

MPE TEST REPORT

Applicant	New H3C Intelligence Terminal Co., Ltd.
FCC ID	2BNRD-NX54
Product	Dual-Band Gigabit Wi-Fi 6 Router
Brand	H3C
Model	H3C Magic NX54
Report No.	EFTA25010260-IE-04-M1V5
Issue Date	September 12, 2025

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **§2.1091 and FCC 47 CFR Part 1 1.1310**. The test results show that the equipment tested can demonstrate the compliance with the requirements as documented in this report.

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Rev.0	Initial issue of report.	September 1, 2025
Rev.1	Updated data.	September 5, 2025
Rev.2	Updated data.	September 11, 2025
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Note: This revised report (Report No.: EFTA25010260-IE-04-M1V5) supersedes and replaces the previously issued report (Report No.: EFTA25010260-IE-04-M1V4). Please discard or destroy the previously issued report and dispose of it accordingly.		

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1 Test Laboratory

1.1 Notes of the Test Report

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

1.2 Test Facility

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

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

1.3 Testing Location

Company: Eurofins TA Technology (Shanghai) Co., Ltd.
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1.4 Laboratory Environment

Temperature	Min. = 18°C, Max. = 25°C
Relative humidity	Min. = 20%, Max. = 80%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

2 Description of Equipment Under Test

Client Information

Applicant	New H3C Intelligence Terminal Co., Ltd.
Applicant address	Room 406-100, 1 Yichuang Street, China-Singapore Guangzhou Knowledge City, Huangpu District, Guangzhou.
Manufacturer	New H3C Intelligence Terminal Co., Ltd.
Manufacturer address	Room 406-100, 1 Yichuang Street, China-Singapore Guangzhou Knowledge City, Huangpu District, Guangzhou.

General Technologies

EUT Description			
Model	H3C Magic NX54		
Lab internal SN	EFTA25010260-IE-04/S1		
Hardware Version	A0		
Software Version	R005		
Frequency	Band	TX (MHz)	RX (MHz)
	Wi-Fi 2.4GHz	2400 ~ 2483.5	2400 ~ 2483.5
	Wi-Fi 5GHz (U-NII-1)	5150 ~ 5250	5150 ~ 5250
	Wi-Fi 5GHz (U-NII-2A)	5250 ~ 5350	5250 ~ 5350
	Wi-Fi 5GHz (U-NII-2C)	5470 ~ 5725	5470 ~ 5725
	Wi-Fi 5GHz (U-NII-3)	5725 ~ 5850	5725~5850
Date of Testing	April 9, 2025 ~ May 29, 2025		
Date of Sample Received	April 9, 2025		
EUT Accessory			
Adapter	Manufacturer: Mentech Model: MAUS-1202002400		
Note: 1. The EUT is sent from the applicant to Eurofins TA and the information of the EUT is declared by the applicant. 2. All indications of Pass/Fail in this report are opinions expressed by Eurofins TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.			

3 Maximum Output Power (Measured) and Antenna Gain

The numeric gain (G) of the antenna with a gain specified in dB is determined by
Numeric gain (G)=10[^] (antenna gain/10)

Band	Maximum Output Power		Antenna Gain (dBi)	Numeric Gain
	(dBm)	(mW)		
Wi-Fi 2.4GHz Antenna 1	26.70	467.74	5.000	3.162
Wi-Fi 2.4GHz Antenna 2	26.79	477.53	5.000	3.162
Wi-Fi 2.4GHz MIMO	29.72	937.56	5.000	3.162
Wi-Fi 5GHz (U-NII-1) Antenna 1	26.75	473.15	5.420	3.483
Wi-Fi 5GHz (U-NII-1) Antenna 2	26.52	448.75	5.420	3.483
Wi-Fi 5GHz (U-NII-1) Antenna 3	26.60	457.09	5.420	3.483
Wi-Fi 5GHz (U-NII-1) Antenna 4	26.80	478.63	5.420	3.483
Wi-Fi 5GHz (U-NII-1) MIMO	28.19	659.174	5.420	3.483
Wi-Fi 5GHz (U-NII-2A) Antenna 1	20.89	122.74	5.420	3.483
Wi-Fi 5GHz (U-NII-2A) Antenna 2	20.81	120.50	5.420	3.483
Wi-Fi 5GHz (U-NII-2A) Antenna 3	20.74	118.58	5.420	3.483
Wi-Fi 5GHz (U-NII-2A) Antenna 4	21.01	126.18	5.420	3.483
Wi-Fi 5GHz (U-NII-2A) MIMO	23.81	240.436	5.420	3.483
Wi-Fi 5GHz (U-NII-2C) Antenna 1	20.78	119.67	5.420	3.483
Wi-Fi 5GHz (U-NII-2C) Antenna 2	21.20	131.83	5.420	3.483
Wi-Fi 5GHz (U-NII-2C) Antenna 3	20.90	123.03	5.420	3.483
Wi-Fi 5GHz (U-NII-2C) Antenna 4	21.13	129.72	5.420	3.483
Wi-Fi 5GHz (U-NII-2C) MIMO	23.94	247.74	5.420	3.483
Wi-Fi 5GHz (U-NII-3) Antenna 1	29.00	794.33	5.420	3.483
Wi-Fi 5GHz (U-NII-3) Antenna 2	29.03	799.83	5.420	3.483
Wi-Fi 5GHz (U-NII-3) Antenna 3	29.13	818.46	5.420	3.483
Wi-Fi 5GHz (U-NII-3) Antenna 4	29.04	801.68	5.420	3.483
Wi-Fi 5GHz (U-NII-3) MIMO	29.89	974.990	5.420	3.483

4 MPE Limit

According to section 1.1310 of FCC 47 CFR Part 1, limits for maximum permissible exposure (MPE) are as following.

Frequency range (MHz)	Electric field strength (V/m)	Magnetic field strength (A/m)	Power density (mW/cm ²)	Averaging time (minutes)
(i) LIMITS FOR OCCUPATIONAL/CONTROLLED EXPOSURE				
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
300-1,500			f/300	<6
1,500-100,000			5	<6
(ii) LIMITS FOR GENERAL POPULATION/UNCONTROLLED EXPOSURE				
0.3-1.34	614	1.63	*(100)	<30
1.34-30	824/f	2.19/f	*(180/f ²)	<30
30-300	27.5	0.073	0.2	<30
300-1,500			f/1500	<30
1,500-100,000			1.0	<30

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

Note1. Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational / controlled limits apply provided he or she is made aware of the potential for exposure.

Note2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

The maximum permissible exposure for 1500~100,000MHz is 1.0. So

Band	The Maximum Permissible Exposure (mW/cm ²)
Wi-Fi 2.4GHz	1.000
Wi-Fi 5GHz	1.000

5 RF Exposure Evaluation Result

RF exposure evaluation method is based on KDB 447498 D01, this calculation is based on the conducted power, maximum power and antenna gain with provides the minimum separation distance. The formula shown below is from OET Bulletin 65 Edition 97-01 Per KDB 447498 D01:

$$S = PG / 4\pi R^2$$

Where: S = power density (in appropriate units, e.g. mW/cm²)

P = Time-average maximum tune up procedure (in appropriate units, e.g., mW)

G = the numeric gain of the antenna

R = distance to the center of radiation of the antenna (20 cm = limit for MPE)

Band	Maximum Output Power (dBm)	Antenna Gain (dBi)	Maximum EIRP (dBm)	PG (mW)	Result (mW/cm ²)	Limit Value (mW/cm ²)	The MPE Ratio
Wi-Fi 2.4GHz Antenna 1	26.70	5.000	31.70	1479.11	0.294	1.000	0.294
Wi-Fi 2.4GHz Antenna 2	26.79	5.000	31.79	1510.08	0.300	1.000	0.300
Wi-Fi 2.4GHz MIMO	29.72	5.000	34.72	2964.83	0.590	1.000	0.590
Wi-Fi 5GHz (U-NII-1) Antenna 1	26.75	5.420	32.17	1648.16	0.328	1.000	0.328
Wi-Fi 5GHz (U-NII-1) Antenna 2	26.52	5.420	31.94	1563.15	0.311	1.000	0.311
Wi-Fi 5GHz (U-NII-1) Antenna 3	26.60	5.420	32.02	1592.21	0.317	1.000	0.317
Wi-Fi 5GHz (U-NII-1) Antenna 4	26.80	5.420	32.22	1667.25	0.332	1.000	0.332
Wi-Fi 5GHz (U-NII-1) MIMO	28.19	5.420	33.61	2296.15	0.457	1.000	0.457
Wi-Fi 5GHz (U-NII-2A) Antenna 1	20.89	5.420	26.31	427.56	0.085	1.000	0.085
Wi-Fi 5GHz (U-NII-2A) Antenna 2	20.81	5.420	26.23	419.76	0.084	1.000	0.084
Wi-Fi 5GHz (U-NII-2A) Antenna 3	20.74	5.420	26.16	413.05	0.082	1.000	0.082
Wi-Fi 5GHz (U-NII-2A) Antenna 4	21.01	5.420	26.43	439.54	0.087	1.000	0.087
Wi-Fi 5GHz (U-NII-2A) MIMO	23.81	5.420	29.23	837.53	0.167	1.000	0.167
Wi-Fi 5GHz (U-NII-2C) Antenna 1	20.78	5.420	26.20	416.87	0.083	1.000	0.083
Wi-Fi 5GHz (U-NII-2C) Antenna 2	21.20	5.420	26.62	459.20	0.091	1.000	0.091
Wi-Fi 5GHz (U-NII-2C) Antenna 3	20.90	5.420	26.32	428.55	0.085	1.000	0.085
Wi-Fi 5GHz (U-NII-2C) Antenna 4	21.13	5.420	26.55	451.86	0.090	1.000	0.090
Wi-Fi 5GHz (U-NII-2C) MIMO	23.94	5.420	29.36	862.98	0.172	1.000	0.172
Wi-Fi 5GHz (U-NII-3) Antenna 1	29.00	5.420	34.42	2766.94	0.550	1.000	0.550
Wi-Fi 5GHz (U-NII-3) Antenna 2	29.03	5.420	34.45	2786.12	0.554	1.000	0.554
Wi-Fi 5GHz (U-NII-3) Antenna 3	29.13	5.420	34.55	2851.02	0.567	1.000	0.567
Wi-Fi 5GHz (U-NII-3) Antenna 4	29.04	5.420	34.46	2792.54	0.556	1.000	0.556

Wi-Fi 5GHz (U-NII-3) MIMO	29.89	5.420	35.31	3396.25	0.676	1.000	0.676
Note: $R = 20\text{cm}$ $\pi = 3.1416$ The MPE Ratio = Mac Result÷Limit Value							

Wi-Fi 2.4GHz antenna and Wi-Fi 5GHz antenna can transmit simultaneously.

So, the simultaneous transmitting antenna pairs as below:

$$\text{TER} = \text{Wi-Fi 2.4GHz Antenna MPE Ratio} + \text{Wi-Fi 5GHz Antenna MPE Ratio} = 0.590 + 0.676 = 1.266 > 1$$

Since the Total Exposure Ratio (TER) is greater than 1, the safe operating distance for this product is more than 20 cm, Therefore, it is necessary to calculate a new safety distance greater than 20 cm. The calculation results are shown in the table below:

Band	PG (dBm)	PG (W)	Safety Distance (cm)	Result (W/m ²)	Limit Value (W/m ²)	The MPE Ratio
Wi-Fi 2.4GHz MIMO	34.72	2964.83	23	0.446	1.000	0.446
Wi-Fi 5GHz (U-NII-3) MIMO	35.31	3396.25		0.511	1.000	0.511
Note: π = 3.1416 The EMF Ratio = Result÷Limit Value						

So, the simultaneous transmitting antenna pairs as below:

$$\text{TER} = \text{Wi-Fi 2.4GHz Antenna MPE Ratio} + \text{Wi-Fi 5GHz Antenna MPE Ratio} = 0.446 + 0.511 = 0.957 < 1$$

Note: For this device, minimum operating distance is 23cm.

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

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