

List of Challenged Claims

Claim	Limitation
[1.A] (Preamble)	A glucose monitoring system for backfilling data gaps that occur while a user monitors glucose levels, the glucose monitoring system comprising:
[1.B]	a glucose sensor, a portion of which is configured to be positioned under skin of the user, wherein the glucose sensor is configured to sample a biological fluid of the user to provide sensor data;
[1.C]	a data processing and transmitter unit coupled to the glucose sensor, the data processing and transmitter unit comprising a power supply, a processor of the data processing and transmitter unit, memory of the data processing and transmitter unit, and a radio frequency transceiver of the data processing and transmitter unit, wherein the data processing and transmitter unit is configured to:
[1.D]	receive the sensor data from the glucose sensor and store the sensor data in the memory of the data processing and transmitter unit; process the sensor data using calibration data to provide processed sensor data, wherein the calibration data comprises data associated with a sensitivity of the glucose sensor, and wherein the processed sensor data is stored in the memory of the data processing and transmitter unit; and
[1.E]	transmit the processed sensor data over a Bluetooth wireless communication link using the radio frequency transceiver of the data processing and transmitter unit; and
[1.F]	a receiver unit comprising a processor of the receiver unit, memory of the receiver unit, a radio frequency transceiver of the receiver unit, an antenna, and a display, wherein the receiver unit is configured to: receive, using the antenna and the radio frequency transceiver of the receiver unit, the processed sensor data over the Bluetooth wireless communication link,
[1.G]	output to the display of the receiver unit, a numerical value representing the processed sensor data,

[1.H]	output to the display of the receiver unit, a first line graph that is a substantially continuous depiction of the processed sensor data over time,
[1.I]	wherein the glucose monitoring system is configured to detect an adverse condition, wherein the adverse condition results in the receiver unit displaying a data gap such that the first line graph displayed on the receiver unit has an end corresponding to a time associated with a start of the adverse condition;
[1.J]	wherein, during a time period corresponding to the adverse condition, sensor data, processed sensor data, or both, are stored in the memory of the data processing and transmitter unit;
[1.K]	wherein the receiver unit is configured to output to the display, after the adverse condition is corrected, processed sensor data for the time period corresponding to the adverse condition such that the data gap is backfilled, and
[1.L]	wherein the processed sensor data for the time period corresponding to the adverse condition that is outputted to the display after the adverse condition is corrected comprises a second line graph having a first end corresponding to the time associated with the start of the adverse condition and a second end corresponding to a time associated with an end of the adverse condition.
2	The glucose monitoring system of claim 1, wherein the first line graph and the second line graph are outputted to a same graph comprising a first axis having a time unit of measurement and a second axis having a glucose concentration unit of measurement.
3	The glucose monitoring system of claim 1, wherein the adverse condition comprises a sensor communication error.
4	The glucose monitoring system of claim 1, wherein the adverse condition comprises a signal error associated with the glucose sensor.
5	The glucose monitoring system of claim 1, wherein the adverse condition comprises a signal error associated with the data processing and transmitter unit.

6	The glucose monitoring system of claim 1, wherein the adverse condition comprises a signal error associated with the receiver unit.
7	The glucose monitoring system of claim 1, wherein the adverse condition comprises a system malfunction associated with the data processing and transmitter unit or a system malfunction associated with the receiver unit.
8	The glucose monitoring system of claim 1, wherein the adverse condition comprises an inability of the receiver unit to display or output at least a portion of the first line graph.
9	The glucose monitoring system of claim 1, wherein the adverse condition comprises a sensor instability condition.
10	The glucose monitoring system of claim 1, wherein the adverse condition comprises a calibration failure condition.
11	The glucose monitoring system of claim 1, wherein the adverse condition comprises a monitoring system failure condition.
12	The glucose monitoring system of claim 1, wherein the glucose sensor comprises a working electrode and a counter electrode.
14	The glucose monitoring system of claim 1, wherein the on body unit further comprises a temperature sensor, and wherein the adverse condition comprises a temperature measurement outside a predetermined range.
15	The glucose monitoring system of claim 1, wherein the adverse condition comprises an analyte level exceeding a predetermined threshold.
16	The glucose monitoring system of claim 1, wherein the adverse condition comprises a rate of change of an analyte level exceeding a predetermined threshold.
17	The glucose monitoring system of claim 1, wherein the adverse condition comprises a data unavailability condition.
18	The glucose monitoring system of claim 1, wherein the receiver unit is further configured to display the second line graph immediately after the correction of the adverse condition.

19	The glucose monitoring system of claim 1, wherein the receiver unit is further configured to wait a predetermined period of time after the correction of the adverse condition before displaying the second line graph.
20	The glucose monitoring system of claim 1, wherein the data processing and transmitter unit, the receiver unit, or both is further configured to store time information associated with the adverse condition.
21	The glucose monitoring system of claim 1, wherein the data processing and transmitter unit and at least a portion of the glucose sensor are disposed within a single integrated housing.
22	The glucose monitoring system of claim 1, wherein the receiver unit comprises a mobile phone.
23	The glucose monitoring system of claim 1, wherein the time period associated with the adverse condition comprises at least one hour.
24	The glucose monitoring system of claim 1, wherein the glucose monitoring system is further configured for periodic calibration, and wherein the calibration data is based at least in part on glucose reference data received after the portion of the glucose sensor has been positioned under the skin of the user.
25	The glucose monitoring system of claim 24, wherein the adverse condition comprises a signal error associated with the blood glucose reference data.
26	The glucose monitoring system of claim 24, wherein the glucose monitoring system is further configured for calibration twelve hours after the portion of the glucose sensor has been positioned under the skin of the user.
27	The glucose monitoring system of claim 1, wherein the data processing and transmitter unit is configured to transition from a low-power mode to an operating mode, and wherein the data processing and transmitter unit consumes more power from the power supply in the operating mode than in the low-power mode.

28	The glucose monitoring system of claim 1, wherein the power supply of the data processing and transmitter unit is configured to provide power for about three months of continuous operation.
30	The glucose monitoring system of claim 1, wherein the glucose sensor is further configured to continuously sample the biological fluid of the user to provide the sensor data.