

Date: June 24,1980

To: Distribution

From: Frank Fangonilo

Subject: Preliminary RFI testing on Apple III computer

A preliminary RFI test has been done on the Apple III computer, the results are encouraging but yet not good enough to meet FCC regulation Docket No. 20780. The Apple III without any peripheral cable shows no sign of RF radiations, but once the peripheral cables are attached there are three main frequencies that we must be concerned with. First frequency is at 71.591 Mhz with a level of 95 microvolts, second at 114.6 Mhz at a level of 200 microvolts, third frequency occurs at 143 Mhz with a radiated level of 85 microvolts. Increasing the height of the antenna from one meter to three meters from ground increases radiation level by approximately 25 microvolts. Changing from horizontal to the vertical polarization will decrease the radiated level to approximately half of the initial measured level.

In the mechanical design of the Apple III there are some serious problems, one is that all peripheral cables with the exception of the rf and external disk drive cable have no means of support to the mating end of the I/O connector that's mounted directly on the printed circuit board. Also is assembling the mother board assembly to the casting is extremely difficult because of cable assemblies located on both sides of the board, and that we hold the mother board to the pan with only one mounting point. This is just to name a few but we should also look at it in a manufacturing point of view as well.

cc:Tom Whitney

Rod Holt

John Zsori

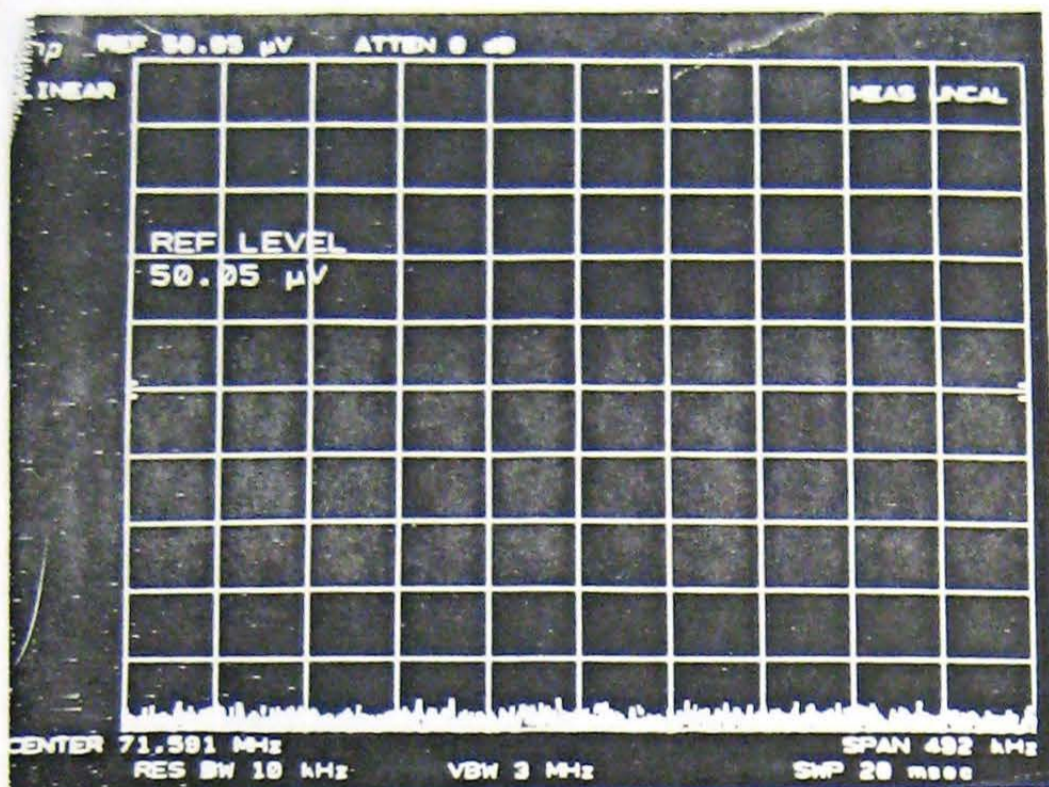
Wendell Sander

Jerry Manock

Tom Hong

Richard Zimmerman

Bob Edgington

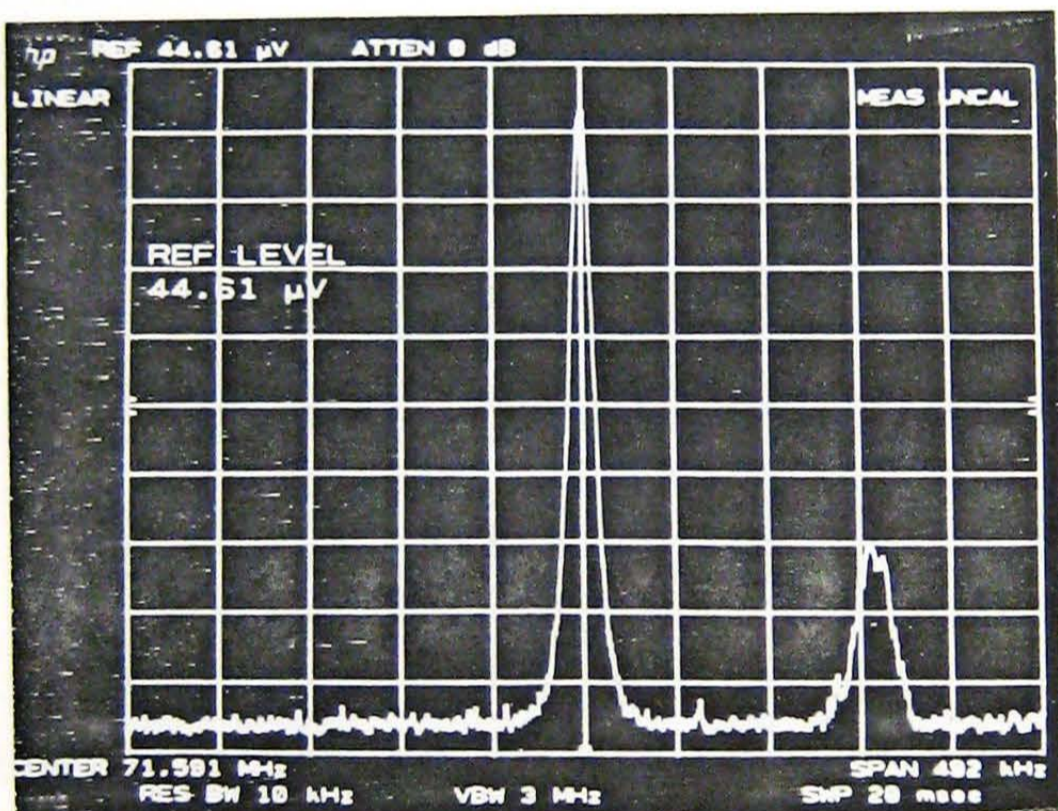


CONDITION

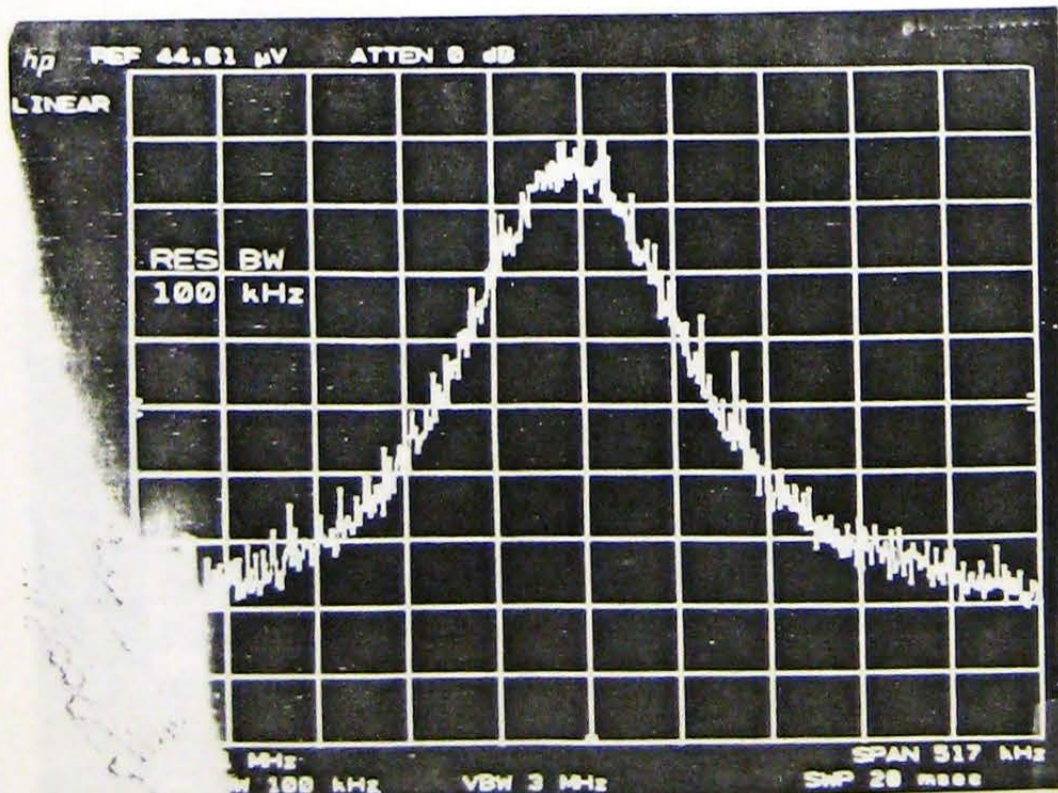
APPLE III WITH RS232,
9 PIN & DISK CABLES
ANTENNA TO EUT = 3 METERS

BASE LINE
REFERENCE

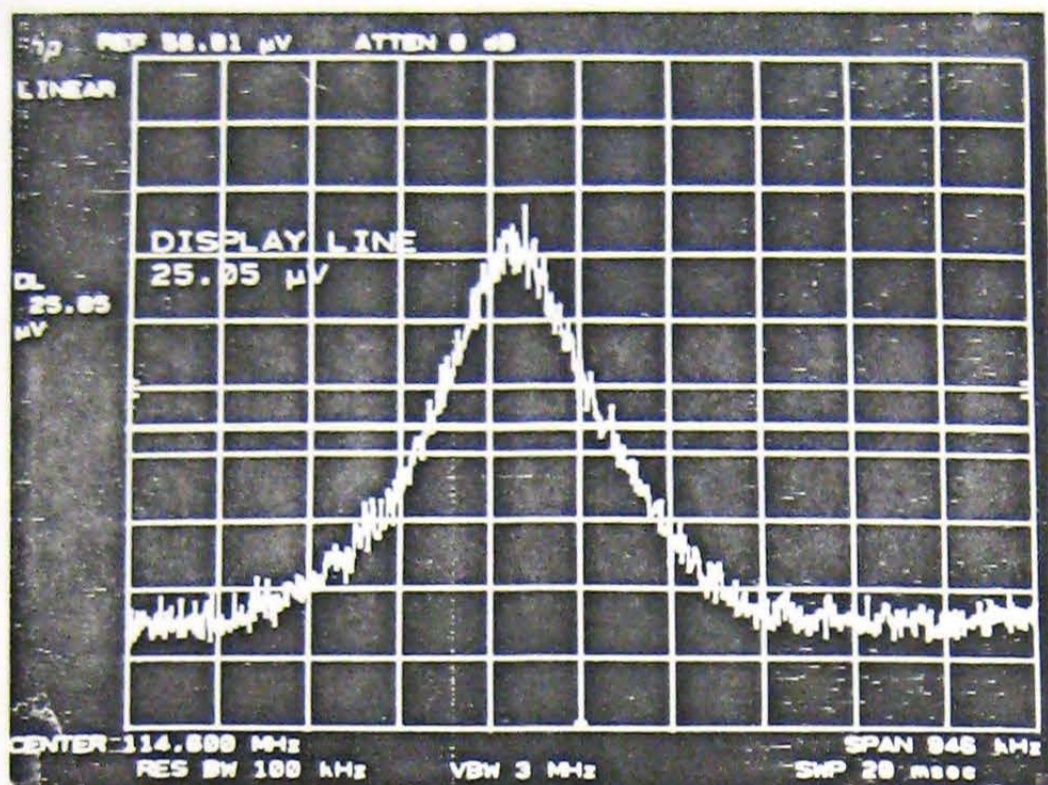
(UNCAL BECAUSE OF BANDWIDTH)



۱۵۰۰



100 μV

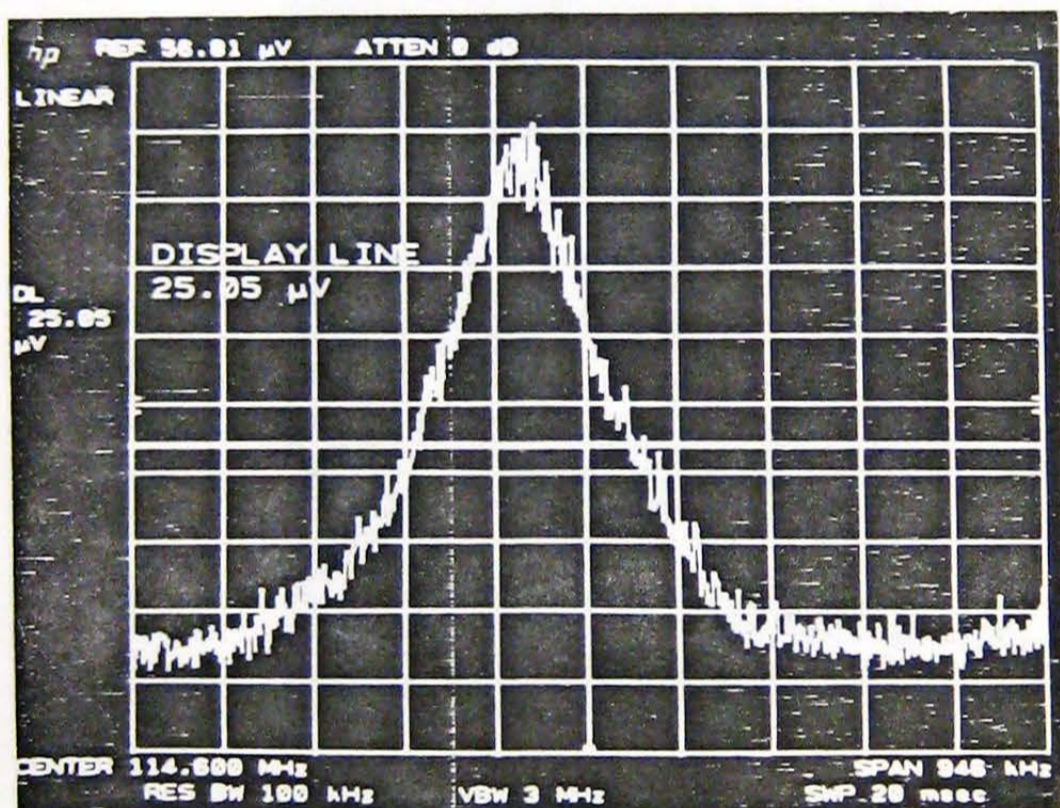


CONDITION

APRE III with
RS232, 9 PIN &
DISK CABLE

ANTENNA HEIGHT 3'
ANTENNA TO
EUT = 3 METERS

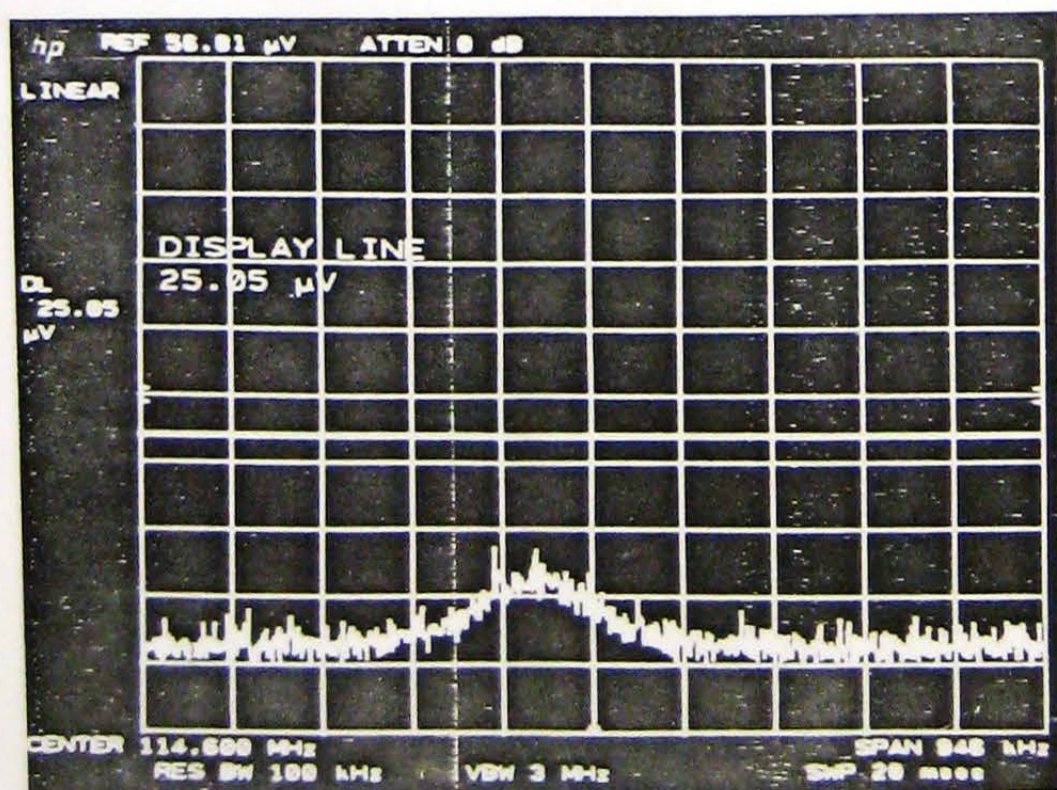
100 μ V



ANTENNA HEIGHT
= 8 FEET

REFERENCE ABOVE
CONDITION

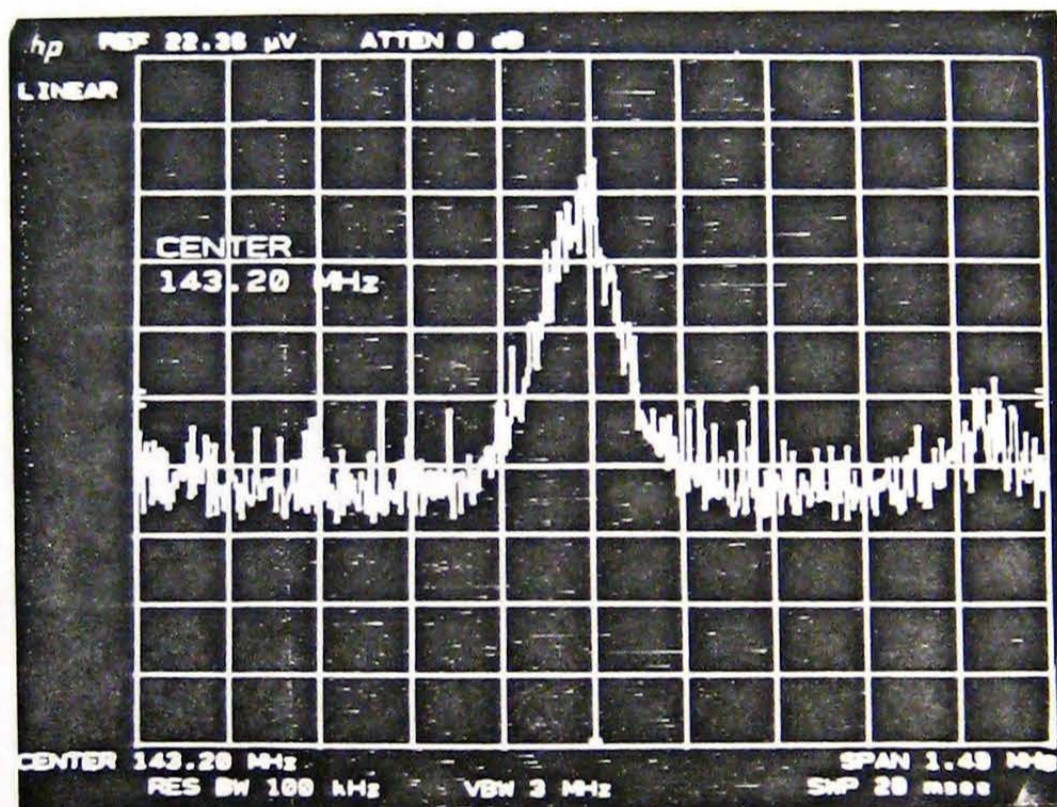
100 μ V



VERTICAL POLARIZATION
REFERENCE ABOVE
CONDITION

100 μ V

CONDITION

APPLE III WITH RS232,
9 PIN & DISK CABLES(NO EFFECT IF KEYBOARD
CABLE DISCONNECTED)100 μ V