User Manual

Dual Primary for Site Sharing
Dynamic and Static modes

RFS Product ACU-X20 is Dual-Primary capable. This product offers two sharing mode: **Static or Dynamic**.

In case of Static Sharing arrays are split between BTS Port A and B in a fixed way, i.e. an array can be discovered, scanned, addressed, controlled only from the BTS Port assigned to this array. One array will never be seen by both BTS Ports.

When arrays use Dynamic Sharing mode the primaries decide where each array will be assigned. It is not under the control of the ACU-X20 product but by primaries. First BTS HDLC address assignment received becomes the master.

The dynamic implementation is simple: on Reset all arrays controlled by virtual Single-RET are in 'no-address' state and all 'no-address' can be discovered (i.e. seen by AISG standard XID scanning process). Once an address is set by a primary it becomes the master of this array and become hidden for the other BTS port. In other words, the first address assignment sets this BTS Port to this array while device is addressable, i.e. until any next reset ('no-address' state).

This Dynamic Sharing mode requires some synchronization between both primaries. Typically, one primary should start, browse, and discover all arrays. Next step from this primary is to deallocate arrays it does not want to use (i.e. reset some to 'no-address) and record UIDs it wants to use. Now the second primary can be started and deallocated arrays (with no-address) will be discovered and useable by this second primary. For next BTS starts, it may be more efficient for each primary to readdress recorded UID instead restart this process.

The NEM-ALD-W tool offers a direct access to assign DYNAMIC or STATIC sharing from a single button. Note that STATIC sharing activated from DYNAMIC sharing will fix the current dynamic configuration used.

Note: "HW. Version" field shows the current BTS Port A or B with black icon Ⓐ or Ⓑ

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The sharing mode can be edited also from the "Antennas Graphic view". User can access to STATIC and DYNAMIC mode control from the mouse right-click context menu this way:
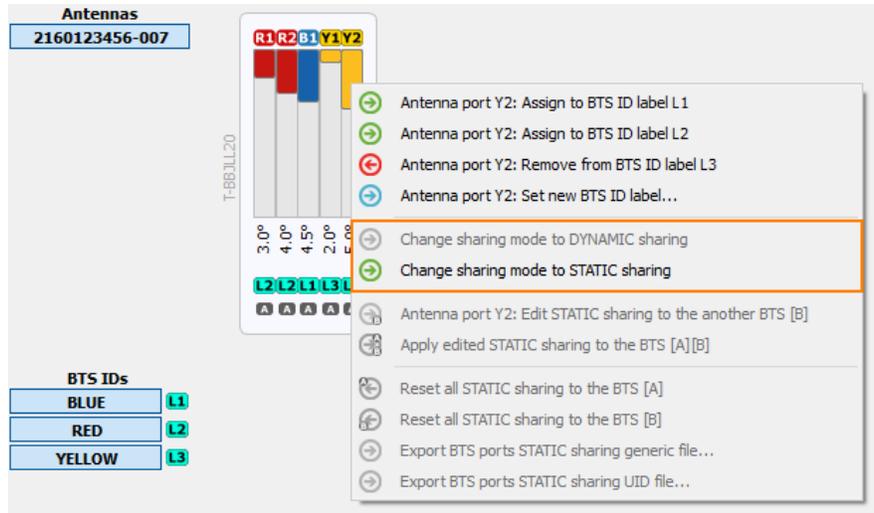
Example: when the current sharing mode is DYNAMIC.

In STATIC mode we can edit the current sharing by mouse click on black icons **A** or **B** at the bottom. Once editing is ready, from the mouse right-click context menu on any array select "Apply edited STATIC
sharing to the BTS[A][B]":
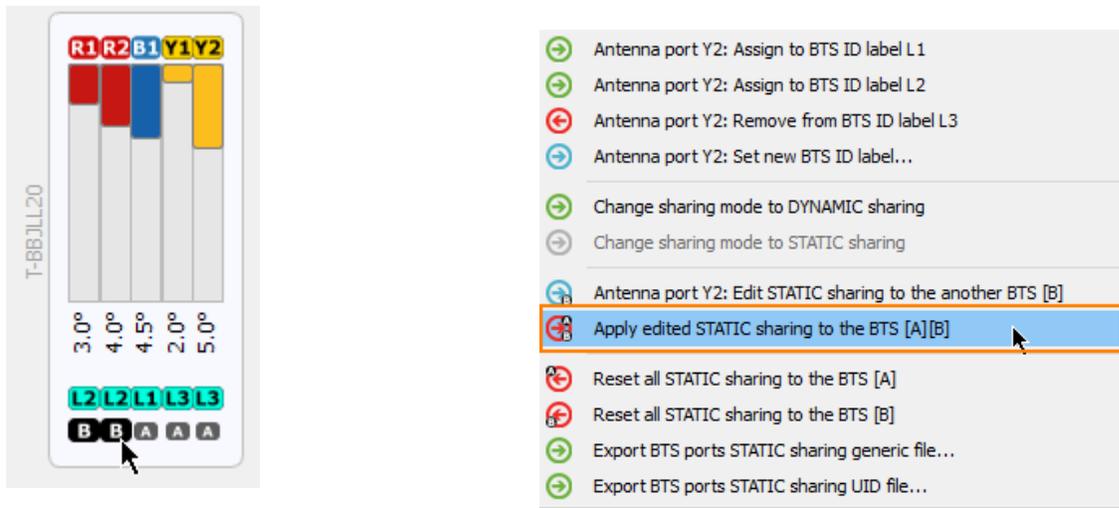
Note: direct access to reset all units to the same BTS are available.

The DYNAMIC mode behavior on the field can be simulated if we connect two NEM-ALD-W, one on each ACU-X20 BTS port. In the example bellow COM3 is connected to BTS Port A and COM4 is connected to BTS Port B of the ACU-X20 product.

1) Connect NEM-ALD-W on BTS Port A and scan for all:

Result is:

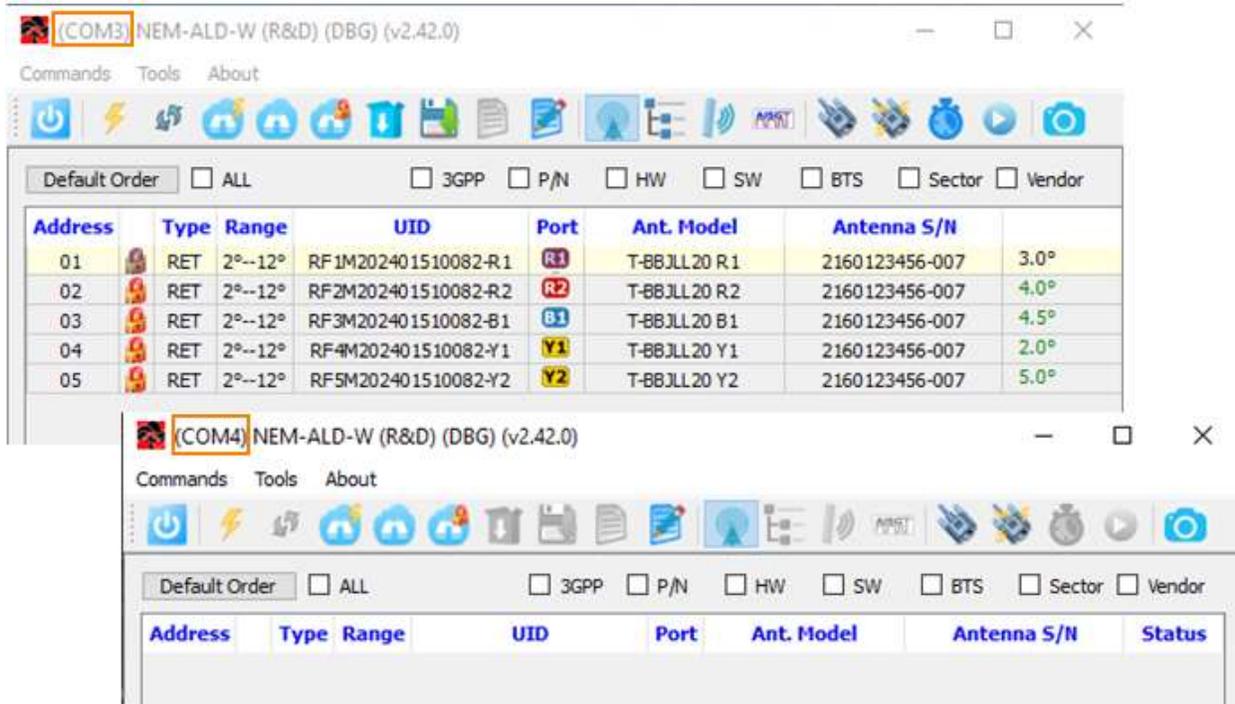| Address		Type	Range	UID	Port	Ant. Model	Antenna S/N	
01	🔒	RET	2°--12°	RF1M202401510082-R1	R1	T-BBJLL20 R1	2160123456-007	3.0°
02	🔒	RET	2°--12°	RF2M202401510082-R2	R2	T-BBJLL20 R2	2160123456-007	4.0°
03	🔒	RET	2°--12°	RF3M202401510082-B1	B1	T-BBJLL20 B1	2160123456-007	4.5°
04	🔒	RET	2°--12°	RF4M202401510082-Y1	Y1	T-BBJLL20 Y1	2160123456-007	2.0°
05	🔒	RET	2°--12°	RF5M202401510082-Y2	Y2	T-BBJLL20 Y2	2160123456-007	5.0°

2) Unlock Y1 and Y2:

Address		Type	Range	UID	Port	Ant. Model	Antenna S/N	Status
01	🔒	RET	2°--12°	RF1M202401510082-R1	R1	T-BBJLL20 R1	2160123456-007	3.0°
02	🔒	RET	2°--12°	RF2M202401510082-R2	R2	T-BBJLL20 R2	2160123456-007	4.0°
03	🔒	RET	2°--12°	RF3M202401510082-B1	B1	T-BBJLL20 B1	2160123456-007	4.5°
04	🔓	RET	2°--12°	RF4M202401510082-Y1	Y1	T-BBJLL20 Y1	2160123456-007	2.0°
05	🔓	RET	2°--12°	RF5M202401510082-Y2	Y2	T-BBJLL20 Y2	2160123456-007	5.0°

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3) Rescan for only locked units:

Result: now only R1, R2 and B2 are assigned to NEM-ALD-W connected to Port A:

(COM3) NEM-ALD-W (R&D) (DBG) (v2.42.0)

Commands   Tools   About

Default Order   ☐ ALL   ☐ 3GPP ☐ P/N ☐ HW ☐ SW ☐ BTS ☐ Sector ☐ Vendor

Address		Type	Range	UID	Port	Ant. Model	Antenna S/N	Status
01	🔒	RET	2°--12°	RF1M202401510082-R1	R1	T-BBJLL20 R1	2160123456-007	3.0°
02	🔒	RET	2°--12°	RF2M202401510082-R2	R2	T-BBJLL20 R2	2160123456-007	4.0°
03	🔒	RET	2°--12°	RF3M202401510082-B1	B1	T-BBJLL20 B1	2160123456-007	4.5°
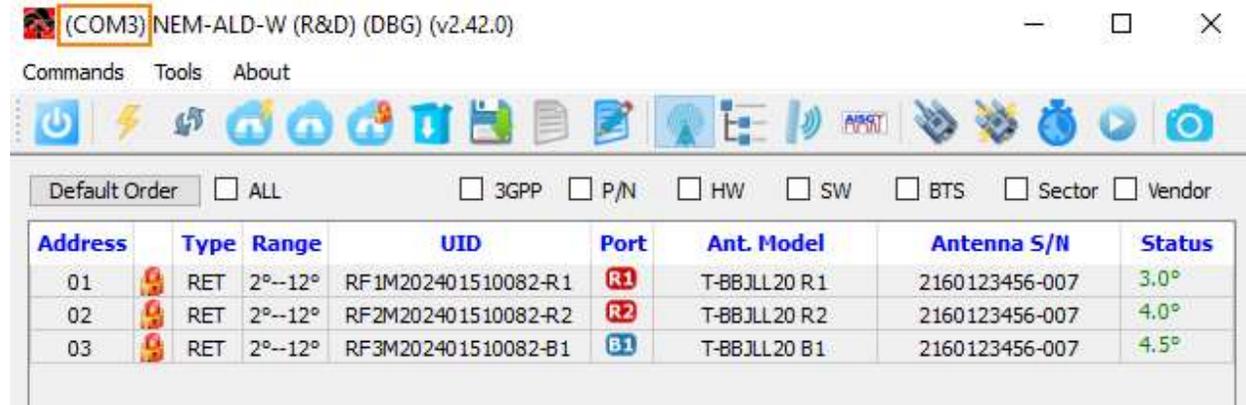
4) Now we can scan from NEM-ALD-W to Port B:

Result: now NEM-ALD-W to Port B discover Y1 and Y2

(COM4) NEM-ALD-W (R&D) (DBG) (v2.42.0)

Commands   Tools   About

Default Order   ☐ ALL   ☐ 3GPP ☐ P/N ☐ HW ☐ SW ☐ BTS ☐ Sector ☐ Vendor

Address		Type	Range	UID	Port	Ant. Model	Antenna S/N	Status
01	🔒	RET	2°--12°	RF4M202401510082-Y1	Y1	T-BBJLL20 Y1	2160123456-007	2.0°
02	🔒	RET	2°--12°	RF5M202401510082-Y2	Y2	T-BBJLL20 Y2	2160123456-007	5.0°