TEST RESULT SUMMARY

FCC Part 15 Subpart C Section 15.207
FCC Part 15 Subpart C Section 15.209
IC RSS-210 Issue 7
IC RSS-Gen Issue 2

MANUFACTURER'S NAME	Digital Angel Corporation
NAME OF EQUIPMENT	Stationary RFID Reader
MODEL NUMBER(S) TESTED	AXIZ SB-1 with; Antennas AN4250, AN4260, AN4110, AN4500, AN4711
MANUFACTURER'S ADDRESS	490 Villaume Avenue South St Paul MN 55076
TEST REPORT NUMBER	WC704646 Rev B
TEST DATE(S)	18 June and 13 & 31 July 2007

According to testing performed at TÜV SÜD America Inc, the above mentioned unit is in compliance with the applicable electromagnetic compatibility (EMC) portions of the requirements defined in FCC Part 15 Subpart C Sections 15.207 and 15.209 and Industry Canada RSS-210 Issue 7 and RSS-Gen Issue 2.

It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical characteristics. Any modifications necessary for compliance made during testing on the above mentioned date(s) must be implemented in all production units for compliance to be maintained.

TÜV SÜD America Inc, as an independent testing laboratory, declares that the equipment tested as specified above conforms to the applicable EMC requirements of FCC Part 15 Subpart C Sections 15.207 *"Conducted Limits"* and 15.209 *"Radiated emission limits; general requirements"* and IC RSS-210 Issue 7 *"Low-power Licence-exempt Radiocommunication Devices (All Frequency Bands): Category I Equipment"* and IC RSS-Gen Issue 1 *"General Requirements and Information for the Certification of Radiocommunication Equipment".*

Date: 12 December 2008

Location: Taylors Falls MN USA

Greg Jakubowski	Joel Schneider
Senior EMC Technician	Senior EMC Engineer

Not Transferable

EMC TEST REPORT

Test Report File No.	:	**WC704646 Rev B**	Date of issue: 12 December 2008
Model / Serial No(s) Tested	:	AXIZ SB-1 / --- Antennas AN4250, AN4260, AN4110, AN4500, AN4711/ ---	
Product Type	:	Stationary RFID Reader	
Applicant	:	Digital Angel Corporation	
Manufacturer	:	Digital Angel Corporation	
License holder	:	Digital Angel Corporation	
Address	:	490 Villaume Avenue South St Paul MN 55076	
Test Result	:	■ **Positive**	☐ **Negative**
Test Project Number References	:	**WC704646 Rev B**	
Total pages including Appendices	:	**83**	

TÜV SÜD AMERICA Inc reports apply only to the specific samples tested under stated test conditions. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. TÜV SÜD America Inc shall have no liability for any deductions, inferences or generalizations drawn by the client or others from TÜV SÜD America Inc issued reports.

TÜV SÜD AMERICA Inc and its professional staff hold government and professional organization certifications and are members of AAMI, ACIL, AEA, ANSI, IEEE, NARTE, and VCCI.

REVISION RECORD

REVISION	TOTAL NUMBER OF PAGES	DATE	DESCRIPTION
	82	22 August 2007	Initial Release
A	83	26 August 2008	- Peak results added to General field strength test summary - Mag loop data sheet for 4110 antenna revised with note describing peak measurement extrapolation - Radiated and conducted emission test summaries and data describe EUT as a class A device
B	83	12 December 2008	- Corrected model number from 2020 RFID Reader to AXIZ SB-1.

DIRECTORY

Sign Explanations:
☐ - not applicable
■ - applicable

EMC TEST REGULATIONS:

The tests were performed according to the following regulations :

☐ - EN 50081-1 / 1991
☐ - EN 55014-2: 1997 + Amendment A1: 2001 - Category __
☐ - EN 55024: 1998 + Amendments A1: 2001 + A2: 2003
☐ - EN 60601-1-2: 2001
☐ - EN 61000-6-1: 2001
☐ - EN 61000-6-2: 2001
☐ - EN 61326: 1997 + Amendments A1: 1998 + A2: 2001 + A3: 2003
☐ - EN 61800-3: 1996 + Amendment A11: 2000
☐ - ETS 300 683: 1997
☐ - ETS 300 683: 1997
☐ - ETSI EN 301 489-3 V1.4.1: 2002
☐ - EN 300 220-3 V1.1.1
☐ - EN 300 330-2 V1.1.1
☐ - FCC Part 15 Subpart C Section 15.249
■ - FCC Part 15 Subpart C Section 15.207
■ - FCC Part 15 Subpart C Section 15.209
■ - IC RSS-210 Issue 7
■ - IC RSS-Gen Issue 2
☐ - IC RSS-Gen Issue 1

ENVIRONMENTAL CONDITIONS IN THE LAB

	Actual
Temperature:	: 21 - 23 °C
Atmospheric pressure	: 99 kPa
Relative Humidity	: 35 - 57 %

POWER SUPPLY UTILIZED

Power supply system : 60 Hz / 110 VAC / 1ϕ

General field strength limits 0.009 – 30 MHz
FCC 15.209(a), FCC 15.209(c), IC RSS-210 2.6

Test summary
The requirements are: ■ - MET ☐ - NOT MET
Maximum average field strength = 24.9 dBuV/m at 300 meters (extrapolated) at 134.2 kHz with 4260 antenna
Minimum average margin of compliance = 0.1 dB
Maximum peak field strength = 26 dBuV/m at 300 meters (extrapolated) at 134.2 kHz with 4110 antenna
Minimum peak margin of compliance = 19.0 dB

Test location
☐ - Wild River Lab Large Test Site (Open Area Test Site)
☐ - Wild River Lab Small Test Site (Open Area Test Site)
■ - Parking lot

Test distance
☐ - 1.0 meters
■ - 3 meters.
■ - 10 meters
■ - 30 meters
■ - 100 meters

Test equipment

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
3800	ESCS 30	Rohde & Schwarz	EMI Receiver	100312	07-Jul 07
2517	HFH2-Z2	Polorad	Loop Antenna	879285/036	30-May-07

Test limit

Frequency (MHz)	Field strength μV/m	Measurement distance (m)
0.009-0.490	2400/F(kHz)	300
0.490 - 1.705	24000/F(kHz)	30
1.705 - 30	30	30

CISPR quasi-peak detector except for the frequency bands 9–90 kHz and 110-490 kHz which are average detector.
At the 134.2 kHz fundamental, the limit is 25 dBμV/m at 300 meters

Test data
See following pages

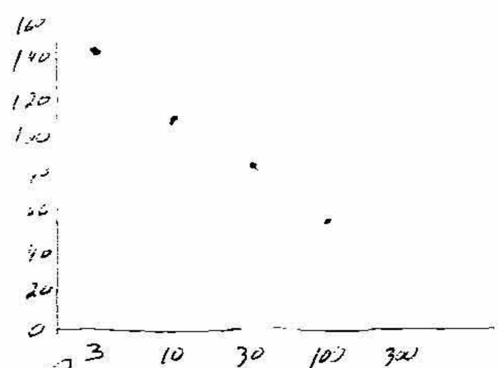
WC 704646
13 July 07
m/n 2020 (2 different antennas)

Palomar loop
ESHS 30 Rx
Sht 1 of 2

(dBµV/m)

f (kHz)	AN4250 antenna 3 (m)	10	30	100	300*	AN4260 3	10	30	100	300	DET	RBW (Hz)
134.2	142.9	110	83.8	58.8	24.7*	143.5	110.5	84.2	58.7	24.9*	AVG	200
268.4	88.8	52.3	(A)	—		92	37	—	—		↓	10K
402.6	88.6	57.1	(A)	—		91.5	60.8	44.2 (A)			↓	↓
536.8	66.3	36.3	—	—		68	30.6	—	—		QP	↓
671	67.4	34.7	—	—		70.5	37.2	—	—		↓	↓
805.2	52	31.3 (A)	—	—		51	—	—	—		↓	↓
939.4	55.4	(A)	—	—		59	(A)	—	—		↓	↓
1073.6	43.6	—	—	—		41	—	—	—		↓	↓
1207.8	43.5	—	—	—		49	—	—	—		↓	↓
1342	36	—	—	—		38.6	—	—	—		↓	↓

★ EXTRAPOLATED



142.9	83.8
− 83.8	−59.1
Δ = 59.1	= (24.7)★

143.5	84.2
− 84.2	−59.3
Δ = 59.3	(24.9★)

RADIATED EMISSIONS

TÜV SÜD America

TEST REPORT # WC 705658

DATE 7/31/07

COMPANY Digital Angel

PRODUCT ID: Model 2020 w/ AN4110 Antenna

TEMP 29° C

HUMIDITY 65 %

AIR PRESSURE 98.8

ANALYZER ESHS 30

ANTENNA Polorad

EUT POWER 60HZ 115VAC

Test Freq (MHz)	3 M QP dBuV/m	3 M AVE dBuV/m	3 M PK dBuV/m	10 M QP dBuV/m	10 M AVE dBuV/m	30 M QP dBuV/m	30 M AVE dBuV/m	100 M AVE dBuV/m	M PK dBuV/m	Remarks
.1342		126	128		96		73	45		
.2684		58			30NF		30NF			
.402		92			64		Amb.			
.536	41	28		28 NF	~~24NF~~	28 NF				
.671	58	56		34		26NF				
v										
30.0										
~~.1342~~	~~100M Ave 45~~									

Comments: At 134.2 KHz, Roll Off = 96 - 45 = 51 dB/Decade
Extrapolated Peak Measurement = 128 @ 3m - (2 × 51) = 26 dBμV/m @ 300 m
19 Below 45 dBμV/m PK Limit

TECH ______

RADIATED EMISSIONS

TEST REPORT # WC705658
DATE 7/31/07
COMPANY Digital Angel
PRODUCT ID: Model 2020 w/ AN500 Antenna

TEMP 29°C
HUMIDITY 65%
AIR PRESSURE 98.8
ANALYZER ESHS 20
ANTENNA Poloroad
EUT POWER 60Hz 115VAC

Test Freq (MHz)	3 M QP dBuV/m	3 M AVE dBuV/m	3 M PK dBuV/m	10 M QP dBuV/m	10 M AVE dBuV/m	30M EXP dBuV/m	30M QP dBuV/m	100 M AVE dBuV/m	M PK dBuV/m	Remarks
.1342		120	124		89		75	45		
.268		51			28		28.NF			
.402		97			73		56			
.536	37			27NF		27NF				
.671	64			44		31				
.939	55			Amb.		Amb.				
1.207	52			36		28NF				
1.476	39			Amb.		Amb.				
↓										
30.0										
.1342	100cm	100cm								
		45								

Comments _____

TECH _____

RADIATED EMISSIONS

TÜV SÜD America

TEST REPORT # WC705658
DATE 7/31/07
COMPANY Digital Angel
PRODUCT ID: Model 2020
w/ AN4711 Antenna

TEMP 29°C
HUMIDITY 65%
AIR PRESSURE 98.8
ANALYZER ESHS 20
ANTENNA Poloroid
EUT POWER 60 Hz 115 VAC

Test Freq (MHz)	3 M QP dBuV/m	3 M AVE dBuV/m	3 M PK dBuV/m	10 M QP dBuV/m	10 M AVE dBuV/m	30 M QP dBuV/m	30 M ~~AVE~~ dBuV/m	100 M AVE dBuV/m	M PK dBuV/m	Remarks
.1342		103	106		73		50	27		
.2684		31			30 NF		NF			
.402		75			53		41 Amb			
.536	29			28 NF		28 NF				
.671	41			30		27 NF				
~~.939~~										
↓										
30.0										

Comments _____

TECH _____

Radiated Emissions 30 - 1000 MHz
FCC 15.209(c), FCC 15.209(f), IC RSS-210 2.6

Test summary
The requirements are: ■ - MET ☐ - NOT MET
Minimum margin of compliance = 5.4 dB at 199.074 MHz
EUT is a class A device, not for residential use
All emissions are above the 10th harmonic of the 134.2 KHz fundamental

Test location
■ - Wild River Lab Large Test Site (Open Area Test Site)
☐ - Wild River Lab Small Test Site (Open Area Test Site)

Test distance
■ - 3 meters
☐ - 10 meters

Test Equipment

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
3202	EM-6917B	Electro-Metrics	Biconicalog Periodic	101	10-May-08
3847	ZHL-1042J	Mini-Circuits	Preamplifier 10 - 3000 MHz	0607	Code B 08 May 08
3294	8566B	Hewlett-Packard	Spectrum Analyzer	2349A03098	16-May-08
3295	85662A	Hewlett-Packard	Analyzer Display	2349A06144	16-May-08
2681	85650A	Hewlett-Packard	Quasi-Peak Adapter	2430A00562	23-Mar-08

Cal Code B = Calibration verification performed internally.

Test limits
Class A device

Frequncy (MHz)	Field strength (μV/m)	Field strength (dBμV/m)	Measurement distance (m)
30-88	100	49.1	3
88 - 216	150	53.5	3
216 - 960	210	56.4	3
Above 960	300	59.5	3

Test data
See following pages

RADIATED EMISSIONS

Test Report #:	WC704646 Run 1	Test Area:	LTS		
EUT Model #:	2020	Date:	7/13/2007		
EUT Serial #:		EUT Power:	110V / 60Hz	Temperature:	23.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	48.0 %
EUT Description:	Stationary RFID reader				
Notes:	with AN4260 antenna				
Data File Name:	4646 class A.dat			Page:	1 of 8

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
41.1 MHz	39.11 Qp	0.48 / 17.15 / 29.69 / 0.0	27.06	V / 1.00 / 0	-22.04	n/a
58.974 MHz	44.0 Qp	0.72 / 12.34 / 29.5 / 0.0	27.56	V / 1.00 / 0	-21.54	n/a
63.87 MHz	44.5 Qp	0.76 / 11.9 / 29.46 / 0.0	27.7	V / 1.00 / 0	-21.4	n/a
70.044 MHz	47.09 Qp	0.8 / 10.08 / 29.39 / 0.0	28.59	V / 1.00 / 0	-20.51	n/a
71.286 MHz	43.7 Qp	0.81 / 9.66 / 29.38 / 0.0	24.79	V / 1.00 / 0	-24.31	n/a
73.752 MHz	42.1 Qp	0.83 / 8.82 / 29.35 / 0.0	22.4	V / 1.00 / 0	-26.7	n/a
74.994 MHz	43.0 Qp	0.83 / 8.4 / 29.34 / 0.0	22.89	V / 1.00 / 0	-26.21	n/a
79.86 MHz	43.15 Qp	0.86 / 8.01 / 29.3 / 0.0	22.72	V / 1.00 / 0	-26.38	n/a
81.096 MHz	43.75 Qp	0.87 / 8.08 / 29.31 / 0.0	23.39	V / 1.00 / 0	-25.71	n/a
82.326 MHz	44.6 Qp	0.88 / 8.16 / 29.31 / 0.0	24.33	V / 1.00 / 0	-24.77	n/a
83.538 MHz	43.45 Qp	0.89 / 8.25 / 29.32 / 0.0	23.27	V / 1.00 / 0	-25.83	n/a
99.972 MHz	50.05 Qp	0.94 / 9.25 / 29.37 / 0.0	30.87	V / 1.00 / 0	-22.63	n/a
110.593 MHz	49.73 Qp	0.97 / 9.28 / 29.41 / 0.0	30.58	V / 1.00 / 0	-22.92	n/a
132.715 MHz	43.4 Qp	1.04 / 8.93 / 29.48 / 0.0	23.89	V / 1.00 / 0	-29.61	n/a
140.075 MHz	41.45 Qp	1.07 / 9.56 / 29.49 / 0.0	22.58	V / 1.00 / 0	-30.92	n/a
152.471 MHz	46.76 Qp	1.13 / 9.86 / 29.45 / 0.0	28.29	V / 1.00 / 0	-25.21	n/a
150.0 MHz	55.39 Qp	1.11 / 10.4 / 29.46 / 0.0	37.44	V / 1.00 / 0	-16.06	n/a
154.836 MHz	57.13 Qp	1.15 / 9.34 / 29.45 / 0.0	38.17	V / 1.00 / 0	-15.33	n/a
176.946 MHz	42.4 Qp	1.27 / 9.66 / 29.44 / 0.0	23.89	V / 1.00 / 0	-29.61	n/a
188.94 MHz	42.55 Qp	1.32 / 10.43 / 29.51 / 0.0	24.79	V / 1.00 / 0	-28.71	n/a
199.074 MHz	50.1 Qp	1.36 / 10.75 / 29.56 / 0.0	32.65	V / 1.00 / 0	-20.85	n/a
243.302 MHz	45.25 Qp	1.47 / 12.18 / 29.58 / 0.0	29.31	V / 1.00 / 0	-27.09	n/a
287.546 MHz	41.05 Qp	1.64 / 13.52 / 29.82 / 0.0	26.39	V / 1.00 / 0	-30.01	n/a
331.784 MHz	40.55 Qp	1.85 / 14.64 / 29.65 / 0.0	27.39	V / 1.00 / 0	-29.01	n/a
420.26 MHz	35.7 Qp	2.03 / 16.22 / 29.81 / 0.0	24.14	V / 1.00 / 0	-32.26	n/a
464.492 MHz	37.35 Qp	2.08 / 16.93 / 30.03 / 0.0	26.33	V / 1.00 / 0	-30.07	n/a

Tested by: Greg Jakubowki — Printed — Signature

Reviewed by: J. T. Schneider — Printed — Signature

RADIATED EMISSIONS

Test Report #:	WC704646 Run 1	Test Area:	LTS		
EUT Model #:	2020	Date:	7/13/2007		
EUT Serial #:		EUT Power:	110V / 60Hz	Temperature:	23.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	48.0 %
EUT Description:	Stationary RFID reader				
Notes:	with AN4260 antenna				
Data File Name:	4646 class A.dat			Page:	2 of 8

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
486.608 MHz	36.15 Qp	2.1 / 17.29 / 30.06 / 0.0	25.48	V / 1.00 / 0	-30.92	n/a
641.445 MHz	43.35 Qp	2.55 / 19.76 / 29.95 / 0.0	35.72	V / 1.00 / 0	-20.68	n/a
120.243 MHz	39.85 Qp	1.0 / 9.68 / 29.44 / 0.0	21.08	V / 1.00 / 0	-32.42	n/a
154.562 MHz	45.1 Qp	1.15 / 9.4 / 29.45 / 0.0	26.2	V / 1.00 / 0	-27.3	n/a
171.74 MHz	31.8 Qp	1.25 / 9.5 / 29.41 / 0.0	13.14	V / 1.00 / 0	-40.36	n/a
206.107 MHz	35.95 Qp	1.38 / 10.98 / 29.6 / 0.0	18.71	V / 1.00 / 0	-34.79	n/a
223.285 MHz	36.2 Qp	1.42 / 11.53 / 29.7 / 0.0	19.46	V / 1.00 / 0	-36.94	n/a
240.462 MHz	35.25 Qp	1.46 / 12.09 / 29.6 / 0.0	19.2	V / 1.00 / 0	-37.2	n/a
291.995 MHz	31.35 Qp	1.67 / 13.63 / 29.86 / 0.0	16.78	V / 1.00 / 0	-39.62	n/a
300.0 MHz	34.55 Qp	1.71 / 13.83 / 29.87 / 0.0	20.22	V / 1.00 / 0	-36.18	n/a
88.474 MHz	54.23 Qp	0.91 / 8.59 / 29.33 / 0.0	34.4	V / 1.00 / 0	-19.1	n/a
265.421 MHz	33.55 Qp	1.53 / 12.89 / 29.59 / 0.0	18.38	V / 1.00 / 0	-38.02	n/a
353.894 MHz	32.75 Qp	1.92 / 15.16 / 29.72 / 0.0	20.12	V / 1.00 / 0	-36.28	n/a
376.013 MHz	33.7 Qp	1.96 / 15.52 / 29.89 / 0.0	21.29	V / 1.00 / 0	-35.11	n/a
552.96 MHz	34.55 Qp	2.29 / 18.35 / 30.1 / 0.0	25.09	V / 1.00 / 0	-31.31	n/a
597.197 MHz	42.5 Qp	2.5 / 19.06 / 30.02 / 0.0	34.03	V / 1.00 / 0	-22.37	n/a
685.67 MHz	33.9 Qp	2.6 / 20.47 / 29.87 / 0.0	27.1	V / 1.00 / 0	-29.3	n/a
58.974 MHz	42.4 Qp	0.72 / 12.34 / 29.5 / 0.0	25.96	V / 1.00 / 90	-23.14	n/a
58.974 MHz	42.3 Qp	0.72 / 12.34 / 29.5 / 0.0	25.86	V / 1.00 / 90	-23.24	n/a
99.972 MHz	55.25 Qp	0.94 / 9.25 / 29.37 / 0.0	36.07	V / 1.00 / 90	-17.43	n/a
120.243 MHz	40.4 Qp	1.0 / 9.68 / 29.44 / 0.0	21.63	V / 1.00 / 90	-31.87	n/a
171.74 MHz	36.0 Qp	1.25 / 9.5 / 29.41 / 0.0	17.34	V / 1.00 / 90	-36.16	n/a
176.946 MHz	43.3 Qp	1.27 / 9.66 / 29.44 / 0.0	24.79	V / 1.00 / 90	-28.71	n/a
188.94 MHz	44.3 Qp	1.32 / 10.43 / 29.51 / 0.0	26.54	V / 1.00 / 90	-26.96	n/a
223.285 MHz	37.7 Qp	1.42 / 11.53 / 29.7 / 0.0	20.96	V / 1.00 / 90	-35.44	n/a
240.462 MHz	40.75 Qp	1.46 / 12.09 / 29.6 / 0.0	24.7	V / 1.00 / 90	-31.7	n/a

Tested by: Greg Jakubowki — Printed — Signature

Reviewed by: J. T. Schneider — Printed — Signature

RADIATED EMISSIONS

Test Report #:	WC704646 Run 1	Test Area:	LTS		
EUT Model #:	2020	Date:	7/13/2007		
EUT Serial #:		EUT Power:	110V / 60Hz	Temperature:	23.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	48.0 %
EUT Description:	Stationary RFID reader				
Notes:	with AN4260 antenna				
Data File Name:	4646 class A.dat			Page:	3 of 8

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
265.421 MHz	34.35 Qp	1.53 / 12.89 / 29.59 / 0.0	19.18	V / 1.00 / 90	-37.22	n/a
300.0 MHz	39.9 Qp	1.71 / 13.83 / 29.87 / 0.0	25.57	V / 1.00 / 90	-30.83	n/a
376.013 MHz	35.1 Qp	1.96 / 15.52 / 29.89 / 0.0	22.69	V / 1.00 / 90	-33.71	n/a
464.492 MHz	38.4 Qp	2.08 / 16.93 / 30.03 / 0.0	27.38	V / 1.00 / 90	-29.02	n/a
71.286 MHz	44.15 Qp	0.81 / 9.66 / 29.38 / 0.0	25.24	V / 1.00 / 180	-23.86	n/a
73.752 MHz	43.3 Qp	0.83 / 8.82 / 29.35 / 0.0	23.6	V / 1.00 / 180	-25.5	n/a
74.994 MHz	45.0 Qp	0.83 / 8.4 / 29.34 / 0.0	24.89	V / 1.00 / 180	-24.21	n/a
99.972 MHz	61.7 Qp	0.94 / 9.25 / 29.37 / 0.0	42.52	V / 1.00 / 180	-10.98	n/a
120.243 MHz	44.0 Qp	1.0 / 9.68 / 29.44 / 0.0	25.23	V / 1.00 / 180	-28.27	n/a
132.715 MHz	47.05 Qp	1.04 / 8.93 / 29.48 / 0.0	27.54	V / 1.00 / 180	-25.96	n/a
140.075 MHz	45.3 Qp	1.07 / 9.56 / 29.49 / 0.0	26.43	V / 1.00 / 180	-27.07	n/a
171.74 MHz	38.0 Qp	1.25 / 9.5 / 29.41 / 0.0	19.34	V / 1.00 / 180	-34.16	n/a
188.94 MHz	46.4 Qp	1.32 / 10.43 / 29.51 / 0.0	28.64	V / 1.00 / 180	-24.86	n/a
199.074 MHz	56.6 Qp	1.36 / 10.75 / 29.56 / 0.0	39.15	V / 1.00 / 180	-14.35	n/a
206.107 MHz	41.75 Qp	1.38 / 10.98 / 29.6 / 0.0	24.51	V / 1.00 / 180	-28.99	n/a
243.302 MHz	48.55 Qp	1.47 / 12.18 / 29.58 / 0.0	32.61	V / 1.00 / 180	-23.79	n/a
300.0 MHz	48.9 Qp	1.71 / 13.83 / 29.87 / 0.0	34.57	V / 1.00 / 180	-21.83	n/a
376.013 MHz	38.4 Qp	1.96 / 15.52 / 29.89 / 0.0	25.99	V / 1.00 / 180	-30.41	n/a
420.26 MHz	36.5 Qp	2.03 / 16.22 / 29.81 / 0.0	24.94	V / 1.00 / 180	-31.46	n/a
464.492 MHz	42.95 Qp	2.08 / 16.93 / 30.03 / 0.0	31.93	V / 1.00 / 180	-24.47	n/a
41.1 MHz	39.45 Qp	0.48 / 17.15 / 29.69 / 0.0	27.4	V / 1.00 / 270	-21.7	n/a
176.946 MHz	43.9 Qp	1.27 / 9.66 / 29.44 / 0.0	25.39	V / 1.00 / 270	-28.11	n/a
223.285 MHz	41.55 Qp	1.42 / 11.53 / 29.7 / 0.0	24.81	V / 1.00 / 270	-31.59	n/a
287.546 MHz	44.0 Qp	1.64 / 13.52 / 29.82 / 0.0	29.34	V / 1.00 / 270	-27.06	n/a
291.995 MHz	33.6 Qp	1.67 / 13.63 / 29.86 / 0.0	19.03	V / 1.00 / 270	-37.37	n/a

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RADIATED EMISSIONS

Test Report #:	WC704646 Run 1	Test Area:	LTS		
EUT Model #:	2020	Date:	7/13/2007		
EUT Serial #:		EUT Power:	110V / 60Hz	Temperature:	23.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	48.0 %
EUT Description:	Stationary RFID reader				
Notes:	with AN4260 antenna				
Data File Name:	4646 class A.dat			Page:	4 of 8

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
331.784 MHz	43.6 Qp	1.85 / 14.64 / 29.65 / 0.0	30.44	V / 1.00 / 270	-25.96	n/a
376.013 MHz	42.3 Qp	1.96 / 15.52 / 29.89 / 0.0	29.89	V / 1.00 / 270	-26.51	n/a
420.26 MHz	39.1 Qp	2.03 / 16.22 / 29.81 / 0.0	27.54	V / 1.00 / 270	-28.86	n/a
486.608 MHz	38.4 Qp	2.1 / 17.29 / 30.06 / 0.0	27.73	V / 1.00 / 270	-28.67	n/a
176.946 MHz	47.5 Qp	1.27 / 9.66 / 29.44 / 0.0	28.99	H / 1.00 / 270	-24.51	n/a
199.074 MHz	59.8 Qp	1.36 / 10.75 / 29.56 / 0.0	42.35	H / 1.00 / 270	-11.15	n/a
206.107 MHz	43.75 Qp	1.38 / 10.98 / 29.6 / 0.0	26.51	H / 1.00 / 270	-26.99	n/a
240.462 MHz	46.25 Qp	1.46 / 12.09 / 29.6 / 0.0	30.2	H / 1.00 / 270	-26.2	n/a
243.302 MHz	51.3 Qp	1.47 / 12.18 / 29.58 / 0.0	35.36	H / 1.00 / 270	-21.04	n/a
265.421 MHz	39.8 Qp	1.53 / 12.89 / 29.59 / 0.0	24.63	H / 1.00 / 270	-31.77	n/a
287.546 MHz	45.05 Qp	1.64 / 13.52 / 29.82 / 0.0	30.39	H / 1.00 / 270	-26.01	n/a
552.96 MHz	37.55 Qp	2.29 / 18.35 / 30.1 / 0.0	28.09	H / 1.00 / 270	-28.31	n/a
132.715 MHz	52.2 Qp	1.04 / 8.93 / 29.48 / 0.0	32.69	H / 1.00 / 180	-20.81	n/a
154.562 MHz	48.15 Qp	1.15 / 9.4 / 29.45 / 0.0	29.25	H / 1.00 / 180	-24.25	n/a
223.285 MHz	42.15 Qp	1.42 / 11.53 / 29.7 / 0.0	25.41	H / 1.00 / 180	-30.99	n/a
265.421 MHz	40.85 Qp	1.53 / 12.89 / 29.59 / 0.0	25.68	H / 1.00 / 180	-30.72	n/a
171.74 MHz	39.2 Qp	1.25 / 9.5 / 29.41 / 0.0	20.54	H / 1.00 / 90	-32.96	n/a
171.74 MHz	40.8 Qp	1.25 / 9.5 / 29.41 / 0.0	22.14	H / 1.00 / 0	-31.36	n/a
Maximized emissions within 10dB of the B limit if in a restricted band						
150.0 MHz	57.37 Qp	1.11 / 10.4 / 29.46 / 0.0	39.42	V / 1.57 / 20	-14.08	n/a

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RADIATED EMISSIONS

Test Report #:	WC704646 Run 1	Test Area:	LTS		
EUT Model #:	2020	Date:	7/13/2007		
EUT Serial #:		EUT Power:	110V / 60Hz	Temperature:	23.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	48.0 %
EUT Description:	Stationary RFID reader				
Notes:	with AN4260 antenna				
Data File Name:	4646 class A.dat			Page:	5 of 8

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
End scan 30 - 1000 MHz						

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RADIATED EMISSIONS

Test Report #:	WC704646 Run 1	Test Area:	LTS		
EUT Model #:	2020	Date:	7/13/2007		
EUT Serial #:		EUT Power:	110V / 60Hz	Temperature:	23.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	48.0 %
EUT Description:	Stationary RFID reader				
Notes:	with AN4260 antenna				
Data File Name:	4646 class A.dat			Page:	6 of 8

Measurement summary for limit1: FCC-A <1GHz 3m (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m
99.972 MHz	61.7 Qp	0.94 / 9.25 / 29.37 / 0.0	42.52	V / 1.00 / 180	-10.98
199.074 MHz	59.8 Qp	1.36 / 10.75 / 29.56 / 0.0	42.35	H / 1.00 / 270	-11.15
150.0 MHz	57.37 Qp	1.11 / 10.4 / 29.46 / 0.0	39.42	V / 1.57 / 20	-14.08
154.836 MHz	57.13 Qp	1.15 / 9.34 / 29.45 / 0.0	38.17	V / 1.00 / 0	-15.33
88.474 MHz	54.23 Qp	0.91 / 8.59 / 29.33 / 0.0	34.4	V / 1.00 / 0	-19.1
70.044 MHz	47.09 Qp	0.8 / 10.08 / 29.39 / 0.0	28.59	V / 1.00 / 0	-20.51
641.445 MHz	43.35 Qp	2.55 / 19.76 / 29.95 / 0.0	35.72	V / 1.00 / 0	-20.68
132.715 MHz	52.2 Qp	1.04 / 8.93 / 29.48 / 0.0	32.69	H / 1.00 / 180	-20.81
243.302 MHz	51.3 Qp	1.47 / 12.18 / 29.58 / 0.0	35.36	H / 1.00 / 270	-21.04
63.87 MHz	44.5 Qp	0.76 / 11.9 / 29.46 / 0.0	27.7	V / 1.00 / 0	-21.4
58.974 MHz	44.0 Qp	0.72 / 12.34 / 29.5 / 0.0	27.56	V / 1.00 / 0	-21.54
41.1 MHz	39.45 Qp	0.48 / 17.15 / 29.69 / 0.0	27.4	V / 1.00 / 270	-21.7
300.0 MHz	48.9 Qp	1.71 / 13.83 / 29.87 / 0.0	34.57	V / 1.00 / 180	-21.83
597.197 MHz	42.5 Qp	2.5 / 19.06 / 30.02 / 0.0	34.03	V / 1.00 / 0	-22.37
110.593 MHz	49.73 Qp	0.97 / 9.28 / 29.41 / 0.0	30.58	V / 1.00 / 0	-22.92
71.286 MHz	44.15 Qp	0.81 / 9.66 / 29.38 / 0.0	25.24	V / 1.00 / 180	-23.86
74.994 MHz	45.0 Qp	0.83 / 8.4 / 29.34 / 0.0	24.89	V / 1.00 / 180	-24.21
154.562 MHz	48.15 Qp	1.15 / 9.4 / 29.45 / 0.0	29.25	H / 1.00 / 180	-24.25
464.492 MHz	42.95 Qp	2.08 / 16.93 / 30.03 / 0.0	31.93	V / 1.00 / 180	-24.47
176.946 MHz	47.5 Qp	1.27 / 9.66 / 29.44 / 0.0	28.99	H / 1.00 / 270	-24.51
82.326 MHz	44.6 Qp	0.88 / 8.16 / 29.31 / 0.0	24.33	V / 1.00 / 0	-24.77
188.94 MHz	46.4 Qp	1.32 / 10.43 / 29.51 / 0.0	28.64	V / 1.00 / 180	-24.86
152.471 MHz	46.76 Qp	1.13 / 9.86 / 29.45 / 0.0	28.29	V / 1.00 / 0	-25.21
73.752 MHz	43.3 Qp	0.83 / 8.82 / 29.35 / 0.0	23.6	V / 1.00 / 180	-25.5
81.096 MHz	43.75 Qp	0.87 / 8.08 / 29.31 / 0.0	23.39	V / 1.00 / 0	-25.71
83.538 MHz	43.45 Qp	0.89 / 8.25 / 29.32 / 0.0	23.27	V / 1.00 / 0	-25.83

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RADIATED EMISSIONS

Test Report #:	WC704646 Run 1	Test Area:	LTS		
EUT Model #:	2020	Date:	7/13/2007		
EUT Serial #:		EUT Power:	110V / 60Hz	Temperature:	23.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	48.0 %
EUT Description:	Stationary RFID reader				
Notes:	with AN4260 antenna				
Data File Name:	4646 class A.dat			Page:	7 of 8

Measurement summary for limit1: FCC-A <1GHz 3m (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m
331.784 MHz	43.6 Qp	1.85 / 14.64 / 29.65 / 0.0	30.44	V / 1.00 / 270	-25.96
287.546 MHz	45.05 Qp	1.64 / 13.52 / 29.82 / 0.0	30.39	H / 1.00 / 270	-26.01
240.462 MHz	46.25 Qp	1.46 / 12.09 / 29.6 / 0.0	30.2	H / 1.00 / 270	-26.2
79.86 MHz	43.15 Qp	0.86 / 8.01 / 29.3 / 0.0	22.72	V / 1.00 / 0	-26.38
376.013 MHz	42.3 Qp	1.96 / 15.52 / 29.89 / 0.0	29.89	V / 1.00 / 270	-26.51
206.107 MHz	43.75 Qp	1.38 / 10.98 / 29.6 / 0.0	26.51	H / 1.00 / 270	-26.99
140.075 MHz	45.3 Qp	1.07 / 9.56 / 29.49 / 0.0	26.43	V / 1.00 / 180	-27.07
120.243 MHz	44.0 Qp	1.0 / 9.68 / 29.44 / 0.0	25.23	V / 1.00 / 180	-28.27
552.96 MHz	37.55 Qp	2.29 / 18.35 / 30.1 / 0.0	28.09	H / 1.00 / 270	-28.31
486.608 MHz	38.4 Qp	2.1 / 17.29 / 30.06 / 0.0	27.73	V / 1.00 / 270	-28.67
420.26 MHz	39.1 Qp	2.03 / 16.22 / 29.81 / 0.0	27.54	V / 1.00 / 270	-28.86
685.67 MHz	33.9 Qp	2.6 / 20.47 / 29.87 / 0.0	27.1	V / 1.00 / 0	-29.3
265.421 MHz	40.85 Qp	1.53 / 12.89 / 29.59 / 0.0	25.68	H / 1.00 / 180	-30.72
223.285 MHz	42.15 Qp	1.42 / 11.53 / 29.7 / 0.0	25.41	H / 1.00 / 180	-30.99
171.74 MHz	40.8 Qp	1.25 / 9.5 / 29.41 / 0.0	22.14	H / 1.00 / 0	-31.36
353.894 MHz	32.75 Qp	1.92 / 15.16 / 29.72 / 0.0	20.12	V / 1.00 / 0	-36.28
291.995 MHz	33.6 Qp	1.67 / 13.63 / 29.86 / 0.0	19.03	V / 1.00 / 270	-37.37

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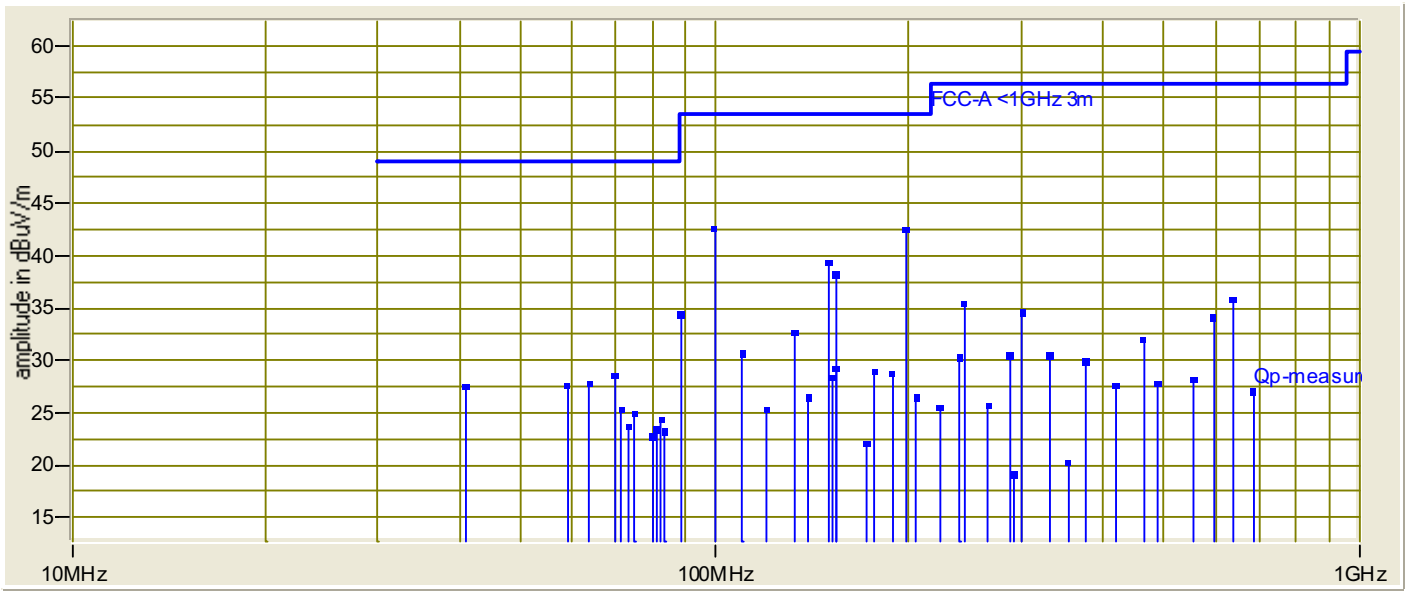
RADIATED EMISSIONS

Test Report #:	WC704646 Run 1	Test Area:	LTS		
EUT Model #:	2020	Date:	7/13/2007		
EUT Serial #:		EUT Power:	110V / 60Hz	Temperature:	23.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	48.0 %
EUT Description:	Stationary RFID reader				
Notes:	with AN4260 antenna				
Data File Name:	4646 class A.dat			Page:	8 of 8

Graph:



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RADIATED EMISSIONS

Test Report #:	WC704646 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	7/13/2007		
EUT Serial #:		EUT Power:	110V / 60Hz	Temperature:	23.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	48.0 %
EUT Description:	Stationary RFID reader				
Notes:	with AN4250 antenna				
Data File Name:	4646 class A.dat			Page:	1 of 8

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
41.045 MHz	39.2 Qp	0.48 / 17.17 / 29.69 / 0.0	27.16	V / 1.00 / 0	-21.94	n/a
58.974 MHz	40.8 Qp	0.72 / 12.34 / 29.5 / 0.0	24.36	V / 1.00 / 0	-24.74	n/a
63.87 MHz	44.05 Qp	0.76 / 11.9 / 29.46 / 0.0	27.25	V / 1.00 / 0	-21.85	n/a
70.044 MHz	47.2 Qp	0.8 / 10.08 / 29.39 / 0.0	28.7	V / 1.00 / 0	-20.4	n/a
71.286 MHz	45.1 Qp	0.81 / 9.66 / 29.38 / 0.0	26.19	V / 1.00 / 0	-22.91	n/a
73.752 MHz	43.5 Qp	0.83 / 8.82 / 29.35 / 0.0	23.8	V / 1.00 / 0	-25.3	n/a
74.994 MHz	46.3 Qp	0.83 / 8.4 / 29.34 / 0.0	26.19	V / 1.00 / 0	-22.91	n/a
79.86 MHz	44.35 Qp	0.86 / 8.01 / 29.3 / 0.0	23.92	V / 1.00 / 0	-25.18	n/a
81.096 MHz	45.3 Qp	0.87 / 8.08 / 29.31 / 0.0	24.94	V / 1.00 / 0	-24.16	n/a
82.326 MHz	45.3 Qp	0.88 / 8.16 / 29.31 / 0.0	25.03	V / 1.00 / 0	-24.07	n/a
83.538 MHz	43.6 Qp	0.89 / 8.25 / 29.32 / 0.0	23.42	V / 1.00 / 0	-25.68	n/a
88.474 MHz	50.55 Qp	0.91 / 8.59 / 29.33 / 0.0	30.72	V / 1.00 / 0	-22.78	n/a
99.972 MHz	49.25 Qp	0.94 / 9.25 / 29.37 / 0.0	30.07	V / 1.00 / 0	-23.43	n/a
110.593 MHz	49.75 Qp	0.97 / 9.28 / 29.41 / 0.0	30.6	V / 1.00 / 0	-22.9	n/a
120.243 MHz	43.6 Qp	1.0 / 9.68 / 29.44 / 0.0	24.83	V / 1.00 / 0	-28.67	n/a
132.715 MHz	46.55 Qp	1.04 / 8.93 / 29.48 / 0.0	27.04	V / 1.00 / 0	-26.46	n/a
140.075 MHz	39.2 Qp	1.07 / 9.56 / 29.49 / 0.0	20.33	V / 1.00 / 0	-33.17	n/a
150.0 MHz	52.4 Qp	1.11 / 10.4 / 29.46 / 0.0	34.45	V / 1.00 / 0	-19.05	n/a
152.471 MHz	36.7 Qp	1.13 / 9.86 / 29.45 / 0.0	18.23	V / 1.00 / 0	-35.27	n/a
154.562 MHz	40.6 Qp	1.15 / 9.4 / 29.45 / 0.0	21.7	V / 1.00 / 0	-31.8	n/a
154.836 MHz	51.1 Qp	1.15 / 9.34 / 29.45 / 0.0	32.14	V / 1.00 / 0	-21.36	n/a
171.74 MHz	31.55 Qp	1.25 / 9.5 / 29.41 / 0.0	12.89	V / 1.00 / 0	-40.61	n/a
176.946 MHz	40.8 Qp	1.27 / 9.66 / 29.44 / 0.0	22.29	V / 1.00 / 0	-31.21	n/a
188.94 MHz	42.2 Qp	1.32 / 10.43 / 29.51 / 0.0	24.44	V / 1.00 / 0	-29.06	n/a
199.074 MHz	54.5 Qp	1.36 / 10.75 / 29.56 / 0.0	37.05	V / 1.00 / 0	-16.45	n/a
206.107 MHz	39.2 Qp	1.38 / 10.98 / 29.6 / 0.0	21.96	V / 1.00 / 0	-31.54	n/a

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RADIATED EMISSIONS

Test Report #:	WC704646 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	7/13/2007		
EUT Serial #:		EUT Power:	110V / 60Hz	Temperature:	23.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	48.0 %
EUT Description:	Stationary RFID reader				
Notes:	with AN4250 antenna				
Data File Name:	4646 class A.dat			Page:	2 of 8

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
223.285 MHz	37.4 Qp	1.42 / 11.53 / 29.7 / 0.0	20.66	V / 1.00 / 0	-35.74	n/a
240.462 MHz	40.35 Qp	1.46 / 12.09 / 29.6 / 0.0	24.3	V / 1.00 / 0	-32.1	n/a
243.302 MHz	45.1 Qp	1.47 / 12.18 / 29.58 / 0.0	29.16	V / 1.00 / 0	-27.24	n/a
265.421 MHz	30.7 Qp	1.53 / 12.89 / 29.59 / 0.0	15.53	V / 1.00 / 0	-40.87	n/a
287.546 MHz	38.8 Qp	1.64 / 13.52 / 29.82 / 0.0	24.14	V / 1.00 / 0	-32.26	n/a
291.995 MHz	28.4 Qp	1.67 / 13.63 / 29.86 / 0.0	13.83	V / 1.00 / 0	-42.57	n/a
300.0 MHz	45.0 Qp	1.71 / 13.83 / 29.87 / 0.0	30.67	V / 1.00 / 0	-25.73	n/a
331.784 MHz	36.65 Qp	1.85 / 14.64 / 29.65 / 0.0	23.49	V / 1.00 / 0	-32.91	n/a
353.894 MHz	35.05 Qp	1.92 / 15.16 / 29.72 / 0.0	22.42	V / 1.00 / 0	-33.98	n/a
376.013 MHz	44.7 Qp	1.96 / 15.52 / 29.89 / 0.0	32.29	V / 1.00 / 0	-24.11	n/a
420.26 MHz	35.25 Qp	2.03 / 16.22 / 29.81 / 0.0	23.69	V / 1.00 / 0	-32.71	n/a
464.492 MHz	37.95 Qp	2.08 / 16.93 / 30.03 / 0.0	26.93	V / 1.00 / 0	-29.47	n/a
486.608 MHz	37.75 Qp	2.1 / 17.29 / 30.06 / 0.0	27.08	V / 1.00 / 0	-29.32	n/a
552.96 MHz	31.95 Qp	2.29 / 18.35 / 30.1 / 0.0	22.49	V / 1.00 / 0	-33.91	n/a
597.197 MHz	44.75 Qp	2.5 / 19.06 / 30.02 / 0.0	36.28	V / 1.00 / 0	-20.12	n/a
641.445 MHz	43.65 Qp	2.55 / 19.76 / 29.95 / 0.0	36.02	V / 1.00 / 0	-20.38	n/a
685.67 MHz	35.3 Qp	2.6 / 20.47 / 29.87 / 0.0	28.5	V / 1.00 / 0	-27.9	n/a
99.972 MHz	52.3 Qp	0.94 / 9.25 / 29.37 / 0.0	33.12	V / 1.00 / 90	-20.38	n/a
110.593 MHz	50.35 Qp	0.97 / 9.28 / 29.41 / 0.0	31.2	V / 1.00 / 90	-22.3	n/a
152.471 MHz	44.15 Qp	1.13 / 9.86 / 29.45 / 0.0	25.68	V / 1.00 / 90	-27.82	n/a
171.74 MHz	37.6 Qp	1.25 / 9.5 / 29.41 / 0.0	18.94	V / 1.00 / 90	-34.56	n/a
176.946 MHz	43.8 Qp	1.27 / 9.66 / 29.44 / 0.0	25.29	V / 1.00 / 90	-28.21	n/a
206.107 MHz	41.4 Qp	1.38 / 10.98 / 29.6 / 0.0	24.16	V / 1.00 / 90	-29.34	n/a
331.784 MHz	43.5 Qp	1.85 / 14.64 / 29.65 / 0.0	30.34	V / 1.00 / 90	-26.06	n/a
464.492 MHz	40.95 Qp	2.08 / 16.93 / 30.03 / 0.0	29.93	V / 1.00 / 90	-26.47	n/a
552.96 MHz	36.45 Qp	2.29 / 18.35 / 30.1 / 0.0	26.99	V / 1.00 / 90	-29.41	n/a

Tested by: Greg Jakubowki

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RADIATED EMISSIONS

Test Report #:	WC704646 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	7/13/2007		
EUT Serial #:		EUT Power:	110V / 60Hz	Temperature:	23.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	48.0 %
EUT Description:	Stationary RFID reader				
Notes:	with AN4250 antenna				
Data File Name:	4646 class A.dat			Page:	3 of 8

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
685.67 MHz	37.1 Qp	2.6 / 20.47 / 29.87 / 0.0	30.3	V / 1.00 / 90	-26.1	n/a
58.974 MHz	41.1 Qp	0.72 / 12.34 / 29.5 / 0.0	24.66	V / 1.00 / 180	-24.44	n/a
71.286 MHz	45.2 Qp	0.81 / 9.66 / 29.38 / 0.0	26.29	V / 1.00 / 180	-22.81	n/a
73.752 MHz	44.0 Qp	0.83 / 8.82 / 29.35 / 0.0	24.3	V / 1.00 / 180	-24.8	n/a
99.972 MHz	62.2 Qp	0.94 / 9.25 / 29.37 / 0.0	43.02	V / 1.00 / 180	-10.48	n/a
150.0 MHz	56.8 Qp	1.11 / 10.4 / 29.46 / 0.0	38.85	V / 1.00 / 180	-14.65	n/a
154.562 MHz	43.4 Qp	1.15 / 9.4 / 29.45 / 0.0	24.5	V / 1.00 / 180	-29.0	n/a
154.836 MHz	54.5 Qp	1.15 / 9.34 / 29.45 / 0.0	35.54	V / 1.00 / 180	-17.96	n/a
176.946 MHz	48.65 Qp	1.27 / 9.66 / 29.44 / 0.0	30.14	V / 1.00 / 180	-23.36	n/a
188.94 MHz	45.45 Qp	1.32 / 10.43 / 29.51 / 0.0	27.69	V / 1.00 / 180	-25.81	n/a
199.074 MHz	59.5 Qp	1.36 / 10.75 / 29.56 / 0.0	42.05	V / 1.00 / 180	-11.45	n/a
223.285 MHz	40.85 Qp	1.42 / 11.53 / 29.7 / 0.0	24.11	V / 1.00 / 180	-32.29	n/a
243.302 MHz	47.8 Qp	1.47 / 12.18 / 29.58 / 0.0	31.86	V / 1.00 / 180	-24.54	n/a
265.421 MHz	35.05 Qp	1.53 / 12.89 / 29.59 / 0.0	19.88	V / 1.00 / 180	-36.52	n/a
291.995 MHz	30.65 Qp	1.67 / 13.63 / 29.86 / 0.0	16.08	V / 1.00 / 180	-40.32	n/a
300.0 MHz	47.7 Qp	1.71 / 13.83 / 29.87 / 0.0	33.37	V / 1.00 / 180	-23.03	n/a
420.26 MHz	38.4 Qp	2.03 / 16.22 / 29.81 / 0.0	26.84	V / 1.00 / 180	-29.56	n/a
464.492 MHz	43.4 Qp	2.08 / 16.93 / 30.03 / 0.0	32.38	V / 1.00 / 180	-24.02	n/a
552.96 MHz	37.75 Qp	2.29 / 18.35 / 30.1 / 0.0	28.29	V / 1.00 / 180	-28.11	n/a
223.285 MHz	42.9 Qp	1.42 / 11.53 / 29.7 / 0.0	26.16	V / 1.00 / 270	-30.24	n/a
287.546 MHz	42.15 Qp	1.64 / 13.52 / 29.82 / 0.0	27.49	V / 1.00 / 270	-28.91	n/a
291.995 MHz	31.85 Qp	1.67 / 13.63 / 29.86 / 0.0	17.28	V / 1.00 / 270	-39.12	n/a
300.0 MHz	50.95 Qp	1.71 / 13.83 / 29.87 / 0.0	36.62	V / 1.00 / 270	-19.78	n/a
353.894 MHz	37.15 Qp	1.92 / 15.16 / 29.72 / 0.0	24.52	V / 1.00 / 270	-31.88	n/a
376.013 MHz	49.9 Qp	1.96 / 15.52 / 29.89 / 0.0	37.49	V / 1.00 / 270	-18.91	n/a

Tested by: Greg Jakubowki — Printed — Signature

Reviewed by: J. T. Schneider — Printed — Signature

RADIATED EMISSIONS

Test Report #:	WC704646 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	7/13/2007		
EUT Serial #:		EUT Power:	110V / 60Hz	Temperature:	23.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	48.0 %
EUT Description:	Stationary RFID reader				
Notes:	with AN4250 antenna				
Data File Name:	4646 class A.dat			Page:	4 of 8

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
420.26 MHz	41.25 Qp	2.03 / 16.22 / 29.81 / 0.0	29.69	V / 1.00 / 270	-26.71	n/a
171.74 MHz	41.95 Qp	1.25 / 9.5 / 29.41 / 0.0	23.29	H / 1.00 / 270	-30.21	n/a
176.946 MHz	49.45 Qp	1.27 / 9.66 / 29.44 / 0.0	30.94	H / 1.00 / 270	-22.56	n/a
188.94 MHz	46.0 Qp	1.32 / 10.43 / 29.51 / 0.0	28.24	H / 1.00 / 270	-25.26	n/a
199.074 MHz	63.5 Qp	1.36 / 10.75 / 29.56 / 0.0	46.05	H / 1.00 / 270	-7.45	n/a
206.107 MHz	47.1 Qp	1.38 / 10.98 / 29.6 / 0.0	29.86	H / 1.00 / 270	-23.64	n/a
240.462 MHz	45.55 Qp	1.46 / 12.09 / 29.6 / 0.0	29.5	H / 1.00 / 270	-26.9	n/a
243.302 MHz	52.15 Qp	1.47 / 12.18 / 29.58 / 0.0	36.21	H / 1.00 / 270	-20.19	n/a
265.421 MHz	39.7 Qp	1.53 / 12.89 / 29.59 / 0.0	24.53	H / 1.00 / 270	-31.87	n/a
287.546 MHz	43.0 Qp	1.64 / 13.52 / 29.82 / 0.0	28.34	H / 1.00 / 270	-28.06	n/a
291.995 MHz	33.15 Qp	1.67 / 13.63 / 29.86 / 0.0	18.58	H / 1.00 / 270	-37.82	n/a
552.96 MHz	38.9 Qp	2.29 / 18.35 / 30.1 / 0.0	29.44	H / 1.00 / 270	-26.96	n/a
188.94 MHz	51.25 Qp	1.32 / 10.43 / 29.51 / 0.0	33.49	H / 1.00 / 180	-20.01	n/a
291.995 MHz	35.0 Qp	1.67 / 13.63 / 29.86 / 0.0	20.43	H / 1.00 / 180	-35.97	n/a
171.74 MHz	44.0 Qp	1.25 / 9.5 / 29.41 / 0.0	25.34	H / 1.00 / 0	-28.16	n/a
331.784 MHz	45.05 Qp	1.85 / 14.64 / 29.65 / 0.0	31.89	H / 3.00 / 90	-24.51	n/a
99.972 MHz	52.3 Qp	0.94 / 9.25 / 29.37 / 0.0	33.12	H / 3.00 / 180	-20.38	n/a
150.0 MHz	45.9 Qp	1.11 / 10.4 / 29.46 / 0.0	27.95	H / 3.00 / 180	-25.55	n/a
154.836 MHz	49.95 Qp	1.15 / 9.34 / 29.45 / 0.0	30.99	H / 3.00 / 180	-22.51	n/a
176.946 MHz	44.6 Qp	1.27 / 9.66 / 29.44 / 0.0	26.09	H / 3.00 / 180	-27.41	n/a
199.074 MHz	45.85 Qp	1.36 / 10.75 / 29.56 / 0.0	28.4	H / 3.00 / 180	-25.1	n/a
206.107 MHz	40.75 Qp	1.38 / 10.98 / 29.6 / 0.0	23.51	H / 3.00 / 180	-29.99	n/a

Tested by: Greg Jakubowki — Printed — Signature

Reviewed by: J. T. Schneider — Printed — Signature

RADIATED EMISSIONS

Test Report #:	WC704646 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	7/13/2007		
EUT Serial #:		EUT Power:	110V / 60Hz	Temperature:	23.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	48.0 %
EUT Description:	Stationary RFID reader				
Notes:	with AN4250 antenna				
Data File Name:	4646 class A.dat			Page:	5 of 8

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
243.302 MHz	46.15 Qp	1.47 / 12.18 / 29.58 / 0.0	30.21	H / 3.00 / 180	-26.19	n/a
376.013 MHz	39.65 Qp	1.96 / 15.52 / 29.89 / 0.0	27.24	H / 3.00 / 180	-29.16	n/a
70.044 MHz	41.65 Qp	0.8 / 10.08 / 29.39 / 0.0	23.15	H / 3.00 / 270	-25.95	n/a
71.286 MHz	41.0 Qp	0.81 / 9.66 / 29.38 / 0.0	22.09	H / 3.00 / 270	-27.01	n/a
73.752 MHz	40.65 Qp	0.83 / 8.82 / 29.35 / 0.0	20.95	H / 3.00 / 270	-28.15	n/a
73.752 MHz	40.6 Qp	0.83 / 8.82 / 29.35 / 0.0	20.9	H / 3.00 / 270	-28.2	n/a
Maximized emissions within 10dB of the B limit if in a restricted band						
150.0 MHz	59.22 Qp	1.11 / 10.4 / 29.46 / 0.0	41.27	V / 1.00 / 213	-12.23	n/a
Maximized emissions within 10dB of the A limit if not in a restricted band						
199.074 MHz	65.49 Qp	1.36 / 10.75 / 29.56 / 0.0	48.04	H / 1.00 / 266	-5.46	n/a
End scan 30 - 1000 MHz						

Tested by: Greg Jakubowki — Printed — Signature

Reviewed by: J. T. Schneider — Printed — Signature

RADIATED EMISSIONS

Test Report #:	WC704646 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	7/13/2007		
EUT Serial #:		EUT Power:	110V / 60Hz	Temperature:	23.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	48.0 %
EUT Description:	Stationary RFID reader				
Notes:	with AN4250 antenna				
Data File Name:	4646 class A.dat			Page:	6 of 8

Measurement summary for limit1: FCC-A <1GHz 3m (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m
199.074 MHz	65.49 Qp	1.36 / 10.75 / 29.56 / 0.0	48.04	H / 1.00 / 266	-5.46
99.972 MHz	62.2 Qp	0.94 / 9.25 / 29.37 / 0.0	43.02	V / 1.00 / 180	-10.48
150.0 MHz	59.22 Qp	1.11 / 10.4 / 29.46 / 0.0	41.27	V / 1.00 / 213	-12.23
154.836 MHz	54.5 Qp	1.15 / 9.34 / 29.45 / 0.0	35.54	V / 1.00 / 180	-17.96
376.013 MHz	49.9 Qp	1.96 / 15.52 / 29.89 / 0.0	37.49	V / 1.00 / 270	-18.91
300.0 MHz	50.95 Qp	1.71 / 13.83 / 29.87 / 0.0	36.62	V / 1.00 / 270	-19.78
188.94 MHz	51.25 Qp	1.32 / 10.43 / 29.51 / 0.0	33.49	H / 1.00 / 180	-20.01
597.197 MHz	44.75 Qp	2.5 / 19.06 / 30.02 / 0.0	36.28	V / 1.00 / 0	-20.12
243.302 MHz	52.15 Qp	1.47 / 12.18 / 29.58 / 0.0	36.21	H / 1.00 / 270	-20.19
641.445 MHz	43.65 Qp	2.55 / 19.76 / 29.95 / 0.0	36.02	V / 1.00 / 0	-20.38
70.044 MHz	47.2 Qp	0.8 / 10.08 / 29.39 / 0.0	28.7	V / 1.00 / 0	-20.4
63.87 MHz	44.05 Qp	0.76 / 11.9 / 29.46 / 0.0	27.25	V / 1.00 / 0	-21.85
41.045 MHz	39.2 Qp	0.48 / 17.17 / 29.69 / 0.0	27.16	V / 1.00 / 0	-21.94
110.593 MHz	50.35 Qp	0.97 / 9.28 / 29.41 / 0.0	31.2	V / 1.00 / 90	-22.3
176.946 MHz	49.45 Qp	1.27 / 9.66 / 29.44 / 0.0	30.94	H / 1.00 / 270	-22.56
88.474 MHz	50.55 Qp	0.91 / 8.59 / 29.33 / 0.0	30.72	V / 1.00 / 0	-22.78
71.286 MHz	45.2 Qp	0.81 / 9.66 / 29.38 / 0.0	26.29	V / 1.00 / 180	-22.81
74.994 MHz	46.3 Qp	0.83 / 8.4 / 29.34 / 0.0	26.19	V / 1.00 / 0	-22.91
206.107 MHz	47.1 Qp	1.38 / 10.98 / 29.6 / 0.0	29.86	H / 1.00 / 270	-23.64
464.492 MHz	43.4 Qp	2.08 / 16.93 / 30.03 / 0.0	32.38	V / 1.00 / 180	-24.02
82.326 MHz	45.3 Qp	0.88 / 8.16 / 29.31 / 0.0	25.03	V / 1.00 / 0	-24.07
81.096 MHz	45.3 Qp	0.87 / 8.08 / 29.31 / 0.0	24.94	V / 1.00 / 0	-24.16
58.974 MHz	41.1 Qp	0.72 / 12.34 / 29.5 / 0.0	24.66	V / 1.00 / 180	-24.44
331.784 MHz	45.05 Qp	1.85 / 14.64 / 29.65 / 0.0	31.89	H / 3.00 / 90	-24.51
73.752 MHz	44.0 Qp	0.83 / 8.82 / 29.35 / 0.0	24.3	V / 1.00 / 180	-24.8
79.86 MHz	44.35 Qp	0.86 / 8.01 / 29.3 / 0.0	23.92	V / 1.00 / 0	-25.18

Tested by: Greg Jakubowki — Printed — Signature

Reviewed by: J. T. Schneider — Printed — Signature

RADIATED EMISSIONS

Test Report #:	WC704646 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	7/13/2007		
EUT Serial #:		EUT Power:	110V / 60Hz	Temperature:	23.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	48.0 %
EUT Description:	Stationary RFID reader				
Notes:	with AN4250 antenna				
Data File Name:	4646 class A.dat			Page:	7 of 8

Measurement summary for limit1: FCC-A <1GHz 3m (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m
83.538 MHz	43.6 Qp	0.89 / 8.25 / 29.32 / 0.0	23.42	V / 1.00 / 0	-25.68
685.67 MHz	37.1 Qp	2.6 / 20.47 / 29.87 / 0.0	30.3	V / 1.00 / 90	-26.1
132.715 MHz	46.55 Qp	1.04 / 8.93 / 29.48 / 0.0	27.04	V / 1.00 / 0	-26.46
420.26 MHz	41.25 Qp	2.03 / 16.22 / 29.81 / 0.0	29.69	V / 1.00 / 270	-26.71
240.462 MHz	45.55 Qp	1.46 / 12.09 / 29.6 / 0.0	29.5	H / 1.00 / 270	-26.9
552.96 MHz	38.9 Qp	2.29 / 18.35 / 30.1 / 0.0	29.44	H / 1.00 / 270	-26.96
152.471 MHz	44.15 Qp	1.13 / 9.86 / 29.45 / 0.0	25.68	V / 1.00 / 90	-27.82
287.546 MHz	43.0 Qp	1.64 / 13.52 / 29.82 / 0.0	28.34	H / 1.00 / 270	-28.06
171.74 MHz	44.0 Qp	1.25 / 9.5 / 29.41 / 0.0	25.34	H / 1.00 / 0	-28.16
120.243 MHz	43.6 Qp	1.0 / 9.68 / 29.44 / 0.0	24.83	V / 1.00 / 0	-28.67
154.562 MHz	43.4 Qp	1.15 / 9.4 / 29.45 / 0.0	24.5	V / 1.00 / 180	-29.0
486.608 MHz	37.75 Qp	2.1 / 17.29 / 30.06 / 0.0	27.08	V / 1.00 / 0	-29.32
223.285 MHz	42.9 Qp	1.42 / 11.53 / 29.7 / 0.0	26.16	V / 1.00 / 270	-30.24
265.421 MHz	39.7 Qp	1.53 / 12.89 / 29.59 / 0.0	24.53	H / 1.00 / 270	-31.87
353.894 MHz	37.15 Qp	1.92 / 15.16 / 29.72 / 0.0	24.52	V / 1.00 / 270	-31.88
140.075 MHz	39.2 Qp	1.07 / 9.56 / 29.49 / 0.0	20.33	V / 1.00 / 0	-33.17
291.995 MHz	35.0 Qp	1.67 / 13.63 / 29.86 / 0.0	20.43	H / 1.00 / 180	-35.97

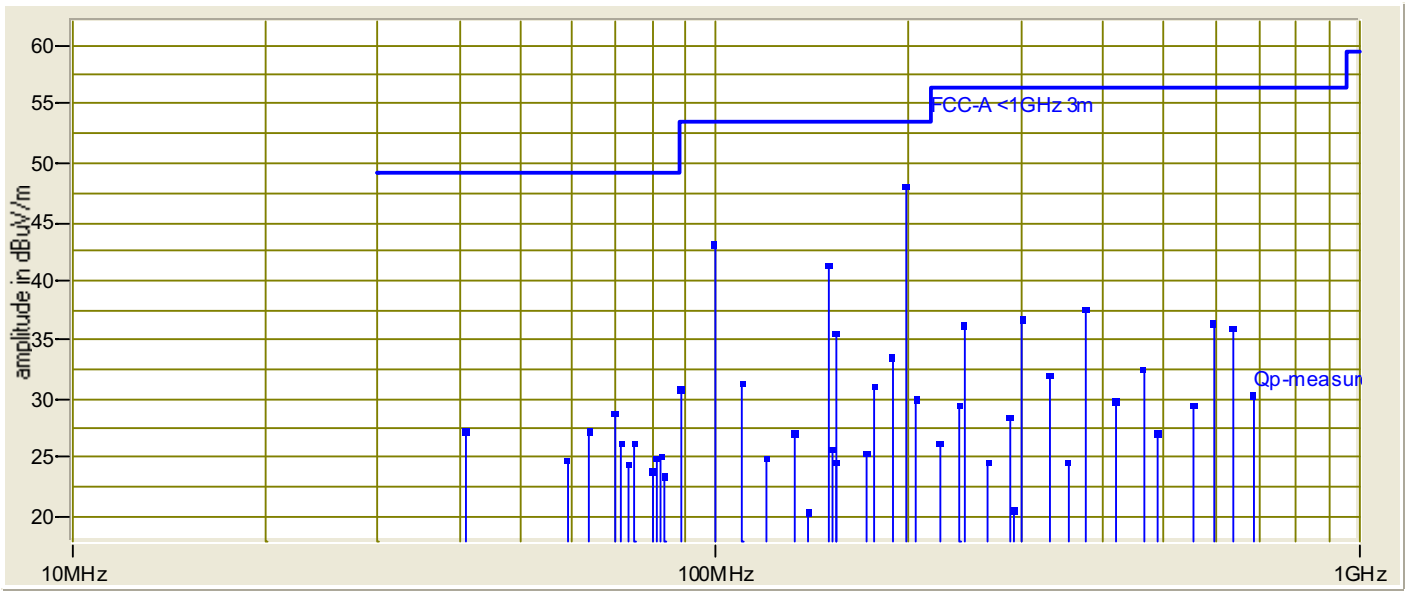
Tested by: Greg Jakubowki — Printed — Signature

Reviewed by: J. T. Schneider — Printed — Signature

RADIATED EMISSIONS

Test Report #:	WC704646 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	7/13/2007		
EUT Serial #:		EUT Power:	110V / 60Hz	Temperature:	23.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	48.0 %
EUT Description:	Stationary RFID reader				
Notes:	with AN4250 antenna				
Data File Name:	4646 class A.dat			Page:	8 of 8

Graph:



Tested by: Greg Jakubowki

Printed | Signature

Reviewed by: J. T. Schneider

Printed | Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 1	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4711 Antenna				
Data File Name:	5658 class A.dat			Page:	1 of 8

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
41.1 MHz	43.55 Qp	0.48 / 17.15 / 29.69 / 0.0	31.5	V / 1.00 / 0	-17.6	n/a
58.974 MHz	39.9 Qp	0.72 / 12.34 / 29.5 / 0.0	23.46	V / 1.00 / 0	-25.64	n/a
63.87 MHz	38.95 Qp	0.76 / 11.9 / 29.46 / 0.0	22.15	V / 1.00 / 0	-26.95	n/a
70.044 MHz	41.6 Qp	0.8 / 10.08 / 29.39 / 0.0	23.1	V / 1.00 / 0	-26.0	n/a
71.286 MHz	39.25 Qp	0.81 / 9.66 / 29.38 / 0.0	20.34	V / 1.00 / 0	-28.76	n/a
73.752 MHz	40.8 Qp	0.83 / 8.82 / 29.35 / 0.0	21.1	V / 1.00 / 0	-28.0	n/a
74.994 MHz	44.95 Qp	0.83 / 8.4 / 29.34 / 0.0	24.84	V / 1.00 / 0	-24.26	n/a
79.86 MHz	40.05 Qp	0.86 / 8.01 / 29.3 / 0.0	19.62	V / 1.00 / 0	-29.48	n/a
81.096 MHz	38.85 Qp	0.87 / 8.08 / 29.31 / 0.0	18.49	V / 1.00 / 0	-30.61	n/a
82.326 MHz	38.4 Qp	0.88 / 8.16 / 29.31 / 0.0	18.13	V / 1.00 / 0	-30.97	n/a
83.538 MHz	36.7 Qp	0.89 / 8.25 / 29.32 / 0.0	16.52	V / 1.00 / 0	-32.58	n/a
99.942 MHz	45.5 Pk	0.94 / 9.24 / 29.37 / 0.0	26.31	V / 1.00 / 0	-27.19*	n/a
110.593 MHz	42.7 Qp	0.97 / 9.28 / 29.41 / 0.0	23.55	V / 1.00 / 0	-29.95	n/a
132.715 MHz	44.1 Qp	1.04 / 8.93 / 29.48 / 0.0	24.59	V / 1.00 / 0	-28.91	n/a
140.075 MHz	37.65 Qp	1.07 / 9.56 / 29.49 / 0.0	18.78	V / 1.00 / 0	-34.72	n/a
150.0 MHz	49.15 Qp	1.11 / 10.4 / 29.46 / 0.0	31.2	V / 1.00 / 0	-22.3	n/a
152.471 MHz	35.05 Qp	1.13 / 9.86 / 29.45 / 0.0	16.58	V / 1.00 / 0	-36.92	n/a
154.562 MHz	38.2 Qp	1.15 / 9.4 / 29.45 / 0.0	19.3	V / 1.00 / 0	-34.2	n/a
154.836 MHz	47.85 Qp	1.15 / 9.34 / 29.45 / 0.0	28.89	V / 1.00 / 0	-24.61	n/a
171.74 MHz	35.15 Qp	1.25 / 9.5 / 29.41 / 0.0	16.49	V / 1.00 / 0	-37.01	n/a
176.946 MHz	41.55 Qp	1.27 / 9.66 / 29.44 / 0.0	23.04	V / 1.00 / 0	-30.46	n/a
188.94 MHz	36.5 Qp	1.32 / 10.43 / 29.51 / 0.0	18.74	V / 1.00 / 0	-34.76	n/a
199.074 MHz	45.3 Qp	1.36 / 10.75 / 29.56 / 0.0	27.85	V / 1.00 / 0	-25.65	n/a
206.107 MHz	34.8 Qp	1.38 / 10.98 / 29.6 / 0.0	17.56	V / 1.00 / 0	-35.94	n/a
223.285 MHz	33.1 Qp	1.42 / 11.53 / 29.7 / 0.0	16.36	V / 1.00 / 0	-40.04	n/a
240.462 MHz	32.8 Qp	1.46 / 12.09 / 29.6 / 0.0	16.75	V / 1.00 / 0	-39.65	n/a
243.302 MHz	40.4 Qp	1.47 / 12.18 / 29.58 / 0.0	24.46	V / 1.00 / 0	-31.94	n/a

Tested by: Tom K. Swanson — Printed

Thomas K. Swanson — Signature

Reviewed by: J. T. Schneider — Printed

Joel T. Schneider — Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 1	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4711 Antenna				
Data File Name:	5658 class A.dat			Page:	2 of 8

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
265.421 MHz	31.6 Qp	1.53 / 12.89 / 29.59 / 0.0	16.43	V / 1.00 / 0	-39.97	n/a
287.546 MHz	31.0 Qp	1.64 / 13.52 / 29.82 / 0.0	16.34	V / 1.00 / 0	-40.06	n/a
291.995 MHz	27.8 Qp	1.67 / 13.63 / 29.86 / 0.0	13.23	V / 1.00 / 0	-43.17	n/a
300.0 MHz	42.75 Qp	1.71 / 13.83 / 29.87 / 0.0	28.42	V / 1.00 / 0	-27.98	n/a
331.784 MHz	35.4 Qp	1.85 / 14.64 / 29.65 / 0.0	22.24	V / 1.00 / 0	-34.16	n/a
353.894 MHz	28.1 Qp	1.92 / 15.16 / 29.72 / 0.0	15.47	V / 1.00 / 0	-40.93	n/a
376.013 MHz	34.6 Qp	1.96 / 15.52 / 29.89 / 0.0	22.19	V / 1.00 / 0	-34.21	n/a
420.26 MHz	35.1 Qp	2.03 / 16.22 / 29.81 / 0.0	23.54	V / 1.00 / 0	-32.86	n/a
464.492 MHz	35.65 Qp	2.08 / 16.93 / 30.03 / 0.0	24.63	V / 1.00 / 0	-31.77	n/a
486.608 MHz	28.75 Qp	2.1 / 17.29 / 30.06 / 0.0	18.08	V / 1.00 / 0	-38.32	n/a
552.96 MHz	35.0 Qp	2.29 / 18.35 / 30.1 / 0.0	25.54	V / 1.00 / 0	-30.86	n/a
597.197 MHz	36.05 Qp	2.5 / 19.06 / 30.02 / 0.0	27.58	V / 1.00 / 0	-28.82	n/a
641.445 MHz	41.15 Qp	2.55 / 19.76 / 29.95 / 0.0	33.52	V / 1.00 / 0	-22.88	n/a
685.67 MHz	38.0 Qp	2.6 / 20.47 / 29.87 / 0.0	31.2	V / 1.00 / 0	-25.2	n/a
175.0 MHz	40.65 Qp	1.26 / 9.5 / 29.43 / 0.0	21.98	V / 1.00 / 0	-31.52	n/a
360.001 MHz	35.35 Qp	1.93 / 15.26 / 29.76 / 0.0	22.78	V / 1.00 / 0	-33.62	n/a
110.593 MHz	47.4 Qp	0.97 / 9.28 / 29.41 / 0.0	28.25	V / 1.00 / 90	-25.25	n/a
154.836 MHz	51.05 Qp	1.15 / 9.34 / 29.45 / 0.0	32.09	V / 1.00 / 90	-21.41	n/a
171.74 MHz	38.0 Qp	1.25 / 9.5 / 29.41 / 0.0	19.34	V / 1.00 / 90	-34.16	n/a
199.074 MHz	47.6 Qp	1.36 / 10.75 / 29.56 / 0.0	30.15	V / 1.00 / 90	-23.35	n/a
206.107 MHz	37.05 Qp	1.38 / 10.98 / 29.6 / 0.0	19.81	V / 1.00 / 90	-33.69	n/a
265.421 MHz	34.0 Qp	1.53 / 12.89 / 29.59 / 0.0	18.83	V / 1.00 / 90	-37.57	n/a
287.546 MHz	38.25 Qp	1.64 / 13.52 / 29.82 / 0.0	23.59	V / 1.00 / 90	-32.81	n/a
597.197 MHz	40.9 Qp	2.5 / 19.06 / 30.02 / 0.0	32.43	V / 1.00 / 90	-23.97	n/a
74.994 MHz	46.4 Qp	0.83 / 8.4 / 29.34 / 0.0	26.29	V / 1.00 / 180	-22.81	n/a

Tested by: Tom K. Swanson (Printed) — Thomas K. Swanson (Signature)

Reviewed by: J. T. Schneider (Printed) — Joel T. Schneider (Signature)

RADIATED EMISSIONS

Test Report #:	WC705658 Run 1	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4711 Antenna				
Data File Name:	5658 class A.dat			Page:	3 of 8

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
110.593 MHz	48.95 Qp	0.97 / 9.28 / 29.41 / 0.0	29.8	V / 1.00 / 180	-23.7	n/a
150.0 MHz	52.25 Qp	1.11 / 10.4 / 29.46 / 0.0	34.3	V / 1.00 / 180	-19.2	n/a
154.562 MHz	41.75 Qp	1.15 / 9.4 / 29.45 / 0.0	22.85	V / 1.00 / 180	-30.65	n/a
154.836 MHz	53.05 Qp	1.15 / 9.34 / 29.45 / 0.0	34.09	V / 1.00 / 180	-19.41	n/a
171.74 MHz	38.5 Qp	1.25 / 9.5 / 29.41 / 0.0	19.84	V / 1.00 / 180	-33.66	n/a
199.074 MHz	55.55 Qp	1.36 / 10.75 / 29.56 / 0.0	38.1	V / 1.00 / 180	-15.4	n/a
206.107 MHz	39.35 Qp	1.38 / 10.98 / 29.6 / 0.0	22.11	V / 1.00 / 180	-31.39	n/a
223.285 MHz	35.9 Qp	1.42 / 11.53 / 29.7 / 0.0	19.16	V / 1.00 / 180	-37.24	n/a
243.302 MHz	43.45 Qp	1.47 / 12.18 / 29.58 / 0.0	27.51	V / 1.00 / 180	-28.89	n/a
291.995 MHz	31.15 Qp	1.67 / 13.63 / 29.86 / 0.0	16.58	V / 1.00 / 180	-39.82	n/a
464.492 MHz	42.9 Qp	2.08 / 16.93 / 30.03 / 0.0	31.88	V / 1.00 / 180	-24.52	n/a
152.471 MHz	40.95 Qp	1.13 / 9.86 / 29.45 / 0.0	22.48	V / 1.00 / 270	-31.02	n/a
175.0 MHz	42.85 Qp	1.26 / 9.5 / 29.43 / 0.0	24.18	V / 1.00 / 270	-29.32	n/a
176.946 MHz	44.05 Qp	1.27 / 9.66 / 29.44 / 0.0	25.54	V / 1.00 / 270	-27.96	n/a
360.001 MHz	39.6 Qp	1.93 / 15.26 / 29.76 / 0.0	27.03	V / 1.00 / 270	-29.37	n/a
376.013 MHz	38.45 Qp	1.96 / 15.52 / 29.89 / 0.0	26.04	V / 1.00 / 270	-30.36	n/a
420.26 MHz	40.4 Qp	2.03 / 16.22 / 29.81 / 0.0	28.84	V / 1.00 / 270	-27.56	n/a
552.96 MHz	38.55 Qp	2.29 / 18.35 / 30.1 / 0.0	29.09	V / 1.00 / 270	-27.31	n/a
552.96 MHz	41.6 Qp	2.29 / 18.35 / 30.1 / 0.0	32.14	V / 1.00 / 315	-24.26	n/a
685.67 MHz	39.2 Qp	2.6 / 20.47 / 29.87 / 0.0	32.4	V / 1.00 / 315	-24.0	n/a
243.302 MHz	45.85 Qp	1.47 / 12.18 / 29.58 / 0.0	29.91	V / 1.00 / 135	-26.49	n/a
176.946 MHz	46.65 Qp	1.27 / 9.66 / 29.44 / 0.0	28.14	V / 1.00 / 45	-25.36	n/a
175.0 MHz	44.2 Qp	1.26 / 9.5 / 29.43 / 0.0	25.53	V / 1.00 / 45	-27.97	n/a

Tested by: Tom K. Swanson — Printed

Thomas K. Swanson — Signature

Reviewed by: J. T. Schneider — Printed

Joel T. Schneider — Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 1	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4711 Antenna				
Data File Name:	5658 class A.dat			Page:	4 of 8

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
331.784 MHz	37.6 Qp	1.85 / 14.64 / 29.65 / 0.0	24.44	V / 3.00 / 0	-31.96	n/a
150 MHz maxed						
150.0 MHz	52.25 Qp	1.11 / 10.4 / 29.46 / 0.0	34.3	V / 1.00 / 160	-19.2	n/a
199 MHz maxed						
199.074 MHz	55.85 Qp	1.36 / 10.75 / 29.56 / 0.0	38.4	V / 1.00 / 170	-15.1	n/a
154 MHz maxed						
154.836 MHz	53.2 Qp	1.15 / 9.34 / 29.45 / 0.0	34.24	V / 1.00 / 170	-19.26	n/a
150.0 MHz	50.2 Qp	1.11 / 10.4 / 29.46 / 0.0	32.25	H / 3.00 / 180	-21.25	n/a
154.836 MHz	50.1 Qp	1.15 / 9.34 / 29.45 / 0.0	31.14	H / 3.00 / 180	-22.36	n/a
360.001 MHz	42.65 Qp	1.93 / 15.26 / 29.76 / 0.0	30.08	H / 3.00 / 270	-26.32	n/a
199.074 MHz	51.6 Qp	1.36 / 10.75 / 29.56 / 0.0	34.15	H / 3.00 / 270	-19.35	n/a
188.94 MHz	40.9 Qp	1.32 / 10.43 / 29.51 / 0.0	23.14	H / 1.00 / 270	-30.36	n/a
199.074 MHz	54.75 Qp	1.36 / 10.75 / 29.56 / 0.0	37.3	H / 1.00 / 270	-16.2	n/a
240.462 MHz	44.25 Qp	1.46 / 12.09 / 29.6 / 0.0	28.2	H / 1.00 / 270	-28.2	n/a
243.302 MHz	55.25 Qp	1.47 / 12.18 / 29.58 / 0.0	39.31	H / 1.00 / 270	-17.09	n/a
265.421 MHz	44.45 Qp	1.53 / 12.89 / 29.59 / 0.0	29.28	H / 1.00 / 270	-27.12	n/a
331.784 MHz	42.5 Qp	1.85 / 14.64 / 29.65 / 0.0	29.34	H / 1.00 / 270	-27.06	n/a
291.995 MHz	35.4 Qp	1.67 / 13.63 / 29.86 / 0.0	20.83	H / 1.00 / 180	-35.57	n/a
287.546 MHz	40.3 Qp	1.64 / 13.52 / 29.82 / 0.0	25.64	H / 1.00 / 180	-30.76	n/a

Tested by: Tom K. Swanson — Printed

Thomas K. Swanson — Signature

Reviewed by: J. T. Schneider — Printed

Joel T. Schneider — Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 1	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4711 Antenna				
Data File Name:	5658 class A.dat			Page:	5 of 8

List of measurements for run #: 1

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
243 MHz maxed						
243.302 MHz	56.0 Qp	1.47 / 12.18 / 29.58 / 0.0	40.06	H / 1.00 / 275	-16.34	n/a
199 MHz maxed						
199.074 MHz	58.4 Qp	1.36 / 10.75 / 29.56 / 0.0	40.95	H / 1.50 / 230	-12.55	n/a
150 MHz maxed						
150.0 MHz	52.8 Qp	1.11 / 10.4 / 29.46 / 0.0	34.85	H / 2.50 / 205	-18.65	n/a
154 MHz maxed						
154.836 MHz	53.35 Qp	1.15 / 9.34 / 29.45 / 0.0	34.39	H / 2.90 / 225	-19.11	n/a
End of scan 30 to 1000 MHz						

Tested by: Tom K. Swanson — Printed

Thomas K. Swanson — Signature

Reviewed by: J. T. Schneider — Printed

Joel T. Schneider — Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 1	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4711 Antenna				
Data File Name:	5658 class A.dat			Page:	6 of 8

Measurement summary for limit1: FCC-A <1GHz 3m (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m
199.074 MHz	58.4 Qp	1.36 / 10.75 / 29.56 / 0.0	40.95	H / 1.50 / 230	-12.55
243.302 MHz	56.0 Qp	1.47 / 12.18 / 29.58 / 0.0	40.06	H / 1.00 / 275	-16.34
41.1 MHz	43.55 Qp	0.48 / 17.15 / 29.69 / 0.0	31.5	V / 1.00 / 0	-17.6
150.0 MHz	52.8 Qp	1.11 / 10.4 / 29.46 / 0.0	34.85	H / 2.50 / 205	-18.65
154.836 MHz	53.35 Qp	1.15 / 9.34 / 29.45 / 0.0	34.39	H / 2.90 / 225	-19.11
74.994 MHz	46.4 Qp	0.83 / 8.4 / 29.34 / 0.0	26.29	V / 1.00 / 180	-22.81
641.445 MHz	41.15 Qp	2.55 / 19.76 / 29.95 / 0.0	33.52	V / 1.00 / 0	-22.88
110.593 MHz	48.95 Qp	0.97 / 9.28 / 29.41 / 0.0	29.8	V / 1.00 / 180	-23.7
597.197 MHz	40.9 Qp	2.5 / 19.06 / 30.02 / 0.0	32.43	V / 1.00 / 90	-23.97
685.67 MHz	39.2 Qp	2.6 / 20.47 / 29.87 / 0.0	32.4	V / 1.00 / 315	-24.0
552.96 MHz	41.6 Qp	2.29 / 18.35 / 30.1 / 0.0	32.14	V / 1.00 / 315	-24.26
464.492 MHz	42.9 Qp	2.08 / 16.93 / 30.03 / 0.0	31.88	V / 1.00 / 180	-24.52
176.946 MHz	46.65 Qp	1.27 / 9.66 / 29.44 / 0.0	28.14	V / 1.00 / 45	-25.36
58.974 MHz	39.9 Qp	0.72 / 12.34 / 29.5 / 0.0	23.46	V / 1.00 / 0	-25.64
70.044 MHz	41.6 Qp	0.8 / 10.08 / 29.39 / 0.0	23.1	V / 1.00 / 0	-26.0
360.001 MHz	42.65 Qp	1.93 / 15.26 / 29.76 / 0.0	30.08	H / 3.00 / 270	-26.32
63.87 MHz	38.95 Qp	0.76 / 11.9 / 29.46 / 0.0	22.15	V / 1.00 / 0	-26.95
331.784 MHz	42.5 Qp	1.85 / 14.64 / 29.65 / 0.0	29.34	H / 1.00 / 270	-27.06
265.421 MHz	44.45 Qp	1.53 / 12.89 / 29.59 / 0.0	29.28	H / 1.00 / 270	-27.12
420.26 MHz	40.4 Qp	2.03 / 16.22 / 29.81 / 0.0	28.84	V / 1.00 / 270	-27.56
175.0 MHz	44.2 Qp	1.26 / 9.5 / 29.43 / 0.0	25.53	V / 1.00 / 45	-27.97
300.0 MHz	42.75 Qp	1.71 / 13.83 / 29.87 / 0.0	28.42	V / 1.00 / 0	-27.98
73.752 MHz	40.8 Qp	0.83 / 8.82 / 29.35 / 0.0	21.1	V / 1.00 / 0	-28.0
240.462 MHz	44.25 Qp	1.46 / 12.09 / 29.6 / 0.0	28.2	H / 1.00 / 270	-28.2
71.286 MHz	39.25 Qp	0.81 / 9.66 / 29.38 / 0.0	20.34	V / 1.00 / 0	-28.76
132.715 MHz	44.1 Qp	1.04 / 8.93 / 29.48 / 0.0	24.59	V / 1.00 / 0	-28.91

Tested by: Tom K. Swanson (Printed) — Thomas K. Swanson (Signature)

Reviewed by: J. T. Schneider (Printed) — Joel T. Schneider (Signature)

RADIATED EMISSIONS

Test Report #:	WC705658 Run 1	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4711 Antenna				
Data File Name:	5658 class A.dat			Page:	7 of 8

Measurement summary for limit1: FCC-A <1GHz 3m (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m
79.86 MHz	40.05 Qp	0.86 / 8.01 / 29.3 / 0.0	19.62	V / 1.00 / 0	-29.48
188.94 MHz	40.9 Qp	1.32 / 10.43 / 29.51 / 0.0	23.14	H / 1.00 / 270	-30.36
376.013 MHz	38.45 Qp	1.96 / 15.52 / 29.89 / 0.0	26.04	V / 1.00 / 270	-30.36
81.096 MHz	38.85 Qp	0.87 / 8.08 / 29.31 / 0.0	18.49	V / 1.00 / 0	-30.61
154.562 MHz	41.75 Qp	1.15 / 9.4 / 29.45 / 0.0	22.85	V / 1.00 / 180	-30.65
287.546 MHz	40.3 Qp	1.64 / 13.52 / 29.82 / 0.0	25.64	H / 1.00 / 180	-30.76
82.326 MHz	38.4 Qp	0.88 / 8.16 / 29.31 / 0.0	18.13	V / 1.00 / 0	-30.97
152.471 MHz	40.95 Qp	1.13 / 9.86 / 29.45 / 0.0	22.48	V / 1.00 / 270	-31.02
206.107 MHz	39.35 Qp	1.38 / 10.98 / 29.6 / 0.0	22.11	V / 1.00 / 180	-31.39
83.538 MHz	36.7 Qp	0.89 / 8.25 / 29.32 / 0.0	16.52	V / 1.00 / 0	-32.58
171.74 MHz	38.5 Qp	1.25 / 9.5 / 29.41 / 0.0	19.84	V / 1.00 / 180	-33.66
140.075 MHz	37.65 Qp	1.07 / 9.56 / 29.49 / 0.0	18.78	V / 1.00 / 0	-34.72
291.995 MHz	35.4 Qp	1.67 / 13.63 / 29.86 / 0.0	20.83	H / 1.00 / 180	-35.57
223.285 MHz	35.9 Qp	1.42 / 11.53 / 29.7 / 0.0	19.16	V / 1.00 / 180	-37.24
486.608 MHz	28.75 Qp	2.1 / 17.29 / 30.06 / 0.0	18.08	V / 1.00 / 0	-38.32
353.894 MHz	28.1 Qp	1.92 / 15.16 / 29.72 / 0.0	15.47	V / 1.00 / 0	-40.93
99.942 MHz	45.5 Pk	0.94 / 9.24 / 29.37 / 0.0	26.31	V / 1.00 / 0	-27.19*

Tested by: Tom K. Swanson — Printed

Thomas K. Swanson — Signature

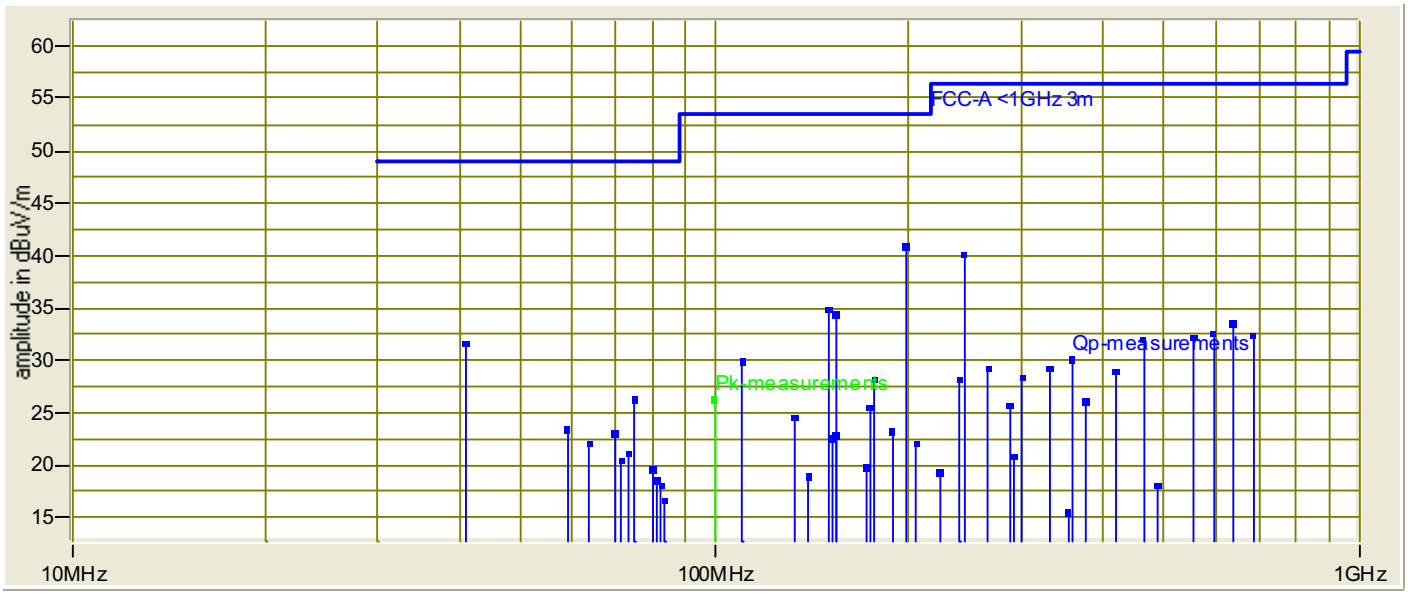
Reviewed by: J. T. Schneider — Printed

Joel T. Schneider — Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 1	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4711 Antenna				
Data File Name:	5658 class A.dat			Page:	8 of 8

Graph:



Tested by: Tom K. Swanson
Printed

Thomas K. Swanson
Signature

Reviewed by: J. T. Schneider
Printed

Joel T. Schneider
Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4110 Antenna				
Data File Name:	5658 class A.dat			Page:	1 of 8

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
41.1 MHz	43.2 Qp	0.48 / 17.15 / 29.69 / 0.0	31.15	V / 1.00 / 0	-17.95	n/a
58.974 MHz	38.0 Qp	0.72 / 12.34 / 29.5 / 0.0	21.56	V / 1.00 / 0	-27.54	n/a
63.87 MHz	38.35 Qp	0.76 / 11.9 / 29.46 / 0.0	21.55	V / 1.00 / 0	-27.55	n/a
70.044 MHz	41.7 Qp	0.8 / 10.08 / 29.39 / 0.0	23.2	V / 1.00 / 0	-25.9	n/a
71.286 MHz	38.4 Qp	0.81 / 9.66 / 29.38 / 0.0	19.49	V / 1.00 / 0	-29.61	n/a
73.752 MHz	39.45 Qp	0.83 / 8.82 / 29.35 / 0.0	19.75	V / 1.00 / 0	-29.35	n/a
74.994 MHz	43.4 Qp	0.83 / 8.4 / 29.34 / 0.0	23.29	V / 1.00 / 0	-25.81	n/a
79.86 MHz	39.8 Qp	0.86 / 8.01 / 29.3 / 0.0	19.37	V / 1.00 / 0	-29.73	n/a
41.1 MHz	43.45 Qp	0.48 / 17.15 / 29.69 / 0.0	31.4	V / 1.00 / 0	-17.7	n/a
63.87 MHz	38.5 Qp	0.76 / 11.9 / 29.46 / 0.0	21.7	V / 1.00 / 0	-27.4	n/a
71.286 MHz	38.45 Qp	0.81 / 9.66 / 29.38 / 0.0	19.54	V / 1.00 / 0	-29.56	n/a
79.86 MHz	39.85 Qp	0.86 / 8.01 / 29.3 / 0.0	19.42	V / 1.00 / 0	-29.68	n/a
81.096 MHz	38.2 Qp	0.87 / 8.08 / 29.31 / 0.0	17.84	V / 1.00 / 0	-31.26	n/a
82.326 MHz	38.2 Qp	0.88 / 8.16 / 29.31 / 0.0	17.93	V / 1.00 / 0	-31.17	n/a
83.538 MHz	37.35 Qp	0.89 / 8.25 / 29.32 / 0.0	17.17	V / 1.00 / 0	-31.93	n/a
99.942 MHz	44.0 Pk	0.94 / 9.24 / 29.37 / 0.0	24.81	V / 1.00 / 0	-28.69*	n/a
110.593 MHz	42.6 Qp	0.97 / 9.28 / 29.41 / 0.0	23.45	V / 1.00 / 0	-30.05	n/a
120.243 MHz	32.65 Qp	1.0 / 9.68 / 29.44 / 0.0	13.88	V / 1.00 / 0	-39.62	n/a
132.715 MHz	42.9 Qp	1.04 / 8.93 / 29.48 / 0.0	23.39	V / 1.00 / 0	-30.11	n/a
140.075 MHz	38.4 Qp	1.07 / 9.56 / 29.49 / 0.0	19.53	V / 1.00 / 0	-33.97	n/a
150.0 MHz	54.5 Qp	1.11 / 10.4 / 29.46 / 0.0	36.55	V / 1.00 / 0	-16.95	n/a
152.471 MHz	35.6 Qp	1.13 / 9.86 / 29.45 / 0.0	17.13	V / 1.00 / 0	-36.37	n/a
154.562 MHz	42.5 Qp	1.15 / 9.4 / 29.45 / 0.0	23.6	V / 1.00 / 0	-29.9	n/a
154.836 MHz	54.15 Qp	1.15 / 9.34 / 29.45 / 0.0	35.19	V / 1.00 / 0	-18.31	n/a
171.74 MHz	31.8 Qp	1.25 / 9.5 / 29.41 / 0.0	13.14	V / 1.00 / 0	-40.36	n/a
175.0 MHz	32.65 Qp	1.26 / 9.5 / 29.43 / 0.0	13.98	V / 1.00 / 0	-39.52	n/a
176.946 MHz	34.05 Qp	1.27 / 9.66 / 29.44 / 0.0	15.54	V / 1.00 / 0	-37.96	n/a

Tested by: Tom K. Swanson — Printed

Thomas K. Swanson — Signature

Reviewed by: J. T. Schneider — Printed

Joel T. Schneider — Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4110 Antenna				
Data File Name:	5658 class A.dat			Page:	2 of 8

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
188.94 MHz	35.0 Qp	1.32 / 10.43 / 29.51 / 0.0	17.24	V / 1.00 / 0	-36.26	n/a
199.074 MHz	46.45 Qp	1.36 / 10.75 / 29.56 / 0.0	29.0	V / 1.00 / 0	-24.5	n/a
206.107 MHz	35.9 Qp	1.38 / 10.98 / 29.6 / 0.0	18.66	V / 1.00 / 0	-34.84	n/a
223.285 MHz	29.4 Qp	1.42 / 11.53 / 29.7 / 0.0	12.66	V / 1.00 / 0	-43.74	n/a
240.462 MHz	34.05 Qp	1.46 / 12.09 / 29.6 / 0.0	18.0	V / 1.00 / 0	-38.4	n/a
243.302 MHz	41.45 Qp	1.47 / 12.18 / 29.58 / 0.0	25.51	V / 1.00 / 0	-30.89	n/a
265.421 MHz	32.0 Qp	1.53 / 12.89 / 29.59 / 0.0	16.83	V / 1.00 / 0	-39.57	n/a
287.546 MHz	34.25 Qp	1.64 / 13.52 / 29.82 / 0.0	19.59	V / 1.00 / 0	-36.81	n/a
300.0 MHz	47.1 Qp	1.71 / 13.83 / 29.87 / 0.0	32.77	V / 1.00 / 0	-23.63	n/a
331.784 MHz	31.45 Qp	1.85 / 14.64 / 29.65 / 0.0	18.29	V / 1.00 / 0	-38.11	n/a
360.001 MHz	35.5 Qp	1.93 / 15.26 / 29.76 / 0.0	22.93	V / 1.00 / 0	-33.47	n/a
376.013 MHz	33.65 Qp	1.96 / 15.52 / 29.89 / 0.0	21.24	V / 1.00 / 0	-35.16	n/a
420.26 MHz	34.35 Qp	2.03 / 16.22 / 29.81 / 0.0	22.79	V / 1.00 / 0	-33.61	n/a
464.492 MHz	33.9 Qp	2.08 / 16.93 / 30.03 / 0.0	22.88	V / 1.00 / 0	-33.52	n/a
486.608 MHz	28.35 Qp	2.1 / 17.29 / 30.06 / 0.0	17.68	V / 1.00 / 0	-38.72	n/a
552.96 MHz	37.55 Qp	2.29 / 18.35 / 30.1 / 0.0	28.09	V / 1.00 / 0	-28.31	n/a
597.197 MHz	39.6 Qp	2.5 / 19.06 / 30.02 / 0.0	31.13	V / 1.00 / 0	-25.27	n/a
641.445 MHz	41.35 Qp	2.55 / 19.76 / 29.95 / 0.0	33.72	V / 1.00 / 0	-22.68	n/a
685.67 MHz	37.55 Qp	2.6 / 20.47 / 29.87 / 0.0	30.75	V / 1.00 / 0	-25.65	n/a
729.921 MHz	31.75 Qp	2.69 / 21.18 / 29.79 / 0.0	25.82	V / 1.00 / 0	-30.58	n/a
750.009 MHz	33.5 Qp	2.71 / 21.5 / 29.76 / 0.0	27.95	V / 1.00 / 0	-28.45	n/a
774.154 MHz	34.95 Qp	2.74 / 21.89 / 29.72 / 0.0	29.85	V / 1.00 / 0	-26.55	n/a
818.393 MHz	32.9 Qp	2.78 / 22.07 / 29.64 / 0.0	28.1	V / 1.00 / 0	-28.3	n/a
176.946 MHz	39.35 Qp	1.27 / 9.66 / 29.44 / 0.0	20.84	V / 1.00 / 90	-32.66	n/a
265.421 MHz	36.8 Qp	1.53 / 12.89 / 29.59 / 0.0	21.63	V / 1.00 / 90	-34.77	n/a
287.546 MHz	40.55 Qp	1.64 / 13.52 / 29.82 / 0.0	25.89	V / 1.00 / 90	-30.51	n/a

Tested by: Tom K. Swanson — Printed

Thomas K. Swanson — Signature

Reviewed by: J. T. Schneider — Printed

Joel T. Schneider — Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4110 Antenna				
Data File Name:	5658 class A.dat			Page:	3 of 8

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
729.921 MHz	41.25 Qp	2.69 / 21.18 / 29.79 / 0.0	35.32	V / 1.00 / 90	-21.08	n/a
750.009 MHz	35.6 Qp	2.71 / 21.5 / 29.76 / 0.0	30.05	V / 1.00 / 90	-26.35	n/a
774.154 MHz	38.65 Qp	2.74 / 21.89 / 29.72 / 0.0	33.55	V / 1.00 / 90	-22.85	n/a
818.393 MHz	34.65 Qp	2.78 / 22.07 / 29.64 / 0.0	29.85	V / 1.00 / 90	-26.55	n/a
464.492 MHz	41.7 Qp	2.08 / 16.93 / 30.03 / 0.0	30.68	V / 1.00 / 180	-25.72	n/a
300.0 MHz	48.15 Qp	1.71 / 13.83 / 29.87 / 0.0	33.82	V / 1.00 / 180	-22.58	n/a
199.074 MHz	51.2 Qp	1.36 / 10.75 / 29.56 / 0.0	33.75	V / 1.00 / 180	-19.75	n/a
188.94 MHz	43.75 Qp	1.32 / 10.43 / 29.51 / 0.0	25.99	V / 1.00 / 180	-27.51	n/a
175.0 MHz	37.95 Qp	1.26 / 9.5 / 29.43 / 0.0	19.28	V / 1.00 / 180	-34.22	n/a
171.74 MHz	37.0 Qp	1.25 / 9.5 / 29.41 / 0.0	18.34	V / 1.00 / 180	-35.16	n/a
154.562 MHz	45.9 Qp	1.15 / 9.4 / 29.45 / 0.0	27.0	V / 1.00 / 180	-26.5	n/a
152.471 MHz	38.0 Qp	1.13 / 9.86 / 29.45 / 0.0	19.53	V / 1.00 / 180	-33.97	n/a
150.0 MHz	54.9 Qp	1.11 / 10.4 / 29.46 / 0.0	36.95	V / 1.00 / 180	-16.55	n/a
331.784 MHz	34.7 Qp	1.85 / 14.64 / 29.65 / 0.0	21.54	V / 1.00 / 270	-34.86	n/a
360.001 MHz	37.9 Qp	1.93 / 15.26 / 29.76 / 0.0	25.33	V / 1.00 / 270	-31.07	n/a
376.013 MHz	36.8 Qp	1.96 / 15.52 / 29.89 / 0.0	24.39	V / 1.00 / 270	-32.01	n/a
420.26 MHz	40.6 Qp	2.03 / 16.22 / 29.81 / 0.0	29.04	V / 1.00 / 270	-27.36	n/a
552.96 MHz	39.6 Qp	2.29 / 18.35 / 30.1 / 0.0	30.14	V / 1.00 / 270	-26.26	n/a
685.67 MHz	40.0 Qp	2.6 / 20.47 / 29.87 / 0.0	33.2	V / 1.00 / 315	-23.2	n/a
206.107 MHz	38.95 Qp	1.38 / 10.98 / 29.6 / 0.0	21.71	V / 1.00 / 135	-31.79	n/a
331.784 MHz	36.7 Qp	1.85 / 14.64 / 29.65 / 0.0	23.54	V / 3.00 / 0	-32.86	n/a

Tested by: Tom K. Swanson — Printed

Thomas K. Swanson — Signature

Reviewed by: J. T. Schneider — Printed

Joel T. Schneider — Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4110 Antenna				
Data File Name:	5658 class A.dat			Page:	4 of 8

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
150 MHz maxed						
150.0 MHz	56.2 Qp	1.11 / 10.4 / 29.46 / 0.0	38.25	V / 1.00 / 0	-15.25	n/a
154 MHz maxed						
154.836 MHz	54.8 Qp	1.15 / 9.34 / 29.45 / 0.0	35.84	V / 1.00 / 0	-17.66	n/a
199 MHz maxed						
199.074 MHz	52.65 Qp	1.36 / 10.75 / 29.56 / 0.0	35.2	V / 1.60 / 180	-18.3	n/a
99.942 MHz	50.45 Pk	0.94 / 9.24 / 29.37 / 0.0	31.26	H / 3.00 / 0	-22.24*	n/a
360.001 MHz	39.3 Qp	1.93 / 15.26 / 29.76 / 0.0	26.73	H / 3.00 / 90	-29.67	n/a
243.302 MHz	43.35 Qp	1.47 / 12.18 / 29.58 / 0.0	27.41	H / 3.00 / 180	-28.99	n/a
360.001 MHz	41.9 Qp	1.93 / 15.26 / 29.76 / 0.0	29.33	H / 3.00 / 270	-27.07	n/a
331.784 MHz	38.7 Qp	1.85 / 14.64 / 29.65 / 0.0	25.54	H / 3.00 / 270	-30.86	n/a
176.946 MHz	44.75 Qp	1.27 / 9.66 / 29.44 / 0.0	26.24	H / 3.00 / 270	-27.26	n/a
175.0 MHz	40.25 Qp	1.26 / 9.5 / 29.43 / 0.0	21.58	H / 3.00 / 270	-31.92	n/a
120.243 MHz	36.9 Qp	1.0 / 9.68 / 29.44 / 0.0	18.13	H / 3.00 / 270	-35.37	n/a
74.994 MHz	44.95 Qp	0.83 / 8.4 / 29.34 / 0.0	24.84	H / 3.00 / 270	-24.26	n/a
73.752 MHz	39.2 Pk	0.83 / 8.82 / 29.35 / 0.0	19.5	H / 3.00 / 270	-29.6*	n/a
287.546 MHz	42.85 Qp	1.64 / 13.52 / 29.82 / 0.0	28.19	H / 1.00 / 0	-28.21	n/a
243.302 MHz	48.5 Qp	1.47 / 12.18 / 29.58 / 0.0	32.56	H / 1.00 / 0	-23.84	n/a
240.462 MHz	37.65 Qp	1.46 / 12.09 / 29.6 / 0.0	21.6	H / 1.00 / 0	-34.8	n/a
223.285 MHz	33.25 Qp	1.42 / 11.53 / 29.7 / 0.0	16.51	H / 1.00 / 0	-39.89	n/a

Tested by: Tom K. Swanson — Printed

Thomas K. Swanson — Signature

Reviewed by: J. T. Schneider — Printed

Joel T. Schneider — Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4110 Antenna				
Data File Name:	5658 class A.dat			Page:	5 of 8

List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
171.74 MHz	40.35 Qp	1.25 / 9.5 / 29.41 / 0.0	21.69	H / 1.00 / 270	-31.81	n/a
240.462 MHz	45.25 Qp	1.46 / 12.09 / 29.6 / 0.0	29.2	H / 1.00 / 270	-27.2	n/a
243.302 MHz	55.0 Qp	1.47 / 12.18 / 29.58 / 0.0	39.06	H / 1.00 / 270	-17.34	n/a
265.421 MHz	40.95 Qp	1.53 / 12.89 / 29.59 / 0.0	25.78	H / 1.00 / 270	-30.62	n/a
300.0 MHz	49.1 Qp	1.71 / 13.83 / 29.87 / 0.0	34.77	H / 1.00 / 270	-21.63	n/a
331.784 MHz	42.4 Qp	1.85 / 14.64 / 29.65 / 0.0	29.24	H / 1.00 / 270	-27.16	n/a
243 MHz maxed						
243.302 MHz	56.1 Qp	1.47 / 12.18 / 29.58 / 0.0	40.16	H / 1.00 / 270	-16.24	n/a
199 MHz maxed						
199.074 MHz	55.9 Qp	1.36 / 10.75 / 29.56 / 0.0	38.45	H / 1.80 / 210	-15.05	n/a
154 MHz maxed						
154.836 MHz	50.6 Qp	1.15 / 9.34 / 29.45 / 0.0	31.64	H / 2.50 / 175	-21.86	n/a
150 MHz maxed						
150.0 MHz	52.75 Qp	1.11 / 10.4 / 29.46 / 0.0	34.8	H / 1.80 / 140	-18.7	n/a
End of scan 30 to 1000 MHz						

Tested by: Tom K. Swanson — Printed

Thomas K. Swanson — Signature

Reviewed by: J. T. Schneider — Printed

Joel T. Schneider — Signature

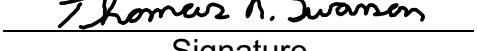
RADIATED EMISSIONS

Test Report #:	WC705658 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4110 Antenna				
Data File Name:	5658 class A.dat			Page:	6 of 8

Measurement summary for limit1: FCC-A <1GHz 3m (Qp)

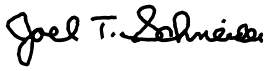
FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m
199.074 MHz	55.9 Qp	1.36 / 10.75 / 29.56 / 0.0	38.45	H / 1.80 / 210	-15.05
150.0 MHz	56.2 Qp	1.11 / 10.4 / 29.46 / 0.0	38.25	V / 1.00 / 0	-15.25
243.302 MHz	56.1 Qp	1.47 / 12.18 / 29.58 / 0.0	40.16	H / 1.00 / 270	-16.24
154.836 MHz	54.8 Qp	1.15 / 9.34 / 29.45 / 0.0	35.84	V / 1.00 / 0	-17.66
41.1 MHz	43.45 Qp	0.48 / 17.15 / 29.69 / 0.0	31.4	V / 1.00 / 0	-17.7
729.921 MHz	41.25 Qp	2.69 / 21.18 / 29.79 / 0.0	35.32	V / 1.00 / 90	-21.08
300.0 MHz	49.1 Qp	1.71 / 13.83 / 29.87 / 0.0	34.77	H / 1.00 / 270	-21.63
641.445 MHz	41.35 Qp	2.55 / 19.76 / 29.95 / 0.0	33.72	V / 1.00 / 0	-22.68
774.154 MHz	38.65 Qp	2.74 / 21.89 / 29.72 / 0.0	33.55	V / 1.00 / 90	-22.85
685.67 MHz	40.0 Qp	2.6 / 20.47 / 29.87 / 0.0	33.2	V / 1.00 / 315	-23.2
74.994 MHz	44.95 Qp	0.83 / 8.4 / 29.34 / 0.0	24.84	H / 3.00 / 270	-24.26
597.197 MHz	39.6 Qp	2.5 / 19.06 / 30.02 / 0.0	31.13	V / 1.00 / 0	-25.27
464.492 MHz	41.7 Qp	2.08 / 16.93 / 30.03 / 0.0	30.68	V / 1.00 / 180	-25.72
70.044 MHz	41.7 Qp	0.8 / 10.08 / 29.39 / 0.0	23.2	V / 1.00 / 0	-25.9
552.96 MHz	39.6 Qp	2.29 / 18.35 / 30.1 / 0.0	30.14	V / 1.00 / 270	-26.26
750.009 MHz	35.6 Qp	2.71 / 21.5 / 29.76 / 0.0	30.05	V / 1.00 / 90	-26.35
154.562 MHz	45.9 Qp	1.15 / 9.4 / 29.45 / 0.0	27.0	V / 1.00 / 180	-26.5
818.393 MHz	34.65 Qp	2.78 / 22.07 / 29.64 / 0.0	29.85	V / 1.00 / 90	-26.55
360.001 MHz	41.9 Qp	1.93 / 15.26 / 29.76 / 0.0	29.33	H / 3.00 / 270	-27.07
331.784 MHz	42.4 Qp	1.85 / 14.64 / 29.65 / 0.0	29.24	H / 1.00 / 270	-27.16
240.462 MHz	45.25 Qp	1.46 / 12.09 / 29.6 / 0.0	29.2	H / 1.00 / 270	-27.2
176.946 MHz	44.75 Qp	1.27 / 9.66 / 29.44 / 0.0	26.24	H / 3.00 / 270	-27.26
420.26 MHz	40.6 Qp	2.03 / 16.22 / 29.81 / 0.0	29.04	V / 1.00 / 270	-27.36
63.87 MHz	38.5 Qp	0.76 / 11.9 / 29.46 / 0.0	21.7	V / 1.00 / 0	-27.4
188.94 MHz	43.75 Qp	1.32 / 10.43 / 29.51 / 0.0	25.99	V / 1.00 / 180	-27.51
58.974 MHz	38.0 Qp	0.72 / 12.34 / 29.5 / 0.0	21.56	V / 1.00 / 0	-27.54

Tested by: Tom K. Swanson — Printed



Signature

Reviewed by: J. T. Schneider — Printed



Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4110 Antenna				
Data File Name:	5658 class A.dat			Page:	7 of 8

Measurement summary for limit1: FCC-A <1GHz 3m (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m
287.546 MHz	42.85 Qp	1.64 / 13.52 / 29.82 / 0.0	28.19	H / 1.00 / 0	-28.21
73.752 MHz	39.45 Qp	0.83 / 8.82 / 29.35 / 0.0	19.75	V / 1.00 / 0	-29.35
71.286 MHz	38.45 Qp	0.81 / 9.66 / 29.38 / 0.0	19.54	V / 1.00 / 0	-29.56
79.86 MHz	39.85 Qp	0.86 / 8.01 / 29.3 / 0.0	19.42	V / 1.00 / 0	-29.68
110.593 MHz	42.6 Qp	0.97 / 9.28 / 29.41 / 0.0	23.45	V / 1.00 / 0	-30.05
132.715 MHz	42.9 Qp	1.04 / 8.93 / 29.48 / 0.0	23.39	V / 1.00 / 0	-30.11
265.421 MHz	40.95 Qp	1.53 / 12.89 / 29.59 / 0.0	25.78	H / 1.00 / 270	-30.62
82.326 MHz	38.2 Qp	0.88 / 8.16 / 29.31 / 0.0	17.93	V / 1.00 / 0	-31.17
81.096 MHz	38.2 Qp	0.87 / 8.08 / 29.31 / 0.0	17.84	V / 1.00 / 0	-31.26
206.107 MHz	38.95 Qp	1.38 / 10.98 / 29.6 / 0.0	21.71	V / 1.00 / 135	-31.79
171.74 MHz	40.35 Qp	1.25 / 9.5 / 29.41 / 0.0	21.69	H / 1.00 / 270	-31.81
175.0 MHz	40.25 Qp	1.26 / 9.5 / 29.43 / 0.0	21.58	H / 3.00 / 270	-31.92
83.538 MHz	37.35 Qp	0.89 / 8.25 / 29.32 / 0.0	17.17	V / 1.00 / 0	-31.93
376.013 MHz	36.8 Qp	1.96 / 15.52 / 29.89 / 0.0	24.39	V / 1.00 / 270	-32.01
140.075 MHz	38.4 Qp	1.07 / 9.56 / 29.49 / 0.0	19.53	V / 1.00 / 0	-33.97
152.471 MHz	38.0 Qp	1.13 / 9.86 / 29.45 / 0.0	19.53	V / 1.00 / 180	-33.97
120.243 MHz	36.9 Qp	1.0 / 9.68 / 29.44 / 0.0	18.13	H / 3.00 / 270	-35.37
486.608 MHz	28.35 Qp	2.1 / 17.29 / 30.06 / 0.0	17.68	V / 1.00 / 0	-38.72
223.285 MHz	33.25 Qp	1.42 / 11.53 / 29.7 / 0.0	16.51	H / 1.00 / 0	-39.89
99.942 MHz	50.45 Pk	0.94 / 9.24 / 29.37 / 0.0	31.26	H / 3.00 / 0	-22.24*
73.752 MHz	39.2 Pk	0.83 / 8.82 / 29.35 / 0.0	19.5	H / 3.00 / 270	-29.6*

Tested by: Tom K. Swanson — Printed

Thomas K. Swanson — Signature

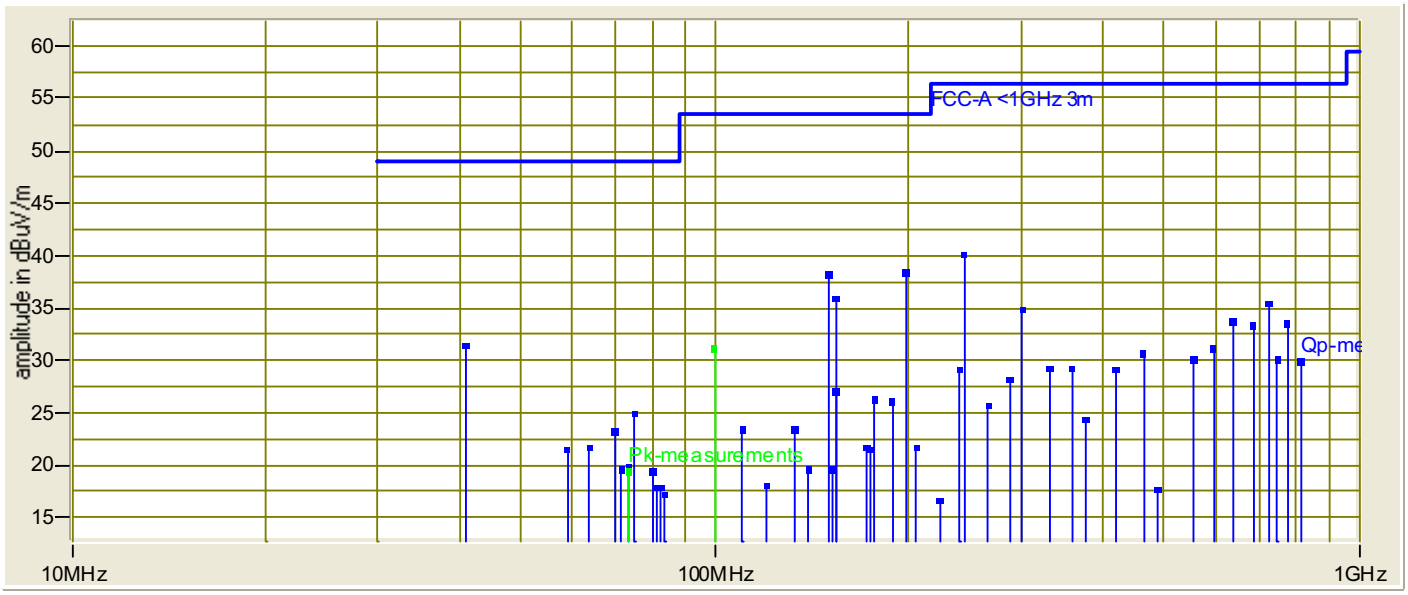
Reviewed by: J. T. Schneider — Printed

Joel T. Schneider — Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4110 Antenna				
Data File Name:	5658 class A.dat			Page:	8 of 8

Graph:



Tested by: Tom K. Swanson
Printed

Thomas K. Swanson
Signature

Reviewed by: J. T. Schneider
Printed

Joel T. Schneider
Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 3	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4500 Antenna				
Data File Name:	5658 class A.dat			Page:	1 of 9

List of measurements for run #: 3

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
41.1 MHz	42.3 Qp	0.48 / 17.15 / 29.69 / 0.0	30.25	V / 1.00 / 0	-18.85	n/a
58.974 MHz	37.45 Qp	0.72 / 12.34 / 29.5 / 0.0	21.01	V / 1.00 / 0	-28.09	n/a
63.87 MHz	40.05 Qp	0.76 / 11.9 / 29.46 / 0.0	23.25	V / 1.00 / 0	-25.85	n/a
70.044 MHz	46.15 Qp	0.8 / 10.08 / 29.39 / 0.0	27.65	V / 1.00 / 0	-21.45	n/a
71.286 MHz	46.8 Qp	0.81 / 9.66 / 29.38 / 0.0	27.89	V / 1.00 / 0	-21.21	n/a
73.752 MHz	43.05 Qp	0.83 / 8.82 / 29.35 / 0.0	23.35	V / 1.00 / 0	-25.75	n/a
74.994 MHz	46.4 Qp	0.83 / 8.4 / 29.34 / 0.0	26.29	V / 1.00 / 0	-22.81	n/a
79.86 MHz	36.5 Qp	0.86 / 8.01 / 29.3 / 0.0	16.07	V / 1.00 / 0	-33.03	n/a
81.096 MHz	36.15 Qp	0.87 / 8.08 / 29.31 / 0.0	15.79	V / 1.00 / 0	-33.31	n/a
82.326 MHz	35.25 Qp	0.88 / 8.16 / 29.31 / 0.0	14.98	V / 1.00 / 0	-34.12	n/a
83.538 MHz	34.5 Qp	0.89 / 8.25 / 29.32 / 0.0	14.32	V / 1.00 / 0	-34.78	n/a
99.942 MHz	50.3 Pk	0.94 / 9.24 / 29.37 / 0.0	31.11	V / 1.00 / 0	-22.39*	n/a
110.593 MHz	41.0 Qp	0.97 / 9.28 / 29.41 / 0.0	21.85	V / 1.00 / 0	-31.65	n/a
120.243 MHz	37.0 Qp	1.0 / 9.68 / 29.44 / 0.0	18.23	V / 1.00 / 0	-35.27	n/a
132.715 MHz	42.95 Qp	1.04 / 8.93 / 29.48 / 0.0	23.44	V / 1.00 / 0	-30.06	n/a
140.075 MHz	39.0 Qp	1.07 / 9.56 / 29.49 / 0.0	20.13	V / 1.00 / 0	-33.37	n/a
150.0 MHz	48.0 Qp	1.11 / 10.4 / 29.46 / 0.0	30.05	V / 1.00 / 0	-23.45	n/a
154.836 MHz	51.7 Qp	1.15 / 9.34 / 29.45 / 0.0	32.74	V / 1.00 / 0	-20.76	n/a
171.74 MHz	31.8 Qp	1.25 / 9.5 / 29.41 / 0.0	13.14	V / 1.00 / 0	-40.36	n/a
175.0 MHz	37.0 Qp	1.26 / 9.5 / 29.43 / 0.0	18.33	V / 1.00 / 0	-35.17	n/a
176.946 MHz	39.55 Qp	1.27 / 9.66 / 29.44 / 0.0	21.04	V / 1.00 / 0	-32.46	n/a
188.94 MHz	37.9 Qp	1.32 / 10.43 / 29.51 / 0.0	20.14	V / 1.00 / 0	-33.36	n/a
199.074 MHz	50.35 Qp	1.36 / 10.75 / 29.56 / 0.0	32.9	V / 1.00 / 0	-20.6	n/a
206.107 MHz	35.3 Qp	1.38 / 10.98 / 29.6 / 0.0	18.06	V / 1.00 / 0	-35.44	n/a
223.285 MHz	35.4 Qp	1.42 / 11.53 / 29.7 / 0.0	18.66	V / 1.00 / 0	-37.74	n/a
240.462 MHz	36.65 Qp	1.46 / 12.09 / 29.6 / 0.0	20.6	V / 1.00 / 0	-35.8	n/a
243.302 MHz	46.2 Qp	1.47 / 12.18 / 29.58 / 0.0	30.26	V / 1.00 / 0	-26.14	n/a

Tested by: Tom K. Swanson — Printed

Thomas K. Swanson — Signature

Reviewed by: J. T. Schneider — Printed

Joel T. Schneider — Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 3	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4500 Antenna				
Data File Name:	5658 class A.dat			Page:	2 of 9

List of measurements for run #: 3

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
265.421 MHz	30.9 Qp	1.53 / 12.89 / 29.59 / 0.0	15.73	V / 1.00 / 0	-40.67	n/a
287.546 MHz	30.4 Qp	1.64 / 13.52 / 29.82 / 0.0	15.74	V / 1.00 / 0	-40.66	n/a
291.995 MHz	29.25 Qp	1.67 / 13.63 / 29.86 / 0.0	14.68	V / 1.00 / 0	-41.72	n/a
300.0 MHz	38.35 Qp	1.71 / 13.83 / 29.87 / 0.0	24.02	V / 1.00 / 0	-32.38	n/a
331.784 MHz	35.65 Qp	1.85 / 14.64 / 29.65 / 0.0	22.49	V / 1.00 / 0	-33.91	n/a
353.894 MHz	28.4 Qp	1.92 / 15.16 / 29.72 / 0.0	15.77	V / 1.00 / 0	-40.63	n/a
360.001 MHz	35.15 Qp	1.93 / 15.26 / 29.76 / 0.0	22.58	V / 1.00 / 0	-33.82	n/a
376.013 MHz	30.65 Qp	1.96 / 15.52 / 29.89 / 0.0	18.24	V / 1.00 / 0	-38.16	n/a
420.26 MHz	35.85 Qp	2.03 / 16.22 / 29.81 / 0.0	24.29	V / 1.00 / 0	-32.11	n/a
464.492 MHz	31.05 Qp	2.08 / 16.93 / 30.03 / 0.0	20.03	V / 1.00 / 0	-36.37	n/a
486.608 MHz	27.65 Qp	2.1 / 17.29 / 30.06 / 0.0	16.98	V / 1.00 / 0	-39.42	n/a
552.96 MHz	35.05 Qp	2.29 / 18.35 / 30.1 / 0.0	25.59	V / 1.00 / 0	-30.81	n/a
597.197 MHz	37.25 Qp	2.5 / 19.06 / 30.02 / 0.0	28.78	V / 1.00 / 0	-27.62	n/a
641.445 MHz	38.4 Qp	2.55 / 19.76 / 29.95 / 0.0	30.77	V / 1.00 / 0	-25.63	n/a
685.67 MHz	39.35 Qp	2.6 / 20.47 / 29.87 / 0.0	32.55	V / 1.00 / 0	-23.85	n/a
729.924 MHz	32.8 Qp	2.69 / 21.18 / 29.79 / 0.0	26.87	V / 1.00 / 0	-29.53	n/a
750.0 MHz	32.0 Qp	2.71 / 21.5 / 29.76 / 0.0	26.45	V / 1.00 / 0	-29.95	n/a
774.15 MHz	30.75 Qp	2.74 / 21.89 / 29.72 / 0.0	25.65	V / 1.00 / 0	-30.75	n/a
818.384 MHz	31.2 Qp	2.78 / 22.07 / 29.64 / 0.0	26.4	V / 1.00 / 0	-30.0	n/a
376.013 MHz	35.05 Qp	1.96 / 15.52 / 29.89 / 0.0	22.64	V / 3.00 / 0	-33.76	n/a
360.001 MHz	37.45 Qp	1.93 / 15.26 / 29.76 / 0.0	24.88	V / 3.00 / 0	-31.52	n/a
287.546 MHz	36.05 Qp	1.64 / 13.52 / 29.82 / 0.0	21.39	V / 3.00 / 0	-35.01	n/a
265.421 MHz	36.45 Qp	1.53 / 12.89 / 29.59 / 0.0	21.28	V / 3.00 / 0	-35.12	n/a
110.593 MHz	43.55 Qp	0.97 / 9.28 / 29.41 / 0.0	24.4	V / 3.00 / 0	-29.1	n/a
243.302 MHz	48.2 Qp	1.47 / 12.18 / 29.58 / 0.0	32.26	V / 1.00 / 45	-24.14	n/a

Tested by: Tom K. Swanson — Printed

Thomas K. Swanson — Signature

Reviewed by: J. T. Schneider — Printed

Joel T. Schneider — Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 3	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4500 Antenna				
Data File Name:	5658 class A.dat			Page:	3 of 9

List of measurements for run #: 3

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
154.836 MHz	52.1 Qp	1.15 / 9.34 / 29.45 / 0.0	33.14	V / 1.00 / 45	-20.36	n/a
150.0 MHz	48.75 Qp	1.11 / 10.4 / 29.46 / 0.0	30.8	V / 1.00 / 45	-22.7	n/a
729.924 MHz	39.05 Qp	2.69 / 21.18 / 29.79 / 0.0	33.12	V / 1.00 / 90	-23.28	n/a
750.0 MHz	35.4 Qp	2.71 / 21.5 / 29.76 / 0.0	29.85	V / 1.00 / 90	-26.55	n/a
774.15 MHz	36.75 Qp	2.74 / 21.89 / 29.72 / 0.0	31.65	V / 1.00 / 90	-24.75	n/a
818.384 MHz	33.2 Qp	2.78 / 22.07 / 29.64 / 0.0	28.4	V / 1.00 / 90	-28.0	n/a
99.942 MHz	48.85 Pk	0.94 / 9.24 / 29.37 / 0.0	29.66	V / 3.00 / 135	-23.84*	n/a
464.492 MHz	37.3 Qp	2.08 / 16.93 / 30.03 / 0.0	26.28	V / 3.00 / 180	-30.12	n/a
287.546 MHz	41.95 Qp	1.64 / 13.52 / 29.82 / 0.0	27.29	V / 1.00 / 180	-29.11	n/a
223.285 MHz	40.0 Qp	1.42 / 11.53 / 29.7 / 0.0	23.26	V / 1.00 / 180	-33.14	n/a
206.107 MHz	37.5 Qp	1.38 / 10.98 / 29.6 / 0.0	20.26	V / 1.00 / 180	-33.24	n/a
188.94 MHz	45.35 Qp	1.32 / 10.43 / 29.51 / 0.0	27.59	V / 1.00 / 180	-25.91	n/a
176.946 MHz	40.9 Qp	1.27 / 9.66 / 29.44 / 0.0	22.39	V / 1.00 / 180	-31.11	n/a
175.0 MHz	38.8 Qp	1.26 / 9.5 / 29.43 / 0.0	20.13	V / 1.00 / 180	-33.37	n/a
171.74 MHz	35.1 Qp	1.25 / 9.5 / 29.41 / 0.0	16.44	V / 1.00 / 180	-37.06	n/a
132.715 MHz	46.95 Qp	1.04 / 8.93 / 29.48 / 0.0	27.44	V / 1.00 / 225	-26.06	n/a
140.075 MHz	41.15 Qp	1.07 / 9.56 / 29.49 / 0.0	22.28	V / 1.00 / 225	-31.22	n/a
188.94 MHz	46.7 Qp	1.32 / 10.43 / 29.51 / 0.0	28.94	V / 1.00 / 225	-24.56	n/a
199.074 MHz	51.2 Qp	1.36 / 10.75 / 29.56 / 0.0	33.75	V / 1.00 / 225	-19.75	n/a
206.107 MHz	40.85 Qp	1.38 / 10.98 / 29.6 / 0.0	23.61	V / 1.00 / 225	-29.89	n/a
300.0 MHz	41.8 Qp	1.71 / 13.83 / 29.87 / 0.0	27.47	V / 1.00 / 225	-28.93	n/a
464.492 MHz	41.7 Qp	2.08 / 16.93 / 30.03 / 0.0	30.68	V / 1.00 / 225	-25.72	n/a

Tested by: Tom K. Swanson — Printed

Thomas K. Swanson — Signature

Reviewed by: J. T. Schneider — Printed

Joel T. Schneider — Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 3	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4500 Antenna				
Data File Name:	5658 class A.dat			Page:	4 of 9

List of measurements for run #: 3

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
199.074 MHz	52.0 Qp	1.36 / 10.75 / 29.56 / 0.0	34.55	V / 3.00 / 225	-18.95	n/a
150.0 MHz	49.95 Qp	1.11 / 10.4 / 29.46 / 0.0	32.0	V / 3.00 / 225	-21.5	n/a
376.013 MHz	38.25 Qp	1.96 / 15.52 / 29.89 / 0.0	25.84	V / 3.00 / 270	-30.56	n/a
360.001 MHz	39.0 Qp	1.93 / 15.26 / 29.76 / 0.0	26.43	V / 3.00 / 270	-29.97	n/a
70.044 MHz	48.4 Qp	0.8 / 10.08 / 29.39 / 0.0	29.9	V / 1.00 / 270	-19.2	n/a
71.286 MHz	48.75 Qp	0.81 / 9.66 / 29.38 / 0.0	29.84	V / 1.00 / 270	-19.26	n/a
73.752 MHz	44.3 Qp	0.83 / 8.82 / 29.35 / 0.0	24.6	V / 1.00 / 270	-24.5	n/a
74.994 MHz	47.65 Qp	0.83 / 8.4 / 29.34 / 0.0	27.54	V / 1.00 / 270	-21.56	n/a
83.538 MHz	39.75 Qp	0.89 / 8.25 / 29.32 / 0.0	19.57	V / 1.00 / 270	-29.53	n/a
110.593 MHz	45.25 Qp	0.97 / 9.28 / 29.41 / 0.0	26.1	V / 1.00 / 270	-27.4	n/a
132.715 MHz	47.65 Qp	1.04 / 8.93 / 29.48 / 0.0	28.14	V / 1.00 / 270	-25.36	n/a
150.0 MHz	50.9 Qp	1.11 / 10.4 / 29.46 / 0.0	32.95	V / 1.00 / 270	-20.55	n/a
199.074 MHz	53.35 Qp	1.36 / 10.75 / 29.56 / 0.0	35.9	V / 1.00 / 270	-17.6	n/a
331.784 MHz	40.4 Qp	1.85 / 14.64 / 29.65 / 0.0	27.24	V / 1.00 / 270	-29.16	n/a
376.013 MHz	41.4 Qp	1.96 / 15.52 / 29.89 / 0.0	28.99	V / 1.00 / 270	-27.41	n/a
420.26 MHz	40.6 Qp	2.03 / 16.22 / 29.81 / 0.0	29.04	V / 1.00 / 270	-27.36	n/a
464.492 MHz	43.8 Qp	2.08 / 16.93 / 30.03 / 0.0	32.78	V / 1.00 / 270	-23.62	n/a
552.96 MHz	38.15 Qp	2.29 / 18.35 / 30.1 / 0.0	28.69	V / 1.00 / 270	-27.71	n/a
125.0 MHz	43.55 Qp	1.01 / 9.2 / 29.46 / 0.0	24.31	V / 1.00 / 270	-29.19	n/a
200.0 MHz	44.5 Qp	1.36 / 10.78 / 29.57 / 0.0	27.08	V / 1.00 / 270	-26.42	n/a
900.0 MHz	33.55 Qp	2.98 / 22.7 / 29.5 / 0.0	29.73	V / 1.00 / 270	-26.67	n/a
199 MHz maxed						
199.074 MHz	54.05 Qp	1.36 / 10.75 / 29.56 / 0.0	36.6	V / 1.20 / 270	-16.9	n/a

Tested by: Tom K. Swanson — Printed

Thomas K. Swanson — Signature

Reviewed by: J. T. Schneider — Printed

Joel T. Schneider — Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 3	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4500 Antenna				
Data File Name:	5658 class A.dat			Page:	5 of 9

List of measurements for run #: 3

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
150 MHz maxed						
150.0 MHz	50.25 Qp	1.11 / 10.4 / 29.46 / 0.0	32.3	V / 1.00 / 325	-21.2	n/a
99.942 MHz	49.2 Pk	0.94 / 9.24 / 29.37 / 0.0	30.01	H / 3.00 / 0	-23.49*	n/a
265.421 MHz	40.35 Qp	1.53 / 12.89 / 29.59 / 0.0	25.18	H / 1.00 / 45	-31.22	n/a
171.74 MHz	38.65 Qp	1.25 / 9.5 / 29.41 / 0.0	19.99	H / 1.00 / 135	-33.51	n/a
243.302 MHz	48.7 Qp	1.47 / 12.18 / 29.58 / 0.0	32.76	H / 3.00 / 135	-23.64	n/a
240.462 MHz	39.3 Qp	1.46 / 12.09 / 29.6 / 0.0	23.25	H / 3.00 / 135	-33.15	n/a
154.836 MHz	54.25 Qp	1.15 / 9.34 / 29.45 / 0.0	35.29	H / 3.00 / 270	-18.21	n/a
360.001 MHz	42.55 Qp	1.93 / 15.26 / 29.76 / 0.0	29.98	H / 3.00 / 270	-26.42	n/a
300.0 MHz	47.2 Qp	1.71 / 13.83 / 29.87 / 0.0	32.87	H / 1.00 / 270	-23.53	n/a
287.546 MHz	47.1 Qp	1.64 / 13.52 / 29.82 / 0.0	32.44	H / 1.00 / 270	-23.96	n/a
265.421 MHz	45.3 Qp	1.53 / 12.89 / 29.59 / 0.0	30.13	H / 1.00 / 270	-26.27	n/a
243.302 MHz	52.95 Qp	1.47 / 12.18 / 29.58 / 0.0	37.01	H / 1.00 / 270	-19.39	n/a
154.836 MHz	55.5 Qp	1.15 / 9.34 / 29.45 / 0.0	36.54	H / 1.00 / 270	-16.96	n/a
150.0 MHz	51.55 Qp	1.11 / 10.4 / 29.46 / 0.0	33.6	H / 1.00 / 315	-19.9	n/a
150.0 MHz	53.3 Qp	1.11 / 10.4 / 29.46 / 0.0	35.35	H / 3.00 / 315	-18.15	n/a
110.593 MHz	46.65 Qp	0.97 / 9.28 / 29.41 / 0.0	27.5	H / 3.00 / 315	-26.0	n/a

Tested by: Tom K. Swanson — Printed

Thomas K. Swanson — Signature

Reviewed by: J. T. Schneider — Printed

Joel T. Schneider — Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 3	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4500 Antenna				
Data File Name:	5658 class A.dat			Page:	6 of 9

List of measurements for run #: 3

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m	DELTA2
154 MHz maxed						
154.836 MHz	56.05 Qp	1.15 / 9.34 / 29.45 / 0.0	37.09	H / 1.90 / 315	-16.41	n/a
243 MHz maxed						
243.302 MHz	54.5 Qp	1.47 / 12.18 / 29.58 / 0.0	38.56	H / 1.00 / 255	-17.84	n/a
150 MHz maxed						
150.0 MHz	54.35 Qp	1.11 / 10.4 / 29.46 / 0.0	36.4	H / 2.40 / 305	-17.1	n/a
199 MHz maxed						
199.074 MHz	53.5 Qp	1.36 / 10.75 / 29.56 / 0.0	36.05	H / 1.40 / 260	-17.45	n/a
End of scan 30 to 1000 MHz						

Tested by: Tom K. Swanson — Printed

Thomas K. Swanson — Signature

Reviewed by: J. T. Schneider — Printed

Joel T. Schneider — Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 3	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4500 Antenna				
Data File Name:	5658 class A.dat			Page:	7 of 9

Measurement summary for limit1: FCC-A <1GHz 3m (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m
154.836 MHz	56.05 Qp	1.15 / 9.34 / 29.45 / 0.0	37.09	H / 1.90 / 315	-16.41
199.074 MHz	54.05 Qp	1.36 / 10.75 / 29.56 / 0.0	36.6	V / 1.20 / 270	-16.9
150.0 MHz	54.35 Qp	1.11 / 10.4 / 29.46 / 0.0	36.4	H / 2.40 / 305	-17.1
243.302 MHz	54.5 Qp	1.47 / 12.18 / 29.58 / 0.0	38.56	H / 1.00 / 255	-17.84
41.1 MHz	42.3 Qp	0.48 / 17.15 / 29.69 / 0.0	30.25	V / 1.00 / 0	-18.85
70.044 MHz	48.4 Qp	0.8 / 10.08 / 29.39 / 0.0	29.9	V / 1.00 / 270	-19.2
71.286 MHz	48.75 Qp	0.81 / 9.66 / 29.38 / 0.0	29.84	V / 1.00 / 270	-19.26
74.994 MHz	47.65 Qp	0.83 / 8.4 / 29.34 / 0.0	27.54	V / 1.00 / 270	-21.56
729.924 MHz	39.05 Qp	2.69 / 21.18 / 29.79 / 0.0	33.12	V / 1.00 / 90	-23.28
300.0 MHz	47.2 Qp	1.71 / 13.83 / 29.87 / 0.0	32.87	H / 1.00 / 270	-23.53
464.492 MHz	43.8 Qp	2.08 / 16.93 / 30.03 / 0.0	32.78	V / 1.00 / 270	-23.62
685.67 MHz	39.35 Qp	2.6 / 20.47 / 29.87 / 0.0	32.55	V / 1.00 / 0	-23.85
287.546 MHz	47.1 Qp	1.64 / 13.52 / 29.82 / 0.0	32.44	H / 1.00 / 270	-23.96
73.752 MHz	44.3 Qp	0.83 / 8.82 / 29.35 / 0.0	24.6	V / 1.00 / 270	-24.5
188.94 MHz	46.7 Qp	1.32 / 10.43 / 29.51 / 0.0	28.94	V / 1.00 / 225	-24.56
774.15 MHz	36.75 Qp	2.74 / 21.89 / 29.72 / 0.0	31.65	V / 1.00 / 90	-24.75
132.715 MHz	47.65 Qp	1.04 / 8.93 / 29.48 / 0.0	28.14	V / 1.00 / 270	-25.36
641.445 MHz	38.4 Qp	2.55 / 19.76 / 29.95 / 0.0	30.77	V / 1.00 / 0	-25.63
63.87 MHz	40.05 Qp	0.76 / 11.9 / 29.46 / 0.0	23.25	V / 1.00 / 0	-25.85
110.593 MHz	46.65 Qp	0.97 / 9.28 / 29.41 / 0.0	27.5	H / 3.00 / 315	-26.0
265.421 MHz	45.3 Qp	1.53 / 12.89 / 29.59 / 0.0	30.13	H / 1.00 / 270	-26.27
360.001 MHz	42.55 Qp	1.93 / 15.26 / 29.76 / 0.0	29.98	H / 3.00 / 270	-26.42
200.0 MHz	44.5 Qp	1.36 / 10.78 / 29.57 / 0.0	27.08	V / 1.00 / 270	-26.42
750.0 MHz	35.4 Qp	2.71 / 21.5 / 29.76 / 0.0	29.85	V / 1.00 / 90	-26.55
900.0 MHz	33.55 Qp	2.98 / 22.7 / 29.5 / 0.0	29.73	V / 1.00 / 270	-26.67
420.26 MHz	40.6 Qp	2.03 / 16.22 / 29.81 / 0.0	29.04	V / 1.00 / 270	-27.36

Tested by: Tom K. Swanson — Printed

Thomas K. Swanson — Signature

Reviewed by: J. T. Schneider — Printed

Joel T. Schneider — Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 3	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4500 Antenna				
Data File Name:	5658 class A.dat			Page:	8 of 9

Measurement summary for limit1: FCC-A <1GHz 3m (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	POL / HGT / AZ (m)(DEG)	DELTA1 FCC-A <1GHz 3m
376.013 MHz	41.4 Qp	1.96 / 15.52 / 29.89 / 0.0	28.99	V / 1.00 / 270	-27.41
597.197 MHz	37.25 Qp	2.5 / 19.06 / 30.02 / 0.0	28.78	V / 1.00 / 0	-27.62
552.96 MHz	38.15 Qp	2.29 / 18.35 / 30.1 / 0.0	28.69	V / 1.00 / 270	-27.71
818.384 MHz	33.2 Qp	2.78 / 22.07 / 29.64 / 0.0	28.4	V / 1.00 / 90	-28.0
58.974 MHz	37.45 Qp	0.72 / 12.34 / 29.5 / 0.0	21.01	V / 1.00 / 0	-28.09
331.784 MHz	40.4 Qp	1.85 / 14.64 / 29.65 / 0.0	27.24	V / 1.00 / 270	-29.16
125.0 MHz	43.55 Qp	1.01 / 9.2 / 29.46 / 0.0	24.31	V / 1.00 / 270	-29.19
83.538 MHz	39.75 Qp	0.89 / 8.25 / 29.32 / 0.0	19.57	V / 1.00 / 270	-29.53
206.107 MHz	40.85 Qp	1.38 / 10.98 / 29.6 / 0.0	23.61	V / 1.00 / 225	-29.89
176.946 MHz	40.9 Qp	1.27 / 9.66 / 29.44 / 0.0	22.39	V / 1.00 / 180	-31.11
140.075 MHz	41.15 Qp	1.07 / 9.56 / 29.49 / 0.0	22.28	V / 1.00 / 225	-31.22
79.86 MHz	36.5 Qp	0.86 / 8.01 / 29.3 / 0.0	16.07	V / 1.00 / 0	-33.03
223.285 MHz	40.0 Qp	1.42 / 11.53 / 29.7 / 0.0	23.26	V / 1.00 / 180	-33.14
240.462 MHz	39.3 Qp	1.46 / 12.09 / 29.6 / 0.0	23.25	H / 3.00 / 135	-33.15
81.096 MHz	36.15 Qp	0.87 / 8.08 / 29.31 / 0.0	15.79	V / 1.00 / 0	-33.31
175.0 MHz	38.8 Qp	1.26 / 9.5 / 29.43 / 0.0	20.13	V / 1.00 / 180	-33.37
171.74 MHz	38.65 Qp	1.25 / 9.5 / 29.41 / 0.0	19.99	H / 1.00 / 135	-33.51
82.326 MHz	35.25 Qp	0.88 / 8.16 / 29.31 / 0.0	14.98	V / 1.00 / 0	-34.12
120.243 MHz	37.0 Qp	1.0 / 9.68 / 29.44 / 0.0	18.23	V / 1.00 / 0	-35.27
486.608 MHz	27.65 Qp	2.1 / 17.29 / 30.06 / 0.0	16.98	V / 1.00 / 0	-39.42
353.894 MHz	28.4 Qp	1.92 / 15.16 / 29.72 / 0.0	15.77	V / 1.00 / 0	-40.63
291.995 MHz	29.25 Qp	1.67 / 13.63 / 29.86 / 0.0	14.68	V / 1.00 / 0	-41.72
99.942 MHz	50.3 Pk	0.94 / 9.24 / 29.37 / 0.0	31.11	V / 1.00 / 0	-22.39*

Tested by: Tom K. Swanson — Printed

Thomas K. Swanson — Signature

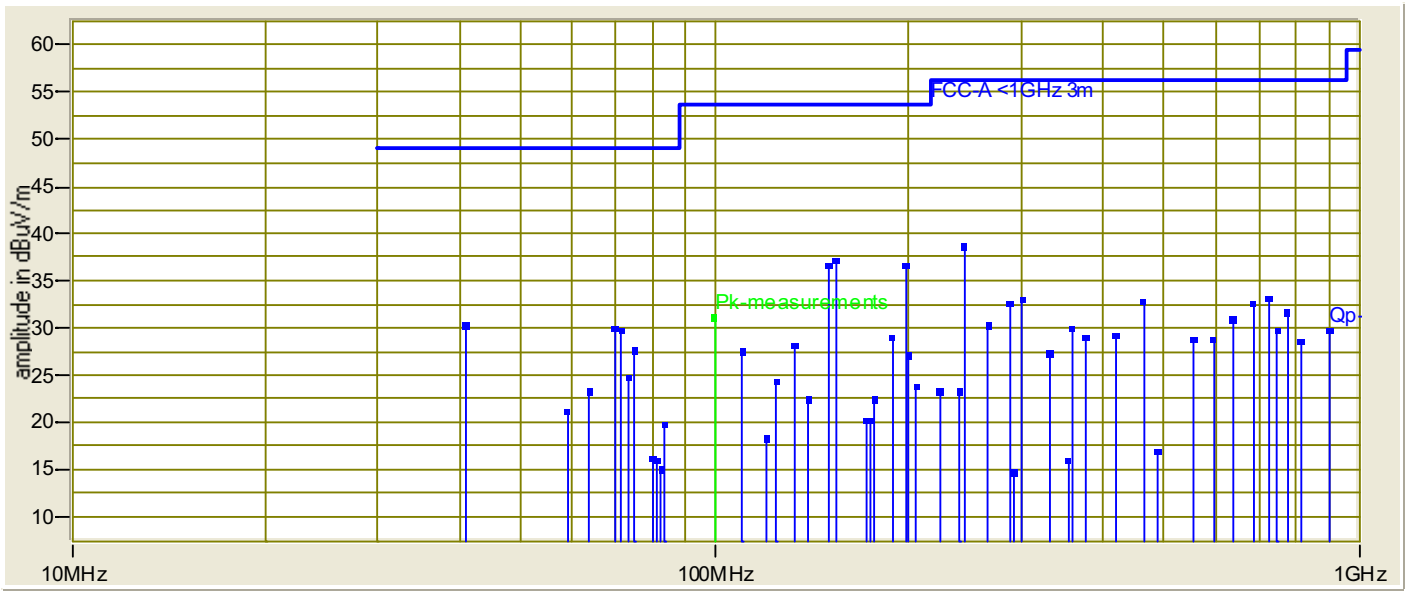
Reviewed by: J. T. Schneider — Printed

Joel T. Schneider — Signature

RADIATED EMISSIONS

Test Report #:	WC705658 Run 3	Test Area:	LTS		
EUT Model #:	2020	Date:	7/31/2007		
EUT Serial #:		EUT Power:	60 Hz 115 VAC	Temperature:	23.0 °C
Test Method:	FCC B			Air Pressure:	99.0 kPa
Customer:	Digital Angel			Rel. Humidity:	57.0 %
EUT Description:	Statinary RFID Reader				
Notes:	With AN4500 Antenna				
Data File Name:	5658 class A.dat			Page:	9 of 9

Graph:



Tested by: Tom K. Swanson
Printed

Thomas K. Swanson
Signature

Reviewed by: J. T. Schneider
Printed

Joel T. Schneider
Signature

Occupied bandwidth
RSS-Gen 4.4.1

Test summary
The requirements are: ■ - MET ☐ - NOT MET
Occupied bandwidth = 10.5 kHz

Test location
■ - Wild River Lab Large Test Site (Open Area Test Site)
☐ - Wild River Lab Small Test Site (Open Area Test Site)

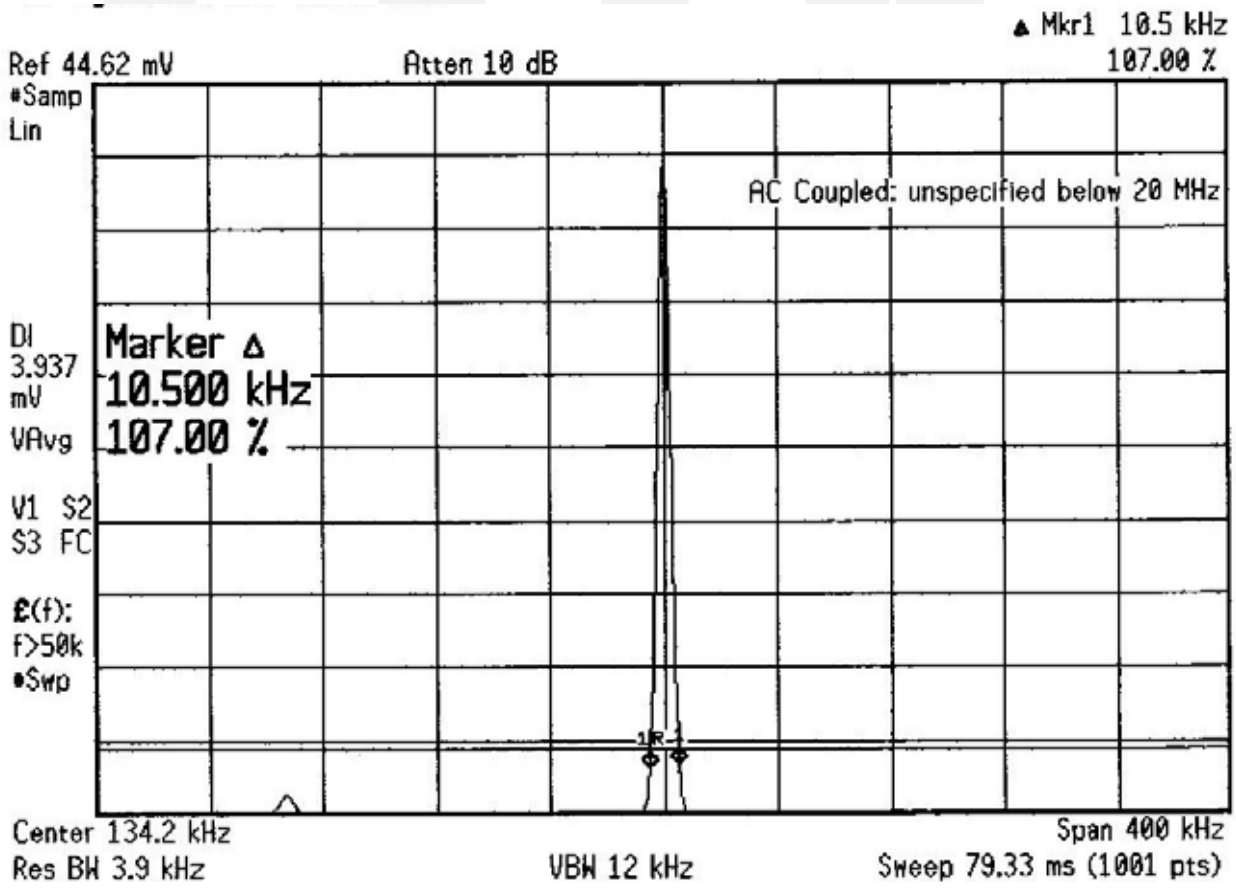
Test equipment

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
3367	E4440A	Agilent	Spectrum Analyzer	MY42510439	14 Sep 07
	7405-901	EMCO	Near field probe	na	Code Y

Cal Code B = Calibration verification performed internally. Cal Code Y = Calibration not required when used with other calibrated equipment.

Test limit
No limit specified

Test data



Conducted Emissions - AC Power Lines
FCC 15.207(a), IC RSS-Gen 7.2.2

Test summary
The requirements are: ■ - MET ☐ - NOT MET
Minimum margin of compliance is 5 dB at 17.98 MHz
Testing performed under file number WC703043
EUT is a class A device, not for residential use
Any emissions above the class B limit are not due to the transmitter

Test location
■ - Wild River Lab Large Test Site (Open Area Test Site)
☐ - Wild River Lab Small Test Site (Open Area Test Site)

Test Equipment

TUV ID	Model Number	Manufacturer	Description	Serial Number	Cal Due
2416	3825/2	Electro-Mechanics (EMCO)	50 Ω LISN (white tape*)	8812-1437	Code B 11-Jan-08
3800	ESCS 30	Rohde & Schwarz	EMI Receiver	100312	20-Jul 08

Cal Code B = Calibration verification performed internally.

Test limits, dBμV

Frequency (MHz)	Quasi Peak	Average
0.15 - 0.5	79	66
.0.5 - 30	73	60

Test data
See following pages

CONDUCTED EMISSIONS

Test Report #:	WC703043 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	6/18/2007		
EUT Serial #:	n/a	EUT Power:	110V / 60Hz	Temperature:	21.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	35.0 %
EUT Description:	Stationary RFID reader				
Notes:					
Data File Name:	3043.dat			Page:	1 of 4

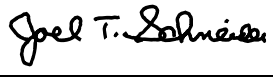
List of measurements for run #: 2

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	EUT Lead	DELTA1 EN55022 A Qp	DELTA2 EN55022 A Avg
150.0 kHz	54.88 Qp	0.12 / 0.3 / 0.0 / 0.0	55.3	L1	-23.7	n/a
220.68 kHz	51.58 Qp	0.13 / 0.11 / 0.0 / 0.0	51.82	L1	-27.18	n/a
402.28 kHz	46.52 Qp	0.16 / 0.1 / 0.0 / 0.0	46.78	L1	-32.22	n/a
3.624 MHz	52.76 Qp	0.47 / 0.0 / 0.0 / 0.0	53.23	L1	-19.77	n/a
6.307 MHz	50.56 Qp	0.62 / 0.0 / 0.0 / 0.0	51.18	L1	-21.82	n/a
17.98 MHz	53.18 Qp	1.03 / 0.28 / 0.0 / 0.0	54.49	L1	-18.51	n/a
150.0 kHz	41.28 Av	0.12 / 0.3 / 0.0 / 0.0	41.7	L1	n/a	-24.3
220.68 kHz	39.3 Av	0.13 / 0.11 / 0.0 / 0.0	39.54	L1	n/a	-26.46
402.28 kHz	46.03 Av	0.16 / 0.1 / 0.0 / 0.0	46.29	L1	n/a	-19.71
3.624 MHz	52.39 Av	0.47 / 0.0 / 0.0 / 0.0	52.86	L1	n/a	-7.14
6.307 MHz	50.16 Av	0.62 / 0.0 / 0.0 / 0.0	50.78	L1	n/a	-9.22
17.98 MHz	52.76 Av	1.03 / 0.28 / 0.0 / 0.0	54.07	L1	n/a	-5.93
150.0 kHz	54.78 Qp	0.12 / 0.3 / 0.0 / 0.0	55.2	N	-23.8	n/a
220.68 kHz	51.58 Qp	0.13 / 0.11 / 0.0 / 0.0	51.82	N	-27.18	n/a
402.28 kHz	46.56 Qp	0.16 / 0.1 / 0.0 / 0.0	46.82	N	-32.18	n/a
3.624 MHz	52.76 Qp	0.47 / 0.0 / 0.0 / 0.0	53.23	N	-19.77	n/a
6.307 MHz	50.4 Qp	0.62 / 0.0 / 0.0 / 0.0	51.02	N	-21.98	n/a
17.98 MHz	53.62 Qp	1.03 / 0.28 / 0.0 / 0.0	54.93	N	-18.07	n/a
150.0 kHz	41.96 Av	0.12 / 0.3 / 0.0 / 0.0	42.38	N	n/a	-23.62
220.68 kHz	39.9 Av	0.13 / 0.11 / 0.0 / 0.0	40.14	N	n/a	-25.86
402.28 kHz	46.06 Av	0.16 / 0.1 / 0.0 / 0.0	46.32	N	n/a	-19.68
3.624 MHz	52.25 Av	0.47 / 0.0 / 0.0 / 0.0	52.72	N	n/a	-7.28
6.307 MHz	50.01 Av	0.62 / 0.0 / 0.0 / 0.0	50.63	N	n/a	-9.37
17.98 MHz	53.32 Av	1.03 / 0.28 / 0.0 / 0.0	54.63	N	n/a	-5.37

Tested by: Greg Jakubowki — Printed

Signature

Reviewed by: J. T. Schneider — Printed



Signature

CONDUCTED EMISSIONS

Test Report #:	WC703043 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	6/18/2007		
EUT Serial #:	n/a	EUT Power:	110V / 60Hz	Temperature:	21.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	35.0 %
EUT Description:	Stationary RFID reader				
Notes:					
Data File Name:	3043.dat			Page:	2 of 4

Measurement summary for limit1: EN55022 A Qp (Qp)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	EUT Lead	DELTA1 EN55022 A Qp
17.98 MHz	53.62 Qp	1.03 / 0.28 / 0.0 / 0.0	54.93	N	-18.07
3.624 MHz	52.76 Qp	0.47 / 0.0 / 0.0 / 0.0	53.23	L1	-19.77
6.307 MHz	50.56 Qp	0.62 / 0.0 / 0.0 / 0.0	51.18	L1	-21.82
150.0 kHz	54.88 Qp	0.12 / 0.3 / 0.0 / 0.0	55.3	L1	-23.7
220.68 kHz	51.58 Qp	0.13 / 0.11 / 0.0 / 0.0	51.82	L1	-27.18
402.28 kHz	46.56 Qp	0.16 / 0.1 / 0.0 / 0.0	46.82	N	-32.18

Tested by: Greg Jakubowki — Printed — Signature

Reviewed by: J. T. Schneider — Printed — Signature

CONDUCTED EMISSIONS

Test Report #:	WC703043 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	6/18/2007		
EUT Serial #:	n/a	EUT Power:	110V / 60Hz	Temperature:	21.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	35.0 %
EUT Description:	Stationary RFID reader				
Notes:					
Data File Name:	3043.dat			Page:	3 of 4

Measurement summary for limit2: EN55022 A Avg (Av)

FREQ	LEVEL (dBuV)	CABLE / ANT / PREAMP / ATTEN (dB)	FINAL (dBuV / m)	EUT Lead	DELTA2 EN55022 A Avg
17.98 MHz	53.32 Av	1.03 / 0.28 / 0.0 / 0.0	54.63	N	-5.37
3.624 MHz	52.39 Av	0.47 / 0.0 / 0.0 / 0.0	52.86	L1	-7.14
6.307 MHz	50.16 Av	0.62 / 0.0 / 0.0 / 0.0	50.78	L1	-9.22
402.28 kHz	46.06 Av	0.16 / 0.1 / 0.0 / 0.0	46.32	N	-19.68
150.0 kHz	41.96 Av	0.12 / 0.3 / 0.0 / 0.0	42.38	N	-23.62
220.68 kHz	39.9 Av	0.13 / 0.11 / 0.0 / 0.0	40.14	N	-25.86

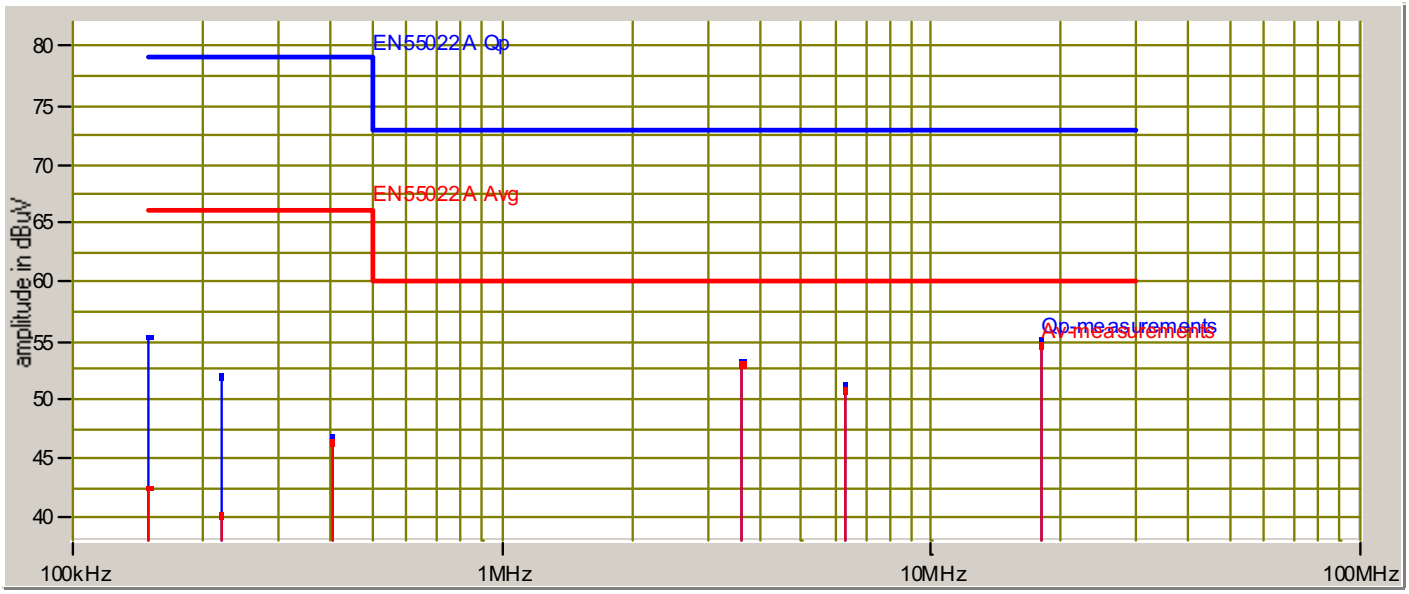
Tested by: Greg Jakubowki — Printed — Signature

Reviewed by: J. T. Schneider — Printed — Signature

CONDUCTED EMISSIONS

Test Report #:	WC703043 Run 2	Test Area:	LTS		
EUT Model #:	2020	Date:	6/18/2007		
EUT Serial #:	n/a	EUT Power:	110V / 60Hz	Temperature:	21.0 °C
Test Method:	FCC 15.209			Air Pressure:	99.0 kPa
Customer:	Digital Angel Corp			Rel. Humidity:	35.0 %
EUT Description:	Stationary RFID reader				
Notes:					
Data File Name:	3043.dat			Page:	4 of 4

Graph:



Tested by: Greg Jakubowki

Printed | Signature

Reviewed by: J. T. Schneider

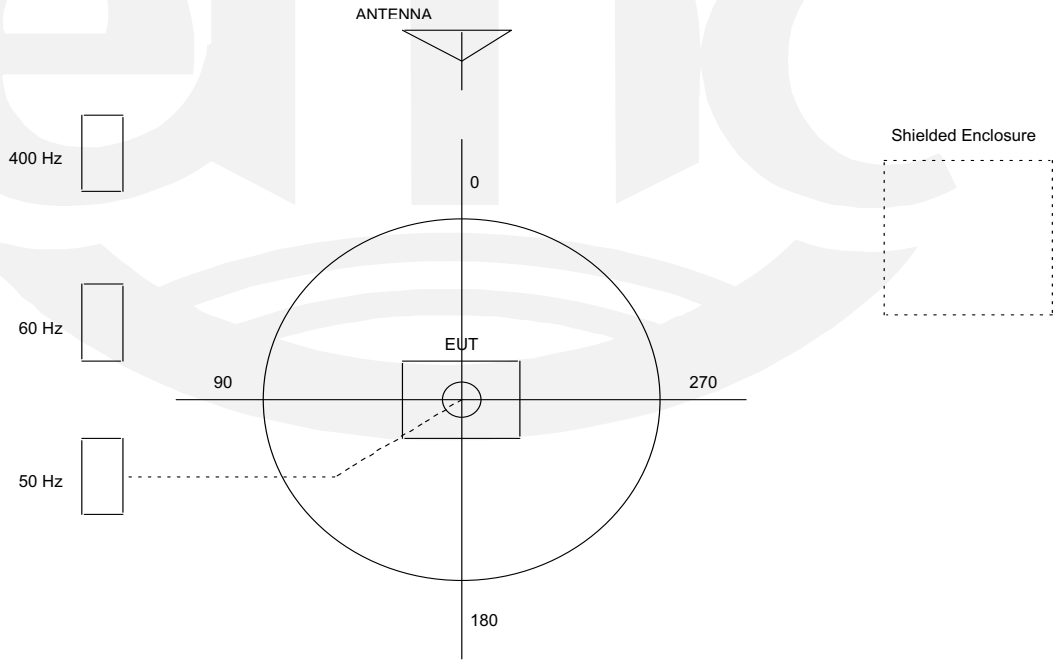
Printed | Signature

TEST SETUP FOR EMISSIONS TESTING

WILD RIVER LAB
Large Test Site

Notes:

1. Items shown in dotted lines are located on the floor below the test area. It is 5 meters vertically from the ground floor to the test area.
2. 50 Hz, 60 Hz, and 400 Hz are power panels for alternating current.
3. The antenna may be positioned horizontally 3, 10 or 30 meters from the center of the turntable.
4. The circle is a 6.7 meter diameter turntable.
5. A ground plane is in the plane of this sheet.
6. The test sample is shown in the azimuthal position representing zero degrees.



Test-setup photo(s):
General Field Strength Limits 0.009 – 30 MHz
Antenna AN4250 / AN4260

Test-setup photo(s):
General Field Strength Limits 0.009 – 30 MHz
Antenna AN4110
Testing performed under file number WC705658

Test-setup photo(s):
General Field Strength Limits 0.009 – 30 MHz
Antenna AN4500
Testing performed under file number WC705658

Test-setup photo(s):
General Field Strength Limits 0.009 – 30 MHz
Antenna AN4711
Testing performed under file number WC705658

Test-setup photo(s):
Radiated Emissions 30 - 1000 MHz
Antenna AN4250
Testing performed under file number WC705658

Test-setup photo(s):
Radiated Emissions 30 - 1000 MHz
Antenna AN4250
Testing performed under file number WC705658

Test-setup photo(s):
Radiated Emissions 30 - 1000 MHz
Antenna AN4260
Testing performed under file number WC705658

Test-setup photo(s):
Radiated Emissions 30 - 1000 MHz
Antenna AN4260
Testing performed under file number WC705658

Test-setup photo(s):
Radiated Emissions 30 - 1000 MHz
Antenna AN4110
Testing performed under file number WC705658

Test-setup photo(s):
Radiated Emissions 30 - 1000 MHz
Antenna AN4500
Testing performed under file number WC705658

Test-setup photo(s):
Radiated Emissions 30 - 1000 MHz
Antenna AN4711
Testing performed under file number WC705658

Test-setup photo(s):
Conducted Emissions 150 kHz - 30 MHz
Testing performed under file number WC703058

Equipment Under Test (EUT) Test Operation Mode:

The device under test was operated under the following conditions during immunity testing :

☐ - Standby

☐ - Test program (H - Pattern)

☐ - Test program (color bar)

☐ - Test program (customer specific)

☐ - Practice operation

■ - Normal operating modes

Configuration of the device under test:

■ - See Appendix A and test setup photo

☐ - See Product Information Form(s) in Appendix B

DEVIATIONS FROM STANDARD:
None.

GENERAL REMARKS:
Testing was also performed under Test Report numbers WC705658 and WC703043.

At the time of test, the Model Number was identified as 2020 RFID Reader. Notification of a change in Model Number identification to AXIZ SB-1.was received from the manufacturer and is on file with TÜV SÜD America.

Modifications required to pass:
■ None
☐ As indicated on the data sheet(s)

Test Specification Deviations: Additions to or Exclusions from:
■ None
☐ As indicated in the Test Plan

SUMMARY:
The requirements according to the technical regulations are
■ - met and the device under test does fulfill the general approval requirements.
☐ - **not** met and the device under test does **not** fulfill the general approval requirements..

EUT Received Date: 18 June 2007
Condition of EUT: Normal
Testing Start Date: 18 June 2007
Testing End Date: 31 July 2007

TÜV SÜD AMERICA INC

Greg Jakubowski
Senior EMC Technician

Joel Schneider
Senior EMC Engineer

Appendix A

Constructional Data Form

and

Block Diagram

Form

EMC Test Plan and Constructional Data Form

PLEASE COMPLETE THIS DOCUMENT IN FULL, ENTERING N/A IF THE FIELD IS NOT APPLICABLE. IF TESTING RESULTS IN MODIFICATIONS TO THE EQUIPMENT, PLEASE SUBMIT A REVISED TP/CDF INDICATING THOSE MODIFICATIONS.
NOTE: This information will be input into your test report as shown below. Press the F1 key at any time to get HELP for the current field selected.

Company:	Digital Angel Corp		
Address:	490 Villaume Ave		
	South St Paul		
	Mn 55076		
Contact:	Corey Punt	Position:	R&D Engineer
Phone:	(651)552-6313	Fax:	(651)455-0413
E-mail Address:	cpunt@digitalangelcorp.com		

General Equipment Description -- ***NOTE: This information will be input into your test report as shown below.***

EUT Description	Stationary RFID Reader
EUT Name	
Model No.:	2020 Serial No.: NA
Product Options:	Antenna models; AN4250, AN4260, AN4110, AN4500, AN4711
Configurations to be tested:	With all antennas / product options individually

Equipment Modification (*If applicable, indicate modifications since EUT was last tested. If modifications are made during this testing, submit revised TP/CDF after testing is complete.)*

Modifications since last test:	none
Modifications made during test:	none

Test Objective(s): ***Please indicate the tests to be performed, entering the applicable standard(s) where noted.***

- ☐ EMC Directive 89/336/EEC (EMC) Std:
- ☐ Machinery Directive 89/392/EEC (EMC Std:
- ☐ Medical Device Directive 93/42/EEC (EMC) Std:
- ☐ Vehicle Directive 72/245/EEC (EMC) Std:
- ☐ FDA Reviewers Guidance for Premarket Notification Submissions (EMC)

- ☒ FCC: Class ☒ A ☐ B Part 15
- ☐ VCCI: Class ☐ A ☐ B
- ☐ BSMI: Class ☐ A ☐ B
- ☒ Canada: Class ☒ A ☐ B
- ☐ Australia: Class ☐ A ☐ B
- ☒ Other: FCC 15.209, 15.207 & IC RSS-210

Third Party Certification, if applicable (*Signature on Page 6 Required)

- ☐ Attestation of Conformity (AoC)*
- ☐ Certificate of Conformity (CoC)*
- Protection Class (N/A for vehicles) ☐ Class I ☐ Class II ☐ Class III
  (Press **F1** when field is selected to show additional information on Protection Class.)
- ☒ FCC / TCB Certification
- ☐ E-Mark Certification
- ☐ EMC Certification (used with Octagon Mark)*
- ☐ Compliance Document*
- ☒ Industry Canada / FCB Certification
- ☐ Taiwan Certification

EMC Test Plan and Constructional Data Form

Attendance

Test will be: ☒ Attended by the customer ☐ Unattended by the customer

Failure - *Complete this section if testing will not be attended by the customer.*

If a failure occurs, TÜV America should:

☐ Call contact listed above, if not available then stop testing. (After hrs phone): _____

☐ Continue testing to complete test series.

☐ Continue testing to define corrective action.

☐ Stop testing.

EUT Specifications and Requirements

Length: 11.75" Width: 7.75" Height: 3.25" Weight: 7lbs

Power Requirements

Regulations require testing to be performed at typical power ratings in the countries of intended use. (i.e., European power is typically 230 VAC 50 Hz or 400 VAC 50 Hz, single and three phase, respectively)

Voltage: 115/230 VAC (If battery powered, make sure battery life is sufficient to complete testing.)

# of Phases: 1

Current (Amps/phase(max)): 1 Current (Amps/phase(nominal)): .3

Other _____

Other Special Requirements

Typical Installation and/or Operating Environment

(ie. Hospital, Small Business, Industrial/Factory, etc.)

Cattle barns, River and stream installations, Animal shelters

EUT Power Cable

☐ Permanent OR ☒ Removable Length (in meters): 2

☐ Shielded OR ☒ Unshielded

☐ Not Applicable

EMC Test Plan and Constructional Data Form

EUT Interface Ports and Cables

Type	Analog	Digital	During Test: Active	During Test: Passive	Qty	Shielding: Yes	Shielding: No	Shielding: Type	Termination	Connector Type	Port Termination	Length tested (in meters)	Removable	Permanent
EXAMPLE: *RS232*	☐	☒	☒	☐	*2*	☒	☐	*Foil over braid*	*Coaxial*	*Metallized 9-pin D-Sub*	*Characteristic Impedance*	*6*	☒	☐
	☐	☐	☐	☐		☐	☐						☐	☐
Antenna Cable	☒	☐	☒	☐	1	☒	☐	Foil over braid	solder	Turck 3 pin		6	☒	☐
	☐	☐	☐	☐		☐	☐					6	☐	☐
Power supply	☒	☐	☒	☐	1	☐	☒	Single pair, flat	Screw	Phoenix contact 2 pin		2	☒	☐
	☐	☐	☐	☐		☐	☐						☐	☐
	☐	☐	☐	☐		☐	☐						☐	☐
	☐	☐	☐	☐		☐	☐						☐	☐
	☐	☐	☐	☐		☐	☐						☐	☐
	☐	☐	☐	☐		☐	☐						☐	☐
	☐	☐	☐	☐		☐	☐						☐	☐
	☐	☐	☐	☐		☐	☐						☐	☐
	☐	☐	☐	☐		☐	☐						☐	☐

EMC Test Plan and Constructional Data Form

EUT Software.

Revision Level: 0.18

Description: Reads RFID tag and stores tag id

Equipment Under Test (EUT) Operating Modes to be Tested -- list the operating modes to be used during test. It is recommended the equipment be tested while operating in a typical operation mode. FCC testing of personal computers and/or peripherals requires that a simple program generate a complete line of upper case H's. Provide a general description of all software, firmware, and PLD algorithms used in the equipment. List all code modules as described above, with the revision level used during testing. Consult with your TÜV Product Service Representative if additional assistance is required.

1. CPU firmware rev 0.18 - CPLD firmware rev 10 - DSP firmware rev 2

2.

3.

Equipment Under Test (EUT) System Components -- List and describe all components which are part of the EUT. For FCC & Taiwan testing a minimum configuration is required. (ie. Mouse, Printer, Monitor, External Disk Drive, Motherboard, etc)

Description	Model #	Serial #	FCC ID #
2 X 4 antenna	AN4260	na	
2 X 4 antenna	AN4250	na	
Power Supply	FW3012	103690	
Walk-Through antenna	AN4500	na	
1.5' antenna	AN4110	na	
Head-gate antenna	AN4711	na	

EMC Test Plan and Constructional Data Form

Support Equipment -- List and describe all support equipment which is not part of the EUT. (i.e. peripherals, simulators, etc) This information is required for FCC & Taiwan testing.

Description	*Model #*	*Serial #*	*FCC ID #*

Oscillator Frequencies

Frequency	*Derived Frequency*	*Component # / Location*	*Description of Use*
17.1776 Mhz		Y4	Clock for exciter pic (U41)
30 Mhz	150 Mhz	Y3	Clock for DSP (U23)
32.768 Khz		Y1	RTC (U3)
22.1184 Mhz		Y2	CPU clock (U10)

Power Supply

Manufacturer	*Model #*	*Serial #*	*Type*
Elpac	FW3012	103690	☒ Switched-mode: (Frequency) 65-75 Khz ☐ Linear ☐ Other:
			☐ Switched-mode: (Frequency) _____ ☐ Linear ☐ Other: _____

Power Line Filters

Manufacturer	*Model #*	*Location in EUT*

EMC Test Plan and Constructional Data Form

Critical EMI Components (Capacitors, ferrites, etc.)

Description	*Manufacturer*	*Part # or Value*	*Qty*	*Component # / Location*

EMC Critical Detail -- Describe other EMC Design details used to reduce high frequency noise.

(PLEASE INSERT "**ELECTRONIC SIGNATURE**" BELOW IF POSSIBLE)

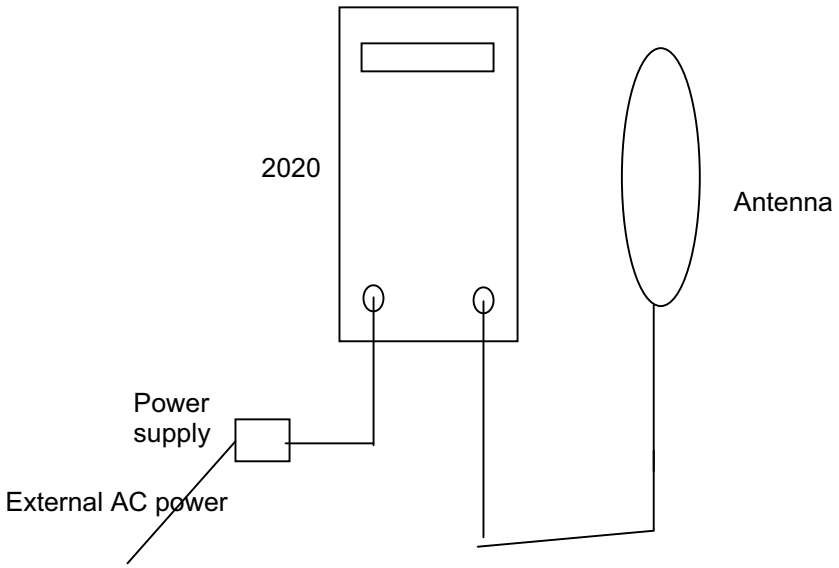
Authorization Signatures (Signature Required for Certifications checked on pg 1)

Corey Punt	7-30-07
Customer authorization to perform tests according to this test plan.	Date
Corey Punt	7-30-07
Test Plan/CDF Prepared By (please print)	Date

Form

EMC Block Diagram Form

System Configuration Block Diagram -- Provide a line drawing identifying the EUT, simulators, support equipment, I/O cables, power cables, and any other pertinent components to be used during testing. Use a dashed line to separate the equipment in the testing field versus equipment outside testing field.



Authorization Signatures

Roger Clark	10/6/06
Customer authorization to perform tests according to this test plan.	Date
Test Plan/CDF Prepared By (please print)	Date

Appendix B

Measurement Protocol

MEASUREMENT PROTOCOL

GENERAL INFORMATION

Test Methodology

Emissions testing is performed according to the procedures in ANSI C63.4-2003.

Measurement Uncertainty

The test system for conducted emissions is defined as the LISN, tuned receiver or spectrum analyzer, and coaxial cable. The test system has a measurement uncertainty of ±1.8 dB. The test system for radiated emissions is defined as the antenna, the pre-amplifier, the spectrum analyzer and the coaxial cable. The test system has a measurement uncertainty of ±4.8 dB. The equipment comprising the test systems is calibrated on an annual basis.

Justification

The Equipment Under Test (EUT) is configured in a typical user arrangement in accordance with the manufacturer's instructions. A cable is connected to each available port and either terminated with a peripheral into its characteristic impedance or left unterminated. When appropriate, the cables are manually manipulated with respect to each other to obtain maximum emissions from the unit.

Conducted Emissions

The final level, in dBμV, equals the EMI receiver level plus the cable loss and LISN factor.

Radiated Emissions

The final level, in dBμV/m, equals the reading from the spectrum analyzer (Level dBμV), adding the antenna correction factor and cable loss factor (Factor dB) to it, and subtracting the preamp gain (and duty cycle correction factor, if applicable). This result then has the limit subtracted from it to provide the Delta, which gives the tabular data as shown in the data sheets in Attachment A.

Example:

FREQ (MHz)	LEVEL (dBuV)		CABLE/ANT/PREAMP (dB)	(dB/m)	(dB)	FINAL (dBuV/m)		POL/HGT/AZ (m)	(deg)	DELTA1
60.80	42.5Qp	+	1.2	+ 10.9	- 25.5 =	29.1	V	1.0	0.0	-10.9

Test Equipment

All measurement instrumentation is traceable to the National Institute of Standards and Technology and is calibrated according to internal procedure.

DETAILS OF TEST PROCEDURES

Conducted Emissions

Conducted emissions on the 50 Hz and/or 60 Hz power interface of the EUT are measured in the frequency range of 150 kHz to 30 MHz. The measurements are performed using a receiver, which has CISPR characteristic bandwidth and quasi-peak detection, and a Line Impedance Stabilization Network (LISN), with 50 Ω/50 μH (CISPR 16) characteristics. Table top equipment is placed on a non-conducting table 80 centimeters above the floor and is positioned 40 centimeters from the vertical ground plane (wall) of the screen room. In some cases, a pre-scan using a spectrum analyzer is initially performed on the units comprising the system under test to locate the highest emissions. If the minimum passing margin appears to be less than 20 dB with a peak mode measurement, the emissions are re-measured using a tuned receiver or spectrum analyzer with quasi-peak and average detection and recorded on the data sheets.

Radiated Emissions

Radiated emissions in the frequency range of 10kHz to 30 MHz, including the fundamental transmit signal, are measured using a receiver capable of quasi-peak and average measurements and a magnetic loop antenna. The transmitter is rotated through 3 orthogonal axes in order to determine the maximum emission levels. If the signal cannot be measured at the specified limit distance, measurements are recorded at multiple distances nearer to the device and the final level mathematically extrapolated. Radiated emissions from the EUT are measured in the frequency range of 30 to 1000 MHz using a spectrum analyzer and appropriate broadband linearly polarized antennas. Measurements between 30 MHz and 1000 MHz are made with 120 kHz/6 dB bandwidth and quasi-peak detection and measurements above 1000 MHz are made with a 1 MHz/6 dB bandwidth and peak detection. Table top equipment is placed on a 1.0 X 1.5 meter non-conducting table 80 centimeters above the ground plane. Floor standing equipment is placed directly on the turntable/ground plane. Interface cables that are closer than 40 centimeters to the ground plane are bundled in the center in a serpentine fashion so they are at least 40 centimeters from the ground plane. Cables to simulators/testers (if used in this test) are routed through the center of the table and to a screen room located outside the test area. The antenna is positioned 3, 10 or 30 meters horizontally from the EUT. To locate maximum emissions from the test sample the antenna is varied in height from 1 to 4 meters, measurement scans are made with both horizontal and vertical antenna polarizations and the EUT are rotated 360 degrees.