JMR Procedure of Radiated Emissions Test

The EMC radiated test facility consists a of shielded semi-anechoic chamber with attached shielded control room. The semi-anechoic chamber is approximately 18 feet wide by 28 feet long by 19 feet high. A hybrid absorber combines high performance anechoic polyurethane foam with a ferrite tile base to achieve high levels of absorption and power dissipation capability.

The test site is designed according to the ANSI 63.4 -1992 requirements and the anechoic treatment of the chamber is sufficient to achieve the requirements of CISPR 22 and ANSI C63.4. The site attenuation data has been filed with the FCC and a letter of compliance with the requirements of Section 2.948 of the FCC Rules was issued on June 12, 1995 by the FCC.

The EUT was test in compliance with Section 12 of the ANSI C63.4 standard. All data was obtained via an HP 85876A EMI measurement software package using an HP 85462A Receiver.

After determination of the maximum emissions configuration the distance of the EUT to the scanning antenna was set to 3 meters as required by the standards.
Radiated emissions were then monitored from the EUT over a frequency range of 30 MHz to 1000 MHz in horizontal polarization with the scanning antenna repeatedly moving from 1 to 4 meters in elevation while the turntable rotated through a 360 degree arc. This procedure was then repeated in vertical polarization to confirm the strongest signals and polarization orientation. This part of the test sequence the spectrum check is done in a manual mode.

After it is determine by the results of the spectrum check scan that the article is compliant the EUT is then measured in completely automatic mode using a Hewlett-Packard 8546A EMI Receiver (9 kHz - 6.5 Ghz) and HP 85876A EMI Measurement Software test system.
The HP Software, after scanning the EUT in Peak mode, automatically selects the strongest signal from the EUT and then Quasi-Peaks and Averages those strong signals to determine EUT compliance to the standards.

The measurement values are data reduced and then presented as both graphical results of the spectrum check and tabulated QP and Averages of the strongest signals in this report.

EXHIBIT 5

TEST PROCEDURE

TEST PROCEDURE

The transmitter was placed on the turntable in the chamber so that it could be measured through a 360 degree rotation.

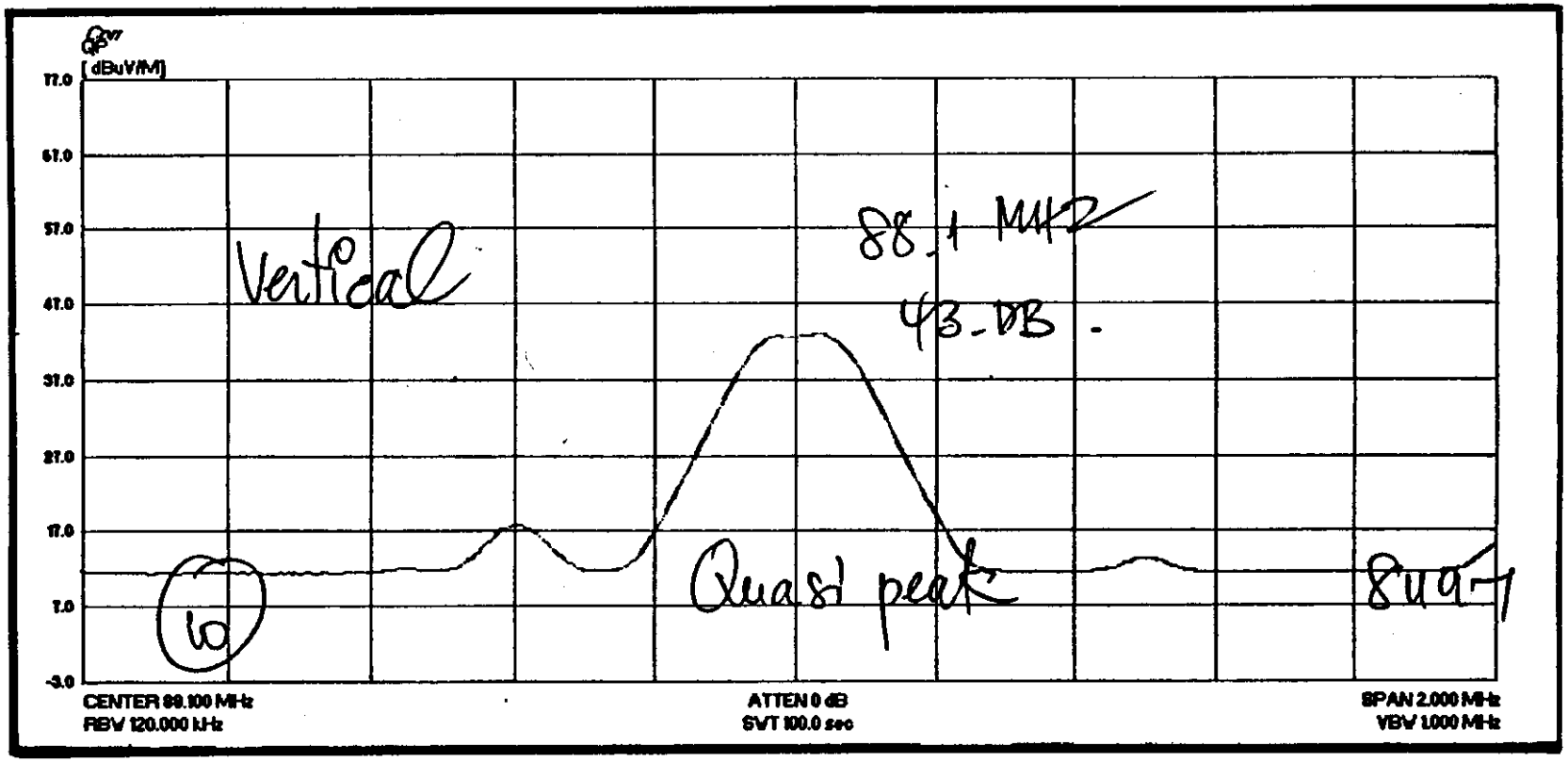
A 1004 Hz test tone at a level of "0"dBM (.775v) was placed at the transmitter input. This level provides for a crest factor of 10 dB above the reference output level of -10dBv which is the standard employed in consumer audio equipment.

The scanning antenna measured emissons from 1 to 4 meters in elevation at a distance of 3 meters as the turntable rotated 360 degrees.

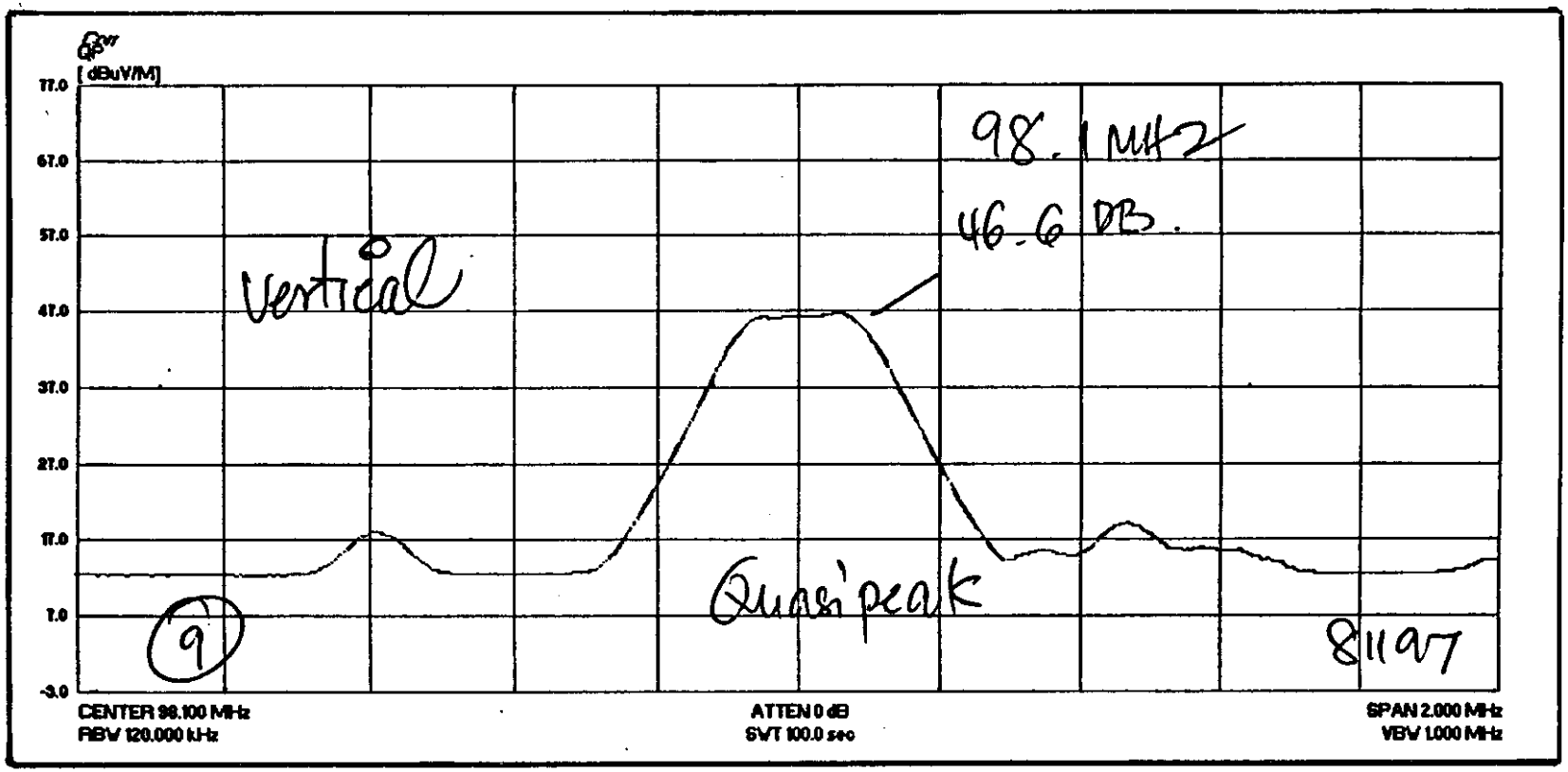
The results of these tests are shown in the exhibits which are included in this document.

EXHIBIT 6

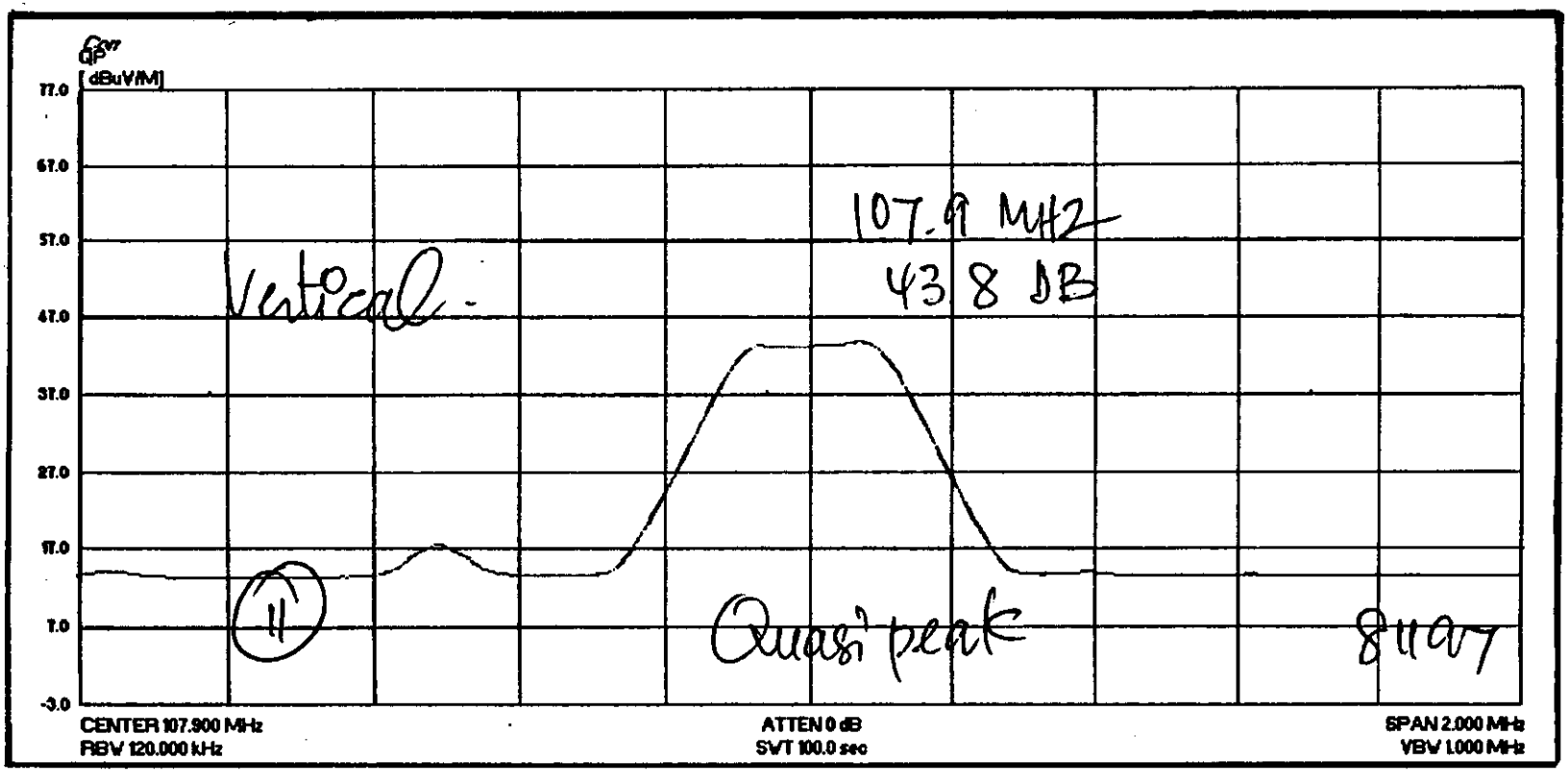
TEST RESULTS - FIELD INTENSITY



Maximum Field Measurement Conditions
Antenna Length 18.5 inches
Table Azmuth = 280°
Receiving Antenna Height = 4 meters



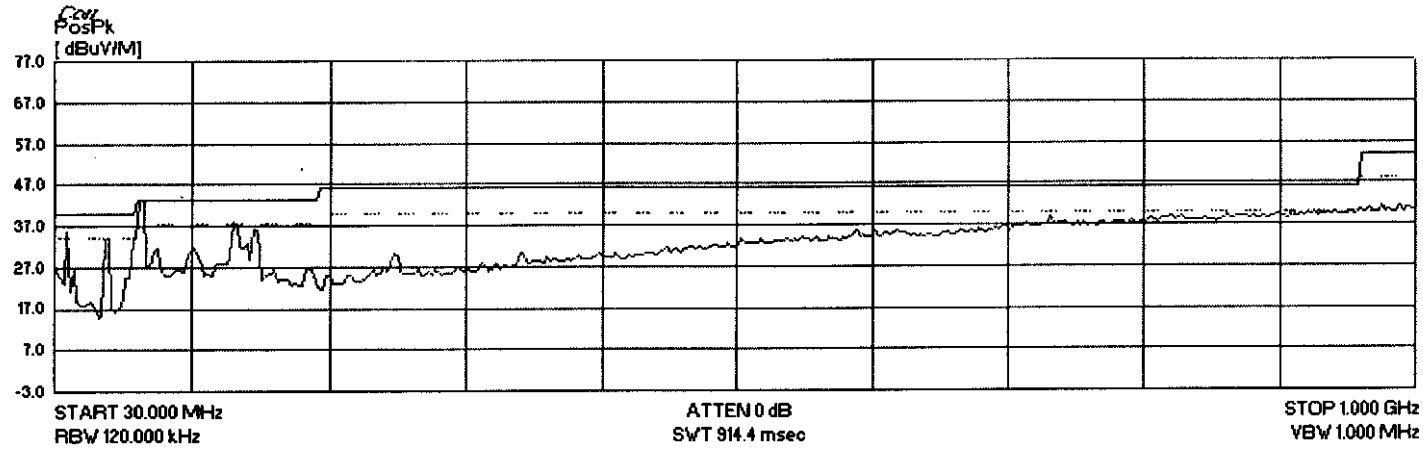
Maximum Field Measurement Conditions
Antenna Length 18.5 inches
Table Azmuth = 180°
Receiving Antenna Height 4 meters



Maximum Field Measurement Conditions
Antenna Length 18.5 inches
Table Azmuth = 128°
Receiving Antenna Height = 1 meter

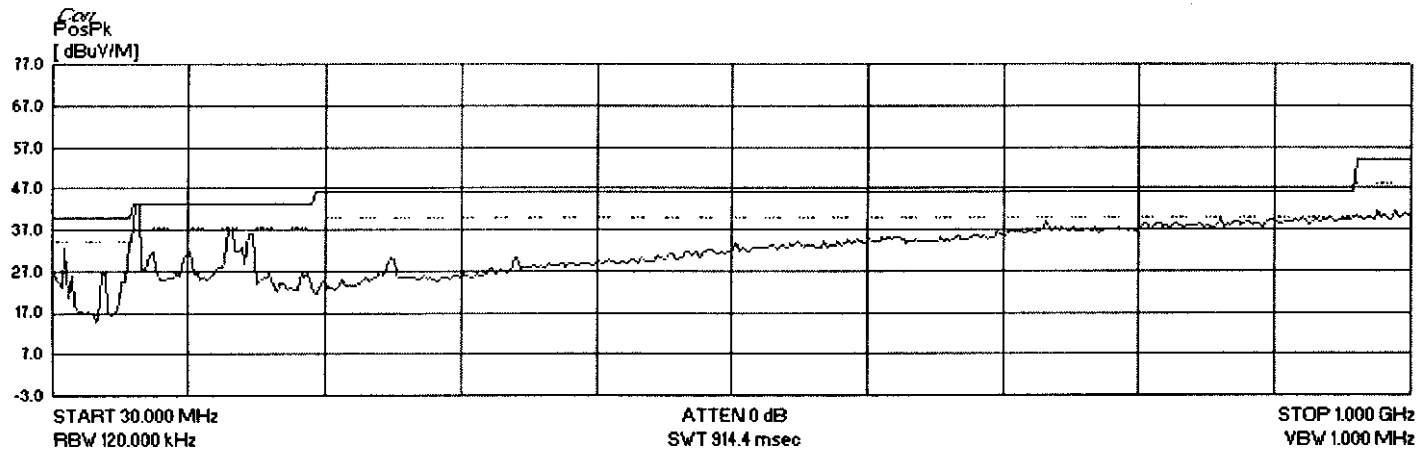
EXHIBIT 7

TEST RESULTS - HARMONIC AND SPURIOUS RESPONSE



Receiver 1 Display

Harmonic and Spurious Emissions
Horizontal Polarization
30mHz to 1000mHz



Receiver 1 Display

Harmonic and Spurious Emissions
Vertical Polarization
30mHz to 1000mHz

EXHIBIT 4

MEASUREMENT FACILITIES

(JMR TEST LAB)

CHATSWORTH, CA

FEDERAL COMMUNICATIONS COMMISSION
7435 Oakland Mills Road
Columbia, MD 21046
Telephone: 301-725-1585 (ext-218)
Facsimile: 301-344-2050

August 20, 1998

IN REPLY REFER TO
31040/SIT
1300F2

JMR Electronics Inc.
20400 Plummer Street
Chatsworth, CA 91311

Attention: Leon Kogan

Re: Measurement facility located at Chatsworth
(3 meter anechoic chamber)

Gentlemen:

Your submission of the description of the subject measurement facility has been reviewed and found to be in compliance with the requirements of Section 2.948 of the FCC Rules. The description has, therefore, been placed on file and the name of your organization added to the Commission's list of facilities whose measurement data will be accepted in conjunction with applications for certification or notification under Parts 15 or 18 of the Commission's Rules. Please note that this filing must be updated for any changes made to the facility, and at least every three years the data on file must be certified as current.

Per your request, the above mentioned facility has also been added to our list of those who perform these measurement services for the public on a fee basis. An up-to-date list is available on the Internet at the FCC Website www.fcc.gov under Electronic Filing.

Sincerely,

Thomas W. Phillips
Electronics Engineer
Customer Service Branch