Exhibit F – Test Report

The data required by 47 CFR Sections 2.1046 through 2.1057 inclusive, measured in accordance with the procedures set out in Section 2.1041. (2.1033 (c) (14))

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F.1 Test Procedure and Compliance Matrix

This section documents the test procedures and results of tests to demonstrate compliance with the applicable requirements of Parts 2 and 87 of the FCC Rules and Regulations, Code of Federal Regulations (CFR) Title 47.

Tests were conducted on engineering “Red Label” units under configuration management. “Red Label” units are considered to be identical to production “Black Label” units in terms of the performance criteria specified in this section. “Red Label” units are converted to “Black Label” units once FAA Technical Standard Order (TS0) and FCC approval are obtained.

Test equipment used during each test is identified within each test section. Calibration status of the equipment is listed alongside the listings of the equipment used. All test equipment listed in this report were calibrated to the performance specifications as documented in their applicable calibration procedures. The Rockwell Collins Quality System complies with ANSI/NCSL Z540. Measurement Standards are traceable to The National Institute of Standards and Technology (NIST) or International Standards, or traceability is achieved by other methods as described in ANSI/NCSL Z540. Divisions of Rockwell Collins providing calibration services are ISO 9001 registered.

The Table F-1 below identifies the applicable sections of this document and its relationship between the Parts 2 and 87 requirements. The test results are included within each individual test section.

This update to exhibit F should be considered to apply to the updated RTA-41XX with surface modes only, top level part numbers 822-2254-411 and 822-2255-411. Previous RTA-41XX units, with top level part numbers 822-2254-001, 822-2255-001, 822-2256-001, and 822-2254-401, are still covered by the original exhibit F marked with document part number 815-9475-001, and released in 2009.

Table F-1 – Test Requirements Matrix

47 CFR Part 2 Section	47 CFR Part 87 Section	Test Description Summary	Section
2.1047	87.141	Modulation Characteristics	F.2
2.1046	87.131	RF Power Output	F.4
2.1055	87.133	Frequency Stability	F.5
2.1049	87.135	Occupied Bandwidth	F.6
2.1051	87.139	Spurious Emissions at Antenna Terminals	F.7
2.1053	87.139	Field Strength of Spurious Radiation	F.8

F.2 RTA-41XX Modulation Characteristics (2.1047)

Requirement:

47 CFR Section 2.201 – Emission, Modulation, and Transmission Characteristics

47 CFR Section 2.1047(d) states: "A curve or equivalent data which shows that the equipment will meet the modulation requirements of the rules under which the equipment is to be licensed."

RTA-41XX Operation:

The RTA-41XX utilizes rectangular pulses modulated with Binary Phase-Shift Keying (BPSK).

Under the guidelines of Section 2.201 of the CFR the Emissions Designation of the RTA-41XX is as follows:

23M60M1X

Where:

"23M60" - The necessary bandwidth is calculated in two parts. The necessary bandwidth for a single frequency channel is calculated as $B_n = 2R / \log_2(S) = 7.6$ MHz. R is the maximum symbol rate for the Surface or Ultra Short pulse as described below. S is the number of modulation states (S = 2 for BPSK). In addition there is a 16 MHz frequency separation between the lowest frequency and highest frequency channel as described below. This separation is added to the single channel necessary bandwidth as the lowest frequency lower spectrum and the highest frequency upper spectrum dictate the overall necessary bandwidth.

"M" – A sequence of pulses modulated in position/phase.

"1" – A single channel containing quantized or digital information without the use of a modulating sub-carrier, excluding time-division multiplex.

"X" – Type of information to be transmitted – Cases not otherwise covered.

The following paragraphs describe the transmitted output waveform and frequency utilization in Weather modes.

The RTA-41XX Weather Radar System utilizes a single fixed pulse pattern for all Weather, Turbulence, and Map modes of operation. This same pattern is utilized regardless of whether the system is in Manual operation or Automatic MultiScan™ operation.

The transmitter pulse pattern consists of a sequence of seven pulses. This includes a series of two 3.4 µs transmitter pulses for short-range weather detection, one 55 µs pulse for long-range weather detection, and a series of four 20 µs pulses for measuring weather and turbulence out to 40 nm. Figure F-1 below shows this pattern. The time period for this group of 7 pulses is called an Epoch. A small variable delay is inserted between epochs to reduce mutual interference between radar systems by dithering the pulse timing.

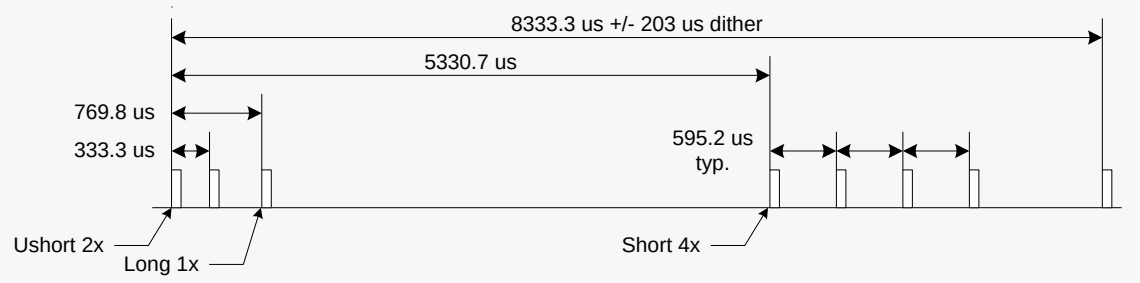

Figure F-1 – Weather Transmit Pulse Pattern

In addition, BPSK modulation is utilized. Since the 13 to 1 ratio is maintained regardless of the pulse width, the chip widths become narrower as the pulse width decreases. The maximum chip rate (smallest chip width) is associated with the Ultra Short pulse and is utilized in calculating the necessary bandwidth of the transmitted pulse pattern. The following equation calculates the chip rate.

R = Chip Rate = 13 * 1 / PW_{US} = 13 * 1 / 3.439 µs = 3.78 MHz

Weather Frequency Selection:

The RTA-41XX is capable of tuning to 5 different frequencies which are listed in Table F-2 below. Use of multiple frequencies significantly improves the accuracy of weather and ground target amplitude estimations. Transmit Channel 3 is reserved for built-in test (BIT)/future growth and is not used in normal operation of the RTA-41XX. This channel will not be included in testing.

Table F-2 – RTA-41XX Weather Channel Frequencies

TX CH	X Band TX (MHz)
1	9460.9
2	9464.9
3	9468.9 (BIT Only)
4	9472.9
5	9476.9

Weather Operation:

Four frequencies from Table F-2 are allocated for Weather, Turbulence and Mapping. These are:

F1 – 9460.9 MHz (Channel 1)
F2 – 9464.9 MHz (Channel 2)
F4 – 9472.9 MHz (Channel 4)
F5 – 9476.9 MHz (Channel 5)

The radar randomly selects one of the four frequencies for each of the three pulse widths within the epoch. The epoch pulse set consists of two 3.4 µs pulses, one 55 µs pulse, and four 20 µs pulses on the same frequency. After transmission on one frequency, the next pulse width transmitted (consisting of either two 3.4 µs pulses, one 55 µs pulse, or four 20 µs pulses) occurs on one of the three remaining frequencies. This pattern is repeated until all four frequencies are used. The software ensures that the same frequency is not repeated between adjacent pulse widths.

The following paragraphs describe the transmitted output waveform and frequency utilization in Surface modes.

The RTA-41XX Weather Radar System utilizes a single fixed pulse pattern for all Surface modes of operation. This same pattern is utilized regardless of whether the system is in Manual operation or Automatic operation.

The transmitter pulse pattern consists of a single repeating pulse. The pulse is 12 µs in duration and repeats at 3000 Hz. The time period for a group of 25 of these pulses is called an Epoch.

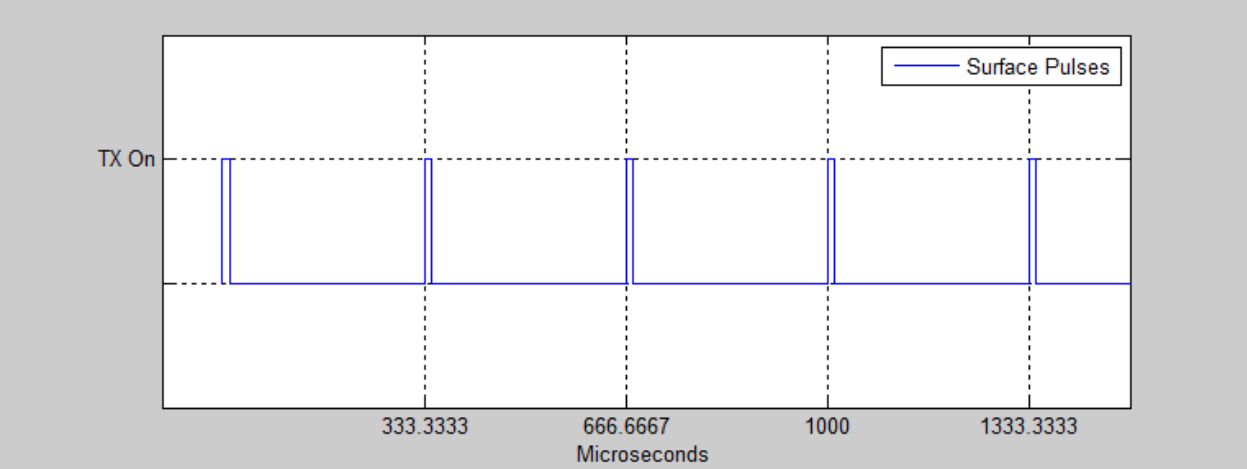

Figure F-2 – Surface Transmit Pulse Pattern

In addition, BPSK modulation is utilized. Since the 13 to 1 ratio is maintained regardless of the pulse width, the chip widths become narrower as the pulse width decreases. The chip rate of the Surface pulse is 7.56 MHz, and is utilized in calculating the necessary bandwidth of the transmitted pulse pattern.

$B_n = 2R / \log_2(S)$
$B_n = 2*7.56 / \log_2(2)$
$B_n = 15.12$ MHz

The single channel bandwidth in surface modes is 15.12 MHz. This is less than the 16+7.6 = 23.6 MHz bandwidth required for the previously authorized signal.

Surface Frequency Selection:

The RTA-41XX uses Transmit Channel 3 for all Surface operations.

Table F-3 – Surface Weather Channel Frequencies

TX CH	X Band TX (MHz)
1	9460.9 (not used)
2	9464.9 (not used)
3	9468.9
4	9472.9 (not used)
5	9476.9 (not used)

Surface Operation:

One frequency from Table F-3 is allocated for Surface modes. This is:

F3 – 9468.9 MHz (Channel 3)

Internal Test Operation:

At the end of each antenna sweep six test functions are performed using Channel 3 (9468.9 MHz). The power amplifier is disabled during these tests and the unit is not transmitting.

1. Receiver Noise Figure
2. Receiver Spectrum Monitor
3. Receiver VGA Gain Monitor
4. Receiver Loop Gain Monitor
5. Receiver AGC Limit Monitor
6. BPSK Mod/Demod Accuracy

F.3 Special FCC Test Conditions

To demonstrate compliance of the RTA-41XX over the full range of frequencies listed in Table F-2, it is necessary to configure the R/T unit in a special test condition. This test mode is described below.

Fixed Frequency Operation

The RTA-41XX can be locked onto a single fixed frequency by commands through the factory port input. The radar operates identically in all respects to normal operation including transmitter pulse patterns with the exception that the transmit frequency is locked to a single channel. Five conditions were defined; four fixed frequency channels and one normal operating condition with the normal channel selections. These special test conditions were used during subsequent testing described in this exhibit.

Table F-4 lists the Special FCC Test Conditions described above and lists which FCC test paragraphs utilized these conditions.

Table F-4 – Special FCC Test Conditions

Test Condition	Frequency (MHz)	2.1046 RF Pwr Out	2.1049 Occ BW	2.1051 Spur Emiss	2.1053 Spur Radiat	2.1055 Freq Stab
Normal	Switching		X	X	X	
Surface	9468.9	X	X			
Fixed Channel 1	9460.9	X				X
Fixed Channel 2	9464.9	X				X
Fixed Channel 4	9472.9	X				X
Fixed Channel 5	9476.9	X				X

F.4 RF Power Output (2.1046)

Requirement:

47 CFR Section 2.1046(a) "For transmitters other than single sideband, independent sideband and controlled carrier radiotelephone, power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the value of current and voltage on circuit elements specified in 2.1033 (c)(8). The electrical characteristics of the radio frequency load attached to the output terminals when this test is made shall be stated."

47 CFR Section 2.1033(c)(8) "The dc voltages applied to and dc currents into the several elements of the final radio frequency amplifying device for normal operation over the power range."

47 CFR Section 87.131, Note 7 "Frequency, emission, and maximum power will be determined by appropriate standards during the certification process".

Test Equipment and Setup:

The RTA-41XX unit utilizes a +28 VDC power supply. The power amplifier components utilize a +10 VDC supply at an average current of 800 mA as well as a +6 VDC supply at an average current of 1.1 A. This voltage is derived from the main +28 VDC input supply by on-board power supplies. Transmitter tuning is not required. The test shall be completed by varying the input +28 VDC power input ±15%.

The equipment used for the RF Power Output Test is shown in Table F-5.

Table F-5 – Test Equipment Used for RF Power Output Test

Equipment	Manufacturer/Model Number	Specific Identification	Calibration Date / Due Date
Receiver/Transmitter Module	Rockwell Collins RTA-4114 (822-2255-411))	S/N 4KCHJ	N/A
Test Harness	Rockwell Collins RTA-41XX Breakout Panel	653-4444-200	N/A
DC Power Supply	HP 6291A	460-0032-399	11/13/2012 / 11/30/2016
Waveguide to Coax Adapter	HP X-281A	469-0073-438	07/15/2014 / 07/31/2019
Attenuator (30 dB)	Aeroflex/Weinschel 48-30-34	BV5233	N/A
Attenuator (10 dB)	Weinschel Model 2	460-0212-783	01/04/2015 / 30/04/2020
Power Meter	Agilent N1912A	460-0163-288	05/20/2014 / 31/20/2016
Peak Power Sensor	Agilent N10149	460-0163-291	01/17/2015 / 01/31/2018
Personal Computer	Dell Precision T7400	CRP07261	N/A
ARINC 429 PCI Card	Condor Engineering CEI-520-4	N/A	N/A

A functional block diagram of the equipment setup for the RF Power Output Test is shown in Figure F-3.

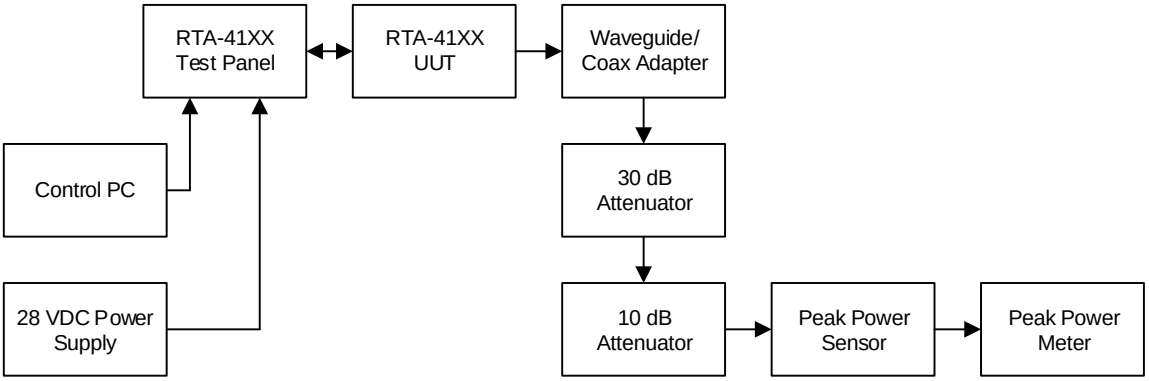

Figure F-3 – RF Power Output Test Equipment Setup Diagram

Weather Test Procedure:

This test shall measure the RF output power while the primary power input varies up to ±15%. The power output shall be measured during the Weather plus Turbulence operating mode with the transmitter locked to one of four possible channels.

For each voltage specified in Table F-6, set the radar to each of the four fixed frequencies of operation and measure the peak RF output power. The power shall be measured through 40 dB of attenuation to avoid damage to the test equipment.

Weather Test Results:

The measured transmitter power output for each operating frequency versus power supply voltage is contained in Table F-6.

Table F-6 – RF Power Output

Line Voltage (VDC)	Peak Transmitter Power Output (Watts)			
	Channel 1	Channel 2	Channel 4	Channel 5
23.8 (28 – 15%)	50.6	50.7	50.7	50.8
25.2 (28 – 10%)	50.6	50.6	50.7	50.8
26.6 (28 – 5%)	50.6	50.7	50.7	50.6
28.0	50.6	50.7	50.5	50.6
29.4 (28 + 5%)	50.6	50.7	50.5	50.7
30.8 (28 + 10%)	50.6	50.7	50.5	50.5
32.2 (28 + 15%)	50.6	50.7	50.5	50.5

Surface Test Procedure:

This test shall measure the RF output power while the primary power input varies up to ±15%. The power output shall be measured during the MAP2 operating mode. In this mode, the transmitter is locked to Channel 3.

In addition, this test shall measure the RF output power in Weather plus Turbulence operating mode with the transmitter locked to Channel 2. This data is collected to serve as a control against data taken in the original filing shown in Table F-6.

For each voltage specified in Table F-7, set the radar to each of the two modes on the fixed frequencies of operation and measure the peak RF output power. The power shall be measured through 40 dB of attenuation to avoid damage to the test equipment.

Surface Test Results:

The measured transmitter power output for each operating frequency versus power supply voltage is contained in Table F-6.

Table F-7 – RF Power Output with Surface Modes

Line Voltage (VDC)	Peak Transmitter Power Output (Watts)	
	WX+T, Channels 1,2,4,5	MAP2, Channel 3
23.8 (28 – 15%)	62.9	62.8
25.2 (28 – 10%)	63.2	63.0
26.6 (28 – 5%)	63.0	63.2
28.0	62.9	62.7
29.4 (28 + 5%)	62.8	62.6
30.8 (28 + 10%)	62.8	62.9
32.2 (28 + 15%)	62.7	62.8

The higher powers measured in Table F-7 when compared with those of Table F-6 should not be considered as a design change leading to greater power output, but rather should be considered to fall within natural unit – unit variation. The difference between these two levels is only approximately 0.9 dB, which is well within production tolerance of about 4.0 dB.

F.5 Frequency Stability (2.1055)

The original FCC authorization Test Report's Frequency Stability data remains applicable to the current design. No changes to the RF circuitry, clocks, or anything else that would affect stability have been made. While the original Test Report only showed data for channels 1, 2, 4, and 5, channel 3's stability is the same as the other channels. This is true because there are not really multiple physical channels, but instead a single RF pathway. The channel diversity is achieved simply by digitally programming an NCO to run at diferent rates. The stability is therefore guaranteed to be the same between them. This is borne out by looking at the data from the original application and plotting it against a frequency delta from center:

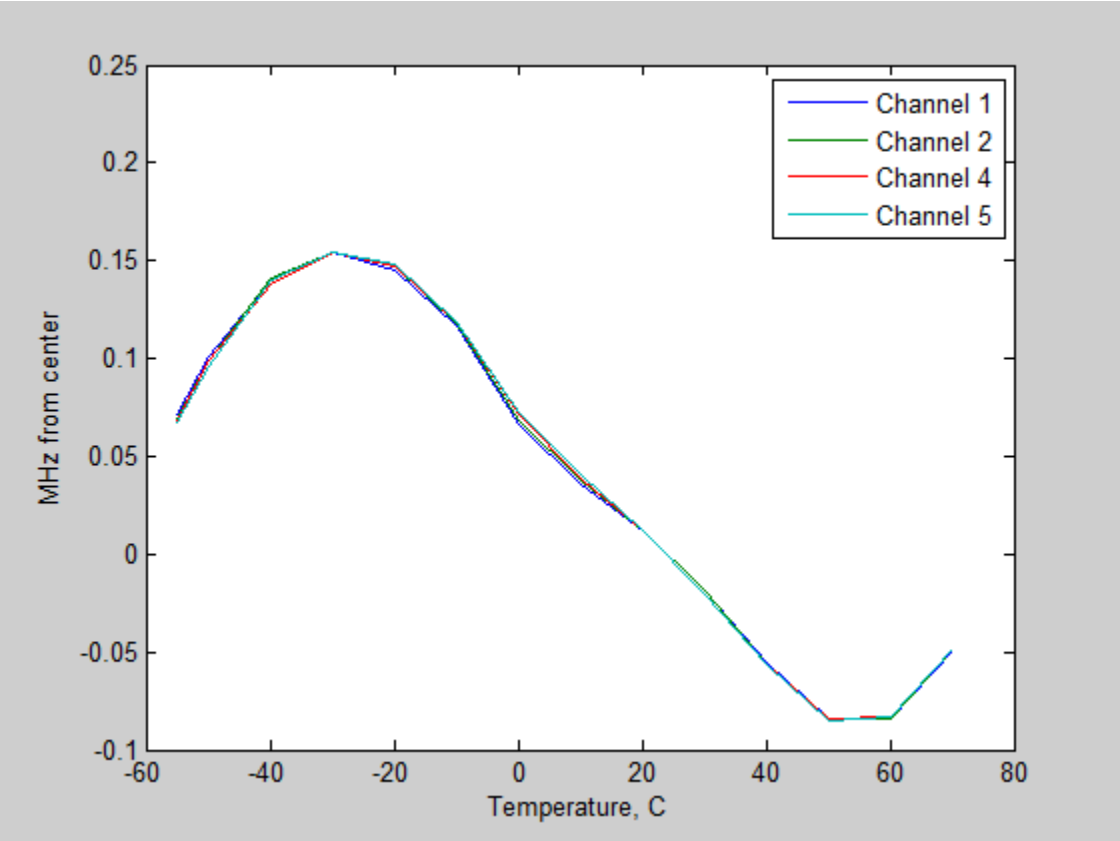

Figure F-4 – Frequency Stability over Temperature

Therefore, no additional frequency stability testing was performed.

F.6 Occupied Bandwidth (2.1049)

Requirement:

47 CFR Section 2.1049 “The occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission shall be measured under the following conditions as applicable.”

47 CFR Section 2.1049(i) “Transmitters designed for other types of modulation – when modulated by an appropriate signal of sufficient amplitude to be representative of the type of service in which used. A description of the input signal should be supplied.”

47 CFR Section 87.133 (a) Frequency tolerance for Frequency band (8) 2450 to 10500 MHz – Note 9,

“Where specific frequencies are not assigned to radar stations, the bandwidth occupied by the emissions of such stations must be maintained within the band allocated to the service and the indicated tolerance (1250 ppm) does not apply.”

47 CFR Section 87.135

(a) Occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to 0.5 percent of the total mean power of a given emission.

(b) The authorized bandwidth is the maximum occupied bandwidth authorized to be used by a station.

(c) The necessary bandwidth for a given class of emission is the width of the frequency band which is just sufficient to ensure the transmission of information at the rate and with the quality required under specified conditions.

Test Equipment and Setup:

The equipment used for the Occupied Bandwidth Test is shown in Table F-8.

Table F-8 – Equipment Used for Occupied Bandwidth Tests

Equipment	Manufacturer/Model Number	Specific Identification	Calibration Date / Due Date
Receiver/Transmitter Module	Rockwell Collins RTA-4114 (822-2255-411))	S/N 4KCHJ	N/A
Test Harness	Rockwell Collins RTA-41XX Breakout Panel	653-4444-200	N/A
DC Power Supply	HP 6291A	460-0032-399	11/13/2012 / 11/30/2016
Waveguide to Coax Adapter	HP X-281A	469-0073-438	07/15/2014 / 07/31/2019
Attenuator (30 dB)	Aeroflex/Weinschel 48-30-34	BV5233	N/A
Attenuator (10 dB)	Weinschel Model 2	460-0212-783	01/04/2015 / 30/04/2020
Spectrum Analyzer	Rohde-Shwarz FSU 46 GHz Spectrum Analyzer	460-0154-633	02/05/2015 / 02/28/2017
Personal Computer	Dell Precision T7400	CRP07261	N/A
ARINC 429 PCI Card	Condor Engineering CEI-520-4	N/A	N/A

A functional block diagram of the equipment setup for the Occupied Bandwidth Test is shown in Figure F-5.

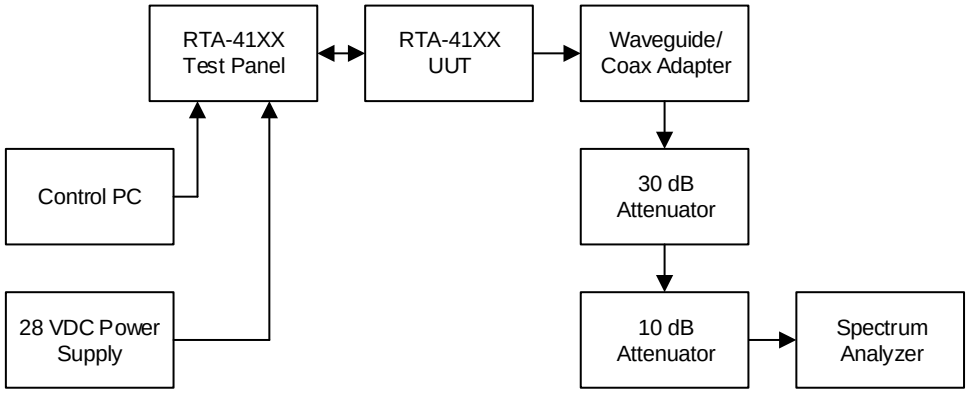

Figure F-5 – Occupied Bandwidth Test Equipment Setup

Test Procedure:

The RTA-41XX radar system is designed to operate on 4 separate frequencies in the band from 9460.9 MHz to 9476.9 MHz. During normal operation, each selected mode utilizes multiple transmitter frequencies. Utilization of multiple frequencies enables the radar system to obtain significantly greater accuracy in estimation of echo signal strength from both ground targets and weather targets. A complete description of the frequency selection, pulse repetition frequencies, and pulse width selection is provided in Section F.2, Modulation Characteristics.

The first test shall measure the occupied bandwidth during the Weather plus Turbulence operating mode to test the Weather function. The test shall be completed at with a nominal input voltage level of +28 VDC. The occupied bandwidth shall be measured through 40 dB of attenuation to avoid damage to the test equipment.

The second test shall use the spectrum analyzer hold function to measure the occupied bandwidth during the Weather plus Turbulence operating mode for the Weather function, followed by Shoreline Mapping for the Surface function. The test shall be completed at with a nominal input voltage level of +28 VDC. The occupied bandwidth shall be measured through 40 dB of attenuation to avoid damage to the test equipment. This measurement should be considered to be the most representative occupied bandwidth measurement of the radar, as it contains all possible signals at their relative spectral strengths.

The third test shall use the spectrum analyzer hold function to measure the occupied bandwidth during the Shoreline Mapping to test the Surface function. The test shall be completed at with a nominal input voltage level of +28 VDC. The occupied bandwidth shall be measured through 40 dB of attenuation to avoid damage to the test equipment.

Test Results:

The Rohde & Schwarz FSU spectrum analyzer was set up to automatically measure 99% occupied bandwidth. Table F-9 contains the test results for the three occupied bandwidth tests.

Table F-9 – RTA-41XX Occupied Bandwidth Measurement Results

Operational Mode	99% Occupied Bandwidth	Reference Figure
Weather function	21.6 MHz	Figure F-6
Weather function, followed by Surface Function	23.6 MHz	Figure F-7
Surface function alone	37.3 MHz	Figure F-8

The combined signal, shown in Figure F-7, yields a 90% occupied bandwidth measurement of 23.6 MHz.

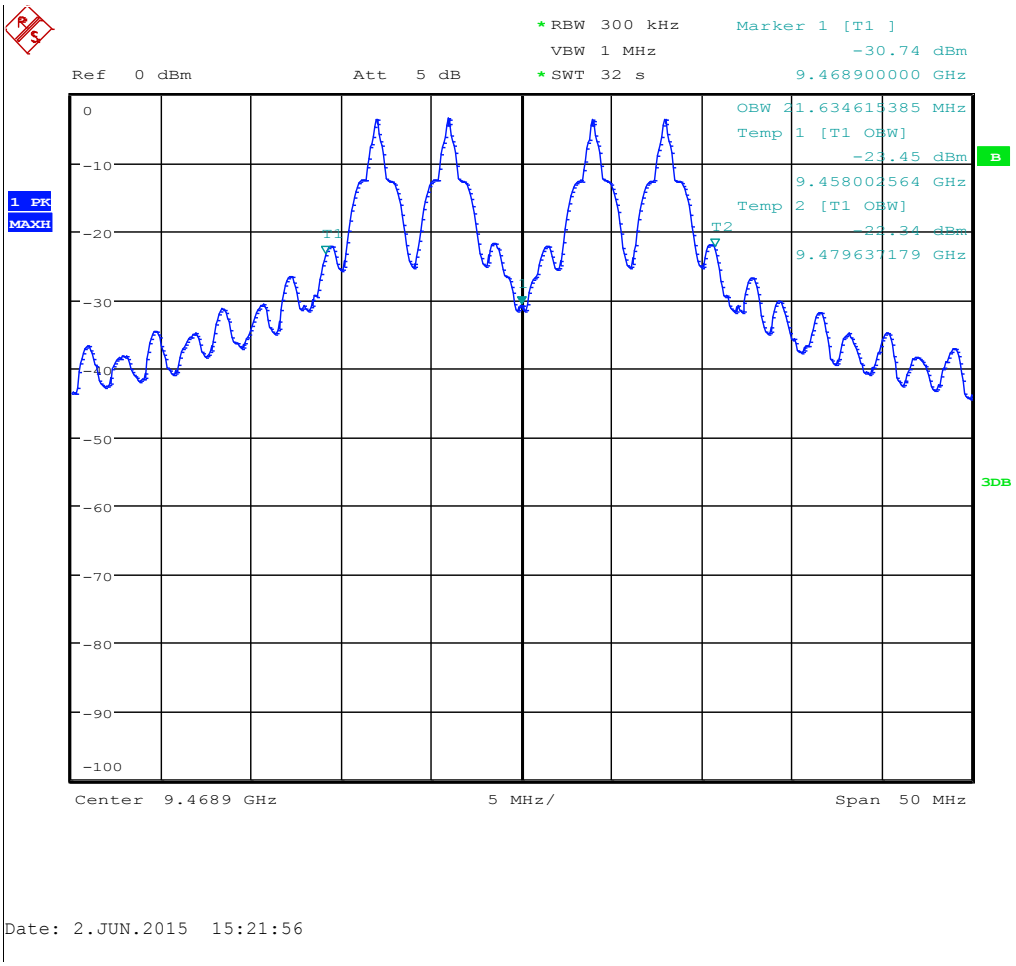

Figure F-6 – Occupied Bandwidth Measurement for Weather Function

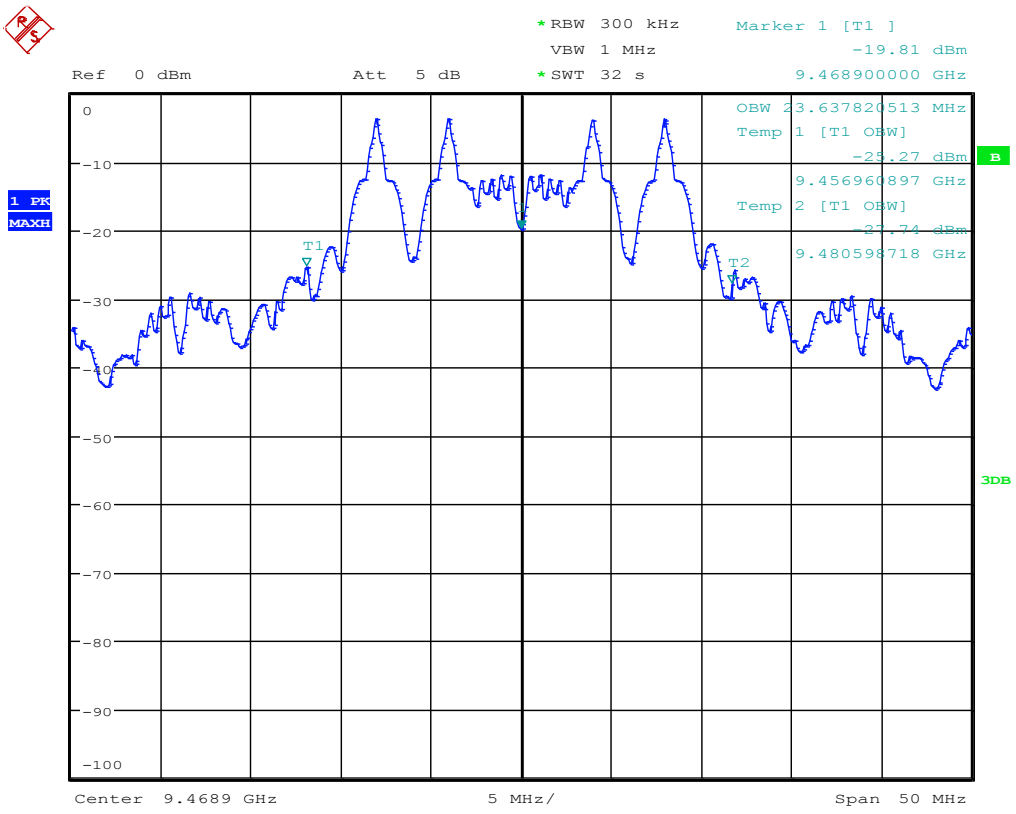

Figure F-7 – Occupied Bandwidth Measurement for Weather Function followed by Surface Function

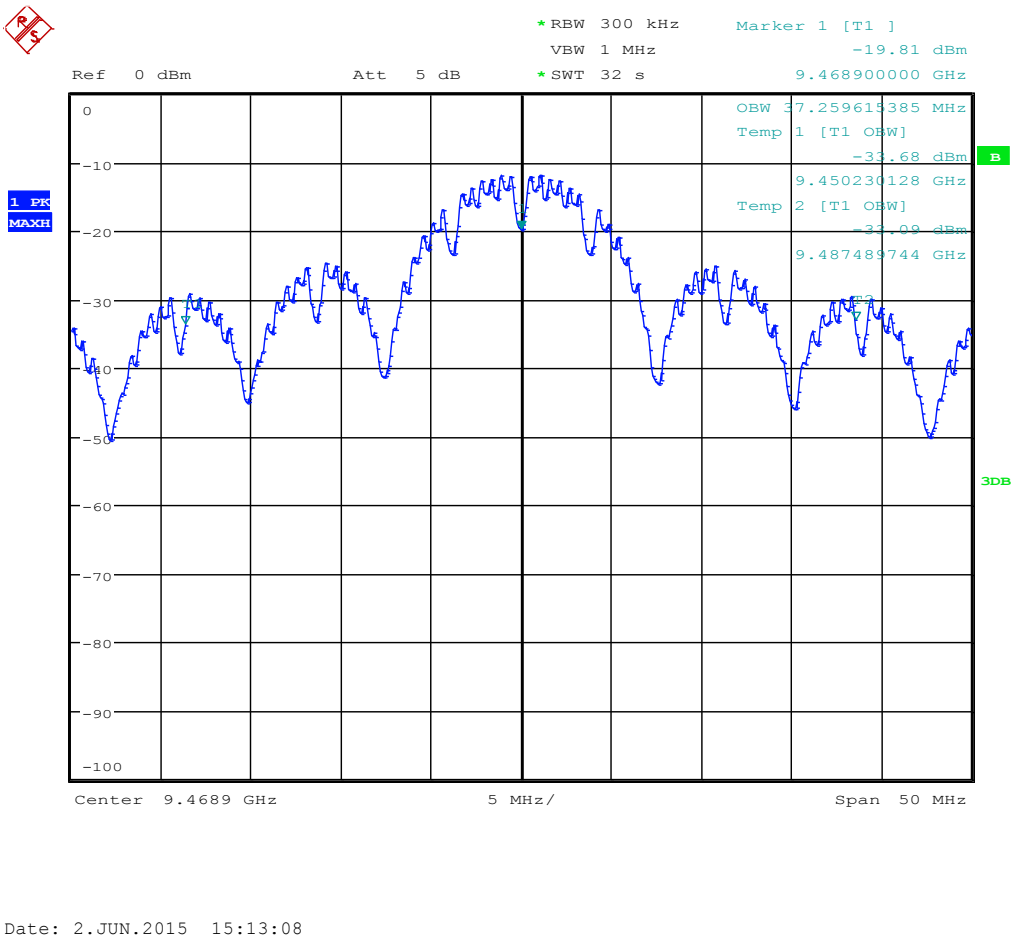

Figure F-8 – Occupied Bandwidth Measurement for Surface Function

F.7 Spurious Emissions at Antenna Terminal (2.1051)

Requirement:

47 CFR Section 2.1051 The radio frequency voltage or powers generated within the equipment and appearing on a spurious frequency shall be checked at the equipment output terminals when properly loaded with a suitable artificial antenna. Curves or equivalent data shall show the magnitude of each harmonic and other spurious emissions that can be detected when the equipment is operated under the conditions specified in Section 2.1049 as appropriate. The magnitude of spurious emissions attenuated more than 20 dB below the permissible values need not be specified.

47 CFR Section 87.139(a) "… the mean power of any emission must be attenuated below the mean power of the transmitter (pY) as follows:

(1) When the frequency is removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth the attenuation must be at least 25 dB.

(2) When the frequency is removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth the attenuation must be at least 35 dB.

(3) When the frequency is removed from the assigned frequency by more than 250 percent of the authorized bandwidth the attenuation for aircraft station transmitters must be at least 40 dB; and the attenuation for aeronautical station transmitters must be at least 43+log10(pY) dB.

Since the RTA-41XX clearly falls under the definition of an aircraft station transmitter defined in Section 87.139(a)(3), the worst case limit is 40 dBc. The Authorized Bandwidth is assumed to be 9.3 – 9.5 GHz which is the frequency range allocated for radar.

The RTA-41XX has a nominal peak power output of 50 watts. Based on this power level, the absolute limits are calculated as follows using 40 dBc as an example.

P_{TX_peak} = 50 Watts = 47 dBm

FCC Limit = 40 dBc

Absolute Limit = P_{TX_peak} (dBm) – FCC Limit (dBc) = +7 dBm

Note: The FCC limit is specified in terms of mean power (pY). However, the test equipment utilized for these tests provides peak measurements. Calculation of the FCC limits based on mean power, then converting to peak readings will yield the same limits.

The requirements for the Spurious Emissions Test are contained in Table F-10.

Table F-10 – Spurious Emission Test Requirements (87.139(a)(3))

Frequency Band	Emission Level	Absolute FCC Limit (Peak)
Below 8800 MHz	-40 dBc	+7.00 dBm
From 8800 MHz to 9100 MHz	-35 dBc	+12.0 dBm
From 9100 MHz to 9200 MHz	-25 dBc	+22.0 dBm
From 9600 MHz to 9700 MHz	-25 dBc	+22.0 dBm
From 9700 MHz to 10000 MHz	-35 dBc	+12.0 dBm
Over 10000 MHz	-40 dBc	+7.00 dBm

Test Procedure:

The original FCC authorization Test Report's Spurious Emissions data remains applicable to the current design. No changes to the RF circuitry, clocks, or anything else that would affect spurious emissions have been made. As there is only one physical RF channel, all hardware was appropriately tested during the original authorization. As a result, Spurious Emissions testing was not rerun.

In the original test, found in 816-9476-001 Exhibit F, there were no conducted emissions within 20 dB of the most strenuous FCC Limit of 40 dBc.

F.8 Field Strength of Spurious Radiation (2.1053)

Requirements:

47 CFR Section 2.1053

(a) Measurements shall be made to detect spurious emissions that may be radiated directly from the cabinet, control circuits, power leads, or intermediate circuit elements under normal conditions of installation and operation. Curves or equivalent data shall be supplied showing the magnitude of each harmonic and other spurious emissions. … ….Information submitted shall include the relative radiated power of each spurious emission with reference to the rated power output of the transmitter, assuming all emissions are radiated from halfwave dipole antennas.

(b) The measurements specified in paragraph (a) of this section shall be made for the following equipment:

(2) All equipment operating on frequencies higher than 25 MHz.

47 CFR Section 2.1057(a) …the spectrum shall be investigated from the lowest radio frequency generated in the equipment without going below 9 kHz, up to at least the frequency shown below:

(1) If the equipment operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

47 CFR Section 87.139(a) "… the mean power of any emission must be attenuated below the mean power of the transmitter (pY) as follows:

(1) When the frequency is removed from the assigned frequency by more than 50 percent up to and including 100 percent of the authorized bandwidth the attenuation must be at least 25 dB.

(2) When the frequency is removed from the assigned frequency by more than 100 percent up to and including 250 percent of the authorized bandwidth the attenuation must be at least 35 dB.

(3) When the frequency is removed from the assigned frequency by more than 250 percent of the authorized bandwidth the attenuation for aircraft station transmitters must be at least 40 dB; and the attenuation for aeronautical station transmitters must be at least 43+log10(pY) dB.

The RTA-41XX has a nominal peak power of 50 Watts.

The Spurious Radiation test Requirements are shown below in Table F-11.

Table F-11 – Spurious Radiation Test Requirements (87.139(a)(3))

Frequency Band	Emission Level	Absolute FCC Limit (Peak)
Below 8800 MHz	-40 dBc	+7.00 dBm
From 8800 MHz to 9100 MHz	-35 dBc	+12.0 dBm
From 9100 MHz to 9200 MHz	-25 dBc	+22.0 dBm
From 9600 MHz to 9700 MHz	-25 dBc	+22.0 dBm
From 9700 MHz to 10000 MHz	-35 dBc	+12.0 dBm
Over 10000 MHz	-40 dBc	+7.00 dBm

Test Procedure:

The original FCC authorization Test Report's Radiated Spurious Emissions data remains applicable to the current design. No changes to the RF circuitry, clocks, or anything else that would affect spurious emissions have been made. As there is only one physical RF channel, all hardware was appropriately tested during the original authorization. As a result, Radiated Spurious Emissions testing was not rerun.

In the original test, found in 816-9476-001 Exhibit F, no emissions (with the exception of the fundamental) exceeded the FCC limit of 113.909 dBµV/m.