

ROUTER & SECURE SD-WAN (VOIP) GATEWAYS

	R&S®LANCOM ISG-8000	R&S®LANCOM ISG-5000	R&S®LANCOM 2100EF	R&S®LANCOM 1936VAG-5G	R&S®LANCOM 1926VAG-4G	R&S®LANCOM 1936VAG	R&S®LANCOM 1930EF-5G	R&S®LANCOM 1930EF	R&S®LANCOM 1803VAW-5G / 1803VAW	R&S®LANCOM 1803VA-5G / 1803VA-4G / 1803VA	R&S®LANCOM 1800VAW-4G / 1800VAW	R&S®LANCOM 1800VA-5G / 1800VA-4G / 1800VA	R&S®LANCOM 1800EFW-5G	R&S®LANCOM 1800EF-5G / 1800EF-4G	R&S®LANCOM 1800EFW	R&S®LANCOM 1800EF	R&S®LANCOM IAP-5G / OAP-5G	R&S®LANCOM 1650E	R&S®LANCOM 750-5G	R&S®LANCOM 750-4G
Item no.	61077 (EU)	61079 (EU)	61109 (EU)	62144 (EU)	62123 (EU)	62142 (EU)	62145 (EU)	62146 (EU)	62158 (EU) / 62154 (EU)	62156 (EU) / 62155 (EU) / 62153 (EU)	62147 (EU) / 62149 (EU)	62151 (EU) / 62150 (EU), 62166 (WW) / 62148 (EU), 62165 (WW)	62157 (EU)	62140 (EU), 62127 (US), 62126 (WW) / 62164 (EU)	62139 (EU), 62128 (WW)	62138 (EU), 62127 (US)	61718 (EU) / 61911 (EU)	62163	61707 (EU)	62076 (EU)
Service category	XL	L	M	M	M	M	M	M	S	S	S	S	S	S	S	S	M / L	S	S	S
R&S®LMC license category	D	D	C	C	C	C	C	C	B	B	B	B	B	B	B	B	B	A	A	A
Router series & use cases	Secure SD-WAN central site gateways in the headquarters		Secure SD-WAN gateway with multi-Gigabit WAN	Secure SD-WAN (VoIP) gateways with multi WAN of the 1900 series for medium-sized and large sites and branches					Secure SD-WAN (VoIP) gateways of the R&S®LANCOM 1800 blackline series for small and medium-sized sites and branches					Secure SD-WAN gateways of the 1800 series for small and medium-sized sites and branches			Industrial & outdoor Secure SD-WAN gateways	Access routers and network extensions		
Hardware features																				
WAN ports	–	–	1x 10G SFP+	1x Gigabit Ethernet, 1x SFP / TP combo	1x Gigabit Ethernet, 1x SFP / TP combo	1x Gigabit Ethernet, 1x SFP / TP combo	1x Gigabit Ethernet, 1x SFP / TP combo	1x Gigabit Ethernet, 1x SFP / TP combo	1x SFP / TP combo	1x SFP / TP combo	1x SFP / TP combo	1x SFP / TP combo	1x SFP / TP combo	1x Gigabit Ethernet, 1x SFP	1x Gigabit Ethernet, 1x SFP	1x Gigabit Ethernet, 1x SFP	–	1x Gigabit Ethernet	–	–
VDSL / ADSL2+ Supervectoring	–	–	–	2x or 1x G.Fast	2x or 1x G.Fast	2x or 1x G.Fast	–	–	1x	1x	1x	1x	–	–	–	–	–	–	–	–
LB of multiple WAN connections	4x	4x	4x	4x	4x	4x	4x	4x	4x	4x	4x	4x	4x	4x	4x	4x	–	2x	–	–
Cellular radio	–	–	–	1x Dual-SIM 5G	1x Dual-SIM LTE Advanced (Cat. 6)	–	1x Dual-SIM 5G	–	1803VAW-5G: 1x 5G	1803VA-5G: 1x 5G, 1803VA-4G: 1x LTE Advanced (Cat. 6)	1800VAW-4G: 1x LTE Advanced (Cat. 6)	1800VA-5G: 1x 5G, 1800VA-4G: 1x LTE Advanced (Cat. 6)	1x 5G	1800EF-5G: 1x 5G, 1800EF-4G: 1x LTE Advanced (Cat. 6)	–	–	1x 5G	–	1x 5G	1x LTE Advanced (Cat. 6)
eSIM support (as of LCOS 10.94)	–	–	–	✓	–	–	✓	–	✓ –	✓ as of Rel. D ✓ as of Rel. D –	–	✓ as of Rel. D ✓ as of Rel. D –	✓	✓ as of Rel. D ✓ as of Rel. D	–	–	– ✓	–	–	✓
LAN ports	2x 10G SFP+, 8x Gigabit Ethernet	2x 10G SFP+, 6x Gigabit Ethernet	1x 10G SFP+, 4x 2.5 Gigabit Ethernet	4x	4x	4x	4x	4x	4x	4x	4x	4x	4x	4x	4x	4x	2x and PoE (IEEE 802.3at) at ETH1	3x	1x and PoE (IEEE 802.3af)	1x and PoE (IEEE 802.3af)
Wireless LAN	–	–	–	–	–	–	–	–	1,200 Mbps at 5 GHz and parallel 575 Mbps at 2.4 GHz (IEEE 802.11ax)	–	1,200 Mbps at 5 GHz and parallel 575 Mbps at 2.4 GHz (IEEE 802.11ax)	–	1,200 Mbps at 5 GHz and parallel 575 Mbps at 2.4 GHz (IEEE 802.11ax)	–	1,200 Mbps at 5 GHz and 575 Mbps at 2.4 GHz (IEEE 802.11ax)	–	–	–	–	–
ISDN ports	–	–	–	2x NT	2x NT	2x NT	–	–	2x NT	2x NT	–	–	–	–	–	–	–	–	–	–
Analog ports	–	–	–	4x a/b	4x a/b	4x a/b	–	–	2x a/b	2x a/b	–	–	–	–	–	–	–	–	–	–
USB ports	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	✓	–	–
Functions																				
IPSec & WireGuard VPN channels	250 integrated / 3,000 optional	100 integrated / 1,000 optional	25 integrated / 50 / 100 optional	25 integrated / 50 / 100 optional	25 integrated / 50 / 100 optional	25 integrated / 50 / 100 optional	25 integrated / 50 / 100 optional	25 integrated / 50 / 100 optional	5 integrated / 25 optional	5 integrated / 25 optional	5 integrated / 25 optional	5 integrated / 25 optional	5 integrated / 25 optional	5 integrated / 25 optional	5 integrated / 25 optional	5 integrated / 25 optional	5 integrated / 25 optional	3 integrated	–	–
X.509 certificates CRL & SCEP	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	–
Advanced Routing & Forwarding	256 contexts	256 contexts	64 contexts	64 contexts	64 contexts	64 contexts	64 contexts	64 contexts	16 contexts	16 contexts	16 contexts	16 contexts	16 contexts	16 contexts	16 contexts	16 contexts	16 contexts	2 contexts	2 contexts	2 contexts
Voice Call Manager Session Border Controller	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	✓ ✓	○ ○	○ ○	○ ○	○ ○	○ ○	○ ○	– –	○ ○	– –	– –

✓ available / included ○ optional upgrade / extension – not available / unsuitable

All R&S®LANCOM routers & SD-WAN (VoIP) gateways include the following ports & features: switchable ports (WAN, LAN, DMZ, monitor), configuration interface, IPv6 + IPv4 (dual stack), Stateful Inspection Firewall, VLAN / L2 prioritization, bandwidth management / IP QoS, VRRP, VLAN.

For operation in a virtualized environment, the [R&S®LANCOM vRouter](#) is also available with a comprehensive range of functions and numerous security features. The R&S®LANCOM vRouter can be used as a virtual VPN router (vCPE), central-site VPN gateway (vGateway), or as a WLAN controller (vWLC).



All devices are cloud-ready and can be centrally managed via the [R&S®LANCOM Management Cloud](#) (R&S®LMC)!

SWITCHES

	R&S®LANCOM CS-8132F	R&S®LANCOM YS-7154CF	R&S®LANCOM XS-6128QF	R&S®LANCOM XS-5116QF	R&S®LANCOM XS-5110F	R&S®LANCOM XS-4530YUP / XS-4554YUP	R&S®LANCOM GS-4554XUP	R&S®LANCOM GS-4554X / GS-4554XP	R&S®LANCOM GS-4530XUP	R&S®LANCOM GS-4530X / GS-4530XP	R&S®LANCOM XS-3550YUP	R&S®LANCOM XS-3526YUP	R&S®LANCOM XS-3510YUP	R&S®LANCOM GS-3652X / GS-3652XP / GS-3652XUP	R&S®LANCOM GS-3252P	R&S®LANCOM GS-3628X / GS-3628XP / GS-3628XUP	R&S® LANCOM GS-3126X / GS-3126XP	R&S® LANCOM GS-3510XP	R&S® LANCOM IGS-3128XF	R&S® LANCOM IGS-3510XUP	R&S® LANCOM GS-2426 / GS-2426P	R&S® LANCOM GS-2412 / GS-2412P	R&S® LANCOM GS-1208P
Item no.	F2B: 61909 B2F: 61910	F2B: 61907 B2F: 61908	61860	61859	61858	61885 / 61886	61884	61869 / 61870	61883	61867 / 61868	61891	61890	61889	61877 / 61878 / 61879	61876	61880 / 61881 / 61882	61847 / 61848	61849	61671	61912	61669 / 61670	61667 / 61668	61673
Service category Warranty	XXL LLW	XXL LLW	XL LLW	XL LLW	L LLW	XL LLW	XL LLW	XL LLW	XL LLW	XL LLW	L 5 years	M 5 years	S 5 years	L 5 years	L 5 years	M 5 years	M 5 years	S 5 years	M 5 years	S 5 years	S 5 years	S 5 years	– 2 years
R&S®LMC license category	D	D	C	C	C	C / D	D	D	C	C	C	B	A	C	C	B	B	A	B	A	B	A	–
Switch series	Core switch for three-tier campus networks	XS & YS series – Stackable aggregation / distribution switches for hierarchical switch infrastructures				XS-4500 series – Full L3 10G stackable enterprise-class access switches (25G and 100G uplink)		GS-4500 series – Full L3 2.5G stackable enterprise-class access switches (10G and 40G uplink)			XS-3000 series – L3-lite 10G SME-class access switches (25G uplink)			GS-3000 series – L3-lite 2.5G SME-class access switches (10G uplink)				IGS-3000 series – L3-lite industrial-class access switches (10G uplink)		GS-2000 series – L2 1G SMB-class access switches (1G uplink)		Unmanaged switch	
Hardware features																							
Ports	32x 100G QSFP28	48x 25G SFP28, 6x 100G QSFP28 (thereof 4x FleX)	20x 10G SFP+ (thereof 4x multi-Gigabit combo ports: SFP+ or 1G / 2.5G / 5G / 10G), 4x 25G SFP28 FleX, 2x 40G QSFP+ FleX, 4x 50G SFP-DD-FleX	14x 10G SFP+ (thereof 2x multi- Gigabit combo ports: SFP+ or 1G / 2.5G / 5G / 10G), 2x 40G SFP+	8x 10G SFP+, 2x multi-Gigabit Ethernet (1G / 2.5G / 5G / 10G)	12x 10G, 12x / 36x 2.5G, 4x 25G SFP28, 2x 100G QSFP28	48x 2.5G, 4x 10G SFP+, 2x 40G QSFP+	12x 2.5G, 36x 1G, 4x 10G SFP+, 2x 40G QSFP+	24x 2.5G, 4x 10G SFP+, 2x 40G QSFP+	12x 2.5G, 12x 1G, 4x 10G SFP+, 2x 40G QSFP+	8x 10G, 40x 1G, 2x 25G SFP28	8x 10G, 16x 1G, 2x 25G SFP28	4x 10G, 4x 1G, 2x 25G SFP28	12x 2.5G, 36x 1G, 4x 10G SFP+	48x 1G, 4x 10G SFP+	12x 2.5G, 12x 1G, 4x 10G SFP+	24x 1G, 2x 10G SFP+	4x 2.5G, 4x 1G, 2x 10G SFP+	20x 1G SFP, 4x combo TP / SFP, 4x 10G SFP+	4x 2.5G, 4x 1G, 2x 10G SFP+	24x 1G, 2x combo TP / SFP	10x 1G, 2x SFP	8x 1G
Thereof PoE / PoE+ (IEEE 802.3af/at)	–	–	–	–	–	–	24	– / 48	–	– / 24	40	16	4	– / 48 / 36	36	– / 24 / 12	– / 24	8	–	4	– / 24	– / 8	8
Thereof PoE++ (IEEE 802.3bt PD-Type 4)	–	–	–	–	–	24 / 48	24	–	24	–	8	8	4	– / – / 12	–	– / – / 12	–	–	–	4	–	–	–
PoE budget	–	–	–	–	–	720W (w. 2nd PSU 1,440 W)	720 W (w. 2nd PSU 1,440 W)	– / 720 W (w. 2nd PSU 1,440 W)	720 W (w. 2nd PSU 1,440 W)	– / 720 W	720 W (w. 2nd PSU 1,440 W)	720 W	370 W	– / 740 W / 720 W (w. 2nd PSU 1,440 W)	370 W	– / 370 W / 740 W	– / 185 W	130 W	–	360 W	– / 185 W	– / 130 W	65 W
Hot-swappable PSU	✓	✓	✓	✓	–	✓	✓	✓	✓	✓	✓	–	–	– / – / ✓	–	–	–	–	–	–	–	–	–
Serial interface	RJ45, µUSB	RJ45, µUSB	RJ45, µUSB	RJ45, µUSB	RJ45, µUSB	RJ45, µUSB	RJ45, µUSB	RJ45, µUSB	RJ45, µUSB	RJ45, µUSB	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	RJ45	DB9	RJ45	RJ45	RJ45	–
Max. throughput / switch capacity	6,4 Tbps	3,6 Tbps	1,000 Gbps	440 Gbps	200 Gbps	900 / 1,020 Gbps	480 Gbps	372 Gbps	360 Gbps	324 Gbps	340 GBit/s	292 Gbps	188 Gbps	212 Gbps	176 Gbps	164 Gbps	88 Gbps	68 Gbps	128 Gbps	68 Gbps	52 Gbps	24 Gbps	16 Gbps
Functions & services ¹																							
Virtual Port Channel (VPC) & ISSU	✓	✓	✓	–	–	✓	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Stacking	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–	–	–	–	–	–	–	–	–	–	–
Limited Lifetime Warranty (LLW) & DoA	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–	–	–	–	–	–	–	–	–	–	–
Management																							
Virtual Routing and Forwarding (VRF)	✓ max. 4k	✓ max. 4k	✓	–	–	✓	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Dynamic routing (full layer 3)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–	–	–	–	–	–	–	–	–	–	–
Static routing (layer 3 lite)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–
DHCP server	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	– ²	–	–
Accessories (transceiver modules & Direct Attach Cable)																							
1G: SFP-SX-LC1 SFP-SX2-LC1 SFP-LX-LC1	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	–
1G: SFP-CO1	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	✓	–	–	–	–
1G: SFP-BiDi1550-SC1 10G: SFP-BiDi1310-LC10	–	– ✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓ –	✓ –	–	–
10G: SFP-SX-LC10 SFP-LX-LC10 SFP-LR40-LC10	–	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	–	–	–
10G: SFP-CO10-MG	–	✓	✓ max. 4x	✓ max. 4x	✓ max. 4x	✓ max. 2x	✓ max. 2x	✓ max. 2x	✓ max. 2x	✓ max. 2x	✓ max. 1x	✓ max. 1x	✓ max. 1x	✓ max. 1x	✓ max. 1x	✓ max. 1x	✓ max. 1x	✓ max. 1x	✓ max. 1x	✓ max. 1x	–	–	–
25G: SFP-LR-LC25 SFP-SR-LC25	–	✓	✓	–	–	✓	–	–	–	–	✓	✓	✓	–	–	–	–	–	–	–	–	–	–
40G: SFP-LR-LC40 SFP-SR-MPO40	✓	✓	✓	✓	–	✓	✓	✓	✓	✓	–	–	–	–	–	–	–	–	–	–	–	–	–
100G: SFP-SR-MPO100 SFP-LR-LC100	✓	✓	–	–	–	✓	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SFP-DAC10 SFP-DAC25 SFP-DAC40	– – ✓	✓	✓	✓ – ✓	✓ – –	✓	✓ – ✓	✓ – ✓	✓ – ✓	✓ – ✓	✓ ✓ –	✓ ✓ –	✓ ✓ –	✓ – –	✓ – –	✓ – –	✓ – –	✓ – –	✓ – –	✓ – –	–	–	–
SFP-DD-DAC50	–	–	✓	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
SFP-DAC100	✓	✓	–	–	–	✓	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

✓ available / included – not available / unsuitable LLW = Limited Lifetime Warranty ([see infopaper](#))

¹ All switches with the exception of the unmanaged switches also have the following (security) functions: QoS (port, TOS/DSCP, 802.1p), RSTP redundancy, MAC address limit per port, IEEE 802.1X access control, Broadcast storm control, TACACS+, and SNMP v1/v2/v3.
² DHCP relay agent with DHCP option 66, DHCP option 67, and DHCP option 82.



All switches are cloud-ready and can be centrally managed via the [R&S®LANCOM Management Cloud](#) (R&S®LMC)!

WIRELESS LAN – ACCESS POINTS

	R&S®LANCOM LX-7500	R&S®LANCOM LX-7400	R&S®LANCOM LX-7300	R&S®LANCOM LX-7200 / LX-7200E	R&S®LANCOM LX-6402	R&S®LANCOM LX-6400	R&S®LANCOM LX-6212	R&S®LANCOM LX-6200 / LX-6200E	R&S®LANCOM LW-700	R&S®LANCOM OX-6402	R&S®LANCOM OX-6400	R&S®LANCOM OW-702	R&S®LANCOM OW-602
Item no. (B = Bulk)	61897, 61898 (B5)	61933, 61934 (B5)	61893, 61894 (B5)	61927, 61928 (B5) / 61929, 61930 (B5)	61825 (EU), 61827 (US), 61826 (WW), 61828 (WW, B10)	61821 (EU), 61823 (US), 61822 (WW), 61824 (WW, B10)	61887 (EU), 61888 (EU, B10)	61871 (EU), 61874 (EU, B10) / 61833 (EU), 61835 (EU, B10)	61931, 61932 (B5)	61866 (EU)	61865 (EU)	61846	61664 (EU), 61665 (US)
Service category	S	S	S	S	S	S	S	S	S	L	L	M	M
R&S®LMC license category	A	A	A	A	A	A	A	A	A	A	A	A	A
Access point series & use cases	LX-7000 series – indoor-Wi-Fi 7 for medium and high user densities				LX-6000 series – indoor-Wi-Fi 6 for resilient Wi-Fi networks				LW series – Indoor Wi-Fi 7 for low user densities	OX series – Outdoor Wi-Fi 6 for medium and high user densities		OW series – Outdoor Wi-Fi 7 or Wi-Fi 6 for low user densities	
Hardware features & functions													
Gross data rate (Wi-Fi interface in Mbps)	11,530 (6 GHz) 5,765 (5 GHz) 1,150 (2.4 GHz)	11,530 (6 GHz) 5,765 (5 GHz) 688 (2.4 GHz)	5,765 (6 GHz) 2,882 (5 GHz) 575 (2.4 GHz)	5,765 (6 GHz) 2,882 (5 GHz) 688 (2.4 GHz)	2,400 (5 GHz) 1,200 (2.4 GHz)	2,400 (5 GHz) 1,200 (2.4 GHz)	1,200 (5 GHz) 575 (2.4 GHz)	1,200 (5 GHz) 575 (2.4 GHz)	2,882 (5 GHz) 688 (2.4 GHz)	2,400 (5 GHz) 1,200 (2.4 GHz)	2,400 (5 GHz) 1,200 (2.4 GHz)	2,882 (5 GHz) 688 (2.4 GHz)	1,200 (5 GHz) 575 (2.4 GHz)
1st Wi-Fi interface (2.4 GHz)	802.11b/g/n/ax	802.11b/g/n/ax/be	802.11b/g/n/ax	802.11b/g/n/ax/be	802.11b/g/n/ax	802.11b/g/n/ax	802.11b/g/n/ax	802.11b/g/n/ax	802.11 b/g/n/ax/be	802.11b/g/n/ax	802.11b/g/n/ax	802.11 b/g/n/ax/be	802.11b/g/n/ax
2nd Wi-Fi interface (5 GHz)	802.11a/n/ac/ax/be	802.11a/n/ac/ax/be	802.11a/n/ac/ax/be	802.11a/n/ac/ax/be	802.11a/n/ac/ax	802.11a/n/ac/ax	802.11a/n/ac/ax	802.11a/n/ac/ax	802.11 a/n/ac/ax/be	802.11a/n/ac/ax	802.11a/n/ac/ax	802.11 a/n/ac/ax/be	802.11a/n/ac/ax
3rd Wi-Fi interface (6 GHz)	802.11ax/be	802.11ax/be	802.11ax/be	802.11ax/be	–	–	–	–	–	–	–	–	–
Multi user MIMO streams	4x4 4+4+4	4x4/2x2 4+4+2	2x2 2+2+2	2x2 2+2+2	4x4 4+4	4x4 4+4	2x2 2+2	2x2 2+2	2x2 2+2	4x4 4+4	4x4 4+4	2x2 2+2	2x2 2+2
LAN connector	1x 10G Ethernet, 1x 2.5G Ethernet	1x 10G Ethernet, 1x 1G Ethernet	1x 10G Ethernet, 1x 2.5G Ethernet	1x 2.5G Ethernet, 1x 1G Ethernet	1x 2.5G Ethernet, 1x 1G Ethernet	1x 2.5G Ethernet, 1x 1G Ethernet	2x 1G Ethernet	1x 1G Ethernet	1x 2.5G Ethernet	1x 2.5G Ethernet, 1x 2.5G Ethernet with PoE Passthrough	1x 2.5G Ethernet, 1x 2.5G Ethernet with PoE Passthrough	1x 2.5G Ethernet	2x 1G Ethernet
Integrated antennas	Integrated antennas for 6 GHz, 5 GHz, 2.4 GHz, and BLE	Integrated antennas for 6 GHz, 5 GHz, 2.4 GHz, and BLE	Integrated antennas for 6 GHz, 5 GHz, 2.4 GHz, and BLE	Integrated antennas for 6 GHz, 5 GHz, 2.4 GHz, and BLE, LX-7200E incl. ESL radio interface	Dedicated antenna for BLE	Integrated antennas for 5 GHz, 2.4 GHz, and BLE	Dedicated antenna for BLE	Integrated antennas for 5 GHz, 2.4 GHz, and BLE, LX-6200E incl. ESL radio interface	Integrated antennas for 5 GHz and 2.4 GHz	Dedicated antenna for BLE	Integrated 70° Wi-Fi sector antenna, integrated, omnidi-rectional antenna for BLE	Dedicated antenna for BLE	Dedicated antenna for BLE
BLE standard	5.1	5.4	5.1	5.4	5.0	5.0	5.1	5.1	–	5.1	5.1	5.4	5.1
Ext. antenna connectors	–	–	–	–	4x reverse SMA (RSMA)	–	4x reverse SMA (RSMA)	–	–	4x NJ (WLAN)	–	4x NJ (WLAN)	4x NJ (WLAN)
Supplied antennas	–	–	–	–	4x dualband WLAN	–	4x dualband WLAN	–	–	4x dualband WLAN	–	4x dualband WLAN	2x 2.4 GHz WLAN, 2x 5 GHz WLAN
USB port	3.0	2.0	2.0	2.0	3.0	3.0	2.0	2.0	–	–	–	–	–
Power over Ethernet (PoE)	802.3at/bt (reduced operation with 802.3at)	802.3bt	802.3at/bt (reduced operation with 802.3at)	802.3at	802.3at	802.3at	802.3at	802.3at	802.3at	802.3bt with & 802.3at without PoE Passthrough	802.3bt with & 802.3at without PoE Passthrough	802.3at	802.3at
Dual PoE-in capability	✓ ¹	–	–	–	–	–	–	–	–	–	–	–	–
Housing and protection rating	Polycarbonat & Aluminium (white, P50, UL2043 certified)	Polycarbonat & Aluminium (white, P50, UL2043 certified)	Polycarbonat & Aluminium (white, P50, UL2043 certified)	Polycarbonat & Aluminium (white, P50, UL2043 certified)	Plastic / metal (white)	Plastic / metal (white)	Plastic / metal (white)	Plastic / metal (white)	Polycarbonat & Aluminium (white)	Plastic / metal (white), IP67	Plastic / metal (white), IP67	Plastic (white), IP67	Plastic (white), IP67
Incl. mounting bracket	universally compatible ²	universally compatible ²	universally compatible ²	universally compatible ²	–	–	–	–	✓	–	–	–	–
Temperature range	0°C - +40°C	0°C - +40°C	0°C - +40°C	0°C - +40°C	0°C - +40°C	0°C - +40°C	0°C - +40°C	0°C - +40°C	0°C - +40°C	-30°C - +65°C	-30°C - +65°C	-30°C - +65°C	-30°C - +65°C
Medical norm **	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	–
Position / motion sensor power consumption meter	✓	✓	✓	✓	–	–	–	–	–	–	–	✓ –	–
Scan radio	✓	–	✓	–	–	–	–	–	–	–	–	–	–
Client mode Wi-Fi P2P	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Multi SSID	up to 32	up to 32	up to 32	up to 32	up to 32	up to 32	up to 32	up to 32	up to 32	up to 32	up to 32	up to 32	up to 32
Support of digital displays * Vusion, Solum, Hanshow	via 3rd party USB*	via 3rd party USB*	via 3rd party USB*	LX-7200 via 3rd party USB* / LX-7200E integrated for Vusion	via 3rd party USB*	via 3rd party USB*	via 3rd party USB*	LX-6200 3rd party USB* / LX-6200E integrated for Vusion	–	–	–	–	–

✓ available / included ◯ optional upgrade / extension – not available / unsuitable

** suitable for use with medical electrical equipment (EN 60601-1 compliant)

¹ Failover: uninterrupted continued operation with PoE supply to both ports, load sharing: various combinations of 802.3af/at/bt possible, full range of functions with 1x 802.3bt or 2x 802.3at.

² Allows device replacement of commercially available models without additional drilling (low-profile mounting plate)

³ Fanless design without rotating parts

- PoE Combinations
- AP Matchmaker
- Accessories
- Service & Support



All access points are cloud-ready and can be centrally managed via the [R&S®LANCOM Management Cloud](#) (R&S®LMC)!

WLAN CONTROLLER

	R&S®LANCOM WLC-2000	R&S®LANCOM WLC-60
Item no.	62235	61719
Service category	L	S
LMC license category	D	B
Hardware-Features		
Ethernet ports	6x Gigabit Ethernet, 2x SFP+	5x Gigabit Ethernet, 1x SFP
Switchable ports WAN LAN DMZ monitor	✓	✓
Load balancing of multiple DSL connections	4x	4x
Hardware encryption accelerator for CAPWAP / TLS and IPSec	✓	✓
Serial port	✓	✓
USB port	✓	✓
Housing	Mettall, 19"	Kunststoff
Power supply	Internes Netzteil (100-240 V, 50-60 Hz)	Externes Steckernetzteil
Number of fans	2 interne Lüfter	– ³
Funktionen		
Number of managed access points and Wi-Fi routers	25 (upgradeable to max. 2,000)	6 (upgradeable to max. 60)
Integrated VPN gateway	5 channels	5 channels
Advanced Routing & Forwarding	Up to 128 VLAN / IP contexts	Up to 16 VLAN / IP contexts
Layer-3 tunneling	✓	✓
Wi-Fi RF optimization	✓	✓
Redundancy, controller backup, and load balancing	✓	✓
Integrated RADIUS server	✓	✓
Public Spot	✓	✓

For operation in a virtualized environment, the [R&S®LANCOM vRouter](#) is also available with a comprehensive range of functions and numerous security features.

The R&S®LANCOM vRouter can be used as a virtual VPN router (vCPE), central-site VPN gateway (vGateway), or as a WLAN controller (vWLC).



UNIFIED FIREWALLS

	UF-T60	UF-60	UF-160	UF-260	UF-360	UF-560	UF-760	UF-1060
Item no.	55004	55002	55012	55024	55034	55044	55035	55038
Service category	M	S	S	S	M	L	XL	XL
R&S®LMC license category	B	B	B	B	C	C	D	D
Category	Industrial	Desktop	Desktop	Desktop	Rack	Rack	Rack	Rack (2 height units)
Hardware properties								
Ports	5x GE copper, 2x SFP	4x GE copper	4x GE copper	4x GE copper, 1x SFP	6x GE copper, 2x SFP+	8x GE copper, 2x SFP+	8x GE copper, 2x SFP+	2x GE copper
Power supply & memory redundancy	–	–	–	–	–	–	Hot-swappable PSU	Hot-swappable PSU & SSDs
Opt. extension modules *	–	–	–	–	✓ 1G ETH, 1G SFP, 10G SFP+	✓ 1G ETH, 1G SFP, 10G SFP+, 40G QSFP+	✓ 1G ETH, 1G SFP, 10G SFP+, 40G QSFP+	✓ 8 slots 1G ETH, 1G SFP, 10G SFP+, 40G QSFP+, 100G QSFP28
Mounting options	DIN rail mounting	Opt. R&S®LANCOM Firewall Rack Mount UF-60 (55128)	Opt. R&S®LANCOM Firewall Rack Mount UF-160/260 (55125)	Opt. R&S®LANCOM Firewall Rack Mount UF-160/260 (55125)	Mounting brackets	Mounting brackets and extension rails	Mounting brackets and extension rails	Mounting brackets and extension rails (recomm. rack depth min. 800 mm)
Max. system performance (individual measurements) **								
IDS / IPS throughput HTTPS (Mbps)	1,150	700	750	1,250	1,400	4,700	13,000	20,000
Firewall throughput TCP (Mbps)	3,700	3,500	3,550	4,450	11,600	20,000	49,830	100,000
VPN throughput IPSec (Mbps)	1,200	790	1,200	1,500	2,200	9,000	19,700	40,000
Concurrent sessions	1,000,000	1,000,000	1,000,000	2,000,000	4,000,000	4,000,000	16,700,000	66,800,000
Max. system performance (usage of all UTM functionalities) **								
UTM throughput HTTPS (Mbps)	200	150	170	340	420	1,500	3,400	12,000
Recomm. number of VPN tunnels	25 – 50	5 – 25	25 – 50	100 – 200	200 – 1,000	1,000 – 3,000	1,000 – 5,000	5,000 – 10,000
Power								
Input voltage (V)	12 – 36	100 – 240	100 – 240	100 – 240	100 – 240	100 – 240	100 – 240	100 – 240
Max. power consumption (W)	22.3 (redundantly designed)	40	40	40	60	250	300 (redundantly designed)	550 (redundantly designed)
Idle power consumption (W)	11.32 @ 12 V 12.58 @ 24 V	5	10.4	11.9	15.6	37.0	76.0	100
Dimensions								
W x H x D (mm)	130 × 100 x 150	232 x 44 x 115	231 x 44 x 200	231 x 44 x 200	440 x 44 x 269 (without brackets)	440 x 44 x 450 (without brackets)	440 x 44 x 364 (without brackets)	440 x 88 x 603 (without brackets)

Firewall licensing model

A valid license is required to operate a R&S®LANCOM Unified Firewall or vFirewall. With the flexible licensing model, you can choose between your desired scope of functions (Basic, SAG Basic, Full, or SAG Full) and the available license terms of 1, 3, or 5 years, or a monthly billing option if you have an existing SPLA agreement.

Basic License: Activates firewall functions and provides firmware updates.

Full License: Adds full UTM and VPN functionality as well as content filtering to the Basic License.

SAG Basic/Full License: Adds container functionality for secure edge computing scenarios to the Basic or Full License (hardware appliances only).

* Compatible UF Extension Modules can be found on the [product website](#).
** All throughput rates measured bidirectionally with 1,500 bytes packet size.

VFIREWALLS

For operation in a virtualized environment, the Virtual Unified Firewall (vFirewall) is also available with a comparable range of security functions as the hardware-based firewalls.

	vFirewall - S	vFirewall - M	vFirewall - L	vFirewall - XL
Item no. Basic License 1 / 3 / 5 years / SPLA	55186 / 55187 / 55188 / 55273	55192 / 55193 / 55194 / 55275	55198 / 55199 / 55200 / 55277	55204 / 55205 / 55206 / 55279
Item no. Full License 1 / 3 / 5 years / SPLA	55189 / 55190 / 55191 / 55274	55195 / 55196 / 55197 / 55276	55201 / 55202 / 55203 / 55278	55207 / 55208 / 55209 / 55280
Features				
Cores	1	2	4	16
RAM	4	8	16	64
Recomm. number of users ***	up to 20	up to 100	up to 200	up to 500
VLAN	16	32	64	256

*** When all users are using all UTM functions simultaneously

All firewalls are cloud-ready and can be centrally managed via the [R&S®LANCOM Management Cloud](#) (R&S®LMC)!

Firewall finder

Determine the optimal hardware configuration for your company size and network utilization. The recommendations are based on a full license (UTM scenario). The specified number of devices can also refer to individual workstations.

Sample customers		Data volume	UF-60	UF-160	UF-260	UF-360	UF-560	UF-760	UF-1060
	Medical offices, pharmacies etc. (individual sites)	 Low data volume e. g. e-mail, calendar, web surfing, VoIP, correspondence, invoices	5 devices	15 devices	50 devices				
	Classic office environments, administrations etc. (individual sites)	 Average data volume e. g. web-based office applications, conferencing solutions, presentations		5 devices	25 devices	50 devices	100 devices	200 devices	800 devices
	Creative agencies, architectural offices etc. (individual sites)	 High data volume e.g. technical drawings, web-based image, sound, and video editing			5 devices	10 devices	25 devices	40 devices	200 devices
	Schools	 Inconsistent data volume Different security level per network: e. g. administration network with UTM, but not in the student Wi-Fi			< 25 teachers < 400 students	< 50 teachers < 600 students	< 70 teachers < 900 students	> 70 teachers > 900 students	–
	Company headquarters	 Average data volume Central security procedures or branch office security for sites via the headquarters				< 25 small sites 0 large sites	< 70 small sites 3 large sites	< 100 small sites < 5 large sites	< 500 small sites < 20 large sites

Attention: The provider line could limit the data volume. For the data volume, the LAN and WAN traffic must be considered additively.