



**GenWatch3®**  
**GW\_Monitor**  
**Software Version 2.15**  
**Module Book**

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# **GenWatch<sub>3</sub>**

600-2.15.0-SS.1  
1/2/2018



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Refer to the *Troubleshooting & Support* section of the GenWatch3 Manual Shell (Book 600-2.15.0-AA.1) for complete support and contact information.

## ***Document History***

<b>Revision</b>	<b>Description</b>	<b>Author</b>
2.5	Initial Release	CWF
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2.14	Revisions Before Release	JAW
2.15	Revisions Before Release	REB

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### Goals

This manual describes the role and function of the GW\_Monitor module in the GenWatch3 solution.

### Who Should Read This Manual?



This manual is written for the intended audience of novice to mid-level Motorola trunked radio system users and novice to mid-level PC users.

### How This Manual Is Organized

This manual is organized as follows:

- **Overview:** Defines the GW\_Monitor module and provides an overview of the GW\_Monitor module main GUI.
- **Using GW\_Monitor:** Describes how to use the Monitor GUI.
- **Using Apps:** Describes what an App is and how to launch them from the Monitor module.
- **Trunking Apps:** Described what apps are available under Trunking and how to use them.

This manual contains the following images, used to indicate that a segment of text requires special attention:

-  **Additional Information:** Additional information is used to indicate shortcuts or tips.
-  **Warning:** Warnings are used to indicate possible problem areas. Such as a risk of data loss, or incorrect/unexpected function.





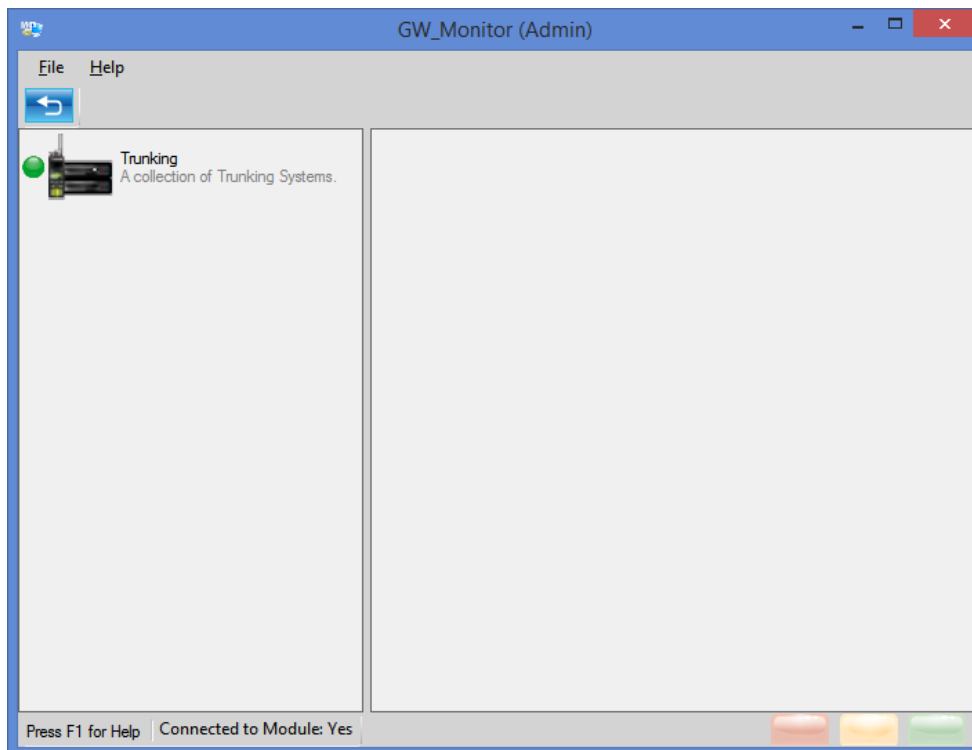
This chapter defines the GW\_Monitor module and provides an overview of the GW\_Monitor module Graphical User Interface (GUI).

This chapter contains the following sections:

- **What is GW\_Monitor:** Describes the GW\_Monitor module.
- **Trunking Statistics:** Describes the GW\_Monitor trunking statistics screens.

## *What is GW\_Monitor?*

The GW\_Monitor module is used to monitor and provide a GUI to view relevant infrastructure information.



**Figure 1.1** – GW\_Monitor GUI



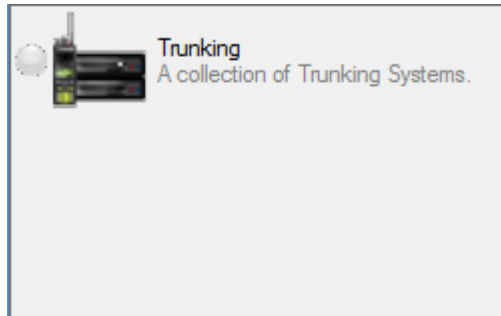
This chapter provides instructions on how to use the core functionality of the GW\_Monitor GUI.

This chapter contains the following sections:

- **Infrastructure Selection:** Describes how to select an infrastructure.
- **System Selection:** Describes how to select a system

### Infrastructure Selection

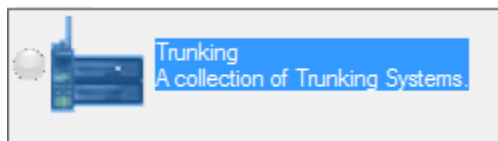
When the GW\_Monitor module is first loaded all system infrastructures that are currently licensed to display in GW\_Monitor will appear in the infrastructure navigation panel (see Figure 2.1).



**Figure 2.1** – Infrastructure navigation panel

The list of infrastructures will, for each entry, contain the name of the infrastructure in black lettering followed by a description one line below in grey.

To select an infrastructure, mouse over the desired entry and single left click. This will highlight the entry (see figure 2.2) and if there are any apps associated at this level of the infrastructure they will appear in the app selection panel.

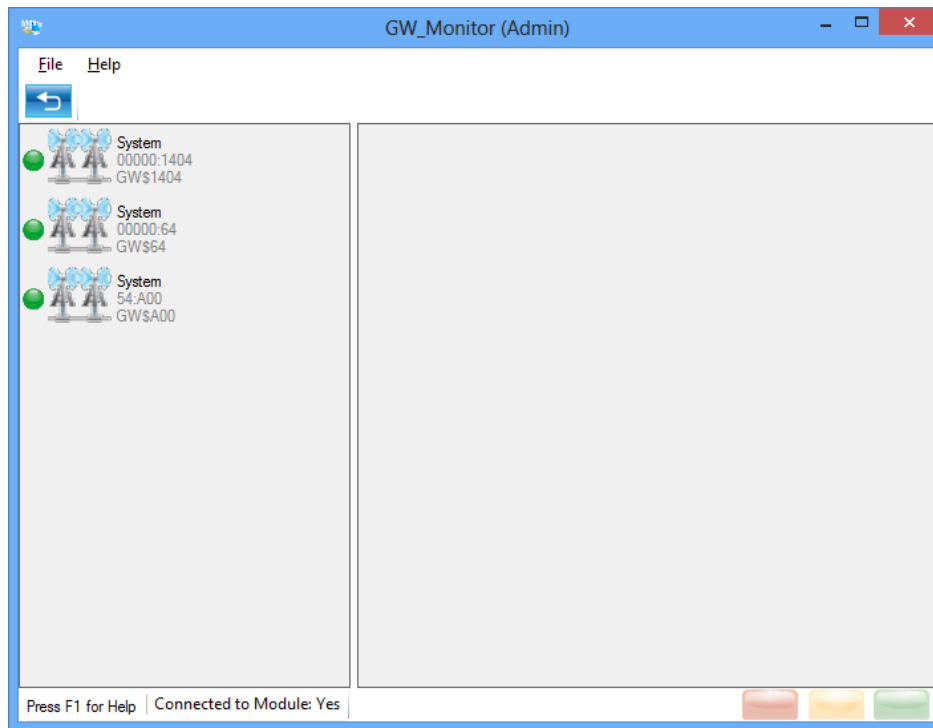


**Figure 2.2** – selected entry

Double clicking the entry will navigate further down the infrastructure providing more detailed information.

## System Selection


After having navigated down a level from the infrastructure selection there will be system selections available. The systems that are displayed in the infrastructure selection panel will be named and provide some basic information about the connection itself.



**Figure 2.3** – System list in GW\_Monitor

Selecting a System from this list will populate the app selection panel with any apps associated with the selected system.

## Using the back button

At anytime using GW\_Monitor the back button  can be used to navigate to the previous screen allowing for quick navigation to higher levels in the infrastructure.

## What is an app?

App is an abbreviation for application and in the GW\_Monitor generally refers to software that reports specific infrastructure information to the user.

## Launching an app

Launching (starting) an app in GW\_Monitor is done through the app selection panel (see figure 1.1). Double clicking a on an app from this panel will launch the app in a new window (see figure 3.1).

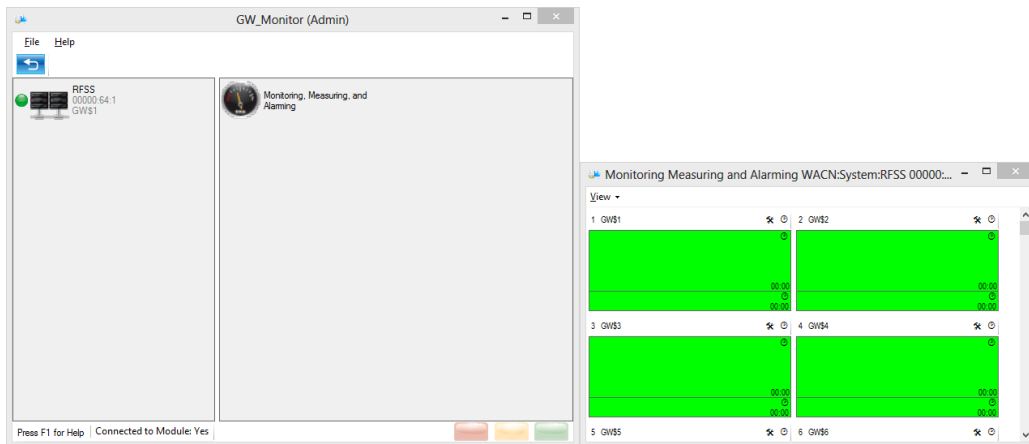
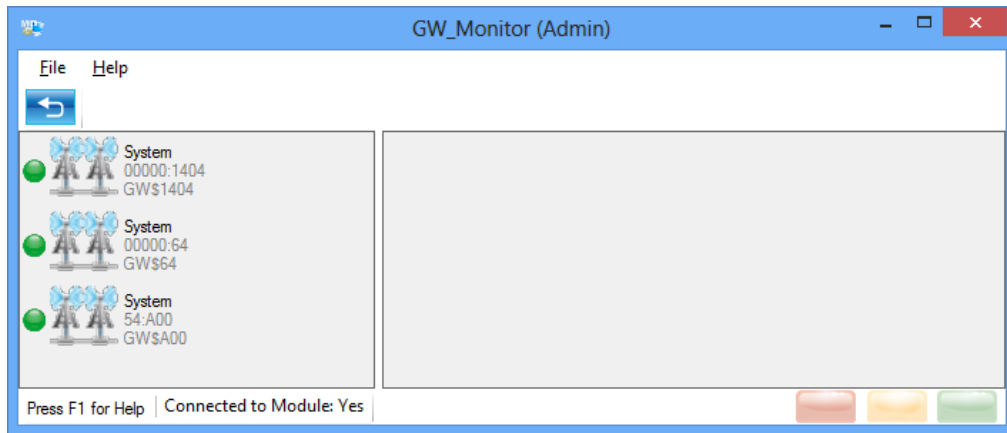


Figure 3.1 – App launch



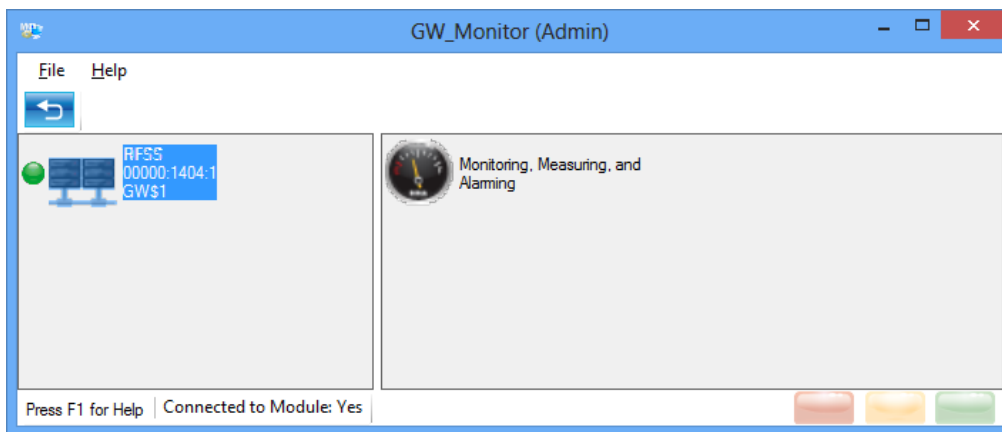
**Monitoring Measuring and Alarming App**

The Monitoring, Measuring and Alarming app exists at the RFSS level under the selected System. To view the RFSS level under a specific System, double-click on the System in the Infrastructure Navigation Panel.



**Figure 4.1** – Infrastructure Navigation Panel


This will load the Infrastructure Navigation Panel with the RFSSs that exist under the selected System.




**Figure 4.2** – Infrastructure Navigation Panel with RFSS 00000:1404:1 Selected

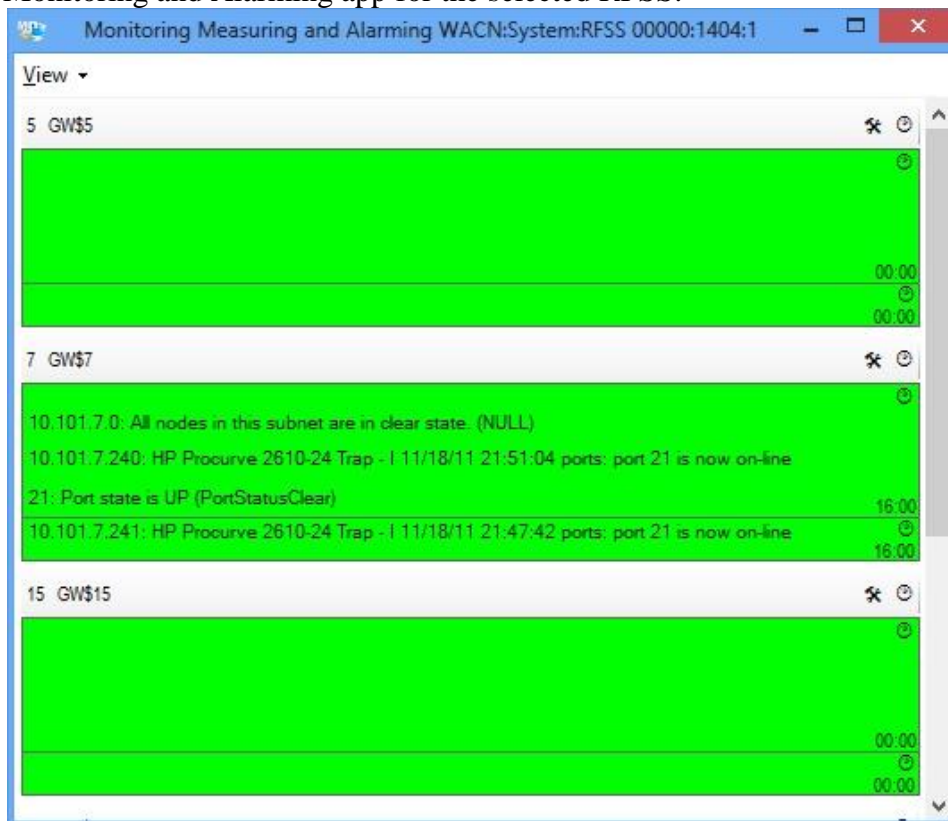


The Monitoring Measuring, and Alarming App will only be available if this installation is licensed for SNMP connections under the Connect module in your license file.

 The SNMP values available to the Monitoring, Measuring and Alarming App are volatile. This means the “buckets” are cleared out each time the GenWatch3 service is restarted.

 In order for SNMP values to be correlated to RFSSs and sites, there must be an SNMP Source entry in GW\_Alias for the Source Address presented in the SNMP packet. See the GW\_Alias manual for more information on creating SNMP Sources.

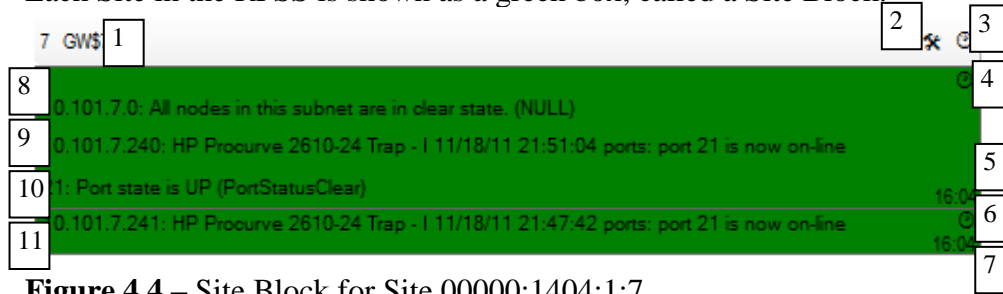
Select the RFSS in the Infrastructure Navigation Panel and double-click on the Monitoring, Measuring and Alarming app. This will open the Measuring, Monitoring and Alarming app for the selected RFSS.



**Figure 4.3** – Measuring, Monitoring and Alarming for RFSS 00000:1404:1



Each Site in the RFSS is shown as a green box, called a Site Block.



**Figure 4.4** – Site Block for Site 00000:1404:1:7

The Site Block is comprised of the following parts:

1. Site Alias
2. Site Block Setup Button
3. Site Block Device Value and Latest Message Summary
4. Primary Source Status History
5. Primary Source Timestamp
6. Secondary Source Status History
7. Secondary Source Timestamp
8. Primary Source Device 1
9. Primary Source Device 2
10. Primary Source Device 3
11. Secondary Source Device 1



If the Site Block is red, this means that the site has experienced one or more Comm Failure, Major or Critical severity events. If you hover the mouse over the Site Block, a pop-up will show all of the current events of this type.

## Site Block Setup Screen

This screen allows you to setup values to monitor on the Primary and Secondary sources for a site.

The screenshot shows the 'Site Setup' window with the following configuration:

- Primary Source:** seven-4.tyr.genesisworld.com (Unknown)
  - Device 1: 10.101.7.0, Entity 1: 10.101.7.0, Value Name 1: (Latest Event)
  - Device 2: z001s007es01.site7.RFSS1, Entity 2: 10.101.7.240, Value Name 2: (Latest Event)
  - Device 3: z001s007es01.site7.RFSS1, Entity 3: 21, Value Name 3: (Latest Event)
- Secondary Source:** seven-4.tyr.genesisworld.com (Unknown)
  - Device 1: z001s007es02.site7.RFSS1, Entity 1: 10.101.7.241, Value Name 1: (Latest Event)

Buttons: OK, Cancel

**Figure 4.5** – Site Block Setup Screen for Site 00000:1404:1:7

## Site Block Device Value and Latest Message Summary

This screen shows the latest value or message for each distinct Device and Entity on the site. If open, this screen refreshes on a 15-second interval. While refreshing, you may notice a ... next to the item count in the header of this window.

The screenshot shows the 'Device Value and Latest Message Summary' window with the following table:

Source Address	Device Name	Entity Name	Event Id	Type	Severity	Value Name	Min. Value	Max. Value	Last Update
seven-4.tyr.genesisworld.com	z001s007es01.site7.z...	WAN Slot 5	mnr_s6000_wan_s...	(Latest Message)	Clear	n/a	Disabled - 'CWR Slot 5'		09/07/2012 1
seven-4.tyr.genesisworld.com	z001s007es01.site7.z...	WAN Slot 4	mnr_s6000_wan_s...	(Latest Message)	Clear	n/a	UP - 'CWR Slot 4'		09/07/2012 1
seven-4.tyr.genesisworld.com	z001s007es01.site7.z...	LAN Path 3	mnr_s6000_lan_pa...	(Latest Message)	Clear	n/a	disabled - PA_3		09/07/2012 1
seven-4.tyr.genesisworld.com	z001s007es01.site7.z...	LAN Path 2	mnr_s6000_lan_pa...	(Latest Message)	Clear	n/a	up - PA_2		09/07/2012 1
seven-4.tyr.genesisworld.com	z001s007es01.site7.z...	LAN Path 1	mnr_s6000_lan_pa...	(Latest Message)	Clear	n/a	up - PA_1		09/07/2012 1
seven-4.tyr.genesisworld.com	z001s007es01.site7.z...	10.101.7.0	NULL	(Latest Message)	Clear	n/a	#Rendez in this subnet		09/07/2012 1
seven-4.tyr.genesisworld.com	z001s007es01.site7.z...	10.101.7.51	1.3.6.1.6.3.1.5.1	(Latest Message)	Major	n/a	Cold Start - sMotorolaC...		09/07/2012 1
seven-4.tyr.genesisworld.com	z001s007es01.site7.z...	Synchronization	SynchronizedStatus	(Latest Message)	Clear	n/a	Fault manager has sync...		09/07/2012 1
seven-4.tyr.genesisworld.com	z001s007es02.site7.z...	LAN Path 2	mnr_s6000_lan_pa...	(Latest Message)	Clear	n/a	up - PA_2		09/07/2012 1
seven-4.tyr.genesisworld.com	z001s007es01.site7.zo...	10.101.7.240	1.3.6.1.4.1.11.2.3...	(Latest Message)	Info	n/a	HP Procurve 2610/24...		09/07/2012 1
seven-4.tyr.genesisworld.com	z001s007es01.site7.zo...	21	PortStatusClear	(Latest Message)	Clear	n/a	Port state is UP		09/07/2012 1
seven-4.tyr.genesisworld.com	z001s007es02.site7.z...	Communication	CommUp	(Latest Message)	Clear	n/a	The Fault Manager has...		09/07/2012 1
seven-4.tyr.genesisworld.com	z001s007es02.site7.z...	Synchronization	SynchronizedStatus	(Latest Message)	Clear	n/a	Fault manager has sync...		09/07/2012 1
seven-4.tyr.genesisworld.com	z001s007es02.site7.z...	WAN Slot 5	mnr_s6000_wan_s...	(Latest Message)	Clear	n/a	Disabled - 'CWR Slot 5'		09/07/2012 1
seven-4.tyr.genesisworld.com	z001s007es02.site7.z...	WAN Slot 4	mnr_s6000_wan_s...	(Latest Message)	Clear	n/a	UP - 'CWR Slot 4'		09/07/2012 1
seven-4.tyr.genesisworld.com	z001s007es02.site7.z...	LAN Path 3	mnr_s6000_lan_pa...	(Latest Message)	Clear	n/a	disabled - PA_3		09/07/2012 1
seven-4.tyr.genesisworld.com	z001s007es02.site7.z...	LAN Path 1	mnr_s6000_lan_pa...	(Latest Message)	Clear	n/a	up - PA_1		09/07/2012 1
seven-4.tyr.genesisworld.com	z001s007es02.site7.z...	10.101.7.52	1.3.6.1.6.3.1.5.1	(Latest Message)	Major	n/a	Cold Start - sMotorolaC...		09/07/2012 1
seven-4.tyr.genesisworld.com	z001s007es02.site7.zo...	10.101.7.241	1.3.6.1.4.1.11.2.3...	(Latest Message)	Info	n/a	HP Procurve 2610/24...		09/07/2012 1
seven-4.tyr.genesisworld.com	z001s007es02.site7.zo...	21	PortStatusClear	(Latest Message)	Clear	n/a	Port state is UP		09/07/2012 1

**Figure 4.6** – Site Block Device Value and Latest Message Summary for Site 00000:1404:1:7

The File menu contains the following options:

- **Export...:** Exports the values in the list in CSV (comma-separated value) format.
- **Copy To Clipboard:** Copies the values in the list to the clipboard using Tab-delimited format. This can easily be pasted into a spreadsheet.



If a row is red, this means the severity of the row is Comm Failure, Major or Critical.

## Primary/Secondary Source Status History

This screen shows up to 1,000 of the latest events received on the site. This screen is only refreshed when you open it.

Device Name	Entity Name	Event ID	Value Name	Value	Message	Severity	DT
z001s007aar01.ate7.zo...	WAN Slot 5	mnr_s6000_wan_s...			Disabled - "CWR Slot 5"	Clear	09/07/2012 16:14:51
z001s007aar01.ate7.zo...	WAN Slot 4	mnr_s6000_wan_s...			UP - "CWR Slot 4"	Clear	09/07/2012 16:14:51
z001s007aar01.ate7.zo...	LAN Path 3	mnr_s6000_lan_pa...			disabled - PA_3	Clear	09/07/2012 16:14:51
z001s007aar01.ate7.zo...	LAN Path 2	mnr_s6000_lan_pa...			up - PA_2	Clear	09/07/2012 16:14:50
z001s007aar01.ate7.zo...	LAN Path 1	mnr_s6000_lan_pa...			up - PA_1	Clear	09/07/2012 16:14:48
10.101.7.0	10.101.7.0	NULL			All nodes in this subnet are in cle...	Clear	09/07/2012 16:14:21
z001s007aar01.ate7.zo...	10.101.7.51	1.3.6.1.6.3.1.1.5.1			Cold Start sMotronicC3 TrapSys...	Major	09/07/2012 16:14:21
z001s007aar01.ate7.zo...	Synchronization	SynchronizedStatus			Fault manager has synchronized ...	Clear	09/07/2012 16:14:19
z001s007aar01.ate7.zo...	Synchronization	NMASyncComplete			Fault Manager received Synchro...	Clear	09/07/2012 16:14:17
10.101.7.0	10.101.7.0	NULL			At least one node in this subnet i...	CommFailure	09/07/2012 16:14:16
z001s007aar01.ate7.zo...	Synchronization	OutOfSyncStatus			Fault information for this device ...	CommFailure	09/07/2012 16:14:13
10.101.7.0	10.101.7.0	NULL			All nodes in this subnet are in cle...	Clear	09/07/2012 16:12:09
z001s007aar02.ate7.zo...	LAN Path 2	mnr_s6000_lan_pa...			up - PA_2	Clear	09/07/2012 16:12:07
z001s007es01.ate7.zone1	10.101.7.240	1.3.6.1.4.1.11.2.3...			HP Procuree 2610-24 Trap - I 11...	Info	09/07/2012 16:12:05
z001s007es01.ate7.zone1	21	PortStatusClear			Port state is UP	Clear	09/07/2012 16:12:02
10.101.7.0	10.101.7.0	NULL			At least one node in this subnet i...	Critical	09/07/2012 16:11:50
z001s007es01.ate7.zone1	10.101.7.240	1.3.6.1.4.1.11.2.3...			HP Procuree 2610-24 Trap - I 11...	Info	09/07/2012 16:11:50
z001s007es01.ate7.zone1	21	port2			Port state is DOWN	Critical	09/07/2012 16:11:49
z001s007aar02.ate7.zo...	LAN Path 2	mnr_s6000_lan_pa...			down - PA_2	Critical	09/07/2012 16:11:47
z001s007aar01.ate7.zo...	10.101.7.51	1.3.6.1.4.1.43.2.2...			System Log Info. Symname = z00...	Info	09/07/2012 16:11:44
10.101.7.0	10.101.7.0	NULL			All nodes in this subnet are in cle...	Clear	09/07/2012 16:10:48
z001s007aar02.ate7.zo...	Communication	CommUp			The Fault Manager has detected...	Clear	09/07/2012 16:10:48
z001s007aar02.ate7.zo...	Synchronization	SynchronizedStatus			Fault manager has synchronized ...	Clear	09/07/2012 16:10:46
z001s007aar02.ate7.zo...	WAN Slot 5	mnr_s6000_wan_s...			Disabled - "CWR Slot 5"	Clear	09/07/2012 16:07:56
z001s007aar02.ate7.zo...	WAN Slot 4	mnr_s6000_wan_s...			UP - "CWR Slot 4"	Clear	09/07/2012 16:07:55

Figure 4.7 – Status History for WACN:System:RFSS:Site 00000:1404:1:7

The File menu contains the following options:

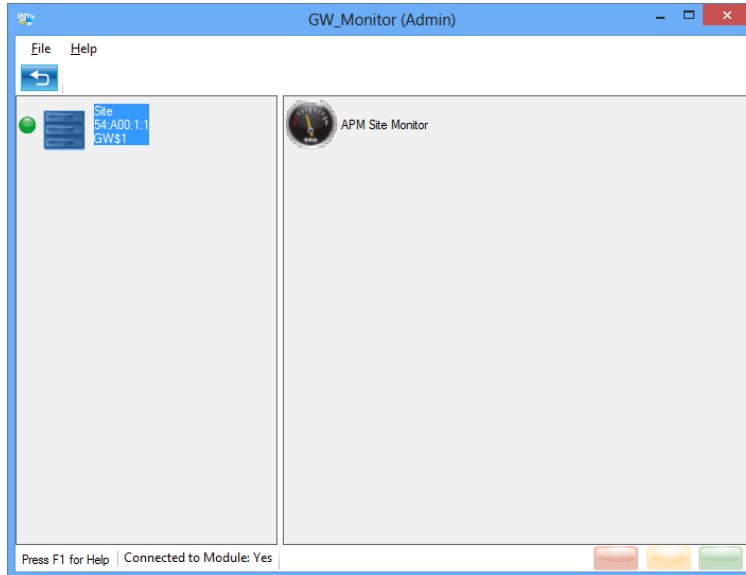
- **Export...:** Exports the values in the list in CSV (comma-separated value) format.
- **Copy To Clipboard:** Copies the values in the list to the clipboard using Tab-delimited format. This can easily be pasted into a spreadsheet.



If a row is red, this means the severity of the row is COMM Failure, Major or Critical.

## APM Site Monitor App

The APM Site Monitor App exists at the Site level under the selected System and RFSS. To view the Site level under a specific System and RFSS, double-click on the System in the Infrastructure Navigation Panel and double click the RFSS in the Infrastructure Navigation Panel.




**Figure 4.8** – Infrastructure Navigation Panel with RFSS 00054:A00:1:1 Selected

Select the Site in the Infrastructure Navigation Panel and double-click on the APM Site Monitor app. This will open the *APM Site Monitor* app for the selected Site.



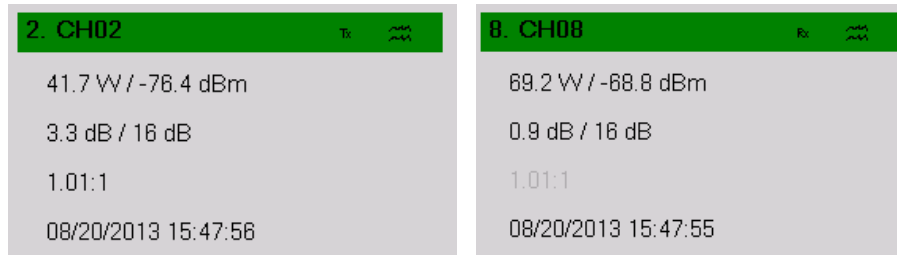
**Figure 4.9** - APM Site Monitor

 The APM Site Monitor App will only be available if this installation is licensed for APM connections under the Connect module in your license file.

The *APM Site Monitor* shows the WACN:System:RFSS:Site in the window header as well as above the channel blocks. The *APM Site Monitor* has a **View** menu, for detailed information about this menu see the **View Menu** section of this chapter. The APM Site Monitor also has a Combined Active TX Power Level displayed in the upper right hand corner across from the WACN:System:RFSS:Site information. This shows the total TX power of all active channels in the interval.

Each channel block (Figure 4.10) shows the latest APM data received for the channel. The following values are displayed for each channel block.

- Aliased channel information – Channel position and channel Alias
- TX power level in watts / RX Power level in dBm
- TX combiner insertion loss in decibels (dB) / RX combiner insertion loss in dB
- TX VSWR – Voltage Standing Wave Ratio
- Date and time of last signal (TX or RX)



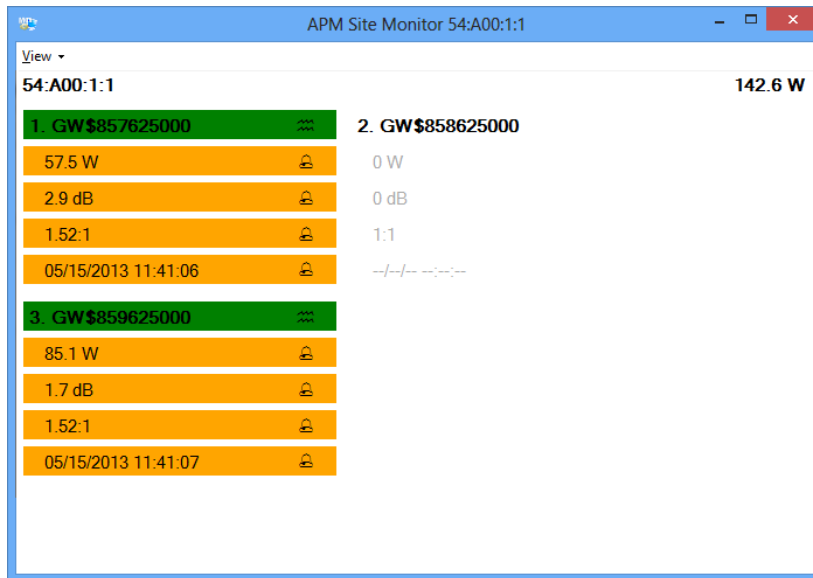
**Figure 4.10** – APM Site Monitor Channel blocks

Data is refreshed on an interval of 5 seconds. A channel is considered active if it has APM data available within the last 5 second interval. Active channels will display the Aliased channel information highlighted green and when a TX or RX signal is present the following image will be displayed . The green highlighted area will show when a TX signal is present and will show when an RX signal is present. In Figure 4.10 above, notice that the TX VSWR value is grayed out on channel 8. This is because only the RX signal is present and the TX VSWR pertains to the TX signal.

## Failures and Alerts

The channel block will also display failures reported by the APM if they occur within the interval being reported on. When these failures are received the channel block values associated with the failure will be highlighted orange and show an alert image to the right of the value (Figure 4.11). The following channel block resources signify the following Failure types:

- TX power level / RX power level → Tx Power Level Fail
- Combiner insertion loss → Combiner Insertion Loss Fail
- TX VSWR → VSWR Fail
- Date and time of last signal (TX or RX) → VCO Lock Fail



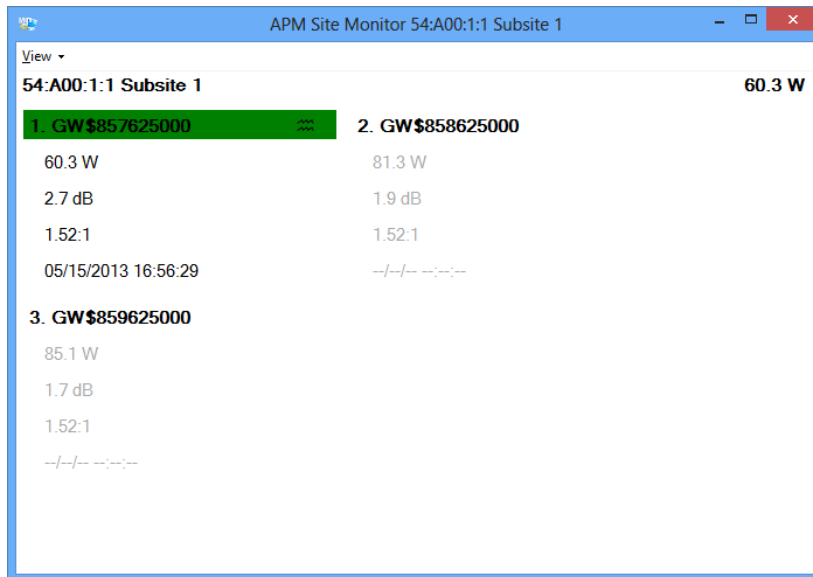
**Figure 4.11** – APM Site Monitor with Alerts



Most values and images within the APM Site Monitor have tool tip text that describes the value. To view this text hover the mouse over the value you wish to know more about.

## Subsite Monitoring

You can also access *APM Site Monitor* at the Subsite level of the Infrastructure Navigation Panel by double clicking a Site that has Subsites, this will show *APM Site Monitor App* for a specific Subsite. *APM Site Monitor* behaves the same on the subsite level as it does on the site level, however it is possible to see additional information. When a simulcast call occurs if the channel issuing the call does not transmit on a specific subsite you will see a channel block with a red header and an image that indicates the channel on this subsite was excluded from a simulcast call. (Figure 4.13)



**Figure 4.12** – APM Site Monitor on a Subsite

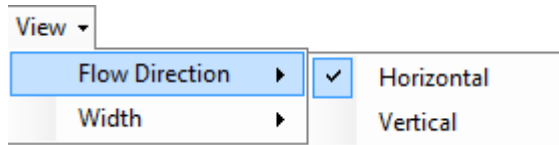
54:A00:1:1 Subsite 1



**Figure 4.13** – Excluded From Simulcast

## View Menu

The **View** menu has the options of **Flow Direction** (Figure 4.14a) and **Width** (Figure 4.14b). **Flow Direction** controls how the resource blocks (such as channel) are displayed within the App window, either **Horizontal** or **Vertical**. Note that the resource blocks will wrap to fit as many resource blocks as possible in the space available and may place resource blocks side by side when vertical is selected if multiple resource blocks fit in the space available. The **Width** selector sets the width of the resource blocks in the App window.



**Figure 4.14a** – Flow Direction



**Figure 4.14b** – Width selector