

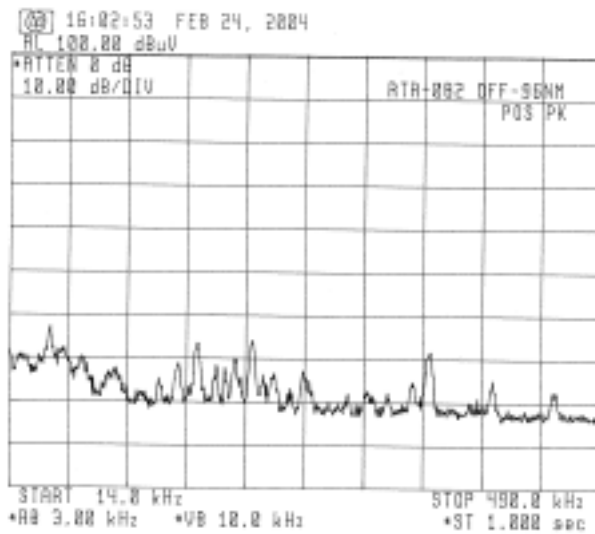
Attachment C

[TEST DATA for Clause 3.7 SUPPRESSION OF INTERFERENCE ABOARD SHIPS]

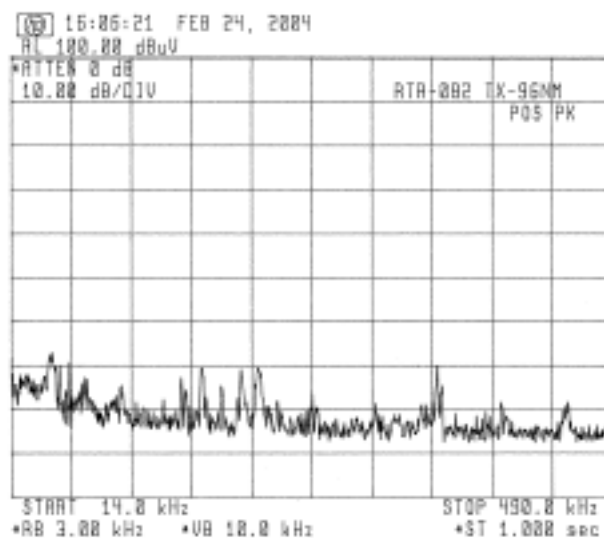
1 Harmful Interference to Receiver

(Band: 14 kHz - 490 kHz)

a) Radar Power: OFF

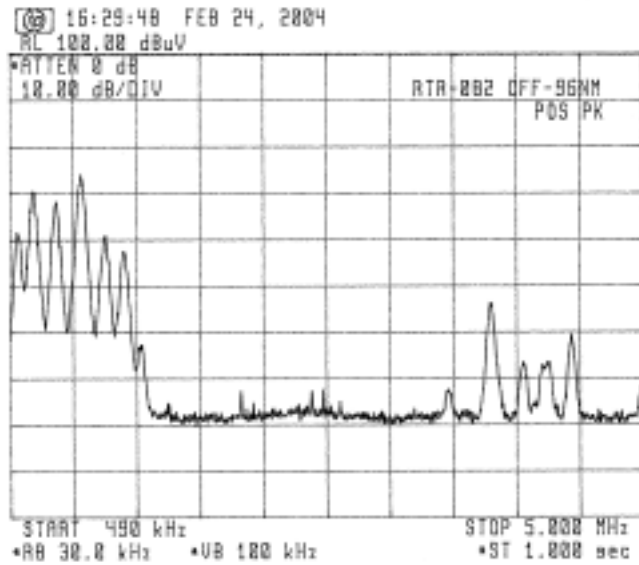


b) Radar TX: ON

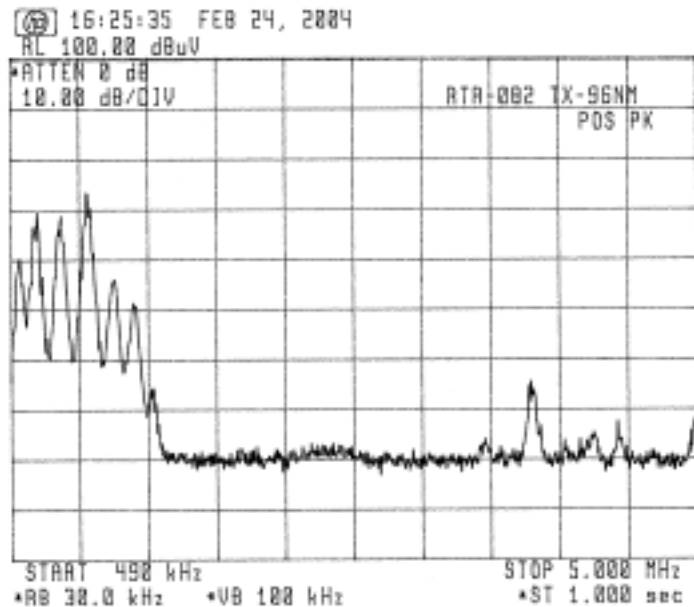


(Band: 490 kHz - 5 MHz)

a) Radar Power: OFF

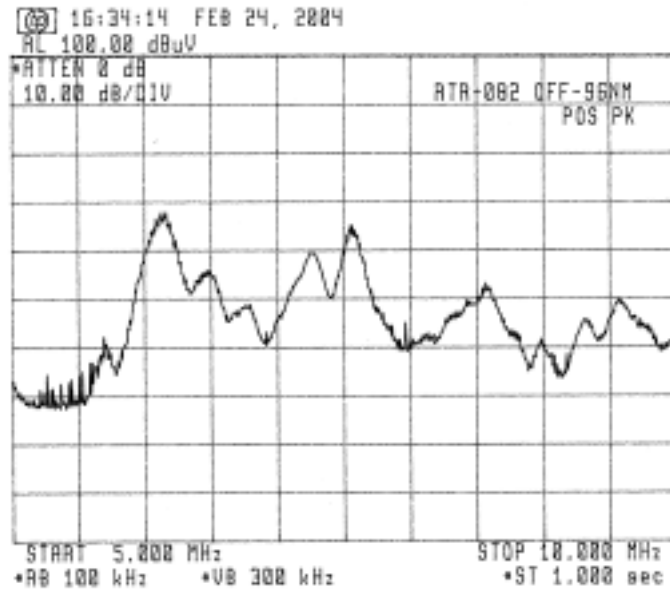


b) Radar TX: ON

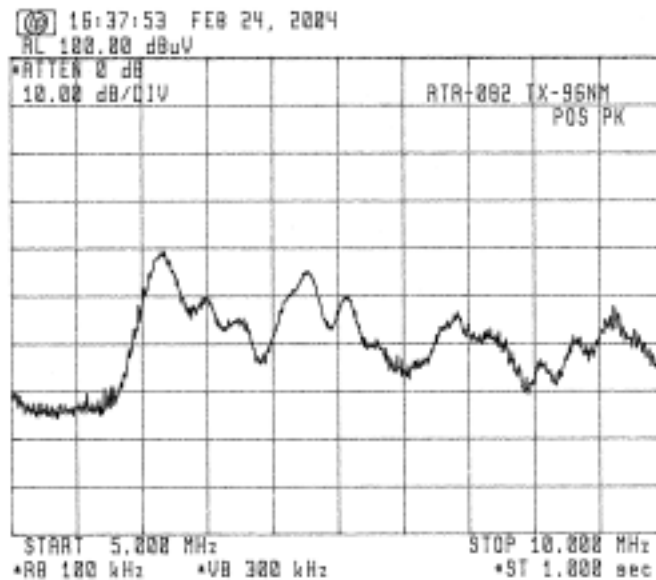


(Band: 5 MHz - 10 MHz)

a) Radar Power: OFF

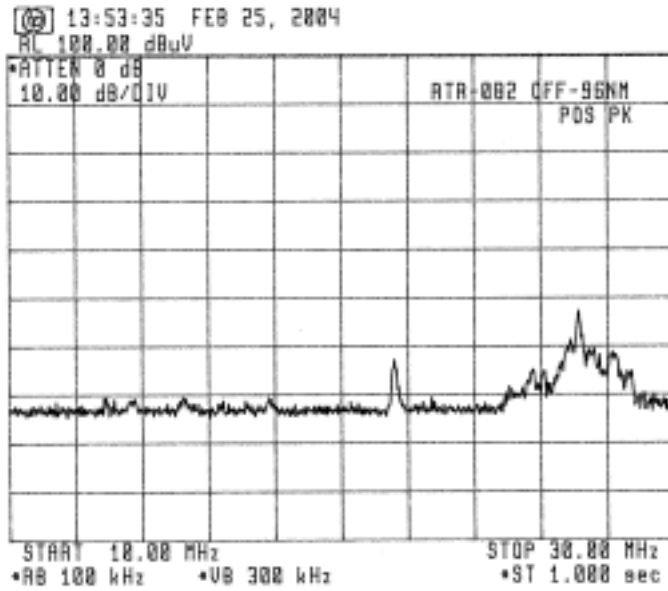


b) Radar TX: ON

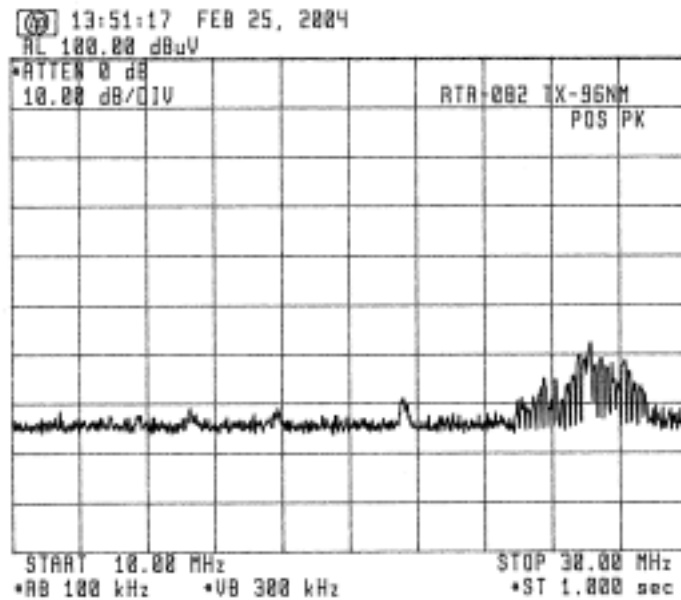


(Band: 10 MHz - 30 MHz)

a) Radar Power: OFF

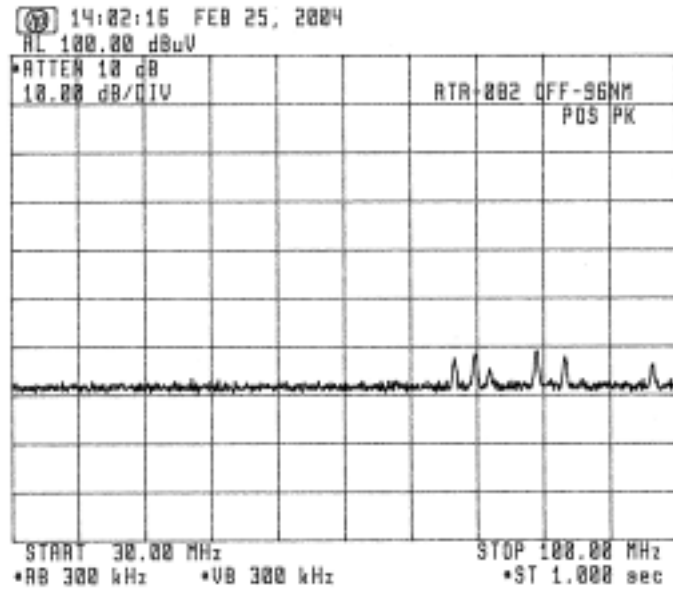


b) Radar TX: ON

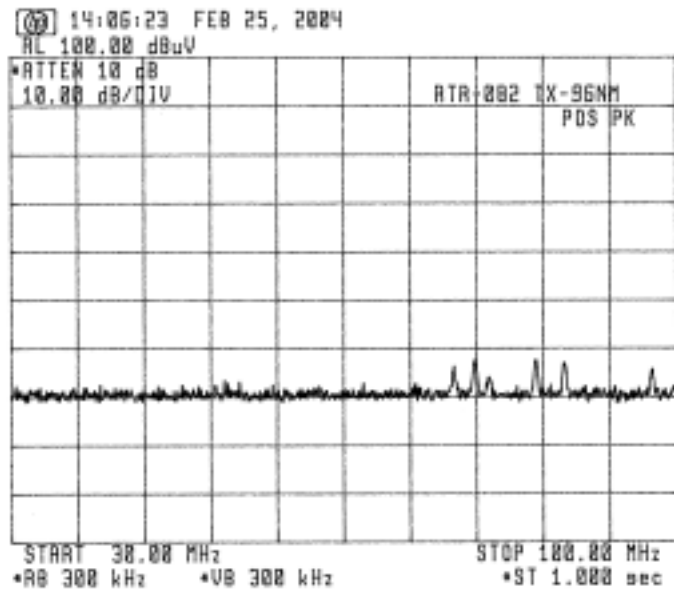


(Band: 30 MHz - 100 MHz)

a) Radar Power: OFF

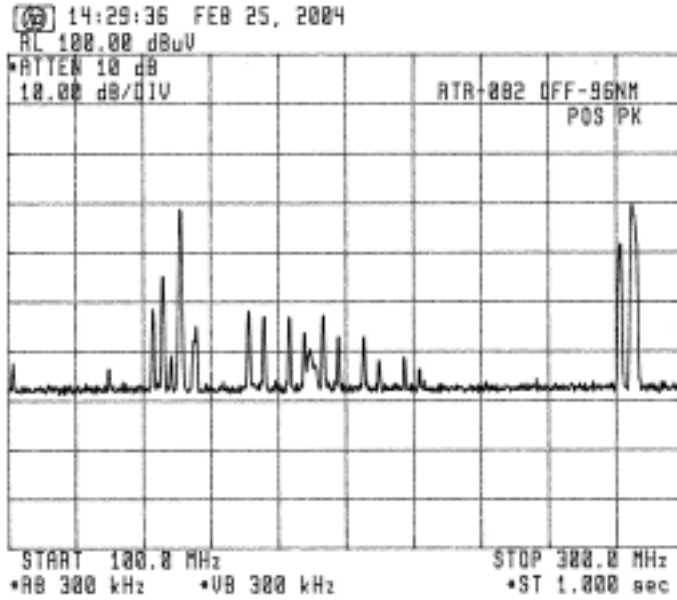


b) Radar TX: ON

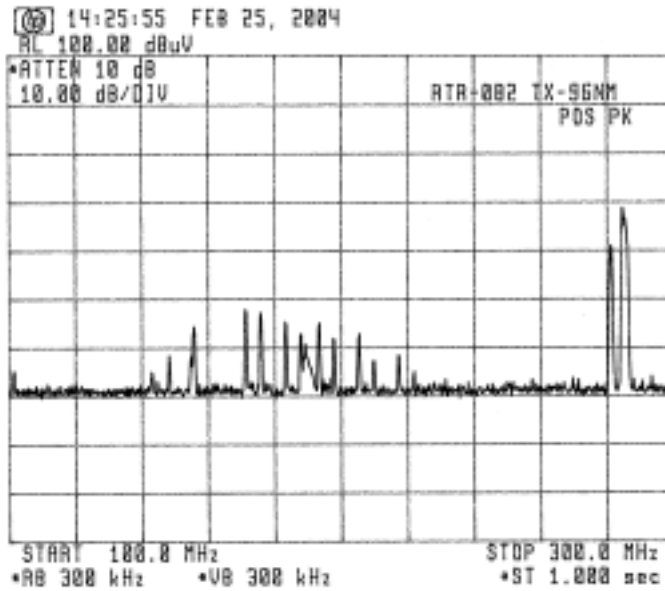


(Band: 100 MHz - 300 MHz)

a) Radar Power: OFF

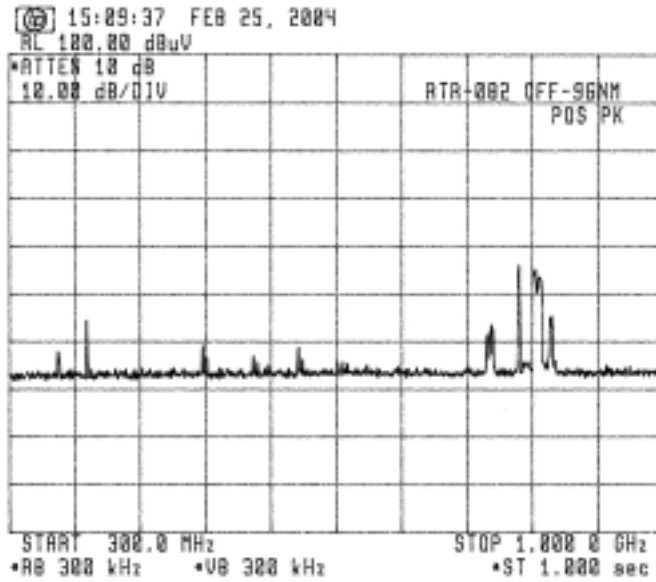


b) Radar TX: ON

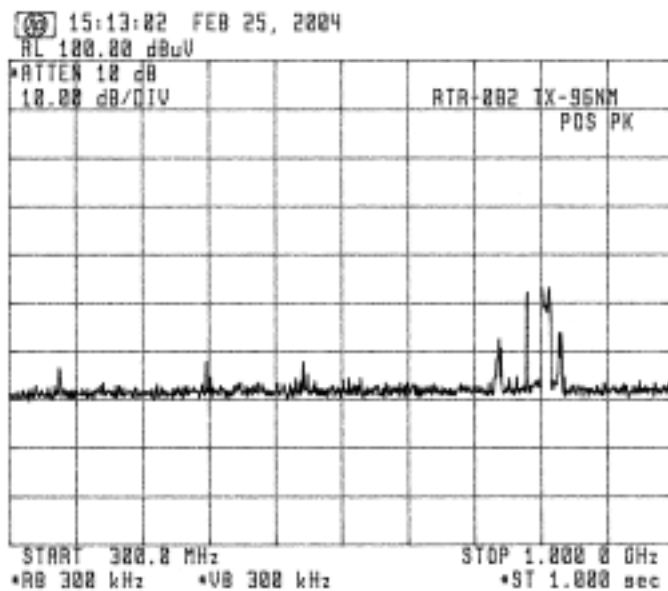


(Band: 300 MHz - 1 GHz)

a) Radar Power: OFF



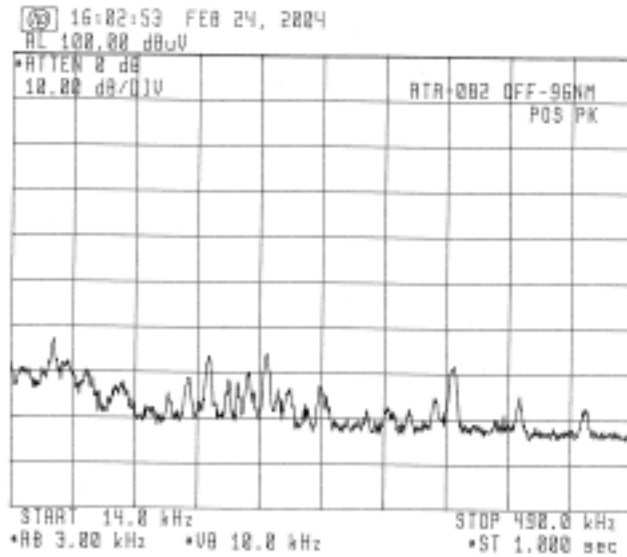
b) Radar TX: ON



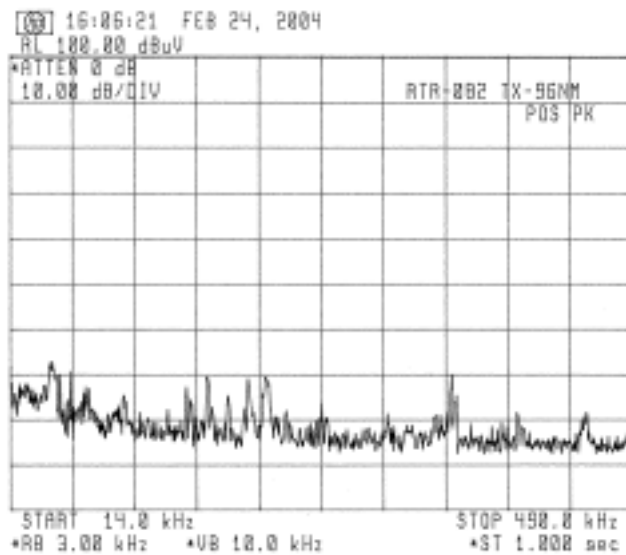
2 Electromagnetic Field

(Band: 14 kHz - 490 kHz, Limit at 1 nm = 0.1 $\mu\text{V}/\text{m}$ = -20 $\text{dB}\mu\text{V}/\text{m}$)

a) Radar Power: OFF



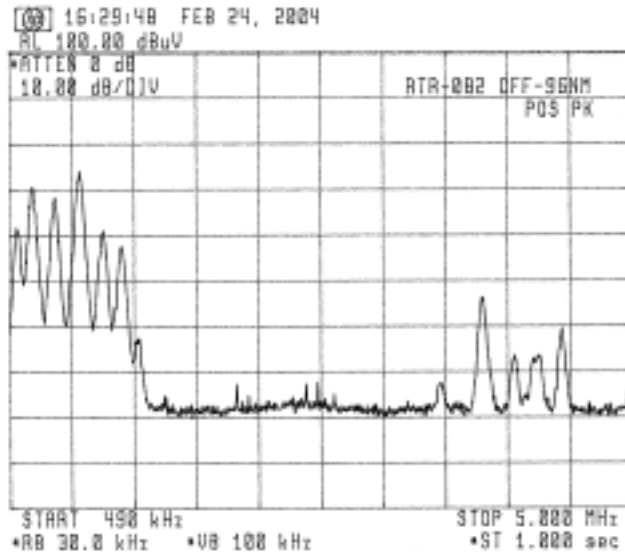
b) Radar TX: ON



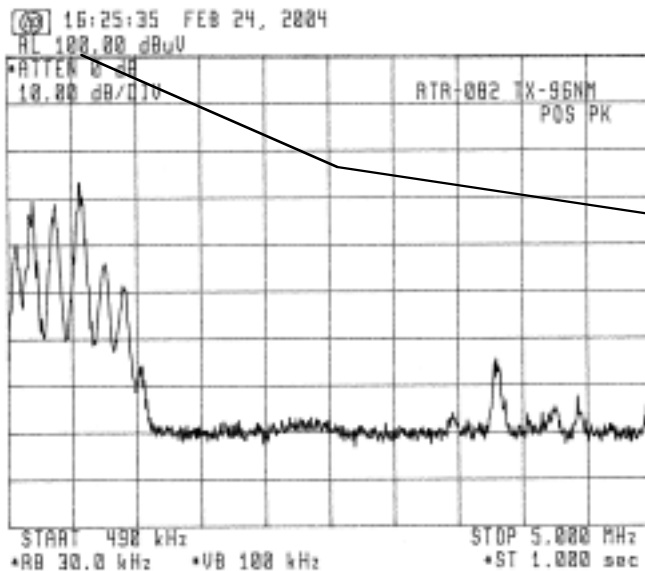
Ref. Level: -26 $\text{dB}\mu\text{V}/\text{m}$

(Band: 490 kHz - 5 MHz, Limit at 1 nm = 0.1 $\mu\text{V}/\text{m}$ = -20 dB $\mu\text{V}/\text{m}$)

a) Radar Power: OFF



b) Radar TX: ON



Ref. level (dB $\mu\text{V}/\text{m}$)

= 100 - 126 = -26 (at 0.5 MHz)

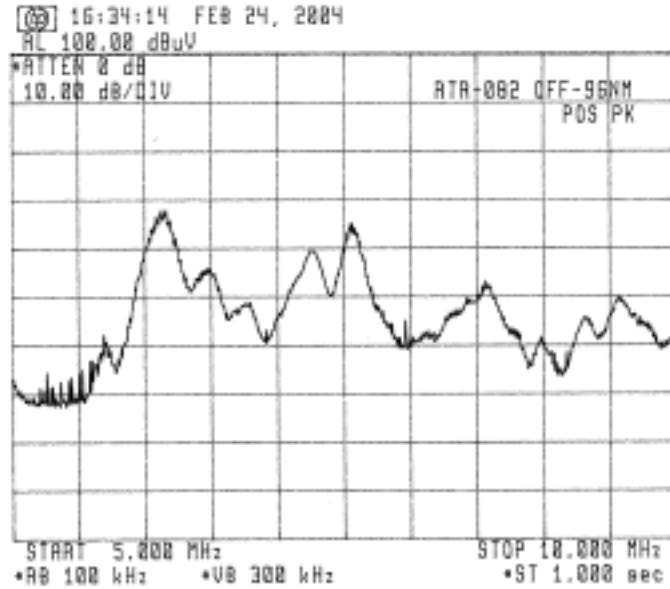
= 100 - 96 = 4 (at 3 MHz)

= 100 - 88 = 12 (at 5 MHz)

-20 dB $\mu\text{V}/\text{m}$ limit line

(Band: 5 MHz - 10 MHz, Limit at 1 nm = 0.1 $\mu\text{V}/\text{m}$ = -20 dB $\mu\text{V}/\text{m}$)

a) Radar Power: OFF



b) Radar TX: ON



Ref. level (dB $\mu\text{V}/\text{m}$)

= 100 - 88 = 12 (at 5 MHz)

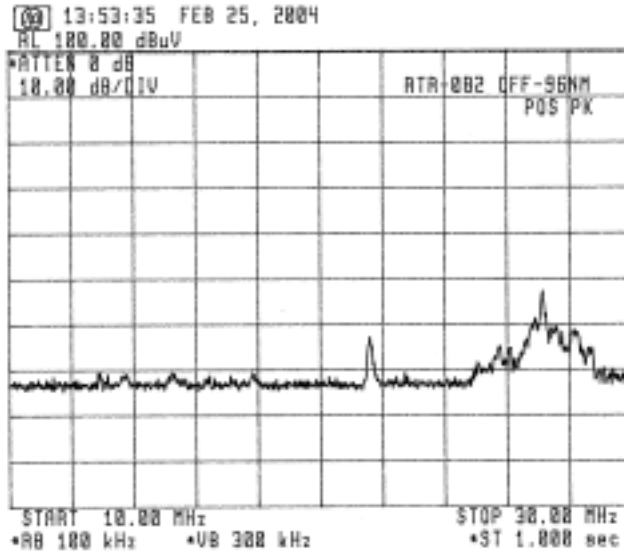
= 100 - 83 = 17 (at 7 MHz)

= 100 - 78 = 22 (at 10 MHz)

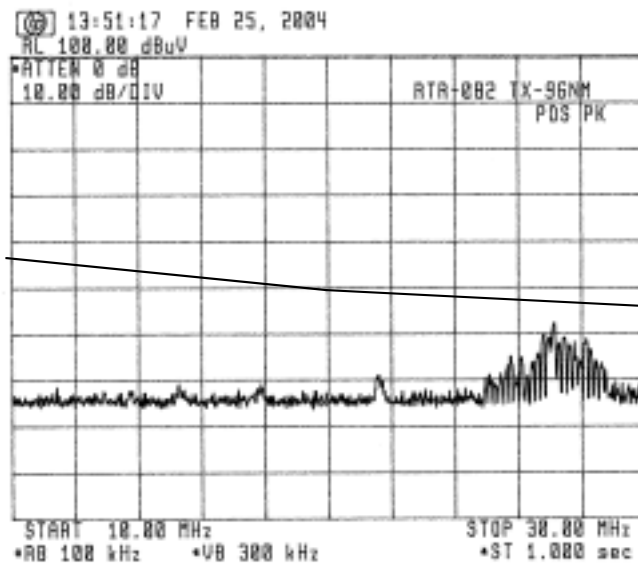
-20 dB $\mu\text{V}/\text{m}$ limit line

(Band: 10 MHz - 30 MHz, Limit at 1 nm = 0.1 $\mu\text{V}/\text{m}$ = -20 dB $\mu\text{V}/\text{m}$)

a) Radar Power: OFF



b) Radar TX: ON



Ref. level (dB $\mu\text{V}/\text{m}$)

= 100 - 78 = 22 (at 10 MHz)

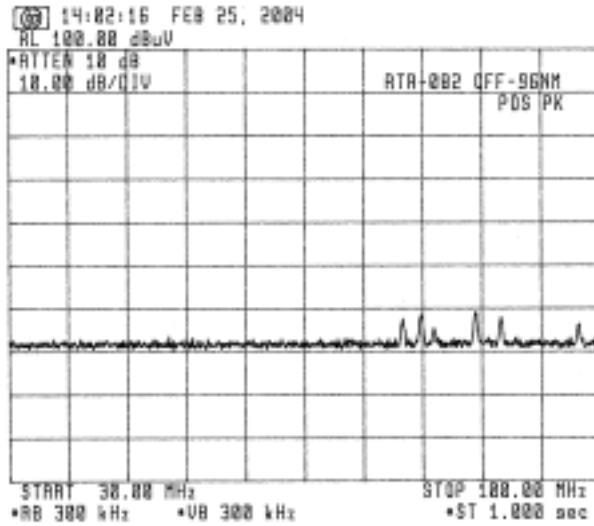
= 100 - 70 = 30 (at 20 MHz)

= 100 - 67 = 33 (at 30 MHz)

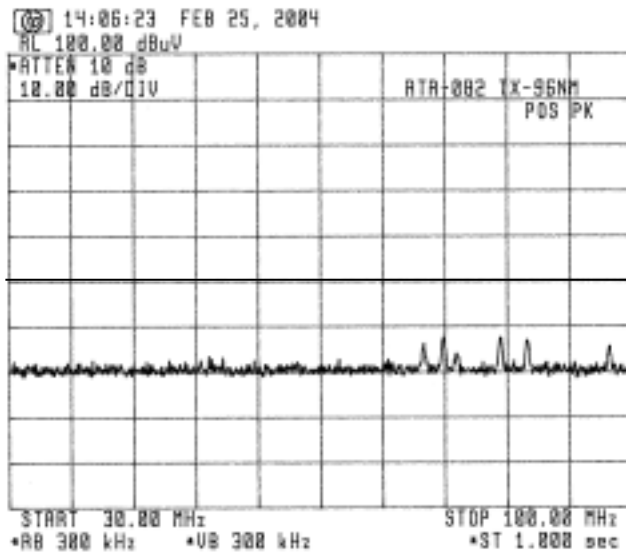
-20 dB $\mu\text{V}/\text{m}$ limit line

(Band: 30 MHz - 100 MHz, Limit at 1 nm = 0.1 $\mu\text{V}/\text{m}$ = -10.5 dB $\mu\text{V}/\text{m}$)

a) Radar Power: OFF



b) Radar TX: ON

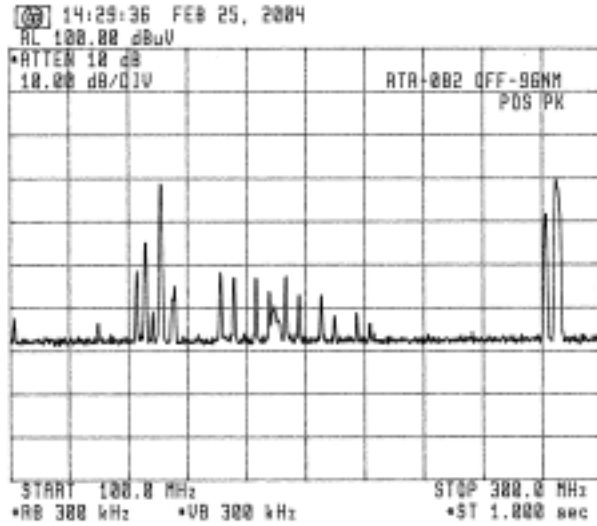


Ref. level (dB $\mu\text{V}/\text{m}$)
= 100 - 61 = 39

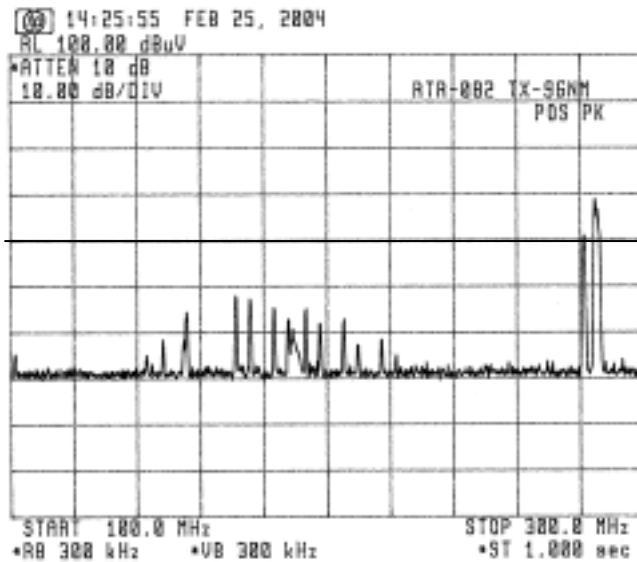
-10.5 dB $\mu\text{V}/\text{m}$ limit line

(Band: 100 MHz - 300 MHz, Limit at 1 nm = 0.1 μ V/m = 0 dB μ V/m)

a) Radar Power: OFF



b) Radar TX: ON



Ref. level (dB μ V/m)
= 100 - 60 = 40

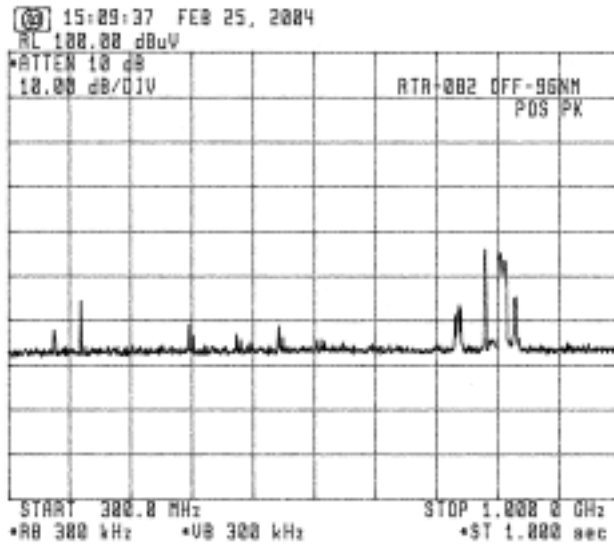
0 dB μ V/m limit line

Note:

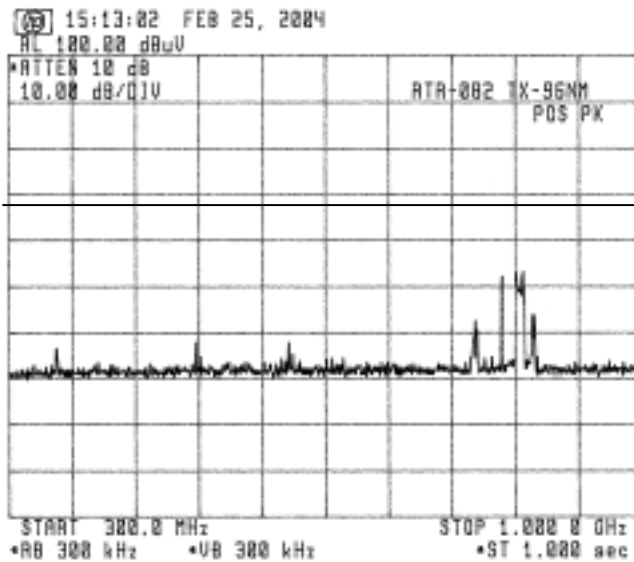
All components above the limit
are from external noise or
signals, not from Radar.

(Band: 300 MHz - 1 GHz, Limit at 1 nm = 3 μ V/m = 9.5 dB μ V/m)

a) Radar Power: OFF



b) Radar TX: ON



Ref. level (dB μ V/m)

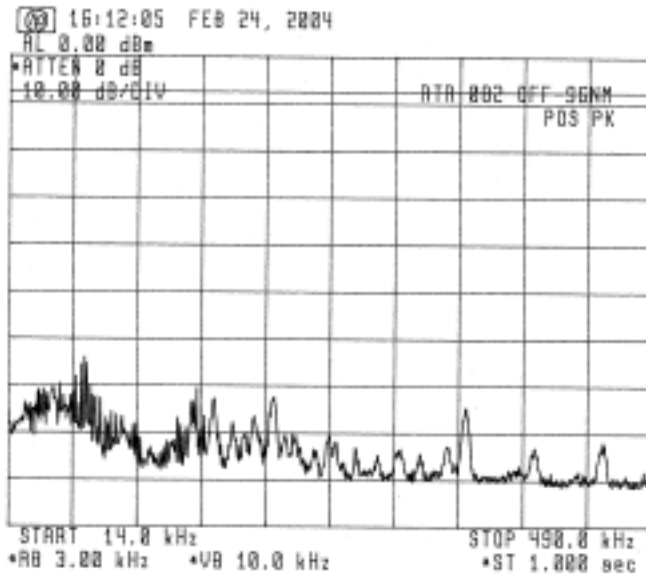
= 100 - 59.5 = 40.5

9.5 dB μ V/m limit line

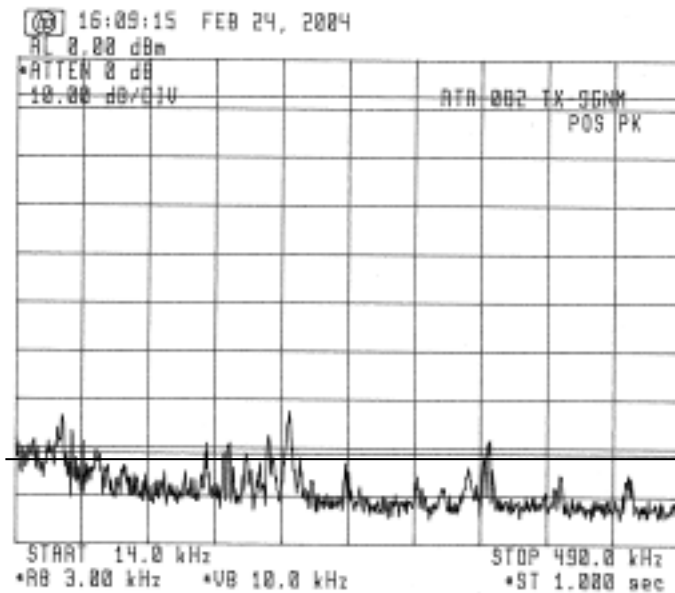
3 Power Input to an Artificial Antenna

(Band: 14 kHz - 490 kHz, Limit at 2 m = -81 dBm)

a) Radar Power: OFF



b) Radar TX: ON

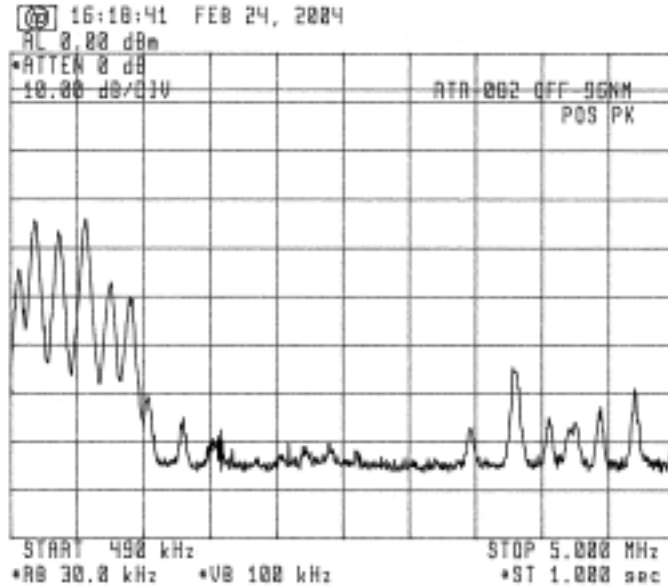


Note:
All components above the limit
are from external noise or
signals, not from Radar.

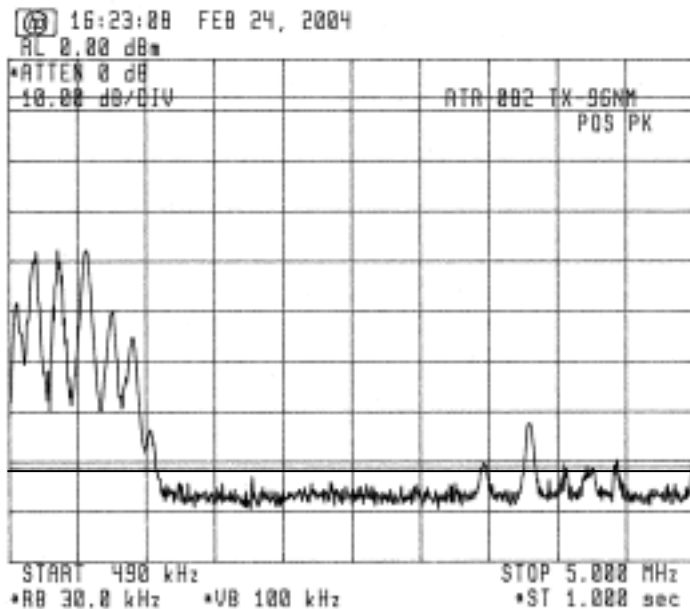
-81 dBm limit line

(Band: 490 kHz - 5 MHz, Limit at 2 m = -81 dBm)

a) Radar Power: OFF



b) Radar TX: ON



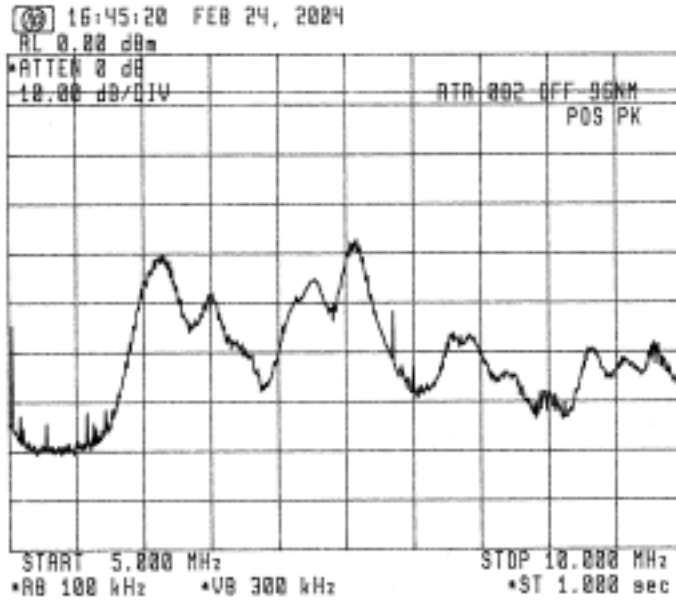
Note:

All components above the limit are from external noise or signals, not from Radar.

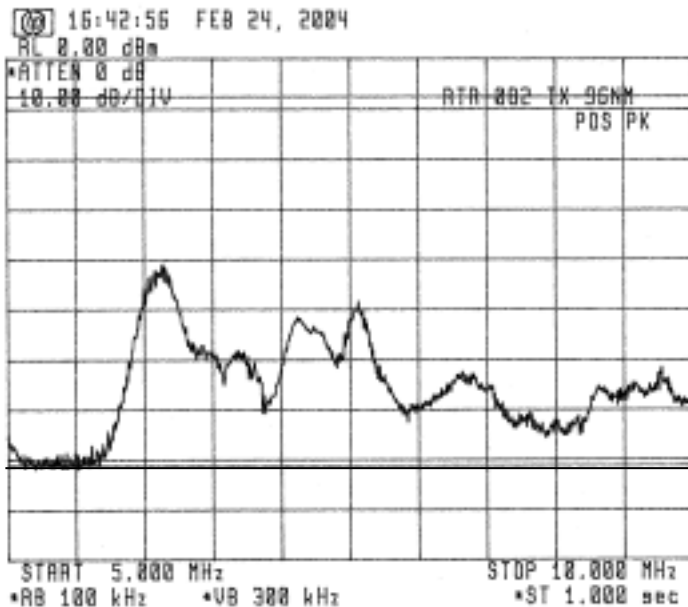
-81 dBm limit line

(Band: 5 MHz - 10 MHz, Limit at 2 m = -81 dBm)

a) Radar Power: OFF



b) Radar TX: ON

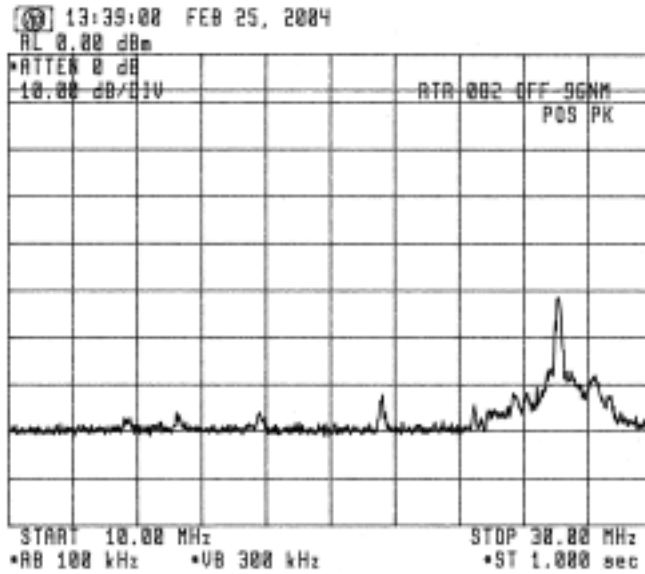


Note:
All components above the limit
are from external noise or
signals, not from Radar.

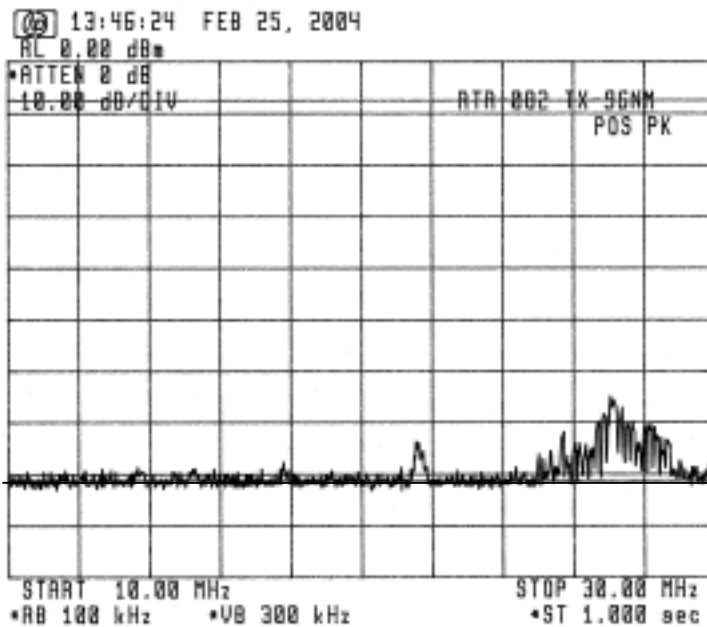
-81 dBm limit line

(Band: 10 MHz - 30 MHz, Limit at 2 m = -81 dBm)

a) Radar Power: OFF



b) Radar TX: ON

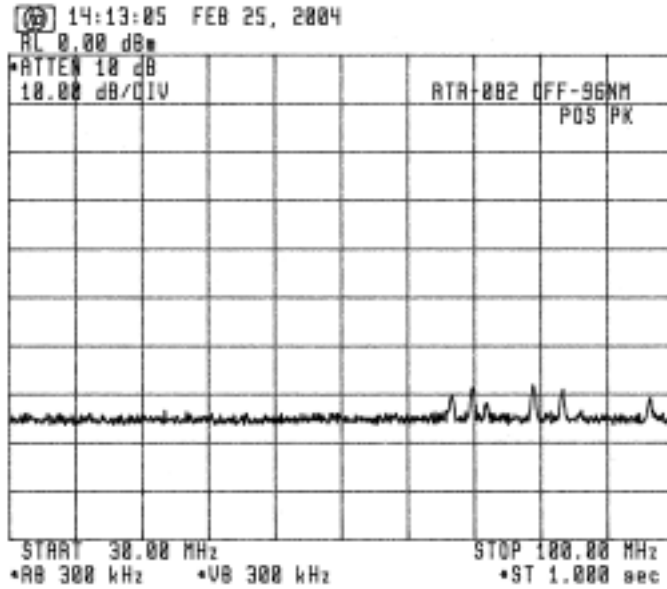


Note:
All components above the limit
are from external noise or
signals, not from Radar.

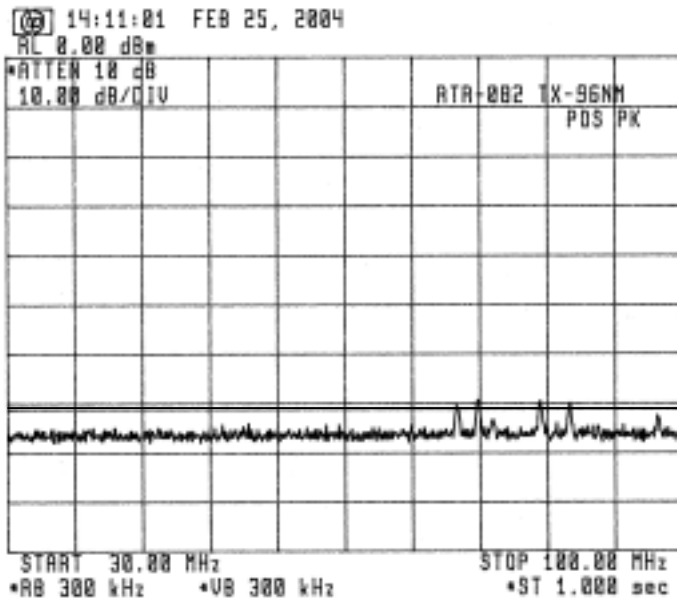
-81 dBm limit line

(Band: 30 MHz - 100 MHz, Limit at 2 m = -71 dBm)

a) Radar Power: OFF



b) Radar TX: ON

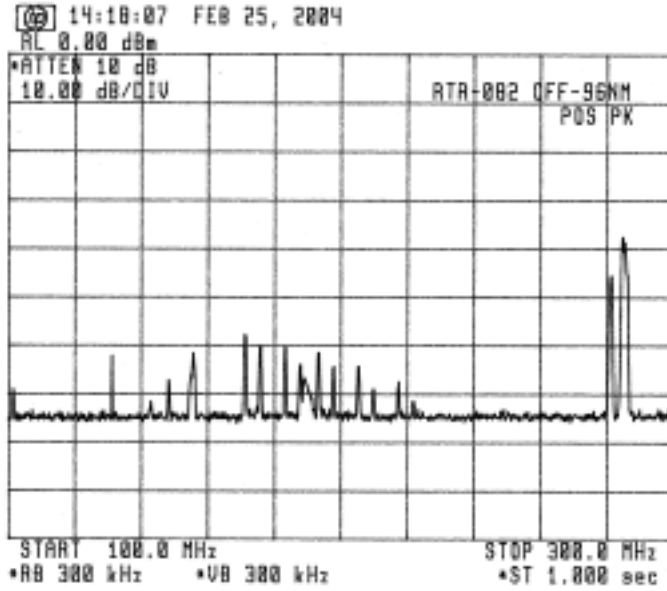


Note:
All components above the limit
are from external noise or
signals, not from Radar.

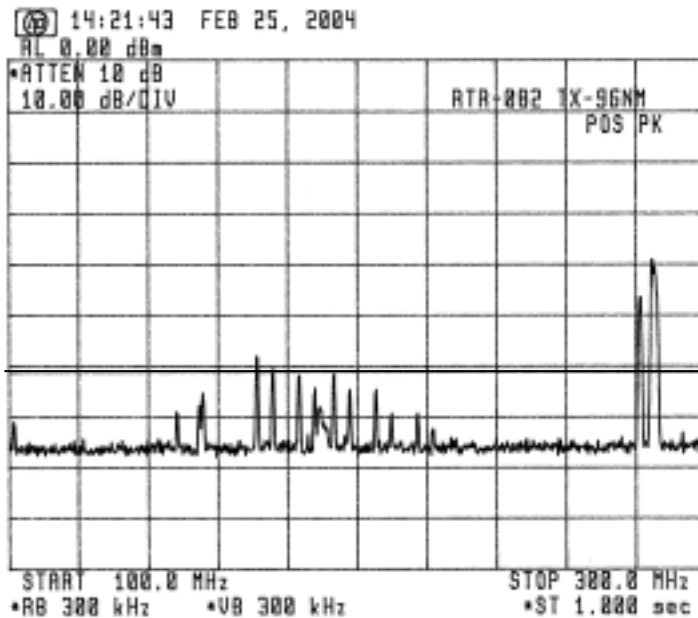
-71 dBm limit line

(Band: 100 MHz - 300 MHz, Limit at 2 m = -61 dBm)

a) Radar Power: OFF



b) Radar TX: ON



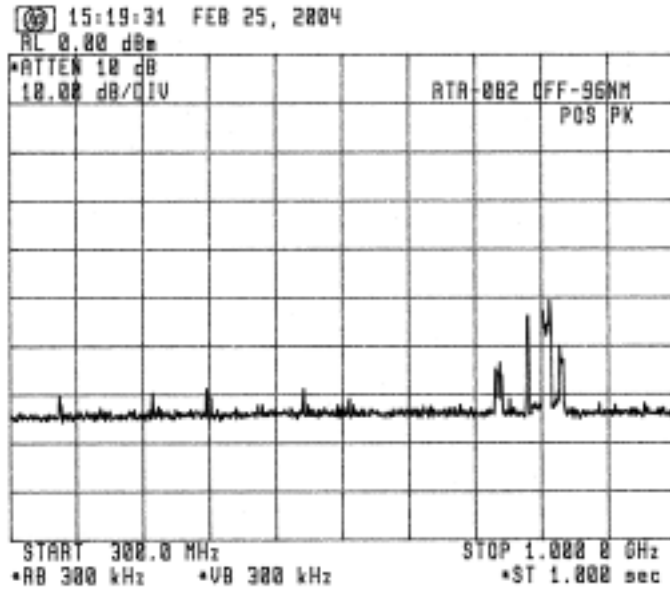
Note:

All components above the limit are from external noise or signals, not from Radar.

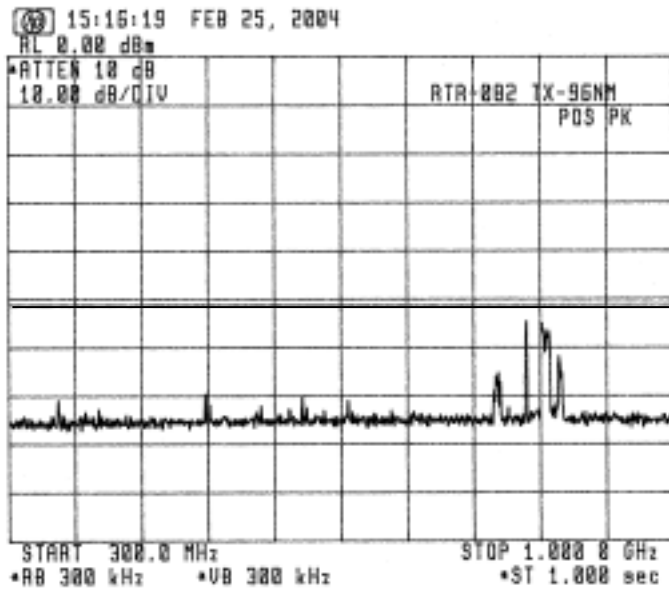
-61 dBm limit line

(Band: 300 MHz - 1 GHz, Limit at 2 m = -51 dBm)

a) Radar Power: OFF



b) Radar TX: ON



-51 dBm limit line

ATTACHMENT D [List of Test/Measuring Equipment] (for S-band radar)

For Clause 3.1 RF Power Output

<u>Model</u>	<u>Type</u>	<u>Serial no.</u>	<u>Mfr.</u>
Spectrum Analyzer	71210C	2927A02847	HP
Oscilloscope	TDS680B	B030202	Tektronix
Directional Coupler	-----	R1788	Shimada
High Voltage Probe	HV-P30	2870	Iwatsu
Current Transformer	2100	----	Pearson Electronics
Power Meter	436A	2410A19137	HP
Power Sensor	8481A	2349A39603	HP
Frequency Counter	TR5824A	41940036	Advantest
Frequency Meter	536A	1441A-01864	HP
Crystal Detector	423B	1822A24214	HP
Dummy Load	4D106	R35872	Shimada
Rotary Attenuator (10 dB Step)	8495B	3308A22026	HP
Rotary Attenuator (1 dB Step)	8494B	US00430229	HP

For Clause 3.2 Modulation Characteristics

<u>Model</u>	<u>Type</u>	<u>Serial no.</u>	<u>Mfr.</u>
Oscilloscope	TDS680B	B030202	Tektronix
Crystal Detector	423B	1822A24214	HP
Directional Coupler	-----	R1788	Shimada
Dummy Load	4D106	R35872	Shimada
Spectrum Analyzer	71210C	2927A02847	HP
High Voltage Probe	HV-P30	2870	Iwatsu

For Clause 3.4 Spurious Emissions at Antenna Terminal

<u>Model</u>	<u>Type</u>	<u>Serial no.</u>	<u>Mfr.</u>
Spectrum Analyzer	71210C	2927A0847	HP
External Mixer:	11970K	2332A00589	HP
External Mixer:	11970A	2332A01187	HP
Directional Coupler	-----	R1788	Shimada
Dummy Load	4D106	R35872	Shimada
Notch Filter			
Circulator	RC-6584	5590	TDK
Bandpass filter	-----	-----	Furuno
High Pass Filter	-----	-----	Furuno
Rotary Attenuator (10 dB Step)	8495B	3308A22026	HP

For Clause 3.5 Field Strength of Spurious Radiation

<u>Model</u>	<u>Type</u>	<u>Serial no.</u>	<u>Mfr.</u>
Broadband Rod Antenna	M 95010-1	0496	Advanced Electronics
Biconical Antenna	BIA-25	2650	Electro Metrics
Conical Log-Spiral Antenna	LCA-25	2886	Electro Metrics
Double Ridged Guide Horn Antenna: RGA-180		2248	Electro Metrics
Horn Antenna:	HA-40	----	Furuno
Spectrum Analyzer:	71210C	2927A0287	HP
External Mixer:	11970K	2332A005849	HP
External Mixer:	11970A	2332A01187	HP
Notch Filter			
Circulator	RC-6584	5590	TDK
Bandpass filter	-----	-----	Furuno
Coax. Attenuator (10 dB)	8491B	28845	HP

For Clause 3.6 Frequency Stability

<u>Model</u>	<u>Type</u>	<u>Serial no.</u>	<u>Mfr.</u>
Power Meter:	436A	2410A19137	HP
Power Sensor:	8481A	2349A39603	HP
Frequency Meter:	536A	1441A-01864	HP
Directional Coupler:	----	R1788	Shimada
Dummy Load:	4D106	R35872	Shimada
Environmental Chamber:	TBE-3HW5GE2F	3013000995	Tabai Espec

9. Suppression of Interference Aboard Ships

<u>Model</u>	<u>Type</u>	<u>Serial no.</u>	<u>Mfr.</u>
Spectrum Analyzer:	71210C	2927A02847	HP
6 m Whip Antenna	14 k - 10 MHz	----	Furuno
4 m Whip Antenna	10 - 30 MHz	----	Furuno
VHF Whip Antenna	30 - 300 MHz	150M-W2UM	Anten
UHF Whip Antenna	300 - 1000 MHz	----	Anten
Network analyzer	8753C	3214J01067	HP
Spectrum Analyzer	TR4172	30690116	Advantest
Spectrum Analyzer	8566B	2637A03642	HP
Coax. Attenuator (10 dB)	8491B	28845	HP
Coax. Attenuator (3 dB)	8491A	25225	HP