

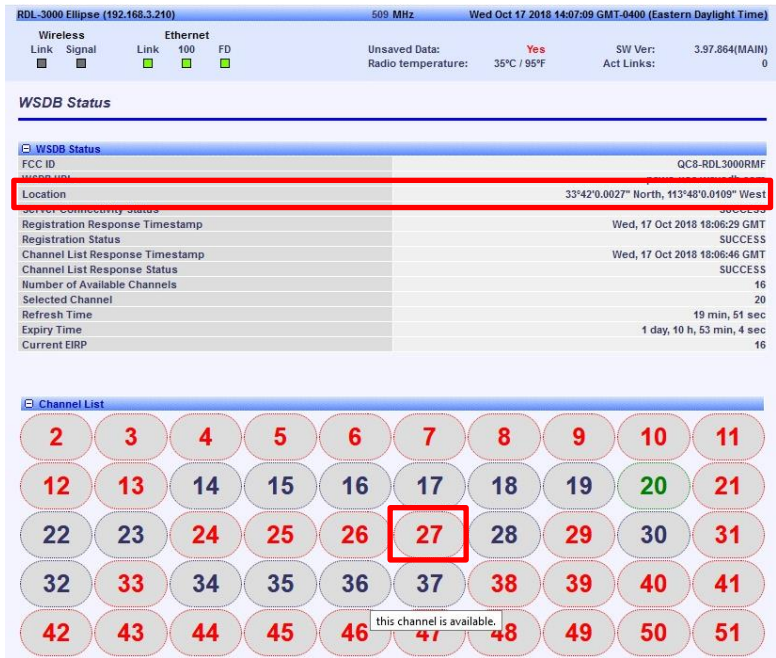


Figure 8.19-5: Received channel list for coordinates set in scenario (a) and (b). LPA channel 27 at location coordinates 33.7N, 113.8W

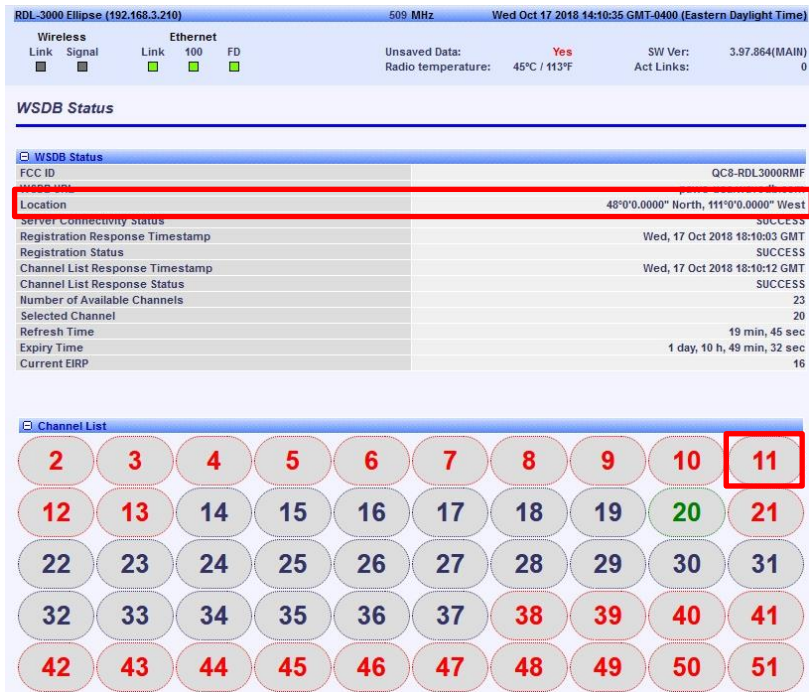


Figure 8.19-6: Received channel list for coordinates set in scenario (a) and (b). LPD channel 11 at location coordinates 48.0N, 111.0W

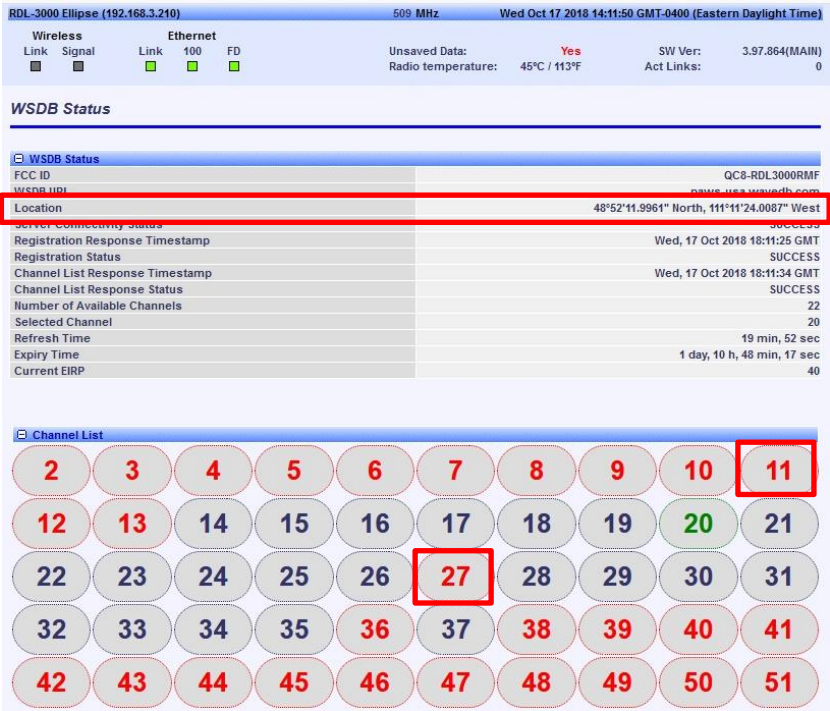


Figure 8.19-7: Received channel list for coordinates set in scenario (a) and (b). LPT channel 27 and TV receive site channel 11 at location coordinates 48.87N, 111.19W

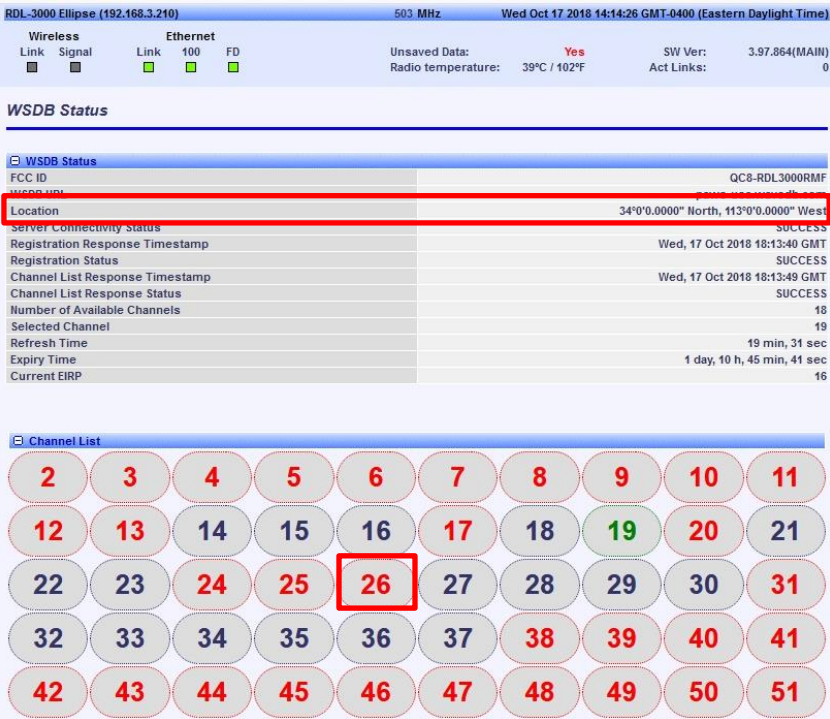


Figure 8.19-8: Received channel list for coordinates set in scenario (a) and (b). MVPD channel 26 at location coordinates 34.0N, 113.0W

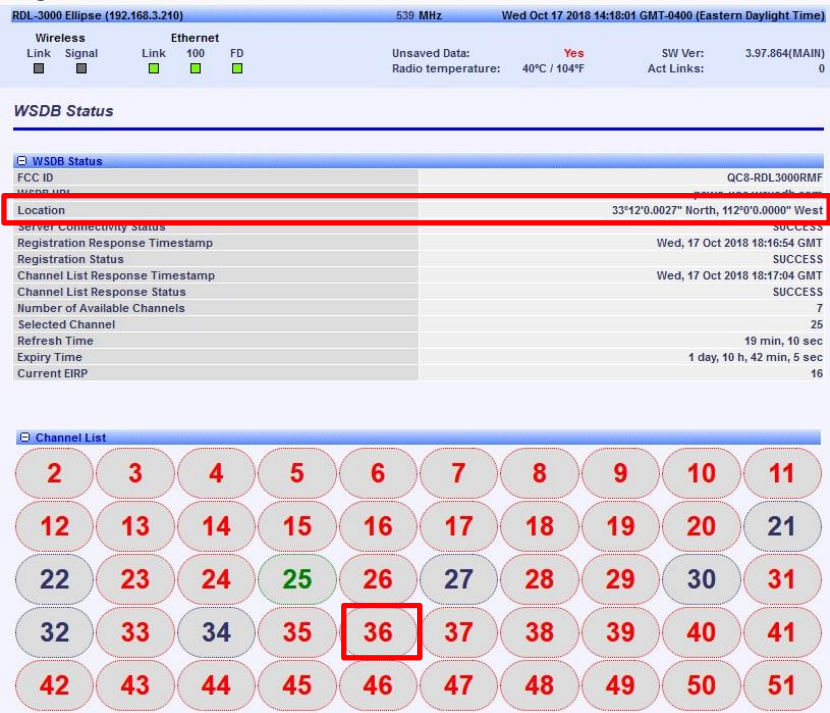


Figure 8.19-9: Received channel list for coordinates set in scenario (c). Permanent BAS link channel 36 at location coordinates 33.2N, 112.0W

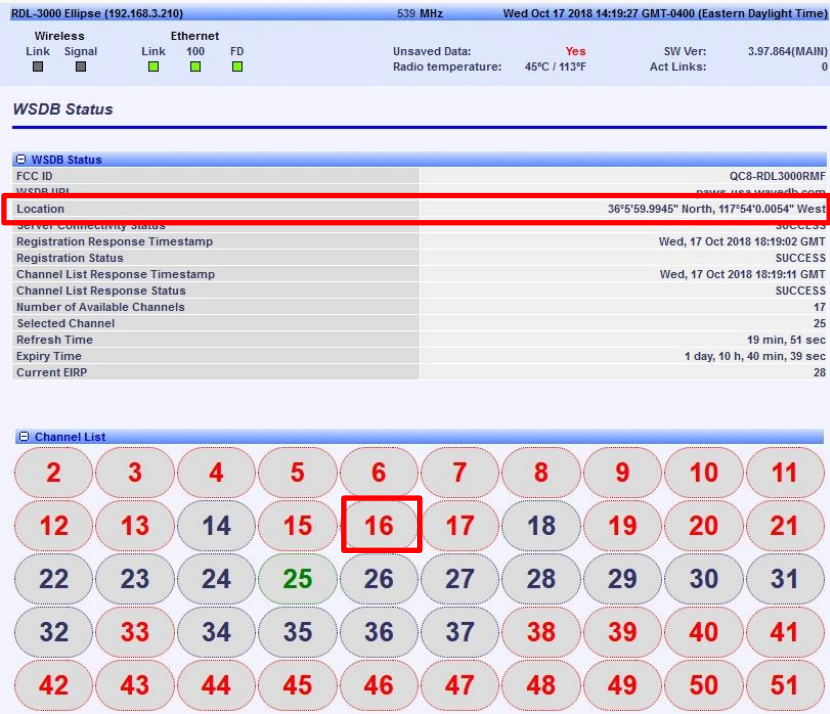


Figure 8.19-10: Received channel list for coordinates set in scenario (d). PLMRS/CMRS operations channel 16 at location coordinates 36.1N, 117.9W

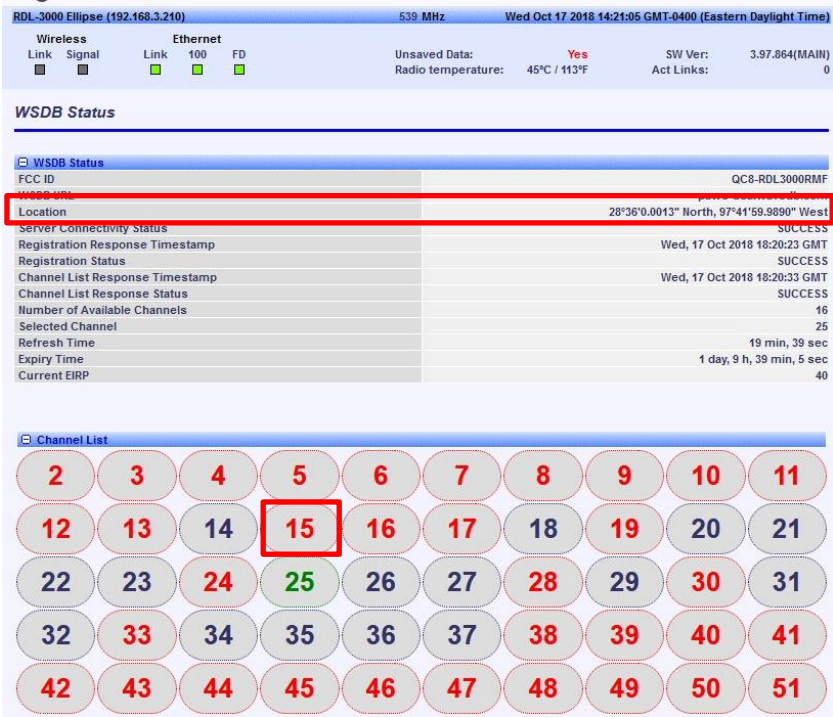


Figure 8.19-11: Received channel list for coordinates set in scenario (e). Offshore radiotelephone on channel 15 at location coordinates 28.6N, 97.1W

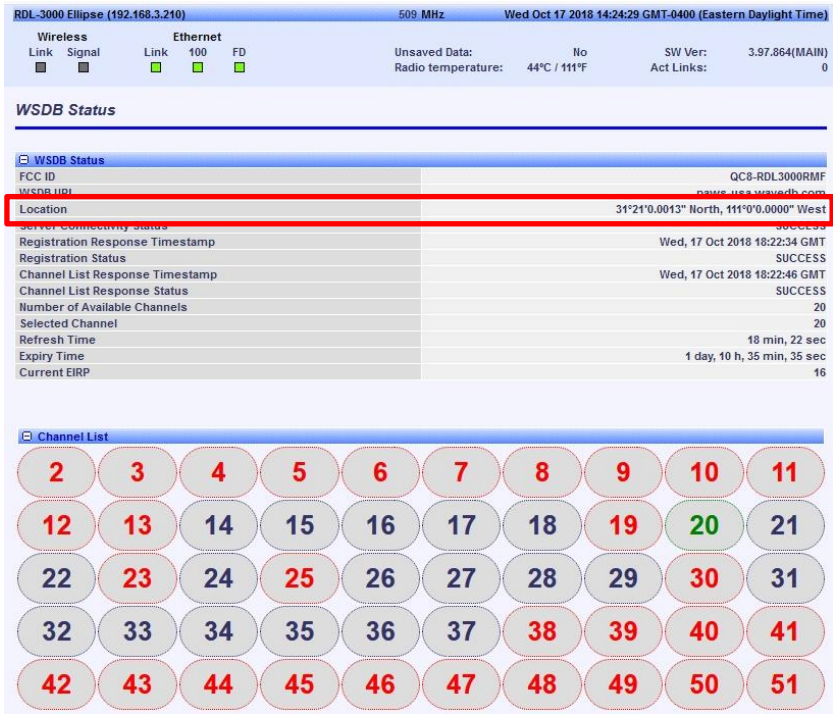


Figure 8.19-12: Received channel list for coordinates set in scenario (g). Mexico border at location coordinates 31.35N, 111.0W

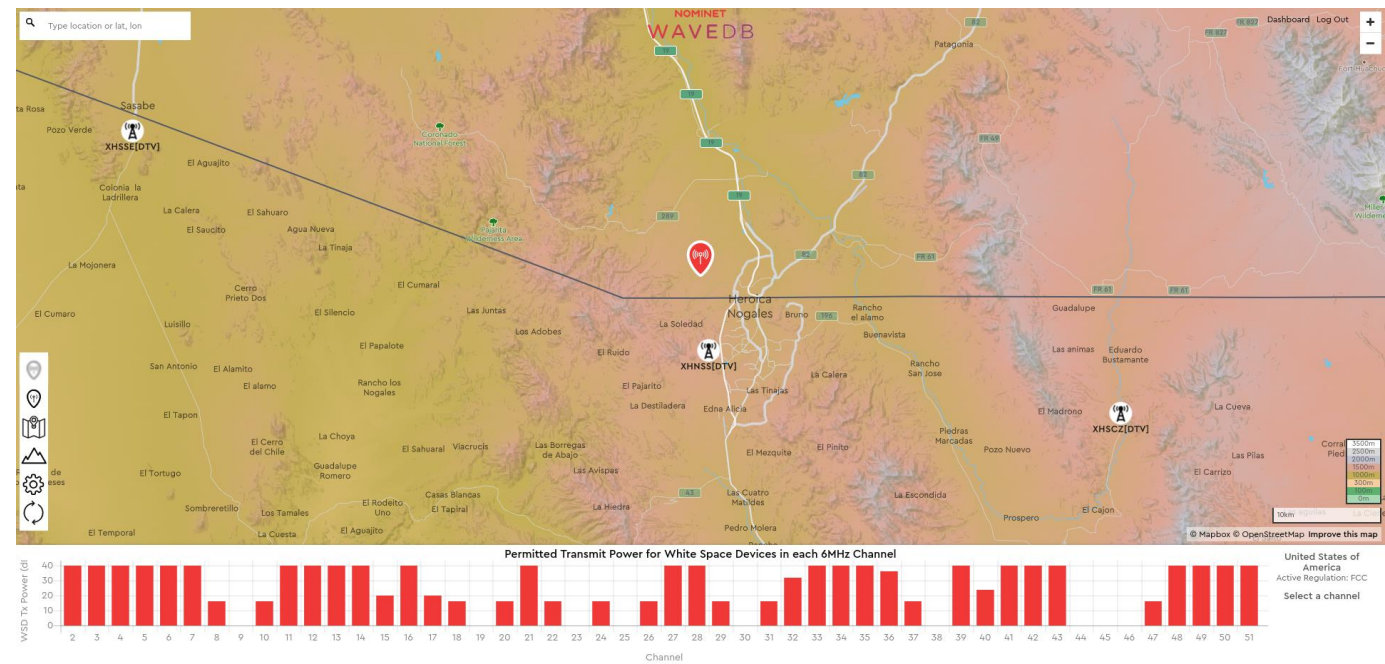


Figure 8.19-13: Channel availability for coordinates set in scenario (g). Mexico border at 31.35N, 111.0W

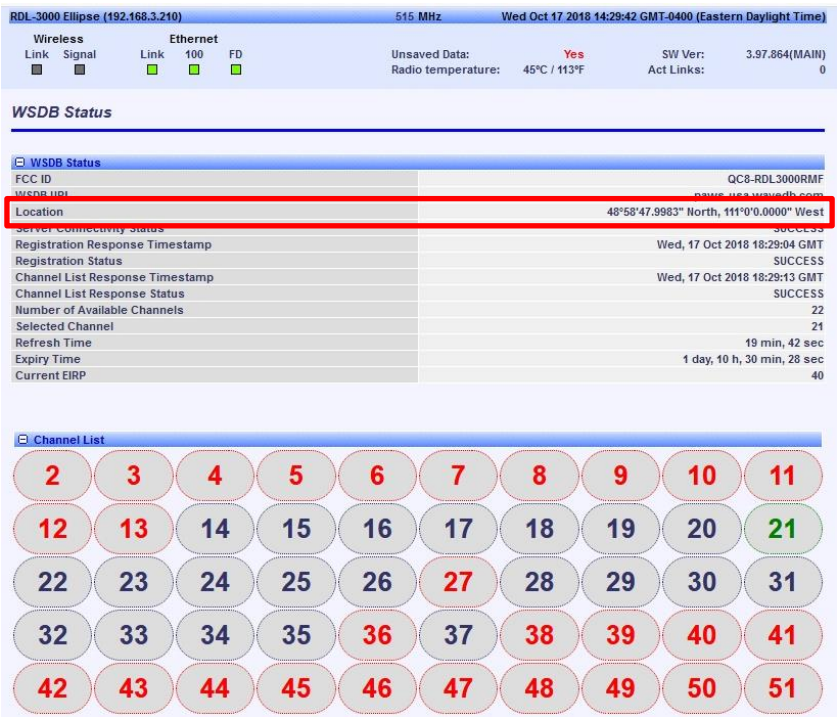


Figure 8.19-14: Received channel list for coordinates set in scenario (g). Canada border at location coordinates 48.98N, 111.0W

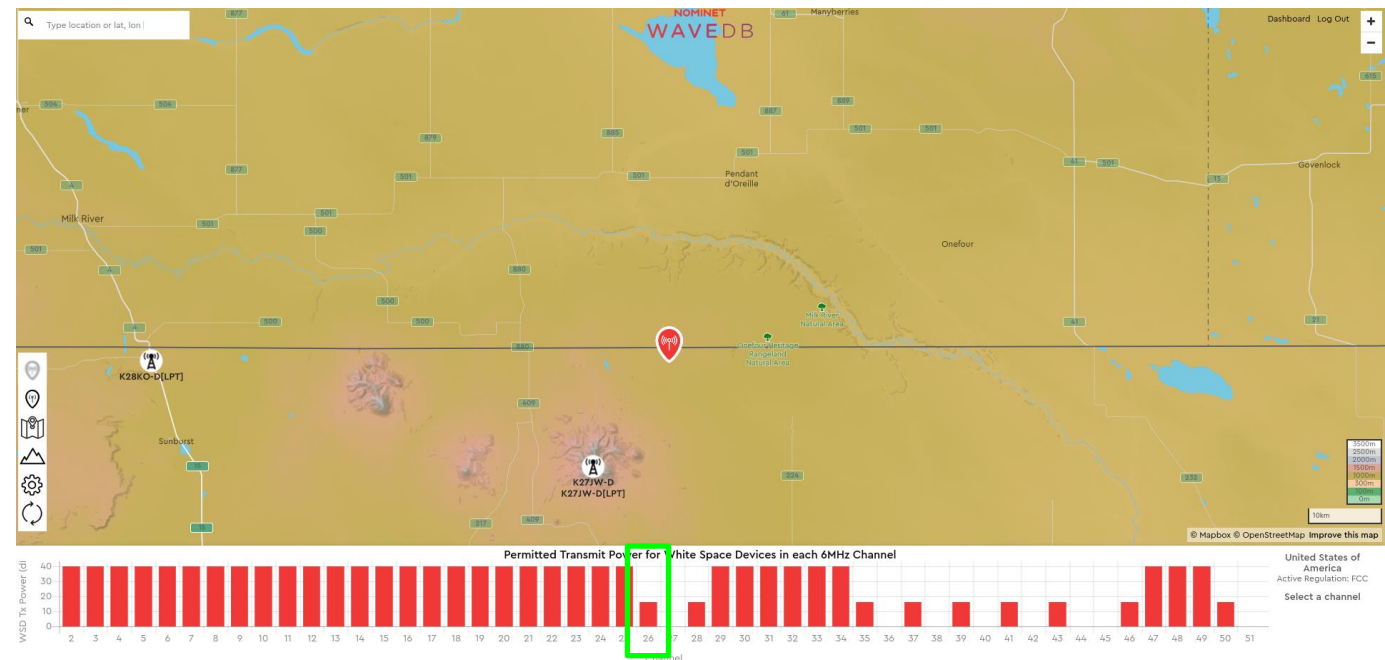


Figure 8.19-15: Channel availability for coordinates set in scenario (g). Canada border at 48.98N, 111.0W

RDL-3000 Ellipse (192.168.3.210) 545 MHz Thu Oct 18 2018 12:51:25 GMT-0400 (Eastern Daylight Time)

Wireless Link Signal Ethernet Link 100 FD Unsaved Data: Yes Radio temperature: 44°C / 111°F SW Ver: 3.97.864(MAIN) Act Links: 0

Wireless Configuration

Basic Wireless Configuration

System Mode: PMP SC
Channel Size [MHz]: 6
RF Frequency [MHz]: 545 Channel: 26 [545 MHz]
Tx Power[dBm]: 18

Advanced Wireless Configuration

Max. Distance: 10 km
6 miles
Antenna Gain [dBi]: 11
Target RSSI Enabled: ☐
Registration Period [frames]: 1
Scheduling Cycle [ms]: 10
Fixed Frame: ☐
GPS Antenna Type: Active
Antenna Alignment Buzzer Enable: ☐
Management MCS: BPSK 1/2
Cyclic Prefix: 1/4
Radio Mode: RF Port 2
Conservative Link Adaptation: ☐
AMPDU: Auto

Redundancy Configuration

Redundancy Role: Off
Peer IP Address: 0.0.0.0
Timeout [s]: 5

Figure 8.19-16: Tx power and Antenna gain settings for channel 26 at the location specified in scenario (g) for Canada border at location coordinates 48.98N, 111.0W. Desired EIRP is 18 dBm + 11 dBi = 29 dBm.

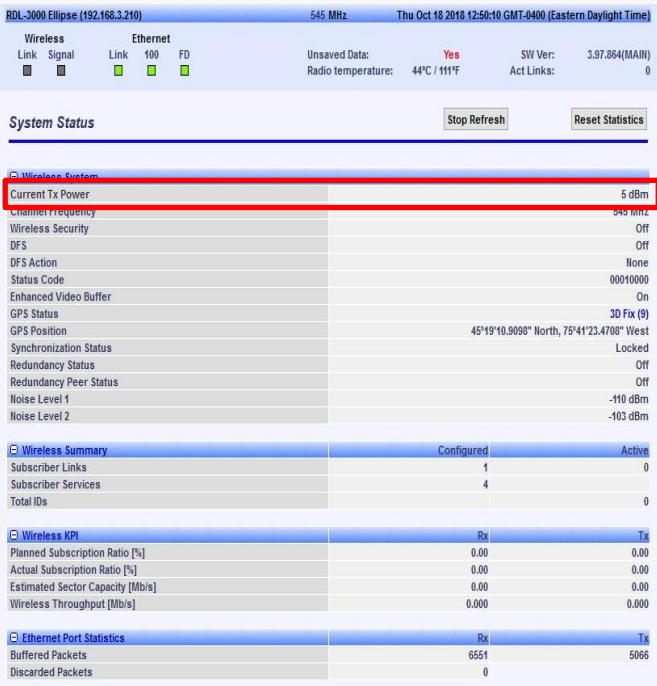
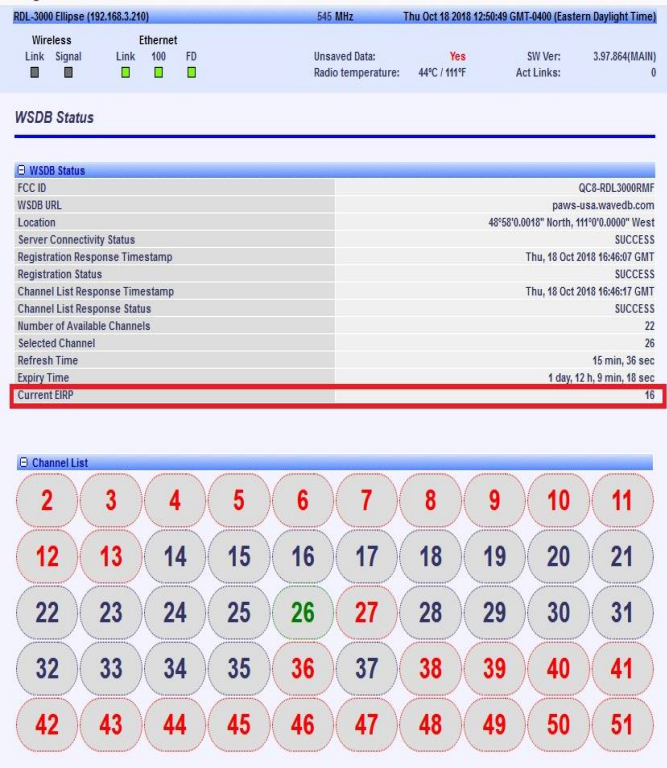


Figure 8.19-17: EIRP limit of 16 dBm received for channel 26 at the location specified in scenario (g) for Canada border at location coordinates 48.98N, 111.0W. Output power was automatically reduced to 5 dBm (16 dBm – 11 dBi).

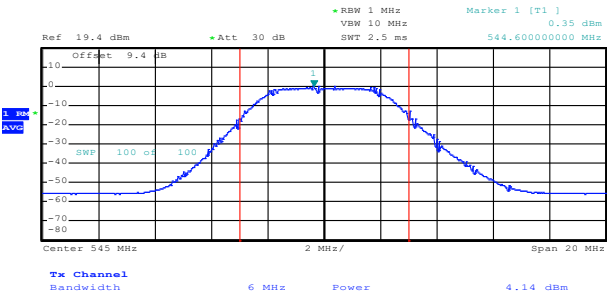
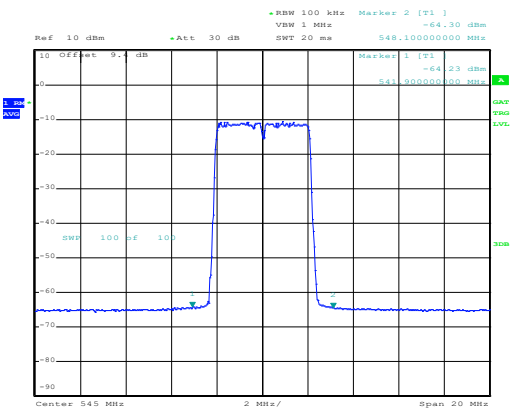


Figure 8.19-18: Tx power measurement at the EUT output on channel 26 at the location specified in scenario (g) for Canada border at location coordinates 48.98N, 111.0W.



Date: 18.OCT.2018 13:12:33

Figure 8.19-19: Adjacent channel power measurement at the EUT output on channel 26 at the location specified in scenario (g) for Canada border at location coordinates 48.98N, 111.0W.

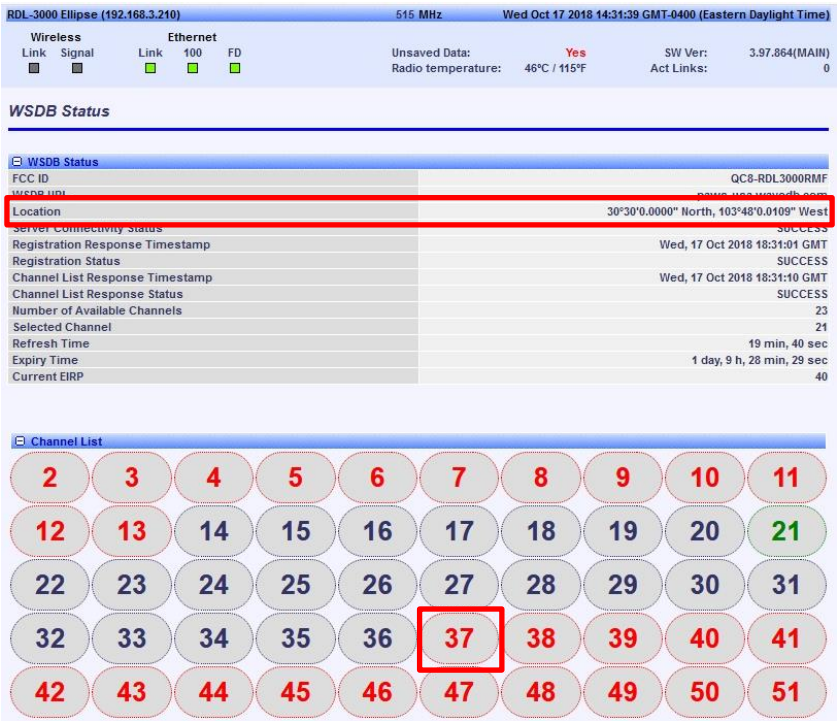


Figure 8.19-20: Received channel list for coordinates set in scenario (h). Radio astronomy services channel 37 at location coordinates 30.5N, 103.8W

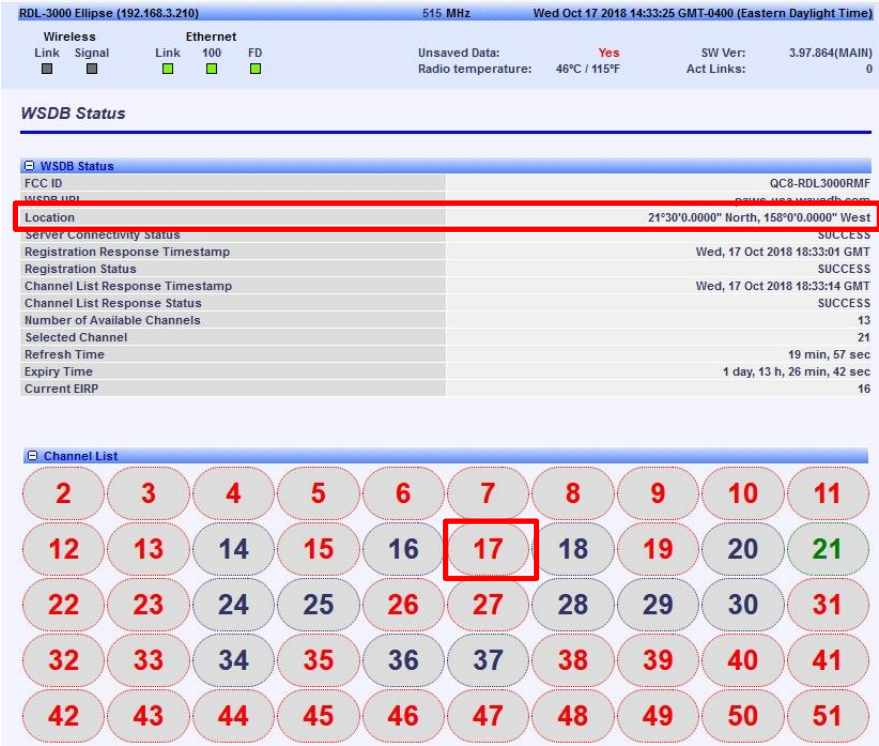


Figure 8.19-21: Received channel list for coordinates set in scenario (k). 488-494 MHz band in Hawaii channel 17 at location coordinates 21.5N, 158.0W

8.20 FCC 15.711(c)(2)(ii), (d)(3), 15.715(e) Fixed and Mode II Power level reduction

8.20.1 Definitions and limits

Using system management software, make a channel availability request to the database. Using the spectrum analyzer, confirm that the WSD operates at no more than the maximum power level indicated by the database and that the power level cannot be set to a higher level than indicated by the database at that specific location. If the device cannot reduce power, it must cease operation. Testing in accordance with KDB 416721 D01, III (2)(o).

8.20.2 Test summary

Test date October 17, 2018

8.20.3 Observations, settings and special notes

EUT was configured with proper registration information and the successful registration was verified. After receiving channel EIRP limit, EUT Tx power and Antenna gain were modified to exceed the limit. It was verified that the output power was automatically reduced to comply with EIRP restriction for the operation channel used.

8.20.4 Test data

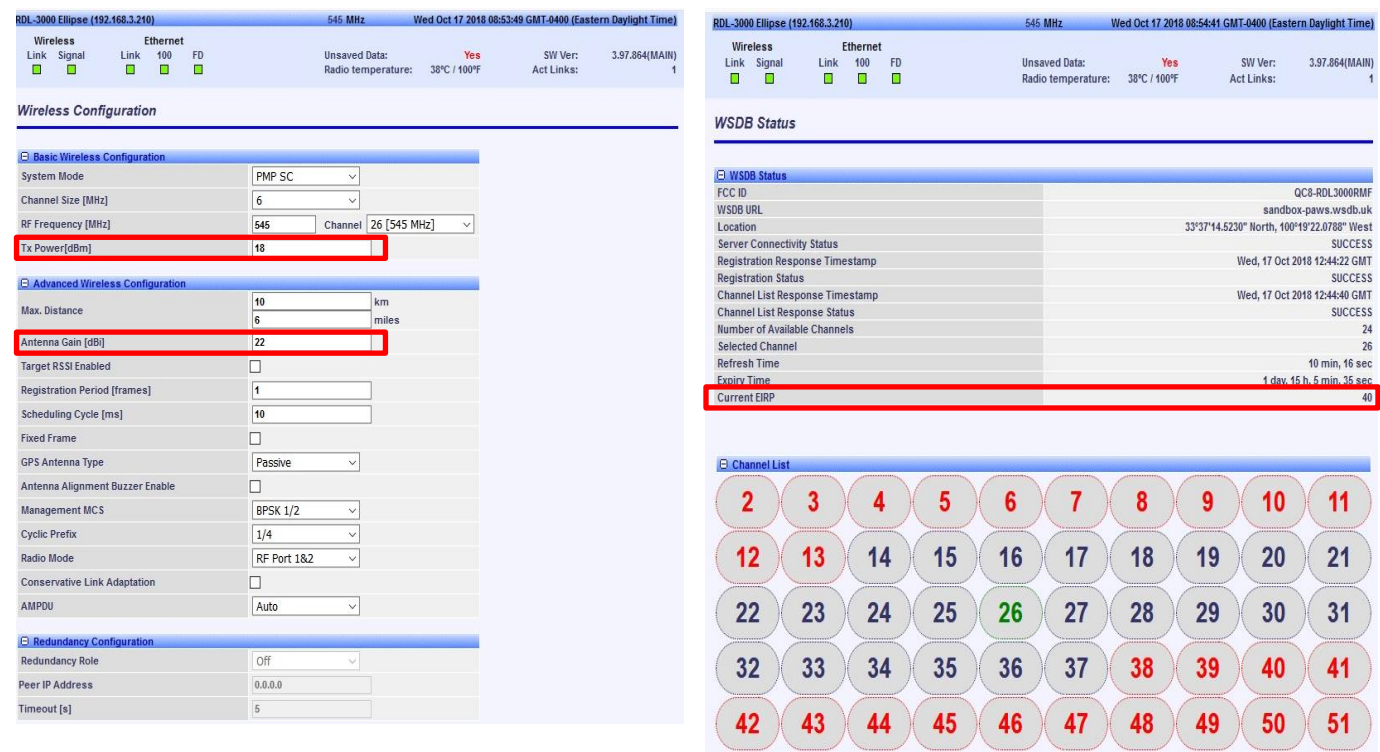
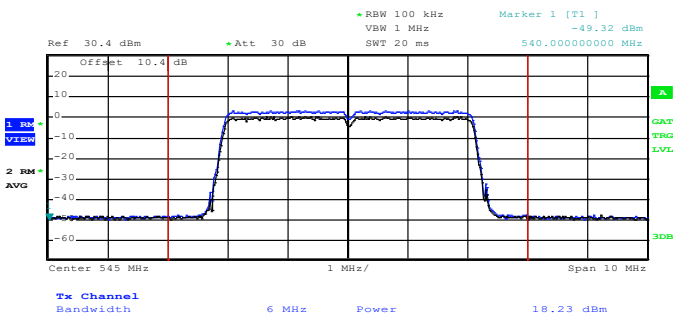


Figure 8.20-1: Tx power and Antenna gain settings to meet EIRP requirement of Base station device at the channel 26. EIRP limit received for this channel is 40 dBm.



Date: 17.OCT.2018 09:08:55

Figure 8.20-2: Output power of Base station device measurement on the channel 26 after registration and reception of 40 dBm EIRP limit. Output power = EIRP limit – Antenna gain = 40 dBm – 22 dB = 18 dBm

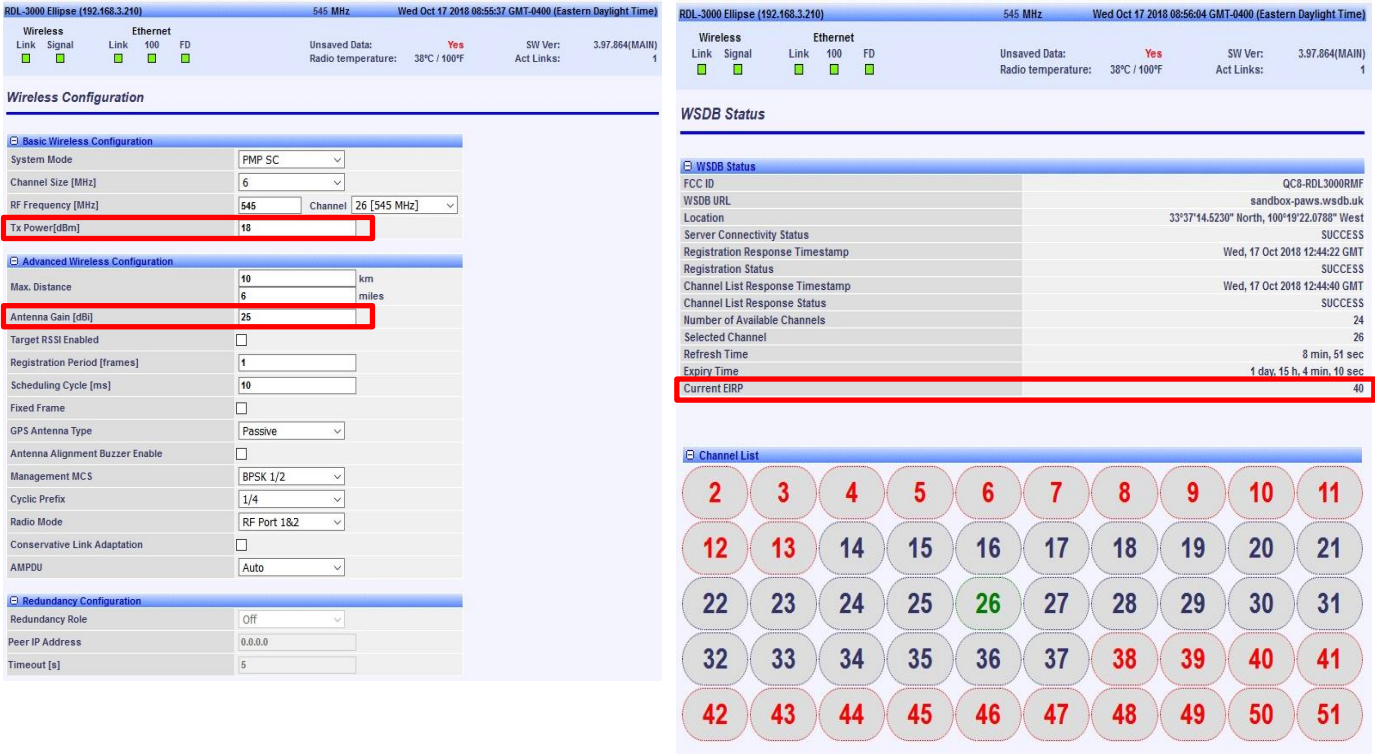
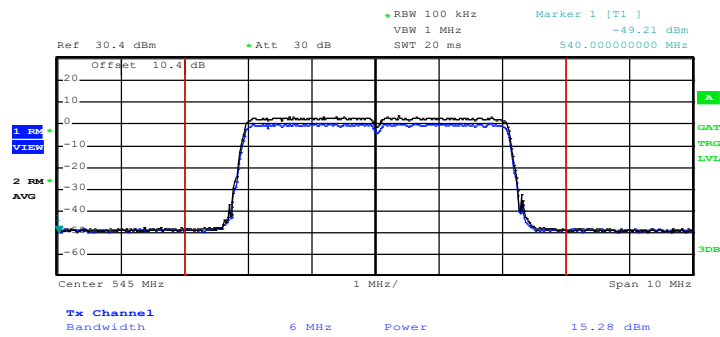


Figure 8.20-3: Tx power and Antenna gain settings to exceed EIRP requirement of Base station device at the channel 26. EIRP limit received for this channel is 40 dBm.



Date: 17.OCT.2018 09:10:33

Figure 8.20-4: Output power of Base station device measurement on the channel 26 after registration and reception of 40 dBm EIRP limit. Output power = EIRP limit – Antenna gain = 40 dBm – 25 dBi= 15 dBm, despite the setting of 18 dBm.

Section 8
Test name
Specification

Testing data
FCC 15.711(c)(2)(ii), (d)(3), 15.715(e) Fixed and Mode II Power level reduction
FCC Part 15 Subpart H

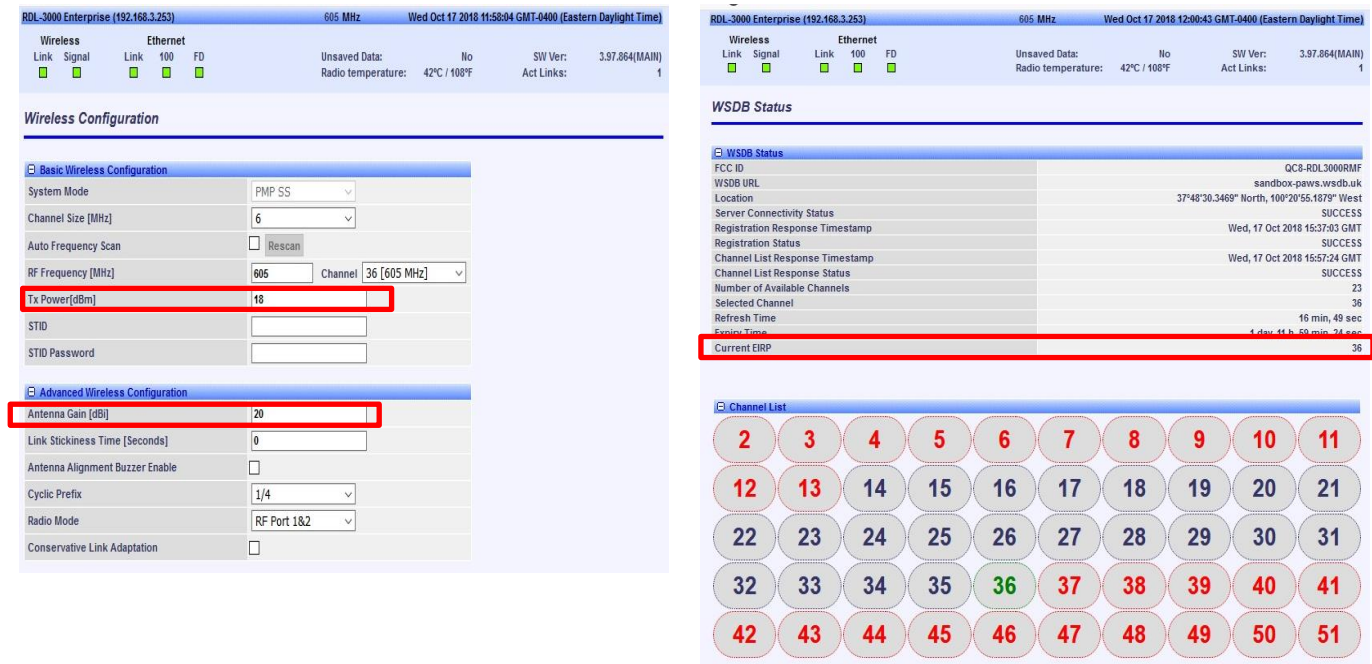


Figure 8.20-5: Tx power and Antenna gain settings to exceed EIRP requirement of Subscriber device at the channel 36. EIRP limit received for this channel is 36 dBm.

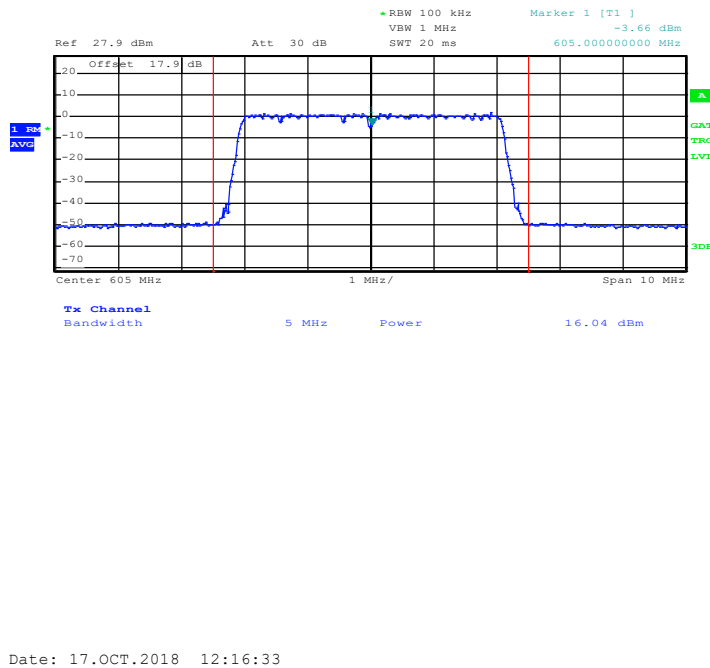


Figure 8.20-6: Output power of Subscriber device measurement on the channel 36 after registration and reception of 36 dBm EIRP limit. Output power = EIRP limit – Antenna gain = 36 dBm – 20 dBi= 16 dBm, despite the setting of 18 dBm.

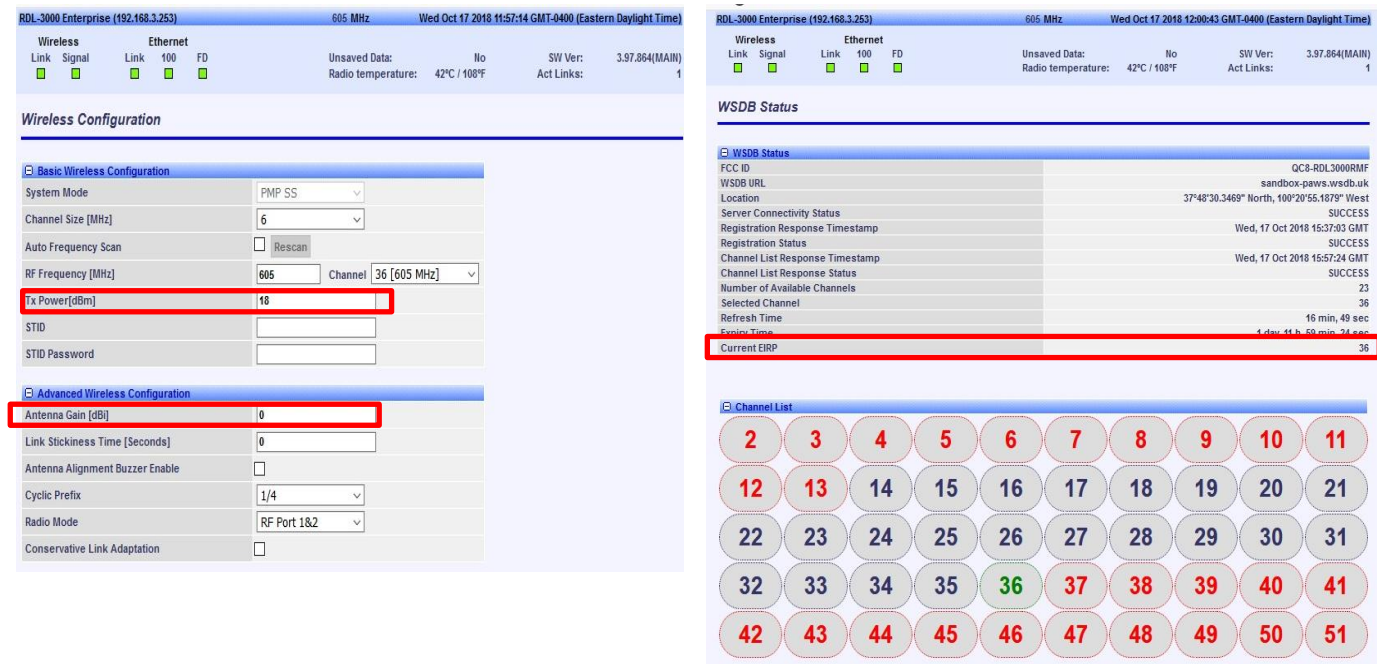
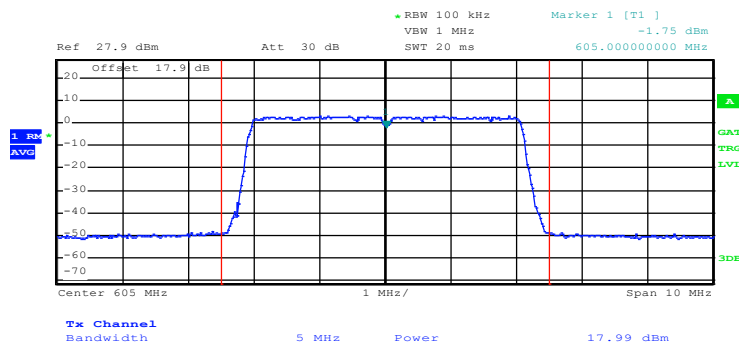


Figure 8.20-7: Tx power and Antenna gain settings to meet EIRP requirement of Subscriber device at the channel 36. EIRP limit received for this channel is 36 dBm.



Date: 17.OCT.2018 12:12:51

Figure 8.20-8: Output power of Subscriber device measurement on the channel 36 after registration and reception of 36 dBm EIRP limit. Output power = EIRP limit – Antenna gain = 36 dBm – 0 dBi= 36 dBm, since the setting was 18 dBm, output power measured was 18 dBm.

8.21 FCC 15.711(j) Security

8.21.1 Definitions and limits

White space devices shall incorporate adequate security measures to ensure that they are capable of communicating for purposes of obtaining lists of available channels only with databases operated by administrators authorized by the Commission, and to ensure that communications between white space devices and databases are secure to prevent corruption or unauthorized interception of data. This requirement applies to communications of channel availability and other spectrum access information between the databases and fixed and Mode II devices (it is not necessary for white space devices to apply security coding to channel availability and channel access information where they are not the originating or terminating device and that they simply pass through).

8.21.2 Test summary

Test date	October 16, 2018
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8.21.3 Observations, settings and special notes

Please see the attached document: RDL-3000-RMH Secure Communications

Section 9. Block diagrams of test set-ups

9.1 Test setup diagram

