

GNSS	BAND	F _c [MHz]	λ [cm]	T _x BW [MHz]	ITU BW [MHz] ⁹	SERVICES ¹¹	I/Q	COMPONENT	MODULATION		f _c [MHz]	f _s [MHz]	1st CODE FAMILY	1st CODE LENGTH [chips/ms]	2nd CODE LENGTH	DATA RATE [bps/sps]	MIN. POWER [dBW] ¹²	POWER RELAT.	REF. ELEV. [deg]	MODULATION BW [MHz] ¹⁵
GPS ¹	L1	1575.42	19.04	IIA/IIIR/IIIR-M/ IIF: 20.46 III: also 30.69	24	P(Y)*	I	DATA	BPSK-R10		10.23	-	short-cycled + m-Sequence	6.9E12/~1 week	-	50/50	IIA/IIIR/IIIR-M/ IIF/III: -161.5	1	5	20.460
						C/A	Q	DATA	BPSK-R1		1.023	-	Gold	1023/1	-	50/50	IIA/IIIR/IIIR-M/ IIF/III: -158.5	1	5	2.046
						L1C	I	DATA (L1 _D)	MBOC(6,1,1/11)	BOCs(1,1)	1.023	Weil	10230/10	-	50/100	III: -157	3/4	5	4.092	
							Q	PILOT (L1 _p)						TMBOC(6,1,4/33) (time mux.)	1.023 & 6.138		1800		-	1/4 (with 29/33 and 4/33 inside)
	M*	I	N/A	BOCs(10,5)		5.115	10.23	N/A	N/A	N/A	N/A	IIIR-M/IIF/ III: -157 ¹³	1	N/A	30.690					
	L2	1227.6	24.43	IIA/IIIR/IIIR-M/ IIF: 20.46 III: also 30.69	24	P(Y)*	I	DATA	BPSK-R10		10.23	-	short-cycled + m-Sequence	6.9E12/~1 week	-	50/50	IIA/IIIR: -164.5 IIIR-M/IIF: -161.5	1	5	20.460
						L2C	Q	DATA (L2CM)	BPSK-R1 (result of multiplexing 2 streams at 511.5 kHz)		0.5115	-	m-Sequence	10230/20	-	IIIE: 50/50 IIIR-M: also 25/50	IIA/IIIR: -164.5 IIIR-M/IIE: -160.0 III: -158.5	0.5	5	2.046
							PILOT (L2CL)	767250/1500	-	0.5										
	M*	I	N/A	BOCs(10,5)		5.115	10.23	N/A	N/A	N/A	N/A	N/A	N/A	1	N/A	30.690				
	L5	1176.45	25.50	24.00	25	SoL	I	DATA (L5I)	BPSK-R10		10.23	-	short-cycled + m-Sequence	10230/1	10	50/100	IIIE: -157.9 III: -157.0	1	5	20.460
Q							PILOT (L5Q)	BPSK-R10		20					-	IIIE: -157.9 III: -157.0	1			
Galileo ²	E1	1575.42	19.04	24.552 ⁵	32.0	PRS*	Q	DATA (E1A)	BOCc(15,2,5)		25.5575	15.345	-	N/A	N/A	50/100	-157 ¹⁴	1	N/A	35.805
						OS, SoL, CS	I	DATA (E1B)	CBOC(6,1,1/11)	BOCs(1,1)	1.023	Random	4092/4	-	125/250	-157	10/11	10	4.092	
								PILOT (E1C)						BOCs(6,1)	6.138		25		-	1/11
	E6	1278.75	23.46	40.92 ⁵	40	PRS*	Q	DATA (E6A)	BOCc(10,5)		5.115	10.23	N/A	N/A	N/A	50/100	-155 ¹⁴	1	N/A	30.690
						CS*	I	DATA (E6B)	BPSK-R5		5.115	-	Memory	5115/1	-	500/1000	-155	0.5	10	10.230
	PILOT (E6C)	BPSK-R5		5.115	-			100	-	0.5										
	E5	F _c = 1191.795 F _{c_a} = 1176.45 F _{c_b} = 1207.14	λ = 25.17 λ _a = 25.50 λ _b = 24.85	BW = 51.15 ⁵ BW _{a/b} = 20.46 ⁵	50 ¹⁰	OS, CS	I	DATA (E5aI)	AltBOCs(15,10) + constant envelope		10.23	15.345	short-cycled + m-Sequence	10230/1	20	25/50	-155	0.5	10	51.150
							Q	PILOT (E5aQ)							100	-		0.5		
						OS, SoL, CS	I	DATA (E5bI)							4	125/250	-155	0.5		
							Q	PILOT (E5bQ)							100	-		0.5		
BeiDou-2 (current) ³	B1	F _{c_{B1}} = 1561.098 F _{c_{B1-2}} = 1589.742	λ _{B1} = 19.22 λ _{B1-2} = 18.87	BW = 32.736 ⁶ BW _{B1/B1-2} = 4.092 ⁷	DNF	B1(Q)*	Q	DNF	QPSK-R2		2.046	-	DNF	DNF/>400	-	-	-163 ⁸	1	5 ⁸	4.092
						B1(I)	I	DATA				-	Gold	2046/1	20/20	DNF/50	-163	1	5	
						B1-2(Q)*	Q	DNF	QPSK-R2		2.046	-	DNF	DNF/>400	-	-	-163 ⁸	1	5 ⁸	4.092
						B1-2(I)	I	DATA				-	Gold	2046/1	20/20	DNF/50	-163	1	5	
	B2	1207.14	24.85	BW = 51.15 ⁶ BW _{B2} = 20.46 ⁷	DNF	B2-Q*	Q	DNF	BPSK-R10		10.23	-	DNF	DNF/>160	-	-	-163 ⁸	1	5 ⁸	20.460
						B2-I	I	DATA	BPSK-R2		2.046	-	DNF	2046/1	20/20	DNF/50	-163	1	5 ⁸	4.092
	B3	1268.52	23.65	BW = 35.805 ⁶ BW _{B3} = 20.46 ⁸	DNF	B3*	Q	DNF	QPSK-R10		10.23	-	DNF	DNF/>160	-	-	-163 ⁸	1	5 ⁸	20.460
I							DATA	-				DNF	10230/1	20/20	DNF/50	-163 ⁸	1	5 ⁸		
BeiDou-2 (future) ⁴	B1	1575.42	19.04	32.736	DNF	B1-C _D	I	DATA	MBOC(6,1,1/11)	1.023	1.023	DNF	DNF	DNF	50/100	DNF	10/11	DNF	4.092	
						B1-C _P		PILOT			6.138	DNF	DNF	DNF	-		1/11	DNF	14.322	
						B1*	I	DATA	BOC(14,2)		2.046	14.322	DNF	DNF	DNF	50/100	DNF	0.5	DNF	
								DNF					DNF	DNF	DNF	-		0.5		
	B2	1191.795	25.17	51.15	DNF	B2a _D	I	DATA	AltBOCs(15,10)		10.23	15.345	DNF	DNF	DNF	25/50	DNF	0.25	DNF	51.150
						B2a _P	Q	PILOT					DNF	DNF	DNF	-		0.25	DNF	
						B2b _D	I	DATA					DNF	DNF	DNF	50/100		0.25	DNF	
						B2b _P	Q	PILOT					DNF	DNF	DNF	-		0.25	DNF	
	B3	1268.52	23.65	35.805	DNF	B3*	I	DNF	QPSK-R10		10.23	-	DNF	DNF	DNF	500/-	DNF	0.5	DNF	20.460
							Q	DNF					DNF	DNF	DNF	0.5		DNF		
B3-A _D *						I	DATA	BOCs(15,2,5)		2.5575	15.345	DNF	DNF	DNF	50/100	DNF	0.5	DNF	35.805	
B3-A _P *	PILOT	DNF	DNF	DNF	-		DNF					0.5	DNF							