



TEST SERVICES

**EMC EVALUATION OF THE
M/A-COM
OPENSKY PORTABLE RADIO
MODEL P-801T
IN ACCORDANCE WITH THE
FCC PART 90 CERTIFICATION**

Prepared For:

**M/A-COM
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ATTENTION: DAVID GRIBBLE**

Prepared By:

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77 DRAGON COURT
WOBURN, MASSACHUSETTS 01888**

Date:

APRIL 17, 2000

Test Report Number:

EMI2547.US.00

Test Technician or Engineer: _____

CTS Approved Signatory: _____

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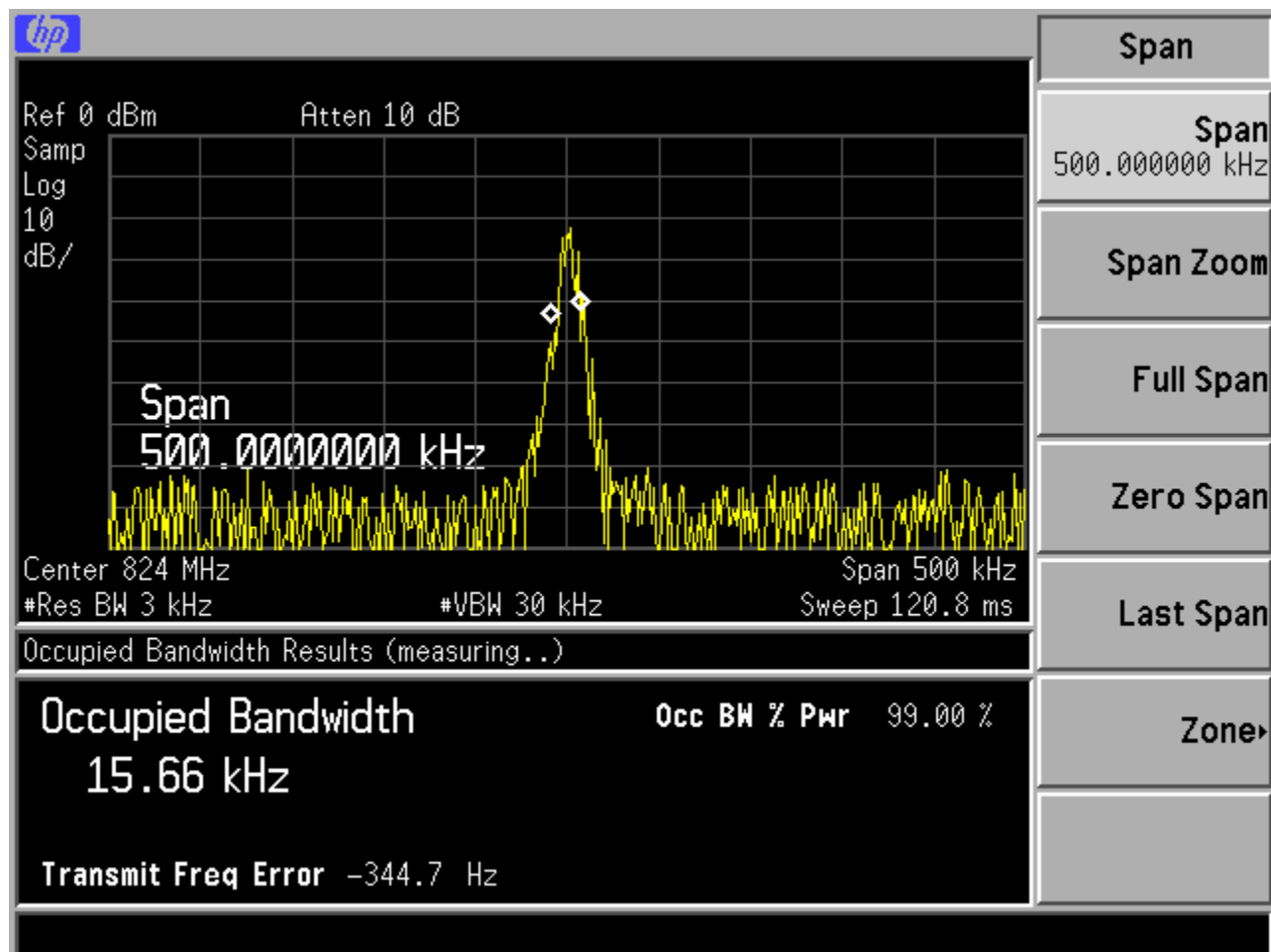
CHOMERICS

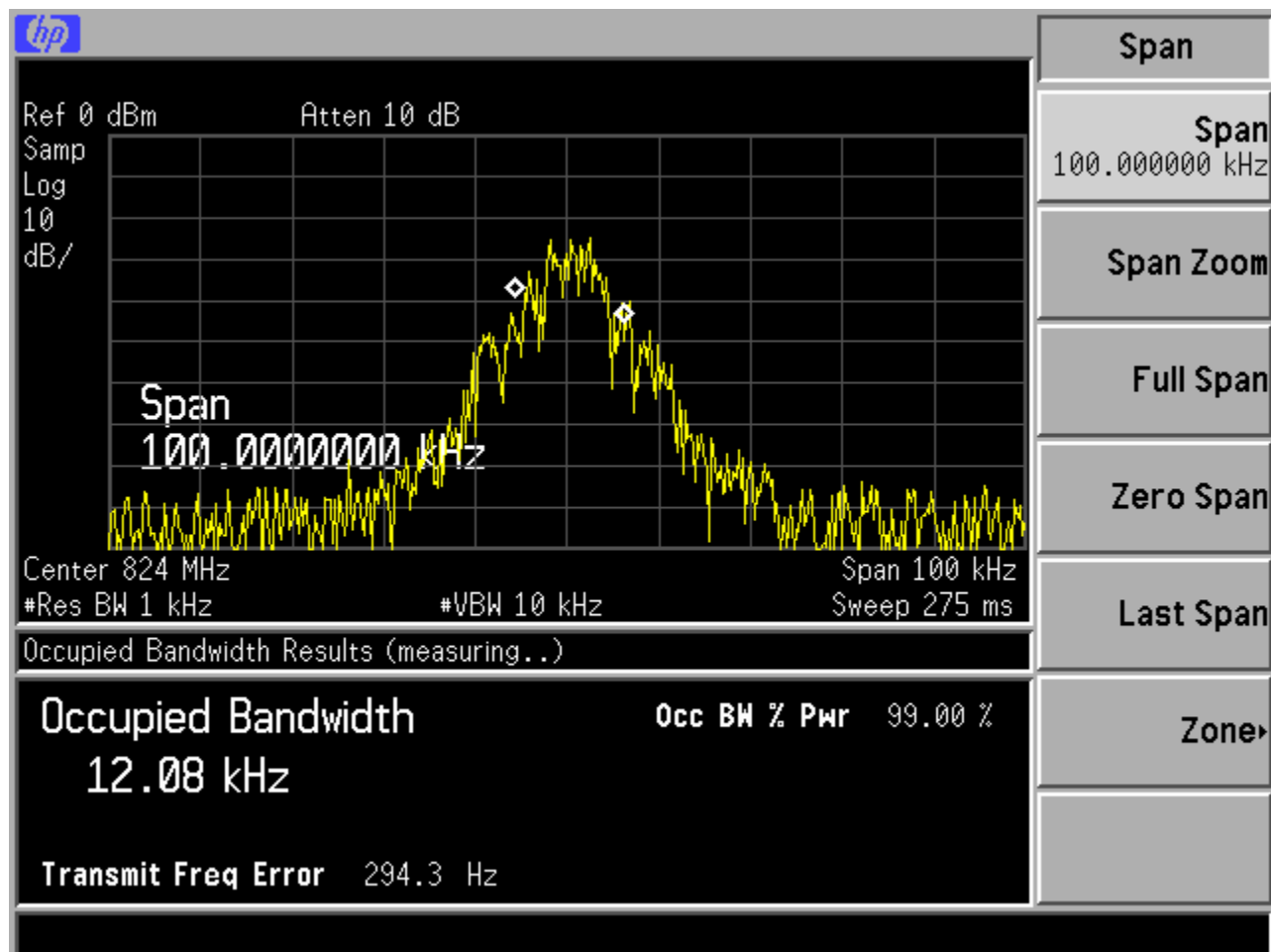


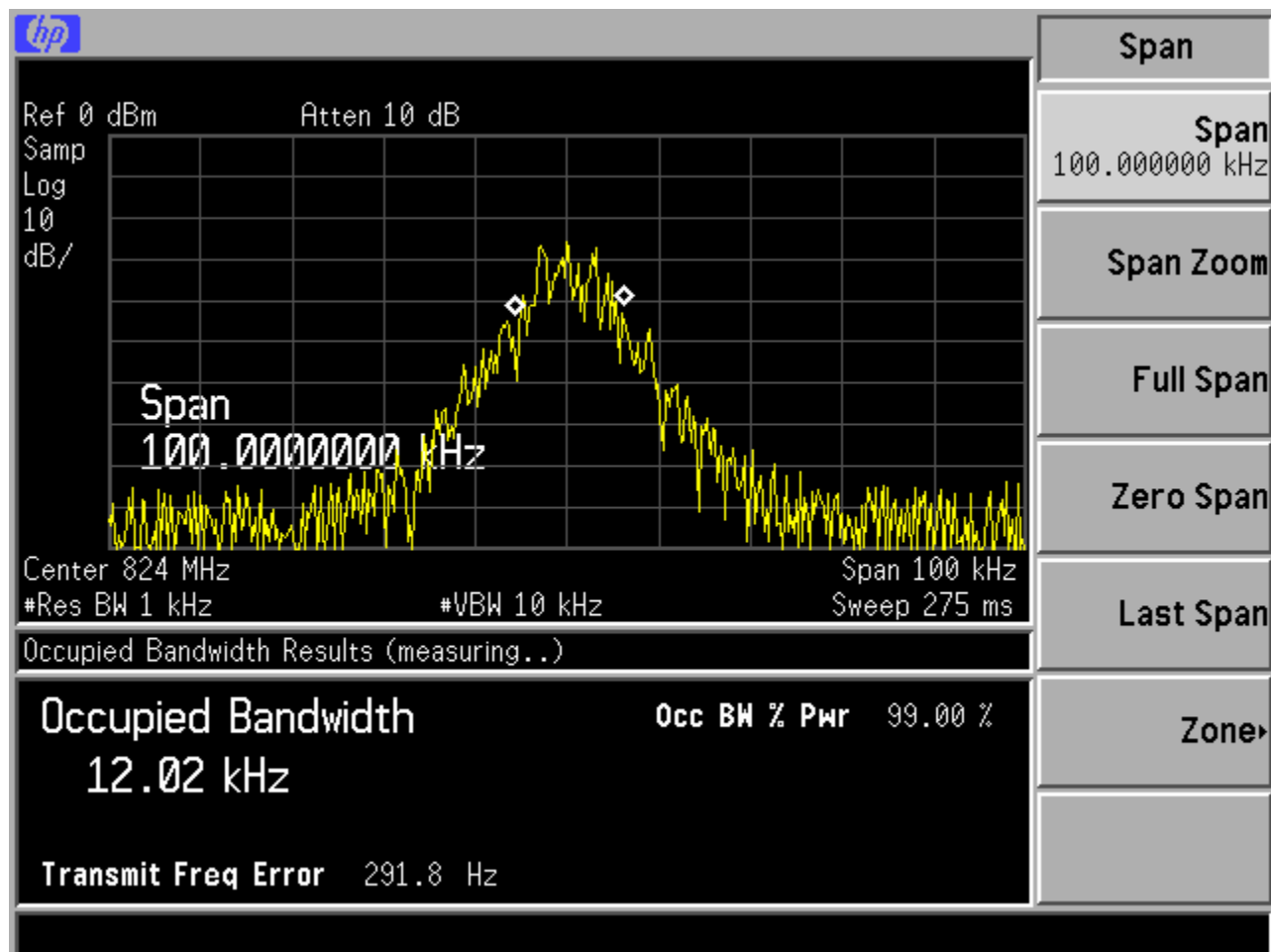
TEST SERVICES

APPENDIX A TEST DATA

Document #: EMI2547.US.00
Date: April 17, 2000

OCCUPIED BANDWIDTH**CUSTOMER: M/A-COM****EQUIPMENT: OPENSky P-801T PORTABLE RADIO****TESTED BY: ROBERT FOSTER****DATE: 04/13/000****TEST NUMBER: N/A****OPERATING MODE: DIGITAL CHANNEL 830**

OCCUPIED BANDWIDTH**CUSTOMER: M/A-COM****EQUIPMENT: OPENSky P-801T PORTABLE RADIO****TESTED BY: ROBERT FOSTER****DATE: 04/13/000****TEST NUMBER: N/A****OPERATING MODE: ANALOG CHANNEL 830**

OCCUPIED BANDWIDTH**CUSTOMER: M/A-COM****EQUIPMENT: OPENSKY P-801T PORTABLE RADIO****TESTED BY: ROBERT FOSTER****DATE: 04/13/000****TEST NUMBER: N/A****OPERATING MODE: ANALOG CHANNEL 830**

FREQUENCY STABILITY
Temperature vs. Frequency**CUSTOMER: M/A-COM****EQUIPMENT: OPENSKY P-801T PORTABLE RADIO****TESTED BY: ROBERT FOSTER****TEST SPEC: PART 2.1055****DATE: 04/13/000****TEST NUMBER: N/A****OPERATING MODE: ANALOG CHANNEL 830****Center Frequency 823.9895 MHz at 20°C**

Temperature	Frequency MHz
-30°C	823.9894
-20°C	823.9895
-10°C	823.9894
0°C	823.9894
10°C	823.9895
20°C	823.9895
30°C	823.9896
40°C	823.9895
50°C	823.9895

Maximum Deviation 200Hz at 30°C

TEST SERVICES

RADIATED E FIELD EMISSION MEASUREMENTS

CUSTOMER: M/A-COM

EQUIPMENT: OPENSKY P-801T PORTABLE RADIO

STAND ALAONE WITH ½ WAVE ANTENNA

TESTED BY: B. TORRENCE

OPERATING MODE:

BANDWIDTH: [X] 100 KHZ (PEAK)/120 KHZ (QP)
1MHZ (PEAK)

FREQUENCY RANGE: 30MHZ – 10 GHZ

DATE: 03/20/00

TEST NUMBER: 1

COUPLING DEVICE: EMCO 3121, 3115, EATON HORN

TEST SPEC: FCC PART 15 & 90 OPEN FIELD

EMISSIONS

PROCEDURE: ANSI C63.4

ANTENNA DISTANCE: [X] 3 METERS [] 10 METERS

FREQUENCY MHZ	PEAK MEASURED LEVEL -dBm	QUASI-PEAK MEASURED LEVEL dBuV	ANTENNA HEIGHT (METERS)	TURNTABLE AZIMUTH (DEGREES)	ANTENNA H/V	ANTENNA FAC/CABLE LOSS dB	FIELD LEVEL dBuV/m **	LIMIT dBuV/m (QP)
30	-	5	3	0	V	2.2	7.2	40
100	-	5	2	0	V	10.1	15.1	43.5
200	-	7	2	0	V	-4	3	43.5
300	-	7	1	0	V	-2.1	4.9	46
400	-	7	1	0	V	3.5	10.5	46
500	-	7	1	0	V	3.7	10.7	46

Note: No signals detected. All signals recorded are noise floor of receiver.

All signals greater than 3dB from the limit are calculate to the nearest whole number.

** Field Level (dBuV/m) = [107 – Measured level (dBm)] + Antenna Factor/Cable Loss (dB)

Ambient Temperature: 65°F

Humidity: 30%

Atmospheric Pressure: 29.8"

TEST SERVICES

RADIATED E FIELD EMISSION MEASUREMENTS

CUSTOMER: M/A-COM
EQUIPMENT: OPENSKY P-801T PORTABLE RADIO
STAND ALAONE WITH ¼ WAVE ANTENNA
TESTED BY: B. TORRENCE
OPERATING MODE:

DATE: 03/20/00
TEST NUMBER: 2

COUPLING DEVICE: EMCO 3121, 3115, EATON HORN
TEST SPEC: FCC PART 15 & 90 OPEN FIELD
EMISSIONS

BANDWIDTH: [X] 100 KHZ (PEAK)/120 KHZ (QP)
1MHZ (PEAK)

PROCEDURE: ANSI C63.4

FREQUENCY RANGE: 30MHZ – 10 GHZ

ANTENNA DISTANCE: [X] 3 METERS [] 10 METERS

FREQUENCY MHZ	PEAK MEASURED LEVEL -dBm	QUASI-PEAK MEASURED LEVEL dBuV	ANTENNA HEIGHT (METERS)	TURNTABLE AZIMUTH (DEGREES)	ANTENNA H/V	ANTENNA FAC/CABLE LOSS dB	FIELD LEVEL dBuV/m **	LIMIT dBuV/m (QP)
30	-	5	3	0	V	2.2	7.2	40
100	-	5	2	0	V	10.1	15.1	43.5
200	-	7	2	0	V	-4	3	43.5
300	-	7	1	0	V	-2.1	4.9	46
400	-	7	1	0	V	3.5	10.5	46
500	-	7	1	0	V	3.7	10.7	46

Note: No signals detected. All signals recorded are noise floor of receiver.

All signals greater than 3dB from the limit are calculate to the nearest whole number.

**** Field Level (dBuV/m) = [107 – Measured level (dBm)] + Antenna Factor/Cable Loss (dB)**

Ambient Temperature: 65°F

Humidity: 30%

Atmospheric Pressure: 29.8"

TEST SERVICES

RADIATED E FIELD EMISSION MEASUREMENTS

CUSTOMER: M/A-COM

EQUIPMENT: OPENSKY P-801T PORTABLE RADIO
WITH ½ WAVE ANTENNA AND PROGRAMING CABLE

TESTED BY: B. TORRENCE

OPERATING MODE:

BANDWIDTH: [X] 100 KHZ (PEAK)/120 KHZ (QP)
1MHZ (PEAK)

FREQUENCY RANGE: 30MHZ – 10 GHZ

DATE: 03/20/00

TEST NUMBER: 3

COUPLING DEVICE: EMCO 3121, 3115, EATON HORN

TEST SPEC: FCC PART 15 & 90 OPEN FIELD

EMISSIONS

PROCEDURE: ANSI C63.4

ANTENNA DISTANCE: [X] 3 METERS [] 10 METERS

FREQUENCY MHZ	PEAK MEASURED LEVEL -dBm	QUASI-PEAK MEASURED LEVEL dBuV	ANTENNA HEIGHT (METERS)	TURNTABLE AZIMUTH (DEGREES)	ANTENNA H/V	ANTENNA FAC/CABLE LOSS dB	FIELD LEVEL dBuV/m **	LIMIT dBuV/m (QP)
30	-	5	3	0	V	2.2	7.2	40
100	-	5	2	0	V	10.1	15.1	43.5
200	-	7	2	0	V	-4	3	43.5
300	-	7	1	0	V	-2.1	4.9	46
400	-	7	1	0	V	3.5	10.5	46
500	-	7	1	0	V	3.7	10.7	46

Note: No signals detected. All signals recorded are noise floor of receiver.

All signals greater than 3dB from the limit are calculate to the nearest whole number.

** Field Level (dBuV/m) = [107 – Measured level (dBm)] + Antenna Factor/Cable Loss (dB)

Ambient Temperature: 65°F

Humidity: 30%

Atmospheric Pressure: 29.8"

TEST SERVICES

RADIATED E FIELD EMISSION MEASUREMENTS

CUSTOMER: M/A-COM

EQUIPMENT: OPENSKY P-801T PORTABLE RADIO

½ WAVE ANTENNA AND EXTERNAL MICROPHONE

TESTED BY: B. TORRENCE

OPERATING MODE:

**BANDWIDTH: [X] 100 KHz (PEAK)/120 KHz (QP)
1MHz (PEAK)**

FREQUENCY RANGE: 30MHz – 10 GHz

DATE: 03/20/00

TEST NUMBER: 4

COUPLING DEVICE: EMCO 3121, 3115, EATON HORN

TEST SPEC: FCC PART 15 & 90 OPEN FIELD

EMISSIONS

PROCEDURE: ANSI C63.4

ANTENNA DISTANCE: [X] 3 METERS [] 10 METERS

FREQUENCY MHZ	PEAK MEASURED LEVEL -dBm	QUASI-PEAK MEASURED LEVEL dBuV	ANTENNA HEIGHT (METERS)	TURNTABLE AZIMUTH (DEGREES)	ANTENNA H/V	ANTENNA FAC/CABLE LOSS dB	FIELD LEVEL dBuV/m **	LIMIT dBuV/m (QP)
30	-	5	3	0	V	2.2	7.2	40
100	-	5	2	0	V	10.1	15.1	43.5
200	-	7	2	0	V	-4	3	43.5
300	-	7	1	0	V	-2.1	4.9	46
400	-	7	1	0	V	3.5	10.5	46
500	-	7	1	0	V	3.7	10.7	46

Note: No signals detected. All signals recorded are noise floor of receiver.

All signals greater than 3dB from the limit are calculate to the nearest whole number.

**** Field Level (dBuV/m) = [107 – Measured level (dBm)] + Antenna Factor/Cable Loss (dB)**

Ambient Temperature: 65°F

Humidity: 30%

Atmospheric Pressure: 29.8"

TEST SERVICES

RADIATED E FIELD EMISSION MEASUREMENTS

CUSTOMER: M/A-COM

EQUIPMENT: OPENSKY P-801T PORTABLE RADIO

With ½ wave antenna and external headset

TESTED BY: B. TORRENCE

OPERATING MODE:

BANDWIDTH: [X] 100 KHZ (PEAK)/120 KHZ (QP)
1MHZ (PEAK)

FREQUENCY RANGE: 30MHZ – 10 GHZ

DATE: 03/21/00

TEST NUMBER: 5

COUPLING DEVICE: EMCO 3121, 3115, EATON HORN

TEST SPEC: FCC PART 15 & 90 OPEN FIELD

EMISSIONS

PROCEDURE: ANSI C63.4

ANTENNA DISTANCE: [X] 3 METERS [] 10 METERS

FREQUENCY MHZ	PEAK MEASURED LEVEL -dBm	QUASI-PEAK MEASURED LEVEL dBuV	ANTENNA HEIGHT (METERS)	TURNTABLE AZIMUTH (DEGREES)	ANTENNA H/V	ANTENNA FAC/CABLE LOSS dB	FIELD LEVEL dBuV/m **	LIMIT dBuV/m (QP)
207.7	-	33	1.5	190	H	-6.2	26.8	43.5
216.2	-	36	1.5	180	H	-5.8	30.2	46
228	-	33	1.5	188	H	-4.9	28.1	46
288	-	36	1.5	201	H	-3.1	32.9	46
294.9	-	36	1.2	194	H	-2.9	33.1	46
500**	-	8	1.2	0	V	3.7	10.7	46

Note: 500MHz is the recorded noise floor of receiver.

All signals greater than 3dB from the limit are calculate to the nearest whole number.

**** Field Level (dBuV/m) = [107 – Measured level (dBm)] + Antenna Factor/Cable Loss (dB)**

Ambient Temperature: 65°F

Humidity: 30%

Atmospheric Pressure: 29.8"

TEST SERVICES

RADIATED E FIELD EMISSION MEASUREMENTS

CUSTOMER: M/A-COM

DATE: 03/21/00

EQUIPMENT: OPENSKY P-801T PORTABLE RADIO

TEST NUMBER: 6

With external microphone with built-on ¼ wave antenna

TESTED BY: B. TORRENCE

COUPLING DEVICE: EMCO 3121, 3115, EATON HORN

OPERATING MODE:

TEST SPEC: FCC PART 15 & 90 OPEN FIELD EMISSIONS

BANDWIDTH: [X] 100 KHZ (PEAK)/120 KHZ (QP)
1MHZ (PEAK)

PROCEDURE: ANSI C63.4

FREQUENCY RANGE: 30MHZ – 10 GHZ

ANTENNA DISTANCE: [X] 3 METERS [] 10 METERS

FREQUENCY MHZ	PEAK MEASURED LEVEL -dBm	QUASI-PEAK MEASURED LEVEL dBuV	ANTENNA HEIGHT (METERS)	TURNTABLE AZIMUTH (DEGREES)	ANTENNA H/V	ANTENNA FAC/CABLE LOSS dB	FIELD LEVEL dBuV/m **	LIMIT dBuV/m (QP)
30	-	5	3	0	V	2.2	7.2	40
100	-	5	2	0	V	10.1	15.1	43.5
200	-	7	2	0	V	-4	3	43.5
300	-	7	1	0	V	-2.1	4.9	46
400	-	7	1	0	V	3.5	10.5	46
500	-	7	1	0	V	3.7	10.7	46

Note: No signals detected. All signals recorded are noise floor of receiver.

All signals greater than 3dB from the limit are calculate to the nearest whole number.

** Field Level (dBuV/m) = [107 – Measured level (dBm)] + Antenna Factor/Cable Loss (dB)

Ambient Temperature: 65°F

Humidity: 30%

Atmospheric Pressure: 29.8"

TEST SERVICES

RADIATED E FIELD EMISSION MEASUREMENTS

CUSTOMER: M/A-COM

EQUIPMENT: OPENSKY P-801T PORTABLE RADIO

STAND ALONE WITH 1/2 WAVE ANTENNA

TESTED BY: R. FOSTER

OPERATING MODE:

**BANDWIDTH: [X] 100 KHZ (PEAK)/120 KHZ (QP)
1MHZ (PEAK)**

FREQUENCY RANGE: 30MHZ – 10 GHZ

DATE: 03/20/00

TEST NUMBER: 1

COUPLING DEVICE: EMCO 3121, 3115, EATON HORN

TEST SPEC: FCC PART 15 & 90 OPEN FIELD

EMISSIONS

PROCEDURE: ANSI C63.4

ANTENNA DISTANCE: [X] 3 METERS [] 10 METERS

FREQUENCY MHZ	PEAK MEASURED LEVEL -dBm	QUASI-PEAK MEASURED LEVEL dBuV	ANTENNA HEIGHT (METERS)	TURNTABLE AZIMUTH (DEGREES)	ANTENNA H/V	ANTENNA FAC/CABLE LOSS dB	FIELD LEVEL dBuV/m **	LIMIT dBuV/m (QP)
30	-	5	3	0	V	2.2	7.2	40
100	-	5	2	0	V	10.1	15.1	43.5
200	-	7	2	0	V	-4	3	43.5
300	-	7	1	0	V	-2.1	4.9	46
400	-	7	1	0	V	3.5	10.5	46
500	-	7	1	0	V	3.7	10.7	46

Note: No signals detected. All signals recorded are noise floor of receiver.

All signals greater than 3dB from the limit are calculate to the nearest whole number.

**** Field Level (dBuV/m) = [107 – Measured level (dBm)] + Antenna Factor/Cable Loss (dB)**

Ambient Temperature: 65°F

Humidity: 30%

Atmospheric Pressure: 29.8"