



TECHNICAL PRODUCT INFORMATION – BUS

Transmitter System (Product)	Frequency band [Hz]	Maximum output power [W]	Manufacturer
ANTENNA			
Multiantenna Housing Antenna Radio/GNSS/MBL	RADIO: AM 522-1710 kHz FM 87-108 MHz DAB/DAB+: Band III: 174-240 MHz GNSS: GPS 1571.42 - 1579.42 MHz GLONASS 16021610 MHz	Not Applicable	Desay SV Automotive Europe GmbH
GPS ANTENNA /WLAN WISI AT47	GPS: 1575.42 MHz LAN: 2.40-2.48 GHz	max.: 20 W	WISI Automotive
Antenna 399.99.0039	Port 1: 698 – 960 MHz Port 2: 1710 – 2690 MHz Port 3: 1574 – 1610 MHz Port 4: Option	Port 1: 10W Port 2: 10 W Port 3: N/A Port 4: Option	Huber& Suhner



Antenna CGW 70 26 59 SF S	<p>Cellular: Gain typ. 2,5 dBi</p> <p>GPS: Voltage supply 3 - 5.5 VDC Gain typ. 2 dBic Amplification typ. 27 dB ± 3 dB Current consumption ≤ 25 mA typ. 20 mA</p> <p>WLAN + Bluetooth: Frequency range 2400 - 2484 MHz 5725 - 5875 MHz Gain typ. 2.5 dBi@2.4 GHz typ. 3 dBi@5.8 GHz</p>	N/A	Hirschmann Car Communication GmbH
Antenna LGMM-7-2724-58	<p>2G/3G/4G Frequencies 698-960/17102700MHz</p> <p>Wifi Frequencies MiMo 2.4/5.0GHz - (Optional)</p>	20W	Panorama Antennas Ltd
Antenna LGMM-7-27	<p>2G/3G/4G Frequencies 698-960/17102700MHz</p>	20W	Panorama Antennas Ltd
Antenna Shark 2 track (GSM/GPS/WIFI)	<p>890-2485 MHz 5180-5805 MHz</p>	Max output: GSM & UMTS: 4 W, WIFI: 8W	Calearo
Antenna 7677900 (FM/AM)	<p>0,15-1,71 MHz 87,5-108 MHz</p>		Calearo
Antenna 7677932 (AM7FM7DAB)	<p>0,15-1,71 MHz 87,5-108 MHz 174-240 MHz 1452-1492 MHz</p>		Calearo
Antenna	<p>GSM: 850/900/1800/1900 /2100MHz</p> <p>GPS: 1575.42MHz</p>	Max. power 10W	Consat



Antenna 774380	GSM: 850, 900, 1800, 1900MHz	Power for 850/900MHz: 2W Power for 1800/1900MHz: 1W	Malux
Antenna	GSM: 850, 900, 1800, 1900MHz	Power for 850/900MHz: 2W Power for 1800/1900MHz: 1W	Malux
Navilock NL-602U USB 2.0 GPS Receiver u-blox 6	GPS: L1 frequency (1575.42 MHz) FM: 87.5-108.0 MHz AM(MW): 522-1620 KHz	N/A	Mekasign
Antenna Smart Disc Combi GPS/GPRS	LW: 144-108.0 MHz DAB Band III: 174.928MHz ~239.2 MHz DAB Band L: 1452.960 ~1490.624 MHz	Max. power output 15W x 4 channels	Smarteq Wireless AB
PX-RM6 (WP23704)	-	-	Pixel Sp. z.o.o.
AllDisc Combi Antenna	Cellular: 698-790MHz 1710-2960MHz WiFi: 2400-2485MHz 4915-5825MHz GNSS: 1575.42 1598-1610MHz	Cellular: 10 W	Smarteq Wireless AB
Antenna 1399.99.0039	Port 1: 698 – 960 MHz 1710 – 2690 MHz Port 2: 1710-2690 MHz 4900-5935 MHz Port 3 (Glonass): 1574-1610 MHz	10W	Huber& Suhner



MIIPS Committo LG	GPS : 1575.42 MHz WCDMA : 1920-1980 MHz 2110-2170 MHz LTE : 1710-1785 MHz 1805-1880 MHz 2500-2570 MHz 2620-2690 MHz 832-862 MHz 791-821 MHz	WCDMA: 251 mW LTE: 200 mW	Fält Communications AB
Multi-band Combo Antenna	GPS/GLONASS: 1575.15-1602 MHz LTE: 704-960 MHz 1710-2690 MHz	N.A.	FARA
Multi-band Combo Antenna	GPS/GLONASS: 1575.15-1602 MHz LTE: 704-960 MHz 1710-2690 MHz	N.A.	Consat antenna
ADSC470	VHF: 174- 230 MHz UHF: 470-862 MHz	Antenna gain: VHF 3 dBi UHF 13 dBi Amplifier gain: VHF 13 dB UHF 18 dB Amplifier noise: VHF/UHF 1.8 dB Voltage VHF/UHF 5 ± 0.5 Vdc	DAS / Funke
MU 7-LX/s MU 7-LX/I MU 7-LX/h	370-410 MHz 406-440 MHz 430-470 MHz	Antenna gain: 0 dB Impedance: 50 ohm Nom. Max power: 100 W	Procom
AUDIO SYSTEM			
RADIO Blaupunkt Cupertino 200	FM: 87.5 – 108 MHz AM (MW): 531 – 1,602 kHz LW (Europe only): 153 – 279 kHz	4 x 22 watts sine at 14.4 V at 4 ohms. 4 x 50 watts max. power	Blaupunkt



RADIO DAB WITH BLUETOOTH Stockholm 230 DAB	FM: 87.5 – 108 MHz AM: 531 – 1,602 kHz Frequency ranges: Band III: 174.928 – 239.200 MHz (Channel 5A – Channel 13F) L-Band: 1452.960 – 1490.624 MHz (Channel LA – Channel LW)	4 x 22 watts sine at 14.4 V at 4 ohms. 4 x 50 watts max. power	Blaupunkt
Radio Classic Line, CRD47	FM: 87.5 to 108.0 MHz AM/MW: 530.0 to 1,710.0 kHz LW: 153.0 to 279,0 kHz	N/A	Robert Bosch Car Multimedia
Aus 2 (with Bluetooth)	2400 MHz – 2480 MHz	Bluetooth < 10 mW	Robert Bosch Car Multimedia



<p>Radio Calais USB40</p>	<p>Tuner Wavebands in Europe:</p> <p>VHF (FM): 87.5 – 108 MHz</p> <p>MW: 531 – 1602 kHz</p> <p>LW: 153 – 279 kHz</p> <p>SW: 5800 – 6300 kHz</p> <p>NAFTA wavebands: FM: 87.7 – 107.9 MHz</p> <p>AM: 530 – 1710 kHz</p> <p>WTH: 162.4 – 162.55 MHz</p> <p>FM frequency response: 30 – 15 000 Hz</p>	<p>Amplifier 2 x 20 Watt sine wave</p>	<p>Robert Bosch Car Multimedia</p>
<p>Radio Proline 3, CCD</p>	<p>FM: 87.5 to 108.0 MHz SW: 5,800 to 6,300 kHz</p> <p>AM/MW: 530.0 to 1,710.0 kHz</p> <p>WB: 162.40 to 162.55 MHz</p> <p>87.5 - 108.0 MHz AM(MW): 522-1620 KHz</p>		<p>Robert Bosch Car Multimedia</p>
<p>Radio CDD7428UB-OR</p>	<p>LW: 144-108.0 MHz DAB Band III: 174.928MHz ~239.2 MHz DAB Band L: 1452.960 ~1490.624 MHz</p>	<p>Max. power output 15W x 4 channels</p>	<p>Continental Automotive GmbH</p>



Radio	88-108 MHz	2x 10W	Clemessy/ Elhurt SP. Z O.O
Hearing loop amplifier Transnett 32	100-9000 Hz, - 3dB rel. 1000 Hz. Roll off > 6dB/octave above 9000 H	Loop output 30 VA with 1.5 Ω loop resistance. 24 V DC, 300 mA for accessories. Line out 600 mV. Power supply for door chime and buzz indicator on loop. Distortion: 1% at 30 VA. 70W	AB Transistor Sweden
Car Stereo with AM/FM, Bluetooth, USB, DAB/DAB+: DEH-S100UBG	DAB/DAB+: Band III: 174-240 MHz FM: 87.9 – 107.9 MHz AM: 530 – 1710 KHz Bluetooth: 2.4 GHz	4 dBm	Pioneer
Car Stereo with AM/FM, Bluetooth, USB, DAB/DAB+: DEH-S100UBG	DAB/DAB+: Band III: 174-240 MHz FM: 87.9 – 107.9 MHz AM: 530 – 1710 KHz Bluetooth: 2.4 GHz	4 dBm	Pioneer
Car Stereo with AM/FM, Bluetooth, USB, DAB/DAB+ and Spotify: DEH-S2000UI	DAB/DAB+: Band III: 174-240 MHz FM: 87.9 – 107.9 MHz AM: 530 – 1710 KHz Bluetooth: 2.4 GHz	4 dBm	Pioneer
Car Stereo with AM/FM, Bluetooth, USB, DAB/DAB+ and Spotify: DEH-S3000BT	DAB/DAB+: Band III: 174-240 MHz FM: 87.9 – 107.9 MHz AM: 530 – 1710 KHz Bluetooth: 2.4 GHz	4 dBm	Pioneer
Car Stereo with AM/FM, Bluetooth, USB, DAB/DAB+ and Spotify: DEH-S4000BT	DAB/DAB+: Band III: 174-240 MHz FM: 87.9 – 107.9 MHz AM: 530 – 1710 KHz Bluetooth: 2.4 GHz	4 dBm	Pioneer



Car Stereo with AM/FM, Bluetooth, USB, DAB/DAB+ and Spotify: DEH-S400DAB	DAB/DAB+: Band III: 174-240 MHz FM: 87.9 – 107.9 MHz AM: 530 – 1710 KHz Bluetooth: 2.4 GHz	4 dBm	Pioneer
Car Stereo with AM/FM, Bluetooth, USB, DAB/DAB+ and Spotify: DEH-X8700DAB	DAB/DAB+: Band III: 174-240 MHz FM: 87.9 – 107.9 MHz AM: 530 – 1710 KHz Bluetooth: 2.4 GHz	4 dBm	Pioneer
ENTERTAINMENT SYSTEM			
DVB-T receiver DTX509E			
HARDWARE HARDDISK RECORDER	Maximum update rate 10 Hz GPS Antenna: Center frequency 1575.42 +/- 3MHz (PCB Ass'y) Band width 15MHz min(-10dB)		Camos
CONTROL UNIT LUMATIC			Lumatic
MKi9200	2.4 GHz 433.92 MHz	Bluetooth <20mW	Parrot



FLEET MANAGEMENT SYSTEM – ROAD TRAFFIC COMMUNICATION

CalAmp FleetTracking Vehicle computer LMU2720	GSM/GPRS: 850/900/1800/1900 MHz CDMA/1xRTT: 850/1900 MHz HSPA/UMTS: 800(VI)/850(V)/900(VIII) MHz 1700(IV)/1900(II)/2100(I) MHz	GSM/GPRS: 850/900 32.5 dBm 1800/1900 29.3 dBm CDMA/1xRTT 850 24 dBm 1900 23 dBm HSPA/UMTS (all bands) 23 dBm HSPA data rates: 5.6Mbps upload/7.2 Mbps download HSPA Fallback EDGE/GPRS/GSM quad band EDGE MCS1-MCS9 3GPP Release 6	CalAmp
Road Traffic Communicator (RTC) for GSM/GPRS Operation	850/900/1800/1900 MHz	2W for 850/900 MHz (33dBm) 1W for 1800/1900 MHz (30dBm) 0.5W for 850 8PSK/900 8-PSK (27dBm) 0.398W for 1800 8PSK/1900 8-PSK (26dBm)	Actia
Road Traffic Communicator (RTC) for UMTS/HSPA Operation	800/850/900/2100 MHz	0.25W (24dBm)	Actia
Road Traffic Communicator (RTC) WIFI	2.4-5 GHz	13-50 mW (11-17 dBm)	Actia
Road Traffic Communicator (RTC) Bluetooth		5 mW (7dBm)	Actia
LOCKING AND ALARM SYSTEM			
Cobra 4604, 4625,	433,92 MHz	16 mW	Vodafone



4627, 4670, 4675, 4676, 4686 – Electronic control unit			
Cobra 4605, 4615, 4635, 4665, 4666, 4685, 4693, 4695, 4696, 4698	433,92 MHz	16 mW	Vodafone
Alarm Cobra 5462 - Motion detector	2,45 GHz	8 mW	Vodafone
Door remote controller, with SRD	434.02 MHz	3.67 dBm ERP	Qidong Aipu Electrical Co., Ltd.
Luggage hatch remote controller, with SRD			
WIRELESS BELL PUSH SYSTEM			
Stop request button TSF0285	868,3 MHz	2 mW (3dBm)	Teknoware
Wheelchair button TSF0301	868,3 MHz	2 mW (3dBm)	Teknoware
Control unit passenger signal TSF0303	868,3 MHz	2 mW (3dBm)	Teknoware
TRAFFIC INFORMATION SYSTEM			
Phone PT Carphone 530G 3G	UMTS: 800/850, 900, 2100MHz	Power for UMTS: max. 0.25W	Malux
Line sign control unit ICU602	AMPS /GSM 900/1800/1900/2100MHz VSWR Bluetooth-Wifi 2400 MHz/GPS 1575.42MHz	25W	Mobitec
7FI76, TomTom Bridge	Wifi, Bluetooth, 3G	-	TomTom International BV
7FI722, TomTom Bridge	Wifi, Bluetooth, 3G	-	TomTom international BV



INTERNET CONNECTION

Infotainment Set - Moovbox M310	<p>Wi-Fi Frequency 2.400 ~ 2.483 GHz</p> <p>GPS: L1 frequency (1575.42 MHz)</p>	Max 12W including 1x WAN modem	Icomera
Infotainment Set - Moovbox M320	<p>Wi-Fi Frequency: 2.400 ~ 2.483 GHz, 5.15~5.35 GHz, 5.47~5.725 GHz</p> <p>GPS: L1 frequency (1575.42 MHz)</p>	Max 28W including 2x WAN modem	Icomera
Infotainment Set - Moovbox M340	<p>Wi-Fi Frequency: 2.400 ~ 2.483 GHz, 5.15~5.35 GHz, 5.47~5.725 GHz</p> <p>GPS: L1 frequency (1575.42 MHz)</p>	Max 35W including 4x WAN modem	Icomera
WPEA-252NI 802.11abgn Mini PCIe module	IEEE 802.11 abgn ISM Band, 2.400GHz ~ 2.4835GHz, 5.1500MHz ~ 5.825MHz	N/A	LAWO Luminator Europe
MC7304 Module	<p>4G LTE Category Cat-3 Frequency Bands B1, B3, B7, B8, B20</p> <p>3G WCDMA B1, B2, B5, B8</p> <p>2G EDGE, GSM, GPRS 850, 900, 1800, 1900</p>	N/A	LAWO Luminator Europe
K60ZVD_0600_29_28_X X	GSM: 850/900/1800/1900 /2100 MHz	10W	Reinheimer Elektronik GmbH
K70ZVD_0600_29_28_X X	GSM: 850/900/1800/1900 /2100 MHz	10W	Reinheimer Elektronik GmbH



FARE COLLECTORS

TZ00091	-	-	Pixel Sp. z.o.o.
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ON BOARD COMPUTER

MX-4	WiFi: 5 GHz, 2,4 GHz	20W	Host Mobility
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