



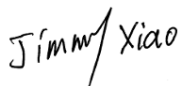
# MAXIMUM PERMISSIBLE EXPOSURE TEST REPORT

For

## Hytera Communications Corporation Limited

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**FCC ID:YAMHM78XVHF**

<b>Report Type:</b> Original Report	<b>Product Name:</b> DIGITAL MOBILE RADIO
<b>Report Number:</b> RDG200119002-20A	
<b>Report Date:</b> 2020-06-02	
Jimmy Xiao 	
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**FCC §1.1310 & FCC §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)****Product Description for Equipment under Test (EUT)**

Product	DIGITAL MOBIL RADIO
Tested Model	HM782 VHF
Multiple Models	HM780 VHF,HM786 VHF,HM788 VHF,HM785 VHF
Model Differences	Refer to the DOS letter
Modulation Type:	FM, FSK
Frequency Range:	136-174MHz
Rated Output Power: (Conducted)	High Power Level:50W Low Power Level:5W
Antenna Specification	3.5dBi
Rated Input Voltage:	DC 13.6 V
Serial Number:	RDG200119002-RF-S1 (Assigned by BACL, Shenzhen)
EUT Received Date:	2020-01-19
EUT Received Status:	Good condition

**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 “ $\Delta$ ”. 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 <sup>2</sup> )	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 <sup>2</sup> )*	6
30-300	61.4	0.163	1.0	6
300-1500	/	/	f/300	6
1500-100,000	/	/	5	6

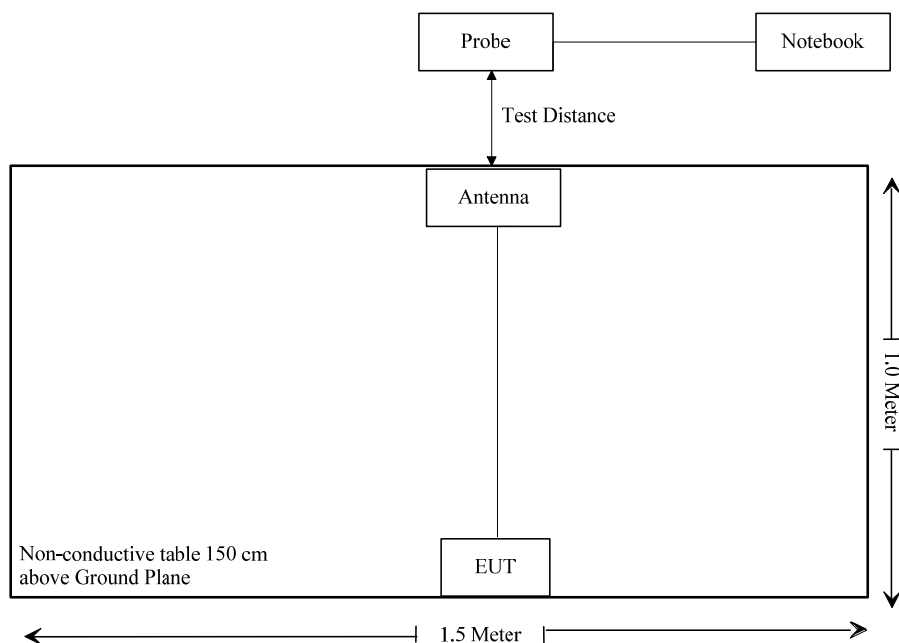
f = frequency in MHz;

\* = 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-Lindgreen	Isotropic Field Probe	HI—6005	69461	2018-9-28	2021-9-27

\* **Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Shenzhen) 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°C
Relative Humidity:	40 %
ATM Pressure:	101.7kPa

*The testing was performed by Jacob Kong on 2020-06-02.*

Test Mode:VHF-FM (12.5kHz) :155.7525 MHz(Worst mode)

Measuring Probe Height(cm)	Power Density(mW/cm <sup>2</sup> )				
	40cm	50cm	60cm	70cm	80cm
80	0.045	0.034	0.030	0.025	0.026
90	0.065	0.035	0.026	0.011	0.038
100	0.072	0.043	0.026	0.031	0.035
110	0.113	0.089	0.058	0.053	0.045
120	0.123	0.091	0.063	0.038	0.056
130	0.145	0.086	0.034	0.186	0.059
140	0.258	0.174	0.081	0.223	0.062
150	0.326	0.193	0.113	0.316	0.068
160	<b>0.395</b>	0.231	0.126	0.108	0.083
170	0.291	0.219	0.143	0.096	0.048
180	0.285	0.221	0.113	0.063	0.043
190	0.112	0.103	0.089	0.071	0.038
200	0.073	0.045	0.074	0.053	0.031
210	0.086	0.069	0.096	0.065	0.029
220	0.027	0.026	0.075	0.022	0.026
230	0.026	0.024	0.048	0.031	0.023
240	0.029	0.025	0.036	0.012	0.018
250	0.026	0.011	0.013	0.013	0.011
260	0.021	0.012	0.016	0.095	0.018
270	0.019	0.021	0.094	0.083	0.014
280	0.013	0.011	0.092	0.081	0.013

**Test Result Summary:**

<b>Maximum Power Density (mW/cm2)</b>	0.395
<b>Measured Conducted power (dBm)</b>	47.24
<b>Target Power(dBm)</b>	47.40
<b>Scaled Maximum Power Density(50% duty Cyle) (mW/cm2)</b>	0.205
<b>MPE Limit (mW/cm2)</b>	1
<b>Safety distance (cm)</b>	40
<b>Result</b>	Compliance

For Simultaneous transmitting consideration: BT and Digital radio

According to DSS report(FCC ID: YAMHM78XVHF), the calculated power density is 0.0001 mW/cm2, and the MPE limit is 1 mW/cm2

The ratio=MPE/limit (BT)+MPE/limit (Digital radio)=0.0001/1.0+0.205/1.0=0.2051 < 1.0, simultaneous exposure is not required.

To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 40cm from nearby persons.

## Test Setup Photo

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