

# RF EXPOSURE REPORT



**Applicant:** Telit Communications S.p.A.  
Via Stazione di Prosecco 5/b 34010 Sgonico - Trieste, Italy

**Manufacturer:** Telit Wireless Solutions. Co. Ltd.  
13th Fl., Shinyoung Securities Bld, 6, Gukjegeumyung-ro 8-gil,  
Yeongdeungpo-gu, Seoul, 07330, South Korea

**Product Name:** LN920A12-WW / LN920A6-WW / LN920A13-WW

**Brand Name:** Telit

**Model No.:** LN920A12-WW / LN920A6-WW / LN920A13-WW

**Model Difference:** Refer to page4

**FCC ID** RI7LN920

**Date of EUT Received:** Apr. 11, 2025

**Issue Date:** Jun. 05, 2025

*John Yeh*  
**Approved By** \_\_\_\_\_

*John Yeh*

**We hereby certify that:**

The above equipment was evaluated by SGS Taiwan Ltd. The evaluation in this report is in compliance with FCC Rule Part §2.1091, KDB 447498 D01 v06.

The results of this report relate only to the sample identified in this report.

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## Revision History

Report Number	Revision	Description	Issue Date	Revised By	Remark
TESA2504000324ES	00	Add LTE B106	May 15, 2025	Cindy Chou	
TESA2504000324ES	01	Modify comment	Jun. 05, 2025	Cindy Chou	*

**Note:**

- 1、The remark "\*" indicates modification of the report upon requests from certification body.
- 2、Measurement results in the original test report TESA2412000862ES are partially leveraged in this test report which variation has been evaluated as no additional test required.
- 3、Variant information of model numbers is provided by the applicant, test results of this report are applicable to the sample EUT(s) received.  
And are assessed as electrically identical in RF characteristics, therefore, no further assessment required for the variant(s).

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## 1 DESCRIPTION OF EQUIPMENT UNDER TEST (EUT)

### 1.1 Product Description

Product Name:	LN920A12-WW / LN920A6-WW / LN920A13-WW
Brand Name:	Telit
Model No.:	LN920A12-WW / LN920A6-WW / LN920A13-WW
Model Difference:	1. Internal Component is different between three models. 2. Capability is different between three models.
Hardware Version:	1.20
Firmware Version:	LN920A12-WW: M0L.001004 / LN920A6-WW: M0L.011004 / LN920A13-WW: M0L.021004
EUT Series No.:	354175753009531
Power Supply:	3.3Vdc

### 1.2 Model difference

- a) The mobile data modem chip on U200 between two models are pin for pin compatible with identical internal circuits.
- b) The **LN920A6-WW** uses MOBILE DATA MODEM SDX12-2 with CAT12 features disabled by a fuse bit with different FVIN.
- c) The **LN920A12-WW** is tested as the representative sample with the most modem capabilities.

Model	FVIN	Component on U200	Modem Capability
<b>LN920A12-WW</b>	M0L.001004	MOBILE DATA MODEM SDX12-0	LTE, 4 × 4 MIMO, CA 60 MHz DL 256QAM DL, CA 40 MHz UL, 64 QAM UL
<b>LN920A6-WW</b>	M0L.011004	MOBILE DATA MODEM SDX12-2	LTE, 4 × 4 MIMO, CA 40 MHz DL, 64 QAM DL, CA 20 MHz UL, 16 QAM UL
<b>LN920A13-WW</b>	M0L.021004	MOBILE DATA MODEM SDX12-1	LTE, 4 × 4 MIMO, CA 40 MHz DL 256QAM DL, CA 40 MHz UL, 64 QAM UL

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### 1.3 Evaluation site

Laboratory	Site Address		FCC Designation number	ISED Company Number	CAB Identifier
SGS Taiwan Ltd. Central RF Lab. (TAF code 3702)	<input checked="" type="checkbox"/>	No. 134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, 24803, Taiwan.	TW0027	4620A	TW3702
	<input type="checkbox"/>	No. 2, Keji 1st Rd., Guishan Township, Taoyuan County, 333 Taiwan.	TW0028	4620E	
	<input type="checkbox"/>	1F, No. 8, Alley 15, Lane 120, Sec. 1, Nei Hu Road, Neihu District, Taipei City, 222 Taiwan.	TW0029	23862	

### 1.4 Antenna Information:

Antenna Type	Antenna Part No.
Monopole	TG.55.8113 (Ant0)
Dipole	WE14-S3-2 (Ant1)

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Operating Frequency (MHz)				Ant 0 Peak Gain (dBi)	Ant 1 Peak Gain (dBi)
WCDMA/HSPA Band II	1850	~	1910	3.05	N/A
WCDMA/HSPA Band IV	1710	~	1753	3.40	N/A
WCDMA/HSPA Band V	824	~	849	3.20	N/A
LTE-Band 2	1850	~	1910	3.05	N/A
LTE-Band 4	1710	~	1755	3.40	N/A
LTE-Band 5	824	~	849	3.20	N/A
LTE-Band 7	2500	~	2570	3.12	N/A
LTE-Band 12	699	~	716	2.51	N/A
LTE-Band 13	777	~	787	2.51	N/A
LTE-Band 14	788	~	798	2.51	N/A
LTE-Band 17	704	~	716	2.51	N/A
LTE-Band 25	1850	~	1915	3.05	N/A
LTE-Band 26	824	~	849	2.51	N/A
LTE-Band 26 Part 90	814	~	824	3.20	N/A
LTE-Band 30	2305	~	2315	3.12	N/A
LTE-Band 38	2570	~	2620	3.12	N/A
LTE-Band 41	2496	~	2690	3.12	N/A
LTE-Band 41(HPUE)	2496	~	2690	3.12	N/A
LTE-Band 42(FCC)	3550	~	3600	N/A	1.00
LTE-Band 43	3600	~	3800	N/A	1.00
LTE-Band 48	3550	~	3700	N/A	1.00
LTE-Band 66	1710	~	1780	3.40	N/A
LTE-Band 71	663	~	698	1.26	N/A
LTE-Band 5B	824	~	849	3.20	N/A
LTE-Band 7C	2500	~	2570	3.12	N/A
LTE-Band 38C	2570	~	2620	3.12	N/A
LTE-Band 41C	2496	~	2690	3.12	N/A
LTE-Band 42C	3550	~	3600	N/A	1.00
LTE Band 106	869	~	901	3.20	N/A

**Note:** Antenna information is provided by the applicant.

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## 1.5 Rated Power

Operating Frequency (MHz)			Max. Output Power (dBm)	Antenna Gain (dBi)	EIRP / ERP (dBm)	Operation Distance (cm)	Power Density (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Density / Limit	FCC Worst Case
WCDMA / HSPA Band II	1850	~ 1910	24.50	3.05	27.55	20	0.11	1.00	0.11	
WCDMA / HSPA Band IV	1710	~ 1753	24.50	3.40	27.90	20	0.12	1.00	0.12	
WCDMA / HSPA Band V	824	~ 849	24.50	3.20	27.70	20	0.12	0.55	0.22	V
LTE-Band 2	1850	~ 1910	23.50	3.05	26.55	20	0.09	1.00	0.09	
LTE-Band 4	1710	~ 1755	23.50	3.40	26.90	20	0.10	1.00	0.10	
LTE-Band 5	824	~ 849	23.50	3.20	26.70	20	0.09	0.55	0.16	
LTE-Band 7	2500	~ 2570	23.50	3.12	26.62	20	0.09	1.00	0.09	
LTE-Band 12	699	~ 716	23.50	2.51	26.01	20	0.08	0.47	0.17	
LTE-Band 13	777	~ 787	23.50	2.51	26.01	20	0.08	0.52	0.15	
LTE-Band 14	788	798	23.50	2.51	26.01	20	0.08	0.53	0.15	
LTE-Band 17	704	~ 716	23.50	2.51	26.01	20	0.08	0.47	0.17	
LTE-Band 25	1850	~ 1915	23.50	3.05	26.55	20	0.09	1.00	0.09	
LTE-Band 26	824	849	23.50	2.51	26.01	20	0.08	0.55	0.15	
LTE-Band 26 Part 90	814	~ 824	23.50	3.20	26.70	20	0.09	0.54	0.17	
LTE-Band 30	2305	2315	23.00	3.12	26.12	20	0.08	1.00	0.08	
LTE-Band 38	2570	~ 2620	23.50	3.12	26.62	20	0.09	1.00	0.09	
LTE-Band 41	2496	~ 2690	23.50	3.12	26.62	20	0.09	1.00	0.09	
LTE-Band 41(HPUE)	2496	~ 2690	26.50	3.12	29.62	20	0.18	1.00	0.18	
LTE-Band 42(FCC)	3550	~ 3600	22.00	1.00	23.00	20	0.04	1.00	0.04	
LTE-Band 43	3600	~ 3800	22.00	1.00	23.00	20	0.04	1.00	0.04	
LTE-Band 48	3550	~ 3700	22.00	1.00	23.00	20	0.04	1.00	0.04	
LTE-Band 66	1710	~ 1780	23.50	3.40	26.90	20	0.10	1.00	0.10	
LTE-Band 71	663	~ 698	23.50	1.26	24.76	20	0.06	0.44	0.14	
LTE-Band 5B	824	849	24.00	3.20	27.20	20	0.10	0.55	0.18	
LTE-Band 7C	2500	~ 2570	24.00	3.12	27.12	20	0.10	1.00	0.10	
LTE-Band 38C	2570	2620	23.50	3.12	26.62	20	0.09	1.00	0.09	
LTE-Band 41C	2496	~ 2690	24.00	3.12	27.12	20	0.10	1.00	0.10	
LTE-Band 42C	3550	~ 3600	22.00	1.00	23.00	20	0.04	1.00	0.04	
LTE Band 106	869	~ 901	23.50	3.20	26.70	20	0.09	0.58	0.16	

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## 2 MAXIMUM PERMISSIBLE EXPOSURE (MPE)

### 2.1 FCC Standard Applicable

According to §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensure that the public is not exposed to radio frequency energy level in excess of the Commission's guideline.

This is a Mobile device, the MPE is required.

According to §1.1310 and §2.1091 RF exposure is calculated.

Limits for Maximum Permissive Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm <sup>2</sup> )	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f <sup>2</sup> )	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100000	/	/	1.0	30

f = frequency in MHz

\* = Plane-wave equipment power density

Prediction of MPE limit at a given distance

$$S = PG/4\pi R^2$$

Where: S = Power density

P = Power input to antenna

G = Power gain of the antenna in the direction of interest relative to an isotropic radiator

R = Distance to the center of radiation of the antenna

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## 2.2 Power Density Calculation (Worst Case)

FCC Standalone MPE

Operation Mode	Evaluation Frequency (MHz)	Operation Distance (cm)	Max. Output Power Include Tolerance (dBm)	Antenna Gain (dBi)	Max. EIRP (mW)	Power Density (PD) (mW/cm <sup>2</sup> )	Limit (mW/cm <sup>2</sup> )	Pass / Fail	Power Density / Limit
WCDMA / HSPA Band 2	1852.40	20	24.5	3.05	568.85	0.113	1.000	Pass	0.113
WCDMA / HSPA Band 4	1712.40	20	24.5	3.40	616.60	0.123	1.000	Pass	0.123
WCDMA / HSPA Band 5	826.40	20	24.5	3.20	588.84	0.117	0.551	Pass	0.212
LTE-Band 2	1850.70	20	23.5	3.05	451.86	0.090	1.000	Pass	0.090
LTE-Band 4	1710.70	20	23.5	3.40	489.78	0.097	1.000	Pass	0.097
LTE-Band 5	824.70	20	23.5	3.20	467.74	0.093	0.550	Pass	0.169
LTE-Band 7	2502.50	20	23.5	3.12	459.20	0.091	1.000	Pass	0.091
LTE-Band 12	699.70	20	23.5	2.51	399.02	0.079	0.466	Pass	0.170
LTE-Band 13	779.50	20	23.5	2.51	399.02	0.079	0.520	Pass	0.152
LTE-Band 14	788.00	20	23.5	2.51	399.02	0.079	0.525	Pass	0.150
LTE-Band 17	706.50	20	23.5	2.51	399.02	0.079	0.471	Pass	0.168
LTE-Band 25	1850.70	20	23.5	3.05	451.86	0.090	1.000	Pass	0.090
LTE-Band 26	824.70	20	23.5	2.51	399.02	0.079	0.550	Pass	0.144
LTE-Band 26 Part 90	814.70	20	23.5	3.20	467.74	0.093	0.543	Pass	0.171
LTE-Band 30	2307.50	20	23.5	3.12	459.20	0.091	1.000	Pass	0.091
LTE-Band 38	2572.50	20	23.5	3.12	459.20	0.091	1.000	Pass	0.091
LTE-Band 41	2498.50	20	23.5	3.12	459.20	0.091	1.000	Pass	0.091
LTE-Band 41(HPUE)	2498.50	20	26.5	3.12	916.22	0.182	1.000	Pass	0.182
LTE-Band 42(FCC)	3550.00	20	22	1.00	199.53	0.040	1.000	Pass	0.040
LTE-Band 43	3600.00	20	22	1.00	199.53	0.040	1.000	Pass	0.040
LTE-Band 48	3550.00	20	22	1.00	199.53	0.040	1.000	Pass	0.040
LTE-Band 66	1710.70	20	23.5	3.40	489.78	0.097	1.000	Pass	0.097
LTE-Band 71	665.50	20	23.5	1.26	299.23	0.060	0.444	Pass	0.135
LTE-Band 5B	824.70	20	24	3.20	524.81	0.104	0.550	Pass	0.189
LTE-Band 7C	2502.50	20	24	3.12	515.23	0.103	1.000	Pass	0.103
LTE-Band 38C	2572.50	20	23.5	3.12	459.20	0.091	1.000	Pass	0.091
LTE-Band 41C	2498.50	20	24	3.12	515.23	0.103	1.000	Pass	0.103
LTE-Band 42C(FCC)	3550.00	20	22	1.00	199.53	0.040	1.000	Pass	0.040
LTE Band 106	901.00	20	23.5	3.20	467.74	0.093	0.601	Pass	0.155

Conclusion: The maximum power density is below the MPE thresholds, therefore the device is compliant FCC RF exposure requirement.

**Note:** For conservativeness, the lowest uplink frequency of each band is used to determine the MPE limit of that band.

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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## 2.3 Maximum Allowable Antenna Gain

### FCC

Operation Mode	Freq. (MHz)	Operation Distance (cm)	Max. output Power include tolerance (dBm)	Max. Allowable Antenna Gain (dBi)	EIRP (ERP) Limit (dBm)	Max. output Power (mW)	Power Density (PD) (mW/cm <sup>2</sup> )	PD Limit (mW/cm <sup>2</sup> )	Allowable Gain according to EIRP (dBi)	Allowable Gain according to PD (dBi)
WCDMA/HSPA Band 2	1852.4	20	24.50	8.50	33.00	1995.26	0.397	1.000	8.50	12.51
WCDMA/HSPA Band 4	1712.4	20	24.50	5.50	30.00	1000.00	0.199	1.000	5.50	12.51
WCDMA/HSPA Band 5	826.4	20	24.50	9.92	38.45	2766.94	0.551	0.551	13.95	9.92
LTE-Band 2	1850.7	20	23.50	9.50	33.00	1995.26	0.397	1.000	9.50	13.51
LTE-Band 4	1710.7	20	23.50	6.50	30.00	1000.00	0.199	1.000	6.50	13.51
LTE-Band 5	824.7	20	23.50	10.91	38.45	2760.58	0.549	0.550	14.95	10.91
LTE-Band 7	2502.5	20	23.50	9.50	33.00	1995.26	0.397	1.000	9.50	13.51
LTE-Band 12	699.7	20	23.50	10.19	34.77	2338.84	0.466	0.466	11.27	10.19
LTE-Band 13	779.5	20	23.50	10.67	34.77	2612.16	0.520	0.520	11.27	10.67
LTE-Band 14	788.0	20	23.50	10.71	34.77	2636.33	0.525	0.525	11.27	10.71
LTE-Band 17	704.0	20	23.50	10.22	34.77	2355.05	0.469	0.469	11.27	10.22
LTE-Band 25	1850.7	20	23.50	9.50	33.00	1995.26	0.397	1.000	9.50	13.51
LTE-Band 26	824.7	20	23.50	10.91	38.45	2760.58	0.549	0.550	14.95	10.91
LTE-Band 26 Part 90	814.7	20	23.50	10.86	50.00	2728.98	0.543	0.543	26.50	10.86
LTE-Band 30	2307.5	20	23.00	1.00	24.00	251.19	0.050	1.000	1.00	14.01
LTE-Band 38	2572.5	20	23.50	9.50	33.00	1995.26	0.397	1.000	9.50	13.51
LTE-Band 41	2498.5	20	23.50	9.50	33.00	1995.26	0.397	1.000	9.50	13.51
LTE-Band 41(HPUE)	2498.50	20	26.50	6.50	33.00	1995.26	0.397	1.000	6.50	10.51
LTE-Band 42(FCC)	3550.00	20	22.00	1.00	23.00	199.53	0.040	1.000	1.00	15.01
LTE-Band 43	3600.00	20	22.00	1.00	23.00	199.53	0.040	1.000	1.00	15.01
LTE-Band 48	3550.00	20	22.00	1.00	23.00	199.53	0.040	1.000	1.00	15.01
LTE-Band 66	1710.70	20	23.50	6.50	30.00	1000.00	0.199	1.000	6.50	13.51
LTE-Band 71	665.5	20	23.50	9.98	34.77	2228.44	0.444	0.444	11.27	9.98
LTE-Band 5B	824.7	20	24.00	10.41	38.45	2760.58	0.549	0.550	14.45	10.41
LTE-Band 7C	2502.50	20	24.00	9.00	33.00	1995.26	0.397	1.000	9.00	13.01
LTE-Band 38C	2572.50	20	23.50	9.50	33.00	1995.26	0.397	1.000	9.50	13.51
LTE-Band 42C(FCC)	3550.00	20	22.00	1.00	23.00	199.53	0.040	1.000	1.00	15.01
LTE Band 106	901.0	20	23.50	9.92	42.15	2197.86	0.437	0.601	13.95	9.92

~ End of Report ~

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