MPE TEST REPORT

Applicant	Nokia Shanghai Bell Co., Ltd.
FCC ID	2ADZRG1425GE
Product	Nokia ONT
Brand	NOKIA
Model	G-1425G-E
Report No.	R2312A1383-M1V1
Issue Date	August 16, 2024

Eurofins TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC 47 CFR Part 1 1.1310.** The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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Version	Revision Description	Issue Date
Rev.0	Initial issue of report.	March 21, 2024
Rev.1	Updated information.	August 16, 2024
Note: This revised report (Report No.: R2312A1383-M1V1) supersedes and replaces the previously issued report (Report No.: R2312A1383-M1). Please discard or destroy the previously issued report and dispose of it accordingly.		

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.
Address:	Building 3, No.145, Jintang Rd, Pudong Shanghai, P.R.China
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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	Nokia Shanghai Bell Co., Ltd.
Applicant address	No.388, Ningqiao Rd, Pilot Free Trade Zone, Shanghai, 201206 P.R. China
Manufacturer	Nokia of America Corporation
Manufacturer address	2301 Sugar Bush Rd. Raleigh, NC 27612

General Technologies

EUT Description			
Model	G-1425G-E		
SN	ALCLB43F4492		
Hardware Version	3TN 00674 AAAA		
Software Version	3TN00702FJLI48		
Frequency	Band	TX (MHz)	RX (MHz)
	Wi-Fi 2.4G	2400 ~ 2483.5	2400 ~ 2483.5
	Wi-Fi 5G (U-NII-1)	5150 ~ 5250	5150 ~ 5250
	Wi-Fi 5G (U-NII-2A)	5250 ~ 5350	5250 ~ 5350
	Wi-Fi 5G (U-NII-2C)	5470 ~ 5725	5470 ~ 5725
	Wi-Fi 5G (U-NII-3)	5725 ~ 5850	5725 ~ 5850
Date of Testing	January 4, 2024 ~ February 26, 2024		
Date of Sample Received	December 14, 2023		
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.			

Hardware code information

ONT Mnemonic	Kit Code	EMA Code	Part Description
1	3TN 00683 XXXX (Code can be any capital letter from A to Z)	3TN 00673 XXXX (Code can be any capital letter from A to Z)	GPON ONT,4XGE UNI,1POTS, WIFI 5,2x2 11n + 2x2 11ac

Information of configuration

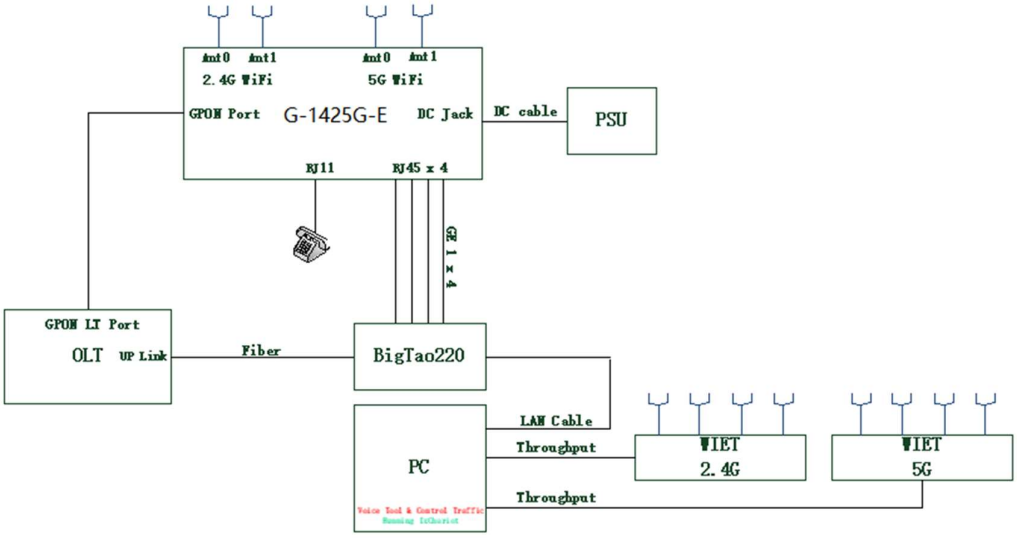
No.	Name	Model/Code No.	Edition	Serial No.
1	G-1425G-E	3TN 00673 AAAA	PEM2	PEM
2	G-1425G-E	3TN 00673 BAAA	PEM2	PEM
3	Power adapter	RD1201000-C55-35MGD	-	PEM
4	Power adapter	RD1201000-C55-35OGD	-	PEM
5	Power adapter	RD1201000-C55 -35YGD	-	PEM
6	Power adapter	KL-WA120100-E	-	PEM
7	Power adapter	KL-WE120100-B	-	PEM
8	Power adapter	KL-WB120100-B	-	PEM

Auxiliary equipment details

No.	Name	Brand name	Model	NSB code	Valid Until
1	BigTao	XINERTEL	BigTao220	DE8708	No Cal. Required
2	PC	Lenovo	T61	7661MC4L3KW965	No Cal. Required
3	PC	Lenovo	T61	7661MC4L3KW959	No Cal. Required
5	7362 ISAM DF-16	NOKIA	3FE45632AAAA	YP1747F403F	No Cal. Required

Information of ports

No.	Port name	Test Number	Shielded or unshielded	Cable type (optic, twisted pair, etc.)	Max. Cable length
1	AC Power Port	1	unshielded	-	-
2	GE	4	unshielded	-	-
1	POTS	1	unshielded	-	-



3 Maximum Output Power 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)		
MIMO	Wi-Fi 2.4GHz	26.54	450.82	4.84	3.05
	Wi-Fi 5G	29.29	849.18	5.12	3.25
Beamforming	Wi-Fi 2.4GHz	26.46	442.59	4.84	3.05
	Wi-Fi 5G	29.28	847.23	5.12	3.25

4 MPE Limit

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

TABLE 1 – LIMITS FOR MAXIMUN PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm2)	Averaging Time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3-30	1842/f	4.89/f	*(900/f2)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f2)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			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/cm^2)
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 Tune up (dBm)	Antenna Gain (dBi)	Maximum EIRP (dBm)	PG (mW)	Result (mW/cm^2)	Limit Value (mW/cm^2)	The MPE Ratio
MIMO	Wi-Fi 2.4GHz	26.54	4.84	31.380	1374.042	0.273	1.000	**0.273**
	Wi-Fi 5G	29.29	5.12	34.410	2760.578	0.549	1.000	**0.549**
Beamforming	Wi-Fi 2.4GHz	26.46	4.84	31.300	1348.963	0.268	1.000	0.268
	Wi-Fi 5G	29.28	5.12	34.400	2754.229	0.548	1.000	0.548
Note: **R** = 20cm **π**= 3.1416 The MPE Ratio = Mac Result÷Limit Value								

So the simultaneous transmitting antenna pairs as below:
∑of EMF ratios= Wi-Fi 2.4G + Wi-Fi 5G =0.273 + 0.549 = 0.822 <1

Note: For transmitters, minimum separation distance is 20cm, even if calculations indicate MPE distance is less.

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

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