

Exhibit I: Operational Description

FCC ID: CM676A91341-600

Operational Description

The 91341-05 is a battery-powered portable electrocardiogram (ECG)-only transmitter operating on a 25 kHz channel scheme in the 608 – 614 MHz band. The Telemetry Transmitter is a low-power device that is worn continuously by a patient. Patient physiological parameters are monitored and transmitted via radio frequency (RF) to a fixed antenna network. The antenna network feeds a receiver, which processes the data and forwards it to a central monitor for display.

The telemetry transmitter is intended to be used on the orders of a physician and limited to the confines of a healthcare facility. It is not for vehicle use outside the healthcare facility.

The 91343-05 is a battery-powered portable multi-parameter (ECG and SPO2) transmitter and the 91347-05 is a wideband electrocardiogram (ECG)-only transmitter. Both operate on a 50 kHz channel scheme in the 608 – 614 MHz band. The 91343-05 is also equipped with an Infrared (IR) interface that accepts data from compatible devices to forward other patient information to the central monitor. The Telemetry Transmitters are low-power devices that are worn continuously by a patient. Patient physiological parameters, such as heart rate and pulse oximetry, are monitored and transmitted via radio frequency (RF) to a fixed antenna network. The antenna network feeds a receiver, which processes the data and forwards it to a central monitor for display.

The telemetry transmitter is intended to be used on the orders of a physician and limited to the confines of a healthcare facility. It is not for vehicle use outside the healthcare facility.

Channelization Scheme

Narrowband (25 kHz)

Channel #	Frequency (MHz)
1241	608.0125
1242	608.0375
1243	608.0625
1244	608.0875
1245	608.1125
1246	608.1375
1247	608.1625
1248	608.1875
1249	608.2125
1250	608.2375
1251	608.2625
1252	608.2875
1253	608.3125
1254	608.3375
1255	608.3625
1256	608.3875
1257	608.4125
1258	608.4375
1259	608.4625
1260	608.4875
1261	608.5125
1262	608.5375
1263	608.5625
1264	608.5875
1265	608.6125
1266	608.6375
1267	608.6625
1268	608.6875
1269	608.7125
1270	608.7375
1271	608.7625
1272	608.7875
1273	608.8125
1274	608.8375
1275	608.8625
1276	608.8875
1277	608.9125
1278	608.9375
1279	608.9625
1280	608.9875
1281	609.0125
1282	609.0375
1283	609.0625
1284	609.0875
1285	609.1125
1286	609.1375
1287	609.1625
1288	609.1875
1289	609.2125
1290	609.2375
1291	609.2625
1292	609.2875
1293	609.3125
1294	609.3375
1295	609.3625
1296	609.3875
1297	609.4125
1298	609.4375
1299	609.4625
1300	609.4875
1301	609.5125
1302	609.5375
1303	609.5625
1304	609.5875
1305	609.6125
1306	609.6375
1307	609.6625
1308	609.6875
1309	609.7125
1310	609.7375
1311	609.7625
1312	609.7875
1313	609.8125
1314	609.8375
1315	609.8625
1316	609.8875
1317	609.9125
1318	609.9375
1319	609.9625

Channel #	Frequency (MHz)
1320	609.9875
1321	610.0125
1322	610.0375
1323	610.0625
1324	610.0875
1325	610.1125
1326	610.1375
1327	610.1625
1328	610.1875
1329	610.2125
1330	610.2375
1331	610.2625
1332	610.2875
1333	610.3125
1334	610.3375
1335	610.3625
1336	610.3875
1337	610.4125
1338	610.4375
1339	610.4625
1340	610.4875
1341	610.5125
1342	610.5375
1343	610.5625
1344	610.5875
1345	610.6125
1346	610.6375
1347	610.6625
1348	610.6875
1349	610.7125
1350	610.7375
1351	610.7625
1352	610.7875
1353	610.8125
1354	610.8375
1355	610.8625
1356	610.8875
1357	610.9125
1358	610.9375
1359	610.9625
1360	610.9875
1361	611.0125
1362	611.0375
1363	611.0625
1364	611.0875
1365	611.1125
1366	611.1375
1367	611.1625
1368	611.1875
1369	611.2125
1370	611.2375
1371	611.2625
1372	611.2875
1373	611.3125
1374	611.3375
1375	611.3625
1376	611.3875
1377	611.4125
1378	611.4375
1379	611.4625
1380	611.4875
1381	611.5125
1382	611.5375
1383	611.5625
1384	611.5875
1385	611.6125
1386	611.6375
1387	611.6625
1388	611.6875
1389	611.7125
1390	611.7375
1391	611.7625
1392	611.7875
1393	611.8125
1394	611.8375
1395	611.8625
1396	611.8875
1397	611.9125
1398	611.9375
1399	611.9625
1400	611.9875
1401	612.0125
1402	612.0375

Channel #	Frequency (MHz)
1403	612.0625
1404	612.0875
1405	612.1125
1406	612.1375
1407	612.1625
1408	612.1875
1409	612.2125
1410	612.2375
1411	612.2625
1412	612.2875
1413	612.3125
1414	612.3375
1415	612.3625
1416	612.3875
1417	612.4125
1418	612.4375
1419	612.4625
1420	612.4875
1421	612.5125
1422	612.5375
1423	612.5625
1424	612.5875
1425	612.6125
1426	612.6375
1427	612.6625
1428	612.6875
1429	612.7125
1430	612.7375
1431	612.7625
1432	612.7875
1433	612.8125
1434	612.8375
1435	612.8625
1436	612.8875
1437	612.9125
1438	612.9375
1439	612.9625
1440	612.9875
1441	613.0125
1442	613.0375
1443	613.0625
1444	613.0875
1445	613.1125
1446	613.1375
1447	613.1625
1448	613.1875
1449	613.2125
1450	613.2375
1451	613.2625
1452	613.2875
1453	613.3125
1454	613.3375
1455	613.3625
1456	613.3875
1457	613.4125
1458	613.4375
1459	613.4625
1460	613.4875
1461	613.5125
1462	613.5375
1463	613.5625
1464	613.5875
1465	613.6125
1466	613.6375
1467	613.6625
1468	613.6875
1469	613.7125
1470	613.7375
1471	613.7625
1472	613.7875
1473	613.8125
1474	613.8375
1475	613.8625
1476	613.8875
1477	613.9125
1478	613.9375
1479	613.9625
1480	613.9875

Antenna Information

The Tecom Patch Antenna, Part Number 823951 is integral to the unit (laminated under the label on the face) and is not user-accessible.

It is specified for a max. peak gain of 0 dBi, an average gain of -4dBi; and input VSWR of less than 2.0:1.

The input impedance is a nominal 50 ohms.

The antenna uses a micro-coaxial cable permanently soldered to the foil. The other end of the cables has a connector that is attached to the 50 ohm output of the RF PCBA.

Modulation and Channelization

Modulation Type:	FM - Two Level FSK
Modulating Signal:	Data Signal: 0 to 5volts
Maximum Frequency:	2.048KHz Narrow Band
Maximum Data Rate:	4.096KHz Narrow Band
Modulation Index:	0.488 Narrow Band
Channel Spacing:	25 kHz Narrow Band
Duty Cycle:	100%

Communication Protocol Custom to Spacelabs

The modulation and channelization are controlled by a micro-controller on the transmitter board. This micro-controller reads the channel switch settings and programs the synthesizer with the appropriate register settings to lock to the desired channel. The micro-controller also controls three digital potentiometers that are responsible for setting the deviation of the FM modulation and the fine tuning of the center frequency. These potentiometer settings are calibrated during manufacturing and stored in flash memory.

Two of the potentiometers adjust the voltage levels presented to the control pin of the synthesizer's crystal reference. The other potentiometer adjusts the voltage levels presented to the VCO's varactors.

The RF output is turned off when the channel switch settings are invalid, when the VCO is unlocked, or when the battery voltage drops below 5.3V.