

## LGA1151v2-moederborden met supersnel ethernet

Fabrikant, model	Asrock Z390 Phantom Gaming 9	Asus ROG Maximus XI Formula	Supero Pro Gaming C9Z390-PGW
<b>Formfactor, uitrusting</b>			
Cpu-socket / chipset	LGA1151v2 / Z390	LGA1151v2 / Z390	LGA1151v2 / Z390
Formfactor	ATX (305 mm × 244 mm)	ATX (305 mm × 244 mm)	ATX (305 mm × 244 mm)
SATA 6G (Z390) / SATA-chip	6 / ASM1061 (2 × SATA 6G; PCIe)	6 / n.a.	6 / n.a.
Netwerkachips (eigenschappen)	RTL8125AG (PCIe 2.0 x1; 2,5 Gbit/s), I219-V (Phy; 1 Gbit/s), I211-AT (PCIe; 1 Gbit/s)	AQC-111C (PCIe 3.0 x1; 5 Gbit/s), 219-V (Phy; 1 Gbit/s)	AQC107 (PCIe 3.0 x2; 10 Gbit/s), I219-V (Phy; 1 Gbit/s)
Wifi-chip (eigenschappen)	Wireless-AC 9260 (PCIe; 802.11ac, 1733 Mbit/s)	Wireless-AC 9560 (CNV; 802.11ac, 1733 Mbit/s)	Wireless-AC 9560 (CNV; 802.11ac, 1733 Mbit/s)
Audio-chip (eigenschappen)	ALC1220 (HDA)	ALC1220 (HDA)	ALC1220 (HDA)
Usb-chip (eigenschappen)	ASM1074 (hub; USB 3.0)	ASM1142 (2 × USB 3.0), ASM1074 (4 × USB 3.0)	n.a.
Foutdiagnose / piepjes	segmentdisplay / n.a.	segmentdisplay, oled / n.a.	segmentdisplay / ✓
Uitbreidingslots	3 × PEG (x16, x8, x4), 2 × PCIe x1	3 × PEG (x16, x8, x4), 1 × PCIe x1	4 × PEG (x16, x8, x16, x8), 1 × PCIe x1
M.2-slots (key)	2 × 22110/2280/2260/2242/2230 (M-key), 1 × 2280/2260/2242/2230 (M-key)	1 × 22110/2280/2260/2242/2230 (M-key), 1 × 2280/2260/2242/2230 (M-key)	1 × 22110/2280/2260 (M-key), 1 × 2280/2260 (M-key)
Interne aansluitingen	8 × SATA 6G, 2 × USB 3.0 type A <sup>1</sup> , 1 × USB 3.1 Gen2 type C, 1,5 × USB 2.0 <sup>1</sup> , 1 × HD-audio, 3 × RGB-led	6 × SATA 6G, 2 × USB 3.0 type A <sup>1</sup> , 1 × USB 3.1 Gen2 type C, 2 × USB 2.0 <sup>1</sup> , 1 × HD-audio, 4 × RGB-led	6 × SATA 6G, 1 × USB 3.0 type A <sup>1</sup> , 1 × USB 3.1 Gen2 type C, 1 × USB 2.0 <sup>1</sup> , 1 × RS-232, 1 × HD-audio, 2 × RGB-led, 2 × U.2
Fanheaders	2 × CPU (4-pins), 6 × behuizing (4-pins)	2 × CPU (4-pins), 3 × waterkoeling (4-pins), 3 × behuizing (4-pins)	2 × CPU (4-pins), 1 × waterkoeling (4-pins), 3 × behuizing (4-pins)
I/O	1 × HDMI 1.4, 1 × DisplayPort 1.2, 5 × analoge audio, 1 × SPDIF out optisch, 3 × USB 3.1 Gen2 type A, 1 × USB 3.1 Gen2 type C, 4 × USB 3.0, 3 × LAN, 2 × wifi-antenne, CMOS-clear	1 × HDMI 1.4, 5 × analoge audio, 1 × SPDIF out optisch, 3 × USB 3.1 Gen2 type A, 1 × USB 3.1 Gen2 type C, 6 × USB 3.0, 2 × LAN, 2 × wifi-antenne, CMOS-clear, BIOS flashback	1 × HDMI 2.0, 2 × DisplayPort 1.2, 5 × analoge audio, 1 × SPDIF out optisch, 3 × USB 3.1 Gen2 type A, 1 × USB 3.1 Gen2 type C, 2 × USB 3.0, 2 × LAN, 1 × PS/2, 2 × wifi-antenne
Meegeleverd	4 × SATA-kabel, SLI-bridge, driver-cd, I/O-shield, wifi-antenne	6 × SATA-kabel, SLI-bridge, driver-cd, RGB-kabel, I/O-shield, wifi-antenne	4 × SATA-kabel, driver-cd I/O-shield, wifi-antenne
<b>Energieverbruik en datatransfermetingen</b>			
Soft-off (met ErP) / energie besparen / idle / volledig belast	3,8 W (0,4 W) / 4,3 W / 31,6 W / 304 W	4,5 W (2,8 W) / 6,5 W / 34,0 W / 321 W	3,5 W (4,0 W) / 4,5 W / 37,2 W / 282 W
USB 3.0 / USB 3.1: lezen (schrijven)	456 (462) / 1050 (1022) MB/s	459 (467) / 1049 (1024) MB/s	452 (458) / 1017 (919) MB/s
LAN 1/2/3: ontvangen (zenden)	296 (298) / 119 (119) / 119 (119) MB/s	593 (595) / 118 (119) MB/s / n.a.	1185 (1184) / 118 (119) MB/s / n.a.
Wifi 5 / 2,4 GHz (dichtbij):	– <sup>2</sup>	441 / 180 Mbit/s	– <sup>2</sup> / 121 Mbit/s
<b>Testresultaten</b>			
Secure boot uit- / CSM inschakelbaar	✓ / ✓	✓ / ✓	✓ / ✓
Wake on LAN1/2/3: stand-by / soft-off	✓ / ✓	✓ / ✓	✓ / ✓
USB: 5V in soft-off / wakken via usb-toetsenbord: stand-by (soft-off)	✓ / ✓ (–)	✓ / ✓ (–)	✓ / ✓ (–)
Bootduur tot login	13 s	16 s	24 s
Fanregeling: cpu / behuizing 3-pins / 4-pins	0...100 % / 0...12 V / 0...100 %	20...100 % / 8,4...12 V / 20...100 %	20...100 % / 3...12 V / 20...100 %
Audiokwaliteit afspelen / opnemen	⊕⊕⊕ / ⊕	⊕⊕⊕ / ⊕⊕⊕	⊕⊕⊕ / ⊕
Prijs / garantie	€ 260 / 36 maanden	€ 475 / 36 maanden	€ 370 / 36 maanden
<sup>1</sup> elk twee poorten per header <sup>2</sup> geen meting, wifi-antenne ontbrak <sup>3</sup> geen stabiele verbinding			
⊕⊕⊕ zeer goed ⊕ goed ○ voldoende ⊖ slecht ⊕⊕⊕ zeer slecht ✓ aanwezig – niet aanwezig g.o. geen opgave			