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Capturing MT8870A IQ Data

Universal Wireless Test Set MT8870A

Introduction

This application note explains how to capture IQ data and send it to Anritsu for analysis. Sending IQ data for analysis may be required if, as in the example shown in the figure below, you are able to capture packets but are unable to acquire EVM results.
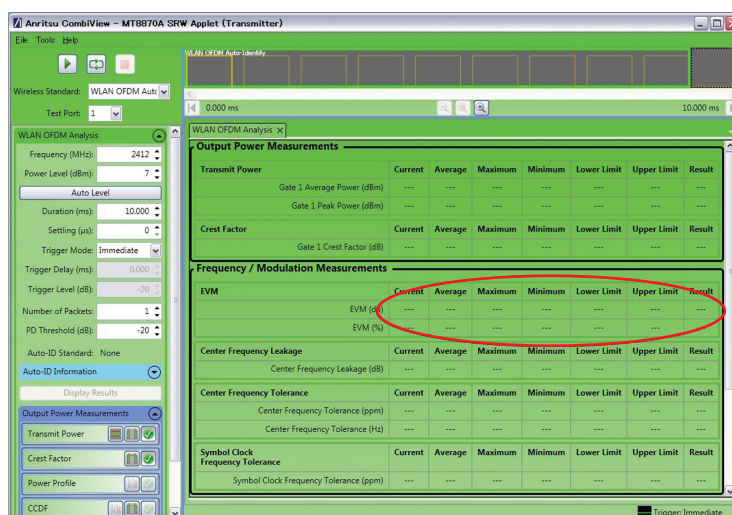

Figure 1. EVM Data Not Generated

Before Capturing IQ Data

1. Check that the "Power Level" setting is correct. The power level represents the power at which the MT8870A will make measurements.
   It should be set to the DUT TX power minus any known path loss between the DUT and the MT8870A. You can click [Auto Level] to set the power automatically to match the data being transmitted from the DUT.

2. Check that the frequency is correct for the data being transmitted from the DUT.

3. If the wireless standard is set to "WLAN OFDM Auto-ID" or "WLAN 802.11ac" make sure that "Full Mask Enable" is not selected. To do that:

   (1) Scroll down to the bottom of the CombiView settings frame.
   (2) Expand the "Spectral Profile Settings" section.
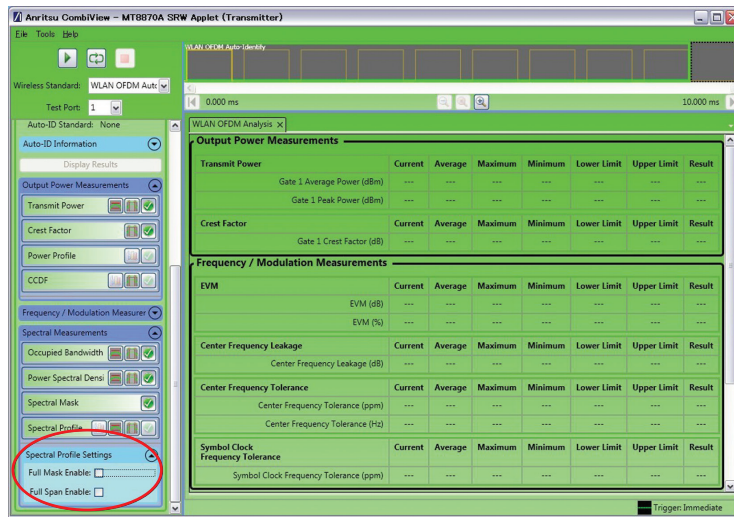   (3) Clear (remove the check mark) "Full Mask Enable".

Figure 2. Full Mask Enable Setting

Capturing IQ Data

1. Select Tools > Download IQ Data.

2. Click [Save] to save the .txt file to the desired location.

3. Open the file and check that it is populated with the capture information and the IQ data as shown in the example below.

```
Number Of Segments,1
Capture Status,0
Segment Index,1
Segment Status,0
Segment Offset,0
Segment Width,200000
Number Of Packets,8
Packet Index,1
Packet Status,0
Packet Offset,21048
Packet Width,12680
Packet Index,2
Packet Status,0
Packet Offset,42424
Packet Width,12680
Packet Index,3
Packet Status,0
Packet Offset,63800
Packet Width,12680
Packet Index,4
Packet Status,0
Packet Offset,85176
Packet Width,12680
Packet Index,5
Packet Status,0
Packet Offset,106552
Packet Width,12680
Packet Index,6
Packet Status,0
Packet Offset,127928
Packet Width,12680
Packet Index,7
Packet Status,0
Packet Offset,149304
Packet Width,12680
Packet Index,8
Packet Status,0
Packet Offset,170680
Packet Width,12680
Segment IQ Data
-0.7132454,0.4341583
-0.2164652,0.6140429
-0.04358978,0.4660832
-0.2323765,0.0141718
-0.5436955,-0.6993294
-0.6841856,-1.209463
-0.5841132,-0.98077
-0.6662278,-0.1620291
-0.7879415,0.7700861
-0.481841,1.259601
0.4025404,1.090972
1.493666,0.7634863
```

Figure 3. IQ Data

4. Send the file to Anritsu for analysis.