



FCC 47 CFR PART 15 SUBPART C

CERTIFICATION TEST REPORT

FOR

PAYMENT TERMINAL

MODEL NUMBER: iZETTLE READER 2

FCC ID: YRWCRONEV1

REPORT NUMBER: R12387555-E1

ISSUE DATE: September 26, 2018

**Prepared for
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Revision History

<u>Ver.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
1	2018-08-27	Initial Issue	Brian T. Kiewra
2	2018-09-26	Revised procedure reference in Section 9. Revised photo description in Section 11 to state setup picture was below 1GHz testing.	Brian T. Kiewra

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: Datecs Ltd.
4 Datecs Street,
Sofia 1592, Bulgaria

EUT DESCRIPTION: Payment Terminal

MODEL: iZettle Reader 2

SERIAL NUMBER: 2118900003, 2118900004

DATE TESTED: 2018-08-01 to 2018-08-02

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 15 SUBPART C	Compliant

UL LLC tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL LLC based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

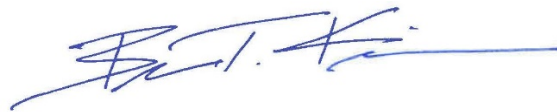
Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL LLC and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL LLC will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the U.S. Government.

Approved & Released
For UL LLC By:



Jeffrey Moser
Operations Leader
UL – Consumer Technology Division

Prepared By:



Brian T. Kiewra
Project Engineer
UL – Consumer Technology Division

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI C63.10-2013, FCC CFR 47 Part 2, and FCC CFR 47 Part 15.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 12 Laboratory Dr., Research Triangle Park, NC 27709, USA and 2800 Perimeter Park Dr., Suite B, Morrisville, NC 27560, USA.

12 Laboratory Dr., RTP, NC 27709
<input type="checkbox"/> Chamber A
<input type="checkbox"/> Chamber C

2800 Perimeter Park Dr., Suite B, Morrisville, NC 27560
<input checked="" type="checkbox"/> Chamber NORTH
<input type="checkbox"/> Chamber SOUTH

UL LLC (RTP) is accredited by NVLAP, Laboratory Code 200246-0. The full scope of accreditation can be viewed at <http://www.nist.gov/nvlap/>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Sample Calculations

Radiated Field Strength and Conducted Emissions data contained within this report is calculated on the following basis:

Field Strength (dBuV/m) = Meter Reading (dBuV) + AF (dB/m) - Gain (dB) + Cable Loss (dB)

Conducted Voltage (dBuV) = Meter Reading (dBuV) + Cable Loss (dB) + LISN IL (dB)

Conducted Current (dBuA) = Meter Reading (dBuV) + Cable Loss (dB) - Transducer Factor (dBohms)

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Radio Frequency (Spectrum Analyzer)	141.2 Hz
Occupied Channel Bandwidth	2.00%
RF output power, conducted	1.3 dB (PK), 0.45 dB (AV)
RF output power, radiated (SAC)	4.52 dB
Power Spectral Density, conducted	2.47 dB
Unwanted Emissions, conducted	3.05 dB ^(Note 1)
All emissions, radiated	5.36 dB
Temperature	2.26°C
Humidity	6.79%
DC Supply voltages	1.70%
Time	3.39%
Note 1: Supply Voltage Variation - Modern power supply topology is such that the regulation of the final RF output stage is sufficient to reduce the value of this contributor to zero.	

Uncertainty figures are valid to a confidence level of 95%.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

Payment terminal with Bluetooth (a module and not part of this investigation) connectivity, EMV chip & PIN and Contactless reader.

5.2. MAXIMUM ELECTRIC FIELD STRENGTH

The testing was performed at 3 meter. The PK transmitter maximum E-field reading at 30m is 32.66dBuV/m corrected from the 3m reading of 72.66dBuV/m.

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a flexible pcb antenna, with a maximum gain of 0 dBi.

5.4. SOFTWARE AND FIRMWARE

The firmware installed in the EUT during testing was 3.0.19.29.

The test utility software used during testing was IRETest2.0.3.exe.

5.5. WORST-CASE CONFIGURATION AND MODE

The worst-case channel is determined as the channel with the highest output power.

The fundamental was investigated with the EUT in three orthogonal axes, X,Y, and Z. It was determined that worst-case orientation was the Y Axis. Therefore all radiated testing performed with the EUT in the Y-Axis.

5.6. MODIFICATIONS

No modifications were made during testing.

5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Laptop	Lenovo	T440	PC041B0G	NA

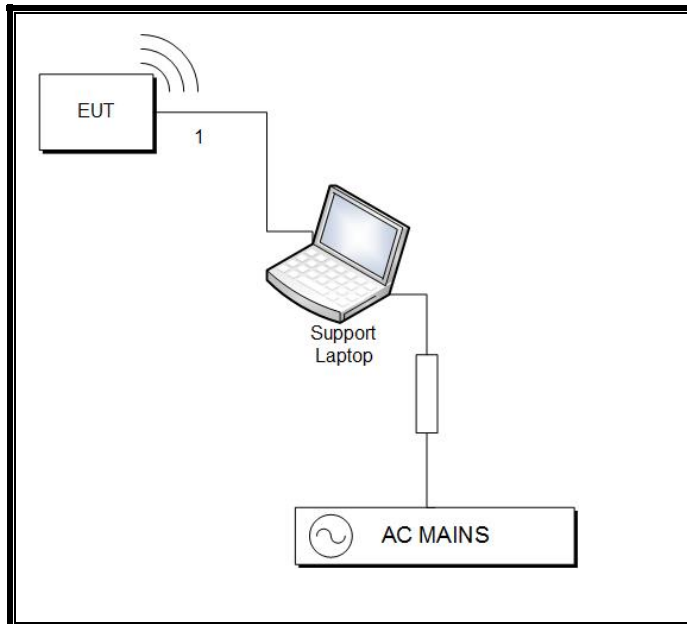
I/O CABLES

I/O Cable List						
Cable No.	Port	# of Identical Ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	USB	1	USB	Unshielded	>1m	Provides DC Power

TEST SETUP

The EUT is installed as a standalone device.

SETUP DIAGRAM FOR TESTS



6. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment Used - Radiated Disturbance Emissions Test Equipment (Morrisville - North Chamber)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
0.009-30MHz (Loop Ant.)					
AT0079	Active Loop Antenna	ETS-Lindgren	6502	2018-01-02	2019-01-02
30-1000 MHz					
AT0075	Hybrid Broadband Antenna	Sunol Sciences Corp.	JB3	2017-09-05	2018-09-30
Gain-Loss Chains					
N-SAC01	Gain-loss string: 0.009-30MHz	Various	Various	2017-09-15	2018-09-15
N-SAC02	Gain-loss string: 25-1000MHz	Various	Various	2018-05-20	2019-05-20
Receiver & Software					
SA0027	Spectrum Analyzer	Agilent	N9030A	2018-04-04	2019-04-04
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA
Additional Equipment used					
s/n 161024690	Environmental Meter	Fisher Scientific	15-077-963	2016-12-21	2018-12-21

Test Equipment Used - Wireless Conducted Measurement Equipment

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
SA0020 (PRE0100902)	Spectrum Analyzer	Agilent Technologies	E4446A	2017-11-06	2018-11-06
76023 (EC0225)	Temp/Humid Chamber	Cincinnati Sub-Zero	ZPH-8-3.5-SCT/AC	2018-06-07	2019-06-07
SN 161016511	Environmental Meter	Fisher Scientific	15-077-963	2016-12-21	2018-12-21
76021	DC Regulated Power Supply	CircuitSpecialists.Com	CSI3005X5	N/A	N/A
9911-4442	Near-Field Probe	ETS	7405	N/A	N/A
MM0168	True RMS Multimeter	Agilent	U1232A	2017-08-25	2018-08-25

Test Equipment Used - Line-Conducted Emissions – Voltage (Morrisville – Conducted 1)

Equipment ID	Description	Manufacturer	Model Number	Last Cal.	Next Cal.
CBL087	Coax cable, RG223, N-male to BNC-male, 20-ft.	Pasternack	PE3W06143-240	2018-06-19	2019-06-19
s/n 160938893	Environmental Meter	Fisher Scientific	14-650-118	2016-11-02	2018-11-02
LISN003	LISN, 50-ohm/50-uH, 2-conductor, 25A	Fischer Custom Com.	FCC-LISN-50-25-2-01-550V	2017-08-22	2018-08-22
PRE0101521 (75141)	EMI Test Receiver 9kHz-7GHz	Rohde & Schwarz	ESCI 7	2017-08-23	2018-08-23
TL001	Transient Limiter, 0.009-30MHz	Com-Power	LIT-930A	2018-06-13	2019-06-13
PS215	AC Power Source	Elgar	CW2501M (s/n 1523A02397)	NA	NA
SOFTEMI	EMI Software	UL	Version 9.5	NA	NA

7. OCCUPIED BANDWIDTH

LIMITS

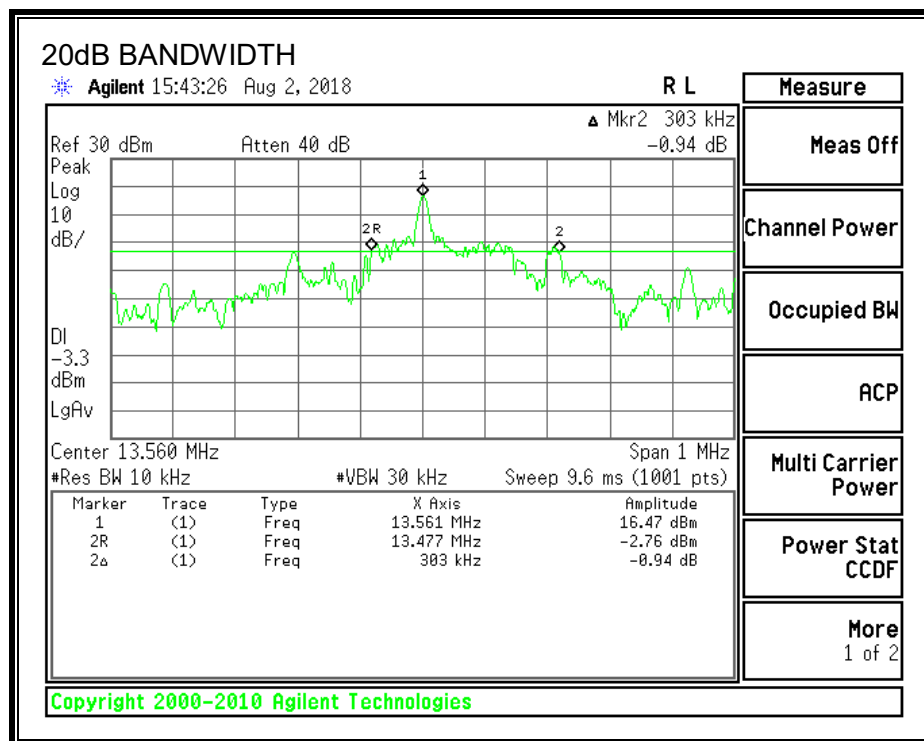
None; for reporting purposes only.

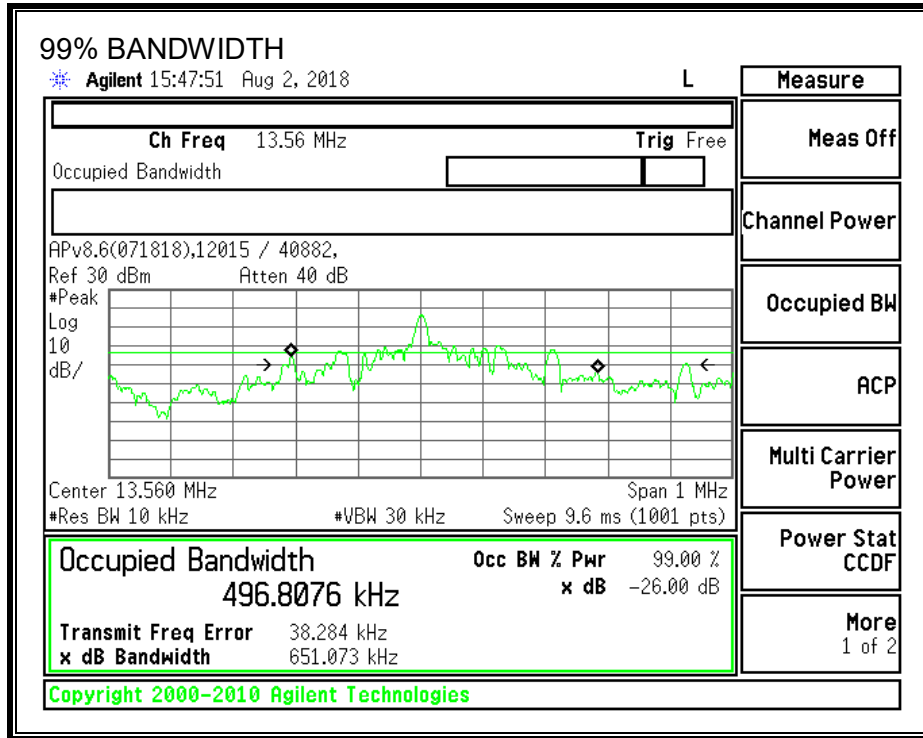
FCC §15.215 (c), ANSI C63.10 Sections 6.9.2 and 6.9.3 were used for the measurement procedure.

RESULTS

Frequency (MHz)	20dB Bandwidth (MHz)	99% Bandwidth (MHz)
13.56	0.3030	0.4968

BANDWIDTH PLOTS





TEST INFORMATION

Date: 2018-08-02
 Project No: 12387555
 Tested by: 12015 / 40882

8. RADIATED EMISSION TEST RESULTS

8.1. LIMITS AND PROCEDURE

LIMIT

§15.209
§15.225

(a) The field strength of any emissions within the band 13.553–13.567 MHz shall not exceed 15,848 microvolts/ meter at 30 meters.

(b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(c) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

(d) The field strength of any emissions appearing outside of the 13.110– 14.010 MHz and shall not exceed the general radiated emission limits in § 15.209 as follows:

§15.209 (a) Except as provided elsewhere in this subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Limits for radiated disturbance of an intentional radiator		
Frequency range (MHz)	Limits (µV/m)	Measurement Distance (m)
0.009 – 0.490	2400 / F (kHz)	300
0.490 – 1.705	24000 / F (kHz)	30
1.705 – 30.0	30	30
30 – 88	100**	3
88 - 216	150**	3
216 – 960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g. §§ 15.231 and 15.241.

§15.209 (b) In the emission table above, the tighter limit applies at the band edges.

Formula for converting the filed strength from uV/m to dBuV/m is:

Limit (dBuV/m) = 20 log limit (uV/m)

In addition:

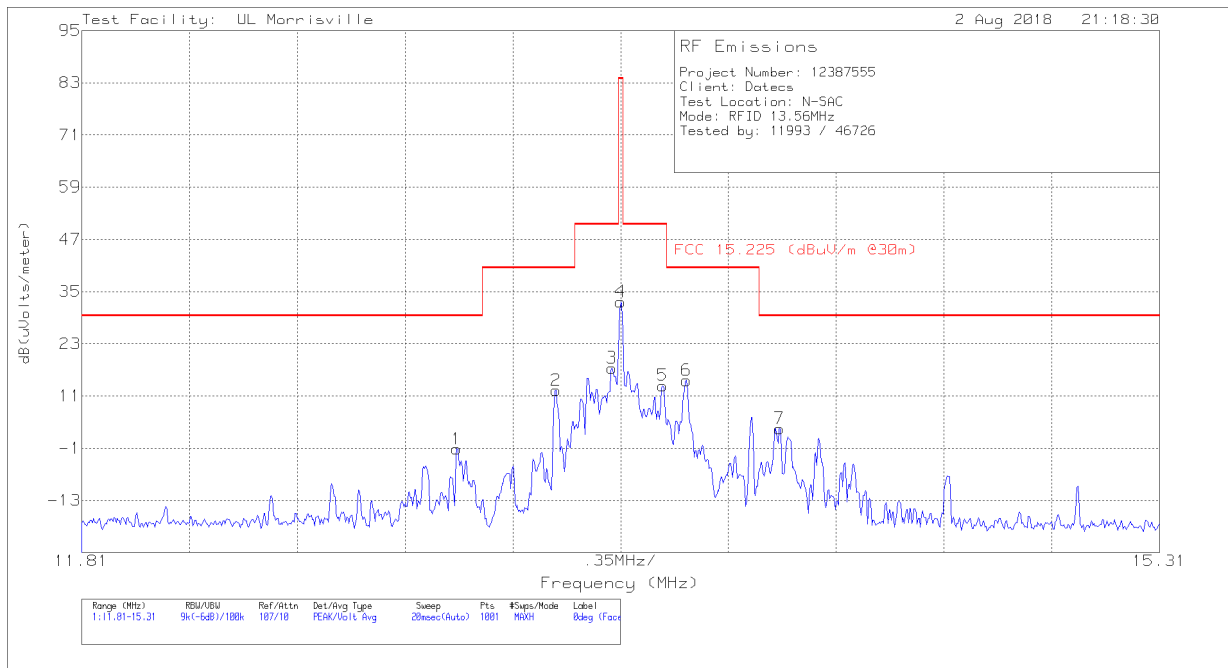
§15.209 (d) The emission limits shown the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 kHz, 110-490 kHz and above 1000 MHz. Radiated emissions limits in these three bands are based on measurements employing an average detector.

§15.209 (e) The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency over a temperature variation of -20 degrees to $+ 50$ degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

8.1.1. FUNDAMENTAL AND SPURIOUS EMISSIONS (0.15 – 30 MHz)

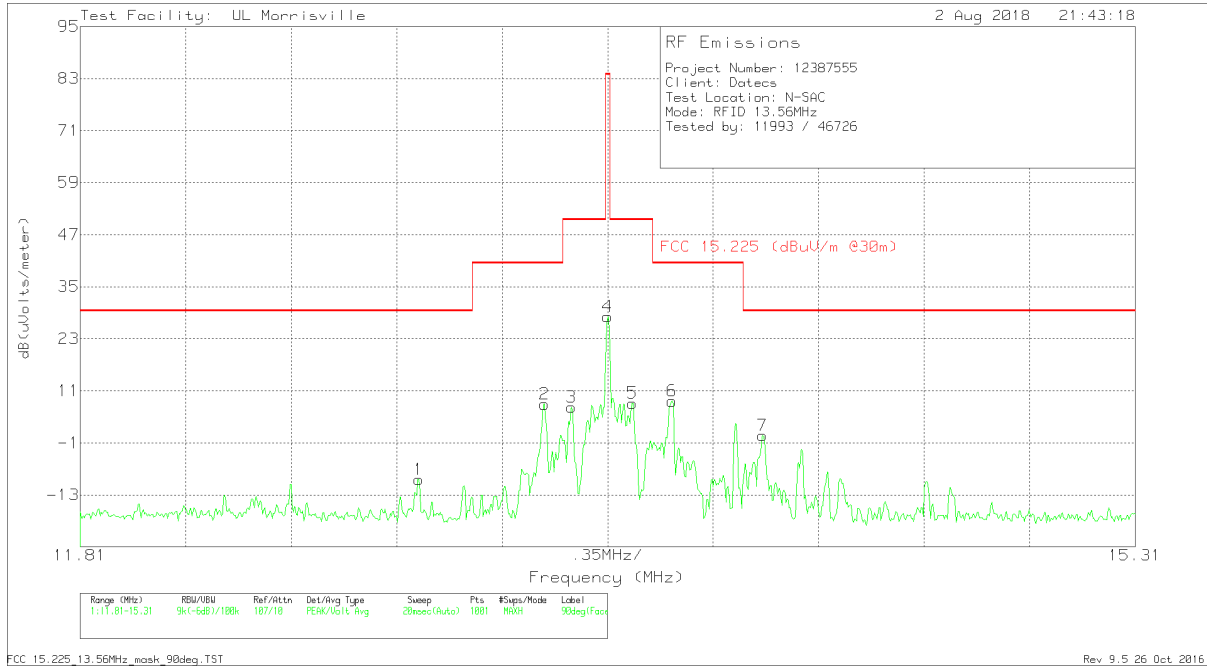
Note: All measurements were made at a test distance of 3 m. The spurious emissions limits in the plots and tabular data are the FCC/IC limits extrapolated from the specification distance (300 m from 9-490 kHz and 30 m from 490 kHz – 30 MHz) to the measurement distance to clearly show the relative levels of fundamental and spurious emissions and demonstrate compliance with the requirement that the level of any spurious emissions be below the level of the intentionally transmitted signal. The extrapolation factor for the limits were $40 \cdot \log(\text{specification distance} / \text{test distance})$. In the case of the fundamental measurement, the data was corrected as described above instead of the limit.

Although these tests were performed at a test site other than an open area test site, adequate comparison measurements were confirmed against an open area test site. Therefore sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.



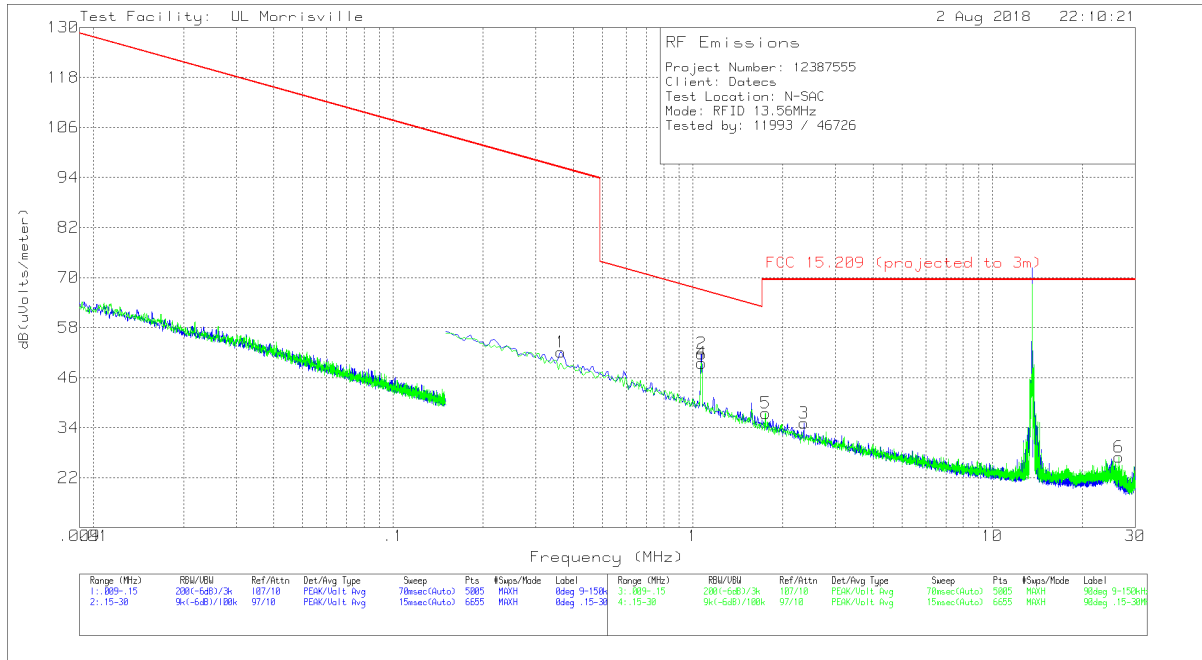
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 AF (dB/m)	Cbl (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	FCC 15.225 (dBuV/m @30m)	Margin (dB)	Azimuth (Degs)
1	13.028	27.69	Pk	10.5	.6	-40	-1.21	29.5	-30.71	94
2	13.35	41.17	Pk	10.5	.6	-40	12.27	40.5	-28.23	94
3	13.532	46.33	Pk	10.5	.6	-40	17.43	50.5	-33.07	94
4	13.56	61.56	Pk	10.5	.6	-40	32.66	84	-51.34	94
5	13.6965	42.39	Pk	10.4	.6	-40	13.39	50.5	-37.11	94
6	13.7735	43.58	Pk	10.4	.6	-40	14.58	40.5	-25.92	94
7	14.07625	32.49	Pk	10.4	.6	-40	3.49	29.5	-26.01	94

Pk - Peak detector



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 AF (dB/m)	Cbl (dB)	Dist. Corr. Factor (dB)	Corrected Reading dB(uVolts/meter)	FCC 15.225 (dBuV/m @30m)	Margin (dB)	Azimuth (Degs)
1	12.9335	19.42	Pk	10.5	.6	-40	-9.48	29.5	-38.98	12
2	13.35	36.81	Pk	10.5	.6	-40	7.91	40.5	-32.59	12
3	13.441	36.12	Pk	10.5	.6	-40	7.22	50.5	-43.28	12
4	13.56	57.01	Pk	10.5	.6	-40	28.11	84	-55.89	12
5	13.64225	37.15	Pk	10.4	.6	-40	8.15	50.5	-42.35	12
6	13.7735	37.63	Pk	10.4	.6	-40	8.63	40.5	-31.87	12
7	14.0745	29.69	Pk	10.4	.6	-40	.69	29.5	-28.81	12

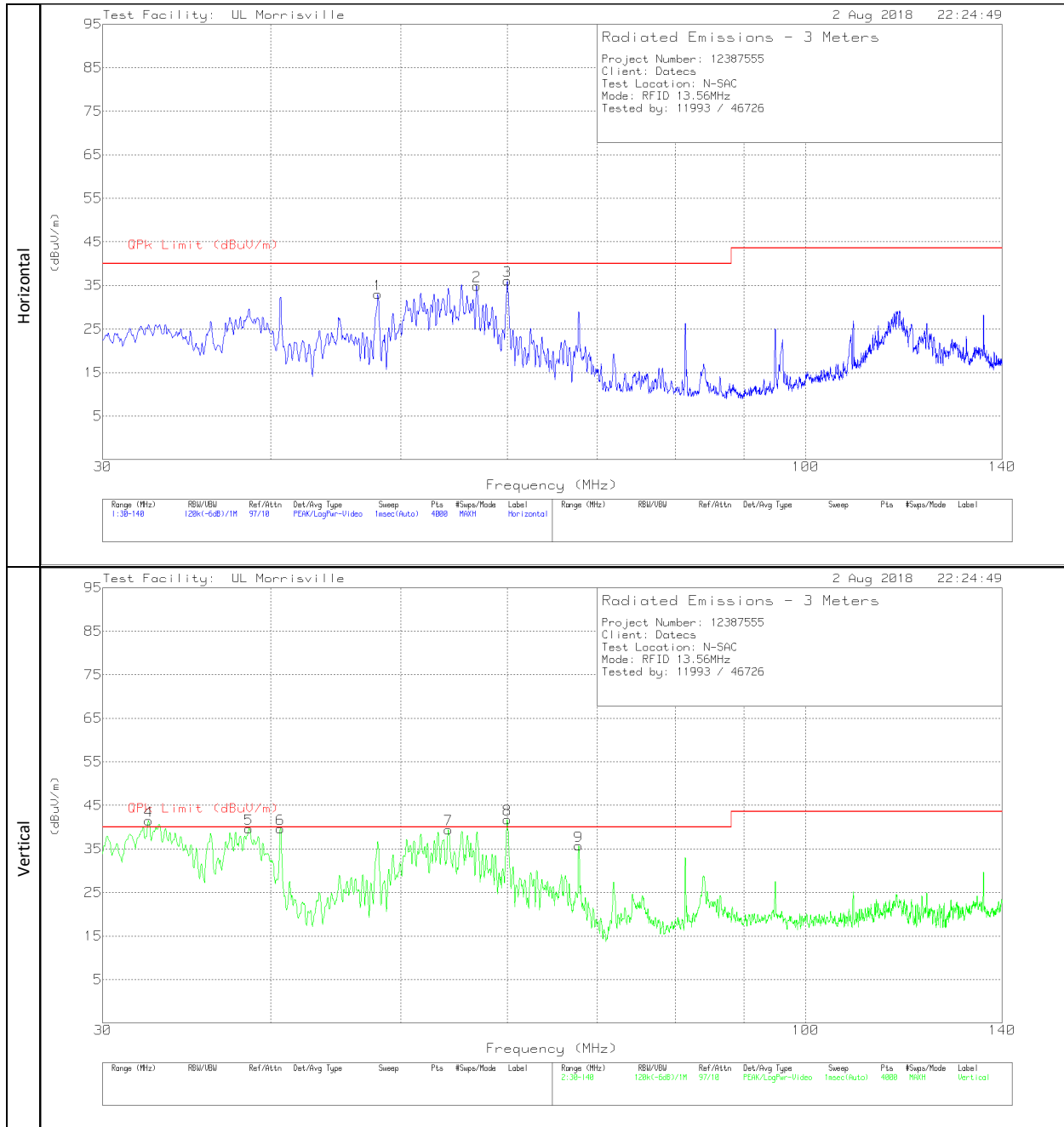
Pk - Peak detector



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0079 AF (dB/m)	Cbl (dB)	Corrected Reading dB(uVolts/meter)	FCC 15.209 QP (projected to 3m)	FCC 15.209 AV (projected to 3m)	FCC 15.209 PK (projected to 3m)	Worst-Case Margin (dB)	Azimuth (Degs)
1	.36309	40.48	Pk	11.5	.1	52.08	-	96.4	116.4	-44.32	0-360
2	1.06963	40.06	Pk	11.5	.2	51.76	67.02	-	-	-15.26	0-360
4	1.06963	37.81	Pk	11.5	.2	49.51	67.02	-	-	-17.51	0-360
5	1.7515	25.65	Pk	11.6	.2	37.45	69.54	-	-	-32.09	0-360
3	2.35263	23.3	Pk	11.6	.2	35.1	69.54	-	-	-34.44	0-360
6	26.39534	17.48	Pk	8.6	.9	26.98	69.54	-	-	-42.56	0-360

Pk - Peak detector

8.1.2. TX SPURIOUS EMISSION 30 TO 140 MHz



Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	AT0075 AF (dB/m)	Amp/Cbl (dB)	Corrected Reading (dBuV/m)	QPk Limit (dBuV/m)	Margin (dB)	Azimuth (Degs)	Height (cm)	Polarity
1	48.0446	51.1	Pk	13.4	-31.5	33	40	-7	0-360	399	H
2	56.9494	50.84	Qp	12	-31.4	31.44	40	-8.56	60	391	H
3	60.0048	51.37	Qp	12.1	-31.3	32.17	40	-7.83	74	317	H
4	32.4486	44.04	Qp	24.2	-31.7	36.54	40	-3.46	312	109	V
5	38.5035	47.69	Qp	19.4	-31.6	35.49	40	-4.51	322	109	V
6	40.6866	52.87	Qp	17.8	-31.6	39.07	40	-.93	234	102	V
7	54.2207	56.33	Qp	12	-31.4	36.93	40	-3.07	360	114	V
8	59.9917	55.02	Qp	12.1	-31.3	35.82	40	-4.18	258	144	V
9	67.8032	53.89	Qp	12.6	-31.3	35.19	40	-4.81	38	104	V

Pk - Peak detector
 Qp - Quasi-Peak detector

9. AC MAINS LINE CONDUCTED EMISSIONS

LIMITS

FCC §15.207

(a) Except as shown in paragraphs (b) and (c) of this section, for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 kHz to 30 MHz, shall not exceed the limits in the following table, as measured using a 50 μ H/50 ohms line impedance stabilization network (LISN). Compliance with the provisions of this paragraph shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower limit applies at the band edges.

Frequency range (MHz)	Limits (dB μ V)	
	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50

Notes:
1. The lower limit shall apply at the transition frequencies
2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

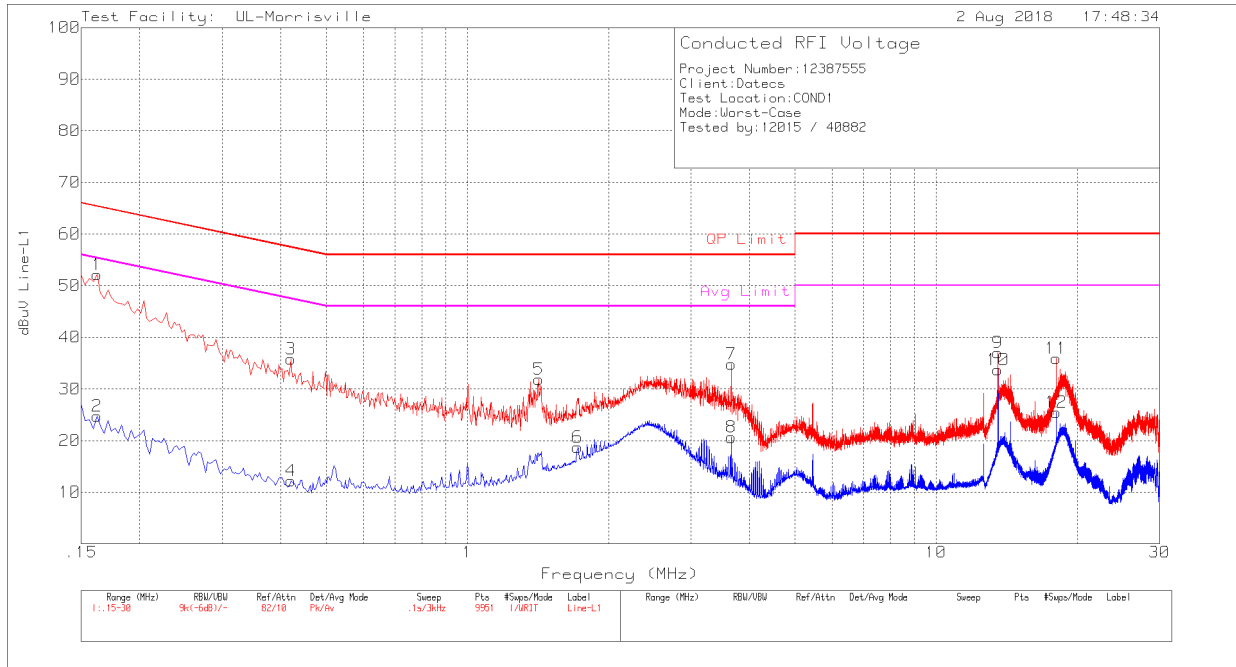
TEST PROCEDURE

ANSI C63.10

RESULTS

No non-compliance noted:

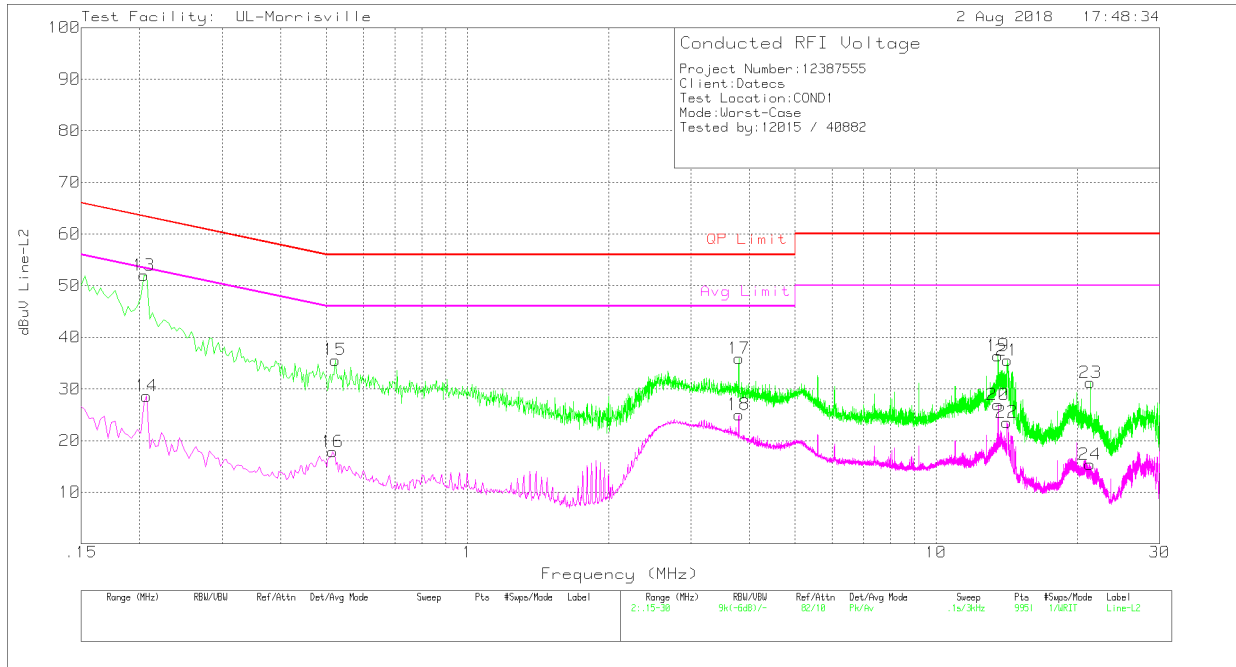
LINE 1 RESULTS



Range 1: Line-L1 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit	Margin (dB)	Avg Limit	Margin (dB)
1	.162	41.96	Pk	.2	10	52.16	65.36	-13.2	-	-
2	.162	14.52	Av	.2	10	24.72	-	-	55.36	-30.64
3	.42	25.7	Pk	.1	10	35.8	57.45	-21.65	-	-
4	.42	2.11	Av	.1	10	12.21	-	-	47.45	-35.24
5	1.419	21.85	Pk	0	10	31.85	56	-24.15	-	-
6	1.719	8.68	Av	0	10	18.68	-	-	46	-27.32
7	3.654	24.68	Pk	0	10.1	34.78	56	-21.22	-	-
8	3.657	10.53	Av	0	10.1	20.63	-	-	46	-25.37
9	13.56	26.53	Pk	.1	10.4	37.03	60	-22.97	-	-
10	13.56	23.17	Av	.1	10.4	33.67	-	-	50	-16.33
11	18.048	25.3	Pk	.1	10.5	35.9	60	-24.1	-	-
12	18.045	14.84	Av	.1	10.5	25.44	-	-	50	-24.56

Pk - Peak detector
 Av - Average detection

LINE 2 RESULTS



Range 2: Line-L2 .15 - 30MHz										
Marker	Frequency (MHz)	Meter Reading (dBuV)	Det	LISN VCF (dB)	Cbl/Limiter (dB)	Corrected Reading dBuV	QP Limit	Margin (dB)	Avg Limit	Margin (dB)
13	.204	41.93	Pk	.1	10	52.03	63.45	-11.42	-	-
14	.207	18.51	Av	.1	10	28.61	-	-	53.32	-24.71
15	.522	25.61	Pk	0	10	35.61	56	-20.39	-	-
16	.516	7.85	Av	0	10	17.85	-	-	46	-28.15
17	3.798	25.82	Pk	0	10.1	35.92	56	-20.08	-	-
18	3.795	14.93	Av	0	10.1	25.03	-	-	46	-20.97
19	13.563	25.94	Pk	.1	10.4	36.44	60	-23.56	-	-
20	13.566	16.41	Av	.1	10.4	26.91	-	-	50	-23.09
21	14.184	25.05	Pk	.1	10.4	35.55	60	-24.45	-	-
22	14.163	13.05	Av	.1	10.4	23.55	-	-	50	-26.45
23	21.357	20.46	Pk	.2	10.6	31.26	60	-28.74	-	-
24	21.294	4.57	Av	.2	10.6	15.37	-	-	50	-34.63

Pk - Peak detector
 Av - Average detection

10. FREQUENCY STABILITY

LIMIT

§15.225 (e) The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency, over a temperature variation of -20 degrees to +50 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

TEST PROCEDURE

C63.10 Section 6.8

RESULTS

No non-compliance noted.

Startup

Reference Frequency: EUT Channel 13.56 MHz @ 20°C				
Limit: ± 100 ppm = 1.356 kHz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
5.00	50	13.5605280	2.286	± 100
5.00	40	13.5605460	0.959	± 100
5.00	30	13.5605650	-0.442	± 100
5.00	20	13.5605590	0.000	± 100
5.00	10	13.5606070	-3.540	± 100
5.00	0	13.5606130	-3.982	± 100
5.00	-10	13.5606070	-3.540	± 100
5.00	-20	13.5605890	-2.212	± 100
4.50	20	13.5605590	0.000	± 100
5.50	20	13.5605590	0.000	± 100

2 Minutes

Reference Frequency: EUT Channel 13.56 MHz @ 20°C				
Limit: ± 100 ppm = 1.356 kHz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
5.00	50	13.5605340	1.844	± 100
5.00	40	13.5605520	0.516	± 100
5.00	30	13.5605830	-1.770	± 100
5.00	20	13.5605590	0.000	± 100
5.00	10	13.5606130	-3.982	± 100
5.00	0	13.5606130	-3.982	± 100
5.00	-10	13.5606010	-3.097	± 100
5.00	-20	13.5606070	-3.540	± 100
4.50	20	13.5605590	0.000	± 100
5.50	20	13.5605590	0.000	± 100

5 Minutes

Reference Frequency: EUT Channel 13.56 MHz @ 20°C				
Limit: ± 100 ppm = 1.356 kHz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
5.00	50	13.5605340	1.844	± 100
5.00	40	13.5605460	0.959	± 100
5.00	30	13.5605710	-0.885	± 100
5.00	20	13.5605590	0.000	± 100
5.00	10	13.5606070	-3.540	± 100
5.00	0	13.5606130	-3.982	± 100
5.00	-10	13.5606070	-3.540	± 100
5.00	-20	13.5605950	-2.655	± 100
4.50	20	13.5605590	0.000	± 100
5.50	20	13.5605590	0.000	± 100

10 Minutes

Reference Frequency: EUT Channel 13.56 MHz @ 20°C				
Limit: ± 100 ppm = 1.356 kHz				
Power Supply (Vdc)	Environment Temperature (°C)	Frequency Deviation Measured with Time Elapse		
		(MHz)	Delta (ppm)	Limit (ppm)
5.00	50	13.5605280	2.286	± 100
5.00	40	13.5605460	0.959	± 100
5.00	30	13.5605650	-0.442	± 100
5.00	20	13.5605590	0.000	± 100
5.00	10	13.5606070	-3.540	± 100
5.00	0	13.5606130	-3.982	± 100
5.00	-10	13.5606070	-3.540	± 100
5.00	-20	13.5605890	-2.212	± 100
4.50	20	13.5605590	0.000	± 100
5.50	20	13.5605590	0.000	± 100

TEST INFORMATION

Date: 2018-08-01
 Project No: 12387555
 Tested by: 12015 / 40882