EMC

TEST REPORT

Report No. : EME-030528
Model No. : 36270
Issued Date : July 28, 2003

Applicant : SENTON Enterprises Limited
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Fo Tan Shatin, N.T. Hong Kong

Test By : Intertek Testing Services Taiwan Ltd.
No. 11, Lane 275, Ko-Nan 1 Street, Chia-Tung Li,
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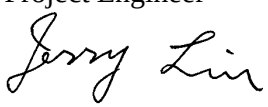
Project Engineer



Jerry Liu

Reviewed By

Elton Chen

Table of Contents

Summary of Tests

Cordless Phone -Model: 36270
FCC ID: PEG36270

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	: SENTON Enterprises Limited
Product	: Cordless Phone
Model No.	: 36270
FCC ID.	: PEG36270
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, 60Hz
Rated Power (Handset)	: 3.6Vdc battery
Power Cord	: N/A
Sample Received	: April 24, 2003
Test Date(s)	: May 13, 2003 to July 18, 2003

1.2 Additional information about the EUT

The EUT is a Cordless Phone, it consists of handset unit and base unit.

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 : 0dBi
Antenna Type : Monopole antenna
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
Telephone	Tozai	ATC-814	9904000066	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 were composted of “Base Unit” and “Handset Unit”, only Base Unit need to comply with conducted emission test, and it was tested in normal mode during this test.

During other test:

The Handset and Base unit were transmitted continuously and test individually.

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.

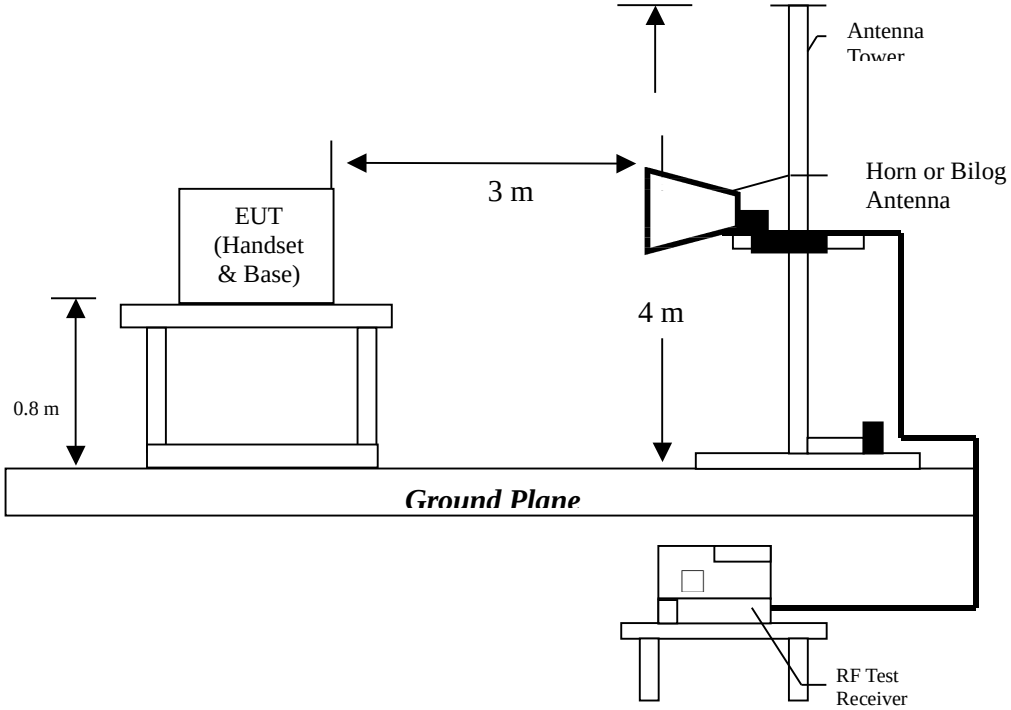
3. Radiated emission test FCC 15.249 (C)

3.1 Operating environment

Temperature:	25	℃	(10-40℃)
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 invested 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)
Setup 2

Plane (x, z)
Setup 1

Transverse (y, z)
Setup 3

The worst Radiated Spurious test was found in Setup 1.

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 emission test data FCC 15.249

3.4.1 Fundamental & harmonics radiated emission data

The radiated emissions at

Frequency(MHz)	Margin
825.4000	-1.24

are less than uncertainty. This is within the stated measurement uncertainty, this may affect compliance determined in other test arrangements.

EUT : 36270
Test Condition : Handset, Tx at low channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Level (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
796.3000	QP	V	24.18	5.50	29.68	46.00	-16.32
825.4000	QP	V	24.26	12.50	36.76	46.00	-9.24
*	QP	V	*	*	*	*	*
*	QP	V	*	*	*	*	*
*	QP	V	*	*	*	*	*
*	QP	V	*	*	*	*	*
796.3000	QP	H	24.18	10.90	35.08	46.00	-10.92
825.4000	QP	H	24.26	20.50	44.76	46.00	-1.24
*	QP	H	*	*	*	*	*
*	QP	H	*	*	*	*	*
*	QP	H	*	*	*	*	*
*	QP	H	*	*	*	*	*

Remark:
1.Corrected Level = Reading Level + Correction Factor
2.Correction Factor = Antenna Factor + Cable Loss

The radiated emissions at

Frequency(MHz)	Margin
825.4000	-1.24

are less than uncertainty. This is within the stated measurement uncertainty, this may affect compliance determined in other test arrangements.

EUT : 36270
Test Condition : Handset, Tx at high channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Level (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
798.2000	QP	V	24.24	4.40	28.64	46.00	-17.36
825.4000	QP	V	24.26	12.30	36.56	46.00	-9.44
*	QP	V	*	*	*	*	*
*	QP	V	*	*	*	*	*
*	QP	V	*	*	*	*	*
*	QP	V	*	*	*	*	*
798.2000	QP	H	24.24	10.60	34.84	46.00	-11.16
825.4000	QP	H	24.26	20.50	44.76	46.00	-1.24
*	QP	H	*	*	*	*	*
*	QP	H	*	*	*	*	*
*	QP	H	*	*	*	*	*
*	QP	H	*	*	*	*	*

Remark:
1.Corrected Level = Reading Level + Correction Factor
2.Correction Factor = Antenna Factor + Cable Loss

EUT : 36270
Test Condition : Base unit, Tx at low channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Level (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
64.9000	QP	V	12.94	1.40	14.34	40.00	-25.66
107.6000	QP	V	11.59	6.20	17.79	43.50	-25.71
130.9000	QP	V	13.42	0.20	13.62	43.50	-29.88
800.2000	QP	V	24.29	6.40	30.69	46.00	-15.31
827.3000	QP	V	24.27	10.00	34.27	46.00	-11.73
903.0000	QP	V	25.11	12.00	37.11	46.00	-8.89
80.4000	QP	H	9.49	0.50	9.99	40.00	-30.01
152.2000	QP	H	14.80	1.10	15.90	43.50	-27.60
163.9000	QP	H	14.67	6.80	21.47	43.50	-22.03
800.2000	QP	H	24.29	7.20	31.49	46.00	-14.51
827.3000	QP	H	24.27	14.50	38.77	46.00	-7.23
937.9000	QP	H	25.42	5.00	30.42	46.00	-15.58

Remark:
1.Corrected Level = Reading Level + Correction Factor
2.Correction Factor = Antenna Factor + Cable Loss

The radiated emissions at

Frequency(MHz)	Margin
825.4000	-1.24

are less than uncertainty. This is within the stated measurement uncertainty, this may affect compliance determined in other test arrangements.

EUT : 36270
Test Condition : Base unit, Tx at high channel

Frequency (MHz)	Spectrum Analyzer Detector	Antenna Polariz. (H/V)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Level (dBuV)	Limit @ 3 m (dBuV)	Margin (dB)
41.6000	QP	V	13.01	12.70	25.71	40.00	-14.29
64.9000	QP	V	12.94	0.80	13.74	40.00	-26.26
107.6000	QP	V	11.59	6.00	17.59	43.50	-25.91
130.9000	QP	V	13.42	1.10	14.52	43.50	-28.98
802.1000	QP	V	24.27	7.00	31.27	46.00	-14.73
829.3000	QP	V	24.28	11.90	36.18	46.00	-9.82
80.4000	QP	H	9.49	0.30	9.79	40.00	-30.21
173.6000	QP	H	14.02	6.40	20.42	43.50	-23.08
802.1000	QP	H	24.27	8.90	33.17	46.00	-12.83
829.3000	QP	H	24.28	15.80	40.08	46.00	-5.92
862.3000	QP	H	24.37	3.50	27.87	46.00	-18.13
988.4000	QP	H	25.90	3.80	29.70	54.00	-24.30

Remark:
1.Corrected Level = Reading Level + Correction Factor
2.Correction Factor = Antenna Factor + Cable Loss

3.4.2 Fundamental & Harmonics Radiated Emission Data

EUT : 36270
Test Condition : Handset, Tx at low channel
Configuration : Setup 1

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)
2474	PK	V	33.368	29.53	81.718	77.88	114	-36.12
2474	AV	V	33.368	29.53	81.128	77.29	94	-16.71
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	-
12370	PK	V	35.315	43.75	-	-	74	-
12370	AV	V	35.315	43.75	-	-	54	-
14844	PK	V	34.958	45.13	-	-	74	-
14844	AV	V	34.958	45.13	-	-	54	-
17318	PK	V	35.234	44.75	-	-	74	-
17318	AV	V	35.234	44.75	-	-	54	-
19792	PK	V	34.314	50.29	-	-	74	-
19792	AV	V	34.314	50.29	-	-	54	-
22266	PK	V	34.782	51.64	-	-	74	-
22262	AV	V	34.782	51.64	-	-	54	-
24740	PK	V	35.868	53.15	-	-	74	-
24740	AV	V	35.868	53.15	-	-	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 : 36270
Test Condition : Handset, Tx at low channel
Configuration : Setup 1

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)
2474	PK	H	33.368	29.53	79.958	76.12	114	-37.88
2474	AV	H	33.368	29.53	78.908	75.07	94	-18.93
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	-
12370	PK	H	35.315	43.75	-	-	74	-
12370	AV	H	35.315	43.75	-	-	54	-
14844	PK	H	34.958	45.13	-	-	74	-
14844	AV	H	34.958	45.13	-	-	54	-
17318	PK	H	35.234	44.75	-	-	74	-
17318	AV	H	35.234	44.75	-	-	54	-
19792	PK	H	34.314	50.29	-	-	74	-
19792	AV	H	34.314	50.29	-	-	54	-
22266	PK	H	34.782	51.64	-	-	74	-
22262	AV	H	34.782	51.64	-	-	54	-
24740	PK	H	35.868	53.15	-	-	74	-
24740	AV	H	35.868	53.15	-	-	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 : 36270
Test Condition : Handset, Tx at high channel
Configuration : Setup 1

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)
2475.95	PK	V	33.368	29.53	80.748	76.91	114	-37.09
2475.95	AV	V	33.368	29.53	79.998	76.16	94	-17.84
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	-
12379.75	PK	V	35.315	43.75	-	-	74	-
12379.75	AV	V	35.315	43.75	-	-	54	-
14855.7	PK	V	34.958	45.13	-	-	74	-
14855.7	AV	V	34.958	45.13	-	-	54	-
17331.65	PK	V	35.234	44.75	-	-	74	-
17311.65	AV	V	35.234	44.75	-	-	54	-
19807.6	PK	V	34.227	50.34	-	-	74	-
19807.6	AV	V	34.227	50.34	-	-	54	-
22283.55	PK	V	34.782	51.64	-	-	74	-
22283.55	AV	V	34.782	51.64	-	-	54	-
24759.5	PK	V	35.868	53.15	-	-	74	-
24759.5	AV	V	35.868	53.15	-	-	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 : 36270
Test Condition : Handset, Tx at high channel
Configuration : Setup 1

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)
2475.95	PK	H	33.368	29.53	79.718	75.88	114	-38.12
2475.95	AV	H	33.368	29.53	78.898	75.06	94	-18.94
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	-
12379.75	PK	H	35.315	43.75	-	-	74	-
12379.75	AV	H	35.315	43.75	-	-	54	-
14855.7	PK	H	34.958	45.13	-	-	74	-
14855.7	AV	H	34.958	45.13	-	-	54	-
17331.65	PK	H	35.234	44.75	-	-	74	-
17311.65	AV	H	35.234	44.75	-	-	54	-
19807.6	PK	H	34.227	50.34	-	-	74	-
19807.6	AV	H	34.227	50.34	-	-	54	-
22283.55	PK	H	34.782	51.64	-	-	74	-
22283.55	AV	H	34.782	51.64	-	-	54	-
24759.5	PK	H	35.868	53.15	-	-	74	-
24759.5	AV	H	35.868	53.15	-	-	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 : 36270
Test Condition : Base unit, Tx at low channel

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)
2402.55	PK	V	33.368	29.53	74.898	71.06	114	-42.94
2402.55	AV	V	33.368	29.53	72.768	68.93	94	-25.07
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	-
12012.8	PK	V	35.4	43.38	-	-	74	-
12012.8	AV	V	35.4	43.38	-	-	54	-
14415.3	PK	V	34.754	44.99	-	-	74	-
14415.3	AV	V	34.754	44.99	-	-	54	-
16817.9	PK	V	35.346	42.8	-	-	74	-
16817.9	AV	V	35.346	42.8	-	-	54	-
19220.4	PK	V	34.488	49.78	-	-	74	-
19220.4	AV	V	34.488	49.78	-	-	54	-
21623	PK	V	34.588	51.04	-	-	74	-
21623	AV	V	34.588	51.04	-	-	54	-
24025.5	PK	V	35.52	54.51	-	-	74	-
24025.5	AV	V	35.52	54.51	-	-	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 : 36270
Test Condition : Base unit, Tx at low channel

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)
2402.55	PK	H	33.368	29.53	78.558	74.72	114	-39.28
2402.55	AV	H	33.368	29.53	77.098	73.26	94	-20.74
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	-
12012.8	PK	H	35.4	43.38	-	-	74	-
12012.8	AV	H	35.4	43.38	-	-	54	-
14415.3	PK	H	34.754	44.99	-	-	74	-
14415.3	AV	H	34.754	44.99	-	-	54	-
16817.9	PK	H	35.346	42.8	-	-	74	-
16817.9	AV	H	35.346	42.8	-	-	54	-
19220.4	PK	H	34.488	49.78	-	-	74	-
19220.4	AV	H	34.488	49.78	-	-	54	-
21623	PK	H	34.588	51.04	-	-	74	-
21623	AV	H	34.588	51.04	-	-	54	-
24025.5	PK	H	35.52	54.51	-	-	74	-
24025.5	AV	H	35.52	54.51	-	-	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 : 36270
Test Condition : Base unit, Tx at high channel

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)
2404.5	PK	V	33.368	29.53	74.898	71.06	114	-42.94
2404.5	AV	V	33.368	29.53	71.748	67.91	94	-26.09
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	-
12022.5	PK	V	35.4	43.38	-	-	74	-
12022.5	AV	V	35.4	43.38	-	-	54	-
14427	PK	V	34.754	44.99	-	-	74	-
14427	AV	V	34.754	44.99	-	-	54	-
16831.5	PK	V	35.346	42.8	-	-	74	-
16831.5	AV	V	35.346	42.8	-	-	54	-
19236	PK	V	34.488	49.78	-	-	74	-
19236	AV	V	34.488	49.78	-	-	54	-
21640.5	PK	V	34.588	51.04	-	-	74	-
21640.5	AV	V	34.588	51.04	-	-	54	-
24045	PK	V	35.52	54.51	-	-	74	-
24045	AV	V	35.52	54.51	-	-	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 : 36270
Test Condition : Base unit, Tx at high channel

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)
2404.5	PK	H	33.368	29.53	77.598	73.76	114	-40.24
2404.5	AV	H	33.368	29.53	76.218	72.38	94	-21.62
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	-
12022.5	PK	H	35.4	43.38	-	-	74	-
12022.5	AV	H	35.4	43.38	-	-	54	-
14427	PK	H	34.754	44.99	-	-	74	-
14427	AV	H	34.754	44.99	-	-	54	-
16831.5	PK	H	35.346	42.8	-	-	74	-
16831.5	AV	H	35.346	42.8	-	-	54	-
19236	PK	H	34.488	49.78	-	-	74	-
19236	AV	H	34.488	49.78	-	-	54	-
21640.5	PK	H	34.588	51.04	-	-	74	-
21640.5	AV	H	34.588	51.04	-	-	54	-
24045	PK	H	35.52	54.51	-	-	74	-
24045	AV	H	35.52	54.51	-	-	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

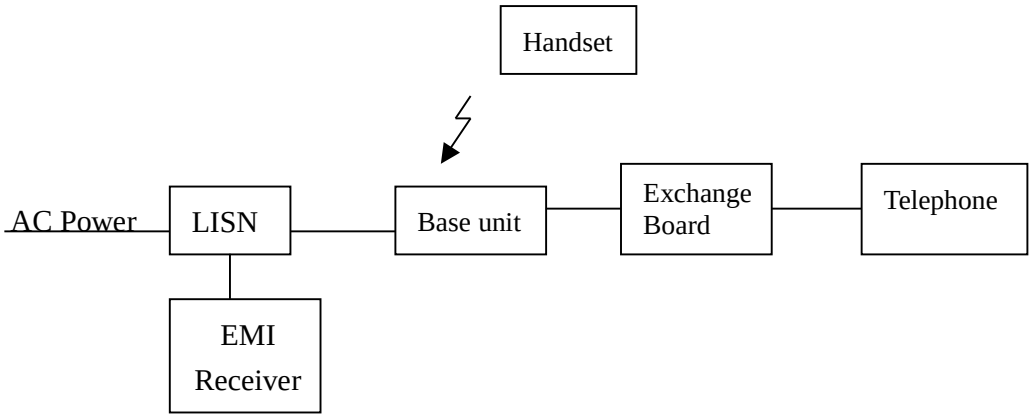
For AV:
1GHz-10GHz: 40dBuV
10GHz-26.5GHz: 45dBuV

4. Conducted emission test FCC 15.207

4.1 Operating environment

Temperature:	25	℃	(10-40℃)
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”.

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

Line/Neutral

EUT	: 36270
Test Condition	: Standby mode, Charging mode, Talking mode Ringing mode,

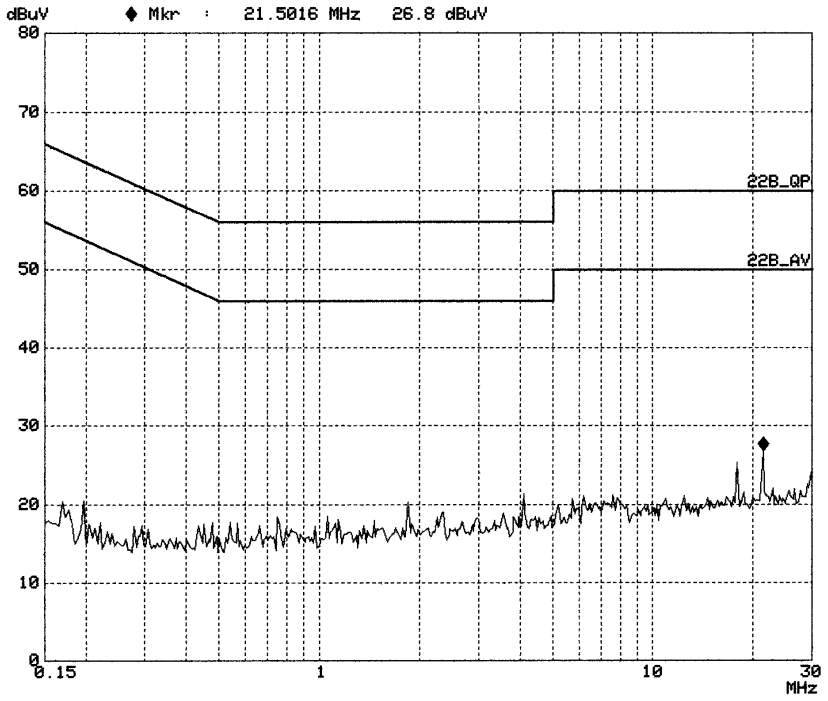
Remark: The emissions were very low against the limit in the frequency range 150kHz to 30MHz. Please see the plot as below.

Intertek Testing Services
RF VOLTAGE
EUT: 36270
Manuf: Senton
Op Cond: LISN-L
Operator: Elton
Test Spec: FCC Part 15.207
Comment: EMI RCV:835418/012
120V 60Hz 25'C 59%RH base unit;stand-by mode
Date: 28. Apr 03 14:44

Overview Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	3.9k	9k	PK	0.10ms	10dBLN	OFF

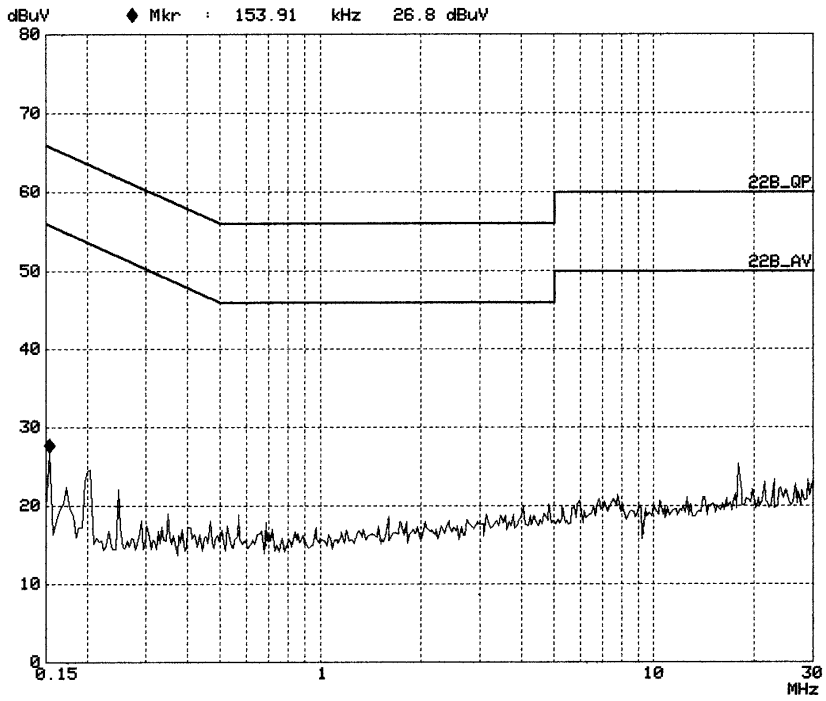
Final Measurement: x QP
Meas Time: 1 s



```
Intertek Testing Services
RF VOLTAGE
EUT:            36270
Manuf:          Senton
Op Cond:        LISN-N
Operator:       Elton
Test Spec:      FCC Part 15.207
Comment:        EMI RCV:825788/014
                120V 60Hz 25'C 59%RH base unit;stand-by mode
Date:           28. Apr 03  14:47

Overview Scan Settings (1 Range)
|--------- Frequencies -----------||--------- Receiver Settings ---------|
   Start       Stop        Step     IF BW  Detector  M-Time  Atten Preamp
 150k         30M         3.9k        9k       PK     0.10ms  10dBLN   OFF

Final Measurement: x QP
                   Meas Time:    1 s
```

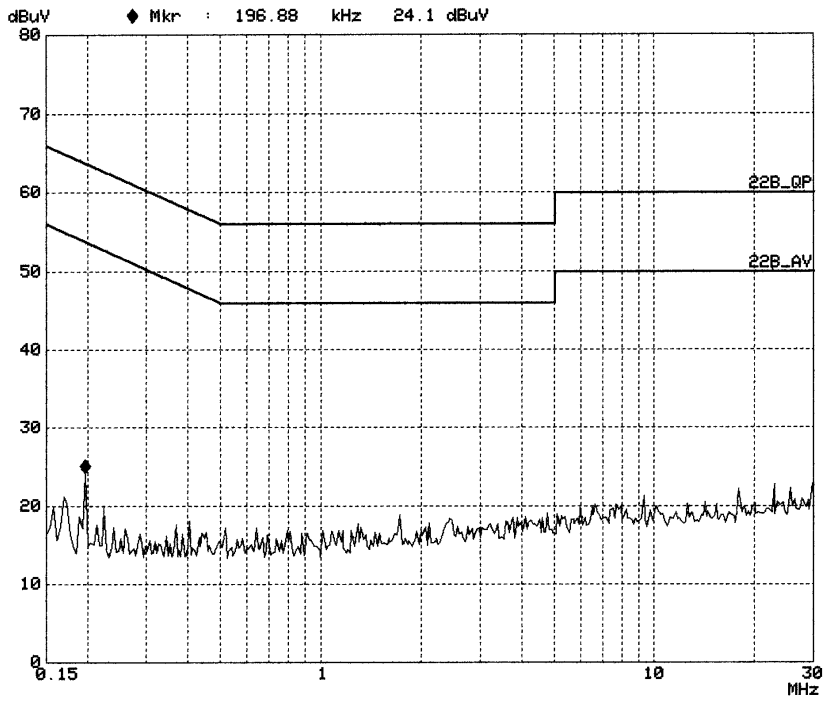


Intertek Testing Services
RF VOLTAGE
EUT: 36270
Manuf: Senton
Op Cond: LISN-N
Operator: Elton
Test Spec: FCC Part 15.207
Comment: EMI RCV:825788/014
120V 60Hz 25'C 59%RH base unit;charging mode
Date: 28. Apr 03 14:50

Overview Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	3.9k	9k	PK	0.10ms	10dBLN	OFF

Final Measurement: x QP
Meas Time: 1 s

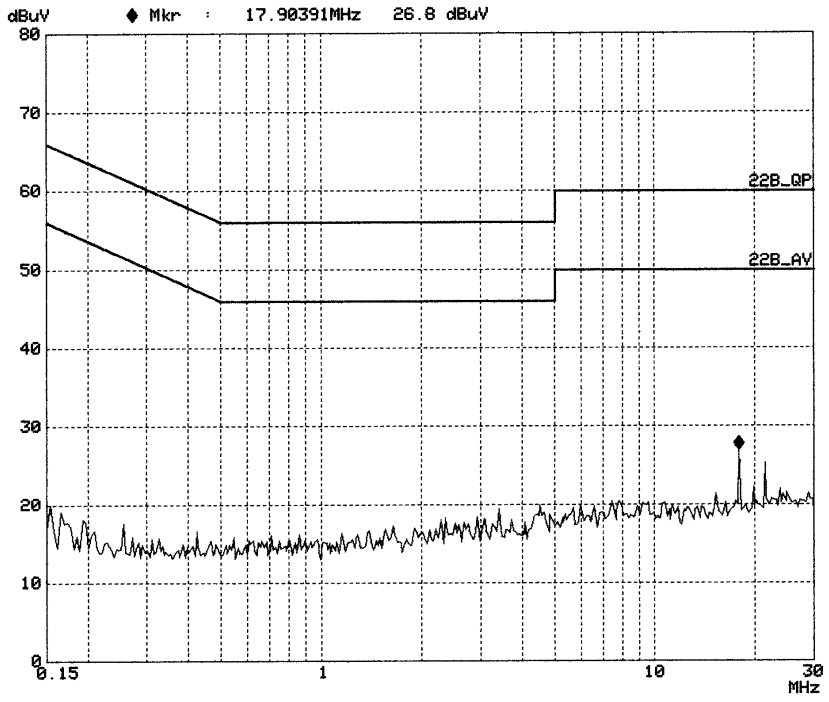


Intertek Testing Services
RF VOLTAGE
EUT: 36270
Manuf: Senton
Op Cond: LISN-L
Operator: Elton
Test Spec: FCC Part 15.207
Comment: EMI RCV:825788/014
120V 60Hz 25'C 59%RH base unit;charging mode
Date: 28. Apr 03 14:52

Overview Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	3.9k	9k	PK	0.10ms	10dBLN	OFF

Final Measurement: x QP
Meas Time: 1 s

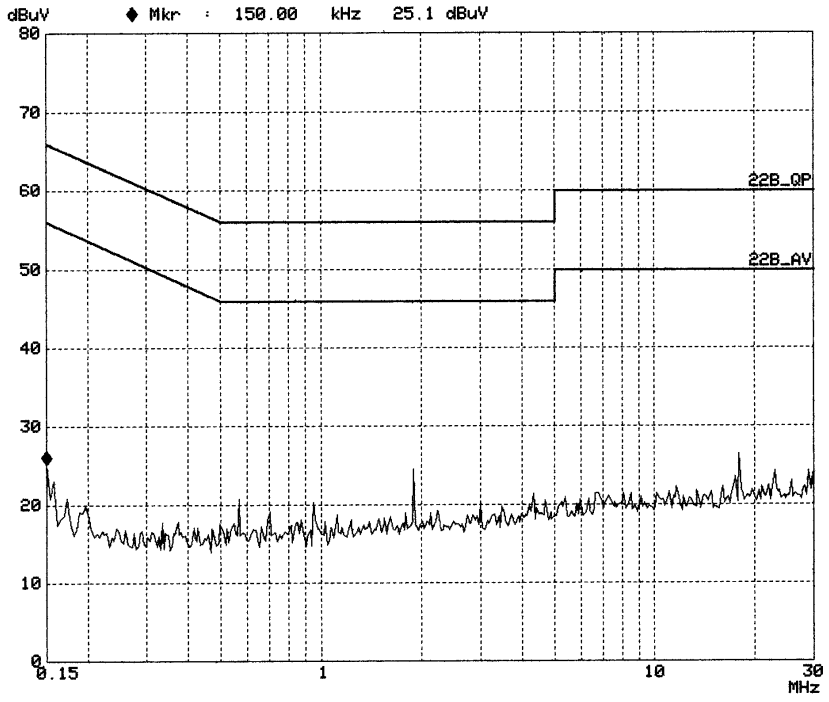


Intertek Testing Services
RF VOLTAGE
EUT: 36270
Manuf: Senton
Op Cond: LISN-L
Operator: Elton
Test Spec: FCC Part 15.207
Comment: EMI RCV:825788/014
120V 60Hz 25'C 59%RH base unit;ringing mode
Date: 28. Apr 03 14:55

Overview Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	3.9k	9k	PK	0.10ms	10dBLN	OFF

Final Measurement: x QP
Meas Time: 1 s



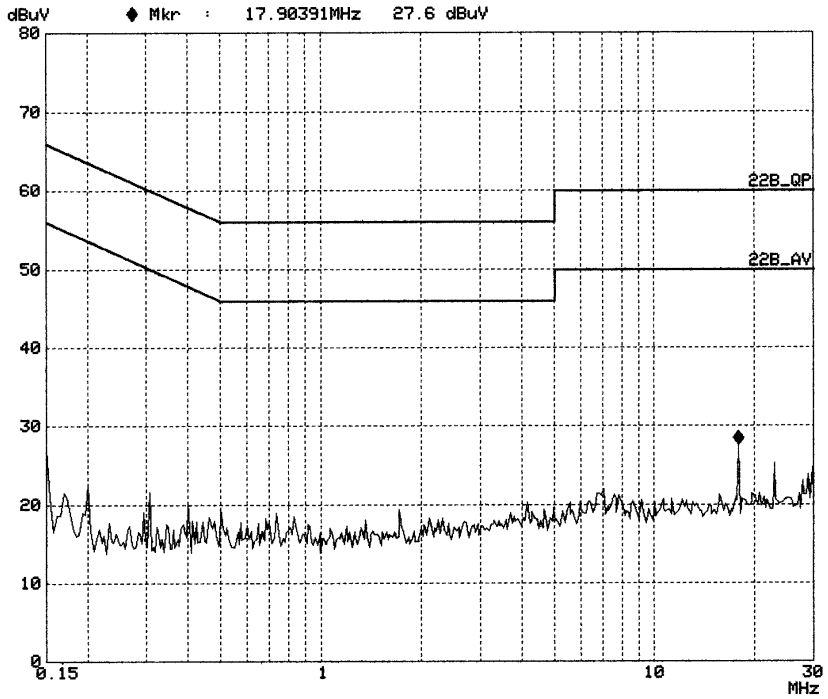
Intertek Testing Services
RF VOLTAGE

EUT: 36270
Manuf: Senton
Op Cond: LISN-N
Operator: Elton
Test Spec: FCC Part 15.207
Comment: EMI RCV:825788/014
120V 60Hz 25'C 59%RH base unit;ringing mode
Date: 28. Apr 03 14:57

Overview Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	3.9k	9k	PK	0.10ms	10dBLN	OFF

Final Measurement: x QP
Meas Time: 1 s

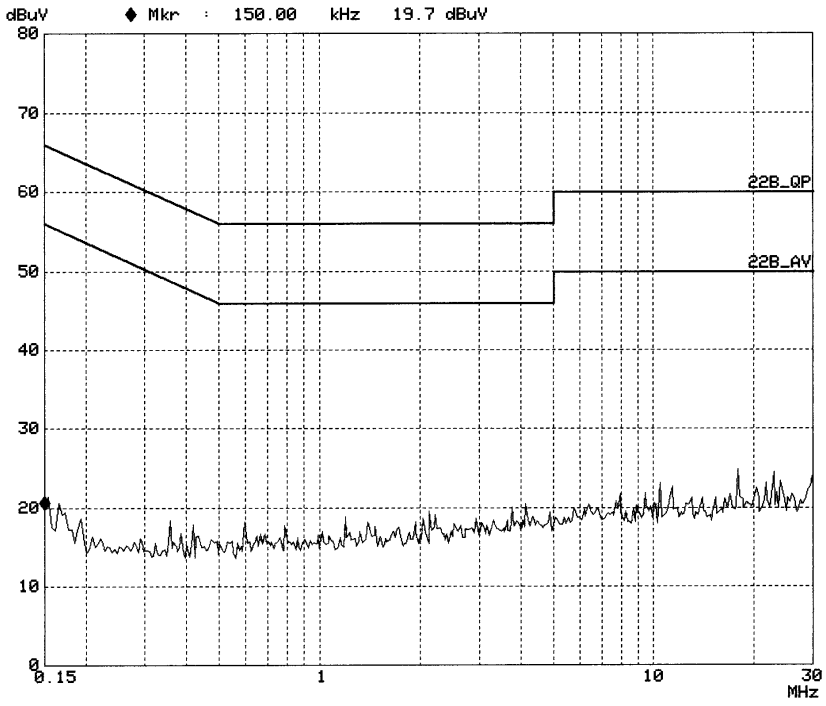


Intertek Testing Services
RF VOLTAGE
EUT: 36270
Manuf: Senton
Op Cond: LISN-N
Operator: Elton
Test Spec: FCC Part 15.207
Comment: EMI RCV:825788/014
120V 60Hz 25'C 59%RH base unit;talk mode
Date: 28. Apr 03 15:00

Overview Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	3.9k	9k	PK	0.10ms	10dBLN	OFF

Final Measurement: x QP
Meas Time: 1 s

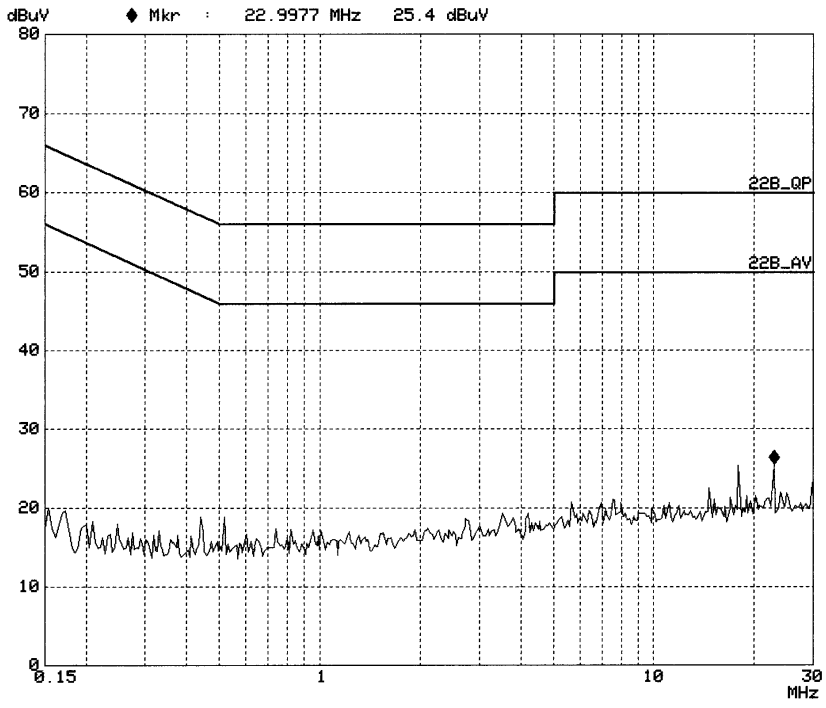


Intertek Testing Services
RF VOLTAGE
EUT: 36270
Manuf: Senton
Op Cond: LISN-L
Operator: Elton
Test Spec: FCC Part 15.207
Comment: EMI RCV:825788/014
120V 60Hz 25'C 59%RH base unit;talk mode
Date: 28. Apr 03 15:03

Overview Scan Settings (1 Range)

Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp
150k	30M	3.9k	9k	PK	0.10ms	10dBLN	OFF

Final Measurement: x QP
Meas Time: 1 s

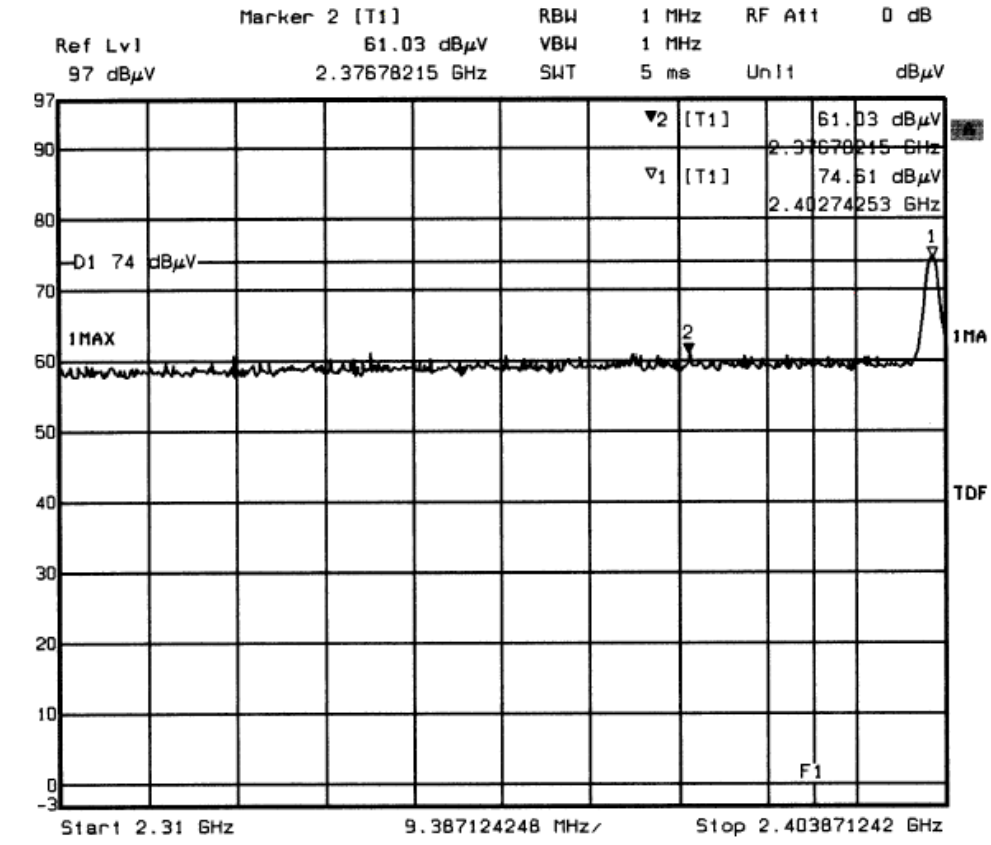


5. Radiated emission on the band edge FCC 15.249(C)

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.

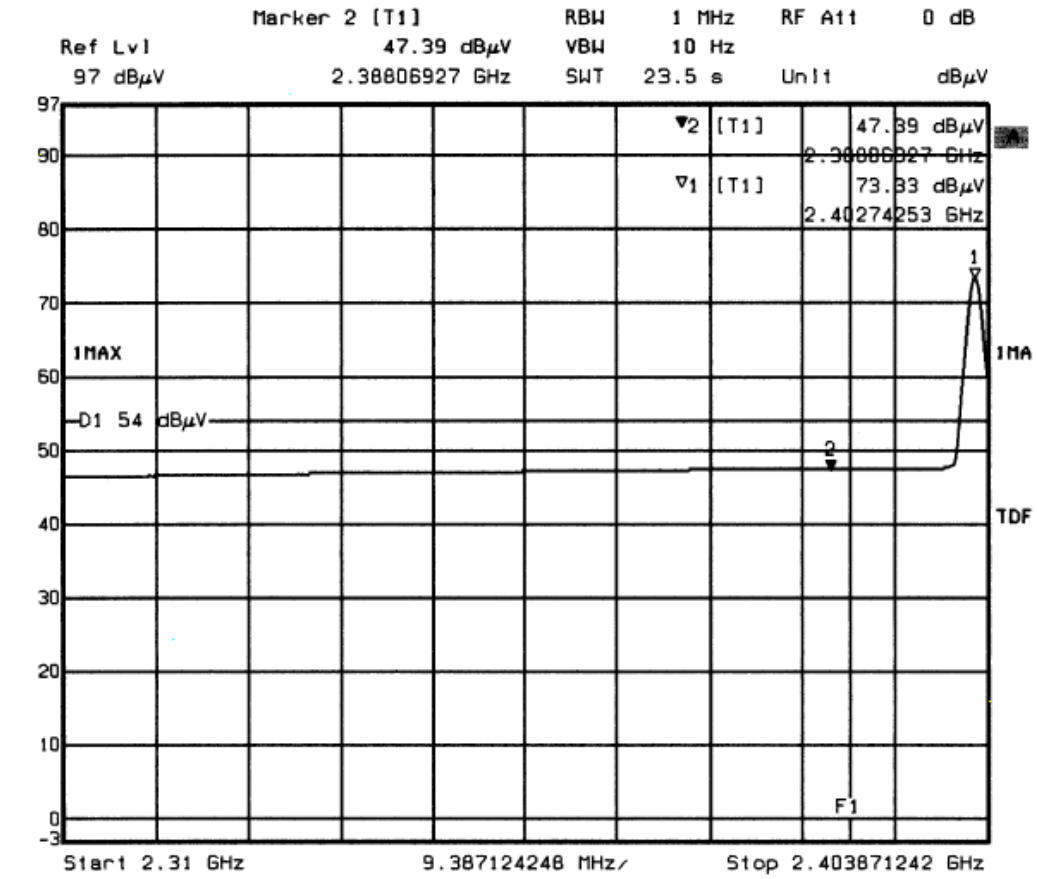
See band-edge plot as below

Test Channel: Tx at low channel (base unit)
Detector: PK



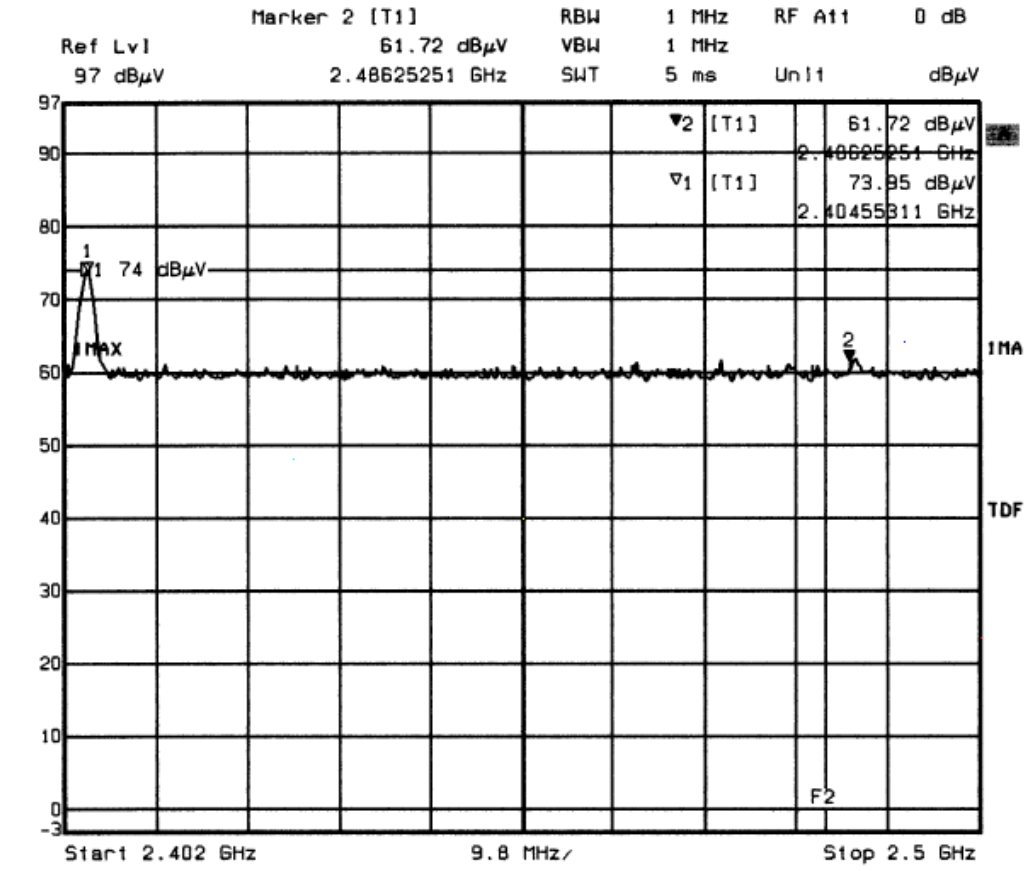
Comment A: BSU Band-edge at low channel F1 = 2390 MHz
Peak detector (Equipment Used: EC338 EC365)

Test Channel: Tx at low channel (base unit)
Detector: AV



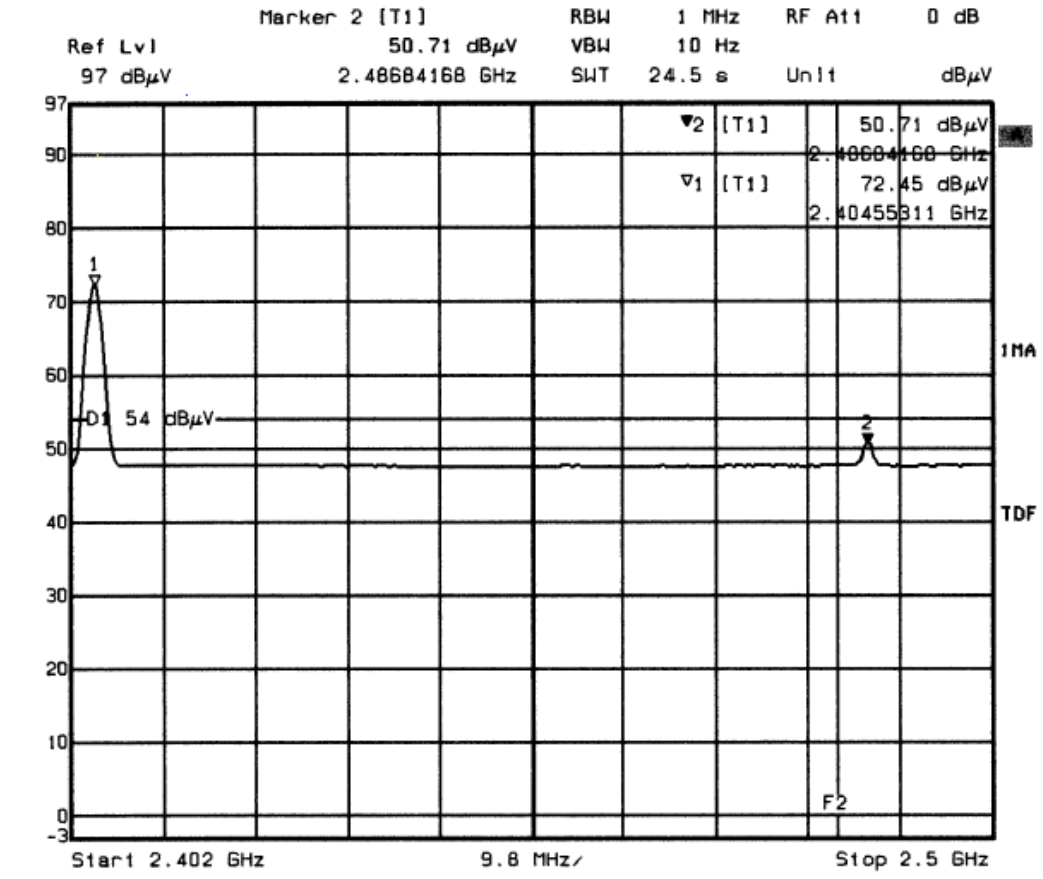
Comment A: BSU Band-edge at low channel $F_1 = 2390$ MHz
Average detector (Equipment Used: EC338 EC365)

Test Channel: Tx at high channel (base unit)
Detector: PK



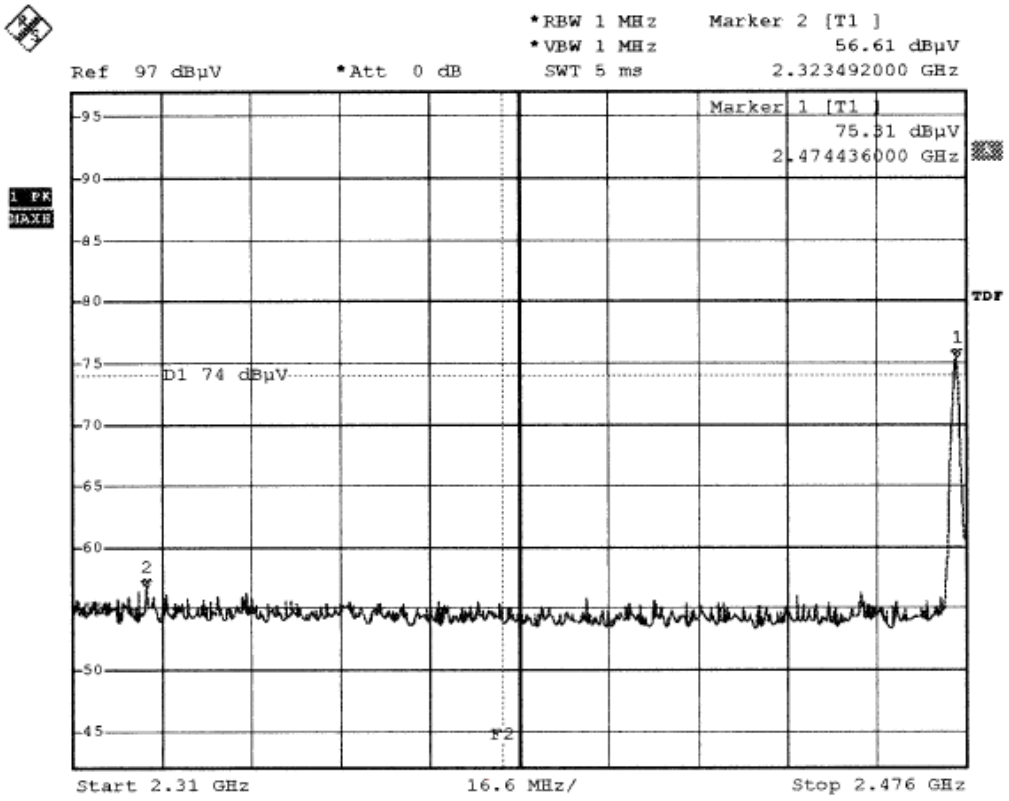
Comment A: BSU Band-edge at high channel
Peak detector, F2=2483.5MHz (Equipment Used: EC338 EC365)

Test Channel: Tx at high channel (base unit)
Detector: AV



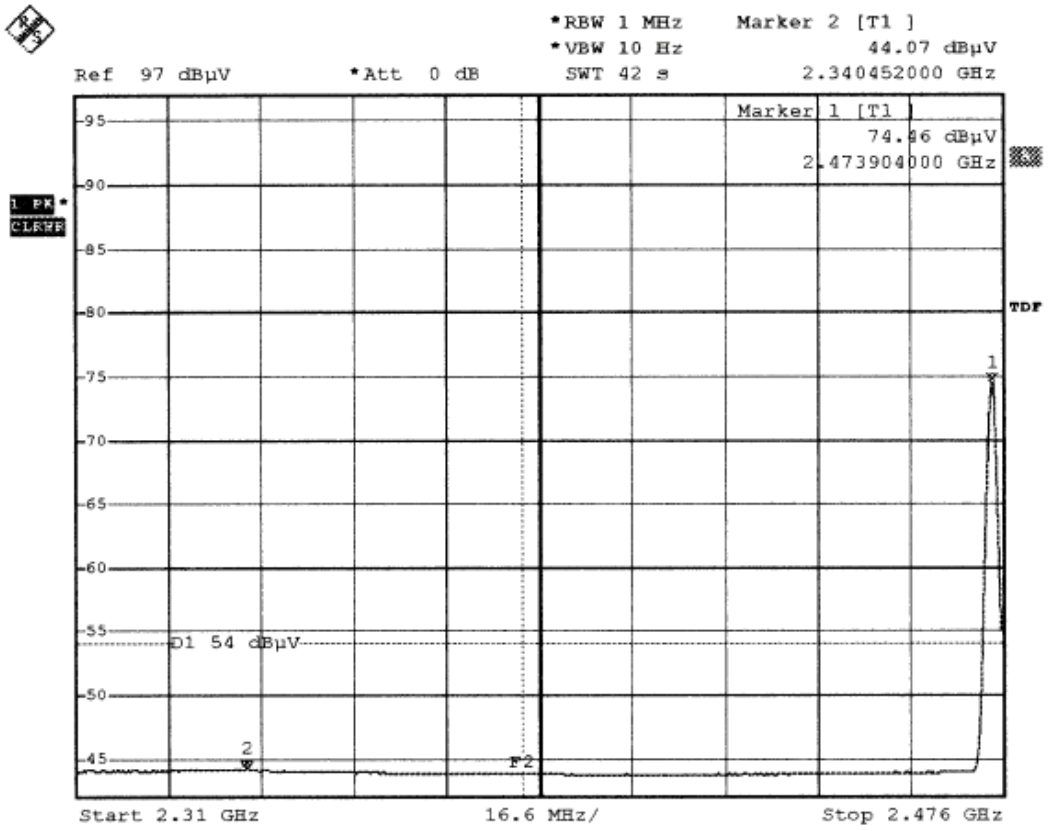
Comment A: BSU Band-edge at high channel
Average detector, F2=2483.5MHz (Equipment Used: EC338 EC365)

Test Channel: Tx at low channel (handset unit)
Detector: PK



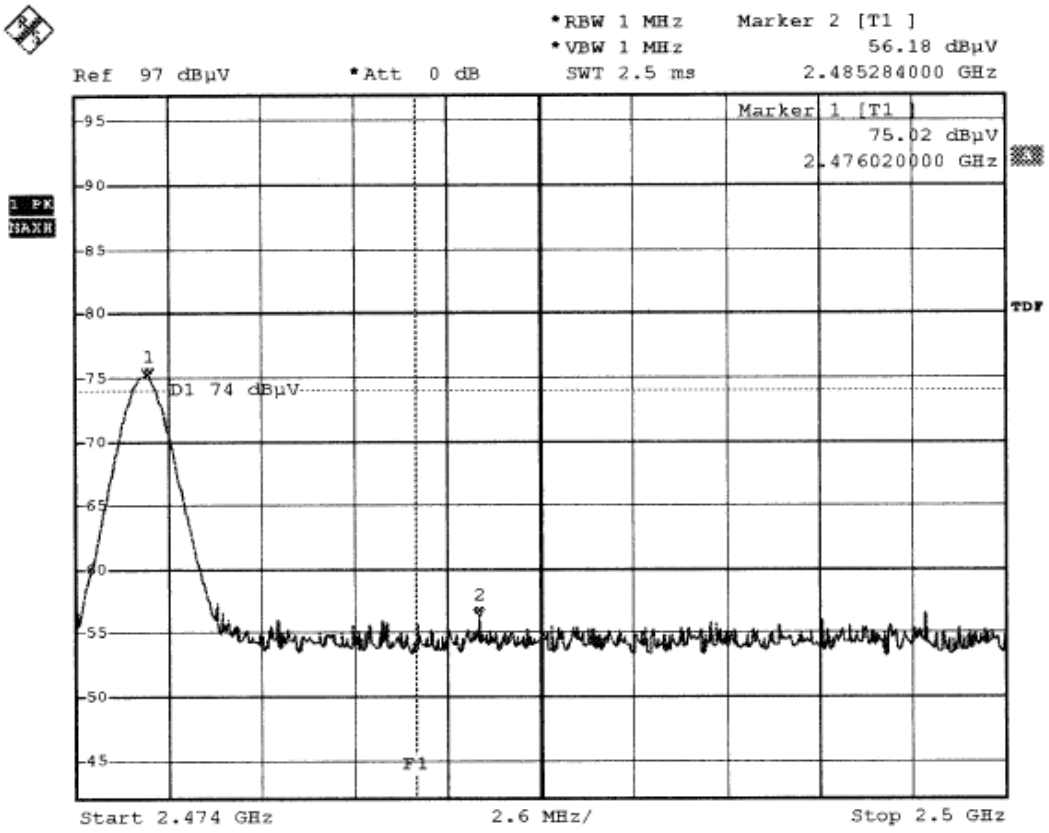
Comment A: Band-edge test at low channel1
Peak detector F2=2390MHz

Test Channel: Tx at low channel (handset unit)
Detector: AV



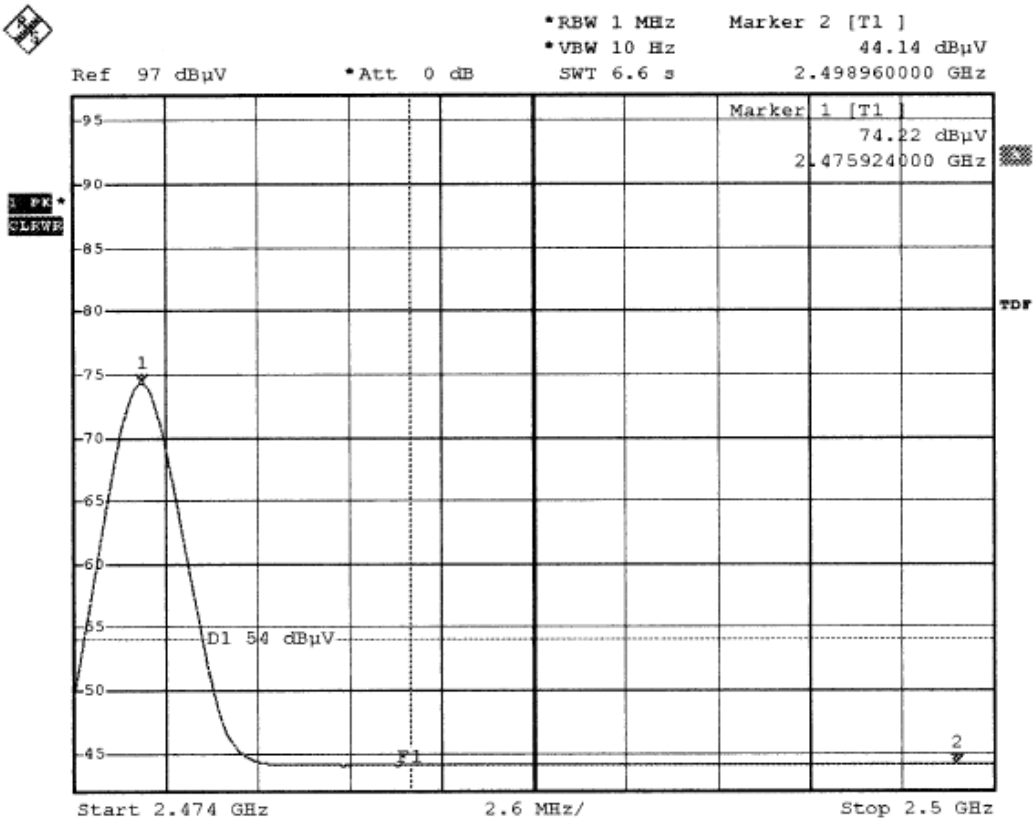
Comment A: Band-edge test at low channel
Average detector F2=2390MHz

Test Channel: Tx at high channel (handset unit)
Detector: PK



Comment A: Band-edge test at high channelN B
Peak detector F1=2483.5MHz

Test Channel: Tx at high channel (handset unit)
Detector: AV



Comment A: Band-edge test at high channel
Average detector F1=2483.5MHz