EMC Test Laboratory – RTP, NC	NVLAP Lab Code: 200200-0

EMC Measurement / Technical Report

EUT: Mobile Tablet Type Number 7054 Model 100, 110 and 200
Mobile Tablet Charging Rack Type Number 7055 Model 100
Mobile Tablet Scanner Part Number 65P6350, 65P6433
Mobile Tablet Beacon Part Number 65P6341

Report Number: 05-EMCRTP-0059
Date: 6/2/2005

IBM EMC Test Labs
IBM Corporation
RTP, NC 27709-2195

The equipment (EUT) is classified as Class A
The equipment type is ITE (Information Technology Equipment).

This test report must not be used by the Client to claim product endorsement by NVLAP, any agency of the U.S. Government, or Taiwan BSMI.

Template Revision 1.08, 5/13/2005, Owner: Alan Knight

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Dan Hunt
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1.0 TABLE OF CONTENTS

2.0 MODEL NUMBERS COVERED BY THIS REPORT

7054 Model 100 - Stop & Shop logo, storm gray, with green front label
7054 Model 110 - No Stop & Shop logo, storm gray, with storm gray front label
7054 Model 200 - IBM logo, iron gray, with iron gray front label

7055 Model 100 – Tablet Charging Station

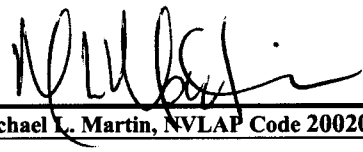
PN 65P6350 – Tablet Scanner included with models 7054-100 and 7054-110, storm gray
PN 65P6433 – Tablet Scanner included with model 7054-200, raven black

PN 65P6341 – Tablet Beacon

3.0 EMC STANDARDS COMPLIANCE LIST / TEST SUMMARY

This report describes the EMC evaluation of the IBM Mobile Tablet type number 7054 and charging station type number 7055. It was tested to and does meet the following EMC requirements. The results reported here only pertain to the item(s) tested.

Emissions		
Test	Class	Standards and Test Procedures
Radiated and Conducted Emissions	A	FCC 47 CFR Part 15, Subpart B, ANSI C63.4 (2003)
	A	ICES-003, Issue-004, ANSI C63.4 (2003)

Date:	6-2-05
EMC Engineer:	Brad E Dillon **Brad E. Dillon, IBM RTP EMC Test Lab**
NVLAP Signatory:	 **Michael L. Martin, NVLAP Code 200200-0 Signatory**

4.0 TEST LABORATORY INFORMATION

4.1 Address

International Business Machines Corporation
IBM EMC Test Labs
3039 Cornwallis Road
RTP, NC 27709-2195 USA

4.2 Test Facility Description

The IBM RTP EMC Test Lab, building 063 and 065 emissions test facilities, are two RF Semi-anechoic chambers designed for radiated emissions measurements at antenna-to-EUT distances up to 10 meters and antenna scan heights of 1 to 4 meters. The 065 emissions test facility is made up of 4 shielded rooms. The 063 emissions test facility is made up of 3 shielded rooms.

- Semi-Anechoic Chamber
- Control Room
- Exerciser Room A
- Exerciser Room B (not in 063)

The Control Room contains all measurement test equipment and Exerciser Rooms A and B are used to isolate machinery and equipment that are not part of the emissions measurement.

4.3 Agency Approvals and Accreditations

IBM RTP, NC EMC Test Lab Building 063 Test Facility Accreditations				
Country	**Agency**	**Registration Number**	**Valid From**	**Valid Until**
USA/Taiwan	NVLAP	200200-0	6/30/2004	6/30/2005
Japan	VCCI	C-1125	1/31/2003	1/30/2006
Japan	VCCI	R-1070	1/31/2003	1/30/2006
Japan	VCCI	R-878	12/31/2004	12/28/2007
Taiwan	BSMI	SL2-IN-E-1005	6/30/2004	6/30/2005

5.0 EUT/PRODUCT INFORMATION

EUT Condition and Test Dates	
EUT Condition	Preproduction
Date of Receipt	The EUT was received into the lab on 11/05/2004
Test Dates	The EUT was tested from 11/05/2004 to 12/03/2005
Line Voltage	110 V charging station, battery for standalone mobile tablet
Line Frequency	60 Hz

5.1 EUT/Product Description

The IBM Mobile Tablet for Retail is a customer used appliance provided by grocers and mass-merchants for use with carts or trolleys to enhance the customer's store experience by providing information and customer unique promotions.

The Scanner

- Fits easily on the side of the IBM Mobile Tablet for Retail in its own compartment
- Withstands multiple 4 foot drops to concrete
- Imaging Scanner that weights about 0.2lbs
- Contains only two buttons. The green button is used to scan an item and add it to the running total. The red button takes the item off the running total (assumption is its put back on to the shelf and the item is not purchased).
- Can be taken up to 30 feet from the IBM Mobile Tablet for Retail for scanning items on the shelf. Also the scanner can remain in its compartment and the item can be brought to the tablet for scanning.

The Charger

- The charger is a stand-alone or multiple configuration rack of bays to charge up to nine tablets concurrently
- Provides a locking mechanism for the rack to lock into place all tablets within the rack (for off hours security)
- Allows the IBM Mobile Tablet for Retail to be easily removed from the charger with one-handed operation.
- Provides a rack and slot ID to the Tablet for enhanced management of Tablet distribution and to uniquely identify the location of Tablets that need attention.

5.2 Oscillator/Clock Frequencies

Please refer to the block diagrams in section 8.

5.3 Special Accessories or Modifications Required for Compliance

None

5.4 Deviations from Specified Standards, Regulations or Test Procedures

None

5.5 Suppression Components

None

6.0 TEST CONFIGURATION

6.1 EUT and Hardware Internal to EUT

EUT or Product Tested			
Description or Name	**Type/Model or Part Number**	**Manufacturer**	**Serial Number**
7054 Mobile Tablet	7054-	IBM	41-00024, 41-00068 and 41-00104
7055 Charging Station	7055-100	IBM	41-01042
Beacon	65P6341	IBM	DVT-1
Scanner	65P6350	IBM	28

6.3 Configuration Description

The mobile tablet and beacon were tested for radiated emissions, while the charging station was tested in radiated and conducted emissions. A USB keyboard was attached to the tablets USB port.

6.4 Configuration Justification

The mobile tablet, charging rack and beacon were each tested which comprises a customer installation. The mobile tablet and beacon run on battery when outside of the charging rack and was tested as such in radiated. The charging station was also tested in radiated and conducted while performing the charging operation.

6.5 Exercise Software

Linux was used to exercise video and to verify beacon functionality.

7.0 EMISSIONS TEST RESULTS

The EUT meets all emissions requirements as noted in the Standards Compliance List / Test Summary section at the front of this report.

7.1 Radiated Emissions (30 – 1000 MHz)

Test Procedure

An initial real time measurement was made with the antenna in a fixed polarization. Unless otherwise stated, all system measurements 1GHz and below are made at a 10 meter antenna-to-EUT distance, all system measurements 1GHz and above are made at a 3 meter antenna-to-EUT distance. Two frequency ranges were measured based on the calibration ranges of the antennas. The biconical antenna was used from 20 to 201 MHz, and the log periodic was used from 199 to 1000 MHz. The antennas were set at fixed heights and the cables were manipulated to obtain maximum emissions. The azimuths reported in the data tables correct for the offset of the antennas from the center of the test facility. To obtain the indicated azimuth add 13 degrees to measurements using the biconical antenna and subtract 13 degrees when using the log-periodic antenna.

The product was rotated with the antennas positioned as previously described, and the peak spectrum profile for each polarization was recorded. Radiated emissions within 10 dB of the limit were then measured using a spectrum analyzer equipped with a quasi-peak adapter and a bandwidth of 120 KHz was used for frequencies up to and including 1 GHz. For measurements above 1 GHz, both a peak and average detector were used, and the resolution bandwidth was 1 MHz. For each configuration, a minimum of 6 emissions were recorded. The EUT was rotated and the antennas scanned to capture the maximum emission at each reported frequency.

Sample Field Strength Calculation

FS = VR + AF + CL + AT - PG - FO
where,

FS = Field Strength
VR = Measured Voltage at the Receiver
CL = Cable Loss
AF = Antenna Factor
PG = Preamplifier Gain
AT = Attenuator
FO = Falloff Factor, distance conversion

For example at 240.001 MHz if the measured voltage is 37.04 dBµV with an antenna distance of 10 meters and no attenuator used, the field intensity would be calculated:

FS = 37.04+12.34+3.22+0.0-25.84-0.0 = 26.76 dBµV/m (21.78 µV/m).

Measurement Uncertainty

The measurement uncertainty for this test station is 4.2dB.

Test Equipment				
Description	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Attenuator	HP 8491	2708A20567	04/30/04	04/30/05
Biconical Antenna	Emco 3108	TES#024006	03/03/04	03/03/05
Log Periodic Antenna	Emco 3147	TES#023521	09/13/04	09/13/05
Mast Controller	Emco 1053	TES#021809	02/16/04	02/28/05
Mast Controller	Emco 1053	TES#021813	02/16/04	02/28/05
Preamp	>2 GHz	TES#031559	09/22/04	09/30/05
Preamp	HP 8447	TES#013990	04/30/04	04/30/05
Preamp	HP 8447	TES#019657	04/30/04	04/30/05
Preamp	HP 8449B	TES#030684	04/30/04	04/30/05
QP Adapter	HP 85650	TES#019008	05/06/04	05/31/05
QP Adapter	HP 85650	TES#026416	05/05/04	05/31/05
Ridged Horn Antenna	3115	TES#026014	09/22/04	09/30/05
Spectrum Analyzer	HP 8566B	TES#018073	05/06/04	05/31/05
Spectrum Analyzer	HP 8568B	TES#019011	05/05/04	05/31/05
Tracking Source	85645A	TES#023700	09/06/04	09/31/05
Turntable Controller	Emco 2090	TES#031327	07/29/04	01/30/05

Configuration #1: Mobile Tablet and Beacon

QP Data (30 - 1000 MHz)				**Test Facility: 063**						**Test Operator: RPY**		
Voltage: Battery				**Temp: 24.0 deg.C**		**Hum: 40% rh**		**Pressure: 102 kPa**			**Date: 03 Dec 2004**	
Freq (MHz)	**Pol**	**Hgt (cm)**	**Act. Az (deg)**	**Measured Receiver Level (dBµV)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**PreAmp Gain (dB)**	**Atten (dB)**	**Fall Off (dB)**	**Field Strength (dBµV/m)**	**Class A Limit (dBµV/m)**	**Margin To Limit (dB)**
196.61	V	398	0	23.5	13.3	2.4	26.7	6.0	0.0	18.4	40.0	-21.6
198.24	H	390	281	29.8	13.4	2.4	26.7	6.0	0.0	24.9	40.0	-15.2
208.89	H	399	99	46.6	11.0	1.9	26.0	0.0	0.0	33.5	40.0	-6.5
499.25	H	177	228	40.0	17.7	3.3	26.8	0.0	0.0	34.2	47.0	-12.8
528.01	H	134	222	42.8	17.8	3.2	26.7	0.0	0.0	37.0	47.0	-10.0
563.02	H	153	205	43.6	18.2	3.2	26.7	0.0	0.0	38.3	47.0	-8.7

Configuration #2: Charging Station with Mobile Tablets Installed and Charging

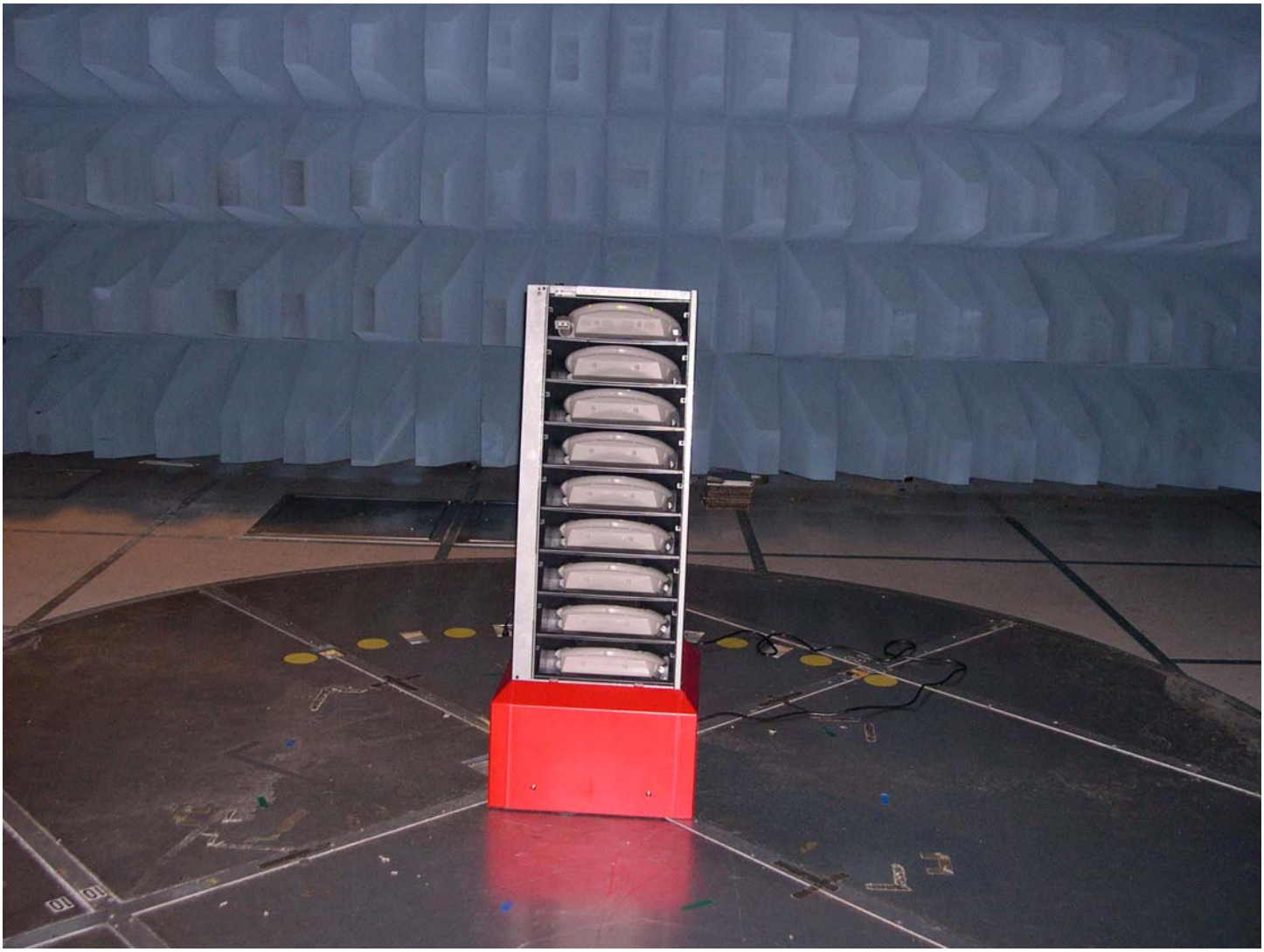
QP Data (30 - 1000 MHz)				**Test Facility: 063**						**Test Operator: RPY**		
Voltage: 120V/60Hz				**Temp: 23.0 deg.C**		**Hum: 56% rh**		**Pressure: 101 kPa**			**Date: 22 Nov 2004**	
Freq (MHz)	**Pol**	**Hgt (cm)**	**Act. Az (deg)**	**Measured Receiver Level (dBµV)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**PreAmp Gain (dB)**	**Atten (dB)**	**Fall Off (dB)**	**Field Strength (dBµV/m)**	**Class A Limit (dBµV/m)**	**Margin To Limit (dB)**
399.36	V	399	7	39.1	15.7	3.1	26.3	0.0	0.0	31.7	47.0	-15.3
399.66	V	135	11	44.0	15.7	3.1	26.3	0.0	0.0	36.5	47.0	-10.4
559.52	H	135	5	50.2	18.1	3.2	26.7	0.0	0.0	44.9	47.0	-2.1
798.56	V	391	29	37.8	21.0	4.2	26.8	0.0	0.0	36.1	47.0	-10.9
902.13	V	298	28	36.7	22.1	4.7	26.5	0.0	0.0	37.0	47.0	-10.0
927.43	V	146	18	39.6	22.6	4.8	26.4	0.0	0.0	40.7	47.0	-6.3
956.77	V	299	23	32.9	22.9	4.8	26.3	0.0	0.0	34.4	47.0	-12.6
959.19	V	292	352	36.6	22.9	4.9	26.3	0.0	0.0	38.1	47.0	-8.9

Configuration #1: Mobile Tablet and Beacon

Front View - Radiated Emissions
EUT Configuration for Maximum Emissions

Rear View - Radiated Emissions
EUT Configuration for Maximum Emissions

Configuration #2: Charging Station with Mobile Tablets Installed and Charging



Front View - Radiated Emissions
EUT Configuration for Maximum Emissions

Rear View - Radiated Emissions
EUT Configuration for Maximum Emissions

7.2 Radiated Emissions (1 – 18 GHz)

Test Procedure

An initial real time measurement was made with the antenna in a fixed polarization. Unless otherwise stated, all system measurements 1GHz and below are made at a 10 meter antenna-to-EUT distance, all system measurements 1GHz and above are made at a 3 meter antenna-to-EUT distance. Two frequency ranges were measured based on the calibration ranges of the antennas. The biconical antenna was used from 20 to 201 MHz, and the log periodic was used from 199 to 1000 MHz. The antennas were set at fixed heights and the cables were manipulated to obtain maximum emissions. The azimuths reported in the data tables correct for the offset of the antennas from the center of the test facility. To obtain the indicated azimuth add 13 degrees to measurements using the biconical antenna and subtract 13 degrees when using the log-periodic antenna.

The product was rotated with the antennas positioned as previously described, and the peak spectrum profile for each polarization was recorded. Radiated emissions within 10 dB of the limit were then measured using a spectrum analyzer equipped with a quasi-peak adapter and a bandwidth of 120 KHz was used for frequencies up to and including 1 GHz. For measurements above 1 GHz, both a peak and average detector were used, and the resolution bandwidth was 1 MHz. For each configuration, a minimum of 6 emissions were recorded. The EUT was rotated and the antennas scanned to capture the maximum emission at each reported frequency.

Sample Field Strength Calculation

FS = VR + AF + CL + AT - PG - FO
where,

FS = Field Strength
VR = Measured Voltage at the Receiver
CL = Cable Loss
AF = Antenna Factor
PG = Preamplifier Gain
AT = Attenuator
FO = Falloff Factor, distance conversion

For example at 240.001 MHz if the measured voltage is 37.04 dBµV with an antenna distance of 10 meters and no attenuator used, the field intensity would be calculated:

FS = 37.04+12.34+3.22+0.0-25.84-0.0 = 26.76 dBµV/m (21.78 µV/m).

Measurement Uncertainty

The measurement uncertainty for this test station is 4.2dB.

Test Equipment				
Description	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
Attenuator	HP 8491	2708A20567	04/30/04	04/30/05
Biconical Antenna	Emco 3108	TES#024006	03/03/04	03/03/05
Log Periodic Antenna	Emco 3147	TES#023521	09/13/04	09/13/05
Mast Controller	Emco 1053	TES#021809	02/16/04	02/28/05
Mast Controller	Emco 1053	TES#021813	02/16/04	02/28/05
Preamp	>2 GHz	TES#031559	09/22/04	09/30/05
Preamp	HP 8447	TES#013990	04/30/04	04/30/05
Preamp	HP 8447	TES#019657	04/30/04	04/30/05
Preamp	HP 8449B	TES#030684	04/30/04	04/30/05
QP Adapter	HP 85650	TES#019008	05/06/04	05/31/05
QP Adapter	HP 85650	TES#026416	05/05/04	05/31/05
Ridged Horn Antenna	3115	TES#026014	09/22/04	09/30/05
Spectrum Analyzer	HP 8566B	TES#018073	05/06/04	05/31/05
Spectrum Analyzer	HP 8568B	TES#019011	05/05/04	05/31/05
Tracking Source	85645A	TES#023700	09/06/04	09/31/05
Turntable Controller	Emco 2090	TES#031327	07/29/04	01/30/05
EMI Radiated software	Rev. 5.52 and 5.54	N/A	N/A	N/A

Configuration #1: Mobile Tablet and Beacon

Peak Data (1 - 18 GHz)				**Test Facility: 063**						**Test Operator: RPY**		
Voltage: Battery				**Temp: 24.0 deg.C**		**Hum: 48% rh**		**Pressure: 101 kPa**			**Date: 23 Nov 2004**	
Freq (MHz)	**Pol**	**Hgt (cm)**	**Act. Az (deg)**	**Measured Receiver Level (dBµV)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**PreAmp Gain (dB)**	**Atten (dB)**	**Fall Off (dB)**	**Field Strength (dBµV/m)**	**Class A Limit (dBµV/m)**	**Margin To Limit (dB)**
1,089.78	V	100	138	45.8	24.1	12.7	52.0	6.0	10.5	26.1	69.5	-43.4
1,330.45	V	100	341	47.6	26.1	14.1	52.0	6.0	10.5	31.3	69.5	-38.2
1,863.38	V	100	235	39.1	29.5	16.8	52.0	6.0	10.5	28.9	69.5	-40.6
1,889.27	V	100	101	38.0	29.7	16.8	52.0	6.0	10.5	28.0	69.5	-41.5

Average Data (1 - 18 GHz)				**Test Facility: 063**						**Test Operator: RPY**		
Voltage: Battery				**Temp: 24.0 deg.C**		**Hum: 48% rh**		**Pressure: 101 kPa**			**Date: 23 Nov 2004**	
Freq (MHz)	**Pol**	**Hgt (cm)**	**Act. Az (deg)**	**Measured Receiver Level (dBµV)**	**Antenna Factor (dB/m)**	**Cable Loss (dB)**	**PreAmp Gain (dB)**	**Atten (dB)**	**Fall Off (dB)**	**Field Strength (dBµV/m)**	**Class A Limit (dBµV/m)**	**Margin To Limit (dB)**
1,089.78	V	100	138	25.3	24.1	12.7	52.0	6.0	10.5	5.6	49.5	-43.9
1,330.45	V	100	341	27.3	26.1	14.1	52.0	6.0	10.5	11.0	49.5	-38.5
1,863.38	V	100	235	18.3	29.5	16.8	52.0	6.0	10.5	8.2	49.5	-41.4
1,889.27	V	100	101	17.1	29.7	16.8	52.0	6.0	10.5	7.1	49.5	-42.4

Configuration #2: Charging Station with Mobile Tablets Installed and Charging

Peak Data (1 - 18 GHz)				Test Facility: 063						Test Operator: RPY		
Voltage: 120V/60Hz				Temp: 24.0 deg.C		Hum: 40% rh		Pressure: 101 kPa			Date: 02 Dec 2004	
Freq (MHz)	Pol	Hgt (cm)	Act. Az (deg)	Measured Receiver Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	PreAmp Gain (dB)	Atten (dB)	Fall Off (dB)	Field Strength (dBµV/m)	Class A Limit (dBµV/m)	Margin To Limit (dB)
1,986.61	V	115	257	58.3	30.2	9.7	38.6	0.0	10.5	49.1	69.5	-20.4

Average Data (1 - 18 GHz)				Test Facility: 063						Test Operator: RPY		
Voltage: 120V/60Hz				Temp: 24.0 deg.C		Hum: 40% rh		Pressure: 101 kPa			Date: 02 Dec 2004	
Freq (MHz)	Pol	Hgt (cm)	Act. Az (deg)	Measured Receiver Level (dBµV)	Antenna Factor (dB/m)	Cable Loss (dB)	PreAmp Gain (dB)	Atten (dB)	Fall Off (dB)	Field Strength (dBµV/m)	Class A Limit (dBµV/m)	Margin To Limit (dB)
1,986.61	V	115	257	38.4	30.2	9.7	38.6	0.0	10.5	29.3	49.5	-20.2

7.3 Conducted Emissions - Power Lines

Test Procedure

Peak spectral data of each of the product's power-line conductors over the range of 0.15 to 30 MHz was recorded using a spectrum analyzer. Conducted emissions within 10dB of the limit were then measured using a spectrum analyzer using quasi-peak and average detection, and a bandwidth of 9 KHz. For each configuration, a minimum of 6 emissions were recorded. The cables were manipulated to maximize the emissions.

For table top products the EUT along with its peripherals were placed on a 1.0 by 1.5 meter wide, 0.8 meter high wooden table situated on an earth-grounded conducting surface (horizontal reference plane) at least 2.5 by 2.0 meters wide (this plane was covered with an insulating material). The EUT was powered by a 50 ohm line impedance stabilization network (LISN) which was bonded to the horizontal reference plane. All peripheral equipment was powered by a second LISN which was also bonded to the horizontal reference plane. Power to both LISNs was filtered to reduce ambient noise interference. The EUT was adjusted to maintain a 0.4 meter distance from a vertical reference plane. The vertical reference plane was at least 2.0 meters wide by 2.0 meters tall and was bonded to the horizontal reference plane. The excess power cable between the LISN and the EUT was bundled. The power cables associated with the peripheral equipment was left unbundled.

The floor-standing EUT is setup in a typical configuration with the EUT standing on a conducting ground plane. Peripherals and I/O devices attached to the EUT and installed in a typical configuration, maintaining normal spacing between cabinets and enclosures.

Signal Strength Calculation

S = VR + CL + IL + AT - PG
where,

S = Signal Strength
VR = Voltage at the receiver
CL = Cable Loss
IL = LISN Insertion Loss
AT = External Attenuation
PG = External Preamp Gain

For example at 24.000 MHz if the measured voltage is 45.0 dBµV, the cable loss is 0.35 dB, the insertion loss is 0.21 dB, the external attenuation is 10.05 dB and there is no external preamp gain, the signal strength would be calculated:

S = 45.00 dBµV + 0.35 dB + 0.21 dB + 10.05 dB + 0.0dB = 55.61 dBµV (603.25 µV).

Measurement Uncertainty

The measurement uncertainty for this test station is 3.0dB.

Test Equipment				
Description	**Model**	**Serial Number**	**Calibration Date**	**Calibration Due**
EMCO (LISN U.S.)	3825/2	TES#023522	06/28/04	06/30/05
EMI Conducted software	Rev. 5.53	N/A	N/A	N/A
Fischer current probe	F-33-2	TES-031171	03/30/04	03/30/05
HP Preamp	8447D	TES-013990	05/06/04	05/31/05
HP QP Adapter	85650A	TES#018075	08/18/04	08/31/05
HP Spectrum Analyzer	8568B	TES#031505	11/08/04	11/30/05
HP Transient Limiter	11947A	TES#23525	05/30/04	05/30/05
IBM voltage probe	SN2001-01	TES-020054	04/30/04	04/30/05
Rhode & Schwarz receiver	ESH3	TES#016731	08/17/04	08/31/05
Tektronix FET probe	P6201	TES-025157	04/30/04	04/30/05

Configuration #1: Mobile Tablet and Beacon

N/A – Mobile Tablet and Beacon operate on battery

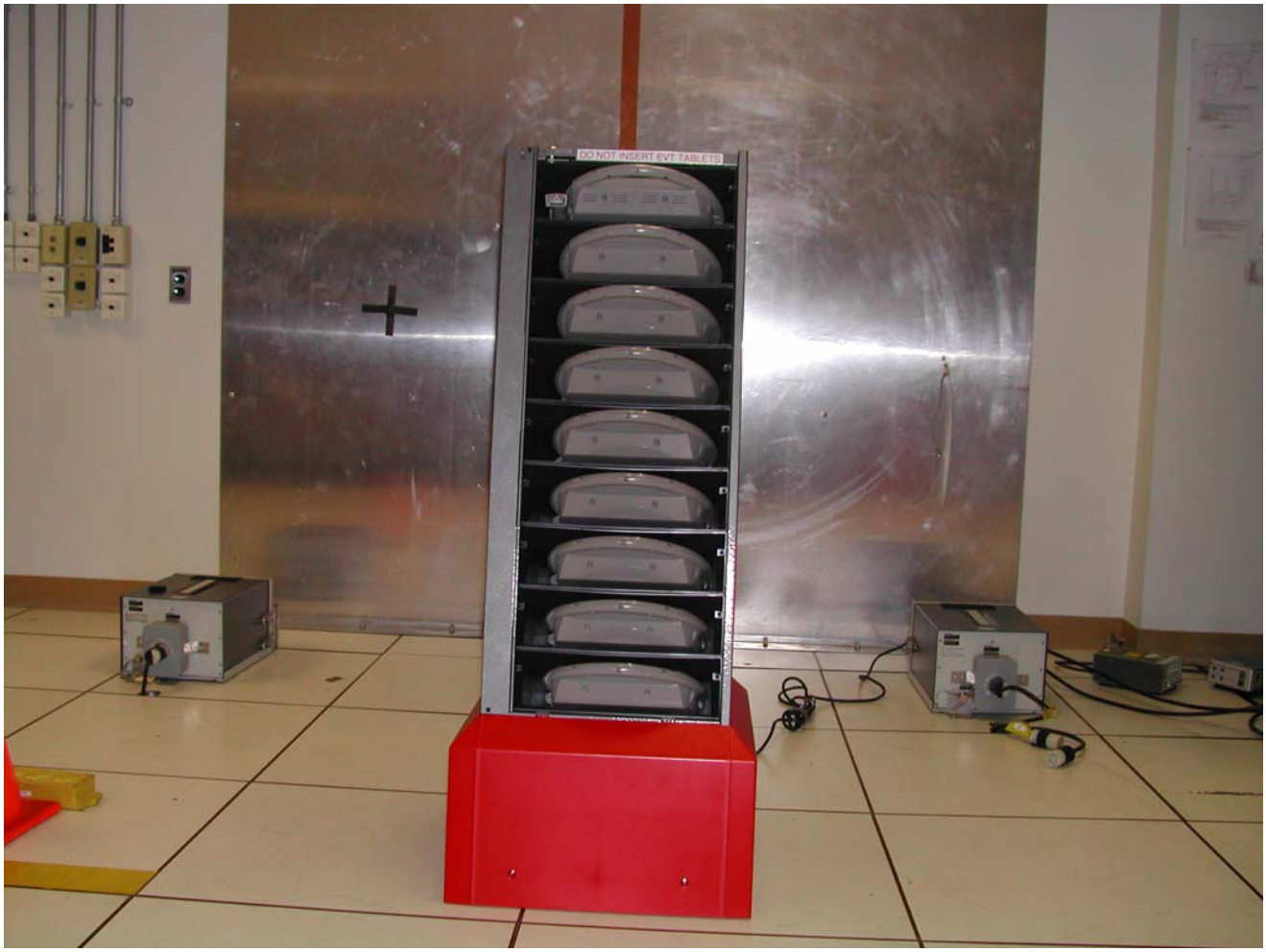
Configuration #2: Charging Station with Mobile Tablets Installed and Charging

QP and Average Data				**Test Facility: 065**						**Test Operator: RPY**			
Voltage: 110V/60Hz				**Temp: 22.0 deg.C**		**Hum: 49% rh**		**Pressure: 103 kPa**			**Date: 23 Nov 2004**		
								QP			**Average**		
Freq. in(MHz)	**Line**	**QP Meas. dBµV**	**Avg. Meas. dBµV**	**LISN Factor (dB)**	**Cable Loss (dB)**	**Gain (dB)**	**Atten (dB)**	**Emission Level (dB)**	**Class A Limit (dBµV)**	**Margin to Limit**	**Emission Level (dB)**	**Class A Limit (dBµV)**	**Margin to Limit**
0.150	L	32.5	27.7	0.1	0.0	0.0	9.9	42.5	79.0	-36.5	37.7	66.0	-28.3
0.150	N	33.0	27.8	0.1	0.0	0.0	9.9	43.0	79.0	-36.0	37.8	66.0	-28.2
0.160	L	29.8	26.2	0.0	0.0	0.0	9.9	39.8	79.0	-39.2	36.2	66.0	-29.8
0.160	N	30.3	26.4	0.1	0.0	0.0	9.9	40.3	79.0	-38.7	36.4	66.0	-29.6
0.180	L	24.3	23.1	0.0	0.0	0.0	9.9	34.2	79.0	-44.8	33.1	66.0	-32.9
0.180	N	24.6	23.2	0.1	0.0	0.0	9.9	34.6	79.0	-44.4	33.2	66.0	-32.8
0.210	L	23.2	20.9	0.0	0.0	0.0	9.9	33.2	79.0	-45.8	30.9	66.0	-35.1
0.210	N	22.1	20.4	0.0	0.0	0.0	9.9	32.0	79.0	-47.0	30.4	66.0	-35.6
0.317	L	17.1	13.8	0.0	0.0	0.0	9.9	27.0	79.0	-52.0	23.8	66.0	-42.2
0.317	N	20.4	14.3	0.0	0.0	0.0	9.9	30.4	79.0	-48.6	24.3	66.0	-41.7
0.439	L	21.7	16.1	0.0	0.0	0.0	10.0	31.6	79.0	-47.4	26.1	66.0	-39.9
0.439	N	21.5	16.2	0.0	0.0	0.0	10.0	31.5	79.0	-47.5	26.2	66.0	-39.8
NOTE: A product is compliant if the average limit is met using quasi-peak measurement data.													

Configuration #1: Mobile Tablet and Beacon

N/A – Mobile Tablet and Beacon operate on battery

Configuration #2: Charging Station with Mobile Tablets Installed and Charging

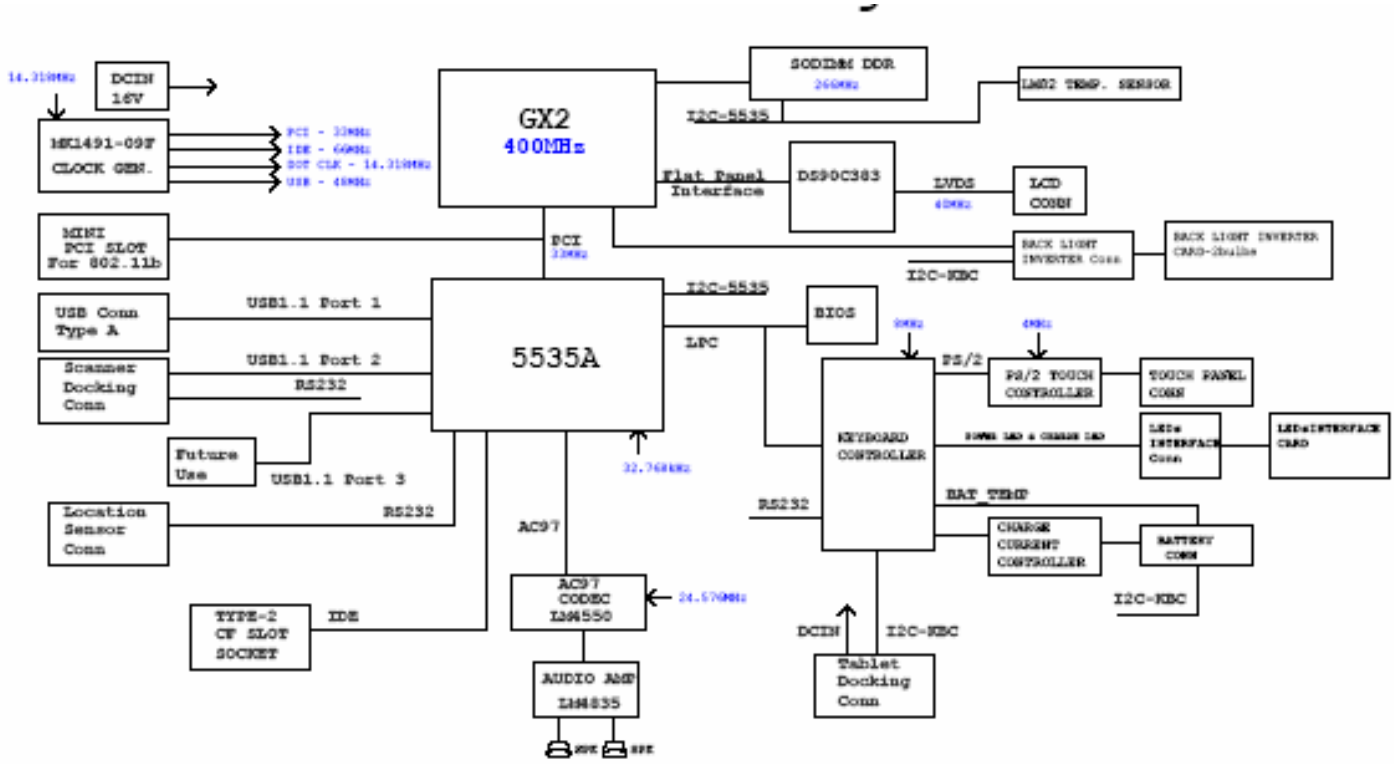


Front View - Conducted Emissions
EUT Configuration for Maximum Emissions

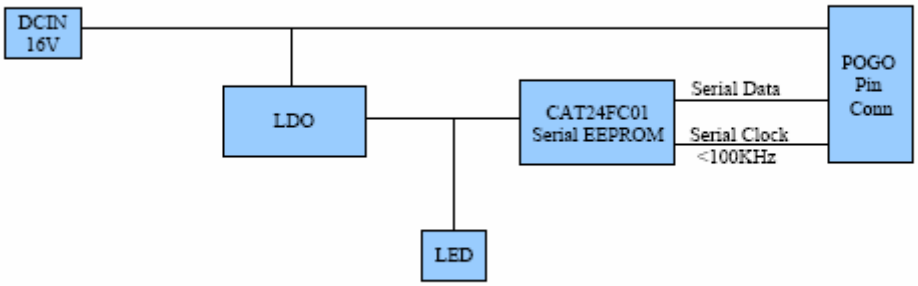
Rear View - Conducted Emissions
EUT Configuration for Maximum Emissions

8.0 BLOCK DIAGRAMS

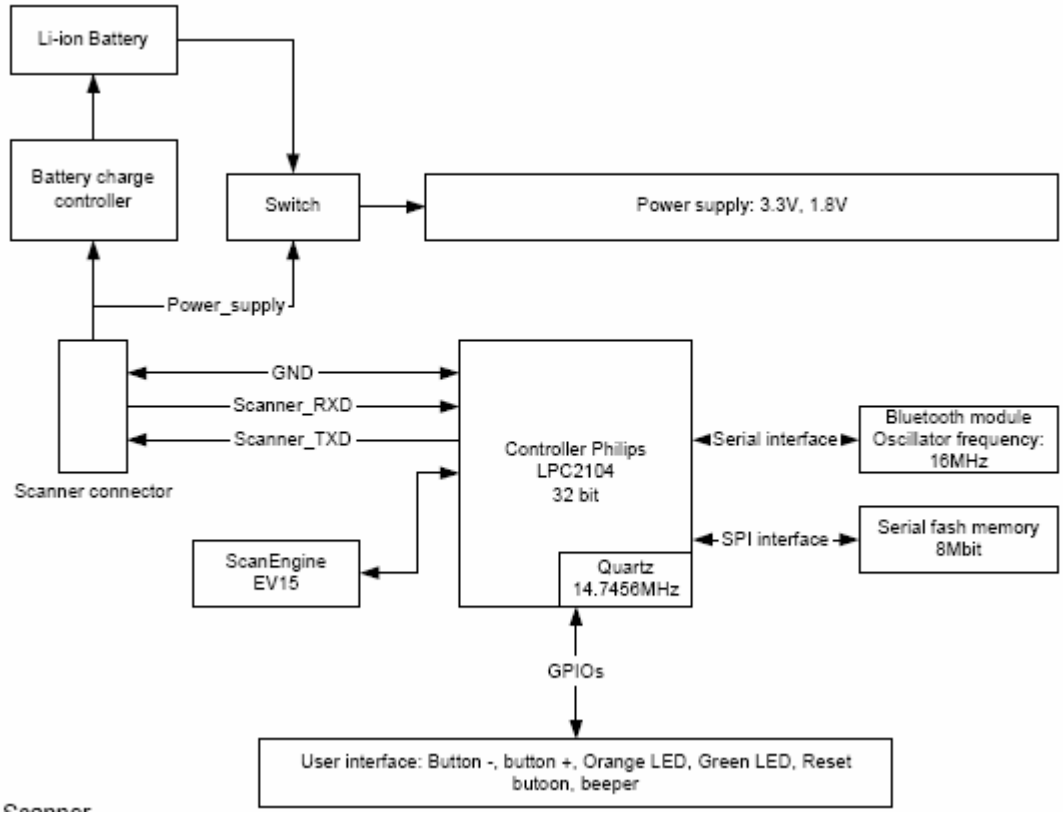
Mobile Tablet



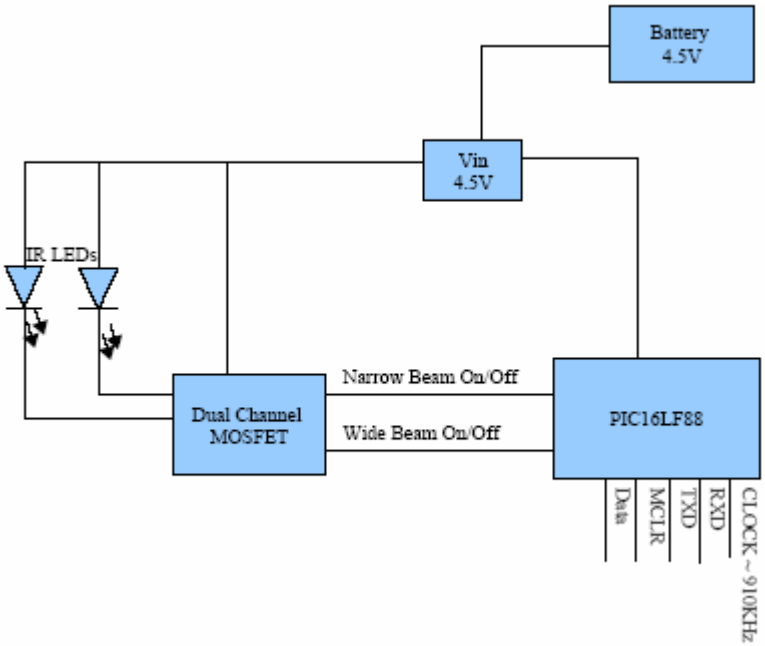
Charging Station



Scanner

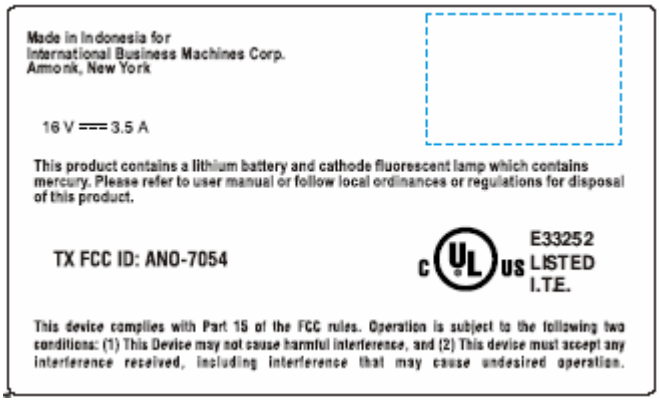


Beacon

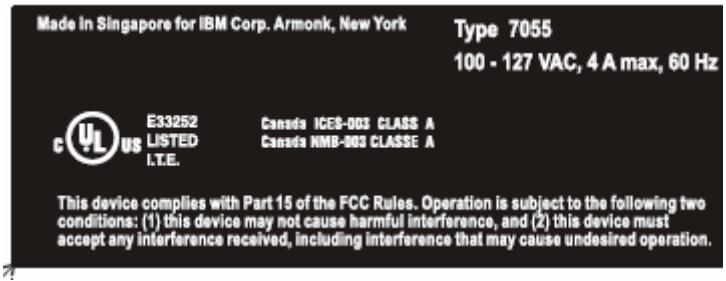


9.0 PRODUCT LABEL

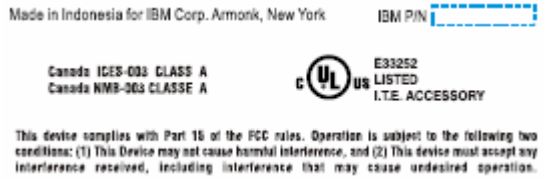
Mobile Tablet



Charging Station



Beacon

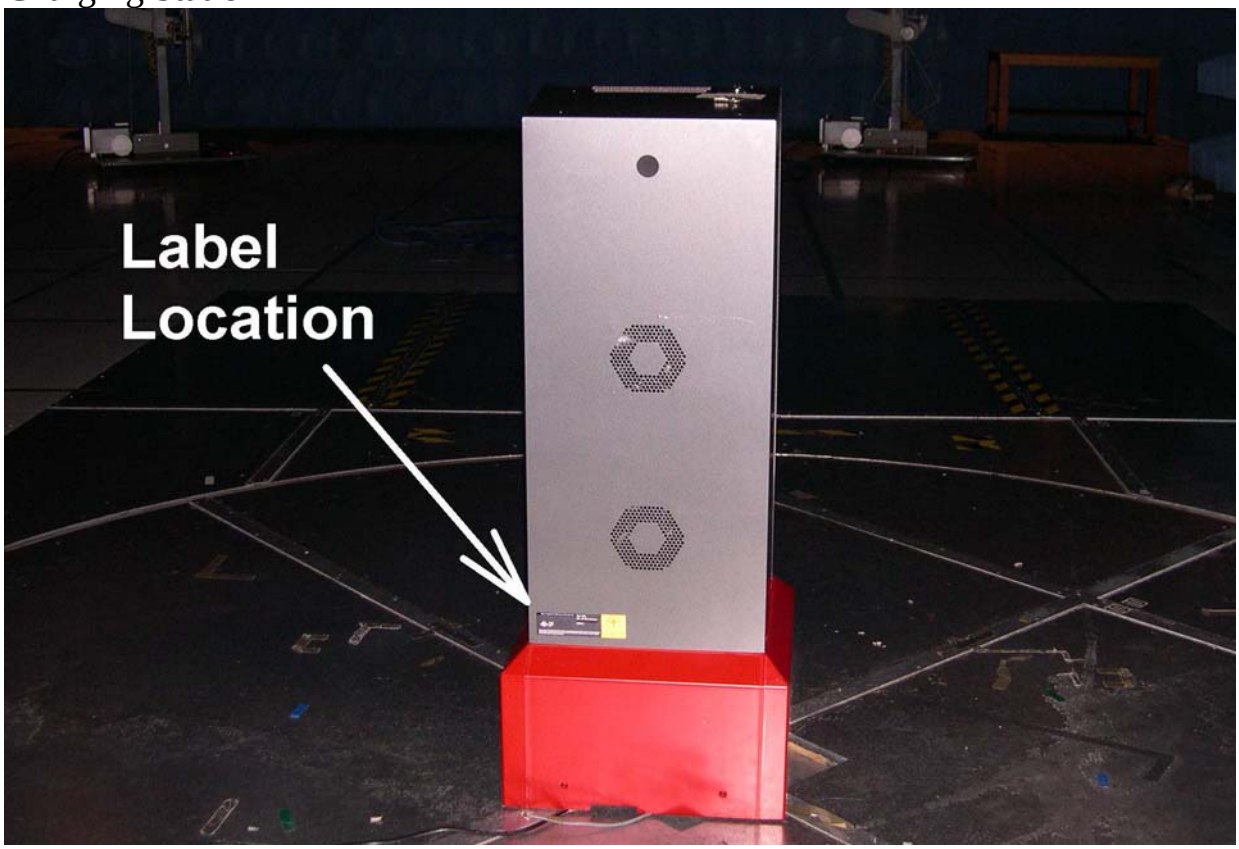


Scanner

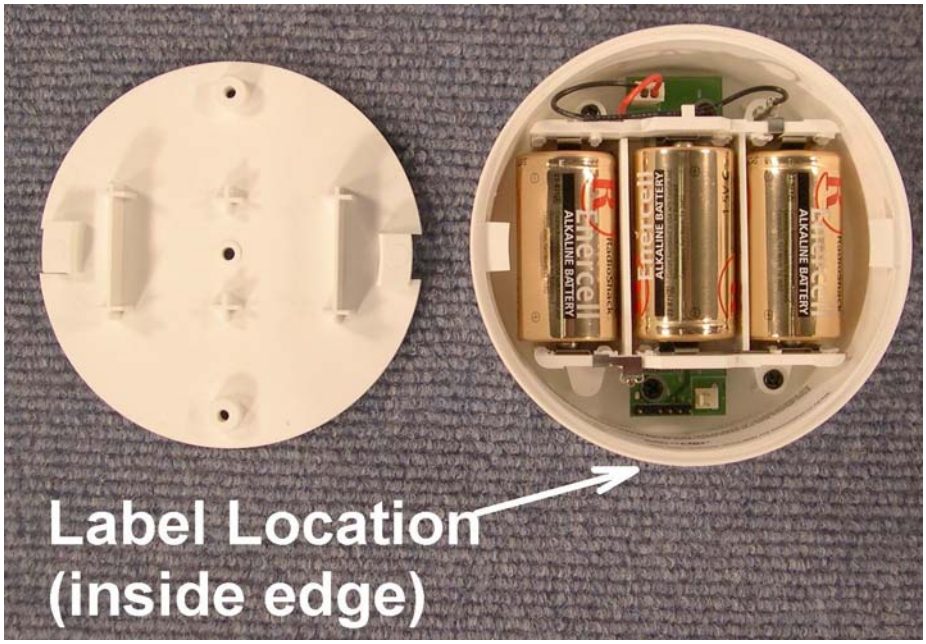
9.1 Location of Label on the Product

Mobile Tablet and Scanner

Charging Station



Beacon



10.0 ELECTRONIC EMISSIONS STATEMENT

See attached.

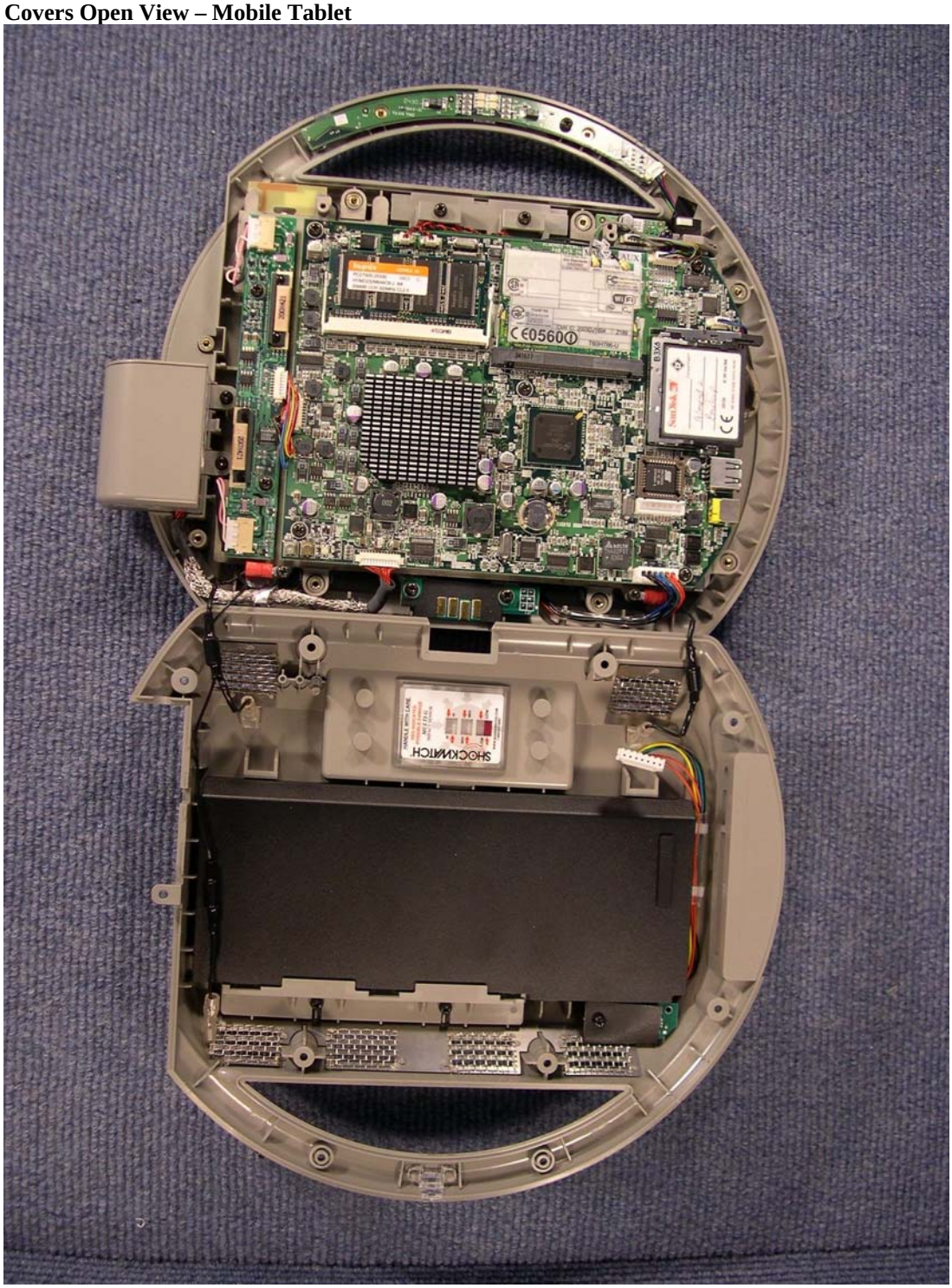
11.0 IDENTIFICATION PHOTOS – MOBILE TABLET AND SCANNER

Front View

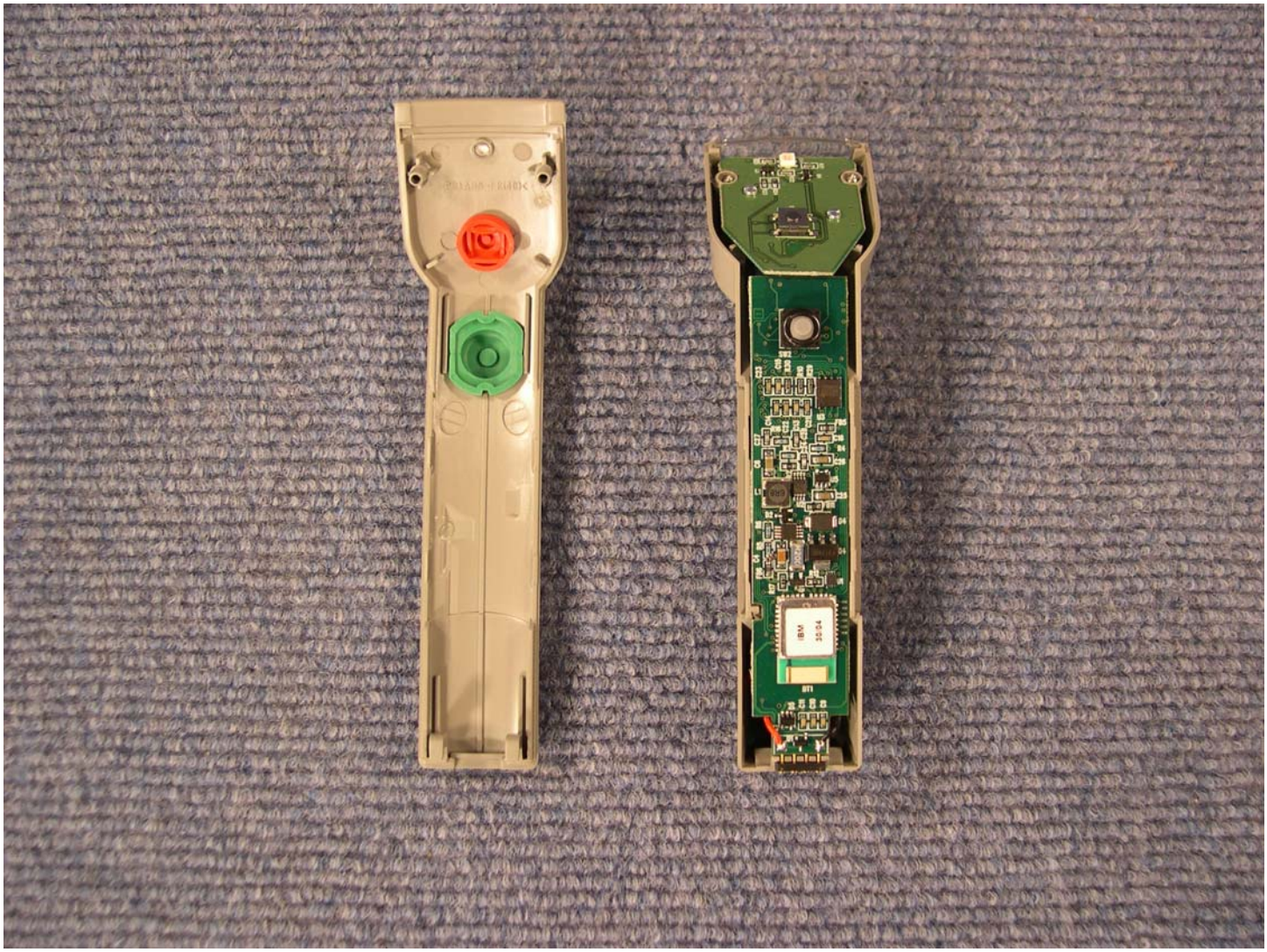
Rear View


Made in Indonesia for
International Business Machines Corp.
Armonk, New York
TYPE 7054-100
S/N 41-00023
IBM P/N 85P6360
16 V ⎓ 4.5 A
This product contains a lithium battery and cathode fluorescent lamp which contains mercury. Please refer to user manual or follow local ordinances or regulations for disposal of this product.
E33252
LISTED
I.T.E.
Contains Transmitter Module
This device has not been authorized as required by the rules of the Federal Communications Commission. This device is not, and may not be, offered for sale or lease, or sold or leased until authorization has been obtained.

Covers Open View – Mobile Tablet

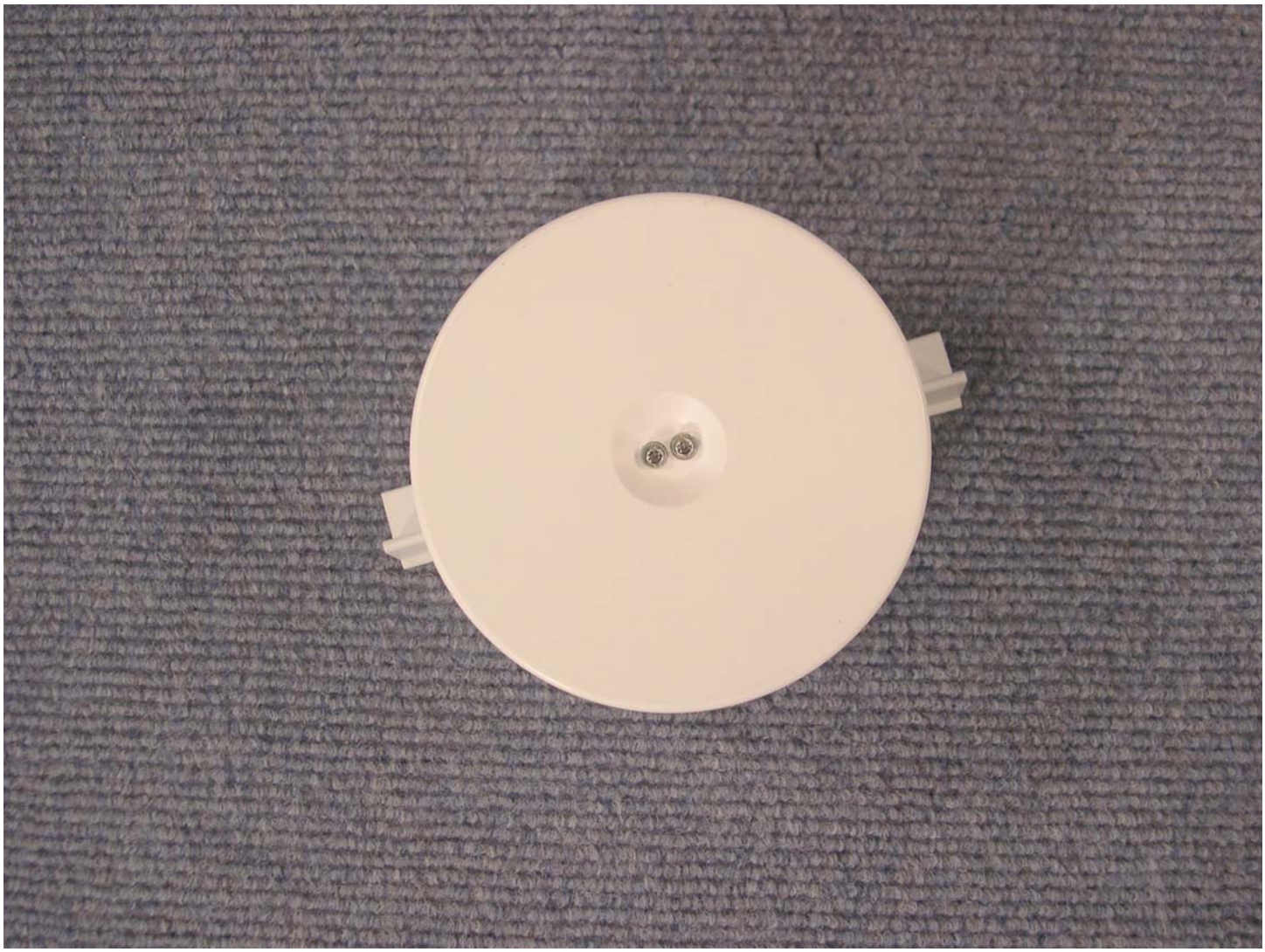


Covers Open View - Scanner

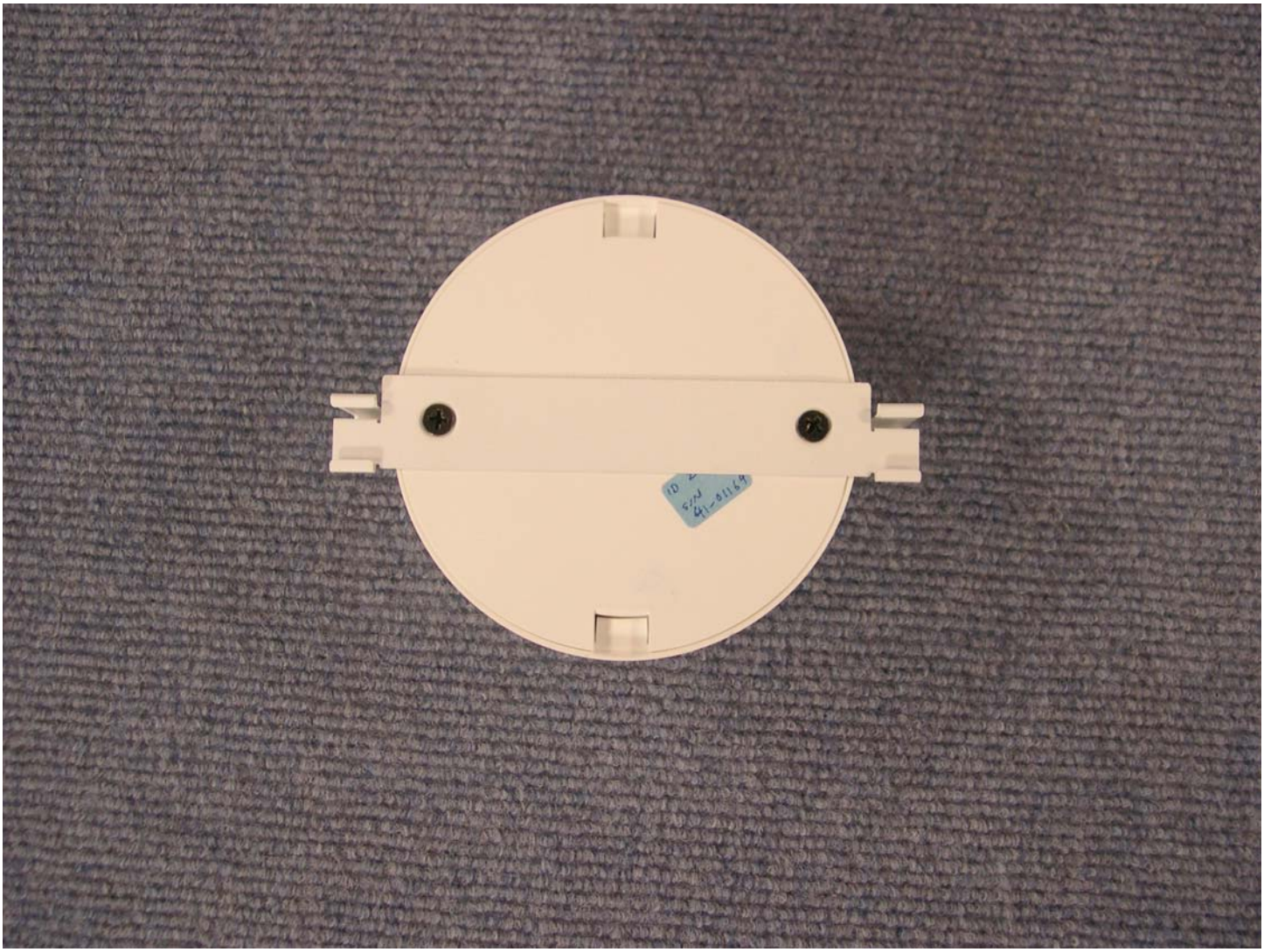


12.0 IDENTIFICATION PHOTOS – BEACON

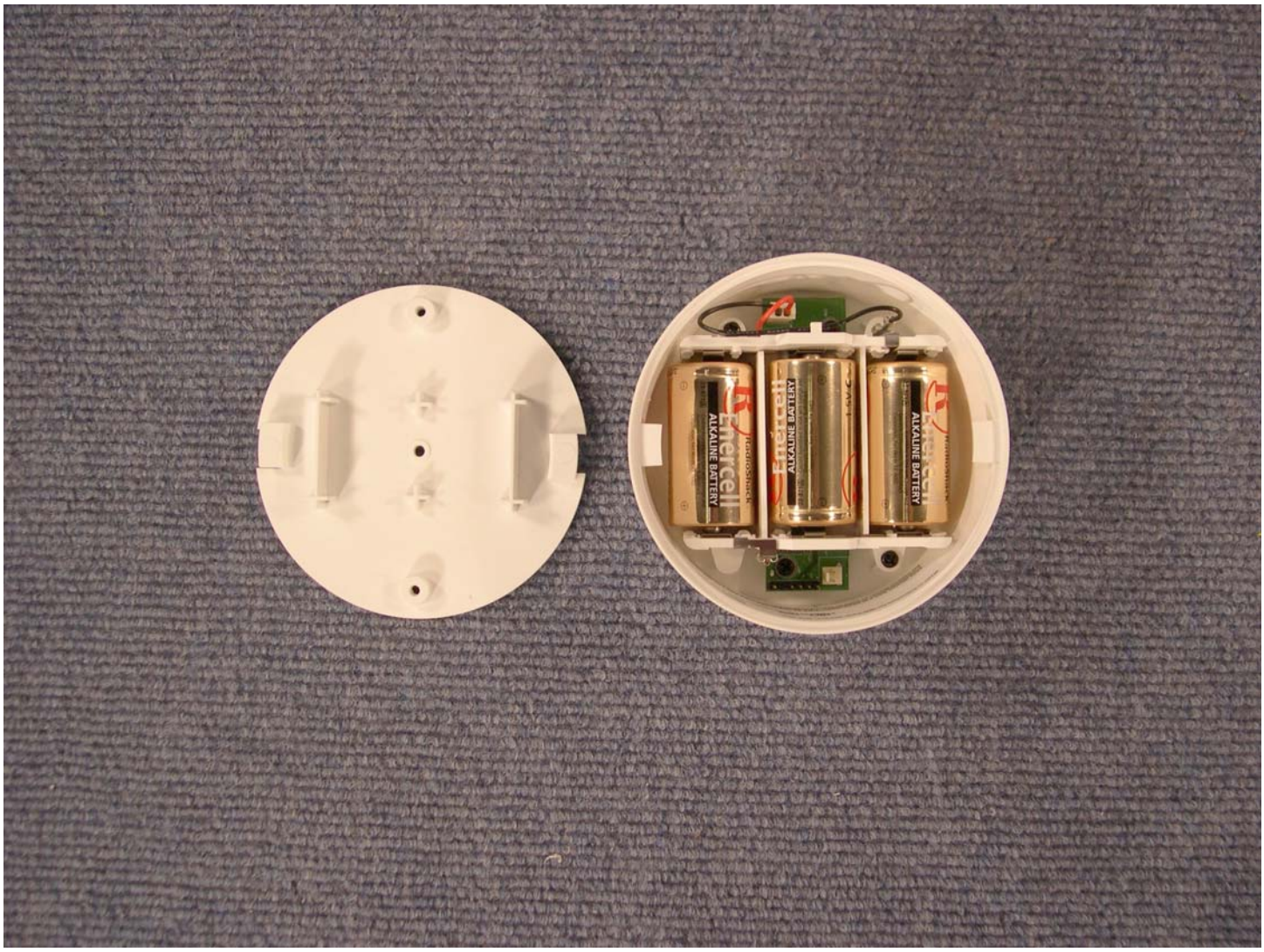
Front View



Rear View

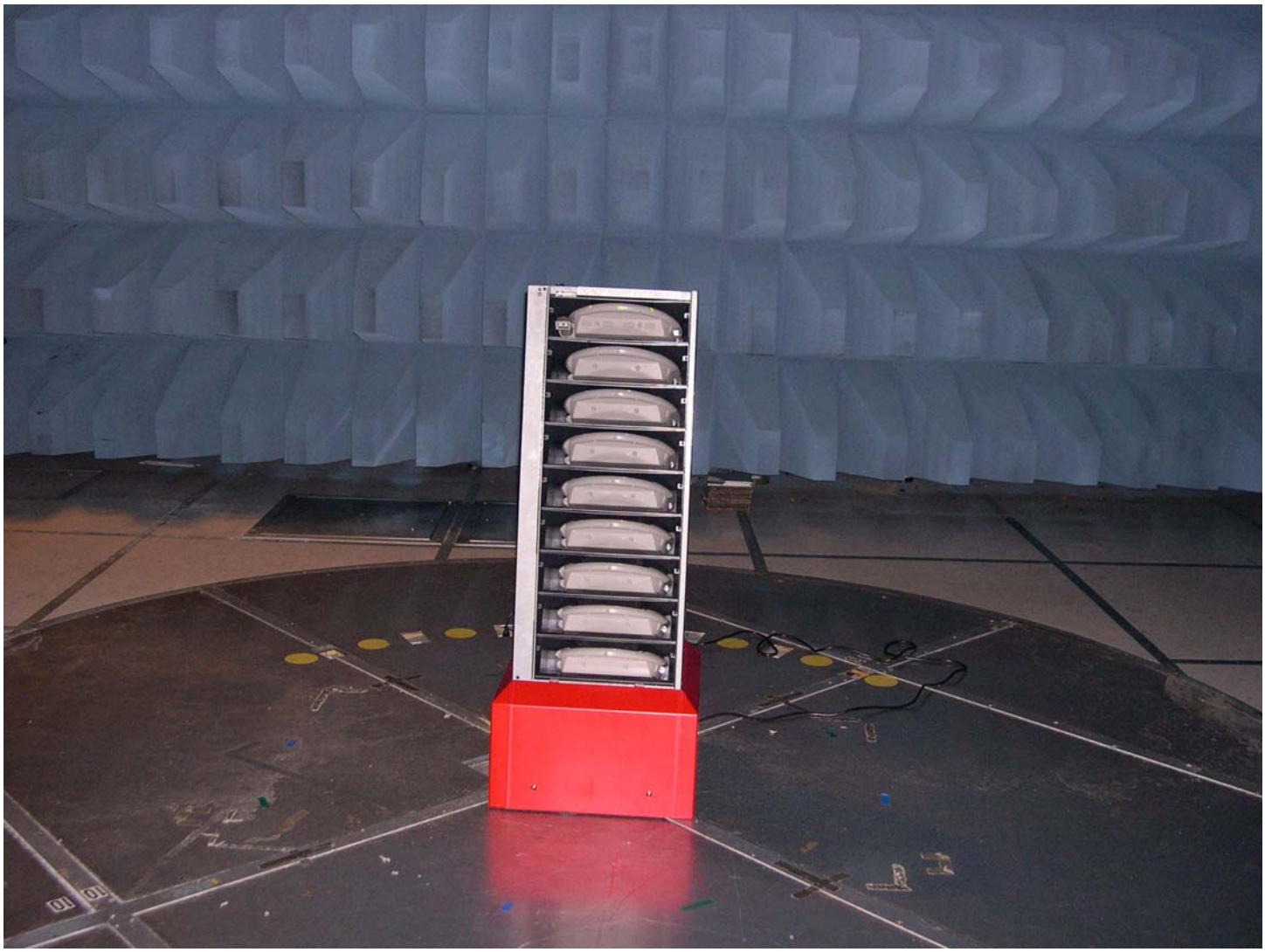


Covers Open View



13.0 IDENTIFICATION PHOTOS – CHARGING STATION

Front View



Rear View

IBM 7054 Mobile Tablet for Retail

The IBM Wireless LAN Mini PCI Adapter installed within the IBM 7054 Mobile Tablet for Retail must be used in strict accordance with the following instructions. This product complies with the following radio frequency standards.

USA – Federal Communications Commission (FCC)

Federal Communications Commission (FCC) Statement

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense. IBM is not responsible for any radio or television interference caused by unauthorized changes or modifications to this equipment. Unauthorized changes or modifications could void the user's authority to operate the equipment.

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

Exposure to Radio Frequency Energy

The radiated output power of the Wireless LAN Mini-PCI Card authorized for use in the IBM 7054 Mobile Tablet for Retail is far below the FCC radio frequency exposure limits. Nevertheless, the IBM 7054 Mobile Tablet for Retail shall be used in such a manner that the potential for human contact during normal operations is minimized.

Interference Statement

An improper installation or unauthorized use may cause harmful interference to radio communications. Also, any tampering with the internal antenna will void the FCC certification and your warranty.