

VCO & PLL Synthesizer

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Feature

Excellent phase noise&spurious
 Frequency range from 20MHz to 6GHz
 Low cost&custom design
 All harmonics are below -20dBc

Application

Cellular, PCS, IMT-2000
 UP/Down Converter
 Clock&Data retiming circuit



Specification

Function	RF/Local Frequency	IF/Local Frequency	Structure	Package Type
PLL Modules	20 to 6000MHz	-	VCO+PLL IC	PA3,PA7,PS3,PD1,PM1
PLL Modules (Internal Ref.)	20 to 6000MHz	-	VCO+PLL+TCXO	PA9,PD6
Dual PLL Modules	20 to 1000MHz	20 to 1000MHz	2VCO+Dual PLL IC	PD3
Fixed PLL Modules	20 to 2500MHz	-	VCO+PLL IC+ROM	PA6,PD4,PD7, (Optional EPROM)
Fixed PLL Modules (Internal Ref.)	20 to 2500MHz	-	VCO+PLL IC +ROM+TCXO	PA8,PD5

PLL Synthesizer Module

Specification

Part Number	Frequency Range (MHz)	Ref. Freq. (MHz)	Supply Voltage (Vdc)	Output Power (dBm)	Current Consump. (mA,max)	2'nd Harmonic (dBc,typ)	Step Size (KHz)	Spurious Level (dBc)	Phase Noise @25kHz (dBc/Hz) (max)	Dim. (WxLxH) (mm)
RTPA2-26B	26	10	5.0	1.0	40	-15	50	-70	-110@25KHz	18x18x 6.5
RTPA2-65	65.04	10	5.0	10.0	30	-20	20	-70	-116@25KHz	18x18x6.5
RTPS3-85B	80~90	10	5.0	5.0	50	-20	20	-65	-105@10KHz	15.5x15.5x4.0
RTPS3-90B	80~100	10	5.0	5.0	50	-20	20	-65	-105@10KHz	15.5x15.5x4.0
RTPS3-100B	99~101	10	5.0	5.0	50	-20	20	-65	-105@10KHz	15.5x15.5x4.0
RTPS1-120B	120	-	5.0	0	18 typ.	-20	50	-70	-113@10KHz	15.5x15.5x4.0
RTPA2-150B	140 ~ 160	10	5.0	3.0	20	-36	25	-70	-112@25KHz	18x18x6.5
RTPS1-310B	310	-	5.0	0	18 typ.	-20	50	-70	-113@10KHz	15.5x15.5x4.0
RTPA2-228B	328 ~ 348	10	5.0	6.5	30	-20	10	-70	-110@25KHz	18x18x6.5
RTPA2-338B	328 ~ 348	10	5.0	6.5	30	-20	10	-70	-105@10KHz	18x18x6.5
RTPA6-388B	387.82	15	5.0	5.0	50	-20	10	-65	-107@10KHz	19.5x19.5x6.5
RTPA6-403	403.18	15	5.0	5.0	50	-20	10	-65	--107@10KHz	19.5x19.5x6.5
RTPA2-420	415 ~ 425	10	5.0	10	30	-20	12.5	-70	-112@25KHz	18x18x6.5
RTPA2-452B	422 ~ 482	10	5.0	5.0	24	-44	50	-70	-101@25KHz	18x18x6.5
RTPA2-510	505 ~ 515	10	5.0	9.0	30	-20	12.5	-70	-110@25KHz	18x18x6.5
RTPA2-539	539.14	10	5.0	7.0	30	-20	20	-70	-112@25KHz	18x18x6.5
RTPA2-652B	634 ~ 651	10	5.0	5.0	30	-20	25	-70	-110@25KHz	18x18x6.5
RTPA2-655B	645 ~ 665	10	5.0	4.5	22	-35	50	-70	-108@25KHz	18x18x6.5
RTPA2-698B	679 ~ 714	10	5.0	5.0	20	-20	25	-70	-113@10KHz	18x18x6.5
RTPA2-698N	679 ~ 714	10	5.0	5.0	30	-20	25	-70	-110@25KHz	18x18x6.5
RWPH1-775	700 ~ 850	12.8	15~18	8.0	40	-52	200	-70	-87@10KHz	79x80x20
RTPS1-722B	709.0 ~ 734.0	-	5.0	0	18 typ.	-20	10	-70	-110@25KHz	15.5x15.5x4.0
RTPA2-724B	710 ~ 738	15	5.0	5.0	40	-20	30	-65	-107@10KHz	18x18x6.5
RTPA2-725	710~740	10	5.0	8.3	11	-30	12.5	-70	-112@25KHz	18x18x6.5
RTPA2-752	710 ~ 740	10	5.0	7.0	30	-20	12.5	-70	-112@25KHz	18x18x6.5
RTPM1-746B	727 ~ 765	-	5.0	0	22 typ.	-20	12.5	-70	-108@10KHz	14.0x14.5x4.0
RTPA2-758	740 ~ 775	10	5.0	7.0	30	-20	100	-70	-110@25KHz	18x18x6.5
RTPA2-763B	750.5~775.5	10	5.0	4.5	23	-27	25	-70	-109@25KHz	18x18x6.5
RTPA2-767JR	754 ~ 779	10	5.0	6.0	20	-20	10	-70	-108@10KHz	18x18x6.5
RTPM1-813B	766 ~ 860	-	5.0	0	22 typ.	-20	12.5	-70	-102@10KHz	14.0x14.5x4.0
RTPA2-811BS	799 ~ 824	-	5.0	8.0	30 typ.	-20	10	-70	-110@25KHz	19.5x19.5x6.5
RTPA2-833	820 ~ 845	10	5.0	8.8	20	-20	100	-70	-109@10KHz	18x18x6.5
RTPA7-833R	820 ~ 845	10	5.0	8	50	-20	100	-70	-110@25KHz	18x18x6.5
RTPA2-833	820 ~ 845	10	5.0	4.0	30	-20	50	-70	-110@25KHz	18x18x6.5
RTPA2-878B	865 ~ 890	10	5.0	4.0	30	-20	50	-70	-110@25KHz	18x18x6.5
RTPA2-894C	868 ~ 920	10	5.0	5.0	50	-20	25	-70	-107@10KHz	18x18x6.5
RTPA2-882E	869 ~ 894	15	5.0	5.0	40	-20	30	-65	-107@10KHz	18x18x6.5
RTPM1-880B	870~890	-	5.0	0	25 typ.	-20	12.5	-70	-109@10KHz	14.0x14.5x4.0
RTPM1-906B	887~925	-	5.0	0	24 typ.	-20	12.5	-70	-108@10KHz	14.0x14.5x4.0
RTPA2-910B	900 ~ 920	10	5.0	5.5	19	-20	50	-70	-108@10KHz	18x18x6.5
RTPA2-944B	932~956	10	5.0	5.0	20	-20	25	-65	-101@25KHz	19.5x19.5x6.5
TPA2-950	935 ~ 965	10	5.0	7.0	30	-20	12.5	-70	-110@25KHz	18x18x6.5
RTPA2-952JR	939 ~ 964	10	5.0	5.5	20	-20	10	-70	-108@10KHz	18x18x6.5
RTPA2-965B	952 ~ 977	15	5.0	5.0	40	-20	30	-65	-107@10KHz	18x18x6.5

PLL Synthesizer Module

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RTPM1-976B	957 ~ 995	-	5.0	0	24 typ.	-20	12.5	-70	-108@10KHz	14.0x14.5x4.0
RTPA3-974	958.5~988.5	-	5.0	2.0	19 typ.	-20	25	-70	-108@10KHz	19.5x19.5x6.5
RTPA7-995	960~1030	10	5.0	5.0	20	-20	25	-65	-101@10KHz	19.5x19.5x6.5
RTPA2-964	964.14	10	5.0	8.0	30	-20	20	-70	-112@25KHz	18x18x6.5
RTPS1-984B	974 ~ 994	-	5.0	1.5	23 typ.	-20	12.5	-70	-107@10KHz	15.5x15.5x4.0
RTPA7-1018	1005~1030	10	5.0	6.0	50	-20	100	-70	-105@10KHz	19.5x19.5x6.5
RTPA7-1018R	1005~1030	10	5.0	6.0	50	-20	100	-70	-107@10KHz	19.5x19.5x6.5
RTPA2-1018E	1004.5~1030.5	-	5.0	3.0	20 typ.	-20	10	-70	-107@10KHz	19.5x19.5x6.5
RTPA2-1018	1005~1030	10	5.0	3.0	30	-20	100	-70	-110@25KHz	18x18x6.5
RTPA2-1018B	1005~1030	10	5.0	4.0	14	-20	100	-70	-111@25KHz	18x18x6.5
RTPA7-1018R	1005~1030	10	5.0	6.0	50	-20	100	-70	-105@10KHz	19.5x19.5x6.5
RTPA2-1039	1025~1039	15	5.0	2.0	50	-20	30	-70	-106@10KHz	18x18x6.5
RTPA2-1039B	1025~1053	10	5.0	5.0	40	-20	30	-70	-105@10KHz	18x18x6.5
RTPA2-1049B	1048.5	10	5.0	4.0	30	-20	100	-70	-110@25KHz	18x18x6.5
RTPA3-1049	1049~1109	-	5.0	2.0	22	-20	25	-70	-104@10KHz	19.5x19.5x6.5
RTPA2-1083	1065~1100	10	5.0	7.0	30	-20	100	-70	-110@25KHz	18x18x6.5
RTPA7-1083	1065~1100	10	5.0	7.0	20	-20	100	-65	-103@25KHz	19.5x19.5x6.5
RTPA3-1344	1329~1359	-	5.0	2.0	24 typ.	-20	10	-70	-105@10KHz	19.5x19.5x6.5
RTPA7-1420	1340~1500	10	5.0	0	20	-20	100	-65	-96@10KHz	19.5x19.5x6.5
RTPA2-1502	1464~1539	10	5.0	3.0	30	-20	100	-70	-98@10KHz	18x18x6.5
RTPA7-1600	1500~1700	10	5.0	0	20	-20	100	-65	-96@10KHz	19.5x19.5x6.5
RTPA2-1597	1559~1634	10	5.0	3.0	30	-20	100	-70	-98@10KHz	18x18x6.5
RTPA7-1608	1570~1645	10	5.0	3.0	20	-20	100	-70	-100@25KHz	19.5x19.5x6.5
RTPA-1645R	1630~1660	10	5.0	4.0	24	-30	20	-70	-110@25KHz	18x18x6.5
RTPA7-1665.0	1633~1697	10	5.0	3.0	20	-20	100	-65	-98@10KHz	19.5x19.5x6.5
RTPA2-1670	1640~1700	10	5.0	4.0	30	-20	100	-70	-105@25KHz	18x18x6.5
RTPA2-1670R	1640~1700	10	5.0	3.0	50	-20	100	-70	-105@25KHz	18x18x6.5
RTPA2-1685	1670~1700	10	5.0	2.0	30	-20	50	-70	-110@25KHz	18x18x6.5
RTPS1-1690	1680~1700	-	5.0	-1.5	25 typ.	-20	50	-70	-105@10KHz	15.5x15.5x4.0
RTPA2-1695	1680~1710	-	5.0	5.0	25	-20	50	-70	-106@10KHz	19.5x19.5x19.5
RTPA2-1695J	1680~1710	10-	5.0	5.0	20	-20-	50	-65	-105@10KHz	19.5x19.5x19.5
RTPA2-1700	1690~1710	10	5.0	2.0	30	-20	50	-70	-110@25KHz	18x18x6.5
RTPA2-1705	1690~1720	10	5.0	4.0	24	-20	50	-70	-105@10KHz	18x18x6.5
RTPA3-1730	1725~1735	-	5.0	3.0	28 typ.	-20	10	-70	-102@10KHz	19.5x19.5x6.5
RTPA2-1755JR	1725~1785	10	5.0	3.0	30	-20	100	-70	-105@25KHz	18x18x6.5
RTPA7-1760	1728~1792	10	5.0	3.0	20	-20	100	-65	-98@@@10KHz	19.5x19.5x6.5
RTPS1-1760	1730~1790	-	5.0	0	24 typ.	-20	200	-70	-103@10KHz	15.5x15.5x4.0
RTPA2-1790	1760~1820	10	5.0	1.0	30	-20	50	-70	-110@25KHz	18x18x6.5
RTPA2-1804	1772~1835	10	5.0	2.0	40	-20	50	-70	-97@10KHz	18x18x6.5
RTPA3-1810	1780~1840	-	5.0	3.0	25 typ.	-20	10	-70	-101@10KHz	19.5x19.5x6.5
RTPA3-1900	1870~1930	-	5.0	3.0	25 typ.	-20	10	-70	-100@10KHz	19.5x19.5x6.5
RTPA2-1905JR	1875~1935	10	5.0	2.0	50	-20	50	-70	-100@10KHz	19.5x19.5x6.5
RTPA2-1905	1875~1935	10	5.0	2.0	30	-20	100	-70	-105@25KHz	18x18x6.5
RTPA2-1905JR	1875~1935	10	5.0	2.0	50	-20	50	-70	-105@25KHz	18x18x6.5

PLL Synthesizer Module

Specification

Part Number	Frequency Range (MHz)	Ref. Freq. (MHz)	Supply Voltage (Vdc)	Output Power (dBm)	Current Consump. (Ma,max)	2'nd Harmonic (dBc,typ)	Step Size (KHz)	Spurious Level (dBc)	Phase Noise @25kHz (dBc/Hz) (max)	Dim. (WxLxH) (mm)
RTPA7-1905R	1875~1905	10	5.0	2.0	50	-20	100	-70	-105@25KHz	18x18x6.5
RTPA7-2050J	1900~2200	10	5.0	0.0	30	-20	100	-65	-90@10KHz	19.5x19.5x6.5
RTPA2-1925	1915~1935	10	5.0	4.0	24	-28	20	-70	-104@10KHz	18x18x6.5
RTPA2-1973	1930~2015	15	5.0	2.0	40	-20	50	-65	-97@10KHz	18x18x6.5
RTPA7-1983	1945~2020	10	5.0	3	20	-20	100	-70	-100@25KHz	19.5x19.5x6.5
RTPA2-2043	2035~2050	10	5.0	3.5	24	-33	100	-70	-99@10KHz	18x18x6.5
RTPA2-2125	2080~2170	15	5.0	2	40	-20	50	-65	-97@10KHz	18x18x6.5
RTPA7-2163	2110~2215	10	5.0	0	20	-30	100	-65	-92@10KHz	19.5x19.5x6.5
RTPA3-2165	2135~2195	-	5.0	0	26 typ.	-30	10	-70	-97@10KHz	19.5x19.5x6.5
RTPA7-2210	2180~2240	10	5.0	0.0	20	-30	50	-65	-92@10KHz	19.5x19.5x6.5
RTPA6-2302	2302.20	10	5.0	3.0	50	-20	-	-65	-100@10KHz	19.5x19.5x6.5
RTPA7-2375L	2200~2550	10	5.0	0.0	30	-20	100	-65	-90@10KHz	19.5x19.5x6.5
RTPS1-2330	2315~2345	-	5.0	0.5	24 typ.	-30	200	-70	-91@10KHz	15.5x15.5x4.0
RTPA2-2442	2400~2484	10	5.0	2.5	29	-25	100	-70	-99@10KHz	18x18x6.5
RTPA7-2442	2400~2483.5	10	5.0	2.0	20	-20	100	-65	-90@10KHz	19.5x19.5x6.5
RTPA7-2495	2460~2530	15	5.0	0	20	-30	100	-65	-90@10MHz	19.5x19.5x6.5
RTPA3-2510	2470~2550	-	5.0	0	27 typ.	-30	50	-70	-94@10KHz	19.5x19.5x6.5
RTPA7-2600	2500~2700	10	5.0	0	20	-20	100	-65	-93@10KHz	19.5x19.5x6.5
RTPA7-3250	3200~3250	10	5.0	0	25	-10	125	-70	-93@10KHz	19.5x19.5x6.5
RTPA2-3360	3330~3390	10	5.0	0	25	-10	125	-70	-95@10KHz	18x18x6.5
RTPA3-4538	4460~4615	25	5.0	5.0	30	-10	500	-65	-79@10KHz	19.5x19.5x6.5
RTPA3-4900	4897.5~4902.5	-	5.0	0	45 typ.	-20	50	-70	-85@10KHz	19.5x19.5x6.5
RTPA3-5800	5750~5850	10	5.0	-2.0	40	-25	500	-65	-84@10kHz	18x18x6.5
RTPA3-5840	5820~5860	-	5.0	-2.0	46 typ.	-20	1000	-40	-77@10KHz	19.5x19.5x6.5
RPJ1-6900	6700~7100	12.8	15~18	10.0	-	-20	0.8	-60	-92@10KHz	132x90x22
RPJ1-9375	9000~9750	12.8	18.0	10.0	300	-20	1.2	-5.5	-95@10KHz	165x83x22
RPJ1-10125	9750~10500	12.8	18.0	10.0	300	-20	1.2	-5.5	-95@10KHz	165x83x22
RTPD3-70/120	70/120	-	5.0	4/4	19/19	10/20	-70/-70	30/30	-115/-114@25KHz	29.0x30.0x8.0
RTPD5-140B	140	-	5.0	5.0	20 typ.	-	-70	30	-115@25KHz	29.0x30.0x8.0
RTPD5-550B	550	-	5.0	5.0	20 typ.	-	-70	30	-110@25KHz	29.0x30.0x8.0
RTPD5-768B	767.75	-	5.0	3.0	28 typ.	-	-70	30	-110@25KHz	29.0x30.0x8.0
RTPD3-925/91	925/91	-	5.0	0/0	20/18	10/10	-70/-70	30/30	-107/-112@25KHz	29.0x30.0x8.0
RTPD3-945/760	945/760	-	5.0	5/5	21/22	50/50	-70/-70	30/30	-107/-109@25KHz	29.0x30.0x8.0
RTPD5-1250	1250	-	5.0	2.0	31 typ.	-	-70	30	-105@25KHz	29.0x30.0x8.0
RTPD5-1900	1900	-	5.0	0.0	28 typ.	-	-70	30	-101@25KHz	29.0x30.0x8.0
RTPD7-2020R	2015~2025	-	5.0	5.0	36 typ.	125	-70	30	-109@10KHz	29.0x30.0x8.0
RTPD7-2180R	2175~2185	-	5.0	5.0	36 typ.	125	-70	30	-110@10KHz	29.0x30.0x8.0
RTPD7-2205R	2200~2210	-	5.0	5.0	36 typ.	125	-70	30	-110@10KHz	29.0x30.0x8.0
RTPD7-2340R	2337~2347	-	5.0	5.0	30 typ.	125	-70	30	-111@10KHz	29.0x30.0x8.0
RTPD5-2415	2415	-	5.0	0.0	26 typ.	-	-70	30	-95@25KHz	29.0x30.0x8.0
RTPD7-2690R	2680~2700	-	5.0	5.0	36 typ.	500	-70	30	-109@10KHz	29.0x30.0x8.0

Single Fixed PLL Module

Specification

Part Number	Frequency Range (MHz)	Ref. Freq. (MHz)	Supply Voltage (Vdc)	Output Power (dBm)	Current Consump. (Ma,max)	2'nd Harmonic (dBc,typ)	Spurious Level (dBc)	Lock Time (ms)	Phase Noise @25KHz (dBc/Hz) (max)	Dim. (WxLxH) (mm)
RTPA4-21B	21.4	10	5.0	5.0	18 typ.	-20	-70	4.75	-117@25KHz	19.5x19.5x6.5
RTPA6-80D	80	10	5.0	5.0	50	-20	-65	-	-110@25KHz	19.5x19.5x6.5
RTPA4-100B	100	10	5.0	0.0	19 typ.	-20	-70	4.75	-115@25KHz	19.5x19.5x6.5
RTPA4-105B	104.64	10	5.0	6.0	17 typ.	-20	-70	4.75	-114@25KHz	19.5x19.5x6.5
RTPA4-160C	160	10	5.0	5.0	17 typ.	-20	-70	4.75	-114@25KHz	19.5x19.5x6.5
RTPA4-382B	381.5	10	5.0	1.0	19 typ.	-20	-70	4.75	-110@25KHz	19.5x19.5x6.5
RTPA4-770BR	770.2	10	5.0	7.0	18 typ.	-20	-70	4.75	-111@25KHz	19.5x19.5x6.5
RTPA4-813B	812.78	10	5.0	8.0	20 typ.	-20	-70	4.75	-108@25KHz	19.5x19.5x6.5
RTPA8-930	930.00	13	5.0	10.0	50	-20	-65	4.75	-100@25KHz	19.5x19.5x6.5
RTPA8-930-C	930.00	13	24.0	10	150	-20	-65	-	-102@10KHz	59.0x70.0x20.0
RTPA4-955BR	955.2	10	5.0	7.0	17 typ.	-20	-70	4.75	-111@25KHz	19.5x19.5x6.5
RTPA4-1040J	1040	10	5.0	7.0	21 typ.	-20	-70	4.75	-105@25KHz	19.5x19.5x6.5
RTPA6-1121.5	1121.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1131.5	1131.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1141.5	1141.50	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1176.5	1176.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1186.5	1186.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1197.5	1197.50	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1207.5	1207.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1216	1216.0	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1242.5	1242.50	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1261	1261.0	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1266.5	1266.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1287.5	1287.50	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1291.9	1291.9	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1297.5	1297.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1303.1	1303.1	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1311.5	1311.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1312.5	1312.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1318.2	1.18.2	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1327.5	1327.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1336.9	1336.9	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1348.1	1348.1	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1356.5	1356.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1363.2	1363.2	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1357.5	1357.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1372.5	1372.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1377.5	1377.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1386.9	1386.9	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1398.1	1398.1	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1401.5	1401.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1402.5	1402.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1408.2	1408.2	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1413.2	1413.2	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5

Single Fixed PLL Module

Specification

Part Number	Frequency Range (MHz)	Ref. Freq. (MHz)	Supply Voltage (Vdc)	Output Power (dBm)	Current Consump. (mA,max)	2'nd Harmonic (dBc,typ)	Spurious Level (dBc)	Lock Time (ms)	Phase Noise @25KHz (dBc/Hz) (max)	Dim. (WxLxH) (mm)
RTPA6-1417.5	1407.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RPA6-1415.0	1415.0	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1426.9	1426.9	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1427.5	1427.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1431.9	1431.9	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1432.5	1432.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1440.	1440	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1442.5	1442.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1447.5	1447.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1443.1	1443.1	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1450.0	1450.0	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1452.5	1452.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1453.2	1453.2	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1455.0	1455.0	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1458.2	1458.2	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1460	1460	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1472.5	1472.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA1477.5	1477.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1485	1485.0	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1487.5	1487.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1495	1495.0	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1500	1500	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1512.5	1512.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
TPA6-1557.5	1557.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1580	1580.0	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1592.5	1592.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA4-1614.0	1614	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1619.0	1619.0	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA4-1621.5	1621.5	10	5.0	3	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1637.5	1637.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1662.5	1662.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1650	1650.0	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1664.0	1664.0	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA4-1675.0	1675.0	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-1677.5	1677.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA4-1685J	1685	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA4-1795JR	1795	10	5.0	2.0	21 typ..	-20	-70	4.75	-104@25KHz	19.5x19.5x6.5
RTPA4-1799	1799.10	10	5.0	0.0	20	-20	-65	4.75	-101@25KHz	19.5x19.5x6.5
RTPA4-1844	1844.10	10	5.0	0.0	20	-20	-65	4.75	-101@25KHz	19.5x19.5x6.5
RTPA4-1849.0	1849.0	10	5.0	3.0	50	-20	-65	4.75	-104@10KHz	19.5x19.5x6.5
RTPA4-1894.0	1894.0	10	5.0	3.0	50	-20	-65	4.75	-104@10KHz	19.5x19.5x6.5
RTPA4-1856.5	1856.5	10	5.0	3.0	50	-20	-65	4.75	-104@10KHz	19.5x19.5x6.5
RTPA4-1940J	1940	10	5.0	3.0	21 typ.	-20	-70	4.75	-104@25KHz	19.5x19.5x6.5
RTPA6-2017.5	2017.5	10	5.0	3.0	50	-20	-70	4.75	-100@10KHz	19.5x19.5x6.5

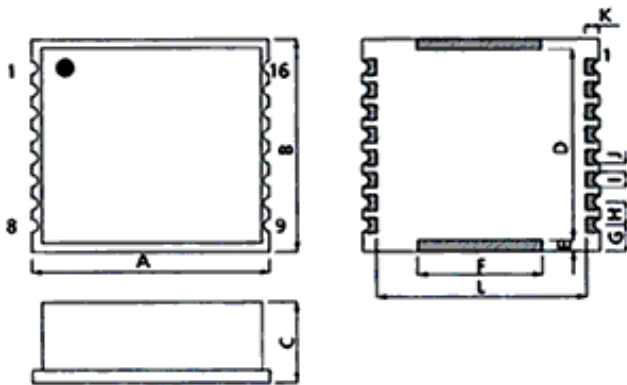
Single Fixed PLL Module

Specification

Part Number	Frequency Range (MHz)	Ref. Freq. (MHz)	Supply Voltage (Vdc)	Output Power (dBm)	Current Consump. (mA,max)	2'nd Harmonic (dBc,typ)	Spurious Level (dBc)	Lock Time (ms)	Phase Noise @25KHz (dBc/Hz) (max)	Dim. (WxLxH) (mm)
RTPA4-2060J	2060	10	5.0	1.0	21 typ.	-20-	-70	4.75	-100@25KHz	19.5x19.5x6.5
RTPA6-2071.9	2071.9	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-2121.9	2121.9	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-2152.5	2152.5	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-2166.9	2166.9	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-2176.0	2176.0	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA4-2196	2196.00	10	5.0	0.0	20	-20	-65	4.75	-98@25KHz	19.5x19.5x6.5
RTPA6-2157.5	2157.5	10	5.0	3.0	50	-20	-65	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-2177.2	2177.2	10	5.0	3.0	50	-20	-65	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-2193.2	2193.2	10	5.0	3.0	50	-20	-65	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-2202.2	2202.2	10	5.0	3.0	50	-20	-65	4.75	-105@10KHz	19.5x19.5x6.5
RTPA4-2218R	2218	10	5.0	3.0	20 typ.	-20	-70	-	-99@25KHz	19.5x19.5x6.5
RTPA6-2221.0	2221.0	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-2222.2	2222.2	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA8-2225-C	2225.00	13	24.0	14	150	-20	-65	-	-93@10KHz	59.0x70.0x20.0
RTPA4-2231	2231.00	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-2237.2	2237.2	10	5.0	3.0	50	-20	-70	4.75	-105@10KHz	19.5x19.5x6.5
RTPA4-2241	2241.00	10.0	5.0	0.0	20	-20	-65	4.75	-98@25KHz	19.5x19.5x6.5
RTPA4-2241	2241.00	10	5.0	0.0	20	-20	-65	4.75	-98@25KHz	19.5x19.5x6.5
RTPA6-2257.2	2257.2	10	5.0	3.0	50	-20	-65	4.75	-105@10KHz	19.5x19.5x6.5
RTPA4-2276	2276.10	10	5.0	3.0	50	-20	-65	4.75	-105@10KHz	19.5x19.5x6.5
RTPA6-2282.2	2282.2	10	5.0	3.0	50	-20	-65	4.75	-105@10KHz	19.5x19.5x6.5
RTPA4-2291	2291.0	10	5.0	0.0	20	-20	-65	4.75	-97@25KHz	19.5x19.5x6.5
RTPA4-2296.0	2296.0	10	5.0	3	50	-20	-65	4.75	-100@10KHz	19.5x19.5x6.5
RTPA8-2300-C	2300.00	13	24.0	14	150	-20	-65	-	-93@10KHz	59.0x70.0x20.0
RTPA6-2302.2	2302.2	10	5.0	3.0	50	-20	-65	4.75	-105@10KHz	19.5x19.5x6.5
RTPA4-2303.5	2303.5	10	5.0	3	50	-20	-65	4.75	-100@10KHz	19.5x19.5x6.5
RTPA4-2400	2400	10	5.0	0.0	28 typ.	-20	-70	4.75	-99@25KHz	19.5x19.5x6.5
RTPA4-2464R	2464	10	5.0	3.0	20 typ.	-20	-70	4.75	-99@25KHz	19.5x19.5x6.5
RTPA4-4900	4900	10	5.0	0.0	33 typ.	-20	-70	4.75	-86@25KHz	19.5x19.5x6.5

Mechanical dimensions & Pin configurations

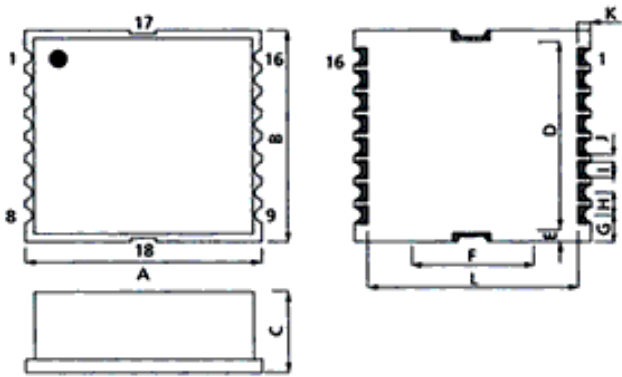
■ PA2-package (19.5 x 19.5 x 6.5)



Dimension (mm)			
A	19.5	G	2.388
B	19.5	H	2.032
C	6.5	I	1.532
D	17.00	J	0.5
E	1.00	K	1.0
F	10.00	tolerance : ± 0.2	

Pin No.	Connection	Pin No.	Connection
1	Clock	9	Vcc
2	Data	13	RF Out
3	Enable	15	Vcp
4	Osc. In	16	Look Detect
All other pins are GROUND			

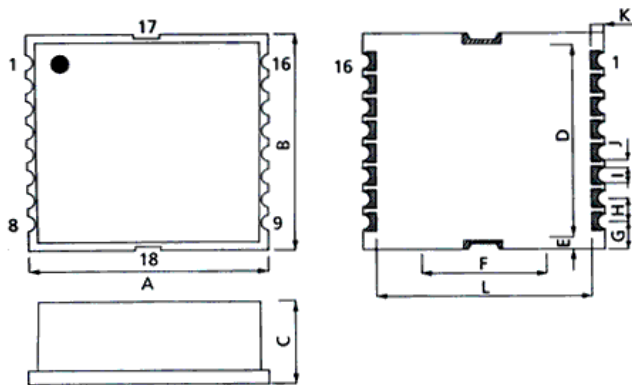
■ PA3-package (19.5 x 19.5 x 6.5)



Dimension (mm)			
A	19.5	G	2.388
B	19.5	H	2.032
C	6.5	I	1.532
D	17.00	J	0.5
E	1.00	K	1.0
F	4.00	tolerance : ± 0.2	

Pin No.	Connection	Pin No.	Connection
1	Osc. In	6	Look Detect
2	Clock	9	Vcc
3	Data	13	RF out
4	Enable	16	Vcp
All other pins are GROUND			

■ PA4-package (19.5 x 19.5 x 6.5)

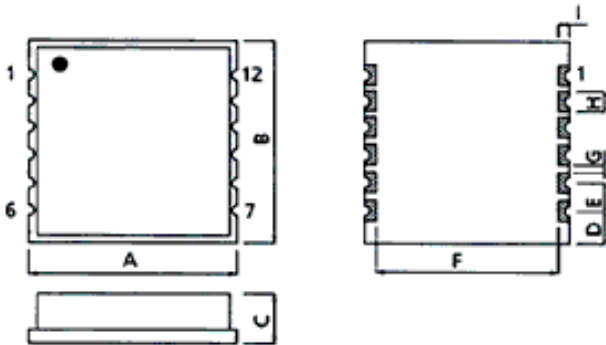


Dimension (mm)			
A	19.5	G	2.388
B	19.5	H	2.032
C	6.5	I	1.532
D	17.00	J	0.5
E	1.00	K	1.0
F	10.00	tolerance : ± 0.2	

Pin No.	Connection	Pin No.	Connection
1	GND	9	Vcc
2	GND	13	RF Out
3	GND	15	Vcp
4	Osc. In	16	Lock Detect
All other pins are GROUND			

Mechanical dimensions & Pin configurations

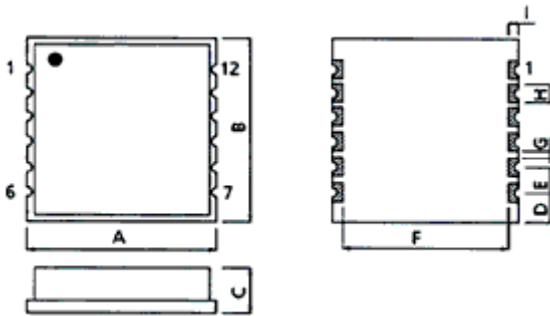
■ PS1-package (15.5 x 15.5 x 4.0)



Dimension (mm)			
A	15.5	F	13.36
B	15.5	G	0.63
C	4.0	H	1.40
D	2.42	I	0.82
E	2.03	tolerance : ± 0.2	

Pin No.	Connection	Pin No.	Connection
1	Clock	7	Vcc
2	Data	9	RF Out
3	Enable	11	Look Detect
4	Osc. In	12	Vcp
All other pins are GROUND			

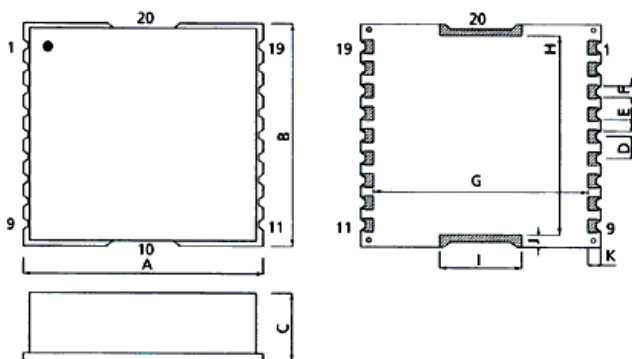
■ PM1-package (14.0 x 14.5 x 4.0)



Dimension (mm)			
A	14.0	F	13.36
B	14.5	G	0.63
C	4.0	H	1.40
D	2.42	I	0.82
E	2.03	tolerance : ± 0.2	

Pin No.	Connection	Pin No.	Connection
2	Clock	8	Osc. In
3	Vcc(VCO)	9	Vcp(PLL)
4	Look Detect	10	Data
5	RF Out	11	Enable
All other pins are GROUND			

■ PD3-package (29.0 x 30.0 x 8.0)

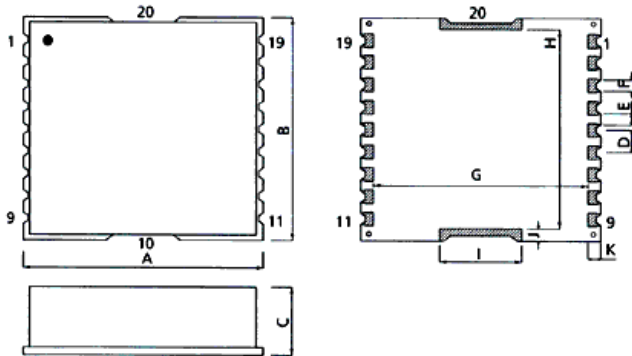


Dimension (mm)			
A	29.0	G	26.0
B	30.0	H	27.0
C	8.0	I	9.8
D	3.0	J	1.5
E	1.1	K	1.5
F	0.9	tolerance : ± 0.2	

Pin No.	Connection	Pin No.	Connection
1	Vcp(PLL)	9	Vcc2
2	Clock	11	Vcc1
3	Data	14	RF1 Out
4	Enable	18	Osc. In
6	RF2 Out	19	Lock Detect
All other pins are GROUND			

Mechanical dimensions & Pin configurations

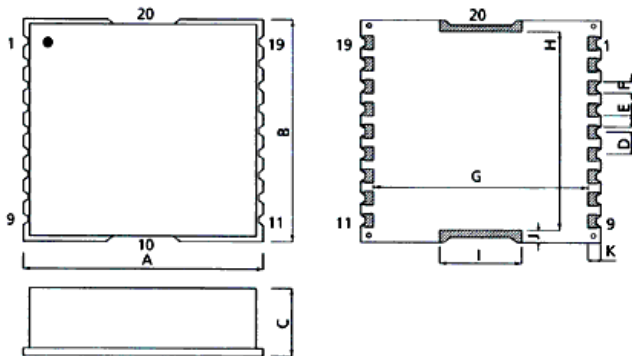
■ PD4-package (29.0 x 30.0 x 8.0)



Dimension (mm)			
A	29.0	G	26.0
B	30.0	H	27.0
C	8.0	I	9.8
D	3.0	J	1.5
E	1.1	K	1.5
F	1.9	tolerance : ± 0.2	

Pin No.	Connection	Pin No.	Connection
1	Vcp	15	RF Out
3	Osc. In	19	Lock Detect
11	Vcc	All other pins are GND	

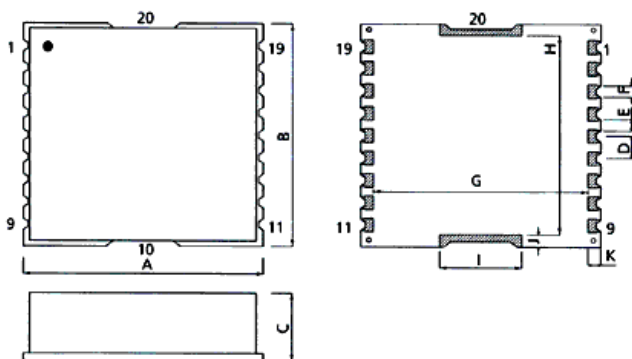
■ PD5-package (29.0 x 30.0 x 8.0)



Dimension (mm)			
A	29.0	G	26.0
B	30.0	H	27.0
C	8.0	I	9.8
D	3.0	J	1.5
E	1.1	K	1.5
F	1.9	tolerance : ± 0.2	

Pin No.	Connection	Pin No.	Connection
1	Vcp	19	Lock Detect
11	Vcc	All other pins are GND	
15	RF Out		

■ PD7-package (29.0 x 30.0 x 8.0)



Dimension (mm)			
A	29.0	G	26.0
B	30.0	H	27.0
C	8.0	I	9.8
D	3.0	J	1.5
E	1.1	K	1.5
F	1.9	tolerance : ± 0.2	

Pin No.	Connection	Pin No.	Connection
1	Vcp	11	Vcc
2	Enable	15	RF Out
3	Data	19	Lock Detect
4	Clock	All other pins are GND	
5	Osc. In		