Surface Mount
Voltage Controlled Oscillator ROS-1645W-119+

Linear Tuning   1200 to 1645 MHz

Features
- linear tuning characteristics
- low phase noise
- low pushing
- aqueous washable

Applications
- wireless communications
- PDC
- radar

CASE STYLE: CK605
PRICE: $15.95 ea. QTY (5-49)

Electrical Specifications

MODEL NO.	FREQ. (MHz)		POWER OUTPUT (dBm)	PHASE NOISE dBc/Hz SSB at offset frequencies,kHz Typ.				TUNING					NON HARMONIC SPURIOUS (dBc)	HARMONICS (dBc)		PULLING pk-pk @12 dBr (MHz)	PUSHING (MHz/V)	DC OPERATING POWER	
								VOLTAGE RANGE (V)		SENSI-TIVITY (MHz/V)	PORT CAP (pF)	3 dB MODULATION BANDWIDTH (MHz)						Vcc (volts)	Current (mA)
	Min.	Max.	Typ.	1	10	100	1000	Min.	Max.	Typ.	Typ.	Typ.	Typ.	Typ.	Max.	Typ.	Typ.		Max.
ROS-1645W-119+	1200	1645	+9	-79	-106	-127	-147	0.5	16	29-37	40	120	-90	-19	–	3	0.4	10	30

Pin Connections

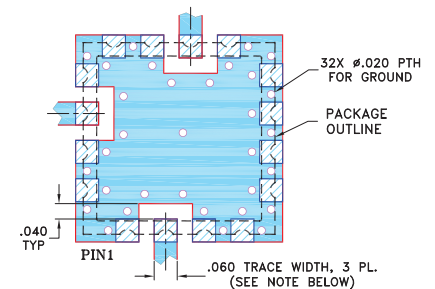|	
RF OUT	10
VCC	14
V-TUNE	2
GROUND	1,3,4,5,6,7,8,9,11,12,13,15,16

Maximum Ratings

Operating Temperature	-55°C to 85°C
Storage Temperature	-55°C to 100°C
Absolute Max. Supply Voltage (Vcc)	11V
Absolute Max. Tuning Voltage (Vtune)	18V
All specifications	50 ohm system

Permanent damage may occur if any of these limits are exceeded.

Outline Drawing

PCB Land Pattern

Suggested Layout,
Tolerance to be within ±.002

▨ METALLIZATION
▨ SOLDER RESIST
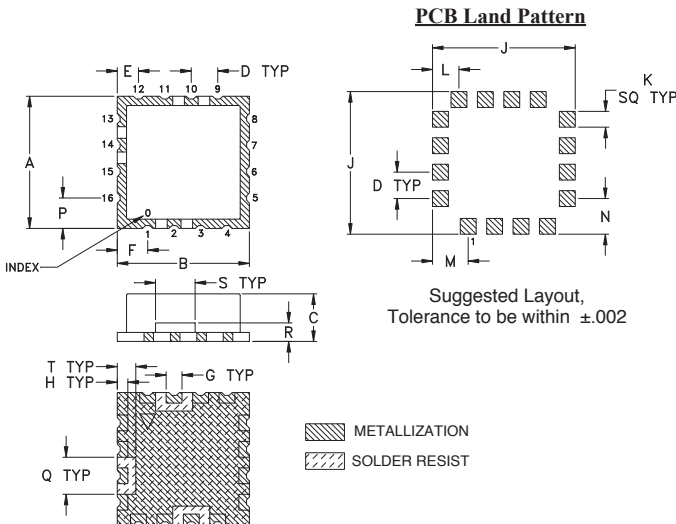
Demo Board MCL P/N: TB-10
Suggested PCB Layout (PL-012)

32X ø.020 PTH FOR GROUND

PACKAGE OUTLINE

.040 TYP

PIN1

.060 TRACE WIDTH, 3 PL. (SEE NOTE BELOW)

NOTES:
1. TRACE WIDTH IS SHOWN FOR FR4 WITH DIELECTRIC THICKNESS .030" ± .002"; COPPER: 1/2 OZ. EACH SIDE. FOR OTHER MATERIALS TRACE WIDTH MAY NEED TO BE MODIFIED.
2. BOTTOM SIDE OF THE BOTTOM IS CONTINUOUS GROUND PLANE.

▨ DENOTES PCB COPPER LAYOUT WITH SMOBC (SOLDER MASK OVER BARE COPPER)
▨ DENOTES COPPER LAND PATTERN FREE OF SOLDER MASK

Outline Dimensions (inch / mm)

A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	wt.
.500	.500	.180	.100	.080	.115	.060	.040	.540	.060	.100	.135	.135	.115	.140	.070	.150	.070	grams
12.70	12.70	4.57	2.54	2.03	2.92	1.52	1.02	13.72	1.52	2.54	3.43	3.43	2.92	3.56	1.78	3.81	1.78	1.0

Notes
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REV. A
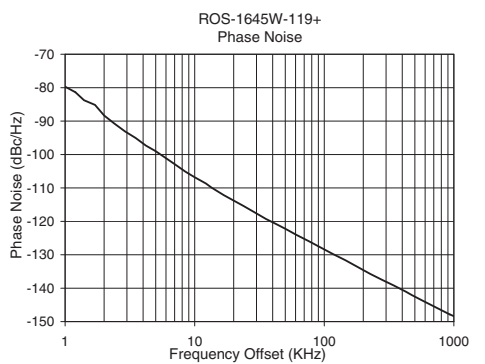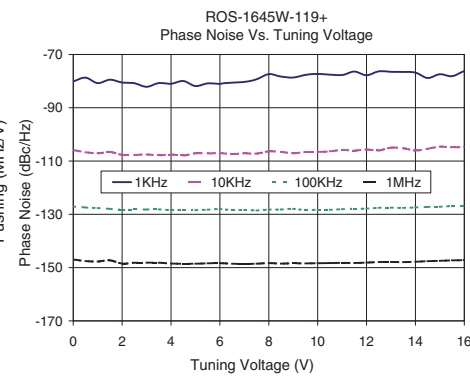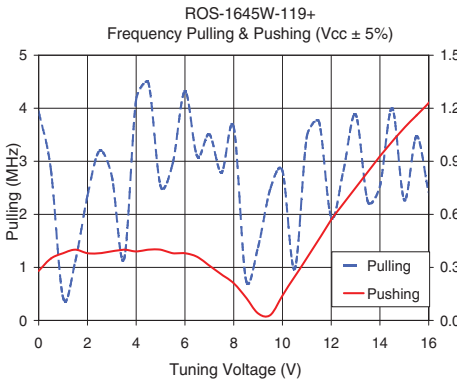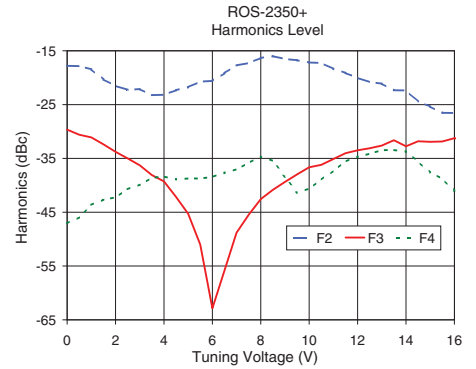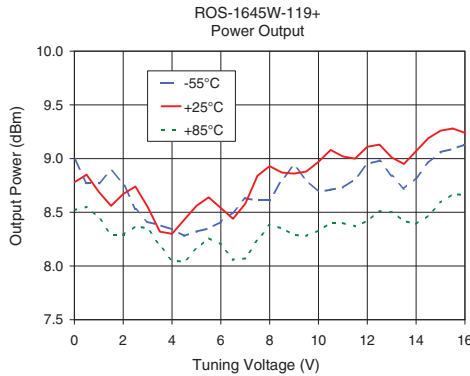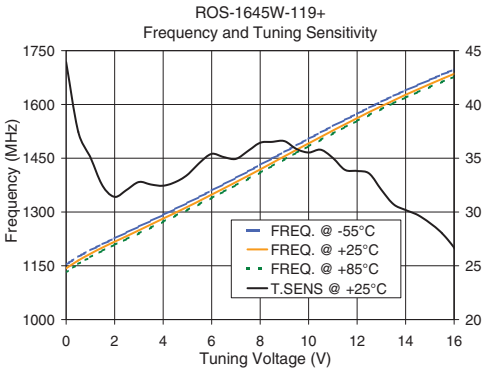M144378
EDR-11108MP
ROS-1645W-119+
RAV
131208
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Performance Data & Curves*

ROS-1645W-119+

V TUNE	TUNE SENS (MHz/V)	FREQUENCY (MHz)			POWER OUTPUT (dBm)			Icc (mA)	HARMONICS (dBc)			FREQ. PUSH (MHz/V)	FREQ. PULL (MHz)	PHASE NOISE (dBc/Hz) at offsets				FREQ OFFSET (KHz)	PHASE NOISE at 1423 MHz (dBc/Hz)
		-55°C	+25°C	+85°C	-55°C	+25°C	+85°C		F2	F3	F4			1kHz	10kHz	100kHz	1MHz		
0.00	43.93	1153.5	1142.8	1131.7	9.00	8.78	8.52	25.78	-17.8	-29.7	-47.1	0.28	3.94	-80.12	-105.9	-127.1	-147.0	1.0	-79.72
0.50	37.45	1175.3	1164.7	1155.3	8.77	8.85	8.55	25.80	-17.9	-30.6	-45.9	0.35	2.85	-78.70	-106.7	-127.5	-147.5	2.0	-88.32
1.00	35.09	1193.7	1183.5	1174.5	8.77	8.69	8.45	25.78	-18.4	-31.1	-43.7	0.38	0.43	-80.75	-107.1	-127.7	-147.7	3.5	-95.05
1.50	32.44	1210.4	1201.0	1192.2	8.89	8.56	8.29	25.79	-20.3	-32.4	-42.7	0.40	1.11	-79.47	-106.6	-128.0	-147.3	6.0	-101.11
2.00	31.41	1226.7	1217.2	1208.8	8.77	8.67	8.29	25.82	-21.5	-33.8	-42.2	0.38	2.35	-80.53	-107.7	-128.2	-148.5	8.5	-105.16
3.00	32.79	1259.4	1249.0	1240.5	8.41	8.55	8.35	25.77	-22.1	-36.3	-39.9	0.39	2.72	-82.12	-107.5	-128.2	-148.2	10.0	-106.82
4.00	32.45	1292.0	1281.6	1273.1	8.34	8.30	8.05	25.80	-23.2	-39.3	-38.4	0.39	4.17	-80.99	-107.6	-128.4	-148.5	20.8	-114.14
5.00	33.46	1325.5	1314.2	1305.8	8.32	8.56	8.16	25.80	-21.8	-45.3	-38.7	0.40	2.53	-81.83	-107.1	-128.4	-148.6	35.5	-119.29
6.00	35.41	1360.0	1348.3	1339.4	8.41	8.54	8.20	25.76	-20.6	-62.9	-38.5	0.38	4.32	-81.01	-107.0	-128.0	-148.3	60.7	-124.01
7.00	34.94	1395.2	1383.5	1374.8	8.63	8.58	8.07	25.78	-17.7	-48.8	-37.0	0.31	3.51	-80.35	-107.1	-128.3	-148.6	86.7	-127.14
8.00	36.44	1431.6	1418.8	1410.2	8.61	8.93	8.38	25.73	-16.3	-42.6	-34.7	0.21	3.64	-77.38	-106.4	-128.2	-148.3	100.0	-128.39
9.00	36.59	1467.5	1455.3	1446.8	8.94	8.86	8.29	25.69	-16.5	-39.4	-38.4	0.04	1.38	-78.65	-107.1	-128.0	-148.4	145.5	-131.64
10.00	35.53	1504.2	1491.5	1483.3	8.69	8.97	8.33	25.69	-17.2	-36.7	-40.6	0.14	2.82	-77.29	-106.6	-128.3	-148.4	170.8	-133.11
11.00	35.03	1539.8	1527.2	1519.1	8.73	9.02	8.40	25.66	-18.4	-35.1	-37.3	0.35	3.47	-77.73	-105.8	-128.1	-148.2	204.2	-134.78
12.00	33.82	1574.0	1561.7	1553.9	8.95	9.11	8.42	25.65	-20.0	-33.5	-34.7	0.57	1.94	-77.80	-105.7	-127.9	-148.1	286.7	-137.78
13.00	32.06	1607.8	1595.4	1587.3	8.84	9.01	8.50	25.63	-21.1	-32.6	-33.5	0.75	3.88	-76.52	-105.0	-127.5	-147.9	336.6	-138.97
14.00	30.18	1639.2	1626.7	1619.2	8.82	9.07	8.39	25.62	-22.4	-32.8	-33.7	0.93	2.53	-76.80	-106.0	-127.5	-147.8	472.5	-142.03
15.00	28.98	1668.9	1656.7	1648.7	9.06	9.26	8.59	25.59	-25.4	-31.9	-37.6	1.09	2.27	-77.42	-104.6	-127.2	-147.5	564.9	-143.59
15.50	28.03	1683.3	1671.2	1663.1	9.09	9.28	8.67	25.57	-26.5	-31.9	-38.8	1.16	3.47	-78.15	-104.9	-126.9	-147.3	931.1	-147.85
16.00	26.68	1697.2	1685.2	1677.1	9.13	9.24	8.66	25.57	-26.6	-31.2	-41.0	1.23	2.42	-76.24	-104.7	-126.9	-147.2	1000.0	-148.38

*at 25°C unless mentioned otherwise

ROS-1645W-119+
Frequency and Tuning Sensitivity

ROS-1645W-119+
Power Output

ROS-2350+
Harmonics Level

ROS-1645W-119+
Frequency Pulling & Pushing (Vcc ± 5%)

ROS-1645W-119+
Phase Noise Vs. Tuning Voltage

ROS-1645W-119+
Phase Noise

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