# **Test Report**

Test Report No.: CQC-IVTS-2023-00376

Product Name	Interactive Flat Panel	
Model Number	RP7504	
Applicant	BenQ Corporation	
Approval Types	FCC ID: JVPRP7504 IC: 6175A-RP7504	

CQC Internet of Vehicles Technical Service (Shenzhen) Co., Ltd. National Quality Inspection and Testing Center for Internet of Vehicles Products



## **TEST REPORT DECLARATION**

Equipment under Test	:	Interactive Flat Panel
Test Model		RP7504
Listed Models	:	RP7504,RP7504B,RP7504C,RP7504D,RP7504E
Applicant	:	BenQ Corporation
Address	:	16 Jihu Road, Neihu, Taipei 114, Taiwan, China
Manufacturer	:	BenQ Corporation
Address	;	16 Jihu Road, Neihu, Taipei 114, Taiwan, China

The EUT described above is tested by CQC Internet of Vehicles Technical Service (Shenzhen) Co., Ltd. to determine the maximum emissions from the EUT. CQC Internet of Vehicles Technical Service (Shenzhen) Co., Ltd. is assumed full responsibility for the accuracy of the test results.

Project Engineer:	Yawkun Wang (Yankun Wang 王炎坤)	Date:	Wr3 - 10 - 11
Checked by:	//ww//ww しi (Haohao Li 李昊昊)	Date:	2023 - 10-11
Approved by:	WewWowg/L (Wenliang Li 李文亮)	Date:	2013 - 10-11

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#### 1. <u>TEST STANDARDS</u>

The tests were performed according to following standards: The equipment under test (EUT) has been tested at CQC-IVTS's (own or subcontracted) laboratories according to the leading reference documents giving table below:

No	Identify	Document Title	Version/Date
1	FCC Part 15 C § 15.249	Operation within the bands 902–928 MHz, 2400–2483.5 MHz, 5725–5875 MHZ, and 24.0–24.25 GHz.	5/16/2023
2	RSS-210 Annex B.10	Licence-Exempt Radio Apparatus: Category I Equipment - Bands 902-928 MHz, 2400-2483.5 MHz, 5725-5875 MHz and 24-24.25 GHz	Issue 10/December 2019
3	RSS-Gen	General Requirements for Compliance of Radio Apparatus	Issue 5/April 2018
4	ANSI C63.4	American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz	2014
5	ANSI C63.10	American National Standard for Testing Unlicensed Wireless Devices	2013

#### 2. <u>SUMMARY</u>

#### 2.1. General Remarks

Date of receipt of test sample		July 30, 2023
Testing commenced on	:	July 30, 2023
Testing concluded on	:	August 20, 2023

#### 2.2. Product Description\*

Product Name:	Interactive Flat Panel
Trade Mark	BenQ
Model/Type reference:	RP7504
List Model:	RP7504,RP7504B,RP7504C,RP7504D,RP7504E
FCC ID:	JVPRP7504
IC:	6175A-RP7504
HMN:	-/-
PMN:	Interactive Flat Panel
HVIN:	RP7504, RP7504B, RP7504C, RP7504D, RP7504E
FVIN:	RP750420230822_010435
Hardware Version:	V1.0
Software Version:	RP750420230822_010435
Frequency range:	24.00 – 24.25 GHz
Nominal Frequency:	Low Channel: 24.016 GHz; Middle Channel: 24.122 GHz; High
	Channel: 24.220 GHz
Number of Channels:	3
Modulation Type:	No modulation (CW only)
Antenna:	Integrated patch antenna
Antenna Gain:	4.00 dBi
Power Supply:	AC 120V/60Hz
IC Classification:	Motion sensor device
Emission Designator:	NON
	The difference of Model:
	RP7504,RP7504B,RP7504C,RP7504D,RP7504E only model name
	difference. Hardware and software are same.
Difference Declaration	The difference of Model:
	RP7504,RP7504B,RP7504C,RP7504D,RP7504E and model: RP8604
	(FCC ID: JVPRP8604 / IC: 6175A-RP8604) are only panel side
	difference, this changes not effect Radar sensor Radio parameters.
	Refer to Annex A for difference declaration
	1

\*: declared by the applicant. CQC-IVTS not responsible for accuary.

#### 2.3. EUT Operation Mode\*

EUT operating mode no	Description of operating modes	Additional information
on 1	Continuously transmitting and receiving	Carrier modulation (normal mode). 24.016
op. 1	mode	GHz, a continuous wave with 100% duty cycle
on 2	Continuously transmitting and receiving	Carrier modulation (normal mode). 24.122
op. z	mode	GHz, a continuous wave with 100% duty cycle
on 3	Continuously transmitting and receiving	Carrier modulation (normal mode). 24.220
op. 5	mode	GHz, a continuous wave with 100% duty cycle

\*: declared by the applicant

#### 2.4. Modifications

No modifications were implemented to meet testing criteria

#### 2.5. Test Item (Equipment Under Test) Description\*

Short designation	EUT Name	EUT Description	Serial number	Hardware status	Software status
EUT A	RP8604	Interactive Flat Panel	-/-	V1.0	RP860420230822_011151
EUT B	RP7504	Interactive Flat Panel	-/-	V1.0	RP750420230822_010435

\*: declared by the applicant.

#### 2.6. Auxiliary Equipment (AE) Description\*

AE short designation	EUT Name (if available)	EUT Description	Serial number (if available)	Software (if used)
AE 1	AC Power Cable	Length: 1m	-/-	-/-
-/-	-/-	-/-	-/-	-/-

\*: declared by the applicant.

#### 2.7. Test Item Set-ups Description

set. 1	EUT A + AE 1	EUT operating mode 1
set. 2	EUT A + AE 1	EUT operating mode 2
set. 3	EUT A + AE 1	EUT operating mode 3

#### 2.8. Test Conditions\*

Temperature, [°C]		Voltage, [V]		
T <sub>nom</sub>	25.0	V <sub>nom</sub>	AC 120.0 V	
T <sub>min</sub>	-10.0	V <sub>min</sub>	AC 132.0 V	
T <sub>max</sub>	50.0	V <sub>max</sub>	AC 108.0 V	

\*: declared by the applicant

#### 2.9. Additional Information

Test items differences	None
Additional application considerations to test a component or sub-assembly	Laptop with test software

#### 2.10. Test Channel

Test Channel	Frequency [MHz]	Test Channel	Frequency [MHz]
Low	24016.00	Middle	24122.00
High	24220.00		

#### 2.11. Test Location

Location 1

Company:	CQC Internet of Vehicles Technical Service (Shenzhen) Co., Ltd.
Address: Building G5, TCL International E City, Xili Street, Nanshan District, Sher	
Address.	China
Post code:	518112
Contact Person:	Wenliang Li
Telephone:	+86-755-8618 9654
e-Mail:	liwenliang@cqc.com.cn

#### 2.12. Abnormalities from Standard Conditions

None

#### 2.13. Possible verdicts of the results

Test sample meets the requirements	P (PASS) ± the measured value is below the acceptance limit, AL = TL
Test sample does not meet the	F (FAIL) ± the measured value is above the acceptance
requirements	limit, AL = TL
Test case does not apply to the test sample	N/A (Not applicable)
Test case not performed	N/P (Not performed)

#### 2.14. Formula for determination of correction values (E<sub>c</sub>)

 $E_{C} = E_{R} + AF + C_{L} + D_{F} - G_{A} (1)$ M = L<sub>T</sub> - E<sub>C</sub> (2)

$$\begin{split} & E_{C} = \text{Electrical field } \pm \text{ corrected value} \\ & E_{R} = \text{Receiver reading} \\ & M = \text{Margin} \\ & L_{T} = \text{Limit} \\ & AF = \text{Antenna factor} \\ & C_{L} = \text{Cable loss} \\ & D_{F} = \text{Distance correction factor (if used)} \\ & G_{A} = \text{Gain of pre-amplifier (if used)} \\ & \text{All units are dB-units, positive margin means value is below limit.} \end{split}$$

#### 2.15. Reporting Statements of Conformity – Decision Rule

Only the measured values related to their corresponding limits will be used to decide whether the equipment under test meets the requirements of the test standards listed. The measurement uncertainty is mentioned in this test report, see chapter 9, but is not taken into account - neither to the limits nor to the measurement results. Measurement results with a smaller margin to the corresponding limits than the measurement uncertainty have a potential risk of more than 5% that the decision might be wrong."



#### 2.16. Radiated Emission Measurement Distance

The measurement antenna is in the far field of the EUT per formula  $2D^2/\lambda$ , where D is the larger between the dimension of the measurement antenna and the transmitting antenna of the EUT. In this case, "D" is the largest dimension of the measurement antenna. The EUT is manipulated through all orthogonal planes representative of its typical use and for both polarities of the measurement antenna in order to achieve the highest signal level. The worst-case position found was used for all radiated testing.

Frequency Range [GHz]	Wavelength [centimetres]	Far Field Distance [meters]	Measurement Distance [meters]
18 – 40	0.750	0.65	1.00
40 - 60	0.522	0.97	1.00
60 - 90	0.322	0.69	1.00
90 – 140	0.210	0.52	1.00
140 – 220	0.148	0.37	1.00
220 – 325	0.101	0.24	1.00

#### 3. <u>TEST ENVIRONMENT</u>

#### 3.1. Address of the test laboratory

#### CQC Internet of Vehicles Technical Service (Shenzhen) Co., Ltd.

Building G5, TCL International E City, Xili Street, Nanshan District, Shenzhen, China CQC-IVTS A2LA Certification Number: 6645.01; FCC Designation Number: CN1329 ISED test lab CAB identifier: 27979

#### 3.2. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Normal Temperature:	25°C
Lative Humidity	55 %
Air Pressure	989 hPa

#### 3.3. Test Description

Test Specification Clause	Test Case	Temperature Condition	Power Supply	PASS	FAIL	NA	NP	Results
FCC Part 15C § 15.249 (a) RSS-210 B.10 (a)	Field strength of emissions (wanted signal)	Nominal	Nominal					
RSS-Gen	Occupied bandwidth (20dB)	Nominal	Nominal					
§2.1049 RSS-Gen	Occupied bandwidth (99%)	Nominal	Nominal					
§15.209(a) §15.249(a) (d) RSS-210 B.10 (a) (b) RSS-Gen	Field strength of emissions (spurious & harmonics)	Nominal	Nominal					
§15.207 RSS-Gen	AC power-line conducted emissions limits	Nominal	Nominal					
§15.203 RSS-Gen	Antenna requirement	-/-	-/-					

Remark:1. NA means "not applicable"; NP means Not Performed;

2. The measurement uncertainty is not included in the test result.

According to KDB 484596 D01 Referencing Test Data v01, the difference of Model: RP7504 (FCC ID: JVPRP7504 / IC: 6175A-RP7504) and model: RP8604 (FCC ID: JVPRP8604 / IC: 6175A-RP8604) are only panel side difference, this changes not effect Radar sensor Radio parameters. Model: RP7504 (FCC ID: JVPRP7504 / IC: 6175A-RP7504) test report (Test Report No. CQC-IVTS-2023-00376) will referencing test data from original Model: RP8604 (FCC ID: JVPRP8604 / IC: 6175A-RP8604) test report (Test Report No.: CQC-IVTS-2023-00379) after spot check Field strength of emissions (wanted signal), Occupied bandwidth (20dB), Occupied bandwidth (99%), worst case of Field strength of emissions (spurious & harmonics), model RP7504 spot check values not higher than model RP8604; Model: RP7504 (FCC ID: JVPRP7504 / IC: 6175A-RP7504) test report (Test Report No. CQC-IVTS-2023-00376) will referencing test data from original model: RP8604 / IC: 6175A-RP8604) test report (Test Report No. CQC-IVTS-2023-00376) are spot check values not higher than model RP8604; Model: RP7504 (FCC ID: JVPRP7504 / IC: 6175A-RP7504) test report (Test Report No. CQC-IVTS-2023-00376) will referencing test data from original model: RP8604 (FCC ID: JVPRP8604 / IC: 6175A-RP8604) test report (Test Report No.: CQC-IVTS-2023-00379) as: Occupied bandwidth (20dB), Occupied bandwidth (99%) and Field strength of emissions (spurious & harmonics) above 1 GHz.

#### 3.4. Statement of The Measurement Uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was

calculated for all measurements listed in this test report acc. to TR-100028-01" Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 1" and TR-100028-02 "Electromagnetic compatibility and Radio spectrum Matters (ERM);Uncertainties in the measurement of mobile radio equipment characteristics; Part 2 " and is documented in the CQC Internet of Vehicles Technical Service (Shenzhen) Co., Ltd..quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for CQC Internet of Vehicles Technical Service (Shenzhen) Co., Ltd.:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	4.90 dB	(1)
Radiated Emission	1~6GHz	4.20 dB	(1)
Radiated Emission	6~18GHz	4.50 dB	(1)
Radiated Emission	18-40GHz	5.42 dB	(1)
Radiated Emission	Above 40 GHz	5.50 dB	(1)
Conducted Disturbance	0.15~30MHz	3.30 dB	(1)

(1) This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

#### 3.5. Equipments Used during the Test

Radiat	ed Emission					
Item	Test Equipment	Manufacturer	Model No.	Equipment No.	Last Cal.	Cal.Due
1	EMI Test Receiver	R&S	ESW26	103003	2022/08/25	2023/08/24
2	Spectrum Analyzer	R&S	FSW43	10182	2022/08/25	2023/08/24
3	Ultra-Broadband Antenna	Schwarzbeck	VULB9168	1291	2021/09/05	2024/09/04
4	Horn Antenna	ETS- Lindgren	3117	102732	2021/09/05	2024/09/04
5	Amplifier	R&S	SCU01F	100369	2022/08/25	2023/08/24
6	Amplifier	R&S	SCU18F	100868	2022/08/25	2023/08/24
7	Amplifier	R&S	SCU26F	100781	2022/08/25	2023/08/24
8	Amplifier	R&S	SCU40F	102713	2022/08/25	2023/08/24
8	Horn Antenna	A-INFO	LB-180500H- 2.4F	2110081000089	2021/09/05	2024/09/04
9	EMI Test Software	R&S	EMC32	N/A	N/A	N/A
10	TC-RX50	Tonscond	Receive Unit	1544	N/A	N/A
11	TC-RX75	Tonscond	Receive Unit	1545	N/A	N/A
12	TC-RX110	Tonscond	Receive Unit	1546	N/A	N/A
13	TC-RX170	Tonscond	Receive Unit	1547	N/A	N/A
14	TC-RX240	Tonscond	Receive Unit	1548	N/A	N/A
15	TC-RX40	Tonscond	Receive Unit	1543	N/A	N/A
16	Antenna Mast	Maturo	BAM4.0	N/A	N/A	N/A
17	Turntable	Maturo	TT3.5	N/A	N/A	N/A
18	Loop Antenna	R&S	HFH2-Z2E	101066	2021/09/05	2024/09/04

#### 4. TEST CONDITIONS AND RESULTS

#### 4.1. Field Strength of Emissions

#### 4.1.1. LIMITS

(a) According to § 15.249(a) and RSS-210 B.10 (a): Except as provided in <u>paragraph (b)</u> of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental frequency (MHz)	Field strength of fundamental (millivolts/meter)	Field strength of harmonics (microvolts/meter)
902 - 928	50	500
2400 – 2482.5	50	500
5725 – 5875	50	500
24000 – 24250	250	2500

- (b) According to § 15.249(c) and RSS-210 B.10 (a):Field strength limits are specified at a distance of 3 meters.:
- (c) According to § 15.249(d): Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209, whichever is the lesser attenuation.
- (d) According to RSS-210 B.10 (b): Emissions radiated outside of the specified frequency bands, except for harmonic emissions, shall be attenuated by at least 50 dB below the level of the fundamental emissions or to the general field strength limits listed in RSS-Gen, whichever is less stringent.
- (e) According to § 15.249(b): Fixed, point-to-point operation as referred to in this paragraph shall be limited to systems employing a fixed transmitter transmitting to a fixed remote location. Point-to-multipoint systems, omnidirectional applications, and multiple co-located intentional radiators transmitting the same information are not allowed. Fixed, point-to-point operation is permitted in the 24.05–24.25 GHz band subject to the following conditions:
  - (1) The field strength of emissions in this band shall not exceed 2500 millivolts/meter.
  - (2) The frequency tolerance of the carrier signal shall be maintained within ±0.001% of the operating frequency over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.
  - (3) Antenna gain must be at least 33 dBi. Alternatively, the main lobe beamwidth must not exceed 3.5 degrees. The beamwidth limit shall apply to both the azimuth and elevation planes. At antenna gains over 33 dBi or beamwidths narrower than 3.5 degrees, power must be reduced to ensure that the field strength does not exceed 2500 millivolts/meter.

Frequency (MHz)	Distance (Meters)	Radiated (dBµV/m)	Radiated (µV/m)
0.009-0.49	3	20log(2400/F(KHz))+40log(300/3)	2400/F(KHz)
0.49-1.705	3	20log(24000/F(KHz))+ 40log(30/3)	24000/F(KHz)
1.705-30	3	20log(30)+ 40log(30/3)	30
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

- (1) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in § 15.209 and RSS-Gen, whichever is the lesser attenuation.
- (2) The emission limits shown above are based on measurement instrumentation employing an average detector. The provisions in § 15.35 and RSS-Gen for limiting peak emissions apply.

#### 4.1.2. TEST CONFIGURATION

(a) Frequency range 9 KHz - 30MHz



(b) Radiated emission test set-up, frequency range: 30 - 1000MHz



(c) Radiated emission test set-up, frequency range 1GHz - 18 GHz



Spectrum Analyzer / Receiver

(d) Radiated emission test set-up, frequency range above 18GHz



#### 4.1.3. TEST PROCEDURE

#### 4.1.3.1 Sequence of testing radiated spurious 9 KHz to 30 MHz

#### Setup

- The equipment is set up to simulate normal operation mode as described in the user manual or defined by the manufacturer
- If the EUT is a tabletop system, 1.5 m height is used.
- If the EUT is a floor standing device, it is placed directly on the turn table.
- Auxiliary equipment and cables are positioned to simulate normal operation conditions as described in ANSI C63.4.
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- Measuremet distance is 3m (see ANSI C63.4) see test details.
- EUT is set into operation.

#### Premeasurement

- The turntable rotates from 0 degree to 360 degree.
- The antenna height is 1m.
- Set RBW = 200 Hz / VBW = 1 KHz, sweep time: Auto
- At each turntable position the anzlyer sweeps with position-peak detector to find the maximum of all emissions.

#### Final measurement

- Identified emissions during the premeaurement are maximized by the software by rotating the turntable from 0 degree to 360 degree.
- The final measurement is done in the position (turntable and elevation) causing the highest emissions with quasi-peak (as described in ANSI C 63.4).
- Final levels, frequency, measuring time, bandwidth, turntable position, conrrection factor, margin to the limit and limit will be recorded. A plot with the graph of the measurement and the limit is stored.

#### 4.1.3.2 Sequence of testing radiated spurious 30 MHz to 1 GHz

#### Setup

- The equipment is set up to simulate normal operation mode as described in the user manual or defined by the manufacturer
- If the EUT is a tabletop system, 0.8 m height is used, which is placed on the ground plance.
- If the EUT is a floor standing device, it is placed directly on the ground plane.
- Auxiliary equipment and cables are positioned to simulate normal operation conditions as described in ANSI C63.4.
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- Measuremet distance is 3m (see ANSI C63.4) see test details.
- EUT is set into operation.

#### Premeasurement

- The turntable rotates from 0 degree to 360 degree.
- The antenna is polarized vertical and horizontal.
- The antenna height changes from 1m to 4m.
- Set RBW = 120 KHz / VBW = 1 MHz, sweep time: Auto
- At each turntable position the anzlyer sweeps with position-peak detector to find the maximum of all emissions.

#### Final measurement

- The final neasurement is perormed for at least six highest peaks according to the requirements of the ANSI C63.4.
- Based on antenna and turntable positions at which the peak values are measured the software maximize the peaks by changing turntable and antenna height between 1 and 4 m.
- The final measurement is done with quasi-peak detector (as described in ANSI C 63.4).
- Final levels, frequency, measuring time, bandwidth, turntable position, conrection factor, margin to the limit and limit will be recorded. A plot with the graph of the measurement and the limit is stored.

#### 4.1.3.3 Sequence of testing radiated spurious 1 GHz to 18 GHz

#### Setup

- The equipment is set up to simulate normal operation mode as described in the user manual or defined by the manufacturer
- If the EUT is a tabletop system, 1.5 m height is used.
- If the EUT is a floor standing device, it is placed directly on the turntable.
- Auxiliary equipment and cables are positioned to simulate normal operation conditions as described in ANSI C63.4.
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- Measuremet distance is 3m (see ANSI C63.4) see test details.
- EUT is set into operation.

#### Premeasurement

- The turntable rotates from 0 degree to 360 degree.
- The antenna is polarized vertical and horizontal.
- The antenna height changes from 1m to 4m.
- Set RBW = 1 MHz / VBW = 3 MHz, sweep time: Auto, detector: Peak for Peak, RBW = 1 MHz / VBW = 3 MHz, sweep time: Auto, detector: Average for Average.
- At each turntable position the anzlyer sweeps with position-peak detector to find the maximum of all emissions.

#### Final measurement

- The final neasurement us perormed for at least six highest peaks according to the requirements of the ANSI C63.4.
- Based on antenna and turntable positions at which the peak values are measured the software maximize the peaks by changing turntable and antenna height between 1 and 4 m.
- The final measurement is done in the position (turntable, EUT-table and antenna polarization) causing the height emissions with Peak and Average detector (as described in ANSI C 63.4).
- Final levels, frequency, measuring time, bandwidth, turntable position, conrrection factor, margin to the limit and limit will be recorded. A plot with the graph of the measurement and the limit is stored.

#### 4.1.3.4 Sequence of testing radiated spurious above 18 GHz

#### Setup

- The equipment is set up to simulate normal operation mode as described in the user manual or defined by the manufacturer
- If the EUT is a tabletop system, 1.5 m height is used.
- If the EUT is a floor standing device, it is placed directly on the turntable.
- Auxiliary equipment and cables are positioned to simulate normal operation conditions as described in ANSI C63.4.
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- Measuremet distance is 1m (see ANSI C63.4) see test details.
- EUT is set into operation.

#### Premeasurement

- The turntable rotates from 0 degree to 360 degree.
- The antenna is polarized vertical and horizontal.
- The antenna height changes from 1m to 4m.
- Set RBW = 1 MHz / VBW = 3 MHz, sweep time: Auto, detector: Peak for Peak, RBW = 1 MHz / VBW = 3 MHz, sweep time: Auto, detector: Average for Average.
- At each turntable position the anzlyer sweeps with position-peak detector to find the maximum of all emissions.

#### Final measurement

- The final neasurement is perormed for at least six highest peaks according to the requirements of the ANSI C63.4.
- Based on antenna and turntable positions at which the peak values are measured the software maximize the peaks by changing turntable and antenna height between 1 and 4 m.
- The final measurement is done in the position (turntable, EUT-table and antenna polarization) causing the height emissions with Peak and RMS detector (as described in ANSI C 63.4).
- All final levels should consider distance conversion factor as format: Final values (3 m) = Measurement values (1 m) + Distance conversion factor
  - Distance conversion factor =  $20 \times Log_{10}$  (d/3), where d = measurement distance in m
    - Distance conversion factor =  $20 \times \text{Log}_{10} (1/3) = -9.54 \text{ [dB]}$
- Final levels, frequency, measuring time, bandwidth, turntable position, conrrection factor, margin to the limit and limit will be recorded. A plot with the graph of the measurement and the limit is stored.

#### 4.1.3.5 Sequence of testing radiated spurious above 40 GHz with external mixers

#### Setup

- The equipment is set up to simulate normal operation mode as described in the user manual or defined by the manufacturer
- If the EUT is a tabletop system, 1.5 m height is used.
- If the EUT is a floor standing device, it is placed directly on the turntable.
- Auxiliary equipment and cables are positioned to simulate normal operation conditions as described in ANSI C63.4.
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- Measuremet distance is 1m (see ANSI C63.4) see test details.
- EUT is set into operation.

#### Premeasurement

- The turntable rotates from 0 degree to 360 degree.
- The antenna with external mixer is polarized vertical and horizontal.
- The antenna height changes from 1m to 4m.
- Set RBW = 1 MHz / VBW = 3 MHz, sweep time: Auto, detector: Peak for Peak, RBW = 1 MHz / VBW = 3 MHz, sweep time: Auto, detector: Average for Average.
- At each turntable position the anzlyer sweeps with position-peak detector to find the maximum of all emissions.

#### Final measurement

- The final neasurement is perormed for at least six highest peaks according to the requirements of the ANSI C63.4.
- Based on antenna and turntable positions at which the peak values are measured the software maximize the peaks by changing turntable and antenna height between 1 and 4 m.
- The final measurement is done in the position (turntable, EUT-table and antenna polarization) causing the height emissions with Peak and RMS detector (as described in ANSI C 63.4).
- All final levels should consider distance conversion factor as format: Final values (3 m) = Measurement values (1 m) + Distance conversion factor
   Distance conversion factor = 20 x Log<sub>10</sub> (d/3), where d = measurement distance in m
- Distance conversion factor = 20 x Log<sub>10</sub> (1/3) = -9.54 [dB]
   Final levels, frequency, measuring time, bandwidth, turntable position, conrrection factor, margin to the limit and limit will be recorded. A plot with the graph of the measurement and the limit is stored.

#### 4.1.4. FIELD STRENGTH CALCULATION

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

#### FS (dBuV/m) = RA (dBuV) + AF (dB/m) + CL (dB) - AG (dB)

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

#### 4.1.5. TEST RESULTS

EIRP measurements were ensured to be taken in the Far-Field test distance are shown in Section 2.15.

#### Sample Calculations

Calculating Field Strength from substitution power:

#### $E(dBuV/m) = 126.8 - 20log(\lambda) + P - G$

Where;

*E* is the field strength of the emission at the measurement distance, in dBuV/m *P* is the power measured at the output of the test antenna, in dBm; where *P* includes all applicable instrument correction factors up to the connections to the test antenna.  $\lambda$  is the wavelength of the emission under investigation [300 / f<sub>MH</sub>z], in m.

G is the gain of the test antenna, in dBi.

Calculating EIRP from Field Strength;

EIRP [dBm] = E<sub>measurement</sub> + 20log (D<sub>measured</sub>) - 104.7

Where;

EIRP is the equivalent isotropic radiated power in dBm E<sub>measured</sub> is the field strength of the emission at the measurement distance, in dBuV/m D<sub>measure</sub>d is the measurement distance in meters.

74 dBuV/m @ 3m measurement distance = -21.250 dBm @ 1m measurement distance 54 dBuV/m @ 3m measurement distance = -41.250 dBm @ 1m measurement distance Harmonics level 2500 uV/m @ 3m measurement distance = 67.96 dBuV/m @ 3m measurement distance = -27.27 dBm @ 1m measurement distance 87.96 dBuV/m @ 3m measurement distance = -7.27 dBm @ 1m measurement distance

PASS

Remark:

- Not recorded values after pre-test below 30 MHz (9 KHz 30 MHz), values at least 20 dB below limit.
- 2. Measured all channels from 30 MHz 18 GHz, only recorded worst case at high channel.

Teet	Teet	Nominal	EUT/Antonno	Maximu	Toot			
Condictions	Channel	Frequency [MHz]	Orientation	Peak	Peak Limit	Average	Average Limit	Results
T <sub>nom</sub> / V <sub>nom</sub>	Low	24016.00	X/H&V	96.25	127.96	95.35	107.96	PASS
T <sub>nom</sub> / V <sub>nom</sub>	Middle	24122.00	X/H&V	101.33	127.96	100.97	107.96	PASS
T <sub>nom</sub> / V <sub>nom</sub>	High	24220.00	X/H&V	105.29	127.96	105.01	107.96	PASS

Plots No. 1: 30 MHz to 1 GHz, Horizontal / Vertical Polarization \_ High Channel



#### **Limit and Margin**

Frequency (MHz)	QuasiPeak (dBμV/m)	Meas. Time (ms)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Margin - QPK (dB)
33.000000	29.7	1000.0	120.000	150.0	Н	180.0	-25.3	10.3
163.840000	28.6	1000.0	120.000	150.0	Н	180.0	-23.3	15.0
200.800000	33.1	1000.0	120.000	150.0	Н	180.0	-26.7	10.4
350.600000	32.0	1000.0	120.000	150.0	Н	180.0	-21.8	14.0
401.720000	31.2	1000.0	120.000	150.0	Н	180.0	-20.7	14.8
504.040000	34.7	1000.0	120.000	150.0	Н	180.0	-18.2	11.3

(continuation of the "Limit and Margin" table from column 16 ...)

Frequency (MHz)	Limit - QPK (dBµV/m)	Comment
33.000000	40.0	
163.840000	43.5	
200.800000	43.5	
350.600000	46.0	

Plots No. 2: 1 GHz to 18 GHz, Horizontal / Vertical Polarization \_ High Channel



Plots No. 3: Radiated Maximum Field Strength, Horizontal / Vertical Polarization \_ Low Channel

MultiView 📲	Spectrum								
Ref Level 107.4 Att TDF "fcc 18-42GH:	l6 dBµV Offs 20 dB ● SWT z"	et -9.54 dB ● F 100 s ● V	NBW 1 MHz NBW 3 MHz Mu	ode Auto Sweep					
1 Frequency Sw	еер			<i></i>				⊙1Pk Ma	ax 🛛 2Rm Max
								M2[2]	95.35 dBµV
100 0000								24.0	16 840 00 GHz
120 dBµV								M1[1]	96.25 dBµV
			107	460 dBuV				24.0	16 840 00 GHz
100 dBµV					M2				
80 dBµV	to a the off	In the not in	my when a	and the second s		- And a	mar he willes	1. Mm Im	manhan
60 dBH	ni (ni bou depi						A constant of		
Mer Mar		Land H2 54.000	ÚB¢√				Meran Mile	Mult Marthant	Munder
40 UBPV									
20 dBµV			c						
о авру			C.						
-20 dBµV									
-40 dBµV									
-60 dBuV									
CF 24.016 36 GH	lz		1001 pt	S	1	.0 MHz/		S	pan 10.0 MHz

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Plots No. 4: Radiated Lower Band-edge, Horizontal / Vertical Polarization \_ Low Channel

MultiView	Spectrum								-
Ref Level 107	7.46 dBµV Offs	et -9.54 dB 🖷	RBW 1 MHz						
Att	20 dB 🖷 SW1	r 100 s 👄	VBW 3 MHz M	ode Auto Sweep					
TDF "fcc 18-420	GHz"								
1 Frequency S	weep		1		1	r -	1	⊙1Pk M	ax ⊜2Rm Max
								M2[2]	45.74 dBµV
120. dpuV-								1000 (2000)	21.095 90 GHz
120 0001								M1[1]	63.91 dBµV
			107	460 dBµV					18.806 20 GHz
100 dBµV			1						
80 dBµV	H1 74 000 dBu								
	M1								
60 dBuV				1					
man mind warmen	- Martillanan marine	H2 54.00	0 dBpv	wernession with	M2	- mar	manuser	man markan	mannean
					- <u>t</u>				
40 dBµV					52				
20. dbuV-			c						
20 0001									
0 dBµV									
-20 dBµV									
-40 dBuV					-				-
-60 dBµV			1001		-				
10.0 GHZ			IUUI pt	5	60	U.U MHZ/			24.0 GHZ

Plots No. 5: Radiated Higher Band-edge, Horizontal / Vertical Polarization\_ Low Channel

MultiView	Spectrum	1							
Ref Level 107 Att	'.46 dBµV Off 20 dB ● SW	set -9.54 dB ● F T 100 s ● V	RBW 1 MHz VBW 3 MHz M	ode Auto Sweep					
1 Frequency S	weep							⊙1Pk M	ax 🛛 2Rm Max
							M2[	2]	45.41 dBµV 25.911 70 GHz
120 dвµV			107	460 dBuV			MI	1]	59.92 dBµV 25.806 80 GHz
100 dBµV			1						
80 dBµV	H1 74.000 dB								
60 dBuV	mound	H2 54.00	dBuy		-	-	- Lalamatra ma	MI	Mar
40 dBµV									
20 dBµV									
0 авµ∨									
-20 dBµ∨									+
-40 dBµV									
-60 dBµV			1001 pt	s	17	/5.0 MHz/			26.0 GHz



~

Plots No. 6: 26.5 GHz to 42 GHz, Horizontal / Vertical Polarization \_ Low Channel

							××
MultiView Spectru	m						-
Ref Level 107.46 dBµV Of	ffset -9.54 dB 🖷 RBW 1 MHz						
Att 20 dB • SV	₩T 100 s 🖷 VBW 3 MHz Mo	ode Auto Sweep					
TDF "fcc 18-42GHz"							
1 Frequency Sweep				1 (A)	MOL	O 1 PK Ma	ax e 2Rm Max
					MZ	2]	51.27 dBµV
120 dBµV					MIT	11	62 93 dBuV
~					WITT	i de la companya de l	39.1950 GHz
	107.	460 dBµV					
100 dBµV							
80 dBµV				. <u> </u>			
H1 74.000 di	ВИХ					M1	
60 dBuV	the second second by the second				- in m	minn	handrawing
and the second and the second s	H2 54.000 dBµV	a and a second				M2	
	+	~~~~				$\sim$	~~~~~~
40 dBµV							
20 dBµV							
0 dBuly							
o app v							
-20 dBµV							
-40 dBµV							
-60 dB/W							
26.0 GHz	1001 pts	5	1	.6 GHz/			42.0 GHz

Plots No. 7: 42 GHz to 60 GHz, Horizontal / Vertical Polarization \_ Low Channel



Note: Harmonics limit is -7.27 dBm (Peak mode) and -27.27 dBm (Average mode)

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Plots No. 8: 60 GHz to 90 GHz, Horizontal / Vertical Polarization \_ Low Channel

MultiView	Spectrum							
Ref Level -20.0	00 dBm	• RBW 1 MHz						
Inp: ExtMix E	● SWT 200 s	VBW 3 MHz Mode	e Auto Sweep					
1 Frequency Sv	veep		-		1	⊙1Pk Ma:	k Auto ID ⊜2Rm	n Max Auto ID
							M2[2]	-54.62 dBm
							M1[1]	-42 14 dBm
-10 dBm				2			MILLI	60.0150 GHz
-20-dBm-	H1 -21.250 dBm		20.000 dBm					
-30 dBm								
Contraction Charles								
M1 co dour								
+U dBm-		H2 -41.250 dBm						
manumberland	unentrum ,			510				mountery
-50 dBm-	Muran arman	mary mounter the mary	and a support of the support	an which where	molecular and all a	1		Marian
					and a state of the	and warman warman	all and the second	
-60 dBm			_	2				$\neg \frown$
					·			
20 dba								
-70 uBm								
-80 dBm								
-90 dBm								
Contraction of Contraction								
60.0 GHz		1001	pts	1	1 3.0 GHz/		<u> </u>	90.0 GHz

Plots No. 9: 90 GHz to 140 GHz, Horizontal / Vertical Polarization \_ Low Channel

MultiView	- Spectrum								
Ref Level -20	).00 dBm	• RBW	1 MHz						
Inp: ExtMix E	• SWT	200 s 🖷 VBW	3 MHz Mode A	uto Sweep					
1 Frequency S	Sweep		1				o 1Pk Ma:	k Auto ID ⊜2Rm	ı Max Auto ID
								M1[1]	-41.24 dBm
								2000000	96.8680 GHz
-10 dBm		3			2			M2[2]	-53.14 dBm
									99.7150 GHz
20-dBm	H1 -21.250 dB	m	-20.	000 dBm					
-30 dBm									
	M1								
-40 dBm-	1 hohe work of	H2 -41.2	50 dBm						
	Martin	menunum	when any and	man wind				N. N.	und pullion
50 dBm	Ma			Lun In	our wound have a	- en en and and and and and and and and and an	Malana	when and we we	V - W
and the second second	1. ~~~~i			****			and a state of the		
	f~	$\sim \sim \sim$	$\sim$					0	$\sim \sim$
F6U dBm		3							
$\sim$					0.1000				
-70 dBm									
-80 dBm									
-90 dBm									
and the second sec									
90.0.GHz			1001 pt			0 GHz/			140.0 GHz
2010/01/12			1001 pt	3		10 012/			11010 0112

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Plots No. 10: Radiated Maximum Field Strength, Horizontal / Vertical Polarization \_ Middle Channel

MultiView Spectrum							
Ref Level         107.46 dBµV         Offset         -9.54 dE           Att         20 dB ●         SWT         100 s	● RBW 1 MHz ● VBW 3 MHz Mod	e Auto Sweep					
TDF "fcc 18-42GHz" 1 Frequency Sweep						⊙1Pk Ma	ax 😑 2Rm Max
						M2[2] 24.1	100.97 dBµV 22 360 00 GHz
120 dBµV						M1[1] 24.1	101.33 dBµV 22 360 00 GHz
110 dBµV		i0 dBµV					
100 dBµV	Jul	M2	and the second	1			
90 dBµV	- A Martin	<i></i>	1 2	June -			
	A		1	J way			
H1.74.000 dBuV	NM /			1 Million	coldMassiala		
13348 marine and the start and the start and the					1 Marth	the manufacture like rates	and an an an an an
60 dBµV	A			-	10 s	1 . Ander here	Land in an an and a harding of
50 dBuV H2 s	i4.000 dBµV						
40. dPuV							
TO COPY							
30 dBµV							
CF 24.122 5 GHz	1001 pts		1	.0 MHz/	<u> </u>	5	pan 10.0 MHz

#### Plots No. 11: Radiated Lower Band-edge, Horizontal / Vertical Polarization \_ Middle Channel

									<u> </u>
MultiView	<ul> <li>Spectrum</li> </ul>								
Ref Level 10	7.46 dBµV Offs	et -9.54 dB 🖷 🖡	RBW 1 MHz						
Att	20 dB 🖷 SWT	100 s 🖷 🛚	/BW 3 MHz N	lode Auto Swee	∋p				
DF "fcc 18-42	GHz" Sween							o 1 Pk	May e 28m Ma
Trequency a	Sincep		10	7.460 dBµ∀	-	-	1	M2[2]	45.73 dB
									21.089 90 G
70 gBhA								M1[1]	57.92 dB
									21.006 00 0
0 dBµV							-		
) dBµV					-		-	-	-
	H1 74.000 dBu	/							
0 dвµ∨									
0 dBuV					M1				
nodinan am	ammahan	un and an over the	e manufamenta	mehromonito	mingumentation	Marmannen	when man when	musimmental	moundation
n dhuv		H2 54.00	авру-						
o asp.				1945 B. 1945	M2				20-00
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~					L	-		+	
0 dвµV				-					
0 dвµ∨						-			
0 dBµV							-		
0 dвµV									_

#### Page 22 of 40

Plots No. 12: Radiated Higher Band-edge, Horizontal / Vertical Polarization\_ Middle Channel

			\$
MultiView Spectrum			•
Ref Level         107.46 dBµV         Offset           Att         20 dB ● SWT           TDF "fcc 18-42GHz"	-9.54 dB • RBW 1 MHz 100 s • VBW 3 MHz Mode Auto Sweep		
1 Frequency Sweep	and the second se		o 1Pk Max ● 2Rm Max
	107,460 dBµV	M2[	2] 45.31 dBµV
100 -0.00			25.105 80 GHz
100 dBhA		M1[	1] 63.34 dBµV
			25.992 10 GHz
90 dBµV			
80 dBµV			
H1 74.000 dBuV			
70 dBµV			
			MI
60 dBµV			
not more thank and the second	between and the house of the house and the house and the	an a	who we are a superior and a superior
50 dBµV	M2		
	¥		
40 dBuV		9.0	
2			
30 dBµV			
20 dBµV			
later labe finds			
10 dBµV			
24.25 GHz	1001 pts	175.0 MHz/	26.0 GHz

Plots No. 13: 26.5 GHz to 42 GHz, Horizontal / Vertical Polarization \_ Middle Channel

							8
MultiView - Spectru	Im						-
RefLevel 107.46 dBµV O Att 20 dB ● S	Hfset -9.54 dB ● RBW : WT 100 s ● VBW 3	1 MHz 3 MHz <b>Mode</b> Auto Swe	eep				_
TDF "fcc 18-42GHz" 1 Frequency Sweep						O1Pk M	ax 🖷 2Rm Max
		107,460 dBµV			M2	2]	51.23 dBµV
100 dbuV							40.042 0 GHz
100 0804					M1[	1]	65.82 dBµV
							26.9990 GHz
90 dBµV							
80 dBµV				-			
H1 74 000 c	1Buly						
70 dBuV	John John John John John John John John						
Y							
A		22 -				wanter and when	And March
bu about my my man	and my my my man and a second	humman makeman	Mar Margan myshim she	manufallention	www.	le l	and a second
	H2 54.000 dBµV-			-		M2	
50 dBµV							$h \sim h$
			$\rightarrow$				
40 dBµ∨				-			
20 de W							
30 uspv							
20 dBµV				-			
10 dBµV							
		1001		1.601-6			10.0.011
20.0 GHZ		TOOT pts		1.0 GHZ/			42.0 GHz

Plots No. 14: 42 GHz to 60 GHz, Horizontal / Vertical Polarization \_ Low Channel

MultiView         Spectrum         • RBW 1 MHz           • SWT 200 S • VBW 3 MHz         • Mode Auto Sweep           In::         • SWT 200 S • VBW 3 MHz           In::::::::::::::::::::::::::::::::::::									
Ref Level -20.00 dbm       • RBW 1 MHz • SWT 200 S • VBW 3 MHz       Mode Auto Sweep         np: ExtMix U       • 1Pk Max Auto ID       • 2Rm Max Auto ID       • 2Rm Max Auto ID       • 49,669 0 GHz • 49,669 0 GHz • 49,346 0 GHz         10 dbm       • 1Pk Max Auto ID       • 49,346 0 GHz • 49,346 0 GHz       • 49,346 0 GHz • 49,346 0 GHz         -20 dbm       • 1 - 21,250 dbm       • 20,000 dbm       • 49,346 0 GHz         -30 dbm       • 1 - 21,250 dbm       • 20,000 dbm       • 1 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 - 0 -	MultiView	Spectrum							
SWI 200 s • VBW 3 MHz Mode Auto Sweep	Ref Level -20	.00 dBm	RBW 1 MHz						
L Frequency Sweep       - 1 Pk Max Auto ID       • 2 Rm Max Auto ID       • 2 S0.99 BD         -10 dBm       M1[1]       -40.41 dBm       49.346 0 GHz         -20 dBm       -4121.250 dBm       -20.000 dBm       -40.41 dBm         -30 dBm       -40.41 cBm       -40.41 cBm       -40.41 cBm         -60 dBm       -40.41 cBm       -40.41 cBm       -40.41 cBm         -70 dBm       -40.41 cBm       -40.41 cBm       -40.41 cBm         -60 dBm       -40.41 cBm       -40.41 cBm       -40.41 cBm         -70 dBm       -40.41 cBm       -40.41 cBm       -40.41 cBm         -70 dBm       -40.41 cBm       -40.41 cBm       -40.41 cBm         -90 dBm       -40.41 cBm       -40.41 cBm       -40.41 cBm         -90 dBm       -90 dBm       -90 cBm       -9	Inp: ExtMix U	● SWT 200 s •	■ VBW 3 MHz Mode A	luto Sweep					
10 dm       M2[2]       -52.99 dfm         20 dm       H1-21.250 dfm       20.000 dfm       49.346 0 GHz         -30 dfm       -40.41 dfm       -40.41 dfm         -40 dfm       -40.41 cfm       -40.41 dfm         -30 dfm       -40.41 cfm       -40.41 dfm         -30 dfm       -40.41 cfm       -40.41 dfm         -40 dfm       -40.41 cfm       -40.41 dfm         -40 dfm       -40.41 cfm       -40.41 cfm         -30 dfm       -40.41 cfm       -40.41 cfm         -40 dfm       -40.41 cfm       -40.41 cfm         -50 dfm       -40.41 cfm       -40.41 cfm         -60 dfm       -40.41 cfm       -40.41 cfm         -70 dfm       -40.41 cfm       -40.41 cfm         -90 dfm       -40.41 cfm       -40.41 cfm       -40.41 cfm         -90 dfm       -40.41 cfm       -40.41 cfm       -40.41 cfm         -90 dfm       -40.41 cfm       -40.41 cfm       -40.41 cfm         -90.41 cfm       -40.41 cf	1 Frequency S	weep			-		o 1Pk Ma	x Auto ID 😑 2Rm	Max Auto ID
-10 dBm								M2[2]	-52.99 dBm
-10 dBm								9000000	49.6690 GHz
20 dBm     H1 - 21.250 dBm     -20 000 dBm     -20 000 dBm       -30 dBm     -30 dBm     -10 000 dBm     -10 000 dBm       -40 dBm     -10 000 dBm     -10 000 dBm     -10 000 dBm	-10 dBm					-		M1[1]	40.41 dBm
20 dBm     H1 - 21.250 dBm     20 000 dBm     Image: Constraint of the const									49.346 0 GHz
20 dBm     H1 -21.250 dBm     20.00 dBm     M1       -30 dBm     M1     M1       -40 dBm     M2     M2       -50 dBm     M2       -60 dBm     M2       -70 dBm     M2       -90 dBm     M2       -90 dBm     M2	00 40-1			ooo dow					
-30 dBm	-20-0Bm	H1 -21.250 dBm	-20	.000 08m					
-30 dBm -40 dBm -50 dBm -50 dBm -60 dBm -00									
-40 dBm -40 dBm -50 dBm -70 dBm -70 dBm -80 dBm -10	-30 dBm								
40 dBm     12     12.50 dBm									
	40 d0m			MI					
-50 dBm	-+0 ubm-	m which when	H2 -41.250 dBm	Amerika.		wink			a who i man
-50 dBm -70 dBm -90 dBm -90 dBm	home man	man men nor		anantenere.	munerelenanter W	man mannen	when she have not seen	Mannaman	and the and the
-70 dBm	-50 dBm			-M2-	CONTRACT SOUTHERS				
-60 dBm -70 dBm -80 dBm -90 dBm -90 dBm			$\sim$	-				~~~~	
-00 dem	$\sim$						+		
-70 dBm	-60 dBm-								
-70 dBm									
-80 dBm	-70 dBm					8	-		
-80 dBm									
-90 dBm									
-90 dBm-	-80 dBm								
-90 dBm									
	-90 dBm						-		
	and Market								
47.115HZ 1.8 GHZ 60.016HZ	42.0 GHz		1001 pt	<u> </u>	<u> </u>	1.8 GHz/			60.0 GHz

Note: Harmonics limit is -7.27 dBm (Peak mode) and -27.27 dBm (Average mode)

Plots No. 15: 60 GHz to 90 GHz, Horizontal / Vertical Polarization \_ Middle Channel

								~
MultiView	Spectrum							
Ref Level -20.00	D dBm	• RBW 1 MHz						
	● SWT 200 s	VBW 3 MHz Mode	e Auto Sweep					
Inp: ExtMix E	еер					⊙1Pk Ma	∢Auto ID ⊜2Rm	Max Auto ID
							M1[1]	-44.72 dBm
								89.6550 GHz
-10 dBm							M2[2]	-54.63 dBm
20 0011								60.000 0 GHz
-20-dBm	H1 -21.250 dBm		20.000 dBm					
20 d0m								
-30 UBM								
-40 dBm		U2 -41 200 dBm						
man Munder	Contrast of the	H2 41.230 UBIN						TIM
how when the second	many and was	Charles Calles A.	Maria and					pressing
-50 dBm	and fording on contain a	man was were and when the second	the man he was he	How white where the second	manunantes	C		AMANDA
				200	- Iso work all many and	monthereduced	how have been a second	14
-60 dBm								$-\sim$
oo abiii			1	·	-			
-70 dBm								
-80 dBm								
-90 dBm-								
60.0 GHz		1001	pts	3	3.0 GHz/			90.0 GHz

Plots No. 16: 90 GHz to 140 GHz, Horizontal / Vertical Polarization \_ Middle Channel

MultiView	Spectrum							-
Ref Level -2	0.00 dBm • RB	₩ 1 MHz	- Cuusan					
Inp: ExtMix F	• 5WT 200 S • VB	W S MHZ Mode Aut	o sweep					M
1 Frequency	Sweep	Ť Ť			f	е IPK Ма:	CAUTO ID ●2Rm M1[1]	-41.21 dBm
								98.716 0 GHz
-10 dBm							M2[2]	-53.15 dBm
								99.7150 GHz
20 dbm		20.00	0. d0m					
-20 UBM	H1 -21.250 dBm	-20.00	u ubm					
-30 dBm								
	M 1							
-40 dBm	H2-4	1.250 dBm						
N P	for an a summer of	man man and a second	almany				Δ.	m myster
150 dBmm	M2		Chroney	from the way	how and manage	mennestigera	mayanger	no man
	land me		~~~					
160 dBm								$\sim\sim$
~~~				~ ~				
70 d0m								
-70 0811								
-80 dBm								
-90 dBm								
90.0 GHz	-20	1001 pts			5.0 GHz/	a	4. <u> </u>	140.0 GHz

Plots No. 17: Radiated Maximum Field Strength, Horizontal / Vertical Polarization \_ High Channel



#### Plots No. 18: Radiated Lower Band-edge, Horizontal / Vertical Polarization \_ High Channel

1 Frequency	Sweep							□1Pk M	ax ●2Rm M <u>ax</u>
			107	000 dBuV				M2[2]	42.96 dBµV
								Contraction of the	21.089 90 GHz
100 dBµ∨	-	8	-			16		M1[1]	54.91 dBµV.
									19.369 60 GHz
90 dBµV		2				a			
80 dBuV									
70 10 11	H1 74.000 dBµ	V							
70 авру		2				8			
60 dBµV		M1							+
and the stand and the second	manna	H2 54.00	0 dBuV	Men admitter	ing	A monthly with	the adve to me where the		1
50 dBµV		and the second	and a second a second as a		William Annu an an		and the second second	a the residence of the second	
					M2				
40 dBµV	<u> </u>				The				
30. dBuV									
20.40.02									
20 aph									
10 dBµV		÷	1			1			1

Plots No. 19: Radiated Higher Band-edge, Horizontal / Vertical Polarization\_ High Channel

1 Frequency S	Sweep						1	o 1 Pl	k Max ⊜2Rm Max
			107	.000 dBuV			M2	2]	41.10 dBµV
							(30.27)	1.2	25.51660 GHz
00 dBµV	-	5	-				M1	1]	54.06 dBµV
									25,350 50 GHZ
0 dBµV									
0 dBµV	-								
	H1 74 000 dBu	1							
0 dBuV	The Pricede day								
and an									
0 dbuV									
o dop v						M1			
markenan	mohymanic	mastr H2 54,00	10 dBUV	antermeter	uphraphraman and	where a horas of the second	mansthrows	munument	mounterstant
о авру							1000		
							M2		
Ю dBµV									
ю dвµ∨									
:0 dвµV									
0 dвµV							-		
24.25 GHz			1001 nt	5	1	75 0 MHz/	19	(A.	26.0 GHz

Plots No. 20: 26.5 GHz to 42 GHz, Horizontal / Vertical Polarization \_ High Channel

MultiView	Spectrum								
Ref Level 10 Att	7.00 dBµV Offs 19 dB • SW1	et -9.54 dB ● F Γ 100 s ● V	NBW 1 MHz NBW 3 MHz M	ode Auto Sweep					
1 Frequency	Sweep	8						o 1Pk M	ax 🛛 2Rm Max
1			107	and deux			M1[	1]	58.18 dBµV
			107	000 000			0.000		38.8110 GHz
100 dBµV		5				8	M2[	2]	46.07 dBµV
									39.5300 GHz
90 dBµV									
80 dBµV									
	H1 74.000 dBµ	v							
70 dвµV		5							
60 dBµV		the state of the second		and state to see the			ubunner	former mary	Man Marine
En deux	muntherman	WWWWWWWWWWWWWWWWW	C GRD Aroning with	any purchase and a second	emparaturement	water the water of	Witht		
50 dop v							~	- ×	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~
₩0 dBµ∀		$\sim$					<i>_~</i>	-	
30 dBµV									
20 dBµV									
10 dBµV									
1998 - 200 <b>-</b> 200									
26.0 GHz			1001 pt	s	1	6 GHz/			42.0 GHz

Plots No. 21: 42 GHz to 60 GHz, Horizontal / Vertical Polarization \_ High Channel

MultiView	Spectrum							-
Ref Level -20.0	0 dBm 😐 🖡	RBW 1 MHz						
	🖷 SWT 200 s 🖷 🕅	VBW 3 MHz Mode A	uto Sweep					
Inp: ExtMix U								
I Frequency Sw	eep			1		O IPK May	( Auto ID SZRm	Max Auto ID
							MILI	-40.63 dBm
							MOLOI	-53 02 dBm
-10 dBm			(				(*/Z[Z]	49.669.0 GHz
								151005 0 0112
-20-dBm	U1 01 050 dBm	-20.	000 dBm					
	HI -21.250 UBII							
-30 dBm								
			1.12					
-40 dBm		11.000 40.0	MI					
A and A and	and warmen and the main	-41.250 BBRU what	admille and		anthomas	Alian	angrowen and	an paralleman and
h mark range			- HANNER	maker	a month	All man and a second	and a second second	
-50 dBm-	8.55	10000 000 <u>-</u> 200						
	$\sim$	$\sim$						
-60 dBm								
-70 dBm								
-80 dBm								
285,000000								
-90 dBm						-		
42.0 GHz		1001 pts		1	.8 GHz/	1		60.0 GHz

Note: Harmonics limit is -7.27 dBm (Peak mode) and -27.27 dBm (Average mode)

Plots No. 23: 60 GHz to 90 GHz, Horizontal / Vertical Polarization \_ High Channel

MultiView -	Spectrum							-
Ref Level -20.00 d	iBm 😐 RBW	1 MHz						
Inp: ExtMix E	● SWT 200 s ● VBW	3 MHz Mode A	luto Sweep					
1 Frequency Swee	ep	*	ř		ř	⊙1Pk Ma:	x Auto ID ⊜2Rm	n Max Auto ID
							M1[1]	-42.97 dBm
							M2[2]	-54.62 dBm
-10 dBm							malaj.	60.000 0 GHz
-20-dBm	H1 -21.250 dBm	-20	000 dBm					
-30 dBm								
-₩1 dBm	10.11							
welwamen majohn		230 060						housenser
-50 dBm	the stand and the second	not water to a second and a second and	Mohan miture to the	manushanan	monumentaria	Multimprovement	mannahan	rember
-60 dBm				~	1		11	
			~~~					
-70 dBm								
-80 dBm								
-90 dBm								
60.0 GHz		1001 pt	s	3	3.0 GHz/		L	90.0 GHz

Plots No. 23: 90 GHz to 140 GHz, Horizontal / Vertical Polarization \_ High Channel

MultiView Spectrum							-
Ref Level -20.00 dBm              • RBW           • SWT 200 s         • VBW	1 MHz 3 MHz <b>Mode</b> A	uto Sweep					
Inp: ExtMix F 1 Frequency Sweep		5.	5		⊙1Pk Ma:	k Auto ID ⊜2Rm	Max Auto ID
						M1[1]	-40.08 dBm
						200000	99.765 0 GHz
-10 dBm						M2[2]	-53.13 dBm
							99.7150 GHz
-20-dBm H1 -21.250 dBm	-20.	000 dBm	-				
-30 dBm							
Mi							
-40 dBm	0 dBm	Sale band i					
Les don martine and	when the way was	manus from	whether the	b.M.m.	Ladaha	- upper when the	munh
	~~		and and	and the state of t	and		
	$\sim \sim$	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	~~				$\sim \sim$
Too damin			$\sim$				
-70 dBm				0	2		
-80 dBm-							
-90 dBm							
90.0 GHz	1001 nts	5					140.0 GHz

#### 4.2. AC Conducted Emission

#### 4.2.1. LIMITS OF DISTURBANCE

		as following.					
Frequency range (MHz)	Limit (d	BuV)					
	Quasi-peak	Average					
0.15-0.5	66 to 56*	56 to 46*					
0.5-5	56	46					
5-30	60	50					
* Decreases with the logerithm of the frequency							

According to RSS Gen 8.8 and § 15.207(a) Line Conducted Emission Limits is as following:

\* Decreases with the logarithm of the frequency.

#### 4.2.2. TEST CONFIGURATION



#### 4.2.3. TEST PROCEDURE

1. The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10-2013.

2. Support equipment, if needed, was placed as per ANSI C63.10-2013

3. All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10-2013

4. The EUT received DC 12V power from adapter, the adapter received AC120V/60Hz and AC 240V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.

5. All support equipment received AC power from a second LISN, if any.

6. The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50-ohm load; the second scan had Line 1 connected to a 50-ohm load and Line 2 connected to the Analyzer / Receiver.

7. Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.

8. During the above scans, the emissions were maximized by cable manipulation.

#### 4.2.4. DISTURBANCE CALCULATION

The AC mains conducted disturbance is calculated by adding the 10dB Pulse Limiter and Cable Factor and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

#### CD (dBuV) = RA (dBuV) + PL (dB) + CL (dB)

Where CD = Conducted Disturbance	CL = Cable Attenuation Factor (Cable Loss)					
RA = Reading Amplitude	PL = 10 dB Pulse Limiter Factor					

#### 4.2.5. TEST RESULTS

PASS

Remark:

- 1. Measured both AC 120V/60Hz and AC 230V/50Hz, recorded worst case at AC 120V/60Hz.
- 2. Measured all channels and recorded worst case at high channel.





#### **Limit and Margin**

Frequency (MHz)	MaxPeak (dBμV)	QuasiPeak (dBµV)	Average (dBμV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.150000		50.1	34.3	10.0	9.000	LOCAL	OFF	9.6
0.178000		42.8	27.1	10.0	9.000	LOCAL	OFF	9.6
0.270000		32.2	26.6	10.0	9.000	LOCAL	OFF	9.7
0.322000		31.6	28.2	10.0	9.000	LOCAL	OFF	9.7
0.538000		22.0	17.3	10.0	9.000	LOCAL	OFF	9.8
1.642000		24.3	13.2	10.0	9.000	LOCAL	OFF	9.9

(continuation of the "Limit and Margin" table from column 14 ...)

Frequency (MHz)	Margin - QPK (dB)	Limit - QPK (dBµV)	Margin - AVG (dB)	Limit - AVG (dBµV)	Comment
0.150000	15.9	66.0	21.7	56.0	
0.178000	21.8	64.6	27.5	54.6	
0.270000	28.9	61.1	24.5	51.1	
0.322000	28.1	59.7	21.5	49.7	
0.538000	34.0	56.0	28.7	46.0	
1.642000	31.7	56.0	32.8	46.0	

Plots No. 25: AC Mains Conducted Emission \_ AC 120V/60Hz \_ High Channel \_ Neutral



# 3. 4. **5. Limit and Margin**

Frequency (MHz)	MaxPeak (dBμV)	QuasiPeak (dBµV)	Average (dBµV)	Meas. Time (ms)	Bandwidth (kHz)	Line	Filter	Corr. (dB)
0.150000		50.1	33.7	10.0	9.000	LOCAL	OFF	9.6
0.174000		43.1	25.5	10.0	9.000	LOCAL	OFF	9.6
0.322000		32.0	29.1	10.0	9.000	LOCAL	OFF	9.7
1.418000		22.3	14.8	10.0	9.000	LOCAL	OFF	9.9
3.538000		19.9	11.4	10.0	9.000	LOCAL	OFF	10.1
10.618000		23.5	11.9	10.0	9.000	LOCAL	OFF	10.4

6. 7. 8. (continuation of the "Limit and Margin" table from column 14 ...)

•••						
I	Frequency (MHz)	Margin - QPK (dB)	Limit - QPK (dBµV)	Margin - AVG (dB)	Limit - AVG (dBµV)	Comment
	0.150000	15.9	66.0	22.3	56.0	
	0.174000	21.7	64.8	29.3	54.8	
	0.322000	27.7	59.7	20.6	49.7	
	1.418000	33.7	56.0	31.2	46.0	
	3.538000	36.1	56.0	34.6	46.0	
	10.618000	36.5	60.0	38.1	50.0	

#### 8.1. Occupied Bandwidth (99% Bandwidth)

#### 8.1.1. LIMITS

The occupied bandwidth is defined as the 99% bandwidth.

According to § 2.1049 and RSS-Gen section 6.7: The occupied bandwidth or the "99% emission bandwidth" is defined as the frequency range between two points, one above and the other below the carrier frequency, within which 99% of the total transmitted power of the fundamental transmitted emission is contained. The occupied bandwidth shall be reported for all equipment in addition to the specified bandwidth required in the applicable RSSs.

#### 8.1.2. TEST CONFIGURATION



#### 8.1.3. TEST PROCEDURE

- The equipment is set up to simulate normal operation mode as described in the user manual or defined by the manufacturer
- If the EUT is a tabletop system, 1.5 m height is used.
- If the EUT is a floor standing device, it is placed directly on the turntable.
- Auxiliary equipment and cables are positioned to simulate normal operation conditions as described in ANSI C63.4.
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- Measuremet distance is 1m (see ANSI C63.4) see test details.
- EUT is set into operation.
- The turntable rotates from 0 degree to 360 degree.
- The antenna with external mixer is polarized vertical and horizontal.
- The antenna height changes from 1m to 4m.
- Set the resolution bandwidth (RBW) shall be in the range of 1% to 5% of the actual occupied / x dB bandwidth and the video bandwidth (VBW) shall not be smaller than three times the RBW value. Video averaging is not permitted.

Test Condictions	Test Channel	Nominal Frequency [MHz]	EUT/Antenna Orientation	Occupied Bandwidth (99%) [MHz]	Test Results
T <sub>nom</sub> / V <sub>nom</sub>	Low	24016.00	X/H&V	0.73123	PASS
T <sub>nom</sub> / V <sub>nom</sub>	Middle	24122.00	X/H&V	0.63052	PASS
T <sub>nom</sub> / V <sub>nom</sub>	High	24220.00	X/H&V	0.56782	PASS

#### 8.1.4. TEST RESULTS

Plots No. 26: 99% Occupied Bandwidth, Horizontal / Vertical Polarization \_ Low Channel



Notes: The RBW was set to 4.12% of OBW. (30 KHz / 731.23 KHz) x 100% = 4.12%

Plots No. 27: 99% Occupied Bandwidth, Horizontal / Vertical Polarization \_ Middle Channel



Notes: The RBW was set to 4.76% of OBW. (30 KHz / 630.52 KHz) x 100% = 4.76%

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Plots No. 28: 99% Occupied Bandwidth, Horizontal / Vertical Polarization \_ High Channel

MultiView Spectru	ım				•
RefLevel 115.46 dBµV O	0ffset -9.54 dB ● RBW 30	KHZ Mada Auto Swoor	<u>`</u>		
TDF "fcc 18-42GHz"	10 S - VBW 100 F	anz Mode Adio Sweep	,		
1 Occupied Bandwidth					o1Pk Max
and an and a second					M1[1] 105.57 dBµV
110 dBµV-		MI			24.220 300 00 GHz
100 dBuV		$\cap$			
		Ţ	T2		
90 aBhA		1			
80 dBµV	1		<u>N</u> .	_	
		, <mark>∦</mark>	<u></u>		
70 dBµV	dButy	N	M.		
		www.	my my		
60 dBµV	Mannahalin		and a manual and a second and a		
50 dBuy	aly marked and a second			and my particulation of the second	all reduced by the second states
MIE Rephylon and a set a					and an an an an an and a start and and and and and and and and an an an an an and and
40 dBµV					
30 dBµV			<i></i>		
20 dBuV-					
CE 24 220 4 GHz	10	01 pts	1.0 MHz/		Spap 10.0 MHz
2 Marker Table	10	01 pt0	1.0 101127		opun 1010 Minz
Type Ref Tro	X-Value	V-Value	Function		Eunction Result
M1 1	24.220 3 GHz	105.57 dBuV	Occ Bw	56	7.819 087 49 kHz
T1 1	24.219 990 5 GHz	91.96 dBµV	Occ Bw Centroid		24.220 274 362 GHz
T2 1	24.220 558 3 GHz	93.71 dBµV	Occ Bw Freq Offset		-125.638 470 375 kHz

Notes: The RBW was set to 5.28% of OBW. (30 KHz / 567.82 KHz) x 100% = 5.28%

#### 8.2. 20dB Bandwidth

#### 8.2.1. LIMITS

According to § 15.215 (c): Intentional radiators operating under the alternative provisions to the general emission limits, as contained in §§ 15.217 through 15.257 and in subpart E of this part, must be designed to ensure that the 20 dB bandwidth of the emission, or whatever bandwidth may otherwise be specified in the specific rule section under which the equipment operates, is contained within the frequency band designated in the rule section under which the equipment is operated. In the case of intentional radiators operating under the provisions of subpart E, the emission bandwidth may span across multiple contiguous frequency bands identified in that subpart. The requirement to contain the designated bandwidth of the emission within the specified frequency band includes the effects from frequency sweeping, frequency hopping and other modulation techniques that may be employed as well as the frequency stability of the transmitter over expected variations in temperature and supply voltage. If a frequency stability is not specified in the regulations, it is recommended that the fundamental emission be kept within at least the central 80% of the permitted band in order to minimize the possibility of out-of-band operation.

#### 8.2.2. TEST CONFIGURATION



#### 8.2.3. TEST PROCEDURE

- The equipment is set up to simulate normal operation mode as described in the user manual or defined by the manufacturer
- If the EUT is a tabletop system, 1.5 m height is used.
- If the EUT is a floor standing device, it is placed directly on the turntable.
- Auxiliary equipment and cables are positioned to simulate normal operation conditions as described in ANSI C63.4.
- The AC power port of the EUT (if available) is connected to a power outlet below the turntable.
- Measuremet distance is 1m (see ANSI C63.4) see test details.
- EUT is set into operation.
- The turntable rotates from 0 degree to 360 degree.
- The antenna with external mixer is polarized vertical and horizontal.
- The antenna height changes from 1m to 4m.
- Set the resolution bandwidth (RBW) shall be in the range of 1% to 5% of the actual occupied / x dB bandwidth and the video bandwidth (VBW) shall not be smaller than three times the RBW value. Video averaging is not permitted.

#### 8.2.4. TEST RESULTS

Nomina		Nominal							
Test	Test	Frequency	EUT/Antenna		FL		FH	20dB	Test
Condictions	Channel		Orientation	F∟ [GHz]	Limit	Fн [GHz]	Limit	Bandwidth	Results
					[GHz]		[GHz]	[MHz]	
T <sub>nom</sub> / V <sub>nom</sub>	Low	24016.00	X/H&V	24.01652	24.00	24.01734	24.25	0.819	PASS
T <sub>nom</sub> / V <sub>nom</sub>	Middle	24122.00	X/H&V	24.12197	24.00	24.12164	24.25	0.669	PASS
T <sub>nom</sub> / V <sub>nom</sub>	High	24220.00	X/H&V	24.21992	24.00	24.22051	24.25	0.589	PASS

Plots No. 29: 20dB Bandwidth, Horizontal / Vertical Polarization \_ Low Channel



Notes: The 20 dB bandwidth of the emission is contained within the frequency band.

Plots No. 30: 20dB Bandwidth, Horizontal / Vertical Polarization \_ Middle Channel



Notes: The 20 dB bandwidth of the emission is contained within the frequency band.

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#### Plots No. 31: 20dB Bandwidth, Horizontal / Vertical Polarization \_ High Channel

				_				
MultiView	Spectrum							
Ref Level 115.44 Att TDF "fcc 18-42GHz	6 dBµV Offs 28 dB ● SW1 z"	et -9.54 dB ● RBW 30 10 s ● VBW 100	kHz kHz <b>Mode</b> Auto Swee	p				2
1 Frequency Swe	еер				1	1		01Pk Clrw
120 dBµV							M1[1] 24.2	105.36 dBµV 20 250 00 GHz
110 dBµV	— 115.460 dBµV		M1					
100 dBµV				Va.				
90 dBµV								
80 dBµV				h				
70 авµv			and the water	hun way her any	á			
a 59. 984 million to	armationalapartel	an and have have been and the			maluhumada	Walter Marchalada 1944	and the second second	when and many and
40 dBμV								
30 dBµV								
CF 24.220 4 GHz		10	001 pts	1	.0 MHz/	•		pan 10.0 MHz
2 Marker Table								
Type Ref M1 T1 T2	Trc 2 1 2 1	X-Value 4.220 25 GHz 24.219 92 GHz 24.220 51 GHz	V-Value <b>105.36 dBμV</b> 84.77 dBμV 87.14 dBμV	ndB ndB down E Q Factor	Function 3W		Function Re 20.0 589.00 k 41	sult dB HZ 092

Notes: The 20 dB bandwidth of the emission is contained within the frequency band.

#### 8.3. Antenna Requirement

#### 8.3.1. REQUIREMENT

According to § 15.203 and RSS-Gen: 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, 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

#### 8.3.2. VERDICT

The EUT has an internal antenna which is not user accessible. Hence it compliances with the antenna requirements.

#### Annex A Model Difference Declaration Letter

#### **Declaration on model difference**

产品差异声明

We the undersigned hereby confirm that any of our production units bearing the following model numbers are identical in circuitry and electrical, mechanical and physical construction; the only difference is model no. for trading purpose.

我们在下面签名并据此确认:以下产品型号之间的差异仅为型号不同,其它设计完全相同.

Because the product is going to be marketed under different HVINs.

Trade name 商标	<mark>Model no.</mark> 型号
BenQ	RP7504, RP7504B, RP7504C, RP7504D, RP7504E
	Trade name 商标 BenQ

Confirmed by

Authorized Signature: 授权人签字

Wenny Lan

Company Stamp: 公司盖章



Date: 2023.09.26 日期

### **Revision History**

Revision	Issue Date	Revisions	Revised By
1.0	2023-08-25	Original Issue Rreferencing test data from original model: RP8604 (FCC ID: JVPRP8604 / IC: 6175A-RP8604) test report (Test Report No.: CQC-IVTS-2023-00373)	Wenliang Li

# DECLARATION

The test report merely corresponds to the test sample.

It is not permitted to copy extracts of these test result without the written permission of the test laboratory.

If you have any questions on this report, please contact us within 15 days after issue this report.

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