

OVERVIEW

DATE ISSUED:	February 5, 2022	TRACKING NUMBER:	220205
ISSUED BY:	IoT Solutions Product Management		
PRODUCTS AFFECTED:	EM9190, EM9191		
SKUS AFFECTED:	1104567, 1104629		
BULLETIN:	New SKUs available for the EM919x that support additional bands		
URGENCY:	Normal		
FOR DISTRIBUTION TO:	Customers using products affected		

Summary

New EM919x SKUs add support for additional bands:
LTE B43, 5G NR n7, n8, n12, n20, 25, n38, n40, n48

Customers should use the new SKUs for new designs and new platform launches to access the additional bands.

Change Details

- Problem statement: The current EM919x SKUs cannot support additional RF bands introduced with EM919x Release 2+ firmware.
- Reason: Module hardware needs factory calibration written into the module for each operable RF band. At the time of product launch, Qualcomm firmware did not support the calibration of the additional bands that has since been added by Qualcomm in newer firmware.
- What happened: SWI has introduced new factory firmware to our CM that calibrates the additional bands.
- Existing SKUs:
 - Will continue to be calibrated as they are today (in order to remain consistent with existing customer platform certifications).
 - Cannot be field updated to add the necessary calibration data to enable the additional bands.
 - Will operate with the band support they have with Release 1 firmware when upgraded to Release 2+ firmware. (additional bands are not supported)
- New SKUs are now available to support customers who want to take advantage of the added bands:

Product	Current SKU	New SKU
EM9190	1104567	1104902
EM9191	1104629	1104903

Timeline

Effective: January 21, 2022. New SKU are now shippable from the SWI.

More information

The following table summarizes additional bands enable with the new SKUs:

Band	1104567 / 1104629	1104902 / 1104903	Country / Region
LTE B43	X	√	Australia, Canada, China, Korea, LatAm, US
5G NR n7	X	√	Australia, Canada, EU, Korea, LatAm, SEA
n8	X	√	China, EU, Korea, Japan, SEA
n12	X	√	US, Canada
n20	X	√	EU
n25	X	√	US, Canada
n38	X	√	Canada, China, EU
n40	X	√	Australia, China, India, LatAm
n48	X	√	US

√	Supported – hardware contains calibration data for these bands
X	Not Supported – hardware does NOT contain calibration data for these bands

EM919x Release 1 firmware loaded onto the new SKUs will have the exactly the same band support as the current SKUs because the Release 1 firmware is not capable of using the additional bands. In regions where the Release 1 certifications are being leveraged

SWI is updating regulatory and carrier certifications through 1Q22 where necessary to reflect the additional bands (using firmware newer than EM919x Release 1). OEMs that have taken platforms through regulatory and carrier certifications with the current SKU and now want to use the new SKU(s) on the same platforms will need to ensure that the platform certifications align with the new SKU capabilities. Note that the additional bands are realized when the firmware is used is something newer than EM919x Release 1 firmware.

Shipping firmware:

- It is intended that SKUs 1104902 and 1104903 ship with PTCRB and GCF approved Release 4 firmware. At the time of writing, the firmware is not available.
- In order to get the SKUs shipping, the SKUs are shipping with an interim/pre Release 4 build package (BP).
- SKUs 1104902 and 1104903 will be updated to factory ship with PTCRB and GCF approved Release 4 firmware once it is available. The target for this is by the end of 1Q22.
- OEMs can choose to load other firmware (Release 1, Release 2, Release 3) on the modules to meet platform and launch needs.
- Note that the Release 4 firmware can support multiple firmware images on a module. With the new SKUs shipping from the factory with the Release 4 firmware, this provides an opportunity for SWI to add Verizon certified firmware onto these SKUs once the Verizon MR is completed. It is expected that the new SKUs will be setup to ship with the PTCRB/AT&T firmware plus the Verizon firmware image.
 - Other carrier PRIs will also be loaded in the same update.