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Report No.: 1411RSU01801
Report Version: V02
Issue Date: 11-26-2014

MEASUREMENT REPORT
FCC PART 15B

FCC ID:	2ADMDCTP200
APPLICANT:	ZISA Corporation Limited
Application Type:	Certification
Product:	Coaster Pager
Model No.:	CTP200
Brand Name:	ZISA
FCC Classification:	Communications Receiver used w/Pt 15 Transmitter (CYY)
FCC Rule Part(s):	FCC Part 15 Subpart B
Test Procedure(s):	ANSI C63.4: 2009
Test Date:	Nov. 15 ~ 23, 2014

Reviewed By : Robin Wu
(Robin Wu)

Approved By : Marlin Chen
(Marlin Chen)

The test results relate only to the samples tested.
This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.4-2009. Test results reported herein relate only to the item(s) tested.

Revision History

Report No.	Version	Description	Issue Date
1411RSU01801	Rev. 01	Initial report	11-24-2014
1411RSU01801	Rev. 02	Modify the description of the operate mode	11-26-2014

CONTENTS

§2.1033 General Information

Applicant:	ZISA Corporation Limited
Applicant Address:	606, Building F, Kaixuancheng, No.170, Beiyuan Rd., Chaoyang District, Beijing, China
Manufacturer:	ZISA Corporation Limited
Manufacturer Address:	605, Building F, Kaixuancheng, No.170, Beiyuan Rd., Chaoyang District, Beijing, China
Test Site:	MRT Technology (Suzhou) Co., Ltd
Test Site Address:	D8 Building, Youxin Industrial Park, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
MRT FCC Registration No.:	809388
Model No.:	Coaster Pager
FCC ID:	2ADMDCTP200
Test Device Serial No.:	N/A ☐ Production ☒ Pre-Production ☐ Engineering

Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Tian'edang Rd., Suzhou, China.

- **MRT facility is a FCC registered (MRT Reg. No. 809388) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules.**
- **MRT facility is an IC registered (MRT Reg. No. 11384A-1) test laboratory with the site description on file at Industry Canada.**
- **MRT facility is a VCCI registered (R-4179, G-814, C-4664, T-2206) test laboratory with the site description on file at VCCI Council.**
- **MRT Lab is accredited to ISO 17025 by the American Association for Laboratory Accreditation (A2LA) under the American Association for Laboratory Accreditation Program (A2LA Cert. No. 3628.01) in EMC, Telecommunications and Radio testing for FCC, Industry Canada, EU and TELEC Rules.**

1. INTRODUCTION

1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Industry Canada Certification and Engineering Bureau.

1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taihu Lake. These measurement tests were conducted at the MRT Technology (Suzhou) Co., Ltd. Facility located at D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2009 on September 30, 2013.

2. PRODUCT INFORMATION

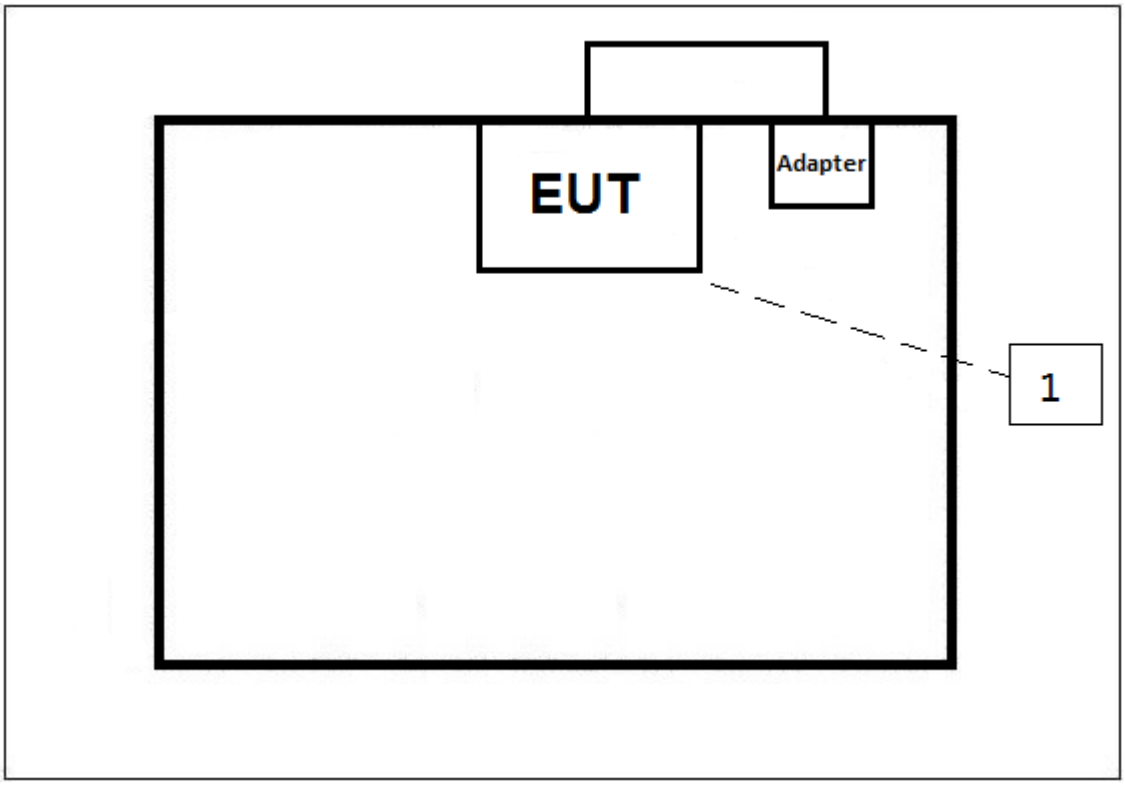
2.1. Equipment Description

Product Name	Coaster Pager
Model No.	CTP200
Brand Name	ZISA

2.2. Test Configuration

The **Coaster Pager FCC ID: 2ADMDCTP200** was tested per the guidance FCC Part 15 Subpart B: 2014 and ANSI C63.4: 2009 was used to reference the appropriate EUT setup for radiated spurious emissions testing and AC line conducted testing.

Connection Diagram



Signal Cable Type		Signal cable Description
A	N/A	N/A

Product		Manufacturer	Model No.	Power Cord
1	Keypad Transmitter	ZISA Corporation Limited	CTK200	N/A

2.3. Test Software

Not applicable.

2.4. Description of Support Units

The EUT has been tested with associated equipment below:

Description	Manufacturer	Model No.
Adapter	Supply by MRT	PV-1201200

2.5. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

2.6. Labeling Requirements

Per 2.1074 & 15.19; Docket 95-19

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase. However, when the device is so small wherein placement of the label with specified statement is not practical, only the trade name and FCC ID must be displayed on the device per Section 15.19(a)(5). Please see attachment for FCC ID label and label location.

3. DESCRIPTION OF TEST

3.1. Evaluation Procedure

The measurement procedures described in the American National Standard for Methods of Measurement of Radio-Noise Emission from Low-Voltage Electrical Equipment in the Range of 9kHz to 40GHz (ANSI C63.4-2009) was used in the measurement of the **Coaster Pager FCC ID: 2ADMDCTP200.**

Deviation from measurement procedure…….....None

3.2. AC Line Conducted Emissions

The line-conducted facility is located inside an 8'x4'x4' shielded enclosure. A 1m x 2m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50uH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference ground-plane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the receiver and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The receiver was scanned from 150kHz to 30MHz. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 9kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Each emission was also maximized by varying: power lines, the mode of operation or data exchange speed, or support equipment whichever determined the worst-case emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions were used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

An extension cord was used to connect to a single LISN which powered by EUT. The extension cord was calibrated with LISN, the impedance and insertion loss are compliance with the requirements as stated in ANSI C63.10-2009 at Clause 4.3.

Line conducted emissions test results are shown in Section 6.2.

3.3. Radiated Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. For measurements above 1GH absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections. For measurements below 1GHz, the absorbers are removed. An MF Model 210SS turntable is used for radiated measurement. It is a continuously rotatable, remote controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm high PVC support structure is placed on top of the turntable.
For all measurements, the spectrum was scanned through all EUT azimuths and from 1 to 4 meter receive antenna height using a broadband antenna from 30MHz up to the upper frequency shown in 15.33(b)(1) depending on the highest frequency generated or used in the device or on which the device operates or tunes. For frequencies above 1GHz, linearly polarized double ridge horn antennas were used. Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The test set-up was placed on top of the 0.8 meter high, 1 x 1.5 meter table. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Appropriate precaution was taken to ensure that all emissions from the EUT were maximized and investigated. The system configuration, clock speed, mode of operation or video resolution, if applicable, turntable azimuth, and receive antenna height was noted for each frequency found.
Final measurements were made in the semi-anechoic chamber using calibrated, linearly polarized broadband and horn antennas. The test setup was configured to the setup that produced the worst case emissions. The spectrum analyzer was set to investigate all frequencies required for testing to compare the highest radiated disturbances with respect to the specified limits. The turntable containing the EUT was rotated through 360 degrees and the height of the receive antenna was varied 1 to 4 meters and stopped at the azimuth and height producing the maximum emission. Each emission was maximized by changing the orientation of the EUT through three orthogonal planes and changing the polarity of the receive antenna, whichever produced the worst-case emissions. According to 3dB Beamwidth of horn antenna, the horn antenna should be always directed to the EUT when rising height.

4. TEST EQUIPMENT CALIBRATION DATA

Conducted Emissions

Instrument	Manufacturer	Type No.	Serial No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR7	101209	1 year	2015/11/07
Two-Line V-Network	R&S	ENV216	101683	1 year	2015/11/07
Two-Line V-Network	R&S	ENV216	101684	1 year	2015/11/07
Temperature/ Meter Humidity	Anymetre	TH101B	SR2-01	1 year	2015/11/14

Radiated Emission

Instrument	Manufacturer	Type No.	Serial No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9010A	MY5144016A	1 year	2015/01/04
Preamplifier	MRT	AP01G18	1310002	1 year	2015/10/06
TRILOG Antenna	Schwarzbeck	VULB9162	9162-047	1 year	2015/11/08
Broad-Band Horn Antenna	Schwarzbeck	BBHA9120D	9120D-1167	1 year	2015/11/08
Temperature/Humidity Meter	Anymetre	TH101B	AC1-01	1 year	2015/11/14

5. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k = 2.

Conducted Emissions Measurement
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 150kHz~30MHz: ± 3.46dB
Radiated Emission Measurement
Measuring Uncertainty for a Level of Confidence of 95% (U=2Uc(y)): 30MHz ~ 1GHz: ± 4.18dB 1GHz ~ 18GHz: ± 4.76dB

6. TEST RESULT

6.1. Summary

Company Name: **ZISA Corporation Limited**

FCC ID: **2ADMDCTP200**

FCC Classification: **FCC Class B Digital Device (JBP)**

Test Mode: **Normal Operation**

Normative References	Test Description	Test Result
FCC Part 15 Subpart B: 2014 ANSI C63.4: 2009	Conducted Emission	Pass
FCC Part 15 Subpart B: 2014 ANSI C63.4: 2009	Radiated Emission	Pass

6.2. Conducted Emission Measurement

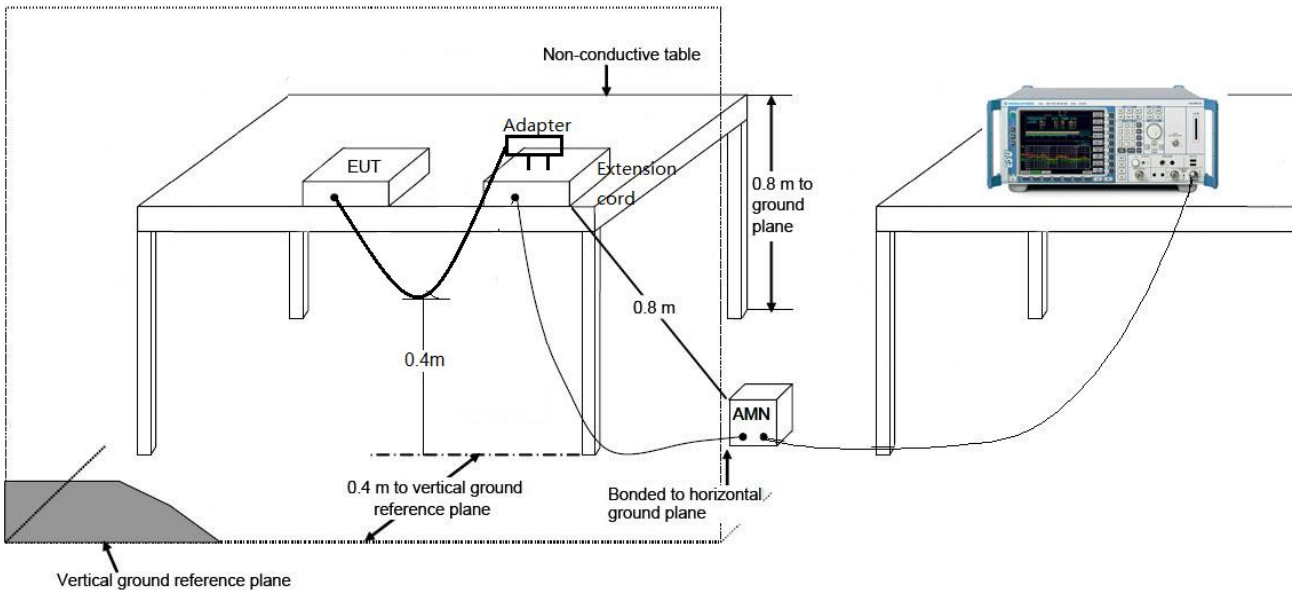
6.2.1. Test Limit

FCC Part 15.107 Limits		
Frequency (MHz)	QP (dBμV)	AV (dBμV)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

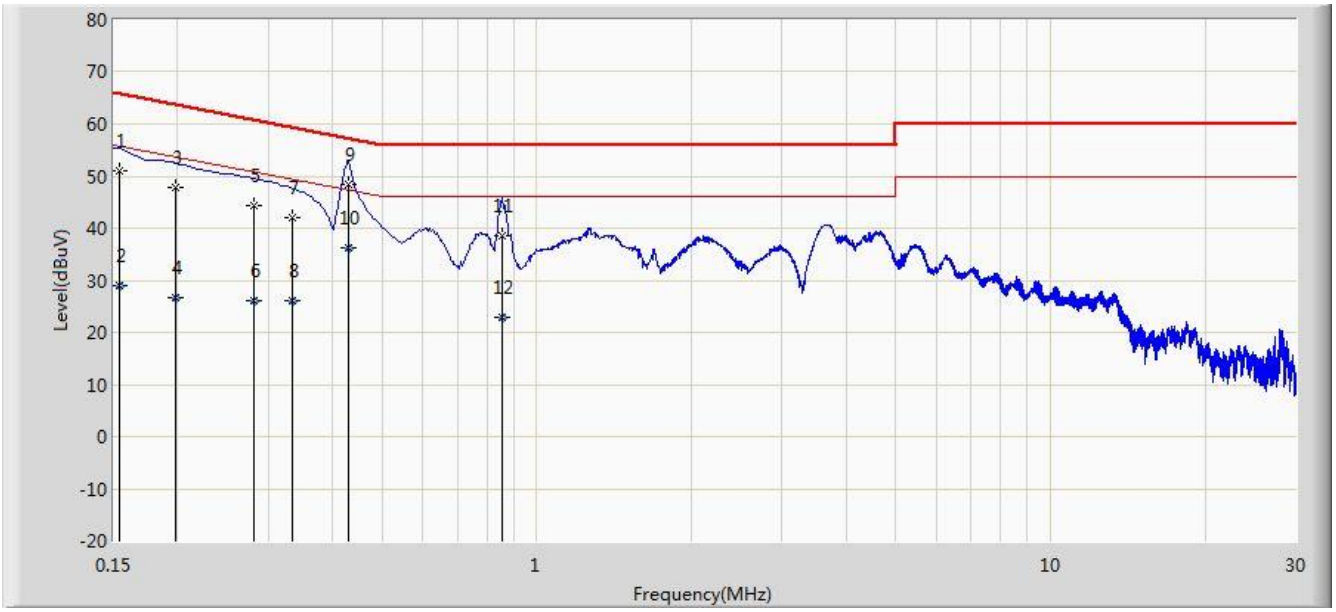
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

6.2.2. Test Setup



6.2.3. Test Result of Conducted Emissions

Site: SR2	Time: 2014/11/24 - 12:45
Limit: FCC_Part15.107_CE_AC Power_ClassB	Engineer: Milo Li
Probe: ENV216_101683_Filter On	Polarity: Line
EUT: Coaster Pager	Power: AC 120V/60Hz
Note: Mode: Charging and Receive signal from Keypad Transmitter	

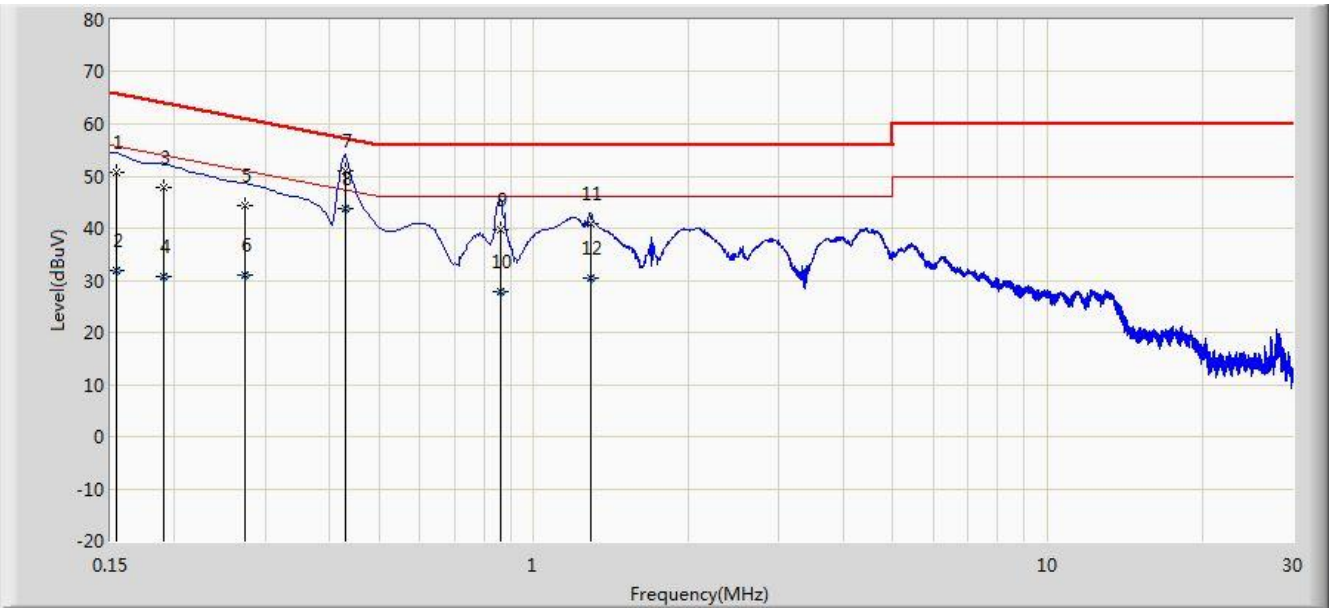


No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.154	50.995	40.255	-14.786	65.781	10.740	QP
2		0.154	29.000	18.260	-26.781	55.781	10.740	AV
3		0.198	47.731	37.726	-15.963	63.694	10.005	QP
4		0.198	26.620	16.615	-27.075	53.694	10.005	AV
5		0.282	44.416	34.426	-16.341	60.757	9.990	QP
6		0.282	26.022	16.032	-24.735	50.757	9.990	AV
7		0.334	41.976	31.944	-17.376	59.351	10.031	QP
8		0.334	26.159	16.128	-23.192	49.351	10.031	AV
9	*	0.430	48.381	38.271	-8.872	57.253	10.110	QP
10		0.430	36.220	26.110	-11.033	47.253	10.110	AV
11		0.858	38.584	28.602	-17.416	56.000	9.982	QP
12		0.858	22.874	12.892	-23.126	46.000	9.982	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB)

Site: SR2	Time: 2014/11/24 - 12:51
Limit: FCC_Part15.107_CE_AC Power_ClassB	Engineer: Milo Li
Probe: ENV216_101683_Filter On	Polarity: Neutral
EUT: Coaster Pager	Power: AC 120V/60Hz
Note: Mode: Charging and Receive signal from Keypad Transmitter	



No	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		0.154	50.652	39.936	-15.129	65.781	10.716	QP
2		0.154	31.906	21.190	-23.875	55.781	10.716	AV
3		0.190	47.844	37.816	-16.193	64.037	10.028	QP
4		0.190	30.813	20.785	-23.224	54.037	10.028	AV
5		0.274	44.338	34.319	-16.658	60.996	10.019	QP
6		0.274	31.120	21.102	-19.875	50.996	10.019	AV
7		0.430	51.080	40.945	-6.172	57.253	10.135	QP
8	*	0.430	43.730	33.595	-3.523	47.253	10.135	AV
9		0.862	39.752	29.767	-16.248	56.000	9.985	QP
10		0.862	27.897	17.912	-18.103	46.000	9.985	AV
11		1.290	40.831	30.932	-15.169	56.000	9.898	QP
12		1.290	30.529	20.631	-15.471	46.000	9.898	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB)

6.3. Radiated Emission Measurement

6.3.1. Test Limit

FCC Part 15.109 Limits		
Frequency (MHz)	Distance (m)	Level (dBμV/m)
30 - 88	3	40
88 - 216	3	43.5
216 - 960	3	46
Above 960	3	54

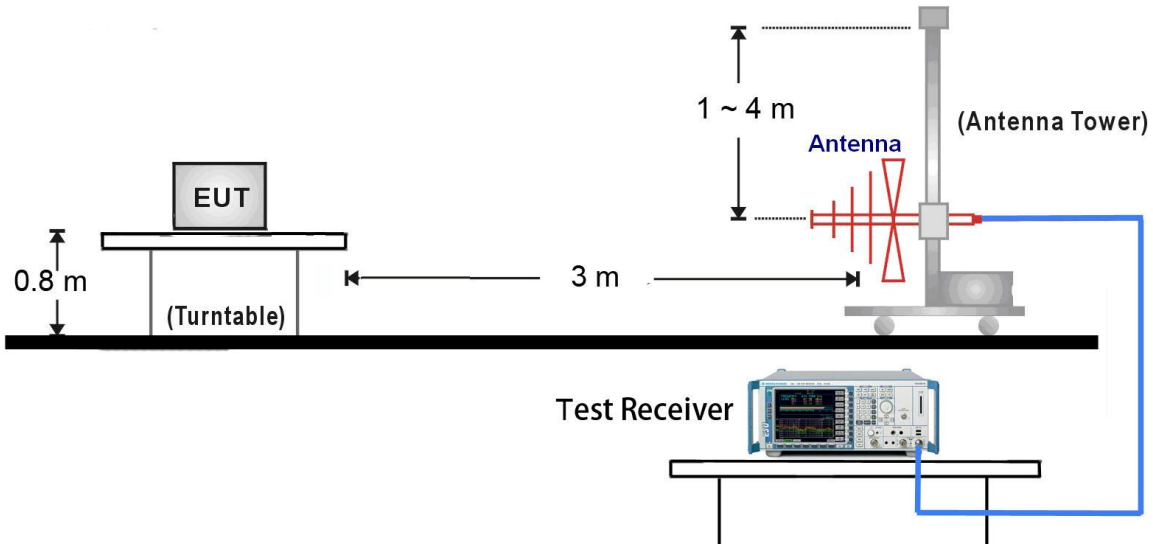
Note 1: The lower limit shall apply at the transition frequency.

Note 2: Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

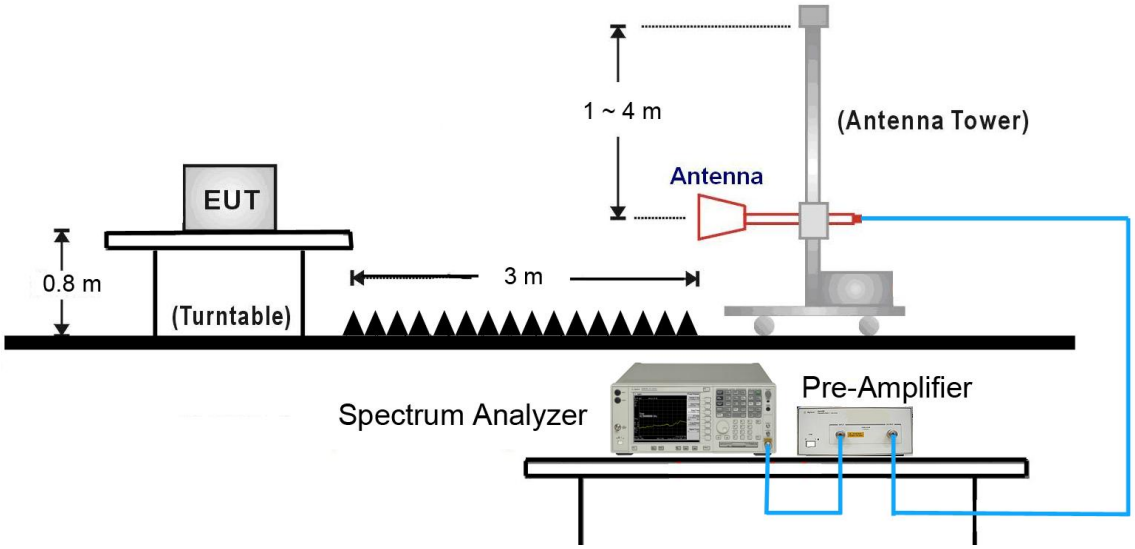
Note 3: E field strength (dBμV/m) = 20 log E field strength (uV/m)

6.3.2. Test Setup

30MHz ~ 1GHz Test Setup:

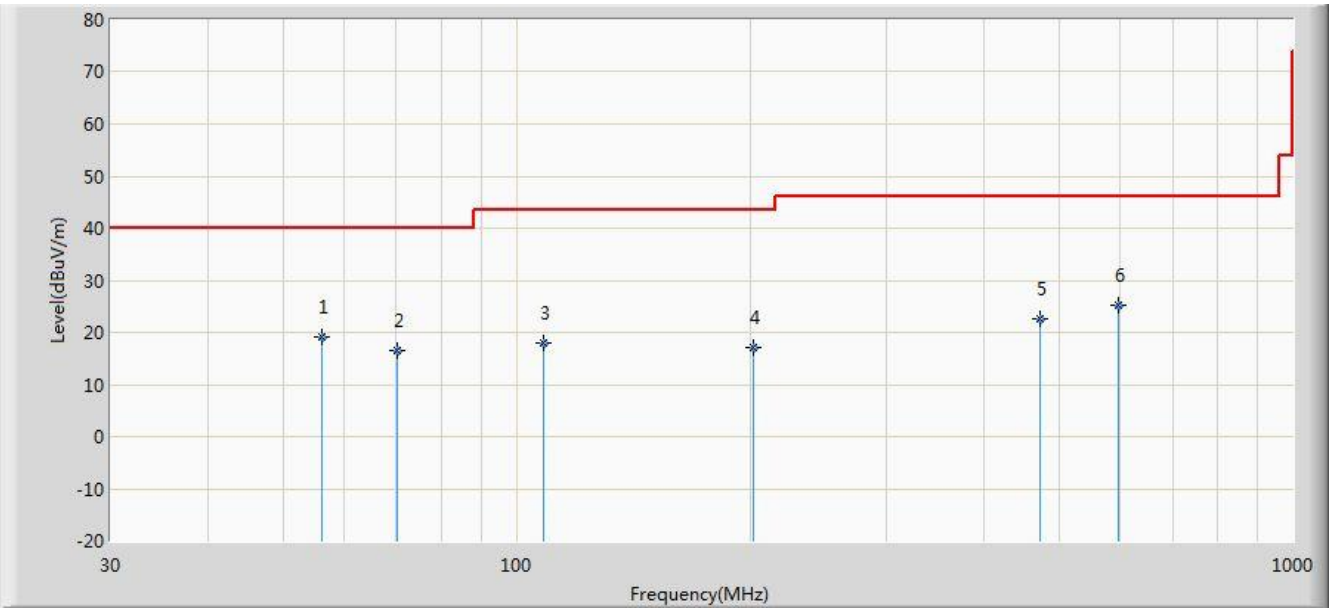


1GHz ~18GHz Test Setup:



6.3.3. Test Result of Radiated Emissions

Site: AC1	Time: 2014/11/24 - 15:28
Limit: FCC_Part15.109_RE(3m)_ClassB	Engineer: Milo Li
Probe: VULB9162_0.03-8GHz	Polarity: Horizontal
EUT: Coaster Pager	Power: AC 120V/60Hz
Note: Mode: Charging and Receive signal from Keypad Transmitter	

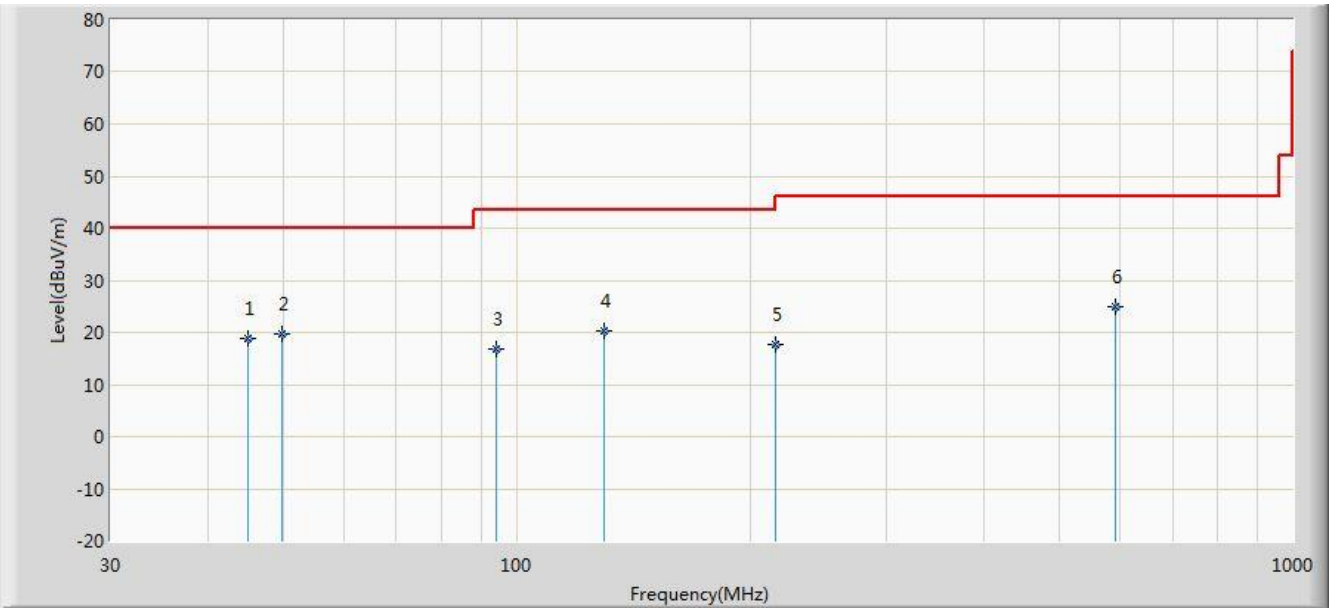


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		56.190	19.127	4.818	-20.873	40.000	14.309	QP
2		70.255	16.523	5.891	-23.477	40.000	10.632	QP
3		108.570	17.950	5.218	-25.550	43.500	12.732	QP
4		202.175	17.051	5.094	-26.449	43.500	11.957	QP
5		473.290	22.744	5.455	-23.256	46.000	17.289	QP
6	*	596.965	25.320	5.927	-20.680	46.000	19.393	QP

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: AC1	Time: 2014/11/24 - 15:28
Limit: FCC_Part15.109_RE(3m)_ClassB	Engineer: Milo Li
Probe: VULB9162_0.03-8GHz	Polarity: Vertical
EUT: Coaster Pager	Power: AC 120V/60Hz
Note: Mode: Charging and Receive signal from Keypad Transmitter	

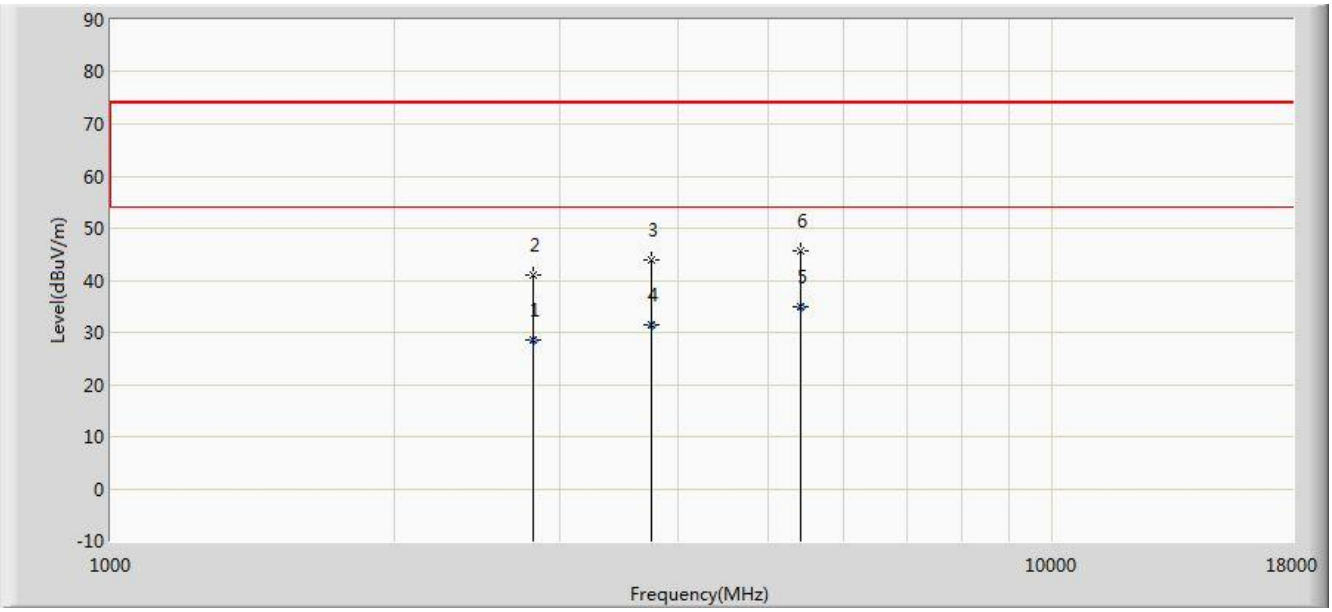


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		45.035	18.741	4.087	-21.259	40.000	14.655	QP
2	*	49.885	19.664	4.906	-20.336	40.000	14.759	QP
3		94.020	16.801	4.838	-26.699	43.500	11.963	QP
4		129.910	20.252	10.450	-23.248	43.500	9.802	QP
5		215.755	17.812	5.639	-25.688	43.500	12.173	QP
6		591.630	24.945	5.626	-21.055	46.000	19.319	QP

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m)

Site: AC1	Time: 2014/11/24 - 15:30
Limit: FCC_Part15.109_RE(3m)_ClassB	Engineer: Milo Li
Probe: BBHA9120D_1-18GHz	Polarity: Horizontal
EUT: Coaster Pager	Power: AC 120V/60Hz
Note: Mode: Charging and Receive signal from Keypad Transmitter	

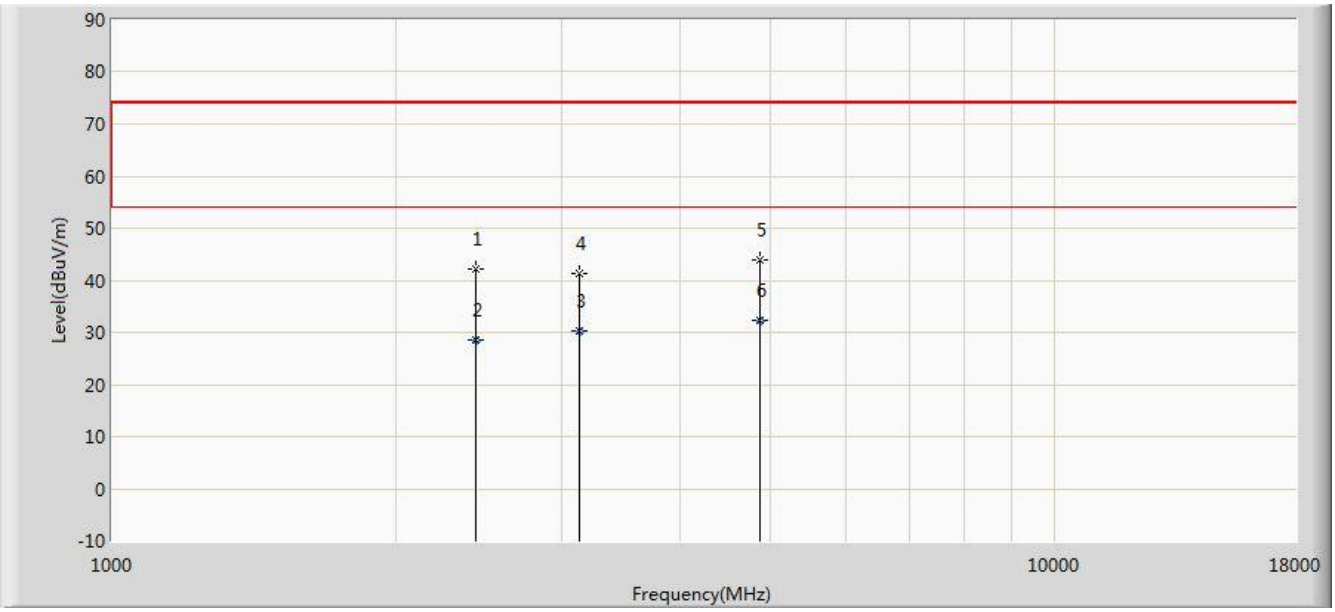


No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2810.448	28.616	25.300	-25.384	54.000	3.316	AV
2		2810.500	41.133	37.817	-32.867	74.000	3.316	PK
3		3745.500	43.820	39.690	-30.180	74.000	4.130	PK
4		3745.612	31.540	27.410	-22.460	54.000	4.130	AV
5	*	5402.110	34.946	27.980	-19.054	54.000	6.965	AV
6		5403.000	45.676	38.707	-28.324	74.000	6.969	PK

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier (dB)

Site: AC1	Time: 2014/11/24 - 15:31
Limit: FCC_Part15.109_RE(3m)_ClassB	Engineer: Milo Li
Probe: BBHA9120D_1-18GHz	Polarity: Vertical
EUT: Coaster Pager	Power: AC 120V/60Hz
Note: Mode: Charging and Receive signal from Keypad Transmitter	



No	Mark	Frequency (MHz)	Measure Level (dBuV/m)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV/m)	Factor (dB)	Type
1		2428.000	42.235	39.569	-31.765	74.000	2.666	PK
2		2428.118	28.497	25.831	-25.503	54.000	2.666	AV
3		3133.462	30.433	26.850	-23.567	54.000	3.582	AV
4		3133.500	41.252	37.669	-32.748	74.000	3.582	PK
5		4859.000	43.869	37.343	-30.131	74.000	6.526	PK
6	*	4859.215	32.207	25.680	-21.793	54.000	6.528	AV

Note: Measure Level (dBμV/m) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + Antenna Factor (dB/m) - Pre_Amplifier (dB)

7. CONCLUSION

The data collected relate only the item(s) tested and show that the **Coaster Pager FCC ID: 2ADMDCTP200** has been tested to comply with the requirements specified in §15.107 and §15.109 of the FCC Rules.

The End