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Dates of Tests: December 06 - 11, 2007
 Test Report S/N: LR500190712B
 Test Site : LTA CO., LTD.

CERTIFICATION OF COMPLIANCE

FCC ID.

VUJAT570

APPLICANT

ATID CO.,Ltd

Classification	:	Licensed Portable Transmitter Held to Ear (PCE)
Manufacturing Description	:	Industrial PDA
Manufacturer	:	ATID CO.,Ltd
Model name	:	AT570
Test Device Serial No.:	:	-
FCC Rule Part(s)	:	§24(E), §2
TX Frequency Range	:	1850.2 ~ 1909.8 MHz (PCS1900)
RX Frequency Range	:	1930.2 ~ 1989.8 MHz (PCS1900)
RF power	:	0.398 W (E.I.R.P)
Emission Designator	:	300KGXW
Data of issue	:	December 26, 2007

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

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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
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 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	2008-09-30	ECT accredited Lab.
RRL	KOREA	KR0049	2009-06-20	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 & Manufacturer

Company name : ATID CO.,Ltd
Address : #1210 Byuksan/Gyungin digital valley II #481 – 10 Gasan-Dong
Gumchon-Gu Seoul KOREA
Tel / Fax : +82-2-544-1436 / +82-2-544-1438

2-2 Equipment Under Test (EUT)

Trade name	:	Industrial PDA
FCC ID	:	VUJAT570
Model name	:	AT570
Serial number	:	-
Date of receipt	:	December 06, 2007
EUT condition	:	Pre-production, not damaged
Antenna type	:	Helical Antenna Gain -2.698 dBi
Tx/Rx Frequency Range	:	1850.2 ~ 1909.8 MHz (PCS1900) / 1930.2 ~ 1989.8 MHz (PCS1900)
RF output power	:	0.741W - Conducted
Frequency Tolerance	:	0.016 ppm
Modulation(s)	:	GMSK
Emission Designators	:	300KGXW(PCS1900)
Power Source-Battery	:	3.7Vdc (Lithium Ion Battery)
Power Source-Adaptor	:	Input 100-240Vac, 50-60Hz, 0.5A Output: 5Vdc, 3.0A

2-3 Tested frequency

	PCS 1900	
	Channel	Frequency (MHz)
LOW	512	1850.2
MID	661	1880.0
HIGH	810	1909.8

2-4 Ancillary Equipment

Equipment	Model No.	Serial No.	Manufacturer
-	-	-	-
-	-	-	-

3. Test Report

3.1 Summary of tests

	Parameter	Limit	Test Condition	Status (note 1)
I. FCC Part Section(s)				

PCS1900 Module is certified by FCC(FCC ID: QIPMC55).

II. Additional items

Radiation Spurious and Harmonic Emissions	Radiated	C
AC Conducted Emissions	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.

The sample was tested according to the following specification:

FCC Parts 24E; ANSI C-63.4-2003

3.2 Technical Characteristics Test

3.2.1 Field Strength of 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 (30MHz ~ 1 GHz)

$$\text{VBW} \geq \text{RBW}$$

$\equiv 1 \text{ MHz}$ (1 GHz $\sim 10^{\text{th}}$ harmonic)

Span \equiv 100 MHz

Detector function = peak

Trace = max hold

Sween = auto

Measurement Data: Complies

Minimum Standard: FCC Part 15.209(a)

Minimum Standard: FCC Part 15.209(a)	
Frequency (MHz)	Limit (uV/m) @ 3m
30 ~ 88	100 **
88 ~ 216	150 **
216 ~ 960	200 **
Above 960	500

** 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.

Measurement Data: Low frequency spurious

OPERATING FREQUENCY : 1850.2 MHz
 CHANNEL : 512(Low)
 OUTPUT POWER : 28.69 dBm = 0.74 W
 MODULATION : GSM(Internal)
 DISTANCE : 3 meters
 LIMIT : $43 + 10 \log_{10} (W)$ = 41.69 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	Result (dBc)
-	-	-	-	-	-
No emissions were detected are a level greater than 20dB below limit.					
-	-	-	-	-	-

Note1: Radiated measurements at 3 meters by Substitution Method.

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Measurement Data: Mid frequency spurious

OPERATING FREQUENCY : 1880.0 MHz

CHANNEL : 661(Mid)

MEASURED OUTPUT POWER : 28.69 dBm = 0.74 W

MODULATION : GSM(Internal)

DISTANCE : 3 meters

LIMIT : $43 + 10 \log_{10} (W)$ = 41.69 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	Result (dBc)
-	-	-	-	-	-
No emissions were detected are a level greater than 20dB below limit.					
-	-	-	-	-	-

Note1: Radiated measurements at 3 meters by Substitution Method.

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Measurement Data: High frequency spurious

OPERATING FREQUENCY : 1909.8 MHz

CHANNEL : 810(High)

MEASURED OUTPUT POWER : 28.69 dBm = 0.74 W

MODULATION : GSM(Internal)

DISTANCE : 3 meters

LIMIT : $43 + 10 \log_{10} (W)$ = 41.69 dBc

Freq. (MHz)	LEVEL@ ANTENNA TERMINALS (dBm)	SUBSTITUTE ANTENNA GAIN (dBi)	CORRECT GENERATOR LEVEL (dBm)	POL (H/V)	Result (dBc)
-	-	-	-	-	-
No emissions were detected are a level greater than 20dB below limit.					
-	-	-	-	-	-

Note1: Radiated measurements at 3 meters by Substitution Method.

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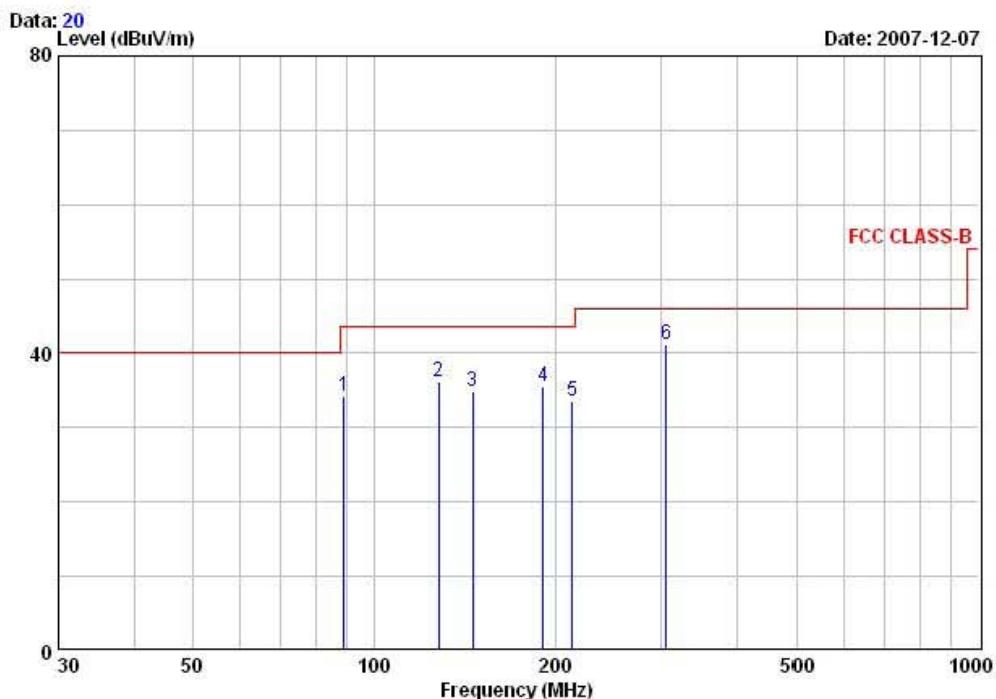
Measurement Data: 802.11b mode



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EUT/Model No.: AT570 TEST MODE: GSM1900 mode

Temp Humi : 3 / 41 Tested by: B.S.KIM



Freq MHz	Reading dBuV	C.F dB	Result QK dBuV/m	Limit dBuV/m	Margin dB	Height cm	Angle deg	Polarity
								Angle
1 89.27	50.00	-15.87	34.13	43.50	9.37	185	151	HORIZONTAL
2 128.13	48.20	-11.95	36.25	43.50	7.25	167	263	VERTICAL
3 145.78	45.50	-10.55	34.95	43.50	8.55	100	153	VERTICAL
4 191.15	48.30	-12.70	35.60	43.50	7.90	175	100	HORIZONTAL
5 213.63	46.40	-12.79	33.61	43.50	9.89	100	275	VERTICAL
6 305.72	50.50	-9.20	41.30	46.00	4.70	252	132	HORIZONTAL

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 emissions were detected at a level greater than 10dB below limit.

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

Class B

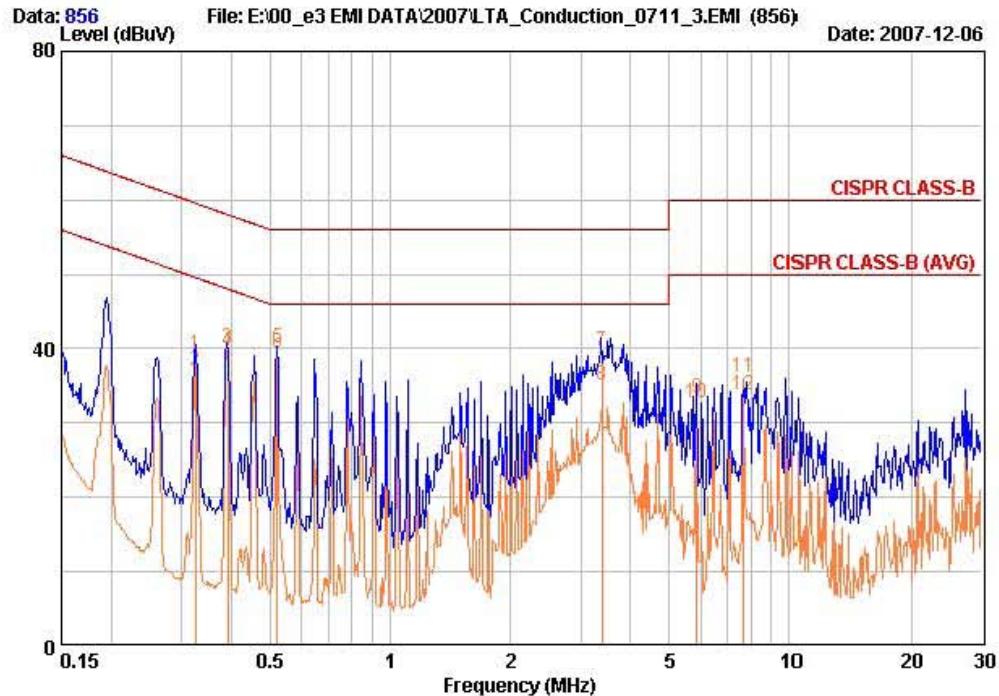
Frequency Range	quasi-peak	Average
0.15 ~ 0.5	66 to 56 *	56 to 46 *
0.5 ~ 5	56	46
5 ~ 30	60	50

* Decreases with the logarithm of the frequency

AC Conducted Emissions –Line

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EUT / Model No. : AT570 Phase : LINE
 Test Mode : GSM 1900 mode Test Power : 120 / 60
 Temp./Humi. : 24 / 15 Test Engineer : B.S.KIM



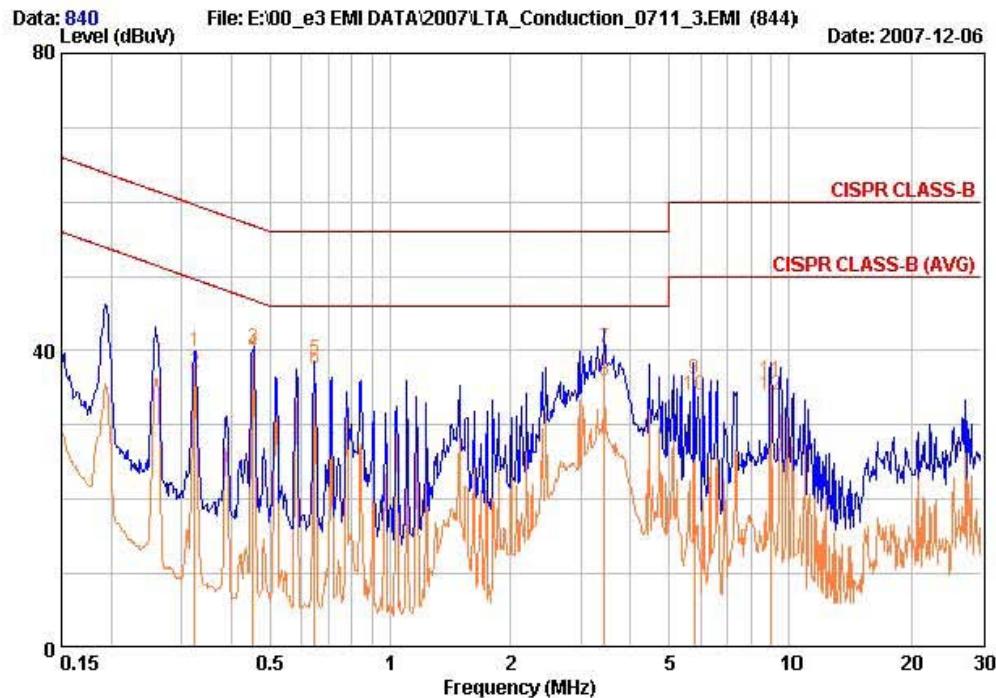
Freq MHz	RD QP		RD AV		C. F		Result dBuV	Result dBuV	Limit dBuV	Limit dBuV	Margin dB	Margin dB						
	dB	dB	dB	dB	dB	dB												
0.325	39.00	36.80	0.31	39.31	37.11	59.58	49.58	20.27	12.47									
0.391	39.80	39.20	0.38	40.18	39.58	58.04	48.04	17.87	8.47									
0.521	39.90	39.10	0.29	40.19	39.39	56.00	46.00	15.81	6.61									
3.386	39.20	34.50	0.57	39.77	35.07	56.00	46.00	16.23	10.93									
5.861	32.80	32.10	0.59	33.39	32.69	60.00	50.00	26.61	17.31									
7.686	35.60	33.20	0.62	36.22	33.82	60.00	50.00	23.78	16.18									

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

AC Conducted Emissions –Neutral

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EUT / Model No. : AT570 Phase : NEUTRAL
Test Mode : GSM1900 mode Test Power : 120 / 60
Temp./Humi. : 24 / 15 Test Engineer : B.S.KIM



Freq MHz	RD QP		RD AV		C. F		Result dBuV	Result dBuV	Limit dBuV	Limit dBuV	Margin dB	Margin dB						
	dB	dB	dB	dB	dB	dB												
0.324	39.60	36.80	0.31	39.91	37.11	59.60	49.60	19.70	12.50									
0.452	39.90	39.30	0.34	40.24	39.64	56.84	46.84	16.60	7.20									
0.647	38.40	37.20	0.30	38.70	37.50	56.00	46.00	17.30	8.50									
3.434	39.70	35.50	0.56	40.26	36.06	56.00	46.00	15.74	9.94									
5.767	35.60	33.40	0.59	36.19	33.99	60.00	50.00	23.81	16.01									
9.006	35.40	33.40	0.58	35.98	33.98	60.00	50.00	24.02	16.02									

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

APPENDIX

TEST EQUIPMENT USED FOR TESTS

	Description	Model No.	Serial No.	Manufacturer	Next Cal. Date
1	Spectrum Analyzer	8594E	3649A03649	HP	Apr-08
2	Signal Generator	8648C	3623A02597	HP	Apr-08
3	Attenuator (3dB)	8491A	37822	HP	Oct-08
4	Attenuator (10dB)	8491A	63196	HP	Oct-08
5	EMI Test Receiver	ESVD	843748/001	R&S	Aug-08
6	LISN	KNW-407	8-1430-1	Kyoritsu	Oct-08
7	Two-Line V-Network	ESH3-Z5	893045/017	R&S	Oct-08
8	RF Amplifier	8447D	2949A02670	HP	Jan-08
9	RF Amplifier	8447D	2439A09058	HP	Oct-08
10	RF Amplifier	8449B	3008A02126	HP	Apr-09
11	Test Receiver	ESHS10	828404009	R&S	Aug-08
12	TRILOG Antenna	VULB 9160	9160-3212	SCHWARZBECK	Jul-08
13	Log.-Per. Antenna	VULP 9118	9118 A 401	SCHWARZBECK	Apr-09
14	Biconical Antenna	BBA 9106	VHA 9103-2315	SCHWARZBECK	Apr-09
15	Horn Antenna	3115	00055005	ETS LINDGREN	Mar-09
16	Dipole Antenna	VHA9103	2116	Schwarzbeck	Nov-08
17	Dipole Antenna	VHA9103	2117	Schwarzbeck	Nov-08
18	Dipole Antenna	UHA9105	2261	Schwarzbeck	Nov-08
19	Dipole Antenna	UHA9105	2262	Schwarzbeck	Nov-08
20	Spectrum Analyzer	8591E	3649A05888	HP	Oct-08
21	Spectrum Analyzer	8563E	3425A02505	HP	Apr-08
22	Hygro-Thermograph	THB-36	0041557-01	ISUZU	May-08
23	Splitter (SMA)	ZFSC-2-2500	SF617800326	Mini-Circuits	Jun-08
24	RF Switch	MP59B	6200414971	ANRITSU	Jun-08
25	RF Switch	MP59B	6200438565	ANRITSU	Jun-08
26	Power Divider	11636A	6243	HP	Oct-08
27	DC Power Supply	6622A	3448A03079	HP	Oct-08
28	Attenuator (30dB)	11636A	6243	HP	Oct-08
29	Frequency Counter	5342A	2826A12411	HP	Apr-08
30	Power Meter	EPM-441A	GB32481702	HP	Apr-08
31	Power Sensor	8481A	2702A64048	HP	Apr-08
32	Audio Analyzer	8903B	3729A18901	HP	Oct-08
33	Modulation Analyzer	8901B	3749A05878	HP	Oct-08
34	TEMP & HUMIDITY Chamber	YJ-500	L05022	JinYoung Tech	Oct-08
35	LOOP-ANTENNA	FMZB 1516	151602/94	SCHWARZBECK	Mar-09