

Features

- Reduced site deployment costs by eliminating donor antenna isolation problems through frequency translation.
- High remote unit output power of 10W or 20W per channel.
- High link power (10W) gives maximum link distance between Master and Remote units.
- Available in standard P-GSM900 or E-GSM900 bands.
- Designed for all-weather outdoor – waterproof, damp-proof and omni-sealed (IP65).
- Easy operation and maintenance through remote monitor and control.
- Permits local monitoring via notebook computer and remotely by wire or GSM modem.
- Alarm data can be transmitted to optional OMC via SMS or data call.
- Internal battery backup ensures alarm messages are transmitted when power fails.

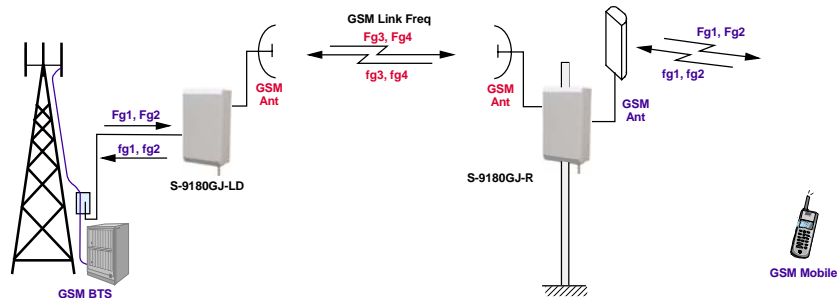


Product Description

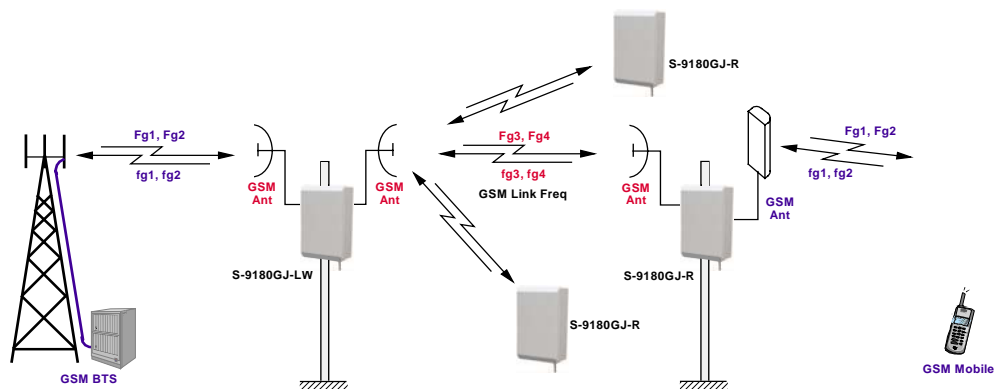
The S-9180GJ is a point-to-multipoint, frequency-shifting repeater system that overcomes the antenna isolation problem in conventional repeater system. The Master unit receives the GSM900 donor signal via direct (S-9180GJ-LD) or wireless coupling (S-9180GJ-LW), and translates to another GSM900 link frequency for transmission to the Remote units (S-9180GJ-R). The Remote units receive the link signal and translate back to the original GSM900 signal, which are then transmitted to the service areas. The mapping of GSM to GSM channels is user-defined through the OMT software. The S-9180GJ comes with separate connectors for connection to suitable external GSM link and service antennas. Each S-9180GJ can support 2 channel frequencies and may be connected in parallel for higher number of channels. Remote units can incorporate external air-combining using cross-polar antenna for increased output power.

System Application Examples

Point-to-Point using Direct Coupling Master Unit



Point-to-Multipoint using Wireless Coupling Master Unit



Technical Specifications

Electrical

Working Frequency, Uplink – [MHz]	
- P-GSM900	890 – 915
- E-GSM900	880 – 915
Working Frequency, Downlink – [MHz]	
- P-GSM900	935 – 960
- E-GSM900	925 – 960
Link Frequency, Uplink – [MHz]	
- P-GSM900	890 – 915
- E-GSM900	880 – 915
Link Frequency, Downlink – [MHz]	
- P-GSM900	935 – 960
- E-GSM900	925 – 960
Number of Channels	2
Maximum Gain – [dB]	
- Direct Coupling Master Unit	40 ± 2
- Wireless Coupling Master Unit	105 ± 2
- Remote Unit (IC)	105 ± 2
- Remote Unit (EC)	108 ± 2
Gain Adjustment Range – [dB]	30 ± 1.0 (1dB step)
Pass Band Ripple, p-p – [dB] within any 15MHz bandwidth	≤ 3
Output Power per Ch, DL – [dBm]	
- Direct Coupling Master Unit	40 ± 1
- Wireless Coupling Master Unit	40 ± 1
- Remote Unit (IC)	40 ± 1
- Remote Unit (EC)	43 ± 1
Output Power per Ch, UL – [dBm]	
- Direct Coupling Master Unit	-10 ± 1
- Wireless Coupling Master Unit	33 ± 1
- Remote Unit	40 ± 1
Spurious and Intermod – [dBm]	
- 9kHz - 1GHz	≤ -36
- 1 - 12.75 GHz	≤ -30
Noise Figure, @ Max. Gain – [dB]	≤ 5.0 (typ. 4)
Frequency Error – [Hz]	≤ ±5 x 10 ⁻⁸
Group Delay – [μsec]	
- Master + Remote units	≤ 15
Minimum Channel Spacing – [kHz]	
- within working band or link band	≥ 600
- between working and link bands	≥ 800
Minimum Isolation Between Antenna Ports – [dB]	≥ 80
Max RF Input Power (No Damage) – [dBm]	+10
VSWR	≤ 1.5 (typ. 1.4)
Impedance – [Ω]	50

Power, Mechanical, Environmental

Power Supply Options	
- Direct Coupling Master Unit	155-285 VAC / 45-55Hz or -48 VDC ±20% or +24 VDC ±10%
- Wireless Coupling Master Unit	155-285 VAC / 45-55Hz
- Remote Unit	155-285 VAC / 45-55Hz
Power Consumption – [W]	
- Direct Coupling Master Unit, 10W	170 (approx.)
- Direct Coupling Master Unit, 20W	210 (approx.)
- Wireless Coupling Master Unit, 10W	200 (approx.)
- Wireless Coupling Master Unit, 20W	240 (approx.)
- Remote Unit, 10W	230 (approx.)
- Remote Unit, 20W and 40W	270 (approx.)
MCU Battery Backup Time – [hr]	3 (approx.)
Power Up Waiting Time – [sec]	60 (approx.)
Dimensions, HxWxD – [mm]	
- Direct Coupling Master Unit	600 x 450 x 195
- Wireless Coupling Master Unit	600 x 450 x 195
- Remote Unit	600 x 450 x 295
Weight – [kg]	
- Direct Coupling Master Unit	37 (approx.)
- Wireless Coupling Master Unit	37 (approx.)
- Remote Unit (40dBm)	51 (approx.)
Operating Temperature – [°C]	-25 to +55
Operating Humidity – [%]	≤ 95
RF Connector	
- Service and Link Antenna	N-Female
- Wireless Modem Antenna	SMA-Female
Mounting Hardware	Wall or Pipe
MTBF	> 50,000
Environmental Class	IP65

Operation & Maintenance

Local Control and Monitoring	PC via RS232
Remote Control and Monitoring	via integrated GSM modem in Data Link or SMS modes
Local and Remote Controlled Parameters	Working Channel No, Translation Channel No, ATT, Soft PA ON/OFF, Over-Temp Threshold, Alarm Report Enable
Local and Remote Monitored Parameters	Alarms (LNA, PA, PLL Unlock, Power Down, Power Down, PSU Fault, Over Temp, Door Open, DL Output Power Over/Low), UL/DL Output Power, Modem Receive Field Intensity

IC – Internally combined carriers
EC – Externally combined carriers

Mechanical Outline Drawing

