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NAME OF TEST: Field Strength of Spurious Radiation (Cont.)

- J) Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a non-radiating cable. With the antennas at both ends horizontally polarized and with the signal generator tuned to a particular spurious frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output.
- K) Repeat step J) with both antennas vertically polarized for each spurious frequency.
- L) Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps J) and K) by the power loss in the cable between the generator and the antenna and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna.
- M) The levels recorded in step L) are absolute levels of radiated spurious emissions in dBm. The radiated spurious emissions in dB can be calculated by the following:

Radiated spurious emissions dB =  
 $10\log_{10}(\text{TX power in watts}/0.001) - \text{the levels in step l)}$

NOTE: It is permissible that other antennas provided can be referenced to a dipole.

Test Equipment:

| Asset Description<br>(as applicable) | s/n        | Cycle  | Last Cal |
|--------------------------------------|------------|--------|----------|
| <u>TRANSDUCER</u>                    |            |        |          |
| i00088 EMCO 3109-B 25MHz-300MHz      | 2336       | 12 mo. | Sep-00   |
| i00065 EMCO 3301-B Active Monopole   | 2635       | 12 mo. | Sep-00   |
| i00089 Aprel 2001 200MHz-1GHz        | 001500     | 12 mo. | Sep-00   |
| i00103 EMCO 3115 1GHz-18GHz          | 9208-3925  | 12 mo. | Sep-00   |
| <u>AMPLIFIER</u>                     |            |        |          |
| i00028 HP 8449A                      | 2749A00121 | 12 mo. | Mar-00   |
| <u>SPECTRUM ANALYZER</u>             |            |        |          |
| i00029 HP 8563E                      | 3213A00104 | 12 mo. | Aug-00   |
| i00033 HP 85462A                     | 3625A00357 | 12 mo. | May-00   |
| i00048 HP 8566B                      | 2511AD1467 | 6 mo.  | May-00   |
| <u>MISCELLANEOUS</u>                 |            |        |          |
| Microphone                           |            |        |          |
| Antenna                              |            |        | x        |
| All Ports Terminated                 |            |        | x        |

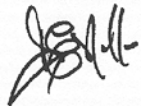
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NAME OF TEST: Field Strength of Spurious Radiation  
 g00a0521: 2000-Oct-17 Tue 14:09:00  
 STATE: 2:High Power

| FREQUENCY<br>TUNED, MHz | FREQUENCY<br>EMISSION, MHz | METER,<br>dBuV | CF, dB | ERP,<br>dBm | MARGIN, dB |
|-------------------------|----------------------------|----------------|--------|-------------|------------|
| 415.010000              | 830.020000                 | 42.06          | 29.59  | -25.7       | -12.8      |
| 415.010000              | 1245.047000                | 21.22          | 35.23  | -40.9       | -28        |
| 415.010000              | 1660.098000                | 21.92          | 38.8   | -36.7       | -23.7      |
| 415.010000              | 2075.153000                | 23.59          | 42.07  | -31.7       | -18.7      |
| 415.010000              | 2490.171000                | 24.55          | 45.76  | -27.1       | -14.1      |
| 415.010000              | 2905.208000                | 16.46          | 49.61  | -31.3       | -18.3      |
| 415.010000              | 3320.260000                | 10.24          | 51.4   | -35.7       | -22.8      |
| 415.010000              | 3735.319000                | 6.31           | 52.1   | -39         | -26        |
| 415.010000              | 4150.330000                | 0.59           | 52.75  | -44         | -31.1      |

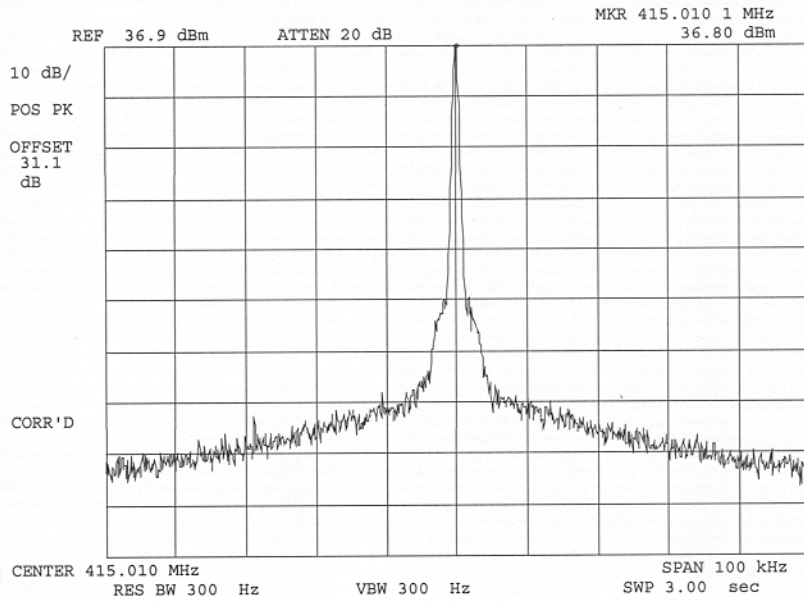
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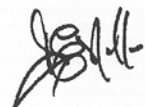
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NAME OF TEST: Emission Masks (Occupied Bandwidth)  
g0110005: 2001-Jan-02 Tue 10:54:00  
STATE: 1:Low Power



POWER: LOW  
MODULATION: NONE

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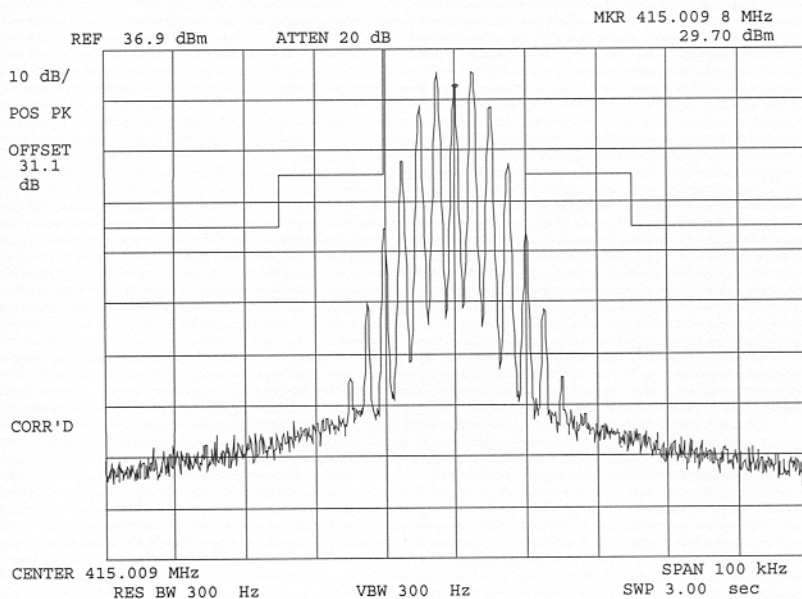
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NAME OF TEST: Emission Masks (Occupied Bandwidth)

g0110008: 2001-Jan-02 Tue 11:07:00

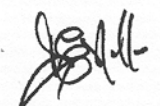
STATE: 1:Low Power



POWER:  
MODULATION:

LOW  
VOICE: 2500 Hz SINE WAVE  
MASK: B, VHF/UHF 25kHz,  
w/LPF

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Doug Noble, B.A.S. E.E.T.