

EVALUATION REPORT

Applicant Name:
LG Electronics Inc.

Date of Issue:
December 31, 2024

Address:
128, Yeoui-daero, Yeongdeungpo-gu, Seoul, Republic
of Korea

Location:
HCT CO., LTD.,
74, Seoicheon-ro 578beon-gil, Majang-myeon, Icheon-si,
Gyeonggi-do, Republic of Korea

FCC ID: TM19FNEUHD2

APPLICANT: LG Electronics Inc.

Equipment Class(es) : PCB
FCC Rule(s): § 22, § 24, § 27
Application's Statement : The applicant takes full responsibility that the test data referenced below
Represents compliance for this FCC ID.
Test Reference : KDB 484596 D01 Reference Test Data v02r03

The detail test data can be found in this documents, Appendix A.

Category	Spot Check	Verdict
Licensed EMC	ERP / EIRP	Share
	RSE	Share

The data from that application has been verified through appropriate spot checks to demonstrate compliance for this device as shown in the Cross Reference Table. The detail test data can be found in this documents, Appendix A.



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Engineer of Telecommunication testing center



Approved by : Jong Seok Lee

Manager of Telecommunication testing center

REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	December 26, 2024	Initial Release
1	December 31, 2024	Added the test results for LTE B2.

1. Cross Reference Table (Licensed EMC)

1) Data referencing band

- 4G: LTE B2, LTE B5, LTE B7, LTE B66

- 5G: NR n5(ERP), NR n7, NR n77

2) Full test band

- 2G : GSM850, GSM1900

- 3G : WCDMA B2, WCDMA B4, WCDMA B5

- 4G : LTE B41(38), LTE B42

- 5G: NR n 5(RSE), NR n41

Rule Part	Test item	Data Referencing	Comments
§ 2.1049	Occupied Bandwidth	Y	-
§ 2.1051, § 22.917(a)	Band Edge / Spurious and Harmonic Emissions at Antenna Terminal..	Y	-
§ 22.913(d)	Peak- to- Average Ratio	Y	-
§ 2.1055, § 22.355	Frequency stability / variation of ambient temperature	Y	-
§ 22.913(a)(5)	Effective Radiated Power	Y	Spot-check
§ 2.1053, § 22.917(a)	Radiated Spurious and Harmonic Emissions	Y	Spot-check (LTE B5)
		N	Test (NR n5)
§ 22.913(a)(5)	Effective Radiated Power	Y	Spot-check
§ 2.1053, § 22.917(a)	Radiated Spurious and Harmonic Emissions	Y	Spot-check
§ 2.1051, § 24.238(a)	Band Edge / Spurious and Harmonic Emissions at Antenna Terminal..	Y	-
§ 24.232(d)	Peak- to- Average Ratio	Y	-
§ 24.235	Frequency stability / variation of ambient temperature	Y	-
§ 24.232(c)	Equivalent Isotropic Radiated Power	Y	Spot-check
§ 2.1053, § 24.238(a)	Radiated Spurious and Harmonic Emissions	Y	Spot-check
§ 2.1051, § 27.53(n)(2), § 27.53(l)(2)	Band Edge / Spurious and Harmonic Emissions at Antenna Terminal..	Y	-
§ 27.50(k)(4), § 27.50(j)(4)	Peak- to- Average Ratio	Y	-

Rule Part	Test item	Data Referencing	Comments
§ 27.50(k)(3), § 27.50(j)(3)	Equivalent Isotropic Radiated Power	Y	Spot-check
§ 2.1051, § 27.53(n)(2),	Radiated Spurious and Harmonic Emissions	Y	Spot-check
§ 2.1051, § 27.53(m)(4)	Block Edge / Spurious and Harmonic Emissions at Antenna Terminal..	Y	-
§ 2.1051, § 27.53(n)(2)	Band Edge / Spurious and Harmonic Emissions at Antenna Terminal.	Y	-
§ 27.50(k)(4)	Peak- to- Average Ratio	Y	-
§ 2.1055, § 27.54	Frequency stability / variation of ambient temperature	Y	-
§ 27.50(h)(2)	Equivalent Isotropic Radiated Power	Y	Spot-check
§ 2.1053, § 27.53(m)(4)	Radiated Spurious and Harmonic Emissions	Y	Spot-check
§ 27.50(k)(3)	Equivalent Isotropic Radiated Power	Y	Spot-check
§ 2.1053, § 27.50(n)(2)	Radiated Spurious and Harmonic Emissions	Y	Spot-check
§ 2.1051, § 27.53(h)	Band Edge / Spurious and Harmonic Emissions at Antenna Terminal.	Y	-
§ 27.50(d)(5)	Peak- to- Average Ratio	Y	-
§ 2.1055, § 27.54	Frequency stability / variation of ambient temperature	Y	-
§ 27.50(d)(4)	Equivalent Isotropic Radiated Power	Y	Spot-check
§ 2.1053, § 27.53(h)	Radiated Spurious and Harmonic Emissions	Y	Spot-check
§ 2.1046	Conducted Output Power	Y	-

Appendix A. The Spot check test data

1. Summary of the spot check for Licensed EMC

1.1 EFFECTIVE RADIATED POWER

Mode	Ch./ Freq.		Measure d Level (dBm)	Substitut e Level (dBm)	Ant. Gain (dBd)	C.L	Pol.	Limit	ERP	
	channel	Freq.(MHz)						W	W	dBm
LTE B5	20600	844.00	-28.10	34.54	-10.14	1.45	H	< 7.00	0.197	22.95
Sub6 n5	168300	841.50	-25.15	35.22	-9.90	1.45	H		0.244	23.87

Mode	Frequency (MHz)		Mode	BEJTM19FNN AHD4 (dBm)	BEJTM19FNEUHD2 (dBm)	Deviation (dB)
	MHz	Ch.				
LTE B5 (B.W 10 MHz)	844.00	20600	QPSK	22.82	22.95	-0.13
Sub6 n5 (B.W 15 MHz)	841.50	168300	PI/2 BPSK	22.43	23.87	-1.44

1.2 EQUIVALENT ISOTROPIC RADIATED POWER

Mode	Ch./ Freq.		Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBd)	C.L	Pol.	Limit	EIRP	
	channel	Freq.(MHz)						W	W	dBm
LTE B2	18900	1880.0	-15.98	18.97	10.40	2.21	H	< 2.00	0.520	27.16
LTE B7	20850	2510.00	-21.67	15.40	10.70	2.51	H		0.229	23.59
Sub6 n7	502500	2512.50	-19.67	17.26	10.52	2.53	H		0.335	25.25

Mode	Ch./ Freq.		Measured Level (dBm)	Substitute Level (dBm)	Ant. Gain (dBd)	C.L	Pol.	Limit	EIRP	
	channel	Freq.(MHz)						W	W	dBm
LTE B66(4)	132647	1777.50	-14.75	19.07	10.26	2.09	H	< 1.00	0.530	27.24
Sub6 n77	636666	3504.99	-22.92	15.53	12.04	3.05	H		0.283	24.52
Sub6 n77	650000	3750.00	-25.61	13.58	11.95	3.17	H		0.172	22.36

Modulation	Frequency		Mode	BEJTM19FNN4HD4 (dBm)	BEJTM19FNEUHD 2 (dBm)	Deviation (dB)
	MHz	Ch.				
LTE B2 (B.W 20 MHz)	1880.00	18900	QPSK	28.47	27.16	1.31
LTE B7 (B.W 20 MHz)	2510.00	20850	QPSK	24.97	23.59	1.38
LTE B66(4) (B.W 5 MHz)	1777.50	132647	QPSK	27.33	27.24	0.09
Sub6 n7 (B.W 25 MHz)	2512.50	502500	PI/2 BPSK	26.09	25.25	0.84
Sub6 n77 (3450~3550 MHz) (B.W 90 MHz)	3504.99	636666	PI/2 BPSK	25.54	24.52	1.02
Sub6 n77 (3700~3980 MHz) (B.W 100 MHz)	3750.00	650000	PI/2 BPSK	23.64	22.36	1.28

1.3 RADIATED SPURIOUS EMISSIONS

Modulation	Frequency		Mode	BEJTM19FNNABD4 (dBm)	BEJTM19FNEUHD 2 (dBm)	Deviation (dB)
	MHz	Ch.				
LTE B2 (B.W 20 MHz)	7600.00	19100	QPSK	-38.34	-38.96	0.62
LTE B5 (B.W 10 MHz)	1688.00	20600	QPSK	-45.35	-47.16	1.81
LTE B7 (B.W 20 MHz)	10240.00	21350	QPSK	-44.63	-43.88	-0.75
LTE B66(4) (B.W 5 MHz)	7110.00	132647	QPSK	-38.24	-36.89	-1.35
Sub6 n7 (B.W 15 MHz)	10250.00	512500	PI/2 BPSK	-45.39	-45.60	0.21
Sub6 n77 (3450~3550 MHz) (B.W 90 MHz)	10514.97	636666	PI/2 BPSK	-37.24	-37.32	0.08
Sub6 n77 (3700~3980 MHz) (B.W 100 MHz)	7500.00	650000	PI/2 BPSK	-43.44	-42.38	-1.06

Mode, Channel, (Frequency)	Freq. (MHz)	Measured Level (dBm)	Ant. Gain (dBd)	Substitute Level (dBm]	C.L	Pol.	Result (dBm)
LTE B2 CH 19100 (1900.00)	7600.00	-42.47	11.08	-45.40	4.64	V	-38.96
LTE B5 CH 20600 (844.00)	1688.00	-39.32	9.82	-54.92	2.06	V	-47.16
LTE B7 CH 21350 (2560.00)	10240.00	-56.19	10.73	-49.07	5.54	H	-43.88
LTE B66(4) CH 132647 (1777.50)	7110.00	-51.89	10.86	-43.27	4.48	V	-36.89
Sub 6 n7 CH 512500 (2562.50)	10250.00	-62.75	11.47	-51.53	5.54	V	-45.60
Sub 6 n77 (3450~3550 MHz) CH 636666 (3504.99)	10514.97	-50.65	11.13	-44.00	4.45	V	-37.32
Sub 6 n77 (3700~3980 MHz) CH 650000 (3750.00)	7500.00	-56.60	11.52	-49.30	4.60	V	-42.38

2. List of test equipment(Licensed)

Equipment	Model	Manufacture	Serial No.	Due to Calibration	Calibration Interval
RF Switching System	Switch box(1.2 G HPF+LNA)	HCT CO., LTD.,	F1L1	11/11/2025	Annual
RF Switching System	Switch box(3.3 G HPF+LNA)	HCT CO., LTD.,	F1L2	11/11/2025	Annual
RF Switching System	Switch box(LNA)	HCT CO., LTD.,	F1L4	11/11/2025	Annual
RF Switching System	Switch box(6 G HPF+LNA)	HCT CO., LTD.,	F1L7	11/11/2025	Annual
Power Splitter(DC ~ 26.5 GHz)	11667B	Hewlett Packard	5001	04/17/2025	Annual
DC Power Supply	E3632A	Agilent	MY40010147	08/06/2025	Annual
Dipole Antenna	UHAP	Schwarzbeck	01274	03/10/2026	Biennial
Dipole Antenna	UHAP	Schwarzbeck	01288	08/07/2026	Biennial
Chamber	SU-642	ESPEC	93008124	02/19/2025	Annual
Horn Antenna(1 ~ 18 GHz)	BBHA 9120D	Schwarzbeck	147	08/17/2025	Biennial
Horn Antenna(1 ~ 18 GHz)	BBHA 9120D	Schwarzbeck	9120D-1298	09/11/2025	Biennial
Horn Antenna(15 ~ 40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170342	09/20/2026	Biennial
Horn Antenna(15 ~ 40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170124	03/28/2025	Biennial
Signal Analyzer(10 Hz ~ 26.5 GHz)	N9020A	Agilent	MY52090906	04/19/2025	Annual
ATTENUATOR(20 dB)	8493C	Hewlett Packard	17280	04/17/2025	Annual
Spectrum Analyzer(10 Hz ~ 40 GHz)	FSV40	REOHDE & SCHWARZ	100931	08/06/2025	Annual
Base Station	8960 (E5515C)	Agilent	MY48360800	08/05/2025	Annual
Loop Antenna(9 kHz ~ 30 MHz)	FMZB1513	Schwarzbeck	1513-333	03/07/2026	Biennial
Trilog Broadband Antenna	VULB9168	Schwarzbeck	895	08/28/2026	Biennial
Trilog Broadband Antenna	VULB9168	Schwarzbeck	1135	08/19/2026	Biennial
Wideband Radio Communication Tester	MT8821C	Anritsu Corp.	6262094331	11/13/2025	Annual
Wideband Radio Communication Tester	MT8820C	Anritsu Corp.	6201026545	11/20/2025	Annual
SIGNAL GENERATOR (100 kHz ~ 40 GHz)	SMB100A	REOHDE & SCHWARZ	177633	07/26/2025	Annual
Signal Analyzer(5 Hz ~ 40.0 GHz)	N9030B	KEYSIGHT	MY55480167	05/17/2025	Annual
FCC LTE Mobile Conducted RF Automation Test Software	-	HCT CO., LTD.,	-	-	-

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
Precision Dipole Antenna	UHAP	Schwarzbeck	01273	03/10/2026	Biennial
Precision Dipole Antenna	UHAP	Schwarzbeck	01274	03/10/2026	Biennial
Horn Antenna(1~18 GHz)	BBHA 9120D	Schwarzbeck	02289	02/14/2026	Biennial
Horn Antenna(1~18 GHz)	BBHA 9120D	Schwarzbeck	9120D-1299	04/27/2025	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170342	09/20/2026	Biennial
Horn Antenna(15~40 GHz)	BBHA 9170	Schwarzbeck	BBHA9170124	03/28/2025	Biennial
Loop Antenna(9 kHz~30 MHz)	FMZB1513	Rohde & Schwarz	1513-175	01/16/2025	Biennial
Bilog Antenna	VULB9160	Schwarzbeck	3150	03/09/2025	Biennial
Hybrid Antenna	VULB9160	Schwarzbeck	760	02/24/2025	Biennial
RF Switching System	FBSR-06B (1G HPF + LNA)	T&M SYSTEM	F3L1	05/14/2025	Annual
RF Switching System	FBSR-06B (3G HPF + LNA)	T&M SYSTEM	F3L2	05/14/2025	Annual
RF Switching System	FBSR-06B (6G HPF + LNA)	T&M SYSTEM	F3L3	05/14/2025	Annual
RF Switching System	FBSR-06B (LNA)	T&M SYSTEM	F3L4	05/14/2025	Annual
Power Amplifier	CBL18265035	CERNEX	22966	11/07/2025	Annual
Power Amplifier	CBL26405040	CERNEX	25956	02/26/2025	Annual
DC Power Supply	E3632A	Hewlett Packard	MY40004427	08/22/2025	Annual
Power Splitter(DC~26.5 GHz)	11667B	Hewlett Packard	11275	02/29/2025	Annual
Chamber	SU-642	ESPEC	93008124	02/19/2025	Annual
Signal Analyzer(10 Hz~26.5 GHz)	N9020A	Agilent	MY51110063	04/04/2025	Annual
ATTENUATOR(20 dB)	8493C	Hewlett Packard	17280	04/17/2025	Annual
Spectrum Analyzer (10 Hz~40 GHz)	FSV40	REOHDE & SCHWARZ	101436	02/13/2025	Annual
Signal & Spectrum Analyzer (2 Hz~67 GHz)	FSW67	REOHDE & SCHWARZ	101736	23/05/2025	Annual
Base Station	8960 (E5515C)	Agilent	MY48360800	08/05/2025	Annual
Wideband Radio Communication Tester	MT8821C	Anritsu Corp.	6262287701	05/16/2025	Annual
Wideband Radio Communication Tester	MT8000A	Anritsu Corp.	6262302511	05/14/2025	Annual
Signal Analyzer(5 Hz~40.0 GHz)	N9030B	KEYSIGHT	MY55480167	05/17/2025	Annual
4-Way Divider	ZC4PD-K1844+	Mini-Circuits	942907	09/10/2025	Annual
FCC LTE Mobile Conducted RF Automation Test Software	-	HCT CO., LTD.,	-	-	-

Note:

- Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.
- Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5 (Version : 2017).