

## US 902-928 (US915.x)

### Detalhamento das Faixas de Frequências US902-928

Link	US902-928 MHz {Sub-banda} (USA, Canadá e América do Sul)	Data Rate	Config LoRa	[bits / seg]
<b>Upstream</b> - 64 canais - BW 125 kHz - DR0 a DR3 - Coding Rate: 4/5 - incremento de 200 kHz	<b>{.a:+0}: [00] 902,3 / [01] 902,5 / [02] 902,7 / [03] 902,9 / [04] 903,1 / [05] 903,3 / [06] 903,5 / [07] 903,7</b>	<b>DR0</b> <b>DR1</b> <b>DR2</b> <b>DR3</b>	SF10 / 125 kHz SF9 / 125 kHz SF8 / 125 kHz SF7 / 125 kHz	980 1.760 3.125 5.470
	<b>{.b:+8}: [00] 903,9 / [01] 904,1 / [02] 904,3 / [03] 904,5 / [04] 904,7 / [05] 904,9 / [06] 905,1 / [07] 905,3</b>			
	<b>{.c:+16}: [00] 905,5 / [01] 905,7 / [02] 905,9 / [03] 906,1 / [04] 906,3 / [05] 906,5 / [06] 906,7 / [07] 906,9</b>			
	<b>{.d:+24}: [00] 907,1 / [01] 907,3 / [02] 907,5 / [03] 907,7 / [04] 907,9 / [05] 908,1 / [06] 908,3 / [07] 908,5</b>			
	<b>{.e:+32}: [00] 908,7 / [01] 908,9 / [02] 909,1 / [03] 909,3 / [04] 909,5 / [05] 909,7 / [06] 909,9 / [07] 910,1</b>			
	<b>{.f:+40}: [00] 910,3 / [01] 910,5 / [02] 910,7 / [03] 910,9 / [04] 911,1 / [05] 911,3 / [06] 911,5 / [07] 911,7</b>			
	<b>{.g:+48}: [00] 911,9 / [01] 912,1 / [02] 912,3 / [03] 912,5 / [04] 912,7 / [05] 912,9 / [06] 913,1 / [07] 913,3</b>			
	<b>{.h:+56}: [00] 913,5 / [01] 913,7 / [02] 913,9 / [03] 914,1 / [04] 914,3 / [05] 914,5 / [06] 914,7 / [07] 914,9</b>			
<b>Upstream</b> - 8 canais - BW 500 kHz - DR4 - Coding Rate: 4/5 - incremento de 1,6 MHz	<b>[00+(64)] 903,0</b> [01+(64)] 904,6 [02+(64)] 906,2 <b>[03+(64)] 907,8</b> [04+(64)] 909,4 [05+(64)] 911,0 [06+(64)] 912,6 <b>[07+(64)] 914,2</b>	<b>DR4</b> DR5:7	SF8 / 500 kHz RFU	12.500 ---
<b>Downstream</b> - 8 canais - BW 500 kHz - DR8 a DR13 - incremento de 600 kHz	<b>[0] 923,3</b>	<b>DR8</b>	SF12 / 500 kHz	980
	[1] 923,9	<b>DR9</b>	SF11 / 500 kHz	1.760
	[2] 924,5	<b>DR10</b>	SF10 / 500 kHz	3.900
	[3] 925,1	<b>DR11</b>	SF9 / 500 kHz	7.000
	[4] 925,7	<b>DR12</b>	SF8 / 500 kHz	12.500
	[5] 926,3	<b>DR13</b>	SF7 / 500 kHz	21.900
	[6] 926,9	DR14	RFU	---
	<b>[7] 927,5</b>	DR15	LoRaWAN	---
USA, Canada e outros: FCC - Part15 regulations in 902-928 ISM band				

No Brasil estas frequências estão reservadas para outro serviço.  
**NÃO usar!**

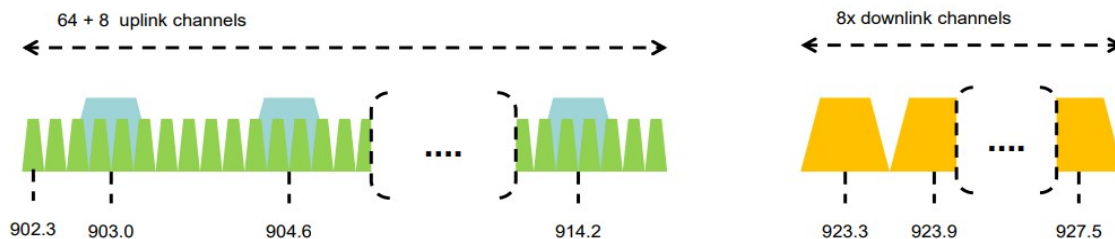


Figure 1: US902-928 channel frequencies

Modulation	Sync word	Preamble length
LORA	0x34	8 symbols

The following parameters are recommended values for the US902-928 band.

RECEIVE_DELAY1	1 s
RECEIVE_DELAY2	2 s (MUST be RECEIVE_DELAY1 + 1s)
JOIN_ACCEPT_DELAY1	5 s
JOIN_ACCEPT_DELAY2	6 s
MAX_FCNT_GAP	16384
ADR_ACK_LIMIT	64
ADR_ACK_DELAY	32
ACK_TIMEOUT	2 +/- 1 s (random delay between 1 and 3 seconds)

TXPower	Configuration (conducted power)
0	30 dBm – 2*TXpower
1	28 dBm
2	26 dBm
3 : 13	....
14	2 dBm
15	Defined in LoRaWAN

Table 13: US902-928 TX power table

