TESTING LABORATORY
CERTIFICATE #4820.01

MAXIMUM PERMISSIBLE EXPOSURE TEST REPORT

For

Hytera Communications Corporation Limited

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FCC ID:YAMHM78XUV

Report Type:	**Product Name:**
Original Report	DIGITAL MOBILE RADIO

Report Number:	RDG191122009-20
Report Date:	2020-01-17
Reviewed By:	Ivan Cao Assistant Manager
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FCC §1.1310 &FCC §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Product Description for Equipment under Test (EUT)

EUT Name:	DIGITAL MOBILE RADIO
EUT Model:	HM782 Uv
Mutiple Models:	HM780 Uv,HM786 Uv,HM788 Uv,HM785 Uv
Modulation Type:	FM, 4FSK
Channel Spacing:	12.5/25 kHz
Frequency Range:	350-470 MHz
Rated Output Power: (Conducted)	High Power Level:45W Low Power Level: 1W
Rated Input Voltage:	DC 13.6 V
Serial Number:	RDG191122009-RF-S1
EUT Received Date:	2019.11.22
EUT Received Status:	Good

Antenna Information:

Manufacturer	Antenna Type	Model No.	Antenna Gain (dBi)
Hytera	Monopole Antenna	TQC-400DII	5.5 dBi

Note: The series product, models HM780 Uv,HM786 Uv,HM788 Uv,HM785 Uv and HM782 Uv are electrically identical, The difference between them please refer to the declaration letter for details. For marketing purpose, we selected HM782 Uv for fully test.

Declarations

BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with a triangle symbol "△ ". Customer model name, addresses, names, trademarks etc. are not considered data.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

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Applicable Standard

According to 1.1307 (b)(1), 2.1091 systems operating under the provisions of this section shall be operated in a manner that ensures the public is not exposed to RF energy level in excess of the communication guidelines.

Limits for Maximum Permissible Exposure (MPE)

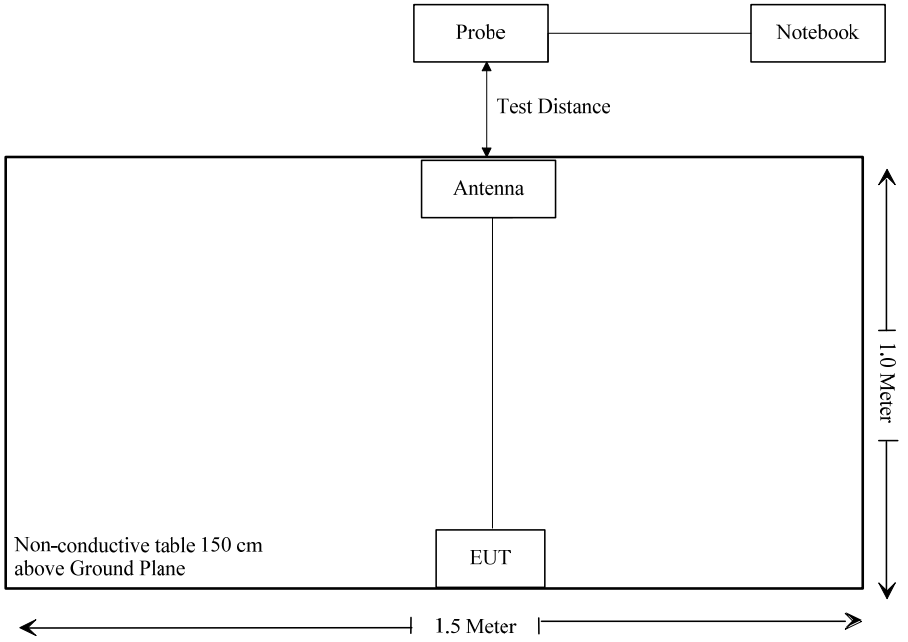
Limits for Occupational/Controlled Exposure				
Frequency Range (MHz)	**Electric Field Strength (E) (V/m)**	**Magnetic Field Strength (H) (A/m)**	**Power Density (S) (mW/cm^2)**	**Averaging Time |E|, |H| or S (minutes)**
0.3- 3.0	614	1.63	(100)*	6
3.0 - 30	1842/f	4.89/f	($900/f^2$)*	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100,000	/	/	5	6

f = frequency in MHz;
* = Plane-wave equivalent power density;

Test Procedure

1. Place the EUT`s antenna was vertical polarization on the table.
2. The EUT was set to transmit at the frequency at maximum RF power.
3. The Distance between the test probe and the investigated EUT`s antenna equal to the distance be specified as safety distance in the user manual.
4. Power density measurements were taken at different heights of the probe from the ground (0.8 to 2.8 meters) while rotating versus azimuth (from 0° to 360°) the antenna.
5. adjusted the distance between the test probe and the tested antenna to the real safe distance, R_{real}, such that the measured highest power density in the “worst case” position was the same or slightly less than the test limit.
6. The measurement results of final measurements conducted at the chosen azimuth and different heights of the probe above the ground.

Block Diagram of Test Setup



Test Equipment List and Details

Manufacturer	Description	Model No.	Serial No.	Calibration Date	Calibration Due Date
ETS-LINDGREN	Field Probe	HI-6005	00069461	2019-02-29	2020-02-28

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Dongguan) attests that all calibrations have been performed, traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	23.2℃
Relative Humidity:	40 %
ATM Pressure:	101.7kPa

The testing was performed byTyler Pan on 2020-01-15

Test Mode:UHF-FM:469.9875 MHz(Worst mode)

Measuring Probe Height(cm)	Power Density(mW/cm²)				
	40cm	50cm	60cm	70cm	80cm
80	0.131	0.107	0.111	0.098	0.092
90	0.141	0.138	0.111	0.096	0.093
100	0.167	0.137	0.129	0.109	0.07
110	0.2	0.186	0.125	0.109	0.094
120	0.214	0.206	0.136	0.112	0.106
130	0.326	0.32	0.197	0.152	0.124
140	0.568	0.547	0.2	0.168	0.15
150	0.683	0.676	0.36	0.232	0.189
160	0.696	0.643	0.402	0.23	0.187
170	0.684	0.656	0.372	0.193	0.181
180	0.598	0.589	0.309	0.198	0.159
190	0.519	0.514	0.301	0.198	0.149
200	0.396	0.392	0.258	0.171	0.142
210	0.211	0.209	0.165	0.151	0.124
220	0.186	0.179	0.149	0.117	0.099
230	0.172	0.164	0.12	0.119	0.091
240	0.167	0.15	0.117	0.113	0.099
250	0.151	0.148	0.108	0.1	0.063
260	0.13	0.124	0.095	0.085	0.081
270	0.135	0.13	0.082	0.07	0.061
280	0.107	0.104	0.103	0.076	0.062

Test Result Summary:

Maximum Power Density (mW/cm^2)	0.696
Measured Conducted Output Power (W)	53.749
Maximum Rated Power Including Tolerance (W)	54
Scaled Maximum Power Density(50% duty Cycle) (mW/cm^2)	0.35
Limit(mW/cm^2))	1.511
Safety Distance (cm)	40
Result	Compliance

The Bluetooth and UHF can transmit simultaneously:

$$\sum_i \frac{S_i}{S_{Limit,i}}$$

$=S_{BT}/S_{limit-\ BT}+ S_{UHF}/S_{limit-\ UHF}$

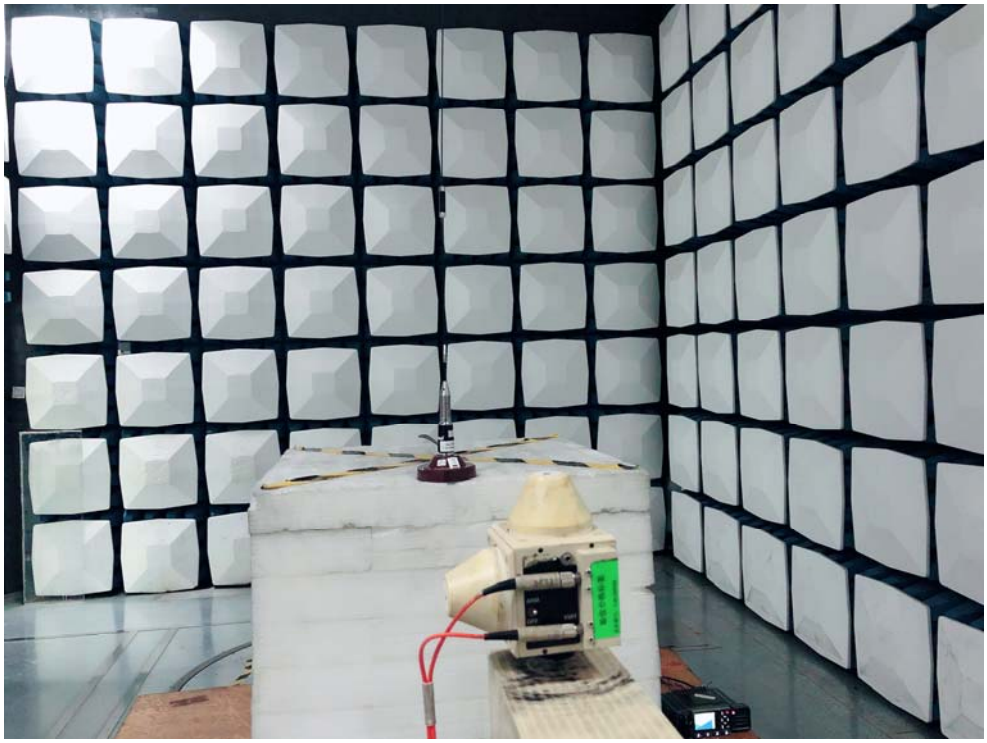
$=0.0001/1+0.35/1.511$

$=0.23$

< 1.0

Result: The device meet FCC MPE at 40 cm distance

Test Setup Photo



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