



FCC LISTED, REGISTRATION
NUMBER: 2764.01

ISED LISTED REGISTRATION
NUMBER: 23595-1

Test report No:

2528ERM.005

Test report

**REFERENCE STANDARD:
USA FCC Part 22 & Part 24
CANADA ISED RSS-132 & RSS-133**

Identification of item tested	Module ME910C1-P2 assembled on interface board
Trademark	TELIT
Model and /or type reference	ME910C1-P2
Other identification of the product	FCC ID: RI7ME910C1P2 IC:5131A-ME910C1P2
Features	LTE CAT/NB.IOT with 2G Fallback
Manufacturer	TELIT COMMUNICATIONS SPA Via Stazione di Prosecco 5/B – (TS) Italy.
Test method requested, standard	USA FCC Part 22 10-1-18 Edition USA FCC Part 24 10-1-18 Edition CANADA IC RSS-132 Issue 3, Jan. 2013. CANADA IC RSS-133 Issue 6, Jan. 2013 (Amendment January 2018); Measurement Guidance 971168 D01 v02r02 for certification of Licensed Digital Transmitters. ANSI C63.26 – 2015.
Summary	IN COMPLIANCE
Approved by (name / position & signature)	Domingo Galvez EMC&RF Lab Manager
Date of issue	08-08-2019
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Competences and guarantees

DEKRA Certification Inc. is a testing laboratory accredited by A2LA (The American Association for Laboratory Accreditation), to perform the tests indicated in the Certificate 2764.01.

DEKRA Certification Inc. is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA Certification Inc. has a calibration and maintenance program for its measurement equipment.

DEKRA Certification Inc. guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated on the report and, it is based on the knowledge and technical facilities available at DEKRA Certification at the time of performance of the test.

DEKRA Certification Inc. is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

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General conditions

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA Certification Inc.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA Certification Inc. and the Accreditation Bodies.

Uncertainty

Uncertainty (factor $k=2$) was calculated according to the DEKRA Certification internal document PODT000.

Frequency (MHz)	U(k=2)	Units
30-180	3.82	dB
180-1000	2.61	dB
1000-18000	2.92	dB
18000-40000	2.15	dB

Data provided by the client

LTE Module CAT M1 and NB-IOT with 2G Fallback.

DEKRA declines any responsibility with respect to the information provided by the client and that may affect the validity of results.

Usage of samples

Samples undergoing test have been selected by: The client.

Sample S/01 is composed of the following elements:

Control N°	Description	Model	Serial N°	Date of reception
2528.001	Telit Module	ME910C1-P2	355809109997507	4/23/2019
2528.004	Telit Evaluation Kit	Evaluation Kit 2	090007841	4/23/2019
2528.006	Power Adaptor	XY24s_1201250Q-U	-	4/23/2019
2528.009	USB Cable	-	-	4/23/2019

1. Sample S/01 was used for the following test(s):

All conducted tests indicated in appendix A.

Test sample description

Ports..... :	Port name and description		Cable				
			Specified length [m]	Attached during test	Shielded		
	No Data Provided			☐	☐		
				☐	☐		
				☐	☐		
				☐	☐		
				☐	☐		
Supplementary information to the ports..... :	No Data Provided						
Rated power supply	Voltage and Frequency		Reference poles				
			L1	L2	L3	N	PE
	☐	AC: 230Vac / 50Hz.	☐	☐	☐	☐	☐
	☐	AC:	☐	☐	☐	☐	☐
	☐	DC:					
☐	DC:						
Rated Power	No Data Provided						
Clock frequencies	No Data Provided						
Other parameters..... :	No Data Provided						
Software version	M0B.950004						
Hardware version..... :	HW 0.0						
Dimensions in cm (L x W x D) :	No Data Provided						
Mounting position..... :	☐	Table top equipment					
	☐	Wall/Ceiling mounted equipment					
	☐	Floor standing equipment					
	☐	Hand-held equipment					
	☐	Other:					
Modules/parts	Module/parts of test item		Type		Manufacturer		
	No Data provided						

Accessories (not part of the test item)	Description	Type	Manufacturer
Documents as provided by the applicant.....	Description	File name	Issue date
	Equipment declaration data	FDT30_15_Declaration_Equipment_Data	-
Copy of marking plate:			
			

Identification of the client

TELIT COMMUNICATIONS SPA
Via Stazione Prosecco 5/B – (TS) Italy.

Testing period and place

Test Location	DEKRA Certification, Inc.
Date (start)	08-05-2019
Date (finish)	08-05-2019

Document history

Report number	Date	Description
2528ERM.005	08-08-2019	First release

Environmental conditions

In the control chamber, the following limits were not exceeded during the test:

Temperature	Min. = 15 °C Max. = 35 °C
Relative humidity	Min. = 30 % Max. = 75 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar

In the semi anechoic chamber, the following limits were not exceeded during the test.

Temperature	Min. = 15 °C Max. = 35 °C
Relative humidity	Min. = 30 % Max. = 75 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar

In the chamber for conducted measurements, the following limits were not exceeded during the test:

Temperature	Min. = 15 °C Max. = 35 °C
Relative humidity	Min. = 30 % Max. = 60 %
Air pressure	Min. = 860 mbar Max. = 1060 mbar

Remarks and comments

The tests have been performed by the technical personnel: Sravani Gollamudi and Divya Adusumilli.

Testing verdicts

Not applicable :	N/A
Pass :	P
Fail :	F
Not measured :	N/M

Summary

FCC PART 22&24 / IC RSS-132&RSS-133 PARAGRAPH					
Report Section	FCC Spec Clause	RSS Spec Clause	Test Description	Verdict	Remark
A.1	§2.1046 and §22.913 §24.232	RSS-132 Clause 5.4 RSS-133 Clause 6.4	RF Output power	P	N/A
A.2	§2.1047	RSS-132 Clause 5.2 RSS-133 Clause 6.2	Modulation characteristics	N/A	Refer 1
A.3	§2.1055 and §22.355 §24.235	RSS-132 Clause 5.3 RSS-133 Clause 6.3	Frequency stability	N/A	Refer 1
A.4	§2.1049	RSS-132 Clause 5.1 RSS-133 Clause 2.3	Occupied Bandwidth	N/A	Refer 1
A.5	§2.1051 and §22.917 §24.238	RSS-132 Clause 5.5 RSS-133 Clause 6.5	Spurious emissions at antenna terminals	N/A	Refer 1
A.6	§22.917 §24.238	RSS-132 Clause 5.5 RSS-133 Clause 6.5	Spurious emissions at antenna terminals at Block edges	N/A	Refer 1
A.7	§2.1053 and §22.917 §24.238	RSS-132 Clause 5.5 RSS-133 Clause 6.5	Radiated emissions	N/A	Refer 1
<u>Supplementary information and remarks:</u> Note1: According to the client declaration, only Power test was required.					

List of equipment used during the test

Conducted Measurements

CONTROL NUMBER	DESCRIPTION	LAST CALIBRATION	NEXT CALIBRATION
1039	Signal analyzer Rohde & Schwarz FSV40	2018/10	2020/10
1149	Wideband Radio Communication Tester Rohde & Schwarz CMW 500	2018/07	2020/07

Appendix A: Test Results for FCC Part 22 & 24/ IC RSS-132 & RSS-133

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PRODUCT INFORMATION

The following information is provided by the client

Information	Description
Modulation	2G: GPRS, EDGE
Maximum RF Output Power	2G: 30 dBm
Operation mode:	
- Operating Frequency Range	GSM 850: 824.2-848.8 MHz DCS 1900: 1850.2-1909.8 MHz
Extreme operating conditions	
- Temperature range	T _{nom} = +15 to + 35
Antenna type	Dipole Antenna.
Antenna gain	2.14 dBi
Nominal Voltage	
- Supply Voltage	12 Vdc
- Type of power source	DC voltage from power Adaptor

DESCRIPTION OF TEST CONDITIONS

The worst case was found when positioned as the table below. Following channel(s) was (were) selected for the final test as listed below:

TEST CONDITIONS	DESCRIPTION
TC#01 2G Band 850	<u>Power supply (V):</u> $V_{\text{nominal}} = 12 \text{ Vdc}$ <u>Test Frequencies for Conducted tests:</u> <u>GPRS/EDGE:</u> -Lowest Channel: 128 (824.2 MHz) -Middle Channel: 190 (836.6 MHz) -Highest Channel: 251 (848.8 MHz)
TC#02 2G Band 1900	<u>Power supply (V):</u> $V_{\text{nominal}} = 12 \text{ Vdc}$ <u>Test Frequencies for Conducted tests:</u> <u>GPRS/EDGE:</u> -Lowest Channel: 512 (1850.2 MHz) -Middle Channel: 662 (1880 MHz) -Highest Channel: 810 (1909.8 MHz)

TEST A.1: RF OUTPUT POWER

LIMITS:	Product standard:	FCC Part 22 / IC RSS-132 FCC Part 24 / IC RSS-133
	Test standard:	FCC §2.1046 and §22.913 / RSS-132 Clause 5.4 FCC §2.1046 and §24.232 / RSS-133 Clause 6.4

LIMITS

The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

The peak-to-average ratio (PAR) of the transmission shall not exceed 13 dB.

Fixed, mobile, and portable (hand-held) stations are limited to 2-watt EIRP (30 dBm). Fixed stations are limited to a maximum antenna height of 10 meters above ground. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

The peak-to-average ratio (PAR) of the transmission shall not exceed 13 dB.

RSS-132 Clause 5.4

The transmitter output power shall be measured in terms of average power. The equivalent isotropically radiated power (e.i.r.p.) for mobile equipment shall not exceed 11.5 watts. Refer to SRSP-503 for base station e.i.r.p. limits.

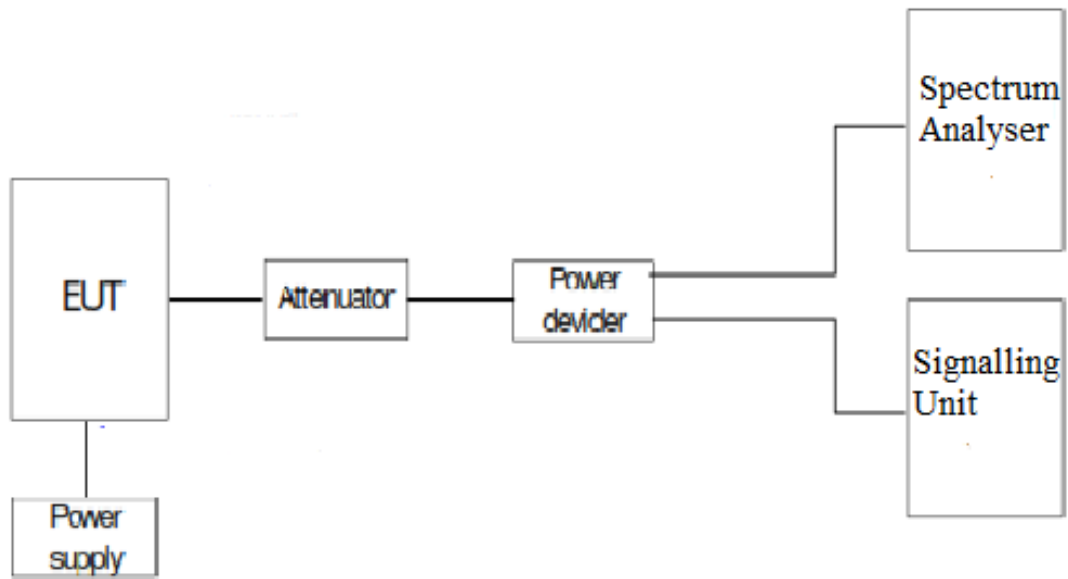
In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time using a signal corresponding to the highest PAPR during periods of continuous transmission.

RSS-133 Clause 6.4

The equivalent isotropically radiated power (e.i.r.p.) for transmitters shall not exceed the limits given in SRSP-510. Moreover, base station transmitters operating in the band 1930-1995 MHz shall not have output power exceeding 100 watts.

In addition, the transmitter's peak-to-average power ratio (PAPR) shall not exceed 13 dB for more than 0.1% of the time using a signal corresponding to the highest PAPR during periods of continuous transmission.

TEST SETUP



TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#01
TEST RESULTS	PASS

2G: Band 850

GPRS MODULATION.

Channel	Average power at antenna port (dBm)	Maximum declared antenna gain (dBi)	Maximum E.I.R.P. average power (dBm)	Limit (dBm)
Lowest	33.60	2.14	35.74	38.45
Middle	33.44	2.14	35.58	38.45
Highest	33.54	2.14	35.68	38.45
Measurement uncertainty (dB)		<±0.95		

EDGE MODULATION.

Channel	Average power at antenna port (dBm)	Maximum declared antenna gain (dBi)	Maximum E.I.R.P. average power (dBm)	Limit (dBm)
Lowest	33.61	2.14	35.75	38
Middle	33.43	2.14	35.57	38
Highest	33.53	2.14	35.67	38
Measurement uncertainty (dB)		<±0.95		

TESTED SAMPLES:	S/01
TESTED CONDITIONS MODES:	TC#02
TEST RESULTS:	PASS

2G: Band 1900

GPRS Modulation:

Channel	Average power at antenna port (dBm)	Maximum declared antenna gain (dBi)	Maximum E.I.R.P. average power (dBm)	Limit (dBm)
Lowest	31.24	2.14	33.38	38
Middle	30.07	2.14	32.21	38
Highest	30.43	2.14	32.57	38
Measurement uncertainty (dB)			<±0.95	

Edge Modulation:

Channel	Average power at antenna port (dBm)	Maximum declared antenna gain (dBi)	Maximum E.I.R.P. average power (dBm)	Limit (dBm)
Lowest	30.23	2.14	32.37	38
Middle	31.09	2.14	33.23	38
Highest	32.7	2.14	34.84	38
Measurement uncertainty (dB)			<±0.95	