

TEST REPORT

of

FCC CFR 47 part 1, 1.1307(b), 1.1310

FCC ID: YZP-AN2000

Equipment Under Test : Telematics Module
Model Name : LTD-AN2000
Variant Model Name(s) : -
Applicant : LG Innotek Co., Ltd.
Manufacturer : LG Innotek Co., Ltd.
Date of Receipt : 2025.11.06
Date of Test(s) : 2025.11.17 ~ 2026.03.27
Date of Issue : 2026.04.02

In the configuration tested, the EUT complied with the standards specified above. This test report does not assure KOLAS accreditation.

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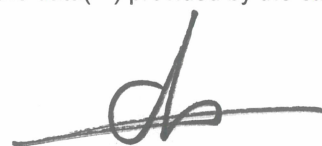
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1. General Information

1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)

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- CAB Identifier: KR0150

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1.2. Details of Applicant

Applicant : LG Innotek Co., Ltd.

Address : 30, Magokjungang 10-ro, Gangseo-gu, Seoul, Korea, 07796

Contact Person : Jeong, In-chang

Phone No. : +82 62 950 0332

1.3. Details of Manufacturer

Company : Same as applicant

Address : Same as applicant

1.4. Description of EUT

Kind of Product	Telematics Module	
Model Name	LTD-AN2000	
Serial Number	Conducted: C1 Radiated: R1	
Power Supply	DC 4.0 V	
Rated Power	WCDMA II, IV, V: 24 dB m LTE Band 2, 4, 5, 7, 12, 13, 14, 17, 25, 26, 66, 71: 23 dB m LTE Band 41: 26 dB m LTE Band 48: 21 dB m NR Band 2, 5, 7, 12, 25, 26, 66, 71: 23 dB m NR Band 41, 77, 78: 26 dB m NR Band 48: 21 dB m	
Frequency Range	WCDMA II: 1 850 MHz ~ 1 910 MHz WCDMA IV 1 710 MHz ~ 1 755 MHz WCDMA V: 824 MHz ~ 849 MHz LTE Band 2: 1 850 MHz ~ 1 910 MHz LTE Band 4: 1 710 MHz ~ 1 755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 7: 2 500 MHz ~ 2 570 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 14: 788 MHz ~ 798 MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 25: 1 850 MHz ~ 1 915 MHz LTE Band 26: 824 MHz ~ 849 MHz LTE Band 41: 2 496 MHz ~ 2 690 MHz LTE Band 48: 3 550 ~ 3 700 MHz	LTE Band 66: 1 710 MHz ~ 1 780 MHz LTE Band 71: 663 MHz ~ 698 MHz NR Band 2: 1 850 MHz ~ 1 910 MHz NR Band 5: 824 MHz ~ 849 MHz NR Band 7: 2 500 MHz ~ 2 570 MHz NR Band 12: 699 MHz ~ 716 MHz NR Band 25: 1 850 MHz ~ 1 915 MHz NR Band 26: 824 MHz ~ 849 MHz NR Band 41: 2 496 MHz ~ 2 690 MHz NR Band 48: 3 550 ~ 3 700 MHz NR Band 66: 1 710 MHz ~ 1 780 MHz NR Band 71: 663 MHz ~ 698 MHz NR Band 77: 3 450 MHz ~ 3 550 MHz NR Band 77: 3 700 MHz ~ 3 980 MHz NR Band 78: 3 450 MHz ~ 3 550 MHz NR Band 78: 3 700 MHz ~ 3 800 MHz
Modulation Technique	BPSK, QPSK, 16QAM, 64QAM, 256QAM	
Antenna Type	Ant. 1: Dipole Antenna Ant. 2: Dipole Antenna	
Antenna Gain*	Refer to the clause 1.6	
H/W Version	06	
S/W Version	SMP1750BJKA02-5035573_QB6279223	
FVIN	N/A	

1.5. Manufacturer Declaration

The EUT is equipped with two antennas. Antenna 1 serves as the primary antenna for frequencies below 3 GHz, while providing support as a secondary antenna and enabling MIMO operation for frequency at or above 3 GHz. Antenna 2 acts as the primary for frequencies above 3 GHz.

MIMO operation is supported specifically for NR bands above 3 GHz. For LTE, the device supports SISO operation only. Additionally, in 5G NR MIMO mode, only CP-OFDM is supported.

1.6. Antenna Information

Ant. No.	Ant. Type	Support Band		
		LTE	NR	WCDMA
Ant. 1	Dipole	2, 4, 5, 7, 12, 13, 14, 17, 25, 26, 41, 66, 71	2, 5, 7, 12, 25, 26, 41, 48, 66, 71, 77, 78	II, IV, V
Ant. 2	Dipole	48	48, 77, 78	

Band	Operating Frequency (MHz)	Antenna Peak Gain (dB i)		
		Ant. 1	Ant. 2	Ant. 1+2
WCDMA II LTE 25/2 NR 25/2	1 850 ~ 1 915	0.46		
WCDMA IV LTE 66/4 NR 66	1 710 ~ 1 780	-0.37		
WCDMA V LTE 26/5 NR 26/5	824 ~ 849	0.60		
LTE 7 NR 7	2 500 ~ 2 570	0.22		
LTE 12/17 NR 12	699 ~ 716	-4.13		
LTE 13	777 ~ 787	-1.27		
LTE 14	788 ~ 798	0.13		
LTE 26	814 ~ 824	0.60		
LTE 71 NR 71	663 ~ 698	-7.25		
LTE 41 NR 41	2 496 ~ 2 690(FCC) 2 500 ~ 2 690(IC)	0.34		
LTE 48 NR 48	3 550 ~ 3 700	-2.11	-2.11	0.90
NR 77/78_FCC	3 450 ~ 3 550	-2.07	-2.07	0.94
	3 700 ~ 3 980	-2.44	-2.44	0.57
NR 77/78_IC	3 450 ~ 3 900	-2.07	-2.07	0.94
	3 900 ~ 3 980	-2.44	-2.44	0.57

Remark;

1) According to KDB 662911 D01 Multiple Transmitter Output v02r01 F)2)d)(i),
Port 1 + Port 2 Antenna Gain = $10 * \log[(10^{G_1/20} + 10^{G_2/20})^2 / N_{ANT}]$

Where,

G₁ = antenna gain of port 1,

G₂ = antenna gain of port 2,

N_{ANT} = the number of antennas

1.7. Summary of Test Results

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 1		
Section	Test Item(s)	Result
1.1307(b)(3)	RF Exposure Evaluation	Complied

1.8. Test Report Revision

Revision	Report Number	Date of Issue	Description
0	F690501-RF-RTL006835	2026.04.02	Initial

2. RF Exposure Evaluation

Test exemptions apply for devices used in general population/uncontrolled exposure environments, according to the SAR-based, or MPE-based exemption thresholds.

2.1. Blanket 1 mW Blanket Exemption

The 1 mW Blanket Exemption of § 1.1307(b)(3)(i)(A) applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power of no more than 1 mW, regardless of separation distance.

The 1 mW blanket exemption applies at separation distances less than 0.5 cm, including where there is no separation. This exemption shall not be used in conjunction with other exemption criteria other than those for multiple RF sources in paragraph § 1.1307(b)(3)(ii)(A).

The 1 mW exemption is independent of service type and covers the full range of 100 kHz to 100 GHz, but it shall not be used in conjunction with other exemption criteria or in devices with higher-power transmitters operating in the same time-averaging period. Exposure from such higher-power transmitters would invalidate the underlying assumption that exposure from the lower-power transmitter is the only contributor to SAR in the relevant volume of tissue.

2.2. MPE-based Exemption

General frequency and separation-distance dependent MPE-based effective radiated power (ERP) thresholds are in Table B.1 [Table 1 of § 1.1307(b)(1)(i)(C)] to support an exemption from further evaluation from 300 kHz through 100 GHz.

**Table 1: THRESHOLDS FOR SINGLE RF SOURCES
SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION**

RF Source Frequency			Minimum Distance			Threshold ERP
f_L (MHz)		f_H (MHz)	$\lambda_L / 2\pi$		$\lambda_H / 2\pi$	W
0.3	-	1.34	159 m	-	35.6 m	1 920 R ₂
1.34	-	30	35.6 m	-	1.6 m	3 450 R ₂ /f ²
30	-	300	1.6 m	-	159 mm	3.83 R ²
300	-	1 500	159 mm	-	31.8 mm	0.012 8 R ₂ f
1 500	-	100 000	31.8 mm	-	0.5 mm	19.2 R ²

Subscripts L and H are low and high; λ is wavelength.
From § 1.1307(b)(3)(i)(C), modified by adding Minimum Distance columns.

The table applies to any RF source (i.e., single fixed, mobile, and portable transmitters) and specifies power and distance criteria for each of the five frequency ranges used for the MPE limits. These criteria apply at separation distances from any part of the radiating structure of at least $\lambda/2\pi$. The thresholds are based on the general population MPE limits with a single perfect reflection, outside of the reactive near-field, and in the main beam of the radiator.

For mobile devices that are not exempt per Table B.1 [Table 1 of § 1.1307(b)(1)(i)(C)] at distances from 20 cm to 40 cm and in 0.3 GHz to 6 GHz, evaluation of compliance with the exposure limits in § 1.1310 is necessary if the ERP of the device is greater than ERP_{20 cm} in Formula (B.1) [repeated from § 2.1091(c)(1) and § 1.1307(b)(1)(i)(B)].

$$P_{th} \text{ (mW)} = ERP_{20 \text{ cm}} \text{ (mW)} = \begin{cases} 2040f & 0.3 \text{ GHz} \leq f < 1.5 \text{ GHz} \\ 3060 & 1.5 \text{ GHz} \leq f \leq 6 \text{ GHz} \end{cases} \quad (\text{B. 1})$$

If the ERP is not easily obtained, then the available maximum time-averaged power may be used (i.e., without consideration of ERP only if the physical dimensions of the radiating structure(s) do not exceed the electrical length of $\lambda/4$ or if the antenna gain is less than that of a half-wave dipole.

SAR-based exemptions are constant at separation distances between 20 cm and 40 cm to avoid discontinuities in the threshold when transitioning between SAR-based and MPE-based exemption criteria at 40 cm, considering the importance of reflections.

2.3. SAR-based Exemption

SAR-based thresholds are derived based on frequency, power, and separation distance of the RF source. The formula defines the thresholds in general for either available maximum time-averaged power or maximum time-averaged ERP, whichever is greater.

If the ERP of a device is not easily determined, such as for a portable device with a small form factor, the applicant may use the available maximum time-averaged power exclusively if the device antenna or radiating structure does not exceed an electrical length of $\lambda/4$.

As for devices with antennas of length greater than $\lambda/4$ where the gain is not well defined, but always less than that of a half-wave dipole (length $\lambda/2$), the available maximum time-averaged power generated by the device may be used in place of the maximum time-averaged ERP, where that value is not known.

The separation distance is the smallest distance from any part of the antenna or radiating structure for all persons, during operation at the applicable ERP. In the case of mobile or portable devices, the separation distance is from the outer housing of the device where it is closest to the antenna.

The SAR-based exemption formula of § 1.1307(b)(3)(i)(B), repeated here as Formula (B.2), applies for single fixed, mobile, and portable RF sources with available maximum time-averaged power or effective radiated power (ERP), whichever is greater, of less than or equal to the threshold P_{th} (mW).

This method shall only be used at separation distances from 0.5 cm to 40 cm and at frequencies from 0.3 GHz to 6 GHz (inclusive). P_{th} is given by Formula (B.2).

$$P_{th} \text{ (mW)} = \begin{cases} ERP_{20 \text{ cm}}(d/20 \text{ cm})^x & d \leq 20 \text{ cm} \\ ERP_{20 \text{ cm}} & 20 \text{ cm} < d \leq 40 \text{ cm} \end{cases} \quad (\text{B.2})$$

where

$$x = -\log_{10} \left(\frac{60}{ERP_{20 \text{ cm}} \sqrt{f}} \right)$$

and f is in GHz, d is the separation distance (cm), and $ERP_{20 \text{ cm}}$ is per Formula (B.1).

2.4. Simultaneous Transmission SAR Test Exemption with Respect to Multiple Exemption Criteria

Either SAR-based or MPE-based exemption may be considered for test exemption for fixed, mobile, or portable device exposure conditions; therefore, the contributions from each exemption in conjunction with the measured SAR (Evaluated_k term) shall be used to determine exemption for simultaneous transmission according to Formula (C.1) [repeated from § 1.1307(b)(3)(ii)(B)].

$$\sum_{i=1}^a \frac{P_i}{P_{th,i}} + \sum_{j=1}^b \frac{ERP_j}{ERP_{th,j}} + \sum_{k=1}^c \frac{Evaluated_k}{Exposure Limit_k} \leq 1$$

3. Test Result

3.1. MPE-based Exemption

Mode	Frequency Range (MHz)	Maximum Average Power (dB m)	Antenna Gain (dB i)	Minimum Separation Distance (cm)	ERP		Threshold ERP (mW)	Ratio	Result
					(dB m)	(mW)			
WCMDA II	1 850 ~ 1 910	25.7	0.46	20	24.01	251.77	3 060.00	0.08	Pass
WCDMA IV	1 710 ~ 1755	25.7	-0.37	20	23.18	207.97	3 060.00	0.07	Pass
WCDMA V	824 ~ 849	25.7	0.60	20	24.15	260.02	1 680.96	0.15	Pass
LTE Band 25/2	1 850 ~ 1 915	25.7	0.46	20	24.01	251.77	3 060.00	0.08	Pass
LTE Band 66/4	1 710 ~ 1 780	25.7	-0.37	20	23.18	207.97	3 060.00	0.07	Pass
LTE Band 26/5 Part 22	824 ~ 849	25.7	0.60	20	24.15	260.02	1 680.96	0.15	Pass
LTE Band 26 Part 90	814 ~ 824	25.7	0.60	20	24.15	260.02	1 660.56	0.16	Pass
LTE Band 7	2 500 ~ 2 570	25.7	0.22	20	23.77	238.23	3 060.00	0.08	Pass
LTE Band 12/17	699 ~ 716	25.7	-4.13	20	19.42	87.50	1 425.96	0.06	Pass
LTE Band 13	777 ~ 787	25.7	-1.27	20	22.28	169.04	1 585.08	0.11	Pass
LTE Band 14	788 ~ 798	25.7	0.13	20	23.68	233.35	1 607.52	0.15	Pass
LTE Band 41	2 496 ~ 2 690	28.7	0.34	20	26.89	488.65	3 060.00	0.16	Pass
LTE Band 48	3 550 ~ 3 700	21.0	-2.11	20	16.74	47.21	3 060.00	0.02	Pass
LTE Band 71	663 ~ 698	25.7	-7.25	20	16.30	42.66	1 352.52	0.03	Pass
5G NR Band 25/2	1 850 ~ 1 915	25.7	0.46	20	24.01	251.77	3 060.00	0.08	Pass
5G NR Band 26/5 Part 22	824 ~ 849	25.7	0.60	20	24.15	260.02	1 680.96	0.15	Pass
5G NR Band 26 Part 90	814 ~ 824	25.7	0.60	20	24.15	260.02	1 660.56	0.16	Pass
5G NR Band 7	2 500 ~ 2 570	25.7	0.22	20	23.77	238.23	3 060.00	0.08	Pass
5G NR Band 12	699 ~ 716	25.7	-4.13	20	19.42	87.50	1 425.96	0.06	Pass
5G NR Band 41	2 496 ~ 2 690	28.7	0.34	20	26.89	488.65	3 060.00	0.16	Pass
5G NR Band 48	3 550 ~ 3 700	21.0	-2.11	20	16.74	47.21	3 060.00	0.02	Pass
5G NR Band 66	1 710 ~ 1 780	25.7	-0.37	20	23.18	207.97	3 060.00	0.07	Pass
5G NR Band 71	663 ~ 698	25.7	-7.25	20	16.30	42.66	1 352.52	0.03	Pass
5G NR Band 77/78	3 450 ~ 3 550	29.0	-2.07	20	24.78	300.61	3 060.00	0.10	Pass
5G NR Band 77/78	3 700 ~ 3 980	29.0	-2.44	20	24.41	276.06	3 060.00	0.09	Pass

Note;

- Maximum average target power is the manufacturer's declared rated power.
- Maximum average output power = Maximum average target power (dB m) + Maximum tune up (dB).
- ERP (dB m) = Maximum average power (dB m) + Antenna gain (dB i) - 2.15 (dB)

3.2. Simultaneous Transmission SAR Test Exemption with Respect to Multiple Exemption Criteria

Mode	Band	P_i/P_{th} Ratio Mode A	P_i/P_{th} Ratio Mode B	$\Sigma P_i/P_{th}$ Ratio Mode A+B	Result
Inter band CA	n2A-n5A	0.08	0.15	0.23	Pass
	n2A-n48A	0.08	0.02	0.10	Pass
	n2A-n77A	0.08	0.10	0.18	Pass
	n5A-n48A	0.15	0.02	0.17	Pass
	n5A-n66A	0.15	0.07	0.22	Pass
	n5A-n77A	0.15	0.10	0.25	Pass
	n25A-n48A	0.08	0.02	0.10	Pass
	n25A-n71A	0.08	0.03	0.11	Pass
	n25A-n77A	0.08	0.10	0.18	Pass
	n41A-n71A	0.16	0.03	0.19	Pass
	n48A-n66A	0.02	0.07	0.09	Pass
	n48A-n71A	0.02	0.03	0.05	Pass
	n66A-n71A	0.07	0.03	0.10	Pass
	n66A-n77A	0.07	0.10	0.17	Pass
	n71A-n77A	0.03	0.10	0.13	Pass
Intra band CA	48C	0.02	0.02	0.04	Pass
EN-DC	NR 2 LTE 5, 12, 13, 14, 48	0.08	0.15	0.23	Pass
	NR 5 LTE 2, 7, 48, 66	0.15	0.08	0.23	Pass
	NR 25 LTE 12	0.08	0.06	0.14	Pass
	NR 66 LTE 5, 12, 13, 14, 48	0.07	0.15	0.22	Pass
	NR 71 LTE 2, 66	0.03	0.08	0.11	Pass
	NR 77 LTE 2, 5, 12, 13, 14, 48, 66	0.10	0.15	0.25	Pass
	NR 78 LTE 2, 5, 7, 66	0.10	0.15	0.25	Pass

Note;

- Total power of simultaneous mode (Inter CA, and EN-DC) not exceed single mode output power.
- In case of EN-DC mode, only one combination was reported as worst case.

Conclusion: No SAR is required.

- End of the Test Report -