB	USB-TTL	USB	100cm Length	/

### ACCESSORY

Item	Accessory	Brand Name	Model Name	Description
1	Empty Wash Fill Dock 1	roborock	EWFD40LRR	Rated Input: 120V~ 60Hz Rated Output: 20V- 1.5A
2	Empty Wash Fill Dock 2	roborock	EWFD40LRR	Rated Input: 120V~ 60Hz Rated Output: 20V- 1.5A

Note: The docker with two alternative main PCBs of power part will be collocated to the EUT, of them have been test, only the worse case is recorded in this test report.



## TEST SETUP

The EUT can work in an engineer mode with a software through a laptop.

## SETUP DIAGRAM FOR TESTS

For Antenna Port Test and Radiated Test:



For Conducted Emission Test and Radiated Test:



Note: The EUT can transmit independently and be charged with a docker. The docker is just a charger, not an intentional transmitter.



# 5.10. MEASURING INSTRUMENT AND SOFTWARE USED

	Conducted Emissions Test (Instrument)							
Used	Equipment	Manufacturer	Mo	del No.	Serial No.	Upper Last Cal.	Last Cal.	Next Cal.
$\checkmark$	EMI Test Receiver	R&S	E	SR3	126700	2023-11-25	2024-11-02	2025-11-01
$\checkmark$	Two-Line V-Network	R&S	EN	V216	126701	2023-11-25	2024-11-02	2025-11-01
,		Cond	lucted	l Emissio	ons Test (So	ftware)		
Used	Description		Man	ufacturer	Name	Version		
$\checkmark$	Software for Condu	cted Emissions	Test		R&S	EMC32	9.25.00	
	Radiated Emissions Test (Instrument)							
Used	Equipment	Manufacturer	Mo	del No.	Serial No.	Upper Last Cal.	Last Cal.	Next Cal.
$\checkmark$	EMI test receiver	R&S	E	SR7	222993	2023-04-08	2024-03-23	2025-03-22
$\checkmark$	EMI test receiver	R&S	E	SR26	126703	2023-11-25	2024-11-02	2025-11-01
$\checkmark$	Spectrum Analyzer	R&S	FS	V3044	222992	2023-04-08	2024-03-23	2025-03-22
	Receiver Antenna (9kHz-30MHz)	Schwarzbeck	FMZ	ZB 1513	155456	2021-06-03	2024-05-27	2027-05-26
V	Receiver Antenna (30MHz-1GHz)	Schwarzbeck	VUL	B 9168	171952	2021-07-05	2024-07-04	2027-07-03
	Receiver Antenna (1GHz-18GHz)	R&S	HF907		126705	2022-02-28	2025-02-17	2028-02-16
	Receiver Antenna (18GHz-26.5GHz)	Schwarzbeck	BBHA9170		126706	2022-02-28	2025-02-17	2028-02-16
	Pre-amplification (To 18GHz)	Tonscned	TAP01018050		224539	2023-10-10	2024-10-10	2025-10-09
	Pre-amplification (To 18GHz)	R&S	SCU-18D		134667	2023-11-25	2024-11-02	2025-11-01
	Pre-amplification (To 26.5GHz)	R&S	SCU-26D		135391	2023-11-25	2024-11-02	2025-11-01
V	Band Reject Filter	Wainwright	WR( 237 248 4	CGV12- 5-2400- 5-2510- 0SS	1	2023-12-18	2024-11-02	2025-11-01
$\checkmark$	High Pass Filter	COM-MW	ZBF1	3-3-18G- 01	2	2023-12-18	2024-11-02	2025-11-01
		Rad	iated	Emissio	ns Test (Sof	tware)		
Used	Desc	ription		Man	ufacturer	Name	Version	
$\checkmark$	Software for Radia	ted Emissions To	est	То	nscend	JS32-RE	5.0.0.2	
		Α	ntenn	a Port Te	est (Instrum	ent)		
Used	Equipment	Manufacturer	Мо	del No.	Serial No.	Upper Last Cal.	Last Cal.	Next Cal.
$\checkmark$	Spectrum Analyzer	Keysight	NS	9010B	155368	2023-04-08	2024-03-23	2025-03-22
$\checkmark$	Power Meter	MWT	MW10	00-RFCB	221694	2023-04-08	2024-03-23	2025-03-22
$\checkmark$	Power Meter	Anritsu	MA2	24406A	12896	2023-04-08	2024-03-23	2025-03-22
$\checkmark$	Attenuator	PASTERNACK	PE	7087-6	1624	/	2024-11-04	2025-11-03
			Anten	na Port 1	lest (Softwa	re)		
Used	Desc	ription		Man	ufacturer	Name	Version	
	Software for Ar	ntenna Port Test		То	nscend	JS1120-3 Test System	V3.2.22	



# 6. MEASUREMENT METHODS

No.	Test Item	KDB Name	Section
1	6 dB Bandwidth and 99% Occupied Bandwidth	KDB 558074 D01 15.247 Meas Guidance v05r02	8.2
2	Output Power	KDB 558074 D01 15.247 Meas Guidance v05r02	8.3.2.3 (11.9.1.3 Method PKPM of ANSI C63.10)
3	Power Spectral Density	KDB 558074 D01 15.247 Meas Guidance v05r02	8.4 (11.10.2 Method PKPSD of ANSI C63.10)
4	Out-of-band emissions in non-restricted bands	KDB 558074 D01 15.247 Meas Guidance v05r02	8.5
5	Out-of-band emissions in restricted bands	KDB 558074 D01 15.247 Meas Guidance v05r02	8.6
6	Band-edge	KDB 558074 D01 15.247 Meas Guidance v05r02	8.7
7	Conducted Emission Test for AC Power Port	ANSI C63.10-2013	6.2



# 7. ANTENNA PORT TEST RESULTS

# 7.1. ON TIME AND DUTY CYCLE

## LIMITS

None; for reporting purposes only

## PROCEDURE

FCC KDB 558074 Zero-Span Spectrum Analyzer Method

## TEST SETUP



## **TEST ENVIRONMENT**

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

## TEST RESULTS TABLE

Mode	On Time (msec)	Period (msec)	Duty Cycle x (Linear)	Duty Cycle (%)	Duty Cycle Correction Factor (db)	1/T Minimum VBW (kHz)	Final VBW (kHz)
BLE 1M	0.39	0.62	0.6290	62.90%	2.01	2.6	3

Note: 1) Duty Cycle Correction Factor=10log(1/x).

2) Where: x is Duty Cycle (Linear)

3) Where: T is On Time (transmit duration)



## **TEST GRAPHS**





# 7.2. 6 dB BANDWIDTH AND 99% OCCUPIED BANDWIDTH

#### **LIMITS**

FCC Part15 (15.247), Subpart C				
Section	Test Item	Limit	Frequency Range (MHz)	
FCC 47 CFR 15.247(a)(2) ISED RSS-247 5.2 (a)	6dB Bandwidth	>= 500kHz	2400-2483.5	
ISED RSS-Gen Clause 6.7	99% Occupied Bandwidth	For reporting purposes only	2400-2483.5	

## TEST PROCEDURE

Refer to ANSI C63.10-2013 clause 11.8 for DTS bandwidth and clause 6.9 for Occupied Bandwidth.

Connect the EUT to the spectrum analyser and use the following settings:

Center Frequency	The centre frequency of the channel under test
Frequency Span	Peak
Detector	For 6 dB Bandwidth: 100 kHz For 99% Occupied Bandwidth: 1% to 5% of the occupied bandwidth
RBW	For 6 dB Bandwidth: ≥3 × RBW For 99% Occupied Bandwidth: ≥3 × RBW
VBW	Max hold
Trace	Max hold
Sweep	Auto couple

a) Use the 99% power bandwidth function of the instrument, allow the trace to stabilize and report the measured bandwidth.

b) Allow the trace to stabilize and measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.



### TEST SETUP



#### **TEST ENVIRONMENT**

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

#### TEST RESULTS TABLE

Test Mode	Test Channel	6dB bandwidth (MHz)	99% bandwidth (MHz)	Result
	LCH	0.740	1.0294	Pass
BLE 1M	MCH	0.736	1.0294	Pass
	HCH	0.736	1.0294	Pass



## TEST GRAPHS

#### 6dB Bandwdith







Test Mode	Test Channel	Verdict
BLE 1M	НСН	PASS
Spectrum Analyzer 1 Neept SA   Impact 25:00     KEYSIGHT Inpact IP   Impact 25:00     RL   →     ScaleDiv 10 dB   O     00   00     100   00     000   00 <t< td=""><td>Prequency   Frequency     Preamp Off   Cale Off   Anglished 200200   Trepency   Center Frequency   Set     Ref Lvi Offset 8.23 dB   AMKr3   736 kH2   Span   Set   Set</td><td>Wings</td></t<>	Prequency   Frequency     Preamp Off   Cale Off   Anglished 200200   Trepency   Center Frequency   Set     Ref Lvi Offset 8.23 dB   AMKr3   736 kH2   Span   Set   Set	Wings
・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・・	💬 🔄 👬 📩 🔂 🔀 Signal Track	



#### 99% Bandwidth











# 7.3. CONDUCTED OUTPUT POWER

#### **LIMITS**

FCC Part15 (15.247), Subpart C				
Section Test Item Limit Frequency Range (MHz)				
FCC 15.247(b)(3) ISED RSS-247 5.4 (d) RSS-Gen Clause 6.12	Output Power	1 watt or 30dBm	2400-2483.5	

### TEST PROCEDURE

Place the EUT on the table and set it in the transmitting mode.

Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the Power sensor.

Measure the power of each channel.

PK Detector used for PK result.

#### **TEST ENVIRONMENT**

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

#### TEST SETUP





#### TEST RESULTS TABLE

Test Mode	Test Channel	Maximum Conducted Output Power (PK)	LIMIT
Test Mode	Test Channel	dBm	dBm
	LCH	3.88	30
BLE 1M	MCH	4.32	30
	HCH	4.17	30



# 7.4. POWER SPECTRAL DENSITY

#### **LIMITS**

FCC Part15 (15.247), Subpart C			
Section Test Item Limit Frequency Range (MHz)			
FCC §15.247 (e) ISED RSS-247 5.2 (b)	Power Spectral Density	8 dBm/3 kHz	2400-2483.5

### TEST PROCEDURE

Refer to FCC KDB 558074, connect the UUT to the spectrum analyser and use the following settings:

Center Frequency	The centre frequency of the channel under test
Detector	Peak
RBW	3 kHz ≤ RBW ≤100 kHz
VBW	≥3 × RBW
Span	1.5 x DTS bandwidth
Trace	Max hold
Sweep time	Auto couple.

Allow trace to fully stabilize and use the peak marker function to determine the maximum amplitude level within the RBW.

If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

#### **TEST ENVIRONMENT**

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

#### TEST SETUP





#### **TEST RESULTS TABLE**

Test Mode	Test Channel	Maximum Peak power spectral density (dBm/30kHz)	Result
	LCH	0.81	Pass
BLE 1M	MCH	1.23	Pass
	HCH	1.16	Pass

#### **TEST GRAPHS**

Test Mode	Test Channel		Verdict
BLE 1M	LCH		PASS
Spectrum Analyzer 1 Weet SA KEYSIGHT Input 7: 50.0 Connections: Off Figure Actions: Off	#Atten: 20 dB Preamp Off   PND. Best Wate Gate Off   #ArgType. Power (RMS ArgHate 200000 Trig: Fee Run   2.3.4.5 G MWWWWW P.P.P.P.P.P.P.P     Ref Lvi Offset 8.15 dB Ref Level 10.00 dBm   Mktr1 2.401 963 4 GHz     0.81 dBm   0.81 dBm     1   1	Frequency     Settings       2 40200000 GHz     Settings       Span     1.1000000 MHz       1.1000000 MHz     Settings       Svept Span     Zero Span       Zero Span     Zero Span       Auto TUNE     Zero Span       CF Step     Zero Span       Man     Freq Offset       Log     Lin       Signal Track (Span Zorom)     Zero Span	



Test Mode	Test Channel	Verdict
BLE 1M	MCH	PASS
Spectrum Analyzer 1 Compet CA KEYSIGHT Input 7: 50 0 Connectors: Off Fill Wight Auto Scale/Div 10 dB Log 0.00 0.	Atten: 20 dB Preamp: Off   PNO: Best Wide Gate: Off   #Avg Type: Power (RMS]: 2:3:4:5:6 Avg/Hdd: 200200   Center Frequency P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.P.	Settings





# 7.5. CONDUCTED BANDEDGE AND SPURIOUS EMISSIONS

#### **LIMITS**

FCC Part15 (15.247), Subpart C			
Section	Test Item	Limit	
FCC §15.247 (d) RSS-247 Clause 5.5 RSS-GEN Clause 6.13	Conducted Bandedge and Spurious Emissions	20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power	

#### TEST PROCEDURE

Refer to FCC KDB 558074, connect the UUT to the spectrum analyser and use the following settings:

Center Frequency	The centre frequency of the channel under test	
Detector	Peak	
RBW	100 kHz	
VBW	≥3 × RBW	
Span	1.5 x DTS bandwidth	
Trace	Max hold	
Sweep time	Auto couple.	

Use the peak marker function to determine the maximum PSD level.

Span	Set the center frequency and span to encompass frequency range to be measured
Detector	Peak
RBW	100 kHz
VBW	≥3 × RBW
measurement points	≥span/RBW
Trace	Max hold
Sweep time	Auto couple.

Use the peak marker function to determine the maximum amplitude level.

#### TEST SETUP



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#### TEST ENVIRONMENT

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

## PART 1: REFERENCE LEVEL MEASUREMENT

#### TEST RESULTS TABLE

Test Mode	Test Channel	Result[dBm]
	LCH	2.99
BLE 1M	MCH	3.46
	HCH	3.32

## **TEST GRAPHS**

Test Mode	Channel	
BLE 1M	LCH	
Spectrum Analyzer 1 , +	Frequency 🔹 🔆	
KEYSIGHT Input 2:50 Ω #Atten: 30 dB PR RL ↔ Align Auto Fieq Ref. Int (S) Fieq Ref. Int (S) Sig	D. Best Wide #Avg Type Forer (RMS 1 2 3 4 5 6 c Off AvgHvid: 200200 MHWHWWW Track. Off Piez Run P P P P P P P 2.402000000 GH2	
1 Spectrum Ref Lvi Offset 8.15 dB	Mkr1 2.401 984 5 GHz 1.11000000 MHz	
Scale/Div 10 dB Ref Level 28.15 dBm	2.99 dBm Svept Span Zero Span	
18.2	Full Span	
8.15	Start Freq	
-1.85		
-11.9	2.402565000 GHz	
-21.9	AUTO TUNE	
319	CF Step 111.000 kHz	
419	Auto Man	
.819	Freq Offset 0 Hz	
Center 2.4020000 GHz #Video BW 300 KHz #Res BW 100 KHz	Span 1.110 MHz Log Sweep 1.00 ms (1001 pts)	
Feb 15, 2025 の (1977)	🗱 💽 🔛 🔀 Signal Track (Span Zoom)	







## PART 2: CONDUCTED BANDEDGE

## TEST RESULTS TABLE

Test Mode	Test Channel	Result	Verdict
	LCH	Refer to the Test Graph	PASS
DLE IIVI	НСН	Refer to the Test Graph	PASS



### **TEST GRAPHS**







#### PART 3: CONDUCTED SPURIOUS EMISSION

## TEST RESULTS TABLE

Test Mode	Test Channel	Result	Verdict
	LCH	Refer to the Test Graph	PASS
BLE 1M	MCH	Refer to the Test Graph	PASS
	НСН	Refer to the Test Graph	PASS



## **TEST GRAPHS**

Test Mode	Channel	Verdict
BLE 1M	LCH	PASS







Test Mode	Channel	Verdict
BLE 1M	MCH	PASS

Spectrum Analyzer 1 Swept SA	• +			Frequency • 🞇			
KEYSIGHT Input F RL →→ Couplin Align: A	RF Input Z: 50 Ω Ig DC Corrections: Off Judo Freq Ref: Int (S)	#Atten: 20 dB PNO: Fast Preamp: Off Gate: Off IF Gain: Lov Sig Track: C	#Avg Type: Power (RMS 1 2 3 4 5 6 Avg[Hold: 30/30 v Trig: Free Run P P P P P P	Center Frequency 515.000000 MHz	Settings		
1 Spectrum Scale/Div 10 dB	•	Ref Lvi Offset 8.23 dB Ref Level 15.00 dBm	Mkr1 855.63 MHz -63.03 dBm	970.000000 MHz			
5.00				Zero Span Full Span			
-5.00			QL1-16.54 dBm	Start Freq 30.000000 MHz			
-25.0				Stop Freq 1.000000000 GHz			
-45.0				AUTO TUNE CF Step			
-55.0		ali cali di di tata di sa		97.000000 MHz Auto Man			
-75.0	seren in seren de de de la seren de la Contra de la seren de la se		n na shekarar n Na na shekarar n	Freq Offset 0 Hz			
Start 0.0300 GHz #Res BW 100 kHz		#Video BW 300 kHz	Stop 1.0000 GHz Sweep 94.0 ms (30001 pts)	X Axis Scale Log Lin			
ר <b>ד</b>	Peb 15, 2025 8:13:22 PM	$\Theta \Delta$	LI 🕃 - 🔀	Signal Track (Span Zoom)			





Test Mode	Channel	Verdict
BLE 1M	HCH	PASS

BLE 1M					HC	Η	PASS						
HCH SPURIOUS EN	IISSI	ON_30	OMHz-	-1GH	z								
Spectrum Analyzer 1				1						Frequency · 🔆			
	KEYSIGHT RL ↔→	Input: RF Coupling: DC Align: Auto	Input Z: 50 Ω Corrections: Off Freq Ref: Int (S)	#Atten: 20 dB Preamp: Off	PNO: Fast Gate: Off IF Gain: Low Sig Track: Off	#Avg Type: F Avg Hold: 30 Trig: Free Ru	Power (RMS )/30 un	1 2 3 4 5 6 M\\\\\\ P P P P P P P	Center Frequency 515.000000 MHz	Settings			
	1 Spectrum Scale/Div 10 o Log	t B		Ref LvI Offset 8 Ref Level 15.00	3.23 dB ) dBm	N	lkr1 91 -6;	1.67 MHz 2.62 dBm	970.000000 MHz Swept Span Zero Span				
	5.00								Full Span				
	-5.00							DL1 -16.68 dBm	Start Freq 30.000000 MHz				
	-25.0								Stop Freq 1.000000000 GHz				
	-35.0								AUTO TUNE				
	-55.0							_1	97.000000 MHz				
	-65.0		and a state of the		ettensing Willis en verse Angen des strationerk	dan sa ili da ili da Na sa ili da	hijadika Munika		Man Freq Offset				
	-75.0								0 Hz X Axis Scale				
	Start 0.0300 G	Hz		#Video BW 30	0 kHz	<b>6</b>	Stop	p 1.0000 GHz	Log				

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Signal Track


# 8. RADIATED TEST RESULTS

# 8.1. LIMITS AND PROCEDURE

#### **LIMITS**

# Please refer to FCC §15.205 and §15.209, ISED RSS-247 Clause 5.5, ISED RSS-GEN Clause 8.9&6.13 (Transmitter)

#### Radiation Disturbance Test Limit for ISED (9kHz-1GHz)

Except where otherwise indicated in the applicable RSS, radiated emissions shall comply with the field strength limits shown in table 5 and table 6. Additionally, the level of any transmitter unwanted emission shall not exceed the level of the transmitter's fundamental emission.

Table 5 – General field strength limits at frequencies above 30 MHz				
Frequency (MHz)	Field strength (μV/m at 3 m)			
30 - 88	100			
88 - 216	150			
216 - 960	200			
Above 960	500			

Table 6 – General field strength limits at frequencies below 30 MHz					
Frequency Magnetic field strength (H-Field) (µA/m) Measurement distance (m)					
9 - 490 kHz <sup>Note 1</sup>	6.37/F (F in kHz)	300			
490 - 1705 kHz	63.7/F (F in kHz)	30			
1.705 - 30 MHz	0.08	30			

**Note 1:** The emission limits for the ranges 9-90 kHz and 110-490 kHz are based on measurements employing a linear average detector.



#### Please refer to FCC KDB 558074

Frequency	Field Strength	Measurement Distance
(MHz)	(microvolts/meter)	(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
960~1000	500	3

Radiation Disturbance Test Limit for FCC (Class B) (9kHz-1GHz)

Note: 1) At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. 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 (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

(2) At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). This paragraph (f) shall not apply to Access BPL devices operating below 30 MHz.





### Radiation Disturbance Test Limit for FCC (Above 1G)

	dB(uV/m) (at 3 meters)		
Frequency (MHZ)	Peak	Average	
Above 1000	74	54	

Restricted bands of operation

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
<sup>1</sup> 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	( <sup>2</sup> )
13.36-13.41			

Note: <sup>1</sup>Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz. <sup>2</sup>Above 38.6c



#### TEST SETUP AND PROCEDURE

Below 30MHz



The setting of the spectrum analyser

RBW	200 Hz (From 9kHz to 0.15MHz) / 9kHz (From 0.15MHz to 30MHz)
VBW	200 Hz (From 9kHz to 0.15MHz) / 9kHz (From 0.15MHz to 30MHz)
Sweep	Auto
Detector	Peak/QP/Average
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013

2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 0.8 meter above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1m height antenna tower.

5. The radiated emission limits are based on 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

6. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

7. For the actual test configuration, please refer to the related item in this test report

(Photographs of the Test Configuration)

8. The limits in FCC 47 CFR, Part 15, Subpart C, paragraph 15.209 (a), are identical to those in RSS-GEN Section 8.9, Table 6, since the measurements are performed in terms of magnetic field strength and converted to electric field strength levels (as reported in the table) using the free space impedance of 377  $\Omega$ . For example, the measurement frequency X kHz resulted in a level of Y dBuV/m, which is equivalent to Y-51.5 = Z dBuA/m, which has the same margin, W dB, to the corresponding RSS-GEN Table 6 limit as it has to be 15.209(a) limit.



Below 1G



The setting of the spectrum analyser

RBW	120 kHz
VBW	300 kHz
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 12 mm above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

6. For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)



Above 1G



The setting of the spectrum analyser

RBW	1 MHz
VBW	PEAK:3 MHz
Sweep	Avg. See hoteo
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 12mm above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement above 1GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.

6. For measurements above 1 GHz, the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements; and 1 MHz resolution bandwidth with video bandwidth  $\ge 1/T$  but not less than the setting list in section 7.1 when use peak detector, max hold to be run for at least [50\*(1/Duty Cycle)] traces for average measurements. For the Duty Cycle need to refer the results in section 7.1.

7. For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)



X axis, Y axis, Z axis positions:



Note 1: For all radiated test, EUT in one orthogonal axis (X axis) emissions had been tested and recorded in the report.

Note 2: The EUT can transmit with/without the dock, both the two conditions have been tested, the condition without dock was the worse case and recorded in this test report.



### 8.2. TEST ENVIRONMENT

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

# 8.3. RESTRICTED BANDEDGE

#### TEST RESULT TABLE

Test Mode	Mode Channel Puw(dBm)		Verdict
BLE 1M	LCH	<limit< td=""><td>PASS</td></limit<>	PASS
	HCH	<limit< td=""><td>PASS</td></limit<>	PASS



#### TEST GRAPHS



#### PK Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2348.0060	38.07	13.52	51.59	74.00	-22.41	Horizontal
2	2390.0000	35.94	13.48	49.42	74.00	-24.58	Horizontal

- 2. Average result: Peak detector, RBW: 1 MHz, VBW: 1/T MHz (refer to clause 7.1.).
- 3. Measurement = Reading Level + Correct Factor.
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.







No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2376.7158	38.00	13.59	51.59	74.00	-22.41	Vertical
2	2390.0000	35.73	13.48	49.21	74.00	-24.79	Vertical

- 2. Average result: Peak detector, RBW: 1 MHz, VBW: 1/T MHz (refer to clause 7.1.).
- 3. Measurement = Reading Level + Correct Factor.
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.







No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2483.5000	37.23	14.25	51.48	74.00	-22.52	Horizontal
2	2566.6058	38.16	14.62	52.78	74.00	-21.22	Horizontal

- 2. Average result: Peak detector, RBW: 1 MHz, VBW: 1/T MHz (refer to clause 7.1.).
- 3. Measurement = Reading Level + Correct Factor.
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.







No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	2483.5000	35.43	14.25	49.68	74.00	-24.32	Vertical
2	2546.8484	37.54	14.60	52.14	74.00	-21.86	Vertical

- 2. Average result: Peak detector, RBW: 1 MHz, VBW: 1/T MHz (refer to clause 7.1.).
- 3. Measurement = Reading Level + Correct Factor.
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



# 8.4. SPURIOUS EMISSIONS

#### TEST RESULTS TABLE

#### 1) For 1GHz~18GHz

Test Mode	Channel	Puw(dBm)	Verdict
	LCH	<limit< td=""><td>PASS</td></limit<>	PASS
BLE 1M	MCH	<limit< td=""><td>PASS</td></limit<>	PASS
	НСН	<limit< td=""><td>PASS</td></limit<>	PASS

Note:

Through pre-testing all the test modes and test channels, but only the data of the worst case is included in this test report.

#### 2) For 9kHz~30MHz

Test Mode	Channel	Puw(dBm)	Verdict
BLE	MCH	<limit< td=""><td>PASS</td></limit<>	PASS

Note:

Through pre-testing all the test modes and test channels, but only the data of the worst case is included in this test report.

#### 3) For 30MHz~1GHz

Test Mode	Channel	Puw(dBm)	Verdict
BLE	MCH	<limit< td=""><td>PASS</td></limit<>	PASS

Note:

Through pre-testing all the test modes and test channels, but only the data of the worst case is included in this test report.

#### 4) For 18GHz~26.5GHz

Test Mode	Channel	Puw(dBm)	Verdict
BLE	MCH	<limit< td=""><td>PASS</td></limit<>	PASS

Note:

Through pre-testing all the test modes and test channels, but only the data of the worst case is included in this test report.



#### Part 1: 1GHz~6.5GHz



#### PK Result: Reading Correct Frequency Result Limit Margin No. Level Factor Remark [dBuV/m] [dBuV/m] [dBuV/m] [dB] [MHz] [dB] 1185.6482 40.59 -1.21 39.38 74.00 -34.62 Horizontal 1 74.00 2 1255.0944 43.89 -0.86 43.03 -30.97 Horizontal 3 1399.4874 41.62 -0.49 41.13 74.00 -32.87 Horizontal 2401.9877 39.66 3.66 43.32 74.00 -30.68 Horizontal 4 5137.8922 36.55 12.85 74.00 -24.60 5 49.40 Horizontal 6 5891.4864 36.01 15.60 51.61 74.00 -22.39 Horizontal

Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. For below 6.5GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.









No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1185.6482	46.07	-1.21	44.86	74.00	-29.14	Vertical
2	1255.0944	46.89	-0.86	46.03	74.00	-27.97	Vertical
3	1394.6743	44.12	-0.43	43.69	74.00	-30.31	Vertical
4	5181.2102	36.54	13.15	49.69	74.00	-24.31	Vertical
5	5745.7182	35.83	15.51	51.34	74.00	-22.66	Vertical
6	6321.9152	34.50	17.13	51.63	74.00	-22.37	Vertical

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. For below 6.5GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.







No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1255.7820	45.91	-0.86	45.05	74.00	-28.95	Horizontal
2	1399.4874	41.59	-0.49	41.10	74.00	-32.90	Horizontal
3	2155.8320	39.95	3.22	43.17	74.00	-30.83	Horizontal
4	4690.9614	36.15	13.02	49.17	74.00	-24.83	Horizontal
5	4960.4951	37.11	12.42	49.53	74.00	-24.47	Horizontal
6	5724.4030	36.80	15.17	51.97	74.00	-22.03	Horizontal

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. For below 6.5GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.







No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1185.6482	44.80	-1.21	43.59	74.00	-30.41	Vertical
2	1255.7820	47.44	-0.86	46.58	74.00	-27.42	Vertical
3	1394.6743	43.54	-0.43	43.11	74.00	-30.89	Vertical
4	2199.8375	38.42	3.94	42.36	74.00	-31.64	Vertical
5	4668.9586	36.45	12.37	48.82	74.00	-25.18	Vertical
6	5868.1085	35.93	15.63	51.56	74.00	-22.44	Vertical

Note: 1. Measurement = Reading Level + Correct Factor.

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. For below 6.5GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.







No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1185.6482	40.38	-1.21	39.17	74.00	-34.83	Horizontal
2	1255.7820	46.51	-0.86	45.65	74.00	-28.35	Horizontal
3	1400.1750	41.37	-0.50	40.87	74.00	-33.13	Horizontal
4	5815.1644	35.86	16.32	52.18	74.00	-21.82	Horizontal
5	5994.6243	36.08	16.06	52.14	74.00	-21.86	Horizontal
6	6304.7256	35.13	16.91	52.04	74.00	-21.96	Horizontal

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. For below 6.5GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.









No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	1185.6482	44.91	-1.21	43.70	74.00	-30.30	Vertical
2	1255.0944	46.58	-0.86	45.72	74.00	-28.28	Vertical
3	1324.5406	40.51	-0.22	40.29	74.00	-33.71	Vertical
4	1394.6743	43.42	-0.43	42.99	74.00	-31.01	Vertical
5	5714.0893	35.93	15.13	51.06	74.00	-22.94	Vertical
6	5994.6243	35.13	16.06	51.19	74.00	-22.81	Vertical

- 2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 4. Peak: Peak detector.
- 5. For below 6.5GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for Band Reject Filter losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



#### Part 2: 6.5GHz~18GHz



PK Result:									
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark		
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]			
1	7297.9122	44.07	3.70	47.77	74.00	-26.23	Horizontal		
2	7694.7118	42.45	5.36	47.81	74.00	-26.19	Horizontal		
3	8544.3805	42.47	6.28	48.75	74.00	-25.25	Horizontal		
4	14421.6152	38.62	12.91	51.53	74.00	-22.47	Horizontal		
5	16685.9607	38.10	15.70	53.80	74.00	-20.20	Horizontal		
6	17698.0873	36.05	18.25	54.30	74.00	-19.70	Horizontal		
7	17909.4262	35.96	19.25	55.21	74.00	-18.79	Horizontal		

AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	17698.0873	26.51	18.25	44.76	54.00	-9.24	Horizontal
2	17909.4262	26.49	19.25	45.74	54.00	-8.26	Horizontal

- 2. If peak result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak result: Peak detector, RBW: 1 MHz, VBW: 3 MHz.
- 4. Average result: Peak detector, RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.).
- 5. For above 6.5GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.







No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	8460.9951	43.20	5.90	49.10	74.00	-24.90	Vertical
2	10051.0689	42.29	6.64	48.93	74.00	-25.07	Vertical
3	14296.5371	39.46	12.24	51.70	74.00	-22.30	Vertical
4	16719.0274	37.08	16.27	53.35	74.00	-20.65	Vertical
5	17308.4761	37.40	16.99	54.39	74.00	-19.61	Vertical
6	17547.1309	36.44	17.73	54.17	74.00	-19.83	Vertical
7	17945.3682	35.62	19.48	55.10	74.00	-18.90	Vertical

#### AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	17308.4761	26.93	16.99	43.92	54.00	-10.08	Vertical
2	17547.1309	26.84	17.73	44.57	54.00	-9.43	Vertical
3	17945.3682	26.09	19.48	45.57	54.00	-8.43	Vertical

Note: 1. Measurement = Reading Level + Correct Factor.

- 2. If peak result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak result: Peak detector, RBW: 1 MHz, VBW: 3 MHz.
- 4. Average result: Peak detector, RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.).
- 5. For above 6.5GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
BLE 1M	MCH	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	7000.3125	44.66	3.46	48.12	74.00	-25.88	Horizontal
2	7533.6917	43.61	4.44	48.05	74.00	-25.95	Horizontal
3	8072.8216	42.40	5.63	48.03	74.00	-25.97	Horizontal
4	14412.9891	38.25	12.90	51.15	74.00	-22.85	Horizontal
5	17538.5048	37.61	17.69	55.30	74.00	-18.70	Horizontal
6	17639.1424	37.11	18.01	55.12	74.00	-18.88	Horizontal
7	17972.6841	35.61	19.68	55.29	74.00	-18.71	Horizontal

#### AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	17538.5048	27.05	17.69	44.74	54.00	-9.26	Horizontal
2	17639.1424	27.75	18.01	45.76	54.00	-8.24	Horizontal
3	17972.6841	26.96	19.68	46.64	54.00	-7.36	Horizontal

Note: 1. Measurement = Reading Level + Correct Factor.

- 2. If peak result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak result: Peak detector, RBW: 1 MHz, VBW: 3 MHz.
- 4. Average result: Peak detector, RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.).
- 5. For above 6.5GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
BLE 1M	MCH	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	8085.7607	42.83	5.41	48.24	74.00	-25.76	Vertical
2	9454.4318	42.52	6.57	49.09	74.00	-24.91	Vertical
3	15074.3218	38.72	13.11	51.83	74.00	-22.17	Vertical
4	16217.2772	38.16	15.36	53.52	74.00	-20.48	Vertical
5	16924.6156	37.20	16.09	53.29	74.00	-20.71	Vertical
6	17537.0671	37.34	17.66	55.00	74.00	-19.00	Vertical
7	17949.6812	35.72	19.49	55.21	74.00	-18.79	Vertical

#### AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	17537.0671	26.75	17.66	44.41	54.00	-9.59	Vertical
2	17949.6812	27.16	19.49	46.65	54.00	-7.35	Vertical

- If peak result complies with AV limit, AV Result is deemed to comply with AV limit.
  Peak result: Peak detector, RBW: 1 MHz, VBW: 3 MHz.
- 4. Average result: Peak detector, RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.).
- 5. For above 6.5GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
BLE 1M	НСН	Horizontal	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	8563.0704	42.81	6.00	48.81	74.00	-25.19	Horizontal
2	9569.4462	43.14	6.31	49.45	74.00	-24.55	Horizontal
3	15995.8745	38.49	14.51	53.00	74.00	-21.00	Horizontal
4	16386.9234	38.33	15.01	53.34	74.00	-20.66	Horizontal
5	17555.7570	36.53	17.77	54.30	74.00	-19.70	Horizontal
6	17696.6496	36.40	18.24	54.64	74.00	-19.36	Horizontal
7	17984.1855	36.50	19.80	56.30	74.00	-17.70	Horizontal

#### AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	17555.7570	27.59	17.77	45.36	54.00	-8.64	Horizontal
2	17696.6496	27.30	18.24	45.54	54.00	-8.46	Horizontal
3	17984.1855	26.51	19.80	46.31	54.00	-7.69	Horizontal

Note: 1. Measurement = Reading Level + Correct Factor.

- 2. If peak result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak result: Peak detector, RBW: 1 MHz, VBW: 3 MHz.
- 4. Average result: Peak detector, RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.).
- 5. For above 6.5GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



Test Mode	Channel	Polarization	Verdict
BLE 1M	НСН	Vertical	PASS



No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	7999.4999	43.47	5.30	48.77	74.00	-25.23	Vertical
2	8460.9951	42.81	5.90	48.71	74.00	-25.29	Vertical
3	15951.3064	38.56	14.46	53.02	74.00	-20.98	Vertical
4	17125.8907	37.28	16.55	53.83	74.00	-20.17	Vertical
5	17639.1424	36.43	18.01	54.44	74.00	-19.56	Vertical
6	17778.5973	35.97	18.77	54.74	74.00	-19.26	Vertical
7	17923.8030	36.02	19.36	55.38	74.00	-18.62	Vertical

#### AV Result:

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	17639.1424	27.54	18.01	45.55	54.00	-8.45	Vertical
2	17778.5973	25.68	18.77	44.45	54.00	-9.55	Vertical
3	17923.8030	27.28	19.36	46.64	54.00	-7.36	Vertical

Note: 1. Measurement = Reading Level + Correct Factor.

- 2. If peak result complies with AV limit, AV Result is deemed to comply with AV limit.
- 3. Peak result: Peak detector, RBW: 1 MHz, VBW: 3 MHz.
- 4. Average result: Peak detector, RBW: 1 MHz, VBW: 1/T MHz(refer to clause 7.1.).
- 5. For above 6.5GHz part, filter losses were only considered in the spurious frequency bands and the authorized band was not corrected for HPF losses.
- 6. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



#### Part 3: 18GHz~26.5GHz



#### SPURIOUS EMISSIONS 18GHz ~ 26.5GHz (WORST-CASE CONFIGURATION)

PK R	PK Result:								
No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark		
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]			
1	18930.8431	50.21	-6.13	44.08	74.00	-29.92	Horizontal		
2	20044.4544	48.26	-5.09	43.17	74.00	-30.83	Horizontal		
3	21374.8375	48.41	-5.87	42.54	74.00	-31.46	Horizontal		
4	23051.2051	48.29	-3.51	44.78	74.00	-29.22	Horizontal		
5	24026.2526	48.70	-2.63	46.07	74.00	-27.93	Horizontal		
6	25264.8265	49.73	-3.34	46.39	74.00	-27.61	Horizontal		

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

- 2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.
- 3. Measurement = Reading Level + Correct Factor.
- 4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.







No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	18573.8074	50.82	-6.46	44.36	74.00	-29.64	Vertical
2	19759.6760	48.71	-5.37	43.34	74.00	-30.66	Vertical
3	21424.9925	49.23	-5.86	43.37	74.00	-30.63	Vertical
4	22145.0145	49.19	-5.49	43.70	74.00	-30.30	Vertical
5	23734.6735	48.35	-3.00	45.35	74.00	-28.65	Vertical
6	25186.6187	50.47	-3.42	47.05	74.00	-26.95	Vertical

Note: 1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit. 2. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

3. Measurement = Reading Level + Correct Factor.

4. Only the worst case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.



#### Part 4: 30MHz~1GHz



#### SPURIOUS EMISSIONS 30MHz ~ 1GHz (WORST-CASE CONFIGURATION)

No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	48.0438	6.08	20.42	26.50	40.00	-13.50	Peak
2	69.5800	6.68	18.03	24.71	40.00	-15.29	Peak
3	190.7451	19.19	17.62	36.81	43.50	-6.69	Peak
4	212.3782	17.04	17.22	34.26	43.50	-9.24	Peak
5	451.7012	7.70	25.07	32.77	46.00	-13.23	Peak
6	600.0290	8.43	28.24	36.67	46.00	-9.33	Peak

Note: 1. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit. 2. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.







No.	Frequency	Reading Level	Correct Factor	Result	Limit	Margin	Remark
	[MHz]	[dBuV/m]	[dB]	[dBuV/m]	[dBuV/m]	[dB]	
1	50.3720	3.04	20.51	23.55	40.00	-16.45	Peak
2	69.7740	5.00	18.00	23.00	40.00	-17.00	Peak
3	188.0288	14.89	17.87	32.76	43.50	-10.74	Peak
4	242.2572	9.64	18.97	28.61	46.00	-17.39	Peak
5	452.2832	8.89	25.09	33.98	46.00	-12.02	Peak
6	600.0290	8.53	28.24	36.77	46.00	-9.23	Peak

- Note: 1. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit. 2. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.
  - 3. Measurement = Reading Level + Correct Factor.



#### Part 5: 9kHz~30MHz



No.	Frequency	Reading Level	Correct Factor	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	[MHz]	[dBuV]	[dB/m]	[dBuV/m]	[dBuV/m]	[dBuA/m]	[dBuA/m]	[dB]	
1	0.0103	14.43	-61.90	-47.47	47.34	-98.97	-4.16	-94.81	Peak
2	0.0205	17.86	-61.74	-43.88	41.38	-95.38	-10.12	-85.26	Peak
3	0.0666	13.50	-61.61	-48.11	31.14	-99.61	-20.36	-79.25	Peak
4	0.1138	13.22	-61.72	-48.50	26.48	-100.00	-25.02	-74.98	Peak
5	0.1251	12.19	-61.72	-49.53	25.66	-101.03	-25.84	-75.19	Peak
6	0.1377	12.45	-61.73	-49.28	24.83	-100.78	-26.67	-74.11	Peak

Note: 1. Measurement = Reading Level + Correct Factor.

2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.

3. All 3 polarizations(Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.







No.	Frequency	Reading Level	Correct Factor	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	[MHz]	[dBuV]	[dB/m]	[dBuV/m]	[dBuV/m]	[dBuA/m]	[dBuA/m]	[dB]	
1	0.1680	30.13	-61.75	-31.62	23.10	-83.12	-28.40	-54.72	Peak
2	0.2221	26.65	-61.78	-35.13	20.67	-86.63	-30.83	-55.80	Peak
3	0.2588	23.47	-61.80	-38.33	19.34	-89.83	-32.16	-57.67	Peak
4	0.4193	22.97	-61.85	-38.88	14.98	-90.38	-36.52	-53.86	Peak
5	0.4451	22.93	-61.86	-38.93	14.25	-90.43	-37.25	-53.18	Peak
6	0.4836	21.25	-61.88	-40.63	13.24	-92.13	-38.26	-53.87	Peak

- 2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.
- 3. All 3 polarizations(Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.







No.	Frequency	Reading Level	Correct Factor	FCC Result	FCC Limit	ISED Result	ISED Limit	Margin	Remark
	[MHz]	[dBuV]	[dB/m]	[dBuV/m]	[dBuV/m]	[dBuA/m]	[dBuA/m]	[dB]	
1	0.6671	16.07	-21.88	-5.81	31.12	-57.31	-20.38	-36.93	Peak
2	0.7999	13.56	-21.87	-8.31	29.54	-59.81	-21.96	-37.85	Peak
3	1.1983	11.03	-21.85	-10.82	26.03	-62.32	-25.47	-36.85	Peak
4	1.7768	9.16	-21.83	-12.67	29.54	-64.17	-21.96	-42.21	Peak
5	2.5530	7.41	-21.81	-14.40	29.54	-65.90	-21.96	-43.94	Peak
6	20.5706	6.32	-21.47	-15.15	29.54	-66.65	-21.96	-44.69	Peak

- 2. If Peak Result complies with AV and QP limit, AV and QP Result are deemed to comply with AV limit.
- 3. All 3 polarizations(Horizontal, Face-on and Face-off) of the loop antenna had been tested, but only the worst data recorded in the report.



# 9. AC POWER LINE CONDUCTED EMISSIONS

#### LIMITS

Please refer to FCC §15.207 (a)

FREQUENCY (MHz)	Limit (dBuV)				
	Quasi-peak	Average			
0.15 -0.5	66 - 56 *	56 - 46 *			
0.50 -5.0	56.00	46.00			
5.0 -30.0	60.00	50.00			

#### TEST ENVIRONMENT

Temperature	22°C	Relative Humidity	56%
Atmosphere Pressure	101kPa	Test Voltage	AC 120V

#### TEST SETUP AND PROCEDURE



The EUT is put on a table of non-conducting material that is 12 mm high. The vertical conducting wall of shielding is located 40cm to the rear of the EUT. The power line of the EUT is connected to the AC mains through an Artificial Mains Network (A.M.N.). A EMI Measurement Receiver (R&S Test Receiver ESR3) is used to test the emissions from both sides of AC line. According to the requirements in Section 6.2 of ANSI C63.10-2013.Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30MHz using CISPR Quasi-Peak and average detector mode. The bandwidth of EMI test receiver is set at 9kHz.

The arrangement of the equipment is installed to meet the standards and operating in a manner, which tends to maximize its emission characteristics in a normal application.





#### LINE L RESULTS (WORST-CASE CONFIGURATION)

# Final\_Result

Frequency [MHz]	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Meas. Time [ms]	Bandwidth [kHz]	Line	Filter	Corr. [dB]
0.150000		26.13	56.00	29.87	1000.0	9.000	L1	OFF	9.6
0.150000	45.54		66.00	20.46	1000.0	9.000	L1	OFF	9.6
0.351488		28.41	48.93	20.51	1000.0	9.000	L1	OFF	9.6
0.351488	39.40		58.93	19.53	1000.0	9.000	L1	OFF	9.6
0.809188		43.10	46.00	2.90	1000.0	9.000	L1	OFF	9.6
0.809188	43.25		56.00	12.75	1000.0	9.000	L1	OFF	9.6
1.620113		38.79	46.00	7.21	1000.0	9.000	L1	OFF	9.6
1.620113	39.46		56.00	16.54	1000.0	9.000	L1	OFF	9.6
2.428550		34.06	46.00	11.94	1000.0	9.000	L1	OFF	9.6
2.428550	36.03		56.00	19.97	1000.0	9.000	L1	OFF	9.6
3.239475		33.84	46.00	12.16	1000.0	9.000	L1	OFF	9.6
3.239475	36.06		56.00	19.94	1000.0	9.000	L1	OFF	9.6

Note: 1. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.

- 2. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
- 3. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.
- 4. The extension cord/outlet strip was calibrated with the LISN as required by ANSI C63.10:2013 Clause 6.2.2.
- 5. Pre-testing all test modes and channels and find the MCH of BLE 1M which is the worst case, so only the worst case is included in this test report.
- 6. Two models of docker will be collocated to the EUT, both of them have been test, only the worse case is recorded in this test report.





#### LINE N RESULTS (WORST-CASE CONFIGURATION)

# Final\_Result

Frequency [MHz]	QuasiPeak [dBµV]	Average [dBµV]	Limit [dBµV]	Margin [dB]	Meas. Time [ms]	Bandwidth [kHz]	Line	Filter	Corr. [dB]
0.349000		28.83	48.99	20.15	1000.0	9.000	Ν	OFF	9.6
0.349000	39.30		58.99	19.68	1000.0	9.000	Ν	OFF	9.6
0.373875		25.39	48.41	23.03	1000.0	9.000	Ν	OFF	9.6
0.373875	38.42		58.41	19.99	1000.0	9.000	Ν	OFF	9.6
0.809188		42.92	46.00	3.08	1000.0	9.000	Ν	OFF	9.6
0.809188	43.07		56.00	12.93	1000.0	9.000	Ν	OFF	9.6
1.617625		37.36	46.00	8.64	1000.0	9.000	Ν	OFF	9.6
1.617625	38.24		56.00	17.76	1000.0	9.000	Ν	OFF	9.6
2.428550		34.61	46.00	11.39	1000.0	9.000	Ν	OFF	9.6
2.428550	36.43		56.00	19.57	1000.0	9.000	Ν	OFF	9.6
3.239475		34.61	46.00	11.39	1000.0	9.000	Ν	OFF	9.6
3.239475	36.66		56.00	19.34	1000.0	9.000	Ν	OFF	9.6

Note: 1. If QP Result complies with AV limit, AV Result is deemed to comply with AV limit.

- 2. Test setup: RBW: 200 Hz (9 kHz—150 kHz), 9 kHz (150 kHz—30 MHz).
- 3. Step size: 80Hz (0.009MHz-0.15MHz), 4 kHz (0.15MHz-30MHz), Scan time: auto.
- 4. The extension cord/outlet strip was calibrated with the LISN as required by ANSI C63.10:2013 Clause 6.2.2.
- 5. Pre-testing all test modes and channels and find the MCH of BLE 1M which is the worst case, so only the worst case is included in this test report.
- 6. Two models of docker will be collocated to the EUT, both of them have been test, only the worse case is recorded in this test report.



# **10. ANTENNA REQUIREMENTS**

#### APPLICABLE REQUIREMENTS

#### Please refer to FCC §15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

#### Please refer to FCC §15.247(b)(4)

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

#### ANTENNA GAIN

The antenna gain of EUT is less than 6 dBi

# **END OF REPORT**