



## APC UPS Network Management Card Statement of Volatility (SoV) and Secure Disposal

Following is a statement of memory volatility and instructions for secure disposal for the APC by Schneider Electric UPS Network Management Card products listed below. Note, this SoV does not detail products using the Network Management Card, only the specifically modeled Network Management Cards themselves.

This document describes the types of memory contained in the product in question and the possible methods of destruction.

For volatile memory (SRAM), when power is turned off for an extended period of time (hours), most data is lost. However, the potential is there, using advanced techniques to recover some information due to tiny amounts of residual power. The product has no functionality that can assure complete destruction of information. Physical destruction is the most certain method of destruction.

For non-volatile memory, the product has no functionality that can assure complete destruction of information. Physical destruction is the most certain method of destruction. However the method of reformatting the non-volatile memory is given below.

To reformat the Network Management Card non-volatile memory:

- **Method 1:** Hold down the Reset button on the NMC's faceplate for 20 seconds, ensuring the NMC's Status LED is pulsing green during this time. When the LED changes to amber or orange, release the Reset button to allow the format function to complete and for the NMC to complete its reboot process.
- **Method 2:** Log in to the command line interface as a Super User or Administrator and issue the `format` command, followed by the `reboot` command. For more information on these commands, see the [CLI Guide](#) on the APC website.

**NOTE:** This will reset the Management Card to its default values and remove all configurable information. If you are copying your configuration to another NMC, you must export your `config.ini` file before reformatting the device. See Knowledge Base article [FA156131](#) for information on how to retrieve the `config.ini` file.

Returning the device to factory defaults will have no effect on warranty entitlements. Reformatting does not remove factory information such as model number, serial number, manufacture date, MAC address, hardware rev., etc.

The irrecoverable destruction of all information by reformatting as described above is not guaranteed or assured.

The non-volatile memory contains both executable code and data of various types and is accessible indirectly in multiple ways, for example event logs, data logs, and configuration information. The size of this information is variable.

For the physical location of volatile and non-volatile components, see Appendix A. Drilling a hole through the center of the memory components delineated assures irrecoverable destruction of the information contained therein.

Model	Memory Type	Memory Size	Volatile or Non-Volatile	Retain information when power is turned off?	Alterable in the field?	Battery Backed up?	Item #
<b>AP9617, AP9617X317 NMC1</b>							
	Serial EEPROM	16K bytes	Non-Volatile	Yes	Yes	No	1
	FLASH	4M bytes	Non-Volatile	Yes	Yes	No	2
	FLASH	4M bytes	Non-Volatile	Yes	Yes	No	6
	Battery backed-up SRAM	56 bytes	Volatile	Yes	Yes	Yes	3
	SRAM	512K bytes	Volatile	No	Yes	No	4
	SRAM	4K bytes	Volatile	No	Yes	No	5
	SRAM	128x48 bits	Volatile	No	Yes	No	5
<b>AP9618 NMC1</b>							
	Serial EEPROM	16K bytes	Non-Volatile	Yes	Yes	No	1
	FLASH	4M bytes	Non-Volatile	Yes	Yes	No	2
	FLASH	4M bytes	Non-Volatile	Yes	Yes	No	6
	Battery backed-up SRAM	56 bytes	Volatile	Yes	Yes	Yes	3
	SRAM	512K bytes	Volatile	No	Yes	No	4
	SRAM	4K bytes	Volatile	No	Yes	No	5
	SRAM	128x48 bits	Volatile	No	Yes	No	5
	Serial EEPROM	16K bytes	Non-Volatile	Yes	Yes	No	7
	Flash	2Mbits	Non-Volatile	Yes	Yes	No	8
	SRAM	32K x 16 Bits	Volatile	No	Yes	No	9
	EEPROM	16Kbits	Non-Volatile	Yes	Yes	No	10
<b>AP9619, AP9619-IBM, AP9619X447 NMC1</b>							
	Serial EEPROM	16K bytes	Non-Volatile	Yes	Yes	No	1
	FLASH	4M bytes	Non-Volatile	Yes	Yes	No	2
	Battery backed-up SRAM	56 bytes	Volatile	Yes	Yes	Yes	3
	SRAM	512K bytes	Volatile	No	Yes	No	4
	SRAM	4K bytes	Volatile	No	Yes	No	5
	SRAM	128x48 bits	Volatile	No	Yes	No	6
	Serial EEPROM	16K bytes	Non-Volatile	Yes	Yes	No	7
<b>AP9618U</b>							
Operation of the AP9618U combined with the AP9617 is the equivalent of an AP9618.							
<b>AP9619U</b>							
Operation of the AP9619U combined with the AP9617 is the equivalent of an AP9619.							

Model	Memory Type	Memory Size	Volatile or Non-Volatile	Retain information when power is turned off?	Alterable in the field?	Battery Backed up?	Item #
<b>AP9606</b>							
	FLASH	512Kx16 bits	Non-Volatile	Yes	Yes	No	20
	Battery backed-up SRAM	128 bytes	Volatile	Yes	Yes	Yes	21
	SRAM	128Kx8 bits	Volatile	No	Yes	No	22
	SRAM	128Kx8 bits	Volatile	No	Yes	No	23
	SRAM	264 bytes	Volatile	No	Yes	No	24
	Serial EEPROM	64 Kbits	Non-Volatile	Yes	Yes	No	25
<b>AP9312T,TH</b>							
	FLASH	512Kx16 bits	Non-Volatile	Yes	Yes	No	20
	Battery backed-up SRAM	128 bytes	Volatile	Yes	Yes	Yes	21
	SRAM	128Kx8 bits	Volatile	No	Yes	No	22
	SRAM	128Kx8 bits	Volatile	No	Yes	No	23
	SRAM	264 bytes	Volatile	No	Yes	No	24
	Serial EEPROM	64Kbits	Non-Volatile	Yes	Yes	No	25
	EPROM (OTP)	8k bytes	Non-Volatile	Yes	No	No	26
	SRAM	256 bytes	Volatile	No	Yes	No	27
<b>AP9630/30CH, AP9631/31CH NMC2</b>							
	FLASH	8M bytes	Non-Volatile	Yes	Yes	No	40
	SRAM	1M byte	Volatile	No	Yes	No	41
	SRAM	4K bytes	Volatile	No	Yes	No	41
	SRAM	128x48 bits	Volatile	No	Yes	No	41
	SRAM	512 x 64 bits	Volatile	No	Yes	No	41
	SRAM	1536 x 24 bits	Volatile	No	Yes	No	41
	SRAM	32 x 68 bits	Volatile	No	Yes	No	41
	SRAM	128 x 8 bits	Volatile	No	Yes	No	41
	SRAM	64x32 bits	Volatile	No	Yes	No	41
	RTC	32 bits	Volatile	Yes	Yes	Yes	41

Model	Memory Type	Memory Size	Volatile or Non-Volatile	Retain information when power is turned off?	Alterable in the field?	Battery Backed up?	Item #
<b>AP9635/35CH NMC2</b>							
	FLASH	8M bytes	Non-Volatile	Yes	Yes	No	40
	SRAM	1M byte	Volatile	No	Yes	No	41
	SRAM	4K bytes	Volatile	No	Yes	No	41
	SRAM	128x48 bits	Volatile	No	Yes	No	41
	SRAM	512 x 64 bits	Volatile	No	Yes	No	41
	SRAM	1536 x 24 bits	Volatile	No	Yes	No	41
	SRAM	32 x 68 bits	Volatile	No	Yes	No	41
	SRAM	128 x 8 bits	Volatile	No	Yes	No	41
	SRAM	64x32 bits	Volatile	No	Yes	No	41
	Serial EEPROM	16K bytes	Non-Volatile	Yes	Yes	No	42
	SRAM	512Kx16	Volatile	No	Yes	No	43
	Flash	2Mbits	Non-Volatile	Yes	Yes	No	44
	SRAM	32K x 16 Bits	Volatile	No	Yes	No	45
	EEPROM	16Kbits	Non-Volatile	Yes	Yes	No	46
	RTC	32 bits	Volatile	Yes	Yes	Yes	46
<b>AP9640, AP9640FJ, AP9640HT, AP9640J, AP9640JN, AP9641, AP9641J, AP9649 NMC3</b>							
	FLASH	16M bytes	Non-Volatile	Yes	Yes	No	70
	FLASH	256M bytes	Non-Volatile	Yes	Yes	No	71
	SRAM	6M bytes	Volatile	No	Yes	No	72
	RTC	32 bytes	Volatile	Yes	Yes	Yes	72
	Serial EEPROM	4K bytes	Non-Volatile	Yes	Yes	No	73
<b>AP9643 NMC3</b>							
	FLASH	16M bytes	Non-Volatile	Yes	Yes	No	60
	FLASH	256M bytes	Non-Volatile	Yes	Yes	No	61
	SRAM	2M bytes	Volatile	No	Yes	No	62
	DRAM	512M bytes	Volatile	No	Yes	No	63
	RTC	32 bytes	Volatile	Yes	Yes	Yes	62
	Serial EEPROM	4K bytes	Non-Volatile	Yes	Yes	No	64
<b>AP9644 NMC4</b>							
	FLASH	16M bytes	Non-Volatile	Yes	Yes	No	60
	FLASH	1G bytes	Non-Volatile	Yes	Yes	No	61
	SRAM	2M bytes	Volatile	No	Yes	No	62
	DRAM	512M bytes	Volatile	No	Yes	No	63
	RTC	32 bytes	Volatile	Yes	Yes	Yes	62
	Serial EEPROM	4K bytes	Non-Volatile	Yes	Yes	No	64
<b>AP9544, AP9547 NMC3</b>							
	FLASH	16M bytes	Non-Volatile	Yes	Yes	No	80
	FLASH	256M bytes	Non-Volatile	Yes	Yes	No	81
	SRAM	6M bytes	Volatile	No	Yes	No	82
	RTC	32 bytes	Volatile	Yes	Yes	Yes	82
	Serial EEPROM	4K bytes	Non-Volatile	Yes	Yes	No	83

Model	Memory Type	Memory Size	Volatile or Non-Volatile	Retain information when power is turned off?	Alterable in the field?	Battery Backed up?	Item #
<b>Embedded NMC1 PN 640-0802, 640-1036 (part number is marked on PCB)</b>							
	Serial EEPROM	16K bytes	Non-Volatile	Yes	Yes	No	90
	FLASH	4M bytes	Non-Volatile	Yes	Yes	No	91
	Battery backed-up SRAM	56 bytes	Volatile	Yes	Yes	Yes	92
	SRAM	512K bytes	Volatile	No	Yes	No	93
	SRAM	4K bytes	Volatile	No	Yes	No	94
	SRAM	128x48 bits	Volatile	No	Yes	No	94
<b>Embedded NMC1 PN 640-0817 (part number is marked on PCB)</b>							
	Serial EEPROM	16K bytes	Non-Volatile	Yes	Yes	No	100
	FLASH	4M bytes	Non-Volatile	Yes	Yes	No	101
	Battery backed-up SRAM	56 bytes	Volatile	Yes	Yes	Yes	102
	SRAM	1M byte	Volatile	No	Yes	No	103
	SRAM	4K bytes	Volatile	No	Yes	No	104
	SRAM	128x48 bits	Volatile	No	Yes	No	104
<b>Embedded NMC1 PN 640-2802 (part number is marked on PCB)</b>							
	Serial EEPROM	16K bytes	Non-Volatile	Yes	Yes	No	110
	FLASH	4M bytes	Non-Volatile	Yes	Yes	No	111
	Battery backed-up SRAM	56 bytes	Volatile	Yes	Yes	Yes	112
	SRAM	1M byte	Volatile	No	Yes	No	113
	SRAM	4K bytes	Volatile	No	Yes	No	113
	SRAM	128x48 bits	Volatile	No	Yes	No	113
	SRAM	512 x 64 bits	Volatile	No	Yes	No	113
	SRAM	1536 x 24 bits	Volatile	No	Yes	No	113
	SRAM	32 x 68 bits	Volatile	No	Yes	No	113
	SRAM	128 x 8 bits	Volatile	No	Yes	No	113
	SRAM	64x32 bits	Volatile	No	Yes	No	113

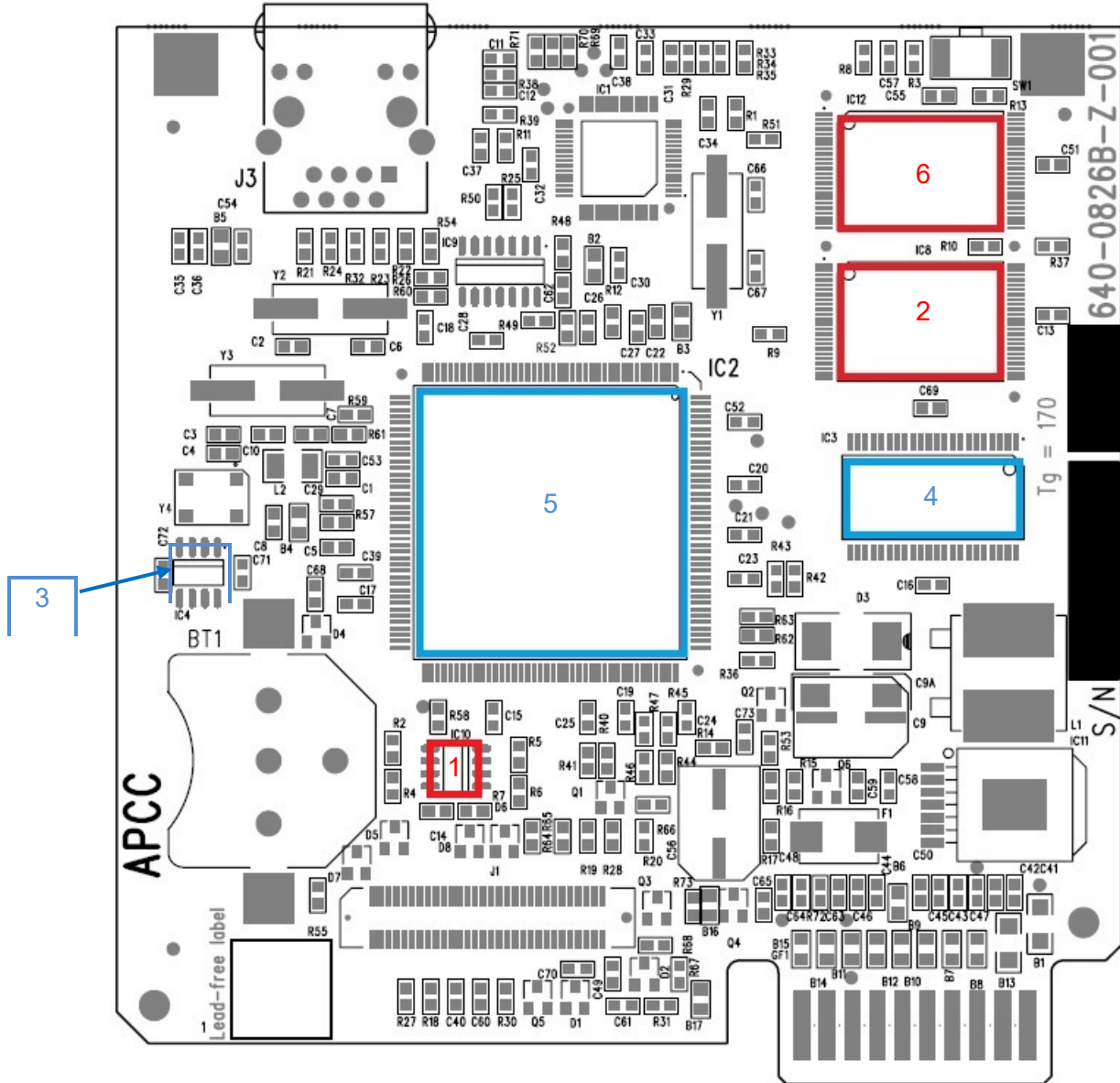
Model	Memory Type	Memory Size	Volatile or Non-Volatile	Retain information when power is turned off?	Alterable in the field?	Battery Backed up?	Item #
<b>Embedded NMC2 PN 640-2812, 640-2820 (part number is marked on PCB)</b>							
	Serial EEPROM	16K bytes	Non-Volatile	Yes	Yes	No	120
	Serial EEPROM	16K bytes	Non-Volatile	Yes	Yes	No	123
	FLASH	8M bytes	Non-Volatile	Yes	Yes	No	121
	SRAM	1M byte	Volatile	No	Yes	No	122
	SRAM	4K bytes	Volatile	No	Yes	No	122
	SRAM	128x48 bits	Volatile	No	Yes	No	122
	SRAM	512 x 64 bits	Volatile	No	Yes	No	122
	SRAM	1536 x 24 bits	Volatile	No	Yes	No	122
	SRAM	32 x 68 bits	Volatile	No	Yes	No	122
	SRAM	128 x 8 bits	Volatile	No	Yes	No	122
	SRAM	64x32 bits	Volatile	No	Yes	No	122
	RTC	32 bytes	Volatile	Yes	Yes	Yes	122
<b>Embedded NMC3 PN 640-2271 (part number is marked on PCB)</b>							
	FLASH	16M bytes	Non-Volatile	Yes	Yes	No	130
	FLASH	256M bytes	Non-Volatile	Yes	Yes	No	131
	SRAM	6M bytes	Volatile	No	Yes	No	132
	RTC	32 bytes	Volatile	Yes	Yes	Yes	132
	Serial EEPROM	4K bytes	Non-Volatile	Yes	Yes	No	133
<b>Embedded NMC4 PN 640-2333 (part number is marked on PCB)</b>							
	FLASH	16M bytes	Non-Volatile	Yes	Yes	No	140
	FLASH	1G bytes	Non-Volatile	Yes	Yes	No	141
	SRAM	2M bytes	Volatile	No	Yes	No	142
	DRAM	512M bytes	Volatile	No	Yes	No	143
	RTC	32 bytes	Volatile	Yes	Yes	Yes	142
	Serial EEPROM	4K bytes	Non-Volatile	Yes	Yes	No	144
<b>7" NMC2 Touch Screen Display 0N-9581, 0N-9582 (640-3492) (part number is marked on PCB)</b>							
	FPGA	35K bytes	Volatile	No	Yes	No	150
	FLASH	8M bytes	Non-Volatile	Yes	Yes	No	151
	FLASH	8M bytes	Non-Volatile	Yes	Yes	No	152
	SRAM	256Kx16	Volatile	No	Yes	No	153
	SRAM	256Kx16	Volatile	No	Yes	No	154
	SRAM	1M byte	Volatile	No	Yes	No	155
	SRAM	4K bytes	Volatile	No	Yes	No	155
	SRAM	128x48 bits	Volatile	No	Yes	No	155
	SRAM	512 x 64 bits	Volatile	No	Yes	No	155
	SRAM	1536 x 24 bits	Volatile	No	Yes	No	155
	SRAM	32 x 68 bits	Volatile	No	Yes	No	155
	SRAM	128 x 8 bits	Volatile	No	Yes	No	155
	SRAM	64x32 bits	Volatile	No	Yes	No	155
	RTC	32 bits	Volatile	Yes	Yes	Yes	155

Model	Memory Type	Memory Size	Volatile or Non-Volatile	Retain information when power is turned off?	Alterable in the field?	Battery Backed up?	Item #
<b>4.3" NMC2 Touch Screen Display 0N-9580 (640-7349) (part number is marked on PCB)</b>							
	FPGA	35K bytes	Volatile	No	Yes	No	160
	FLASH	8M bytes	Non-Volatile	Yes	Yes	No	161
	FLASH	8M bytes	Non-Volatile	Yes	Yes	No	162
	SRAM	256Kx16	Volatile	No	Yes	No	163
	SRAM	256Kx16	Volatile	No	Yes	No	164
	SRAM	1M byte	Volatile	No	Yes	No	165
	SRAM	4K bytes	Volatile	No	Yes	No	165
	SRAM	128x48 bits	Volatile	No	Yes	No	165
	SRAM	512 x 64 bits	Volatile	No	Yes	No	165
	SRAM	1536 x 24 bits	Volatile	No	Yes	No	165
	SRAM	32 x 68 bits	Volatile	No	Yes	No	165
	SRAM	128 x 8 bits	Volatile	No	Yes	No	165
	SRAM	64x32 bits	Volatile	No	Yes	No	165
	RTC	32 bits	Volatile	Yes	Yes	Yes	165
<b>4.3" NMC3 Touch Screen Display 0N-XXXX (640-2324) (part number is marked on PCB)</b>							
	FLASH	16M bytes	Non-Volatile	Yes	Yes	No	170
	FLASH	1G bytes	Non-Volatile	Yes	Yes	No	171
	SRAM	2M bytes	Volatile	No	Yes	No	172
	DRAM	512M bytes	Volatile	No	Yes	No	173
	RTC	32 bytes	Volatile	Yes	Yes	Yes	174
	Serial EEPROM	4K bytes	Non-Volatile	Yes	Yes	No	175
<b>AP9613 Dry Contact I/O Card (640-9613)</b>							
	FPGA	35K bytes	Volatile	No	Yes	No	180
	FLASH	8M bytes	Non-Volatile	Yes	Yes	No	181
	SRAM	1M byte	Volatile	No	Yes	No	182
	SRAM	4K bytes	Volatile	No	Yes	No	182
	SRAM	128x48 bits	Volatile	No	Yes	No	182
	SRAM	512 x 64 bits	Volatile	No	Yes	No	182
	SRAM	1536 x 24 bits	Volatile	No	Yes	No	182
	SRAM	32 x 68 bits	Volatile	No	Yes	No	182
	SRAM	128 x 8 bits	Volatile	No	Yes	No	182
	SRAM	64x32 bits	Volatile	No	Yes	No	182
	RTC	32 bits	Volatile	Yes	Yes	Yes	182

## Appendix A

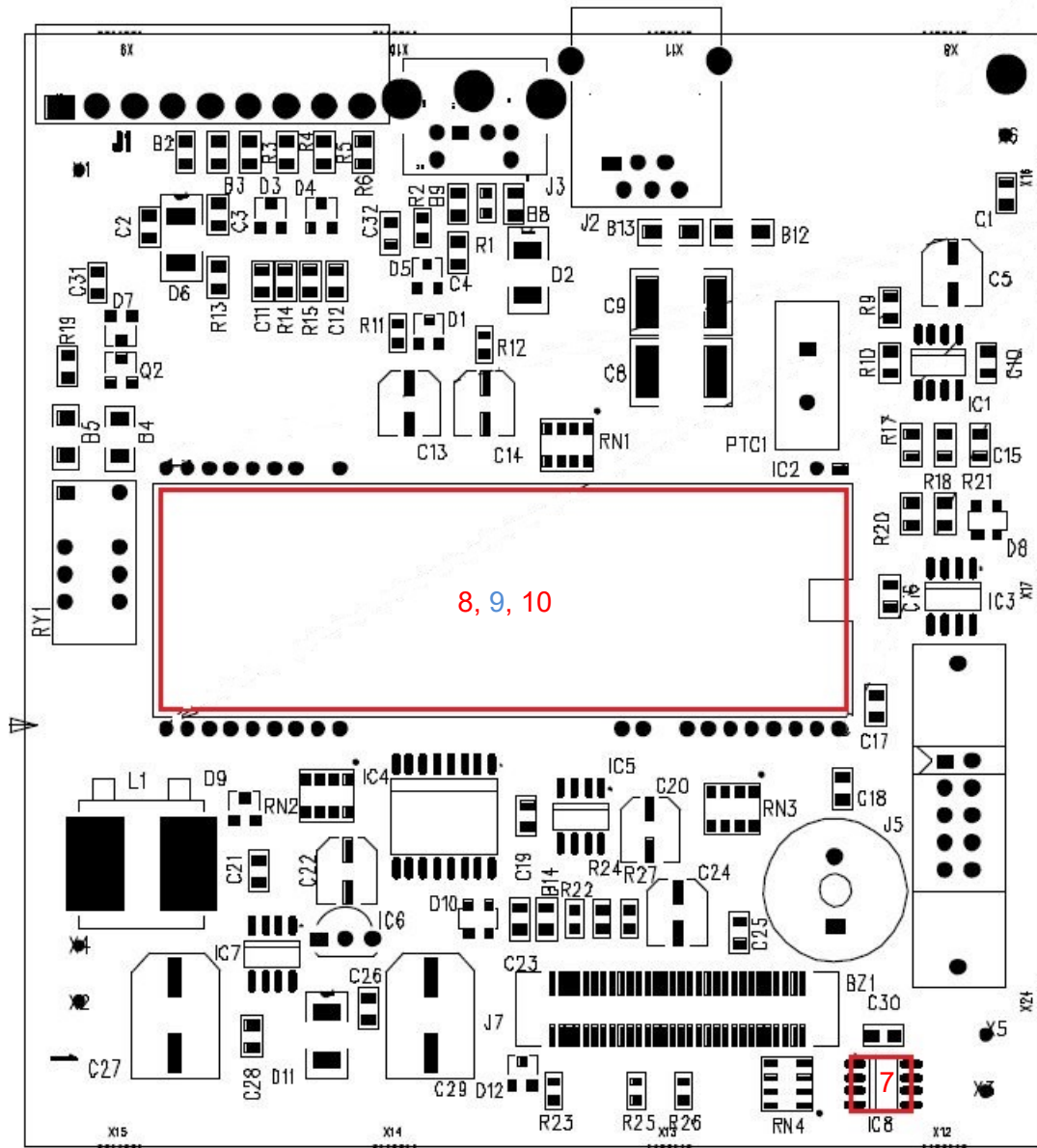
Physical location of volatile components are marked in **BLUE** and non-volatile components are marked in **RED**.

AP9617, AP9617X317, AP9618, AP9619, AP9619-IBM, AP9619X447, AP9618U, AP9619U  
NMC2; 640-0826, top side:

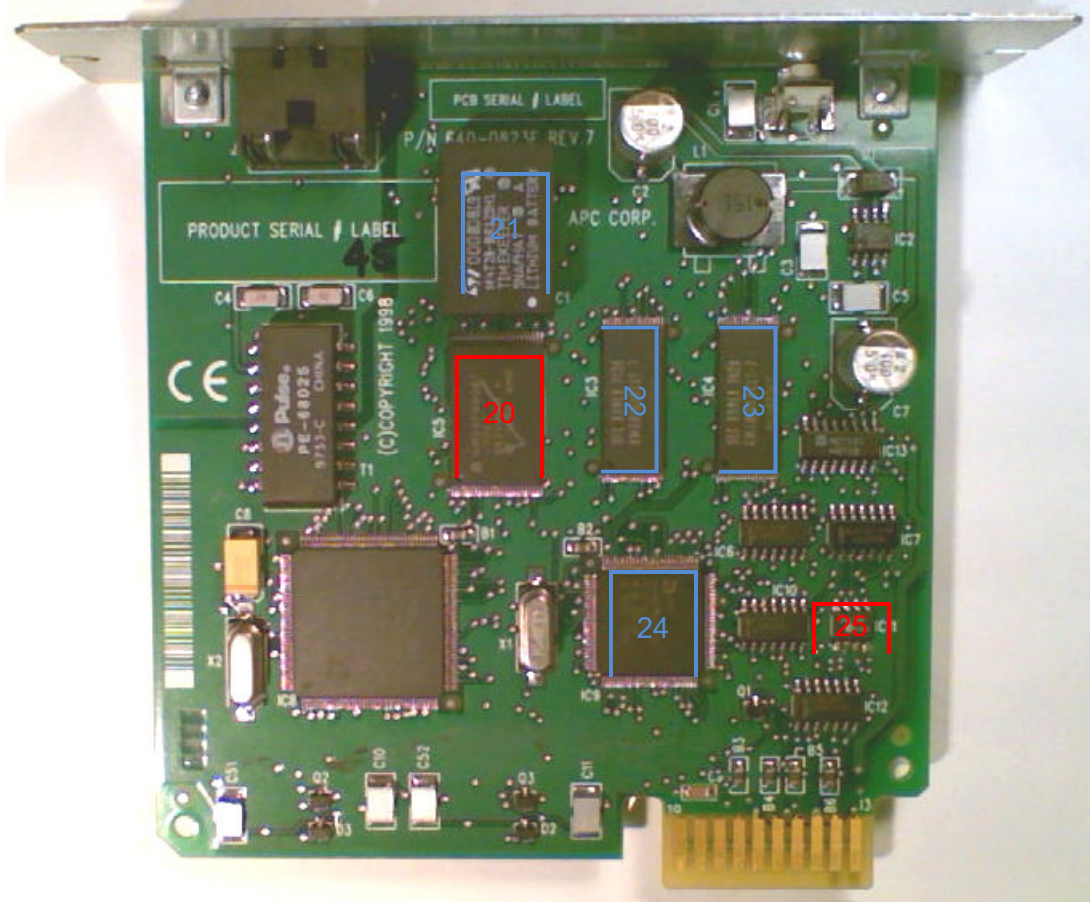




AP9618 NMC2, 640-0827, top side:

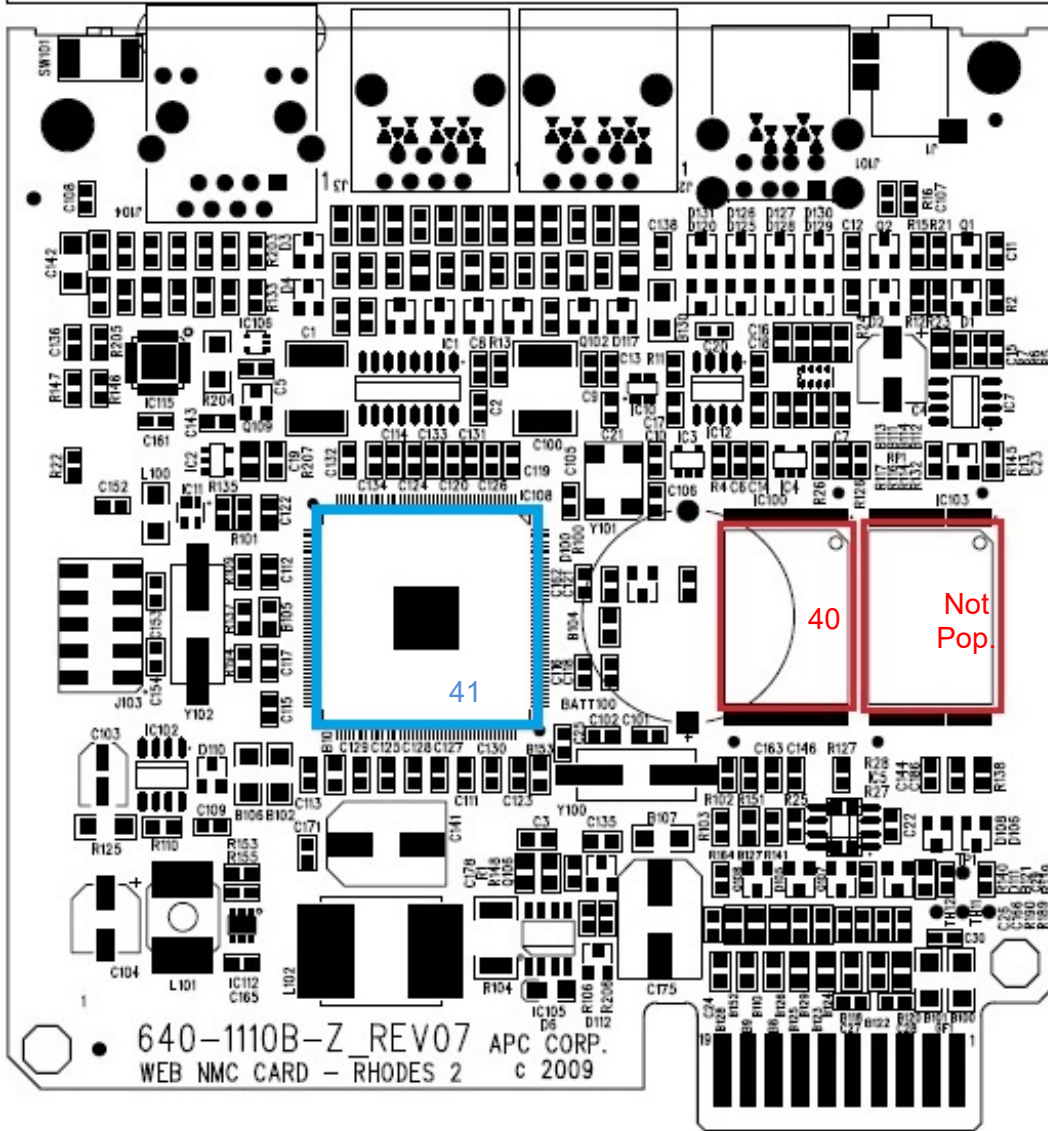


AP9606, AP9312T, AP9312TH; 640-0823, top side:



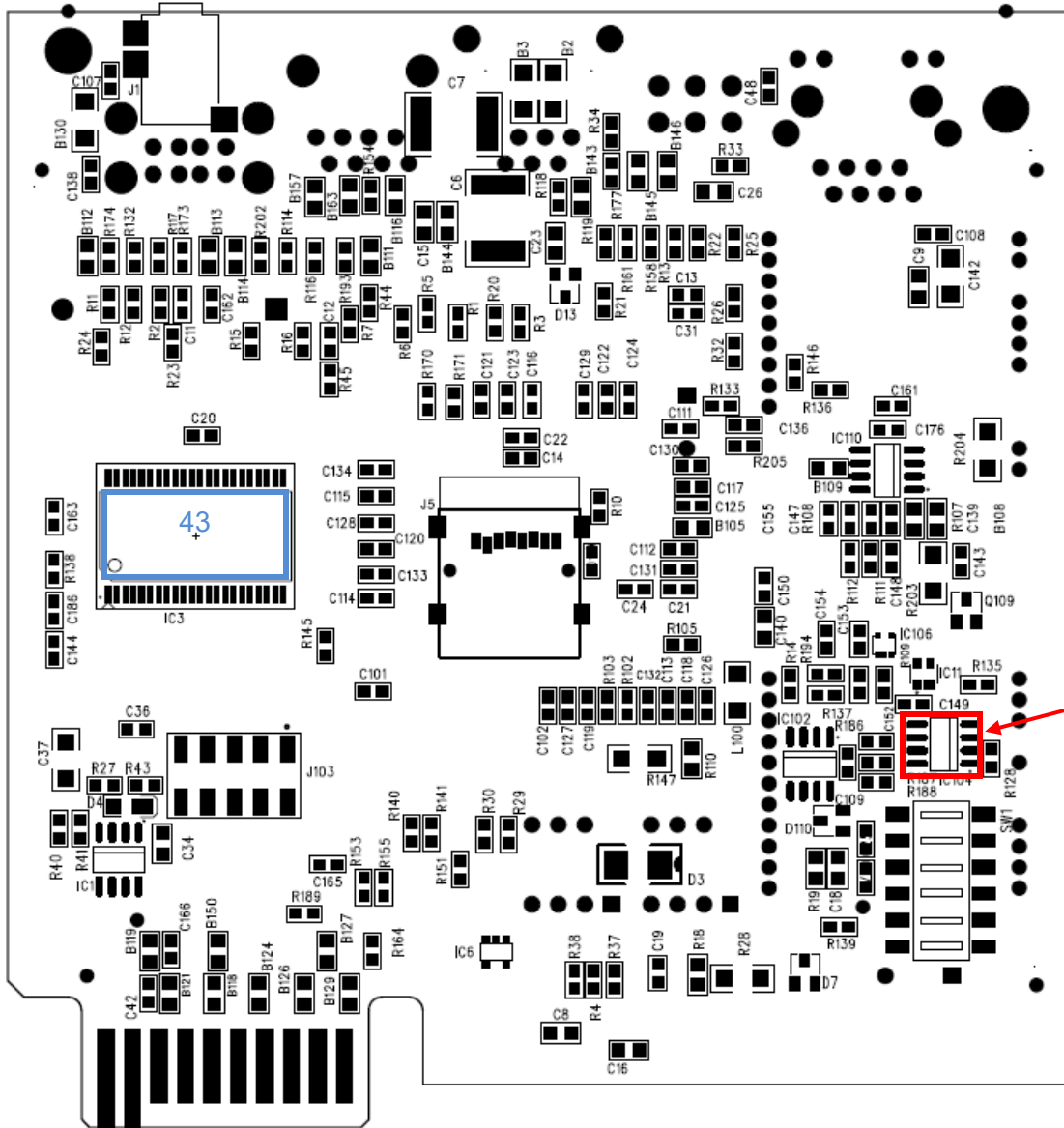
AP9312T/TH: 640-0814. Item 26 & 27 are IC 4.

AP9630/30CH, AP9631/31CH NMC2; 640-1110, top side:



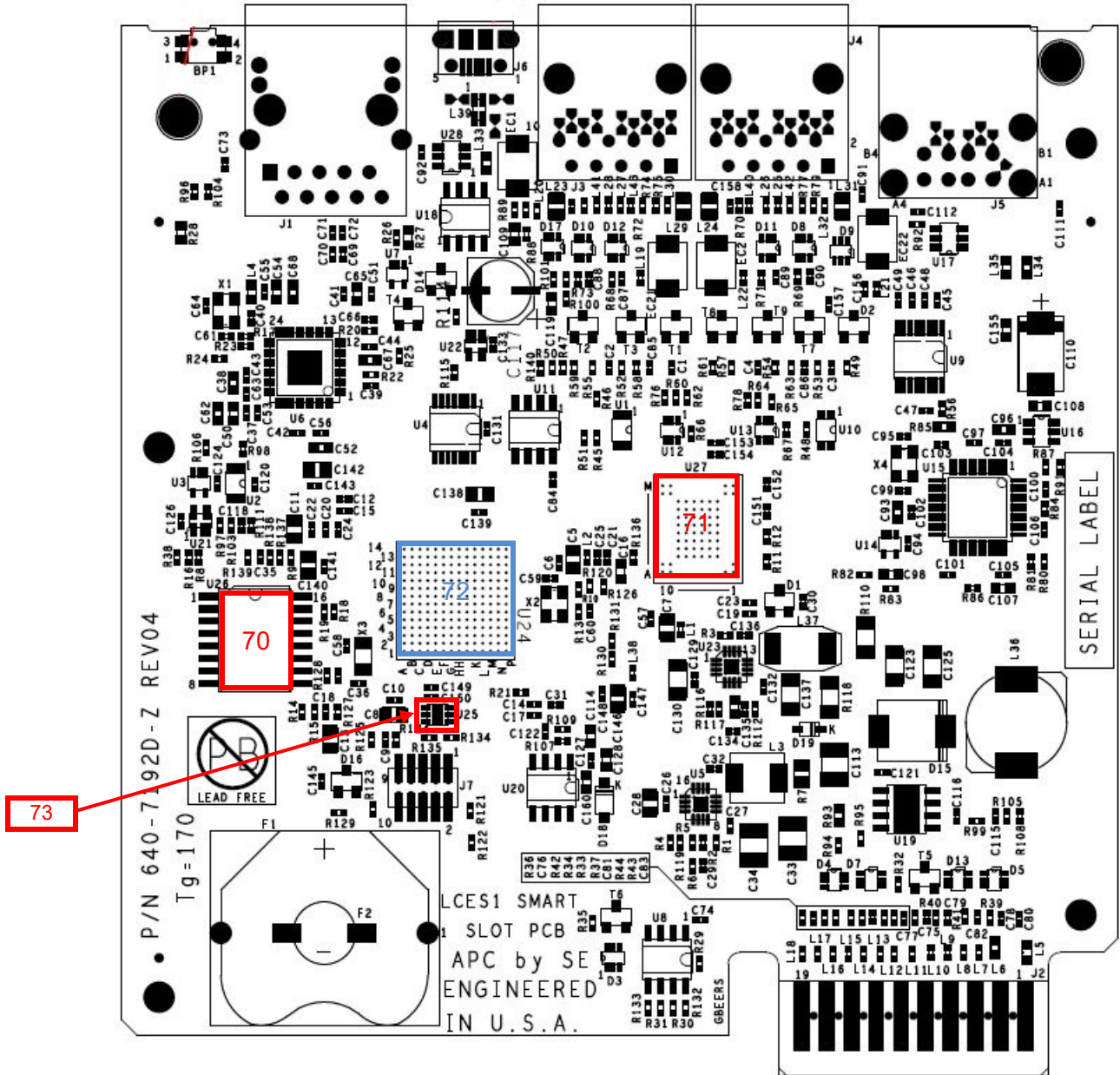


AP9635/35CH NMC2; 640-1103, bottom side:

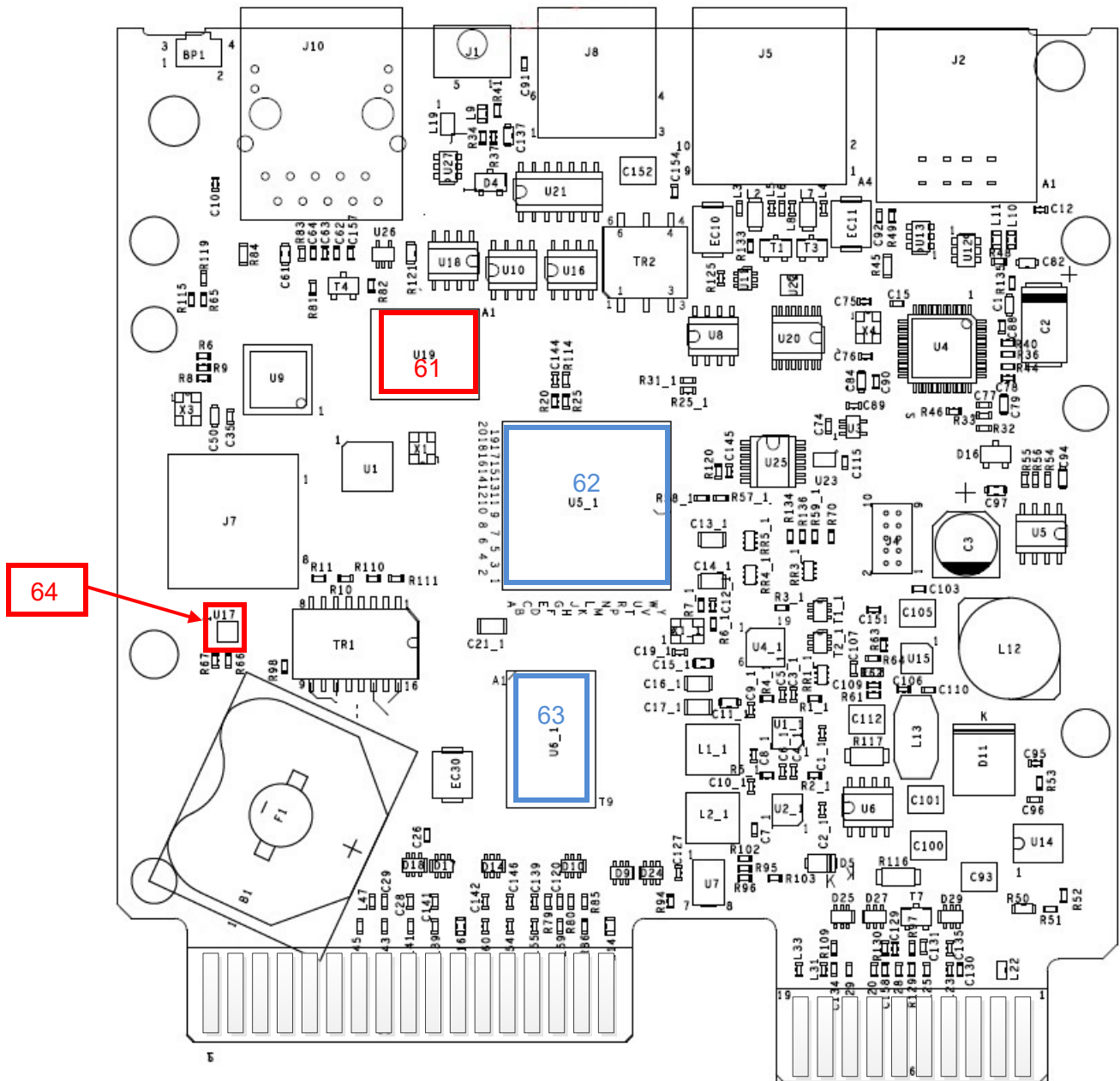


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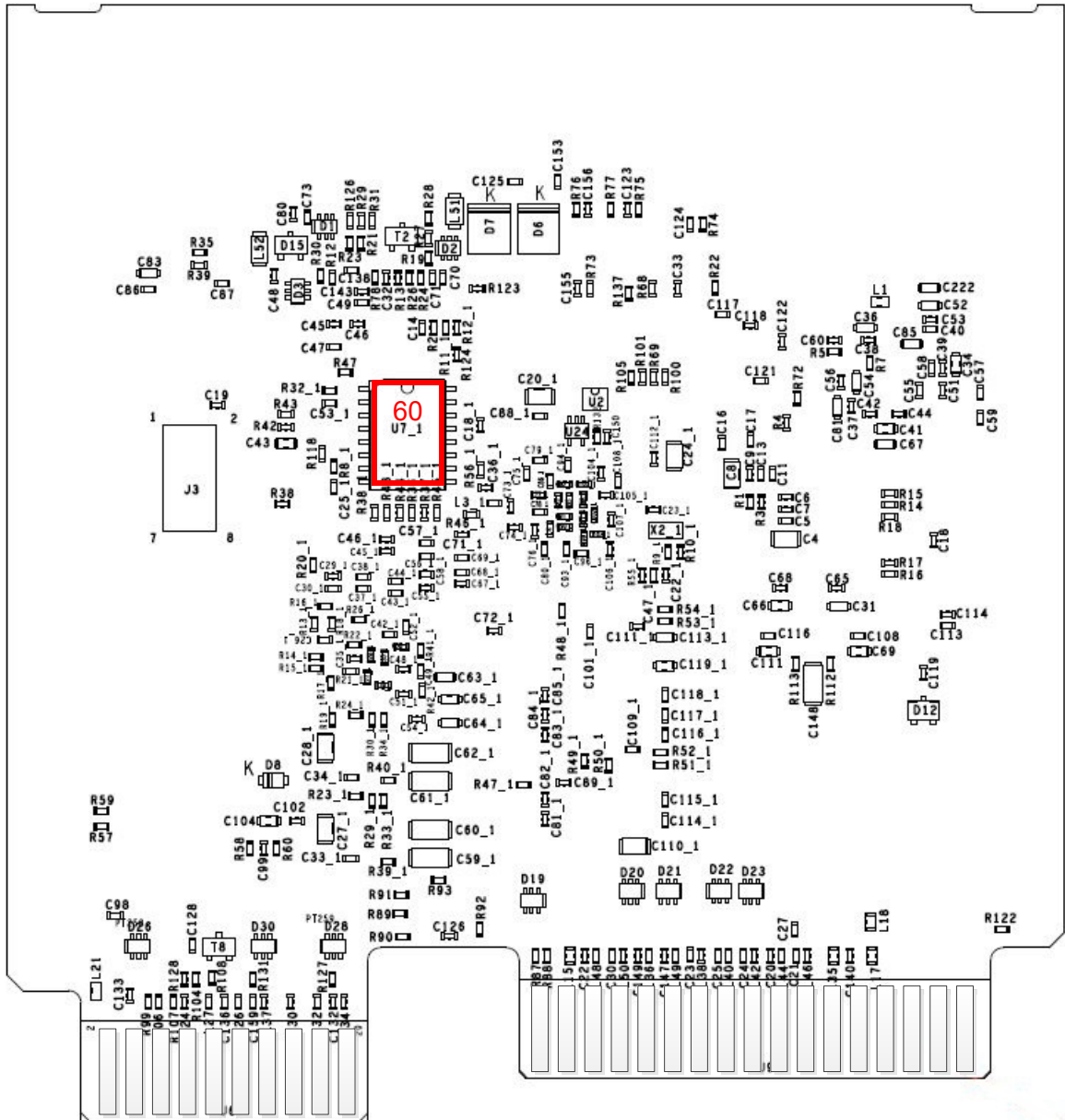
AP9640, AP9640FJ, AP9640HT, AP9640J, AP9640JN, AP9641, AP9641J, AP9649 NMC3:  
640-7192, top side:



AP9643 NMC3, AP9644 NMC4: 640-7230, top side:

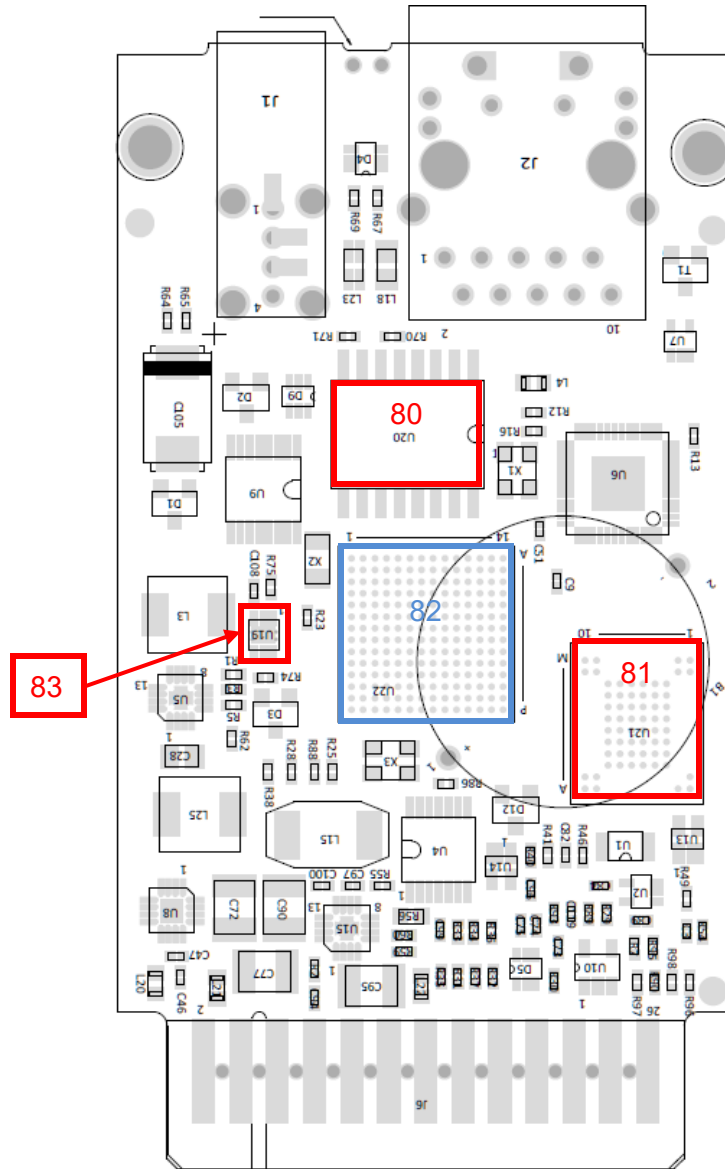


AP9643 NMC3, AP9644 NMC4: 640-7230, bottom side:

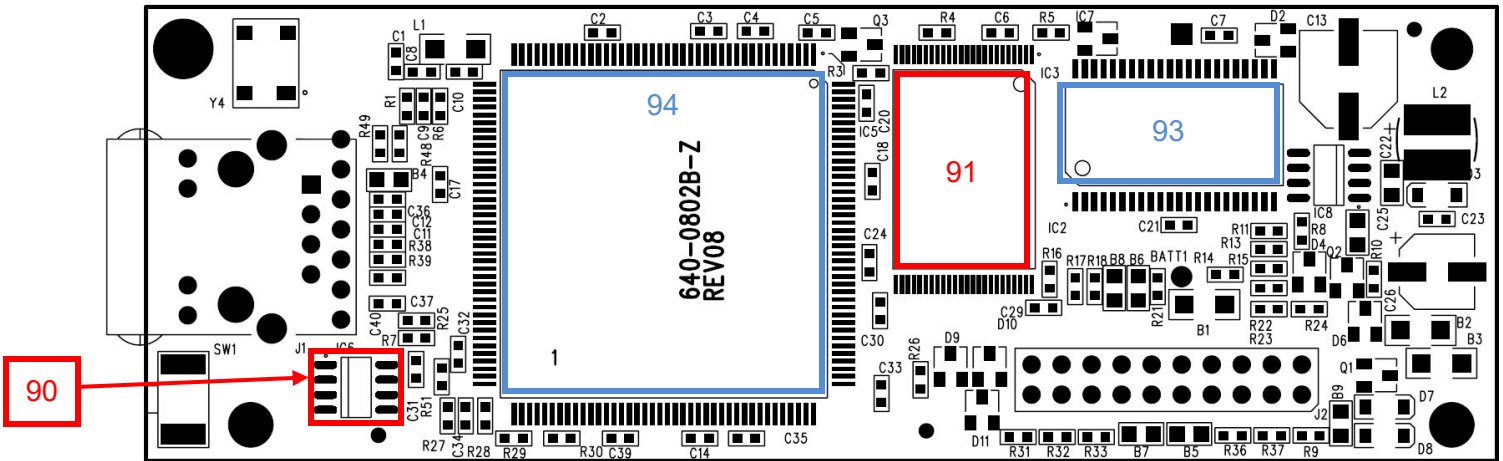




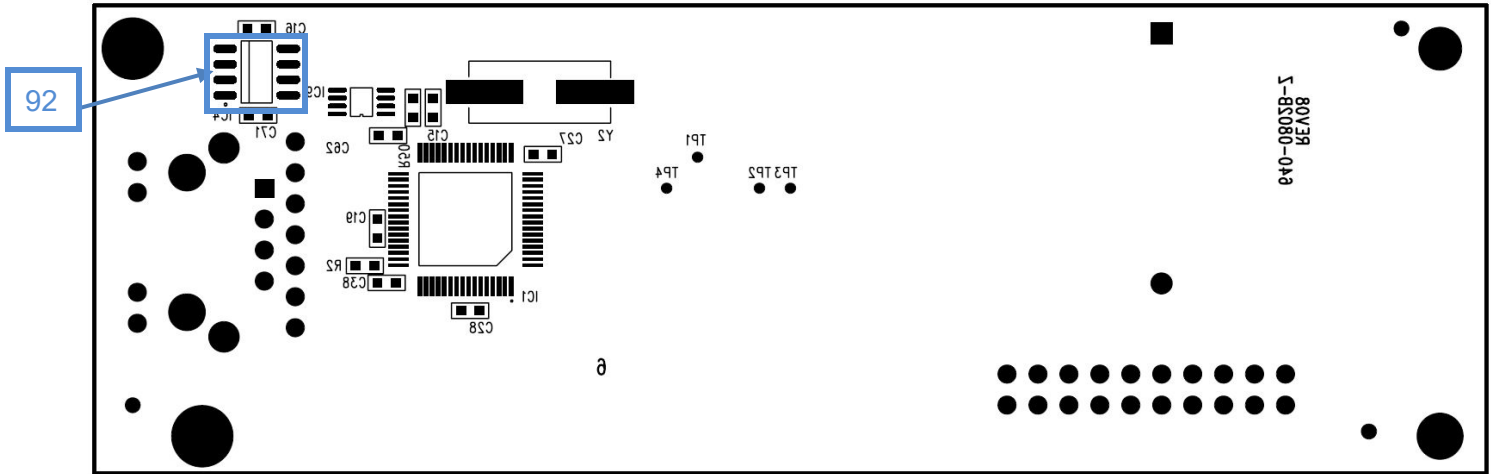
AP9544, AP9547 NMC3: 640-2345, top side:



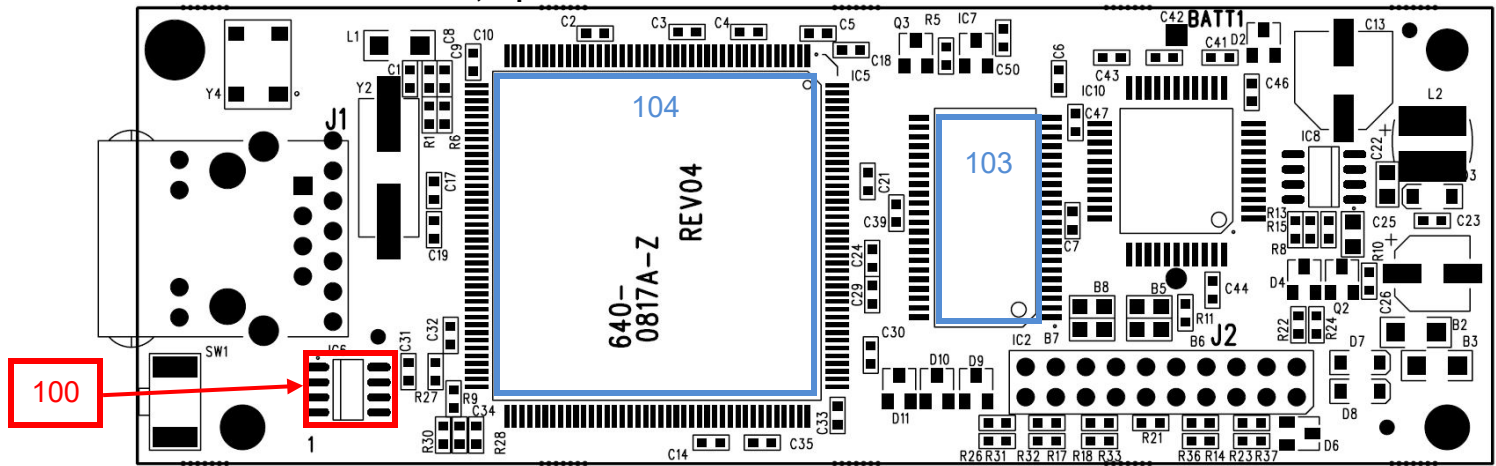
Embedded NMC1 PN 640-0802, 640-1036, top side:



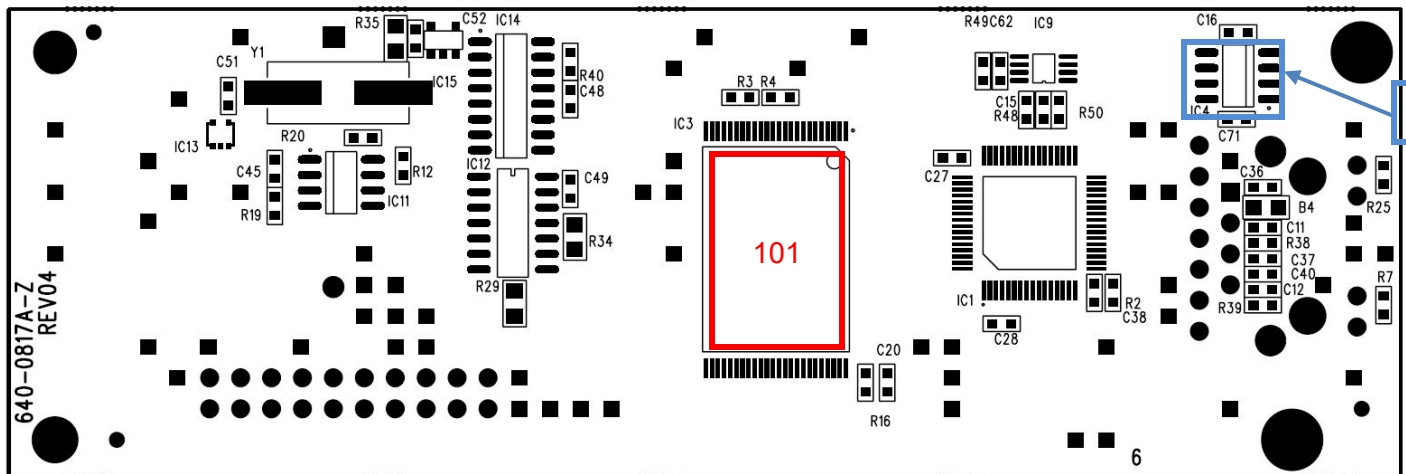
Embedded NMC1 PN 640-0802, 640-1036, bottom side:



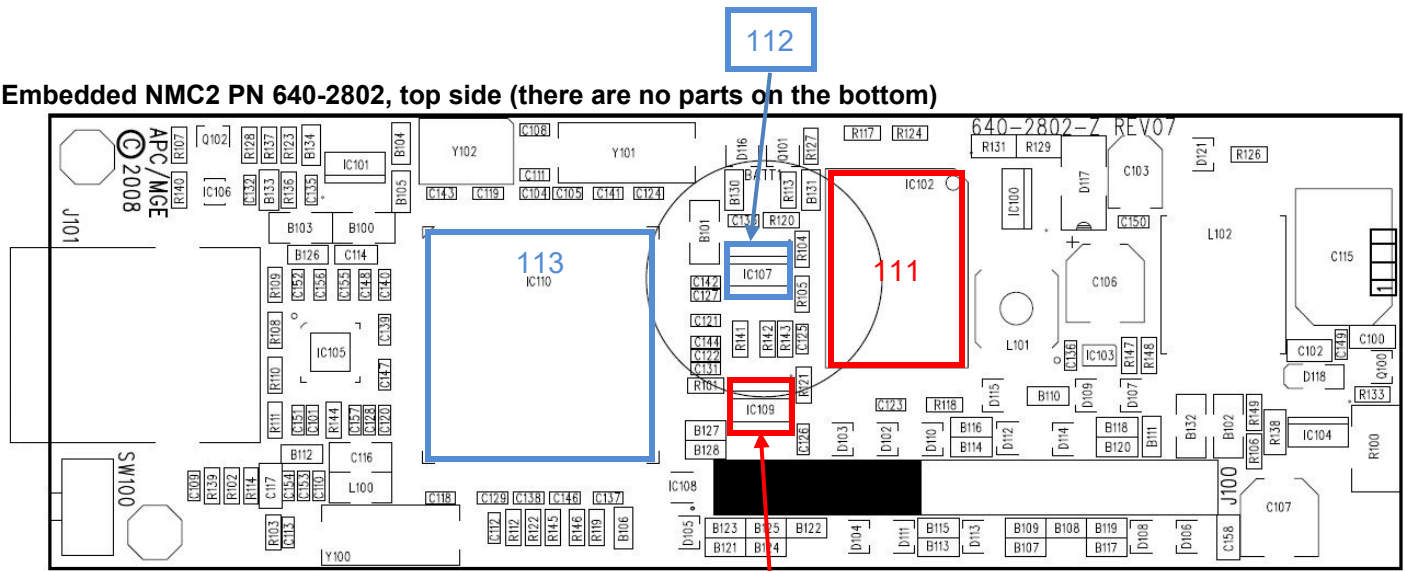
Embedded NMC1 PN 640-0817, top side:



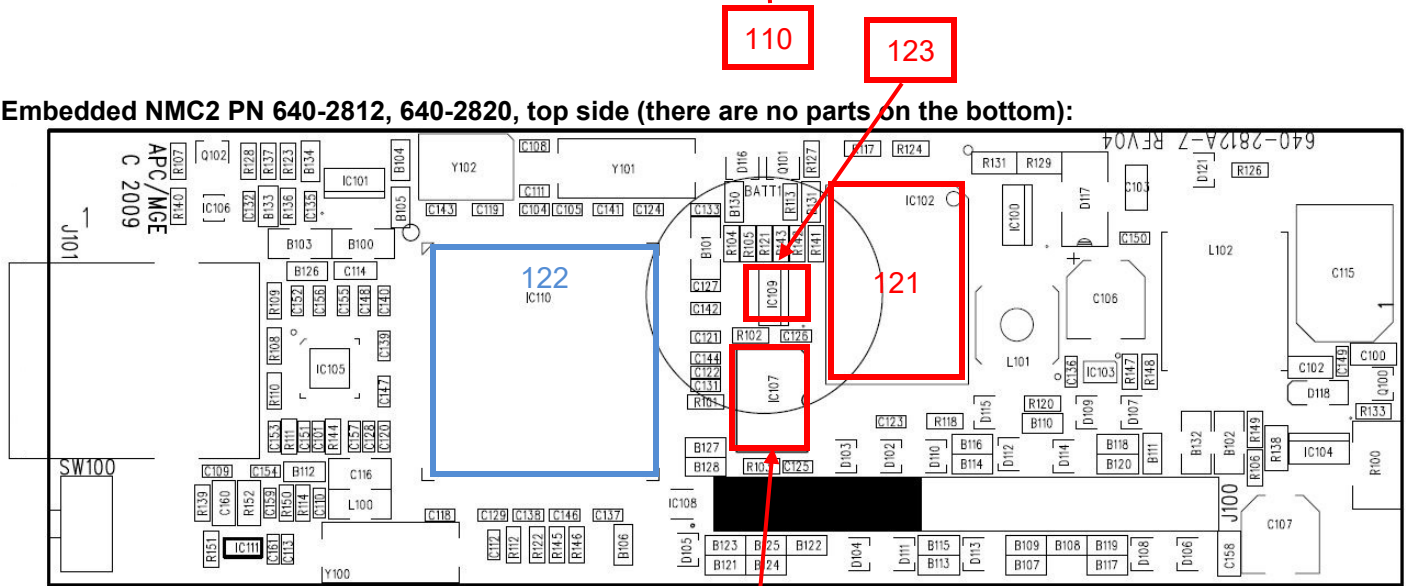
Embedded NMC1 PN 640-0817, bottom side:



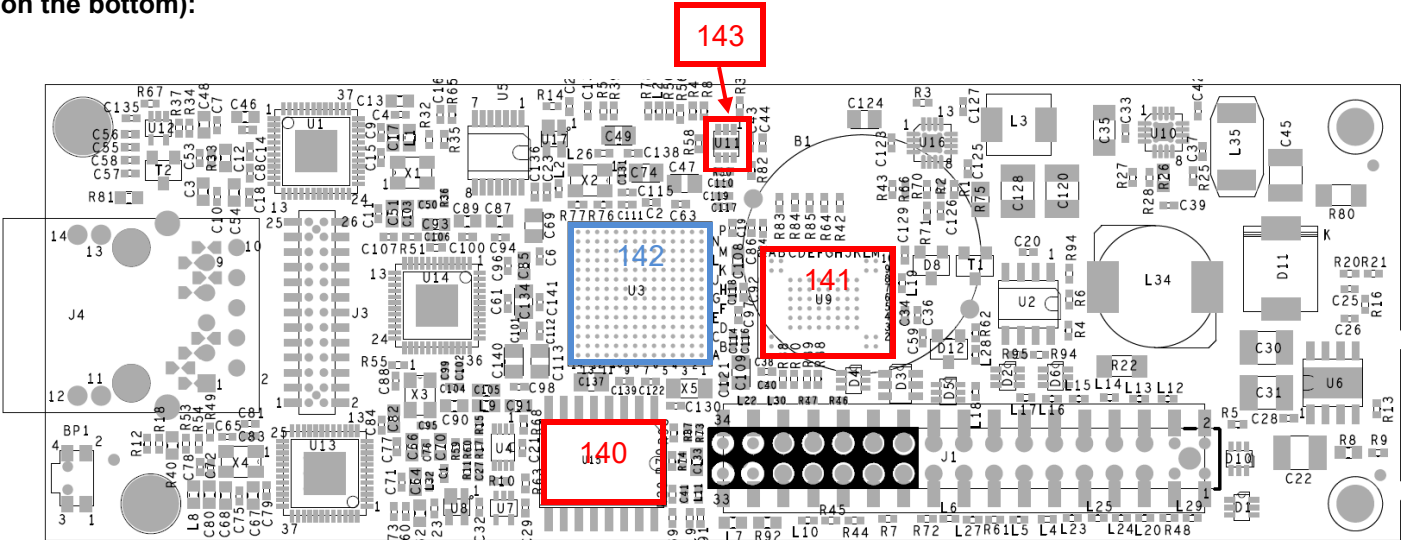
Embedded NMC2 PN 640-2802, top side (there are no parts on the bottom)



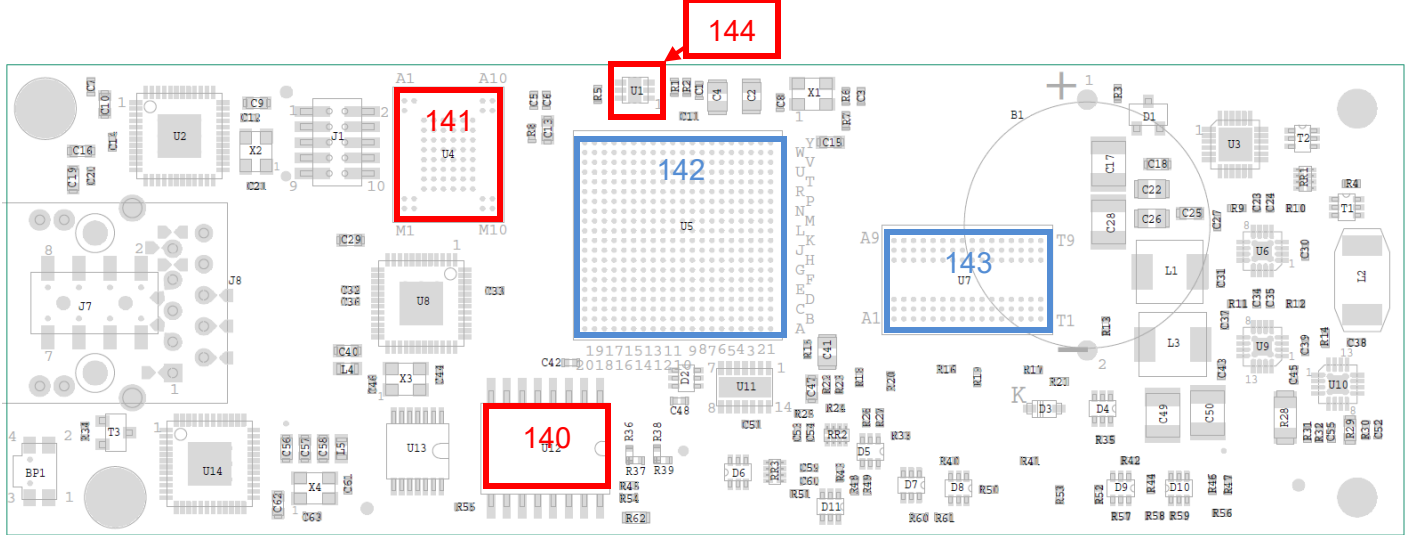
Embedded NMC2 PN 640-2812, 640-2820, top side (there are no parts on the bottom):



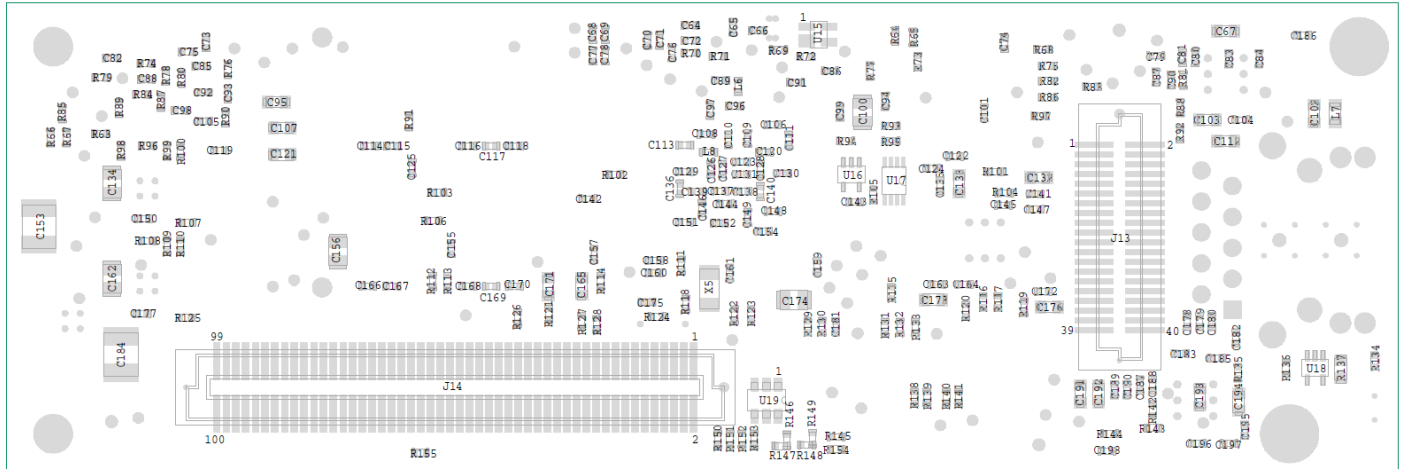
Embedded NMC3 PN 640-2271 (part number is marked on PCB), top side (there are no parts on the bottom):



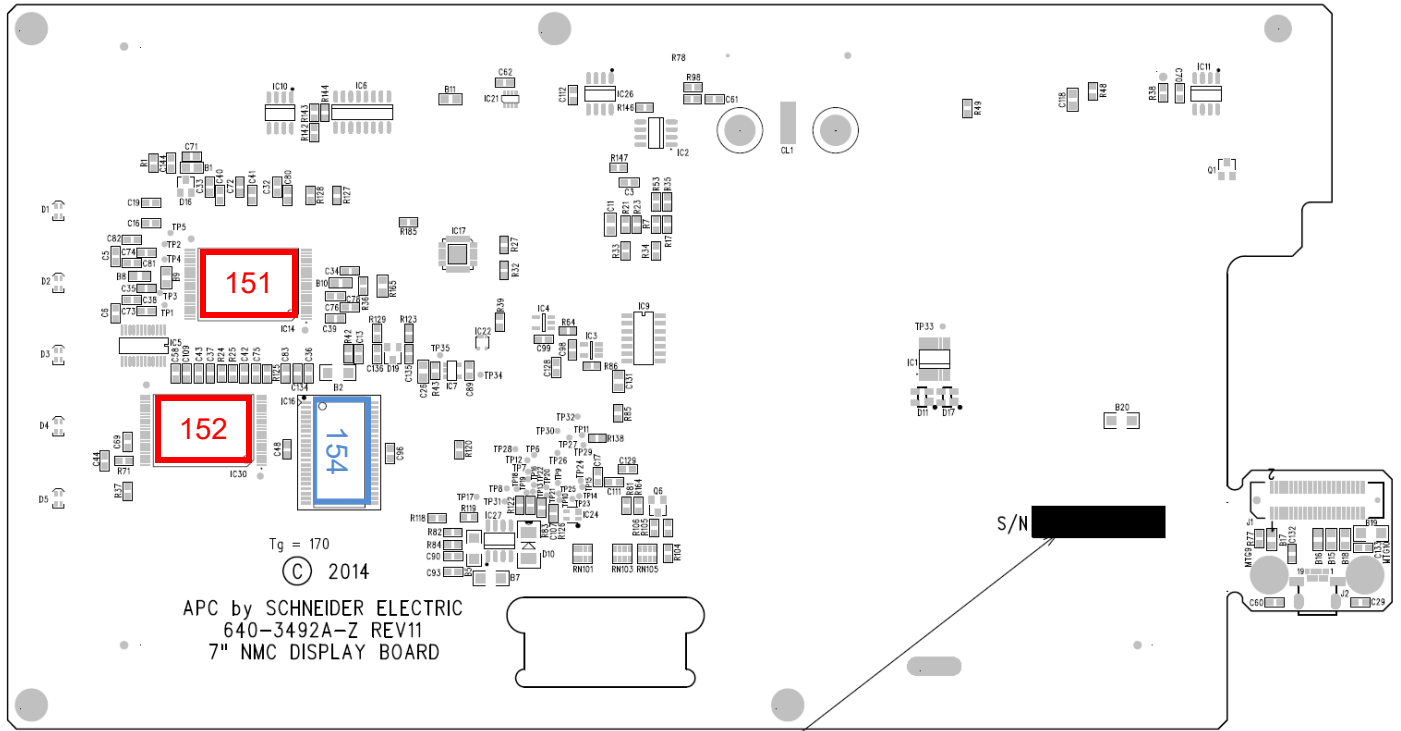
**Embedded NMC4 PN 640-2333 (part number is marked on PCB), top side:**



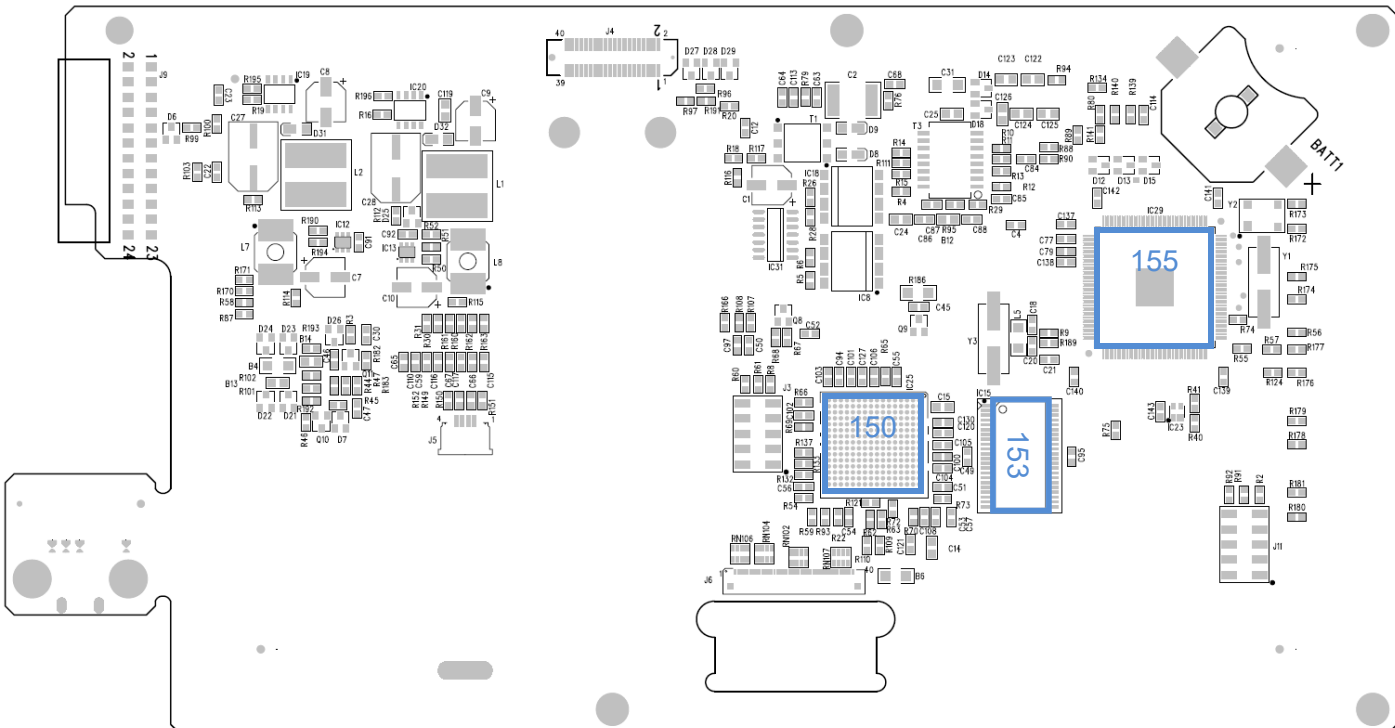
**Embedded NMC4 PN 640-2333 (part number is marked on PCB), bottom side:**



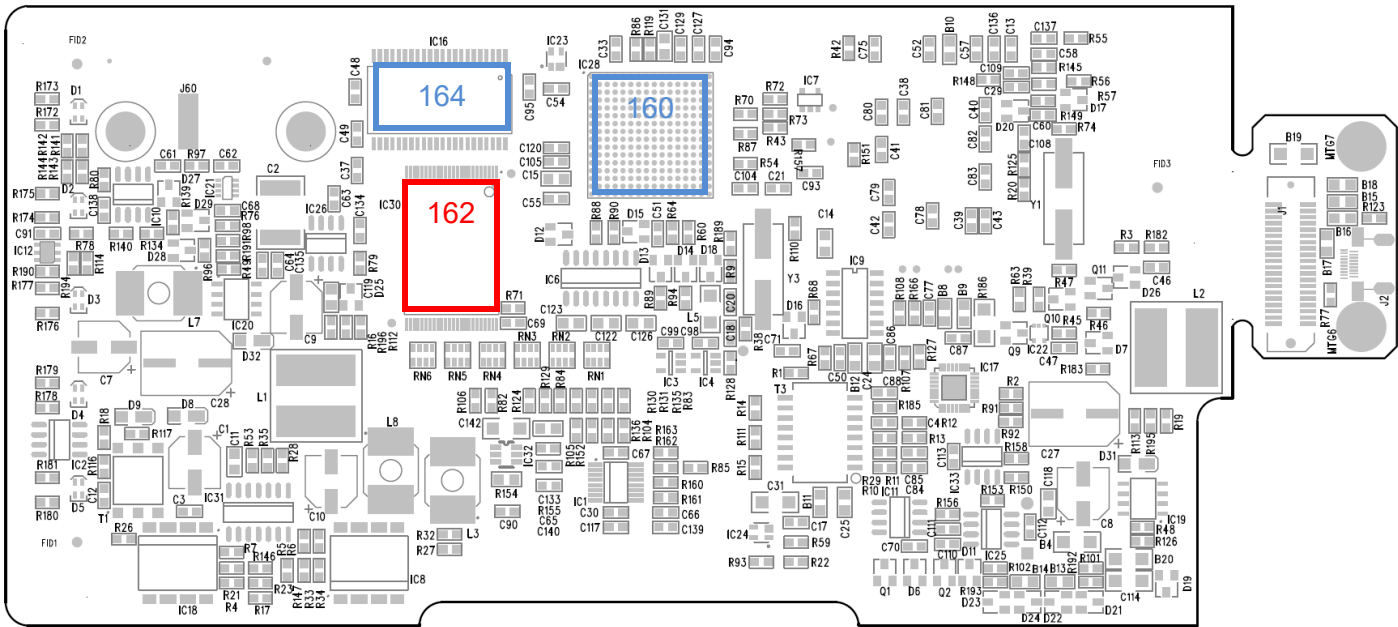
**7" NMC2 Touch Screen Display 0N-9581 (640-3492), 0N-9582 (640-3499) (part number is marked on PCB), top side:**



**7" NMC2 Touch Screen Display 0N-9581 (640-3492), 0N-9582 (640-3499) (part number is marked on PCB), bottom side:**

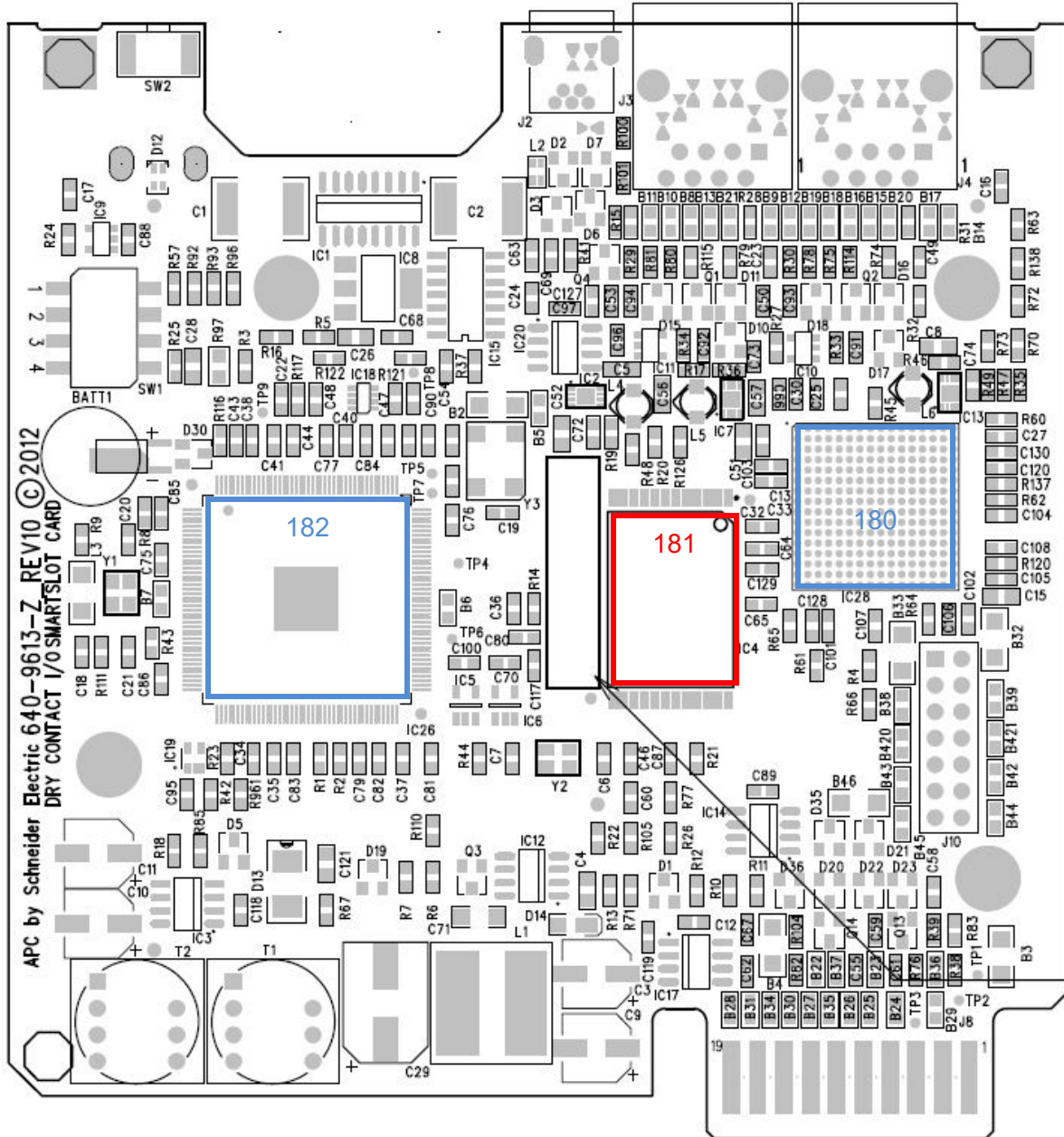


**4.3" NMC3 Touch Screen Display 0N-9580 (640-7349) (part number is marked on PCB), Top side:**



AP9613 has two boards, 640-9613 and 640-9614, only the 640-9613 has memory components.

640-9613 top side (there are no components on the bottom):



Changes:

Rev	Date	By	Description
1	13-July-2020	GRW	Initial release
2	24-July-2020	GRW	Corrected 640-2812 & 640-2820 are NMC2 not NMC3
3	05-Oct-2020	GRW	Corrected AP9647 to AP9547 (2 places) and AP9544 and 640-7192 to 640-2345.
4	08-Dec-2020	GRW	Added AP9613

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