

TEST REPORT

Testing laboratory:

SK Tech Co., Ltd.

88, Geulgaetul-ro, 81beon-gil,

Wabu-eup, Namyangju-si,

Gyeonggi-do, Korea

TEL: +82-31-576-2204

FAX: +82-31-576-2205

Test Report Number: SKT-RFC-260003_Rev1

Date of issue: 2026.1.31

Applicant:

Samsung Electronics Co., Ltd.

Model:

NP960XRD

Add Model:

NP964XRD

FCC ID:

A3LNP960XRD

Project number:

SKTEU25-1464

Date of Testing

2025.11.27 ~ 2026.1.31

Applied standards:

ANSI C63.10-2020

987594 D02 U-NII 6 GHz EMC Measurement v03

Rule parts:

Part 15 Subpart E (15.407)

Equipment Class:

15E 6GHz Very Low Power Device (6VL)

15E 6GHz Low Power Dual Client (6CD)

The above equipment has been tested by SK Tech Co., Ltd., and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product or system, which was tested.



MinJae Song / **Testing Engineer**



JungWoo Kim / **Technical Manager**

This report shall not be reproduced except in full, without the written approval of SK Tech Co., Ltd. The client should not use it to claim product endorsement by any government agencies.



Revision History of Test Report

Rev.	Revisions	Effect page	Approved by	Date
0	Initial issue	All	Jungwoo Kim	2026.1.9
1	PSD Calculation & CBP BW:320 6905 MHz ADD TEST	79, 80 279 ~ 287	Jungwoo Kim	2026.1.31



Table of Contents

Table of Contents	3
1 Summary of Test Results.....	4
1.1 Measurement Uncertainty	5
2 General Information	6
2.1 General Description of EUT	6
2.2 Antenna Configurations	6
2.3 Tested sample and Tested companion device information	7
2.4 Description of Test Mode	7
2.5 INSTRUMENT CALIBRATION.....	9
2.6 EUT CONFIGURATION.....	9
2.7 General Description of Applied Standards	9
2.8 Information of the Testing Laboratories.....	9
2.9 Test Equipment.....	10
3 Test Results	11
3.1 Antenna Requirement.....	11
3.2 26 dB Bandwidth & 99 % Bandwidth	12
3.3 Maximum Conducted Output Power	38
3.4 Maximum Power Spectral Density	78
3.5 In-Band Emission	192
3.6 Duty Cycle.....	276
3.7 Contention Based Protocol	278
3.8 Power Reduction Verification for Standard client device	288
3.9 Transmit Power Control (TPC).....	293
3.10 Spurious Emission, Band edge and Restricted Bands	295
3.11 AC Conducted Emissions (150 kHz to 30 MHz)	328



1 Summary of Test Results

The EUT has been tested according to the following specifications

Applied Standard : FCC Part 15, Subpart E 15.407 (6CD & 6VL)					
FCC Part Section(s)	Test Description	Limit	Test Condition	Test Result	Reference
15.407(a)	26 dB Bandwidth & 99 % Bandwidth	≤ 320 MHz	Conducted	PASS	Section 3.2
15.407(a)	Maximum Output Power	< 24 dBm e.i.r.p. (LPI) < 30 dBm e.i.r.p. (SP) < 14 dBm e.i.r.p. (VLP)		PASS	Section 3.3
15.407(a)	Maximum Power Spectral Density	< -1 dBm/MHz e.i.r.p. (LPI) < 17 dBm/MHz e.i.r.p. (SP) < -5 dBm/MHz e.i.r.p. (VLP)		PASS	Section 3.4
15.407(b)	In-Band Emissions	a. Suppressed by 20 dB at 1MHz outside of the channel edge. b. Suppressed by 28 dB at one channel band width from the channel center. c. Suppressed by 40 dB at one-and one-half time the channel bandwidth from the channel center.		PASS	Section 3.5
15.407(d)	Contention Based Protocol	Detect co-channel energy with 90% or greater certainty		PASS	Section 3.7
15.407(a)	Power Reduction Verification for standard client device	must limit its power to no more than 6 dB below its associated standard power access point's authorized transmit power.		PASS	Section 3.8
15.407(d)	Transmit Power Control	operate at least 6 dB below the maximum EIRP PSD value of -5 dBm/MHz.		PASS	Section 3.9
15.205 15.209 15.407(b)	General Field Strength Limits (Restricted Bands and Radiated Emission Limits)	Emissions in restricted bands must meet the radiated limits detailed in 15.209	Radiated	PASS	Section 3.10
15.207	AC Conducted Emissions (150 kHz – 30 MHz)	< FCC 15.207 limits	AC Line Conducted	PASS	Section 3.11
15.203	Antenna Requirement	FCC 15.203	-	PASS	Section 3.1

NOTES

- 1) The general test methods used to test on this devices are ANSI C63.10.



1.1 Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2

Measurement Items	Frequency Range	Expanded Uncertainty $U = kU_c (k = 2)$
Radiated Spurious Emissions	< 1 GHz	3.08
	> 1 GHz	5.06
	> 18 GHz	5.39
Measurement Items		Expanded Uncertainty $U = kU_c (k = 2)$
Conducted	Maximum Output Power	1.28
Measurement Items	Frequency Range	Expanded Uncertainty $U = kU_c (k = 2)$
AC Conducted Emissions	150 kHz ~ 30 MHz	3.34

This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of $k = 2$.

2 General Information

2.1 General Description of EUT

Equipment Class	15E 6GHz Very Low Power Device (6VL) 15E 6GHz Low Power Dual Client (6CD)		
EUT Type	Portable Computing Device		
FCC ID	A3LNP960XRD		
Model	NP960XRD		
Additional model name	NP964XRD		
Operating Frequency	NII 5: 5 925 MHz to 6 425 MHz (LPI & SP & VLP) NII 6: 6 425 MHz to 6 525 MHz (LPI & VLP) NII 7: 6 525 MHz to 6 875 MHz (LPI & SP & VLP) NII 8: 6 875 MHz to 7 125 MHz (LPI & VLP)		
Antenna Gain	ANT 1	ANT 2	Direction gain NOTE3
	NII 5: 0.59 dBi	NII 5: 0.89 dBi	NII 5: 3.75 dBi
	NII 6: 0.89 dBi	NII 6: 0.48 dBi	NII 6: 3.70 dBi
	NII 7: 1.02 dBi	NII 7: 0.31 dBi	NII 7: 3.68 dBi
	NII 8: 0.57 dBi	NII 8: 0.41 dBi	NII 8: 3.50 dBi
H/W Version	REV1.0		
S/W Version	NP960XRD		
EUT Capabilities	802.11b/g/a/n/ac/ax/be WLAN, Bluetooth (BDR, EDR, LE)		

NOTE 1: For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

NOTE 2: For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

NOTE 3: Directional gain (completely uncorrelated signal with unequal antenna gain and equal transmit power)
 $10 \log[(10^{G1/20} + 10^{G2/20} + \dots + 10^{GN/20})^2 / N_{ANT}] \text{ dBi}$

2.2 Antenna Configurations

WIFI Configurations		SISO		MIMO	
		ANT1	ANT2	ANT1	ANT2
6GHz	11a	Not Support	Not Support	Support	Support
	11ax	Not Support	Not Support	Support	Support
	11be	Not Support	Not Support	Support	Support



2.3 Tested sample and Tested companion device information

Type	Model	Note
Test sample (Conducted)	NP960XRD	S/N: LVVE930YA00240X
Test sample (Radiated)	NP960XRD	S/N: LVVE930YA00217Y
Test sample (Radiated)	NP960XRD	S/N: LVVE930YA00075V

2.4 Description of Test Mode

The EUT has been tested with all modes of operating conditions to determine the worst case emission characteristics.

[Test Mode & Frequency]

6 GHz Band	Mode	Tested Frequency (MHz)		
NII 5	a/ax20/be20	5935	6175	6415
	ax40/be40	5965	6165	6405
	ax80/be80	5985	6145	6385
	ax160/be160	6025	6185	6345
	be320	6105	-	-
NII 6	a/ax20/be20	6435	6475	6515
	ax40/be40	6445	6485	6525
	ax80/be80	6465	-	-
	ax160/be160	6505	-	-
	be320	6425	-	-
NII 7	a/ax20/be20	6535	6695	6875
	ax40/be40	3565	6725	6845
	ax80/be80	6545	6705	6865
	ax160/be160	6665	6825	-
	be320	6585	6745	-
NII 8	a/ax20/be20	6895	6995	7115
	ax40/be40	6885	7005	7085
	ax80/be80	6945	7025	-
	ax160/be160	6985	-	-
	be320	6905	-	-



Based on pre-testing results, the 802.11be mode was identified as representing a worse-case condition compared to the 802.11ax mode. In addition, the MRU mode was found to be more conservative than the punctured mode.

Accordingly, final testing was performed using MRU modes, with the exception of the 996T + 484T + 242T cases.

[RU & MRU Puncturing Support]

Tone \ BW	20 MHz	40 MHz	80 MHz	160 MHz	320 MHz
26T	O	O	O	O	O
52T	O	O	O	O	O
106T	O	O	O	O	O
242T	O	O	O	O	O
484T	X	O	O	O	O
996T	X	X	O	O	O
996X2T	X	X	X	O	O
996X4T	X	X	X	X	X
52+26T	O	O	O	O	O
106+26T	O	O	O	O	O
484+242T	X	X	O	O	O
996+484T	X	X	X	O	O
996+484+242T	X	X	X	O	X
996x2+484T	X	X	X	X	O
996x3T	X	X	X	X	O
996x3+484T	X	X	X	X	O

X = Not Support

O = Support

Note: 996T+484T+242T is supported only in Non-OFDMA



2.5 INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipments, which is traceable to recognized national standards.

2.6 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner that intends to maximize its emission characteristics in a continuous normal application.

2.7 General Description of Applied Standards

Generally the tests were performed according to the specifications of the standard, it must comply with the requirements of the following standards.

FCC CFR 47 Part 15, Subpart E (§15.407)
987594 D02 U-NII 6 GHz EMC Measurement v03
ANSI C63.10-2020

All test items in this test report have been performed and recorded as per the above standards.

2.8 Information of the Testing Laboratories

Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

Test Firm Name : SK Tech Co., LTD.

Address : 88, Geulgaetul-ro 81beon-gil, wabu-eup Namyangju-si, Gyeonggi-do, 12203, Rep. of Korea

FCC

Designation Number : KR0007

Test Firm Registration Number : 938639

ISED

Designation Number : KR0007

Test Firm Registration Number : 5429A



2.9 Test Equipment

Test Equipment is traceable to the National Institute of Standards and Technology (NIST). Measurement antenna used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

Equipment Name	Manufacturer	Model No.	Serial No.	Next Cal. Date
Spectrum Analyzer	Keysight Technologies	N9020B	MY63471160	2026-10-31
Spectrum Analyzer	Keysight Technologies	N9020B	MY63471163	2026-11-26
EMC Analyzer	Agilent	E7405A	US40240203	2026-03-10
EMI TEST RECEIVER	R & S	ESR 26	101441	2026-07-07
Vector Signal Generator	R & S	SMBV100B	101179	2026-03-13
Signal Generator	R & S	SMB100A	180704	2026-11-13
Power Meter	Agilent	E4418B	US39402176	2026-06-11
Power Meter	Agilent	E4417A	MY45100426	2026-03-12
Power Sensor	HP	8485A	3318A13916	2026-03-12
Power Sensor	Agilent	E9327A	MY44420696	2026-03-12
Attenuator	JFW	50HFAR-006-2.9MM	N/A	2026-06-12
Attenuator	JFW	50HFAR-006-2.9MM	N/A	2026-06-12
Attenuator	JFW	50HFAR-010-2.9MM	N/A	2026-06-12
Attenuator	JFW	50HFAR-010-2.9MM	N/A	2026-06-12
Attenuator	JFW	50HFAR-020-2.9MM	N/A	2026-06-12
TRILOG-Broadband Antenna	Schwarzbeck	ULB9168	9168-230	2027-05-12
Double Ridged guide Horn Antenna	ETS-LINDGREN	3117	00205960	2026-05-16
Horn Antenna	FLANN MICROWAVE	20240-20	273364	2026-10-19
Horn Antenna	FLANN MICROWAVE	22240-20	274186	2026-10-19
Low Noise Pre-Amplifier	TSJ	MLA-0118-J01-40	14879	2026-03-11
Preamplifier	TSJ	MLA-1840-A01-50	2610050	2026-03-13
Pre-Amplifier	TSJ	MLA-10K01-B01-27	2005350	2026-03-11
High Pass Filter	Wainwright	WHKX 3.0/18G-12SS	8	2026-03-12
High Pass Filter	Wainwright	WHKX10-5850-6500-18000-40SS	36	2026-06-11
High Pass Filter	Mini-Circuits	ZHFW-K7000+	2540	2026-12-01
High Pass Filter	Wainwright	WHKX10-3698-4300-18000-60SS	1	2026-06-11
EMI RECEIVER	Narda	PMM9010F	020WW40105	2026-11-12
Two-Line V-Network	R & S	ENV 216	102047	2026-01-22
Pulse Limiter	R & S	ESH3-Z2	100604	2026-11-12
Vector Signal Generator	R & S	SMM100A	101593	2027-01-05
Power Divider	HP	11636A	08476	2026-11-13
Power Splitter	Agilent	11667B	06036	2026-03-13
EMI RECEIVER	R & S	ESU40	100469	2026-01-07
Call Box	R&S	CMX500	101571	-



3 Test Results

3.1 Antenna Requirement

Except from §15.203 of the FCC Rules/Regulations:

An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of the section.

- The antenna of the EUT is attached.

Result

The EUT complies with the requirement of §15.203



3.2 26 dB Bandwidth & 99 % Bandwidth

3.2.1 Regulation

Part. 15.407(a)(11)

The maximum transmitter channel bandwidth for U-NII devices in the 5.925-7.125 GHz band is 320 megahertz.

3.2.2 26 dB Bandwidth Test Procedure

The bandwidth at 26 dB down from the highest in-band spectral density is measured with a spectrum analyzer connected to the antenna terminal while the EUT is operating in transmission mode at the appropriate frequencies.

The 26 dB bandwidth is used to determine the conducted output power limit.

The transmitter output is connected to the Spectrum Analyzer and used following test procedure of ANSI C63.10-2020

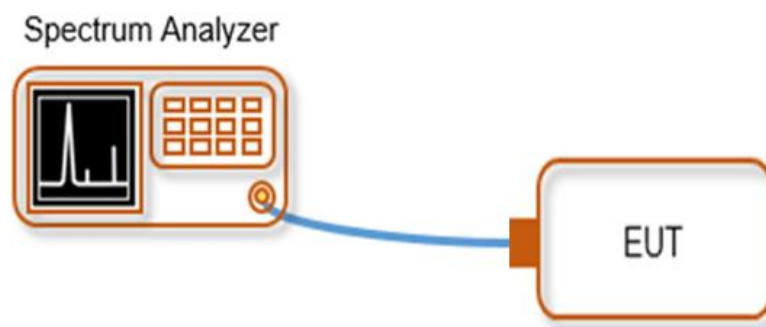
1. Set resolution bandwidth (RBW) = approximately 1 % ~ 5 % of the EBW.
2. Set the video bandwidth (VBW) > RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Measure the maximum width of the emission that is 26 dB down from the peak of the emission.
Compare this with the RBW setting of the instrument. Readjust RBW and repeat measurement as needed until the RBW/EBW ratio is in the range of 1% to 5%.

3.2.3 99 % Bandwidth Test Procedure

The transmitter output is connected to the Spectrum Analyzer and used following test procedure of ANSI c63.10

1. Set center frequency to the nominal EUT channel center frequency.
2. Set span = 1.5 times to 5.0 times the OBW.
3. Set RBW = 1% to 5% of the OBW
4. Set VBW $\geq 3 \times$ RBW
5. Video averaging is not permitted. Where practical, a sample detection and single sweep mode shall be used. Otherwise, peak detection and max hold mode (until the trace stabilizes) shall be used.
6. Use the 99% power bandwidth function of the instrument (if available).

3.2.4 Test Setup





3.2.5 Test Result

[Test Data of 26 dB Bandwidth & 99 % Bandwidth]

Test Mode	Band	Tested Frequency [MHz]	26 dB Bandwidth [MHz]		99 % Bandwidth [MHz]	
			ANT1	ANT2	ANT1	ANT2
802.11 a	NII 5	5 935	21.49	21.03	16.82	16.77
		6 175	20.98	21.38	16.84	16.70
		6 415	21.51	21.03	16.86	16.70
	NII 6	6 435	21.37	20.85	16.84	16.67
		6 475	21.16	21.09	16.82	16.70
		6 515	21.17	20.58	16.84	16.69
	NII 7	6 535	21.41	20.80	16.80	16.70
		6 695	21.16	21.36	16.79	16.73
		6 875	21.70	20.33	16.84	16.71
	NII 8	6 895	21.18	20.87	16.77	16.69
		6 995	20.83	20.69	16.82	16.76
		7 115	21.08	21.11	16.78	16.75
802.11 be(EHT20)	NII 5	5 935	21.99	21.57	19.08	19.04
		6 175	21.57	20.92	19.10	19.02
		6 415	21.92	21.32	19.08	19.00
	NII 6	6 435	21.45	21.05	19.09	18.96
		6 475	21.57	21.24	19.17	19.06
		6 515	21.56	21.21	19.07	19.00
	NII 7	6 535	21.63	21.58	19.09	18.99
		6 695	21.34	21.29	19.14	19.03
		6 875	21.80	21.59	19.10	19.02
	NII 8	6 895	21.32	21.25	19.12	19.03
		6 995	21.46	21.68	19.03	19.06
		7 115	21.77	21.38	19.10	19.05



Test Mode	Band	Tested Frequency [MHz]	26 dB Bandwidth [MHz]		99 % Bandwidth [MHz]	
			ANT1	ANT2	ANT1	ANT2
802.11 be(EHT40)	NII 5	5965	42.49	41.71	38.16	37.84
		6165	42.61	41.36	38.05	38.05
		6405	42.33	42.43	38.11	38.16
	NII 6	6445	42.73	42.20	38.15	37.96
		6485	42.94	42.11	38.09	37.86
		6525	43.06	41.38	38.15	37.90
	NII 7	6565	42.55	41.51	38.16	37.90
		6725	42.28	42.26	38.15	37.96
		6845	43.08	41.34	38.14	37.88
	NII 8	6885	42.36	41.33	38.15	37.79
		7005	43.36	41.55	38.16	37.83
		7085	42.24	42.05	37.82	37.95
802.11 be(EHT80)	NII 5	5985	86.83	85.81	78.05	77.11
		6145	88.88	83.97	78.05	77.26
		6385	90.52	85.07	77.93	77.28
	NII 6	6465	90.38	86.44	78.02	77.13
		6545	89.69	85.43	78.12	77.98
		6705	88.40	83.37	77.94	77.15
	NII 7	6865	91.30	89.32	78.13	78.19
		6945	88.40	88.18	78.19	77.96
		7025	85.15	84.13	76.89	77.69
802.11 be(EHT160)	NII 5	6025	175.20	174.30	157.96	157.46
		6185	173.60	174.20	158.05	157.82
		6345	173.30	173.50	157.82	157.51
	NII 6	6505	176.30	173.30	157.39	157.47
	NII 7	6665	174.60	175.40	157.76	157.59
		6825	176.40	173.90	157.89	157.21
	NII 8	6985	173.50	174.70	157.56	157.36
802.11 be(EHT320)	NII 5	6105	-	-	314.58	315.33
		6265	-	-	315.10	315.12
	NII 6	6425	-	-	315.42	314.73
	NII 7	6585	-	-	315.46	314.60
		6745	-	-	314.93	314.63
	NII 8	6905	-	-	314.82	314.36



Test Mode	Band	Tested Frequency [MHz]	26 dB Bandwidth [MHz]		99 % Bandwidth [MHz]	
			ANT1	ANT2	ANT1	ANT2
802.11 be(EHT20) 26 Tones	NII 5	5935	20.02	19.89	18.26	18.25
		6175	20.05	19.77	18.44	18.30
		6415	21.11	19.73	19.24	17.75
	NII 6	6435	19.86	19.91	18.18	18.34
		6475	19.85	19.88	18.40	18.38
		6515	19.60	19.84	18.27	18.43
	NII 7	6535	19.83	19.82	18.32	18.32
		6695	20.07	19.87	18.44	18.24
		6875	19.58	19.92	18.23	18.42
	NII 8	6895	20.02	19.90	18.29	18.41
		6995	19.77	19.93	18.25	18.34
		7115	19.98	19.93	18.28	18.30
802.11 be(EHT20) 242 Tones	NII 5	5935	21.09	21.23	19.13	19.05
		6175	21.36	21.07	19.09	19.05
		6415	21.51	20.95	19.09	19.04
	NII 6	6435	21.81	20.88	19.10	19.07
		6475	21.40	21.01	19.12	18.99
		6515	21.29	21.13	19.13	19.01
	NII 7	6535	21.31	20.88	19.11	19.10
		6695	21.16	21.07	19.03	19.03
		6875	21.14	20.96	19.14	19.05
	NII 8	6895	21.42	20.95	19.11	19.01
		6995	21.51	21.38	19.12	19.14
		7115	21.40	21.08	19.13	19.07
802.11 be(EHT40) 484 Tones	NII 5	5965	42.77	41.60	38.19	37.83
		6165	42.82	42.05	38.14	38.00
		6405	42.56	41.53	38.18	38.00
	NII 6	6445	42.41	42.27	38.28	37.99
		6485	42.97	42.13	38.13	37.97
		6525	42.51	41.61	38.17	38.01
	NII 7	6565	42.51	42.89	38.16	38.20
		6725	42.70	42.06	38.29	38.08
		6845	42.80	41.70	38.21	37.89
	NII 8	6885	42.63	42.34	38.18	37.91
		7005	42.37	42.87	38.26	38.10



Test Mode	Band	Tested Frequency [MHz]	26 dB Bandwidth [MHz]		99 % Bandwidth [MHz]	
			ANT1	ANT2	ANT1	ANT2
802.11 be(EHT80) 996 Tones	NII 5	5985	90.79	84.59	78.40	77.13
		6145	91.41	84.97	78.35	77.03
		6385	91.11	86.37	78.40	77.30
	NII 6	6465	90.85	85.83	78.16	77.55
	NII 7	6545	92.04	87.98	78.30	77.78
		6705	92.25	85.25	78.20	77.14
		6865	90.73	84.66	78.37	76.99
	NII 8	6945	92.48	85.59	78.34	77.07
		7025	85.20	85.26	77.09	76.90
802.11 be(EHT160) 996*2 Tones	NII 5	6025	174.80	174.20	157.59	157.53
		6185	179.70	177.10	157.94	157.70
		6345	173.80	174.40	157.86	157.65
	NII 6	6505	180.60	175.80	158.30	157.78
	NII 7	6665	174.40	175.30	157.81	157.64
		6825	177.00	173.00	157.64	157.23
	NII 8	6985	174.20	174.10	157.57	157.38



[Test Plot of 26 dB Bandwidth & 99 % Bandwidth]

