

1 LOCAL OSC FREQUENCY CALCULATION

-1 FCC ID: ADV0713902 formula for 1st, 2nd and 3rd Local oscillation frequencies are as follow :

RECEIVING BAND BAND (FR STEP)	FREQ. STEP (kHz)	RECEIVING FREQ. FR (MHz)	1st LOCAL PLL 1 /VCO 1 or VCO 2 (MHz)	2nd LOCAL PLL 2 /VCO 3 (MHz)	3rd LOCAL X' TAL (MHz)
VHF Low	10	25.0000 ~ 27.4050	A = (FR + 380.800) / 0.075 = A.xxx (Cut away decimal) 1st Local = A x 0.075 1st IF = 1st Local – FR	2nd Local = 1st IF – 21.4	20.9450
	5	27.4100 ~ 29.7000			
	10	29.7100 ~ 49.8300			
	5	49.8350 ~ 54.0000			
VHF High	8.33	108.0000 ~ 136.99166	FR DENOTES Frequency Received.	2nd Local = 1st IF – 21.4	20.9450
	5	137.0000 ~ 137.9950			
	12.5	138.0000 ~ 143.9875			
	5	144.0000 ~ 147.9950			
	12.5	148.0000 ~ 150.7875			
	5	150.8000 ~ 150.8450			
	7.5	150.8525 ~ 154.4975			
	5	154.5150 ~ 154.6400			
	7.5	154.6500 ~ 156.2550			
	25	156.2750 ~ 157.4500			
	7.5	157.4700 ~ 161.5725			
	5	161.6000 ~ 161.9750			
	12.5	162.0000 ~ 174.0000			
	5	216.0025 ~ 224.9950			
UHF Low	6.25	225.0000 ~ 316.54375	A = (FR + 380.700) / 0.075 A = (FR + 380.800) / 0.075 A = (FR + 380.700) / 0.075 A = (FR + 380.800) / 0.075 A = (FR + 380.700) / 0.075 A = (FR + 380.800) / 0.075 " A = (FR + 380.700) / 0.075 A = (FR + 380.800) / 0.075 A = (FR + 380.700) / 0.075 A = (FR + 380.800) / 0.075 " " "	2nd Local = 1st IF – 21.4	20.9450
	"	316.5500 ~ 316.79375			
	"	316.8000 ~ 337.89375			
	"	337.9000 ~ 338.09375			
	"	338.1000 ~ 359.29375			
	"	359.3000 ~ 359.49375			
	"	359.5000 ~ 379.99375			
	12.5	380.0000 ~ 380.7125			
	"	380.7250 ~ 380.8000			
	"	380.8125 ~ 400.0000			
	"	400.0125 ~ 405.9750			
	"	405.9875 ~ 419.9875			
	5	420.0000 ~ 450.0000			
	6.25	450.00625 ~ 469.99375			
6.25	470.0000 ~ 512.0000				
UHF High	3.125	764.0000 ~ 781.996875	A = (FR – 380.800) / 0.075 = A.xxx (Cut away decimal) 1st Local = A x 0.075 1st IF = FR – 1st Local	2nd Local = 1st IF – 21.4	20.9450
	"	791.0000 ~ 796.996875			
	12.5	806.0000 ~ 823.9875			
	"	849.0000 ~ 868.9875			
	"	894.0000 ~ 939.9875			
	6.25	940.0000 ~ 960.0000			
	"	1240.0000 ~ 1300.0000			

-2 IF FREQUENCY

1st IF : 380.6500 ~ 380.86875Hz

2nd IF : 21.4000MHz

3rd IF : 455kHz

-3 Example

RECEIVING BAND (FR STEP)	FREQ. STEP (kHz)	RECEIVING FREQ. FR (MHz)	1st LOCAL PLL 1 /VCO 1 or VCO 2 (MHz)	2nd LOCAL PLL 2 /VCO 3 (MHz)	3rd LOCAL X' TAL (MHz)
VHF Low	5.0	25.0000	$A : 5410.666 = (25.0000 + 380.800) / 0.075$ $= 5410.666$ (Cut away decimal) 1st Local : $405.750 = 5410 \times 0.075$ 1st IF : $380.750 = 405.750 - 25.0000$	$359.350 = 380.750 - 21.4$	20.9450
	10.0	41.0000	$5624.000 = (41.0000 + 380.800) / 0.075$ $= 5624.000$ (Cut away decimal) $421.800 = 5624 \times 0.075$ $380.800 = 421.800 - 41.0000$	$359.400 = 380.800 - 21.4$	20.9450
	5.0	54.0000	$5797.333 = (54.0000 + 380.800) / 0.075$ $= 5797.333$ (Cut away decimal) $434.775 = 5797 \times 0.075$ $380.775 = 434.775 - 54.0000$	$359.375 = 380.775 - 21.4$	20.9450
VHF High	8.33	108.0000	$6517.333 = (108.0000 + 380.800) / 0.075$ $= 6517.333$ (Cut away decimal) $488.775 = 6517 \times 0.075$ $380.775 = 488.775 - 108.0000$	$359.375 = 380.775 - 21.4$	20.9450
	5.0	137.0000	$6904.000 = (137.0000 + 380.800) / 0.075$ $= 6904.000$ (Cut away decimal) $517.800 = 6904 \times 0.075$ $380.800 = 517.800 - 137.0000$	$359.400 = 380.800 - 21.4$	20.9450
	7.5	154.1000	$7132 = (154.1000 + 380.800) / 0.075$ $= 7132$ (Cut away decimal) $534.9 = 7132 \times 0.075$ $380.800 = 534.900 - 154.1000$	$359.400 = 380.800 - 21.4$	20.9450
	12.5	174.0000	$7397.333 = (174.0000 + 380.800) / 0.075$ $= 7397.333$ (Cut away decimal) $554.775 = 7397 \times 0.075$ $380.775 = 554.775 - 174.0000$	$359.375 = 380.775 - 21.4$	20.9450
	5.0	216.0025	$7957.366 = (216.0025 + 380.800) / 0.075$ $= 7957.366$ (Cut away decimal) $596.775 = 7957 \times 0.075$ $380.7725 = 596.775 - 216.0025$	$359.3725 = 380.7725 - 21.4$	20.9450

RECEIVING BAND (FR STEP)	FREQ. STEP (kHz)	RECEIVING FREQ. FR (MHz)	1st LOCAL PLL 1 /VCO 1 or VCO 2 (MHz)	2nd LOCAL PLL 2 /VCO 3 (MHz)	3rd LOCAL X' TAL (MHz)
UHF Low	6.25	310.0000	$9210.666 = (310.0000 + 380.800) / 0.075$ $= 9210.666$ (Cut away decimal) $690.750 = 9210 \times 0.075$ $380.750 = 690.750 - 310.0000$	$359.350 = 380.750 - 21.4$	20.9450
	12.5	406.0000	$10490.666 = (406.0000 + 380.800) / 0.075$ $= 10490.666$ (Cut away decimal) $786.750 = 10490 \times 0.075$ $380.750 = 786.750 - 406.0000$	$359.350 = 380.750 - 21.4$	20.9450
	5.0	450.0000	$11077.333 = (450.0000 + 380.800) / 0.075$ $= 11077.333$ (Cut away decimal) $830.775 = 11077 \times 0.075$ $380.775 = 830.775 - 450.0000$	$359.375 = 380.775 - 21.4$	20.9450
	6.25	512.0000	$11904.000 = (512.0000 + 380.800) / 0.075$ $= 11904.000$ (Cut away decimal) $892.800 = 11904 \times 0.075$ $380.800 = 892.800 - 512.0000$	$359.400 = 380.800 - 21.4$	20.9450
UHF High	3.125	764.0000	$5109.333 = (764.0000 - 380.800) / 0.075$ $= 5109.333$ (Cut away decimal) $383.175 = 5109 \times 0.075$ $380.825 = 764.000 - 383.175$	$359.425 = 380.825 - 21.4$	20.9450
	12.5	806.0000	$5669.333 = (806.0000 - 380.800) / 0.075$ $= 5669.333$ (Cut away decimal) $425.175 = 5669 \times 0.075$ $380.825 = 806.000 - 425.175$	$359.425 = 380.825 - 21.4$	20.9450
	12.5	860.0000	$6389.333 = (860.0000 - 380.800) / 0.075$ $= 6389.333$ (Cut away decimal) $479.175 = 6389 \times 0.075$ $380.825 = 860.000 - 479.175$	$359.425 = 380.825 - 21.4$	20.9450
	6.25	960.0000	$7722.666 = (960.0000 - 380.800) / 0.075$ $= 7722.666$ (Cut away decimal) $579.150 = 7722 \times 0.075$ $380.850 = 960.000 - 579.150$	$359.450 = 380.850 - 21.4$	20.9450
	6.25	12400.0000	$11456.000 = (12400.0000 - 380.800) / 0.075$ $= 11456.000$ (Cut away decimal) $859.200 = 11456 \times 0.075$ $380.800 = 12400.000 - 859.200$	$359.400 = 380.800 - 21.4$	20.9450
	6.25	1300.0000	$12256.000 = (1300.0000 - 380.800) / 0.075$ $= 12256.000$ (Cut away decimal) $919.200 = 12256 \times 0.075$ $380.800 = 1300.000 - 919.200$	$359.400 = 380.800 - 21.4$	20.9450