

Motorola Solutions Technical Notification (MTN)

TITLE: MOTOTRBO™ Capacity Max Repeater Control Channel stops in the presence of interference

TECHNOLOGY: MOTOTRBO™ Capacity Max

SYMPTOMS:

An issue has been discovered in Capacity Max systems whereby when a Control Channel capable repeater detects interference, the Control Channel will rollover, but the affected repeater will not be able to be a Control Channel again until it is reset. Clearing the interference has no effect. In this condition, the repeater will continue to operate as a Trunk Channel only.

If all Control Channel capable repeaters are affected by this issue, symptoms will include the inability for radios to register on a site and loss of service from a RF site.

The issue affects sites that have a single or multiple repeaters capable of operating as a Control Channel.

To avoid this issue, it is strongly advised NOT to use Firmware versions R20.20.02.03 and R20.20.02.05 in Capacity Max system repeaters.

Note that this issue affects **only** Capacity Max systems running R20.20.02.03 or R20.20.02.05 repeater firmware (M2020.02 and M2020.02.01 releases).

Repeaters with firmware outside this range or repeaters used in other system topologies are not affected.

MODELS / SYSTEM RELEASES / KITS / DATE CODES AFFECTED:

All XPR/MTR/SLR Repeaters and associated FRU's operating in Capacity Max mode with firmware version R20.20.02.03 or R20.20.02.05 (M2020.02 and M2020.02.01 release).

Prior Repeater firmware releases are **not** affected by this issue.

SEVERITY RECOMMENDATION:

High / Immediate - Perform regardless of symptom presence

ROOT CAUSE / DEFINITIVE TEST:

The issue was root caused to code enhancements added in the R20.20.02.03 and R20.20.02.05. Issue is fixed in the new R20.20.02.06 or later firmware.

WORKAROUNDS AND CORRECTIVE ACTIONS:

To recover system operation, restart repeater from System Advisor or repeater Webpage. The repeater will resume operation within 2min.

RESOLUTIONS AND REPAIR PROCEDURES:

Download the new Repeater firmware version **R20.20.02.06** (M2020.02.02 release) or later from the MOL or MyView site and perform a Repeater firmware upgrade to that version.

PARTS REQUIRED (HARDWARE/SOFTWARE):

Repeater firmware version **R20.20.02.06** (M2020.02.02 release).

The Repeater Firmware can be downloaded from the MOL website: <https://businessonline.motorolasolutions.com>
Resource Center-->Software-->Two-Way-->MOTOTRBO--> Conventional Firmware

or from MyView (myview.motorolasolutions.com) under *Entitlements-->Software*.

ADDITIONAL INFORMATION:

This issue can be confirmed by looking at the Call Monitoring Grid View page in System Advisor. The site with affected repeaters will indicate that all channels are active (green) with no Control Channel as shown below on Picture 2:

Picture 1: Site with Control Channel (normal/correct operation)



Picture 2: Site without Control Channel (affected site)



The issue can also be confirmed by checking the **Repeater Webpage** and verifying if any of the Control Channel Repeaters show **fccBlock** (Picture 3) but are still in an **ENABLED_STATE** (Picture 4).

Example screenshots:

Picture 3:

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System Info								
Site ID	Device ID	Device Redundancy	Device Type	Device Model	Role IP	Device Status	System ID	System TC/Interm
0	8	primary	uem	XPR/MTR/DR	172.20.36.5	enabled	1	NA
0	0	primary	tc	SERVER	172.20.36.1	enabled	1	primary, active
5	7	primary	dataGw	SERVER	172.20.36.10	enabled	1	NA
256	4	primary	vrcGw&replicator	SERVER	172.20.36.4	enabled	1	NA

RF Site 1 Info												
Site ID	Device ID	Device Redundancy	Device Type	Device Model	Device IP	Device Status	Trunk or Revert	IA	Site TC	CCM	TCM Slot1	TCM Slot2
1	1	primary	repeater	SLR	172.16.1.24	fccBlock	trunk	yes	no	no	yes	yes
1	2	primary	repeater	SLR	172.16.1.27	fccBlock	trunk	no	no	no	yes	yes

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Picture 4:

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Repeater Information

Diagnosis Info	Value
Firmware Version	R20.20.02.03
Code Plug Version	R08.00.06
RF Band	UHF1
Rx Frequency	403.137500 Mhz
Tx Frequency	408.137500 Mhz
Slot1 RSSI	-126.149 dbm
Slot2 RSSI	-126.149 dbm
Model Number	R10QCGANG1AN
Repeater State	ENABLED_STATE
Personality Type	CapacityMaxAdvantage
Control Channel Capable	YES
Number of Available Channels in Zone	1
Current Channel Position in Zone	1
Current Channel Alias	Channel1
Tx Power Level	LOW

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When a repeater exhibits this state it needs to be restarted.

REFERENCE THE FOLLOWING DOCUMENTS/PROCESSES FOR INSTALLATION PROCEDURES:

N/A

WHEN TO APPLY RESOLUTION:

After reboot
After (re)installation
After upgrade
After power cycle
After database restoration
After failure
On FRU replacement
During maintenance
Immediately **X**
As instructed
Information only

LABOR ALLOWANCE:

This is an informational bulletin. No labor warranty is implied, intended or authorized for U.S. Domestic Partners/Customers. Other regions should follow their own standard procedures.

For assistance with this bulletin please contact your MSI Technical support center

https://www.motorolasolutions.com/en_us/support.htm