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EMI REPORT (Verification)

Telit Communications S.p.A.

Viale Stazione di Prosecco 5/b Trieste,
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Date of Issue : July 08, 2008

Test Report No.: HCT-F08-0704

Test Site : HCT CO., LTD.

MODEL:

CC864-DUAL

Classification/ Standard(s):	FCC PART 15 Subpart B / CISPR 22 CLASS B
Equipment (EUT) Type:	Dual-band CDMA Module/GPS
Trade Name:	Telit Communications S.p.A.
Port/ Connector(s):	DC Input Port

The device bearing the trade name and model specified above, has been shown to comply with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-2003.(See Test Report if any modifications were made for compliance)

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.

HCT certifies that no party to application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse of 1988, 21 U.S.C.853(a).

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TABLE OF CONTENTS

	PAGE
1. GENERAL INFORMATION	3
1.1 Product Description.....	3
1.2 Related submittal(s)/Grant(s).....	3
1.3 Tested System Details.....	4
1.4 Cable Description.....	4
1.5 Noise Suppression Parts on Cable. (I/O CABLE)	4
1.6 Test Methodology.....	5
1.7 Test Facility.....	5
1.8 Frequency range of radiated measurements	5
2. SYSTEM TEST CONFIGURATION.....	6
2.1 Configuration of Tested System.....	6
3. PRELIMINARY TEST.....	7
3.1 Conducted Emission Test.....	7
3.2 Radiated Emission Test.....	7
4. CONDUCTED AND RADIATED EMISSION TESTS SUMMARY.....	8
4.1 Conducted Emission Test.....	8
4.2 Radiated Emission Test.....	9
4.3 Test Setup Photos.....	10
4.3.1 Conducted Emission.....	10
4.3.2 Radiated Emission.....	11
5. FIELD STRENGTH CALCULATION.....	12
6. TEST EQUIPMENT.....	13
7. CONCLUSION.....	14

1. GENERAL INFORMATION

1.1 Product Description

The **Telit Communications S.p.A. CC864-DUAL Dual-band CDMA Module/GPS**.

Its basic purpose is used for communications. It transmits from CDMA 835 (824.7 – 848.31) MHz, PCS1900 (1851.25 – 1908.75) MHz and receives from CDMA 835 (869.70 – 893.31) MHz, PCS1900 (1931.25 – 1988.75) MHz.

MODEL	CC864-DUAL
EUT Type	Dual-band CDMA Module/GPS
TX Frequency	824.70 – 848.31(CDMA 835) 1851.25 – 1908.75(PCS 1900)
RX Frequency	869.70 – 893.31(CDMA 835) 1931.25 – 1988.75(PCS 1900)
Modulation	CDMA 835/ PCS 1900

1.2 Related Submittal(s) / Grant(s)

ORIGINAL SUBMITTAL ONLY

1.3 Tested System Details

The Model names for all equipment, plus descriptions used in the tested system (Including inserted cards) are:

DEVICE TYPE	MANUFACTURER	MODEL NUMBER / PART NUMBER	FCC ID / DoC	CONNECTED TO
Dual-band CDMA Module/GPS	Telit Communications S.p.A.	CC864-DUAL	RI7CC864-DUAL	Antenna
Antenna	-	-	-	EUT
Battery	-	-	-	EUT

1.4 Cable Description

Product Name	Port	Power Cord Shielded (Y/N)	I/O Cable Shielded (Y/N)	Length (M)
EUT	DC In	N	N/A	0.5 (P)
	Antenna	N/A	N	0.5 (D)

The marked "(D)" means the Data Cable and "(P)" means the Power Cable.

1.5 Noise Suppression Parts on Cable. (I/O CABLE)

Product Name	Port	Ferrite Bead (Y/N)	Location	Metal Hood (Y/N)	Location
EUT	Antenna	N	-	Y	EUT END

1.6 Test Methodology

Both conducted and radiated testing were performed according to the procedures in ANSI C63.4/2003. Radiated testing was performed at an antenna to EUT distance of 3 meters.

1.7 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data are located at the 254-1, Maekok-Ri, Hobup-Myun, Icheon-Si, Kyonggi-Do, 467-701, KOREA. The site is constructed in conformance with the requirements of ANSI C63.4 and CISPR Publication 22. Detailed description of test facility was submitted to the Commission and accepted dated July 6, 2006(Registration Number: 90661)

1.8 Frequency range of radiated measurements

An unintentional radiator, including a digital device, the spectrum shall be investigated from the lowest radio frequency signal generated or used in the device, without going below the lowest frequency for which a radiated emission limit is specified, up to the frequency shown in the following table

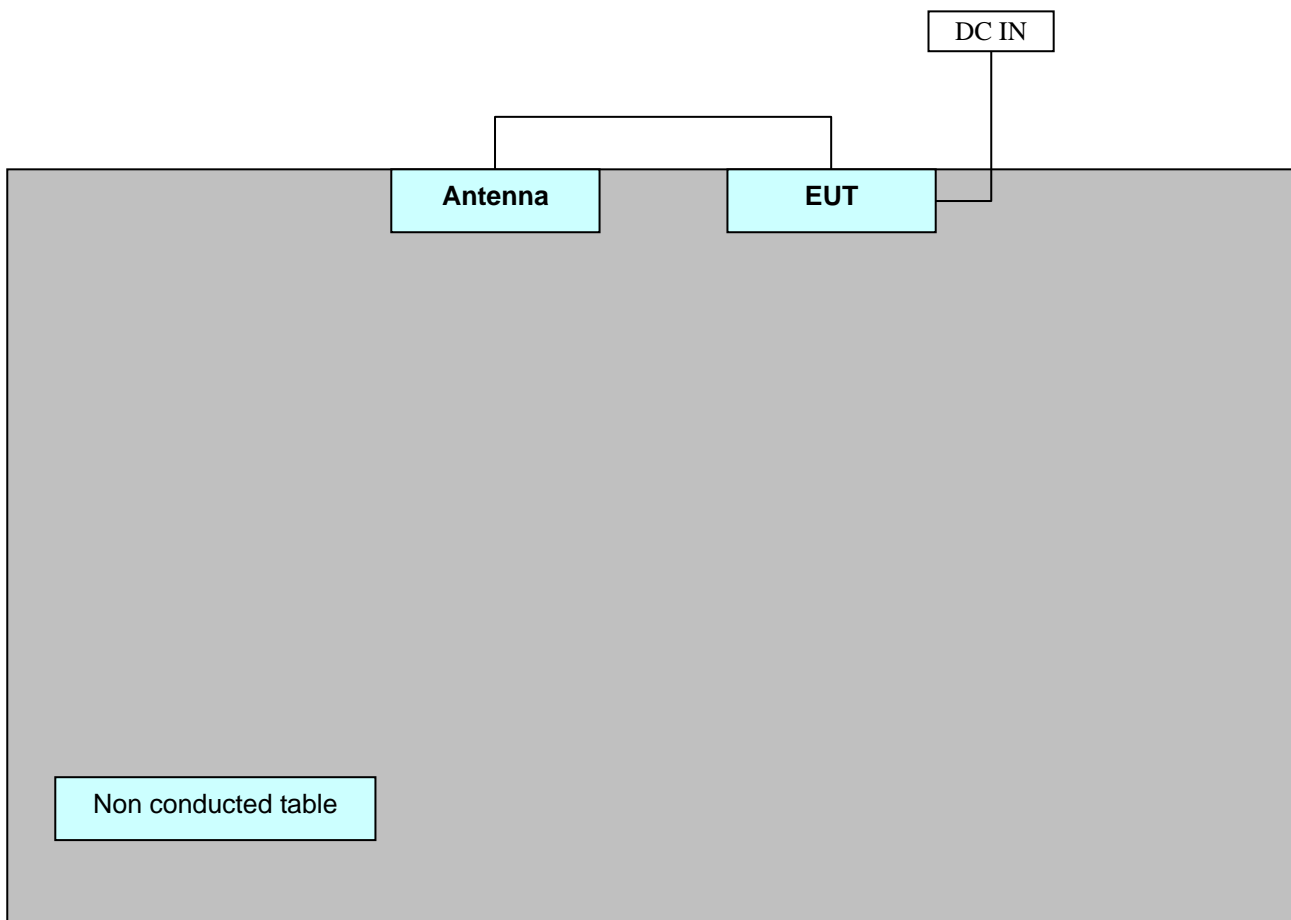
Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705-108	1000
108-500	2000
500-1000	5000
Above 1000	5th harmonic of the highest frequency or 40 GHz, whichever is lower

2. SYSTEM TEST CONFIGURATION

2.1 Configuration of Test system

Line Conducted Test: EUT was connected to LISN, all other supporting equipment were Connected to another LISN. Preliminary Power line Conducted Emission tests were performed by using the procedure in ANSI C63.4/2003 7.2.3 to determine the worst operating conditions.

Radiated Emission Test: Preliminary Radiated Emission tests were performed by using the procedure in ANSI C63.4/2003 8.3.1.1 to determine the worst operating condition. Final Radiated Emission tests were performed at 3 meter open area test site.



Power Line: 110V AC

[Configuration of Tested System]

3. PRELIMINARY TEST

3.1 Conducted Emission Test

It does not need test this requirement, because the power of the EUT is supplied by a DC battery.

3.2 Radiated Emission Test

During Preliminary Test, the Following operation mode was investigated.

Operation Mode	The worst operating condition
Idle (835,1900) Mode	○

4. CONDUCTED AND RADIATED EMISSION TESTS SUMMARY

4.1 Conducted Emission Test

**It does not need test this requirement,
because the power of the EUT is supplied by a DC battery.**

4.2 Radiated Emission Test

The following table shows the highest levels of Radiated Emissions on both polarization of horizontal and vertical.

Limit apply to	: FCC PART 15 Subpart B
Result	: PASSED BY 8.6 dB
Operating Condition	: Idle mode
Detector	: Quasi-Peak (6 dB Bandwidth: 120 kHz)
Temperature	: 26.2 °C
Humidity Level	: 53.0 %
Test Date	: July. 02. 2008

Frequency MHz	Reading dBuV	Ant. Factor dB	Cable Loss dB	ANT POL (H/V)	Total dBuV/m	Limit dBuV/m	Margin dB
30.0	17.3	12.0	1.3	V	30.6	40.0	9.4
42.2	17.1	12.8	1.5	V	31.4	40.0	8.6
321.0	18.3	13.4	4.3	H	36.0	46.0	10.0
421.6	16.4	15.6	4.8	H	36.8	46.0	9.2

*** For measurement over 1 GHz, noise level is more than 10 dB below the limit.

4.3 Test Setup Photos

4.3.1 Conducted Emission

**It does not need test this requirement,
because the power of the EUT is supplied by a DC battery.**

4.3.2 Radiated Emission



5. Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor.

The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF$$

where FS = Field Strength

RA = Receiver Amplitude

AF = Antenna Factor

CF = Cable Attenuation Factor

Assume a receiver reading of 21.5 dBuV/m is obtained. The Antenna Factor of 7.4 dB and a Cable Factor of 1.1 dB is added. The 30 dBuV/m value is mathematically converted to its corresponding level in uV/m.

$$FS = 21.5 + 7.4 + 1.1 = 30 \text{ dBuV/m}$$

Radiated emission limits

Frequency of emission	Field strength	
	V / m	dB V / m
30 ~ 88	100	40.0
88 ~ 216	150	43.5
216 ~ 960	200	46.0
Above 960	500	54.0

6. Test Equipment

<u>Type</u>	<u>Manufacture</u>	<u>Model Number</u>	<u>Next CAL Date</u>
EMI Test Receiver	Rohde & Schwarz	ESI40	2008.11.06
EMI Test Receiver	Rohde & Schwarz	ESCI	2009.06.01
LISN	EMCO	703125	2009.05.04
LISN	Rohde & Schwarz	ESH2-Z5	2009.04.18
LISN	Rohde & Schwarz	ESH3-Z5	2009.06.13
LISN	EMCO	3816/2SH	2009.02.01
Attenuator	Rohde & Schwarz	ESH3-Z2	2009.10.30
TRILOG Antenna	Schwarzbeck	VULB9160	2009.04.20
Communication Antenna	TDK	LPDA-0802	N/A
Antenna Position Tower	HD	MA240	N/A
Base Station	Rohde & Schwarz	CMU 200	2009.02.28
Horn Antenna	Schwarzbeck	BBHA 9120D	2009.03.18
RF-Amplifier	MITEQ	AMF-6D-00101800-35.20P.PS	2009.04.25
Bluetooth Base Station	TESCOM	TC-3000A	2009.01.11

7. Conclusion

The data collected shows that the **Telit Communications S.p.A. Dual-band CDMA Module/GPS. MODEL: CC864-DUAL** Complies with §15.107 and §15.109 of the FCC Rules.