

RDV5100+ Test Report

<u>MEASUREMENT</u>	<u>EXHIBIT</u>	<u>NUMBER OF PAGES</u>
I RF Power Output Data	6A	1
II Audio Response A. 12.5 kHz	6B	1
III Modulation Limiting A. 12.5 kHz	6C	1
I V Occupied Bandwidth Data	6D 1-3	3
V Transmit Spurious Emission A. Radiated B. Conducted	6E 1-2 6E 3	2 1
VI Frequency Stability A. Temperature B. Frequency vs. Voltage	6F 1 6F 2	2
VII Transient Frequency Behavior	6G1-2	2

RF POWER OUTPUT DATA

The RF power output was measured with the indicated voltage applied to and current into the final RF amplifying device.

Frequency	151.5125 MHz
Measured Conducted RF output*	4.98 Watts
Frequency	160.0000 MHz
Measured Conducted RF output*	4.95 Watts
Frequency	167.0000 MHz
Measured Conducted RF output*	4.90 Watts
Normal DC Current	1.565A
Primary Supply Voltage	7.80 Volts

*Note: RF Conducted output power measured at 7.80 Volts

Audio Response 12.5 kHz

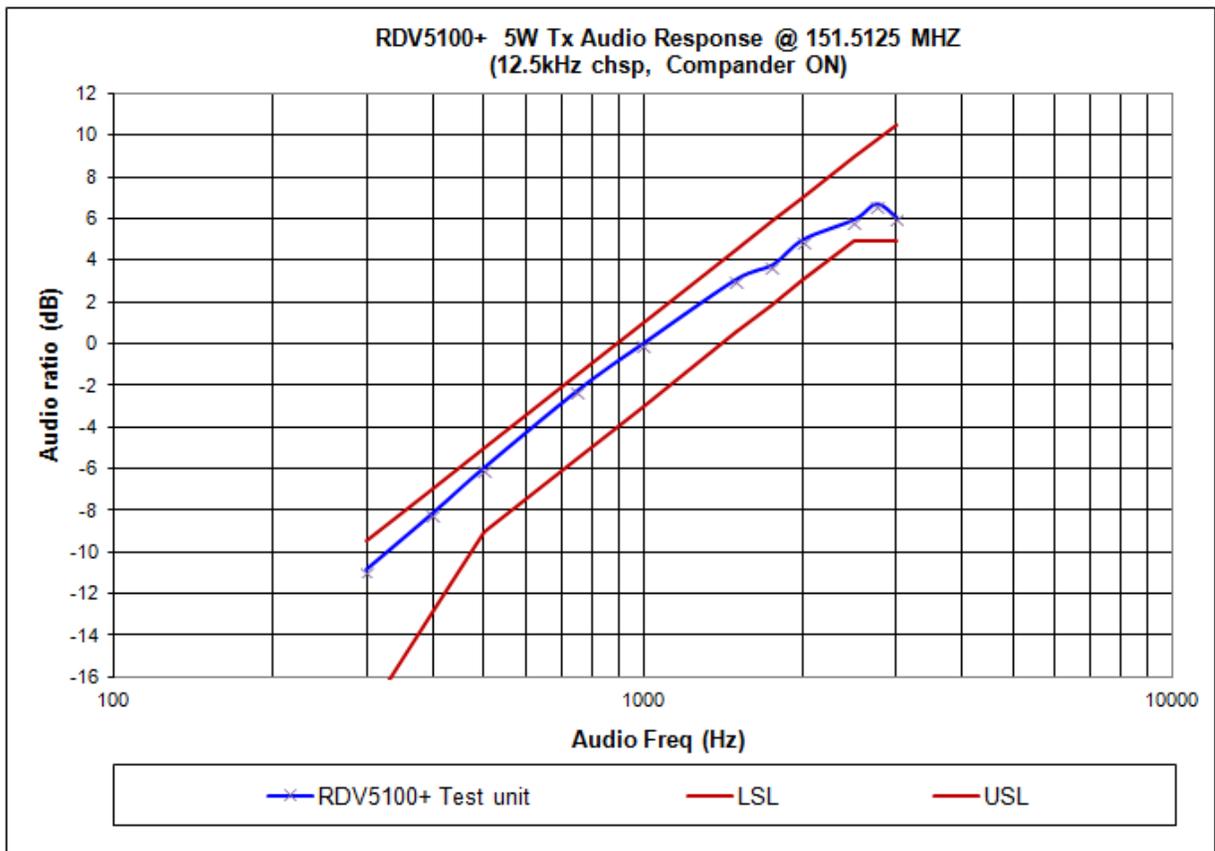


EXHIBIT 6B

MODULATION LIMITING 12.5 kHz

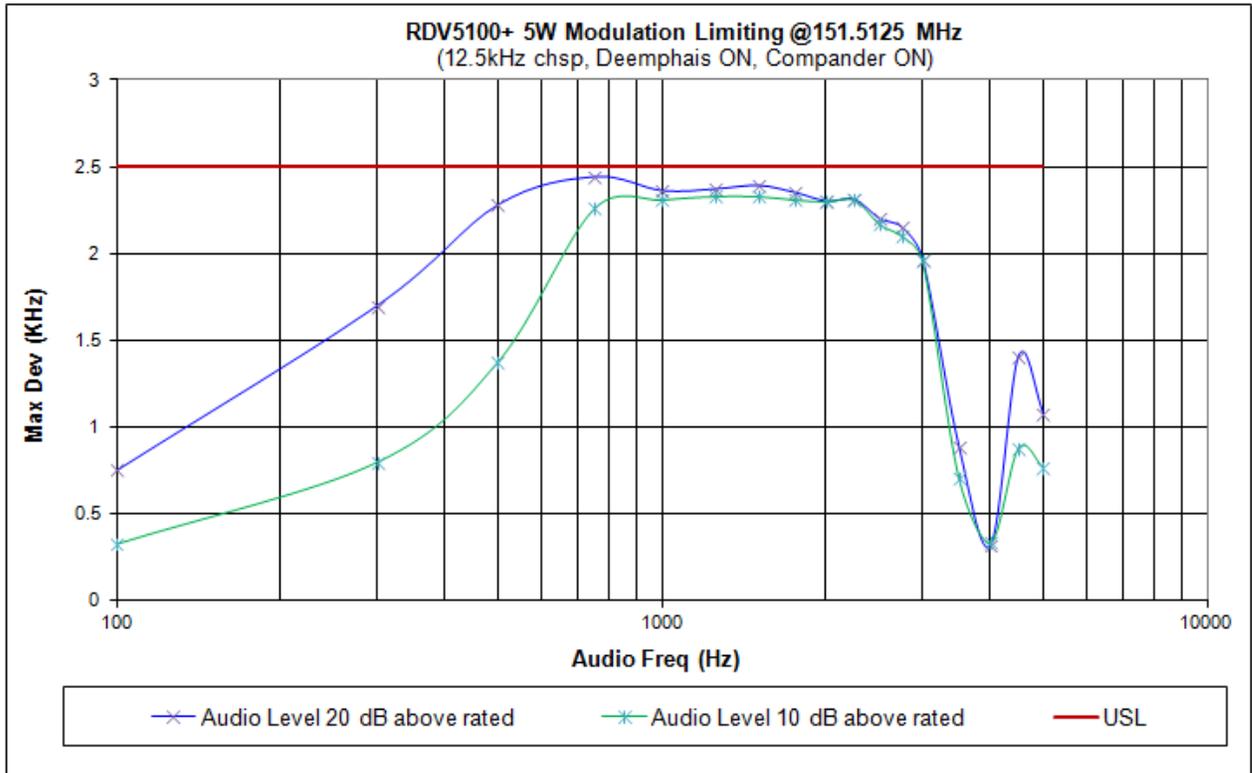


EXHIBIT 6C

OCCUPIED BANDWIDTH DATA**5Watts**

12.5 Channel Spacing

EXHIBIT 6D-1

2500 Hz Audio Modulation

Emission Type: 11K0F3E

Specification Mask D, 90.210 – 12.5 kHz

EXHIBIT 6D-2

2500 Hz & 77Hz Tone "PL" Modulation

Emission Type: 11K0F3E

Specification Mask D, 90.210 – 12.5 kHz

CARSON'S RULE: 11K0F3E

$BW = 2(M+D)$

$BW = 2$ (3 kHz maximum modulation frequency +2.5 kHz deviation)

$BW = 2$ (5.5)

$BW = 11K0$

EXHIBIT 6D

5 Watts 12.5 kHz
Mask D, Rule Part: 90.210
Emission Type: 11K0F3E

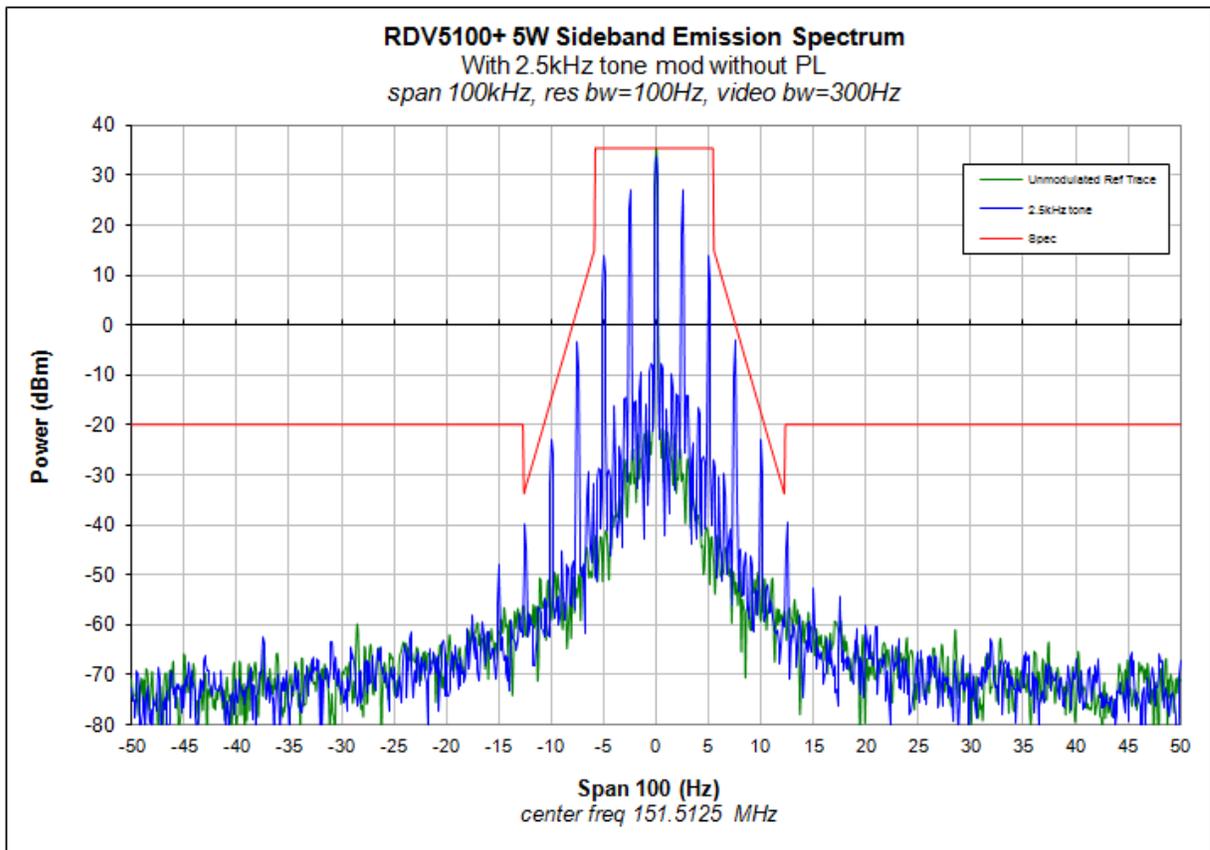


EXHIBIT 6D-1

5 Watts 12.5 kHz
2500 Hz & 77Hz Tone "PL" Modulation
Mask D, Rule Part: 90.210
Emission Type: 11K0F3E

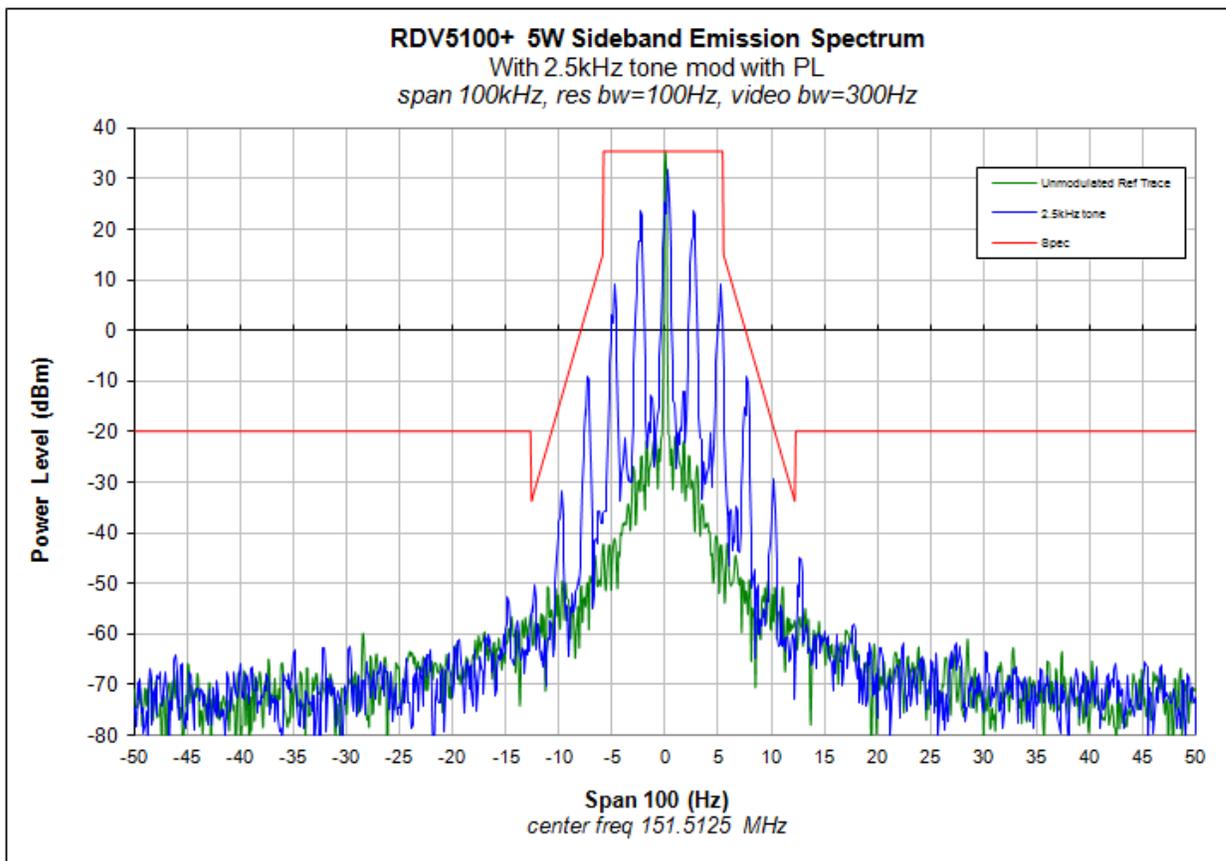


EXHIBIT 6D-2

Motorola Solutions

FCC ID:AZ489FT3836

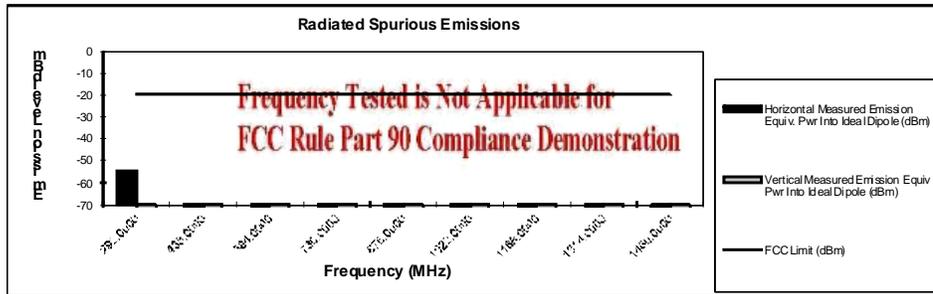
Transmit Radiated Spurious Emissions: RDV5100+

Tx Power: 5 Watts

146 MHz

Channel Spacing 12.5kHz | S/N January-2-1904

Frequency (MHz)	FCC Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
292.0000	-20	-54.47	*
438.0000	-20	*	*
584.0000	-20	*	*
730.0000	-20	*	*
876.0000	-20	*	*
1022.0000	-20	*	*
1168.0000	-20	*	*
1314.0000	-20	*	*
1460.0000	-20	*	*



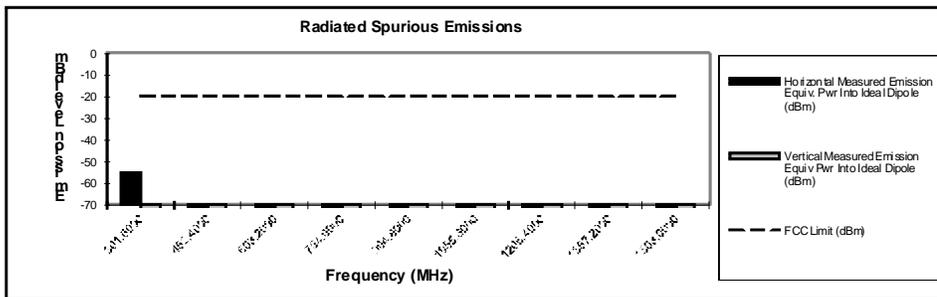
Transmit Radiated Spurious Emissions: RDV5100+

Tx Power: 5 Watts

150.8 MHz

Channel Spacing 12.5kHz | S/N January-2-1904

Frequency (MHz)	FCC Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
301.6000	-20	-55.02	*
452.4000	-20	*	*
603.2000	-20	*	*
754.0000	-20	*	*
904.8000	-20	*	*
1055.6000	-20	*	*
1206.4000	-20	*	*
1357.2000	-20	*	*
1508.0000	-20	*	*



* Indicates the spurious emission could not be detected due to noise limitations or ambients.

The data presented here was taken using the substitution method as found in the TIA/EIA-603 document.

Motorola Plantation EMC Lab – Test Performed by: Curt Mc Lennan

October 20, 2014

EXHIBIT 6E-2

Motorola Solutions

FCC ID:AZ489FT3836

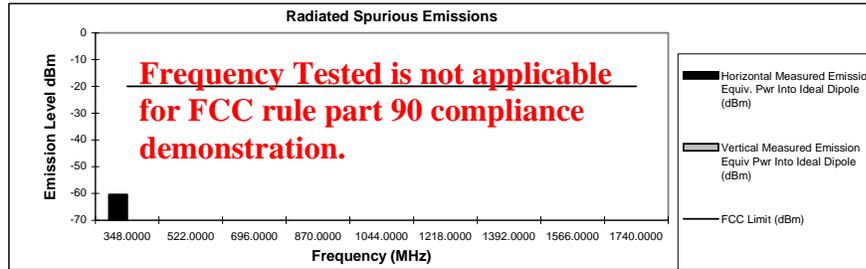
Transmit Radiated Spurious Emissions: RDV5100+

Tx Power: 5 Watts

174 MHz

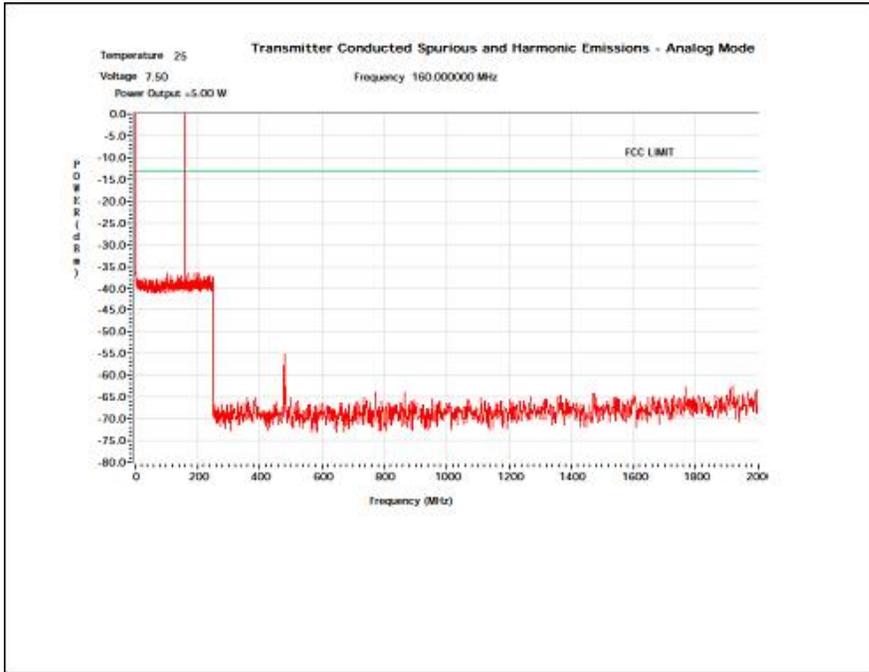
Channel Spacing 12.5kHz | S/N January-2-1904

Frequency (MHz)	FCC Limit (dBm)	Horizontal Measured Emission Equiv. Pwr Into Ideal Dipole (dBm)	Vertical Measured Emission Equiv Pwr Into Ideal Dipole (dBm)
348.0000	-20	-60.42	*
522.0000	-20	*	*
696.0000	-20	*	*
870.0000	-20	*	*
1044.0000	-20	*	*
1218.0000	-20	*	*
1392.0000	-20	*	*
1566.0000	-20	*	*
1740.0000	-20	*	*

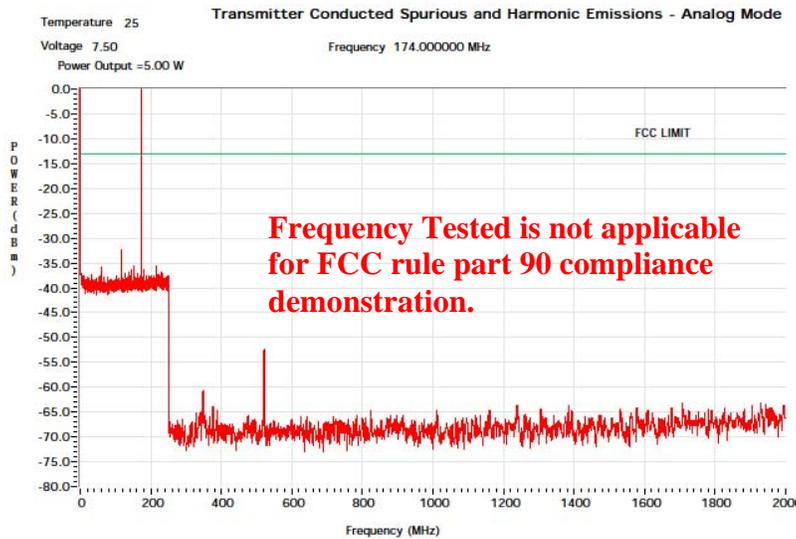


* Indicates the spurious emission could not be detected due to noise limitations or ambients.
 The data presented here was taken using the substitution method as found in the TIA/EIA-603 document.

Conducted Spurious 160MHz



Conducted Spurious 174MHz



Frequency Stability over Temperature

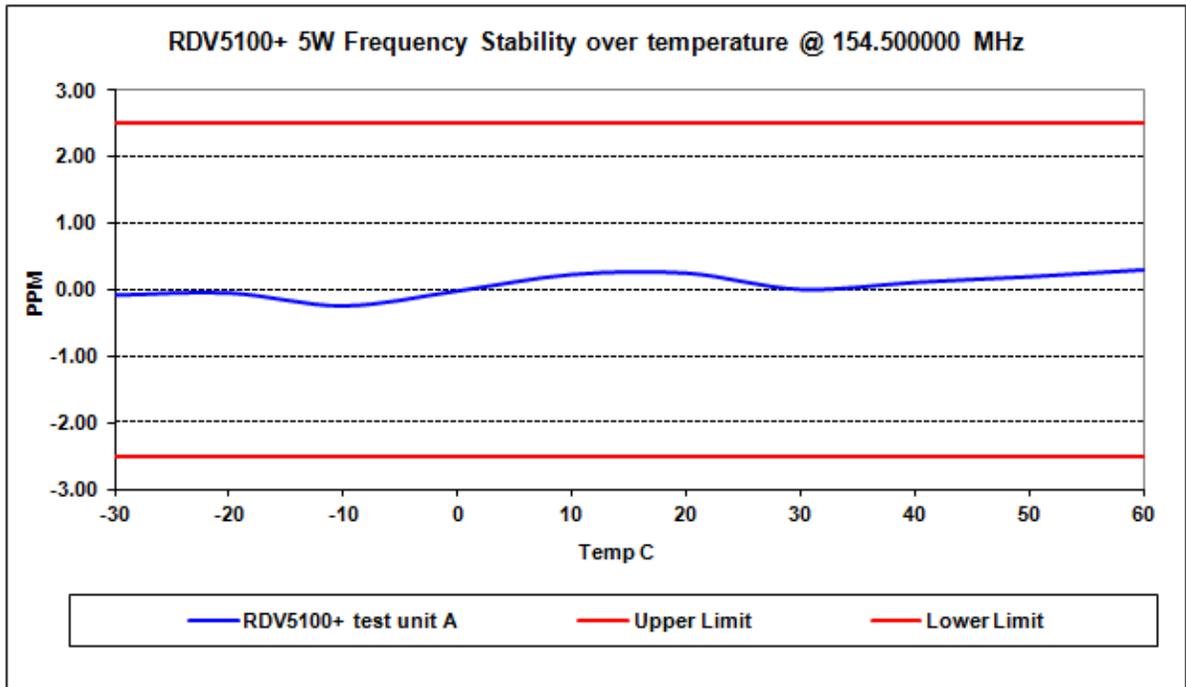


EXHIBIT 6F-1

Frequency Stability over Voltage

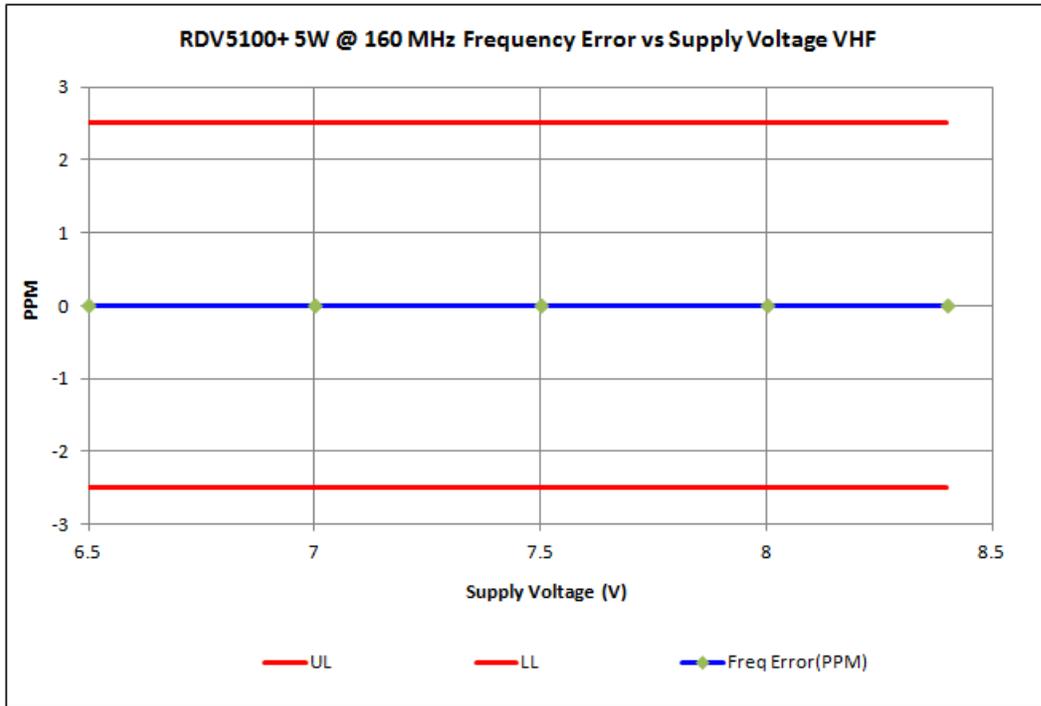
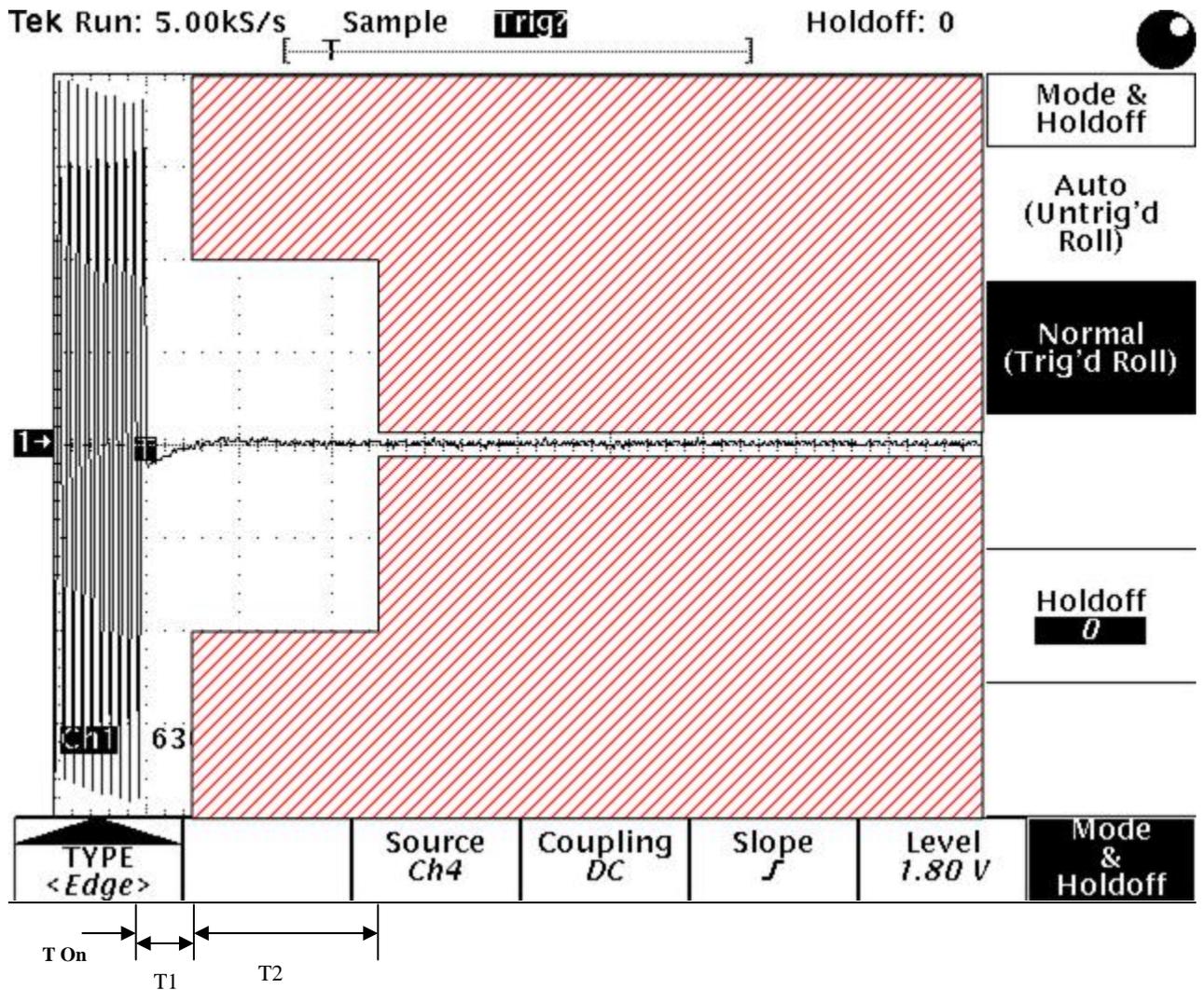


EXHIBIT 6F-2

Transient Frequency Response TX at 5W and 150.8 MHz

VHF 150.8000 MHz

EXHIBIT 6G-1



$$\frac{(\text{Freq}) * (\text{PPM}) * (\pm 4)}{\text{BW}}$$

$$\frac{(150.8000\text{MHz}) * (2.5\text{PPM}) * (\pm 4)}{12.5 \text{ kHz}}$$

= ±0.12 div

Transient Frequency Response TX off at 5W and 150.8 MHz

VHF 150.8000MHz

