243 Jubug-Ri,Yangji-Myeon, Yongin-Si, Gyeonggi-Do, Korea 449-822
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http://www.ltalab.com

Dates of Tests: June 07 ~ 15, 2006
Test Report S/N: LR500110606D
Test Site : LTA CO., LTD.

CERTIFICATIO OF COMPLIANCE

FCC ID. **UDCREM125-5**

APPLICANT **CEYON TECHNOLOGY CO., LTD.**

Manufacturing Description	**:**	**RFID Reader**
Manufacturer	**:**	**CEYON TECHNOLOGY CO., LTD.**
Model name	**:**	**REM125-5**
Test Device Serial No.:	**:**	**Identification**
Rule Part(s)	**:**	**FCC Part 15.209 Subpart C; ANSI C-63.4-2003**
Frequency Range	**:**	**125kHz**
RF power for ANT C Type	**:**	**10.21 uV/m @ 300m**
RF power for ANT S Type		**0.92 uV/m @ 300m**
Data of issue	**:**	**June 16, 2006**

This test report is issued under the authority of:

Dong –Min JUNG, Technical Manager

The test was supervised by:

Kyung-Taek LEE, Test Engineer

This test result only responds to the tested sample. It is not allowed to copy this report even partly without the allowance of the test laboratory. This report must not be used by the applicant to claim product endorsement by any agency.

NVLAP LAB Code.: 200723-0

TABLE OF CONTENTS

1. General information's

1-1 Test Performed

Company name : LTA Co., Ltd.

Address : 243, Jubug-ri,Yangji-Myeon,Youngin-Si, Kyunggi-Do, Korea. 449-822

Web site : http://www.ltalab.com

E-mail : chahn@ltalab.com

Telephone : +82-31-323-6008

Facsimile +82-31-323-6010

Quality control in the testing laboratory is implemented as per ISO/IEC 17025 which is the "General requirements for the competents of calibration and testing laboratory".

1-2 Accredited agencies

LTA Co., Ltd. is approved to perform EMC testing by the following agencies:

Agency	Country	Accreditation No.	Validity	Reference
NVLAP	U.S.A	200723-0	2006-09-30	ECT accredited Lab.
RRL	KOREA	KR0049	2007-07-13	EMC accredited Lab.
FCC	U.S.A	610755	2008-03-28	FCC filing
VCCI	JAPAN	R2133, C2307	2008-06-22	VCCI registration
IC	CANADA	IC5799	2008-04-23	IC filing

2. Information's about test item

2-1 Client

Company name	:	CEYON TECHNOLOGY CO., LTD.
Address	:	13 Samsung Insurance B/D #942-9, lngye-Dong, Paldal-Gu, Suwon-City, Gyeonggi-Do,Korea 442-776
Tel / Fax	:	+82-31-267-1163/ +82-31-267-1106

2-2 Equipment Under Test (EUT)

Trade name	:	**RFID Reader**
FCC ID	:	UDCREM125-5
Model name	:	REM125-5
Serial number	:	Identification
Date of receipt	:	June 12, 2006
EUT condition	:	Pre-production, not damaged
Antenna type	:	ANT. Model name: EA125-S ANT. Model name: EA125-C
Frequency Range	:	125kHz
Number of Antenna port	:	5 EA
RF output power Range	:	10.21 uV/m @ 300m 0.92 uV/m @ 300m
Power Source	:	AC/DC ADAPTOR (12VDC)

2-3 Tested frequency

	LOW	MID	HIGH
Frequency (kHz)	-	125	-

3. Test Report

3.1 Summary of tests

FCC Part Section(s)	Parameter	Limit	Test Condition	Status (note 1)
15.203	Antenna Requirements	-	Note 3	C
15.209	Field Strength of Fundamental	-	Radiated	C
15.209 / 15.109	Field Strength of Harmonics	-	Radiated	C
15.207 /15.107	AC Conducted Emissions	EN 55022	Line Conducted	C

Note 1: C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable

Note 2: The data in this test report are traceable to the national or international standards.

Note 3: The EUT has the antenna connector. And it connector type is 6 pin DIN connector.

The manufacturer supply approved antenna that has 6 pin DIN connector.

The approved antennas are EA125-C and EA125-S model.

The Result of this report are worse case results for all the antennas to be used with this device.

The sample was tested according to the following specification:

FCC Parts 15.209; ANSI C-63.4-2003

3.2 TECHNICAL CHARACTERISTICS TEST

3.2.1 Field Strength of Fundamental and Harmonics

Procedure:

The EUT was placed on a 0.8m high wooden table inside a shielded enclosure. An antenna was placed near the EUT and measurements of frequencies and amplitudes of field strengths were recorded for reference during final measurements. For final radiated testing, measurements were performed in OATS. Measurements were performed with the EUT oriented in 3 orthogonal axis and rotated 360 degrees to determine worst-case orientation for maximum emissions.

The spectrum analyzer is set to:

Center frequency = the worst channel

Frequency Range = 30 MHz ~ 10th harmonic.

RBW = 100 kHz (<1 GHz) VBW ≥ RBW

= 1 MHz (> 1 GHz)

Detector function = peak / Average power Sweep = auto

Measurement Data: - Refer to the next page

Minimum Standard: FCC Part 15.209(a)

Frequency (MHz)	Limit (uV/m)	Distance (m)
0.009 ~ 0.490	2400/F (kHz)	300
0.490 ~ 1.705	24000/F (kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100 **	3
88 ~ 216	150 **	3
216 ~ 960	200 **	3
Above 960	500	3

** Except as provided in 15.209(g), fundamental emissions from intentional radiators operating under this Section shall not be located in the frequency bands 54-72 MHz, 76-88MHz, 174-216MHz or 470-806MHz. However, operation within these frequency bands is permitted under other sections of this Part, e.g. 15.231 and 15.241.

** Limit: 2400/125 = 19.2 uV/m @ 300m

** Sample Calculation

Result Level = Level + T.F– Distance Correction Factor

T.F = Antenna Factor + Cable loss

Distance Correction Factor = 40log(specific distance / test distance)

Measurement Data: **Antenna : EA125-C**

1. Fundamental

ANT port	Freq.	Level(dBuV)		T.F	Dis. C.F	Result(dBuV)@300m		Result(uV)@300m	
	(kHz)	PK	AV	dB	dB	PK	AV	PK	AV
ANT 1	128.8	90.01	89.91	10.1	80	20.11	20.01	10.13	10.01
ANT 2	130.3	90.01	89.88	10.1	80	20.11	19.98	10.13	9.98
ANT 3	130.5	89.79	88.38	10.1	80	19.89	18.48	9.87	8.39
ANT 4	126.8	90.18	90.08	10.1	80	20.28	20.18	10.33	10.21
ANT 5	130.5	89.92	88.67	10.1	80	20.02	18.77	10.02	8.68

2. Harmonics

Ant Port	Har	Freq.	Level(dBuV)		T.F	Dis. C.F	Result(dBuV)@300m		Result(uV)@300m	
		(kHz)	PK	AV	dB	dB	PK	AV	PK	AV
1	2	255.8	50.12	49.04	10.1	80	-19.78	-20.86	0.10	0.09
	3	383.4	50.78	50.12	10.1	80	-19.12	-19.78	0.11	0.10
	5	637.2	42.37	41.55	10	40	12.37	11.55	4.15	3.78
	-	-	-	-	-	-	-	-	-	-
2	2	259	49.43	48.13	10.1	80	-20.47	-21.77	0.09	0.08
	3	388	50.65	49.95	10.1	80	-19.25	-19.95	0.11	0.10
	5	645.5	42.5	42.05	10	40	12.5	12.05	4.22	4.00
	-	-	-	-	-	-	-	-	-	-
3	2	259.3	48.07	47.18	10.1	80	-21.83	-22.72	0.08	0.07
	3	389	50.63	50.11	10.1	80	-19.27	-19.79	0.11	0.10
	5	644.8	42.88	41.92	10	40	12.88	11.92	4.41	3.94
	-	-	-	-	-	-	-	-	-	-
4	2	251.8	49.58	49.4	10.1	80	-20.32	-20.5	0.10	0.09
	3	377.4	51.18	49.63	10.1	80	-18.72	-20.27	0.12	0.10
	5	627.2	43.49	42.83	10	40	13.49	12.83	4.73	4.38
	-	-	-	-	-	-	-	-	-	-
5	2	259	49.43	48.13	10.1	80	-20.47	-21.77	0.09	0.08
	3	388	50.65	49.95	10.1	80	-19.25	-19.95	0.11	0.10
	5	645.5	42.5	42.05	10	40	12.5	12.05	4.22	4.00
	-	-	-	-	-	-	-	-	-	-

3. Emission

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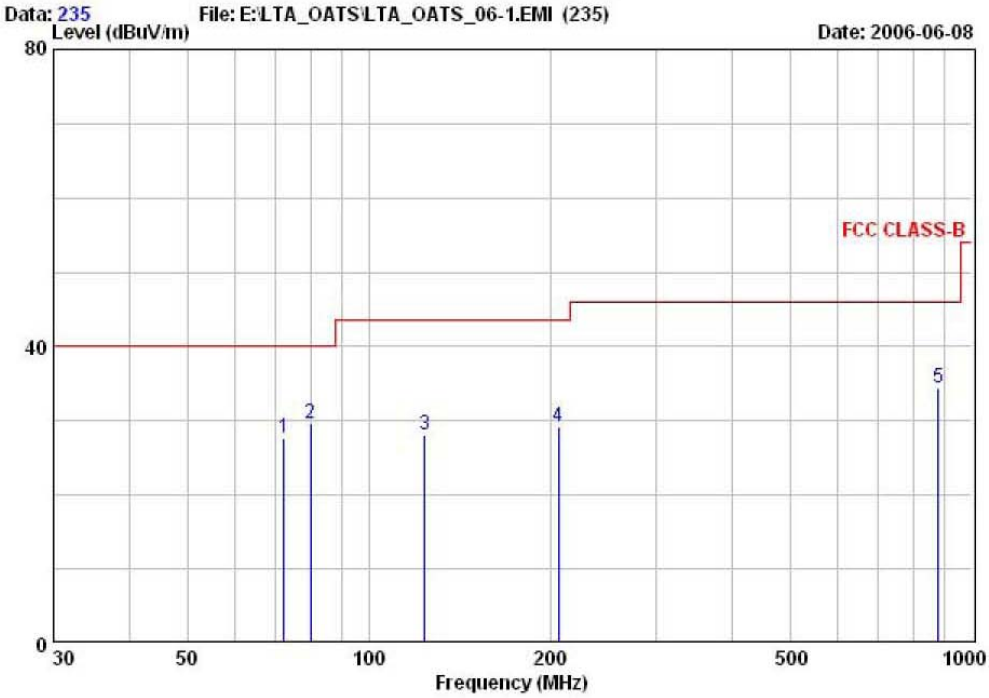
EUT/Model No.: REM125-5 Temp/Humi: 27 / 55

Test Mode : Antenna type: EA125-C Tested by: K. T. LEE



	Freq MHz	Reading(QP) dBuV	C.F dB	Result(QP) dBuV/m	Limit dBuV/m	Margin dB	Height cm	Polarity
1	72.34	47.20	-19.54	27.66	40.00	12.34	100	VERTICAL
2	80.08	48.80	-19.11	29.69	40.00	10.31	205	HORIZONTAL
3	123.70	40.40	-12.21	28.19	43.50	15.31	100	VERTICAL
4	206.40	36.80	-7.63	29.17	43.50	14.33	100	VERTICAL
5	878.32	34.90	-0.35	34.55	46.00	11.45	100	VERTICAL

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

Measurement Data: **Antenna : EA125-S**

1. Fundamental

ANT port	Freq.	Level(dBuV)		T.F	Dis. C.F	Result(dBuV)@300m		Result(uV)@300m	
	(kHz)	PK	AV	dB	dB	PK	AV	PK	AV
ANT 1	128.8	69.01	68.95	10.1	80	-0.89	-0.95	0.90	0.90
ANT 2	130.3	69.35	68.98	10.1	80	-0.55	-0.92	0.94	0.90
ANT 3	130.3	69.26	69.14	10.1	80	-0.64	-0.76	0.93	0.92
ANT 4	126.8	69.23	69.12	10.1	80	-0.67	-0.78	0.93	0.91
ANT 5	130	69.15	68.79	10.1	80	-0.75	-1.11	0.92	0.88

2. Harmonics

Ant Port	Har	Freq.	Level(dBuV)		T.F	Dis. C.F	Result(dBuV)@300m		Result(uV)@300m	
		(kHz)	PK	AV	dB	dB	PK	AV	PK	AV
1										
	No emissions were detected at a level greater than 10dB below limit.									
2										
	No emissions were detected at a level greater than 10dB below limit.									
3										
	No emissions were detected at a level greater than 10dB below limit.									
4										
	No emissions were detected at a level greater than 10dB below limit.									
5										
	No emissions were detected at a level greater than 10dB below limit.									

3. Emission

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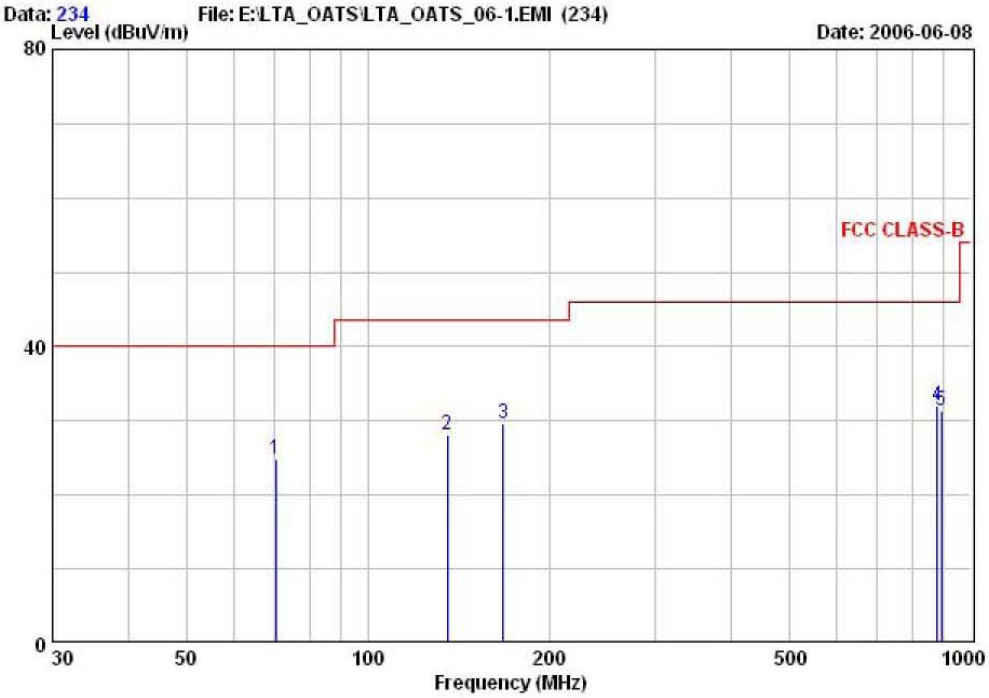
Fax:+82-31-3236010

EUT/Model No.: REM125-5 Temp/Humi: 27 / 55

Test Mode : Antenna type: EA125-S Tested by: K. T. LEE



	Freq MHz	Reading(QP) dBuV	C.F dB	Result(QP) dBuV/m	Limit dBuV/m	Margin dB	Height cm	Polarity
1	70.34	44.30	-19.49	24.81	40.00	15.19	100	VERTICAL
2	135.51	39.10	-10.96	28.14	43.50	15.36	183	HORIZONTAL
3	167.82	38.70	-9.09	29.61	43.50	13.89	100	VERTICAL
4	878.32	32.30	-0.35	31.95	46.00	14.05	100	VERTICAL
5	893.86	31.50	-0.13	31.37	46.00	14.63	100	VERTICAL

Remarks: C.F (Correction Factor) = Antenna factor + Cable loss - Preamp gain

3.2.2 AC Conducted Emissions

Procedure:

The conducted emissions are measured in the shielded room with a spectrum analyzer in peak hold. While the measurement, EUT had its hopping function disabled at the middle channels in line with Section 15.31(m). Emissions closest to the limit are measured in the quasi-peak mode (QP) with the tuned receiver using a bandwidth of 9 kHz. The emissions are maximized further by cable manipulation and Exerciser operation. The highest emissions relative to the limit are listed.

Measurement Data: Complies

- See next pages for actual measured spectrum plots.
- No other emissions were detected at a level greater than 10dB below limit.

Minimum Standard: FCC Part 15.207(a)/EN 55022

Frequency Range (MHz)	Conducted Limit (dBuV)	
	Quasi-Peak	Average
0.15 ~ 0.5	66 to 56 *	56 to 46 *
0.5 ~ 5	56	46
5 ~ 30	60	50

* Decreases with the logarithm of the frequency

AC Conducted Emissions / ANT: EA125-C / Line

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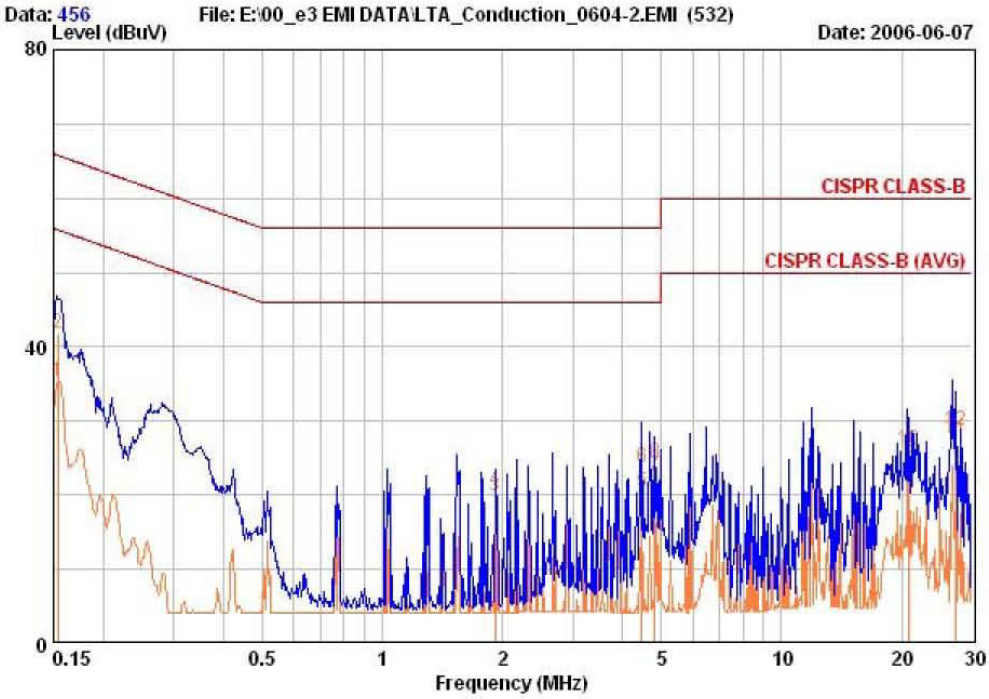
EUT / Model No.	: REM125	Phase	: LINE
Test Mode	: EA125C Mode	Test Power	: 120 / 60
Temp./Humi.	: 21 / 39	Test Engineer	: K.T. LEE



Freq	RD QP	RD AV	C.F	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
MHz	dBuV	dBuV	dB	dBuV	dBuV	dBuV	dBuV	dB	dB
0.15	41.30	34.81	0.55	41.85	35.36	65.78	55.78	23.93	20.42
1.92	20.30	19.47	0.42	20.72	19.89	56.00	46.00	35.28	26.11
4.48	23.30	19.97	0.48	23.78	20.45	56.00	46.00	32.22	25.55
4.82	23.90	22.22	0.53	24.43	22.75	56.00	46.00	31.57	23.25
20.92	24.60	22.54	1.56	26.16	24.10	60.00	50.00	33.84	25.90
27.42	26.90	25.95	1.80	28.70	27.75	60.00	50.00	31.30	22.25

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss

AC Conducted Emissions / ANT: EA125-C / Neutral

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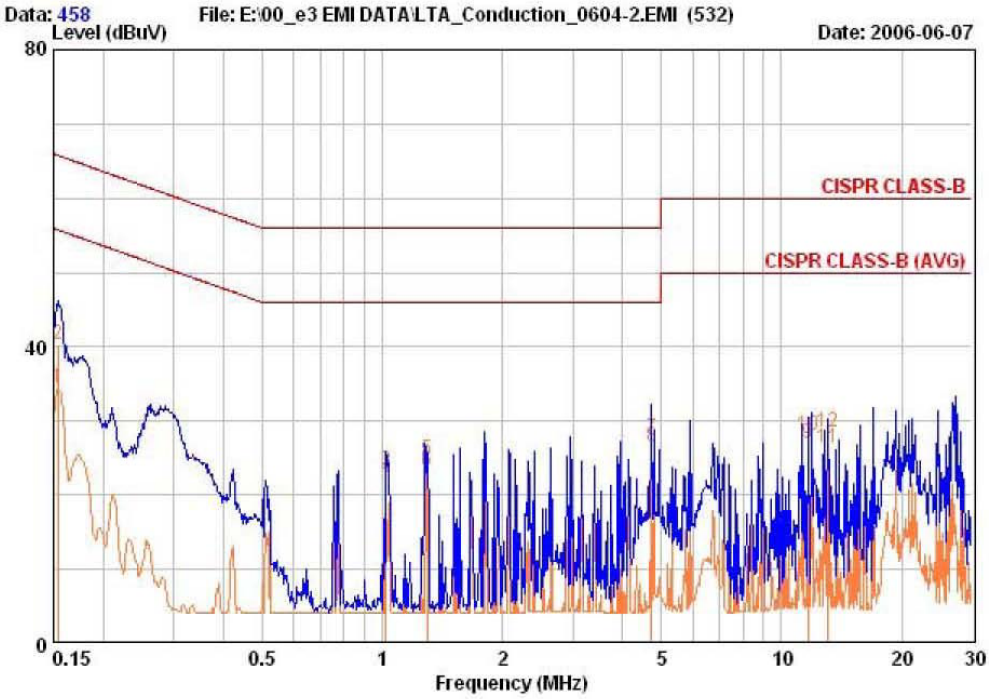
EUT / Model No.	: REM125	Phase	: NEUTRAL
Test Mode	: EA125C Mode	Test Power	: 120 / 60
Temp./Humi.	: 21 / 39	Test Engineer	: K.T. LEE



Freq	RD QP	RD AV	C.F	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
MHz	dBuV	dBuV	dB	dBuV	dBuV	dBuV	dBuV	dB	dB
0.15	39.80	33.90	0.54	40.34	34.44	65.78	55.78	25.44	21.34
1.02	23.00	22.12	0.30	23.30	22.42	56.00	46.00	32.70	23.58
1.30	24.60	23.04	0.33	24.93	23.37	56.00	46.00	31.07	22.63
4.72	27.20	26.20	0.46	27.66	26.66	56.00	46.00	28.34	19.34
11.62	27.10	26.08	0.95	28.05	27.03	60.00	50.00	31.95	22.97
13.06	27.50	25.32	1.01	28.51	26.33	60.00	50.00	31.49	23.67

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss

AC Conducted Emissions / ANT: EA125-S / Line

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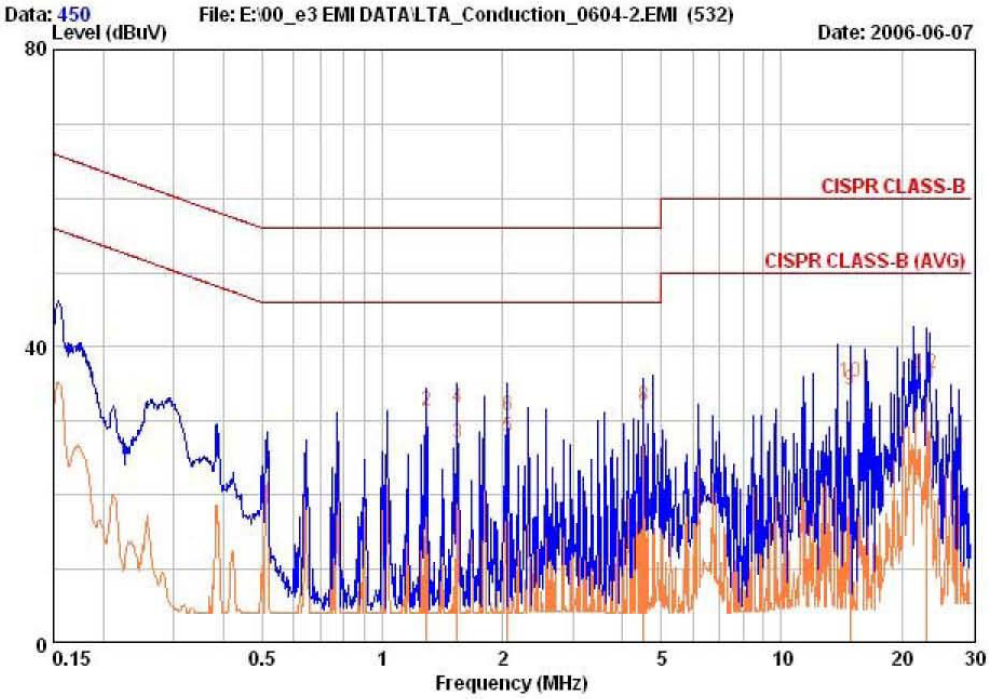
EUT / Model No.	: REM125	Phase	: NEUTRAL
Test Mode	: EA125S_RF On Mode	Test Power	: 120 / 60
Temp./Humi.	: 21 / 39	Test Engineer	: K.T. LEE



Freq	RD QP	RD AV	C.F	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
MHz	dBuV	dBuV	dB	dBuV	dBuV	dBuV	dBuV	dB	dB
1.29	31.00	30.03	0.33	31.33	30.36	56.00	46.00	24.67	15.64
1.54	31.50	26.62	0.36	31.86	26.98	56.00	46.00	24.14	19.02
2.05	30.30	27.53	0.42	30.72	27.95	56.00	46.00	25.28	18.05
4.50	31.60	30.47	0.44	32.04	30.91	56.00	46.00	23.96	15.09
14.83	34.20	33.10	1.09	35.29	34.19	60.00	50.00	24.71	15.81
23.14	35.00	33.58	1.47	36.47	35.05	60.00	50.00	23.53	14.95

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss

AC Conducted Emissions / ANT: EA125-S / Neutral

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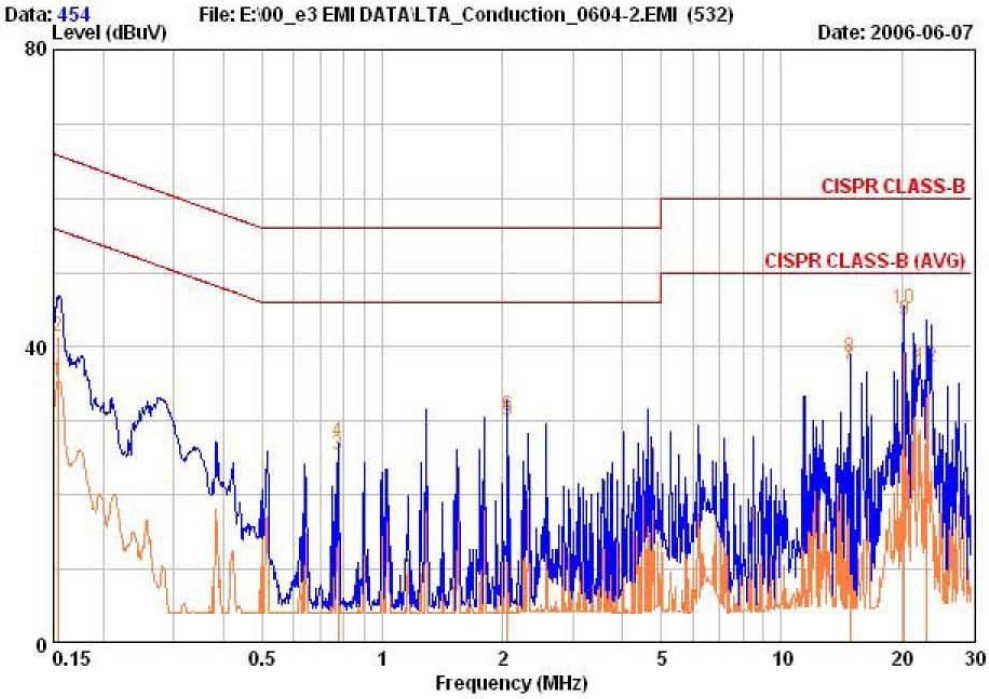
EUT / Model No.	: REM125	Phase	: LINE
Test Mode	: EA125S_RF Stand-by Mode	Test Power	: 120 / 60
Temp./Humi.	: 21 / 39	Test Engineer	: K.T. LEE



Freq	RD QP	RD AV	C.F	Result QP	Result AV	Limit QP	Limit AV	Margin QP	Margin AV
MHz	dBuV	dBuV	dB	dBuV	dBuV	dBuV	dBuV	dB	dB
0.15	40.90	34.81	0.55	41.45	35.36	65.78	55.78	24.33	20.42
0.78	26.90	25.06	0.38	27.28	25.44	56.00	46.00	28.72	20.56
2.05	30.30	29.61	0.44	30.74	30.05	56.00	46.00	25.26	15.95
14.83	37.40	36.28	1.16	38.56	37.44	60.00	50.00	21.44	12.56
20.27	43.60	42.07	1.54	45.14	43.61	60.00	50.00	14.86	6.39
23.14	35.60	34.91	1.68	37.28	36.59	60.00	50.00	22.72	13.41

Remarks: C.F (Correction Factor) = Insertion loss + Cable loss

APPENDIX 1

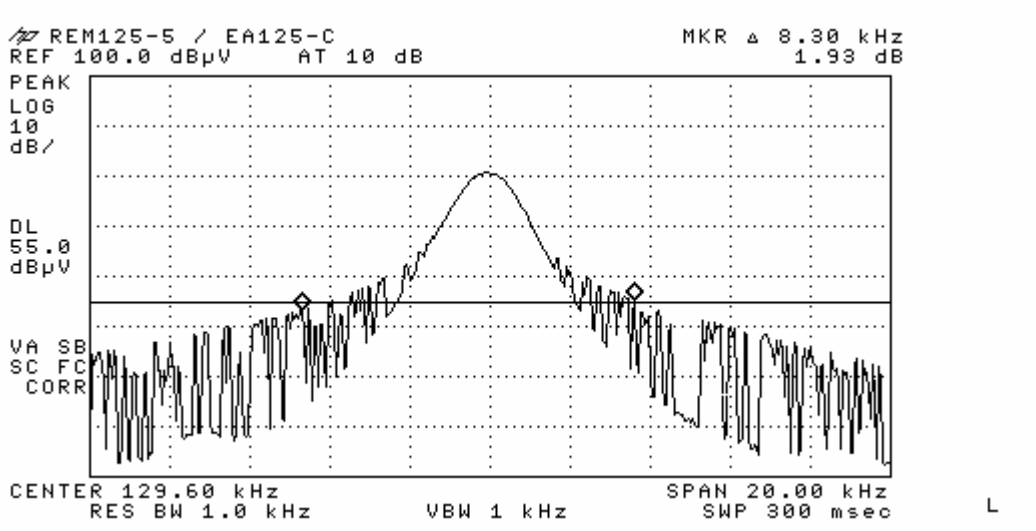
TEST EQUIPMENT USED FOR TESTS

	Description	Model No.	Serial No.	Manufacturer	Next Cal. Date
1	Spectrum Analyzer	8594E	3649A03649	HP	Dec-06
2	Signal Generator	8657A	3430U02049	HP	Dec-06
3	Attenuator (3dB)	8491A	37822	HP	Dec-06
4	Attenuator (3dB)	8491A	28881	HP	Dec-06
5	EMI Test Receiver	ESVD	843748/001	R&S	Dec-06
6	Spectrum Analyzer	8591E	3649A05888	HP	Jan-07
7	Spectrum Analyzer	8563E	3425A02505	HP	Jan-07
8	RF Amplifier	8447D	2949A02670	HP	Jan-07
9	RF Amplifier	8447D	2439A09058	HP	Jan-07
10	RF Amplifier	8449B	3008A02126	HP	Jun-07
11	TRILOG Antenna	VULB 9160	9160-3172	SCHWARZBECK	Feb-07
12	Log.-Per. Antenna	VULP 9118	9118 A 401	SCHWARZBECK	Feb-07
13	Biconical Antenna	BBA 9106	VHA 9103-2315	SCHWARZBECK	Feb-07
14	Horn Antenna	3115	00055005	ETS LINDGREN	Jun-07
15	Horn Antenna	BBHA 9120D	0499	Schwarzbeck	Jun-07
16	Hygro-Thermograph	THB-36	0041557-01	ISUZU	Feb-07
17	Splitter (BNC)	ZFM-150	15542	Mini-Circuits	-
18	Splitter (SMA)	ZFSC-2-2500	SF617800326	Mini-Circuits	-
19	Power Divider	11636A	6243	HP	Apr-07
20	DC Power Supply	6622A	3448A03079	HP	Apr-07
21	Attenuator (30dB)	8498A	1801A06689	HP	Apr-07
22	Attenuator (10dB)	8491A	63196	HP	Apr-07
23	Power Meter	EPM-441A	GB32481702	HP	Apr-07
24	Power Sensor	8481A	2702A64048	HP	Apr-07
25	Audio Analyzer	8903B	3729A18901	HP	May-07
26	Modulation Analyzer	8901B	3749A05878	HP	May-07
27	Dipole Antenna	VHA9103	2116	Schwarzbeck	Oct-06
28	Dipole Antenna	VHA9103	2117	Schwarzbeck	Oct-06
29	Dipole Antenna	UHA9105	2261	Schwarzbeck	Oct-06
30	Dipole Antenna	UHA9105	2262	Schwarzbeck	Oct-06
31	Digital Multimeter	34401A	US36062141	HP	Apr-07
32	LISN	KNW-407	8-1430-1	Kyoritsu	Jan-07
33	Two-Line V-Network	ESH3-Z5	893045/017	R&S	Jan-07
34	Test Receiver	ESHS10	828404009	R&S	Jan-07
35	TEMP & HUMIDITY Chamber	YJ-500	L05022	JinYoung Tech	-
36	Loop Ant.	6502	9607-3020	EMCO	Mar-07

APPENDIX 2

OCCUPIED BANDWIDTH

REM125-5 / Antenna type: EA125-C



REM125-5 / Antenna type: EA125-S