FCC PART 90 AND IC RSS-119

TEST REPORT

APPLICANT	RELM WIRELESS CORP. – BK RADIO
	7100 TECHNOLOGY DRIVE
	WEST MELBOURNE FLORIDA 32094 USA
FCC ID	K95KNGM800
IC	2116A-KNGM800
MODEL NUMBER	KNG-M800
PRODUCT DESCRIPTION	MOBILE 700-800MHz RADIO
DATE TESTED	2/20/2012
TESTED BY	Tony Wilkey
APPROVED BY	Brian W. Jones, VP Engineering
TIMCO REPORT NO.	K95KNGM800-Report.doc
TEST RESULTS	☐ PASS ☐ FAIL

TABLE OF CONTENTS

GENERAL REMARKS

The attached report shall not be reproduced except in full without written permission.

Summary

The device under test does:

☐ fulfill the general approval requirements as identified in this test report

☐ not fulfill the general approval requirements as identified in this test report

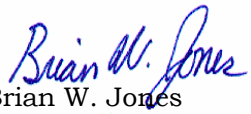
Attestations

This equipment has been tested in accordance with the standards identified in this test report. To the best of my knowledge and belief, these tests were performed using the measurement procedures described in this report.

All instrumentation and accessories used to test products for compliance to the indicated standards are calibrated regularly in accordance with ISO 17025 requirements.

I attest that the necessary measurements were made, under my supervision:

Authorized Signatory Name:



Brian W. Jones
VP Engineering

Date: 2/20/2012

GENERAL INFORMATION

DUT Specification

DUT Description	MOBILE 700-800MHz RADIO
FCC ID	K95KNGM800
IC	2116A-KNGM800
Model Number	KNG-M800
Operating Frequency	763-870MHz in bands listed for Part 90
Type of Emission	16K0F3E/11K0F3E/8K10F1E/8K10F1D
Modulation	FM
DUT Power Source	☐ 110–120Vac/50– 60Hz
	☒ DC Power 12V
	☐ Battery Operated Exclusively
Test Item	☐ Prototype
	☒ Pre-Production
	☐ Production
Type of Equipment	☐ Fixed
	☒ Mobile
	☐ Portable
Test Conditions	The temperature was 26ºC with a relative humidity of 50%.
Modification to the DUT	None
Test Exercise	The DUT was placed in continuous transmit mode.
Applicable Standards	ANSI/TIA 603-C:2004, FCC CFR 47 Part 90
Test Facility	RELM Wireless Corp. – BK Radio

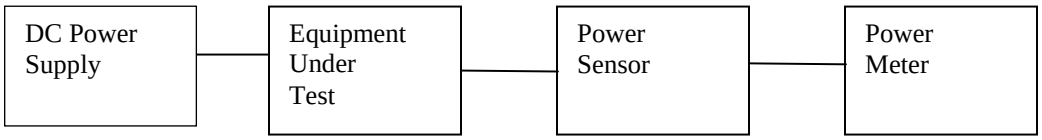
EQUIPMENT LIST

Device	Manufacturer	Model	Serial Number	Cal/Char Date	Due Date
Power Meter	Rohde & Schwarz	NRT	102293	02/06/12	02/06/13
Power Sensor	Rohde & Schwarz	NRT-Z14	100013	02/06/12	02/06/13
Spectrum Analyzer	Hewlett Packard	8562E	08471	02/06/12	02/06/13
RF Communication Test Set	Hewlett Packard	8920B	US35320620	02/06/12	02/06/13
Dynamic Signal Analyzer	Hewlett Packard	35670A	MY42506203	03/11/11	03/11/12
Spectrum Analyzer	Tektronix	3308A	J300156	02/06/12	02/06/13
Oscilloscope	Tektronix	MSO4104	C001715	03/21/11	03/21/13
Signal Generator	Rohde & Schwarz	SMB100A	100220	02/06/12	02/06/13

TEST SETUP

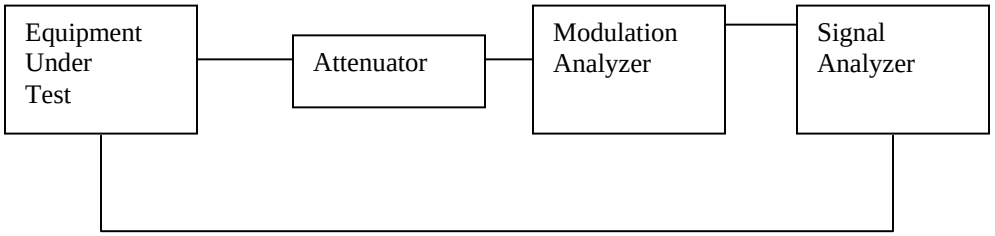
1. RF Output Power

Test Method: TIA/EIA-603-C 2.2.1
Equipment Used: Rohde & Schwarz NRT Power Meter (02/06/13), Rohde & Schwarz NRT-Z14 Power Sensor (02/06/13)



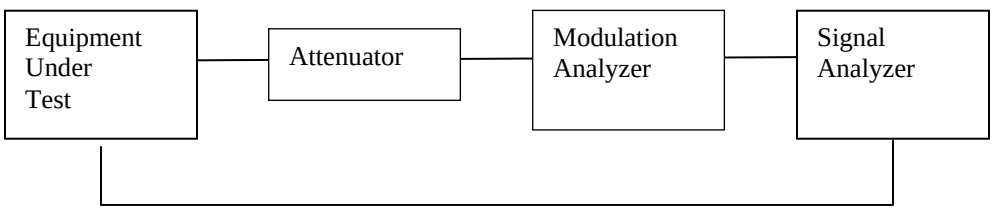
2. Audio Frequency Response

Test Method: TIA/EIA-603-C 2.2.6
Equipment Used: Hewlett Packard 8920B RF Communication Test Set Modulation Analyzer (02/06/13), Hewlett Packard 35670A Signal Analyzer (03-11-12). No filters were used on the modulation analyzer.



3. Low Pass Filter Response

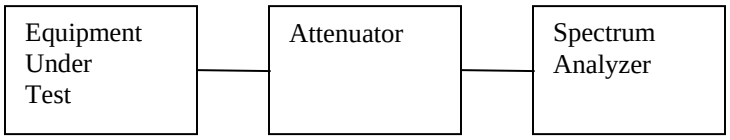
Test Method: TIA/EIA-603-C 2.2.15
Equipment Used: Hewlett Packard 8920B RF Communication Test Set Modulation Analyzer (02/06/13), Hewlett Packard 35670A Signal Analyzer (03-11-12). No filters were used on the modulation analyzer.



4. Occupied Bandwidth /Emission Mask

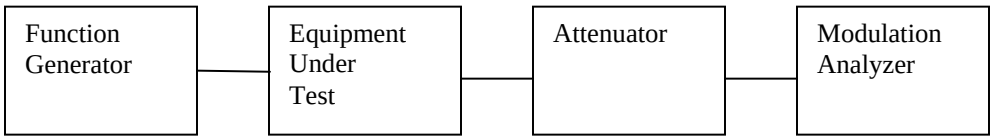
No Modulation
16K0F3E
11K0F3E
8K10F1E
8K10F1D

Test Method: TIA/EIA-603-C 2.2.11 & TIA-102.CAAA-B 2.2.5
Equipment Used: Tektronix RSA 3308A Real-time Spectrum Analyzer (02/06/13)



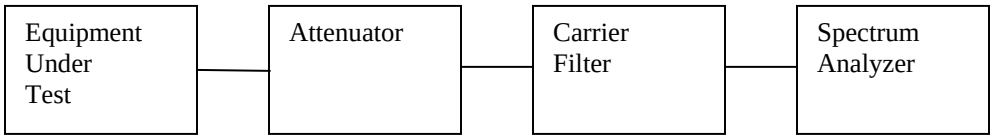
5. Modulation Limiting

Test Method: TIA/EIA-603-C 2.2.3
Equipment Used: Hewlett Packard 8920B RF Communication Test Set Modulation Analyzer (02/06/13)



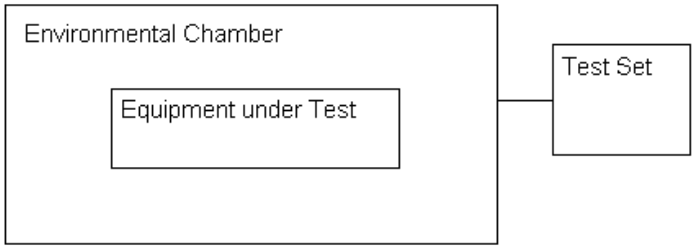
6. Conducted Spurious Emissions

Test Method: TIA/EIA-603-C 2.2.13 & TIA-102.CAAA-B 2.2.7
Equipment Used: Hewlett Packard 8562E Spectrum Analyzer (02/06/13)



7. Frequency Stability

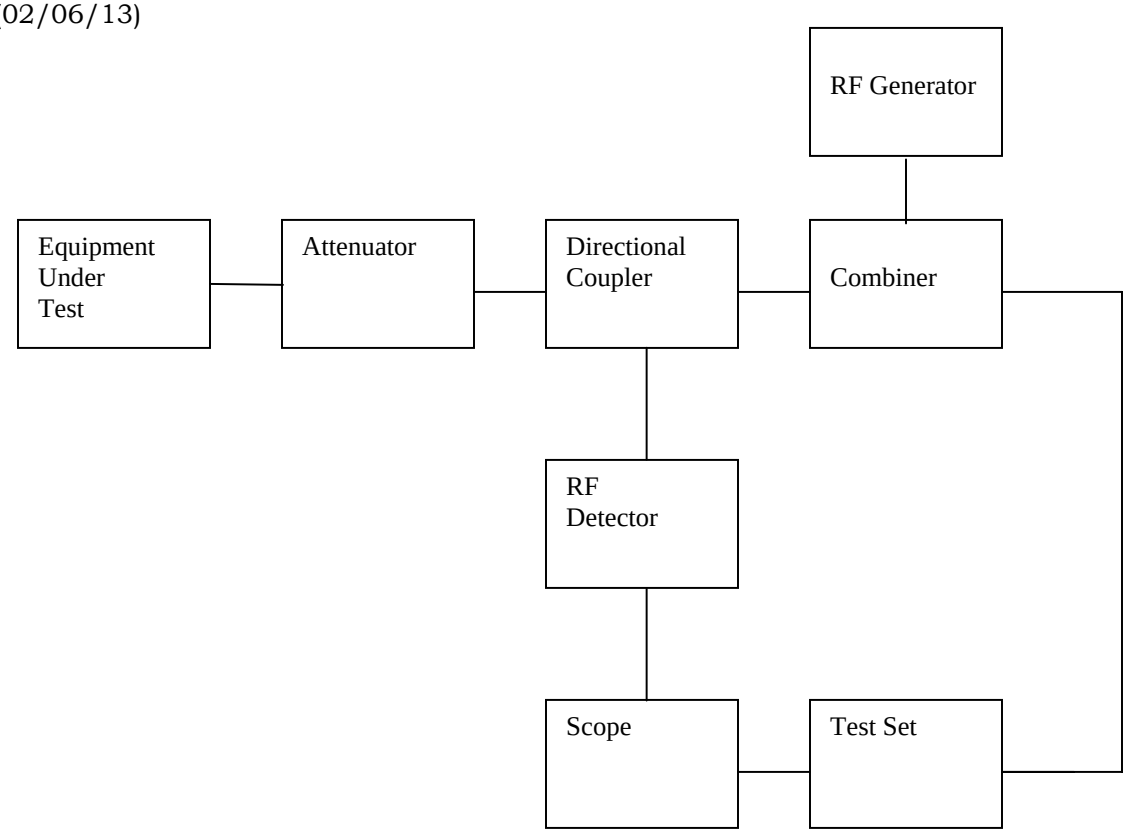
Test Method: TIA/EIA-603-C 2.2.2
Equipment Used: Hewlett Packard 8920B RF Communication Test Set (02/06/13)



8. Transient Frequency Behavior

Test Method: TIA/EIA-603-C 2.2.19.3

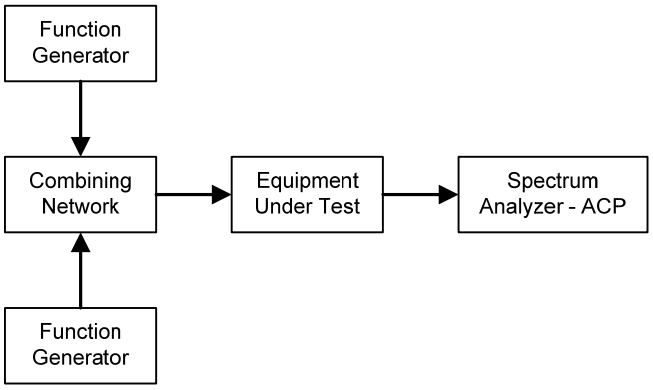
Equipment Used: Hewlett Packard 8920B RF Communication Test Set (02/06/13), Tektronix MSO4104 Scope (03-21-13), Rohde & Schwarz SMB100A Signal generator (02/06/13)



9. Adjacent Channel Power Ratio

Test Method: TIA/EIA-603-C 2.2.14 & TIA-102.CAAA-B 2.2.8

Equipment Used: Hewlett Packard 8920B RF Communication Test Set (02/06/13), Packard 8562E Spectrum Analyzer (02/06/13)



RF POWER OUTPUT

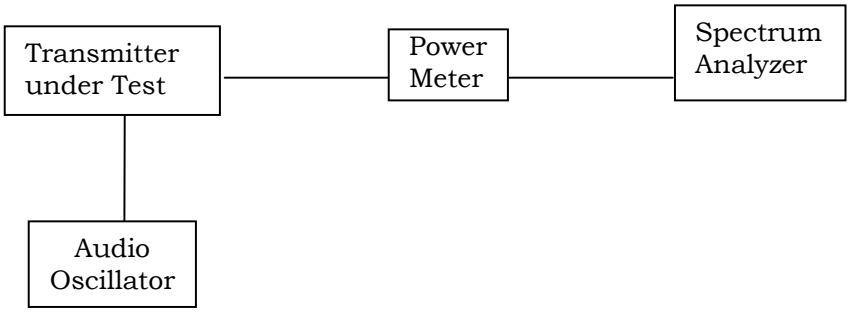
Rule Part No.: Part 2.1046(a), Part 90

Test Requirements:

Method of Measurement: RF power is measured by connecting a 50-ohm, resistive wattmeter to the RF output connector. With a nominal battery voltage, and the transmitter properly adjusted the RF output measures:

For the device has a fixed antenna, RF power is measured as ERP as the antenna is permanently attached. The substitution method was used. With a nominal battery voltage, and the transmitter properly adjusted the RF output measures:

Test Setup Diagram:



Test Data:

OUTPUT POWER 700MHz: HIGH – 35.9 Watts
LOW – 8 Watts

OUTPUT POWER 800MHz: HIGH – 40.3 Watts
LOW - 8 Watts

Output Power - High

Frequency (MHz)	Power (Watts)	Voltage (Volts)	Current (Amperes)
763	35.9	13.6	8.82
775	35.9	13.6	8.42
793	35.9	13.6	8
805	35.9	13.6	7.72
807	39.8	13.6	8.16
824	40.3	13.6	7.95
851	39.5	13.6	8.01
870	38.8	13.6	8.29

Output Power- Low

Frequency (MHz)	Power (Watts)	Voltage (Volts)	Current (Amperes)
763	9.1	13.6	4.38
775	8.9	13.6	4.17
793	9.41	13.6	4.12
805	9.4	13.6	4.06
807	8.9	13.6	3.95
824	9.2	13.6	3.93
851	9	13.6	3.98
870	9.2	13.6	4.15

Part 2.1033 (C)(8) DC Input into the final amplifier

793 MHz

FOR LOW POWER SETTING INPUT POWER: (13.6V)(4.12A) = 56.03 Watts
FOR HIGH POWER SETTING INPUT POWER: (13.6V)(8.0A) = 108.8 Watts

870 MHz

FOR LOW POWER SETTING INPUT POWER: (13.6V)(4.15A) = 56.44 Watts
FOR HIGH POWER SETTING INPUT POWER: (13.6V)(8.29A) = 112.74 Watts

MODULATION CHARACTERISTICS

Rule Part No.: Part 2.1047(a)(b)

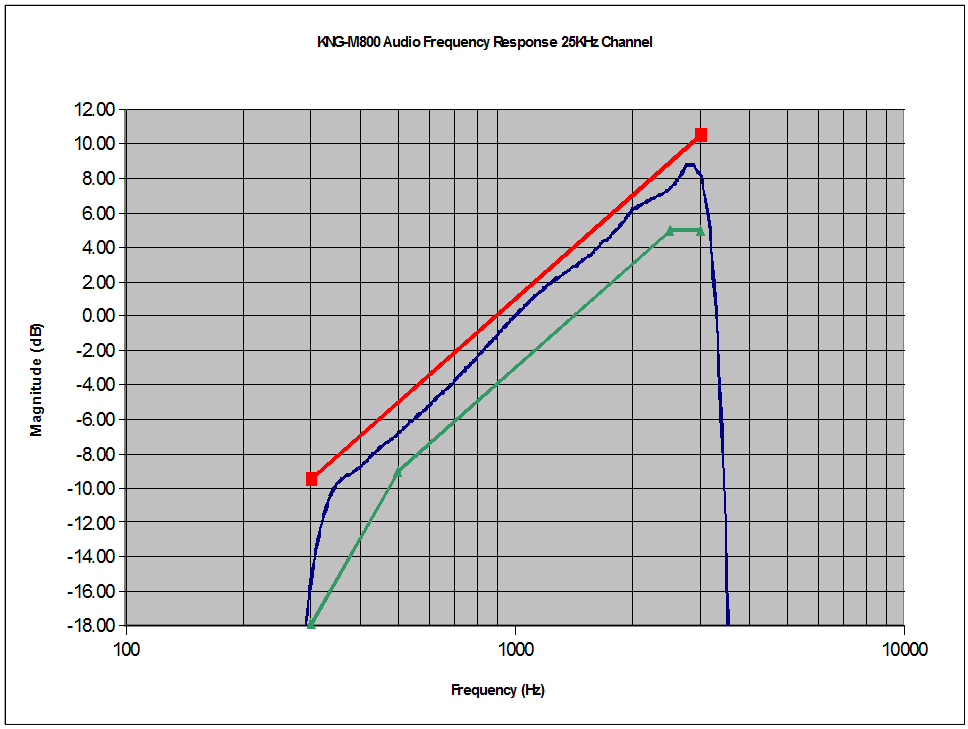
Test Requirements:

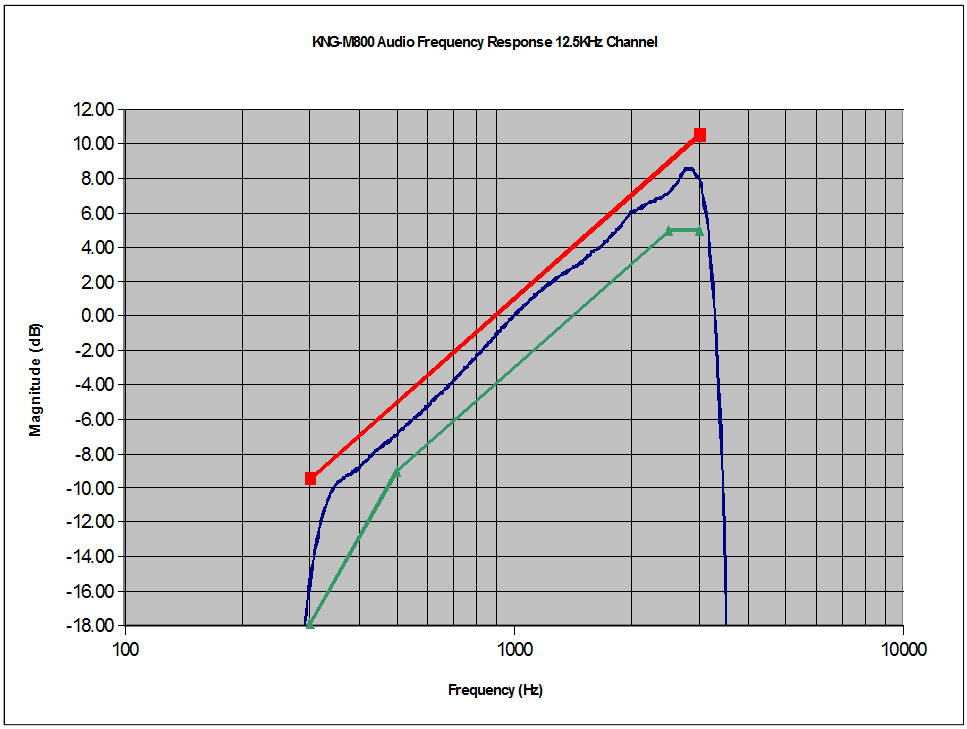
Method of Measurement:

Audio frequency response

The audio frequency response was measured in accordance with TIA/EIA Specification 603 with no exception. A curve or equivalent data showing the frequency response of the audio modulating circuit over a range of 100 – 5000Hz shall be submitted. The audio frequency response curve is shown below.

AUDIO FREQUENCY RESPONSE PLOTS

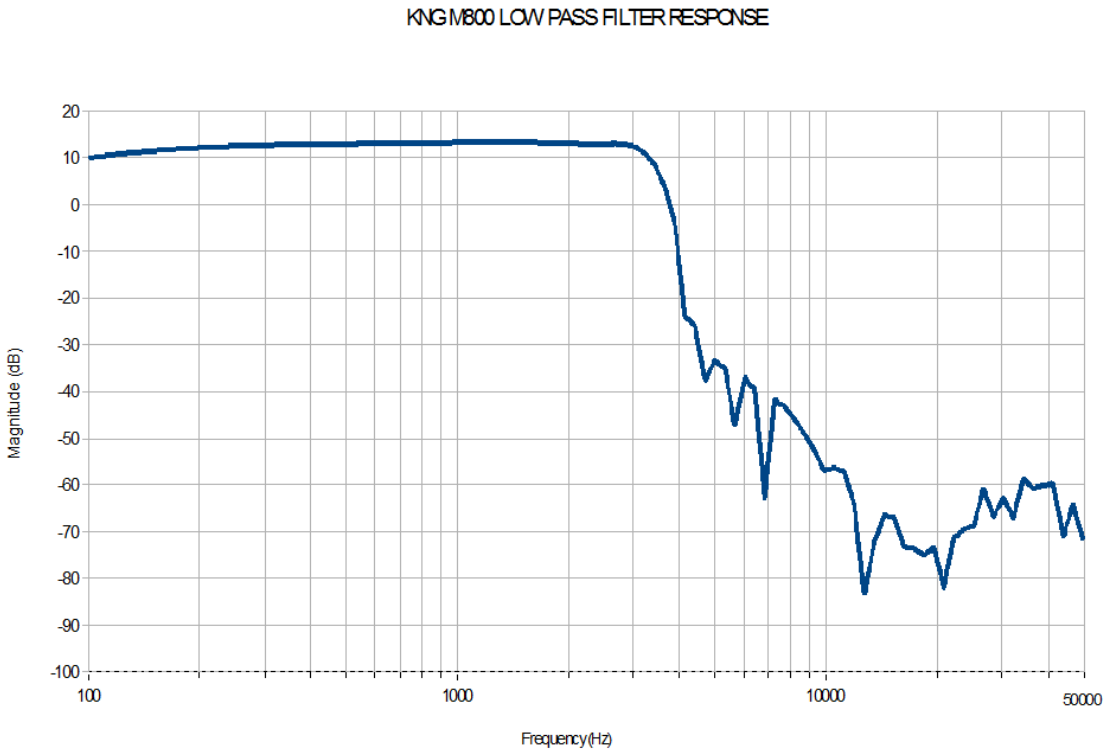



KNG-M800 Audio Frequency Response 12.5KHz Channel
12.00
10.00
8.00
6.00
4.00
2.00
0.00
-2.00
-4.00
-6.00
-8.00
-10.00
-12.00
-14.00
-16.00
-18.00
Magnitude (dB)
100
1000
10000
Frequency (Hz)

VOICE MODULATED COMMUNICATION EQUIPMENT

Part 2.1047(a): For equipment required to have an audio low-pass filter, a curve showing the frequency response of the filter, or of all the circuitry installed between the modulation limiter and the modulated stage shall be submitted.

AUDIO LOW PASS FILTER



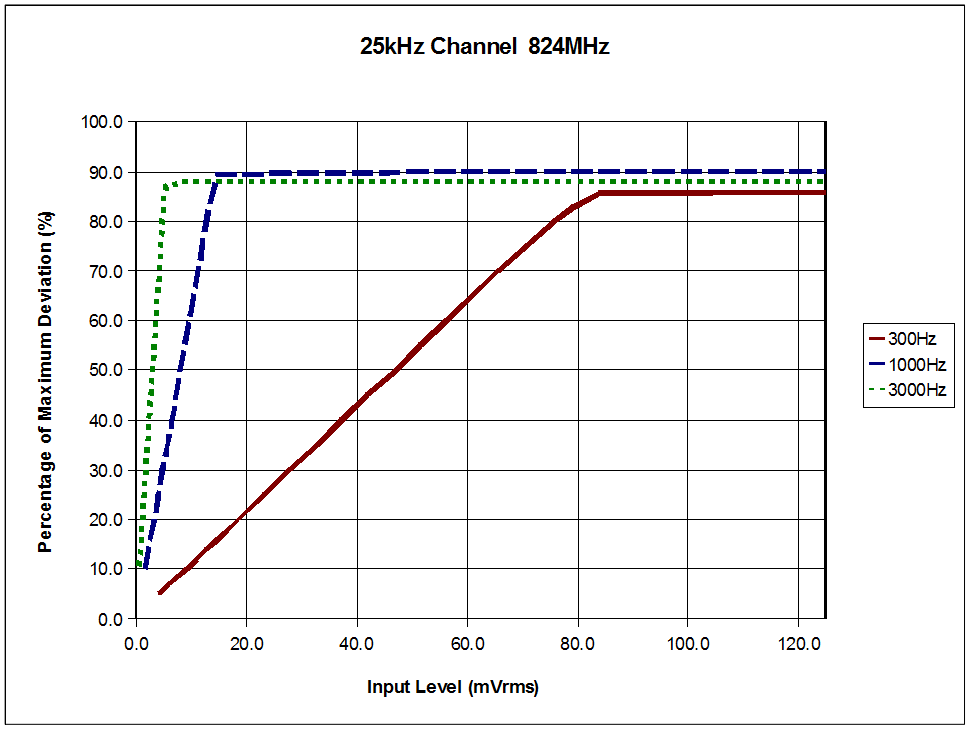
AUDIO INPUT VERSUS MODULATION

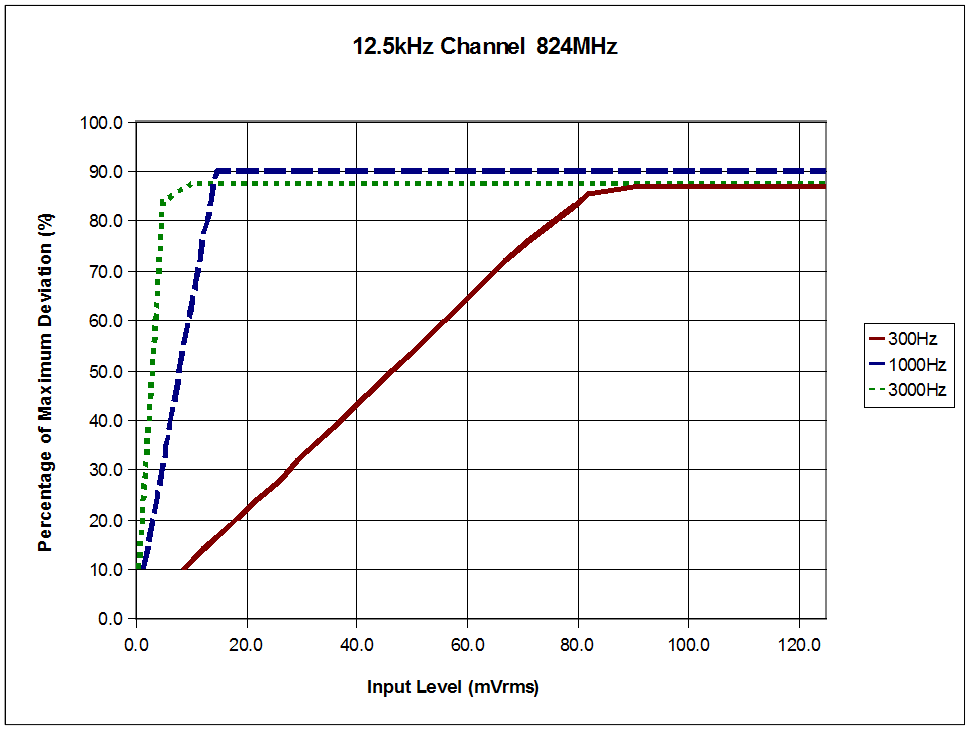
Rule Part No.: Part 2.1047(b) & 90

Test Requirements:

Method of Measurement: **Modulation cannot exceed 100%,** The audio input level needed for a particular percentage of modulation was measured in accordance with ANSI/TIA 603-C: 2004. The audio input curves versus modulation are shown below. Curves are provided for audio input frequencies of 300, 1000, and 3000 Hz.

Test data:




12.5kHz Channel 824MHz
Percentage of Maximum Deviation (%)
100.0
90.0
80.0
70.0
60.0
50.0
40.0
30.0
20.0
10.0
0.0
0.0
20.0
40.0
60.0
80.0
100.0
120.0
Input Level (mVrms)
300Hz
1000Hz
3000Hz

OTHER MODULATION CHARACTERISTICS

Part 2.1033(c)
Part 2.1033(c) (4) Type of Emission: 16K0F3E
Part 90.209
Part 90.207 BW=2*(M+D) =2*(3kHz+5kHz)=16kHz → 16K0
F3E indicates voice.

Designator is therefore: 16K0F3E

Part 2.1033(c)
Part 2.1033(c) (4) Type of Emission: 11K0F3E
Part 90.209
Part 90.207 BW=2*(M+D)=2*(3KHZ+2.5KHZ)=11KHz → 11K0
F3E indicates voice.

Designator is therefore: 11K0F3E

Part 2.1033(c)
Part 2.1033(c) (4) Type of Emission: 8K10F1D
Part 90.209
Part 90.207 BW=8.1KHZ from using 99% energy bandwidth
F1D indicates digital data.

Designator is therefore: 8K10F1D

Part 2.1033(c)
Part 2.1033(c) (4) Type of Emission: 8K10F1E
Part 90.209
Part 90.207 BW=8.1KHZ from using 99% energy bandwidth
F1E indicates digital voice.

Designator is therefore: 8K10F1E

OCCUPIED BANDWIDTH

Part 2.1049(c) EMISSION BANDWIDTH:
Part 90.210(b) 25 kHz Channel Spacing

Data in the plots show that on any frequency removed from the assigned frequency by more than 50%, but not more than 100%: At least 25dB. On any frequency removed from the assigned frequency by more than 100%, but not more than 250%: At least 35 dB. On any frequency removed from the assigned frequency by more than 250%, of the authorized bandwidth: At least 43 + 10log(P)dB.

Part 90.210(c) 25 kHz Channel Spacing Not Equipped with a Low Pass Filter

For transmitters that are not equipped with an audio low pass filter pursuant to S90.211 (b), the power of any emission must be attenuated below the un-modulated carrier output power as follows; (1) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in kHz) of more than 5 kHz but not more than10 kHz: At least 83 log (fd/5) dB; (2) ON any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in kHz) of more than 10 kHz, but not more than 250% of the authorized bandwidth: At least 29 log(fd2/11)dB or 50 dB, whichever is the lesser attenuation; (3) On any frequency removed from the center of the authorized bandwidth by more than 250% of the authorized bandwidth: At least 43+10 log(Po)dB.

Part 90.210(d) Emission Mask D - 12.5 kHz channel BW equipment.
For transmitters designed to operate with a 12.5 kHz channel bandwidth, any emission must be attenuated below the power (P) of the highest emission contained within the authorized bandwidth as follows:

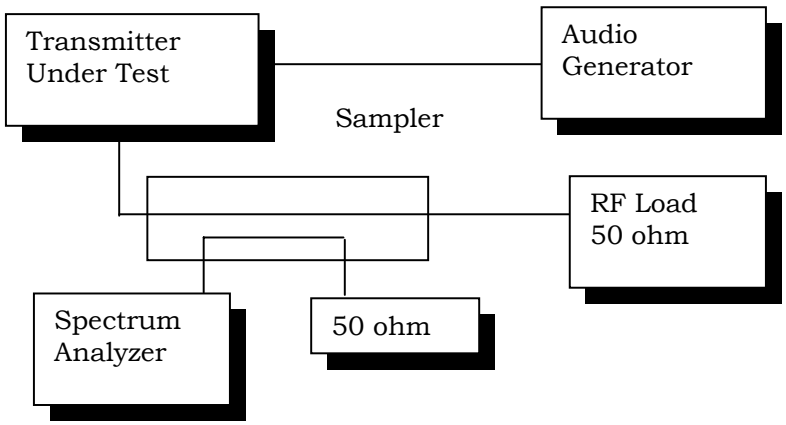
(1) On any frequency from the center of the authorized bandwidth f0 to 5.625 kHz removed from f0: Zero dB.
(2) On any frequency from the center of the authorized bandwidth by a displacement frequency (fd in kHz) of more than 5.625 kHz but no more than 12.5 kHz: At least 7.27 (fd - 2.88 kHz) dB.
(3) On any frequency removed from the center of the authorized bandwidth by a displacement frequency (fd in kHz) of more than 12.5 kHz: At least 50 + 10log(P) dB or 70 dB, whichever is the lesser attenuation.

Part 90.691 Emission mask requirements for EA-based systems.

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log 10 (f/6.1) decibels or 50 + 10 Log 10 (P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz.
(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log 10 (P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

Method of Measurement: ANSI/TIA 603-C: 2004

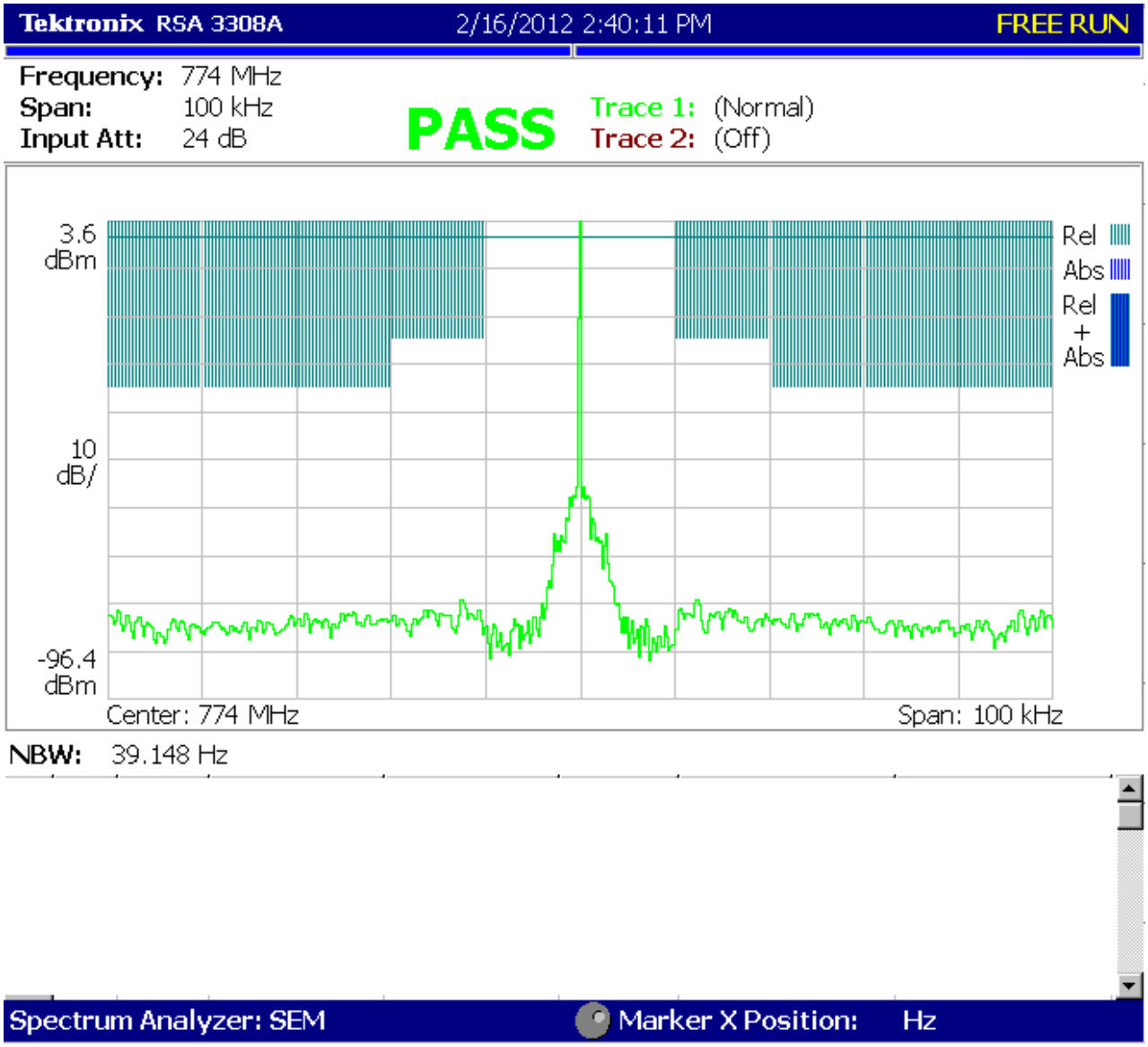
Test Setup Diagram:



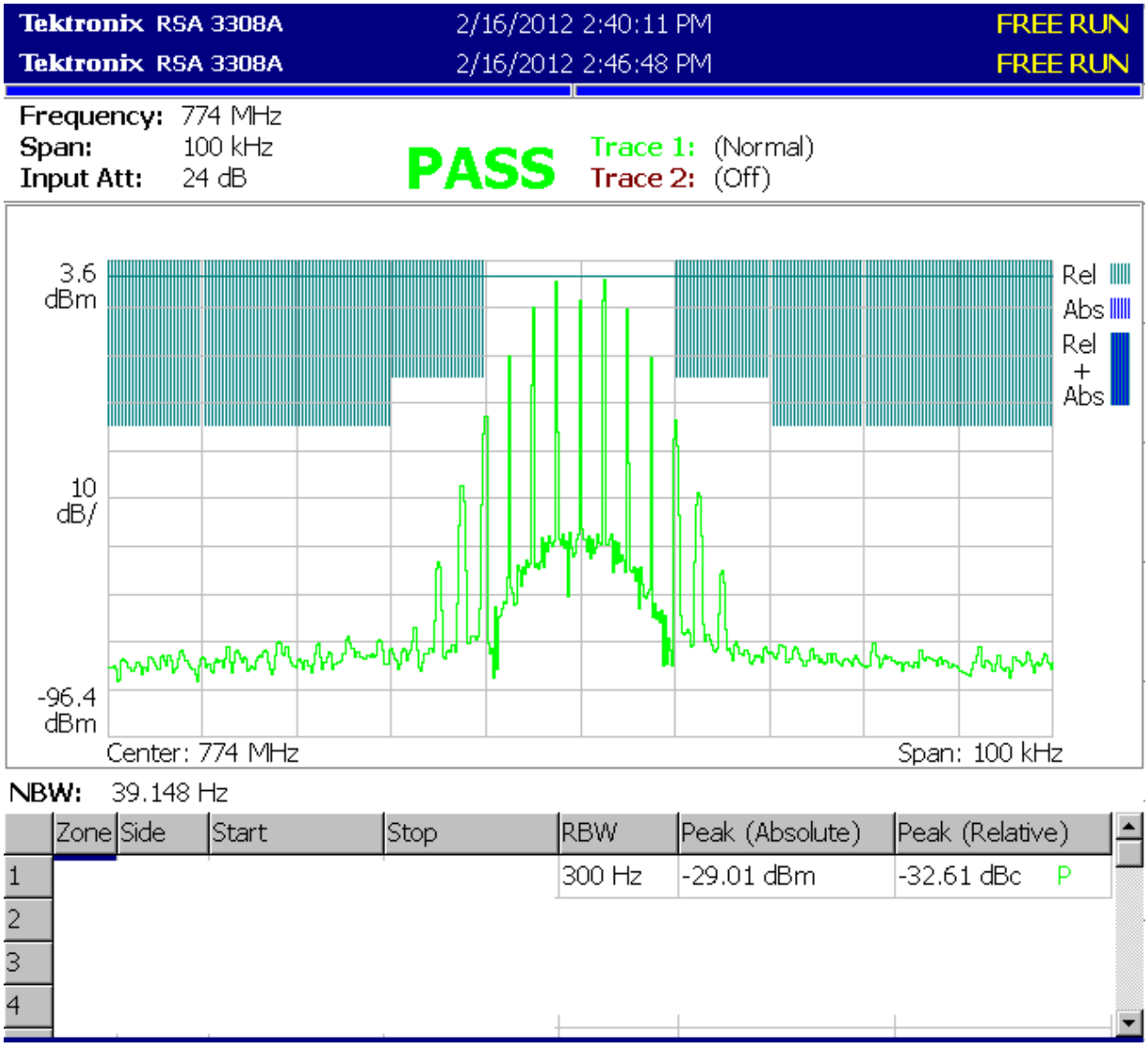
OCCUPIED BANDWIDTH PLOTS

Mask limits show in **green**. EA limits shown in **red**.

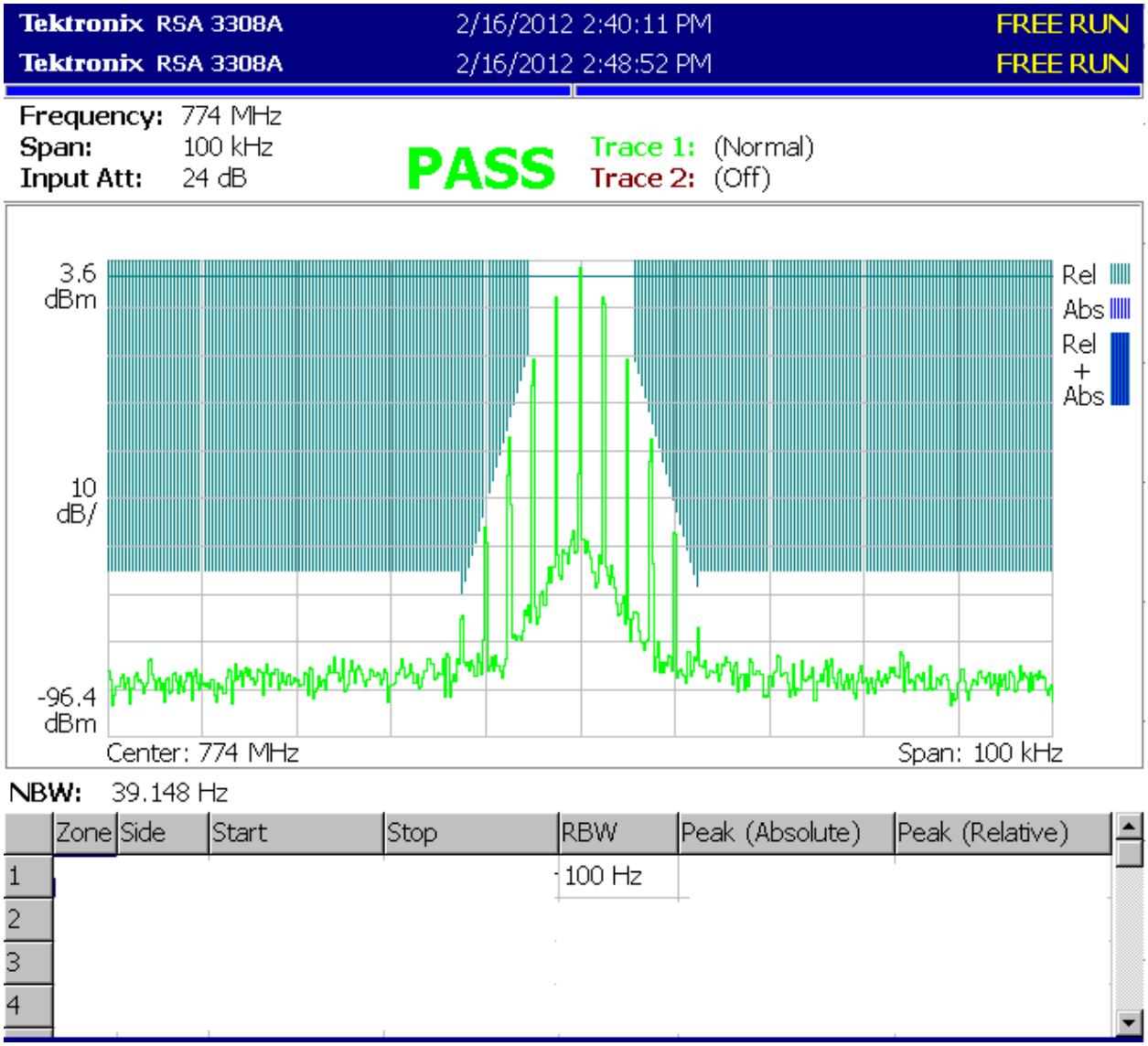
Occupied Bandwidth No Modulation
Frequency = 774MHz



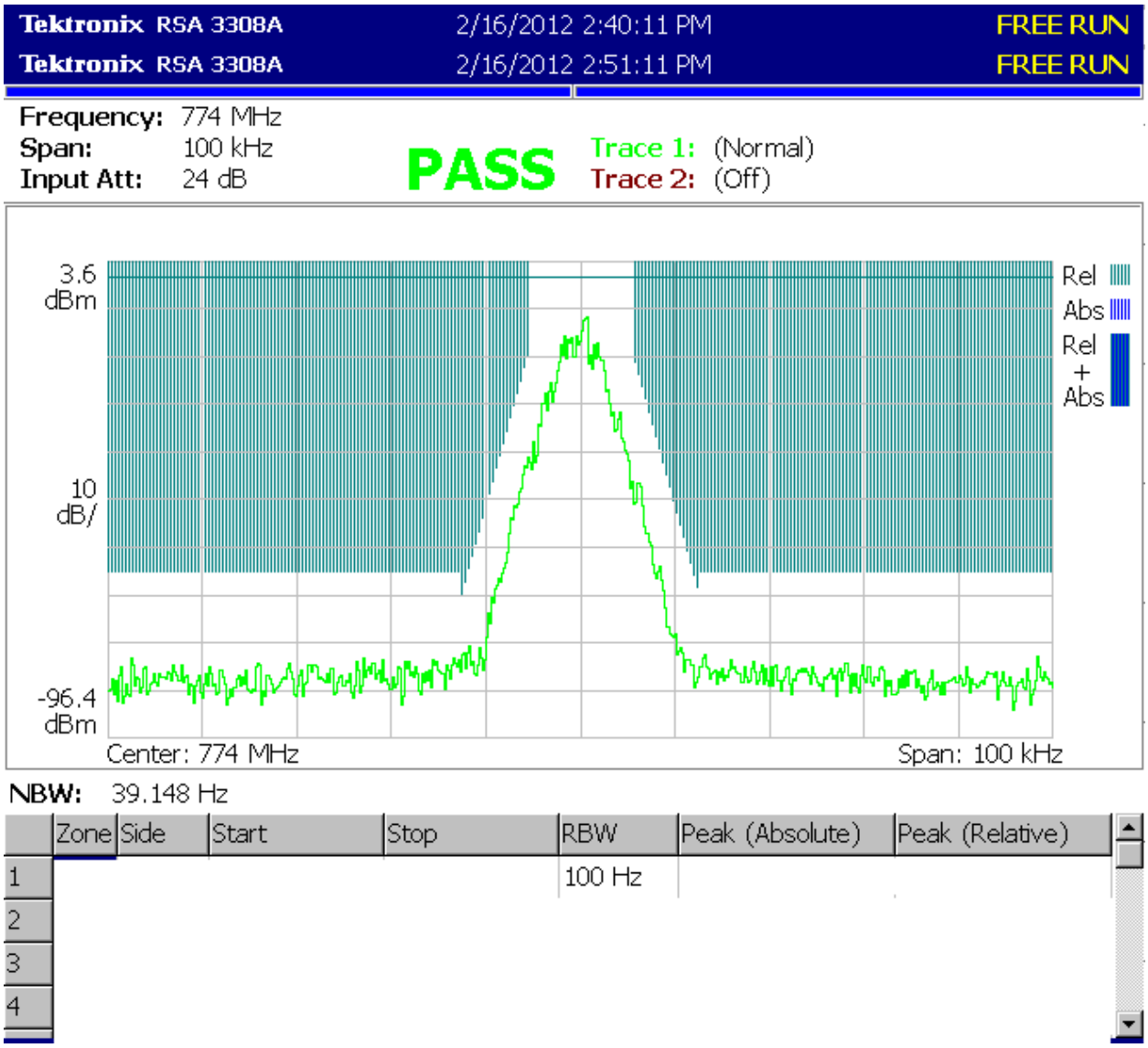
Part 90.210(b) Emission Mask B - 25 kHz channel Analog Voice 16K0F3E
Frequency = 774MHz



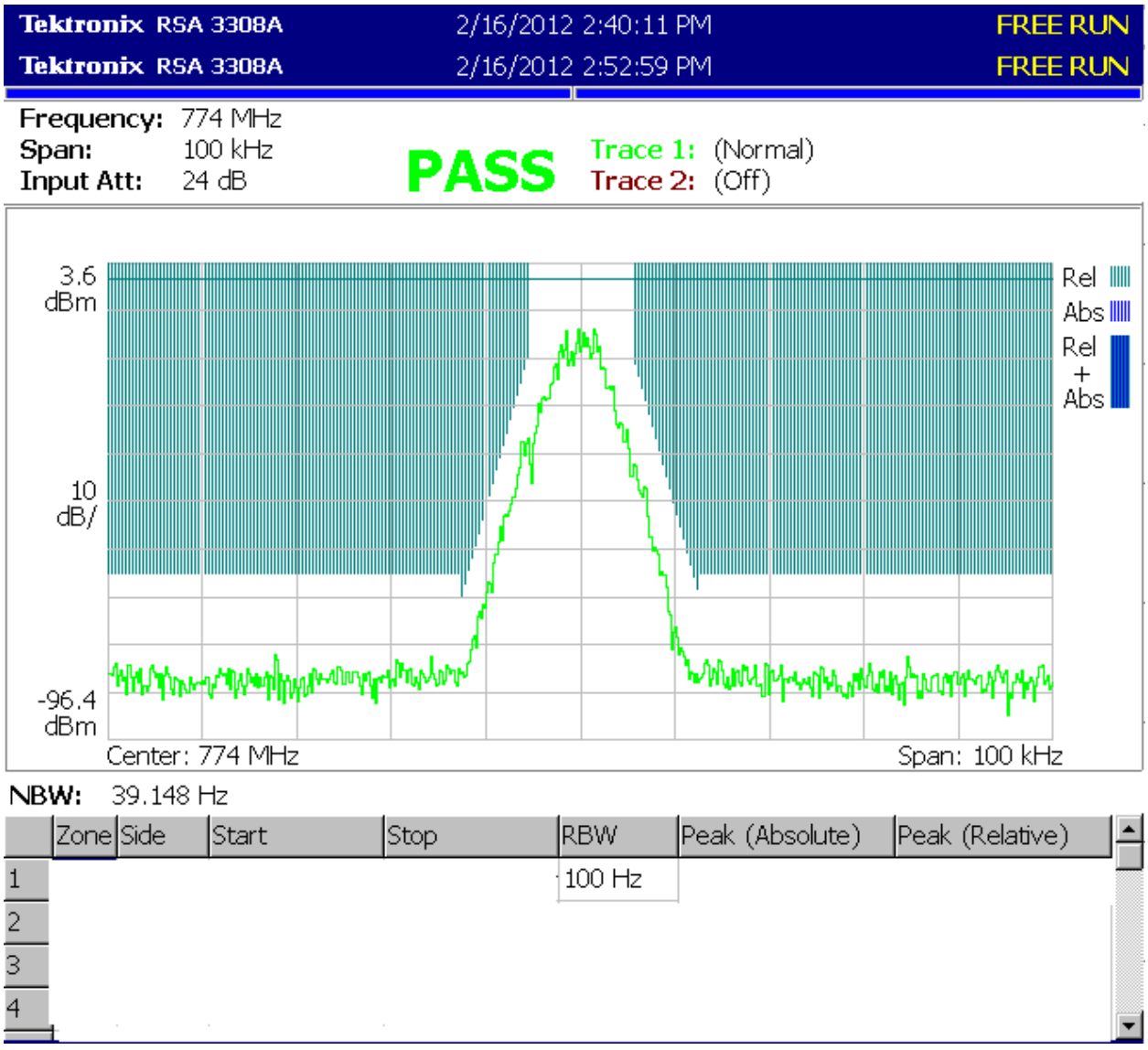
Part 90.210(d) Emission Mask D - 12.5 kHz channel Analog Voice 11K0F3E
Frequency = 774MHz



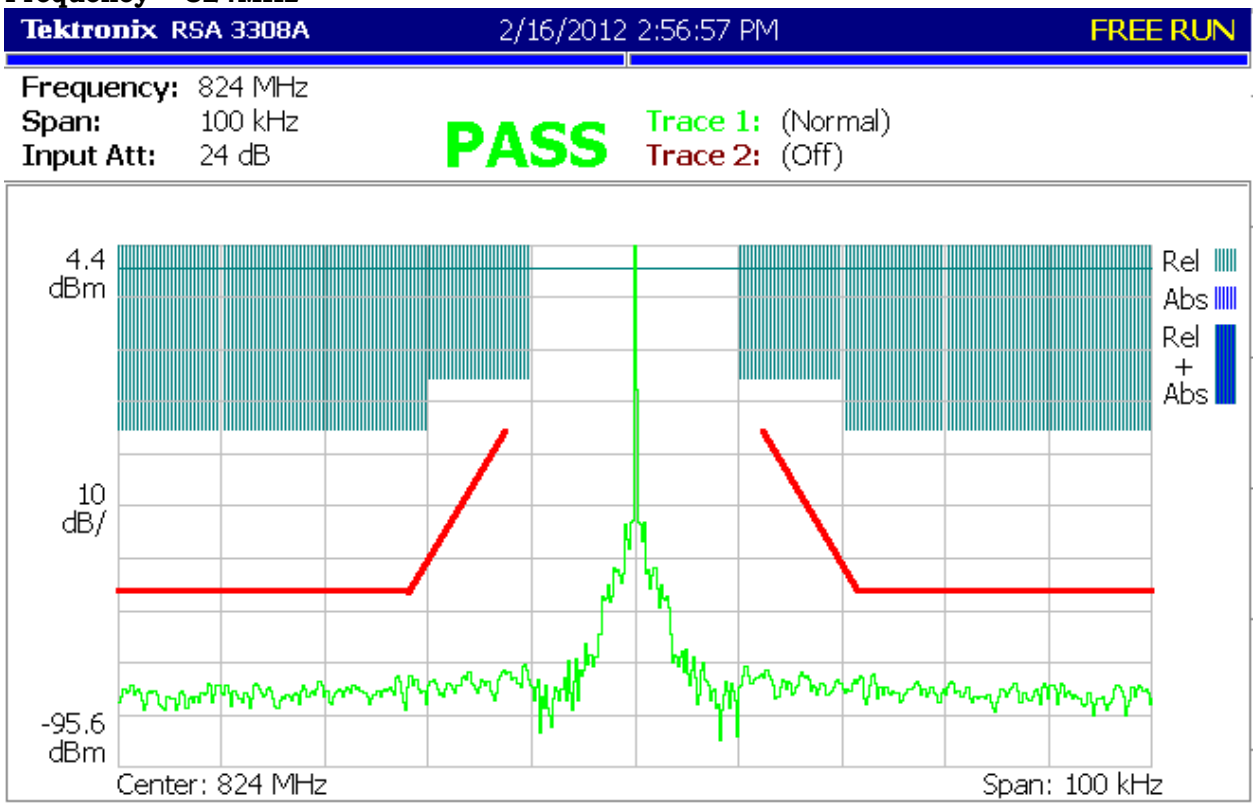
Part 90.210(d) Emission Mask D - 12.5 kHz channel Digital Voice 8K10F1E
Frequency = 774MHz



Part 90.210(d) Emission Mask D - 12.5 kHz channel **Digital Data 8K10F1D**
Frequency = 774MHz



Occupied Bandwidth No Modulation
Frequency = 824MHz

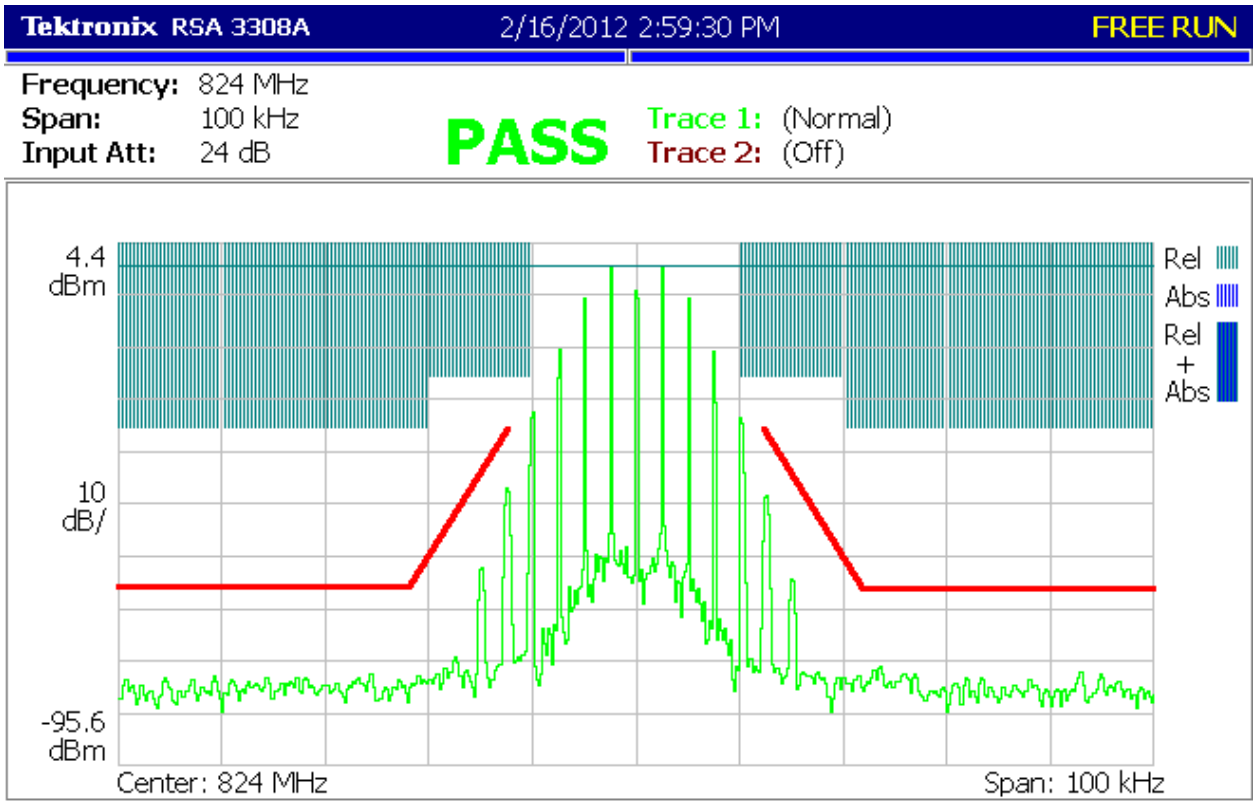


NBW: 39.148 Hz

	Zone	Side	Start	Stop	RBW	Peak (Absolute)	Peak (Relative)	
1	A	Lower	823.98 MHz	823.99 MHz	300 Hz	-75.85 dBm	-79.45 dBc	P
2	A	Upper	824.01 MHz	824.02 MHz	300 Hz	-76.26 dBm	-79.86 dBc	P
3	B	Lower	823.95 MHz	823.98 MHz	300 Hz	-78.00 dBm	-81.60 dBc	P
4	B	Upper	824.02 MHz	824.05 MHz	300 Hz	-77.79 dBm	-81.39 dBc	P

Spectrum Analyzer: SEM

Part 90.210(b) **Emission Mask B - 25 kHz channel** **Analog Voice 16K0F3E**



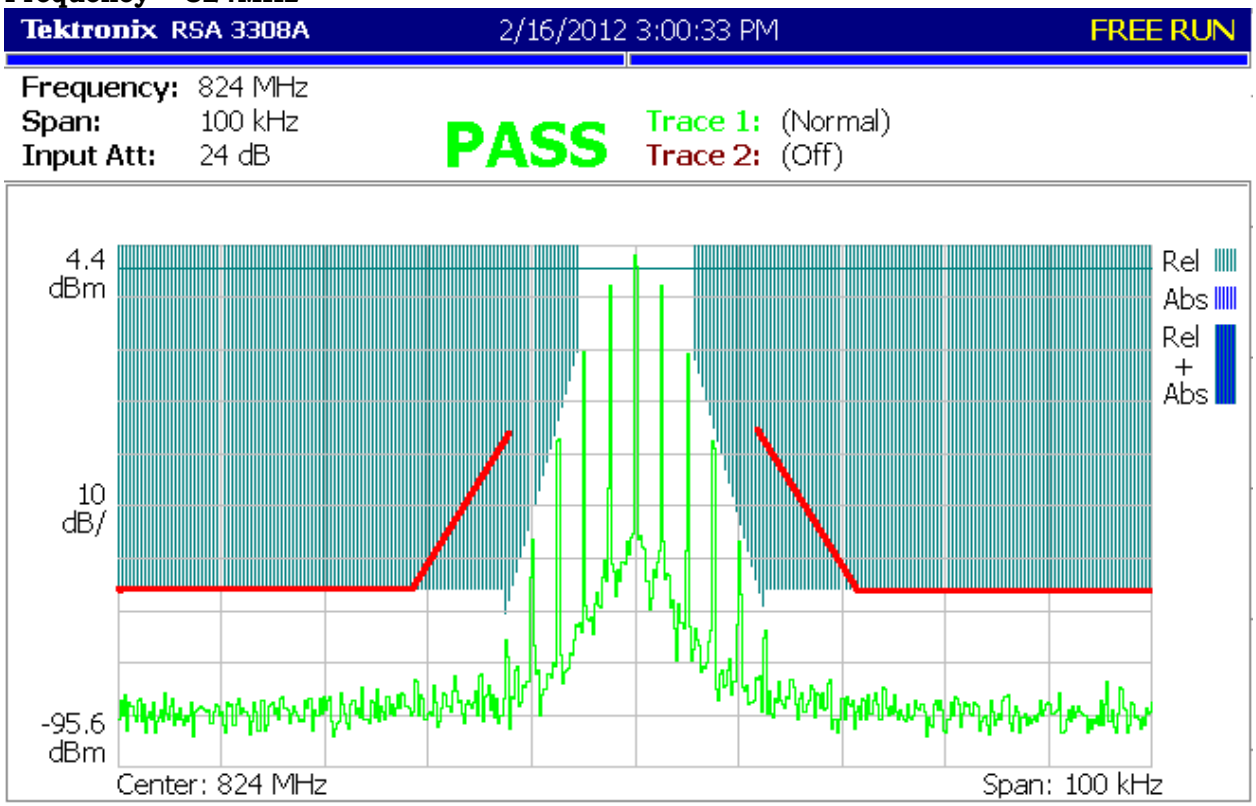
NBW: 39.148 Hz

	Zone	Side	Start	Stop	RBW	Peak (Absolute)	Peak (Relative)	
1	A	Lower	823.98 MHz	823.99 MHz	300 Hz	-28.27 dBm	-31.87 dBc	P
2	A	Upper	824.01 MHz	824.02 MHz	300 Hz	-29.09 dBm	-32.69 dBc	P
3	B	Lower	823.95 MHz	823.98 MHz	300 Hz	-78.10 dBm	-81.70 dBc	P
4	B	Upper	824.02 MHz	824.05 MHz	300 Hz	-76.73 dBm	-80.33 dBc	P

Spectrum Analyzer: SEM

Frequency = 824MHz

Part 90.210(d) Emission Mask D - 12.5 kHz channel Analog Voice 11K0F3E
Frequency = 824MHz

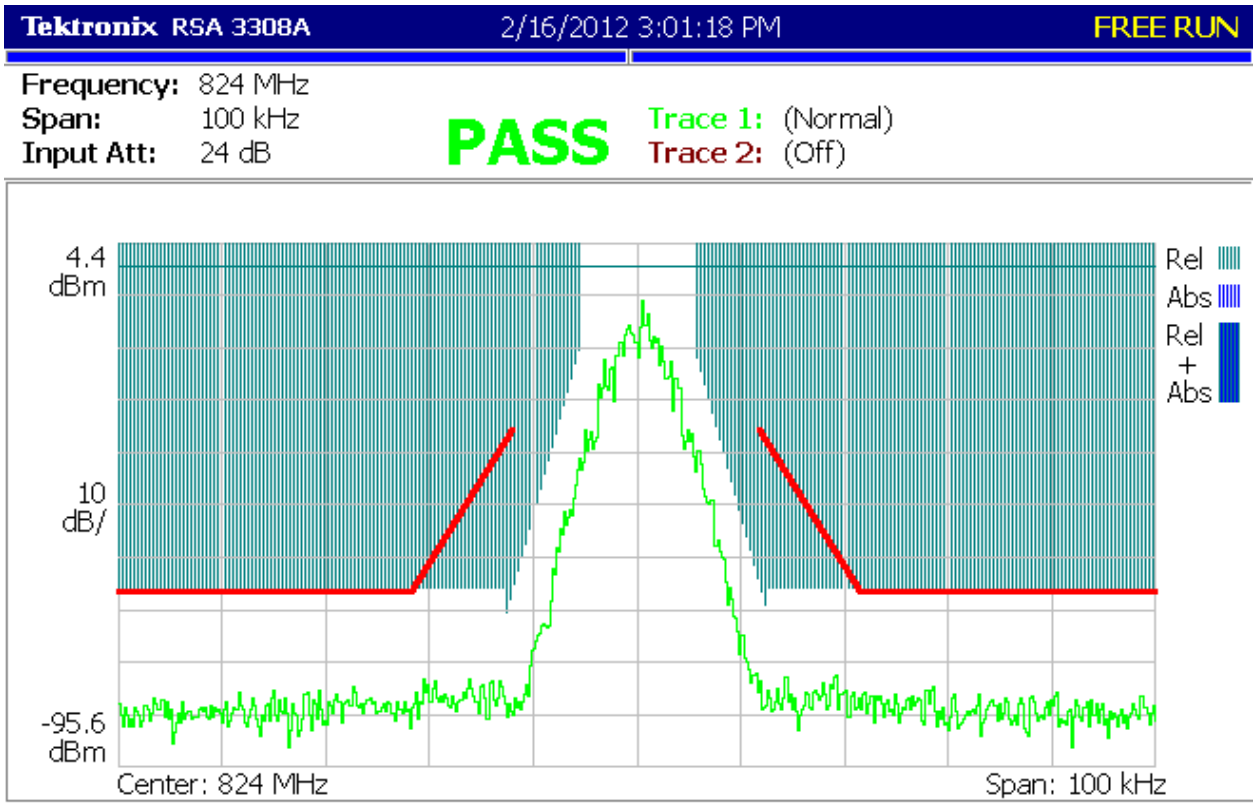


NBW: 39.148 Hz

	Zone	Side	Start	Stop	RBW	Peak (Absolute)	Peak (Relative)	
1	A	Lower	823.9875 MHz	823.994375 MH	100 Hz	-32.62 dBm	-36.22 dBc	P
2	A	Upper	824.005625 MH	824.0125 MHz	100 Hz	-33.12 dBm	-36.72 dBc	P
3	B	Lower	823.95 MHz	823.9875 MHz	100 Hz	-71.78 dBm	-75.38 dBc	P
4	B	Upper	824.0125 MHz	824.05 MHz	100 Hz	-69.62 dBm	-73.22 dBc	P

Spectrum Analyzer: SEM

Part 90.210(d) Emission Mask D - 12.5 kHz channel Digital Voice 8K10F1E



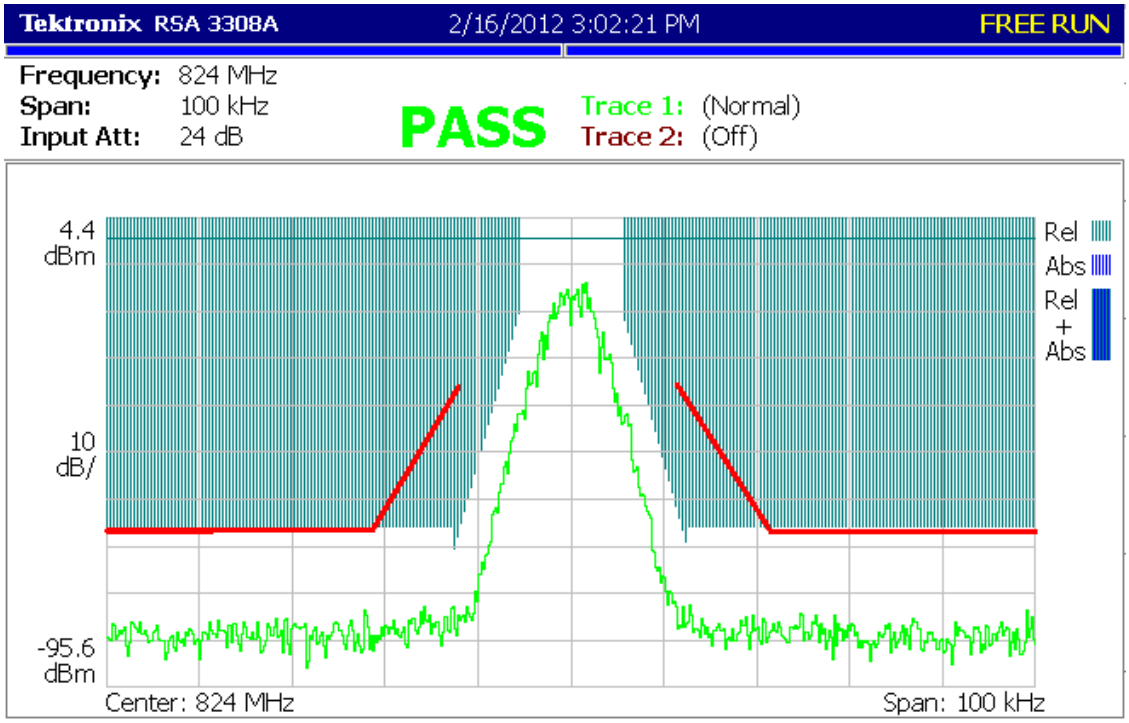
NBW: 39.148 Hz

	Zone	Side	Start	Stop	RBW	Peak (Absolute)	Peak (Relative)	
1	A	Lower	823.9875 MHz	823.994375 MH	100 Hz	-36.82 dBm	-40.42 dBc	P
2	A	Upper	824.005625 MH	824.0125 MHz	100 Hz	-35.31 dBm	-38.91 dBc	P
3	B	Lower	823.95 MHz	823.9875 MHz	100 Hz	-78.73 dBm	-82.33 dBc	P
4	B	Upper	824.0125 MHz	824.05 MHz	100 Hz	-78.17 dBm	-81.77 dBc	P

Spectrum Analyzer: SEM

Frequency = 824MHz

Part 90.210(d) Emission Mask D - 12.5 kHz channel Digital Data 8K10F1D
Frequency = 824MHz



NBW: 39.148 Hz

	Zone	Side	Start	Stop	RBW	Peak (Absolute)	Peak (Relative)	
1	A	Lower	823.9875 MHz	823.994375 MH	100 Hz	-37.29 dBm	-40.89 dBc	P
2	A	Upper	824.005625 MH	824.0125 MHz	100 Hz	-37.59 dBm	-41.19 dBc	P
3	B	Lower	823.95 MHz	823.9875 MHz	100 Hz	-78.36 dBm	-81.96 dBc	P
4	B	Upper	824.0125 MHz	824.05 MHz	100 Hz	-78.10 dBm	-81.70 dBc	P

Spectrum Analyzer: SEM

SPURIOUS EMISSIONS AT ANTENNA TERMINALS (CONDUCTED)

Rule Part No.: Part 2.1051(a)

Requirements:
700MHz

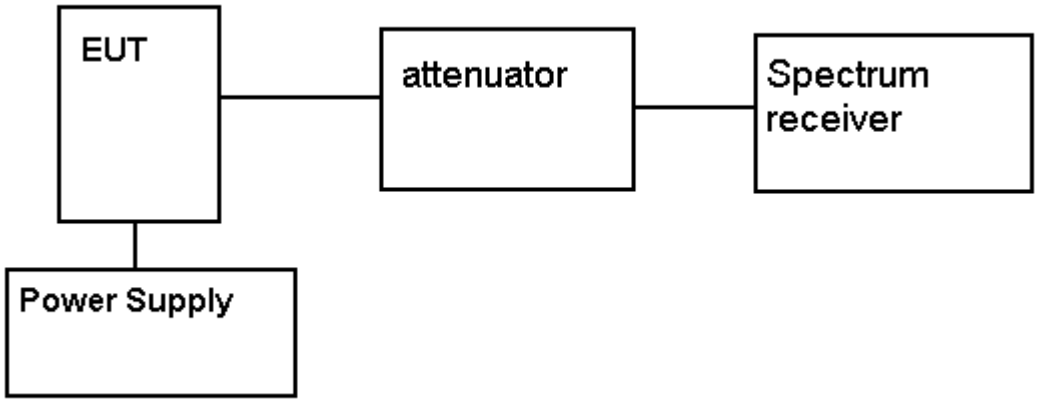
25 kHz Channel Spacing = 43+10log(35.9) = 58.5 dBc
12.5 kHz Channel Spacing = 50+10log(35.9) = 65.5 dBc

800MHz

25 kHz Channel Spacing = 43+10log(40.3) = 59.0 dBc
12.5 kHz Channel Spacing = 50+10log(40.3) = 66.0 dBc

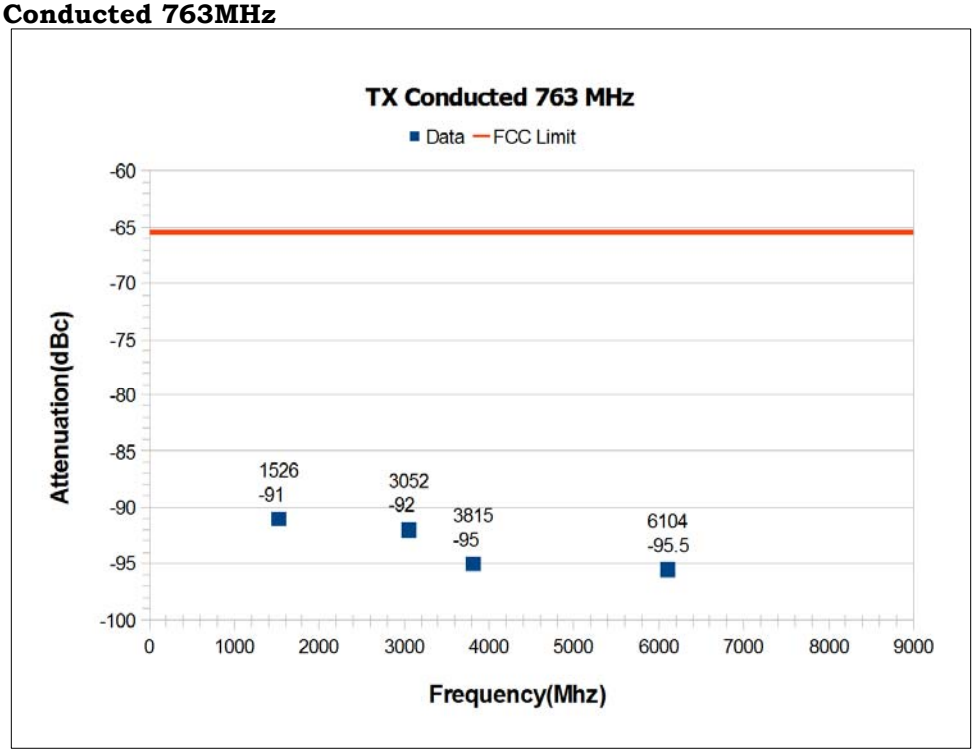
Method of Measurement: The carrier was modulated 100% using a 2500 Hz tone. The spectrum was scanned from 0.4 to at least the 10th harmonic of the fundamental. The measurements were made in accordance with standard ANSI/TIA 603-C: 2004.

Method of Measuring Conducted Spurious Emissions

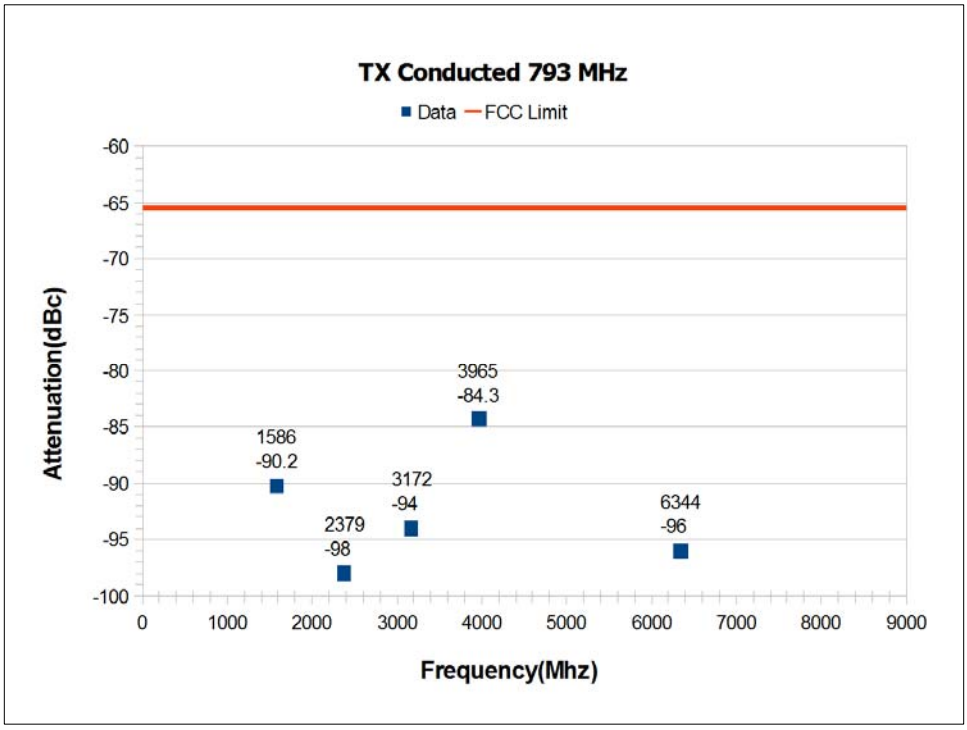


Test Data:

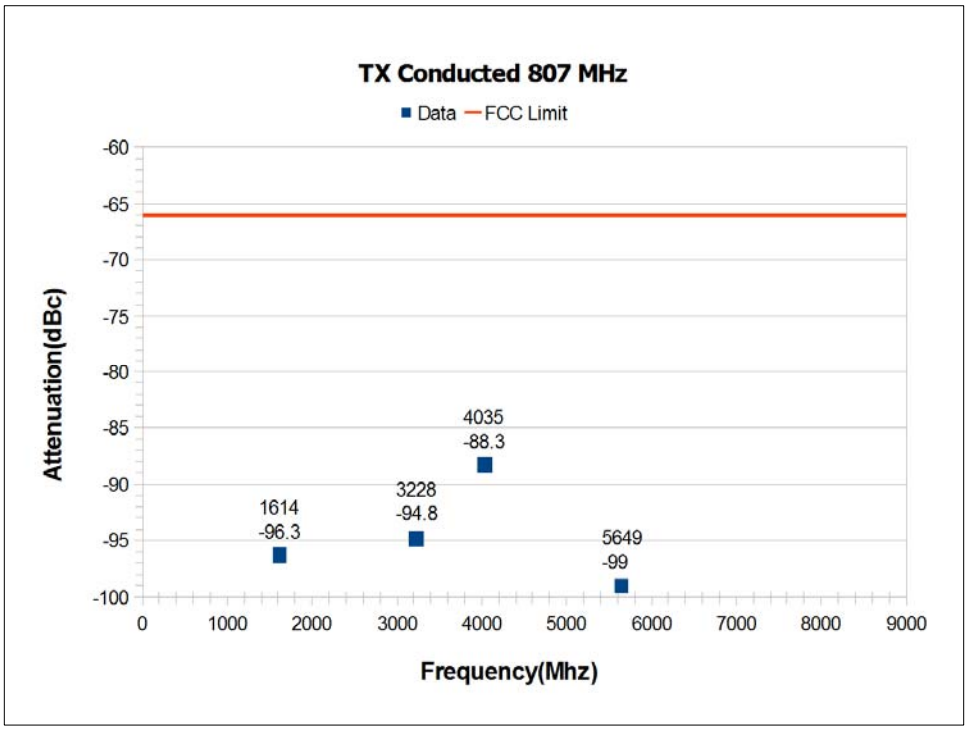
Transmit Conducted 763MHz



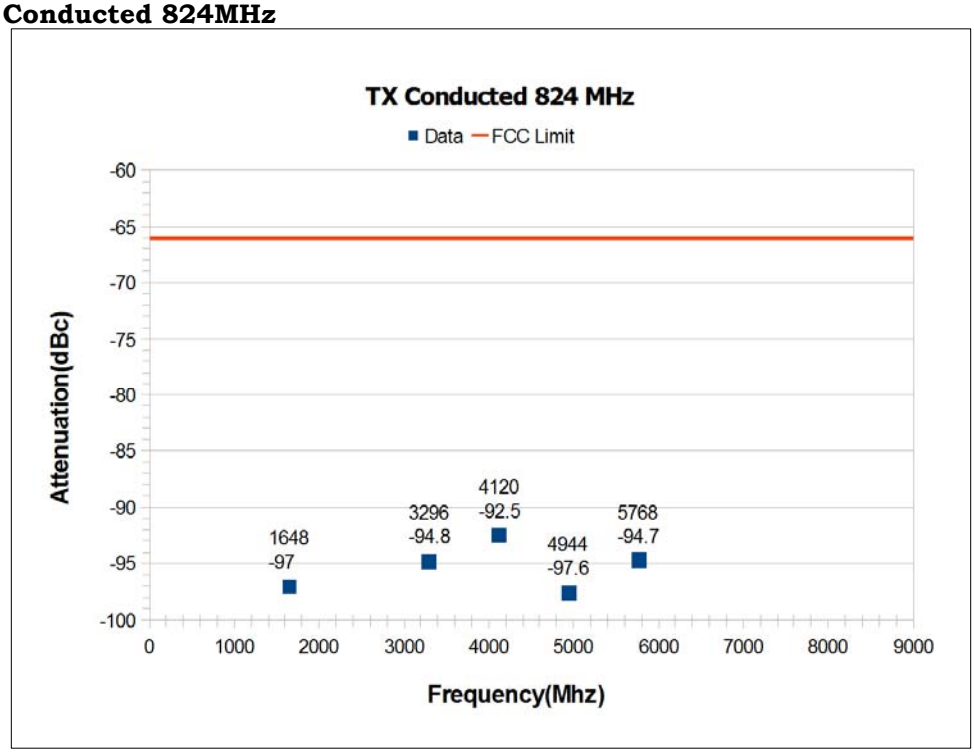
Transmit Conducted 793MHz



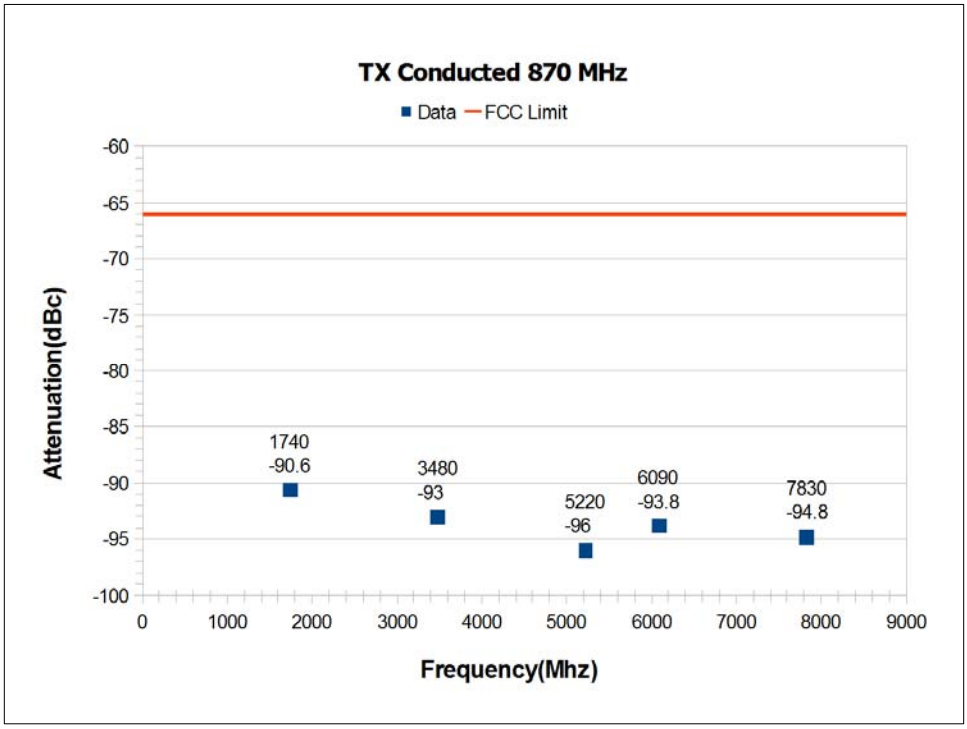
Transmit Conducted 807MHz



Transmit Conducted 824MHz



Transmit Conducted 870MHz



FREQUENCY STABILITY

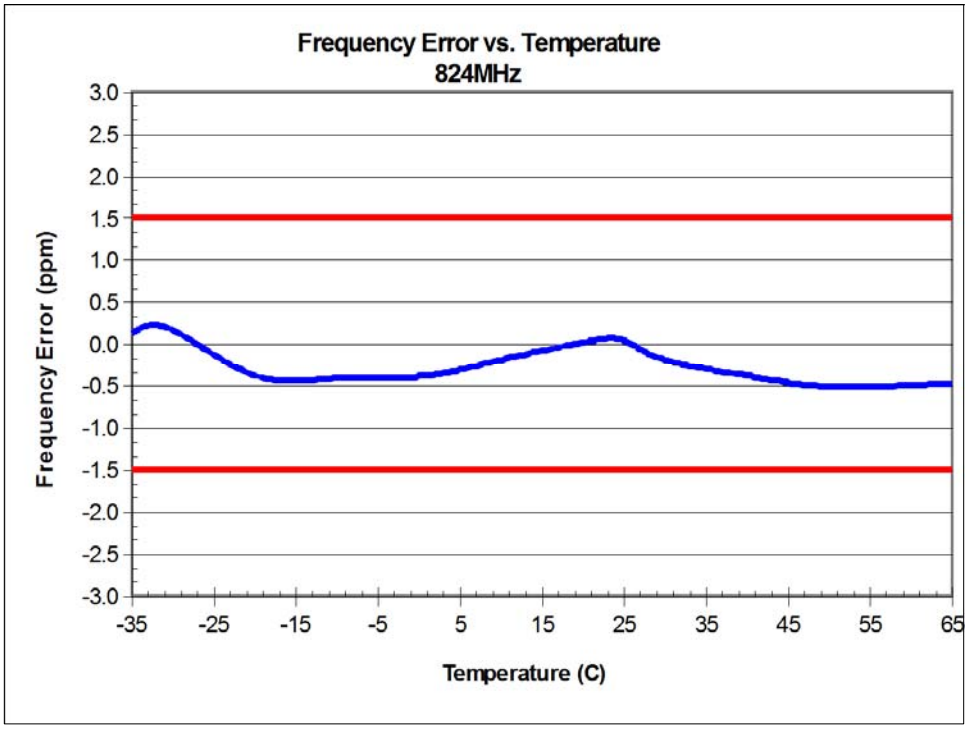
Rule Parts. No.: Part 2.1055, Part 90.213

Requirements: Temperature range requirements: -30 to +50° C.
Voltage Variation +, -15%
±1.5 PPM

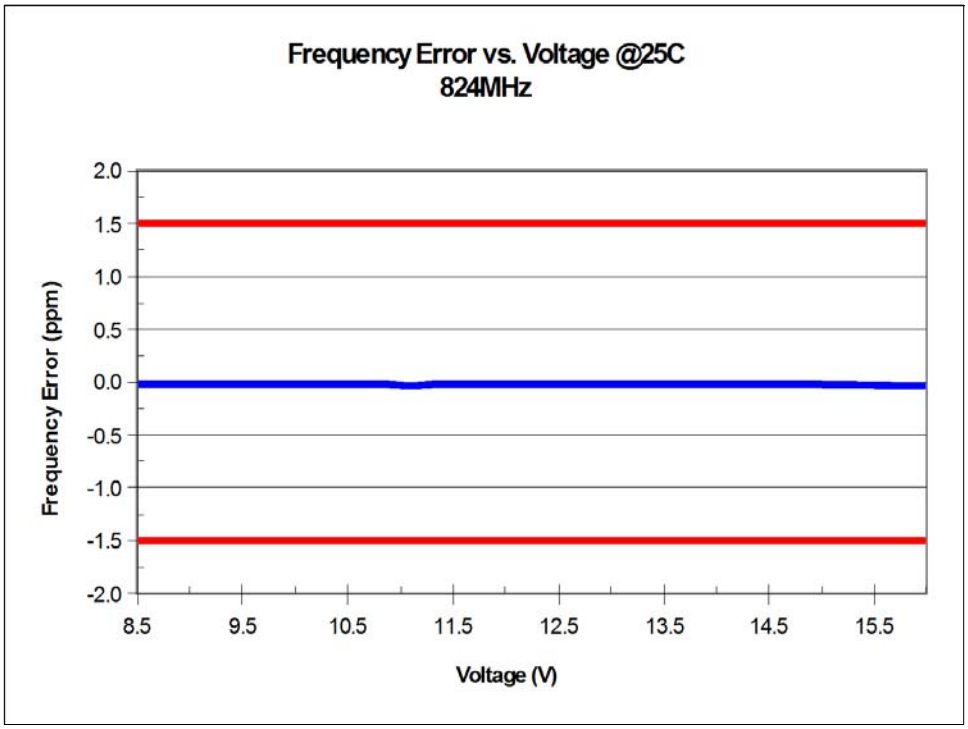
Method of Measurements: ANSI/TIA 603-C: 2004.

Test Data:

Frequency Stability Over Temperature.



Frequency Stability Over Voltage.



TRANSIENT FREQUENCY BEHAVIOR

Part 90.214 & TIA-603-C 2.2.19 Transient Frequency Behavior

REQUIREMENTS: Transmitters designed to operate in the 806-940MHz frequency bands must maintain transient frequencies within the maximum transient frequencies within the maximum frequency difference limits during the time intervals indicated:

Time Intervals	Maximum frequency difference	All Equipment
		806-940MHz

Transient Frequency Behavior for Equipment Designed to Operate on 25 kHz Channels

t_1*	±25.0 kHz	20.0 ms
t_2	±12.5 kHz	50.0 ms
t_3*	±25.0 kHz	10.0 ms

Transient Frequency Behavior for Equipment Designed to Operate on 12.5 kHz Channels

t_1*	±12.5 kHz	20.0 ms
t_2	±6.25 kHz	50.0 ms
t_3*	±12.5 kHz	10.0 ms

Transient Frequency Difference Limits

Time Interval	**Maximum Permitted Frequency Difference for 25KHz Channel Spacing (KHz)**	**Maximum Permitted Frequency Difference for 12.5KHz Channel Spacing (KHz)**
t_1 or t_3	**25**	**12.5**
t_2	**12.5**	**6.25**

t_{on} is the instant when a 1 kHz test signal is completely suppressed, including any capture time due to phasing.

t_1 is the time period immediately following t_{on}.

t_2 is the time period immediately following t_1.

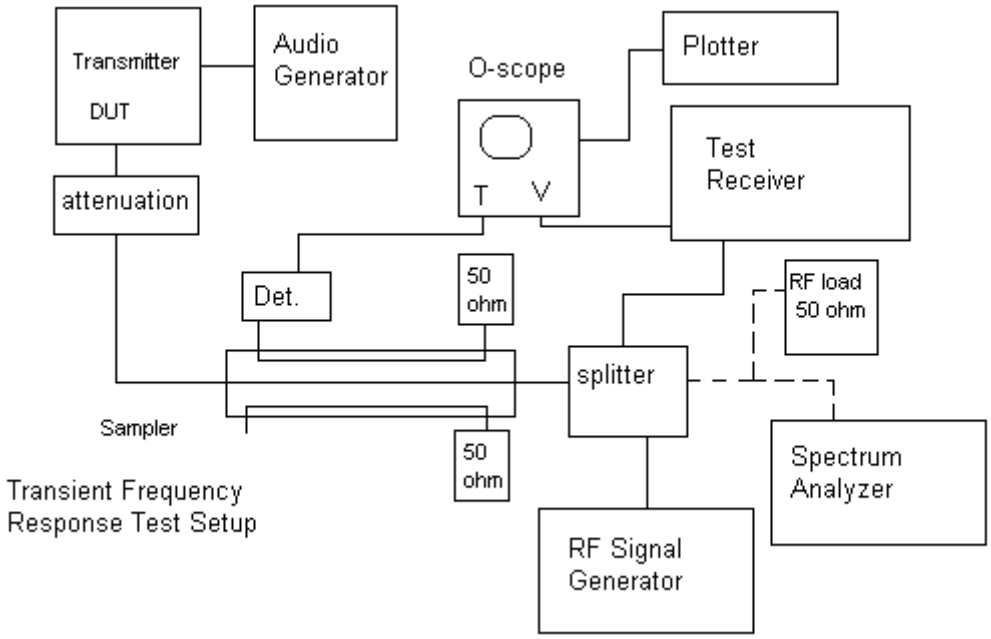
t_3 is time period from the instant when the transmitter is turned of until t_{off}

t_{off} is the instant when the 1 KHz test signal starts to rise.

*** If the transmitter carrier output power rating is 6 watts or less, the frequency difference during the time period may exceed the maximum frequency difference for the time period.**

TEST PROCEEDURE: ANSI/TIA 603-C:2004, the levels were set as follows:

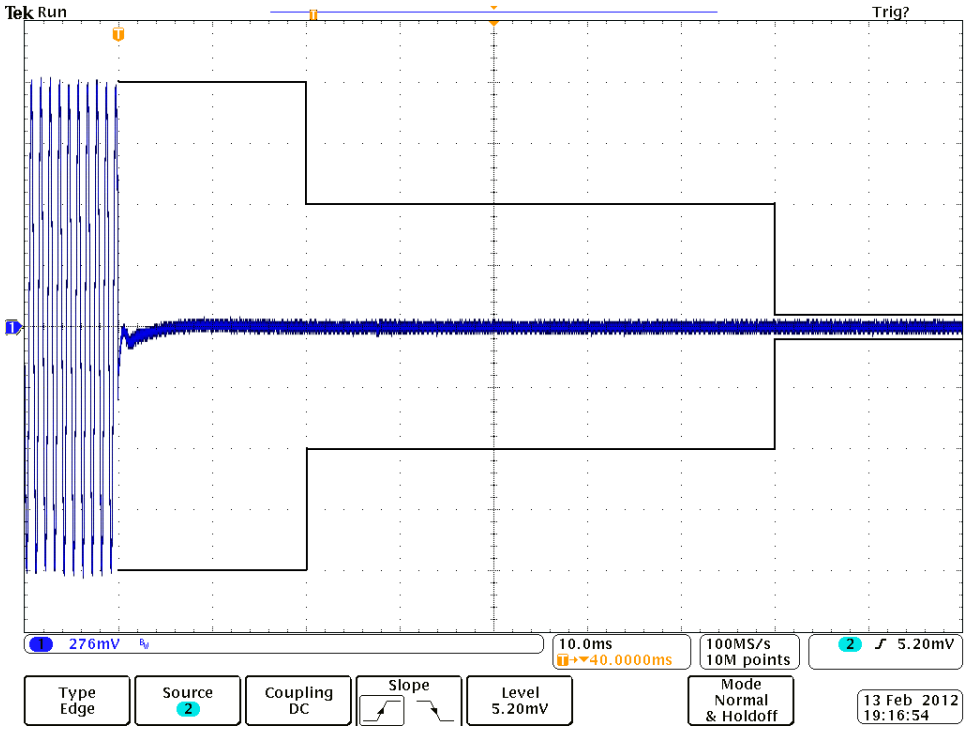
Using the variable attenuator the transmitter level was set to 40 dB below the test receivers maximum input level, then the transmitter was turned off.
With the transmitter off the signal generator was set 20dB below the level of the transmitter in the above step, this level will be maintained with the signal generator through-out the test.
Reduce the attenuation between the transmitter and the RF detector by 30 dB.
With the levels set as above, the transient frequency behavior was observed and recorded.



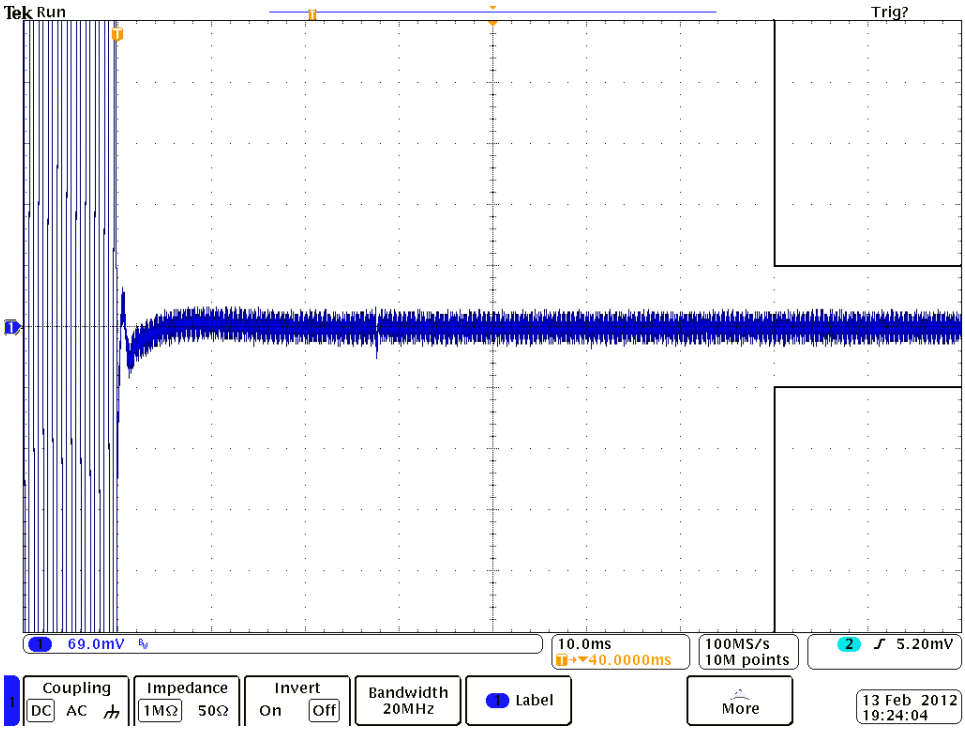
Transient Frequency Response Test Setup

Transient Frequency Response – Test Data

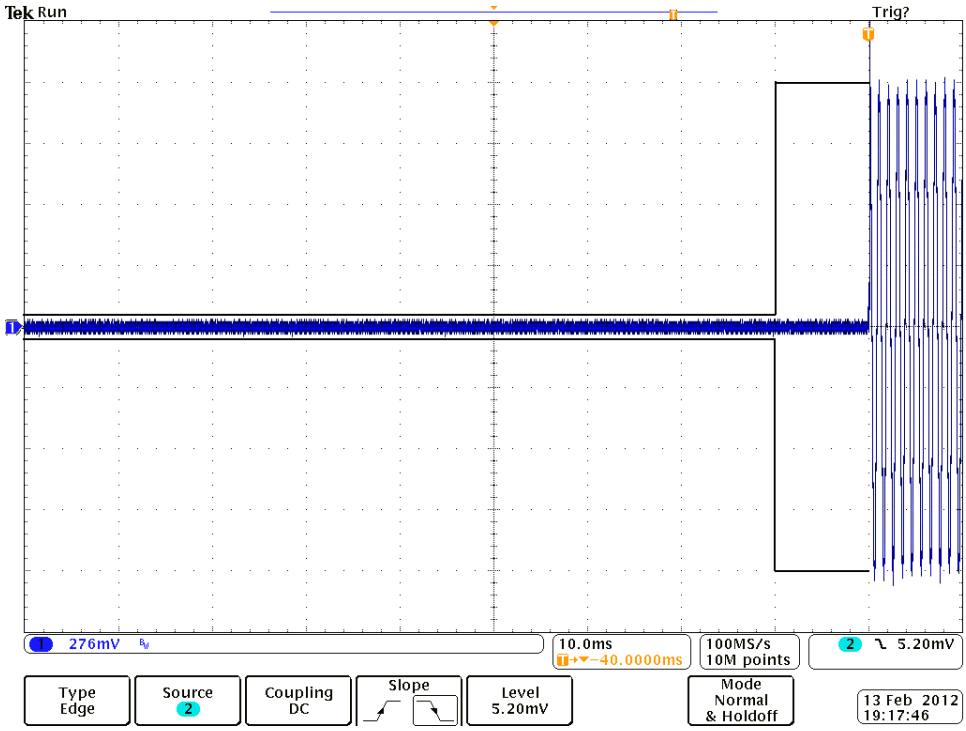
25Khz Channel 851MHz TX ON



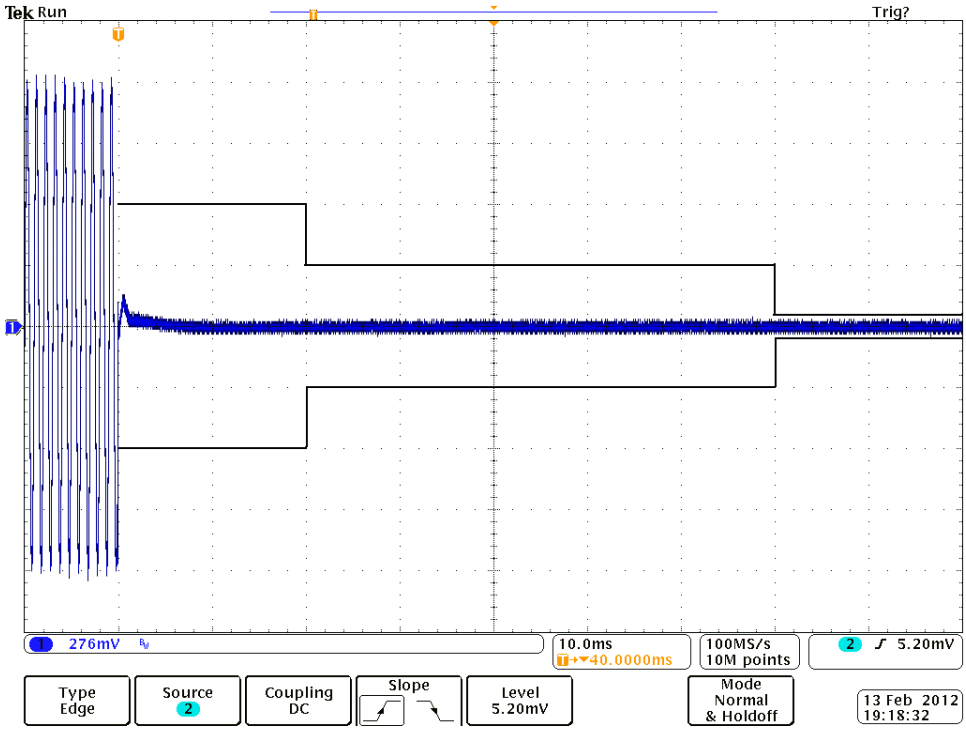
25Khz Channel 851MHz TX ON ZOOMED



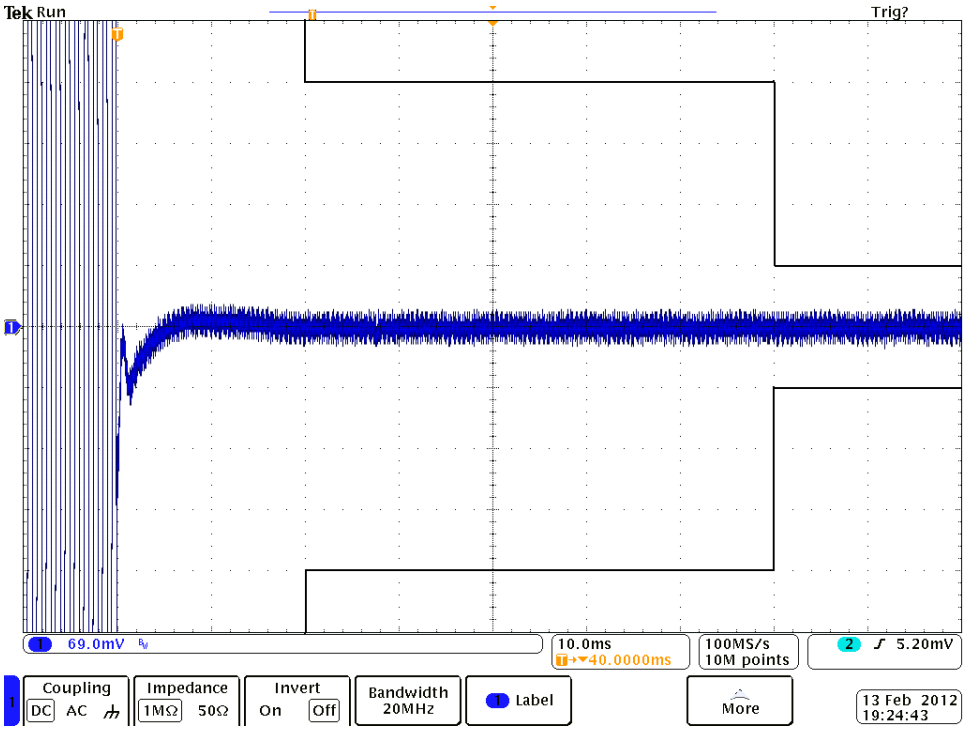
25KHz Channel 851MHz TX OFF



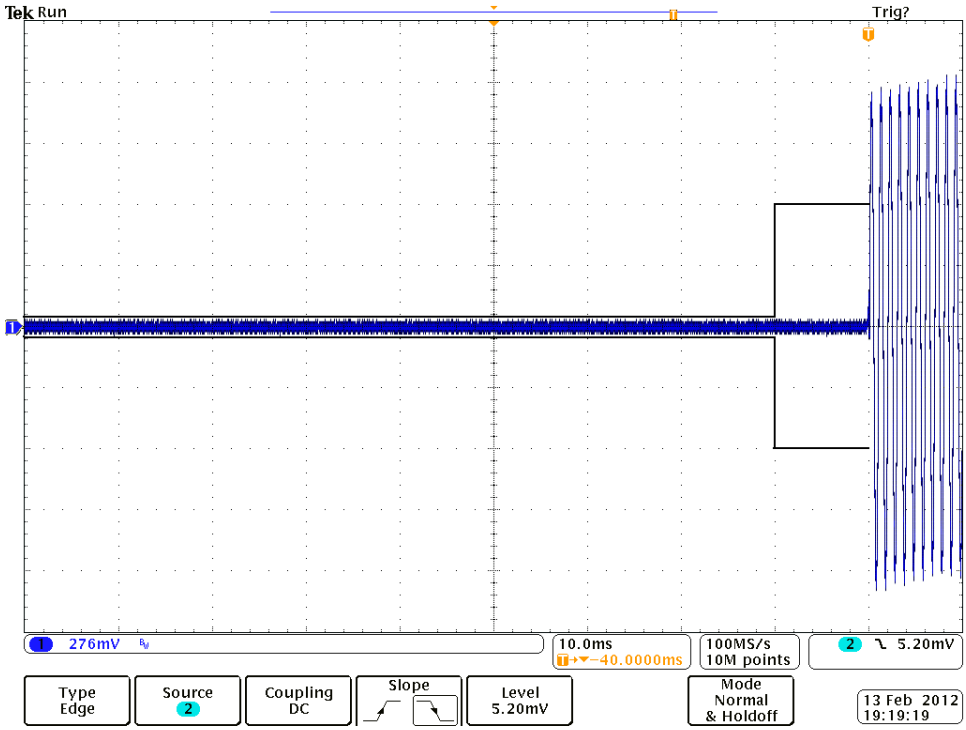
12.5KHz Channel 851MHz TX ON



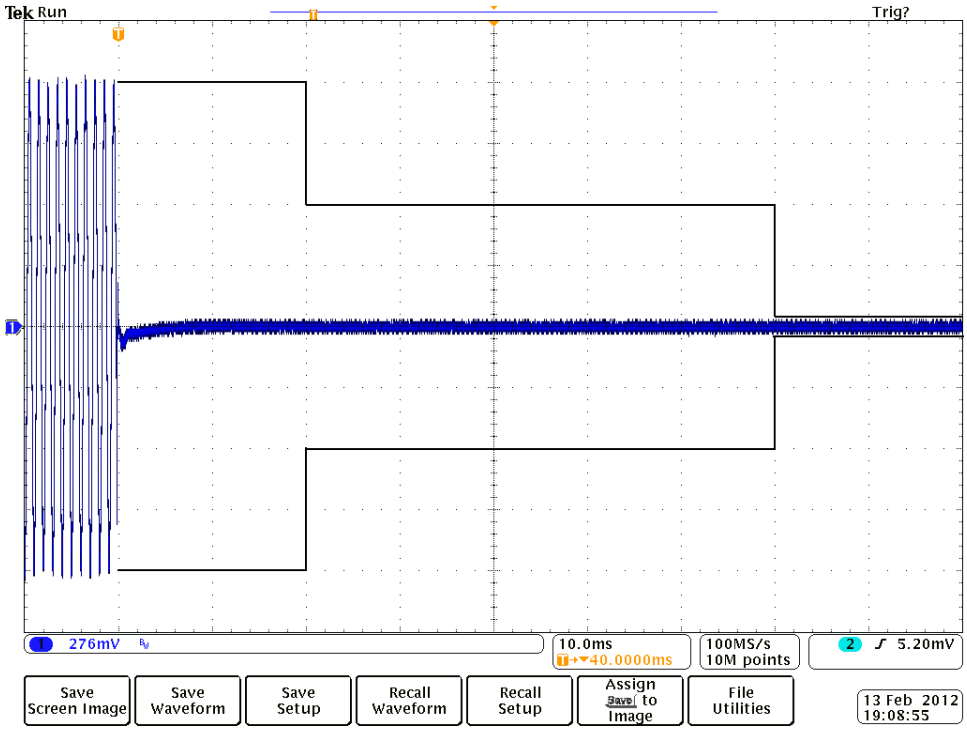
12.5KHz Channel 851MHz TX ON ZOOMED



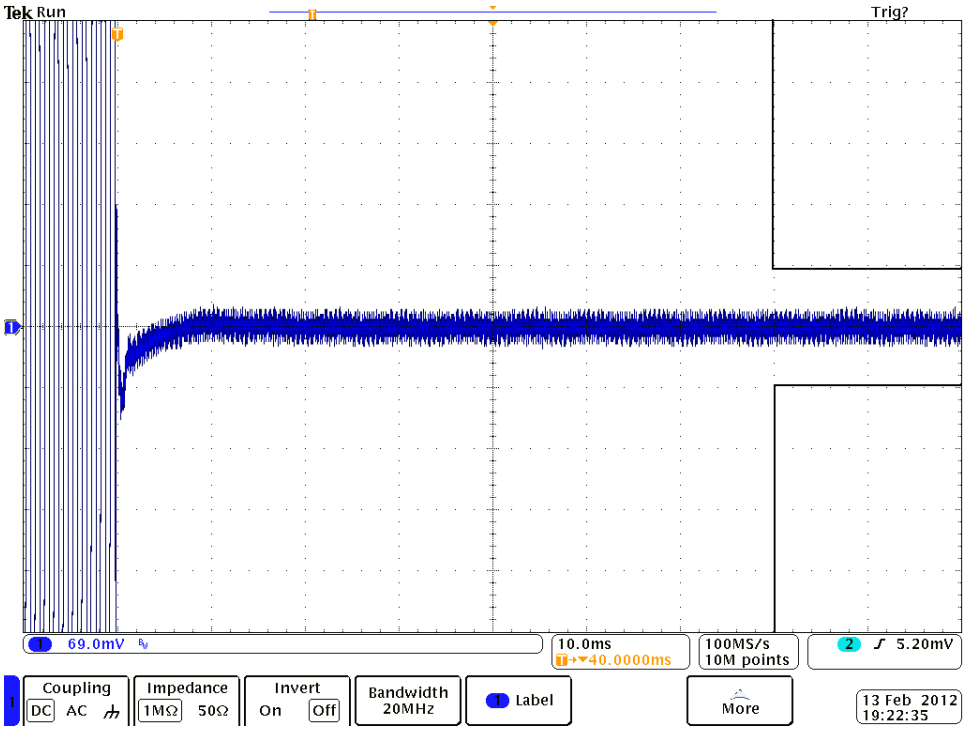
12.5KHz Channel 851MHz TX OFF



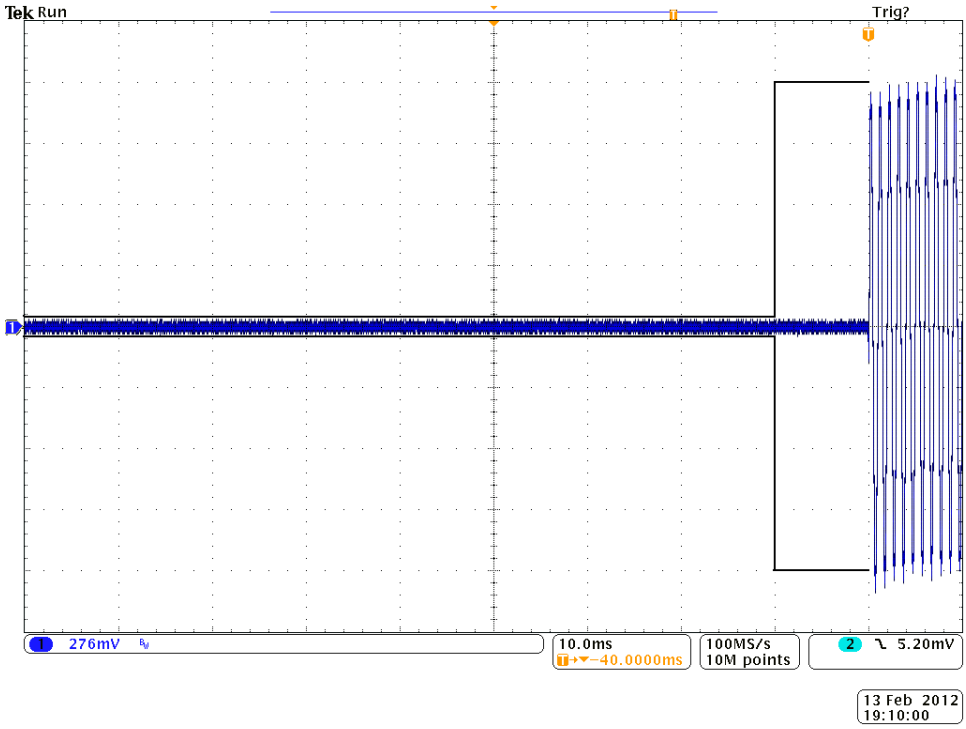
25KHz Channel 774MHz TX ON



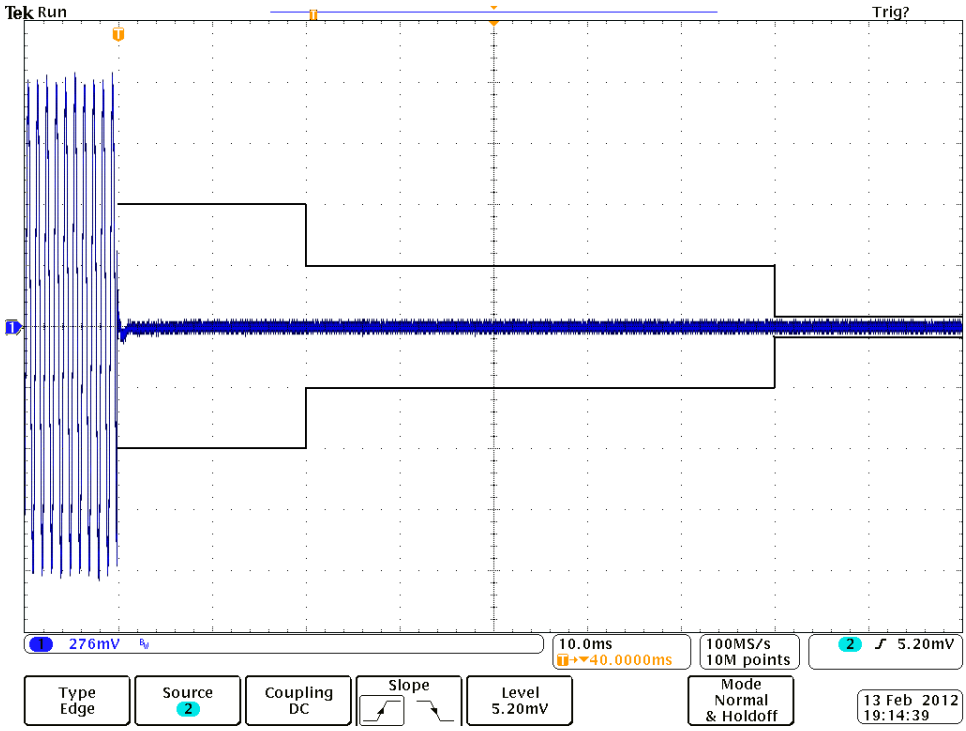
25 kHz Channel 774MHz TX ON ZOOMED



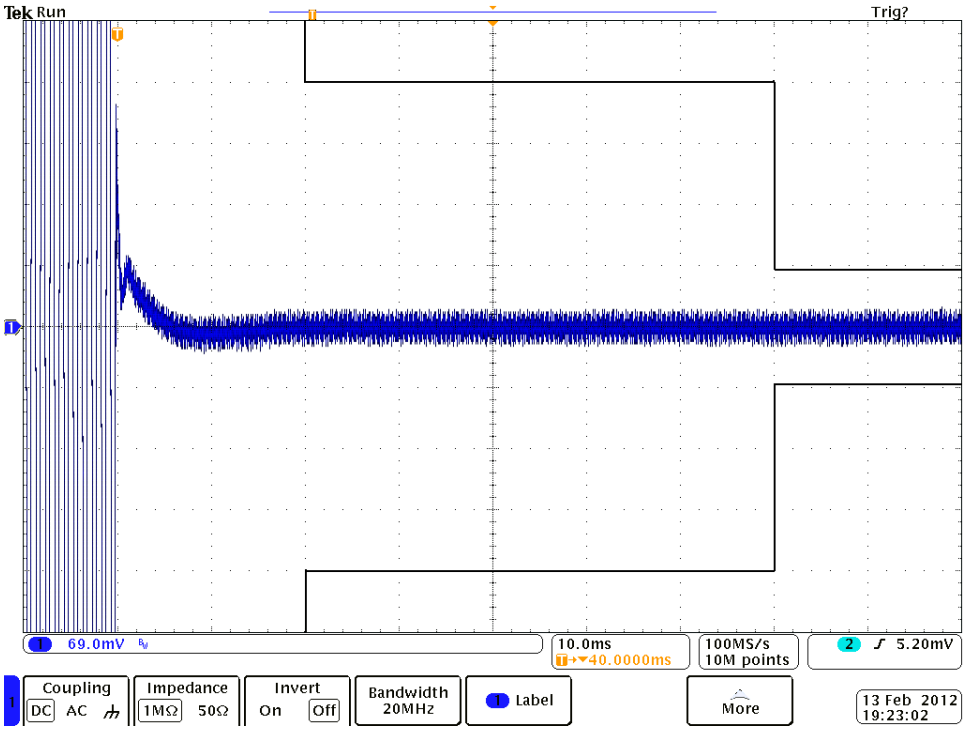
25 kHz Channel 774MHz TX OFF



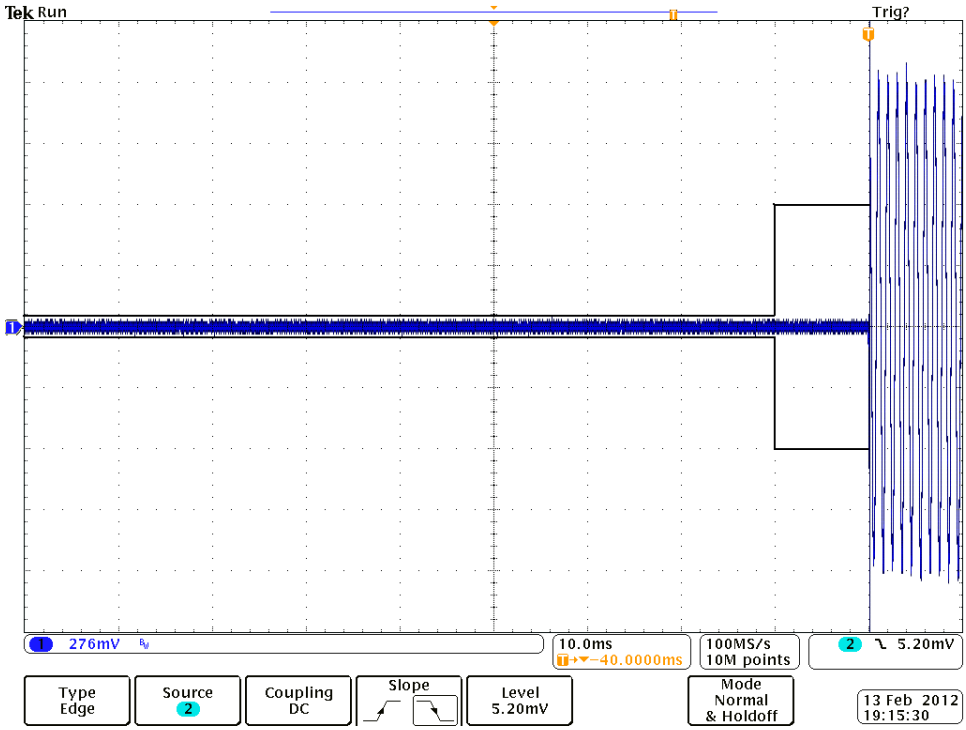
12.5 kHz Channel 774MHz TX ON



12.5 kHz Channel 774MHz TX ON ZOOMED



12.5 kHz Channel 774MHz TX OFF



ADJACENT CHANNEL POWER

Part 90.543 Emission limitation – Adjacent Channel Power

Analog 25KHz Channel Spacing		**770MHz**		
Offset Frequency (KHz)	Measurement Bandwidth (KHz)	Adjacent Channel Power Ratio (dB)		
		FCC Limit	Lower	Upper
15.625	6.25	-40	-71.2	-70.5
21.875	6.25	-60	-76.2	-75.4
37.5	25	-60	-71.3	-69.9
62.5	25	-65	-71.4	-71.3
87.5	25	-65	-72.0	-71.6
150	100	-65	-69.8	-69.8
250	100	-65	-74.4	-74.5
350	100	-65	-74.9	-74.7
>400 to 12MHz	30 (Swept)	-75	< -75	< -75
12MHz to Rx	30 (Swept)	-75	< -75	< -75
Rx Band	30 (Swept)	-100	< -100	< -100

Analog 12.5 KHz Channel Spacing		**770MHz**		
Offset Frequency (KHz)	Measurement Bandwidth (KHz)	Adjacent Channel Power Ratio (dB)		
		FCC Limit	Lower	Upper
9.375	6.25	-40	-46.4	-49.3
15.625	6.25	-60	-75.1	-75.5
21.875	6.25	-60	-76.1	-75.7
37.5	25	-60	-71.0	-70.1
62.5	25	-65	-71.0	-71.4
87.5	25	-65	-73.3	-72.4
150	100	-65	-69.2	-69.6
250	100	-65	-74.0	-74.0
350	100	-65	-74.5	-74.5
>400 to 12MHz	30 (Swept)	-75	< -75	< -75
12MHz to Rx	30 (Swept)	-75	< -75	< -75
Rx Band	30 (Swept)	-100	< -100	< -100

APCO 12.5 KHz Channel Spacing	**Voice**	**770MHz**		
Offset Frequency (KHz)	Measurement Bandwidth (KHz)	Adjacent Channel Power Ratio (dB)		
		FCC Limit	Lower	Upper
9.375	6.25	-40	-41.5	-41.4
15.625	6.25	-60	-74.1	-74.6
21.875	6.25	-60	-75.6	-76.2
37.5	25	-60	-71.2	-71.7
62.5	25	-65	-70.1	-71.2
87.5	25	-65	-73.8	-74.0
150	100	-65	-70.0	-71.4
250	100	-65	-76.0	-76.0
350	100	-65	-75.0	-75.0
>400 to 12MHz	30 (Swept)	-75	< -75	< -75
12MHz to Rx	30 (Swept)	-75	< -75	< -75
Rx Band	30 (Swept)	-100	< -100	< -100

APCO 12.5 KHz Channel Spacing	Digital	770MHz		
Offset Frequency (KHz)	Measurement Bandwidth (KHz)	Adjacent Channel Power Ratio (dB)		
		FCC Limit	Lower	Upper
9.375	6.25	-40	-41.8	-41.3
15.625	6.25	-60	-74.2	-74.7
21.875	6.25	-60	-76.1	-75.2
37.5	25	-60	-71.4	-72.8
62.5	25	-65	-71.5	-71.2
87.5	25	-65	-72.4	-72.8
150	100	-65	-70.6	-69.4
250	100	-65	-76.3	-76.2
350	100	-65	-76.3	-75.0
>400 to 12MHz	30 (Swept)	-75	< -75	< -75
12MHz to Rx	30 (Swept)	-75	< -75	< -75
Rx Band	30 (Swept)	-100	< -100	< -100

Adjacent Channel Coupled Power Ratio – 800MHz

Analog 25KHz Channel Spacing		800MHz		
Offset Frequency (KHz)	Measurement Bandwidth (KHz)	Adjacent Channel Power Ratio (dB)		
		FCC Limit	Lower	Upper
15.625	6.25	-40	-69.6	-72.2
21.875	6.25	-60	-76.4	-75.5
37.5	25	-60	-71.2	-71.0
62.5	25	-65	-71.8	-71.8
87.5	25	-65	-72.8	-72.7
150	100	-65	-69.3	-70.3
250	100	-65	-74.2	-74.3
350	100	-65	-74.8	-74.5
>400 to 12MHz	30 (Swept)	-75	< -75	< -75
12MHz to Rx	30 (Swept)	-75	< -75	< -75
Rx Band	30 (Swept)	-100	< -100	< -100

Analog 12.5 KHz Channel Spacing		800MHz		
Offset Frequency (KHz)	Measurement Bandwidth (KHz)	Adjacent Channel Power Ratio (dB)		
		FCC Limit	Lower	Upper
9.375	6.25	-40	-48.6	-48.3
15.625	6.25	-60	-75.9	-74.9
21.875	6.25	-60	-75.6	-75.4
37.5	25	-60	-71.8	-72.4
62.5	25	-65	-71.9	-72.2
87.5	25	-65	-73.6	-73.0
150	100	-65	-70.0	-69.9
250	100	-65	-75.9	-75.2
350	100	-65	-76.3	-75.3
>400 to 12MHz	30 (Swept)	-75	< -75	< -75
12MHz to Rx	30 (Swept)	-75	< -75	< -75
Rx Band	30 (Swept)	-100	< -100	< -100

APCO 12.5 KHz Channel Spacing	Voice	800MHz		
Offset Frequency (KHz)	Measurement Bandwidth (KHz)	Adjacent Channel Power Ratio (dB)		
		FCC Limit	Lower	Upper
9.375	6.25	-40	-41.9	-42.3
15.625	6.25	-60	-73.7	-74.1
21.875	6.25	-60	-75.2	-74.9
37.5	25	-60	-70.3	-70.6
62.5	25	-65	-72.8	-72.4
87.5	25	-65	-74.0	-74.0
150	100	-65	-69.7	-69.5
250	100	-65	-74.8	-74.6
350	100	-65	-76.3	-75.0
>400 to 12MHz	30 (Swept)	-75	< -75	< -75
12MHz to Rx	30 (Swept)	-75	< -75	< -75
Rx Band	30 (Swept)	-100	< -100	< -100

APCO 12.5 KHz Channel Spacing	Digital	800MHz		
Offset Frequency (KHz)	Measurement Bandwidth (KHz)	Adjacent Channel Power Ratio (dB)		
		FCC Limit	Lower	Upper
9.375	6.25	-40	-44.5	-42.2
15.625	6.25	-60	-76.0	-75.2
21.875	6.25	-60	-75.9	-75.1
37.5	25	-60	-71.1	70.8
62.5	25	-65	-72.6	-72.2
87.5	25	-65	-73.8	-72.9
150	100	-65	-69.4	-68.9
250	100	-65	-73.6	-74.5
350	100	-65	-74.4	-74.6
>400 to 12MHz	30 (Swept)	-75	< -75	< -75
12MHz to Rx	30 (Swept)	-75	< -75	< -75
Rx Band	30 (Swept)	-100	< -100	< -100