

INTERTEK TESTING SERVICES

EXHIBIT 2
SYSTEM TEST CONFIGURATION

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2.0 System Test Configuration

2.1 Justification

For emission testing, the equipment under test (EUT) was configured for testing in a typical fashion (as a customer would normally use it). During testing, all cables were manipulated to produce worst case emissions. The handset was powered by a fully charged battery.

For the measurements, the EUT is attached to a cardboard box and placed on the wooden turntable. If the base unit attaches to peripherals, they are connected and operational (as typical as possible). The handset is remotely located as far from the antenna and the base as possible to ensure full power transmission from the base. Else, the base is wired to transmit full power without modulation.

The signal is maximized through rotation and placement in the three orthogonal axes. The antenna height and polarization are varied during the search for maximum signal level. The antenna height is varied from 1 to 4 meters. Detector function is in peak mode. Radiated emissions are taken at three meters unless the signal level is too low for measurement at that distance. If necessary, a pre-amplifier is used and/or the test is conducted at a closer distance.

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater. All emissions greater than 20 dB μ V/m are recorded.

Radiated emission measurement were performed from 30 MHz to tenth harmonics.

2.2 EUT Exercising Software

The EUT exercise program used during radiated and conducted testing was designed to exercise the various system components in a manner similar to a typical use.

For emissions testing, the units were setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing.

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2.3 Support Equipment List and Description

The FCC ID's for all equipment, plus descriptions of all cables used in the tested system (included inserted cards, which have grants) are:

HARDWARE:

The unit was operated standalone. An AC adapter (provided with the unit) was used to power the device. Its description is listed below.

- (1) AC adapter with two meter unshielded power cord permanently affixed.

CABLES:

- (1) Telecommunication cable with RJ11C connectors (1m, unshielded), terminated

OTHERS:

There are no special accessories necessary for compliance of this product.

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2.4 Equipment Modification

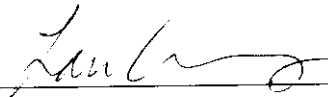
Any modifications installed previous to testing by Continental Conair Limited will be incorporated in each production model sold/leased in the United States.

No modifications were installed by ETL Division, Intertek Testing Services Hong Kong Ltd.

All the items listed under section 2.0 of this report are confirmed by:

Confirmed by:

*C. K. Lam
Assistant Manager
Intertek Testing Services
Agent for Continental Conair Limited*



Signature

April 14, 1998

Date

EXHIBIT 3
EMISSION RESULTS

3.0 **Emission Results**

Data is included of the worst case configuration (the configuration which resulted in the highest emission levels). A sample calculation, configuration photographs and data tables of the emissions are included.

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3.1 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor, and subtracting the Amplifier Gain (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CF - AG$$

where

- FS = Field Strength in dB μ V/m
- RA = Receiver Amplitude (including preamplifier) in dB μ V
- CF = Cable Attenuation Factor in dB
- AF = Antenna Factor in dB
- AG = Amplifier Gain in dB

In the following table(s), the reading shown on the data table reflects the preamplifier gain. An example for the calculations in the following table is as follows:-

$$FS = RR + LF$$

where

- FS = Field Strength in dB μ V/m
- RR = RA - AG in dB μ V
- LF = CF + AF in dB

Assume a receiver reading of 52.0 dB μ V is obtained. The antenna factor of 7.4 dB and cable factor of 1.6 dB is added. The amplifier gain of 29 dB is subtracted, giving a field strength of 32 dB μ V/m. This value in dB μ V/m was converted to its corresponding level in μ V/m.

RA = 52.0 dB μ V/m	
AF = 7.4 dB	RR = 23.0 dB μ V
CF = 1.6 dB	LF = 9.0 dB
AG = 29.0 dB	
FS = RR + LF	
FS = 23 + 9 = 32 dB μ V/m	

$$\text{Level in } \mu\text{V/m} = \text{Common Antilogarithm} [(32 \text{ dB}\mu\text{V/m})/20] = 39.8 \mu\text{V/m}$$

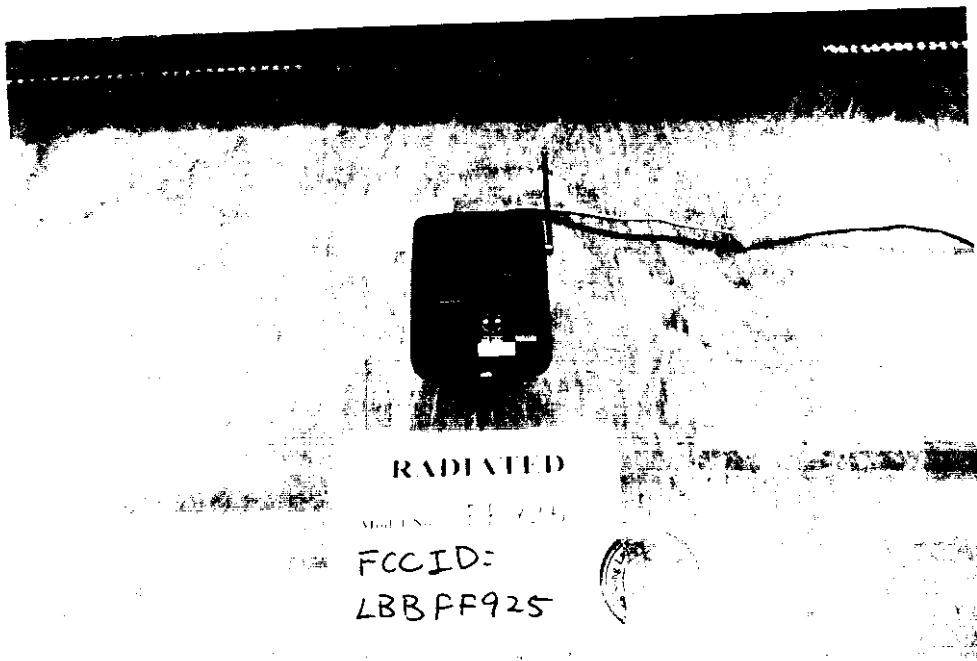
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3.2 Radiated Emission Configuration Photograph - Base Unit

Worst Case Radiated Emission

Front View

at 1809.375 MHz



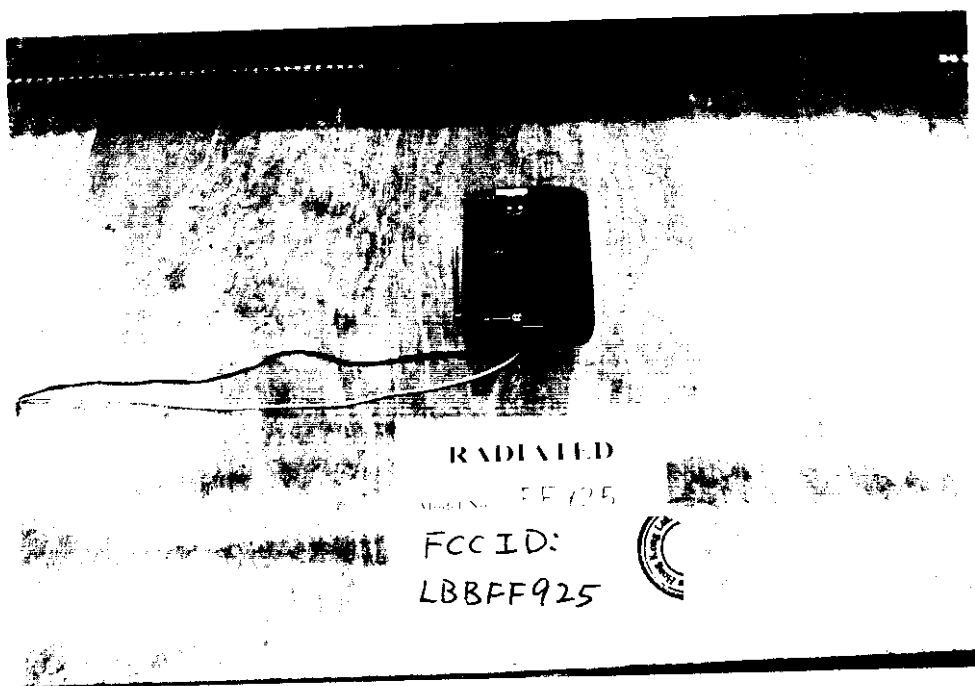
INTERTEK TESTING SERVICES

3.2 Radiated Emission Configuration Photograph (cont.) - Base Unit

Worst Case Radiated Emission

Rear View

at 1809.375 MHz



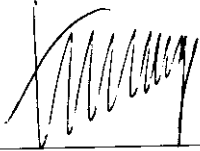
INTERTEK TESTING SERVICES

3.3 Radiated Emission Data - Base Unit

The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.

Judgement : Passed by 4.7 dB

TEST PERSONNEL:



Tester Signature

Tommy W. L. Leung, Engineer
Typed/Printed Name

March 28, 98
Date

INTERTEK TESTING SERVICES

Company: Continental Conair Limited
Model: FF925(XXX)
Mode : TX-Channel 1

Date of Test: March 19, 1998

Table 1, Base unit

Radiated Emissions

Polarity	Frequency (MHz)	Reading (dB μ V)	Antenna Factor (dB)	Pre-Amp Gain (dB)	Net at 3m (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
V	902.250	69.4	32.0	16	85.4	94	-8.6
V	1804.499	55.4	26.5	34	47.9	54	-6.1
V	*2706.748	44.7	29.1	34	39.8	54	-14.2
V	*3608.998	45.9	32.8	34	44.7	54	-9.3
H	*4511.247	39.1	34.0	34	39.1	54	-14.9
H	*5413.497	37.5	35.2	34	38.7	54	-15.3

NOTES: 1. Peak Detector data

2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna and average detector are used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of part 15.205. The corresponding limit as per 15.209 is based on Quasi peak detector data for frequencies below 1000 MHz and average detector data for frequencies over 1000 MHz.

Test Engineer: Tommy W. L. Leung

INTERTEK TESTING SERVICES

Company: Continental Conair Limited
Model: FF925(XXX)
Mode : TX-Channel 20

Date of Test: March 19, 1998

Table 2, Base unit

Radiated Emissions

Polarity	Frequency (MHz)	Reading (dB μ V)	Antenna Factor (dB)	Pre-Amp Gain (dB)	Net at 3m (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
V	903.437	68.0	32.0	16	84.0	94	-10.0
V	1806.874	53.7	29.1	34	48.8	54	-5.2
V	*2710.312	45.6	29.1	34	40.7	54	-13.3
V	*3613.749	46.4	32.8	34	45.2	54	-8.8
H	*4517.187	39.7	34.0	34	39.7	54	-14.3

- NOTES: 1. Peak Detector data
2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna and average detector are used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205. The corresponding limit as per 15.209 is based on Quasi peak detector data for frequencies below 1000 MHz and average detector data for frequencies over 1000 MHz.

Test Engineer: Tommy W. L. Leung

INTERTEK TESTING SERVICES

Company: Continental Conair Limited
Model: FF925(XXX)
Mode : TX-Channel 40

Date of Test: March 19, 1998

Table 3, Base unit

Radiated Emissions

Polarity	Frequency (MHz)	Reading (dB μ V)	Antenna Factor (dB)	Pre-Amp Gain (dB)	Net at 3m (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
V	904.687	69.9	32.0	16	85.9	94	-8.1
V	1809.375	56.8	26.5	34	49.3	54	-4.7
V	*2714.062	45.1	29.1	34	40.2	54	-13.8
V	*3618.749	45.8	32.8	34	44.6	54	-9.4
H	*4532.437	38.6	34.0	34	38.6	54	-15.4
H	*5428.124	37.5	35.2	34	38.7	54	-15.3

- NOTES: 1. Peak Detector data
2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
3. Negative value in the margin column shows emission below limit.
4. Horn antenna and average detector are used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205. The corresponding limit as per 15.209 is based on Quasi peak detector data for frequencies below 1000 MHz and average detector data for frequencies over 1000 MHz.

Test Engineer: Tommy W. L. Leung

INTERTEK TESTING SERVICES

Company: Continental Conair Limited
Model: FF925(XXX)
Mode : TAD & RX

Date of Test: March 19, 1998

Table 4, Base unit

Radiated Emissions

Polarity	Frequency (MHz)	Reading (dB μ V)	Antenna Factor (dB)	Pre-Amp Gain (dB)	Net at 3m (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
H	72.000	35.8	7.0	16	26.8	40.0	-13.2
H	86.400	32.1	8.0	16	24.1	40.0	-15.9
H	115.200	41.7	13.0	16	38.7	43.5	-4.8
H	172.800	33.4	18.0	16	35.4	43.5	-8.1
H	201.600	32.7	16.0	16	32.7	43.5	-10.8
H	914.625	23.8	33.0	16	40.8	46.0	-5.2
H	1829.249	48.7	26.5	34	41.2	54.0	-12.8
H	2743.874	43.5	29.1	34	38.6	54.0	-15.4

NOTES: 1. Peak Detector data

2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna and average detector are used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of part 15.205. The corresponding limit as per 15.209 is based on Quasi peak detector data for frequencies below 1000 MHz and average detector data for frequencies over 1000 MHz.

Test Engineer: Tommy W. L. Leung

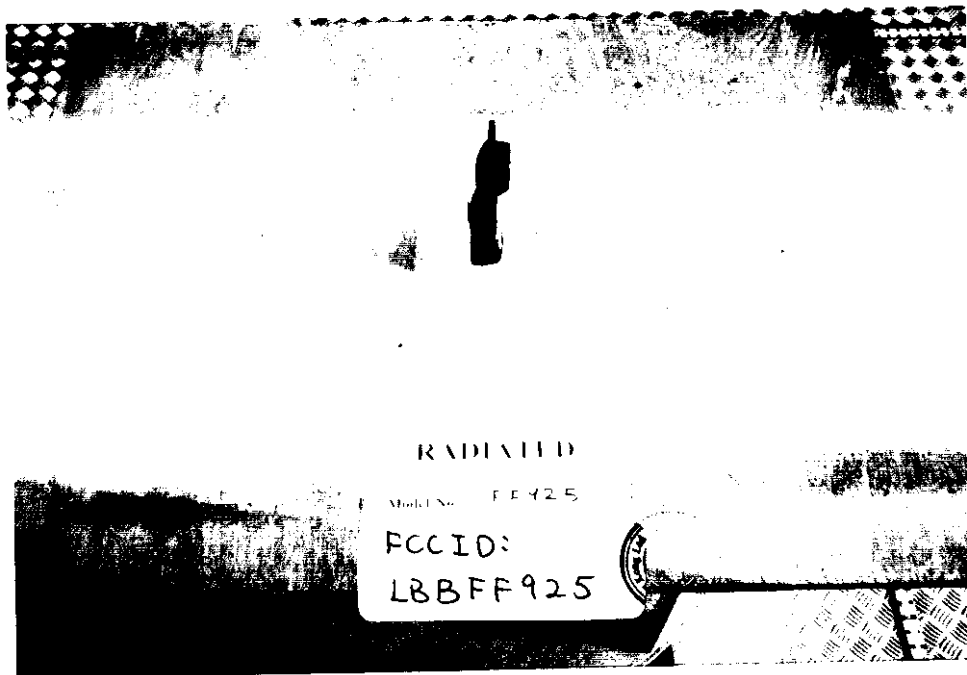
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3.4 Radiated Emission Configuration Photograph - Handset

Worst Case Radiated Emission

Front View

at 926.498 MHz



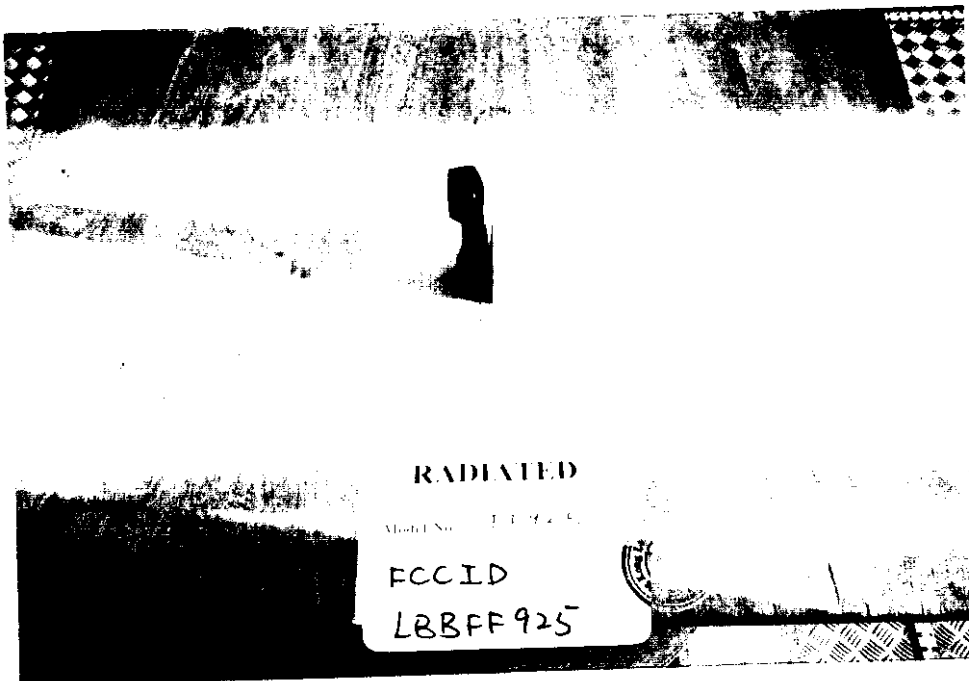
INTERTEK TESTING SERVICES

3.4 Radiated Emission Configuration Photograph (cont.) - Handset

Worst Case Radiated Emission

Rear View

at 926.498 MHz



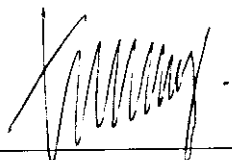
INTERTEK TESTING SERVICES

3.5 Radiated Emission Data - Handset

The data on the following pages list the significant emission frequencies, the limit and the margin of compliance.

Judgement : Passed by 6.8 dB

TEST PERSONNEL:



Tester Signature

Tommy W. L. Leung, Engineer
Typed/Printed Name

March 28, 98
Date

INTERTEK TESTING SERVICES

Company: Continental Conair Limited
Model: FF925(XXX)
Mode : TX-Channel 1

Date of Test: March 19, 1998

Table 5, Handset

Radiated Emissions

Polarity	Frequency (MHz)	Reading (dB μ V)	Antenna Factor (dB)	Pre-Amp Gain (dB)	Net at 3m (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
H	925.319	69.7	33.0	16	86.7	94	-7.3
H	1850.625	50.7	26.5	34	43.2	54	-10.8
V	*2775.937	43.5	29.1	34	38.6	54	-15.4
H	*3701.256	38.1	32.8	34	36.9	54	-17.1
H	*4626.565	36.2	34.0	34	36.2	54	-17.8

- NOTES:
1. Peak Detector data
 2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna and average detector are used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205. The corresponding limit as per 15.209 is based on Quasi peak detector data for frequencies below 1000 MHz and average detector data for frequencies over 1000 MHz.

Test Engineer: Tommy W. L. Leung

INTERTEK TESTING SERVICES

Company: Continental Conair Limited
Model: FF925(XXX)
Mode : TX-Channel 20

Date of Test: March 19, 1998

Table 6, Handset

Radiated Emissions

Polarity	Frequency (MHz)	Reading (dB μ V)	Antenna Factor (dB)	Pre-Amp Gain (dB)	Net at 3m (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
H	926.498	70.2	33.0	16	87.2	94	-6.8
H	1852.997	51.1	26.5	34	43.6	54	-10.4
V	*2779.494	42.5	29.1	34	37.6	54	-16.4
H	*3705.992	39.0	32.8	34	37.8	54	-16.2
H	*4632.491	36.9	34.0	34	36.9	54	-17.1

NOTES: 1. Peak Detector data

2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.

3. Negative value in the margin column shows emission below limit.

4. Horn antenna and average detector are used for the emission over 1000MHz.

* Emission within the restricted band meets the requirement of part 15.205. The corresponding limit as per 15.209 is based on Quasi peak detector data for frequencies below 1000 MHz and average detector data for frequencies over 1000 MHz.

Test Engineer: Tommy W. L. Leung

INTERTEK TESTING SERVICES

Company: Continental Conair Limited
Model: FF925(XXX)
Mode : TX-Channel 40

Date of Test: March 19, 1998

Table 7, Handset

Radiated Emissions

Polarity	Frequency (MHz)	Reading (dB μ V)	Antenna Factor (dB)	Pre-Amp Gain (dB)	Net at 3m (dB μ V/m)	Limit (dB μ V/m)	Margin (dB)
H	927.748	69.4	33.0	16	86.4	94	-7.6
H	1855.497	52.0	26.5	34	44.5	54	-9.5
V	*2783.246	42.7	29.1	34	37.8	54	-16.2
H	*3710.994	40.8	32.8	34	39.6	54	-14.4
H	*4638.743	38.5	34.0	34	38.5	54	-15.5

NOTES: 1. Peak Detector data

2. All measurements were made at 3 meters. Harmonic emissions not detected at the 3-meter distance were measured at 0.3-meter and an inverse proportional extrapolation was performed to compare the signal level to the 3-meter limit. No other harmonic emissions than those reported were detected at a test distance of 0.3-meter.
 3. Negative value in the margin column shows emission below limit.
 4. Horn antenna and average detector are used for the emission over 1000MHz.
- * Emission within the restricted band meets the requirement of part 15.205. The corresponding limit as per 15.209 is based on Quasi peak detector data for frequencies below 1000 MHz and average detector data for frequencies over 1000 MHz.

Test Engineer: Tommy W. L. Leung

INTERTEK TESTING SERVICES

3.6 Radiated Emission on the bandedge

From the following plot, it shows that the fundamental emission is confined in the specified band. And there are shows that the emissions are at least 60 dB below the carrier level at band edge (902 and 928 MHz). It meet the requirement of section 15.249(c).

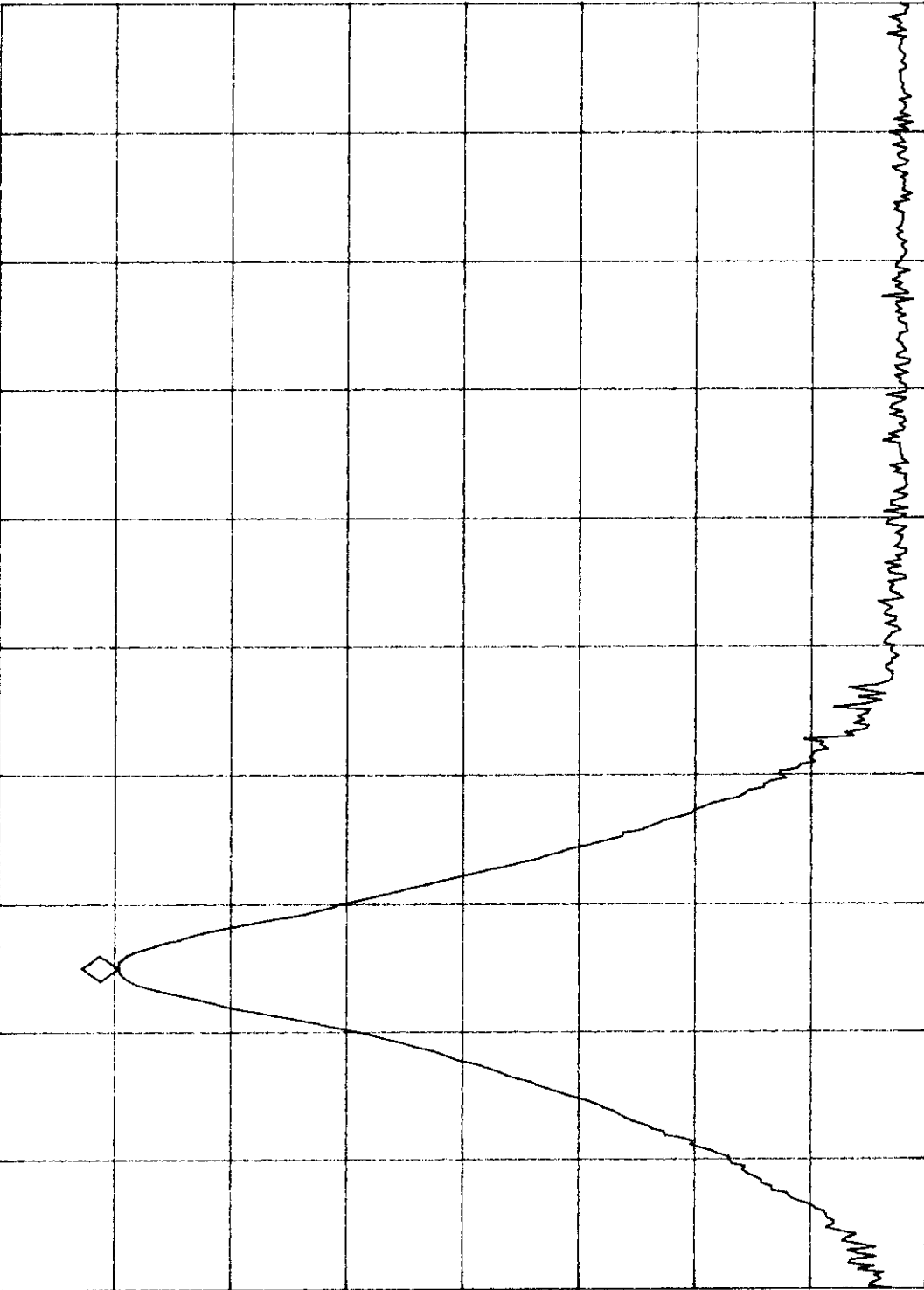
Emission Plot -Base

AP

MKR 902.250 MHz
-10.38 dBm

AT 10 dB

REF .0 dBm



PEAK
LOG
10
dB/

VA SB
SC FC
CORR

START 902.000 MHz
#RES BW 30 KHZ

STOP 903.000 MHz
#VBW 3 MHz
SWP 20.0 msec

Emission Plot - Handset

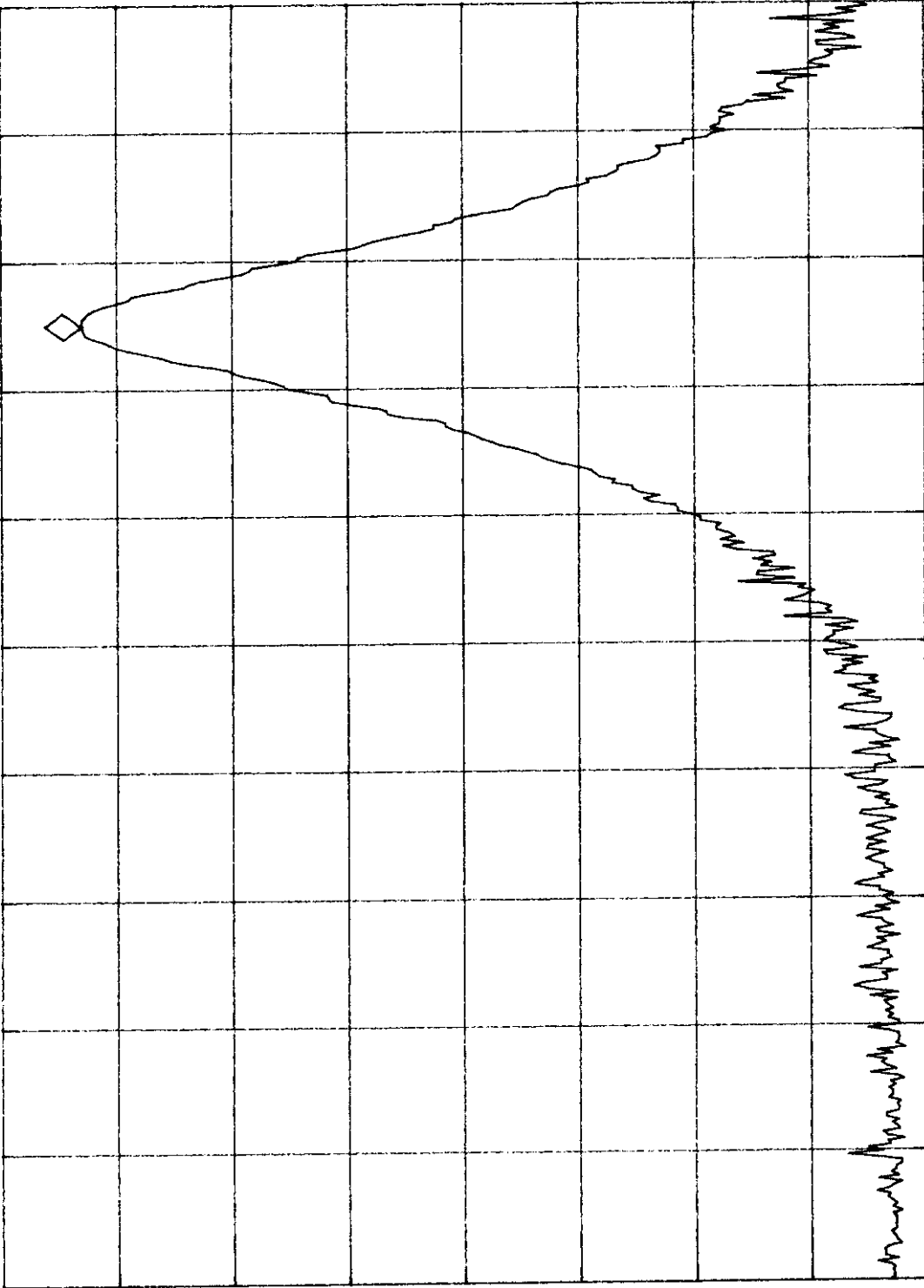
77

FCCID: LBBFF925

MKR 927.750 MHz
-7.02 dBm

AT 10 dB

REF .0 dBm



PEAK
LOG
10
dB/

VA SB
SC FC
CORR

STOP 928.000 MHz
SWP 20.0 msec

#VBW 3 MHz

START 927.000 MHz
#RES BW 30 KHZ

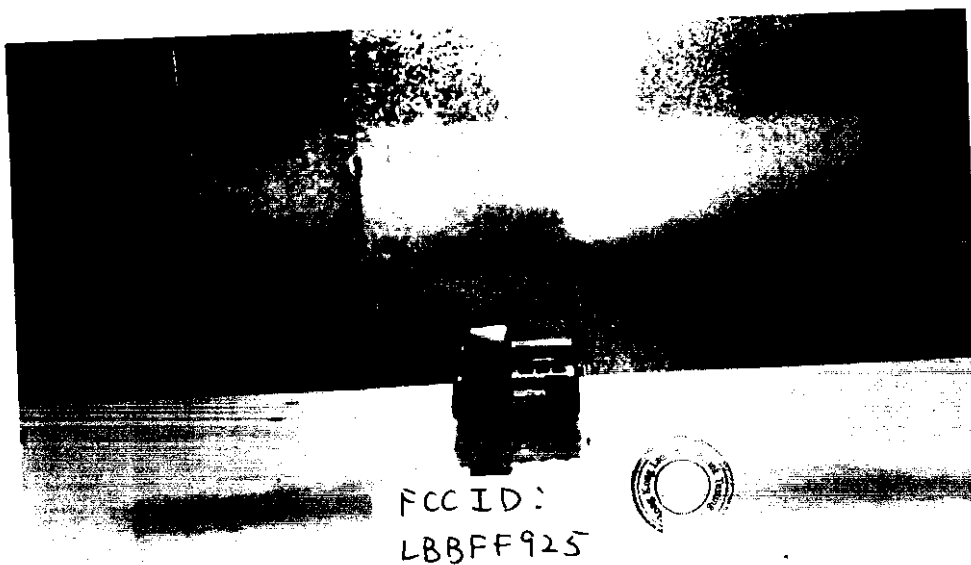
INTERTEK TESTING SERVICES

3.7 Line Conducted Configuration Photograph - Base Unit

Worst Case Line-Conducted Configuration

Front View

at 0.450 MHz



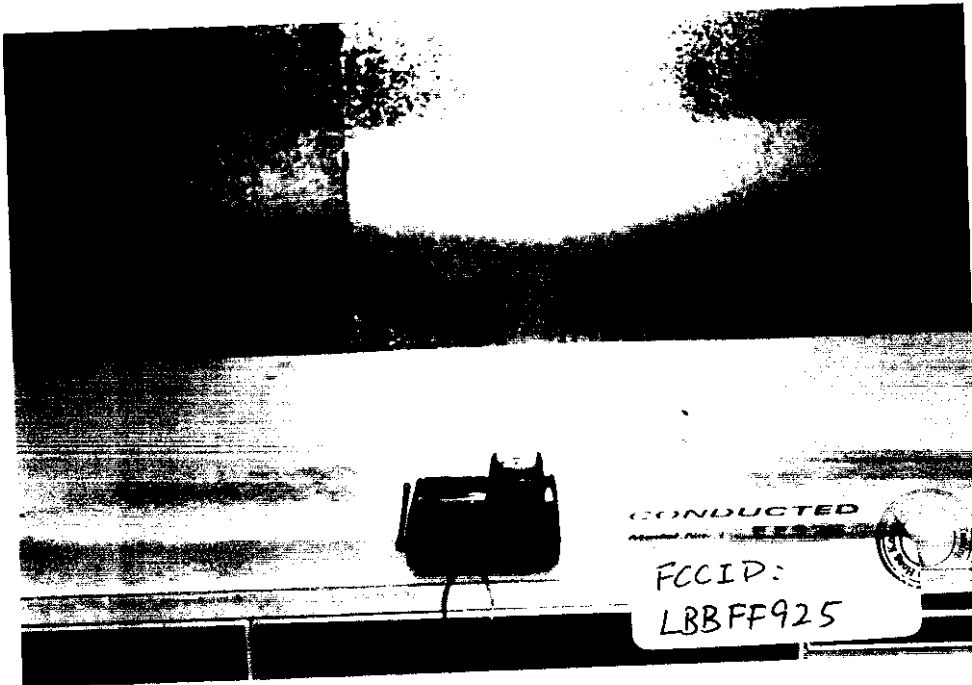
INTERTEK TESTING SERVICES

3.7 Line Conducted Configuration Photograph (cont.) - Base Unit

Worst Case Line-Conducted Configuration

Rear View

at 0.450 MHz



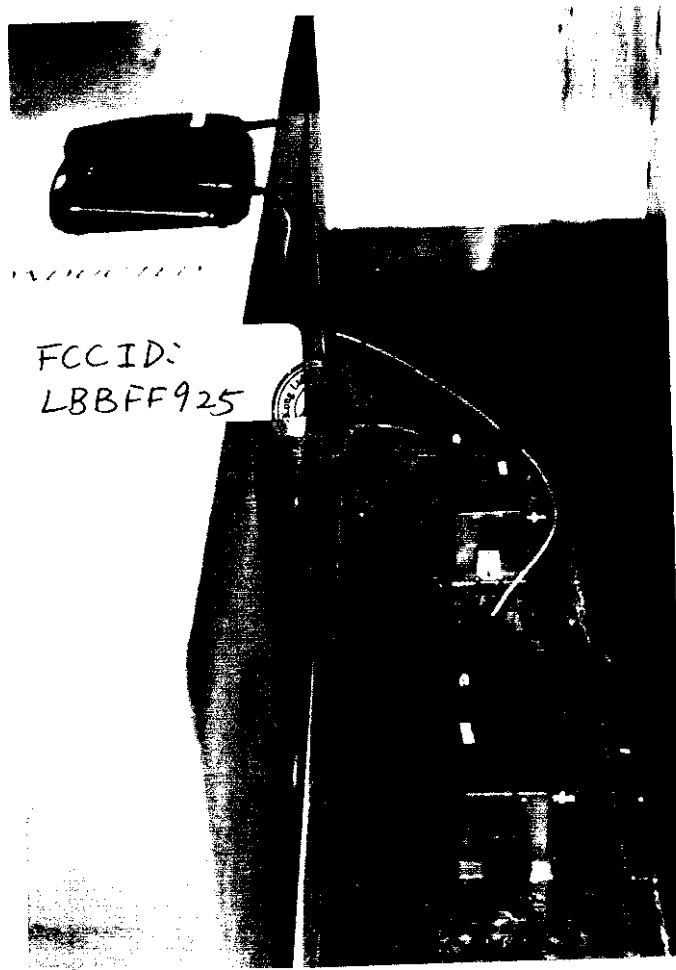
INTERTEK TESTING SERVICES

3.7 Line Conducted Configuration Photograph (cont.) - Base Unit

Worst Case Line-Conducted Configuration

Side View

at 0.450 MHz



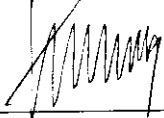
INTERTEK TESTING SERVICES

3.8 Line Conducted Emission Data

The data on the following pages list the significant emission frequencies, the limit, and the margin of compliance.

Judgement : Passed by 18.9 dB

TEST PERSONNEL:



Tester Signature

Tommy W. L. Leung, Engineer
Typed/Printed Name

March 28, 98
Date

INTERTEK TESTING SERVICES

Company: Continental Conair Limited
Model: FF925(XXX)
Mode : TX

Date of Test: March 19, 1998

Graph 1, Base Unit

Conducted Emissions

INTERTEK TESTING SERVICES

Company: Continental Conair Limited
Model: FF925(XXX)
Mode : TX

Date of Test: March 19, 1998

Table 8, Base Unit

Conducted Emissions



Intertek Testing Services

ETL Testing Laboratories

Report No.: 9800368

Mode = TX

Tested By: Hong, Report No.: 9800368

Scan Settings (1 Range)

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
450k	30M	5k	10k	PK	10ms	AUTO	LN OFF	60dB

Final Measurement Results:

Frequency MHz	QP Level dBuV	QP Limit dBuV
0.45500	27.8	48.0
0.70000	25.9	48.0
0.76500	24.8	48.0
18.31000	24.1	48.0

* limit exceeded

Ctrl. No.: N/A

INTERTEK TESTING SERVICES

Company: Continental Conair Limited
Model: FF925(XXX)
Mode : Charging

Date of Test: March 19, 1998

Graph 2, Base Unit

Conducted Emissions

Mode = Charging

Report No.: 9800368

Tested By: Hong, Report No.: K10088

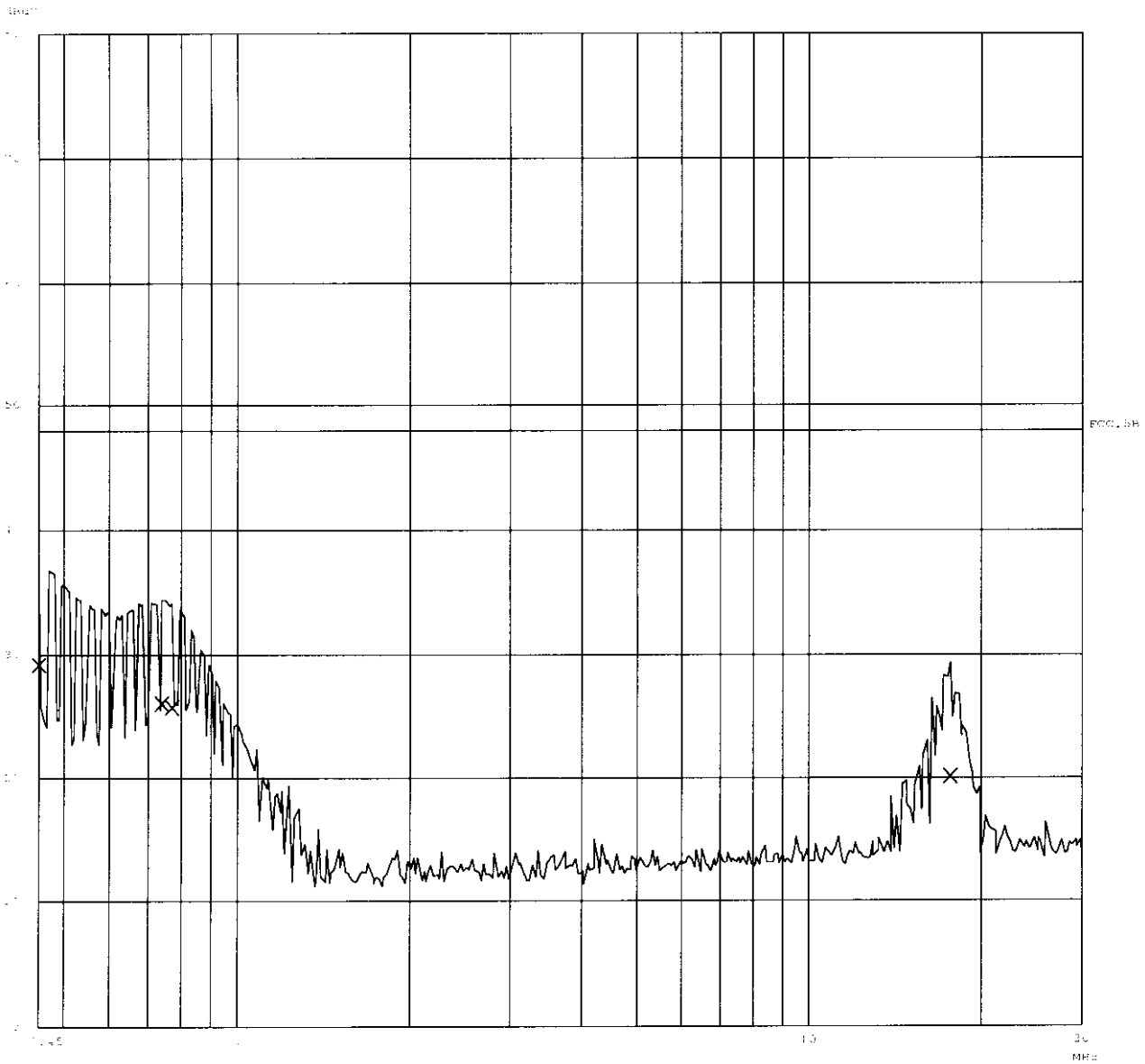
Scan Settings of Reader:

Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRes
400k	200	50	10k	PK	1ms	AUTO	LO	OFF

Final Measurements of LP

Meas. Time: 1.5
 Coupling: 10
 Att. Setting: 0 dB

Transducer No.	Start	Stop	Name
1	0k	30M	F1078



Ctrl. No.: N/A

INTERTEK TESTING SERVICES

Company: Continental Conair Limited
Model: FF925(XXX)
Mode : Charging

Date of Test: March 19, 1998

Table 9, Base Unit

Conducted Emissions

Report No.: 9800368

Mode = Charging

Tested By: Hong, Report No.: 9800368

Scan Settings (1 Range)

```
|----- Frequencies -----|----- Receiver Settings -----|
Start      Stop      Step      IF BW  Detector  M-Time  Atten  Preamp  OpRge
450k       30M       5k        10k    PK        10ms   AUTO  LN  OFF  60dB
```

Final Measurement Results:

Frequency MHz	QP Level dBuV	QP Limit dBuV
0.45000	29.1	48.0
0.74000	25.9	48.0
0.77000	25.6	48.0
17.70500	20.1	48.0

* limit exceeded

Ctrl. No.: N/A

INTERTEK TESTING SERVICES

Company: Continental Conair Limited
Model: FF925(XXX)
Mode : Stand by

Date of Test: March 19, 1998

Graph 3, Base Unit

Conducted Emissions

Mode = Stand by

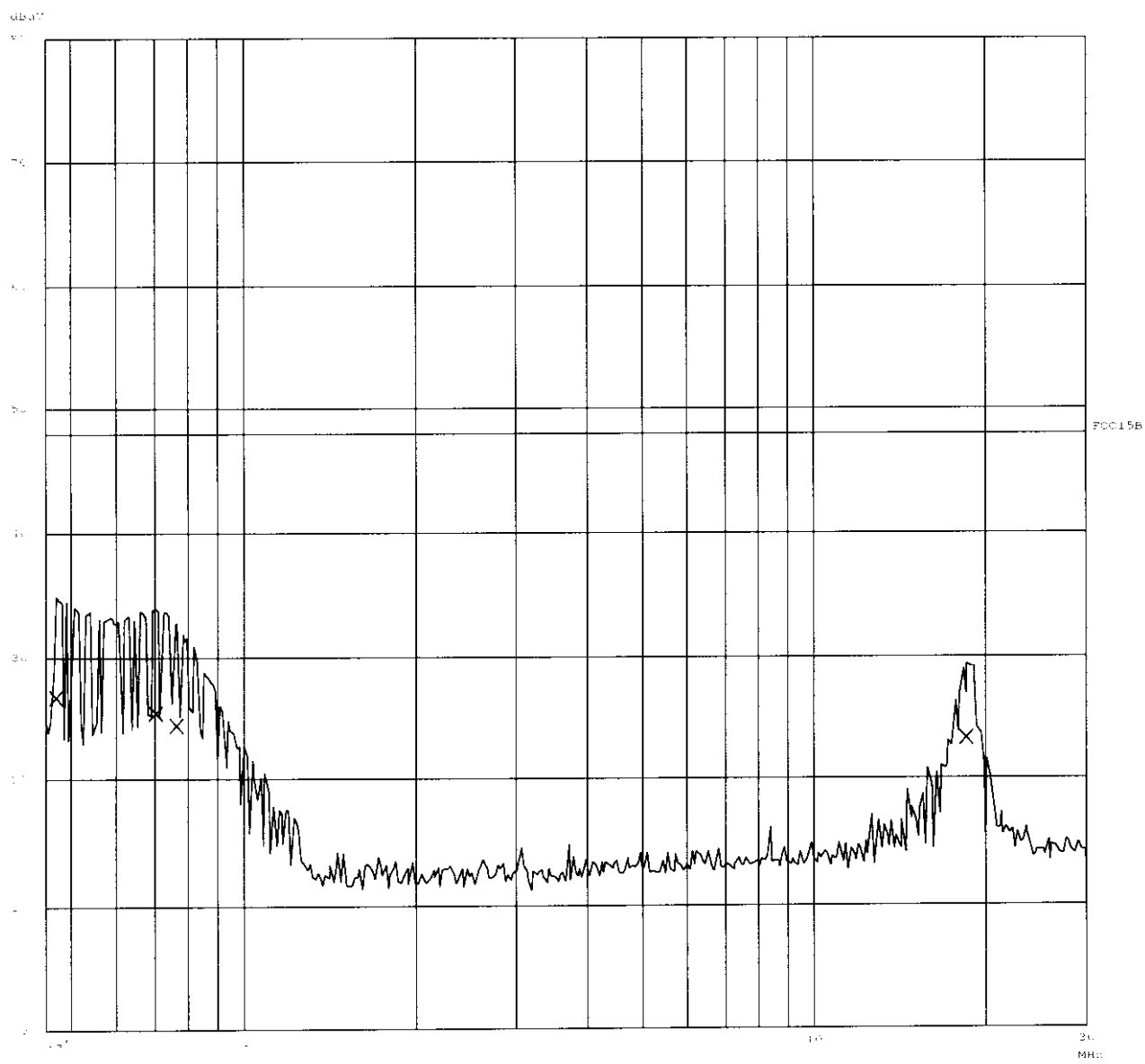
Report No.: 9800368

Tested By: [Name], Report No.: [Number]
 Scan Settings: [Range]

Start	Stop	Step	IF BW	Detector	M. Time	Att'n	Preamp	SpPr
41.26	343	15	12	PK	1.00	AMT	LN OFF	0.0dB

Transducer No.	Start	Stop	Name
2	PK	104	81078

Max: [Value]
 Min: [Value]
 A: [Value]



Ctrl. No.: N/A

INTERTEK TESTING SERVICES

Company: Continental Conair Limited
Model: FF925(XXX)
Mode : Stand by

Date of Test: March 19, 1998

Table 10, Base Unit

Conducted Emissions

Mode = Stand by

Report No.: 9800368

Tested By: Hong, Report No.: 9800368

Scan Settings (1 Range)

```
|----- Frequencies -----|----- Receiver Settings -----|
Start      Stop      Step      IF BW  Detector  M-Time  Atten  Preamp  OpRge
450k       30M       5k        10k    PK        10ms   AUTO  LN OFF  60dB
```

Final Measurement Results:

Frequency MHz	QP Level dBuV	QP Limit dBuV
0.47000	26.7	48.0
0.70500	25.3	48.0
0.76500	24.4	48.0
18.51000	23.2	48.0

* limit exceeded

Ctrl. No.: N/A