Report on the Testing of the

Quidel Corporation
Savanna (m/n: 1360318)

In accordance with:
FCC Rule Part: 47 CFR Part 2.1091
RSS-102 Issue 5

RF Exposure Certification Exhibit - MPE

Prepared for: Quidel Corporation
10165 McKellar Ct
Raleigh, NC 27606 USA

America

Add value.
Inspire trust.

COMMERCIAL-IN-CONFIDENCE

Document Number: NC72166077.5 | Issue: 1

SIGNATURE			
NAME	**JOB TITLE**	**RESPONSIBLE FOR**	**ISSUE DATE**
Franklin Rose	Sr. Wireless RF Test Engineer	**Authorized Signatory**	18 MAY 2021

Signatures in this approval box have checked this document in line with the requirements of TÜV SÜD America, Inc. document control rules.

FCC Accreditation Designation Number US1148 New Brighton, MN Test Laboratory	Innovation, Science, and Economic Development Canada Accreditation Site Number 4512A New Brighton, MN Test Laboratory

EXECUTIVE SUMMARY
A sample of this product was tested and found to be compliant with the standards listed above.

A2LA Cert. No. 2955.11

ACCREDITATION
Our A2LA Accreditation does not cover opinions and interpretations and any expressed are outside the scope of our A2LA Accreditation.

General Information:

Applicant: Quidel Corporation
Device Category: Mobile
Environment: General Population/Uncontrolled Exposure

Technical Information (2.4GHz WIFI):

FCC ID: 2AX9RB20382SAV
Antenna Type: Taoglas FXP830.07.0100C, Flex Dipole Type
Antenna Gain: 2.4GHz = 2.5 dBi
Maximum Transmitter Conducted Power: 13.94 dBm, 24.77 mW
Maximum System EIRP: 16.44 dBm, 44.06mW
Exposure Conditions: Greater than 20 centimeters

Technical Information (GSM/LTE Cellular):

FCC ID: RI7ME910C1WW
Antenna Type: Taoglas FXUB63.07.015C, Flex Type
Antenna Gain: Cellular Bands 700/850/900 MHz = 1dBi, Cellular Bands 1700/1800/1900 MHz = 3.5dBi
Maximum Transmitter Conducted Power:
GSM 800: Duty cycle % = 25.00, Average Power = 28.48 dBm, 704.69 mW
GSM 1900: Duty cycle % = 37.50, Average Power = 26.24 dBm, 420.73 mW
LTE Bands 2,4,5,12,13 & 26: Duty cycle % = 100, Average Power = 24.00 dBm, 251.19 mW

Maximum System EIRP:
GSM 800: 33.48 dBm, 2228.44 mW
GSM 1900: 31.24 dBm, 1330.45 mW
LTE Bands 2,4,5,12,13 & 26: 29.00 dBm, 794.33 mW

Exposure Conditions: Greater than 20 centimeters

Note: Maximum output power was used for calculations as a worst-case mode for different technologies that use the same transmission frequency range. Duty cycle percentage is also accounted for to provide the average conducted power value shown above.

MPE Calculation FCC

The Power Density (mW/cm^2) is calculated as follows:

$$S = \frac{PG}{4\pi R^2}$$

Where:
S = power density (in appropriate units, e.g. mW/cm2)
P = power input to the antenna (in appropriate units, e.g., mW)
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

Table 1: MPE Calculation - FCC

Technology	Transmit Frequency (MHz)	Radio Power (dBm)	Power Density Limit (mW/cm^2)	Radio Power (mW)	Antenna Gain (dBi)	Antenna Gain (mW eq.)	Distance (cm)	Power Density (mW/cm^2)
2.4GHz WIFI	2480	13.94	1.00	24.77	2.5	1.778	20	0.0088
GSM/GPRS 850	836.5	28.48	0.56	704.69	1	1.259	20	0.176
GSM/GPRS1900	1879.8	26.24	1.00	420.73	3.5	2.239	20	0.187
LTE Band 2	1880	24	1.00	251.19	3.5	2.239	20	0.112
LTE Band 4	1732.5	24	1.00	251.19	3.5	2.239	20	0.112
LTE Band 5	856.5	24	0.57	251.19	1	1.259	20	0.0629
LTE Band 12	707.5	24	0.47	251.19	1	1.259	20	0.063
LTE Band 13	782	24	0.52	251.19	1	1.259	20	0.063
LTE Band 26	831.5	24	0.55	251.19	1	1.259	20	0.063

TÜV SÜD America Inc
141 14th Street NW
New Brighton, MN 55112

Phone: 651-631-2487
www.tuv-sud-america.com

Table 2: Simultaneous Transmissions Calculations - FCC

Technology	Transmit Frequency (MHz)	Power Density Limit (mW/m^2)	Power Density (mW/m^2)	MPE Ratio to Limit (%)	Sum of MPE Ratios (%)	Limit (%)
2.4GHz WIFI	2480	1.00	0.0088	0.88	32.53	100
GSM/GPRS 850	836.5	0.56	0.176	18.74		
2.4GHz WIFI	2480	1.00	0.0088	0.88%	19.61	100
GSM/GPRS1900	1879.8	1.00	0.187	11.19		
2.4GHz WIFI	2480	1.00	0.0088	0.88%	12.06	100
LTE Band 2	1880	1.00	0.112	11.19		
2.4GHz WIFI	2480	1.00	0.0088	0.88%	12.06	100
LTE Band 4	1732.5	1.00	0.112	11.02		
2.4GHz WIFI	2480	1.00	0.0088	0.88%	11.89	100
LTE Band 5	856.5	0.57	0.0629	13.34		
2.4GHz WIFI	2480	1.00	0.0088	0.88%	14.21	100
LTE Band 12	707.5	0.47	0.063	12.07		
2.4GHz WIFI	2480	1.00	0.0088	0.88%	12.94	100
LTE Band 13	782	0.52	0.063	11.35		
2.4GHz WIFI	2480	1.00	0.0088	0.88%	12.23	100
LTE Band 26	831.5	0.55	0.063	0.10		

TÜV SÜD America Inc
141 14th Street NW
New Brighton, MN 55112

Phone: 651-631-2487
www.tuv-sud-america.com

MPE Calculation ISED

The Power Density (mW/cm^2) is calculated as follows:

$$S = \frac{PG}{4\pi R^2}$$

Where:
S = power density (in appropriate units, e.g. W/cm2)
P = power input to the antenna (in appropriate units, e.g., W)
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

Table 1: MPE Calculation - ISED

Technology	Transmit Frequency (MHz)	Radio Power (dBm)	Power Density Limit (W/cm^2)	Radio Power (mW)	Antenna Gain (dBi)	Antenna Gain (mW eq.)	Distance (cm)	Power Density (W/cm^2)
2.4GHz WIFI	2480	13.94	5.469	24.77	2.5	1.778	20	0.088
GSM/GPRS 850	836.5	28.48	2.602	704.69	1	1.259	20	1.765
GSM/GPRS1900	1879.8	28.48	4.525	704.69	3.5	2.239	20	3.139
LTE Band 2	1880	28.48	4.526	704.69	3.5	2.239	20	3.139
LTE Band 4	1732.5	28.48	4.280	704.69	3.5	2.239	20	3.139
LTE Band 5	856.5	28.48	2.645	704.69	1	1.259	20	1.765
LTE Band 12	707.5	28.48	2.321	704.69	1	1.259	20	1.765
LTE Band 13	782	28.48	2.485	704.69	1	1.259	20	1.765
LTE Band 26	831.5	28.48	2.592	704.69	1	1.259	20	1.765

TÜV SÜD America Inc
141 14th Street NW
New Brighton, MN 55112

Phone: 651-631-2487
www.tuv-sud-america.com

Table 2: Simultaneous Transmissions Calculations - ISED

Technology	Transmit Frequency (MHz)	Power Density Limit (W/m^2)	Power Density (W/m^2)	MPE Ratio to Limit (%)	Sum of MPE Ratios (%)	Limit (%)
2.4GHz WIFI	2480	5.469	0.088	1.60	69.43	100
GSM/GPRS 850	836.5	2.602	1.765	67.82		
2.4GHz WIFI	2480	5.469	0.088	1.60	70.96	100
GSM/GPRS1900	1879.8	4.525	3.139	69.35		
2.4GHz WIFI	2480	5.469	0.088	1.60	70.95	100
LTE Band 2	1880	4.526	3.139	69.35		
2.4GHz WIFI	2480	5.469	0.088	1.60	74.93	100
LTE Band 4	1732.5	4.280	3.139	73.33		
2.4GHz WIFI	2480	5.469	0.088	1.60	68.34	100
LTE Band 5	856.5	2.645	1.765	66.74		
2.4GHz WIFI	2480	5.469	0.088	1.60	77.65	100
LTE Band 12	707.5	2.321	1.765	76.05		
2.4GHz WIFI	2480	5.469	0.088	1.60	72.62	100
LTE Band 13	782	2.485	1.765	71.02		
2.4GHz WIFI	2480	5.469	0.088	1.60	69.70	100
LTE Band 26	831.5	2.592	1.765	68.10		

TÜV SÜD America Inc
141 14th Street NW
New Brighton, MN 55112

Phone: 651-631-2487
www.tuv-sud-america.com