

EMC Test Report

Product Name : Nokia Industrial 5G fieldrouter FRRO505c
Model No. : FRRO505c

Applicant : Nokia of America Corp
Address : 3201 Olympus Blvd, Dallas, TX 75019, US

Date of Receipt : July 28, 2025
Test Date : August 01, 2025 ~ August 03, 2025
Issued Date : August 12, 2025
Report No. : 2560724R.603
Report Template No. : TRF_FCC Part 15 Subpart 15B_EMC_V1.4

The test results presented in this report relate only to the object tested.

This report is not used for social proof in China (or Mainland China) market.

The measurement result is considered in conformance with the requirement if it is within the prescribed limit, it is not necessary to calculate the uncertainty associated with the measurement result.

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Issued Date : August 12, 2025
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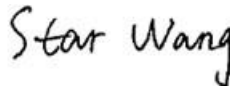
Product Name : Nokia Industrial 5G fieldrouter FRRO505c
Applicant : Nokia of America Corp
Address : 3201 Olympus Blvd, Dallas, TX 75019, US
Manufacturer : Shanghai Smawave Technology Co., Ltd
Address : 2/F, Building 8, 1001 North Qinzhou Road, Xuhui District,
Shanghai, China
Model No. : FRRO505c
Brand Name : Nokia
EUT Voltage : 9-36 Vdc
Test Voltage : 120 Vac, 60 Hz
Applicable Standard : FCC CFR Title 47 Part 15 Subpart B: 2023
ANSI C63.4: 2014
Test Result : Complied
DEKRA Testing and Certification (Suzhou) Co., Ltd.
Test Location : No.99 Hongye Rd., Suzhou Industrial Park, Suzhou, 215006,
Jiangsu, China
FCC Designation Number : CN1199

Tested By :



(Tony Guo/Project Engineer)

Approved By :



(Star Wang/Manager)

TABLE OF CONTENTS

Description	Page
1 General Information.....	5
1.1 EUT Description	5
1.2 Mode of Operation.....	11
1.3 Tested System Details	12
1.4 Configuration of Tested System.....	13
1.5 EUT Exercise Software	14
2 Technical Test.....	15
2.1 Summary of Test Result	15
2.2 List of Test Equipment	16
2.3 Test Environment.....	18
2.4 Measurement Uncertainty	19
3 Conducted disturbance.....	20
3.1 Test Specification.....	20
3.2 Test Setup	20
3.3 Limit.....	21
3.4 Test Procedure	21
3.5 Deviation from Test Standard	21
3.6 Test Result.....	22
3.7 Test Photograph	26
4 Radiated disturbance.....	28
4.1 Test Specification.....	28
4.2 Test Setup	28
4.3 Limit.....	29
4.4 Test Procedure	30
4.5 Deviation from Test Standard	30
4.6 Test Result.....	31
4.7 Test Photograph	43

Document History

Report Number	Date	Description
2560724R.603	August 12, 2025	First release

1 General Information

1.1 EUT Description

Product Name	Nokia Industrial 5G fieldrouter FRRO505c
Model No.	FRRO505c
Brand Name	Nokia
FCC ID	2AVO2FRRO505C

Note 1: The EUT information is from customer declaration.

Wireless specification	Bluetooth (LE)					
Operating frequency range(s)	2402~2480MHz					
Type of Modulation	GFSK					
PHYs	☒	LE 1M	☒	LE 2M	☒	LE Coded S=2/8
Data Rate	☒	1Mbit/s	☒	2Mbit/s	☒	500/125 Kbit/s
Channel Spacing	2MHz					
Antenna Type	Dipole					
Antenna Gain.....	5.02 dBi					

Wireless specification	Wi-Fi	
Operating frequency range(s)	2400~2483.5MHz	
Type of modulation	802.11b: DSSS-DBPSK, DQPSK, CCK 802.11g/n: OFDM-BPSK, QPSK, 16QAM, 64QAM 802.11ax/be: OFDMA -BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024 QAM, 4096QAM Note: The device not support partial RU function.	
Channel Spacing	802.11b/g/n/ax/be: 20MHz 802.11n/ax/be: 40MHz	
Device category	☐	Fixed point-to-point
	☐	Emit multiple directional beams, simultaneously or sequentially
	☒	Other cases
Antenna type	Dipole	
Antenna Gain.....	Ant 1&2&3&4: 5.02 dBi	

Wireless specification	Wi-Fi		
Frequency Range	U-NII-1: 5150 MHz to 5250 MHz		
	U-NII-2A: 5250 MHz to 5350 MHz		
	U-NII-2C: 5470 MHz to 5725 MHz		
	U-NII-3: 5725 MHz to 5850 MHz		
Channel Spacing	802.11a/n/ac/ax/be: 20MHz 802.11n/ac/ax/be: 40MHz 802.11ac/ax/be: 80MHz 802.11ac/ax/be: 160MHz		
Modulation technology	802.11a/ac: OFDM-BPSK, QPSK, 16QAM, 64QAM, 256QAM 802.11ax/be: OFDMA -BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM, 4096QAM Note: The device not support partial RU function.		
DFS Function.....	☒	Master device	
	☐	Slave with radar detection	
	☐	Slave without radar detection	
TPC Function:	☒	Support	☐ Not Support
Antenna Type	Dipole		
Antenna Gain.....	Ant 1&2&3&4: 5.06 dBi		

Wireless specification	LTE, NR		
Support Band(s)	LTE	FDD Band 2/4/5/7/12/13/14/17/25/26/30/66/71 TDD Band 38/41/48/42/43	
	NR	FDD NR Band 2/5/7/12/13/14/25/26/30/66/70/71 TDD NR Band 38/41/48/77/78	
Uplink.....	Band 2: 1850-1910 MHz Band 4: 1710-1755 MHz Band 5: 824-849 MHz Band 7: 2500-2570 MHz Band 12: 699-716 MHz Band 13: 777-787 MHz Band 14: 788-798 MHz		

	Band 17: 704-716 MHz Band 25: 1850-1915 MHz Band 26: 814-849 MHz Band 30: 2305-2315 MHz Band 66: 1710-1780 MHz Band 70: 1965-1710 MHz Band 71: 663-698 MHz Band 38: 2570-2620 MHz Band 41: 2496-2690 MHz Band 42: 3400-3600 MHz Band 43: 3600-3800 MHz Band 48: 3550-3700 MHz Band 77: 3450-3550 MHz, 3700-3980 MHz Band 78: 3450-3550 MHz, 3700-3800 MHz
Downlink	Band 2: 1930-1990 MHz Band 4: 2110-2155 MHz Band 5: 869-894 MHz Band 7: 2620-2690 MHz Band 12: 729-746 MHz Band 13: 746-756 MHz Band 14: 758-768 MHz Band 17: 734-746 MHz Band 25: 1930-1995 MHz Band 26: 859-894 MHz Band 30: 2350-2360 MHz Band 66: 2110-2200 MHz Band 70: 1995-2020 MHz Band 71: 617-652 MHz Band 38: 2570-2620 MHz Band 41: 2496-2690 MHz Band 42: 3400-3600 MHz Band 43: 3600-3800 MHz Band 48: 3550-3700 MHz Band 77: 3450-3550 MHz, 3700-3980 MHz Band 78: 3450-3550 MHz, 3700-3800 MHz

SCS and Channel Bandwidth(MHz)	LTE Band 2	1.4 MHz / 3 MHz / 5 MHz / 10 MHz / 15 MHz / 20 MHz
	LTE Band 4	1.4 MHz / 3 MHz / 5 MHz / 10 MHz / 15 MHz / 20 MHz
	LTE Band 5	1.4 MHz / 3 MHz / 5 MHz / 10 MHz
	LTE Band 7	5 MHz / 10 MHz / 15 MHz / 20 MHz
	LTE Band 12	1.4 MHz / 3 MHz / 5 MHz / 10 MHz
	LTE Band 13	5 MHz / 10 MHz
	LTE Band 14	5 MHz / 10 MHz
	LTE Band 17	5 MHz / 10 MHz
	LTE Band 25	1.4 MHz / 3 MHz / 5 MHz / 10 MHz / 15 MHz / 20 MHz
	LTE Band 26	1.4 MHz / 3 MHz / 5 MHz / 10 MHz / 15 MHz
	LTE Band 30	5 MHz / 10 MHz
	LTE Band 38	5 MHz / 10 MHz / 15 MHz / 20 MHz
	LTE Band 41	5 MHz / 10 MHz / 15 MHz / 20 MHz
	LTE Band 42	5 MHz / 10 MHz / 15 MHz / 20 MHz
	LTE Band 43	5 MHz / 10 MHz / 15 MHz / 20 MHz
	LTE Band 48	5 MHz / 10 MHz / 15 MHz / 20 MHz
	LTE Band 66	1.4 MHz / 3 MHz / 5 MHz / 10 MHz / 15 MHz / 20 MHz
	LTE Band 71	5 MHz / 10 MHz / 15 MHz / 20 MHz
	n2_SCS 15kHz	5 MHz / 10 MHz / 15 MHz / 20 MHz / 25 MHz / 30 MHz / 40 MHz
	n5_SCS 15kHz	5 MHz / 10 MHz / 15 MHz / 20 MHz
	n7_SCS 15kHz	5 MHz / 10 MHz / 15 MHz / 20 MHz / 25 MHz / 30 MHz / 40 MHz
	n12_SCS 15kHz	5 MHz / 10 MHz / 15 MHz
	n13_SCS 15kHz	5 MHz / 10 MHz
	n14_SCS 15kHz	5 MHz / 10 MHz
	n25_SCS 15kHz	5 MHz / 10 MHz / 15 MHz / 20 MHz / 25 MHz / 30 MHz / 40 MHz
	N26_SCS 15kHz	5 MHz / 10 MHz / 15 MHz / 20 MHz
	n30_SCS 15kHz	5 MHz / 10 MHz
	n66_SCS 15kHz	5 MHz / 10 MHz / 15 MHz / 20 MHz / 25 MHz / 30 MHz /

		40 MHz
	n70_SCS 15kHz	5 MHz / 10 MHz / 15 MHz
	n71_SCS 15kHz	5 MHz / 10 MHz / 15 MHz / 20 MHz
	n38_SCS 30kHz	10 MHz / 15 MHz / 20 MHz / 25 MHz / 30 MHz / 40 MHz
	n41_SCS 30kHz	10 MHz / 15 MHz / 20 MHz / 25 MHz / 30 MHz / 40 MHz / 50 MHz / 60 MHz / 70 MHz / 80 MHz / 90 MHz / 100 MHz
	n48_SCS 30kHz	10 MHz / 15 MHz / 20 MHz / 30 MHz / 40 MHz
	n77_SCS 30kHz	10 MHz / 15 MHz / 20 MHz / 25 MHz / 30 MHz / 40 MHz / 50 MHz / 60 MHz / 70 MHz / 80 MHz / 90 MHz / 100 MHz
	n78_SCS 30kHz	10 MHz / 15 MHz / 20 MHz / 25 MHz / 30 MHz / 40 MHz / 50 MHz / 60 MHz / 70 MHz / 80 MHz / 90 MHz / 100 MHz
LTE UL CA	LTE UL CA_2C; LTE UL CA_5B; LTE UL CA_7C; LTE UL CA_38C; LTE UL CA_41C; LTE UL CA_42C; LTE UL CA_43C; LTE UL CA_66B; LTE UL CA_66C; LTE UL CA_2A-4A; LTE UL CA_2A-5A; LTE UL CA_2A-7A; LTE UL CA_2A-12A; LTE UL CA_2A-13A; LTE UL CA_2A-30A; LTE UL CA_2A-66A; LTE UL CA_4A-5A; LTE UL CA_4A-7A; LTE UL CA_4A-12A; LTE UL CA_4A-13A; LTE UL CA_4A-30A; LTE UL CA_5A-7A; LTE UL CA_5A-30A; LTE UL CA_5A-66A; LTE UL CA_12A-30A; LTE UL CA_12A-66A; LTE UL CA_13A-66A; LTE UL CA_14A-30A;	
ENDC	DC_13A_n66A;DC_5A_n2A;DC_14A_n2A;DC_30A_n2A;DC_2A_n5A; DC_30A_n5A;DC_66A_n5A;DC_2A_n12A;DC_66A_n12A;DC_2A_n66A; DC_5A_n66A;DC_12A_n66A;DC_14A_n66A;DC_30A_n66A;DC_12A_n2A; DC_66A_n2A;DC_71A_n2A;DC_12A_n41A;DC_71A_n66A;DC_2A_n71A DC_66A_n71A;DC_66A_n25A;DC_25A_n41A;DC_12A_n78A;DC_13A_n78A DC_25A_n78A;DC_12A_n77A;DC_13A_n77A;DC_14A_n77A;DC_26A_n78A DC_2A_n78A;DC_26A_n41A;DC_2A_n41A;DC_7A_n5A;DC_38A_n78A DC_7A_n71A;DC_41A_n78A;DC_5A_n7A;DC_12A_n7A;DC_66A_n7A DC_13A_n2A; DC_7A_n66A;DC_4A_n78A;DC_20A_n77A DC_5A_n78A;DC_4A_n41A;DC_66A_n38A;DC_2A_n38A;DC_12A_n38A DC_4A_n38A;DC_5A_n38A;DC_66A_n78A;DC_12A_n25A;DC_25A_n77A DC_2A_n77A;DC_71A_n78A;DC_71A_n38A;DC_13A_n7A;DC_5A_n41A DC_66A_n41A;DC_2A_n7A;DC_7A_n2A;DC_5A_n40A;DC_30A_n77A	

	DC_41A_n77A;DC_7A_n78A; DC_66A_n28A;DC_71A_n41A DC_28A_n66A;DC_30A_n12A;DC_2A_n14A;DC_30A_n14A;DC_66A_n14A DC_2A_n30A;DC_5A_n30A;DC_12A_n30A;DC_14A_n30A;DC_66A_n30A DC_71A_n7A;DC_7A_n12A;DC_5A_n77A;DC_66A_n77A;DC_71A_n77A DC_4A_n2A;DC_7A_n25A;DC_71A_n25A;DC_5A_n25A;DC_26A_n25A DC_4A_n7A;DC_13A_n25A;DC_7A_n77A;
NR UL CA	n25A-n41A; n41A-n66A; n41A-n71A ;n7A-n78A ;n5A-n78A n66A-n78A;n7A-n77A;n2A-n77A;n5A-n77A;n66A-n77A n30A-n77A;n71A-n77A;n71A-n78A;n25A-n78A;n38A-n66A n25A-n77A;n25A-n38A;n13A-n77A; n2A-n41A
Type of Modulation	DFT-s-OFDM Pi/2 BPSK DFT-s-OFDM QPSK DFT-s-OFDM 16QAM DFT-s-OFDM 64QAM DFT-s-OFDM 256QAM CP-OFDM QPSK CP-OFDM 16QAM CP-OFDM 64QAM CP-OFDM 256QAM
Antenna Type	Dipole

1.2 Mode of Operation

We have verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

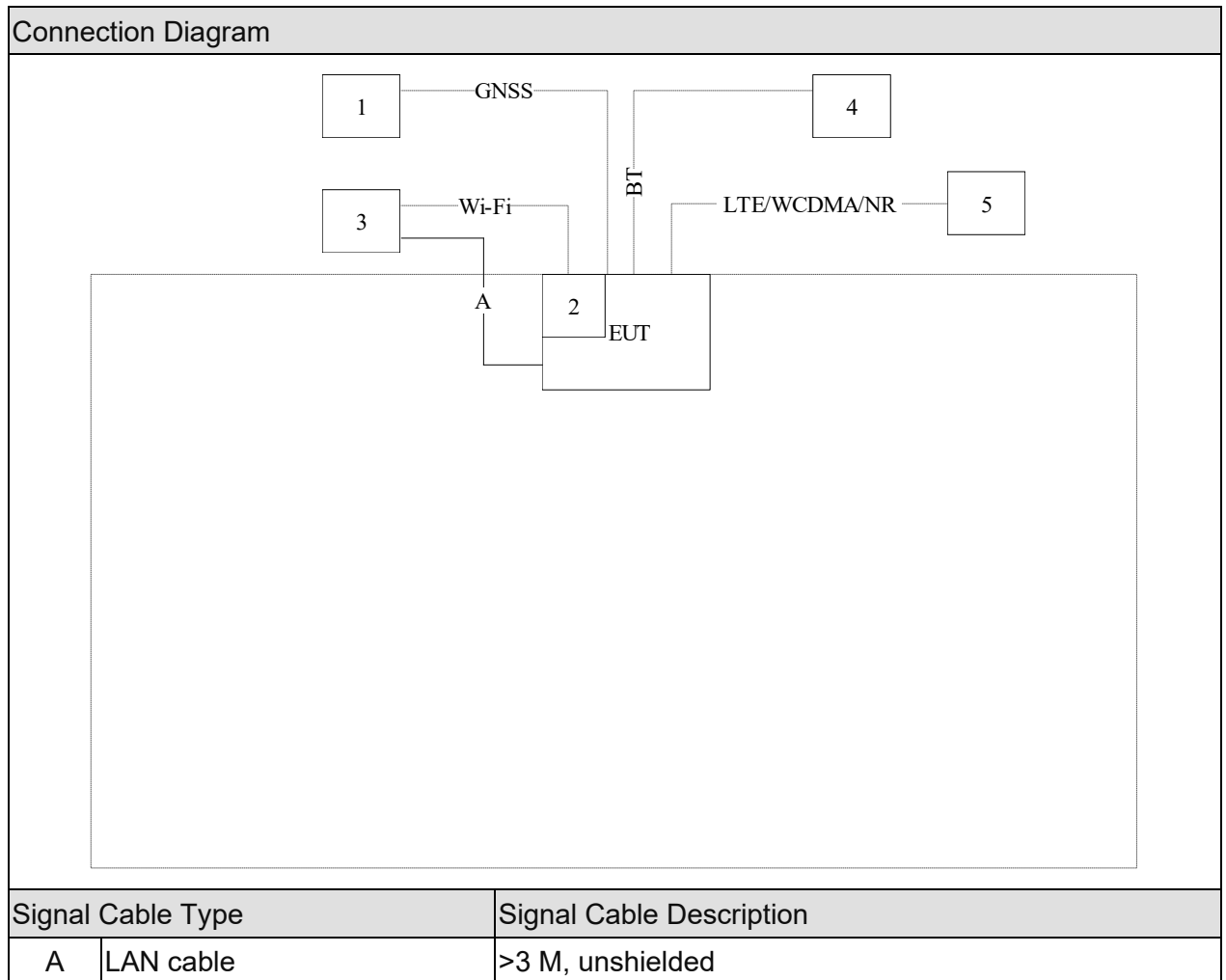
Final Test Mode	
Emission	Mode 1: Normal mode (ADP: GQ150A-2400600-E1) Mode 2: Normal mode (ADP: JYH11Z-2400600-BF)

1.3 Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product		Manufacturer	Model No.	Serial No.	Power Cord
1	Signal Generator	R&S	SMBV100A	N/A	Non-Shielded, 1.8 m
2	SIM card	N/A	N/A	N/A	N/A
3	Notebook computer	Lenovo	T14	N/A	Power by Adaptor
4	Radio Communication Tester	R&S	CMW 270	102593	Non-Shielded, 1.8 m
5	Radio Communication Tester	R&S	CMW 500	CN-0DJ331-71616-67R-03UN	Non-Shielded, 1.8 m

1.4 Configuration of Tested System



1.5 EUT Exercise Software

1	Setup the EUT and simulators as shown on above.
2	Turn on the power of all equipment.
3	Confirm the EUT working normally.
4	Start test.

2 Technical Test

2.1 Summary of Test Result

- ☒ No deviations from the test standards
☐ Deviations from the test standards as below description:

Emission			
Performed Test Item	Normative References	Test Performed	Deviation
Conducted disturbance	FCC CFR Title 47 Part 15 Subpart B: 2023 ANSI C63.4: 2014	Yes	No
Radiated disturbance	FCC CFR Title 47 Part 15 Subpart B: 2023 ANSI C63.4: 2014	Yes	No

2.2 List of Test Equipment

Radio Signal Source						
Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date	Used In
Radio Communication Tester	R&S	CMU 200	117088	2024.07.06	2025.07.05	☐
Wireless Connectivity Tester	R&S	CMW 270	102593	2025.05.10	2026.05.09	☒
Radio Communication Tester	R&S	CMW 500	170870	2025.05.10	2026.05.09	☒
Radio Communication Tester	R&S	CMW 500	158243	2025.05.10	2026.05.09	☐
UXM 5G Wireless Test Platform	Keysight	E7515B	MY58120445	2025.04.03	2026.04.02	☐

Conducted Emission / TR1						
Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date	Used In
EMI Test Receiver	R&S	ESR7	102086	2025.01.11	2026.01.10	☒
Two-Line V-Network	R&S	ENV216	101190	2025.01.18	2026.01.17	☒
Two-Line V-Network	R&S	ENV216	102281	2025.03.23	2026.03.22	☒
Two-Line V-Network	R&S	ENV216	101044	2024.10.26	2025.10.25	☐
50ohm Coaxial Switch	Anritsu	MP59B	6200464462	2025.03.16	2026.03.15	☒
Coaxial Cable	Huber+Suhner	RG 223	TR1-C1	2025.03.16	2026.03.15	☒
Temperature/Humidity Meter	RTS	RTS-1909	THM-012	2025.04.30	2026.04.29	☒
Software	Quietek	EMI_V3	V3.0.0	N/A	N/A	☒
Shielding room	Quietek	4.9m*4m*3m	TR1	2023.03.04	2028.03.03	☒

Radiated Emission / AC3						
Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date	Used In
EMI Test Receiver	R&S	ESR7	102086	2025.01.11	2026.01.10	☒
Bilog Antenna	Teseq GmbH	CBL6112B	2931	2025.05.28	2026.05.27	☐
Bilog Antenna	Teseq GmbH	CBL6112D	27611	2025.03.24	2026.03.23	☒
Coaxial Cable	Huber+Suhner	SUCOFLEX 106	AC3-C	2025.03.16	2026.03.15	☒
Temperature/Humidity Meter	RTS	RTS-1909	THM-022	2025.04.30	2026.04.29	☒

Radiated Emission / AC3

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date	Used In
Software	Quietek	EMI_V3	V3.0.0	N/A	N/A	☒
EMI Test Receiver	R&S	ESR7	101668	2025.01.11	2026.01.10	☒
Anechoic chamber	Quietek	9m*6m*6m	AC2	2022.01.02	2027.01.01	☒

Radiated Emission / AC5

Instrument	Manufacturer	Model No.	Serial No.	Cali. Date	Cali. Due Date	Used In
MXA Signal Analyzer	Keysight	N9020B	MY60112218	2024.11.02	2025.11.01	☒
Pre-Amplifier	XH	LNA1845	LNA23040284	2025.05.17	2026.05.16	☒
DRG Horn Antenna	ETS-Lindgren	3117	00167055	2024.08.29	2025.08.28	☒
Filter Switch Box	MVE	MSW-F196	C070001S	2025.03.15	2026.03.14	☒
Coaxial Cable	Lair Microwave	LA800-NMNW M-6.5M	502201001001	2025.03.15	2026.03.14	☒
Coaxial Cable	Lair Microwave	LA800-SWMS WM-0.6M	502201005001	2025.03.15	2026.03.14	☒
Coaxial Cable	Lair Microwave	LA800-NMNW M-3M	502201002001	2025.03.15	2026.03.14	☒
Coaxial Cable	Lair Microwave	LA800-NMNW M-1.2M	202201003001	2025.03.15	2026.03.14	☒
Broad-Band Horn Antenna	Schwarzbeck	BBHA9170	750	2024.11.24	2025.11.23	☒
Amplifier	Tonscend Technology	TAP01840048	806JSAP0429 06251036	2025.06.30	2026.06.29	☒
Cable	Rosenberger	LA1-C390-2000	0001	2025.05.17	2026.05.16	☒
Cable	Rosenberger	LA1-C390-3000	0001	2025.05.17	2026.05.16	☒
Temperature/Humidity Meter	RTS	RTS-1909	THM-024	2025.04.30	2026.04.29	☒
Software	Quietek	EMI_V3	V3.0.0	N/A	N/A	☒
Anechoic chamber	Quietek	9m*6m*6m	AC5	2024.04.21	2028.04.20	☒

2.3 Test Environment

Tests have been performed in a controlled laboratory environment, where the environmental conditions are maintained within the applicable ranges.

Performed Item	Items	Actual
Conducted Emission	Temperature (°C)	23
	Humidity (%RH)	40
	Barometric pressure (mbar)	1012
Radiated Emission (30~1000 MHz)	Temperature (°C)	21
	Humidity (%RH)	39
	Barometric pressure (mbar)	1010
Radiated Emission (1~40 GHz)	Temperature (°C)	20
	Humidity (%RH)	40
	Barometric pressure (mbar)	1010

2.4 Measurement Uncertainty

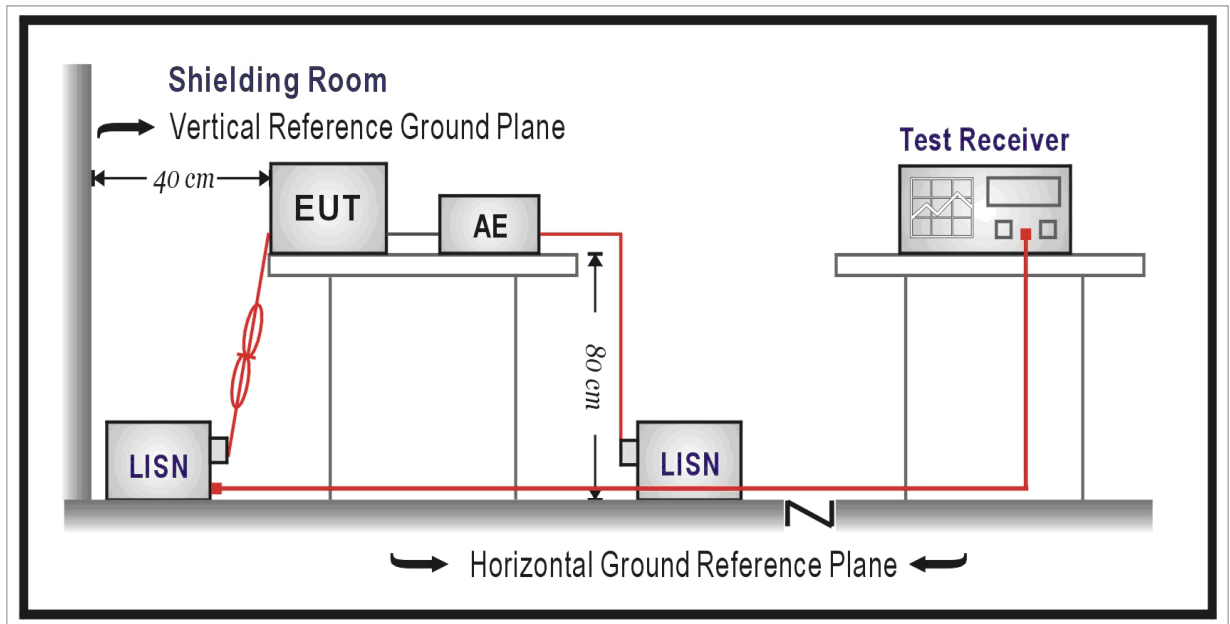
Conducted emissions – AC mains power ports / TR1
The maximum measurement uncertainty is evaluated as: Mains: 150kHz~30MHz: 2.6 dB
Radiated emission / AC3
The maximum measurement uncertainty is evaluated as: Horizontal: 30MHz~200MHz: 4.8 dB 200MHz~1000MHz: 4.2 dB Vertical: 30MHz~200MHz: 5.0 dB 200MHz~1000MHz: 4.4 dB
Radiated emission / AC5
The maximum measurement uncertainty is evaluated as: Horizontal: 1 GHz~18 GHz: 5.2 dB Vertical: 1 GHz~18 GHz: 5.4 dB Horizontal: 18 GHz~40 GHz: 4.7 dB Vertical: 18 GHz~40 GHz: 4.6 dB

3 Conducted disturbance

3.1 Test Specification

According to Standard: FCC Part 15.107:2023,ANSI C63.4:2014

3.2 Test Setup



3.3 Limit

☒ Limits for conducted disturbance of class A		
Frequency range MHz	Limits dB(μV)	
	Quasi-peak	Average
0.15 to 0.50	79	66
0.50 to 30	73	60
NOTE: The lower limit shall apply at the transition frequency.		

☐ Limits for conducted disturbance of class B		
Frequency range MHz	Limits dB(μV)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
NOTE 1: The lower limit shall apply at the transition frequencies.		
NOTE 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.50MHz.		

3.4 Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50Ω / 50μH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50Ω / 50μH coupling impedance with 50Ω termination. (Please refer to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed on conducted measurement.

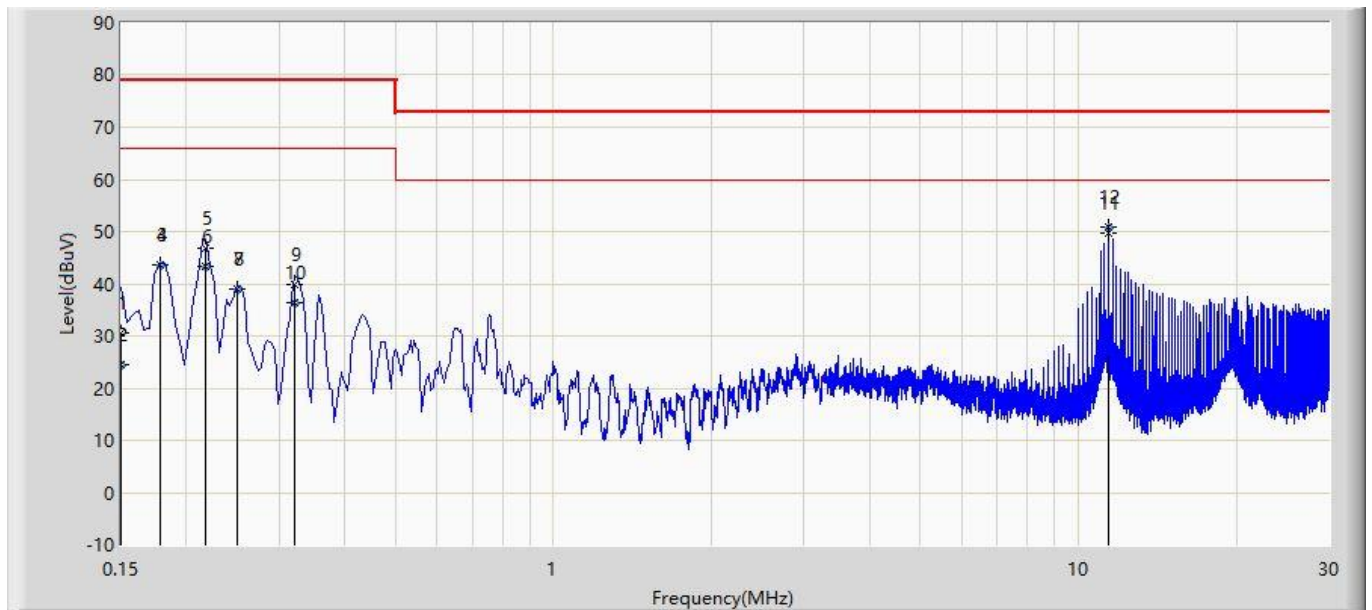
Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

3.5 Deviation from Test Standard

No deviation.

3.6 Test Result

Engineer: Jim Fu	
Site: TR1	Time: 2025/08/03
Limit: FCC_Part 15.107_CE_AC Power_Class A	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Line
EUT: Nokia Industrial 5G fieldrouter FRRO505c	Power: 120 Vac, 60 Hz
Note: Mode 1	



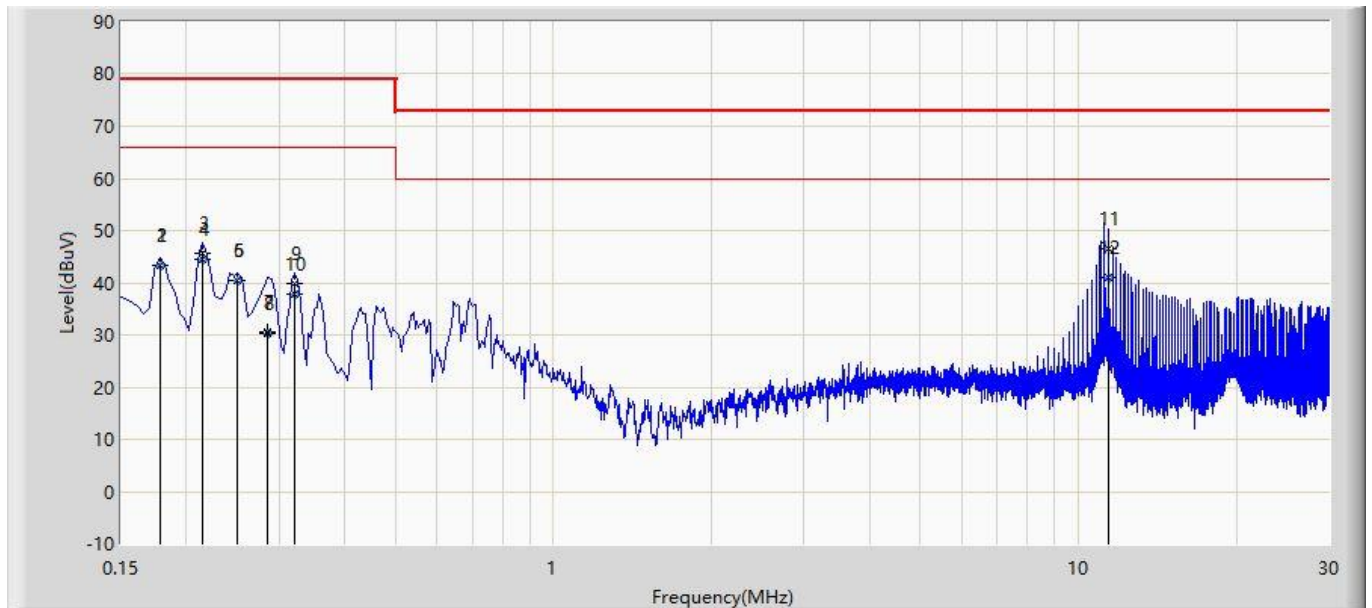
No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.150	30.451	20.929	-48.549	79.000	9.500	0.022	0.000	QP
2		0.150	24.490	14.968	-41.510	66.000	9.500	0.022	0.000	AV
3		0.178	43.518	33.989	-35.482	79.000	9.506	0.023	0.000	QP
4		0.178	43.609	34.080	-22.391	66.000	9.506	0.023	0.000	AV
5		0.218	46.683	37.145	-32.317	79.000	9.514	0.024	0.000	QP
6		0.218	43.192	33.654	-22.808	66.000	9.514	0.024	0.000	AV
7		0.250	38.949	29.404	-40.051	79.000	9.520	0.025	0.000	QP
8		0.250	39.038	29.492	-26.962	66.000	9.520	0.025	0.000	AV
9		0.322	39.995	30.437	-39.005	79.000	9.531	0.027	0.000	QP
10		0.322	36.257	26.699	-29.743	66.000	9.531	0.027	0.000	AV
11		11.414	49.776	39.900	-23.224	73.000	9.698	0.178	0.000	QP
12	*	11.414	50.776	40.900	-9.224	60.000	9.698	0.178	0.000	AV

Note:

1. " * ", means this data is the worst emission level.

2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Jim Fu	
Site: TR1	Time: 2025/08/03
Limit: FCC_Part 15.107_CE_AC Power_Class A	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Neutral
EUT: Nokia Industrial 5G fieldrouter FRRO505c	Power: 120 Vac, 60 Hz
Note: Mode 1	

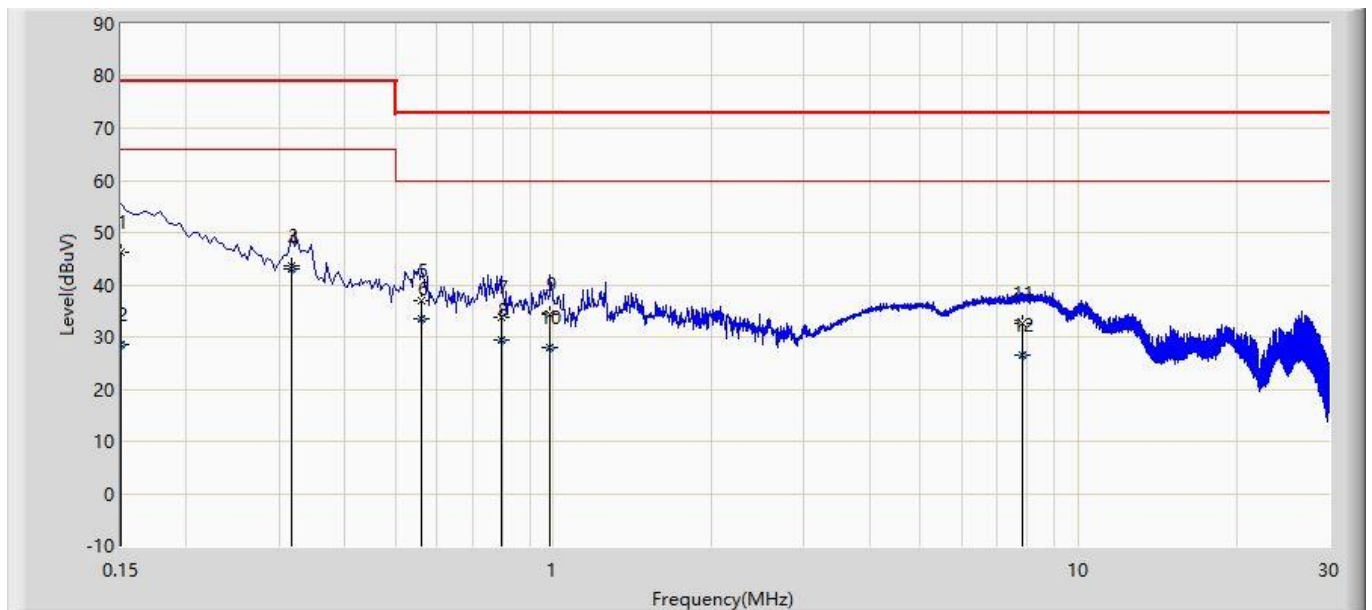


No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.178	43.234	33.710	-35.766	79.000	9.502	0.023	0.000	QP
2		0.178	43.328	33.804	-22.672	66.000	9.502	0.023	0.000	AV
3		0.214	45.665	36.131	-33.335	79.000	9.511	0.024	0.000	QP
4		0.214	44.545	35.010	-21.455	66.000	9.511	0.024	0.000	AV
5		0.250	40.577	31.037	-38.423	79.000	9.515	0.025	0.000	QP
6		0.250	40.523	30.983	-25.477	66.000	9.515	0.025	0.000	AV
7		0.286	30.677	21.132	-48.323	79.000	9.518	0.026	0.000	QP
8		0.286	30.310	20.765	-35.690	66.000	9.518	0.026	0.000	AV
9		0.322	39.991	30.443	-39.009	79.000	9.521	0.027	0.000	QP
10		0.322	37.852	28.303	-28.148	66.000	9.521	0.027	0.000	AV
11		11.414	46.438	36.562	-26.562	73.000	9.698	0.178	0.000	QP
12	*	11.414	40.989	31.113	-19.011	60.000	9.698	0.178	0.000	AV

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Jim Fu	
Site: TR1	Time: 2025/08/03
Limit: FCC_Part 15.107_CE_AC Power_Class A	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Line
EUT: Nokia Industrial 5G fieldrouter FRRO505c	Power: 120 Vac, 60 Hz
Note: Mode 2	

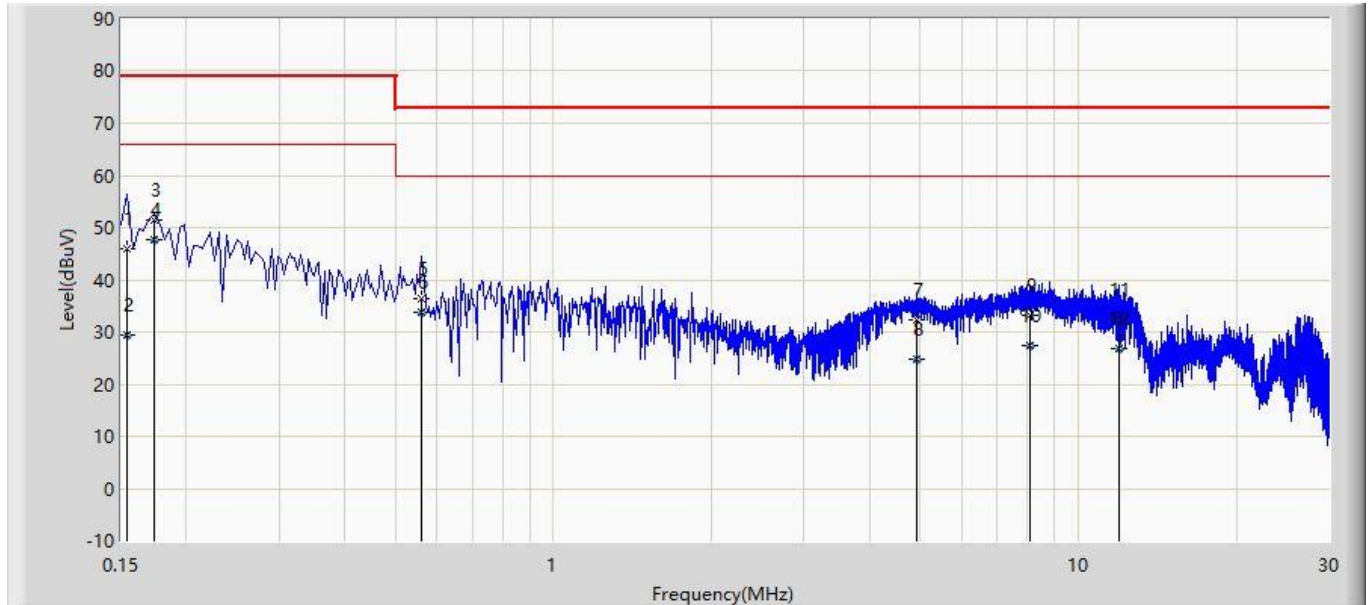


No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.150	46.317	36.795	-32.683	79.000	9.500	0.022	0.000	QP
2		0.150	28.466	18.945	-37.534	66.000	9.500	0.022	0.000	AV
3		0.318	43.611	34.053	-35.389	79.000	9.531	0.027	0.000	QP
4	*	0.318	43.074	33.516	-22.926	66.000	9.531	0.027	0.000	AV
5		0.562	36.826	27.251	-36.174	73.000	9.540	0.035	0.000	QP
6		0.562	33.532	23.957	-26.468	60.000	9.540	0.035	0.000	AV
7		0.794	33.768	24.181	-39.232	73.000	9.543	0.043	0.000	QP
8		0.794	29.296	19.710	-30.704	60.000	9.543	0.043	0.000	AV
9		0.986	34.223	24.624	-38.777	73.000	9.550	0.050	0.000	QP
10		0.986	28.083	18.484	-31.917	60.000	9.550	0.050	0.000	AV
11		7.798	32.668	22.823	-40.332	73.000	9.668	0.177	0.000	QP
12		7.798	26.479	16.634	-33.521	60.000	9.668	0.177	0.000	AV

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Jim Fu	
Site: TR1	Time: 2025/08/03
Limit: FCC_Part 15.107_CE_AC Power_Class A	Margin: 0
Probe: ENV216_101190(0.009-30MHz)	Polarity: Neutral
EUT: Nokia Industrial 5G fieldrouter FRRO505c	Power: 120 Vac, 60 Hz
Note: Mode 2	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Probe (dB)	Cable (dB)	Amp (dB)	Type
1		0.154	45.944	36.430	-33.056	79.000	9.492	0.022	0.000	QP
2		0.154	29.437	19.923	-36.563	66.000	9.492	0.022	0.000	AV
3		0.174	51.440	41.918	-27.560	79.000	9.500	0.022	0.000	QP
4	*	0.174	47.631	38.109	-18.369	66.000	9.500	0.022	0.000	AV
5		0.562	36.393	26.825	-36.607	73.000	9.533	0.035	0.000	QP
6		0.562	33.808	24.239	-26.192	60.000	9.533	0.035	0.000	AV
7		4.926	32.269	22.512	-40.731	73.000	9.618	0.139	0.000	QP
8		4.926	24.847	15.090	-35.153	60.000	9.618	0.139	0.000	AV
9		8.082	33.107	23.254	-39.893	73.000	9.671	0.182	0.000	QP
10		8.082	27.492	17.639	-32.508	60.000	9.671	0.182	0.000	AV
11		11.918	32.208	22.344	-40.792	73.000	9.701	0.163	0.000	QP
12		11.918	26.784	16.920	-33.216	60.000	9.701	0.163	0.000	AV

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

3.7 Test Photograph

Test Mode: Mode 1

Description: Front View of Conducted disturbance Test Setup



Test Mode: Mode 1

Description: Rear View of Conducted disturbance Test Setup



Test Mode: Mode 2

Description: Front View of Conducted disturbance Test Setup



Test Mode: Mode 2

Description: Rear View of Conducted disturbance Test Setup



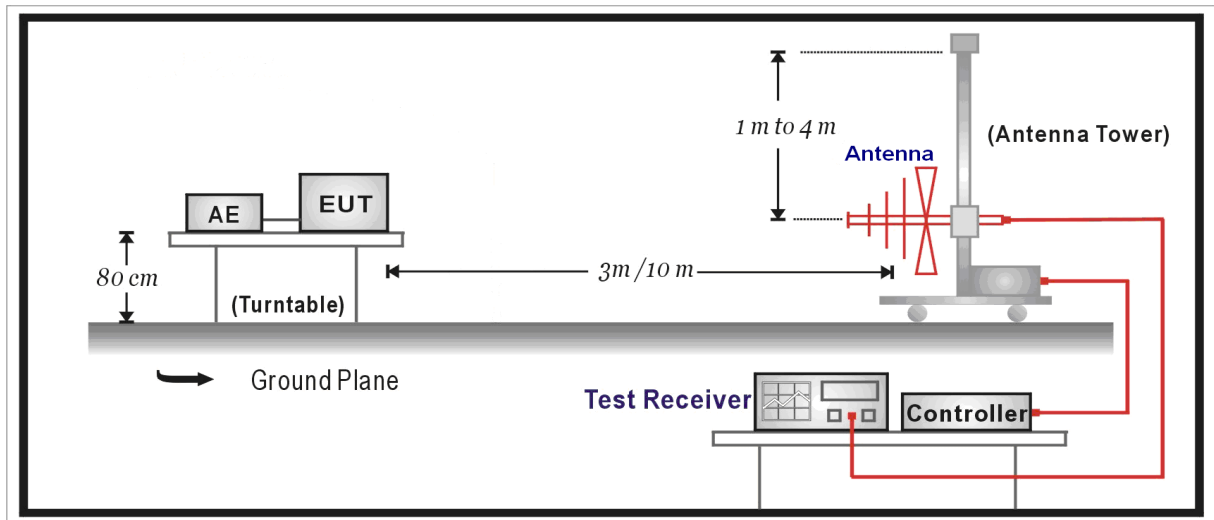
4 Radiated disturbance

4.1 Test Specification

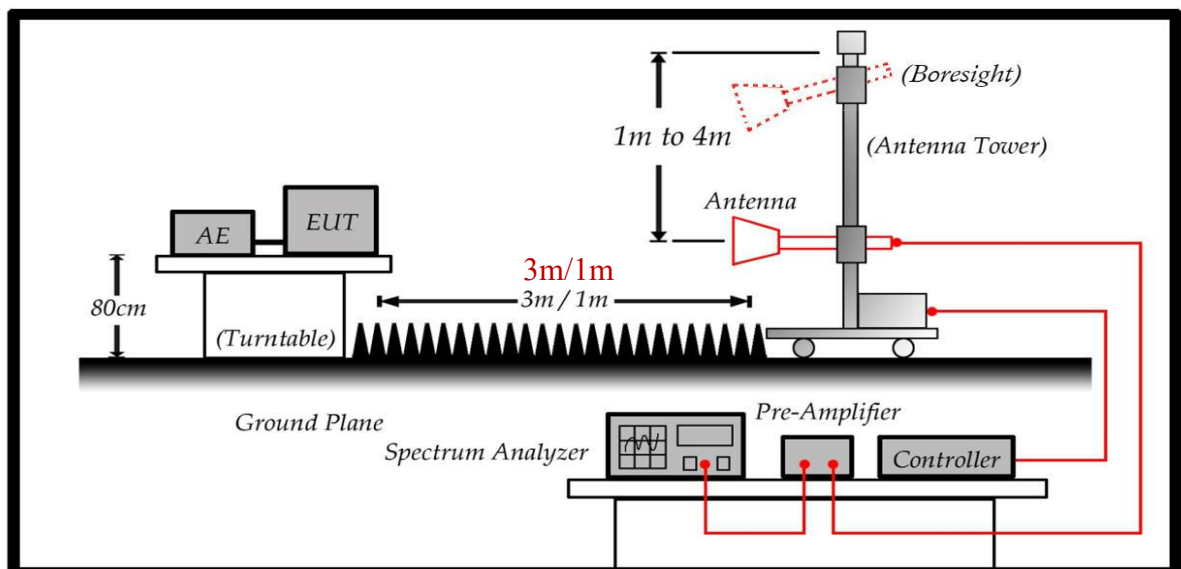
According to Standard: FCC Part 15.109:2023, ANSI C63.4:2014

4.2 Test Setup

Below 1GHz Test Setup



Above 1GHz Test Setup



4.3 Limit

☒ Limits for Radiated disturbance of CLASS A

Measuring Distance	10m	3m
Frequency of Emission (MHz)	Field Strength(QP) dB(μ V/m)	Field Strength(QP) dB(μ V/m)
30 to 88	39	49
88 to 216	43.5	53.5
216 to 960	46.4	56.4
960 to 1000	49.5	59.5

NOTE: The lower limit shall apply at the transition frequency.

Measuring Distance	10m		3m	
Frequency of Emission (MHz)	Field Strength(PK) dB(μ V/m)	Field Strength(AV) dB(μ V/m)	Field Strength(PK) dB(μ V/m)	Field Strength(AV) dB(μ V/m)
1000 to 18000	70	50	80	60
18000 to 40000	70	50	80	60

☐ Limits for Radiated disturbance of CLASS B

Measuring Distance	10m	3m
Frequency of Emission (MHz)	Field Strength(QP) dB(μ V/m)	Field Strength(QP) dB(μ V/m)
30 to 88	30	40
88 to 216	33.5	43.5
216 to 960	36	46
960 to 1000	44	54

NOTE: The lower limit shall apply at the transition frequency.

Measuring Distance	10m		3m	
Frequency of Emission (MHz)	Field Strength(PK) dB(μ V/m)	Field Strength(AV) dB(μ V/m)	Field Strength(PK) dB(μ V/m)	Field Strength(AV) dB(μ V/m)
1000 to 18000	64	44	74	54
18000 to 40000	64	44	74	54

4.4 Test Procedure

The EUT and its simulators are placed on a turntable which is 0.8 meter above ground. The turntable can rotate 360 degrees to determine the position of the maximum emission level. The antenna (boresight antenna tower) can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be changed during radiated measurement.

The bandwidth below 1GHz setting on the receiver is 120kHz and above 1GHz is 1MHz.

For an unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table:

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705 to 108	1000
108 to 500	2000
500 to 1000	5000
Above 1000	5 th harmonic of the highest frequency or 40GHz, whichever is lower

On any frequency or frequencies below or equal to 1000MHz, the radiated limits shown are based on measuring equipment employing a quasi-peak detector function and above 1000MHz, the radiated limits shown are based measuring equipment employing an average detector function.

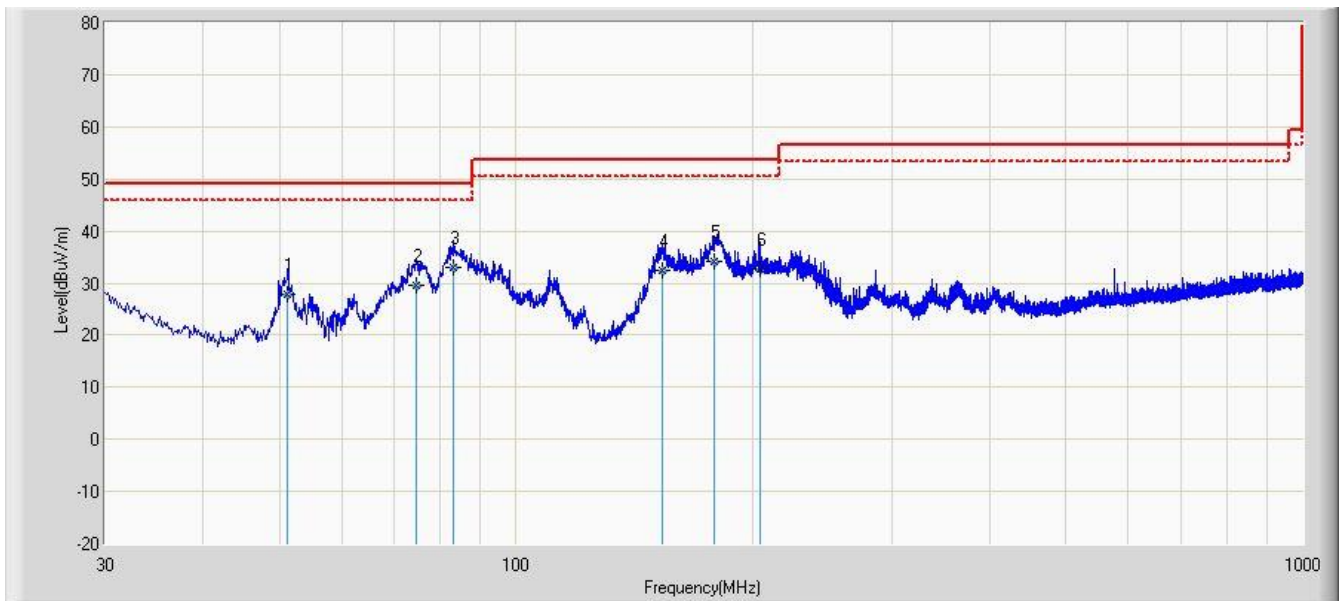
When average radiated emission measurement included emission measurement above 1000MHz, there also is a limit on the radio frequency emissions, as measured using instrumentation with a peak detector function, corresponding to 20dB above the maximum permitted average limit.

4.5 Deviation from Test Standard

No deviation.

4.6 Test Result

Engineer: Jim Fu	
Site: AC3	Time: 2025/08/01
Limit: FCC_Part15.109_RE(3m)_ClassA	Margin: 3
Probe: SuZ-0011(30-1000MHz)	Polarity: Horizontal
EUT: Nokia Industrial 5G fieldrouter FRRO505c	Power: 120 Vac, 60 Hz
Note: Mode 1	

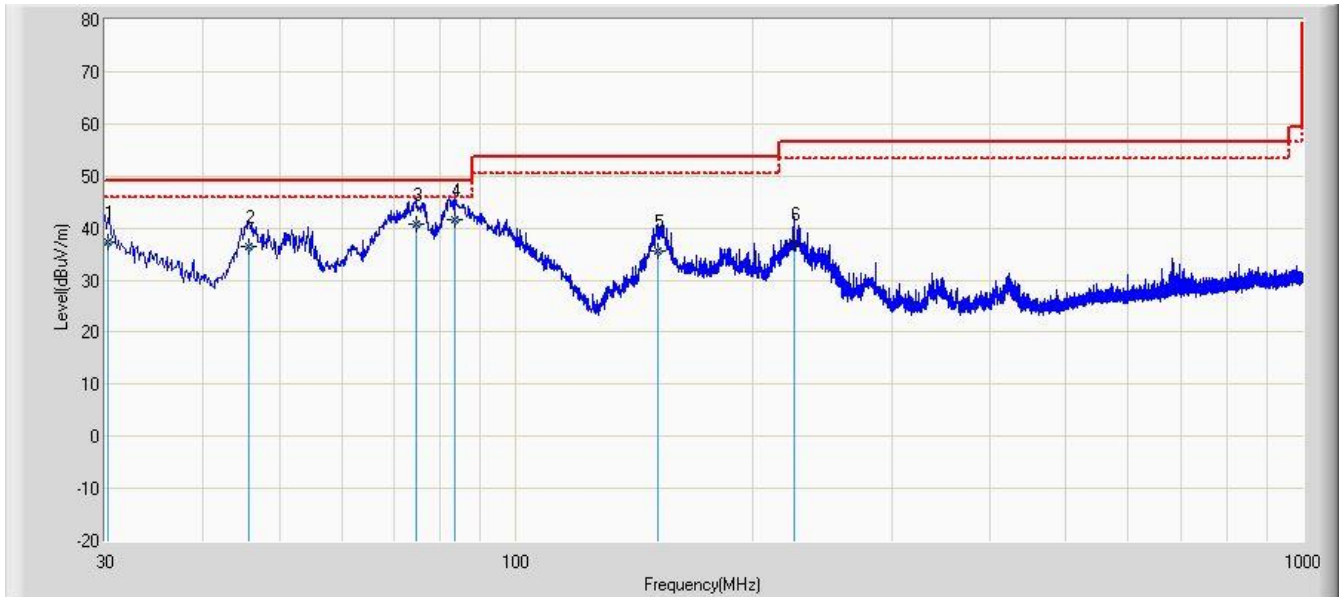


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		51.219	27.763	13.100	-21.237	49.000	8.223	6.440	0.000	284	171	QP
2		74.499	29.461	15.800	-19.539	49.000	6.731	6.930	0.000	251	296	QP
3	*	83.229	33.100	18.000	-15.900	49.000	7.898	7.202	0.000	383	161	QP
4		153.190	32.565	14.800	-20.935	53.500	10.296	7.469	0.000	321	34	QP
5		178.652	34.124	17.100	-19.376	53.500	9.528	7.496	0.000	210	285	QP
6		203.872	32.747	15.900	-20.753	53.500	9.317	7.530	0.000	115	223	QP

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Jim Fu	
Site: AC3	Time: 2025/08/01
Limit: FCC_Part15.109_RE(3m)_ClassA	Margin: 3
Probe: SuZ-0011(30-1000MHz)	Polarity: Vertical
EUT: Nokia Industrial 5G fieldrouter FRRO505c	Power: 120 Vac, 60 Hz
Note: Mode 1	

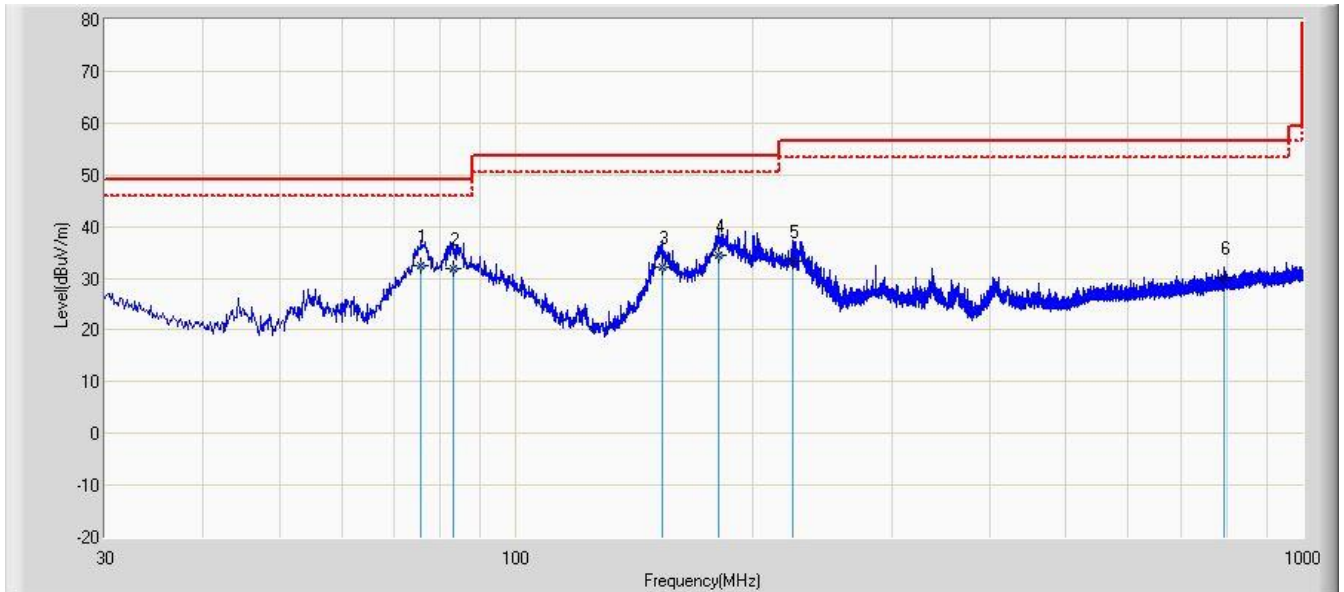


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		30.274	37.218	11.900	-11.782	49.000	18.967	6.352	0.000	247	226	QP
2		45.641	36.511	19.700	-12.489	49.000	10.390	6.421	0.000	151	348	QP
3		74.499	40.761	27.100	-8.239	49.000	6.731	6.930	0.000	191	346	QP
4	*	83.714	41.596	26.400	-7.404	49.000	7.986	7.210	0.000	139	117	QP
5		151.129	35.722	17.900	-17.778	53.500	10.357	7.466	0.000	152	135	QP
6		226.061	37.133	19.500	-19.267	56.400	10.046	7.587	0.000	140	37	QP

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Jim Fu	
Site: AC3	Time: 2025/08/01
Limit: FCC_Part15.109_RE(3m)_ClassA	Margin: 3
Probe: SuZ-0011(30-1000MHz)	Polarity: Horizontal
EUT: Nokia Industrial 5G fieldrouter FRRO505c	Power: 120 Vac, 60 Hz
Note: Mode 2	

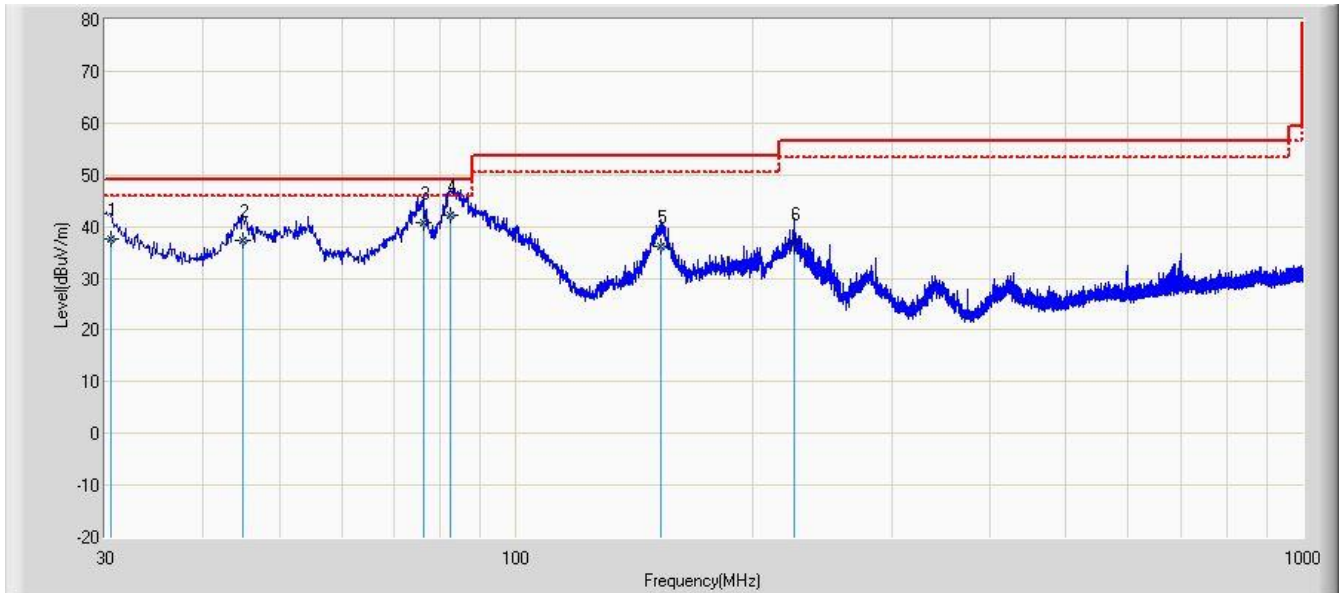


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1	*	75.711	32.417	18.600	-16.583	49.000	6.838	6.979	0.000	223	13	QP
2		83.229	32.000	16.900	-17.000	49.000	7.898	7.202	0.000	240	324	QP
3		153.311	32.262	14.500	-21.238	53.500	10.292	7.469	0.000	223	266	QP
4		180.956	34.353	17.400	-19.147	53.500	9.455	7.499	0.000	184	290	QP
5		224.606	33.350	15.800	-23.050	56.400	9.966	7.584	0.000	122	346	QP
6		793.754	30.145	1.100	-26.255	56.400	20.198	8.847	0.000	347	21	QP

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: Jim Fu	
Site: AC3	Time: 2025/08/01
Limit: FCC_Part15.109_RE(3m)_ClassA	Margin: 3
Probe: SuZ-0011(30-1000MHz)	Polarity: Vertical
EUT: Nokia Industrial 5G fieldrouter FRRO505c	Power: 120 Vac, 60 Hz
Note: Mode 2	

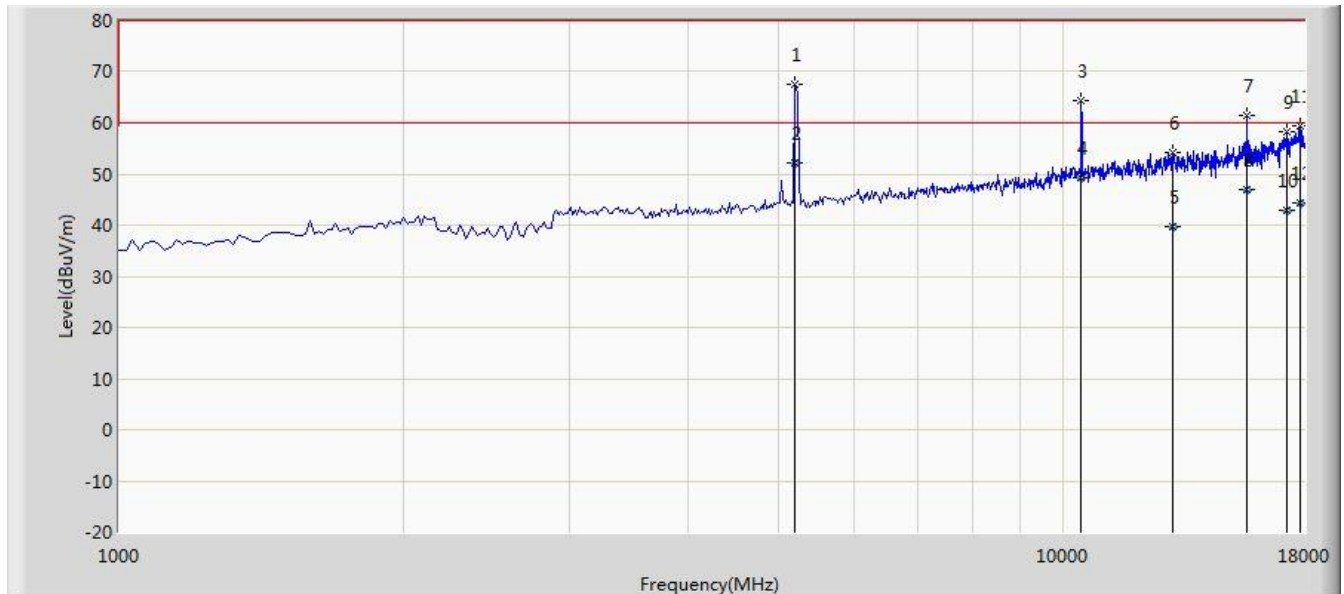


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		30.485	37.594	12.400	-11.406	49.000	18.841	6.353	0.000	389	296	QP
2		44.914	37.248	20.100	-11.752	49.000	10.728	6.420	0.000	349	77	QP
3		76.196	40.690	26.800	-8.310	49.000	6.892	6.998	0.000	184	42	QP
4	*	82.501	42.155	27.200	-6.845	49.000	7.765	7.190	0.000	398	32	QP
5		152.947	36.272	18.500	-17.228	53.500	10.303	7.468	0.000	393	179	QP
6		225.697	36.712	19.100	-19.688	56.400	10.026	7.586	0.000	123	27	QP

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: JIM	
Site: AC5	Time: 2025/08/03
Limit: FCC_Part15.109_RE(3m)_ClassA	Margin: 0
Probe: Horn_3117_00167055_(1-18GHz)	Polarity: Horizontal
EUT: Nokia Industrial 5G fieldrouter FRRO505c	Power: 120 Vac, 60 Hz
Note: Mode 1	



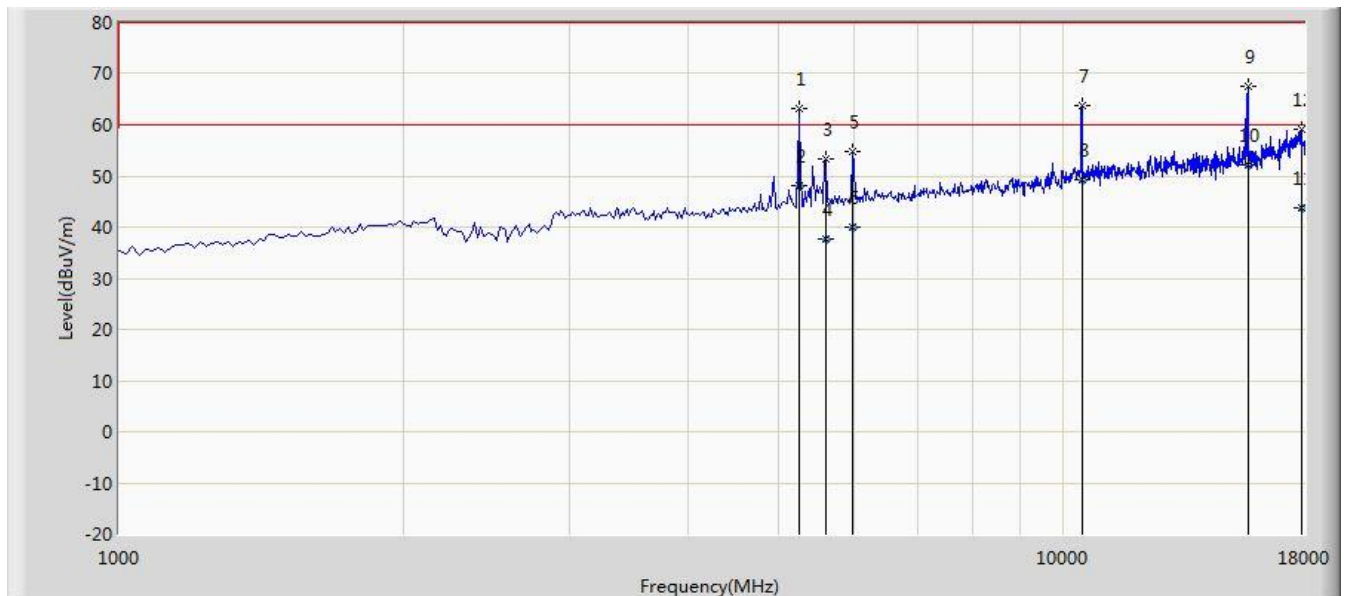
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		5199.000	67.428	68.833	-12.572	80.000	34.039	7.676	43.120	145	267	PK
2	*	5199.360	52.246	53.660	-7.754	60.000	34.039	7.667	43.120	145	267	AV
3		10435.000	64.441	59.419	-15.559	80.000	37.557	10.765	43.300	129	201	PK
4		10436.850	49.188	44.250	-10.812	60.000	37.558	10.680	43.300	129	201	AV
5		13052.960	39.705	30.710	-20.295	60.000	39.319	13.313	43.637	177	118	AV
6		13053.000	54.296	45.297	-25.704	80.000	39.319	13.317	43.637	177	118	PK
7		15654.000	61.432	52.409	-18.568	80.000	40.373	13.850	45.200	126	188	PK
8		15655.630	46.883	38.140	-13.117	60.000	40.373	13.569	45.200	126	188	AV
9		17235.000	58.130	45.712	-21.870	80.000	41.470	16.401	45.453	100	249	PK
10		17236.960	42.768	30.720	-17.232	60.000	41.471	16.030	45.453	100	249	AV
11		17813.000	59.522	47.117	-20.478	80.000	41.765	15.977	45.337	220	262	PK
12		17814.850	44.327	32.150	-15.673	60.000	41.766	15.748	45.337	220	262	AV

Note:

1. " * ", means this data is the worst emission level.

2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: JIM	
Site: AC5	Time: 2025/08/03
Limit: FCC_Part15.109_RE(3m)_ClassA	Margin: 0
Probe: Horn_3117_00167055_(1-18GHz)	Polarity: Vertical
EUT: Nokia Industrial 5G fieldrouter FRRO505c	Power: 120 Vac, 60 Hz
Note: Mode 1	

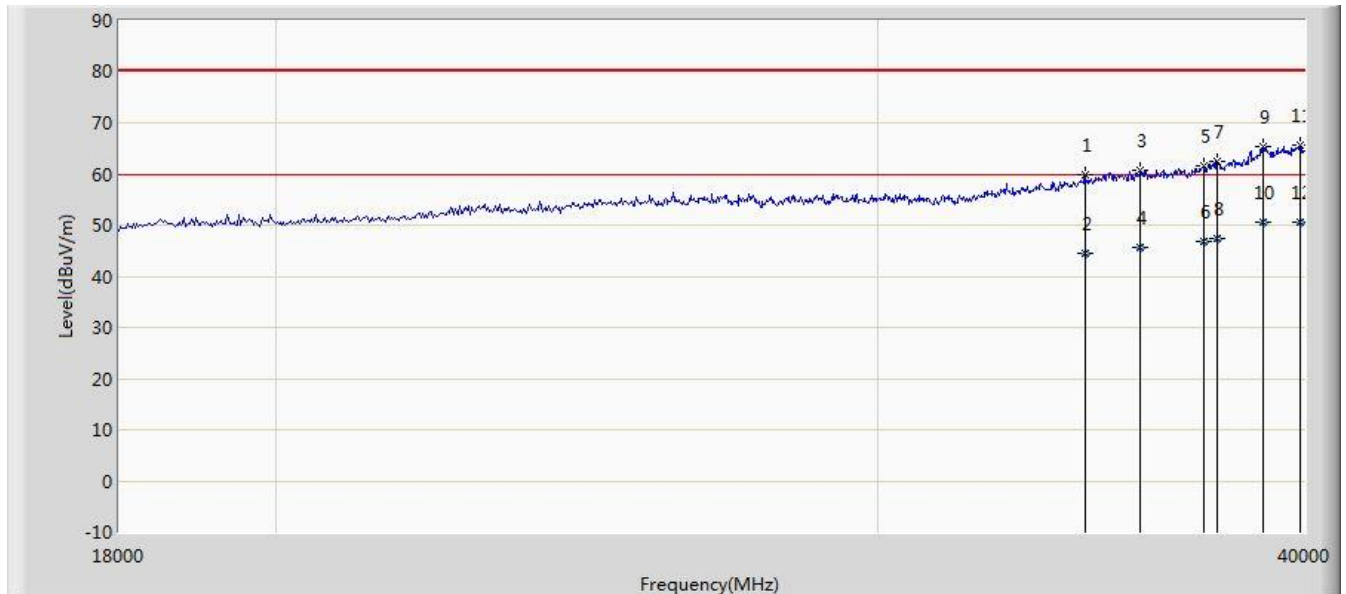


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		5250.000	63.094	64.498	-16.906	80.000	34.085	7.611	43.100	217	63	PK
2		5251.360	48.132	49.550	-11.868	60.000	34.086	7.595	43.099	217	63	AV
3		5607.000	53.256	53.842	-26.744	80.000	34.406	7.965	42.957	125	65	PK
4		5608.520	37.621	38.200	-22.379	60.000	34.407	7.970	42.956	125	65	AV
5		5981.000	54.808	55.171	-25.192	80.000	34.743	7.702	42.808	100	51	PK
6		5982.140	40.027	40.340	-19.973	60.000	34.744	7.751	42.808	100	51	AV
7		10452.000	63.704	59.454	-16.296	80.000	37.568	9.982	43.300	157	301	PK
8		10453.210	49.223	44.840	-10.777	60.000	37.569	10.114	43.300	157	301	AV
9		15671.000	67.666	61.568	-12.334	80.000	40.378	10.920	45.200	221	73	PK
10	*	15672.360	52.213	45.830	-7.787	60.000	40.378	11.205	45.200	221	73	AV
11		17846.330	43.846	30.400	-16.154	60.000	41.782	16.996	45.331	200	80	AV
12		17847.000	59.244	45.669	-20.756	80.000	41.782	17.124	45.331	200	80	PK

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: JIM	
Site: AC5	Time: 2025/08/03
Limit: FCC_Part15.109_RE(3m)_ClassA	Margin: 0
Probe: BBHA 9170_750(18-40GHz)	Polarity: Horizontal
EUT: Nokia Industrial 5G fieldrouter FRRO505c	Power: 120 Vac, 60 Hz
Note: Mode 1	

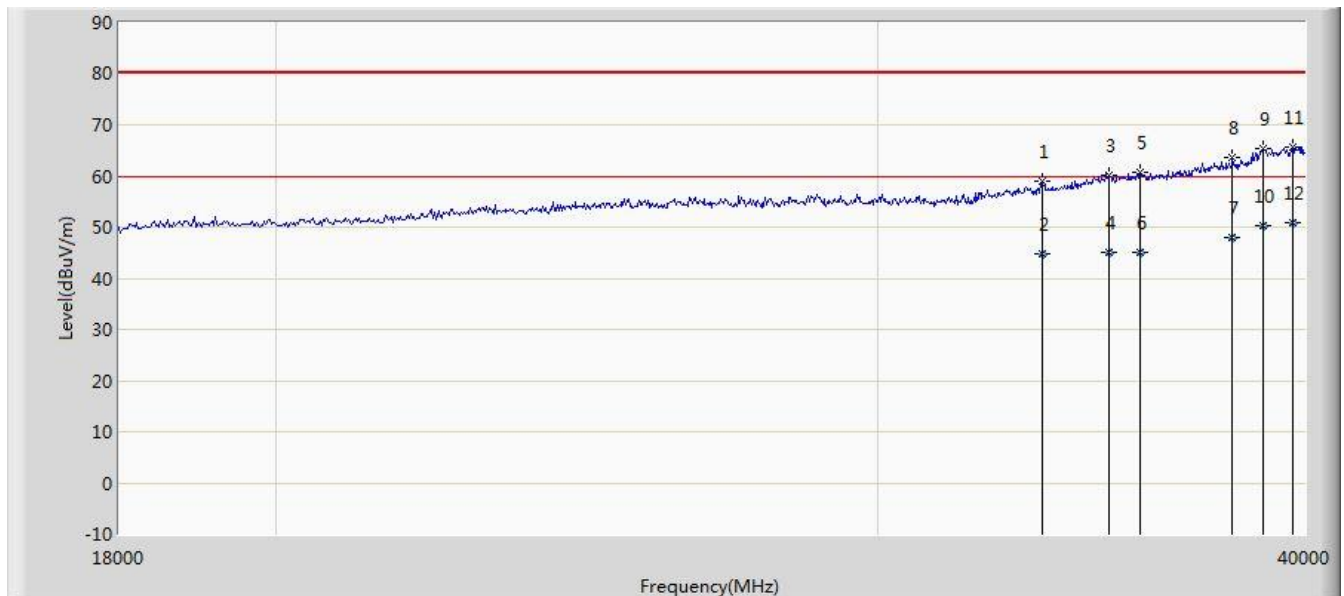


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		34500.000	59.760	55.538	-20.240	80.000	41.300	10.935	48.013	120	357	PK
2		34502.250	44.586	40.360	-15.414	60.000	41.302	10.935	48.011	120	357	AV
3		35820.000	60.688	54.638	-19.312	80.000	42.500	10.996	47.446	281	48	PK
4		35821.410	45.590	39.540	-14.410	60.000	42.500	10.996	47.446	281	48	AV
5		37360.000	61.593	53.454	-18.407	80.000	44.048	11.229	47.138	146	216	PK
6		37361.850	46.883	38.740	-13.117	60.000	44.051	11.229	47.138	146	216	AV
7		37712.000	62.384	53.853	-17.616	80.000	44.342	11.257	47.068	135	208	PK
8		37713.250	47.472	38.940	-12.528	60.000	44.342	11.257	47.068	135	208	AV
9		38900.000	65.401	54.520	-14.599	80.000	44.600	11.379	45.098	177	248	PK
10	*	38902.410	50.629	39.740	-9.371	60.000	44.602	11.379	45.093	177	248	AV
11		39868.000	65.789	52.711	-14.211	80.000	44.521	11.598	43.041	245	266	PK
12		39868.940	50.441	37.360	-9.559	60.000	44.522	11.598	43.039	245	266	AV

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: JIM	
Site: AC5	Time: 2025/08/03
Limit: FCC_Part15.109_RE(3m)_ClassA	Margin: 0
Probe: BBHA 9170_750(18-40GHz)	Polarity: Vertical
EUT: Nokia Industrial 5G fieldrouter FRRO505c	Power: 120 Vac, 60 Hz
Note: Mode 1	

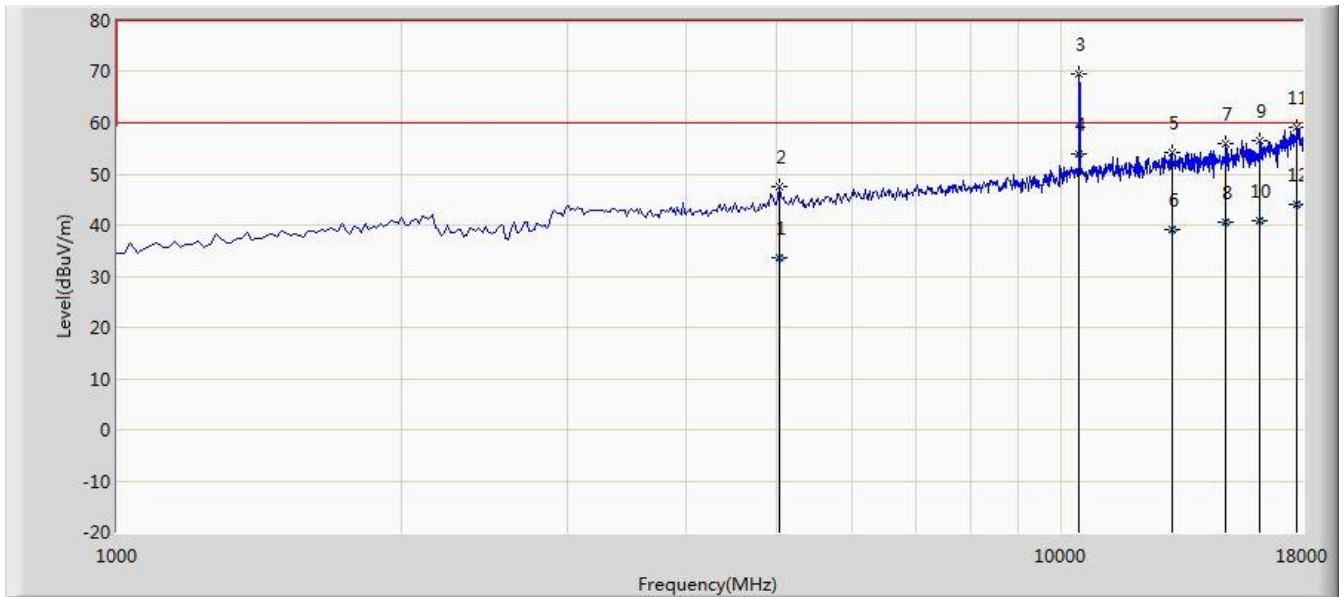


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		33510.000	59.111	56.121	-20.889	80.000	41.100	10.699	48.809	117	160	PK
2		33512.250	44.843	41.850	-15.157	60.000	41.100	10.700	48.807	117	160	AV
3		35050.000	60.178	54.927	-19.822	80.000	41.870	10.981	47.600	109	26	PK
4		35051.250	45.093	39.840	-14.907	60.000	41.872	10.981	47.600	109	26	AV
5		35798.000	60.697	54.651	-19.303	80.000	42.500	10.996	47.450	246	251	PK
6		35799.360	45.006	38.960	-14.994	60.000	42.500	10.996	47.450	246	251	AV
7		38107.250	47.828	38.960	-12.172	60.000	44.357	11.292	46.782	127	244	AV
8		38108.000	63.608	54.739	-16.392	80.000	44.357	11.292	46.780	127	244	PK
9		38900.000	65.240	54.359	-14.760	80.000	44.600	11.379	45.098	232	205	PK
10		38902.360	50.299	39.410	-9.701	60.000	44.602	11.379	45.093	232	205	AV
11		39670.000	65.690	53.198	-14.310	80.000	44.402	11.551	43.461	163	197	PK
12	*	39671.240	50.906	38.410	-9.094	60.000	44.403	11.551	43.458	163	197	AV

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: JIM	
Site: AC5	Time: 2025/08/03
Limit: FCC_Part15.109_RE(3m)_ClassA	Margin: 0
Probe: Horn_3117_00167055_(1-18GHz)	Polarity: Horizontal
EUT: Nokia Industrial 5G fieldrouter FRRO505c	Power: 120 Vac, 60 Hz
Note: Mode 2	



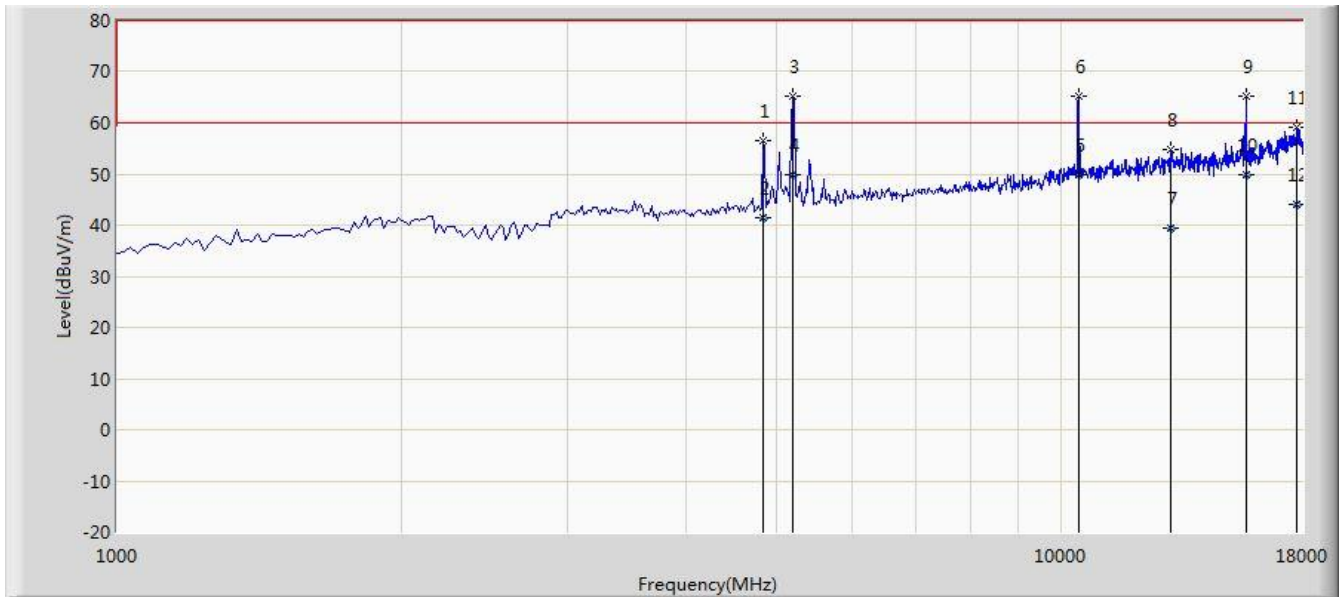
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		5027.960	33.655	35.240	-26.345	60.000	33.885	7.718	43.188	276	274	AV
2		5029.000	47.568	49.136	-32.432	80.000	33.886	7.734	43.188	276	274	PK
3		10435.000	69.702	64.680	-10.298	80.000	37.557	10.765	43.300	132	303	PK
4	*	10436.850	53.838	48.900	-6.162	60.000	37.558	10.680	43.300	132	303	AV
5		13087.000	54.165	45.827	-25.835	80.000	39.319	12.680	43.661	146	58	PK
6		13089.552	39.160	30.740	-20.840	60.000	39.319	12.763	43.663	146	58	AV
7		14923.000	55.849	45.918	-24.151	80.000	40.141	14.921	45.131	100	84	PK
8		14923.960	40.520	30.770	-19.480	60.000	40.142	14.740	45.132	100	84	AV
9		16215.000	56.580	45.809	-23.420	80.000	40.651	15.385	45.265	101	264	PK
10		16217.520	40.958	30.420	-19.042	60.000	40.653	15.151	45.266	101	264	AV
11		17728.000	59.081	46.720	-20.919	80.000	41.721	15.994	45.354	218	120	PK
12		17728.960	44.000	31.720	-16.000	60.000	41.722	15.913	45.354	218	120	AV

Note:

1. " * ", means this data is the worst emission level.

2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: JIM	
Site: AC5	Time: 2025/08/03
Limit: FCC_Part15.109_RE(3m)_ClassA	Margin: 0
Probe: Horn_3117_00167055_(1-18GHz)	Polarity: Vertical
EUT: Nokia Industrial 5G fieldrouter FRRO505c	Power: 120 Vac, 60 Hz
Note: Mode 2	



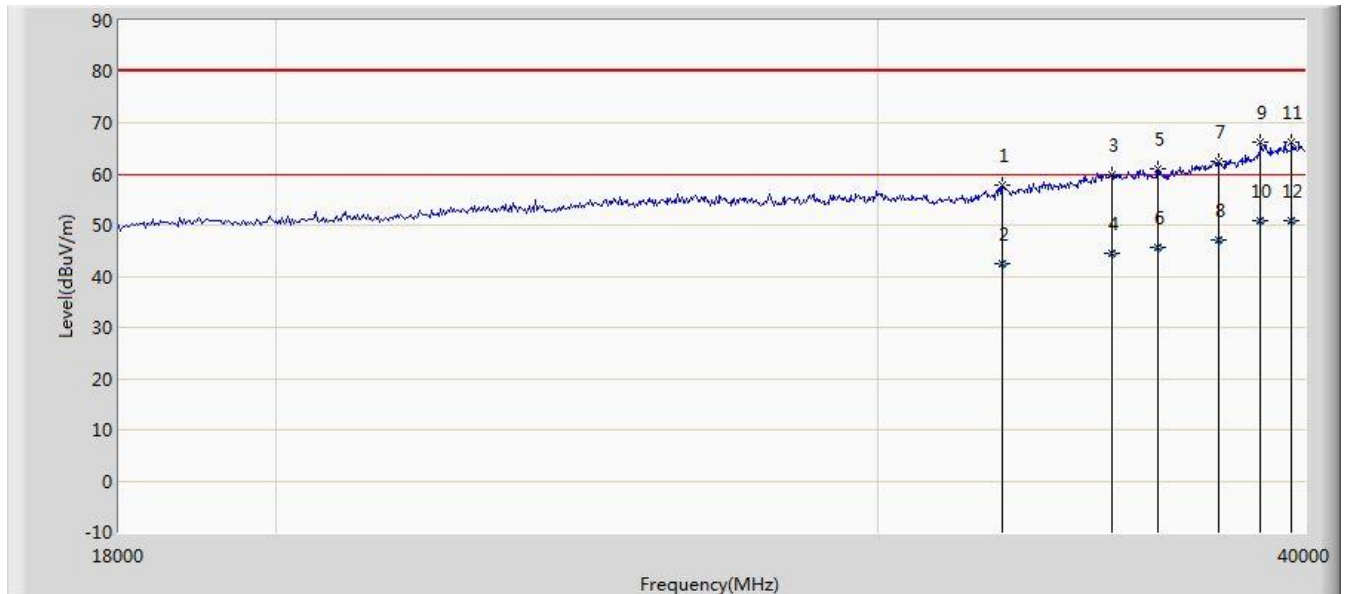
No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		4825.000	56.566	58.907	-23.434	80.000	33.724	7.223	43.288	134	213	PK
2		4826.860	41.345	43.710	-18.655	60.000	33.725	7.197	43.287	134	213	AV
3		5199.000	65.265	66.670	-14.735	80.000	34.039	7.676	43.120	180	327	PK
4		5199.360	49.786	51.200	-10.214	60.000	34.039	7.667	43.120	180	327	AV
5		10417.240	49.774	44.330	-10.226	60.000	37.546	11.199	43.300	125	52	AV
6		10418.000	65.150	59.684	-14.850	80.000	37.546	11.220	43.300	125	52	PK
7		13052.830	39.402	30.420	-20.598	60.000	39.319	13.300	43.637	100	185	AV
8		13053.000	54.725	45.726	-25.275	80.000	39.319	13.317	43.637	100	185	PK
9		15671.000	65.094	58.996	-14.906	80.000	40.378	10.920	45.200	169	273	PK
10	*	15672.590	49.992	43.560	-10.008	60.000	40.378	11.253	45.200	169	273	AV
11		17728.000	59.153	46.792	-20.847	80.000	41.721	15.994	45.354	135	5	PK
12		17728.610	44.070	31.760	-15.930	60.000	41.721	15.942	45.354	135	5	AV

Note:

1. " * ", means this data is the worst emission level.

2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: JIM	
Site: AC5	Time: 2025/08/03
Limit: FCC_Part15.109_RE(3m)_ClassA	Margin: 0
Probe: BBHA 9170_750(18-40GHz)	Polarity: Horizontal
EUT: Nokia Industrial 5G fieldrouter FRRO505c	Power: 120 Vac, 60 Hz
Note: Mode 2	

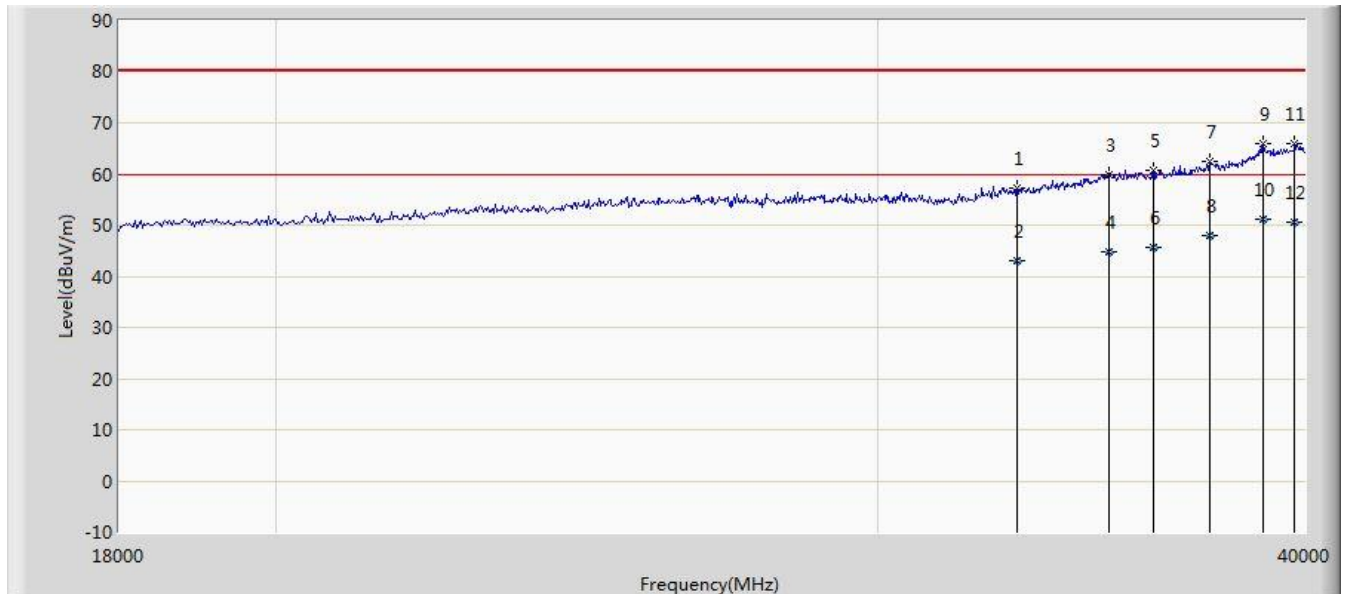


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		32630.000	57.864	55.679	-22.136	80.000	40.752	10.433	49.000	134	213	PK
2		32632.570	42.335	40.150	-17.665	60.000	40.753	10.433	49.002	134	213	AV
3		35138.000	59.961	54.567	-20.039	80.000	41.993	10.983	47.582	180	327	PK
4		35139.630	44.507	39.110	-15.493	60.000	41.995	10.983	47.582	180	327	AV
5		36238.000	60.971	54.642	-19.029	80.000	42.643	11.048	47.362	125	52	PK
6		36239.520	45.740	39.410	-14.260	60.000	42.644	11.048	47.362	125	52	AV
7		37734.000	62.394	53.851	-17.606	80.000	44.347	11.259	47.063	100	185	PK
8		37736.250	47.064	38.520	-12.936	60.000	44.347	11.259	47.063	100	185	AV
9		38834.000	66.117	55.449	-13.883	80.000	44.534	11.372	45.238	169	273	PK
10		38836.250	50.925	40.250	-9.075	60.000	44.536	11.372	45.233	169	273	AV
11		39648.000	66.374	53.947	-13.626	80.000	44.389	11.546	43.508	135	5	PK
12	*	39649.270	50.951	38.520	-9.049	60.000	44.390	11.546	43.505	135	5	AV

Note:

1. " * ", means this data is the worst emission level.
2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

Engineer: JIM	
Site: AC5	Time: 2025/08/03
Limit: FCC_Part15.109_RE(3m)_ClassA	Margin: 0
Probe: BBHA 9170_750(18-40GHz)	Polarity: Vertical
EUT: Nokia Industrial 5G fieldrouter FRRO505c	Power: 120 Vac, 60 Hz
Note: Mode 2	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Probe (dB/m)	Cable (dB)	Amp (dB)	Ant Pos (cm)	Table Pos (deg)	Type
1		32960.000	57.309	55.128	-22.691	80.000	40.884	10.493	49.196	276	274	PK
2		32961.270	43.031	40.850	-16.969	60.000	40.885	10.493	49.197	276	274	AV
3		35072.000	59.770	54.484	-20.230	80.000	41.901	10.981	47.596	132	303	PK
4		35073.250	44.828	39.540	-15.172	60.000	41.903	10.981	47.596	132	303	AV
5		36128.000	60.838	54.619	-19.162	80.000	42.577	11.026	47.384	146	58	PK
6		36129.560	45.790	39.570	-14.210	60.000	42.578	11.026	47.384	146	58	AV
7		37536.000	62.497	54.050	-17.503	80.000	44.307	11.243	47.103	100	84	PK
8		37537.960	47.958	39.510	-12.042	60.000	44.307	11.243	47.103	100	84	AV
9		38900.000	66.053	55.172	-13.947	80.000	44.600	11.379	45.098	101	264	PK
10	*	38902.410	51.139	40.250	-8.861	60.000	44.602	11.379	45.093	101	264	AV
11		39736.000	65.949	53.261	-14.051	80.000	44.442	11.567	43.321	218	120	PK
12		39736.850	50.631	37.940	-9.369	60.000	44.443	11.567	43.319	218	120	AV

Note:

1. " * ", means this data is the worst emission level.

2. Measurement Level = Reading Level + Factor(Probe+Cable-Amp).

4.7 Test Photograph

Test Mode: Mode 1

Description: Front View of Radiated Disturbance Test Setup (Below 1 GHz)



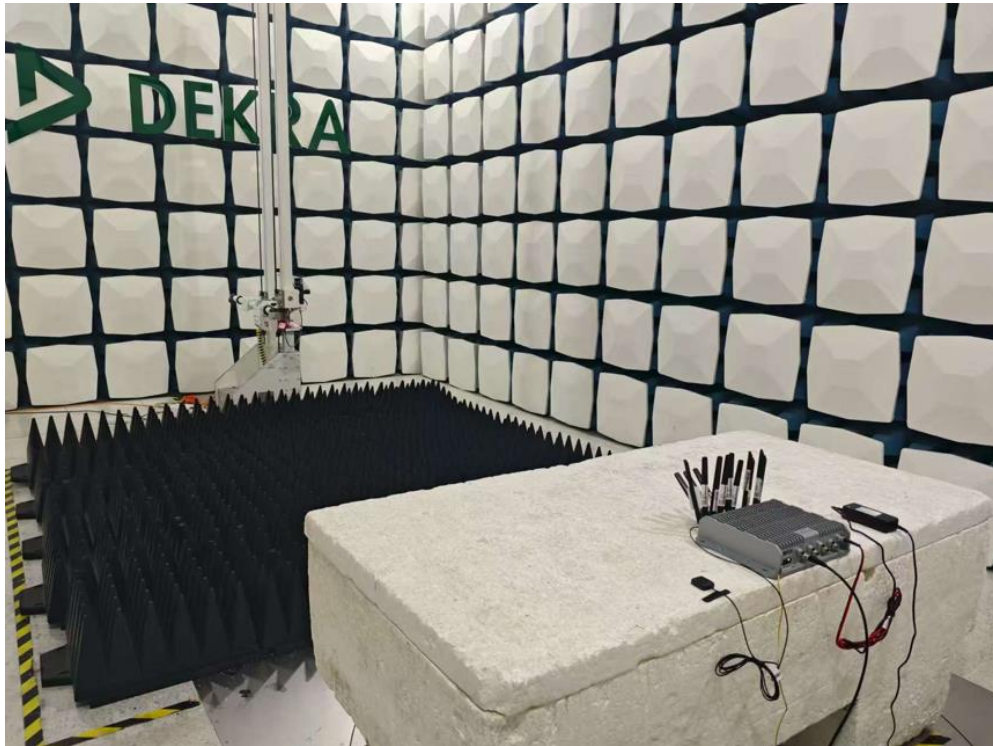
Test Mode: Mode 1

Description: Rear View of Radiated Disturbance Test Setup (Below 1 GHz)



Test Mode: Mode 1

Description: Front View of Radiated Disturbance Test Setup (1-18 GHz)



Test Mode: Mode 1

Description: Rear View of Radiated Disturbance Test Setup (1-18 GHz)



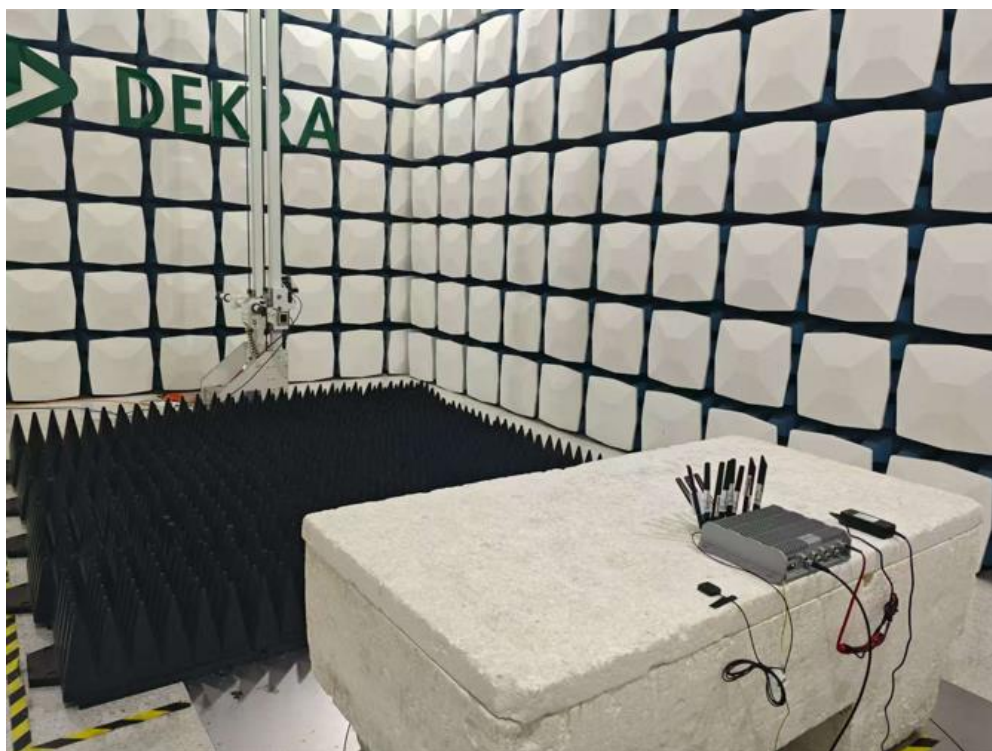
Test Mode: Mode 1

Description: Rear View of Radiated Disturbance Test Setup (18-40 GHz)



Test Mode: Mode 1

Description: Rear View of Radiated Disturbance Test Setup (18-40 GHz)



Test Mode: Mode 2

Description: Front View of Radiated Disturbance Test Setup (Below 1 GHz)



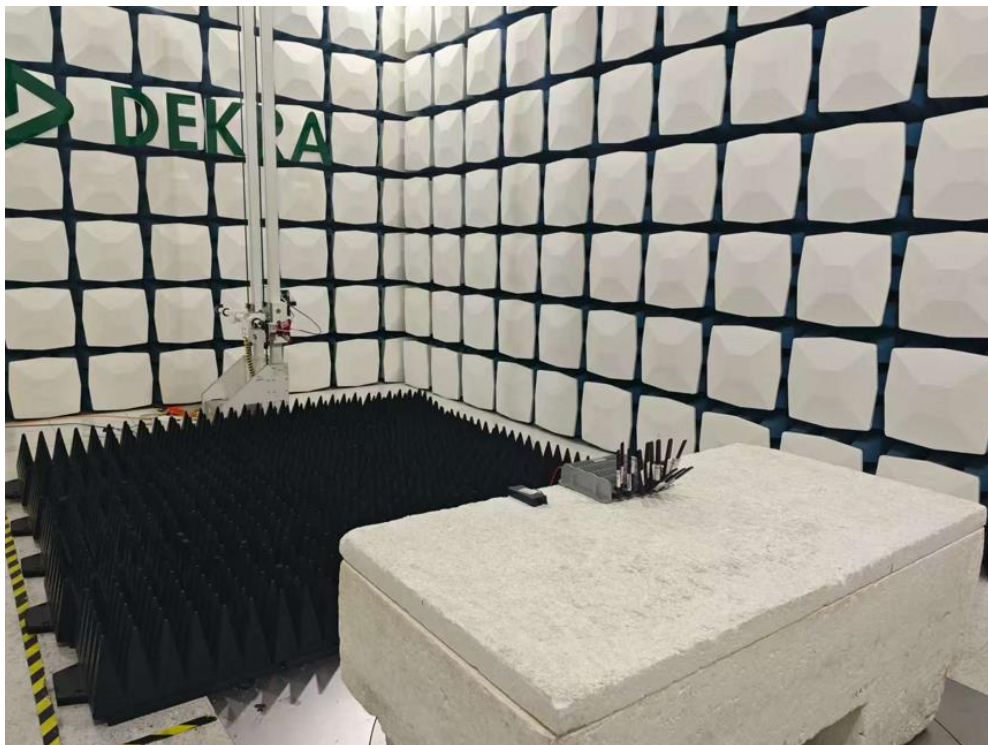
Test Mode: Mode 2

Description: Rear View of Radiated Disturbance Test Setup (Below 1 GHz)



Test Mode: Mode 2

Description: Front View of Radiated Disturbance Test Setup (1-18 GHz)



Test Mode: Mode 2

Description: Rear View of Radiated Disturbance Test Setup (1-18 GHz)



Test Mode: Mode 2

Description: Rear View of Radiated Disturbance Test Setup (18-40 GHz)



Test Mode: Mode 2

Description: Rear View of Radiated Disturbance Test Setup (18-40 GHz)

