



EMC TEST REPORT

Report No. : EME-030784

Model No. : MINI 1**

Issued Date : July 23, 2003

Applicant : Cidmate International Technology Inc.
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Test By : Intertek Testing Services Taiwan Ltd.
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Project Engineer

Kevin Chen

Reviewed By

Elton Chen



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Summary of Tests

2.4g Analog with CID -Model: MINI 1** FCC ID: PIZMINI1

Test	Reference	Results
Conducted Emission of AC Power	15.207	Complies
Radiated Emission test	15.249(c), 15.209	Complies



1. General information

1.1 Identification of the EUT

Applicant	: Cidmate International Technology Inc.
Product	: 2.4G Analog with CID
Model No.	: MINI 1**
FCC ID.	: PIZMINI1
Frequency Range	: 2400MHz to 2483.5MHz
Channel Number	: 40 channels
Frequency of Each Channel (Base)	: 2402.55 + 50k MHz, k=0~39
Frequency of Each Channel (Handset)	: 2474.00 + 50k MHz, k=0~39
Type of Modulation	: FM
Rated Power (Base)	: 120Vac to 9Vdc adapter (KA12D090030024U)
Rated Power (Handset)	: Ni-MH battery 3.6Vdc
Power Cord	: N/A
Sample Received	: June 26, 2003
Test Date(s)	: July 8, 2003 to July 17, 2003

1.2 Additional information about the EUT

The EUT is a 2.4 Analog with CID cordless phone, it consists of handset unit and base unit.

We verify that the model MINI 1C** is identical to MINI 1** (EUT), the different model for different brand serves as marketing strategy as below:

<u>Model Number</u>	<u>Trade Name</u>
MINI 1**, MINI 1C**	XACT
MINI 1**, MINI 1C**	BELLSOUTH
MINI 1**, MINI 1C**	UNISONIC
MINI 1**, MINI 1C**	i5i5
MINI 1**, MINI 1C**	U-PHONE
MINI 1**, MINI 1C**	P2-NET
MINI 1**, MINI 1C**	JOE BOXER

For more detail features, please refer to User's manual as file name "Installation guide.pdf"



1.3 Antenna description

The antenna description for handset and base unit are the same and listed as below:

The EUT uses a permanently connected antenna.

Antenna Gain : 1.3dBi

Antenna Type : 1/4 wave length

Connector Type : N/A

1.4 Peripherals equipment

Peripherals	Manufacturer	Product No.	Serial No.	FCC ID
Exchange board	Teltone	250-00193-07	94948	FCC DoC Approval



2. Test specifications

2.1 Test standard

The EUT was performed according to the procedures in FCC Part 15 Subpart C Paragraph 15.249 for non-spread spectrum devices.

The test of radiated measurements according to FCC Part15 Section 15.33(a) had been conducted and the field strength of this frequency band were all meet limit requirement, thus we evaluate the EUT pass the specified test.

2.2 Operation mode

The EUT was transmitted continuously during the test.



2.4 Test equipment

Equipment	Brand	Frequency range	Model No.	Series No.	Last Cal.Date
EMI Test Receiver	Rohde & Schwarz	9kHz~2.75GHz	ESCS 30	825788/014	Feb. 18, 2003
Spectrum Analyzer	Rohde & Schwarz	9kHz~30GHz	FSP 30	100137	July 10, 2003
Spectrum Analyzer	Rohde & Schwarz	20Hz~40GHz	FSEK 30	100186	Oct. 9, 2002
Horn Antenna	EMCO	1GHz~18GHz	3115	9906-5890	Sep. 19, 2002
Horn Antenna	SCHWARZBECK	14GHz~40GHz	BBHA 9170	159	June 20, 2003
Bilog Antenna	SCHWARZBECK	25MHz~1.7GHz	VULB 9160	3133	Feb. 21, 2003
Turn Table	HDGmbH	N/A	DS 420S	420/669/01	N/A
Antenna Tower	HDGmbH	N/A	MA 240	240/573	N/A
Microwave Amplifier	Agilent	2GHz~26.5GHz	8348A	3111A00567	Dec. 20, 2002

Note:

1. The calibration interval of the above instruments is 12 months.



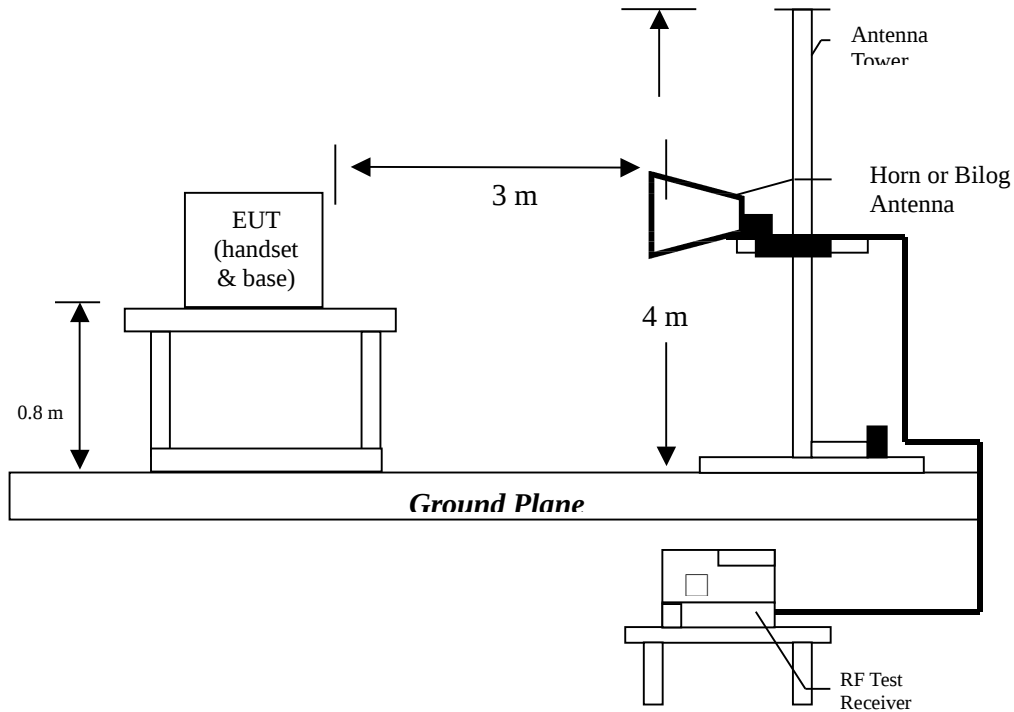
3. Radiated emission test FCC 15.249 (C)

3.1 Operating environment

Temperature:	25	°C	(10-40°C)
Relative Humidity:	55	%	(10-90%)
Atmospheric Pressure	1023	hPa	(860-1060hPa)

3.2 Test setup & procedure

The Diagram below shows the test setup, which is utilized to make these measurements.



Radiated emissions were investigated cover the frequency range from 30MHz to 1000MHz using a receiver RBW of 120kHz record QP reading, and the frequency over 1GHz using a spectrum analyzer RBW of 1MHz and 10Hz VBW record Average reading. (15.209 paragraph), the Peak reading (1MHz RBW/VBW) recorded also on the report. The EUT for testing is arranged on a wooden turntable. If some peripherals apply to the EUT, the peripherals will be connected to EUT and the whole system. During the test, all cables were arranged to produce worst-case emissions. The signal is maximized through rotation. The height of antenna and polarization is changing constantly for exploring for maximum signal level. The height of antenna can be up to 4 meters and down to 1 meter.



The measurement for radiated emission will be done at the distance of three meters unless the signal level is too low to measure at that distance. In the case of the reading under noise floor, a pre-amplifier is used and/or the test is conducted at a closer distance. And then all readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance.

The signal is maximized through rotation and placement in the three orthogonal axes.



Perpendicular (x, y)



Plane (x, z)



Transverse (y, z)

The EUT configuration please refer to the “Spurious set-up photo.pdf”.



3.3 Emission limit

3.3.1 Fundamental and harmonics emission limits

Frequency (MHz)	Field Strength of Fundamental		Field Strength of Harmonics	
	(mV/m@3m)	(dBuV/m@3m)	(uV/m@3m)	(dBuV/m@3m)
2400-2483.5	50	94	500	54

3.3.2 General radiated emission limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

Frequency MHz	15.209 Limits (dB μ V/m@3m)
30-88	40
88-216	43.5
216-960	46
Above 960	54

Remark:

1. In the above table, the tighter limit applies at the band edges.
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

Uncertainty was calculated in accordance with NAMAS NIS 81.

Expanded uncertainty (k=2) of radiated emission measurement is ± 4.98 dB.

Expanded uncertainty (k=2) of conducted emission measurement is ± 2.02 dB.



3.4 Radiated spurious emission test data

3.4.1 Measurement results: frequencies equal to or less than 1 GHz

EUT : MINI 1** (handset)

Test Condition : Tx at low channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Corr. Factor (dB/m)	Reading (dBuV)	Corr. Level (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)	Ant. Heigh (Meter)	Turn Table (Degree)	Remark axes
35.8000	QP	V	12.76	-	12.76	40.00	-	-	-	-
96.0000	QP	V	10.54	-	10.54	43.50	-	-	-	-
107.3600	QP	V	11.57	5.44	17.01	43.50	-26.49	1.32	58.00	x, y
513.1000	QP	V	18.94	-	18.94	46.00	-	-	-	-
797.2700	QP	V	24.21	17.10	41.31	46.00	-4.69	1.21	195.00	x, y
824.6600	QP	V	24.26	20.05	44.31	46.00	-1.69	1.33	179.00	x, y
47.5000	QP	H	13.10	-	13.10	40.00	-	-	-	-
679.9000	QP	H	21.91	-	21.91	46.00	-	-	-	-
734.2000	QP	H	23.01	-	23.01	46.00	-	-	-	-
749.7000	QP	H	23.43	-	23.43	46.00	-	-	-	-
797.2700	QP	H	24.21	14.66	38.87	46.00	-7.13	1.00	198.00	x, z
824.6600	QP	H	24.26	15.40	39.66	46.00	-6.34	1.00	141.00	y, z

Remark:

1. Corrected Level = Reading Level + Correction Factor

2. Correction Factor = Antenna Factor + Cable Loss



EUT : MINI 1** (handset)

Test Condition : Tx at high channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Corr. Factor (dB/m)	Reading (dBuV)	Corr. Level (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)	Ant. Heigh (Meter)	Turn Table (Degree)	Remark axes
35.8000	QP	V	12.76	-	12.76	40.00	-	-	-	-
107.6000	QP	V	11.59	-	10.54	43.50	-	-	-	-
363.7000	QP	V	15.96	-	15.96	46.00	-	-	-	-
743.9000	QP	V	23.36	-	23.36	46.00	-	-	-	-
797.9060	QP	V	24.23	14.46	38.69	46.00	-7.31	1.73	240.00	x, z
825.2990	QP	V	24.26	18.67	42.93	46.00	-3.07	1.50	248.00	x, z
127.0000	QP	H	13.21	-	13.10	43.50	-	-	-	-
373.4000	QP	H	16.28	-	21.91	46.00	-	-	-	-
600.4000	QP	H	20.88	-	23.01	46.00	-	-	-	-
797.7600	QP	H	24.23	15.68	39.91	46.00	-6.09	2.12	360.00	x, y
825.4000	QP	H	24.26	14.41	38.67	46.00	-7.33	1.50	248.00	x, z
943.7000	QP	H	25.59	-	25.59	46.00	-	-	-	-

Remark:

1. Corrected Level = Reading Level + Correction Factor

2. Correction Factor = Antenna Factor + Cable Loss



EUT : MINI 1** (base unit)

Test Condition : Tx at low channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Corr. Factor (dB/m)	Reading (dBuV)	Corr. Level (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)	Ant. Heigh (Meter)	Turn Table (Degree)
39.7000	QP	V	12.94	-	-	40.00	-	-	-
59.1000	QP	V	13.17	-	-	40.00	-	-	-
86.3000	QP	V	9.57	-	-	40.00	-	-	-
286.1000	QP	V	14.27	-	-	46.00	-	-	-
800.8400	QP	V	24.28	14.42	38.70	46.00	-7.30	1.20	70.00
828.2300	QP	V	24.28	18.87	43.15	46.00	-2.85	1.17	64.00
39.7000	QP	H	12.94	-	-	40.00	-	-	-
59.1000	QP	H	13.17	-	-	40.00	-	-	-
86.3000	QP	H	9.57	-	-	40.00	-	-	-
286.1000	QP	H	14.27	-	-	46.00	-	-	-
800.8400	QP	H	24.28	14.42	38.70	46.00	-7.30	1.05	345.00
828.2300	QP	H	24.28	12.22	36.50	46.00	-9.50	1.00	90.00

Remark:

1. Corrected Level = Reading Level + Correction Factor

2. Correction Factor = Antenna Factor + Cable Loss



EUT : MINI 1** (base unit)

Test Condition : Tx at high channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Corr. Factor (dB/m)	Reading (dBuV)	Corr. Level (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)	Ant. Heigh (Meter)	Turn Table (Degree)
35.8000	QP	V	12.76	-	-	40.00	-	-	-
107.6000	QP	V	11.59	-	-	43.50	-	-	-
181.3000	QP	V	13.35	-	-	43.50	-	-	-
282.2000	QP	V	14.14	-	-	46.00	-	-	-
801.4800	QP	V	24.27	14.61	38.88	46.00	-7.12	1.24	66.00
828.8600	QP	V	24.28	19.08	43.36	46.00	-2.64	1.17	63.00
101.8000	QP	H	11.08	-	-	43.50	-	-	-
107.6000	QP	H	11.59	-	-	43.50	-	-	-
282.2000	QP	H	14.14	-	-	46.00	-	-	-
293.8000	QP	H	14.41	-	-	46.00	-	-	-
801.4800	QP	H	24.27	16.31	40.58	46.00	-5.42	1.00	341.00
828.8600	QP	H	24.28	12.80	37.08	46.00	-8.92	1.00	91.00

Remark:

1. Corrected Level = Reading Level + Correction Factor

2. Correction Factor = Antenna Factor + Cable Loss



3.4.2 Fundamental & Harmonics Radiated Emission Data

EUT : MINI 1** (handset)

Test Condition : Tx at low channel

Configuration : Perpendicular (x, y)

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Level (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)	Ant. Heigh (Meter)	Turn Table (Degree)
2474	PK	V	33.368	29.53	90.928	87.09	114	-26.91	1.16	348
2474	AV	V	33.368	29.53	90.438	86.6	94	-7.4	1.16	348
2474	PK	H	33.368	29.53	96.028	92.19	114	-21.81	1.74	159
2474	AV	H	33.368	29.53	95.818	91.98	94	-2.02	1.74	159
4948	PK	V	32.496	35.47	-	-	74	-	-	-
4948	AV	V	32.496	35.47	-	-	54	-	-	-
7422	PK	V	34.47	38.38	-	-	74	-	-	-
7422	AV	V	34.47	38.38	-	-	54	-	-	-
9896	PK	V	35.919	41.55	-	-	74	-	-	-
9896	AV	V	35.919	41.55	-	-	54	-	-	-
4948	PK	H	32.496	35.47	-	-	74	-	-	-
4948	AV	H	32.496	35.47	-	-	54	-	-	-
7422	PK	H	34.47	38.38	-	-	74	-	-	-
7422	AV	H	34.47	38.38	-	-	54	-	-	-
9896	PK	H	35.919	41.55	-	-	74	-	-	-
9896	AV	H	35.919	41.55	-	-	54	-	-	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp

2. Correction Factor = Antenna Factor + Cable Loss

3. “-” means the emission is below the noise floor, and the noise floor listed below:

For PK:

1GHz-10GHz: 50dBuV

10GHz-26.5GHz: 60dBuV

For AV:

1GHz-10GHz: 40dBuV

10GHz-26.5GHz: 45dBuV



Intertek Testing Services

ETL SEMKO

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EUT : MINI 1** (handset)

Test Condition : Tx at high channel

Configuration : Perpendicular (x, y)

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Level (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)	Ant. Heigh (Meter)	Turn Table (Degree)
2475.95	PK	V	33.368	29.53	89.148	85.31	114	-28.69	1.51	229
2475.95	AV	V	33.368	29.53	88.598	84.76	94	-9.24	1.51	229
2475.95	PK	H	33.368	29.53	93.658	89.82	114	-24.18	1.42	360
2475.95	AV	H	33.368	29.53	93.208	89.37	94	-4.63	1.42	360
4951.9	PK	V	32.496	35.47	-	-	74	-	-	-
4951.9	AV	V	32.496	35.47	-	-	54	-	-	-
7427.85	PK	V	34.47	38.38	-	-	74	-	-	-
7427.85	AV	V	34.47	38.38	-	-	54	-	-	-
9903.8	PK	V	35.919	41.55	-	-	74	-	-	-
9903.8	AV	V	35.919	41.55	-	-	54	-	-	-
4951.9	PK	H	32.496	35.47	-	-	74	-	-	-
4951.9	AV	H	32.496	35.47	-	-	54	-	-	-
7427.85	PK	H	34.47	38.38	-	-	74	-	-	-
7427.85	AV	H	34.47	38.38	-	-	54	-	-	-
9903.8	PK	H	35.919	41.55	-	-	74	-	-	-
9903.8	AV	H	35.919	41.55	-	-	54	-	-	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp

2. Correction Factor = Antenna Factor + Cable Loss

3. “-” means the emission is below the noise floor, and the noise floor listed below:

For PK:

1GHz-10GHz: 50dBuV

10GHz-26.5GHz: 60dBuV

For AV:

1GHz-10GHz: 40dBuV

10GHz-26.5GHz: 45dBuV



EUT : MINI 1** (handset)
 Test Condition : Tx at low channel
 Configuration : Plane (x, z)

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Level (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)	Ant. Heigh (Meter)	Turn Table (Degree)
2474	PK	V	33.368	29.53	85.658	81.82	114	-32.18	1.43	221
2474	AV	V	33.368	29.53	84.998	81.16	94	-12.84	1.43	221
2474	PK	H	33.368	29.53	89.398	85.56	114	-28.44	1.91	219
2474	AV	H	33.368	29.53	88.998	85.16	94	-8.84	1.91	219
4948	PK	V	32.496	35.47	-	-	74	-	-	-
4948	AV	V	32.496	35.47	-	-	54	-	-	-
7422	PK	V	34.47	38.38	-	-	74	-	-	-
7422	AV	V	34.47	38.38	-	-	54	-	-	-
9896	PK	V	35.919	41.55	-	-	74	-	-	-
9896	AV	V	35.919	41.55	-	-	54	-	-	-
4948	PK	H	32.496	35.47	-	-	74	-	-	-
4948	AV	H	32.496	35.47	-	-	54	-	-	-
7422	PK	H	34.47	38.38	-	-	74	-	-	-
7422	AV	H	34.47	38.38	-	-	54	-	-	-
9896	PK	H	35.919	41.55	-	-	74	-	-	-
9896	AV	H	35.919	41.55	-	-	54	-	-	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-” means the emission is below the noise floor, and the noise floor listed below:

For PK:

1GHz-10GHz: 50dBuV

10GHz-26.5GHz: 60dBuV

For AV:

1GHz-10GHz: 40dBuV

10GHz-26.5GHz: 45dBuV



EUT : MINI 1** (handset)
 Test Condition : Tx at high channel
 Configuration : Plane (x, z)

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Level (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)	Ant. Heigh (Meter)	Turn Table (Degree)
2475.95	PK	V	33.368	29.53	86.808	82.97	114	-31.03	1.01	154
2475.95	AV	V	33.368	29.53	86.198	82.36	94	-11.64	1.01	154
2475.95	PK	H	33.368	29.53	90.458	86.62	114	-27.38	2.01	196
2475.95	AV	H	33.368	29.53	90.148	86.31	94	-7.69	2.01	196
4951.9	PK	V	32.496	35.47	-	-	74	-	-	-
4951.9	AV	V	32.496	35.47	-	-	54	-	-	-
7427.85	PK	V	34.47	38.38	-	-	74	-	-	-
7427.85	AV	V	34.47	38.38	-	-	54	-	-	-
9903.8	PK	V	35.919	41.55	-	-	74	-	-	-
9903.8	AV	V	35.919	41.55	-	-	54	-	-	-
4951.9	PK	H	32.496	35.47	-	-	74	-	-	-
4951.9	AV	H	32.496	35.47	-	-	54	-	-	-
7427.85	PK	H	34.47	38.38	-	-	74	-	-	-
7427.85	AV	H	34.47	38.38	-	-	54	-	-	-
9903.8	PK	H	35.919	41.55	-	-	74	-	-	-
9903.8	AV	H	35.919	41.55	-	-	54	-	-	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-” means the emission is below the noise floor, and the noise floor listed below:

For PK:

1GHz-10GHz: 50dBuV

10GHz-26.5GHz: 60dBuV

For AV:

1GHz-10GHz: 40dBuV

10GHz-26.5GHz: 45dBuV



EUT : MINI 1** (handset)
 Test Condition : Tx at low channel
 Configuration : Transverse (y, z)

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Level (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)	Ant. Heigh (Meter)	Turn Table (Degree)
2474	PK	V	33.368	29.53	86.978	83.14	114	-30.86	1.12	197
2474	AV	V	33.368	29.53	86.478	82.64	94	-11.36	1.12	197
2474	PK	H	33.368	29.53	86.798	82.96	114	-31.04	1.84	158
2474	AV	H	33.368	29.53	86.078	82.24	94	-11.76	1.84	158
4948	PK	V	32.496	35.47	-	-	74	-	-	-
4948	AV	V	32.496	35.47	-	-	54	-	-	-
7422	PK	V	34.32	38.42	-	-	74	-	-	-
7422	AV	V	34.32	38.42	-	-	54	-	-	-
9896	PK	V	35.808	41.35	-	-	74	-	-	-
9896	AV	V	35.808	41.35	-	-	54	-	-	-
4948	PK	H	32.496	35.47	-	-	74	-	-	-
4948	AV	H	32.496	35.47	-	-	54	-	-	-
7422	PK	H	34.32	38.42	-	-	74	-	-	-
7422	AV	H	34.32	38.42	-	-	54	-	-	-
9896	PK	H	35.808	41.35	-	-	74	-	-	-
9896	AV	H	35.808	41.35	-	-	54	-	-	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-” means the emission is below the noise floor, and the noise floor listed below:

For PK:

1GHz-10GHz: 50dBuV

10GHz-26.5GHz: 60dBuV

For AV:

1GHz-10GHz: 40dBuV

10GHz-26.5GHz: 45dBuV



EUT : MINI 1** (handset)
 Test Condition : Tx at high channel
 Configuration : Transverse (y, z)

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamplifier (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Level (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)	Ant. Heigh (Meter)	Turn Table (Degree)
2475.95	PK	V	33.368	29.53	88.408	84.57	114	-29.43	1	166
2475.95	AV	V	33.368	29.53	87.938	84.1	94	-9.9	1	166
2475.95	PK	H	33.368	29.53	89.838	86	114	-28	2.12	217
2475.95	AV	H	33.368	29.53	89.468	85.63	94	-8.37	2.12	217
4951.9	PK	V	32.496	35.47	-	-	74	-	-	-
4951.9	AV	V	32.496	35.47	-	-	54	-	-	-
7427.85	PK	V	34.32	38.42	-	-	74	-	-	-
7427.85	AV	V	34.32	38.42	-	-	54	-	-	-
9903.8	PK	V	35.808	41.35	-	-	74	-	-	-
9903.8	AV	V	35.808	41.35	-	-	54	-	-	-
4951.9	PK	H	32.496	35.47	-	-	74	-	-	-
4951.9	AV	H	32.496	35.47	-	-	54	-	-	-
7427.85	PK	H	34.32	38.42	-	-	74	-	-	-
7427.85	AV	H	34.32	38.42	-	-	54	-	-	-
9903.8	PK	H	35.808	41.35	-	-	74	-	-	-
9903.8	AV	H	35.808	41.35	-	-	54	-	-	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-” means the emission is below the noise floor, and the noise floor listed below:

For PK:

1GHz-10GHz: 50dBuV

10GHz-26.5GHz: 60dBuV

For AV:

1GHz-10GHz: 40dBuV

10GHz-26.5GHz: 45dBuV



EUT : MINI 1** (base unit)
 Test Condition : Tx at low channel
 Configuration : Normal

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Level (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)	Ant. Heigh (Meter)	Turn Table (Degree)
2402.55	PK	V	33.368	29.53	90.398	86.56	114	-27.44	1	258
2402.55	AV	V	33.368	29.53	90.318	86.48	94	-7.52	1	258
2402.55	PK	H	33.368	29.53	89.088	85.25	114	-28.75	1	23
2402.55	AV	H	33.368	29.53	88.638	84.8	94	-9.2	1	23
4805.1	PK	V	32.496	35.47	-	-	74	-	-	-
4805.1	AV	V	32.496	35.47	-	-	54	-	-	-
7207.65	PK	V	34.32	38.42	-	-	74	-	-	-
7207.65	AV	V	34.32	38.42	-	-	54	-	-	-
9610.2	PK	V	35.808	41.35	-	-	74	-	-	-
9610.2	AV	V	35.808	41.35	-	-	54	-	-	-
4805.1	PK	H	32.496	35.47	-	-	74	-	-	-
4805.1	AV	H	32.496	35.47	-	-	54	-	-	-
7207.65	PK	H	34.32	38.42	-	-	74	-	-	-
7207.65	AV	H	34.32	38.42	-	-	54	-	-	-
9610.2	PK	H	35.808	41.35	-	-	74	-	-	-
9610.2	AV	H	35.808	41.35	-	-	54	-	-	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-” means the emission is below the noise floor, and the noise floor listed below:

For PK:

1GHz-10GHz: 50dBuV

10GHz-26.5GHz: 60dBuV

For AV:

1GHz-10GHz: 40dBuV

10GHz-26.5GHz: 45dBuV



EUT : MINI 1** (base unit)
 Test Condition : Tx at high channel
 Configuration : Normal

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Preamp (dB)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Level (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)	Ant. Heigh (Meter)	Turn Table (Degree)
2404.5	PK	V	33.368	29.53	86.828	82.99	114	-31.01	1.13	147
2404.5	AV	V	33.368	29.53	86.498	82.66	94	-11.34	1.13	147
2404.5	PK	H	33.368	29.53	90.478	86.64	114	-27.36	1.68	38
2404.5	AV	H	33.368	29.53	89.858	86.02	94	-7.98	1.68	38
4809	PK	V	32.496	35.47	-	-	74	-	-	-
4809	AV	V	32.496	35.47	-	-	54	-	-	-
7213.5	PK	V	34.32	38.42	-	-	74	-	-	-
7213.5	AV	V	34.32	38.42	-	-	54	-	-	-
9618	PK	V	35.808	41.35	-	-	74	-	-	-
9618	AV	V	35.808	41.35	-	-	54	-	-	-
4809	PK	H	32.496	35.47	-	-	74	-	-	-
4809	AV	H	32.496	35.47	-	-	54	-	-	-
7213.5	PK	H	34.32	38.42	-	-	74	-	-	-
7213.5	AV	H	34.32	38.42	-	-	54	-	-	-
9618	PK	H	35.808	41.35	-	-	74	-	-	-
9618	AV	H	35.808	41.35	-	-	54	-	-	-

Remark:

1. Corrected Level = Reading Level + Correction Factor – Preamp
2. Correction Factor = Antenna Factor + Cable Loss
3. “-“ means the emission is below the noise floor, and the noise floor listed below:

For PK:

1GHz-10GHz: 50dBuV

10GHz-26.5GHz: 60dBuV

For AV:

1GHz-10GHz: 40dBuV

10GHz-26.5GHz: 45dBuV

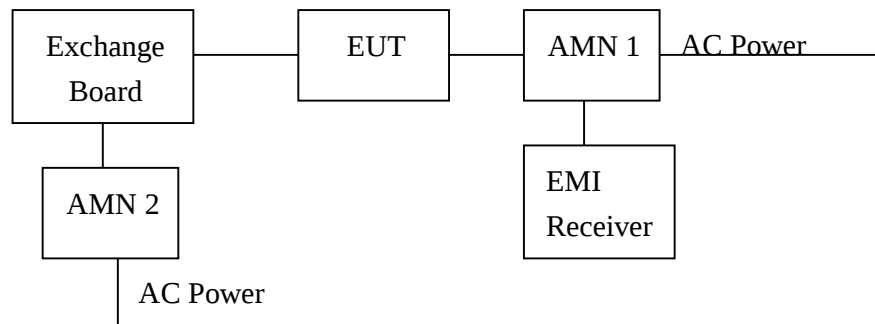


4. Conducted emission test FCC 15.207

4.1 Operating environment

Temperature:	25	°C	(10-40°C)
Relative Humidity:	55	%	(10-90%)
Atmospheric Pressure	1023	hPa	(860-1061hPa)

4.2 Test setup & procedure



The EUT are connected to the main power through a line impedance stabilization network (LISN). This provides a 50 ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination.

Both sides (Line and Neutral) of AC line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4/1992 on conducted measurement.

The bandwidth of the field strength meter (R & S Test Receiver ESCS 30) is set at 9kHz.

The EUT configuration please refer to the “Conducted set-up photo.pdf”.

See Power Line Conducted Emission plot as file name “Power Line Conducted Emission plot.pdf”.



4.3 Emission limit

Freq. (MHz)	Conducted Limit (dBuV)	
	Q.P.	Ave.
0.15~0.50	66 – 56*	56 – 46*
0.50~5.00	56	46
5.00~30.0	60	50

*Decreases with the logarithm of the frequency.



4.4 Conducted emission data FCC 15.207

(1) Line

EUT : MINI 1** (base unit)

Test Condition : Tx at low channel

Freq. (MHz)	Reading (dB μ V) QP	Limit (dB μ V) QP	Reading (dB μ V) AV	Limit (dB μ V) AV	Margin (dB)	
					QP	AV
0.55000	18.00	56.00	13.60	46.00	-38.00	-32.40
0.67000	12.60	56.00	4.50	46.00	-43.40	-41.50
0.93400	11.80	56.00	3.10	46.00	-44.20	-42.90
1.83000	11.70	56.00	3.10	46.00	-44.30	-42.90
3.71800	12.60	56.00	4.40	46.00	-43.40	-41.60
6.62200	13.10	60.00	4.70	50.00	-46.90	-45.30

(2) Neutral

EUT : MINI 1** (base unit)

Test Condition : Tx at low channel

Freq. (MHz)	Reading (dB μ V) QP	Limit (dB μ V) QP	Reading (dB μ V) AV	Limit (dB μ V) AV	Margin (dB)	
					QP	AV
0.27000	13.90	61.12	5.00	51.12	-47.22	-46.12
0.37400	12.30	58.41	3.80	48.41	-46.11	-44.61
0.55000	20.90	56.00	17.00	46.00	-35.10	-29.00
1.88600	12.00	56.00	3.40	46.00	-44.00	-42.60
2.51800	11.70	56.00	3.30	46.00	-44.30	-42.70
7.39000	13.80	60.00	5.30	50.00	-46.20	-44.70

Remark:

1. The reading value included cable loss and LISN factor.

2. Uncertainty was calculated in accordance with NAMAS NIS 81.

Expanded uncertainty (k=2) of conducted emission measurement is ± 2.6 dB.



(1) Line

EUT : MINI 1** (base unit)

Test Condition : Tx at high channel

Freq. (MHz)	Reading (dB μ V) QP	Limit (dB μ V) QP	Reading (dB μ V) AV	Limit (dB μ V) AV	Margin (dB)	
					QP	AV
0.20600	16.20	63.37	4.60	53.37	-47.17	-48.77
0.33400	11.70	59.35	3.20	49.35	-47.65	-46.15
0.55000	17.90	56.00	13.60	46.00	-38.10	-32.40
2.00600	11.80	56.00	3.10	46.00	-44.20	-42.90
3.79800	12.40	56.00	4.20	46.00	-43.60	-41.80
6.27000	12.90	60.00	4.40	50.00	-47.10	-45.60

(2) Neutral

EUT : MINI 1** (base unit)

Test Condition : Tx at high channel

Freq. (MHz)	Reading (dB μ V) QP	Limit (dB μ V) QP	Reading (dB μ V) AV	Limit (dB μ V) AV	Margin (dB)	
					QP	AV
0.20600	24.20	63.37	7.60	53.37	-39.17	-45.77
0.23000	22.10	62.45	7.40	52.45	-40.35	-45.05
0.27000	15.80	61.12	5.30	51.12	-45.32	-45.82
0.36600	15.10	58.59	4.10	48.59	-43.49	-44.49
0.41400	14.10	57.57	3.80	47.57	-43.47	-43.77
0.55000	19.80	56.00	15.30	46.00	-36.20	-30.70

Remark:

1. The reading value included cable loss and LISN factor.
2. Uncertainty was calculated in accordance with NAMAS NIS 81.

Expanded uncertainty (k=2) of conducted emission measurement is ± 2.6 dB.



(1) Line

EUT : MINI 1** (base unit)

Test Condition : Charge mode

Freq. (MHz)	Reading (dB μ V) QP	Limit (dB μ V) QP	Reading (dB μ V) AV	Limit (dB μ V) AV	Margin (dB)	
					QP	AV
0.18200	29.40	64.39	20.00	54.39	-34.99	-34.39
0.20600	27.40	63.37	17.60	53.37	-35.97	-35.77
0.47800	19.60	56.37	9.90	46.37	-36.77	-36.47
0.51800	20.20	56.00	8.80	46.00	-35.80	-37.20
0.54200	19.30	56.00	9.30	46.00	-36.70	-36.70
0.57400	17.30	56.00	6.40	46.00	-38.70	-39.60

(2) Neutral

EUT : MINI 1** (base unit)

Test Condition : Charge mode

Freq. (MHz)	Reading (dB μ V) QP	Limit (dB μ V) QP	Reading (dB μ V) AV	Limit (dB μ V) AV	Margin (dB)	
					QP	AV
0.18200	32.20	64.39	23.90	54.39	-32.19	-30.49
0.20600	32.00	63.37	22.70	53.37	-31.37	-30.67
0.23000	29.70	62.45	19.40	52.45	-32.75	-33.05
0.27000	26.60	61.12	17.30	51.12	-34.52	-33.82
0.31800	25.80	59.76	15.70	49.76	-33.96	-34.06
0.47800	23.70	56.37	12.50	46.37	-32.67	-33.87

Remark:

1. The reading value included cable loss and LISN factor.
2. Uncertainty was calculated in accordance with NAMAS NIS 81.

Expanded uncertainty (k=2) of conducted emission measurement is ± 2.6 dB.



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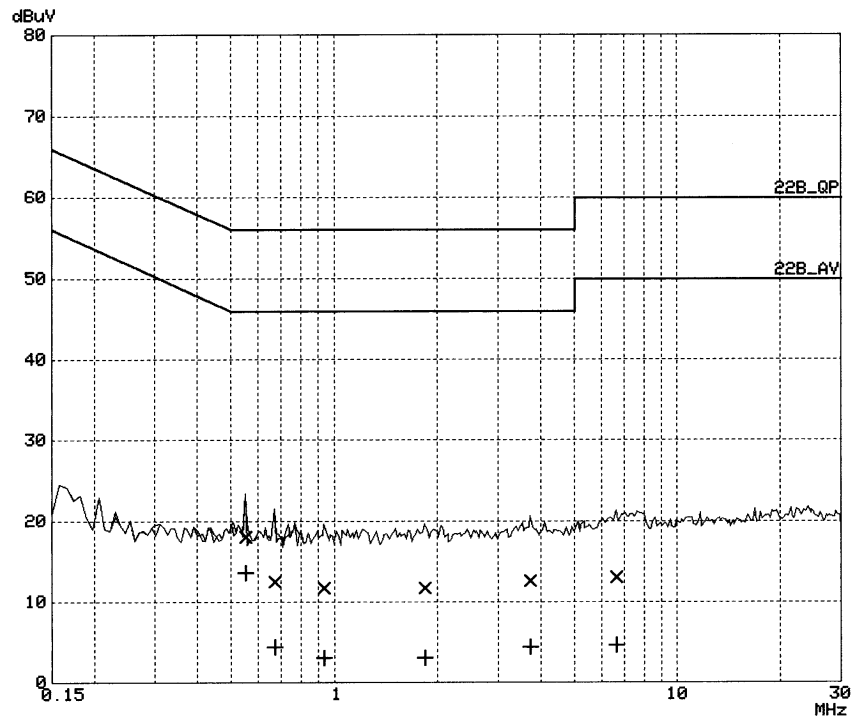
RF VOLTAGE

EUT: MINI 1**,MINI 1C** (base)
Manuf: Cidmate
Op Cond: LISN-L
Operator: Kevin
Test Spec: Fcc Class B
Comment: EMI RCV:835418/0132 base Tx CH1
120V 60Hz 22°C 57%RH
Date: 08. Jul 03 10:48

Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	8k	9k	PK	20ms	AUTO LN	OFF

Final Measurement: x QP / + AV
Meas Time: 1 s





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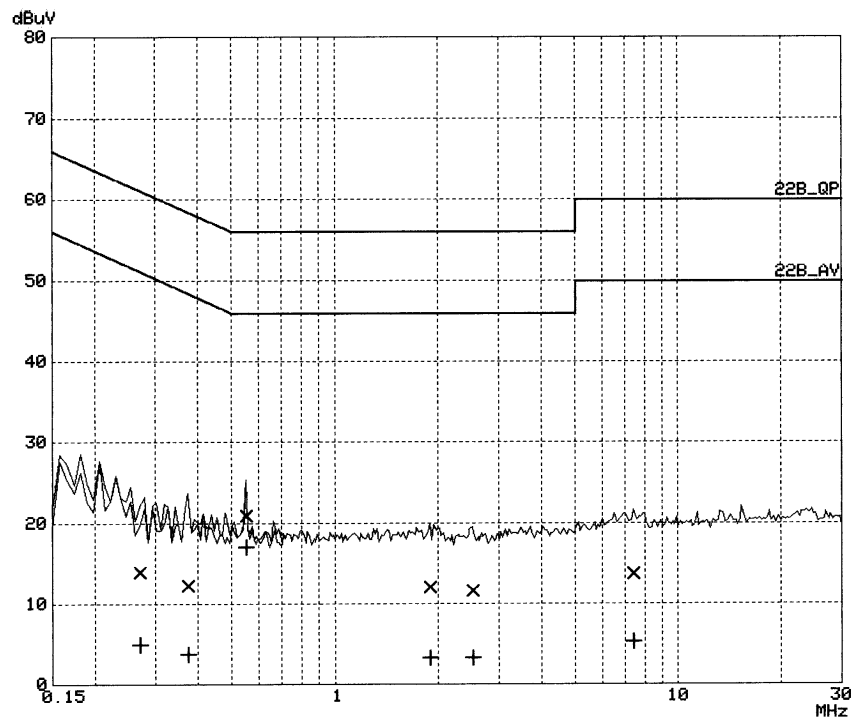
RF VOLTAGE

EUT: MINI 1**,MINI 1C** (base)
Manuf: Cidmate
Op Cond: LISN-N
Operator: Kevin
Test Spec: FCC Class B
Comment: EMI RCV:835418/0132 base Tx CH1
120V 60Hz 22'c 57%RH
Date: 08. Jul 03 10:56

Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	8k	9k	PK	20ms	AUTO LN	OFF

Final Measurement: x QP / + AV
Meas Time: 1 s





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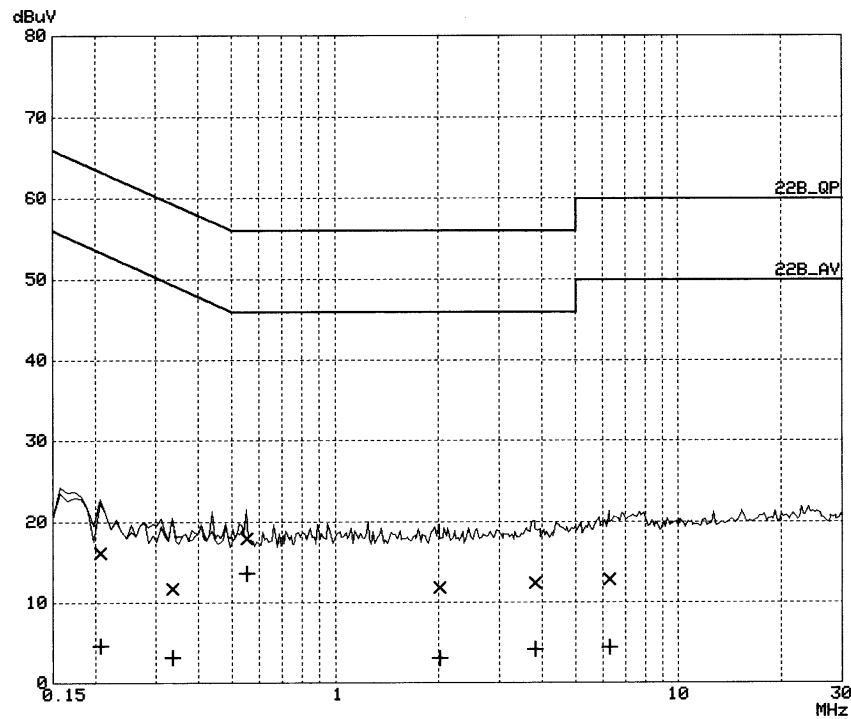
RF VOLTAGE

EUT: MINI 1**,MINI 1C** (base)
Manuf: Cidmate
Op Cond: LISN-L
Operator: Kevin
Test Spec: FCC Class B
Comment: EMI RCV:835418/0132 base Tx CH40
120V 60Hz 22'c 57%RH
Date: 08. Jul 03 10:40

Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	8k	9k	PK	20ms	AUTO	LN OFF

Final Measurement: x QP / + AV
Meas Time: 1 s





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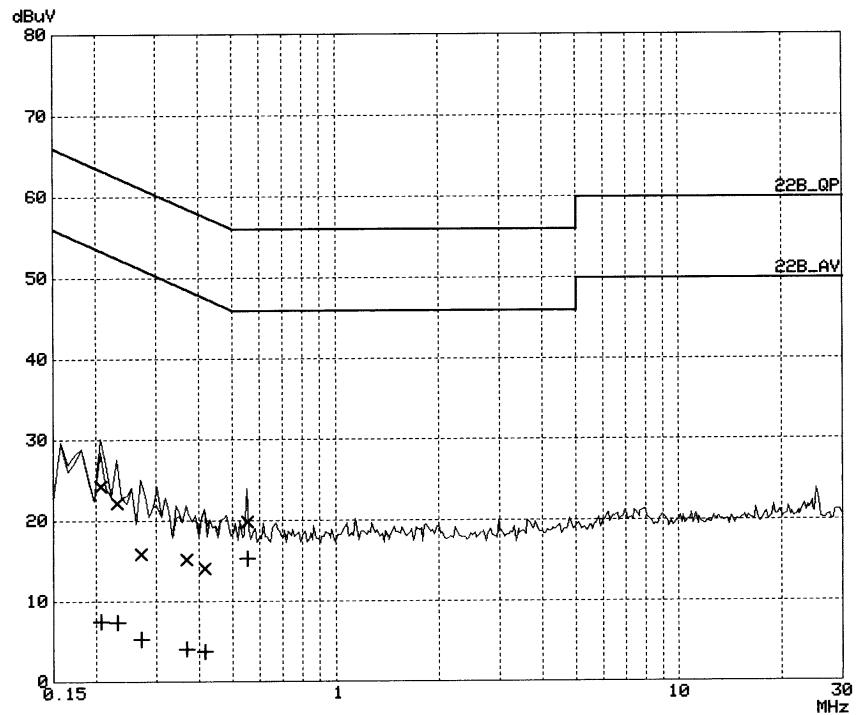
RF VOLTAGE

EUT: MINI 1**,MINI 1C** (base)
Manuf: Cidmate
Op Cond: LISN-N
Operator: Kevin
Test Spec: FCC Class B
Comment: EMI RCV:835418/0132 base Tx CH40
120V 60Hz 22°C 57%RH
Date: 08. Jul 03 10:33

Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	8k	9k	PK	20ms	AUTO	LN OFF

Final Measurement: x QP / + AV
Meas Time: 1 s





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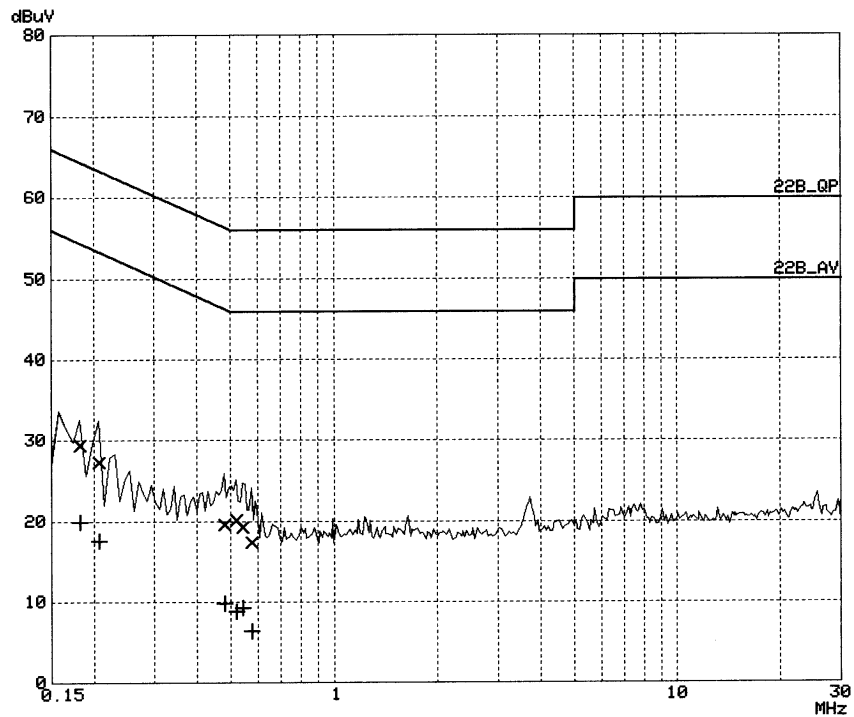
RF VOLTAGE

EUT: MINI 1**,MINI 1C** (base)
Manuf: Cidmate
Op Cond: LISN-L
Operator: Kevin
Test Spec: FCC Class B
Comment: EMI RCV:835418/0132 base at charge mode
120V 60Hz 22'c 57%RH
Date: 08. Jul 03 11:41

Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	8k	9k	PK	20ms	AUTO	LN OFF

Final Measurement: x QP / + AV
Meas Time: 1 s





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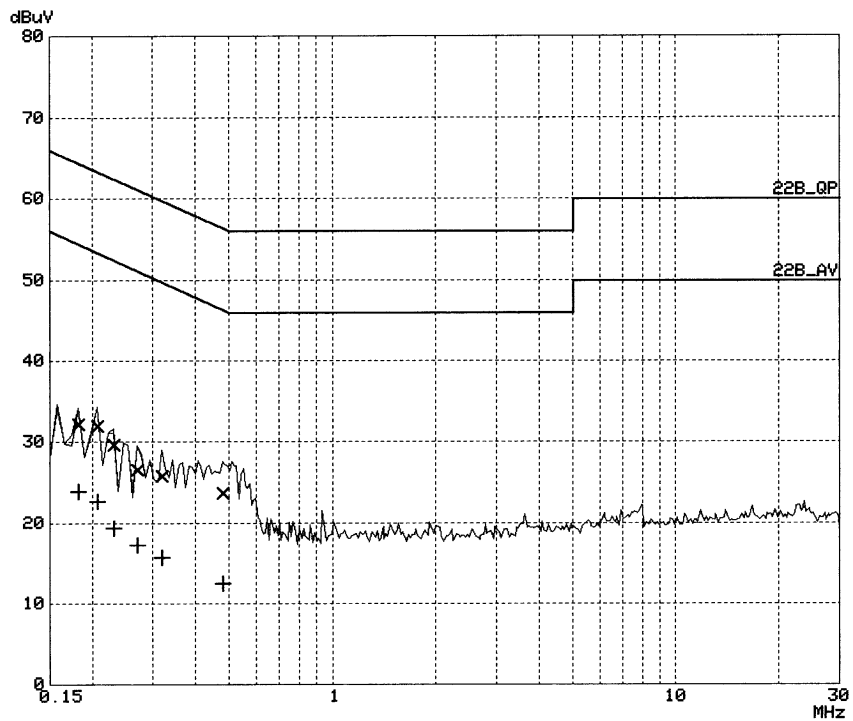
RF VOLTAGE

EUT: MINI 1**,MINI 1C** (base)
Manuf: Cidmate
Op Cond: LISN-N
Operator: Kevin
Test Spec: FCC Class B
Comment: EMI RCV:835418/0132 base at charge mode
120V 60Hz 22'c 57%RH
Date: 08. Jul 03 11:49

Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	8k	9k	PK	20ms	AUTO	LN OFF

Final Measurement: x QP / + AV
Meas Time: 1 s





5. Radiated emission on the band edge FCC 15.249(C)

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental (2400~2483.5MHz) or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

See band-edge plot as below



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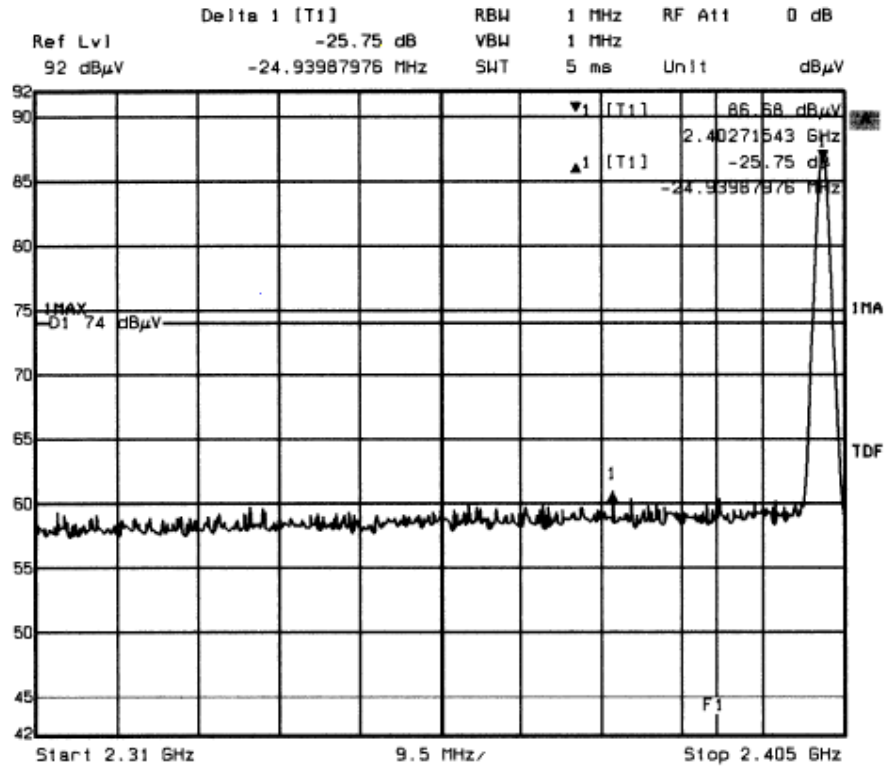
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Test Channel: Tx at low channel (base unit)

Polarization: Vertical (PK detector)



Comment A: Band-edge test Base unit tx low channel *F1 = 2.40271543 GHz*
Vertical polarization PK detector (Test Equipment : EC338 EC365 EC360)
Date: 17.JUL.2003 21:21:33

Kevin



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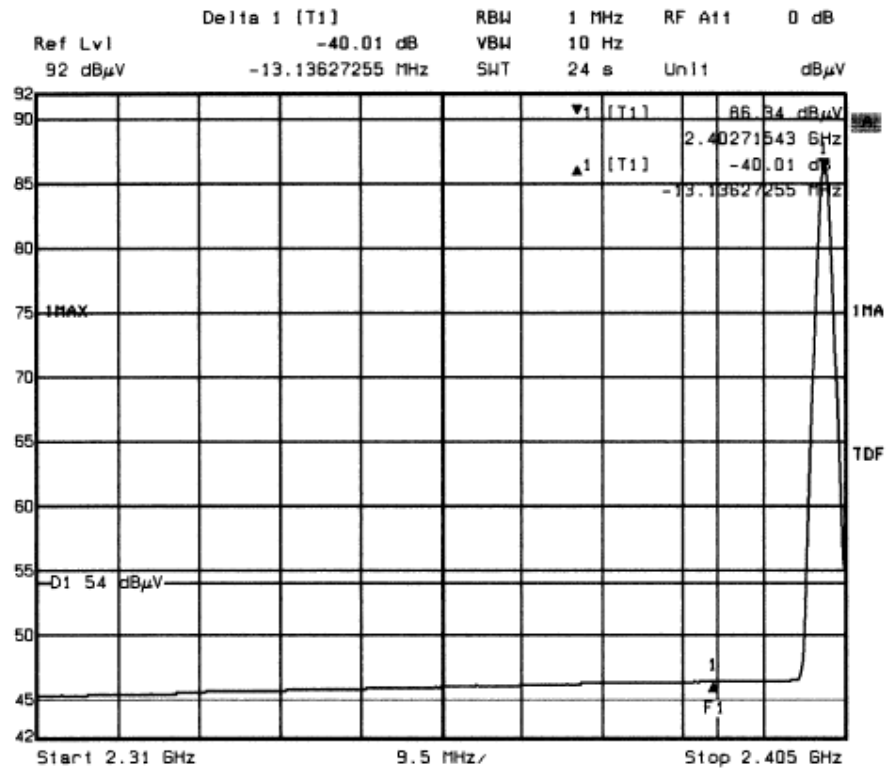
FCC ID. : PIZMINI1

Report No.: EME-030784

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Test Channel: Tx at low channel (base unit)

Polarization: Vertical (AV detector)



Comment A: Band-edge test Base unit tx low channel

Vertical polarization AV detector (Test Equipment : EC338 EC365 E1360)

Date: 17.JUL.2003 21:25:13

[Signature]



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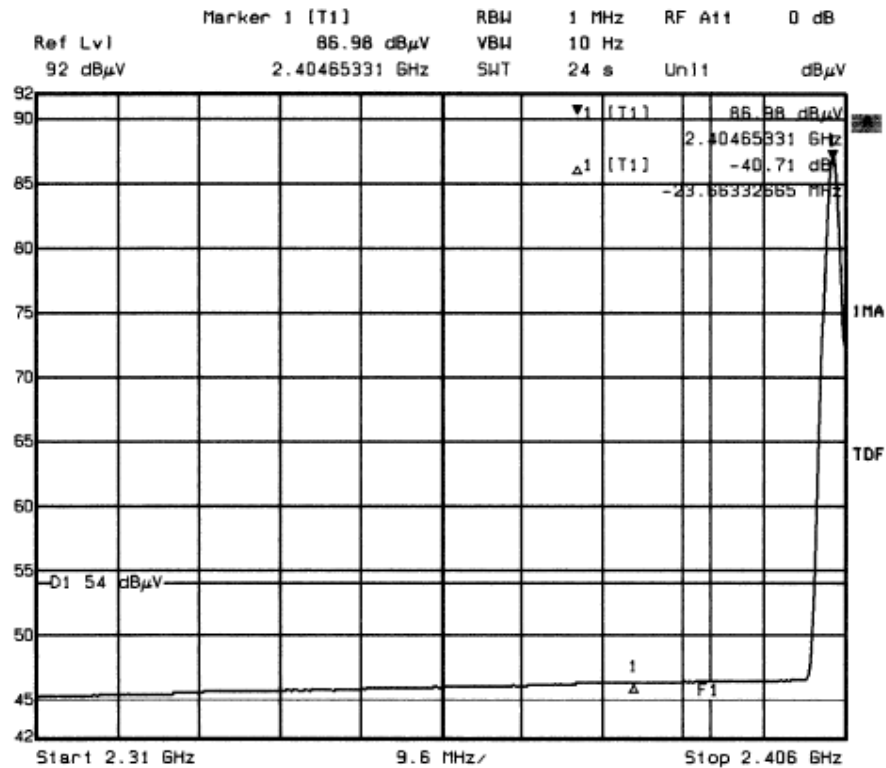
FCC ID. : PIZMIN1

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Test Channel: Tx at high channel (base unit)

Polarization: Horizontal (AV detector)



Comment A: Band-edge test Base unit tx high channel

Horizontal polarization AV detector (Test Equipment : EC338 E(365 E(360))

Date: 17.JUL.2003 22:10:25



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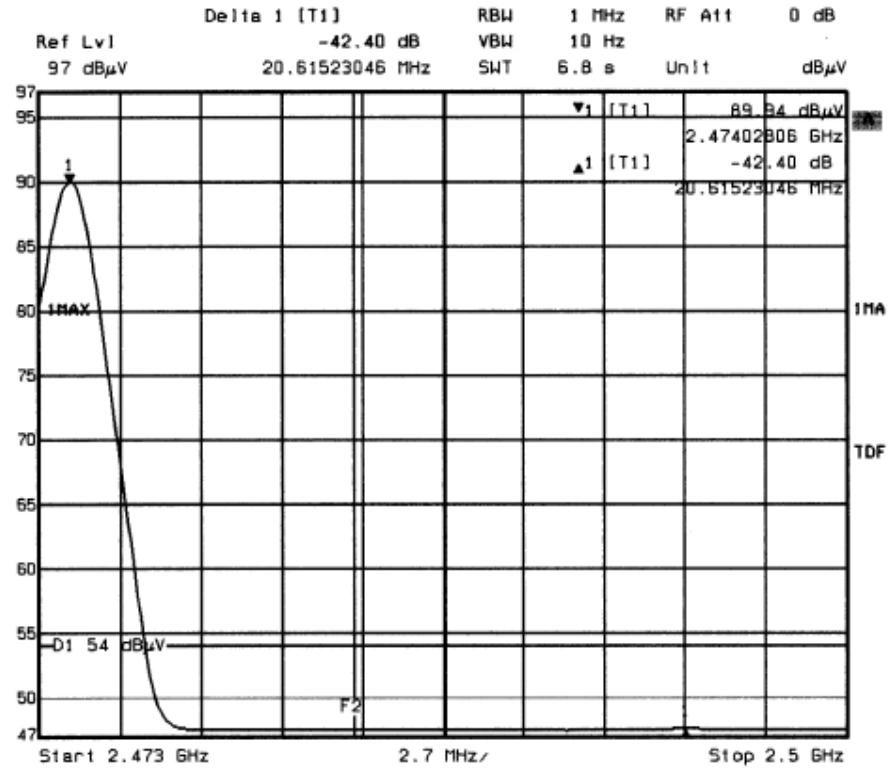
FCC ID. : PIZMINI1

Report No.: EME-030784

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Test Channel: Tx at low channel (handset unit)

Polarization: Horizontal (AV detector)



Comment A: Band-edge test Handset unit tx low channel F2=2483.5MHz
Hor. polar. AV detector(Equipment Used: EC338 EC360 EC365)
Date: 19.JUL.2003 13:52:11



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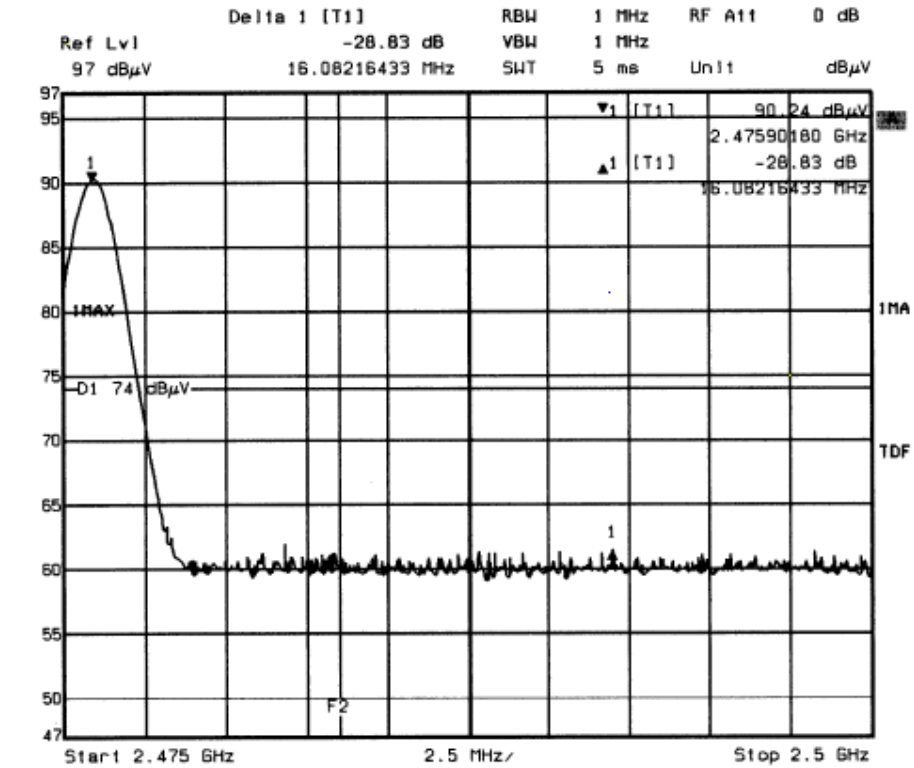
FCC ID. : PIZMINI1

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Test Channel: Tx at high channel (handset unit)

Polarization: Horizontal (PK detector)



Comment A: Band-edge test Handset unit tx high F2=2483.5MHz
Hor. polar. PK detector(Equipment Used: EC338 EC360 EC365)
Date: 19.JUL.2003 14:38:49



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Comment A: Band-edge test Handset unit 1x high F2=2483.5MHz
Hor. polar. AV detector(Equipment Used: EC33B EC360 EC365)
Date: 19.JUL.2003 14:40:31