MEASUREMENT/TECHNICAL REPORT

In-Tech Electronics Ltd. - MODEL: Cobra CP-9125
FCC ID: NV69125

This report concerns (check one:) Original Grant__X__ Class II Change_____

Equipment Type: Low Power Transmitter (example: computer, modem, transmitter, etc.)

Deferred grant requested per 47 CFR 0.457(d)(1)(ii)? Yes___ No_X__

If yes, defer until : _____
date

Company Name agrees to notify the Commission by: _____
date

of the intended date of announcement of the product so that the grant can be issued on that date.

Transition Rules Request per 15.37? Yes_____ No_X__

If no, assumed Part 15, Subpart C for intentional radiator - the new 47 CFR [10-1-96 Edition] provision.

Report prepared by:

C. K. Lam
Intertek Testing Services.
2/F., Garment Centre,
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Kowloon, Hong Kong.
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1.2 Related Submittal(s) Grants

This is an Application for Certification of a cordless telephone system. Two transmitters are included in this Application. This specific report details the emission characteristics of each transmitter. The receivers are subject to the verification authorization process, in accordance with 15.101(b). A verification report has been prepared for the receiver sections of each device. The device is also subject to Part 68 Registration.

1.3 Test Methodology

Both AC mains line-conducted and radiated emission measurements were performed according to the procedures in ANSI C63.4 (1992). All measurements were performed in Open Area Test Sites. Preliminary scans were performed in the Open Area Test Sites only to determine worst case modes. For each scan, the procedure for maximizing emissions in Appendices D and E were followed. All Radiated tests were performed at an antenna to EUT distance of 3 meters, unless stated otherwise in the "**Justification Section**" of this Application.

1.4 Test Facility

The open area test site and conducted measurement facility used to collect the radiated data is located at Garment Centre, 576 Castle Peak Road, Kowloon, Hong Kong. This test facility and site measurement data have been fully placed on file with the FCC.

EXHIBIT 2
SYSTEM TEST CONFIGURATION

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 dBμV/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.

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:

(1) Headset with 1m cable.

2.4 Equipment Modification

Any modifications installed previous to testing by In-Tech Electronics Ltd. 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 In-Tech Electronics Ltd.

_____ Signature

August 20, 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.

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 dBμV/m
RA = Receiver Amplitude (including preamplifier) in dBμV
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 dBμV/m
RR = RA - AG in dBμV
LF = CF + AF in dB

Assume a receiver reading of 52.0 dBμV 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 dBμV/m. This value in dBμV/m was converted to its corresponding level in μV/m.

RA = 52.0 dBμV/m
AF = 7.4 dB
CF = 1.6 dB
AG = 29.0 dB
FS = RR + LF
FS = 23 + 9 = 32 dBμV/m

RR = 23.0 dBμV
LF = 9.0 dB

Level in μV/m = Common Antilogarithm [(32 dBμV/m)/20] = 39.8 μV/m

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 3.1 dB

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TEST PERSONNEL:

Tester Signature

Wilson S. K. Loke, Engineer
Typed/Printed Name

August 16, 1998
Date

Company: In-Tech Electronics Ltd.
Model: Cobra CP-9125
Mode : TX-Channel 11

Date of Test: July 30, 1998

Table 1, Base unit

Radiated Emissions

Polarity	Frequency (MHz)	Reading (dBμV)	Antenna Factor (dB)	Pre-Amp Gain (dB)	Net at 3m (dBμV/m)	Limit (dBμV/m)	Margin (dB)
V	902.100	74.2	32.0	16	90.2	94	-3.8
V	1804.201	52.7	26.5	34	45.2	54	-8.8
V	*2706.705	51.6	29.1	34	46.7	54	-7.3
H	*3608.407	39.4	32.8	34	38.2	54	-15.8

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: Wilson S. K. Loke

Company: In-Tech Electronics Ltd
Model: Cobra CP-9125
Mode : TX-Channel 6

Date of Test: July 30, 1998

Table 2, Base unit

Radiated Emissions

Polarity	Frequency (MHz)	Reading (dBμV)	Antenna Factor (dB)	Pre-Amp Gain (dB)	Net at 3m (dBμV/m)	Limit (dBμV/m)	Margin (dB)
V	903.050	74.6	32.0	16	90.6	94	-3.4
V	1806.107	52.7	26.5	34	45.2	54	-8.8
V	*2709.152	53.5	29.1	34	48.6	54	-5.4
H	*3612.201	40.6	32.8	34	39.4	54	-14.6

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: Wilson S. K. Loke

Company: In-Tech Electronics Ltd
Model: Cobra CP-9125
Mode : TX-Channel 30

Date of Test: July 30, 1998

Table 3, Base unit

Radiated Emissions

Polarity	Frequency (MHz)	Reading (dBμV)	Antenna Factor (dB)	Pre-Amp Gain (dB)	Net at 3m (dBμV/m)	Limit (dBμV/m)	Margin (dB)
V	904.000	74.9	32.0	16	90.9	94	-3.1
V	1808.002	52.6	26.5	34	45.1	54	-8.9
V	*2712.010	54.2	29.1	34	49.3	54	-4.7
H	*3616.005	36.4	32.8	34	35.2	54	-18.8

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: Wilson S. K. Loke

Company: In-Tech Electronics Ltd
Model: Cobra CP-9125
Mode : Stand by

Date of Test: July 30, 1998

Table 4, Base unit

Radiated Emissions

Polarity	Frequency (MHz)	Reading (dBμV)	Antenna Factor (dB)	Pre-Amp Gain (dB)	Net at 3m (dBμV/m)	Limit (dBμV/m)	Margin (dB)
V	36.001	28.3	10	16	22.3	40	-17.7
V	40.002	27.4	10	16	21.4	40	-18.6
V	44.007	29.6	10	16	23.6	40	-16.4
V	52.005	27.7	11	16	22.7	40	-17.3
H	56.007	25.8	11	16	20.8	40	-19.2
H	64.002	29.4	9	16	22.4	40	-17.6

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: Wilson S. K. Loke

Company: In-Tech Electronics Ltd
Model: Cobra CP-9125
Mode : Charging

Date of Test: July 30, 1998

Table 5, Base unit

Radiated Emissions

Polarity	Frequency (MHz)	Reading (dBμV)	Antenna Factor (dB)	Pre-Amp Gain (dB)	Net at 3m (dBμV/m)	Limit (dBμV/m)	Margin (dB)
V	36.001	28.3	10	16	22.3	40	-17.7
V	40.002	27.4	10	16	21.4	40	-18.6
V	44.007	29.6	10	16	23.6	40	-16.4
V	52.005	27.7	11	16	22.7	40	-17.3
H	56.067	25.8	11	16	20.8	40	-19.2
H	64.002	29.4	9	16	22.4	40	-17.6

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: Wilson S. K. Loke

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 9.8 dB

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TEST PERSONNEL:

Tester Signature

Wilson S. K. Loke, Engineer
Typed/Printed Name

August 14, 1998
Date

Company: In-Tech Electronics Ltd
Model: Cobra CP-9125
Mode : TX-Channel 26

Date of Test: July 30, 1998

Table 8. Handset

Radiated Emissions

Polarity	Frequency (MHz)	Reading (dBμV)	Antenna Factor (dB)	Pre-Amp Gain (dB)	Net at 3m (dBμV/m)	Limit (dBμV/m)	Margin (dB)
V	925.900	83.1	33.0	34	82.1	94	-11.9
H	1851.805	20.1	26.5	16	30.6	54	-23.4
H	*2277.702	19.2	29.1	16	32.3	54	-21.7
H	*3703.610	16.7	32.8	16	33.5	54	-20.5

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: Wilson S. K. Loke

Company: In-Tech Electronics Ltd.
Model: Cobra CP-9125
Mode : TX-Channel 11

Date of Test: July 30, 1998

Table 6. Handset

Radiated Emissions

Polarity	Frequency (MHz)	Reading (dBμV)	Antenna Factor (dB)	Pre-Amp Gain (dB)	Net at 3m (dBμV/m)	Limit (dBμV/m)	Margin (dB)
V	926.900	66.0	33.0	16	83.0	94	-11.0
H	1853.808	35.4	26.5	34	27.9	54	-26.1
H	*2780.702	37.6	29.1	34	32.7	54	-21.3
H	*3707.605	34.8	32.8	34	33.6	54	-20.4

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: Wilson S. K. Loke

Company: In-Tech Electronics Ltd.
Model: Cobra CP-9125
Mode : TX-Channel 16

Date of Test: July 30, 1998

Table 7, Handset

Radiated Emissions

Polarity	Frequency (MHz)	Reading (dBμV)	Antenna Factor (dB)	Pre-Amp Gain (dB)	Net at 3m (dBμV/m)	Limit (dBμV/m)	Margin (dB)
V	927.900	67.2	33.0	16	84.2	94	-9.8
H	1855.802	37.7	26.5	34	30.2	54	-23.8
H	*2783.707	36.5	29.1	34	31.6	54	-22.4
H	*3711.610	33.9	32.8	34	32.7	54	-21.3

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.

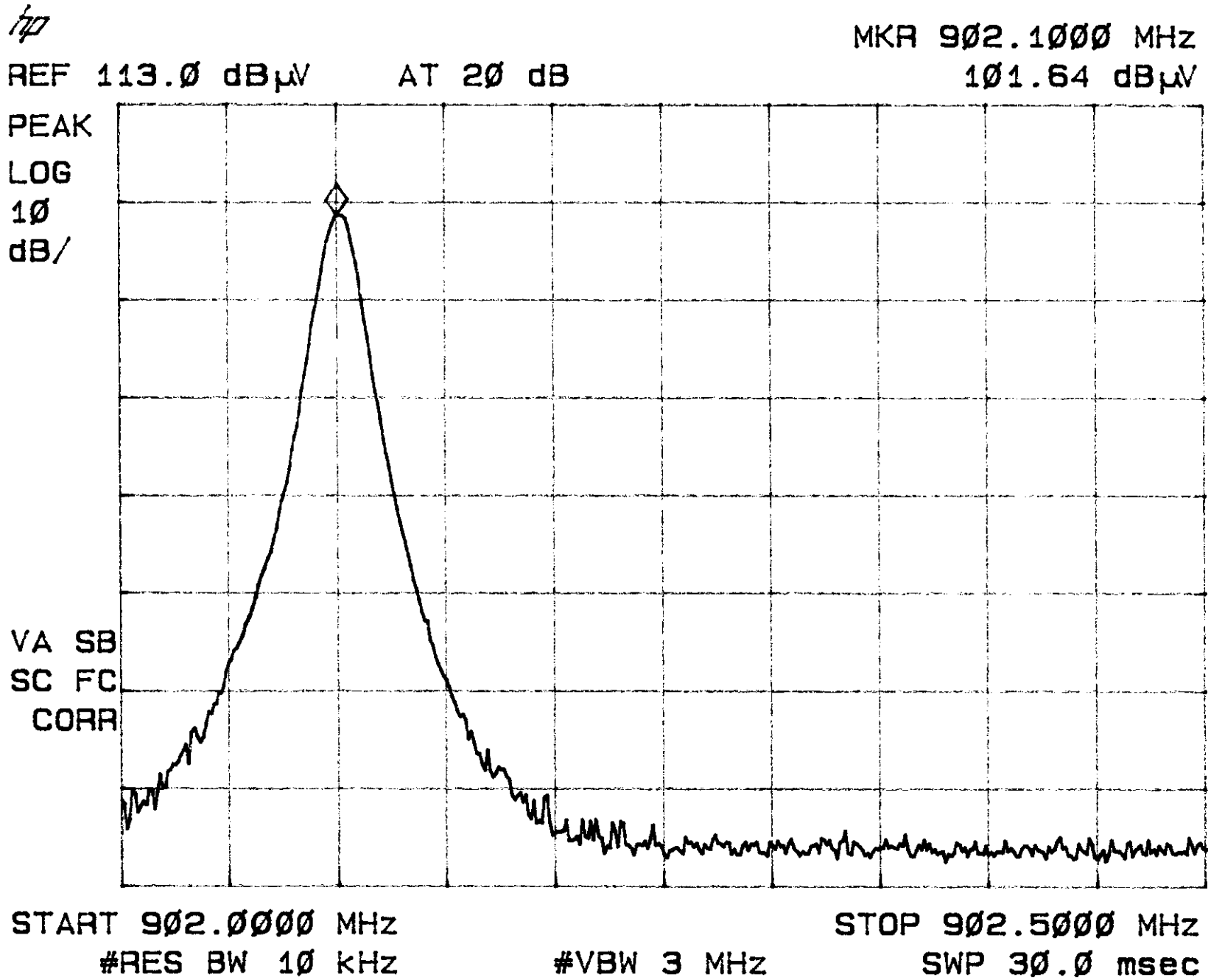
Test Engineer: Wilson S. K. Loke

3.6 Radiated Emission on the bandedge

Form 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 6.0 dB below the carrier level at band edge (902 and 928 MHz). It meet the requirement of section 15.249(c).

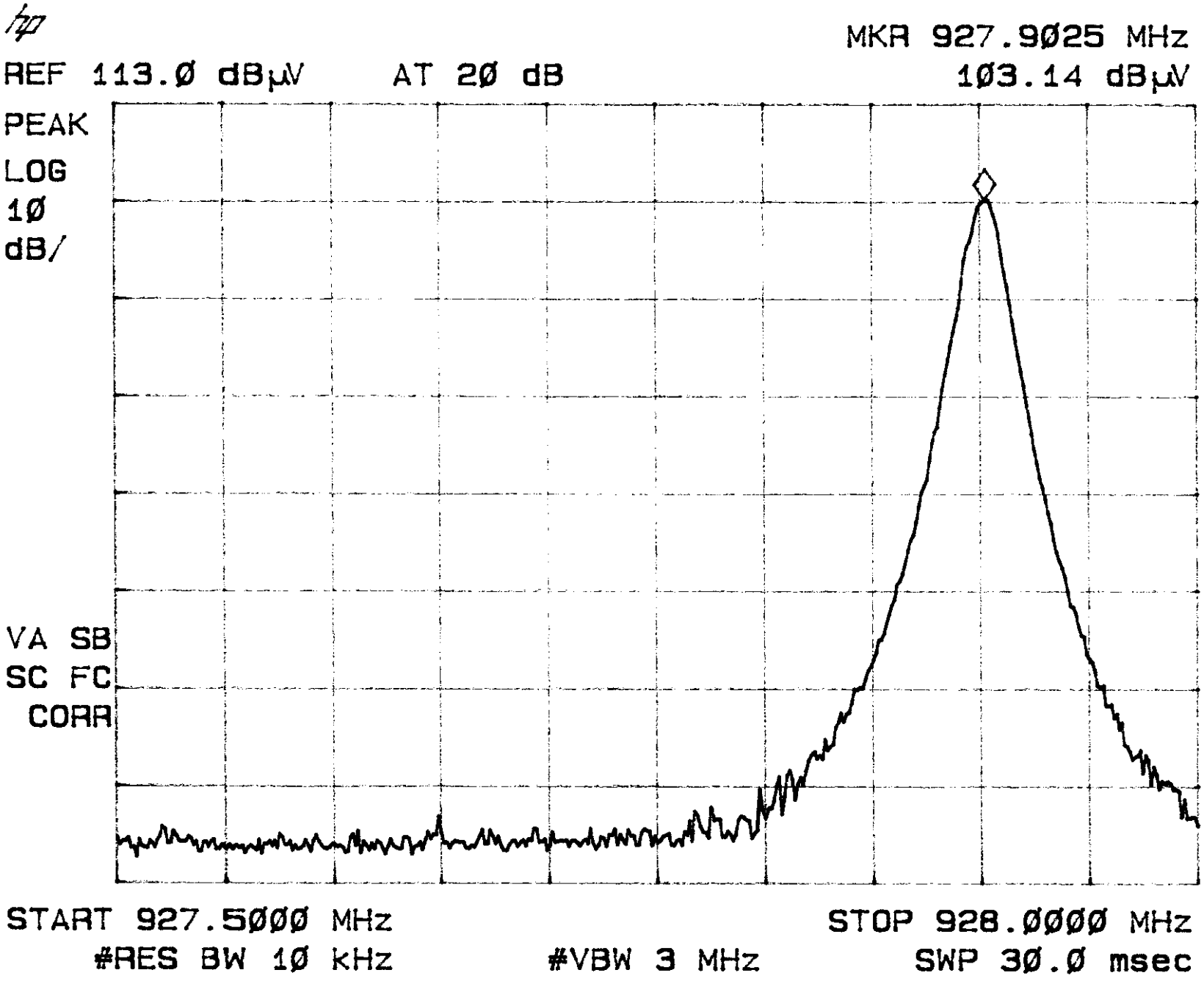
Emission Plot -Base

FCC ID-NV6925



Emission Plot - Handset

FCC ID: NV6HL25



3.8 Line Conducted Emission Configuration Data

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

Judgement : Passed by 15.2 dB

* All readings are peak unless stated otherwise.

TEST PERSONNEL:

Tester Signature

Wilson S. K. Loke, Engineer
Typed/Printed Name

August 14, 1998
Date

Company: In-Tech Electronics Ltd.
Model: Cobra CP-9125
Mode : TX

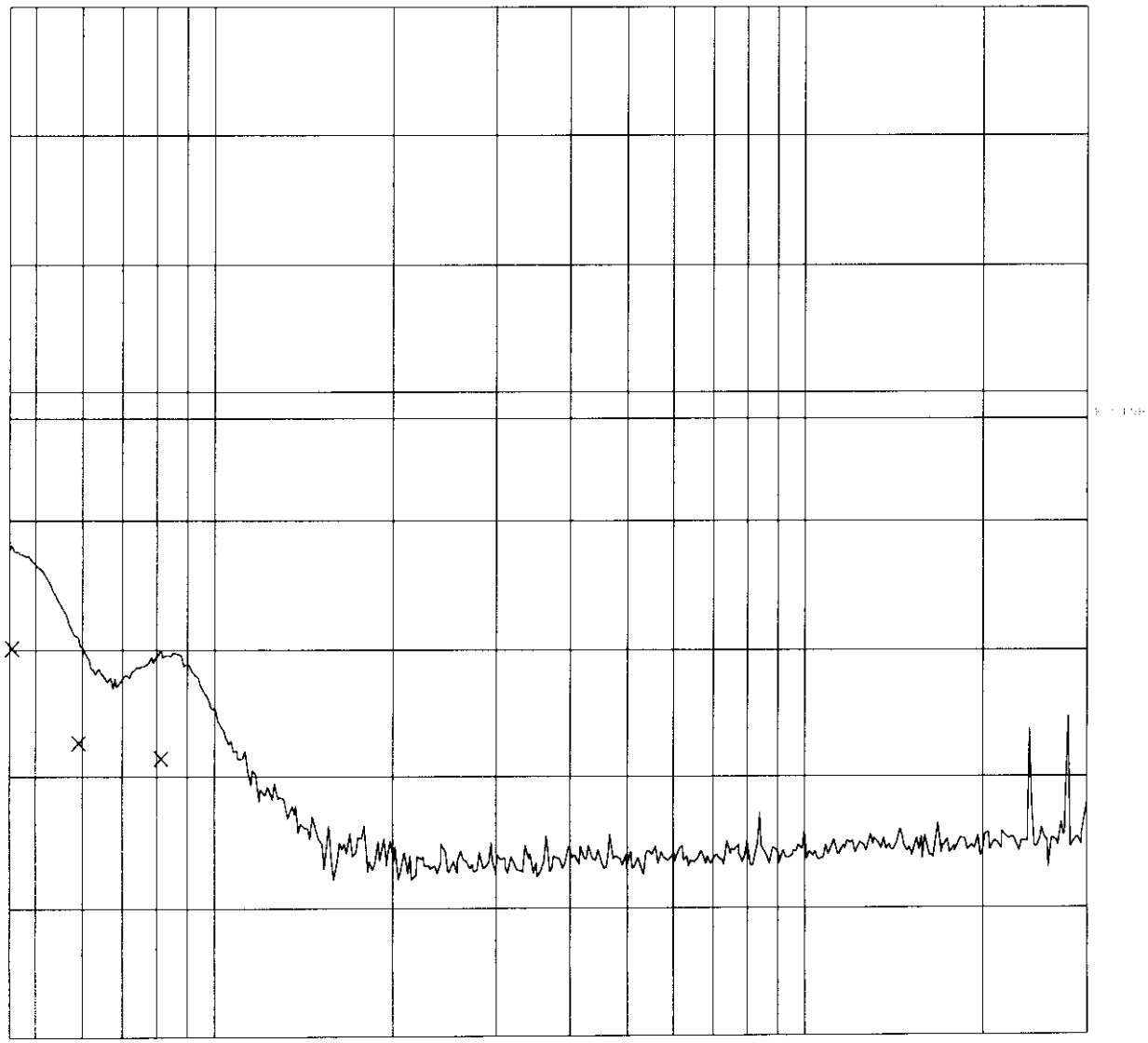
Date of Test: July 30, 1998

Graph 1. Base Unit

Conducted Emissions

Report No.: 78c655c

Mode : Tx



Ctrl. No.: N/A

FCC ID: NV69125

Company: In-Tech Electronics Ltd.
Model: Cobra CP-9125
Mode : TX

Date of Test: July 30, 1998

Table 9, Base Unit

Conducted Emissions

Mode : Tx

Report No.: 980655c

Tested By:Hong, Report No.:980655c
Scan Settings : 1 Range:
|---------- EMI Receiver Settings ----------|
| Start | Stop | Step | IF BW | Detector | M-Time | Atten | Preamp | OpRge |
| 30M | 1G | 5k | 120k | PK | 20ms | AUTO | ON | OFF | 60dB |

Final Measurement Results:

Frequency MHz	QP Level dBuV	QP Limit dBuV
0.4655	36.1	48.0
1.59010	22.6	48.0
0.81500	21.4	48.0

* Limit exceeded

Ctrl. No.: N/A

FCC ID. NVE9125

Company: In-Tech Electronics Ltd.
Model: Cobra CP-9125
Mode : Charging

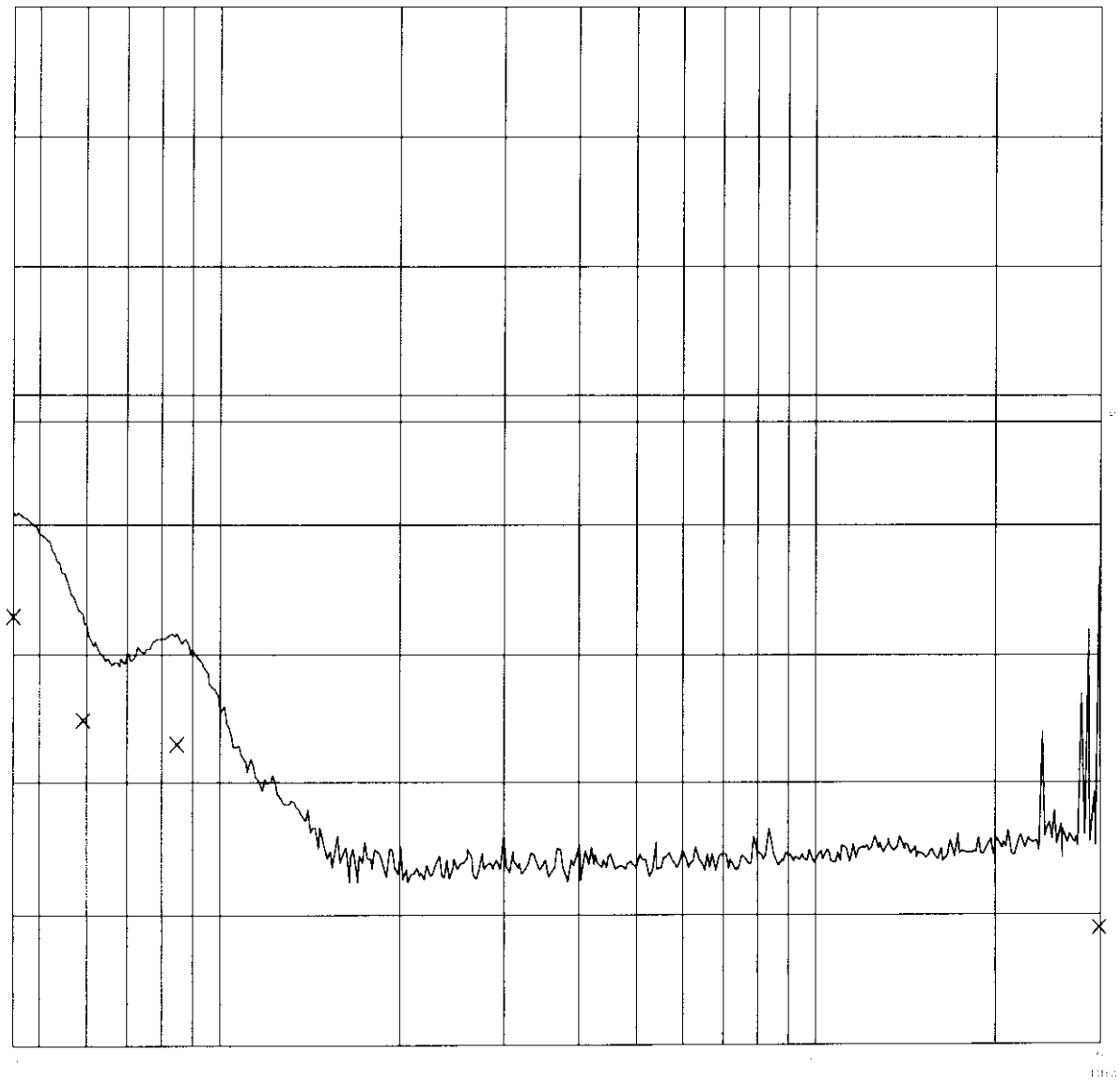
Date of Test: July 30, 1998

Graph 2, Base Unit

Conducted Emissions

Mode: Charging

Report No.: 98065SD



Ctrl. No.: N/A

FCC ID: NV69125

Company: In-Tech Electronics Ltd.
Model: Cobra CP-9125
Mode : Charging

Date of Test: July 30, 1998

Table 10. Base Unit

Conducted Emissions

Mode: Charging

Report No.: 9R0655C

Tested By:Hong, Report No.:9R0655C
Scan Settings 1 Range:

Frequencies			Receiver Settings					
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
45K	30M	5k	10k	PK	20ms	AUTO	LN OFF	60dB

Final Measurement Results:

Frequency MHz	QP Level dBuV	QP Limit dBuV
0.45000	30.8	46.8
9.09000	14.8	48.0
9.85500	13.0	48.0
29.95500	9.6	48.0

- Limit exceeded

Ctrl. No.: N/A

FCC ID: NVC9125

Company: In-Tech Electronics Ltd.
Model: Cobra CP-9125
Mode : Stand by

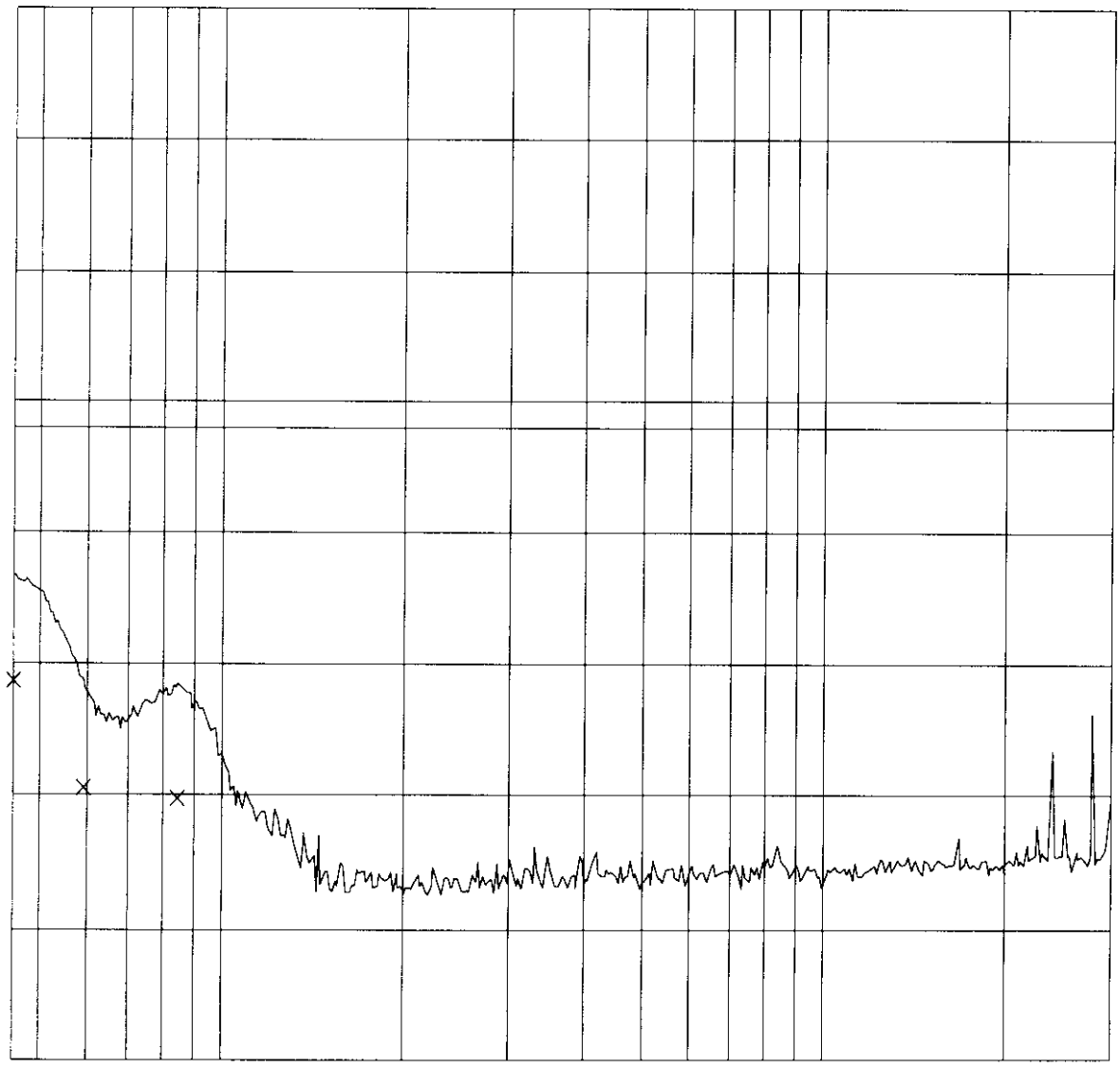
Date of Test: July 30, 1998

Graph 3. Base Unit

Conducted Emissions

Report No.: 97C655C

Mode: Stand by



Ctrl. No.: N/A

FCC ID: NV697125

Company: In-Tech Electronics Ltd.
Model: Cobra CP-9125
Mode : Stand by

Date of Test: July 30, 1998

Table 11, Base Unit

Conducted Emissions

Report No.: 980655c

Mode - Standby

Tested by:Nona, Report No.:980655c
Scan Settings : 1 Range
Frequencies			Receiver Settings				
Start	Stop	Step	IF BW	Detector	M-Time	Atten	Preamp	OpRge
9kHz	1MHz	Auto	10k	PK	20ms	AUTO	LN OFF	60dB

Final Measurement Results:

Frequency MHz	QP Level dBuV	QP Limit dBuV
0.450000	28.6	46.8
0.570000	28.5	46.0
0.690000	28.7	46.0

* limit exceeded

Ctrl. No.: N/A

FCC ID: NV67125

EXHIBIT 4
EQUIPMENT PHOTOGRAPHS

4.0 Equipment Photographs

Photographs of the tested EUT are attached.

EXHIBIT 8
SECURITY CODE INFORMATION

8.0 Security code information

The telephone has an internal security code with 65,536 possible combinations. Each time you place the HANDSET in the base, the code is randomly set to a new combination.