

**INDEX OF SUBMITTED MEASURED DATA**

This exhibit contains the measured data for this equipment as follows:

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7E-12 - 25 kHz 2500 Hz Audio and DPL Modulation

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7F-6 - 1 Watt, 174.000 MHz

**INDEX TO SUBMITTED MEASURED DATA (continued)**

**EXHIBIT 7G** - Radiated Spurious Emissions – (4 Graphs)

- 7G-1 - 30 Watts, 150.000 MHz, Horizontal
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- 7H-1 - Frequency Stability vs. Temperature
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- 7I-8 - 1 Watt, 25 kHz De-Key Decay Time

**EXHIBIT 7A – RF OUTPUT DATA****HIGH POWER SETTING, FREQUENCY 136.025 MHz**

Measured RF Output Power:	30.0 Watts
Measured DC Voltage:	13.58 Volts
Measured DC Input Current:	4.43 Amperes
Measured DC Input Power:	60.16 Watts

**LOW POWER SETTING, FREQUENCY 136.025 MHz**

Measured RF Output Power:	1.0 Watts
Measured DC Voltage:	13.58 Volts
Measured DC Input Current:	0.98 Amperes
Measured DC Input Power:	13.31 Watts

**HIGH POWER SETTING, FREQUENCY 155.025 MHz**

Measured RF Output Power:	30.0 Watts
Measured DC Voltage:	13.58 Volts
Measured DC Input Current:	4.92 Amperes
Measured DC Input Power:	66.81 Watts

**LOW POWER SETTING, FREQUENCY 155.025 MHz**

Measured RF Output Power:	1.0 Watts
Measured DC Voltage:	13.58 Volts
Measured DC Input Current:	1.09 Amperes
Measured DC Input Power:	14.80 Watts

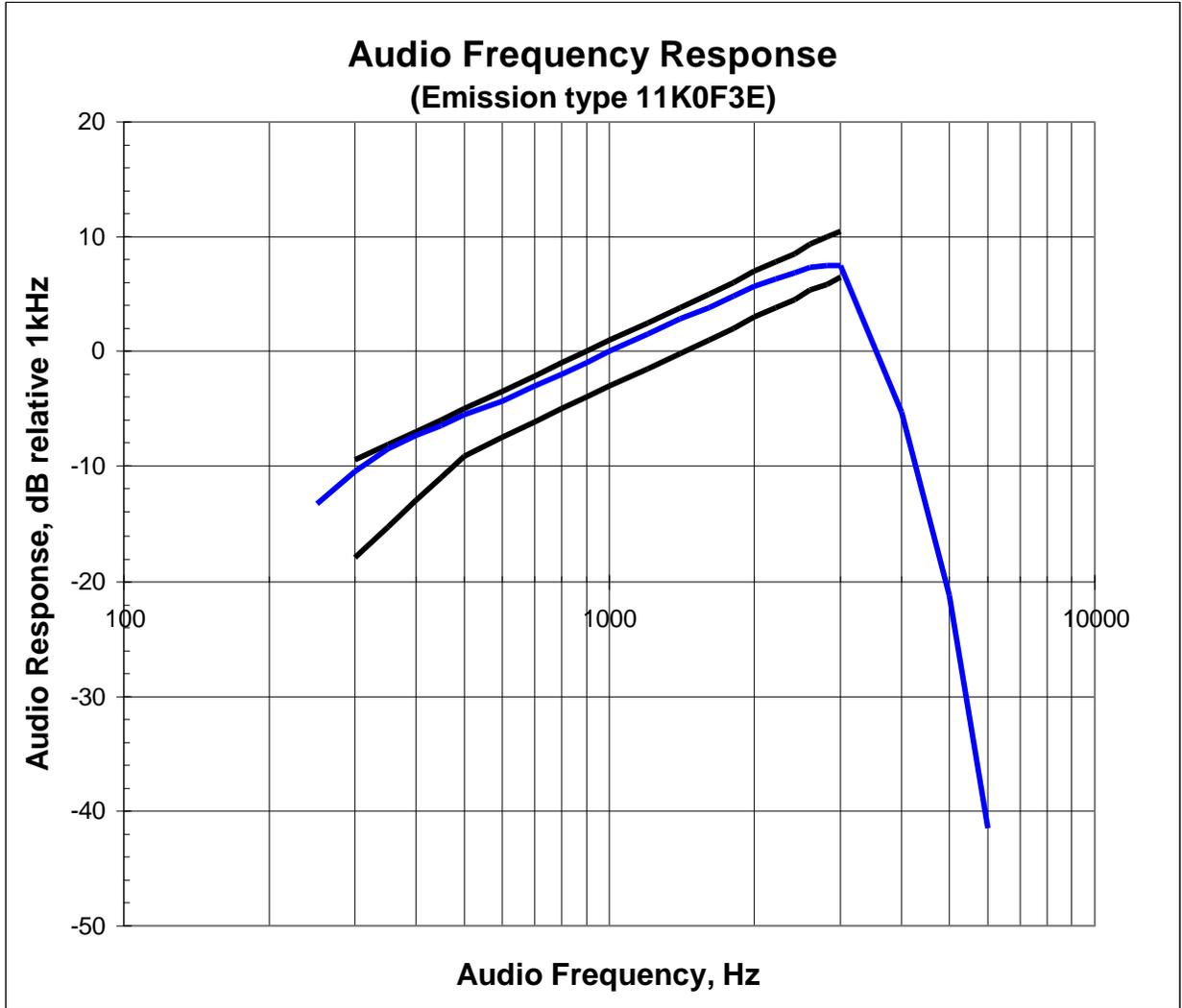
**HIGH POWER SETTING, FREQUENCY 173.975 MHz**

Measured RF Output Power:	30.0 Watts
Measured DC Voltage:	13.58 Volts
Measured DC Input Current:	5.07 Amperes
Measured DC Input Power:	68.85 Watts

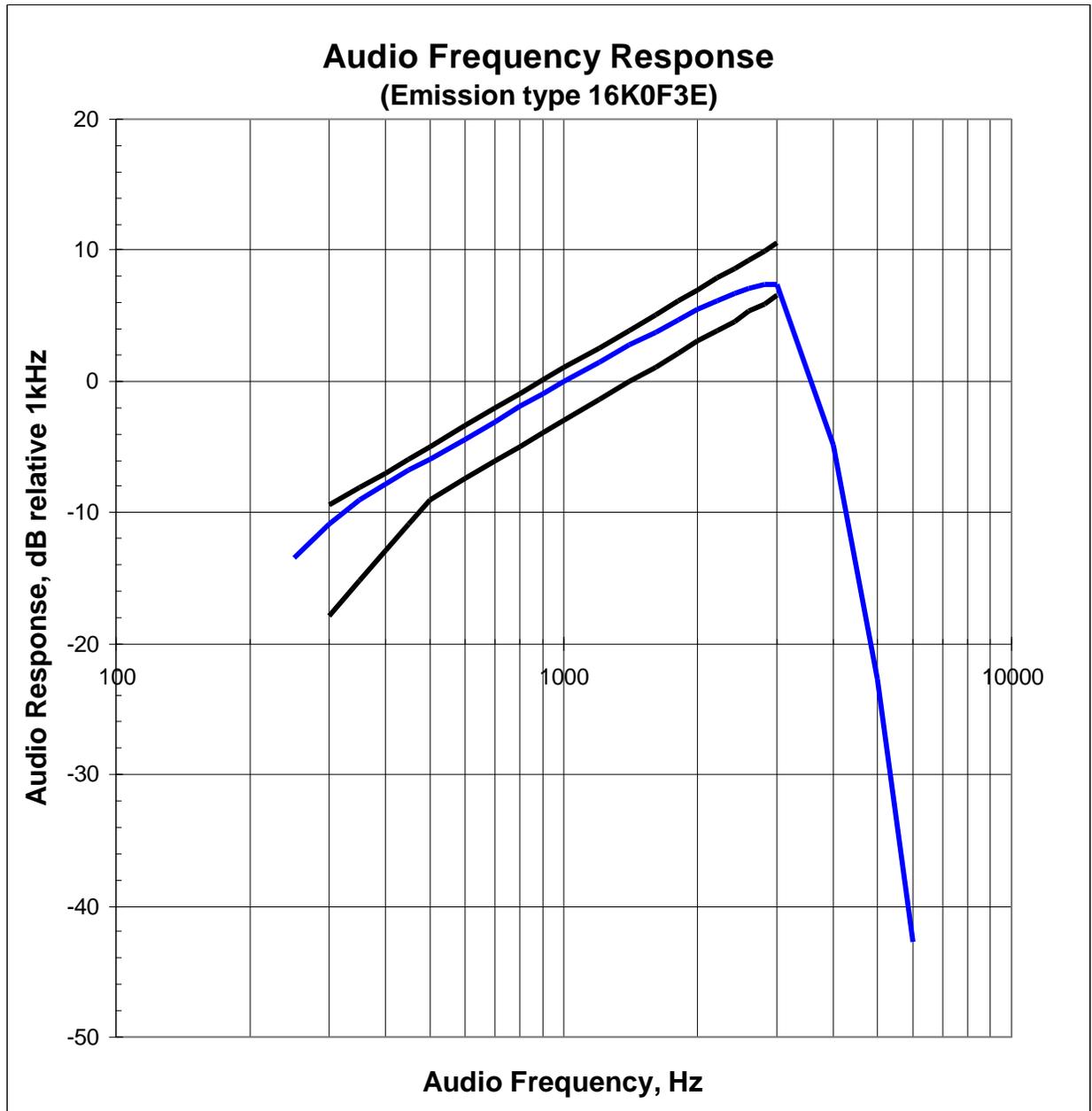
**LOW POWER SETTING, FREQUENCY 173.975 MHz**

Measured RF Output Power:	1.0 Watts
Measured DC Voltage:	13.58 Volts
Measured DC Input Current:	1.12 Amperes
Measured DC Input Power:	15.21 Watt

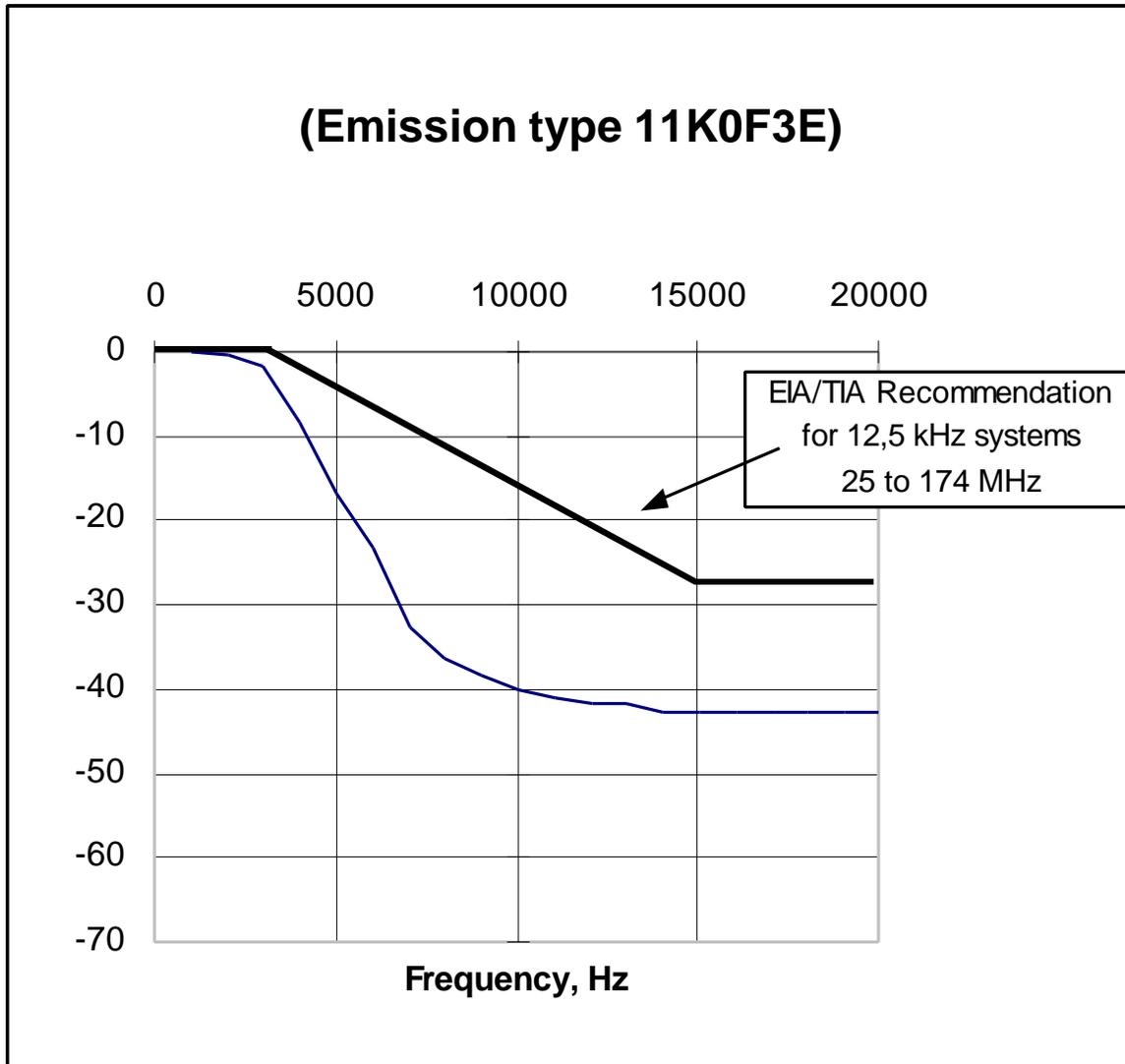
TRANSMIT AUDIO RESPONSE  
12.5 kHz CHANNEL SPACING



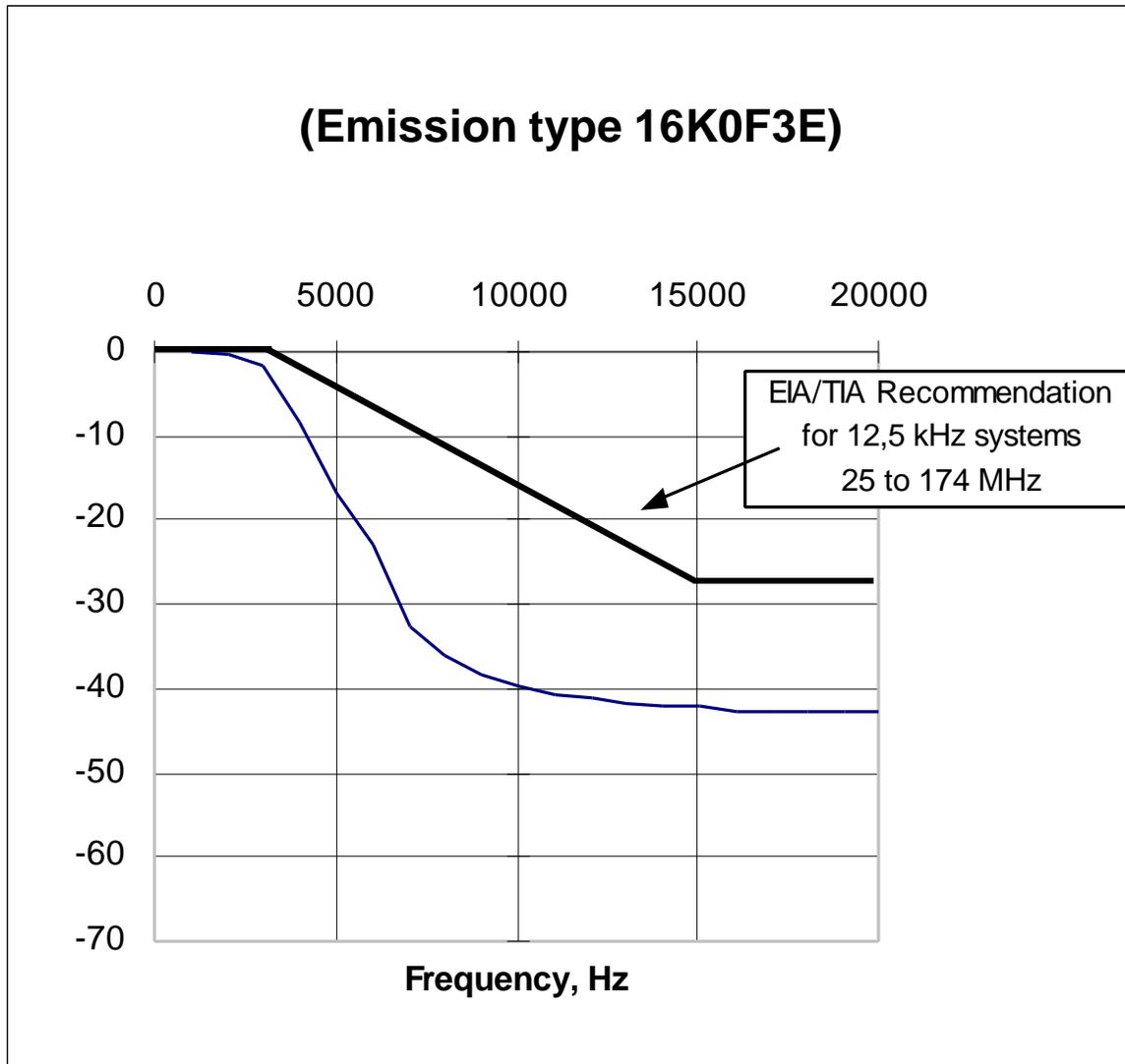
TRANSMIT AUDIO RESPONSE  
25 kHz CHANNEL SPACING



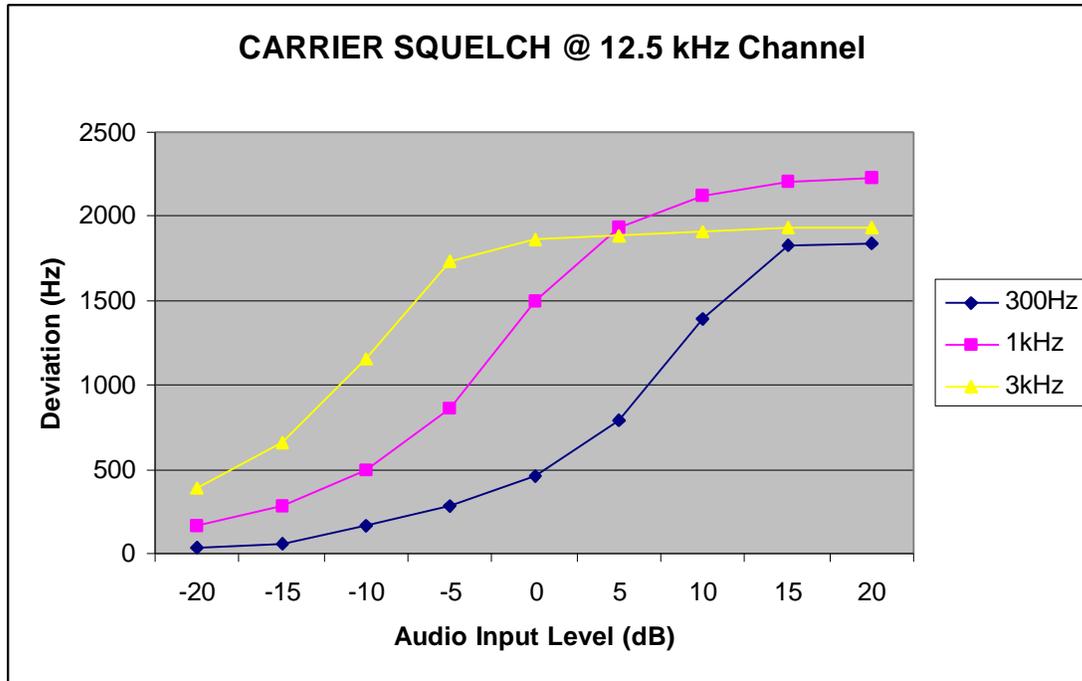
POST-LIMITER LOWPASS FILTER RESPONSE  
12.5 kHz CHANNEL SPACING



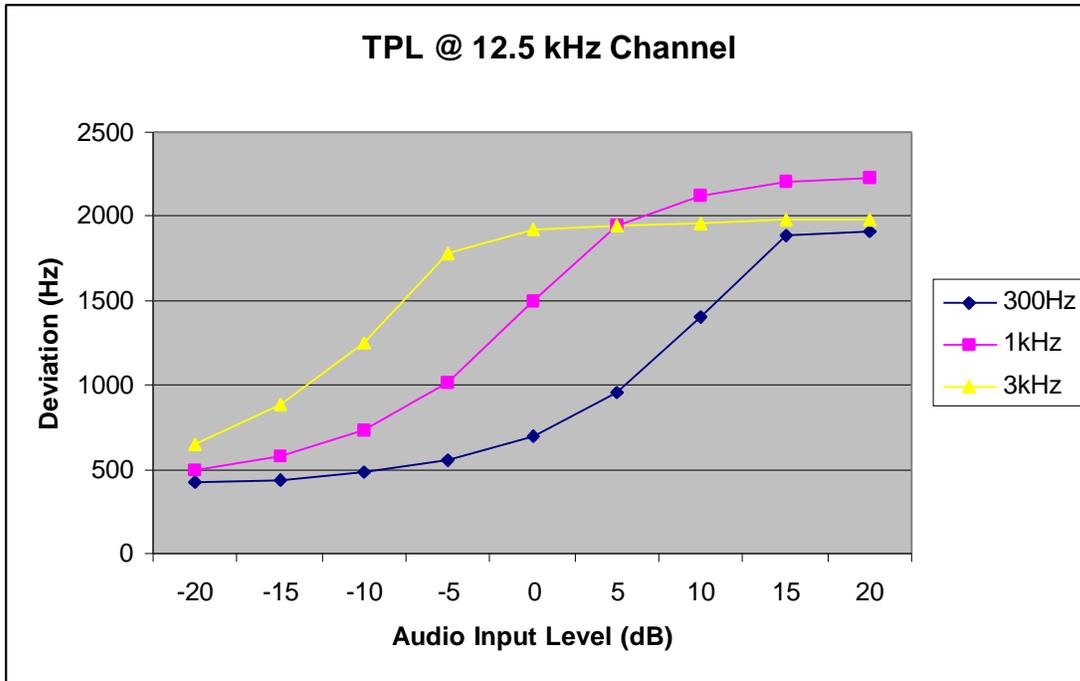
POST-LIMITER LOWPASS FILTER RESPONSE  
25 kHz CHANNEL SPACING



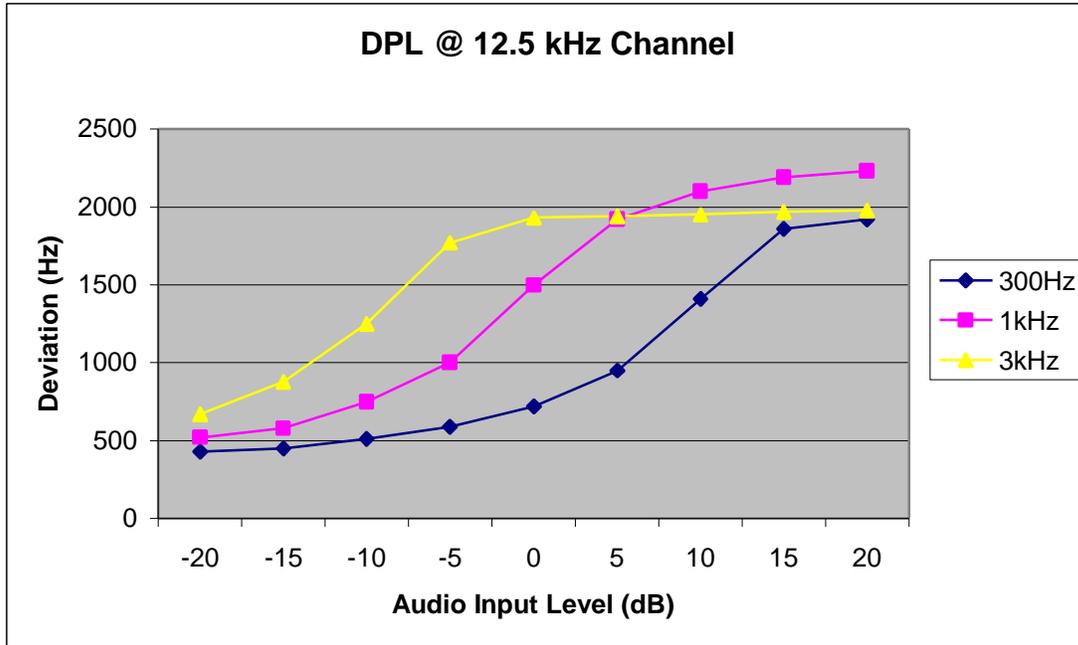
**MODULATION LIMITING CHARACTERISTIC  
12.5 kHz CHANNEL SPACING, CARRIER SQUELCH MODE**



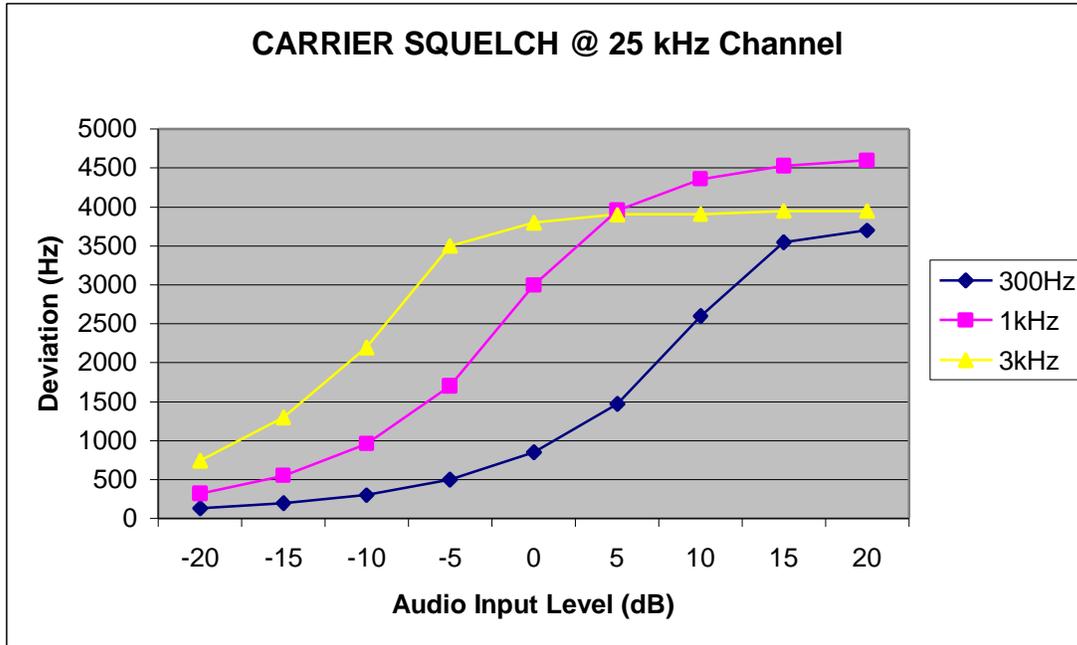
**MODULATION LIMITING CHARACTERISTIC  
12.5 kHz CHANNEL SPACING, TONE PL MODE**



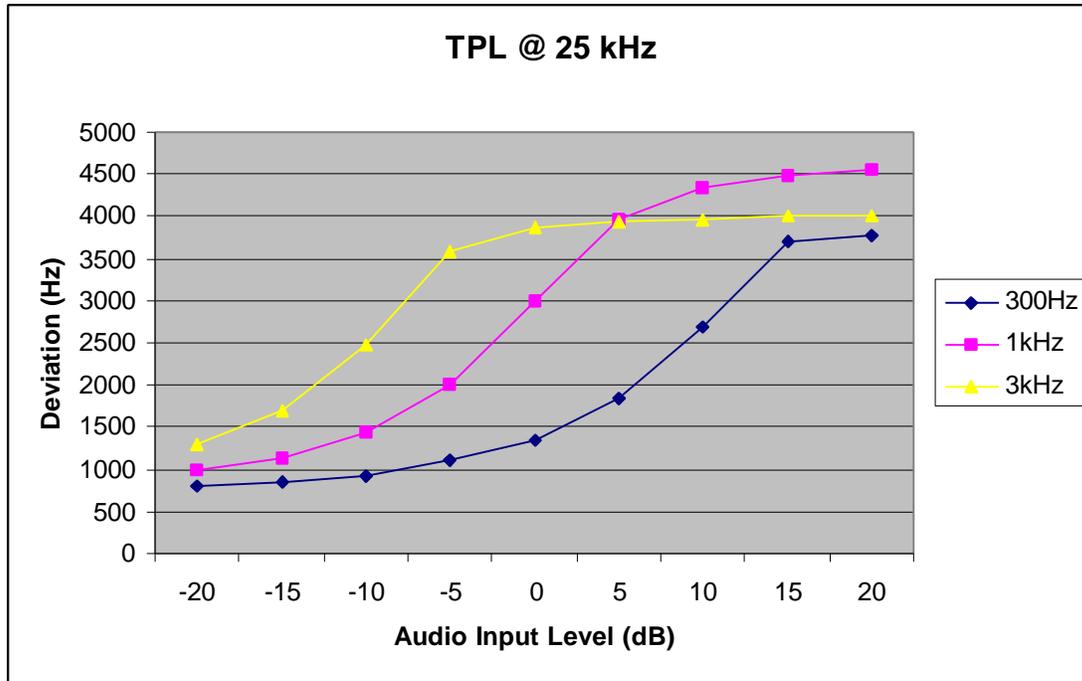
**MODULATION LIMITING CHARACTERISTIC  
12.5 kHz CHANNEL SPACING, DPL MODE**



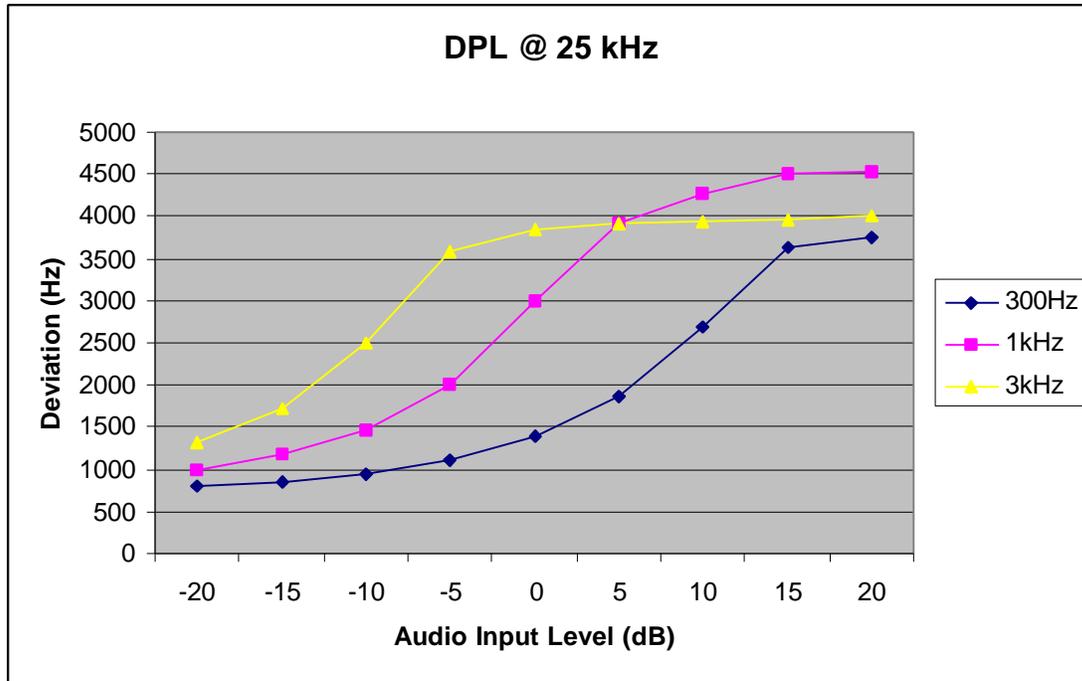
**MODULATION LIMITING CHARACTERISTIC  
25 kHz CHANNEL SPACING, CARRIER SQUELCH MODE**



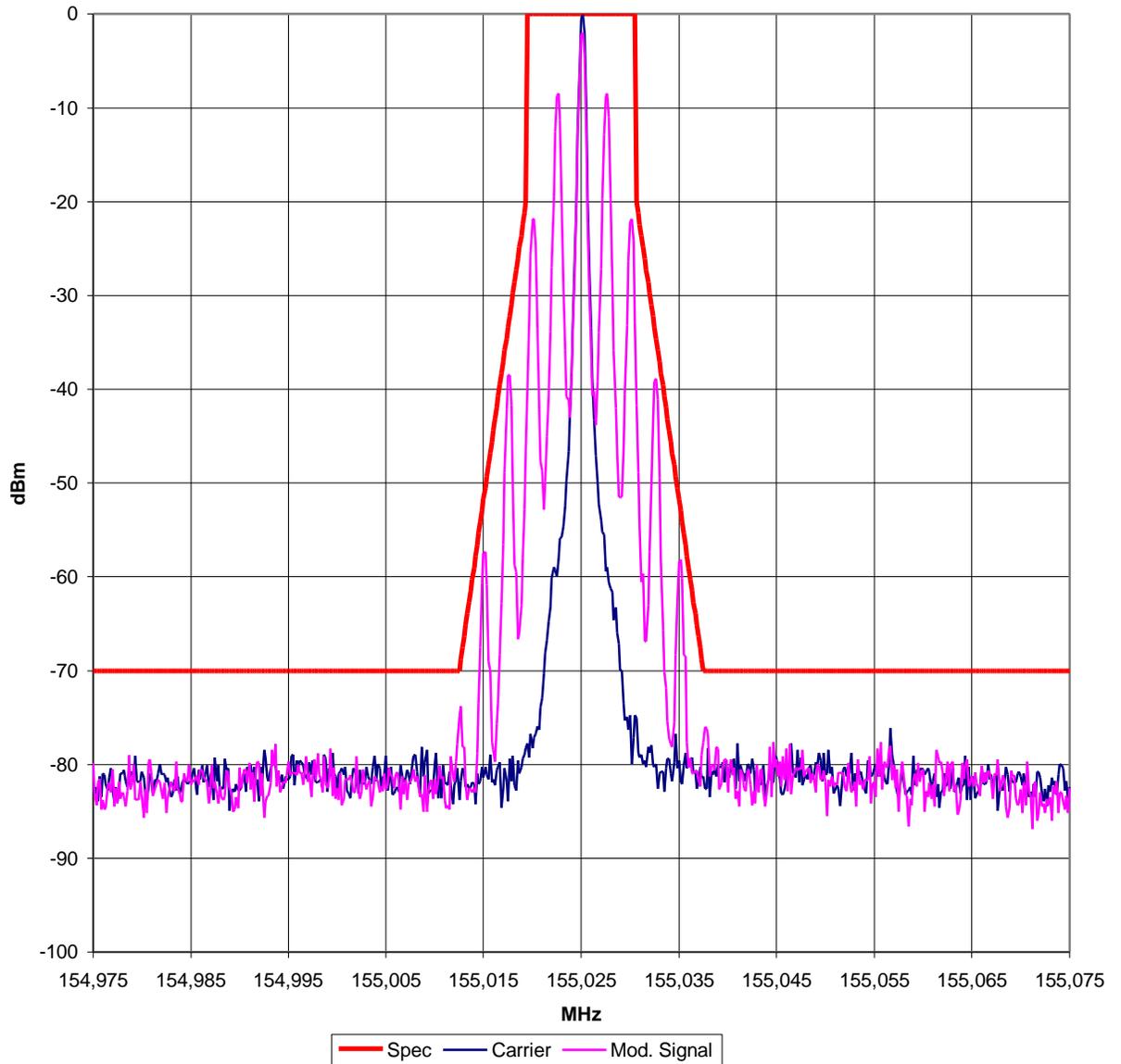
**MODULATION LIMITING CHARACTERISTIC  
25 kHz CHANNEL SPACING, TONE PL MODE**



**MODULATION LIMITING CHARACTERISTIC  
25 kHz CHANNEL SPACING, DPL MODE**

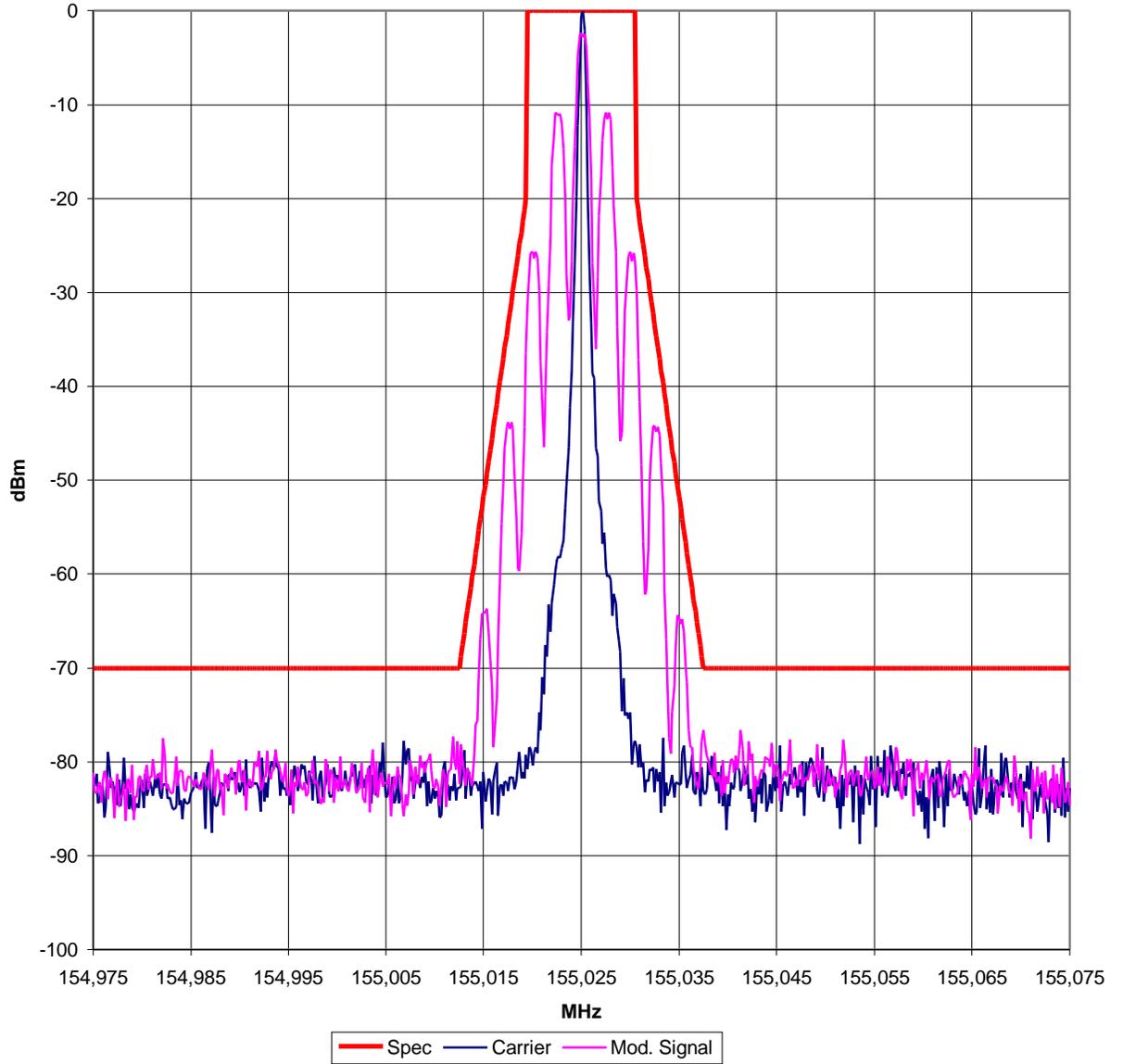


### Occupied Bandwidth Measured for 12.5kHz Channel Spacing, 2500Hz Audio Modulation Only



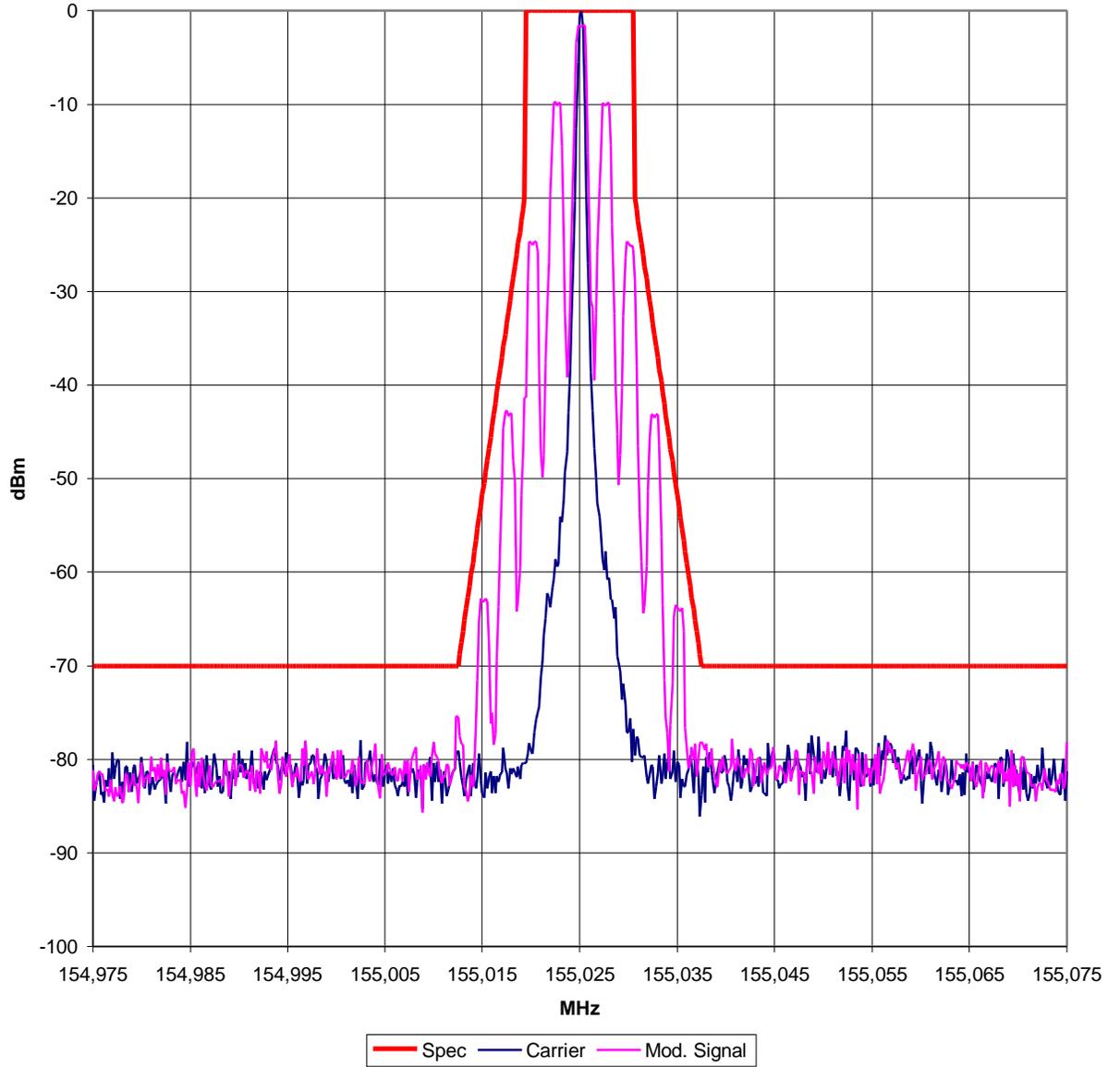
**Fcenter = 155.025MHz**  
**Span = 100kHz**  
**ResBW = 300Hz**  
**VideoBW = 3000Hz**  
**SWTime = 3sec.**  
**RefLevel = -0.6dBm**

### Occupied Bandwidth Measured for 12.5kHz Channel Spacing, 2500Hz Audio and PL Tone Modulation (250.3Hz)



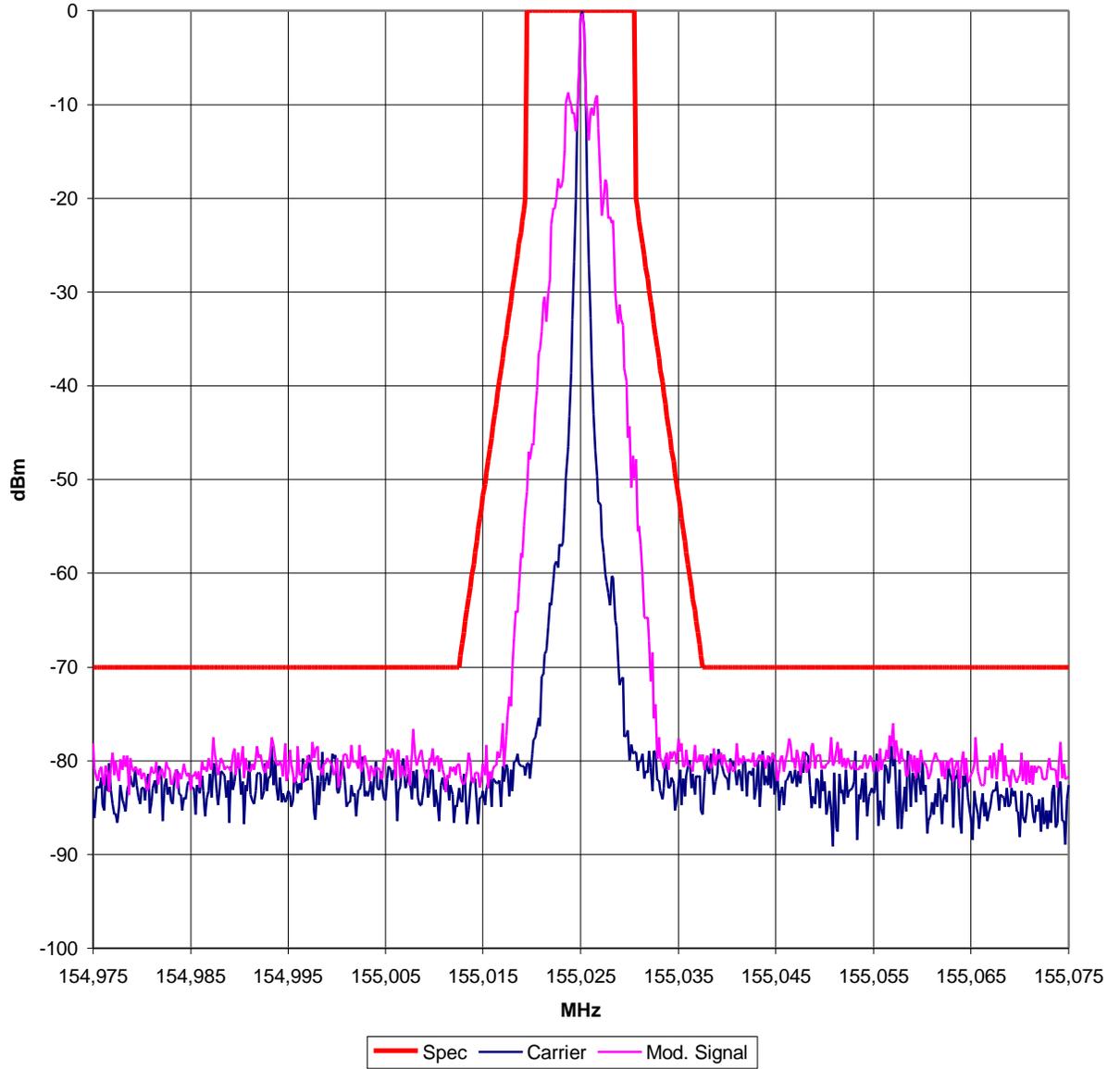
Fcenter = 155.025MHz  
Span = 100kHz  
ResBW = 300Hz  
VideoBW = 3000Hz  
SWTime = 3sec.  
RefLevel = -0.6dBm

### Occupied Bandwidth Measured for 12.5kHz Channel Spacing, 2500Hz Audio and DPL Modulation (DPL131)



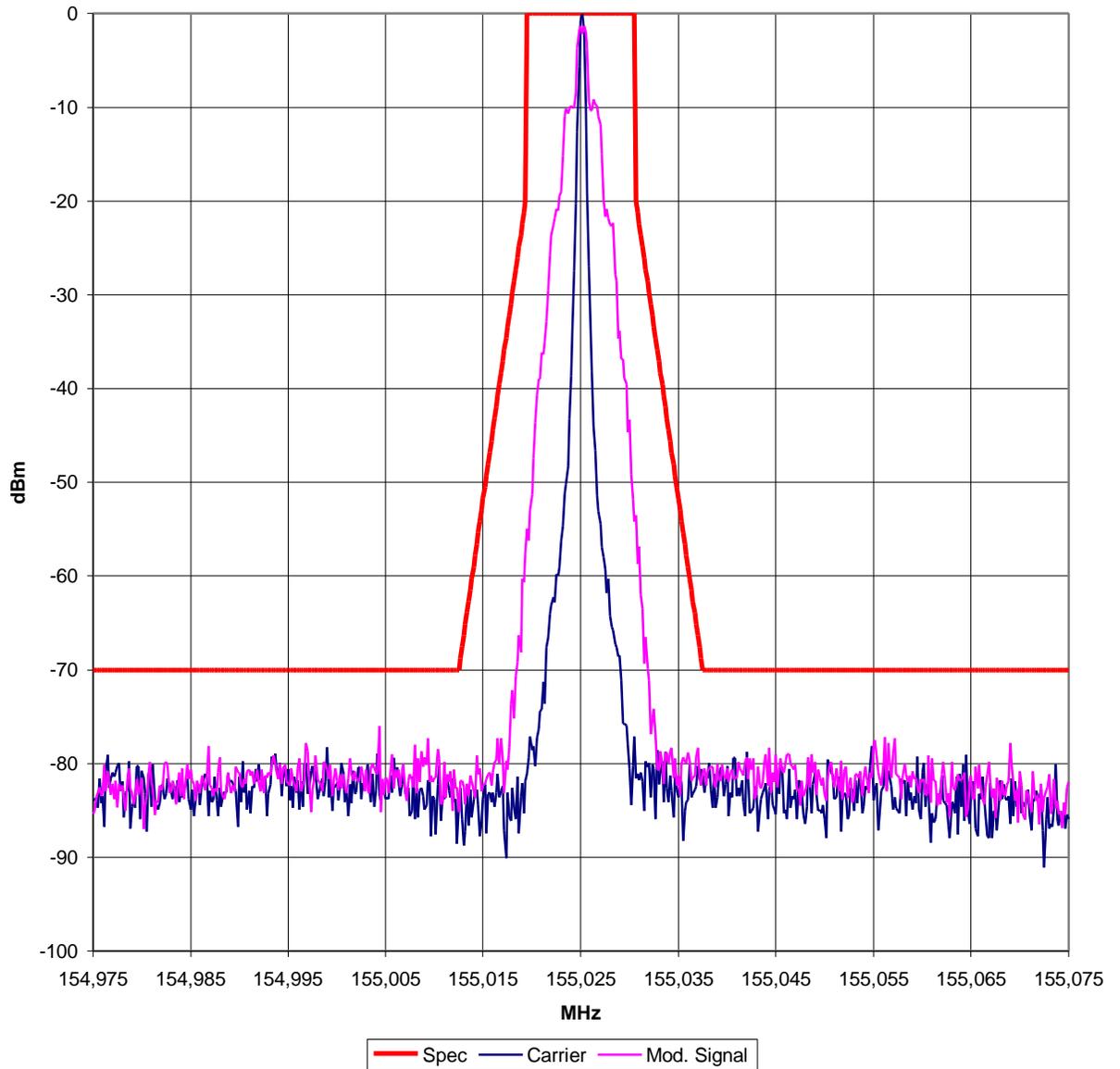
Fcenter = 155.025MHz  
Span = 100kHz  
ResBW = 300Hz  
VideoBW = 3000Hz  
SWTime = 3sec.  
RefLevel = -0.6dBm

### Occupied Bandwidth Measured for 12.5kHz Channel Spacing, DTMF Modulation Only (# SIGN)



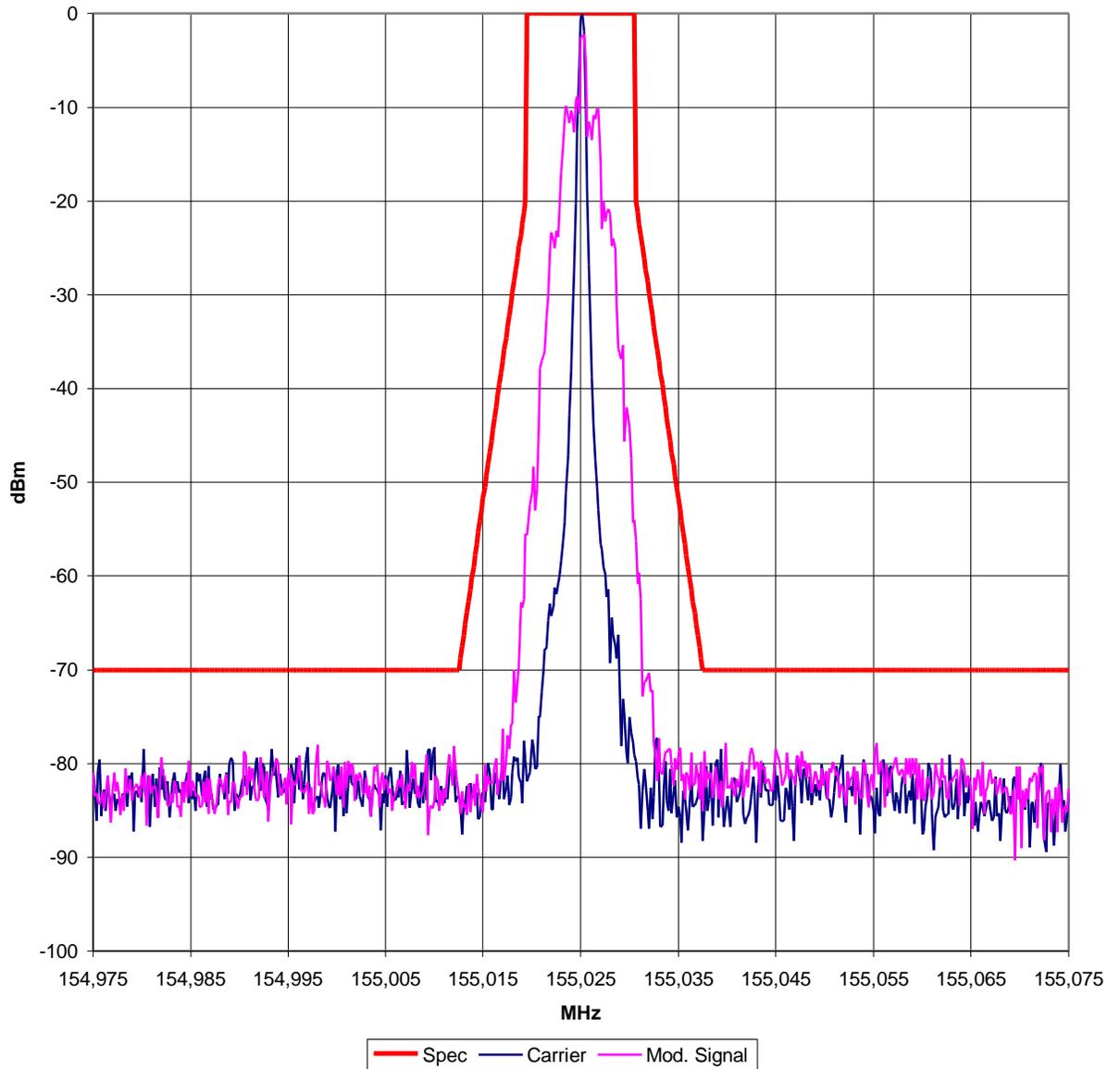
**Fcenter = 155.025MHz**  
**Span = 100kHz**  
**ResBW = 300Hz**  
**VideoBW = 3000Hz**  
**SWTime = 3sec.**  
**RefLevel = -0.6dBm**

### Occupied Bandwidth Measured for 12.5kHz Channel Spacing, DTMF Modulation and PL Tone Modulation (250 347)



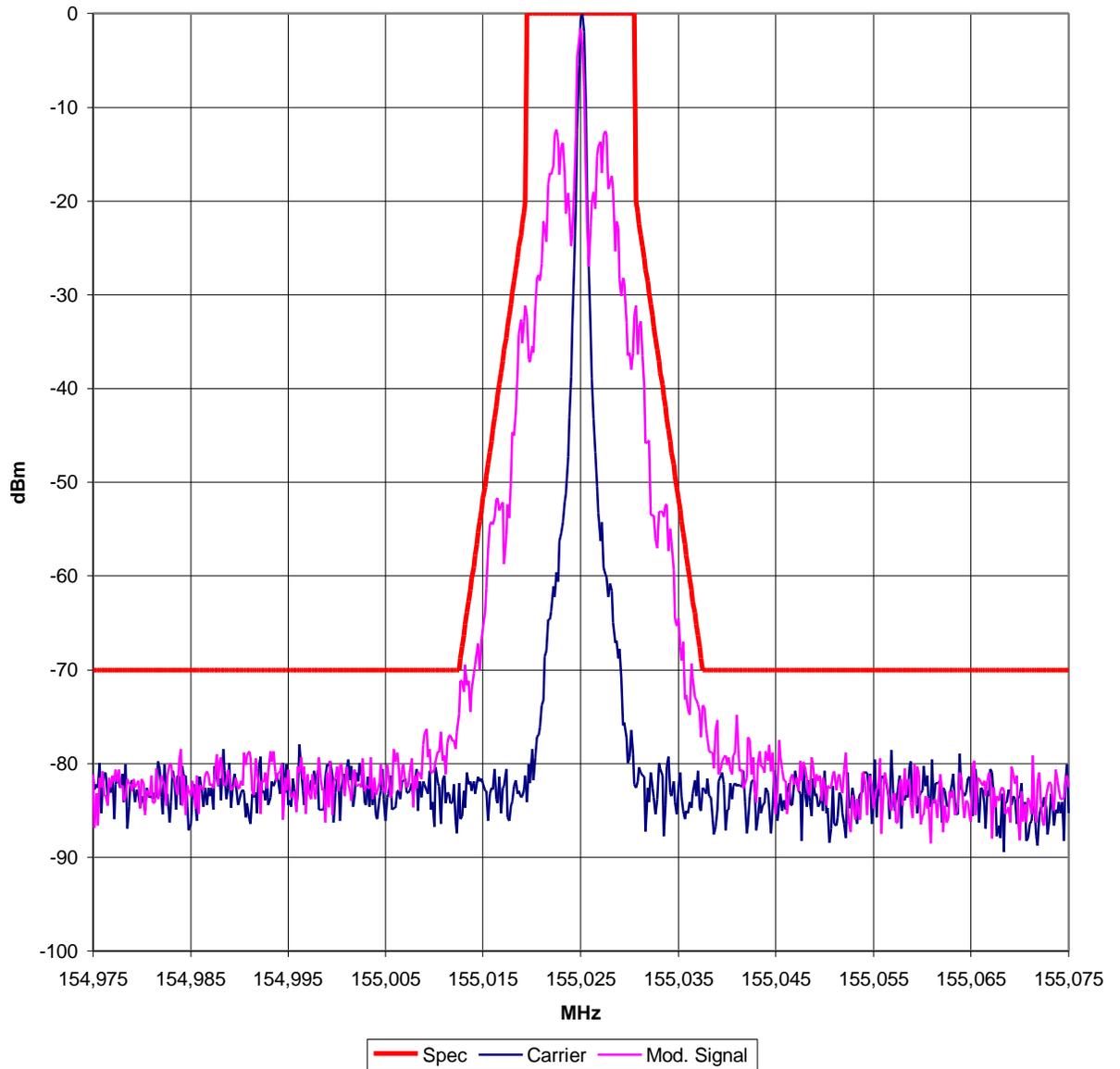
Fcenter = 155.025MHz  
Span = 100kHz  
ResBW = 300Hz  
VideoBW = 3000Hz  
SWTime = 3sec.  
RefLevel = -0.6dBm

### Occupied Bandwidth Measured for 12.5kHz Channel Spacing, DTMF Modulation and DPL Modulation (DPL131)



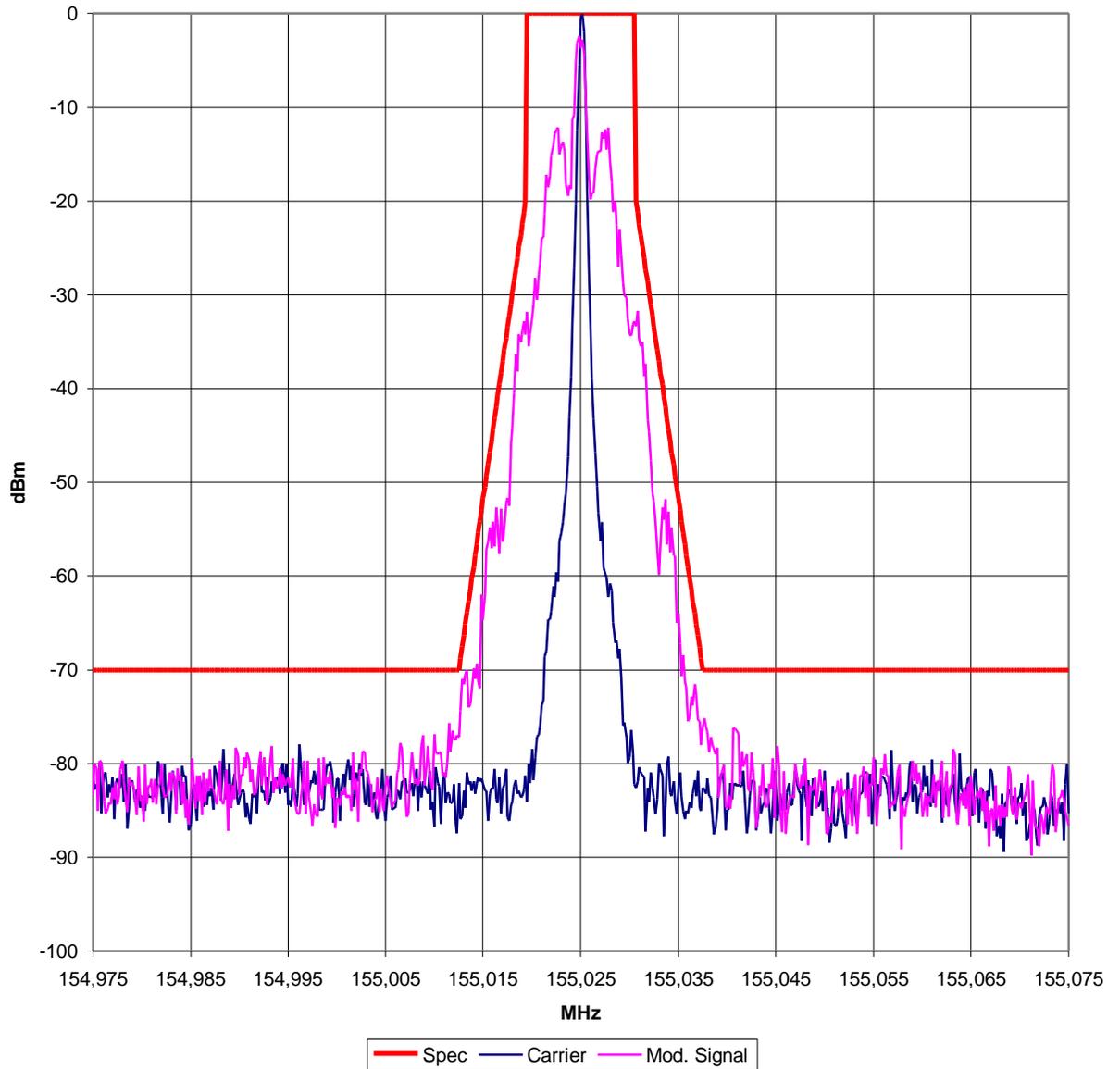
Fcenter = 155.025MHz  
Span = 100kHz  
ResBW = 300Hz  
VideoBW = 3000Hz  
SWTime = 3sec.  
RefLevel = -0.6dBm

### Occupied Bandwidth Measured for 12.5kHz Channel Spacing, 2000/3000Hz FSK Modulation Only



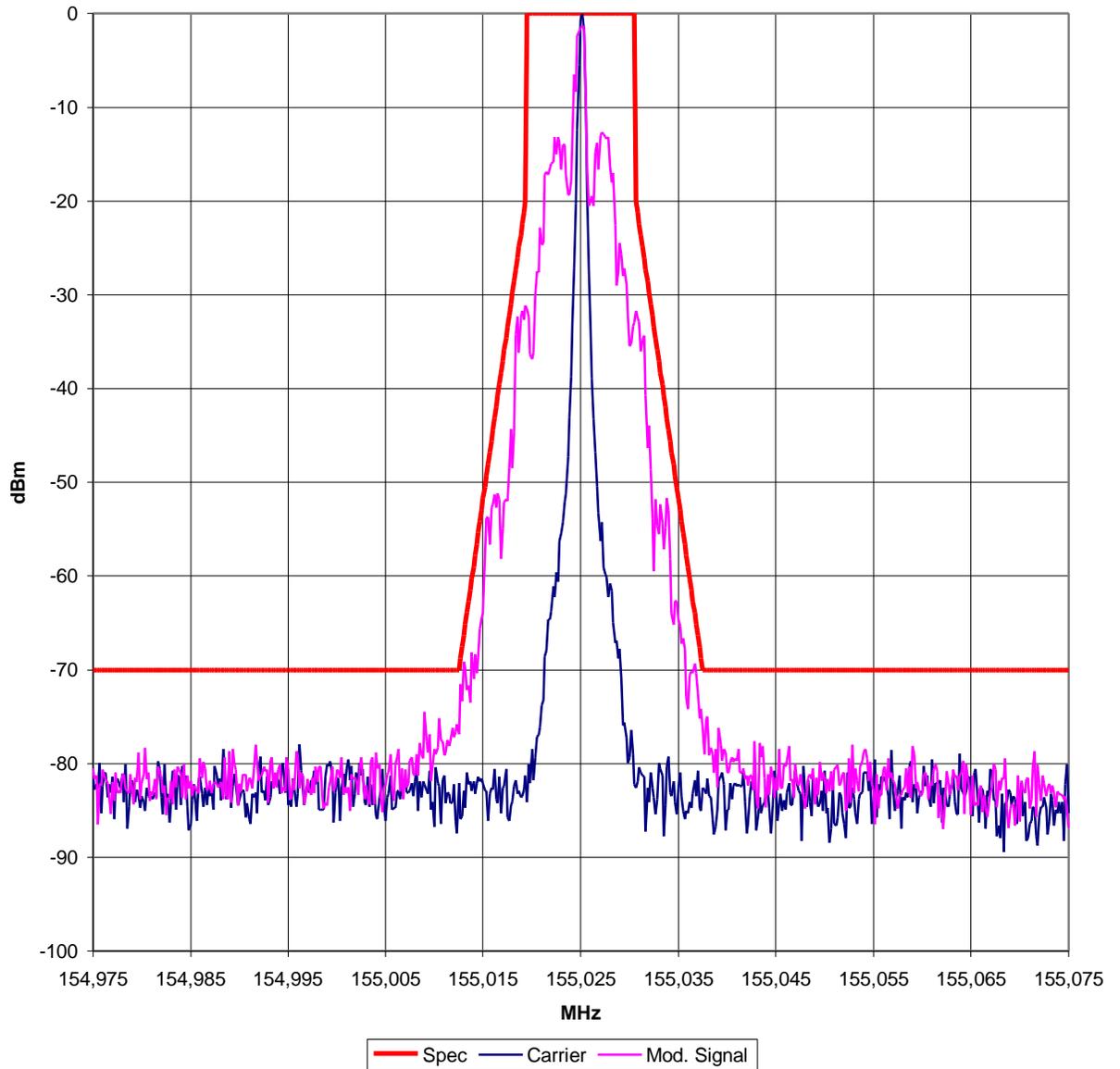
**Fcenter = 155.025MHz**  
**Span = 100kHz**  
**ResBW = 300Hz**  
**VideoBW = 3000Hz**  
**SWTime = 3sec.**  
**RefLevel = -0.6dBm**

### Occupied Bandwidth Measured for 12.5kHz Channel Spacing, 2000/3000Hz FSK Data and PL Tone Modulation



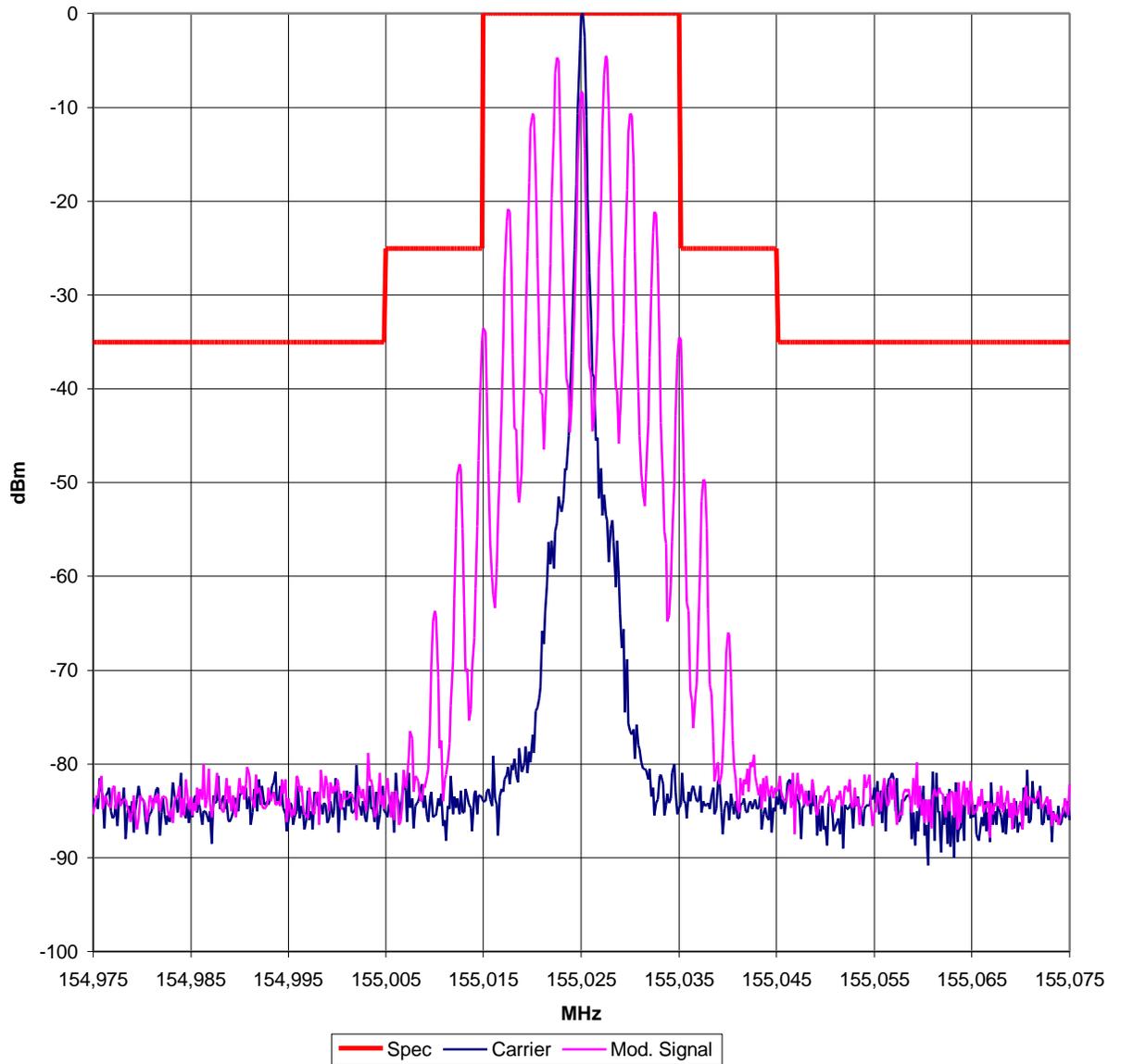
**Fcenter = 155.025MHz**  
**Span = 100kHz**  
**ResBW = 300Hz**  
**VideoBW = 3000Hz**  
**SWTime = 3sec.**  
**RefLevel = -0.6dBm**

### Occupied Bandwidth Measured for 12.5kHz Channel Spacing, 2000/3000Hz FSK Data and DPL Modulation



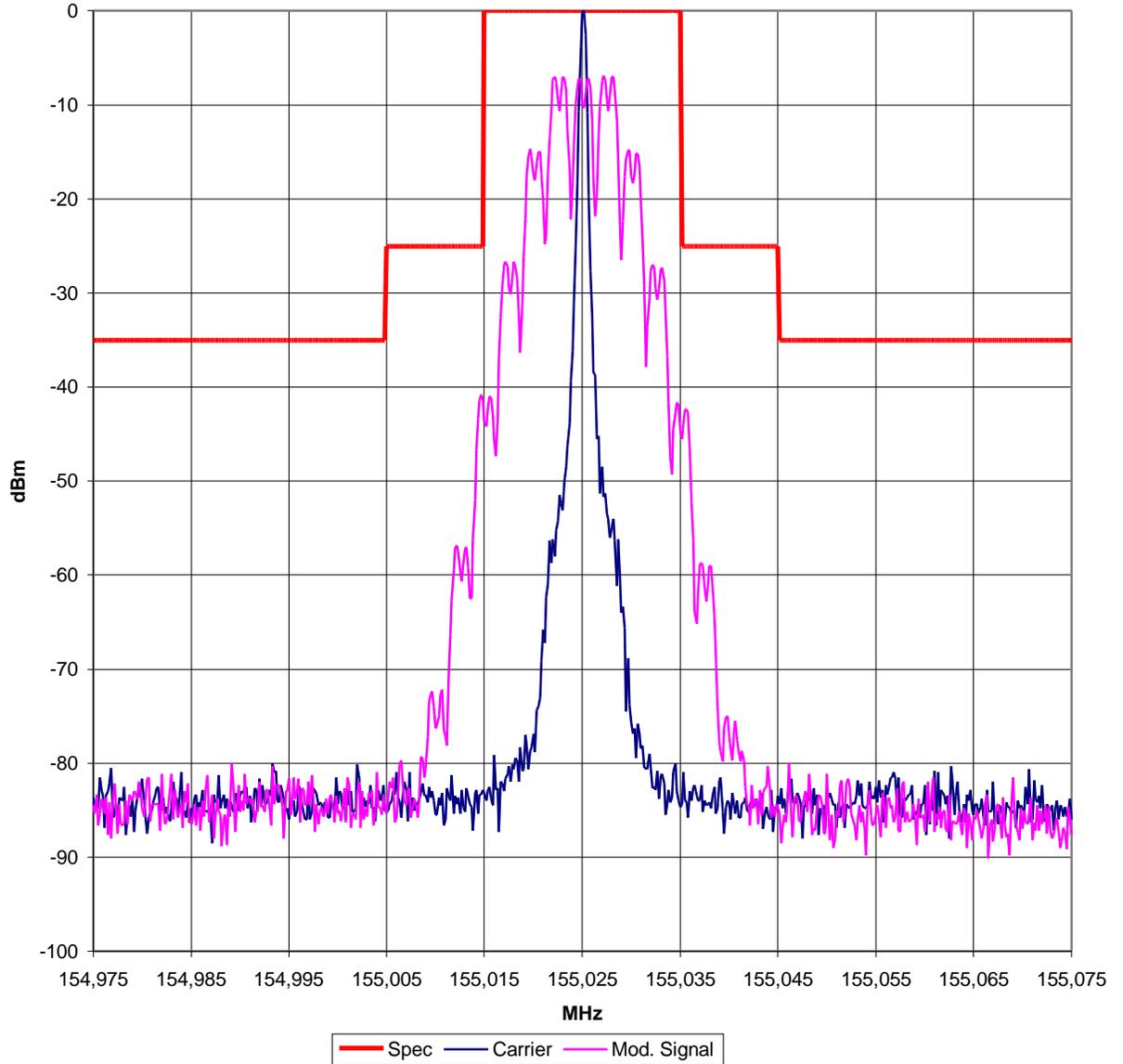
Fcenter = 155.025MHz  
Span = 100kHz  
ResBW = 300Hz  
VideoBW = 3000Hz  
SWTime = 3sec.  
RefLevel = 0dBm

### Occupied Bandwidth Measured for 25kHz Channel Spacing, 2500Hz Audio Modulation Only



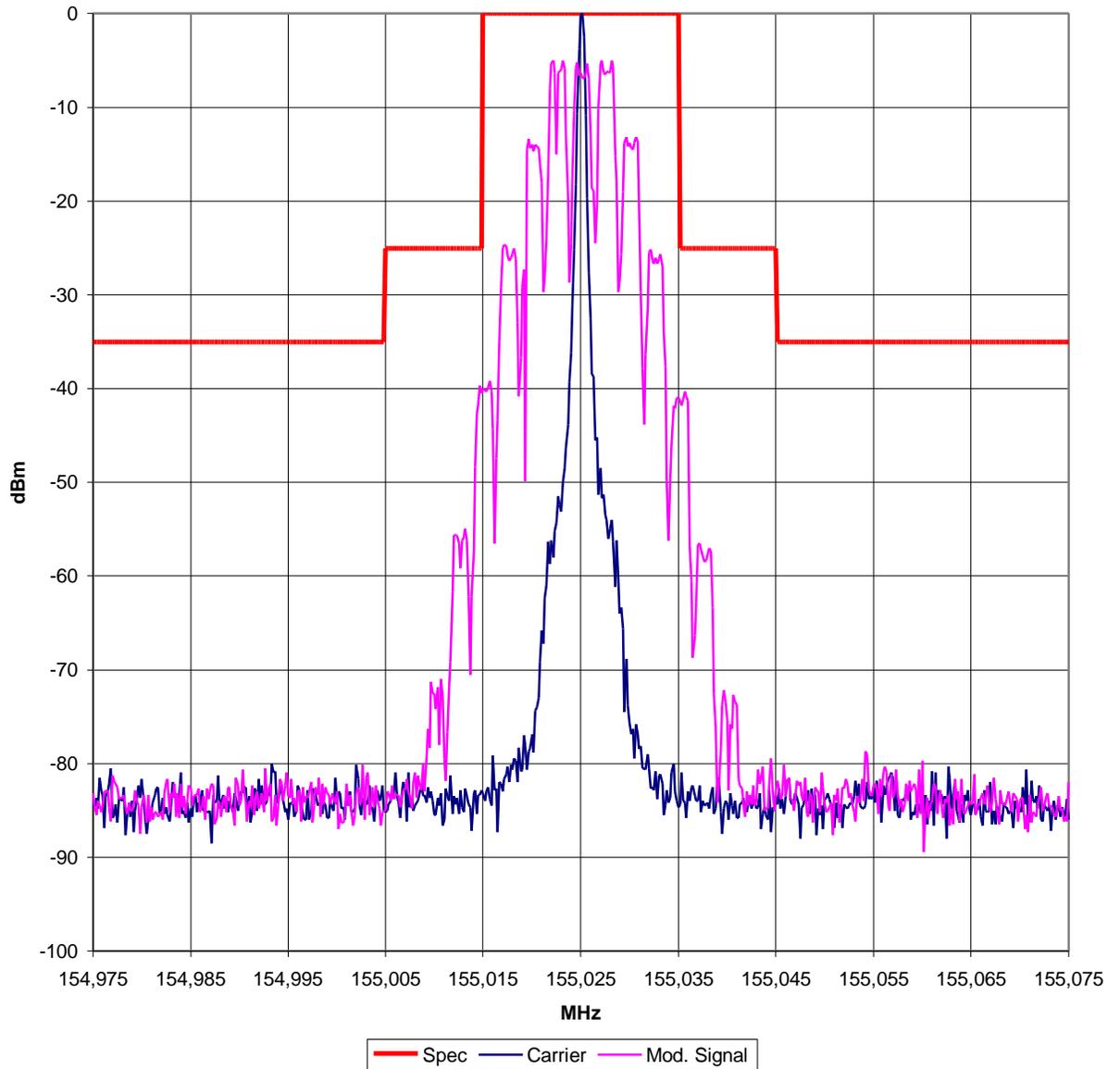
**Fcenter = 155.025MHz**  
**Span = 100kHz**  
**ResBW = 300Hz**  
**VideoBW = 3000Hz**  
**SWTime = 3sec.**  
**RefLevel = 14.3dBm**

### Occupied Bandwidth Measured for 25kHz Channel Spacing, 2500Hz Audio and PL Tone Modulation (250.3Hz)



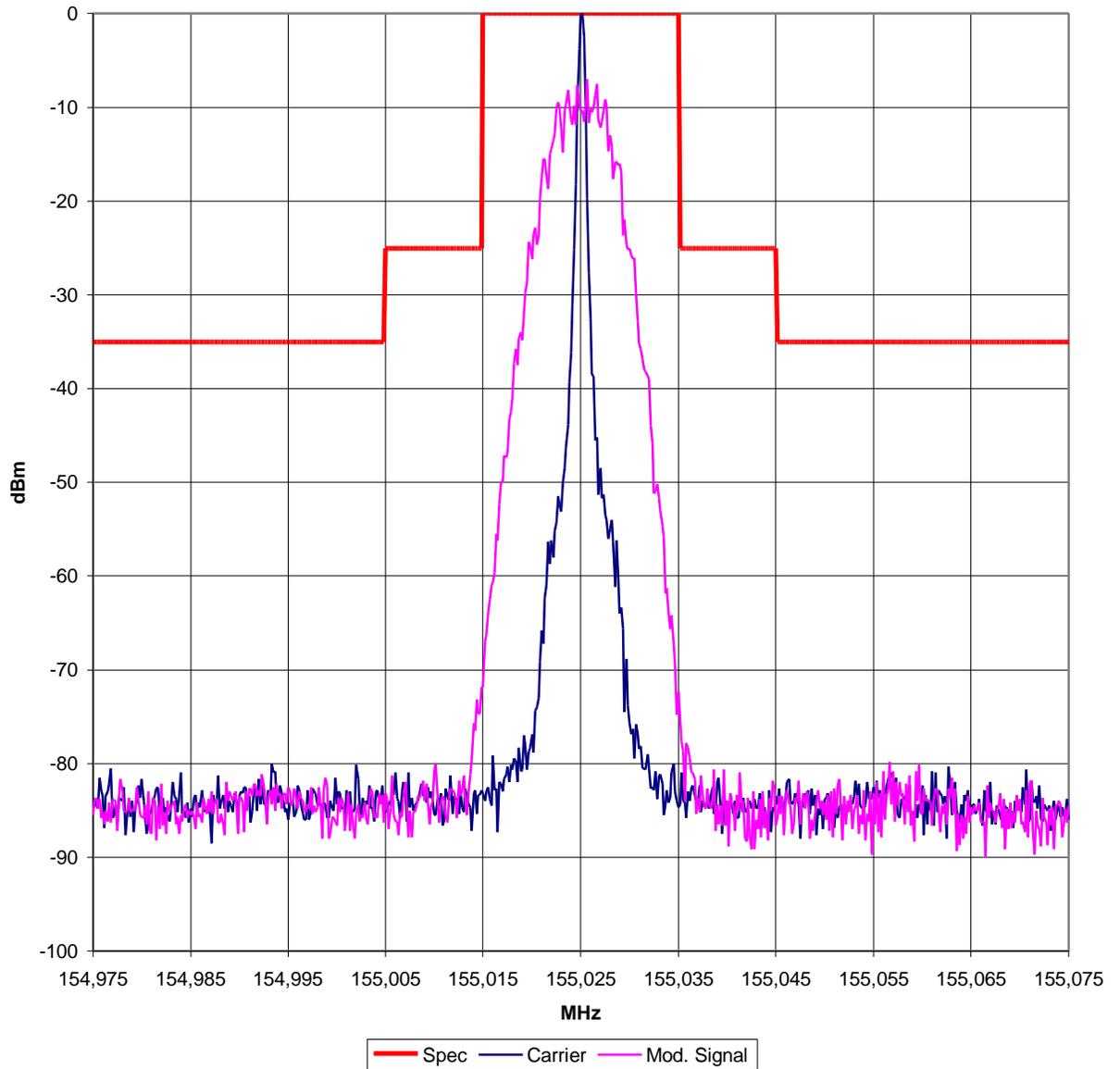
**Fcenter = 155.025MHz**  
**Span = 100kHz**  
**ResBW = 300Hz**  
**VideoBW = 3000Hz**  
**SWTime = 3sec.**  
**RefLevel = 14.3dBm**

### Occupied Bandwidth Measured for 25kHz Channel Spacing, 2500Hz Audio and DPL Modulation (DPL131)



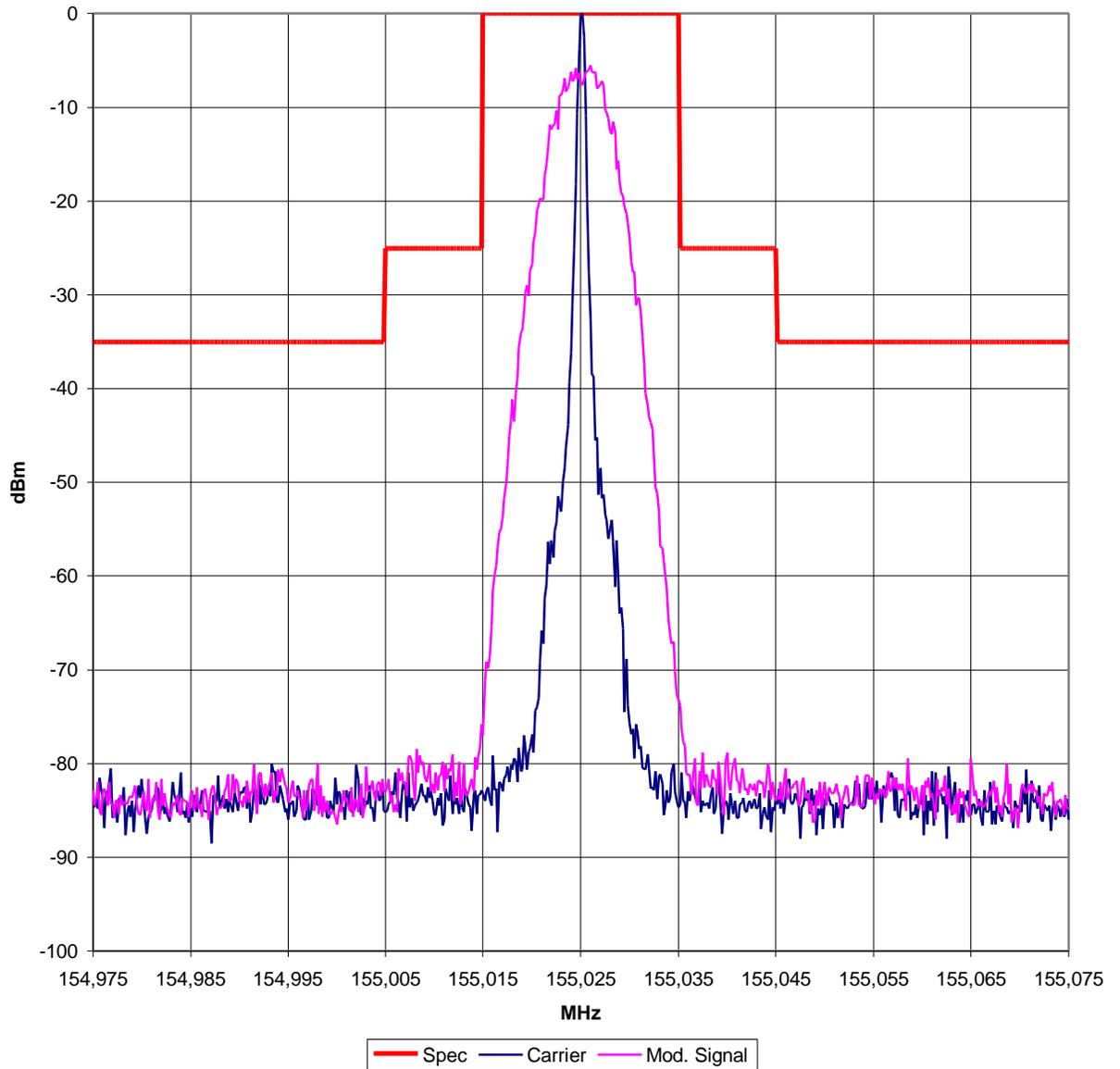
**Fcenter = 155.025MHz**  
**Span = 100kHz**  
**ResBW = 300Hz**  
**VideoBW = 3000Hz**  
**SWTime = 3sec.**  
**RefLevel = 14.3dBm**

### Occupied Bandwidth Measured for 25kHz Channel Spacing, DTMF Modulation Only (# SIGN)



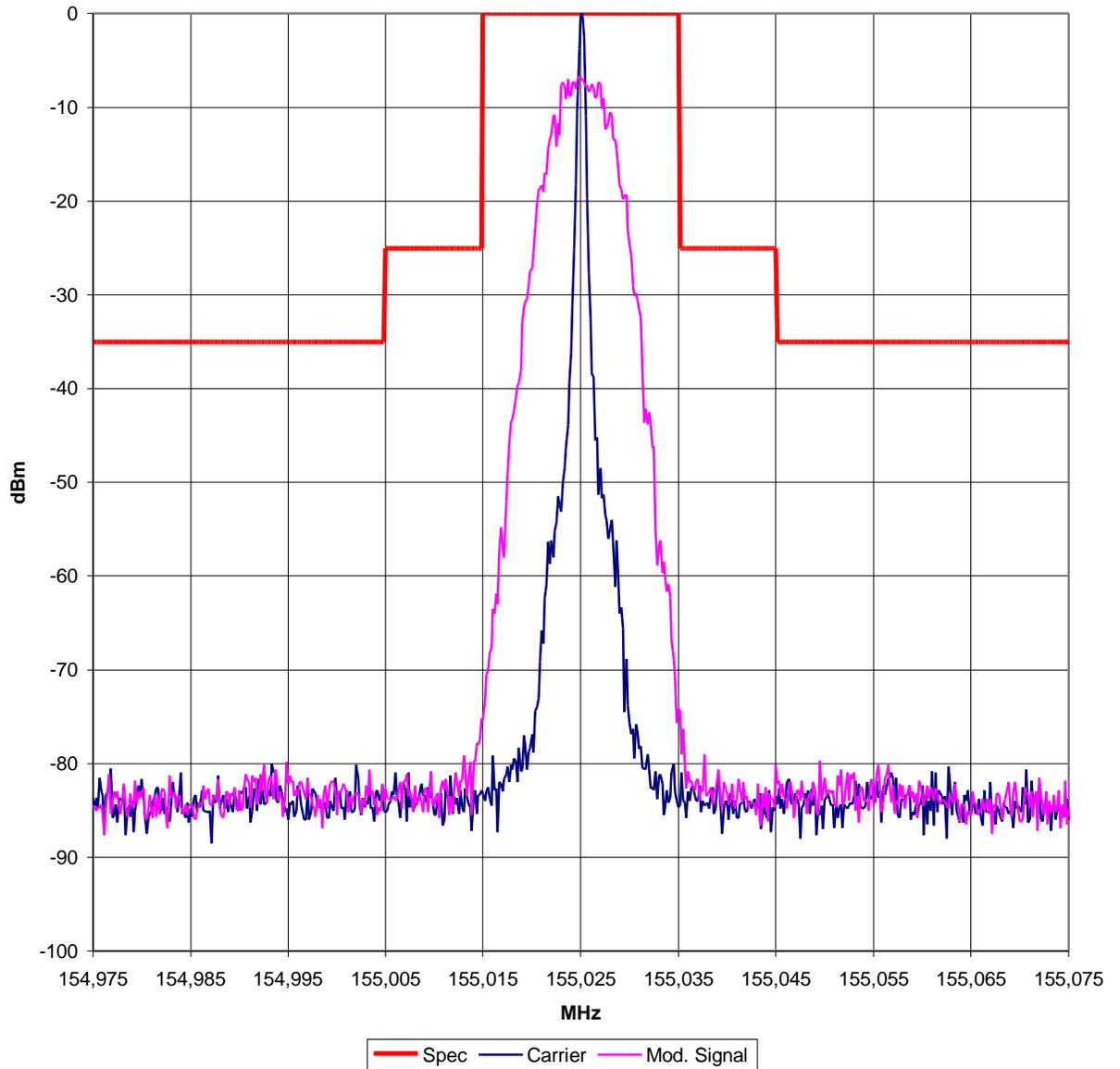
**Fcenter = 155.025MHz**  
**Span = 100kHz**  
**ResBW = 300Hz**  
**VideoBW = 3000Hz**  
**SWTime = 3sec.**  
**RefLevel = 14.3dBm**

### Occupied Bandwidth Measured for 25kHz Channel Spacing, DTMF Modulation and PL Tone Modulation (250.3Hz)



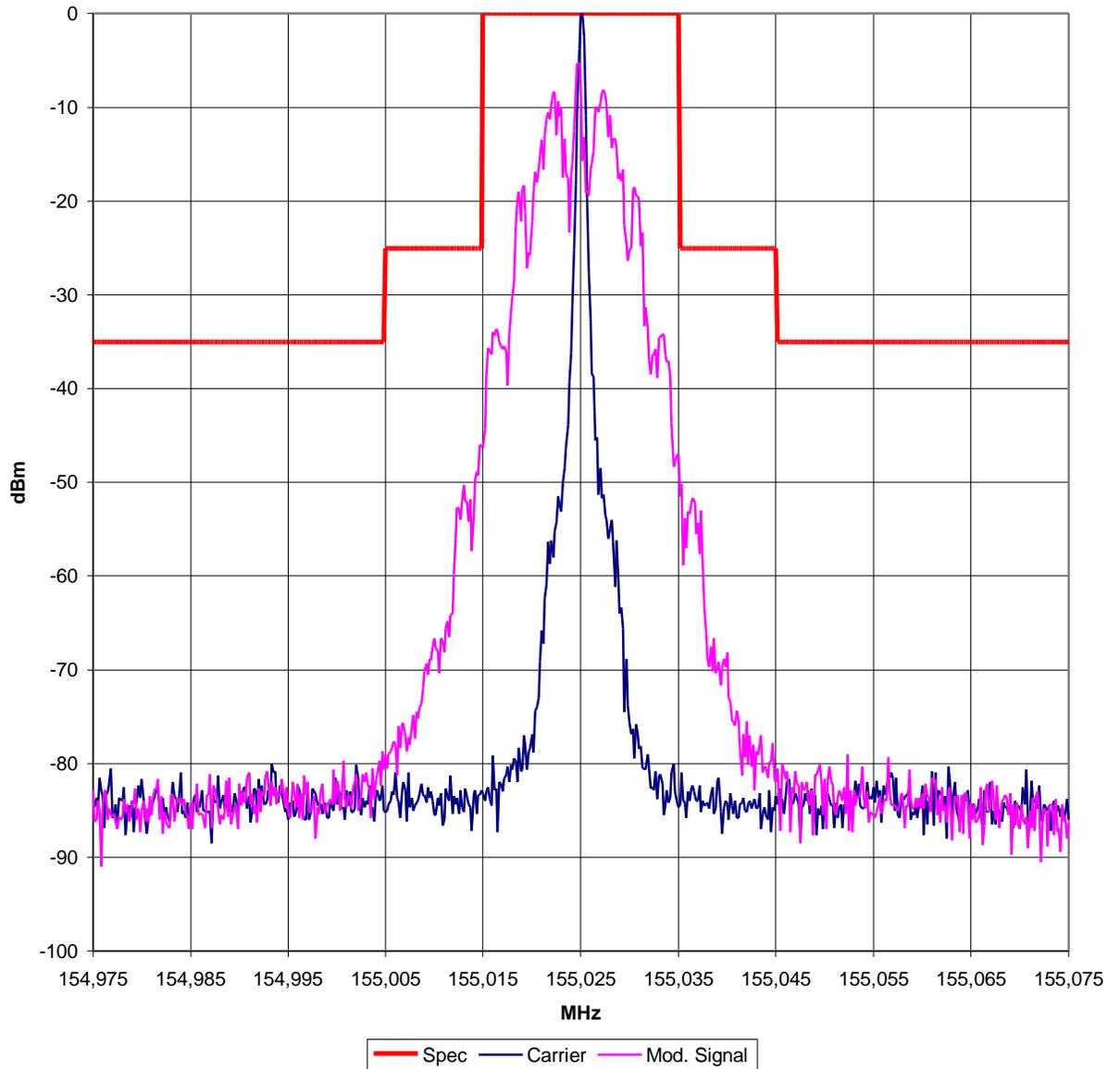
**Fcenter = 155.025MHz**  
**Span = 100kHz**  
**ResBW = 300Hz**  
**VideoBW = 3000Hz**  
**SWTime = 3sec.**  
**RefLevel = 14.3dBm**

### Occupied Bandwidth Measured for 25kHz Channel Spacing, DTMF Modulation and DPL Modulation (DPL131)



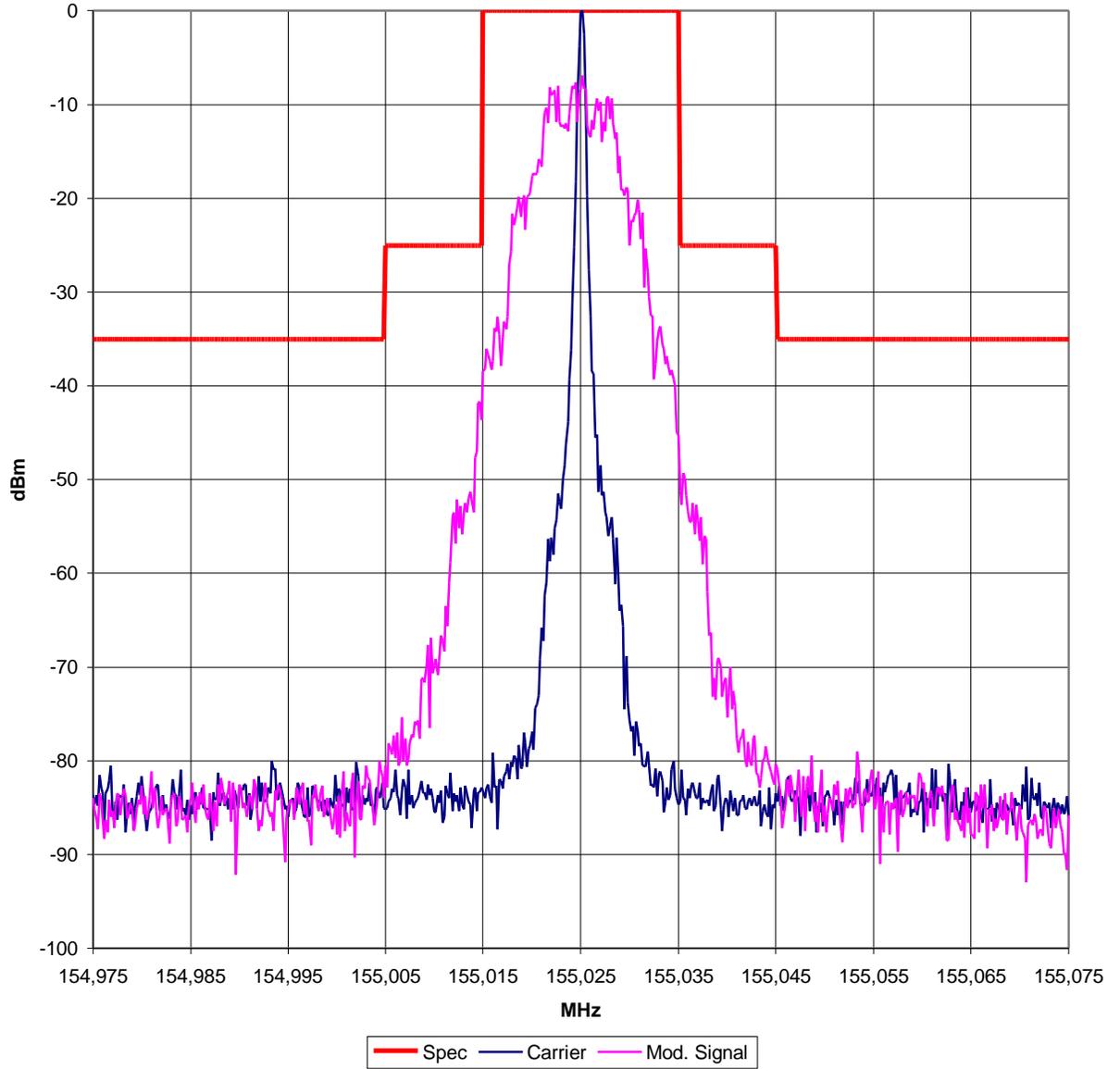
**Fcenter = 155.025MHz**  
**Span = 100kHz**  
**ResBW = 300Hz**  
**VideoBW = 3000Hz**  
**SWTime = 3sec.**  
**RefLevel = 14.3dBm**

### Occupied Bandwidth Measured for 25kHz Channel Spacing, 2000/3000Hz FSK Data Modulation Only



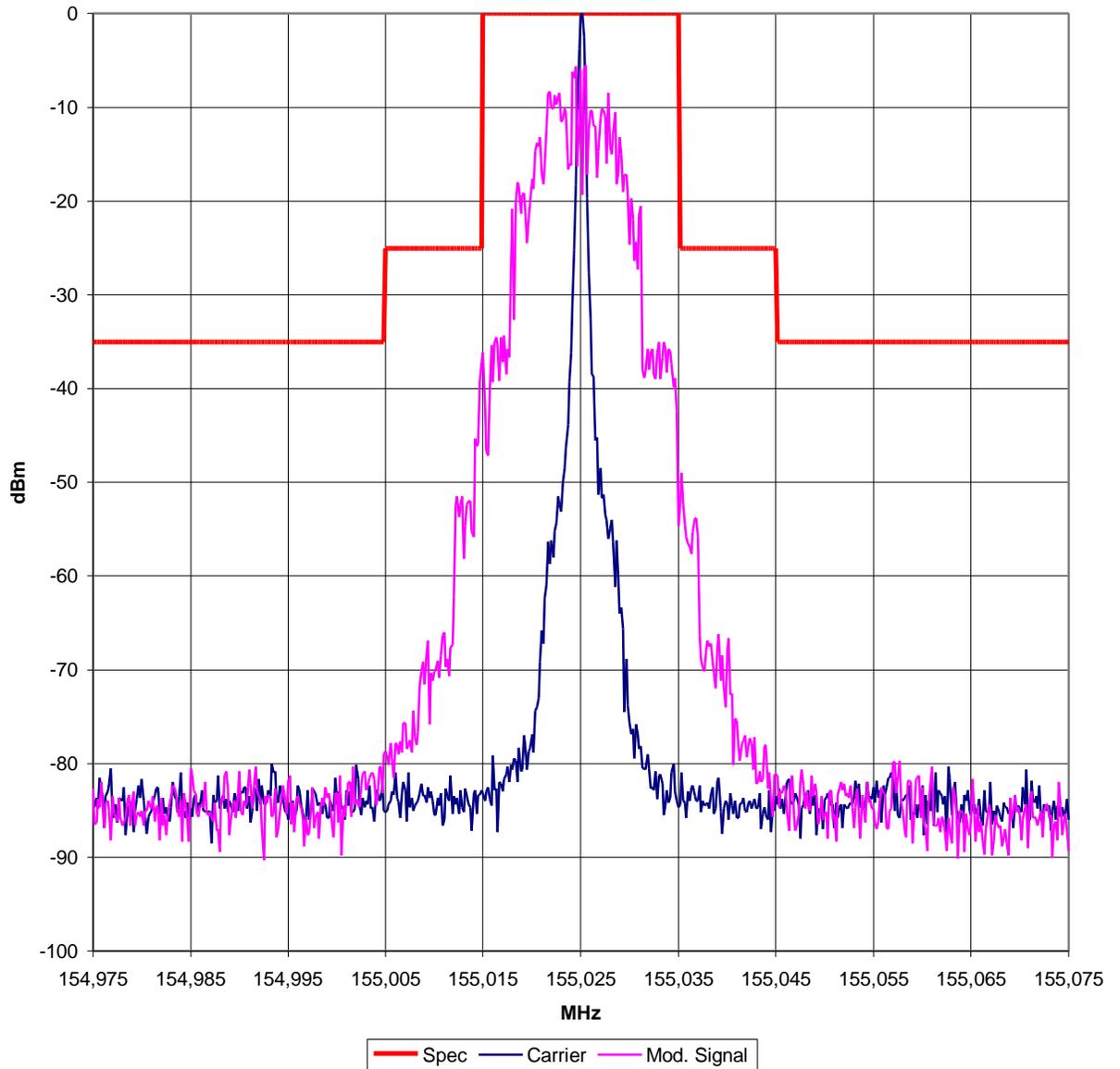
**Fcenter = 155.025MHz**  
**Span = 100kHz**  
**ResBW = 300Hz**  
**VideoBW = 3000Hz**  
**SWTime = 3sec.**  
**RefLevel = 14.3dBm**

### Occupied Bandwidth Measured for 25kHz Channel Spacing, 2000/3000Hz FSK Data and PL Tone Modulation

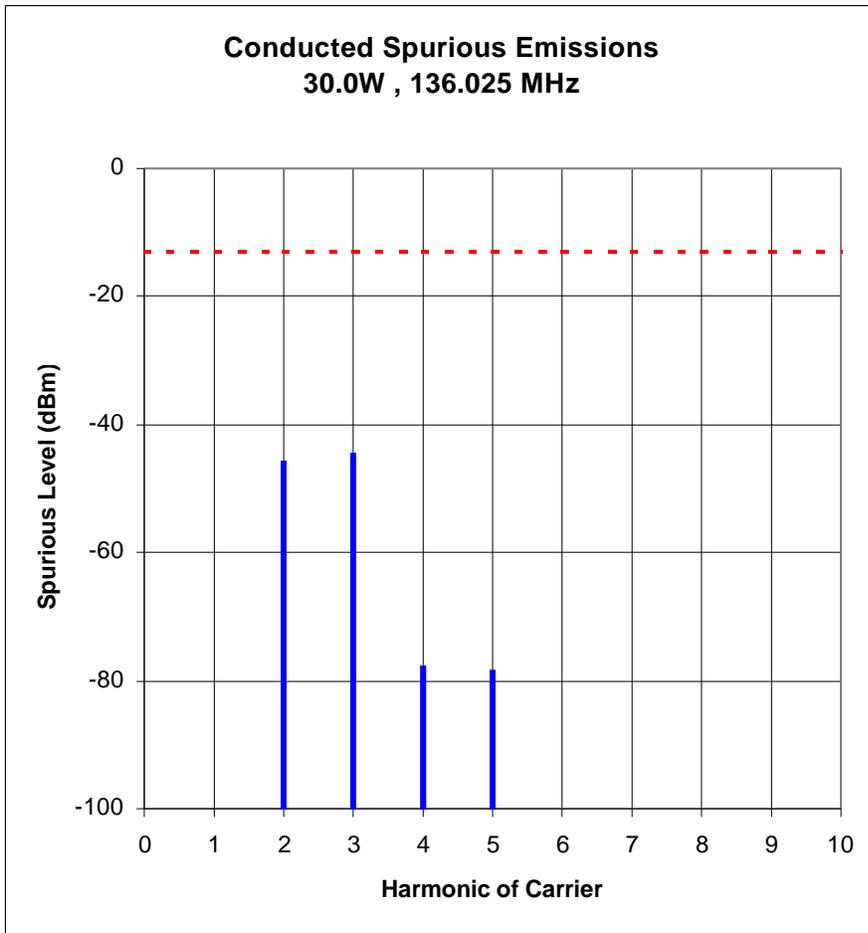


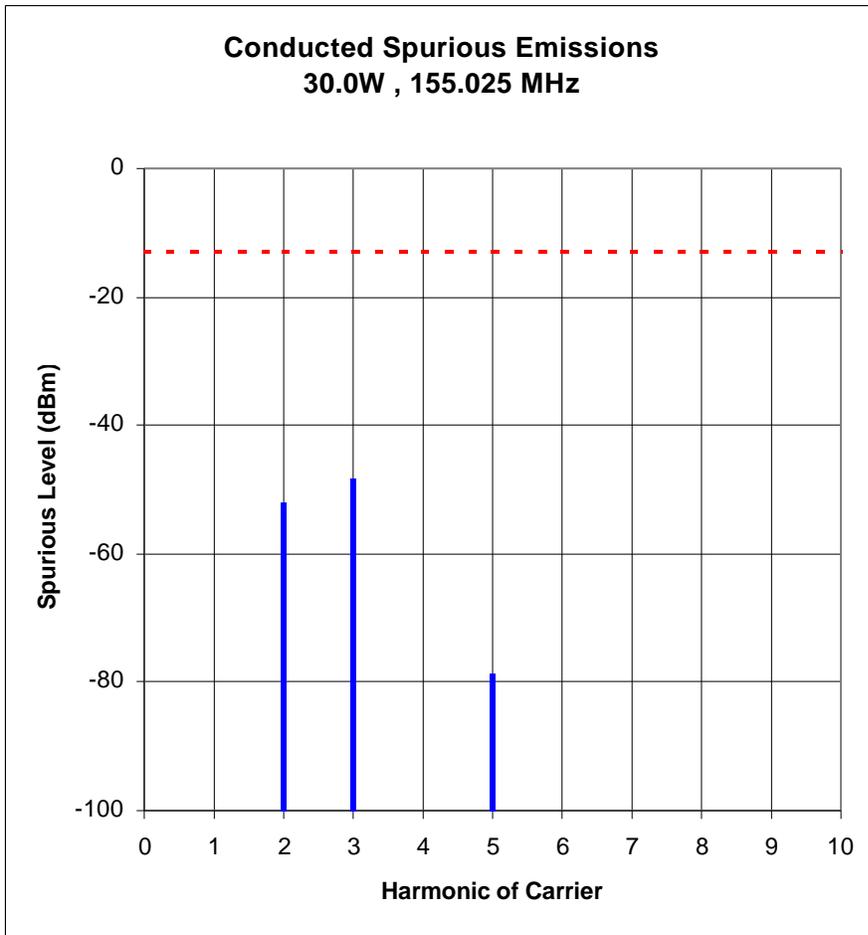
**Fcenter = 155.025MHz**  
**Span = 100kHz**  
**ResBW = 300Hz**  
**VideoBW = 3000Hz**  
**SWTime = 3sec.**  
**RefLevel = 14.3dBm**

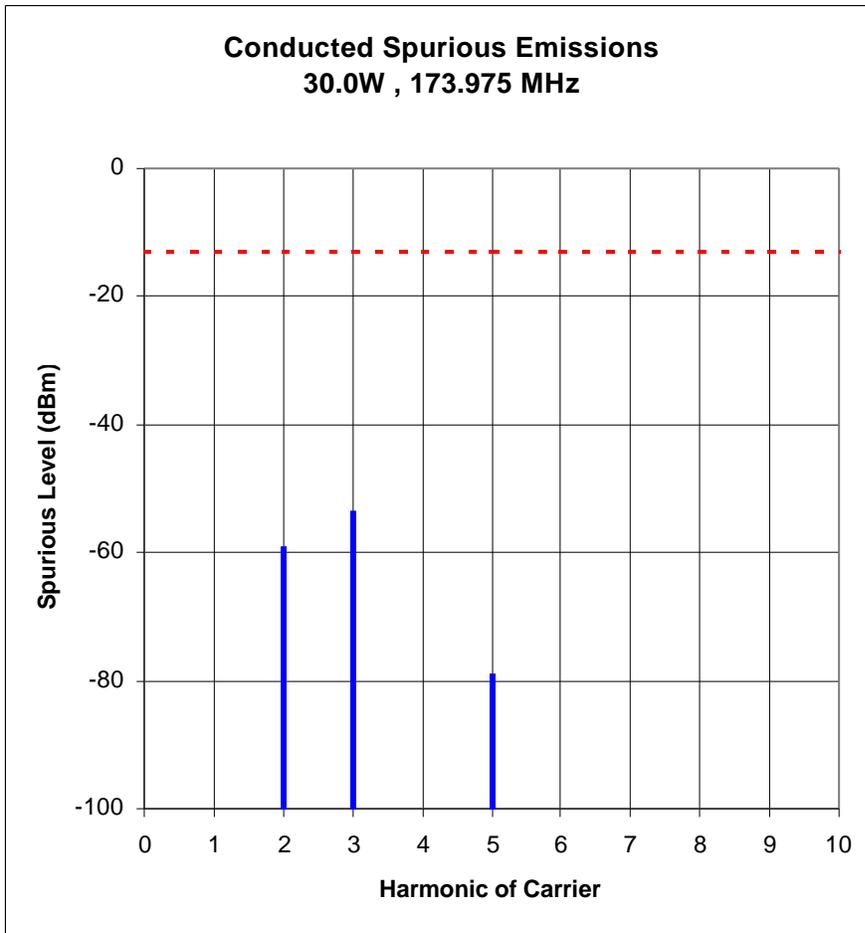
### Occupied Bandwidth Measured for 25kHz Channel Spacing, 2000/3000Hz FSK Data and DPL Modulation

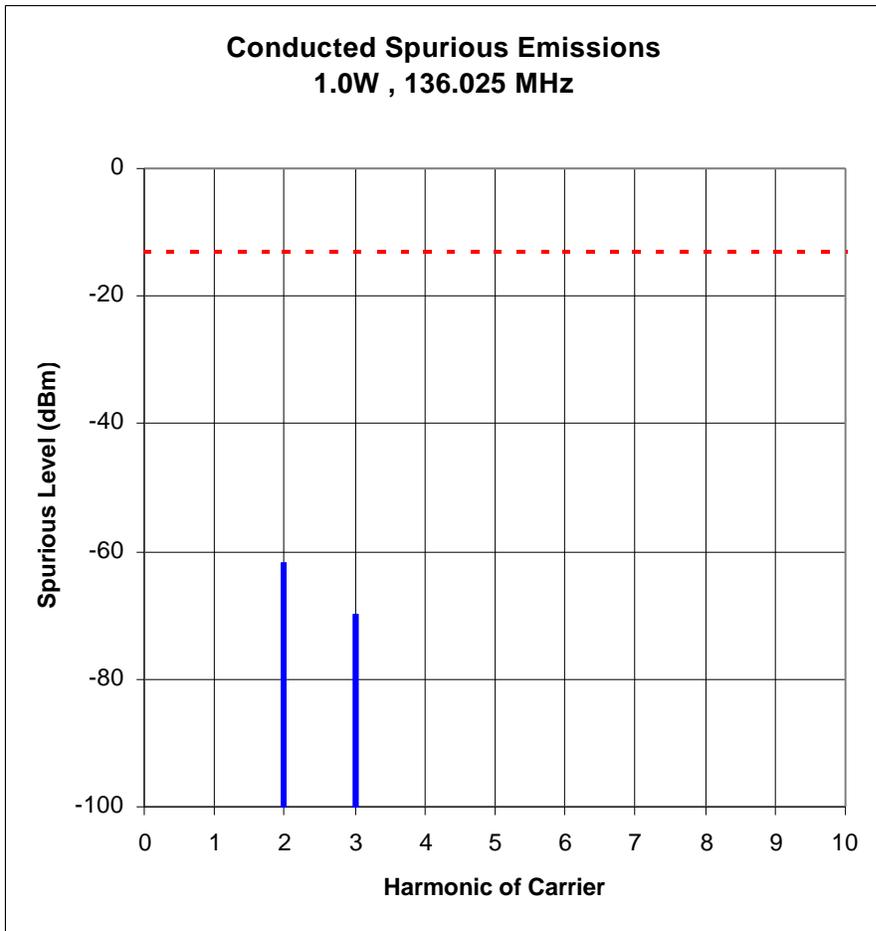


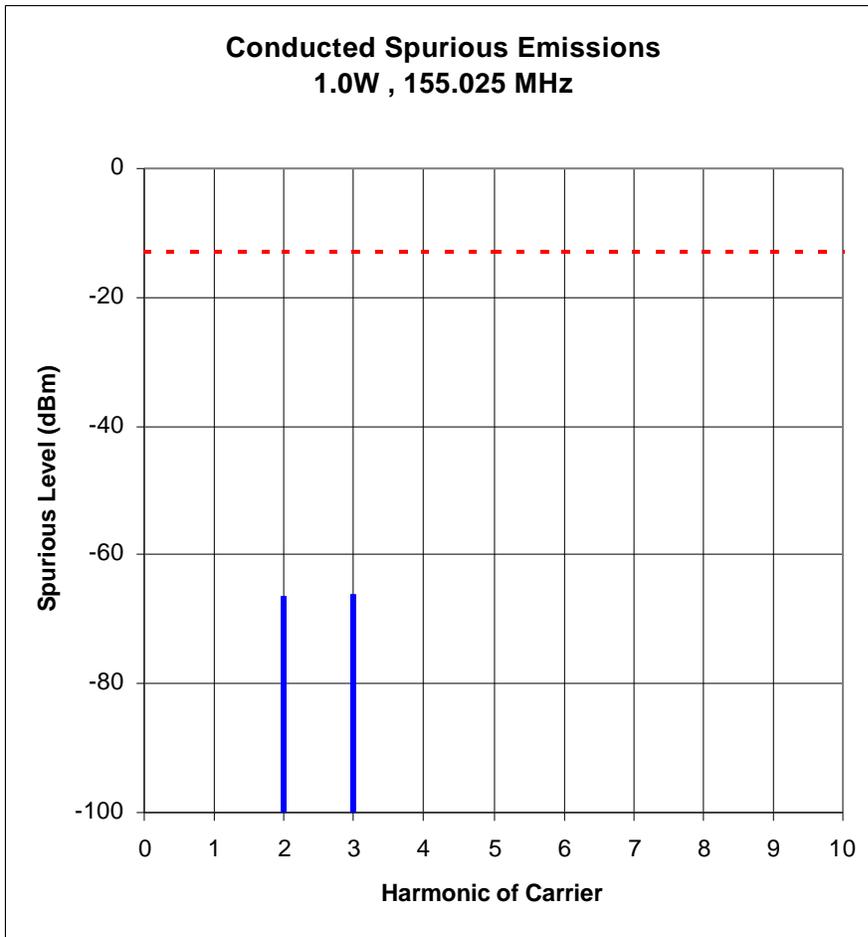
**Fcenter = 155.025MHz**  
**Span = 100kHz**  
**ResBW = 300Hz**  
**VideoBW = 3000Hz**  
**SWTime = 3sec.**  
**RefLevel = 14.3dBm**

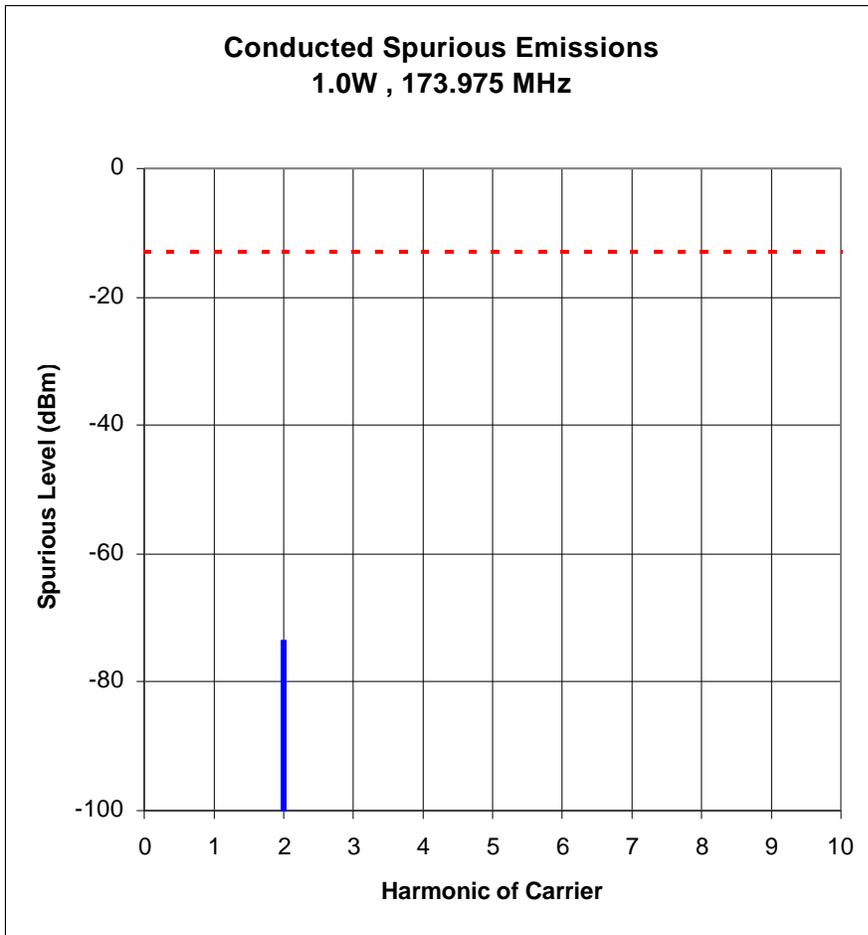








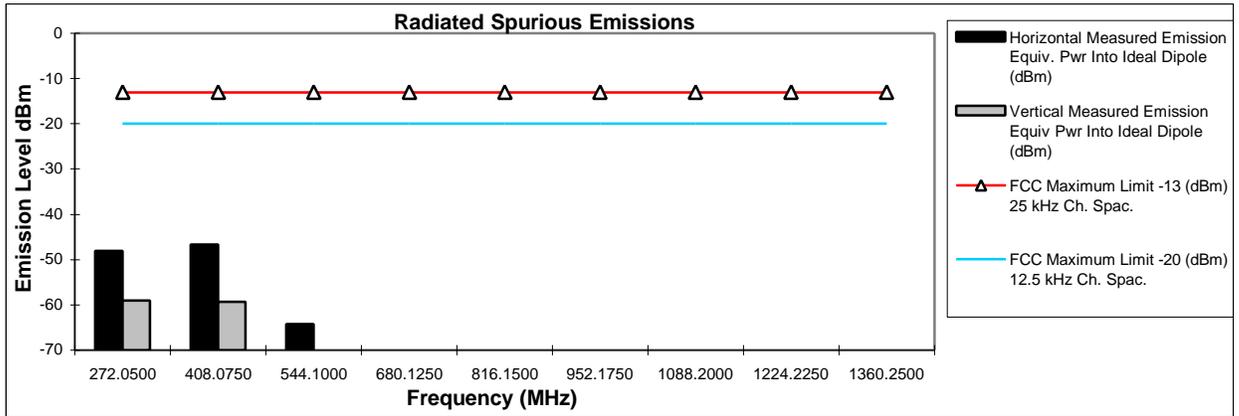




**Transmitter Radiated Spurious Emissions: Waris VHF 25W Mobile**

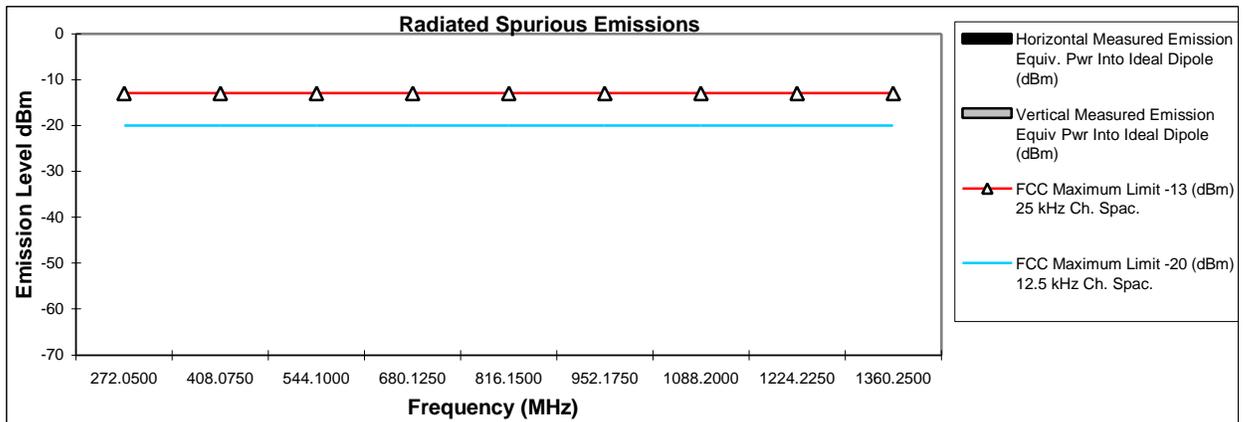
**136.025 MHz - High Power (30 W) - 25 kHz CH. Spacing**

Frequency (MHz)	FCC Maximum Limit -13 (dBm) 25 kHz Ch. Spac.	FCC Maximum Limit -20 (dBm) 12.5 kHz Ch. Spac.	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
272.0500	-13	-20	-48.2	-59.1
408.0750	-13	-20	-46.6	-59.3
544.1000	-13	-20	-64.2	-70.4
680.1250	-13	-20	-75.3	-77.2
816.1500	-13	-20	*	*
952.1750	-13	-20	*	*
1088.2000	-13	-20	*	*
1224.2250	-13	-20	*	*
1360.2500	-13	-20	*	*



**136.025 MHz - Low Power (1 W) - 12.5 kHz CH. Spacing**

Frequency (MHz)	FCC Maximum Limit -13 (dBm) 25 kHz Ch. Spac.	FCC Maximum Limit -20 (dBm) 12.5 kHz Ch. Spac.	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
272.0500	-13	-20	-79.3	-72.3
408.0750	-13	-20	-74.3	-75.6
544.1000	-13	-20	*	*
680.1250	-13	-20	*	*
816.1500	-13	-20	*	*
952.1750	-13	-20	*	*
1088.2000	-13	-20	*	*
1224.2250	-13	-20	*	*
1360.2500	-13	-20	*	*

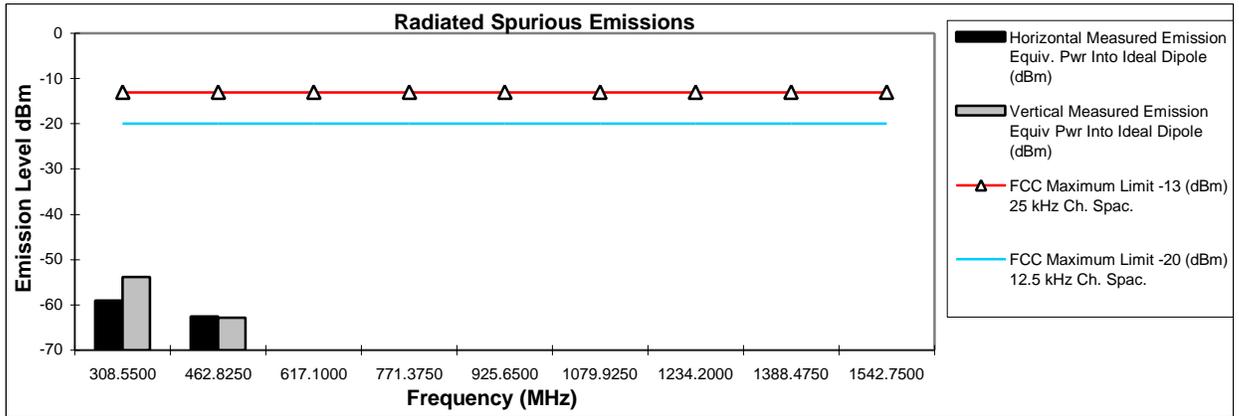


\* Indicates the spurious emission was less than -70dBm or could not be detected due to noise limitations or ambients.

**Transmitter Radiated Spurious Emissions: Waris VHF 25W Mobile**

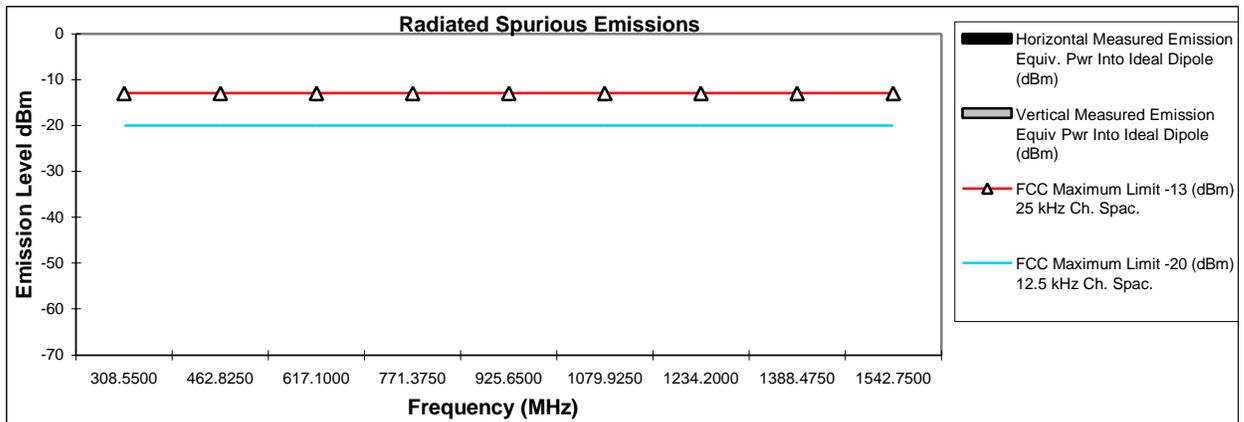
**154.275 MHz - High Power (30 W) - 25 kHz CH. Spacing**

Frequency (MHz)	FCC Maximum Limit -13 (dBm) 25 kHz Ch. Spac.	FCC Maximum Limit -20 (dBm) 12.5 kHz Ch. Spac.	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
308.5500	-13	-20	-59.1	-53.8
462.8250	-13	-20	-62.6	-62.8
617.1000	-13	-20	-79.0	-78.8
771.3750	-13	-20	-77.8	-74.6
925.6500	-13	-20	*	*
1079.9250	-13	-20	*	*
1234.2000	-13	-20	*	*
1388.4750	-13	-20	*	*
1542.7500	-13	-20	*	*



**154.275 MHz - Low Power (1 W) - 12.5 kHz CH. Spacing**

Frequency (MHz)	FCC Maximum Limit -13 (dBm) 25 kHz Ch. Spac.	FCC Maximum Limit -20 (dBm) 12.5 kHz Ch. Spac.	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
308.5500	-13	-20	-74.8	-74.3
462.8250	-13	-20	-83.3	-80.1
617.1000	-13	-20	*	*
771.3750	-13	-20	*	*
925.6500	-13	-20	*	*
1079.9250	-13	-20	*	*
1234.2000	-13	-20	*	*
1388.4750	-13	-20	*	*
1542.7500	-13	-20	*	*

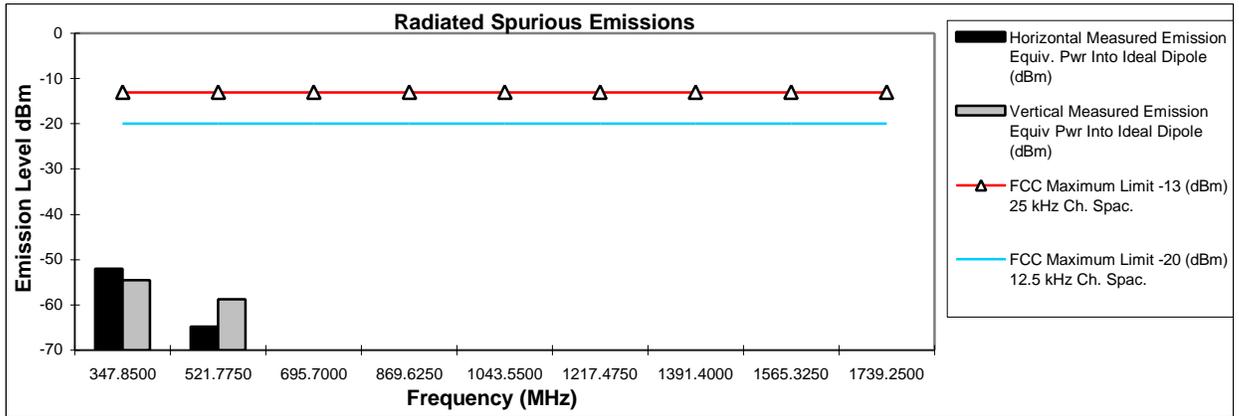


\* Indicates the spurious emission was less than -70dBm or could not be detected due to noise limitations or ambients.

**Transmitter Radiated Spurious Emissions: Waris VHF 25W Mobile**

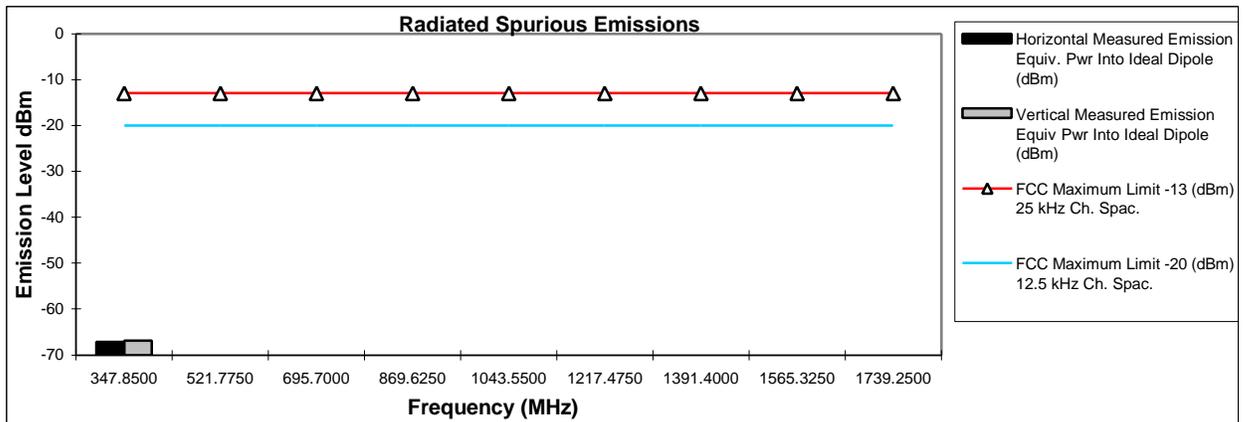
**173.925 MHz - High Power (30 W) - 25 kHz CH. Spacing**

Frequency (MHz)	FCC Maximum Limit -13 (dBm) 25 kHz Ch. Spac.	FCC Maximum Limit -20 (dBm) 12.5 kHz Ch. Spac.	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
347.8500	-13	-20	-52.1	-54.6
521.7750	-13	-20	-64.8	-58.7
695.7000	-13	-20	*	*
869.6250	-13	-20	*	*
1043.5500	-13	-20	*	*
1217.4750	-13	-20	*	*
1391.4000	-13	-20	*	*
1565.3250	-13	-20	*	*
1739.2500	-13	-20	*	*



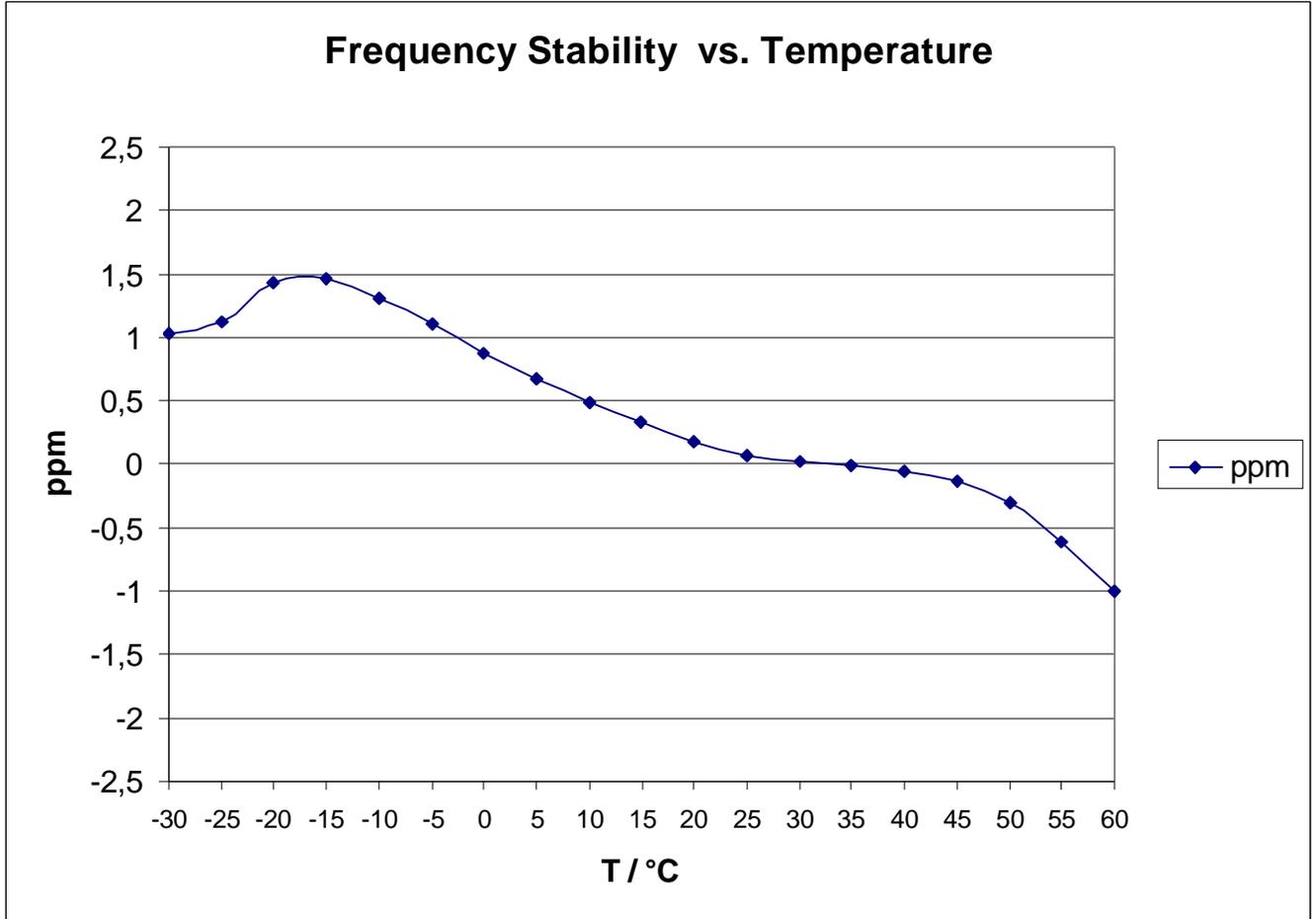
**173.925 MHz - Low Power (1 W) - 12.5 kHz CH. Spacing**

Frequency (MHz)	FCC Maximum Limit -13 (dBm) 25 kHz Ch. Spac.	FCC Maximum Limit -20 (dBm) 12.5 kHz Ch. Spac.	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
347.8500	-13	-20	-67.2	-66.9
521.7750	-13	-20	-82.9	-78.7
695.7000	-13	-20	*	*
869.6250	-13	-20	*	*
1043.5500	-13	-20	*	*
1217.4750	-13	-20	*	*
1391.4000	-13	-20	*	*
1565.3250	-13	-20	*	*
1739.2500	-13	-20	*	*

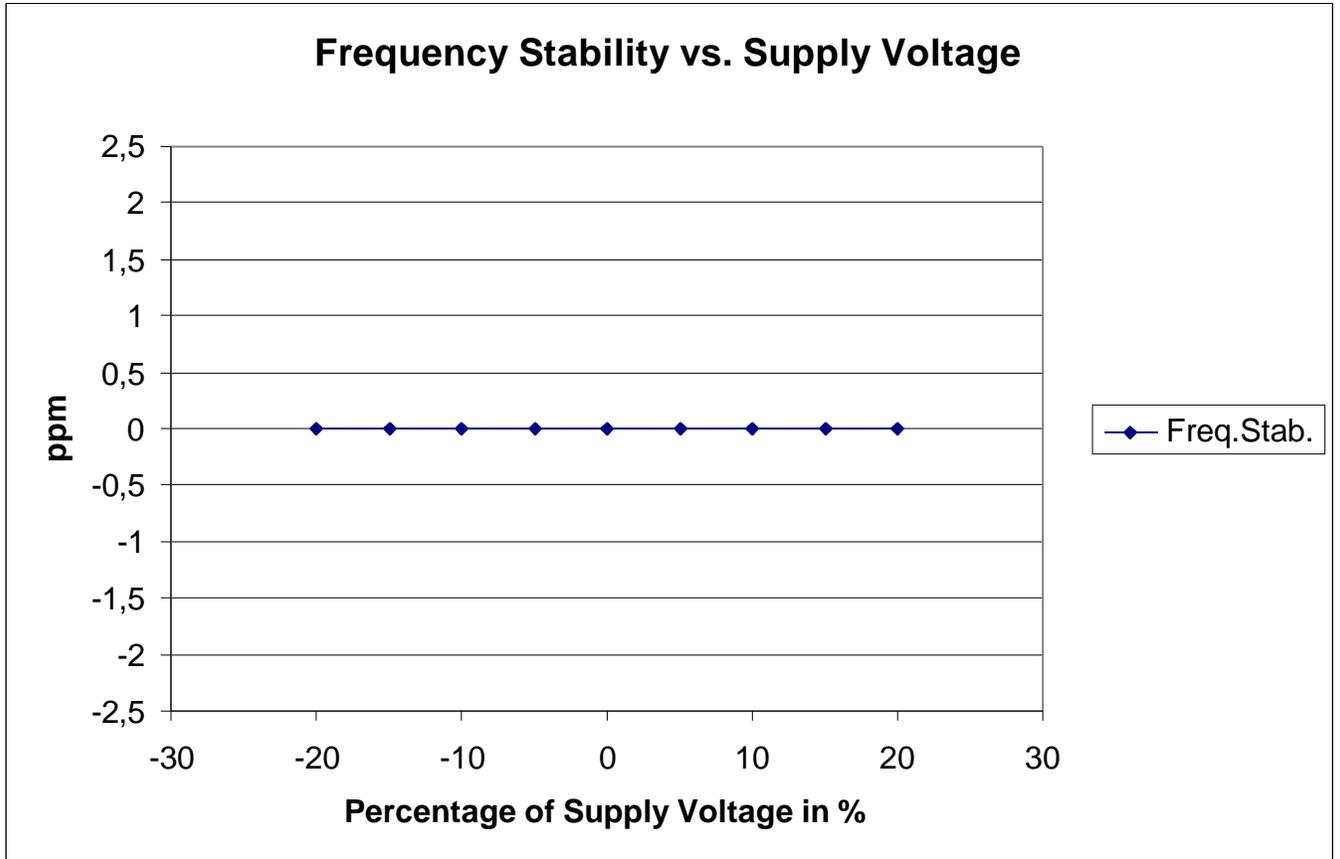


\* Indicates the spurious emission was less than -70dBm or could not be detected due to noise limitations or ambients.

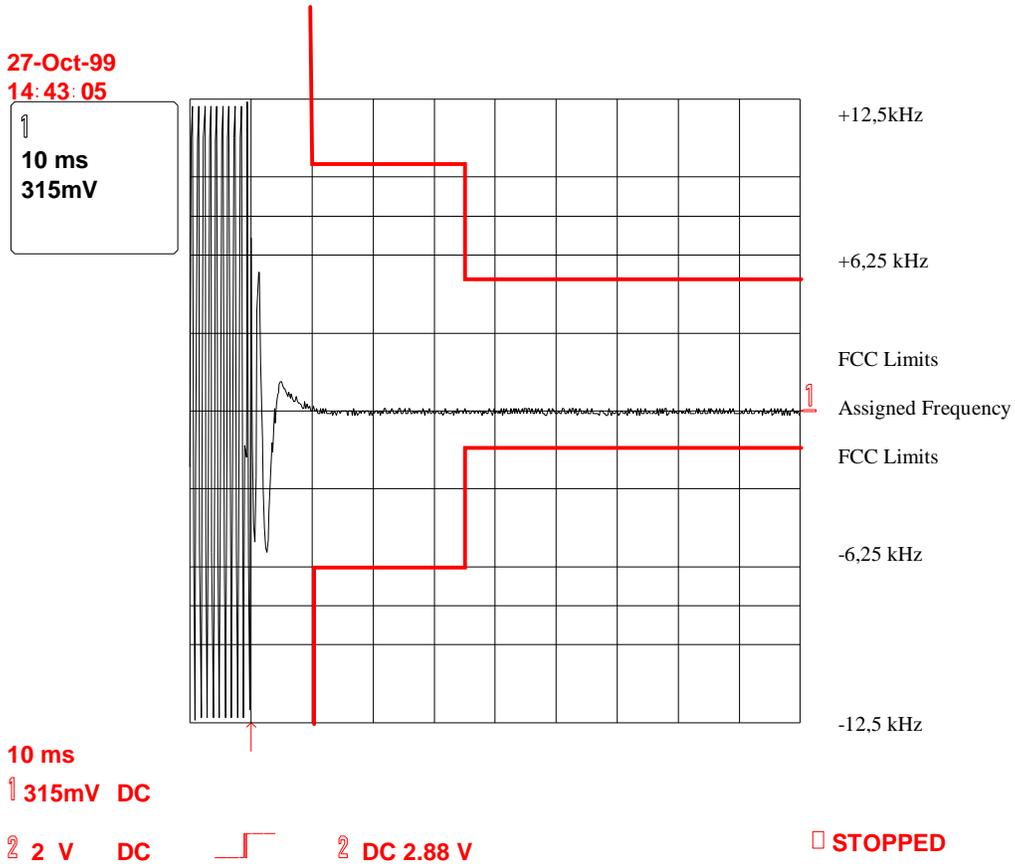
FREQUENCY STABILITY VS. TEMPERATURE  
SPECIFIED LIMITS:  $\pm 2.5$  PPM (-30 TO +60 DEGREES C)



FREQUENCY STABILITY VS. SUPPLY VOLTAGE  
REFERENCE 0% = 13.6 VOLTS DC



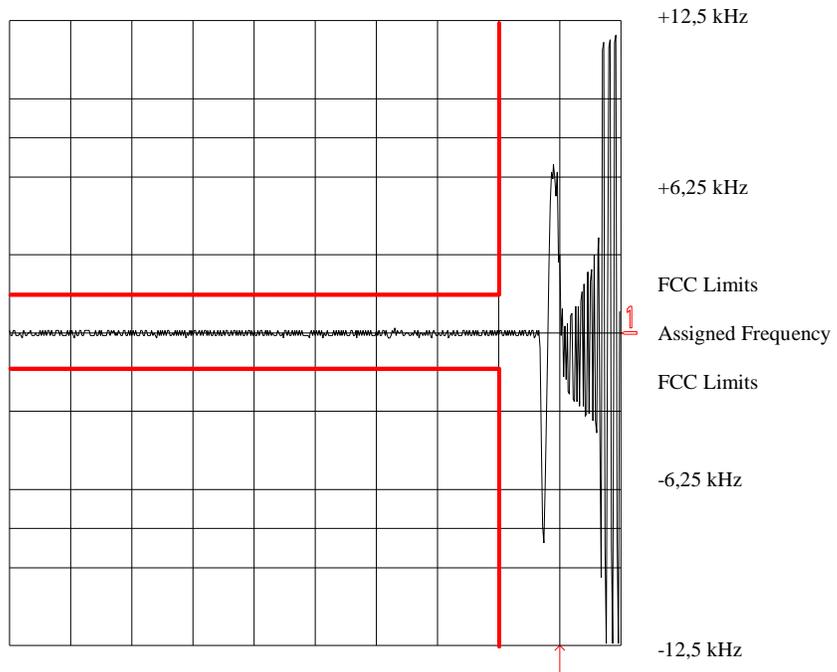
### TRANSIENT FREQUENCY BEHAVIOR 30 WATTS, 155 MHz, 12.5kHz, Key-Up



### TRANSIENT FREQUENCY BEHAVIOR 30 WATTS, 155 MHz, 12.5 kHz, DE-KEY

27-Oct-99  
14:51:34

1  
10 ms  
315mV



10 ms  
1 315mV DC  
2 2 V DC

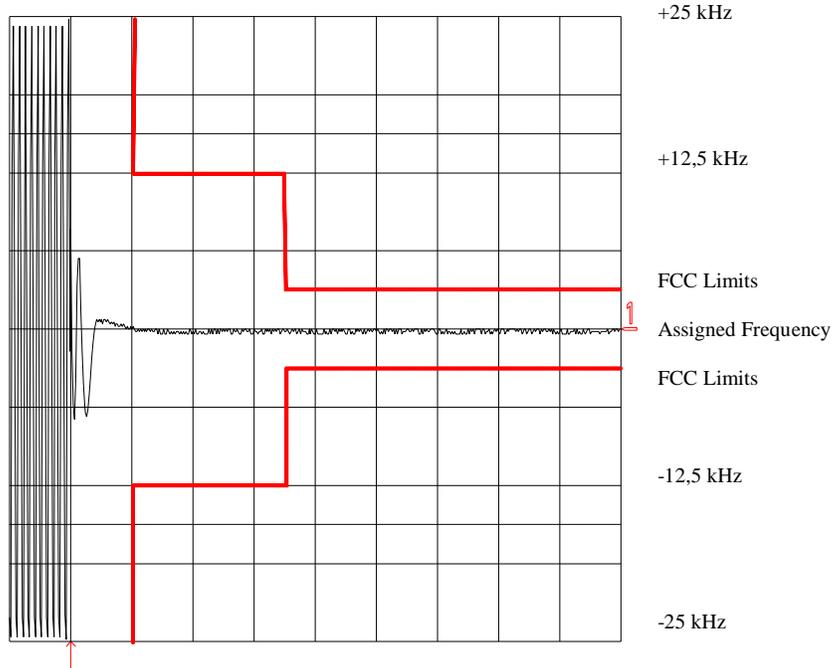
2 DC 2.88 V

STOPPED

### TRANSIENT FREQUENCY BEHAVIOR 30 WATTS, 155 MHz, 25 kHz, KEY-UP

27-Oct-99  
15:09:13

1  
10 ms  
0.63 V



10 ms  
1 0.63 V DC

2 2 V DC



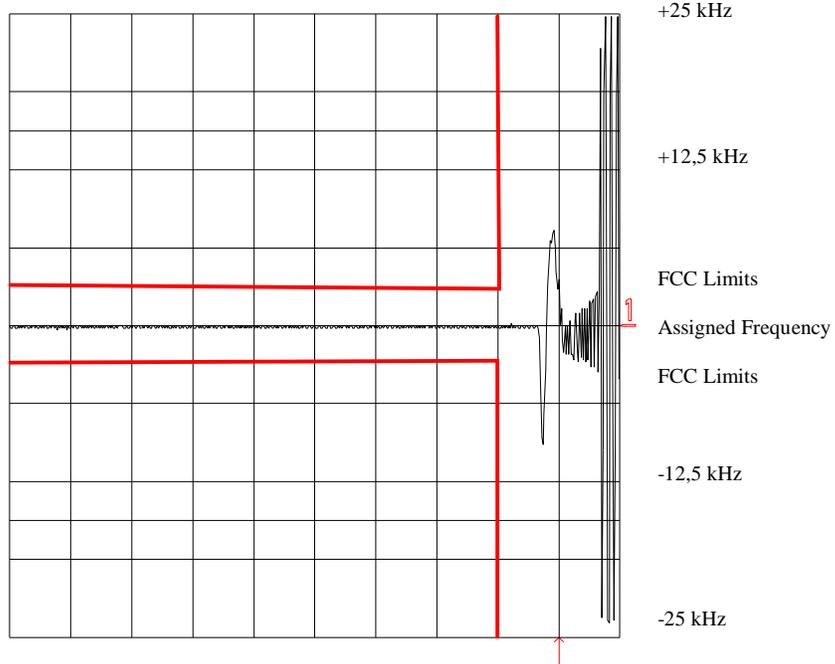
2 DC 2.88 V

STOPPED

### TRANSIENT FREQUENCY BEHAVIOR 30 WATTS, 155 MHz, 25 kHz, DE-KEY

27-Oct-99  
16:04:17

1  
10 ms  
0.63 V



10 ms  
1 0.63 V DC

2 2 V DC

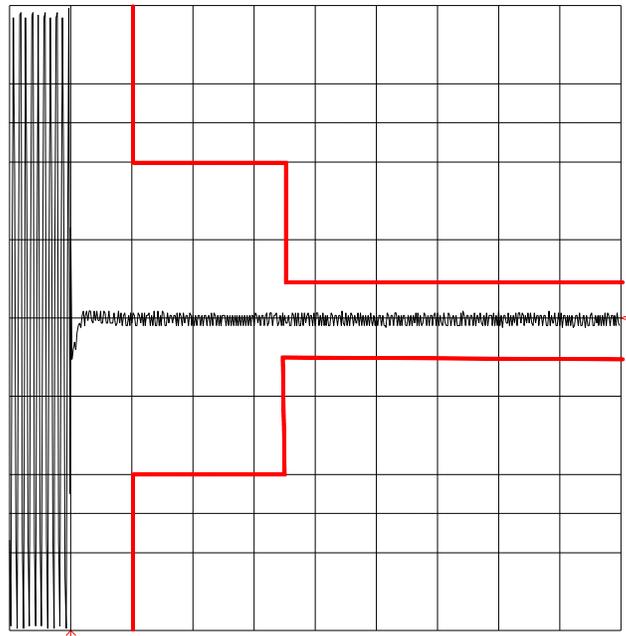
2 DC 2.88 V

STOPPED

### TRANSIENT FREQUENCY BEHAVIOR 1 WATT, 155 MHz, 12.5 kHz, KEY-UP

27-Oct-99  
15:28:29

1  
10 ms  
315mV



+12,5 kHz  
+6,25 kHz  
FCC Limits  
Assigned Frequency  
FCC Limits  
-6,25 kHz  
-12,5 kHz

10 ms  
1 315mV DC  
2 2 V DC

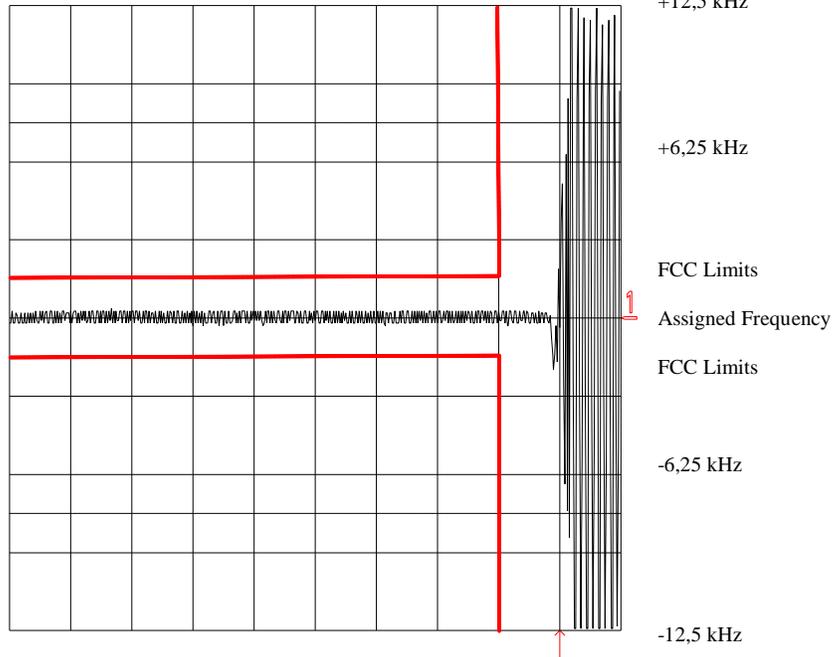
2 DC 2.88 V

SLOW TRIGGER  
 NORMAL  
100 ks/s

### TRANSIENT FREQUENCY BEHAVIOR 1 WATT, 155 MHz, 12.5 kHz, DE-KEY

27-Oct-99  
15:31:01

1  
10 ms  
315mV



10 ms  
1 315mV DC  
2 2 V DC

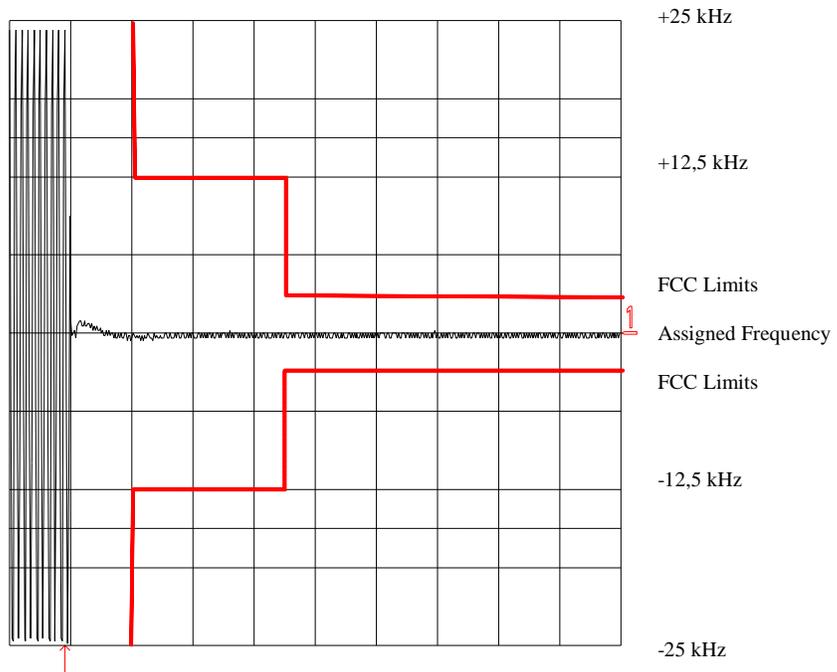
2 DC 2.88 V

STOPPED

### TRANSIENT FREQUENCY BEHAVIOR 1 WATT, 155 MHz, 25 kHz, KEY-UP

27-Oct-99  
15:32:47

1  
10 ms  
0.63 V



10 ms  
1 0.63 V DC

2 2 V DC



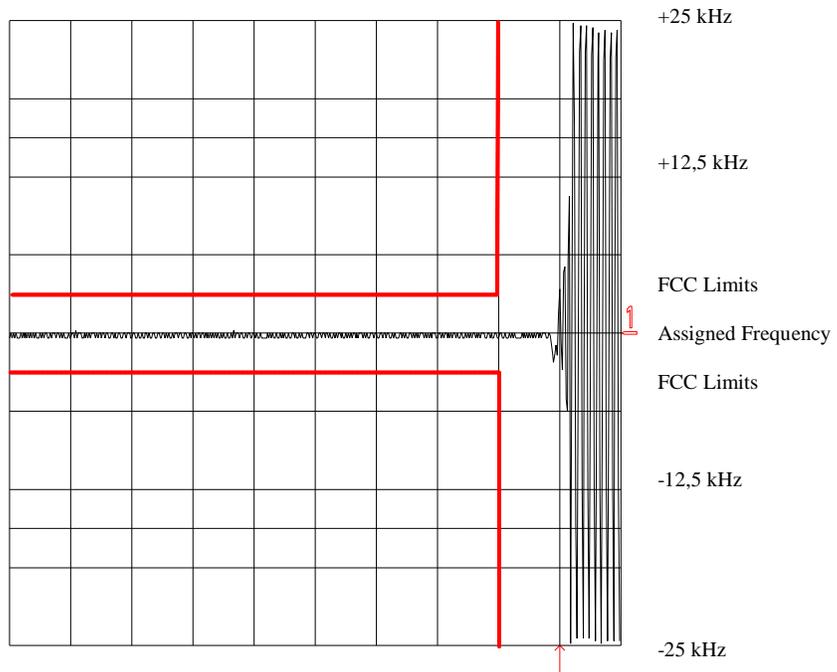
2 DC 2.88 V

STOPPED

### TRANSIENT FREQUENCY BEHAVIOR 1 WATT, 155 MHz, 25 kHz, DE-KEY

27-Oct-99  
15:35:59

1  
10 ms  
0.63 V



10 ms

1 0.63 V DC

2 2 V DC



2 DC 2.88 V

STOPPED