US 902-928 (US915.x)

Detalhamento das Faixas de Frequências **US902-928**

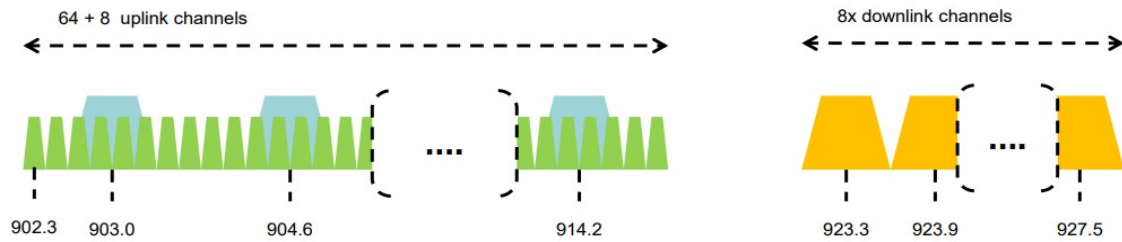| Link	US902-928 MHz {Sub-banda} (USA, Canadá e América do Sul)	Data Rate	Config LoRa	[bits / seg]
Upstream - 64 canais - BW 125 kHz - DR0 a DR3 - Coding Rate: 4/5 - incremento de 200 kHz	**{.a:+0}:** [00] **902,3** / [01] 902,5 / [02] 902,7 / [03] 902,9 / [04] 903,1 / [05] 903,3 / [06] 903,5 / [07]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

64 + 8 uplink channels

8x downlink channels

902.3   903.0   904.6   914.2   923.3   923.9   927.5

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