

Cloudflare - Lenovo DC-SCM2.0 Block Diagram

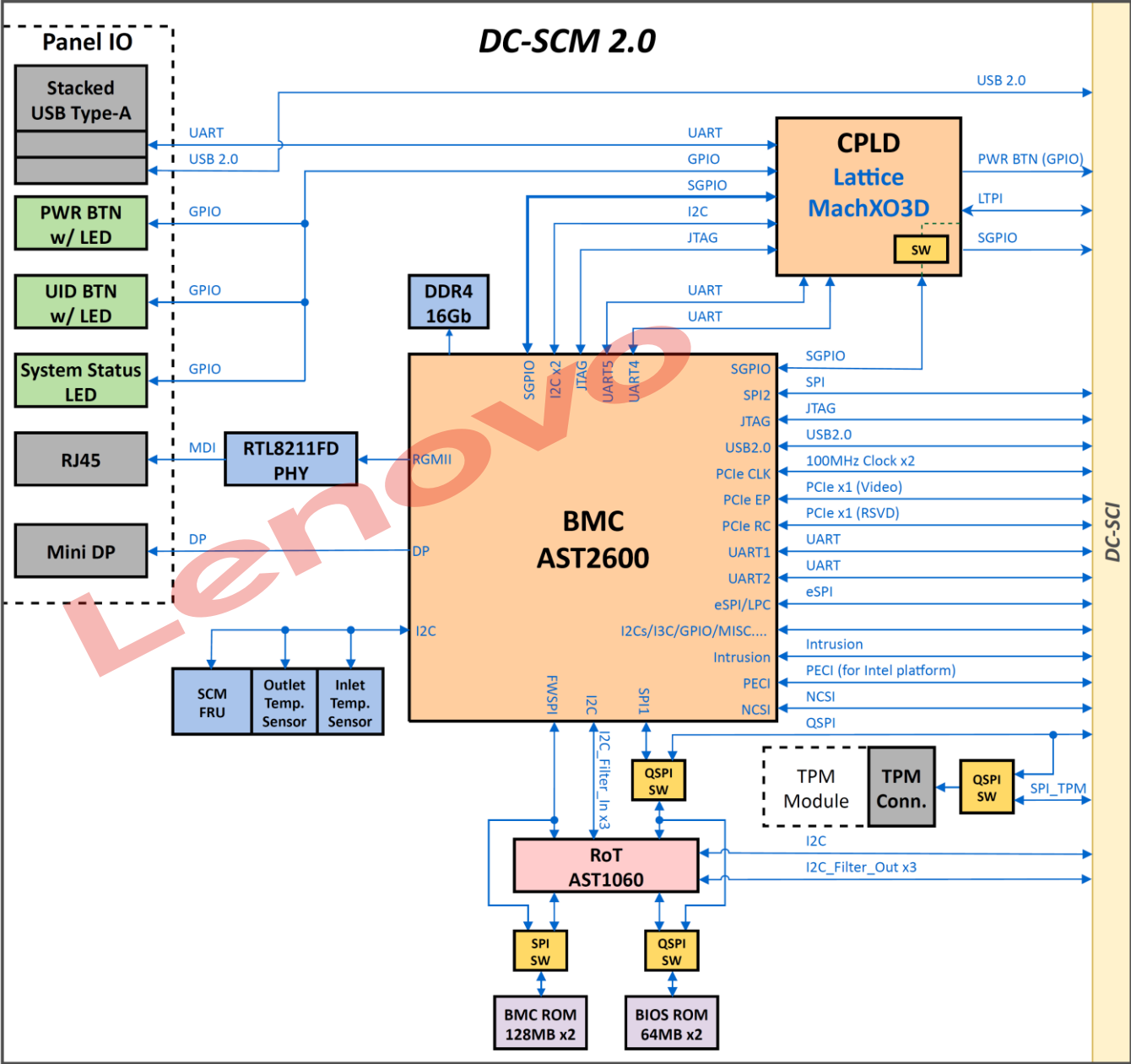
Rev. 3.0

CSP Development - 5/4/2023

DCG, Lenovo



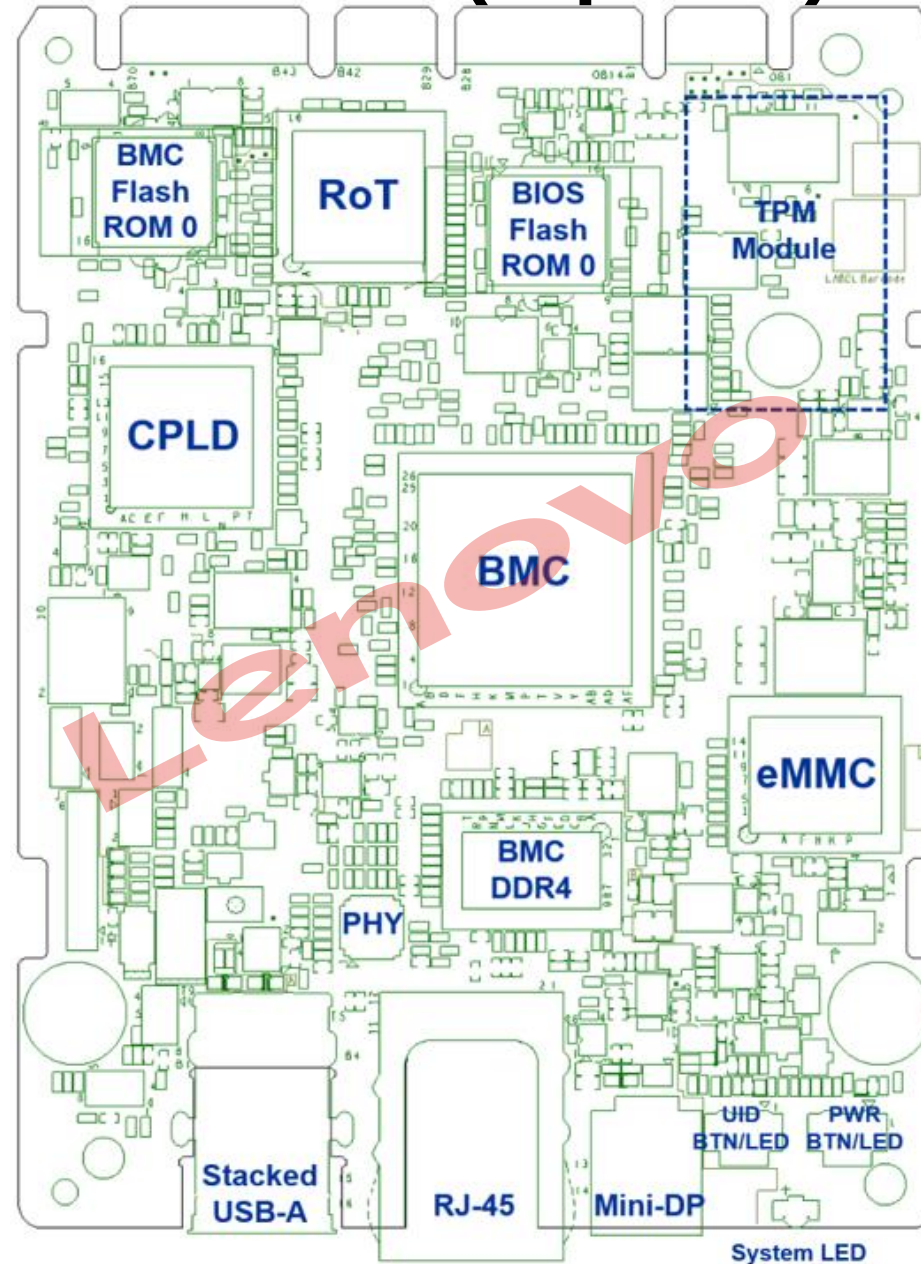
DC-SCM 2.0 – Top Level Block Diagram



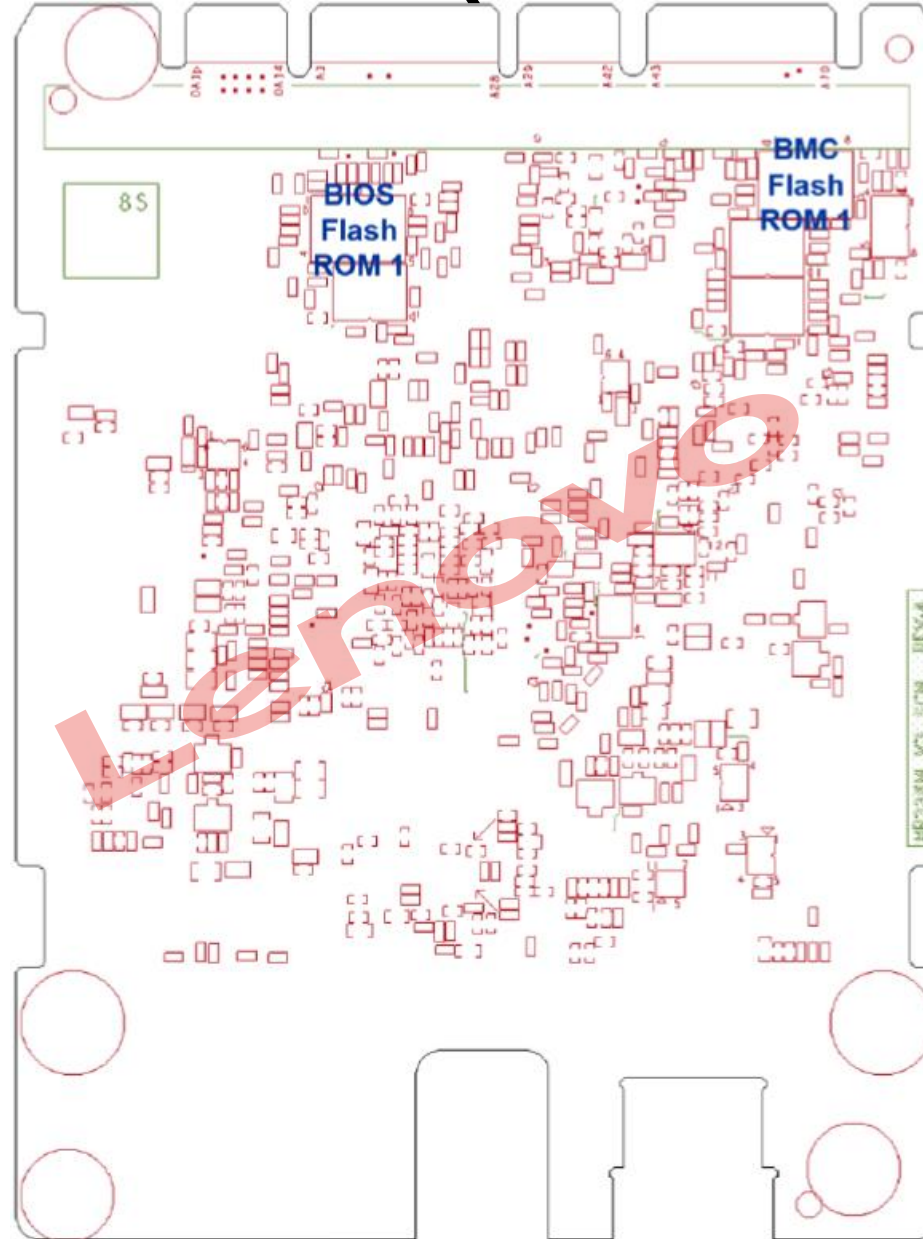
DC-SCM 2.0 – PCB Stackup

---	Stackup Structure		Material Parameters						Single - Ended Impedance		Differential Impedance								
Layer	Type	Thickness (mil)	Copper Type	Copper foil	Thickness (mil)	PP (RC%)	Dk (1 GHz)	Df (1 GHz)	50 Ohm ±10%		85 Ohm ±10%			85 Loss dB/inch			100 Ohm ±10%		
									Width (mil)	Sim Z.	Width (mil)	Spacing (mil)	Sim Z.	8 Ghz	12 Ghz	16 Ghz	Width (mil)	Spacing (mil)	Sim Z.
	Solder Mask	0.50					3.70	0.0150											
1	TOP	1.90	0.5oz+plating	H.T.E					4.30	48.93	4.80	6.40	82.15				4.30	14.00	95.89
	Prepreg	2.70					3.90	0.0150											
2	GND2	1.20	1oz	RTF															
	Core	3.00					3.90	0.0150											
3	SIG3	1.20	1oz	RTF					4.00	47.23	4.50	6.40	81.88				4.00	15.00	94.25
	Prepreg	12.00					4.00	0.0150											
4	GND4	1.20	1oz	RTF															
	Core	3.00					3.90	0.0150											
5	SIG5	1.20	1oz	RTF					3.60	46.90	4.20	6.40	81.29				3.60	14.00	93.92
	Prepreg	6.00					3.90	0.0150											
6	GND6	1.20	1oz	RTF															
	Core	3.00					3.90	0.0150											
7	PWR7	1.20	1oz	RTF															
	Prepreg	12.00					4.00	0.0150											
8	SIG8	1.20	1oz	RTF					4.00	47.23	4.50	6.40	81.88				4.00	15.00	94.25
	Core	3.00					3.90	0.0150						0.0	0.0	0.0			
9	GND9	1.20	1oz	RTF															
	Prepreg	2.70					3.90	0.0150											
10	BOTTOM	1.90	0.5oz+plating	H.T.E					4.30	48.93	4.80	6.40	82.15				4.30	14.00	95.89
	Solder Mask	0.50					3.70	0.0150						0.0	0.0	0.0			
	Board thickness:	61.80	1.57		0.00		0.00		DDR,Misc I/O, Single-Ended Clocks		PCIe, SATA, USB, Diff CLOCK						MDI, Ethernet		

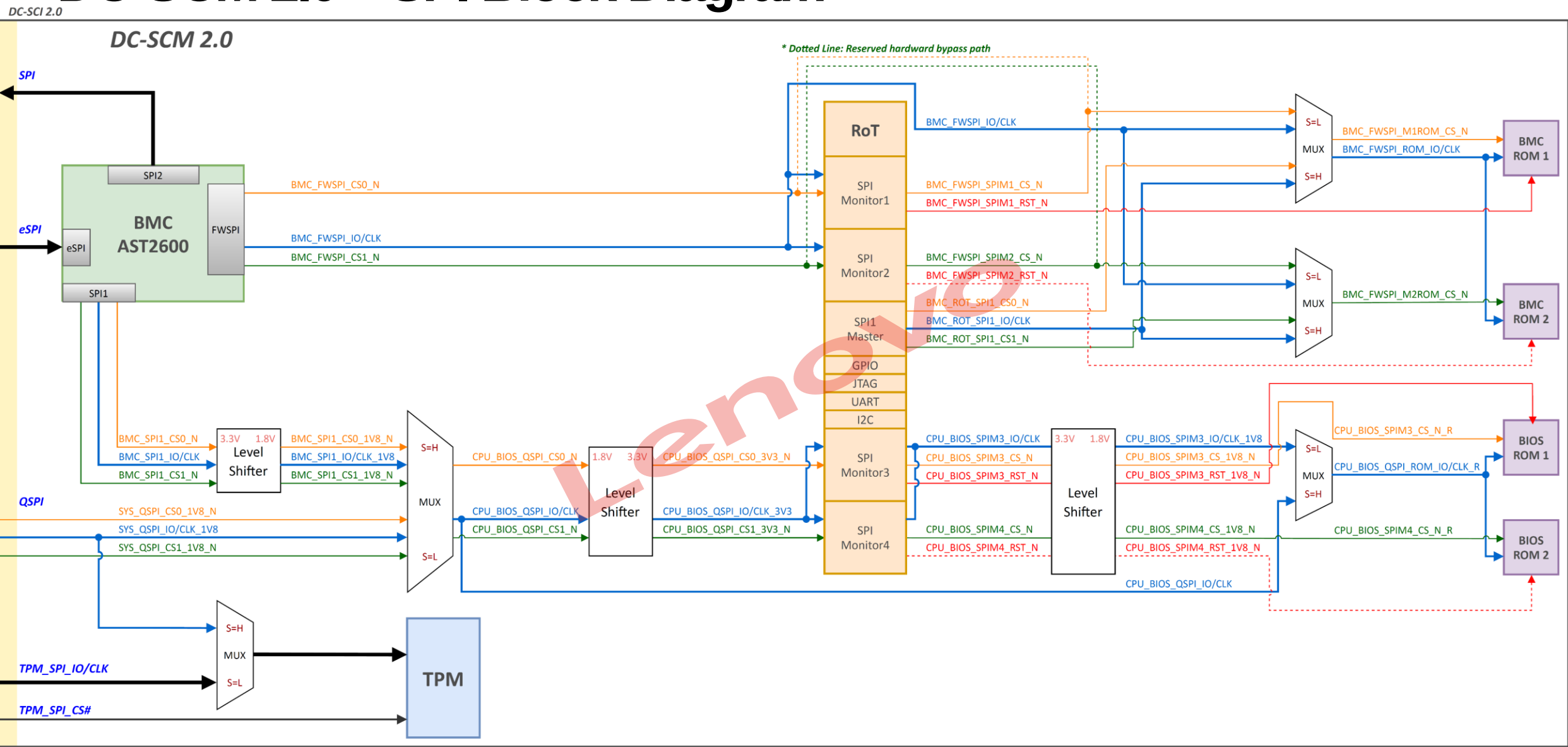
DC-SCM 2.0 – Board Placement (Top Side)



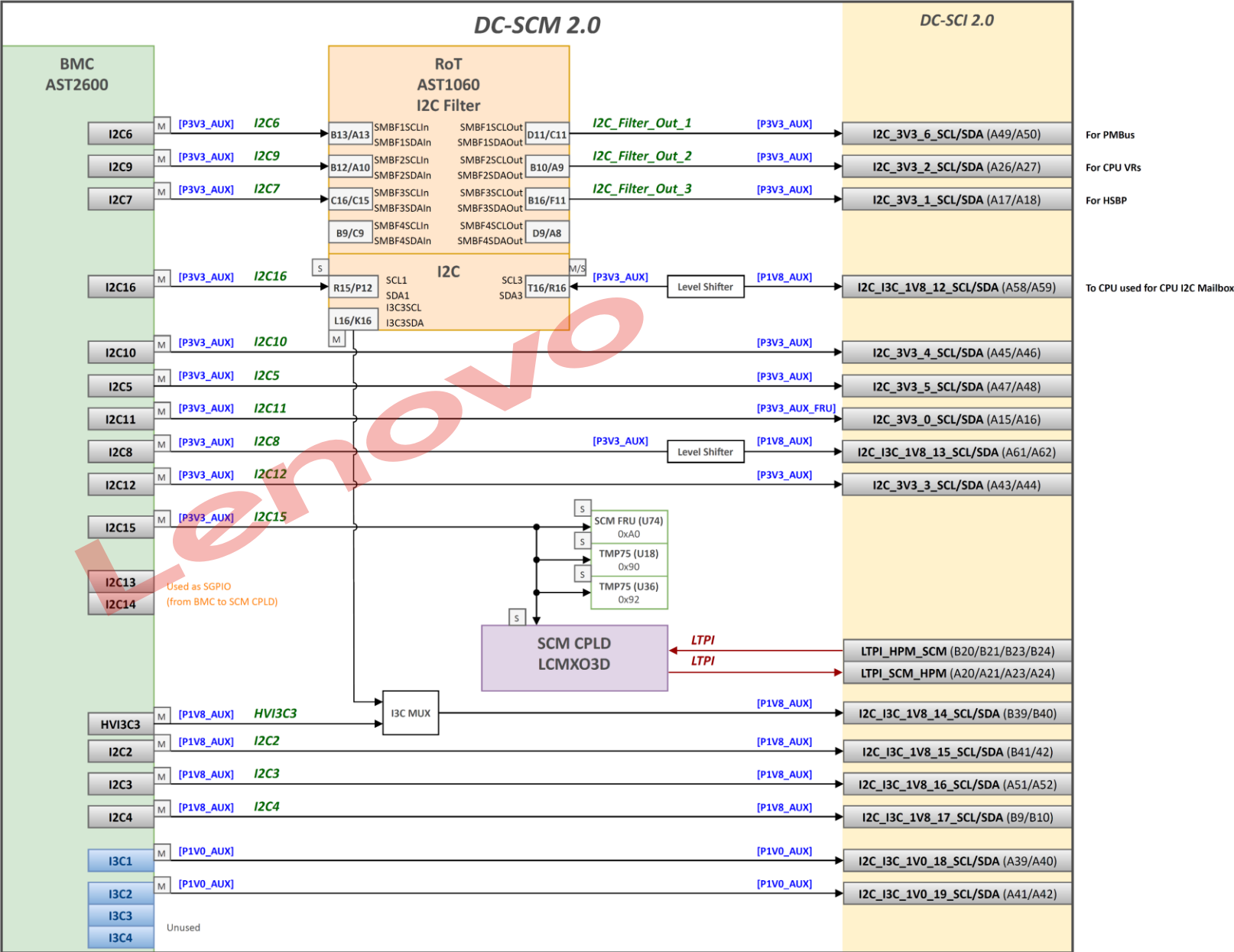
DC-SCM 2.0 – Board Placement (Bottom Side)



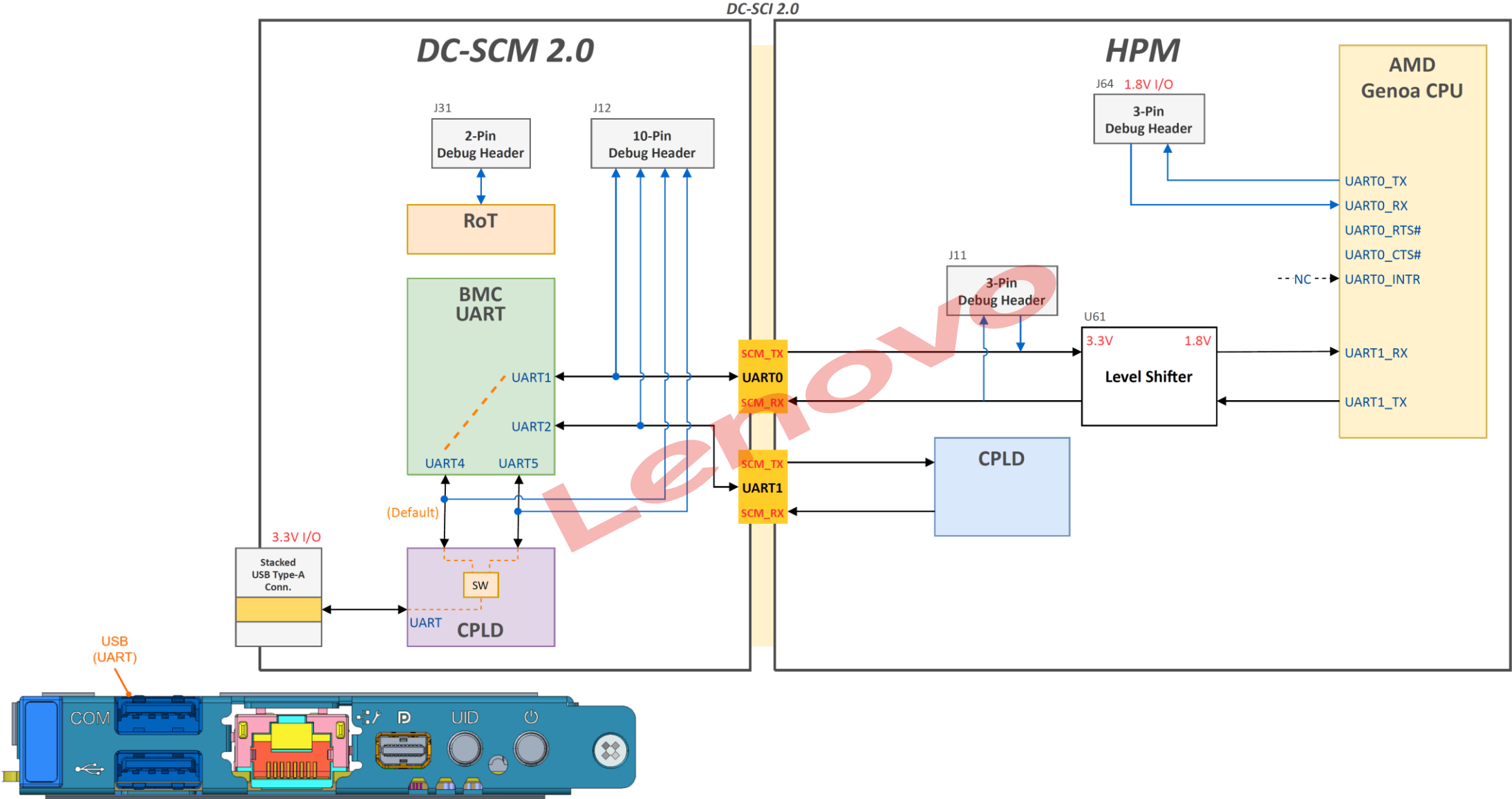
DC-SCM 2.0 – SPI Block Diagram



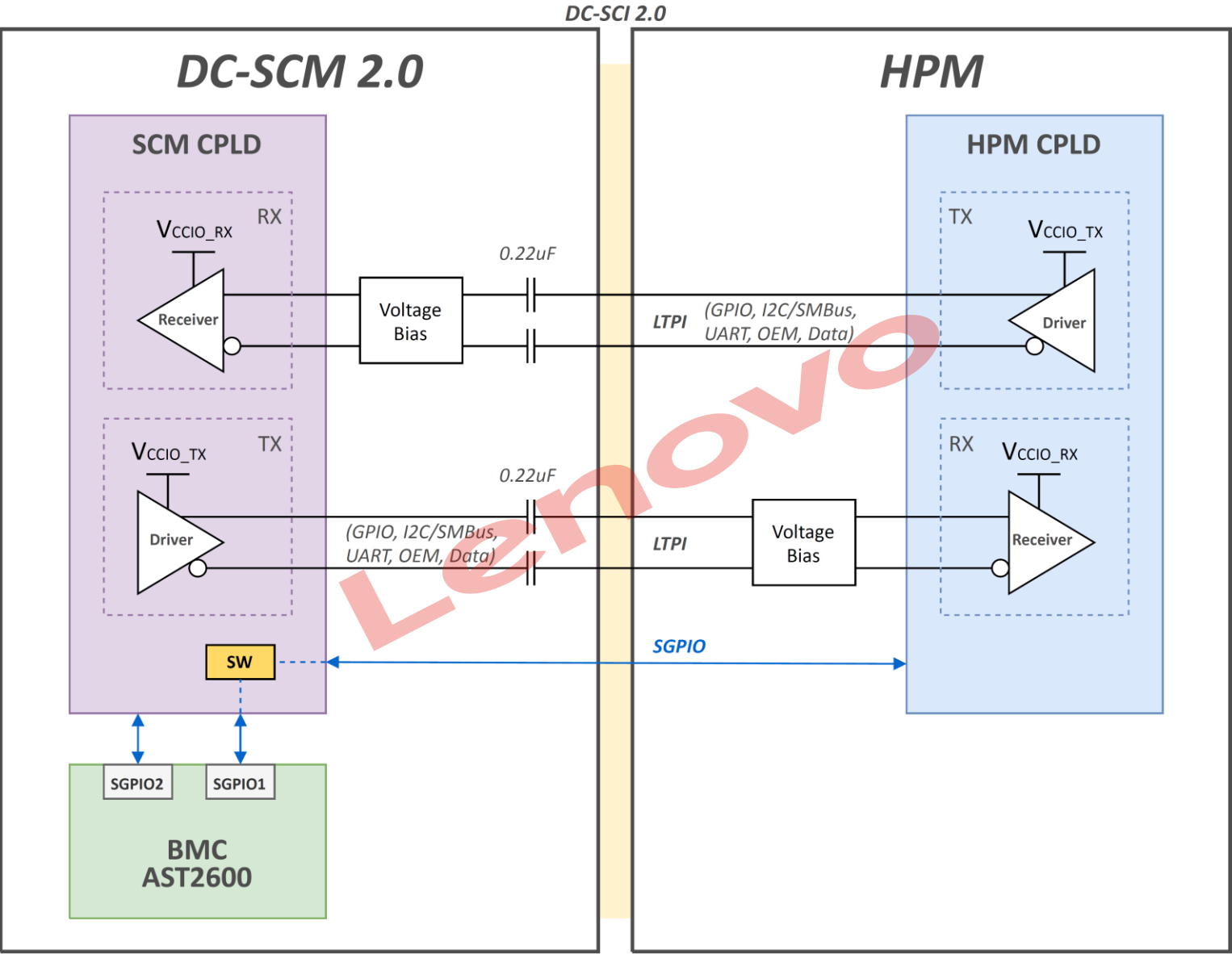
DC-SCM 2.0 – I2C/I3C Block Diagram



DC-SCM 2.0 – UART Block Diagram



DC-SCM 2.0 – LTPI/SGPIO Block Diagram



thanks.

**Smarter
technology
for all**

Lenovo

Cloudflare Gen12 - DC-SCM2.0 - SPI Block Diagram

