

❖ **General description :**

The **RF/RF repeater** assures the coverage of radio cellular in the places or the infrastructures insufficiently covered.

These facilities, are intended to cover outdoor shaded area (example: road network) but also cover indoor premises such as: shops, exhibition halls, local company, medical office.

Depending on customer requirements and to optimize the cost of coverage, Selecom offers a complete range of repeaters single or dual band in the simple or double box.

**Environmental specifications : RoHS/CE compliant.**





Simple Box : Available on single band repeater type :

- Medium power GSM900 MHz,
- Medium power GSM1800 MHz,
- Medium power UMTS2100 MHz,
- Medium power EGSM,
- Medium power LTE800 MHz,
- Medium power LTE2600 MHz.

Double box : Available on repeaters :

**Single Band :**

- High power GSM900 MHz,
- High power UMTS2100 MHz,
- High power EGSM,
- High power LTE800 MHz,
- High power LTE2600 MHz

**Dual Band :**

- Medium power GSM900/GSM1800 MHz,
- Medium power GSM900/UMTS2100 MHz,
- Medium power GSM1800/UMTS2100 MHz,



➤ Repeater single-band 900 MHz (Adjustable band)

<b>Features</b>				
<b>Frequency Band</b>	<b>GSM 900 Mhz Medium power</b>		<b>GSM 900 Mhz High power</b>	
RX Band	880 MHz – 915 MHz			
TX Band	925 MHz – 960 MHz			
Bandwidth	Adjustable bandwidth, depending on the operator band, 15MHz max. Adjustable center frequency across the GSM band			
<i>Gain</i>	Adjustable from 50 to 80 dB (In step of 1 dB)		Adjustable from 60 to 90 dB ( In step of 1 dB)	
Ripple in the band	= ± 2 dB			
Nominal output Composite power	TX	RX	TX	RX
<i>1 Channel</i>	+ 32 dBm	+ 15 dBm	+ 39 dBm	+ 18 dBm
<i>2 Channels</i>	+ 27 dBm	+ 10dBm	+ 36 dBm	+ 15 dBm
<i>3 Channels</i>	+ 22 dBm	+- 4dBm	+ 33 dBm	+ 11 dBm
Puissance des raies parasites	≤ - 36 dBm			
Selectivity	With saw filter 30dB @ +/-400KHz 40dB @ +/-600KHz 45dB @ +/-1MHz 55dB @ +/-5MHz et au-delà			
Noise factor at max gain	≤ 6 dB			
Propagation time	≤ 8μs			
Edge modulation measurements	RMS EVM ≤ 3% Max PK EVM ≤ 7%			
Supply	230 Vols AC AC power supply built into the box Supply 48 VDC +/- 20% optional Compliants IEC 60950 / IEC			
Consumption	100 W		175 W	

➤ Repeater single-band 900 MHz (fixed band)

Features				
Frequency band	EGSM 900 Medium power		EGSM 900 High power	
RX band	880 MHz – 915 MHz			
TX band	925 MHz – 960 MHz			
Bandwidth	Adapted to the band of 35MHz max operator			
Gain	Adjustable from 50 to 80 dB (In step of 1 dB)		Adjustable from 60 to 90 dB (In step of 1 dB)	
Ripple in the band	= ± 2 dB			
Nominal output Composite power	TX	RX	TX	RX
1 Channel	+ 32 dBm	+ 15 dBm	+ 39 dBm	+ 18 dBm
2 Channels	+ 27 dBm	+ 10dBm	+ 36 dBm	+ 15 dBm
3 Channels	+ 22 dBm	+ - 4dBm	+ 33 dBm	+ 11 dBm
Puissance des raies parasites	≤ - 36 dBm			
Ripple in the band	≤ ± 2 dB			
Selectivity	With saw filter 30dB @ +/-400KHz 40dB @ +/-600KHz 45dB @ +/-1MHz 55dB @ +/-5MHz et au delà			
Noise factor at max gain	≤ 6 dB			
Propagation time	≤ 5µs			
Edge modulation measurements	RMS EVM ≤ 3% Max PK EVM ≤ 7%			
Supply	230 Volts AC Supply 48 VDC built into the box 48 VDC supply +/- 20% optional Compliant IEC 60950 / IEC			
Consumption	100 W		175 W	
Option	Digital filter			

➤ Repeater single-band 2100 Mhz

Frequency band	UMTS 2100 MHz MP		UMTS 2100 MHz HP	
RX Band	1920 MHz – 1980 MHz			
TX Band	2110MHz – 2170 MHz			
Bandwidth	Adapted to the band of 60 MHz max operator			
Gain	Adjustable from 50 to 80 dB (In step by 1 dB)		Adjustable from 60 to 90 dB (In step by 1 dB)	
Ripple in the band	= ± 2 dB			
Nominal output Composite power	TX	RX	TX	RX
1 Channel	+ 32.5 dBm	+ 11 dBm	+ 39 dBm	+ 18 dBm
2 Channels	+ 28 dBm	+ 8 dBm	+ 36 dBm	+ 15 dBm
Puissance des raies parasites	≤ - 30 dBm			
Selectivity	With saw filter 30dB @ +/-400KHz 40dB @ +/-600KHz 45dB @ +/-1MHz 55dB @ +/-5MHz and beyond			
Noise factor at max gain	≤ 5 dB			
Propagation time	≤ 5µs			
Supply	230 Volts AC AC power supply built into the box Supply 48 VDC +/- 20% optional Conforms to IEC 60950 / IEC		230 Volts AC ±15% 50 Hz	
Consumption	100 W		150 W	
Option	Digital filter			

➤ Repeater single-band LTE2600

Frequency band	LTE 2600 MHz MP	LTE 2600 MHz HP
RX Band TX Band	2620 MHz – 2690 MHz 2500 MHz – 2570 MHz	
Bandwidth	Adapted to the band of operator	
Gain	Adjustable from 50 to 80 dB (In step by 1 dB)	Adjustable de 60 à 90 dB (in step by 1 dB)
Ripple in the band	= ± 2 dB	
Nominal output Composite power DL	≤ 29 dBm	≤ 37 dBm
Nominal output Composite power UL	≤ 15 dBm	≤ 20 dBm
Puissance des raies parasites	≤ - 30 dBm	
Selectivity	30dB @ +/-350 KHz 45dB @ +/-1.1 MHz 55dB @ +/-10 MHz 55dB @ +/-5MHz and beyond	
Adjacent channel rejection LTE bandwidth	≥ 70 dBc	
Noise factor at max gain	≤ 5 dB	
Propagation time	≤ 5µs	
Supply	230 Volts AC AC power supply built into the box Supply 48 VDC +/- 20% optional Conforms to IEC 60950 / IEC	
Consumption	100 W	150 W

➤ Repeater dual-band GSM900/GSM1800 Mhz

Frequency band	GSM 900 MHz Adjustable band	GSM 1800 MHz Fixed band
RX Band	880 MHz – 915 MHz	1710 MHz – 1785 MHz
TX Band	925 MHz – 960 MHz	- 1710 MHz – 1785 MHz
Bandwidth	Adjustable from 200Khz to 15MHz	According to the operator's band
Gain	Adjustable from 50 to 80 dB (in step by 1 dB)	
Ripple in the band	= ± 2 dB	
Nominal output Composite power		
1 Channel	+ 32 dBm	+ 32 dBm
2 Channels	+ 27 dBm	+ 27dBm
4 Channels	+ 22 dBm	+ 22dBm
Puissance des raies parasites	≤ - 36 dBm	≤ - 30 dBm
Ripple in the band	≤ ± 2 dB	
Selectivity	With Saw filter 45dB @ +/-1MHz 55dB @ +/-5MHz	With Saw filter 45dB @ +/-1MHz 55dB @ +/-5MHz
Noise factor at max gain	≤ 6 dB	
Propagation time	≤ 5μs	≤ 5μs
Supply	230 Volts AC	
Consumption	230 W	

The output power is reduced by 1 dB after GSM900 / GSM1800 coupling system  
The total gain is reduced by 2 dB after GSM900 / GSM1800 coupling system

➤ Repeater dual-band GSM900/UMTS2100 Mhz

Frequency band	GSM 900 MHz		UMTS 2100 MHz	
RX Band	880-915 MHz		1920-1980 MHz	
TX Band	925-960 MHz		2110-2170 MHz	
Bandwidth	According to the operator's band			
Noise factor	≤ 6 dB @ Gain max			
Gain	Ajustable de 50 à 80 dB (pas de 1 dB)			
Nominal output Composite power	RX	TX	RX	TX
1 Channel	+ 15 dBm	+ 32 dBm	+ 11 dBm	+ 32.5 dBm
2 Channels	+ 10 dBm	+ 27 dBm	+ 8 dBm	+ 28 dBm
3 Channels	+ 4 dBm	+ 22 dBm	-	-
Puissance des raies parasites	≤ - 36 dBm		≤ - 30 dBm	
Ripple in the band	≤ ± 2 dB			
Selectivity	With saw filter 30dB @ +/-400KHz 40dB @ +/-600KHz 45dB @ +/-1MHz 55dB @ +/-5MHz and beyond			
Noise factor at max gain	≤ 6 dB		≤ 5 dB	
Propagation time	≤ 5μs		≤ 5μs	
Mesures en modulation Edge	RMS EVM	MAX PK EVM	/	
	≤ 3%	≤ 7%	-	
Supply	230 Volts AC AC power supply built into the box Supply 48 VDC +/- 20% optional Conforms to IEC 60950			
Consumption	230 W			

➤ Repeater dual-band GSM900/UMTS2100 Mhz

Frequency band	GSM 900 MHz	UMTS 2100 MHz
RX Band	880-915 MHz	1920-1980 MHz
TX Band	925-960 MHz	2110-2170 MHz
Bandwidth	35 MHz	60 MHz
Bandwidth per channel		4,685 MHz (roll-off 0.22)
Gain	Ajustable de 50 à 80 dB (pas de 1 dB)	
Ripple in the band	= ± 2 dB	
Nominal output Composite power		
1 Channel	+ 32 dBm	+ 31 dBm
2 Channels	+ 27 dBm	+ 28 dBm
4 Channels	+ 22 dBm	-
Puissance des raies parasites	≤ - 36 dBm	≤ - 30 dBm
Ripple in the band	≤ ± 2 dB	
Selectivity	Avec filtre FOS ou filtrage numérique 30dB @ +/-400KHz 40dB @ +/-600KHz 45dB @ +/-1MHz 55dB @ +/-5MHz and beyond	
Noise factor at max gain	≤ 6 dB	
Propagation time	≤ 5µs	≤ 5µs
Supply	230 Volts AC AC power supply built into the box Conforms to IEC 60950	
Consumption	230 W	



➤ Repeater dual-band GSM1800/UMTS2100 Mhz

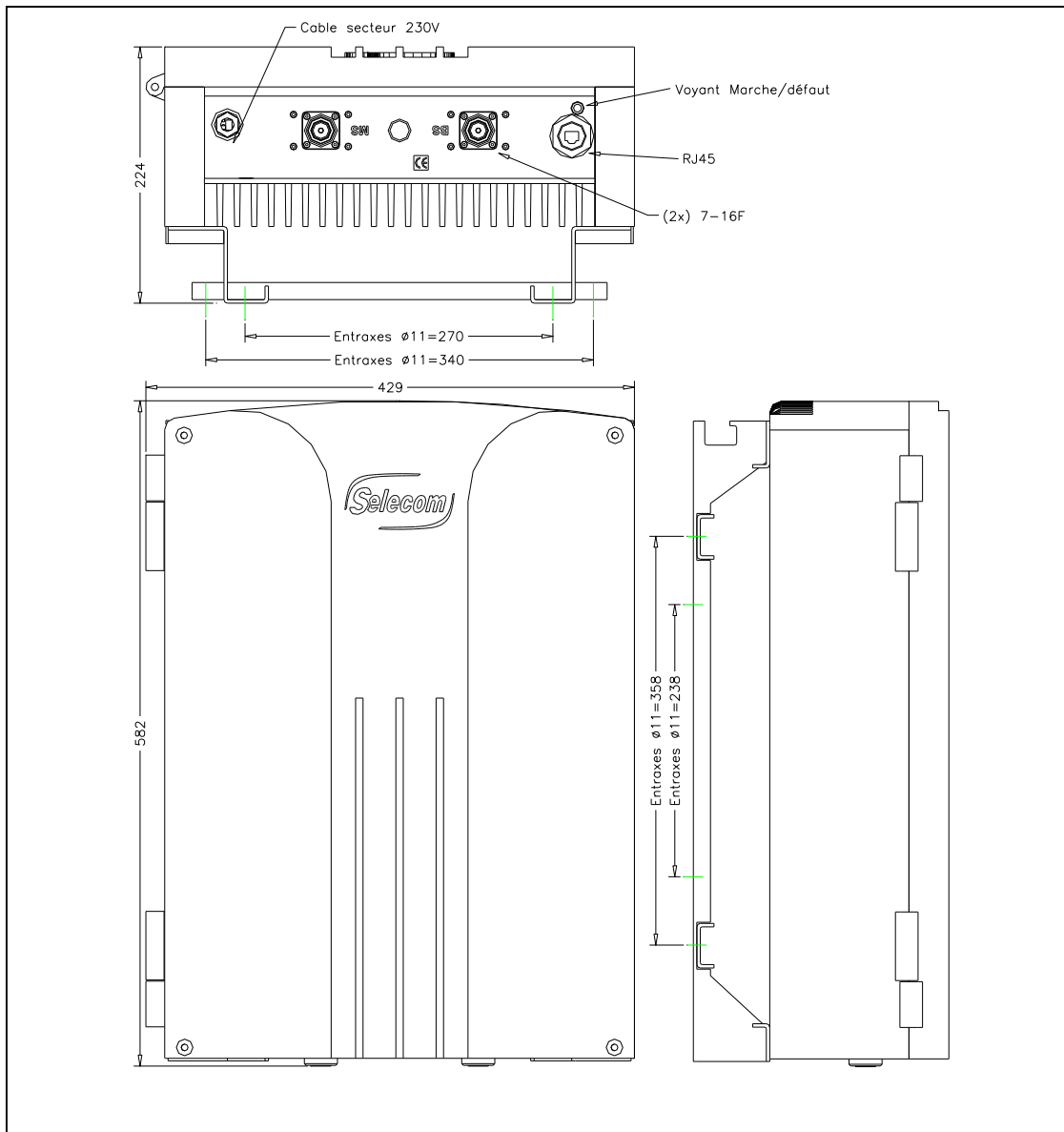
Frequency band	GSM 1800 MHz	UMTS 2100 MHz
RX Band	1710 MHz – 1785 MHz	1920 MHz – 1980 MHz
TX Band	1805 MHz – 1880 MHz	2110 MHz – 2170 MHz
Bandwidth	According to the operator's band	
Gain	Adjustable from 50 to 80 dB (In step by 1 dB)	
Ripple in the band	= ± 2 dB	
Nominal output Composite power		
1 Channel	+ 32 dBm	+ 32.5 dBm
2 Channels	+ 27 dBm	+ 28 dBm
4 Channels	+ 22 dBm	-
Puissance des raies parasites	≤ - 30 dBm	
Ripple in the band	≤ ± 2 dB	
Selectivity	Avec filtre SAW 30dB @ +/-400KHz 40dB @ +/-600KHz 45dB @ +/-1MHz 55dB @ +/-5MHz et au-delà	Avec filtre SAW 45dB @ +/-1MHz 55dB @ +/-5MHz
Noise factor at max gain	≤ 6 dB	≤ 5 dB
Propagation time	≤ 5µs	≤ 5µs
Supply	230 Volts AC AC power supply built into the box Supply 48 VDC +/- 20% optional Conforms to IEC 60950 / IEC	
Consumption	230 W	

Spécification hors multiplexage GSM1800 Mhz/2100 Mhz

➤ **The box :**

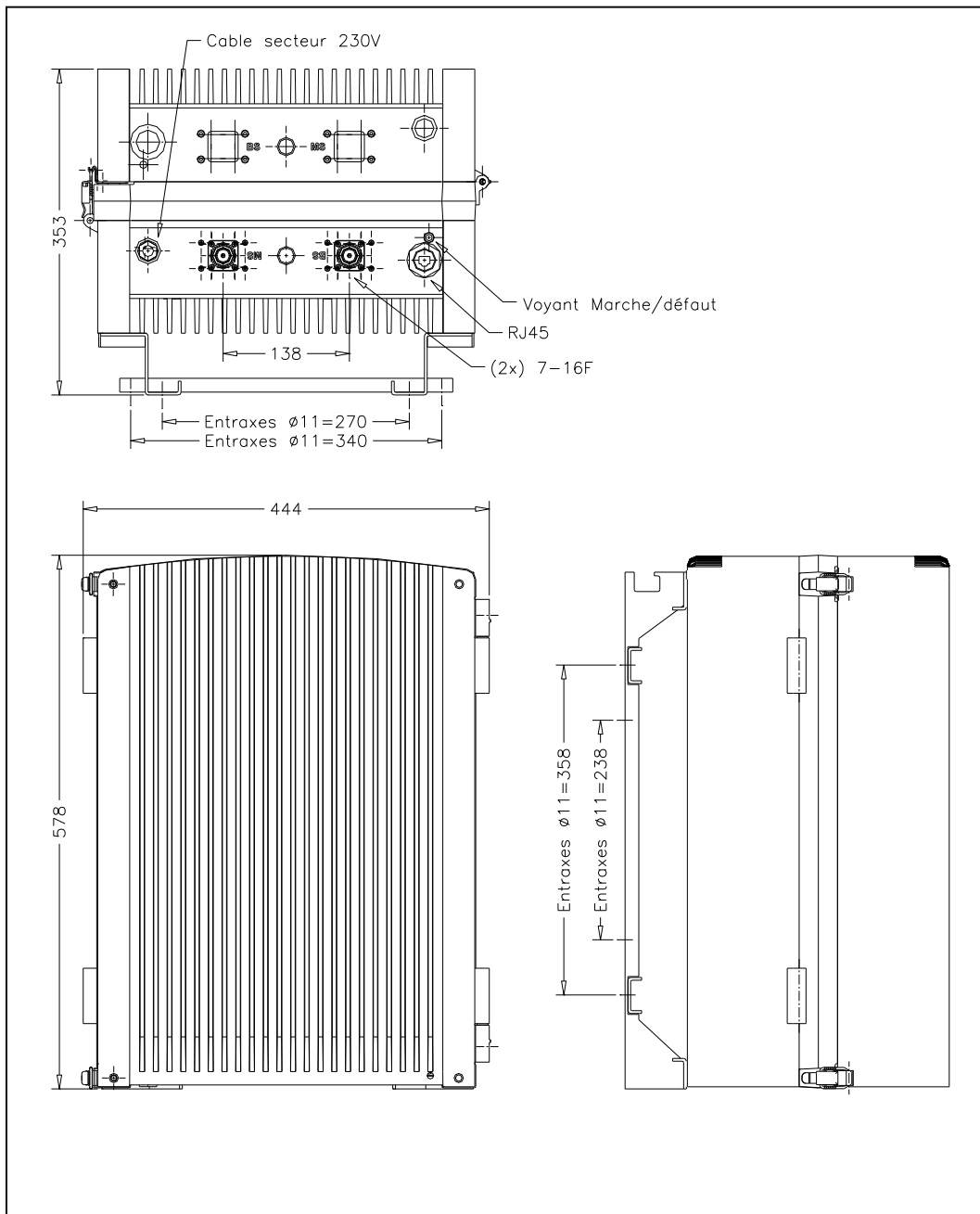
*A – Single box :*

MP Single-band	GSM900
	EGSM900
	UMTS2100
	LTE800
	LTE2600



**B - Dual box :**

HP Single-band	GSM900 MhZ
	EGSM
	UMTS2100
HP Dual-band	GSM900 MhZ
	EGSM
	UMTS2100



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