FCC Part 15B
Measurement and Test Report

For

ATID Co., Ltd.

(Gasan-dong, #1210 Byuksan/Kyungin Digitalvalley II),184,Gasandigital2-ro,

Geumcheon-gu, Seoul, Korea

FCC ID: VUJAT911N

FCC Rule(s):	FCC Part 15 Subpart B
Product Description:	WCDMA wireless data terminal
Tested Model:	AT911N
Report No.:	STR15088054I-1
Tested Date:	2015-08-05 to 2015-08-28
Issued Date:	2015-08-28
Tested By:	Lebron Wang / Engineer
Reviewed By:	Lahm Peng / EMC Manager
Approved & Authorized By:	Jandy so / PSQ Manager

Prepared By:

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	ATID Co., Ltd.
Address of applicant:	(Gasan-dong, #1210 Byuksan/Kyungin Digitalvalley II), 184, Gasandigital2-ro, Geumcheon-gu, Seoul, Korea
Manufacturer:	ATID Co., Ltd.
Address of manufacturer:	(Gasan-dong, #1210 Byuksan/Kyungin Digitalvalley II), 184, Gasandigital2-ro, Geumcheon-gu, Seoul, Korea

General Description of EUT	
Product Name:	WCDMA wireless data terminal
Trade Name:	Atid
Model No.:	AT911N
Adding Model(s):	/
Note: The test data is gathered from a production sample, provided by the manufacturer.	

Technical Characteristics of EUT	
Rated Voltage:	DC 3.7V Battery; DC 5V charging
Battery capacity:	Main Battery:2200mAh Gun Battery :4400mAh
Rated Current:	2.0A
Rated Power:	/
Power Adapter Model:	PSAA10R-050 Input: AC 230V/50Hz; Output: DC 5V/2A
Lowest Internal Frequency:	32.768KHz
Highest Internal Frequency:	1.0GHz
Classification of ITE:	CLASS B

1.2 Test Standards

The following report is prepared on behalf of the ATID Co., Ltd. in accordance with Part 2, Subpart J, and Part 15, Subparts A and B of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15, Subpart B, and section 15.205, 15.107, and 15.109 rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

1.4 Test Facility

FCC – Registration No.: 934118

Shenzhen SEM.Test Technology Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files and the Registration is 934118.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Shenzhen SEM.Test Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

CNAS Registration No.: L4062

Shenzhen SEM.Test Technology Co., Ltd. is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L4062. All measurement facilities used to collect the measurement data are located at 1/F, Building A, Hongwei Industrial Park, Liuxian 2nd Road, Bao'an District, Shenzhen, P.R.C (518101).

1.5 EUT Setup and Operation Mode

The equipment under test (EUT) was configured to measure its highest possible emission level. The test modes were adapted according to the operation manual for use, more detailed description as follows:

Test Mode List:

Test Mode	Description	Remark
TM1	Charging & Playing	Connect to adapter
TM2	Downloading	Connect to PC(USB Cable Without Core)
TM3	Downloading	Connect to PC(USB Cable With Core)

EUT Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
Adapter Cable	1.5	Unshielded	With Core
USB Cable	1.0	Unshielded	Without Core
USB Cable	1.5	Unshielded	With Core

Auxiliary Equipment List and Details

Description	Manufacturer	Model	Serial Number
Notebook	Lenovo	E10	LR-63C8R

Special Cable List and Details

Cable Description	Length (M)	Shielded/Unshielded	With Core/Without Core
Earphone	1.2	Unshielded	Without Core

1.6 Test Equipment List and Details

Description	Manufacturer	Model	Serial Number	Cal Date	Due Date
Spectrum Analyzer	Agilent	E4407B	MY41440400	2015-06-17	2016-06-16
Spectrum Analyzer	Rohde & Schwarz	FSP	836079/035	2015-06-17	2016-06-16
EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2015-06-17	2016-06-16
Amplifier	Agilent	8447F	3113A06717	2015-06-17	2016-06-16
Amplifier	C&D	PAP-1G18	2002	2015-06-17	2016-06-16
Broadband Antenna	Schwarz beck	VULB9163	9163-333	2015-06-17	2016-06-16
Horn Antenna	ETS	3117	00086197	2015-06-17	2016-06-16
Loop Antenna	Schwarz beck	FMZB 1516	9773	2015-06-17	2016-06-16
EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2015-06-17	2016-06-16
L.I.S.N	Schwarz beck	NSLK8126	8126-224	2015-06-17	2016-06-16
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2015-06-17	2016-06-16

2. SUMMARY OF TEST RESULTS

Description of Test	Result
§15.107 (a) Conducted Emission	Compliant
§15.109(a) Radiated Emission	Compliant

N/A: not applicable

3. Conducted Emissions

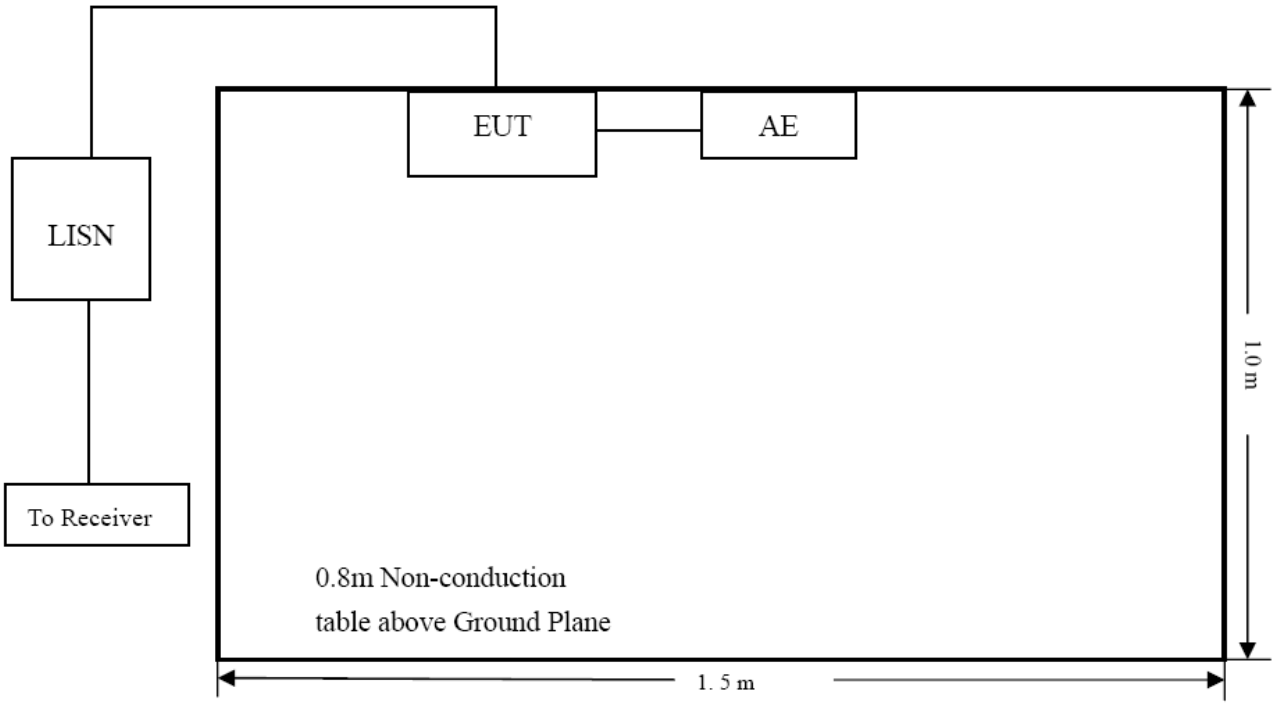
3.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any conducted emissions measurement is ± 2.88 dB.

3.2 Test Procedure

Test is conducting under the description of ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

3.3 Basic Test Setup Block Diagram



3.4 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	52%
ATM Pressure:	1011 mbar

3.5 Summary of Test Results/Plots

According to the data in section 3.6, the EUT complied with the FCC Part 15.107(a) Conducted margin for a Class B device, with the *worst* margin reading of:

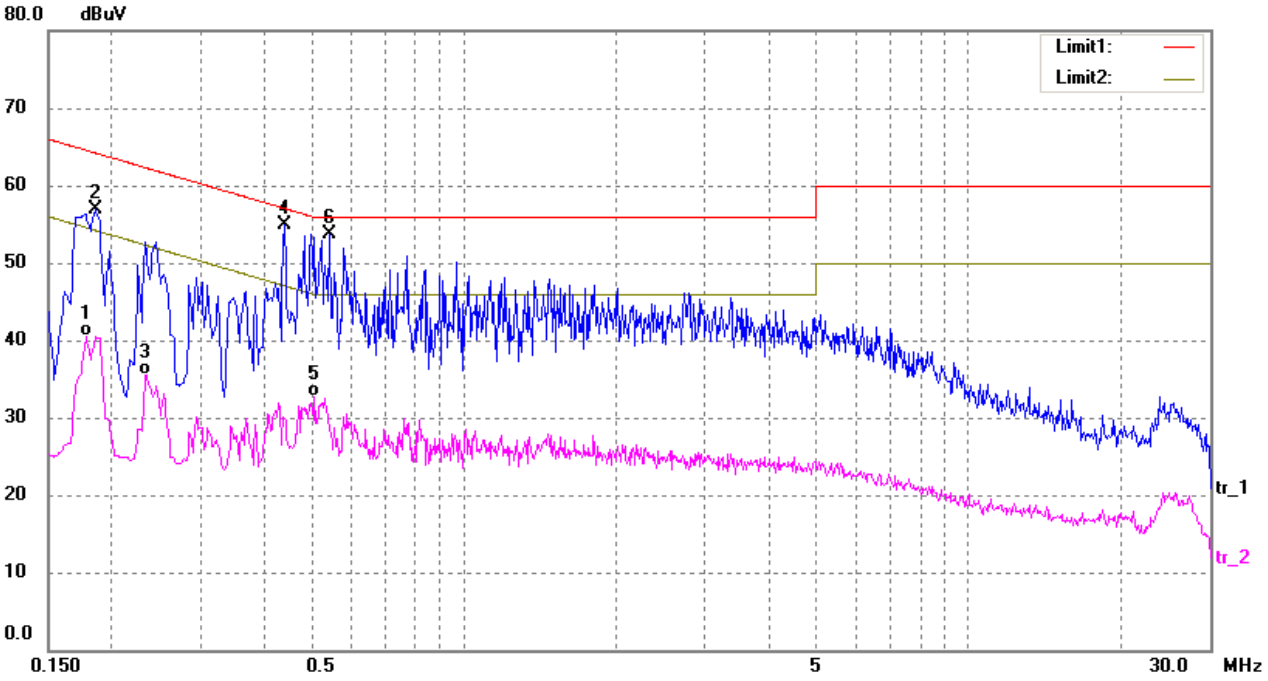
-2.19 dB at **0.4420 MHz** in the **Line**, **Peak** detector, 0.15-30MHz

3.6 Conducted Emissions Test Data

Plot of Conducted Emissions Test Data

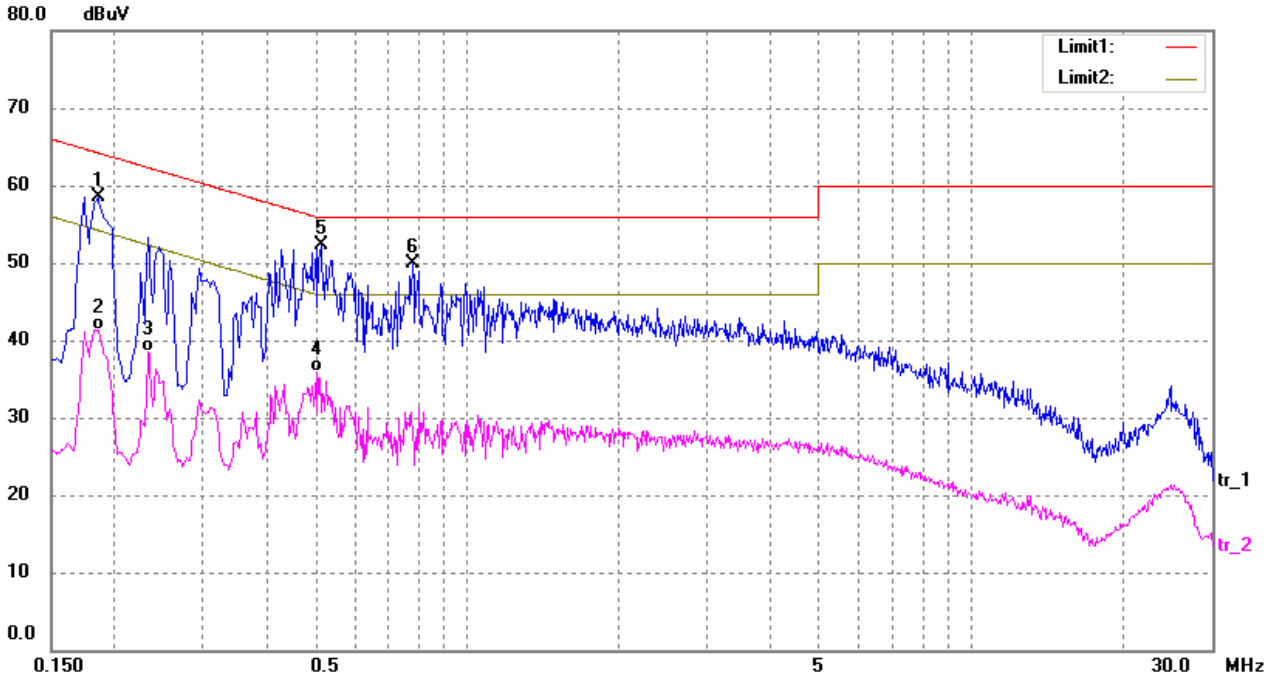
EUT: *WCDMA wireless data terminal*
Tested Model: *AT911N*
Operating Condition: *TM1*
Comment: *AC 120V/60Hz; Adapter DC 5V/2A*

Test Specification: *Neutral*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.1780	28.03	12.50	40.53	54.58	-14.05	AVG
2	0.1860	44.47	12.50	56.97	64.21	-7.24	peak
3	0.2340	23.06	12.50	35.56	52.31	-16.75	AVG
4	0.4420	42.33	12.50	54.83	57.02	-2.19	peak
5	0.5060	20.15	12.51	32.66	46.00	-13.34	AVG
6	0.5420	41.23	12.54	53.77	56.00	-2.23	peak

Test Specification: *Line*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Detector
	(MHz)	(dBuV)	(dB/m)	(dBuV)	(dBuV)	(dB)	
1	0.1860	45.91	12.50	58.41	64.21	-5.80	peak
2	0.1860	28.89	12.50	41.39	54.21	-12.82	AVG
3	0.2340	25.94	12.50	38.44	52.31	-13.87	AVG
4	0.5020	23.46	12.50	35.96	46.00	-10.04	AVG
5	0.5140	39.79	12.51	52.30	56.00	-3.70	peak
6	0.7820	37.07	12.78	49.85	56.00	-6.15	peak

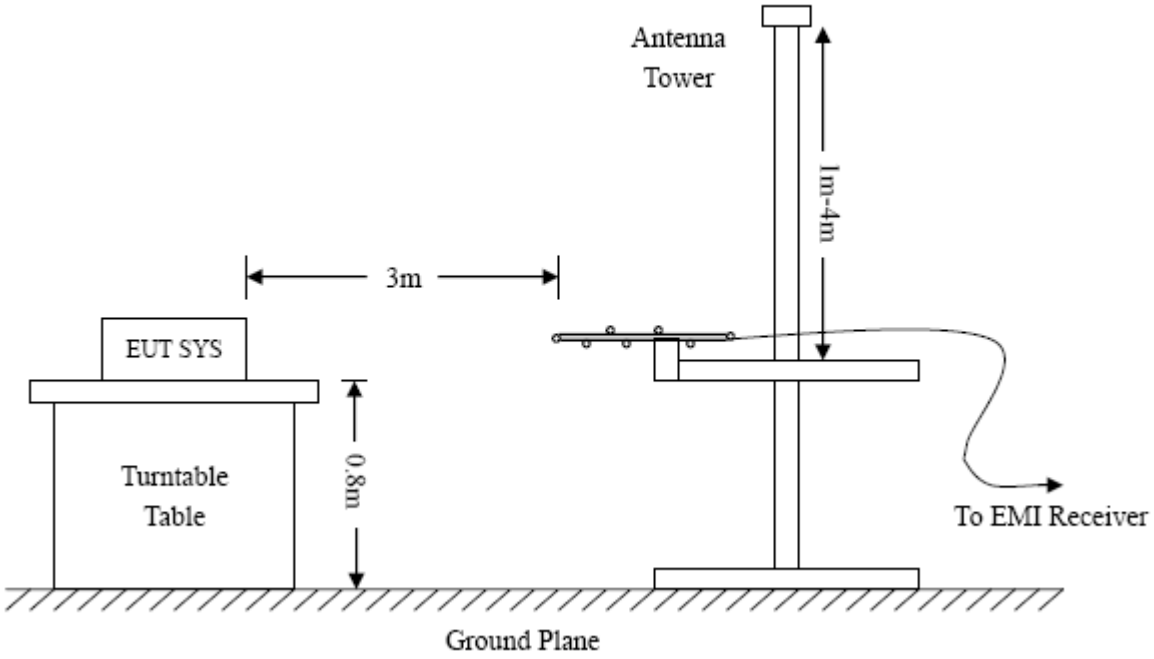
4. RADIATED EMISSION

4.1 Measurement Uncertainty

Base on NIS 81, The Treatment of Uncertainty in EMC Measurements, the best estimate of the uncertainty of any radiation emissions measurement is ± 5.10 dB.

4.2 Test Procedure

The setup of EUT is according with per ANSI C63.4-2014 measurement procedure. The specification used was with the FCC Part 15.109 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.
The spacing between the peripherals was 10 cm.



4.3 Test Receiver Setup

Frequency :9kHz-30MHz	Frequency :30MHz-1GHz	Frequency :Above 1GHz
RBW=10KHz,	RBW=120KHz,	RBW=1MHz,
VBW =30KHz	VBW=300KHz	VBW=3MHz(Peak), 10Hz(AV)
Sweep time= Auto	Sweep time= Auto	Sweep time= Auto
Trace = max hold	Trace = max hold	Trace = max hold
Detector function = peak	Detector function = peak, QP	Detector function = peak, AV

4.4 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading – Corr. Factor

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dBμV means the emission is 6dBμV below the maximum limit for a Class B device. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – FCC Part 15.109(a) Limit

4.5 Environmental Conditions

Temperature:	23 °C
Relative Humidity:	55 %
ATM Pressure:	1011 mbar

4.6 Summary of Test Results/Plots

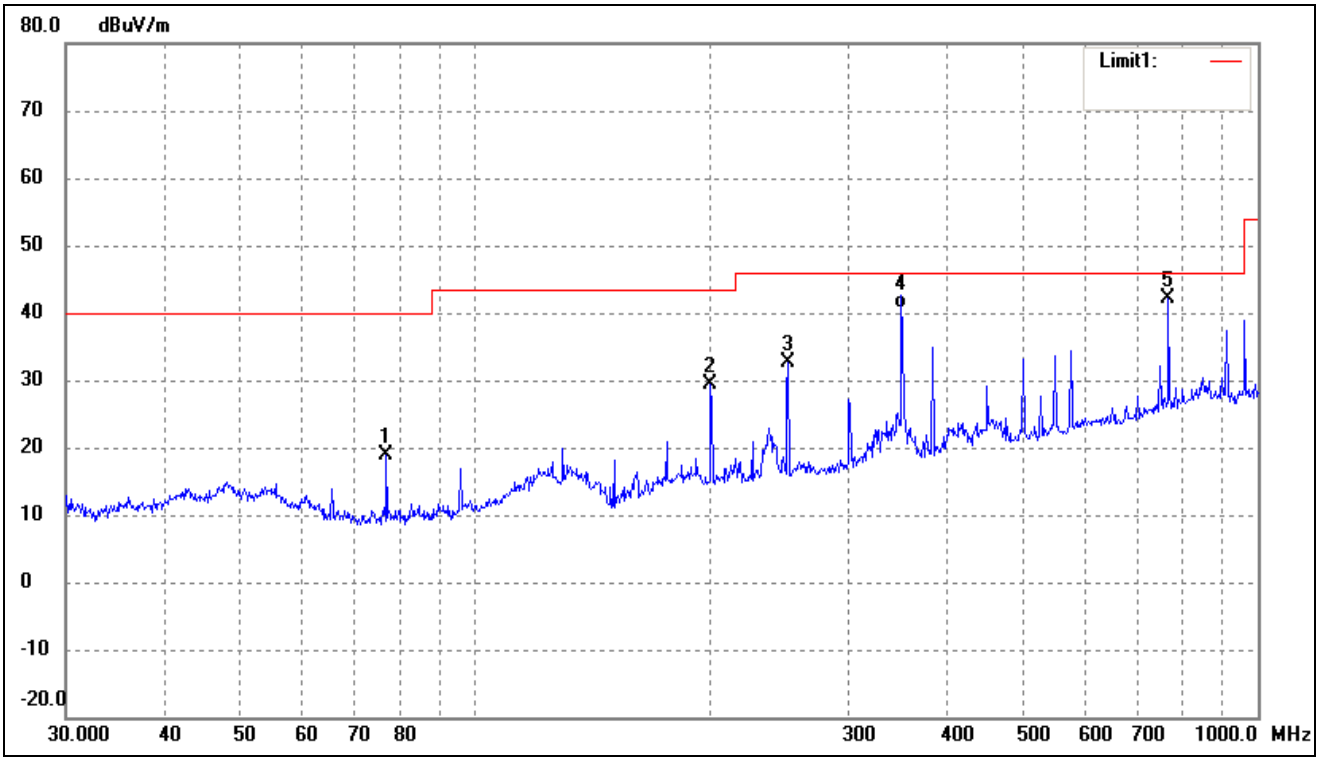
According to the data, the EUT complied with the FCC Part 15.109(a) rule, and had the worst margin of:

-3.19 dB at **251.1804 MHz** in the **Horizontal** polarization, **TM3** mode, **30 MHz** to **5 GHz**, **3Meters**

Plot of Radiated Emissions Test Data

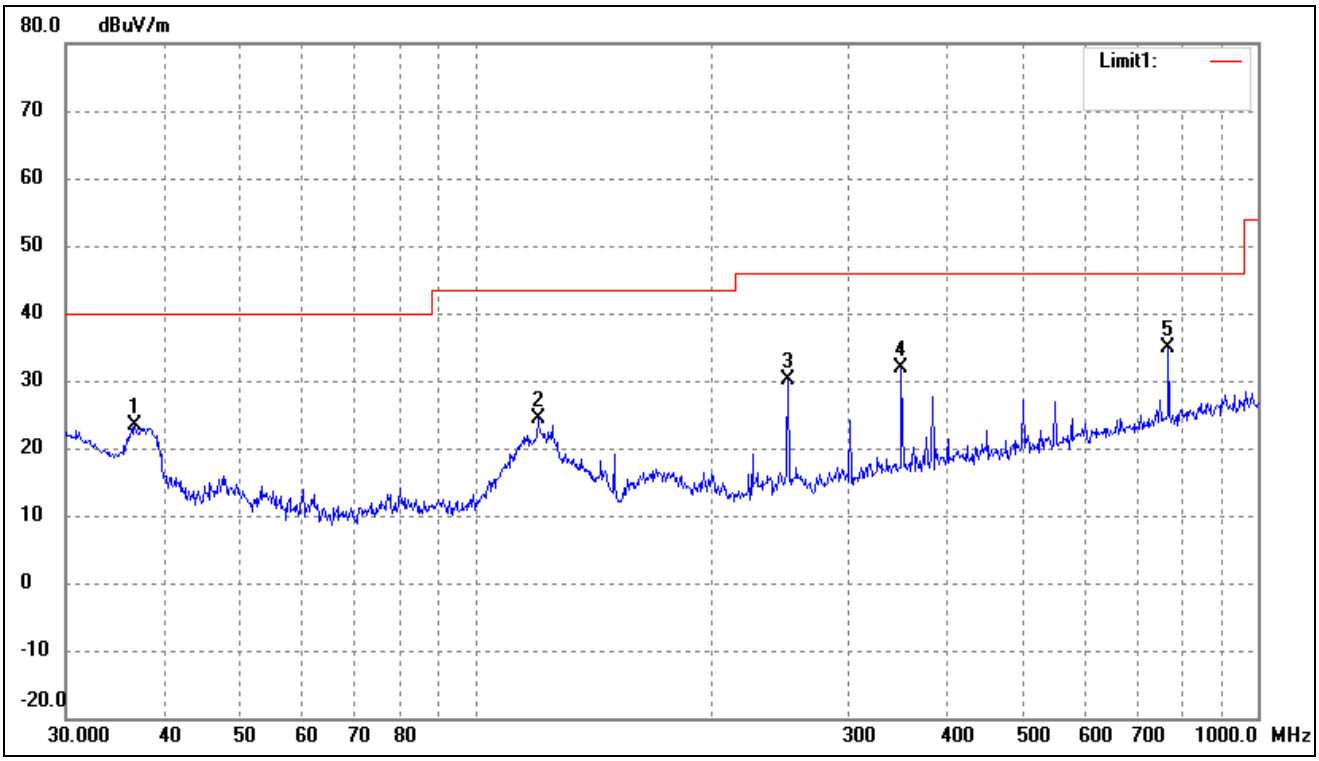
EUT: *WCDMA wireless data terminal*
Tested Model: *AT911N*
Operating Condition: *TM1*
Comment: *AC 120V/60Hz; Adapter DC 5V/2A*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	77.0505	31.11	-12.35	18.76	40.00	-21.24	58	100	peak
2	199.9856	37.48	-8.16	29.32	43.50	-14.18	326	100	peak
3	251.1804	38.66	-6.14	32.52	46.00	-13.48	29	100	peak
4	350.4768	43.73	-3.11	40.62	46.00	-5.38	209	100	QP
5	768.7481	38.09	4.06	42.15	46.00	-3.85	148	100	peak

Test Specification: *Vertical*

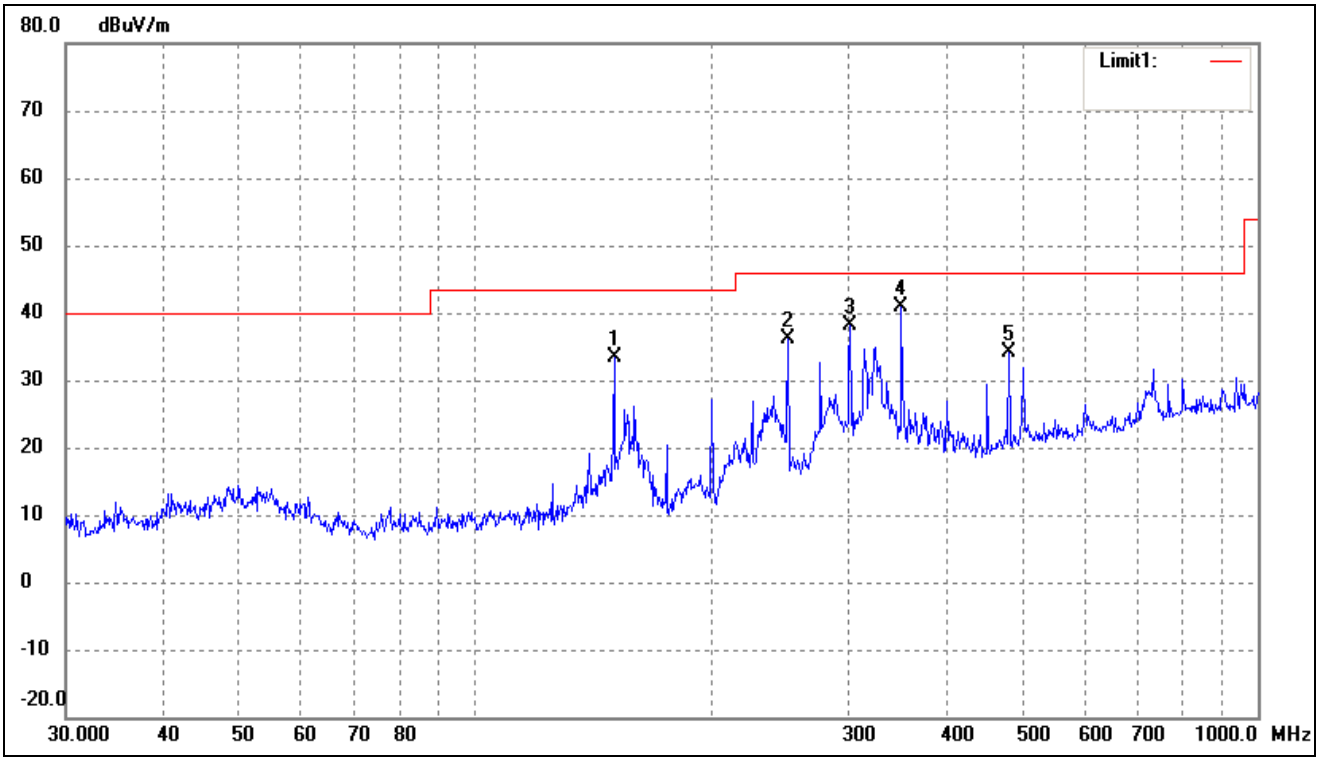


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	36.7662	33.60	-10.32	23.28	40.00	-16.72	51	100	peak
2	120.2766	34.95	-10.60	24.35	43.50	-19.15	308	100	peak
3	251.1804	36.26	-6.14	30.12	46.00	-15.88	120	100	peak
4	350.4768	35.05	-3.11	31.94	46.00	-14.06	359	100	peak
5	768.7482	30.90	4.06	34.96	46.00	-11.04	158	100	peak

Plot of Radiated Emissions Test Data

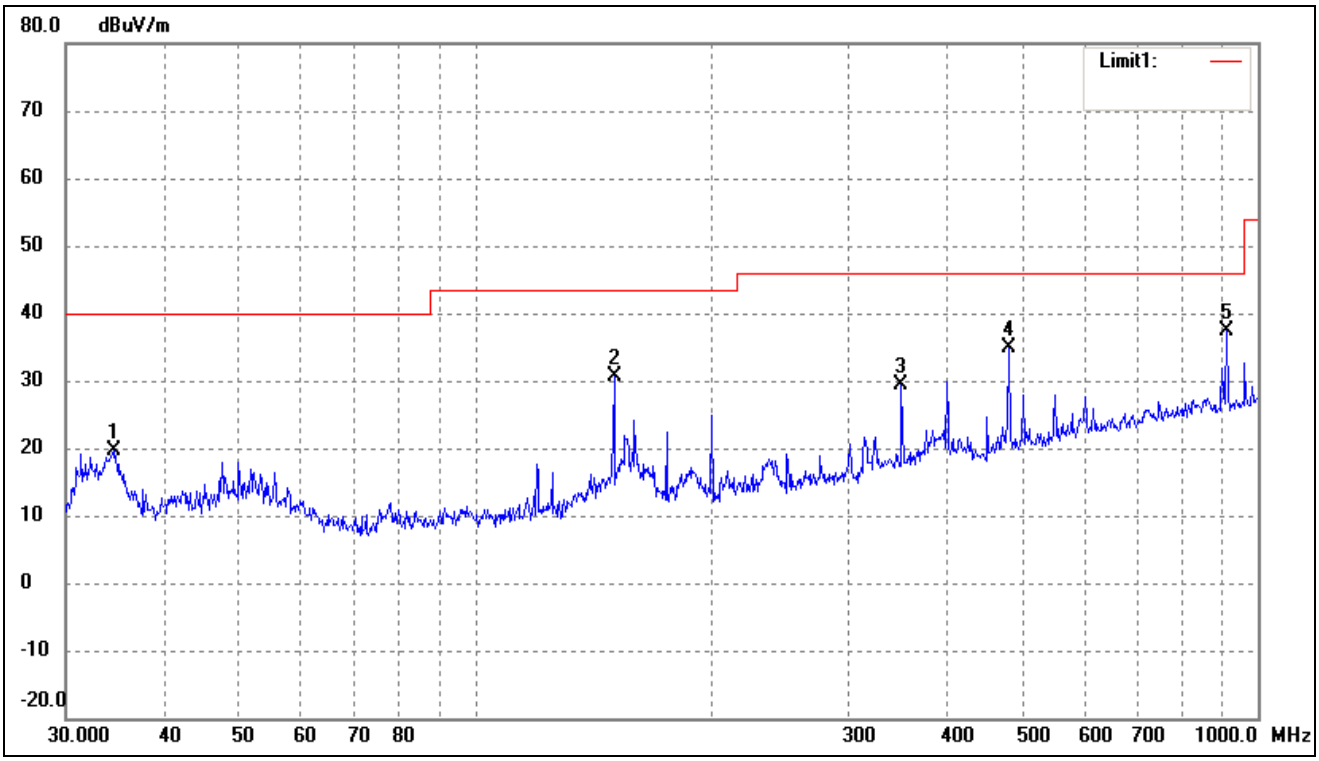
EUT: *WCDMA wireless data terminal*
Tested Model: *AT911N*
Operating Condition: *TM2*
Comment: *AC 120V/60Hz; USB DC 5V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	150.5378	44.29	-11.02	33.27	43.50	-10.23	158	100	peak
2	251.1804	42.33	-6.14	36.19	46.00	-9.81	226	100	peak
3	301.4224	43.14	-4.95	38.19	46.00	-7.81	129	100	peak
4	350.4768	43.99	-3.11	40.88	46.00	-5.12	209	100	peak
	480.5276	35.08	-1.01	34.07	46.00	-11.93	158	100	peak

Test Specification: *Vertical*

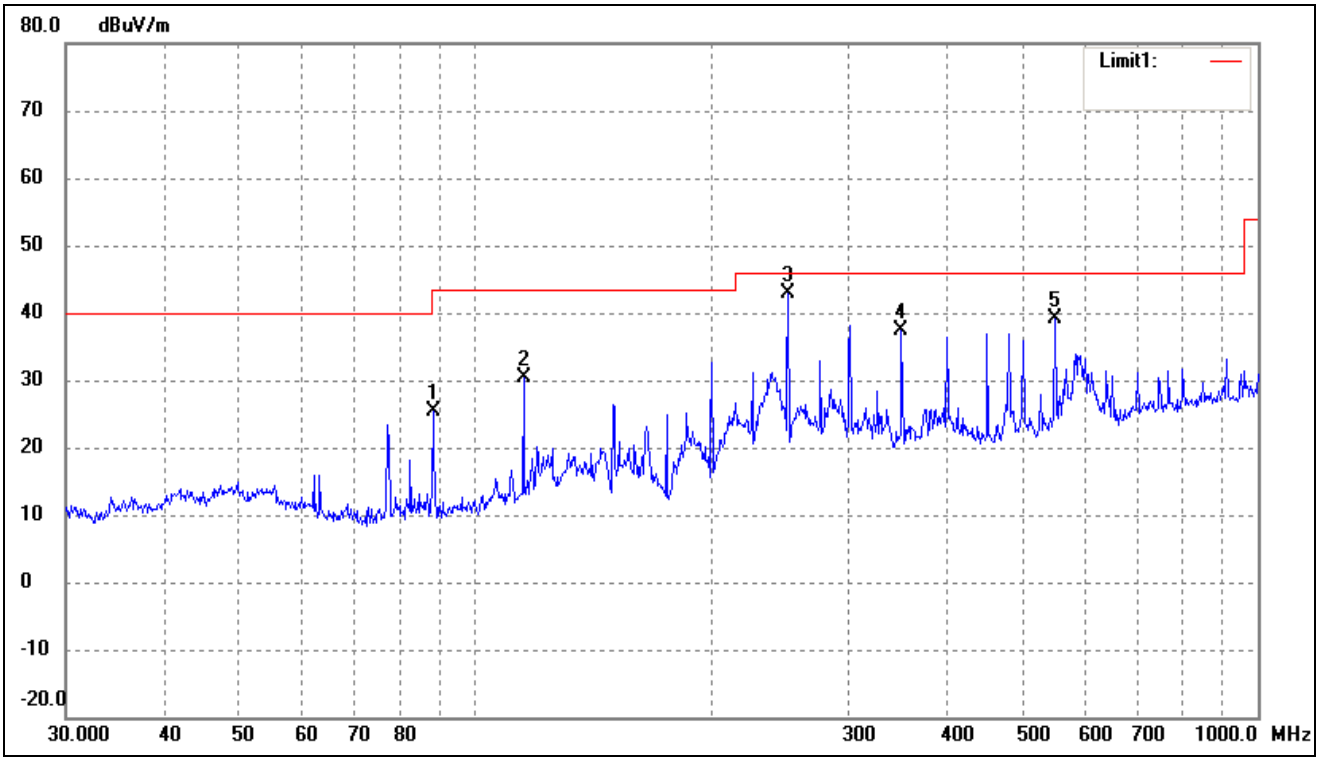


No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	34.5173	30.25	-10.65	19.60	40.00	-20.40	151	100	peak
2	150.5378	41.71	-11.02	30.69	43.50	-12.81	18	100	peak
3	350.4768	32.45	-3.11	29.34	46.00	-16.66	20	100	peak
4	480.5276	35.88	-1.01	34.87	46.00	-11.13	359	100	peak
5	912.8620	31.74	5.73	37.47	46.00	-8.53	148	100	peak

Plot of Radiated Emissions Test Data

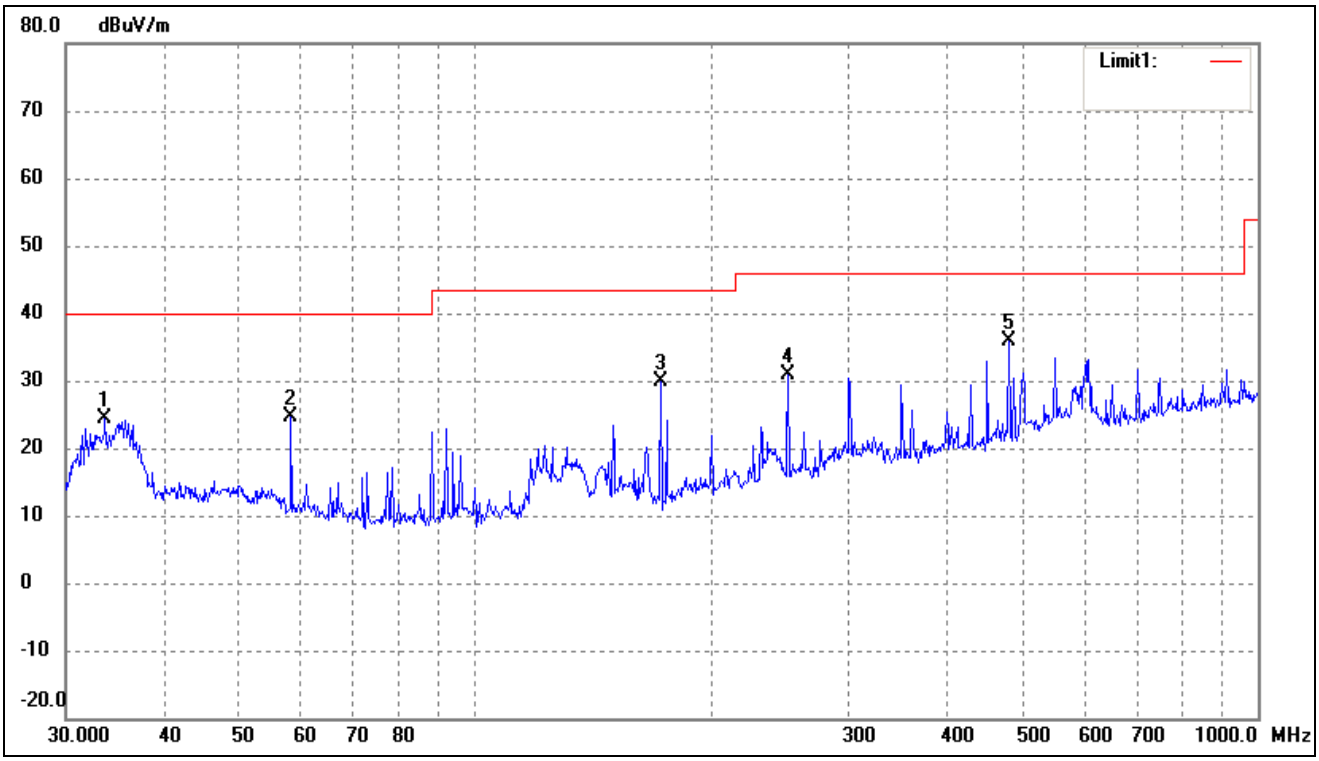
EUT: *WCDMA wireless data terminal*
Tested Model: *AT911N*
Operating Condition: *TM3*
Comment: *AC 120V/60Hz; USB DC 5V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	88.3421	37.41	-12.05	25.36	43.50	-18.14	148	100	peak
2	115.3205	40.80	-10.54	30.26	43.50	-13.24	156	100	peak
3	251.1804	48.95	-6.14	42.81	46.00	-3.19	178	100	peak
4	350.4768	40.55	-3.11	37.44	46.00	-8.56	125	100	peak
5	550.9480	38.76	0.33	39.09	46.00	-6.91	193	100	peak

Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	(•)	(cm)	
1	33.6803	35.09	-10.77	24.32	40.00	-15.68	251	100	peak
2	58.2030	34.72	-10.07	24.65	40.00	-15.35	118	100	peak
3	172.5988	39.84	-9.87	29.97	43.50	-13.53	120	100	peak
4	251.1804	37.08	-6.14	30.94	46.00	-15.06	359	100	peak
5	480.5276	36.80	-1.01	35.79	46.00	-10.21	188	100	peak

Note: Testing is carried out with frequency rang 9kHz to the 5GHz, which above 1GHz is close to the noise base even antenna close up to 1meter distance according the measurement of ANSI C63.4.
The measurements greater than 20dB below the limit from 9kHz to 30MHz and test data are not provided.

******* END OF REPORT *******