

Project Number: 99ME45100

Issue Date: November 19, 1999

File Number: NC3932

Model: FFPA-8689-120 (Amplifier) and HPC8689-400 (Shelf)

FCC ID: MCD FFPA8689-120

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**Report of Measurements
of Electromagnetic Compatibility Testing**

Test Report File No. : **NC3932** Date of issue: November 19, 1999

Applicant : Microwave Power Devices

Model / Serial No. : FFPA8689-120-8(Amplifier) and HPC8689-400(Shelf)

Product Type : Amplifier and Sub-Assembly Shelf

Power Supply : -48Vdc

Manufacturer : Same as Applicant

License holder : Same as Applicant

Address : 49 Wireless Blvd.
: Hauppauge, NY 11788

Test Result : ☒ **Positive** ☐ **Negative**

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References(s)

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1.0 GENERAL - Product Description

The unit under test is a high power cellular amplifier. The unit can be operated as a stand-alone device or installed in a distribution rack that allows for multiple amplifiers to be installed for greater power.

The unit under test has a maximum output power of 120 watts.

1.1 Device Configuration During Test

The unit under test was configured and operated by the manufacturer throughout the tests. The unit was configured to produce a maximum output for all signaling techniques. The following is a list of available signaling techniques:

CW, TDMA, CDMA, 2 FSK, and modulated CW

Comparison of Amplifier Output to Amplifier Input for Distortion

The amplifier, which was tested both installed in a distribution rack and as a stand-alone device, was injected with a CW signal at the fundamental frequency. The input was adjusted to produce and output of 50.8dBm when the unit was tested as a stand-alone amplifier and 50dBm when tested in the shelf. These values produced the maximum power at the amplifiers output connector. Prior to injecting the signal into the amplifier, the input was examined and printed for comparison purposes. The signal was then injected into the amplifier and the output was analyzed to detect any distortion produced by the amplifier.

The amplifier, which was tested both installed in a distribution rack and as a stand-alone device, was injected with a CW signal modulated with 1-kHz with a deviation of 5kHz at the fundamental frequency. . The input was adjusted to produce and output of 50.8dBm when the unit was tested as a stand-alone amplifier and 50dBm when tested in the shelf. These values produced the maximum power at the amplifiers output connector. Prior to injecting the signal into the amplifier, the input was examined and printed for comparison purposes. The signal was then injected into the amplifier and the output was analyzed to detect any distortion produced by the amplifier.

The amplifier, which was tested both installed in a distribution rack and as a stand-alone device, was injected with a CDMA signal at the fundamental frequency. The input was adjusted to produce and output of 50.8dBm when the unit was tested as a stand-alone amplifier and 50dBm when tested in the shelf. These values produced the maximum power at the amplifiers output connector. Prior to injecting the signal into the amplifier, the input was examined and printed for comparison purposes. The signal was then injected into the amplifier and the output was analyzed to detect any distortion produced by the amplifier.

The amplifier, which was tested both installed in a distribution rack and as a stand-alone device, was injected with a TDMA signal at the fundamental frequency. The input was adjusted to produce and output of 50.8dBm when the unit was tested as a stand-alone amplifier and 50dBm when tested in the shelf. These values produced the maximum power at the amplifiers output connector. Prior to injecting the signal into the amplifier, the input was examined and printed for comparison purposes. The signal was then injected into the amplifier and the output was analyzed to detect any distortion produced by the amplifier.

The amplifier, which was tested both installed in a distribution rack and as a stand-alone device, was injected with a AMPS signal at the fundamental frequency. The input was adjusted to produce and output of 50.8dBm when the unit was tested as a stand-alone amplifier and 50dBm when tested in the shelf. These values produced the maximum power at the amplifiers output connector. Prior to injecting the signal into the amplifier,

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the input was examined and printed for comparison purposes. The signal was then injected into the amplifier and the output was analyzed to detect any distortion produced by the amplifier.

The amplifier, which was tested both installed in a distribution rack and as a stand-alone device, was injected with a 2FSK signal at the fundamental frequency. . The input was adjusted to produce and output of 50.8dBm when the unit was tested as a stand-alone amplifier and 50dBm when tested in the shelf. These values produced the maximum power at the amplifiers output connector. Prior to injecting the signal into the amplifier, the input was examined and printed for comparison purposes. The signal was then injected into the amplifier and the output was analyzed to detect any distortion produced by the amplifier.

In addition to the above, the unit was also tested with two tone TDMA, CDMA and AMPS signals with the amplifier installed in the distribution rack.

Test Results

No significant distortion was detected using any of the modulation techniques described above.

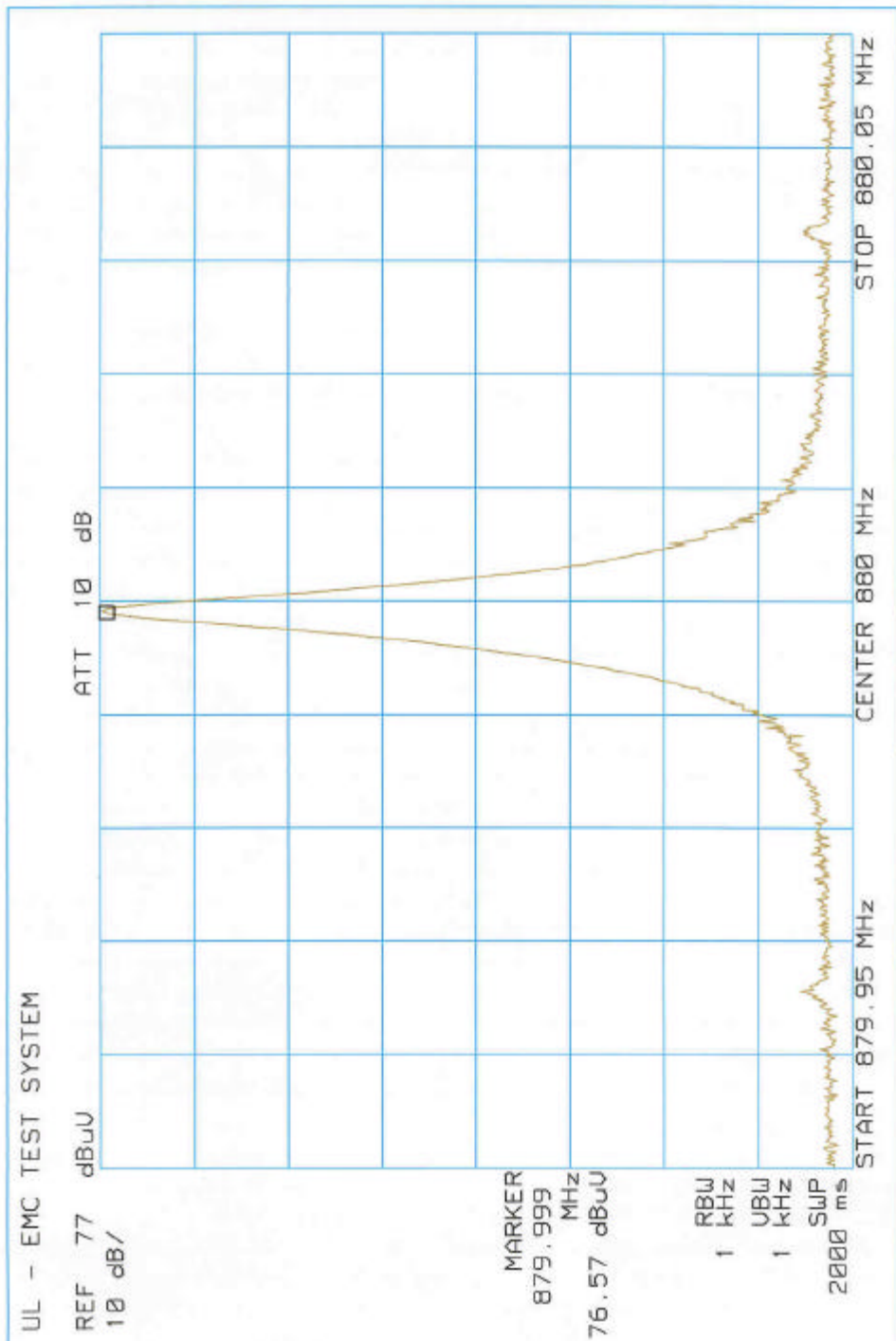
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Observations/Comments: Single CW Input IN RACK
FFPA-8689-120

Tested By: BDL 11/19/99

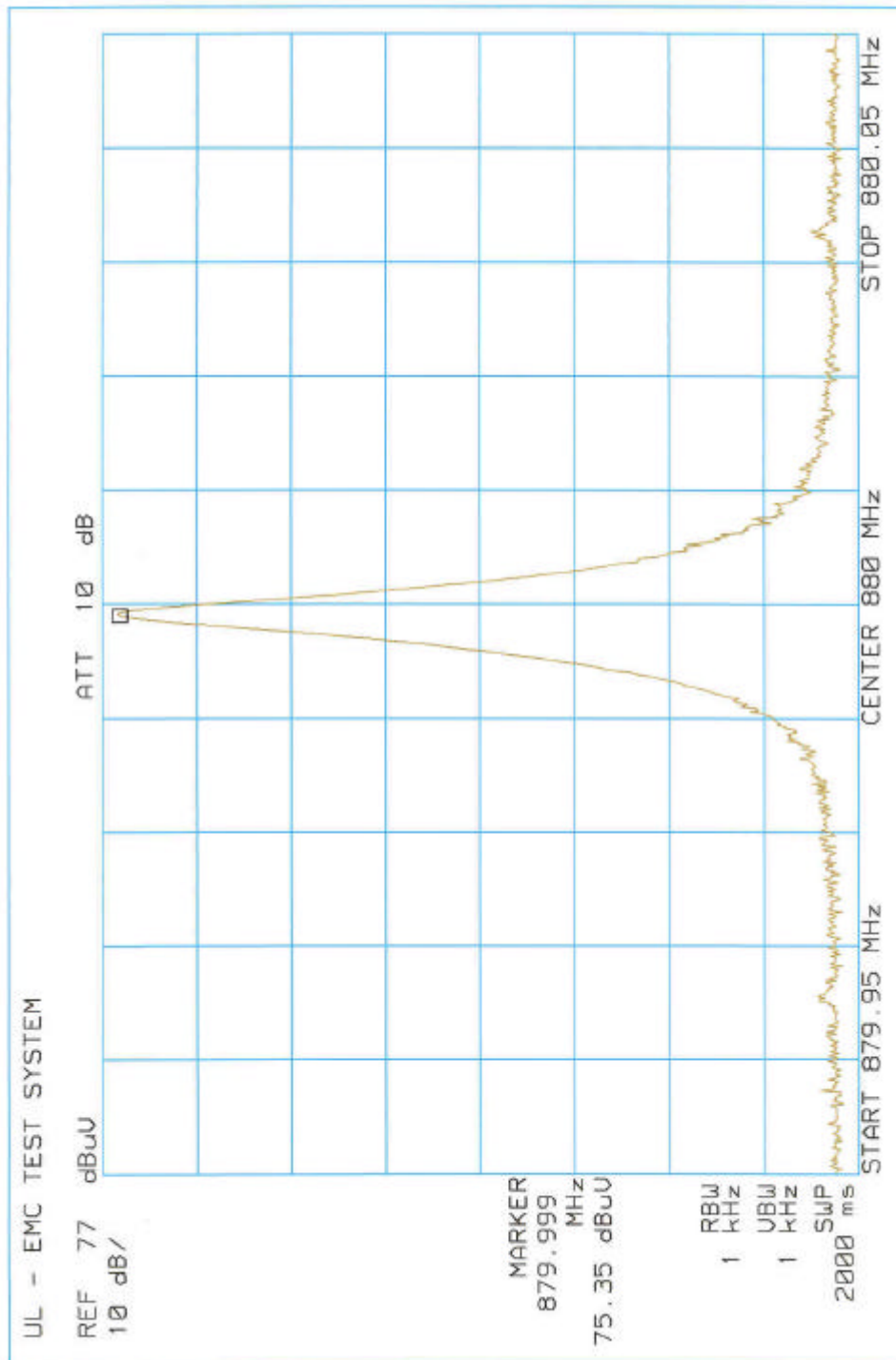
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Observations/Comments: Single CW Output IN RACK
FFPA-8689-120

Tested By: BDeL 10/4/99

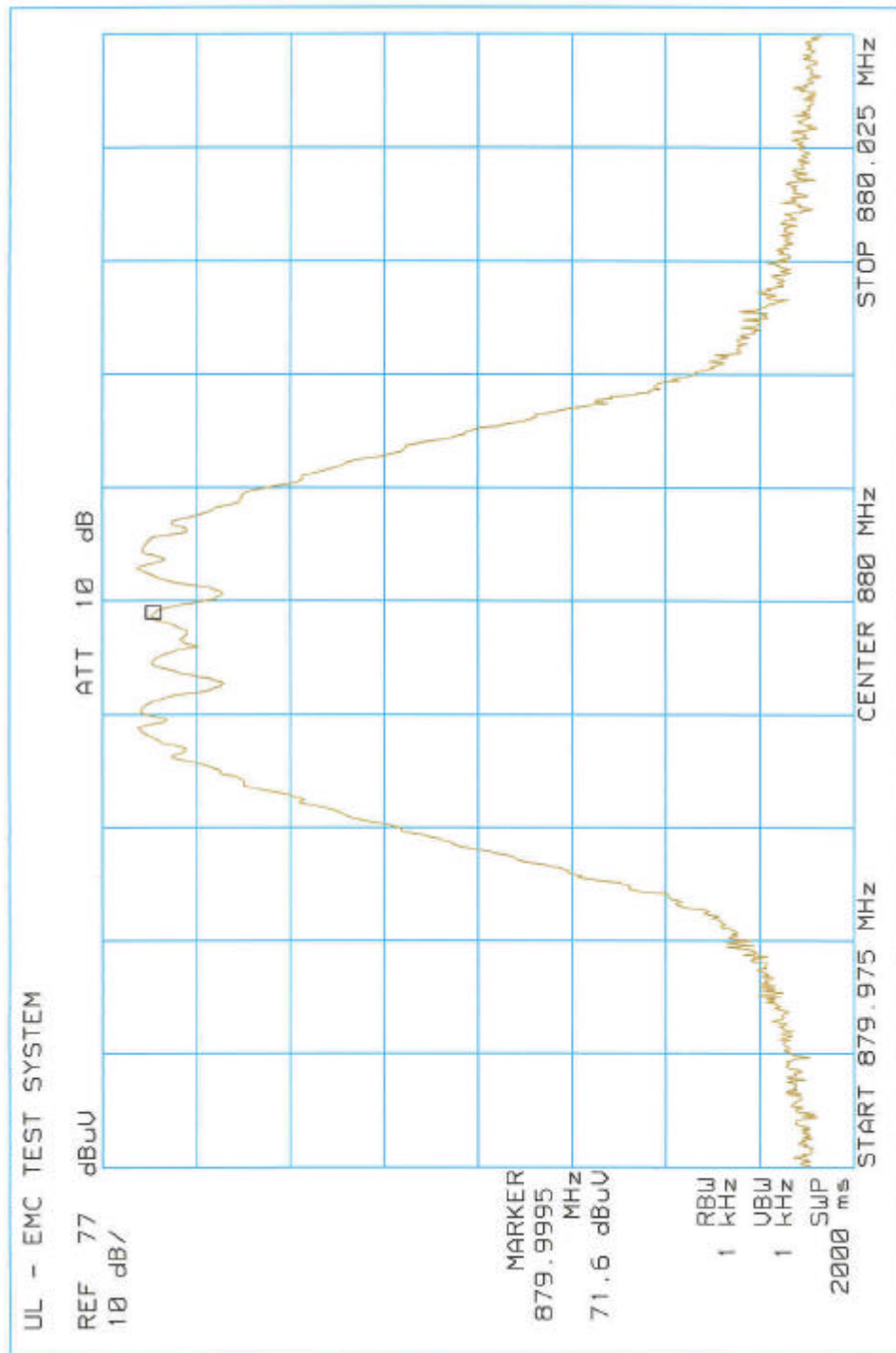
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Observations/Comments: Single FM 1KHz, 5KHz Deviation INPUT IN RACK
FFPA-8689-120

Tested By: B. DeL. 10/14/99

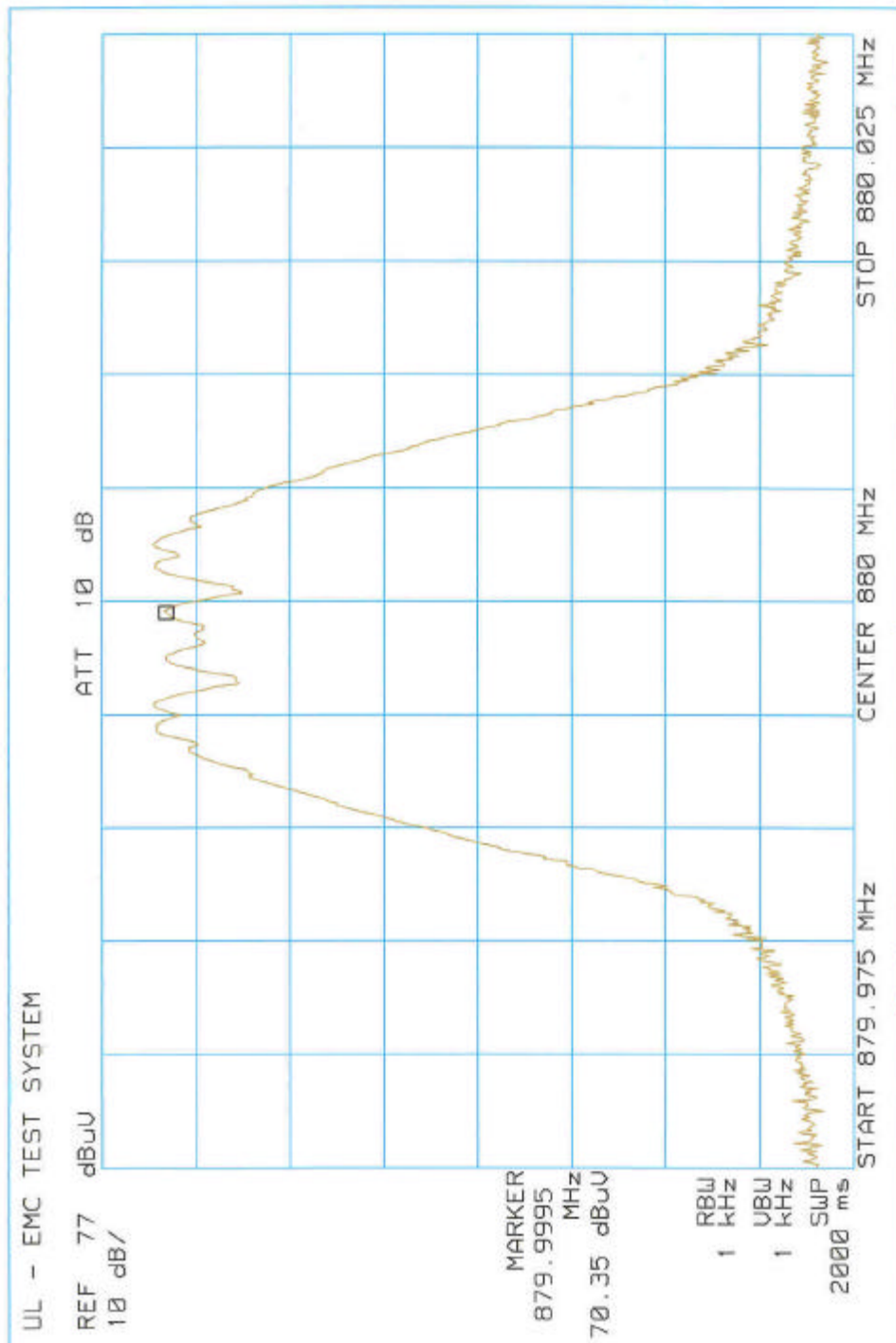
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Observations/Comments: Single Fm 1 kHz 5 kHz Deviation Output IN RACK
FFPA-8689-120

Tested By: BDeF 10/4/99