

RF TEST REPORT



Report No.: RF_SL14042901-HID-011_FCC-IC
Supersede Report No.: None

Applicant	HID Global Corporation		
Product Name	Bluetooth Smart Module		
Host Product Name	iCLASS SE R10 Mobile Enabled Using BLE iCLASS SE R15 Mobile Enabled Using BLE iCLASS SE R30 Mobile Enabled Using BLE iCLASS SE R40 Mobile Enabled Using BLE iCLASS SE RK40 Mobile Enabled Using BLE multiCLASS SE RP10 Mobile Enabled Using BLE multiCLASS SE RP15 Mobile Enabled Using BLE multiCLASS SE RP30 Mobile Enabled Using BLE multiCLASS SE RP40 Mobile Enabled Using BLE multiCLASS SE RPK40 Mobile Enabled Using BLE		
Model No.	BTSmart Module		
Host Model No.	R10E, R15E, R30E, R40E, RK40E, RP10E, RP15E, RP30E, RP40E, RPK40E		
Test Standard	47 CFR 15.209: 2014 RSS-210 Issue 8: 2010		
Test Method	ANSI C63.10: 2009 RSS Gen: 2010		
FCC ID	JQ6-ICLASSBTM		
IC ID	2236B-ICLASSBTM		
Date of test	09/16/2014 - 09/18/2014		
Issue Date	09/19/2014		
Test Result	<u>Pass</u> Fail		
Equipment complied with the specification	<input checked="" type="checkbox"/> [x]		
Equipment did not comply with the specification	<input type="checkbox"/> []		
Teody Manansala		Nima Molaei	
Test Engineer		Engineer Reviewer	
This test report may be reproduced in full only Test result presented in this test report is applicable to the tested sample only			

Issued By:
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Accreditations for Conformity Assessment

Country/Region	Accreditation Body	Scope
USA	FCC, A2LA	EMC, RF/Wireless, Telecom
Canada	IC, A2LA, NIST	EMC, RF/Wireless, Telecom
Taiwan	BSMI, NCC, NIST	EMC, RF, Telecom, Safety
Hong Kong	OFTA, NIST	RF/Wireless, Telecom
Australia	NATA, NIST	EMC, RF, Telecom, Safety
Korea	KCC/RRA, NIST	EMI, EMS, RF, Telecom, Safety
Japan	VCCI, JATE, TELEC, RFT	EMI, RF/Wireless, Telecom
Mexico	NOM, COFETEL, Caniety	Safety, EMC, RF/Wireless, Telecom
Europe	A2LA, NIST	EMC, RF, Telecom, Safety
Israel	COM	EMC, RF, Telecom, Safety

Accreditations for Product Certifications

Country	Accreditation Body	Scope
USA	FCC TCB, NIST	EMC, RF, Telecom
Canada	IC FCB, NIST	EMC, RF, Telecom
Singapore	iDA, NIST	EMC, RF, Telecom
EU	NB	EMC & R&TTE Directive
Japan	MIC (RCB 208)	RF, Telecom
Hong Kong	OFTA (US002)	RF, Telecom

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1 Report Revision History

Report No.	Report Version	Description	Issue Date
RF_SL14042901-HID-011_FCC-IC	-	Original	09/19/2014

2 Executive Summary

The purpose of this test program was to demonstrate compliance of following product

Company: HID Global Corporation
Product Name: Bluetooth Smart Module
Host Product Name: iCLASS SE R10 Mobile Enabled Using BLE
iCLASS SE R15 Mobile Enabled Using BLE
iCLASS SE R30 Mobile Enabled Using BLE
iCLASS SE R40 Mobile Enabled Using BLE
iCLASS SE RK40 Mobile Enabled Using BLE
multiCLASS SE RP10 Mobile Enabled Using BLE
multiCLASS SE RP15 Mobile Enabled Using BLE
multiCLASS SE RP30 Mobile Enabled Using BLE
multiCLASS SE RP40 Mobile Enabled Using BLE
multiCLASS SE RPK40 Mobile Enabled Using BLE

Model: BTSmart Module
Host Model: R10E, R15E, R30E, R40E, RK40E, RP10E, RP15E, RP30E, RP40E, RPK40E

against the current Stipulated Standards. The specified model product stated above has demonstrated compliance with the Stipulated Standard listed on 1st page.

3 Customer information

Applicant Name	HID Global Corporation
Applicant Address	15370 Barranca Parkway, Irvine, CA 92618 USA
Manufacturer Name	HID Global Corporation
Manufacturer Address	15370 Barranca Parkway, Irvine, CA 92618 USA

4 Test site information

Lab performing tests	SIEMIC Laboratories
Lab Address	775 Montague Expressway, Milpitas, CA 95035
FCC Test Site No.	881796
IC Test Site No.	4842D-2
VCCI Test Site No.	A0133

5 Modification

Index	Item	Description	Note
-	-	-	-

6 EUT Information

6.1 EUT Description

Product Name:	Bluetooth Smart Module
Host Product Name	iCLASS SE R10 Mobile Enabled Using BLE iCLASS SE R15 Mobile Enabled Using BLE iCLASS SE R30 Mobile Enabled Using BLE iCLASS SE R40 Mobile Enabled Using BLE iCLASS SE RK40 Mobile Enabled Using BLE multiCLASS SE RP10 Mobile Enabled Using BLE multiCLASS SE RP15 Mobile Enabled Using BLE multiCLASS SE RP30 Mobile Enabled Using BLE multiCLASS SE RP40 Mobile Enabled Using BLE multiCLASS SE RPK40 Mobile Enabled Using BLE
Model:	BTSmart Module
Host Model No.	R10E, R15E, R30E, R40E, RK40E, RP10E, RP15E, RP30E, RP40E, RPK40E
Trade Name	HID
Serial No.	-
Input Power	12 VDC
Power Adapter Manu/Model	N/A
Power Adapter SN	N/A
Software version	N/A
Date of EUT received	09/16/2014
Equipment Class/ Category	DXX, DCD, DTS
Operating Frequencies	125 kHz, 13.56 MHz, 2402 MHz-2480 MHz
Port/Connectors	N/A

6.2 Radio Description

Spec for Radio -

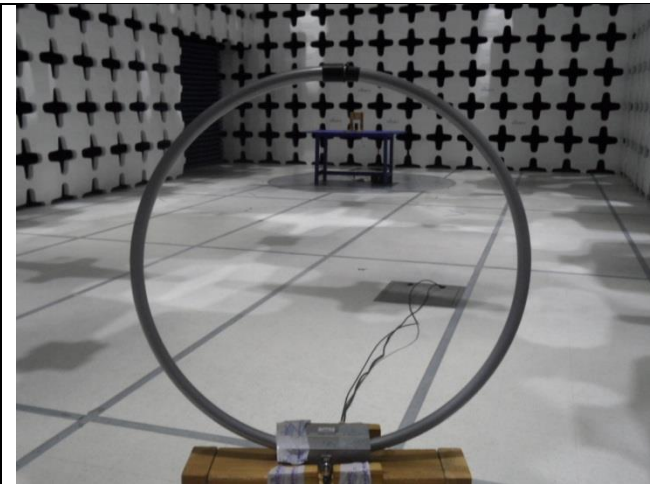
Radio Type	
Operating Frequency	125 kHz (RFID), 13.56 MHz(RFID), 2402 MHz-2480 MHz (BT)
Modulation	FSK (125kHz), ASK (13.56MHz), GFSK(BT)
Channel Spacing	2 MHz (BT)
Number of Channels	1(LF RFID), 1(HF RFID), 40 (BT)
Antenna Type	Prox LF Inductive Loop Antenna (RFID)iCLASS HF Inductive Loop Antenna (RFID), BLE Module E-Field Antenna
Antenna Gain	1dBi (LF RFID), 1dBi (HF RFID), 3 dBi (BT),
Antenna Connector Type	N/A

6.3 EUT test modes/configuration Description

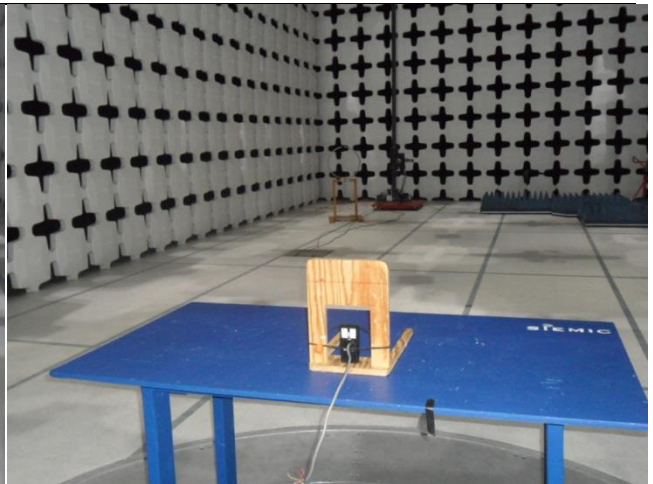
Test Mode	Note
Pre_test_mode_1	RFID (13.56MHz) and BT (hopping mode) continuous transmit simultaneously in different models
Pre_test_mode_2	-
Pre_test_mode_3	-

6.4 EUT Test Setup Photos

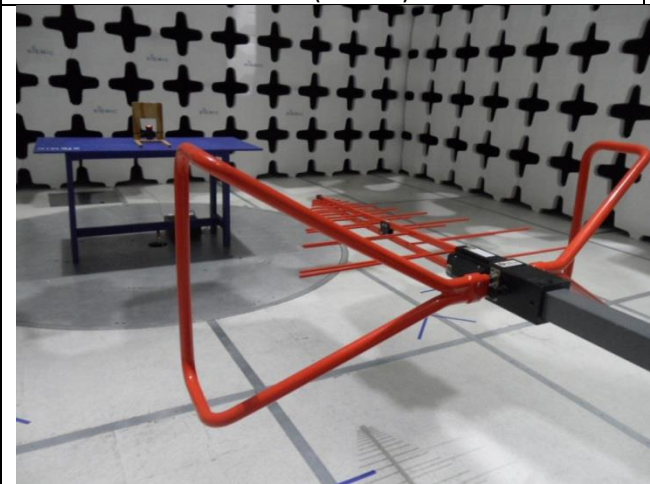
R10E iCLASS



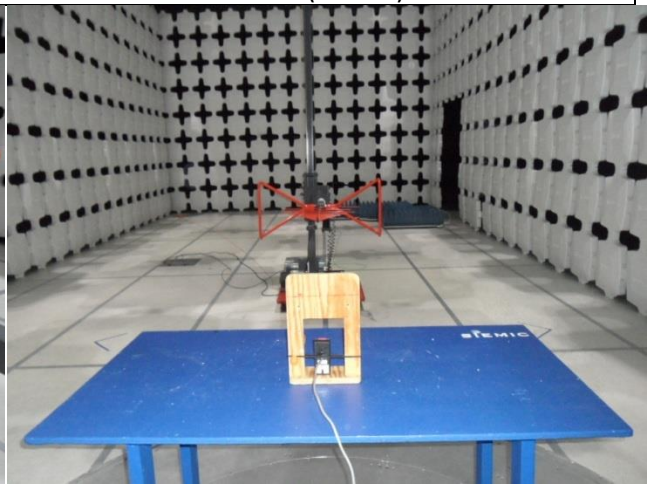
Radiated Emissions (<math><30\text{MHz}</math>) – Front View



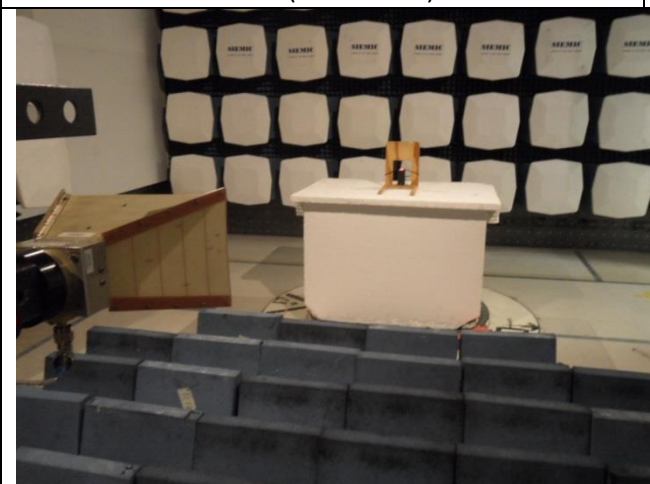
Radiated Emissions (<math><30\text{MHz}</math>) – Rear View



Radiated Emissions (30MHz-1GHz) – Front View



Radiated Emissions (30MHz-1GHz) – Rear View

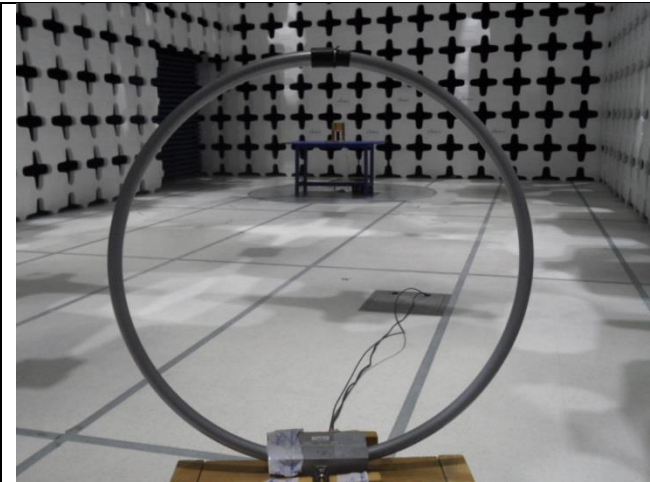


Radiated Emissions (>1GHz) – Front View

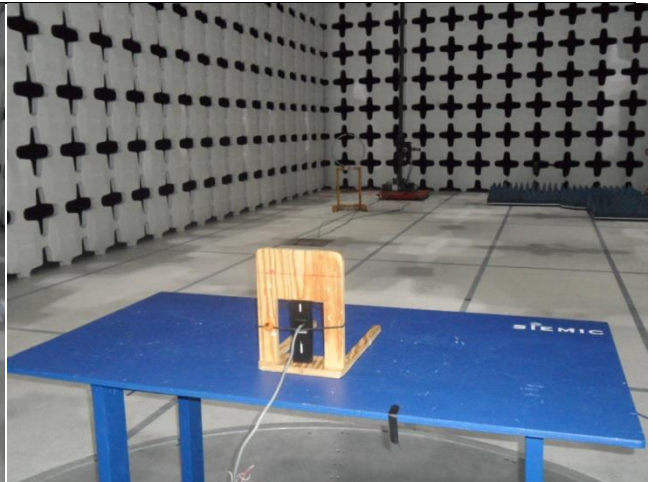


Radiated Emissions (>1GHz) – Rear View

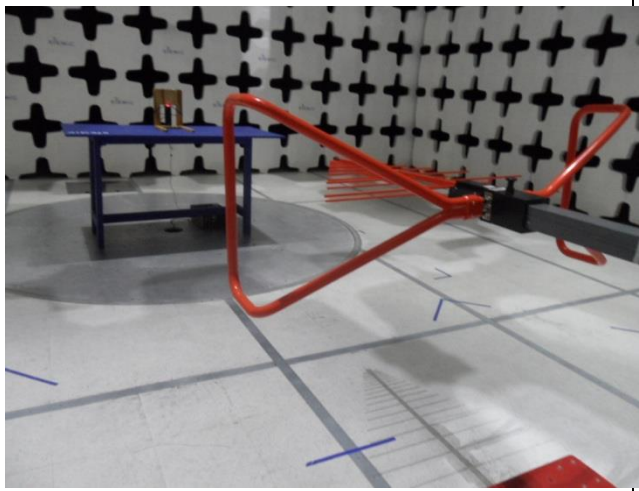
R15E iCLASS



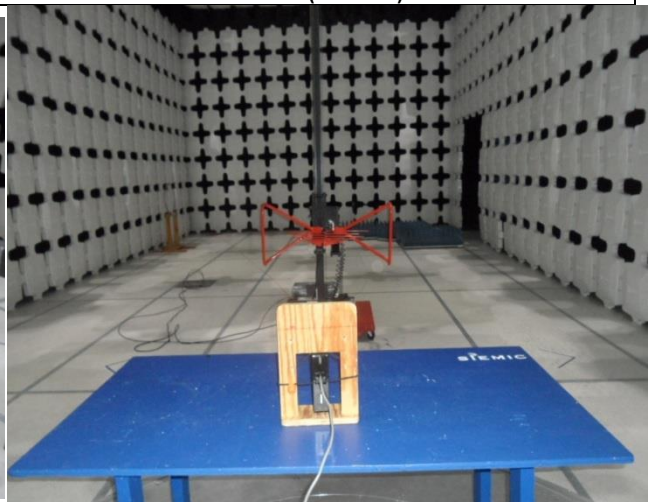
Radiated Emissions (<30MHz) – Front View



Radiated Emissions (<30MHz) – Rear View



Radiated Emissions (30MHz-1GHz) – Front View



Radiated Emissions (30MHz-1GHz) – Rear View

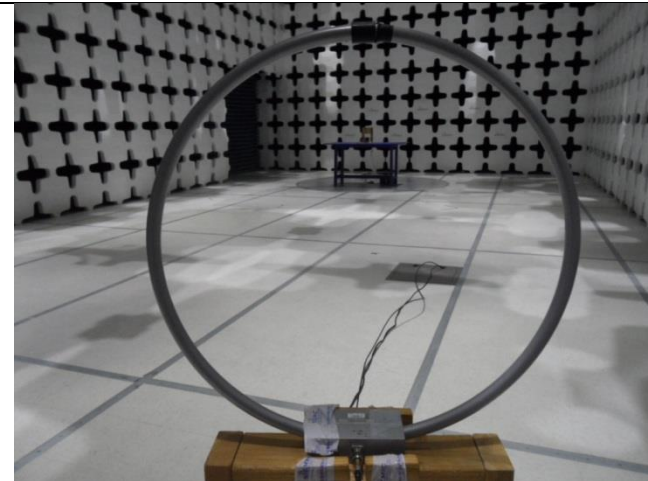


Radiated Emissions (>1GHz) – Front View

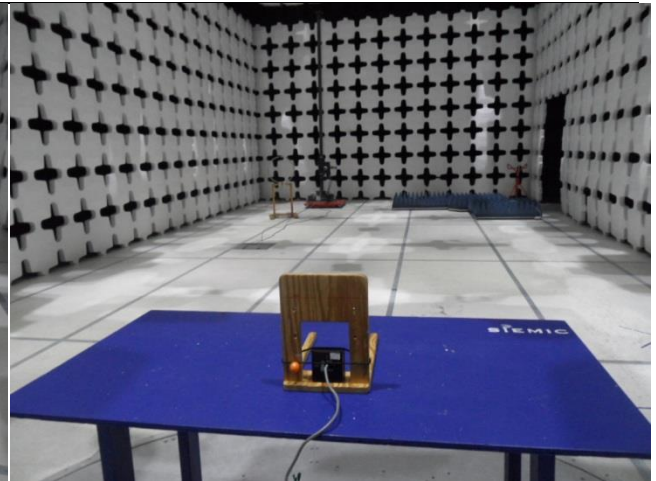


Radiated Emissions (>1GHz) – Rear View

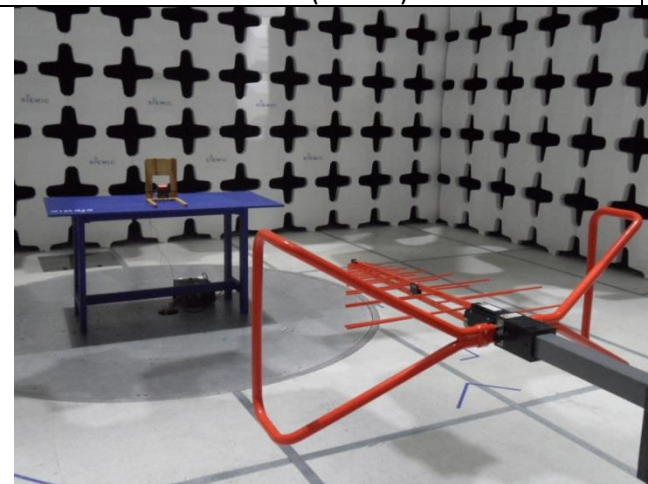
R30E iCLASS



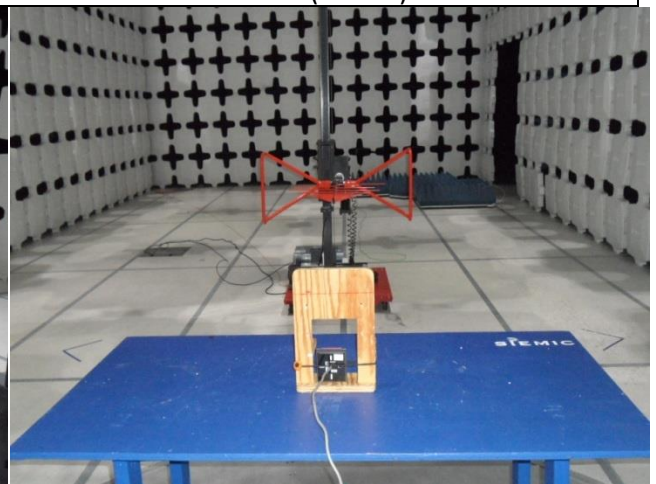
Radiated Emissions (<30MHz) – Front View



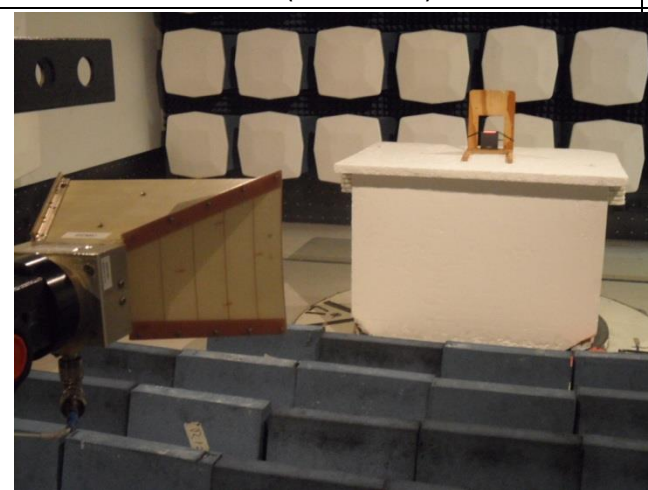
Radiated Emissions (<30MHz) – Rear View



Radiated Emissions (30MHz-1GHz) – Front View



Radiated Emissions (30MHz-1GHz) – Rear View

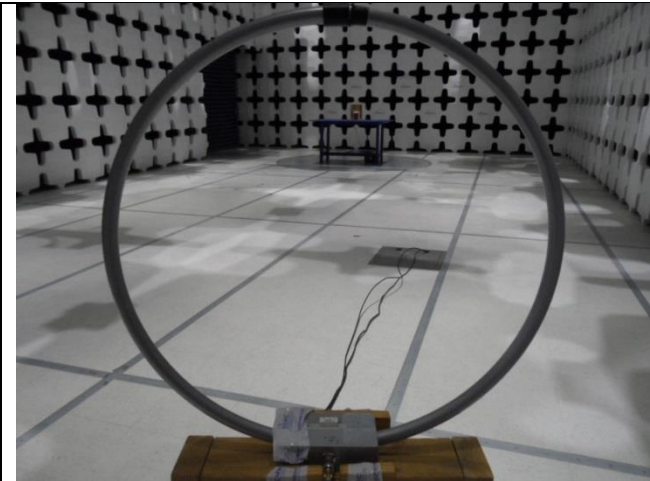


Radiated Emissions (>1GHz) – Front View

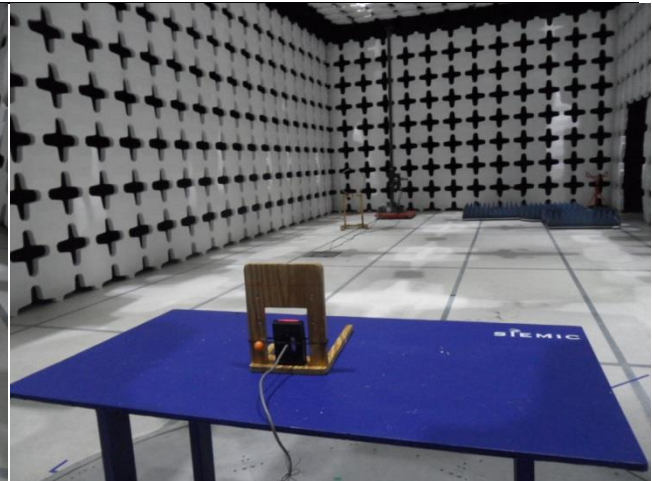


Radiated Emissions (>1GHz) – Rear View

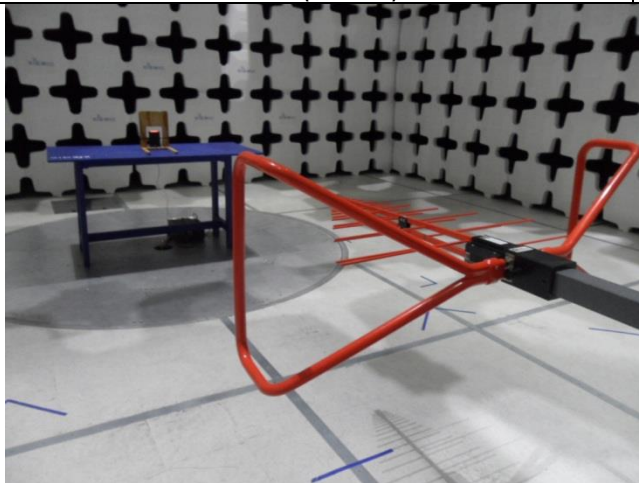
R40E iCLASS



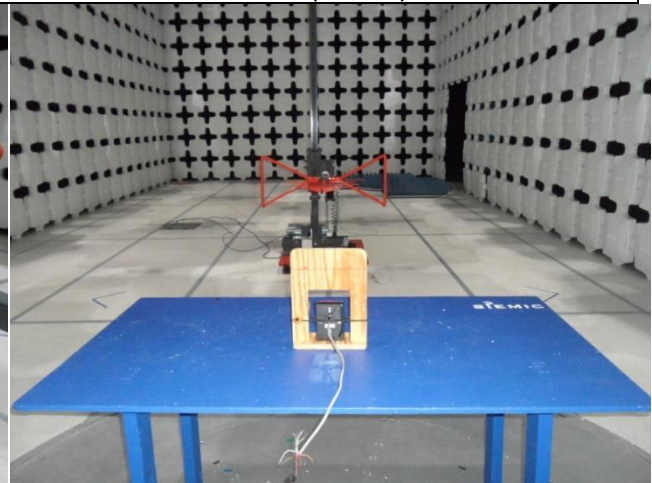
Radiated Emissions (<30MHz) – Front View



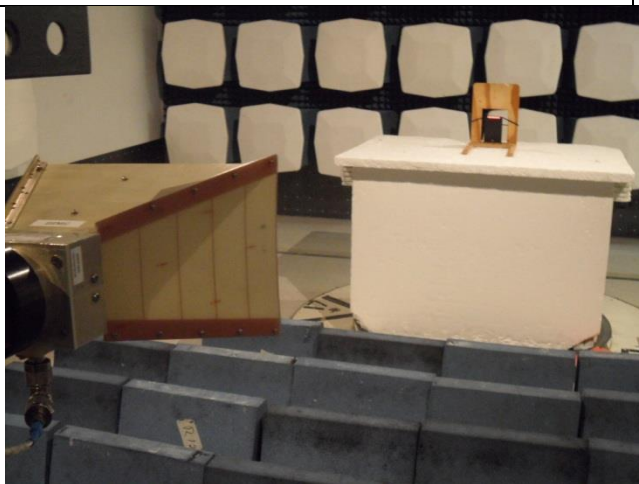
Radiated Emissions (<30MHz) – Rear View



Radiated Emissions (30MHz-1GHz) – Front View



Radiated Emissions (30MHz-1GHz) – Rear View

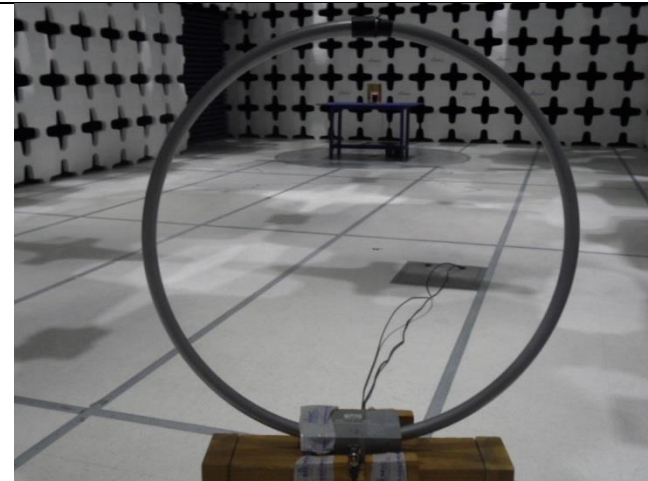


Radiated Emissions (>1GHz) – Front View

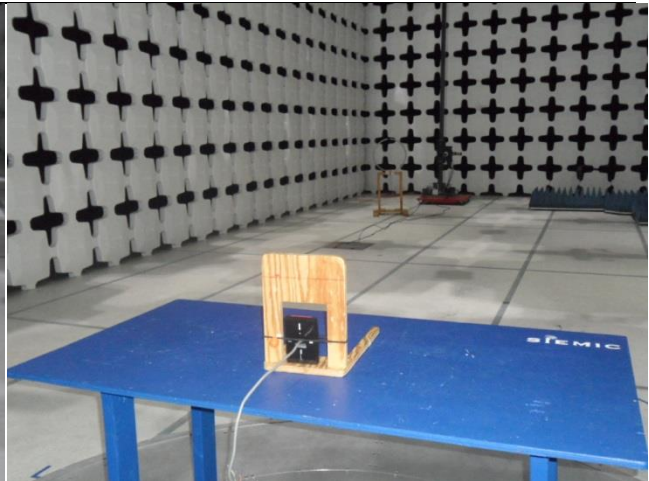


Radiated Emissions (>1GHz) – Rear View

RK40E iCLASS



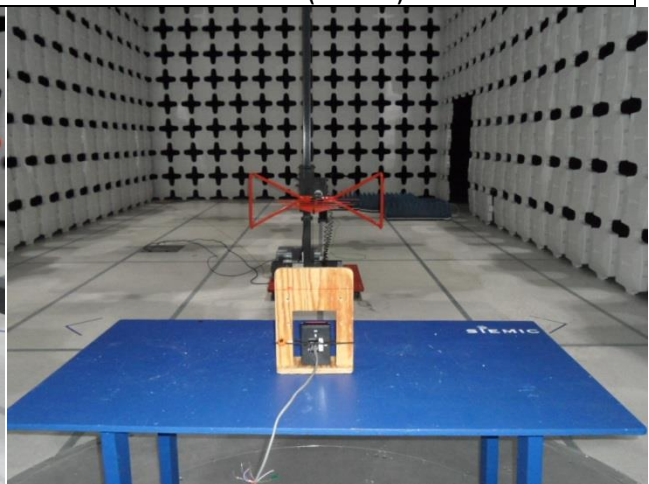
Radiated Emissions (<30MHz) – Front View



Radiated Emissions (<30MHz) – Rear View



Radiated Emissions (30MHz-1GHz) – Front View



Radiated Emissions (30MHz-1GHz) – Rear View

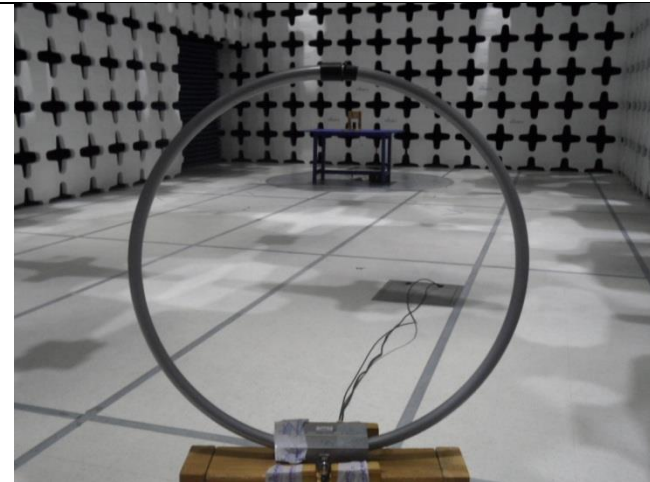


Radiated Emissions (>1GHz) – Front View

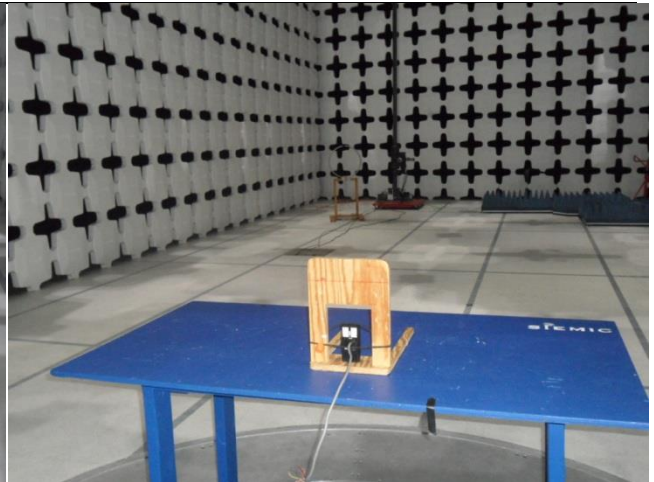


Radiated Emissions (>1GHz) – Rear View

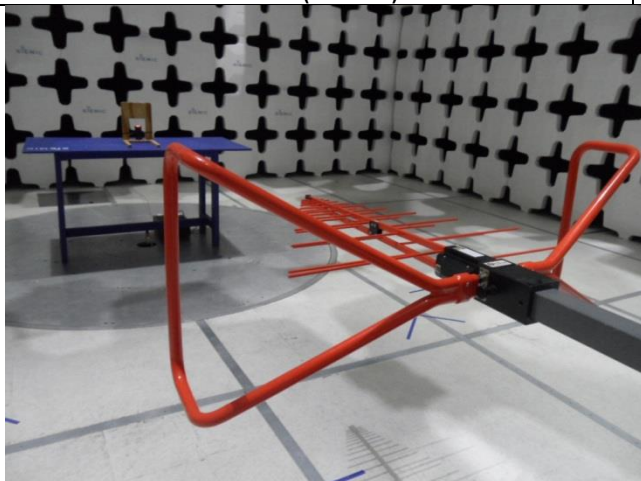
RP10E multiCLASS



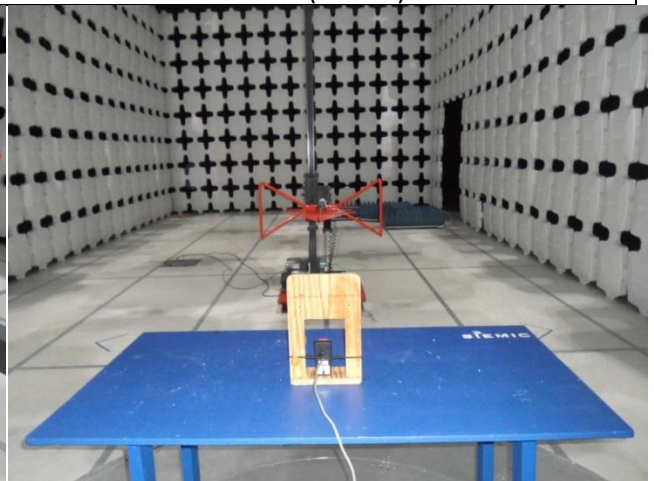
Radiated Emissions (<30MHz) – Front View



Radiated Emissions (<30MHz) – Rear View



Radiated Emissions (30MHz-1GHz) – Front View



Radiated Emissions (30MHz-1GHz) – Rear View

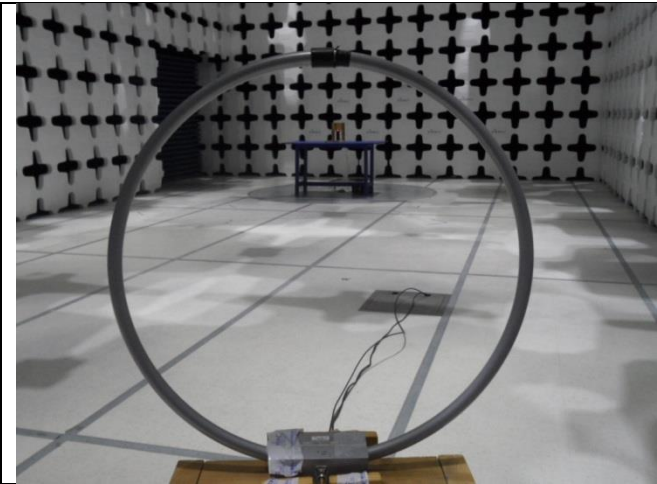


Radiated Emissions (>1GHz) – Front View

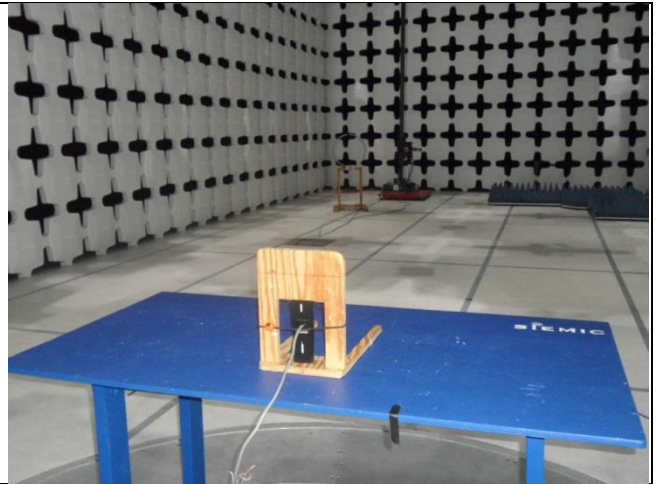


Radiated Emissions (>1GHz) – Rear View

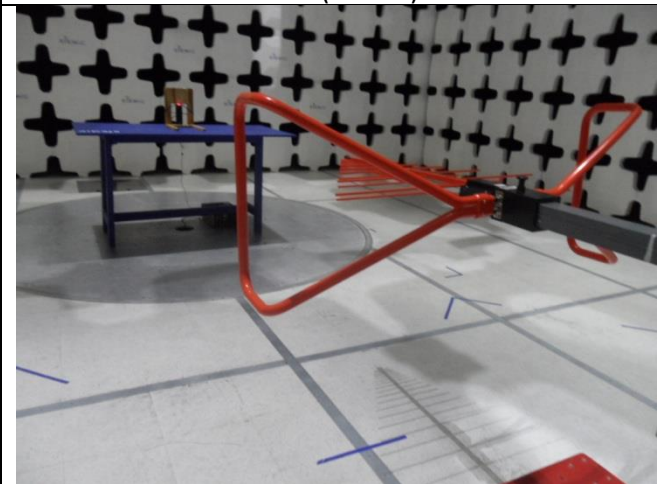
RP15E multiCLASS



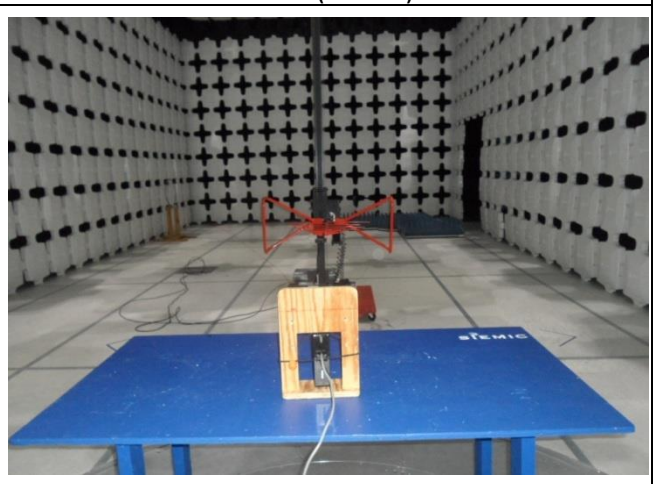
Radiated Emissions (<30MHz) – Front View



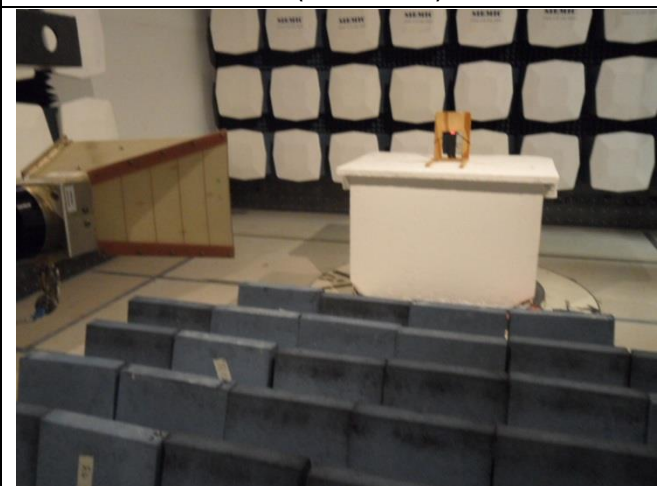
Radiated Emissions (<30MHz) – Rear View



Radiated Emissions (30MHz-1GHz) – Front View



Radiated Emissions (30MHz-1GHz) – Rear View

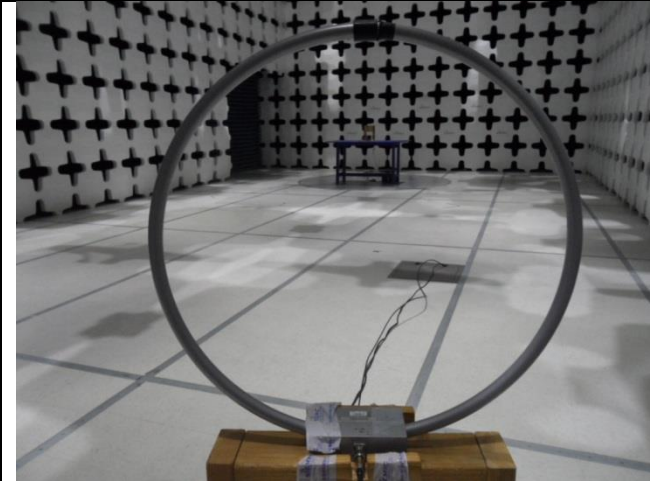


Radiated Emissions (>1GHz) – Front View

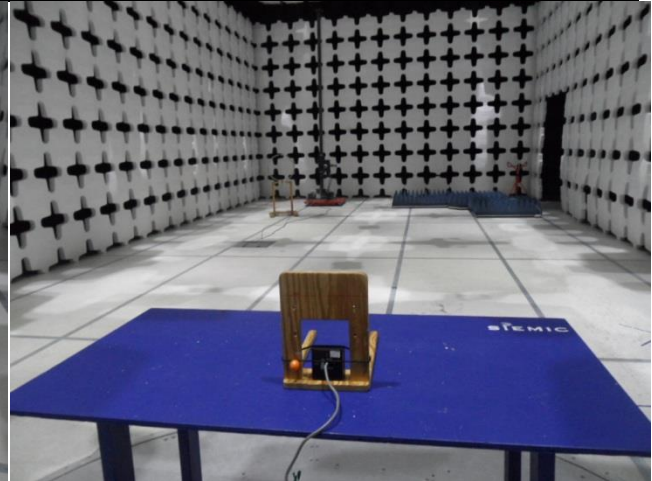


Radiated Emissions (>1GHz) – Rear View

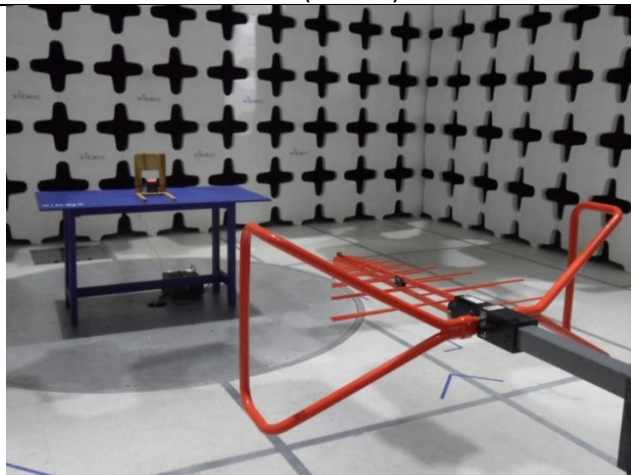
RP30E multiCLASS



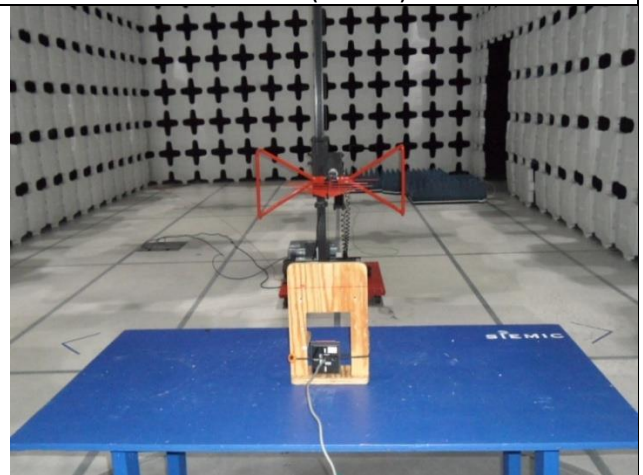
Radiated Emissions (<30MHz) – Front View



Radiated Emissions (<30MHz) – Rear View



Radiated Emissions (30MHz-1GHz) – Front View



Radiated Emissions (30MHz-1GHz) – Rear View

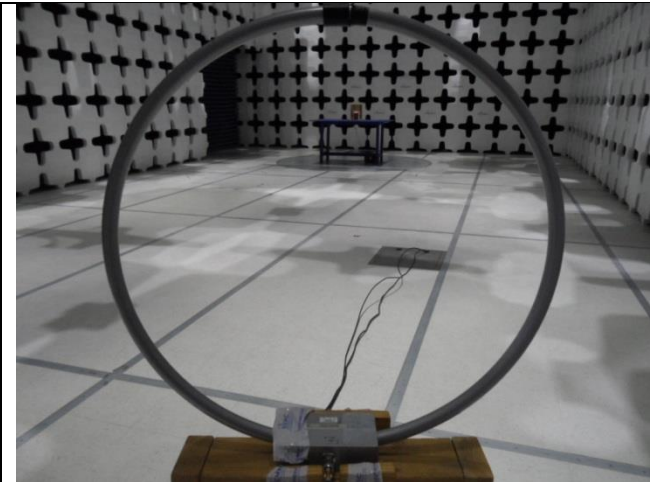


Radiated Emissions (>1GHz) – Front View

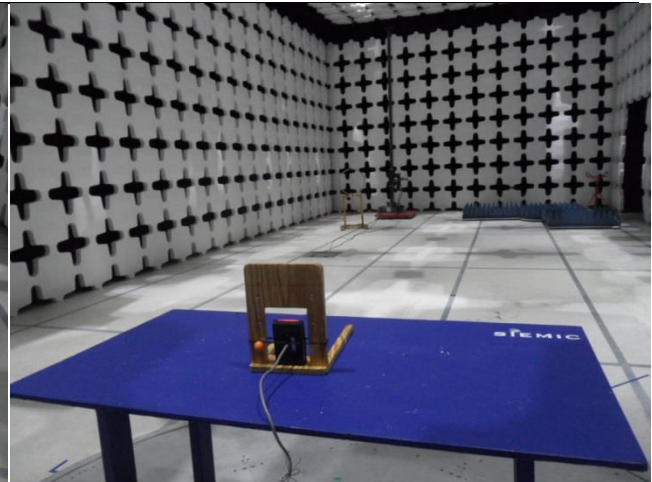


Radiated Emissions (>1GHz) – Rear View

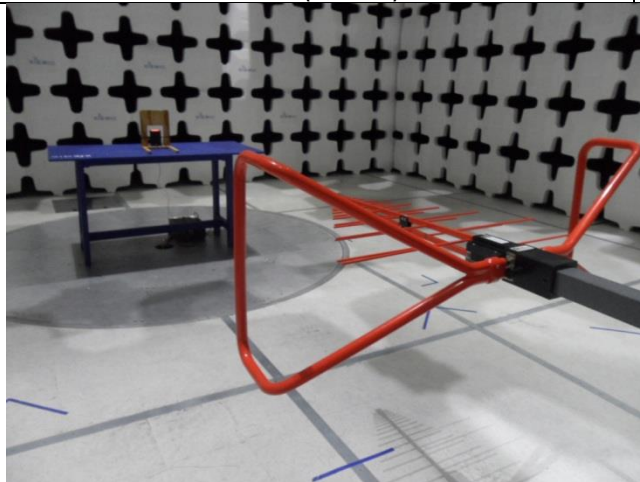
RP40E multiCLASS



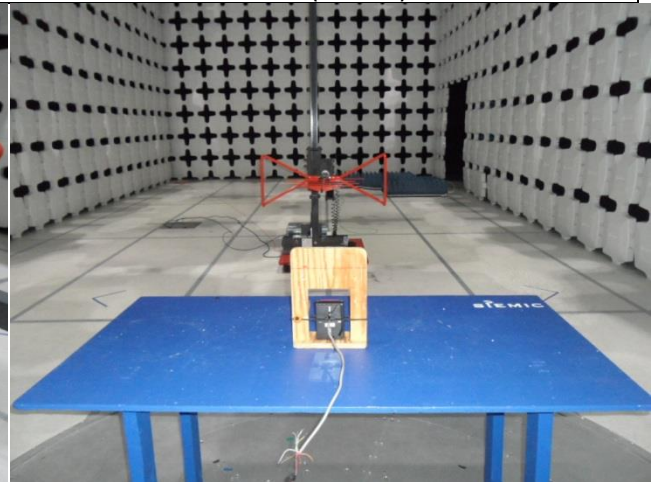
Radiated Emissions (<30MHz) – Front View



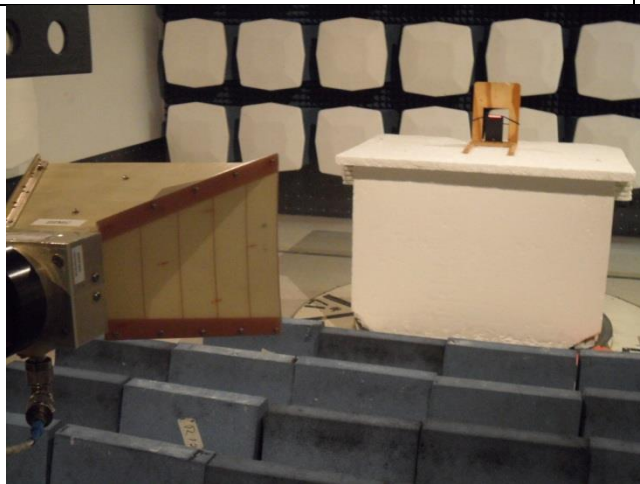
Radiated Emissions (<30MHz) – Rear View



Radiated Emissions (30MHz-1GHz) – Front View



Radiated Emissions (30MHz-1GHz) – Rear View

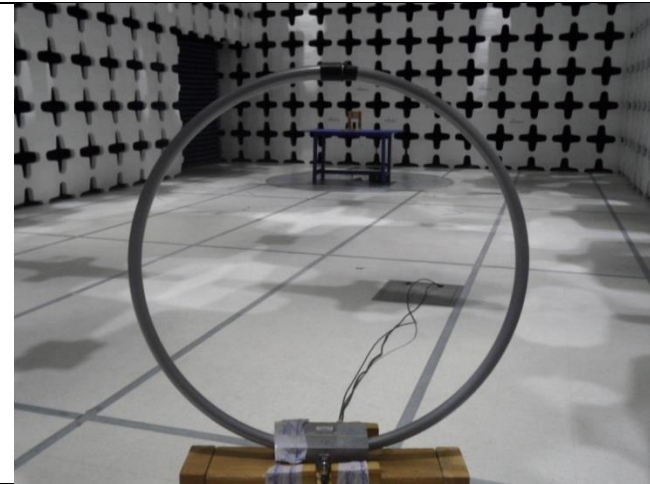


Radiated Emissions (>1GHz) – Front View

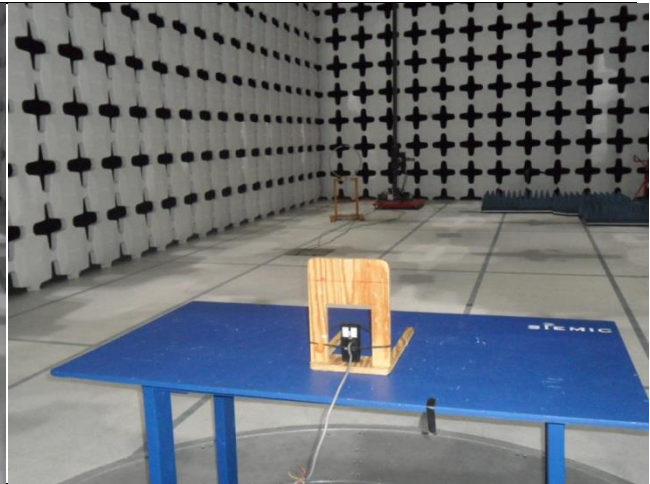


Radiated Emissions (>1GHz) – Rear View

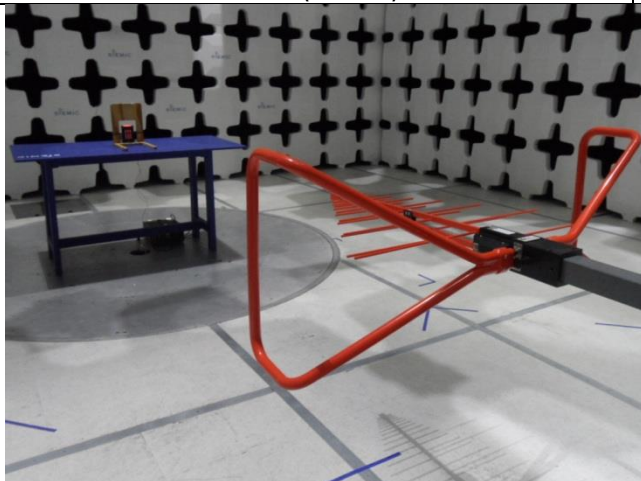
RPK40E multiCLASS



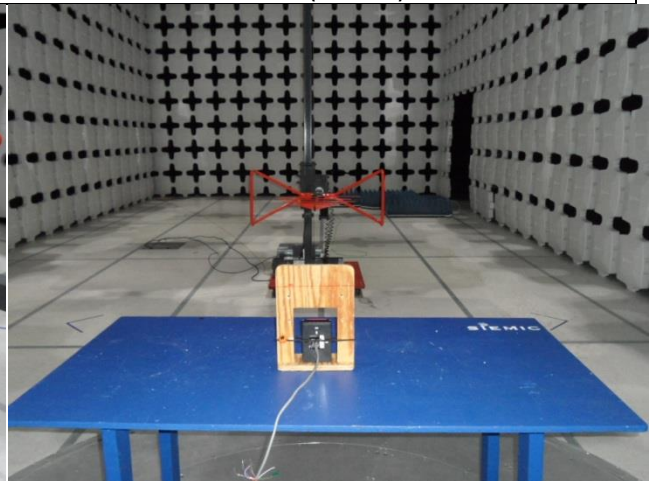
Radiated Emissions (<30MHz) – Front View



Radiated Emissions (<30MHz) – Rear View



Radiated Emissions (30MHz-1GHz) – Front View



Radiated Emissions (30MHz-1GHz) – Rear View



Radiated Emissions (>1GHz) – Front View



Radiated Emissions (>1GHz) – Rear View

7 Supporting Equipment/Software and cabling Description

7.1 Supporting Equipment

Item	Supporting Equipment Description	Model	Serial Number	Manufacturer	Note
1	DC Power Supply	TPS-2000	920027	Topward Electric Instruments	-

7.2 Test Software Description

Test Item	Software	Description
-	-	-

8 Test Summary

Test Item	Test standard		Test Method/Procedure		Pass / Fail
Radiated Spurious Emissions	FCC	15.209	FCC	ANSI C63.10: 2009	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> N/A
	IC	RSS 210 (A8.5)	IC	RSS Gen 4.9	
Remark	1. All measurement uncertainties do not take into consideration for all presented test results. 2. The applicant shall ensure frequency stability by showing that an emission is maintained within the band of operation under all normal operating conditions as specified in the user's manual.				

9 Measurement Uncertainty

Emissions			
Test Item	Frequency Range	Description	Uncertainty
Radiated Spurious Emissions	150 kHz – 1GHz	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	+5.6dB/-4.5dB
Radiated Spurious Emissions	1GHz – 40GHz	Confidence level of approximately 95% (in the case where distributions are normal), with a coverage factor of 2 (for EUTs < 0.5m X 0.5m X 0.5m)	+4.3dB/-4.1dB

10 Measurements, Examination and Derived Results

10.1 Radiated Spurious Emissions below 30 MHz

Requirement(s):

Spec	Requirement	Applicable
47 CFR §15.209 RSS-210 (A2.6)	The field strength of any emissions appearing outside of the 13.110–14.010 MHz band shall not exceed the general radiated emission limits in §15.209.	<input checked="" type="checkbox"/>
Test Setup		
Procedure	<p>For < 30MHz, Radiated emissions were measured according to ANSI C63.4. The EUT was set to transmit at the highest output power.</p> <p>The EUT was set 3 meter away from the measuring antenna. The loop antenna was positioned 1 meter above the ground from the centre of the loop. The measuring bandwidth was set to 10 kHz.</p> <p>The limit is converted from microvolt/meter to decibel microvolt/meter.</p>	
Remark	-	
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail	

Test Data Yes (See below) N/A

Test Plot Yes (See below) N/A

Test specification:	Radiated Spurious Emissions (below 30MHz)											
Environmental Conditions:	Temp(°C):	26		Result:	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail							
	Humidity (%):	45.6										
	Atmospheric(mbar):	1021										
Mains Power:	110VA, 60Hz											
Tested by:	Teody Manansala											
Test Date:	9/18/2014											
Remarks:	R10E, R15E, R30E, R40E, RK40E, RP10E, RP15E, RP30E, RP40E, RPK40E at 0 degrees and 90 degrees											

Loop Antenna

R10E iCLASS at 0 Degrees

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.53	31.40	0.00	15.27	46.67	Quasi Max	H	100.00	61.00	52.12	-5.46	Pass
0.58	27.12	0.00	14.46	41.58	Quasi Max	H	100.00	0.00	51.39	-9.81	Pass
0.81	26.12	0.00	11.75	37.87	Quasi Max	H	100.00	0.00	48.57	-10.70	Pass

R10E iCLASS at 90 Degrees

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.54	31.49	0.00	15.24	46.73	Quasi Max	H	100.00	3.00	52.10	-5.37	Pass
0.58	26.31	0.00	14.46	40.77	Quasi Max	H	100.00	0.00	51.39	-10.62	Pass
0.74	25.42	0.00	12.42	37.85	Quasi Max	H	100.00	0.00	49.32	-11.48	Pass

R15E iCLASS at 0 Degrees

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.53	31.81	0.00	15.28	47.09	Quasi Max	H	100.00	227.00	52.14	-5.05	Pass
0.58	28.17	0.00	14.46	42.63	Quasi Max	H	100.00	0.00	51.39	-8.76	Pass
0.86	27.23	0.00	11.26	38.49	Quasi Max	H	100.00	0.00	48.02	-9.54	Pass

R15E iCLASS at 90 Degrees

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.54	30.98	0.00	15.26	46.23	Quasi Max	H	100.00	347.00	52.12	-5.88	Pass
0.63	26.03	0.00	13.69	39.72	Quasi Max	H	100.00	0.00	50.65	-10.92	Pass
0.86	25.78	0.00	11.26	37.04	Quasi Max	H	100.00	0.00	48.02	-10.98	Pass

R30E iCLASS at 0 Degrees

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.53	31.90	0.00	15.28	47.18	Quasi Max	V	100.00	97.00	52.14	-4.95	Pass
0.68	27.43	0.00	13.10	40.53	Quasi Max	H	100.00	0.00	50.05	-9.53	Pass
0.86	26.45	0.00	11.26	37.71	Quasi Max	H	100.00	0.00	48.02	-10.32	Pass

R30E iCLASS at 90 Degrees

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.53	31.87	0.00	15.28	47.15	Quasi Max	V	100.00	113.00	52.14	-4.99	Pass
0.59	28.63	0.00	14.34	42.97	Quasi Max	H	100.00	0.00	51.28	-8.31	Pass
0.86	26.64	0.00	11.26	37.90	Quasi Max	H	100.00	0.00	48.02	-10.12	Pass

R40E iCLASS at 0 Degree

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.53	31.31	0.00	15.28	46.59	Quasi Max	H	100.00	134.00	52.14	-5.55	Pass
0.68	27.86	0.00	13.10	40.96	Quasi Max	H	100.00	0.00	50.05	-9.09	Pass
0.86	26.34	0.00	11.26	37.60	Quasi Max	H	100.00	0.00	48.02	-10.42	Pass

R40E iCLASS at 90 Degrees

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.53	31.75	0.00	15.27	47.02	Quasi Max	V	100.00	327.00	52.13	-5.11	Pass
0.58	26.45	0.00	14.46	40.91	Quasi Max	H	100.00	0.00	51.39	-10.48	Pass
0.81	26.09	0.00	11.75	37.85	Quasi Max	H	100.00	0.00	48.57	-10.72	Pass

RK40E iCLASS at 0 Degrees

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.53	31.00	0.00	15.27	46.26	Quasi Max	H	100.00	315.00	52.13	-5.86	Pass
0.86	26.38	0.00	11.26	37.64	Quasi Max	H	100.00	0.00	48.02	-10.38	Pass
0.58	26.51	0.00	14.46	40.97	Quasi Max	H	100.00	0.00	51.39	-10.42	Pass

RK40E iCLASS at 90 Degrees

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.53	30.94	0.00	15.31	46.24	Quasi Max	V	100.00	107.00	52.16	-5.92	Pass
0.68	27.72	0.00	13.10	40.83	Quasi Max	H	100.00	0.00	50.05	-9.23	Pass
0.58	26.85	0.00	14.46	41.31	Quasi Max	H	100.00	0.00	51.39	-10.09	Pass

RP10E iCLASS at 0 Degrees

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.55	31.01	0.00	15.00	46.02	Quasi Max	V	100.00	157.00	51.89	-5.87	Pass
0.49	30.51	0.00	16.02	46.53	Quasi Max	H	100.00	0.00	52.84	-6.31	Pass
0.68	28.83	0.00	13.10	41.93	Quasi Max	H	100.00	0.00	50.05	-8.12	Pass

RP10E iCLASS at 90 Degrees

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.53	30.16	0.00	15.28	45.44	Quasi Max	V	100.00	279.00	52.14	-6.70	Pass
0.58	26.89	0.00	14.46	41.35	Quasi Max	H	100.00	0.00	51.39	-10.04	Pass
0.86	26.19	0.00	11.26	37.45	Quasi Max	H	100.00	0.00	48.02	-10.57	Pass

RP15E iCLASS at 0 Degrees

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.55	31.24	0.00	4.54	35.78	Quasi Max	V	100.00	212.00	51.88	-16.10	Pass
0.63	27.08	0.00	3.33	30.42	Quasi Max	H	100.00	0.00	50.75	-20.33	Pass
0.86	26.49	0.00	0.80	27.30	Quasi Max	H	100.00	0.00	48.02	-20.73	Pass

RP15 iCLASS at 90 Degrees

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.55	30.69	0.00	4.60	35.29	Quasi Max	H	100.00	161.00	51.94	-16.65	Pass
0.58	27.26	0.00	4.00	31.26	Quasi Max	H	100.00	0.00	51.39	-20.13	Pass
0.68	27.05	0.00	2.64	29.69	Quasi Max	H	100.00	0.00	50.05	-20.36	Pass

RP30E iCLASS at 0 Degrees

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.55	31.10	0.00	15.01	46.11	Quasi Max	V	100.00	102.00	51.89	-5.78	Pass
0.68	28.21	0.00	13.10	41.31	Quasi Max	H	100.00	0.00	50.05	-8.74	Pass
0.60	26.86	0.00	14.11	40.96	Quasi Max	H	100.00	0.00	51.06	-10.10	Pass

RP30E iCLASS at 90 Degrees

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.53	30.53	0.00	15.31	45.85	Quasi Max	V	100.00	20.00	52.17	-6.32	Pass
0.68	27.69	0.00	13.10	40.79	Quasi Max	H	100.00	0.00	50.05	-9.26	Pass
0.81	25.69	0.00	11.75	37.44	Quasi Max	H	100.00	0.00	48.57	-11.13	Pass

RP40E iCLASS at 0 Degrees

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.53	28.55	0.00	15.28	43.83	Quasi Max	H	100.00	33.00	52.13	-8.30	Pass
0.58	28.12	0.00	14.46	42.58	Quasi Max	H	100.00	0.00	51.39	-8.81	Pass
0.68	26.98	0.00	13.10	40.08	Quasi Max	H	100.00	0.00	50.05	-9.98	Pass

RP40E iCLASS at 90 Degrees

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.54	30.10	0.00	15.24	45.34	Quasi Max	H	100.00	224.00	52.10	-6.76	Pass
0.58	28.08	0.00	14.46	42.54	Quasi Max	H	100.00	0.00	51.39	-8.85	Pass
0.68	27.49	0.00	13.10	40.59	Quasi Max	H	100.00	0.00	50.05	-9.47	Pass

RPK40E iCLASS at 0 Degrees

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.53	28.71	0.00	15.28	43.99	Quasi Max	V	100.00	105.00	52.14	-8.14	Pass
0.59	27.99	0.00	14.34	42.33	Quasi Max	H	100.00	0.00	51.28	-8.95	Pass
0.86	26.14	0.00	11.26	37.41	Quasi Max	H	100.00	0.00	48.02	-10.62	Pass

RPK40E iCLASS at 90 Degrees

Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
0.54	29.47	0.00	15.26	44.73	Quasi Max	H	100.00	153.00	52.12	-7.39	Pass
0.86	27.10	0.00	11.26	38.36	Quasi Max	H	100.00	0.00	48.02	-9.66	Pass
0.68	27.05	0.00	13.10	40.15	Quasi Max	H	100.00	0.00	50.05	-9.90	Pass

10.2 Radiated Spurious Emissions 30 MHz – 1000MHz

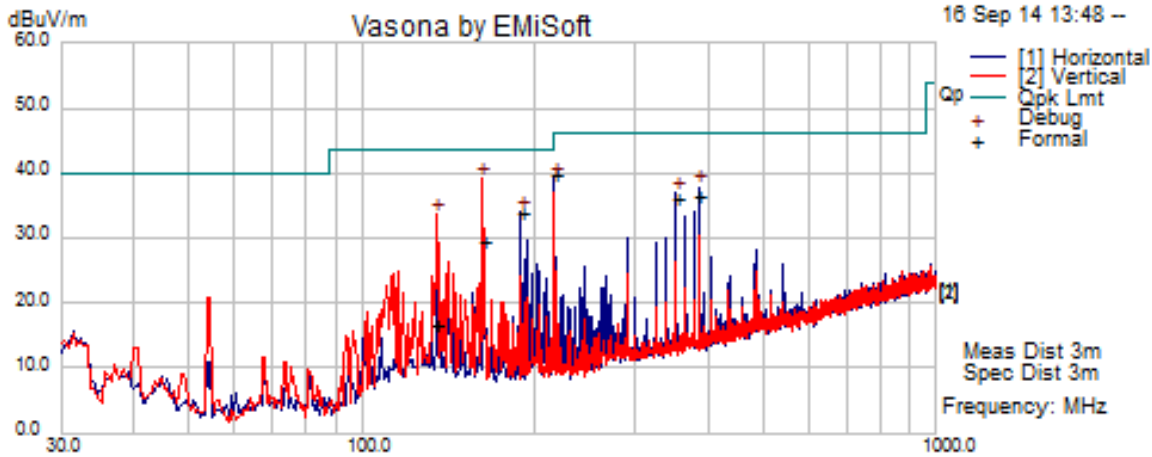
Requirement(s):

Spec	Item	Requirement	Applicable										
47CFR§15.209, RSS210(A8.5)	a)	<p>Except higher limit as specified elsewhere in other section, the emissions from the low-power radio-frequency devices shall not exceed the field strength levels specified in the following table and the level of any unwanted emissions shall not exceed the level of the fundamental emission. The tighter limit applies at the band edges</p> <table border="1"> <thead> <tr> <th>Frequency range (MHz)</th> <th>Field Strength (uV/m)</th> </tr> </thead> <tbody> <tr> <td>30 – 88</td> <td>100</td> </tr> <tr> <td>88 – 216</td> <td>150</td> </tr> <tr> <td>216 960</td> <td>200</td> </tr> <tr> <td>Above 960</td> <td>500</td> </tr> </tbody> </table>	Frequency range (MHz)	Field Strength (uV/m)	30 – 88	100	88 – 216	150	216 960	200	Above 960	500	<input checked="" type="checkbox"/>
Frequency range (MHz)	Field Strength (uV/m)												
30 – 88	100												
88 – 216	150												
216 960	200												
Above 960	500												
Test Setup													
Procedure	<ol style="list-style-type: none"> 1. The EUT was switched on and allowed to warm up to its normal operating condition. 2. The test was carried out at the selected frequency points obtained from the EUT characterisation. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarization, and adjusting the antenna height in the following manner: <ol style="list-style-type: none"> a. Vertical or horizontal polarisation (whichever gave the higher emission level over a full rotation of the EUT) was chosen. b. The EUT was then rotated to the direction that gave the maximum emission. c. Finally, the antenna height was adjusted to the height that gave the maximum emission. 3. A Quasi-peak measurement was then made for that frequency point. 4. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured. 												
Remark													
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail												

Test Data Yes (See below) N/A

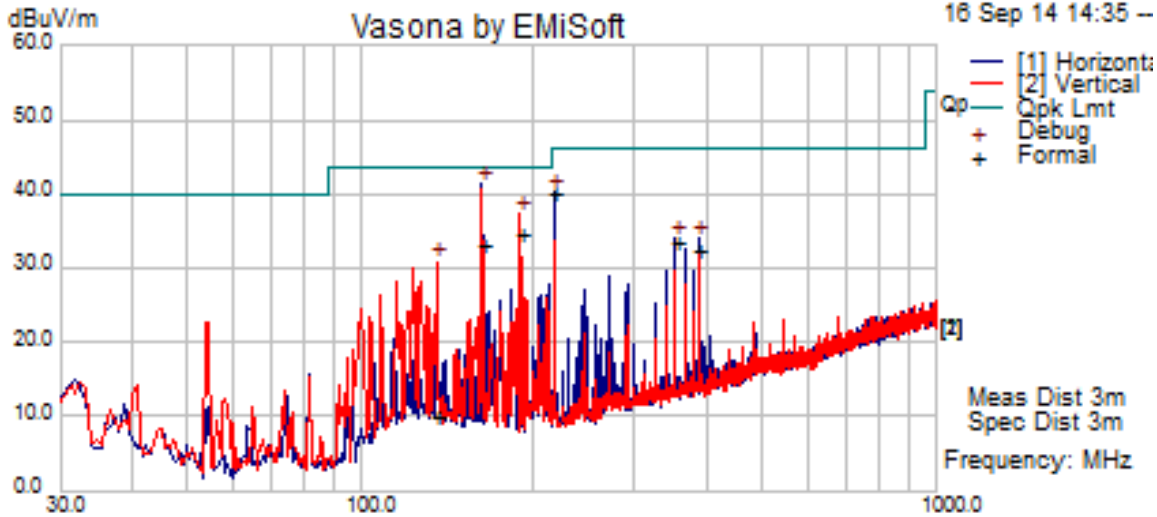
Test Plot Yes (See below) N/A

Test specification:	Radiated Spurious Emissions (30MHz – 1000MHz)		
Environmental Conditions:	Temp(°C):	23.7	Result: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	Humidity (%):	44.9	
	Atmospheric(mbar):	1021	
Mains Power:	110VA, 60Hz		
Tested by:	Teody Manansala		
Test Date:	9/16/2014		
Remarks:	R10E iCLASS		



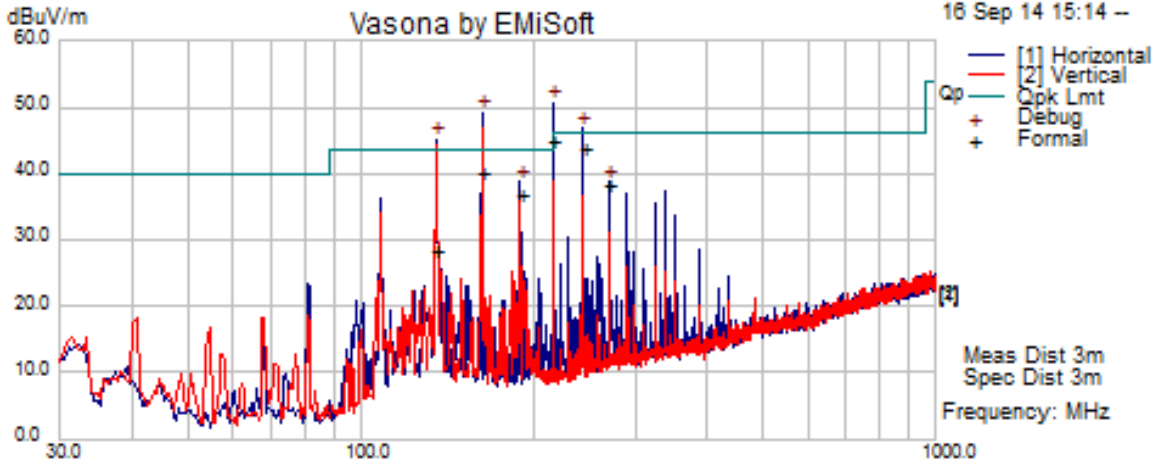
Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
162.65	54.95	2.30	-27.84	29.42	Quasi Max	V	106.00	25.00	43.50	-14.08	Pass
216.97	65.87	2.60	-28.92	39.56	Quasi Max	H	114.00	113.00	46.00	-6.44	Pass
387.55	57.60	3.29	-24.42	36.47	Quasi Max	H	108.00	156.00	46.00	-9.53	Pass
352.57	57.90	3.19	-24.87	36.22	Quasi Max	H	101.00	47.00	46.00	-9.78	Pass
189.81	60.09	2.45	-28.71	33.82	Quasi Max	H	122.00	99.00	43.50	-9.68	Pass
135.22	40.53	2.12	-26.16	16.50	Quasi Max	V	137.00	356.00	43.50	-27.00	Pass

Test specification:	Radiated Spurious Emissions (30MHz – 1000MHz)		
Environmental Conditions:	Temp(°C):	23.7	Result: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	Humidity (%):	44.9	
	Atmospheric(mbar):	1021	
Mains Power:	110VA, 60Hz		
Tested by:	Teody Manansala		
Test Date:	9/16/2014		
Remarks:	R15E iCLASS		



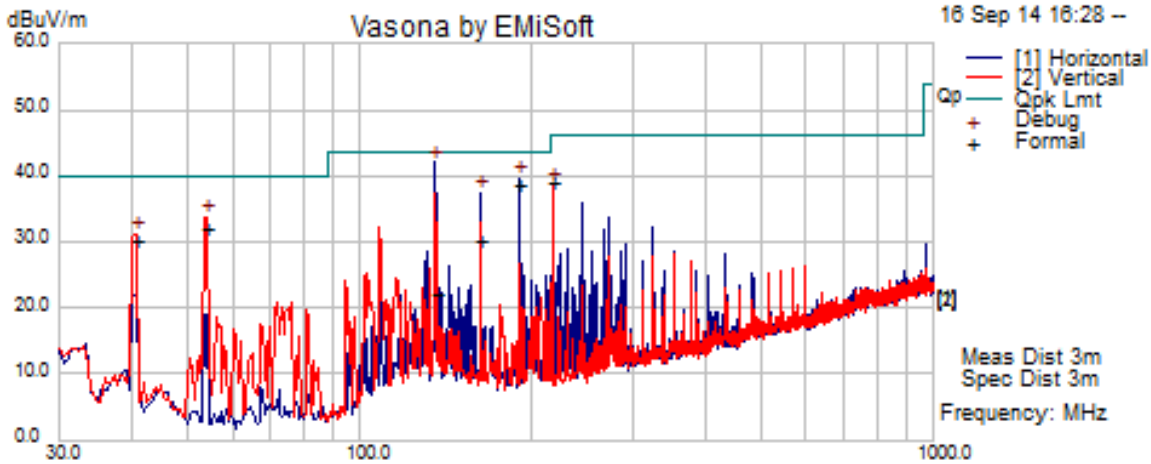
Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
162.65	58.48	2.30	-27.84	32.94	Quasi Max	H	146.00	114.00	43.50	-10.56	Pass
216.97	66.43	2.60	-28.92	40.11	Quasi Max	H	106.00	95.00	46.00	-5.89	Pass
189.81	61.01	2.45	-28.71	34.75	Quasi Max	V	111.00	37.00	43.50	-8.75	Pass
352.57	55.32	3.19	-24.87	33.64	Quasi Max	H	101.00	140.00	46.00	-12.36	Pass
387.15	53.60	3.29	-24.43	32.47	Quasi Max	H	104.00	196.00	46.00	-13.53	Pass
135.40	34.03	2.12	-26.17	9.98	Quasi Max	V	143.00	101.00	43.50	-33.52	Pass

Test specification:	Radiated Spurious Emissions (30MHz – 1000MHz)		
Environmental Conditions:	Temp(°C):	23.7	Result: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	Humidity (%):	44.9	
	Atmospheric(mbar):	1021	
Mains Power:	110VA, 60Hz		
Tested by:	Teody Manansala		
Test Date:	9/16/2014		
Remarks:	R30E iCLASS		



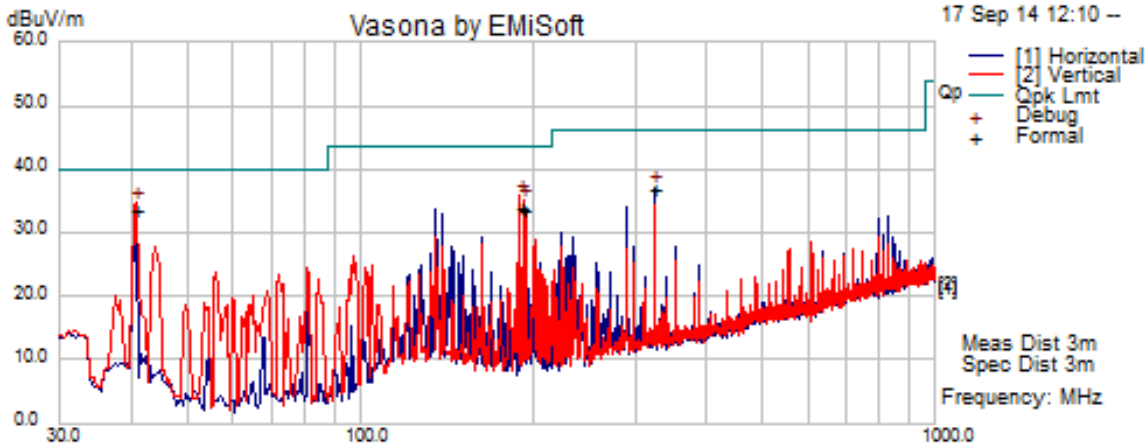
Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
162.65	65.64	2.30	-27.84	40.10	Quasi Max	H	137.00	130.00	43.50	-3.40	162.65
216.97	71.15	2.60	-28.92	44.83	Quasi Max	H	161.00	246.00	46.00	-1.17	216.97
135.49	52.33	2.12	-26.17	28.28	Quasi Max	H	207.00	109.00	43.50	-15.22	135.49
189.81	62.98	2.45	-28.71	36.72	Quasi Max	H	107.00	106.00	43.50	-6.78	189.81
271.22	61.95	2.88	-26.49	38.34	Quasi Max	H	113.00	103.00	46.00	-7.66	271.22
244.10	69.04	2.75	-28.05	43.74	Quasi Max	H	132.00	114.00	46.00	-2.26	244.10

Test specification:	Radiated Spurious Emissions (30MHz – 1000MHz)		
Environmental Conditions:	Temp(°C):	23.7	Result: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	Humidity (%):	44.9	
	Atmospheric(mbar):	1021	
Mains Power:	110VA, 60Hz		
Tested by:	Teody Manansala		
Test Date:	9/16/2014		
Remarks:	R40E iCLASS		



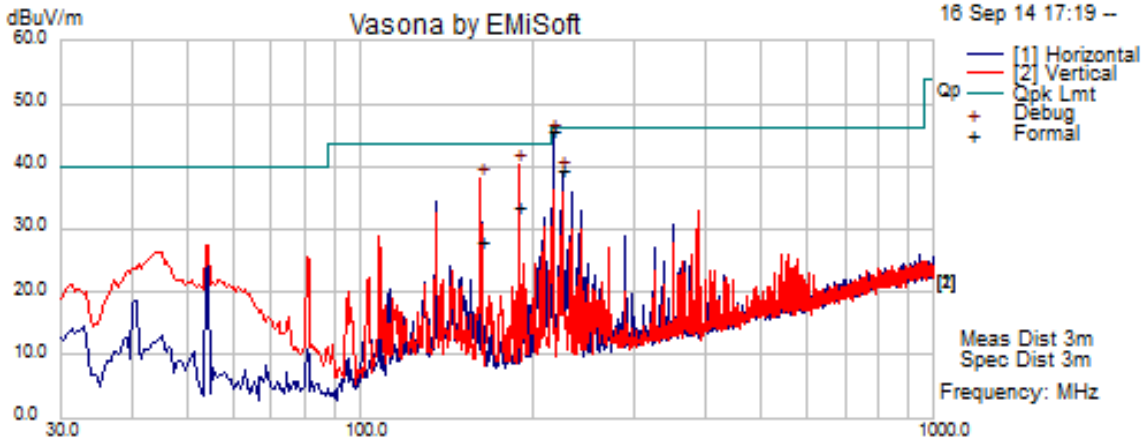
Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
135.47	46.06	2.12	-26.17	22.01	Quasi Max	H	363.00	268.00	43.50	-21.49	Pass
189.81	64.82	2.45	-28.71	38.56	Quasi Max	H	129.00	270.00	43.50	-4.94	Pass
162.65	55.81	2.30	-27.84	30.27	Quasi Max	H	156.00	264.00	43.50	-13.23	Pass
54.25	62.16	1.22	-31.37	32.01	Quasi Max	V	120.00	135.00	40.00	-7.99	Pass
216.97	65.27	2.60	-28.92	38.95	Quasi Max	V	105.00	79.00	46.00	-7.05	Pass
40.68	55.17	1.16	-26.31	30.03	Quasi Max	V	100.00	254.00	40.00	-9.97	Pass

Test specification:	Radiated Spurious Emissions (30MHz – 1000MHz)		
Environmental Conditions:	Temp(°C):	23.7	Result: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	Humidity (%):	44.9	
	Atmospheric(mbar):	1021	
Mains Power:	110VA, 60Hz		
Tested by:	Teody Manansala		
Test Date:	9/17/2014		
Remarks:	RK40E iCLASS		



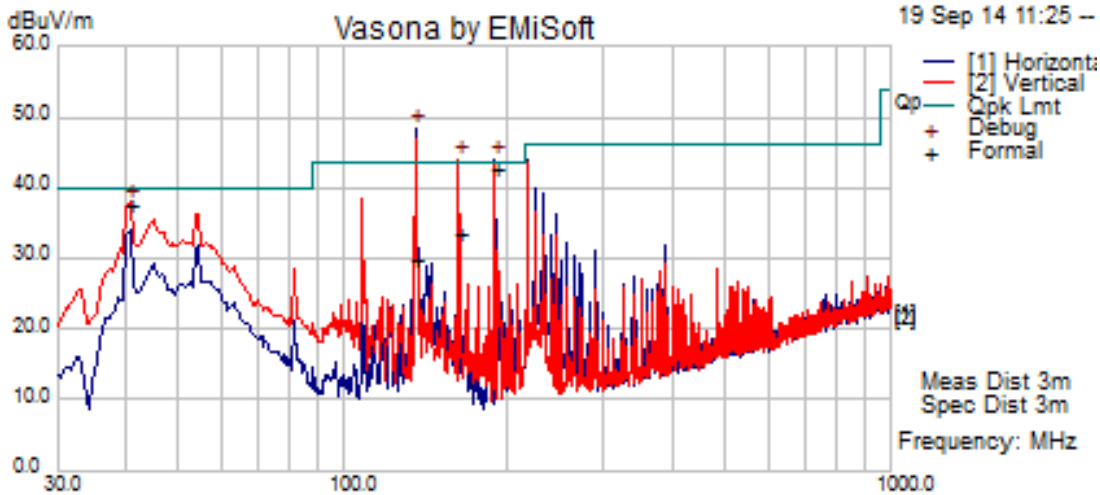
Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
40.68	58.52	1.16	-26.31	33.37	Quasi Max	V	110.00	285.00	40.00	-6.63	Pass
189.81	60.08	2.45	-28.71	33.82	Quasi Max	V	102.00	100.00	43.50	-9.68	Pass
193.00	59.07	2.47	-28.23	33.31	Quasi Max	V	101.00	107.00	43.50	-10.19	Pass
325.45	59.00	3.09	-25.47	36.63	Quasi Max	H	101.00	227.00	46.00	-9.37	Pass

Test specification:	Radiated Spurious Emissions (30MHz – 1000MHz)		
Environmental Conditions:	Temp(°C):	23.7	Result: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	Humidity (%):	44.9	
	Atmospheric(mbar):	1021	
Mains Power:	110VA, 60Hz		
Tested by:	Teody Manansala		
Test Date:	9/16/2014		
Remarks:	RP10E multiCLASS		



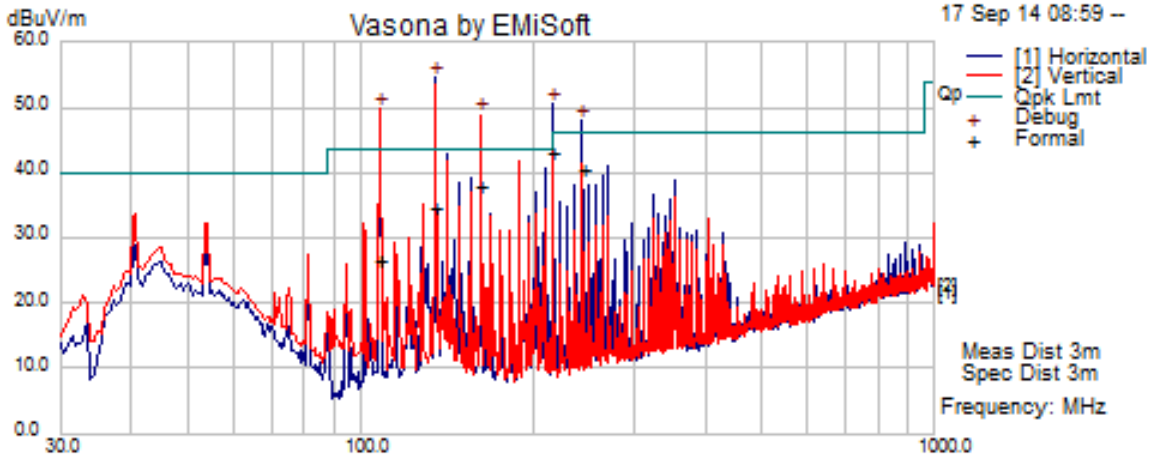
Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
216.97	71.86	2.60	-28.92	45.54	Quasi Max	H	151.00	121.00	46.00	-0.46	Pass
189.81	59.80	2.45	-28.71	33.54	Quasi Max	V	100.00	120.00	43.50	-9.96	Pass
162.65	53.57	2.30	-27.84	28.04	Quasi Max	V	101.00	97.00	43.50	-15.46	Pass
225.47	65.34	2.65	-28.66	39.32	Quasi Max	H	127.00	132.00	46.00	-6.68	Pass

Test specification:	Radiated Spurious Emissions (30MHz – 1000MHz)		
Environmental Conditions:	Temp(°C):	23.7	Result: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	Humidity (%):	44.9	
	Atmospheric(mbar):	1021	
Mains Power:	110VA, 60Hz		
Tested by:	Teody Manansala		
Test Date:	9/19/2014		
Remarks:	R15E iCLASS		



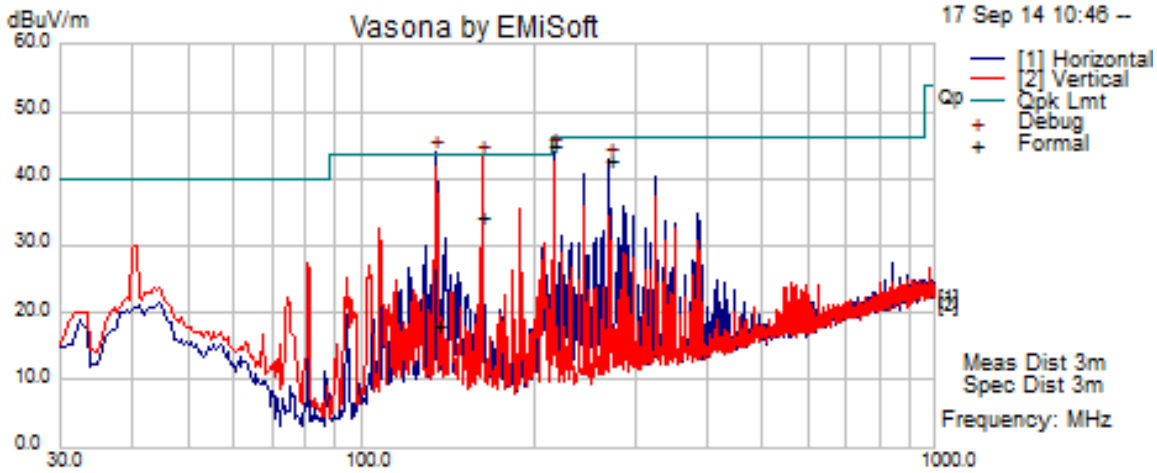
Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
135.49	53.99	2.12	-26.17	29.94	Quasi Max	H	126.00	110.00	43.50	-13.56	Pass
162.65	59.00	2.30	-27.84	33.46	Quasi Max	V	105.00	122.00	43.50	-10.04	Pass
189.81	68.89	2.45	-28.71	42.62	Quasi Max	H	114.00	113.00	43.50	-0.88	Pass
40.69	62.49	1.16	-26.32	37.33	Quasi Max	V	102.00	71.00	40.00	-2.67	Pass
135.49	53.99	2.12	-26.17	29.94	Quasi Max	H	126.00	110.00	43.50	-13.56	Pass
162.65	59.00	2.30	-27.84	33.46	Quasi Max	V	105.00	122.00	43.50	-10.04	Pass

Test specification:	Radiated Spurious Emissions (30MHz – 1000MHz)		
Environmental Conditions:	Temp(°C):	23.7	Result: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	Humidity (%):	44.9	
	Atmospheric(mbar):	1021	
Mains Power:	110VA, 60Hz		
Tested by:	Teody Manansala		
Test Date:	9/17/2014		
Remarks:	RP30E multiCLASS		



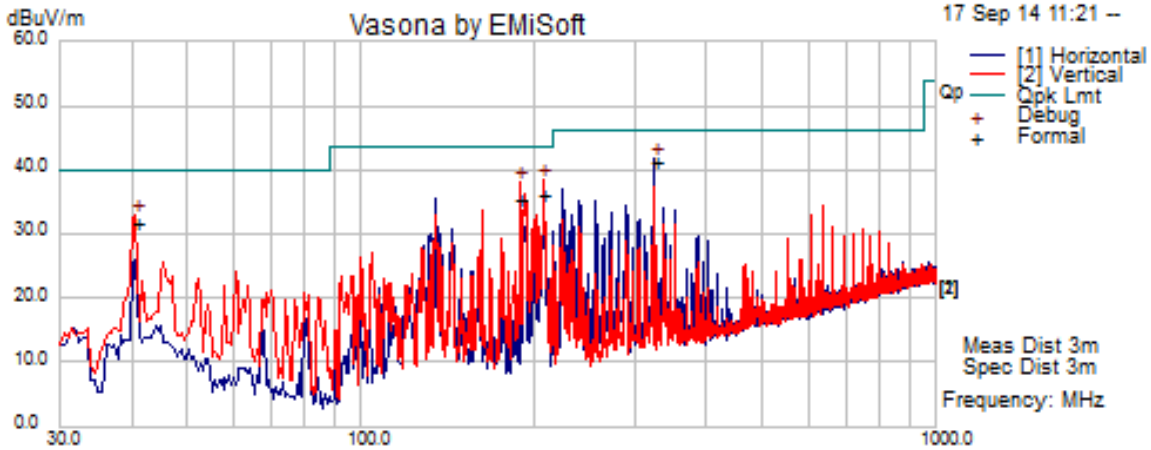
Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
135.49	58.48	2.12	-26.17	34.43	Quasi Max	H	132.00	116.00	43.50	-9.07	Pass
108.33	52.14	1.91	-27.50	26.54	Quasi Max	V	146.00	56.00	43.50	-16.96	Pass
162.65	63.31	2.30	-27.84	37.77	Quasi Max	V	117.00	319.00	43.50	-5.73	Pass
216.97	69.49	2.60	-28.92	43.17	Quasi Max	H	150.00	243.00	46.00	-2.83	Pass
244.10	65.66	2.75	-28.05	40.35	Quasi Max	H	123.00	106.00	46.00	-5.65	Pass

Test specification:	Radiated Spurious Emissions (30MHz – 1000MHz)		
Environmental Conditions:	Temp(°C):	23.7	Result: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	Humidity (%):	44.9	
	Atmospheric(mbar):	1021	
Mains Power:	110VA, 60Hz		
Tested by:	Teody Manansala		
Test Date:	9/17/2014		
Remarks:	RP40E multiCLASS		



Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
135.44	42.26	2.12	-26.17	18.21	Quasi Max	H	110.00	46.00	43.50	-25.29	Pass
162.65	59.70	2.30	-27.84	34.16	Quasi Max	V	104.00	99.00	43.50	-9.34	Pass
216.96	71.10	2.60	-28.92	44.79	Quasi Max	H	162.00	109.00	46.00	-1.21	Pass
271.22	66.38	2.88	-26.49	42.77	Quasi Max	H	110.00	101.00	46.00	-3.23	Pass

Test specification:	Radiated Spurious Emissions (30MHz – 1000MHz)		
Environmental Conditions:	Temp(°C):	23.7	Result: <input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	Humidity (%):	44.9	
	Atmospheric(mbar):	1021	
Mains Power:	110VA, 60Hz		
Tested by:	Teody Manansala		
Test Date:	9/17/2014		
Remarks:	RPK40E iCLASS		

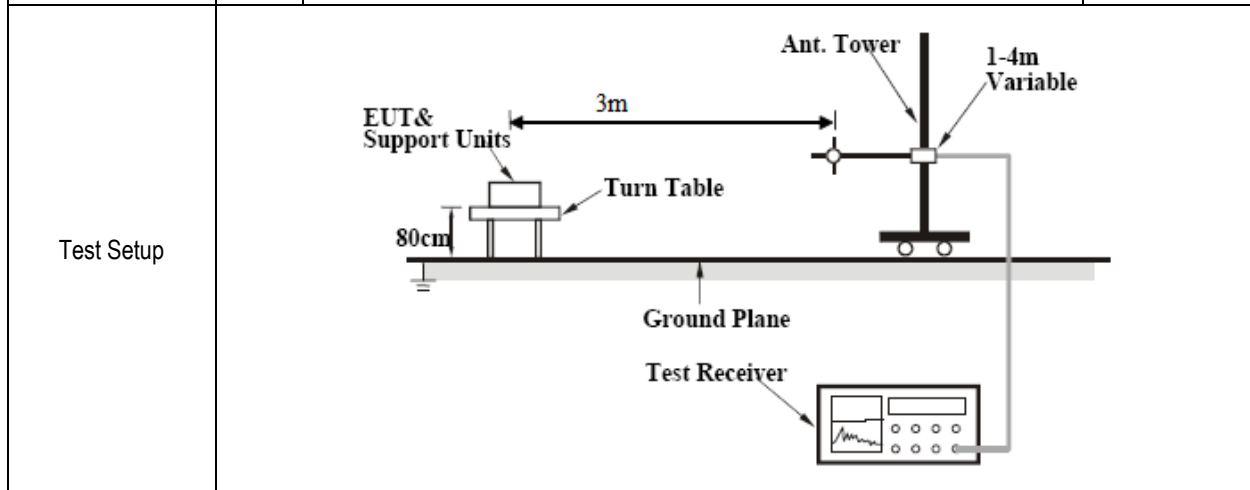


Frequency (MHz)	Raw (dBuV)	Cable Loss (dB)	AF (dB)	Level (dBuV/m)	Measurement Type	Pol (V/H)	Hgt (cm)	Azt (Deg)	Limit (dBuV/m)	Margin (dB)	Pass /Fail
325.45	63.59	3.09	-25.47	41.21	Quasi Max	H	101.00	139.00	46.00	-4.79	Pass
208.63	62.52	2.55	-29.05	36.03	Quasi Max	V	101.00	105.00	43.50	-7.47	Pass
189.81	61.64	2.45	-28.71	35.38	Quasi Max	V	101.00	115.00	43.50	-8.12	Pass
40.68	56.82	1.16	-26.31	31.67	Quasi Max	V	102.00	290.00	40.00	-8.33	Pass

10.3 Radiated Spurious Emissions above 1GHz

Requirement(s):

Spec	Item	Requirement	Applicable
47CFR§15.209, RSS210(A8.5)	a)	For non-restricted band, In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB or 30dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, determined by the measurement method on output power to be used. Attenuation below the general limits specified in § 15.209(a) is not required <input type="checkbox"/> 20 dB down <input type="checkbox"/> 30 dB down	<input type="checkbox"/>
	b)	or restricted band, emission must also comply with the radiated emission limits specified in 15.209	<input checked="" type="checkbox"/>



Procedure	<ol style="list-style-type: none"> 1. The EUT was switched on and allowed to warm up to its normal operating condition. 2. The test was carried out at the selected frequency points obtained from the EUT characterisation. Maximization of the emissions, was carried out by rotating the EUT, changing the antenna polarisation, and adjusting the antenna height in the following manner: <ol style="list-style-type: none"> a. Vertical or horizontal polarisation (whichever gave the higher emission level over a full rotation of the EUT) was chosen. b. The EUT was then rotated to the direction that gave the maximum emission. c. Finally, the antenna height was adjusted to the height that gave the maximum emission. 3. An average measurement was then made for that frequency point. 4. Steps 2 and 3 were repeated for the next frequency point, until all selected frequency points were measured.
Remark	-
Result	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail

Test Data Yes (See below) N/A

Test Plot Yes (See below) N/A

Test specification:	Radiated Spurious Emissions (above 1GHz)			
Environmental Conditions:	Temp(°C):	25	Result:	<input checked="" type="checkbox"/> Pass <input type="checkbox"/> Fail
	Humidity (%):	44.5		
	Atmospheric(mbar):	1021		
Mains Power:	110VA, 60Hz			
Tested by:	Teody Manansala			
Test Date:	9/17/2014			
Remarks:	R10E, R15E, R30E, R40E, RK40E, RP10E, RP15E, RP30E, RP40E, RPK40E above 1G			

R10E iCLASS

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
14261.00	41.92	5.19	10.51	57.62	Peak Max	V	185.00	42.00	74.00	-16.38	Pass
10095.89	42.37	3.69	6.45	52.51	Peak Max	H	281.00	184.00	74.00	-21.49	Pass
4120.94	43.11	2.35	-0.21	45.25	Peak Max	H	229.00	162.00	74.00	-28.75	Pass
14261.00	29.18	5.19	10.51	44.88	Average Max	V	185.00	42.00	54.00	-9.12	Pass
10095.89	29.33	3.69	6.45	39.46	Average Max	H	281.00	184.00	54.00	-14.54	Pass
4120.94	29.49	2.35	-0.21	31.63	Average Max	H	229.00	162.00	54.00	-22.37	Pass

R15E iCLASS

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
14151.36	43.03	5.15	10.30	58.47	Peak Max	H	129.00	195.00	74.00	-15.53	Pass
7780.41	43.61	3.30	4.09	51.00	Peak Max	H	143.00	283.00	74.00	-23.00	Pass
5043.61	41.77	2.60	0.40	44.77	Peak Max	V	243.00	154.00	74.00	-29.23	Pass
14151.36	29.79	5.15	10.30	45.23	Average Max	H	129.00	195.00	54.00	-8.77	Pass
7780.41	30.27	3.30	4.09	37.66	Average Max	H	143.00	283.00	54.00	-16.34	Pass
5043.61	29.36	2.60	0.40	32.37	Average Max	V	243.00	154.00	54.00	-21.63	Pass

R30E iCLASS

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
9448.58	42.78	3.45	6.49	52.72	Peak Max	H	234.00	285.00	74.00	-21.28	Pass
17855.69	39.49	5.60	13.98	59.07	Peak Max	V	210.00	107.00	74.00	-14.93	Pass
1018.48	44.63	0.76	-7.15	38.24	Peak Max	V	182.00	82.00	74.00	-35.76	Pass
9448.58	30.21	3.45	6.49	40.15	Average Max	H	234.00	285.00	54.00	-13.85	Pass
17855.69	26.66	5.60	13.98	46.23	Average Max	V	210.00	107.00	54.00	-7.77	Pass
1018.48	31.94	0.76	-7.15	25.55	Average Max	V	182.00	82.00	54.00	-28.45	Pass

R40E iCLASS

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
9644.57	42.44	3.53	6.59	52.56	Peak Max	V	155.00	350.00	74.00	-21.44	Pass
14159.82	42.53	5.15	10.31	57.99	Peak Max	H	101.00	305.00	74.00	-16.01	Pass
1085.33	45.89	0.82	-7.01	39.70	Peak Max	H	185.00	240.00	74.00	-34.30	Pass
9644.57	29.83	3.53	6.59	39.95	Average Max	V	155.00	350.00	54.00	-14.05	Pass
14159.82	29.71	5.15	10.31	45.17	Average Max	H	101.00	305.00	54.00	-8.83	Pass
1085.33	32.80	0.82	-7.01	26.61	Average Max	H	185.00	240.00	54.00	-27.39	Pass

RK40E iCLASS

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
13987.58	43.11	5.08	9.96	58.15	Peak Max	V	201.00	99.00	74.00	-15.85	Pass
17839.09	39.37	5.60	13.92	58.89	Peak Max	V	122.00	6.00	74.00	-15.11	Pass
5693.50	42.97	2.80	1.17	46.93	Peak Max	H	261.00	270.00	74.00	-27.07	Pass
13987.58	30.13	5.08	9.96	45.17	Average Max	V	201.00	99.00	54.00	-8.83	Pass
17839.09	26.74	5.60	13.92	46.26	Average Max	V	122.00	6.00	54.00	-7.74	Pass
5693.50	30.09	2.80	1.17	34.06	Average Max	H	261.00	270.00	54.00	-19.94	Pass

RP10E multiCLASS

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
14217.80	42.30	5.17	10.43	57.89	Peak Max	V	292.00	142.00	74.00	-16.11	Pass
17659.96	40.64	5.58	13.32	59.54	Peak Max	V	104.00	0.00	74.00	-14.46	Pass
1015.48	47.06	0.76	-7.16	40.66	Peak Max	V	317.00	38.00	74.00	-33.34	Pass
14217.80	29.34	5.17	10.43	44.94	Average Max	V	292.00	142.00	54.00	-9.06	Pass
17659.96	26.97	5.58	13.32	45.87	Average Max	V	104.00	0.00	54.00	-8.13	Pass
1015.48	33.69	0.76	-7.16	27.29	Average Max	V	317.00	38.00	54.00	-26.71	Pass

RP15E multiCLASS

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
14080.66	43.13	5.12	10.16	58.41	Peak Max	V	341.00	120.00	74.00	-15.59	Pass
9455.81	43.43	3.45	6.50	53.39	Peak Max	H	124.00	33.00	74.00	-20.61	Pass
1009.84	47.75	0.75	-7.17	41.33	Peak Max	H	244.00	276.00	74.00	-32.67	Pass
14080.66	30.23	5.12	10.16	45.50	Average Max	V	341.00	120.00	54.00	-8.50	Pass
9455.81	30.51	3.45	6.50	40.47	Average Max	H	124.00	33.00	54.00	-13.53	Pass
1009.84	34.75	0.75	-7.17	28.33	Average Max	H	244.00	276.00	54.00	-25.67	Pass

RP30E multiCLASS

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
14390.51	42.20	5.24	10.76	58.20	Peak Max	V	269.00	63.00	74.00	-15.80	Pass
9636.06	43.20	3.52	6.59	53.32	Peak Max	V	210.00	59.00	74.00	-20.68	Pass
2479.98	51.76	1.72	-3.33	50.16	Peak Max	H	103.00	125.00	74.00	-23.84	Pass
14390.51	28.96	5.24	10.76	44.97	Average Max	V	269.00	63.00	54.00	-9.03	Pass
14390.51	28.96	5.24	10.76	44.97	Average Max	V	269.00	63.00	54.00	-9.03	Pass
2479.98	29.26	1.72	-3.33	27.66	Average Max	H	103.00	125.00	54.00	-26.34	Pass

RP40E multiCLASS

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
14268.76	42.69	5.19	10.53	58.41	Peak Max	H	121.00	136.00	74.00	-15.59	Pass
17974.08	39.47	5.61	14.38	59.46	Peak Max	H	325.00	10.00	74.00	-14.54	Pass
7378.91	43.66	3.49	3.41	50.57	Peak Max	H	253.00	266.00	74.00	-23.43	Pass
14268.76	29.31	5.19	10.53	45.03	Average Max	H	121.00	136.00	54.00	-8.97	Pass
17974.08	26.63	5.61	14.38	46.62	Average Max	H	325.00	10.00	54.00	-7.38	Pass
7378.91	30.77	3.49	3.41	37.67	Average Max	H	253.00	266.00	54.00	-16.33	Pass

RPK40E multiCLASS

Frequency MHz	Raw dBuV	Cable Loss	AF dB	Level dBuV/m	Measurement Type	Pol	Hgt cm	Azt Deg	Limit dBuV/m	Margin dB	Pass /Fail
14635.49	42.40	5.34	10.38	58.13	Peak Max	H	281.00	22.00	74.00	-15.87	Pass
17982.90	39.47	5.61	14.41	59.48	Peak Max	V	169.00	35.00	74.00	-14.52	Pass
2464.39	43.56	1.72	-3.36	41.92	Peak Max	H	242.00	28.00	74.00	-32.08	Pass
14635.49	29.52	5.34	10.38	45.24	Average Max	H	281.00	22.00	54.00	-8.76	Pass
17982.90	26.64	5.61	14.41	46.66	Average Max	V	169.00	35.00	54.00	-7.34	Pass
2464.39	31.16	1.72	-3.36	29.52	Average Max	H	242.00	28.00	54.00	-24.48	Pass

















Annex A. TEST INSTRUMENT








Instrument	Model	Serial #	Cal Date	Cal Cycle	Cal Due	In use
Radiated Emissions						
R & S Receiver	ESL6	100178	03/04/2014	1 Year	03/04/2015	<input checked="" type="checkbox"/>
R & S Receiver	ESIB 40	100179	05/24/2014	1 Year	05/24/2015	<input checked="" type="checkbox"/>
ETS-Lingren Loop Antenna	6512	00049120	08/22/2014	1 Year	08/22/2015	<input checked="" type="checkbox"/>
Bi-Log antenna (30MHz~2GHz)	JB1	A030702	08/12/2014	1 Year	08/12/2015	<input checked="" type="checkbox"/>
Horn Antenna (1-26.5GHz)	3115	10SL0059	04/26/2014	1 Year	04/26/2015	<input type="checkbox"/>
Pre-Amplifier (1-26.5GHz)	8449B	3008A00715	05/30/2014	1 Year	05/30/2015	<input checked="" type="checkbox"/>
Microwave Preamplifier (18-40 GHz)	PA-840	181251	05/30/2014	1 Year	05/30/2015	<input checked="" type="checkbox"/>
3 Meters SAC	3M	N/A	10/13/2013	1 Year	10/13/2014	<input checked="" type="checkbox"/>
10 Meters SAC	10M	N/A	06/05/2014	1 Year	06/05/2015	<input checked="" type="checkbox"/>
Sekonic Hygro Hermograph	ST-50	HE01-000092	05/25/2014	1 Year	05/25/2015	<input checked="" type="checkbox"/>

Annex B. USER MANUAL, BLOCK & CIRCUIT DIAGRAM

Please see attachment

Annex C. SIEMIC Accreditation

Accreditations	Document	Scope / Remark
ISO 17025 (A2LA)		Please see the documents for the detailed scope
ISO Guide 65 (A2LA)		Please see the documents for the detailed scope
TCB Designation		A1, A2, A3, A4, B1, B2, B3, B4, C
FCC DoC Accreditation		FCC Declaration of Conformity Accreditation
FCC Site Registration		3 meter site
FCC Site Registration		10 meter site
IC Site Registration		3 meter site
IC Site Registration		10 meter site
EU NB		Radio & Telecommunications Terminal Equipment: EN45001 – EN ISO/IEC 17025
		Electromagnetic Compatibility: EN45001 – EN ISO/IEC 17025
Singapore iDA CB(Certification Body)	 	Phase I, Phase II
Vietnam MIC CAB Accreditation		Please see the document for the detailed scope
Hong Kong OFCA		(Phase II) OFCA Foreign Certification Body for Radio and Telecom
		(Phase I) Conformity Assessment Body for Radio and Telecom
Industry Canada CAB		Radio: Scope A – All Radio Standard Specification in Category I
		Telecom: CS-03 Part I, II, V, VI, VII, VIII

Japan Recognized Certification Body Designation		<p>Radio: A1. Terminal equipment for purpose of calling</p> <p>Telecom: B1. Specified radio equipment specified in Article 38-2, Paragraph 1, Item 1 of the Radio Law</p>
Korea CAB Accreditation		<p>EMI: KCC Notice 2008-39, RRL Notice 2008-3: CA Procedures for EMI KN22: Test Method for EMI</p> <p>EMS: KCC Notice 2008-38, RRL Notice 2008-4: CA Procedures for EMS KN24, KN61000-4-2, -4-3, -4-4, -4-5, -4-6, -4-8, -4-11: Test Method for EMS</p>
		<p>Radio: RRL Notice 2008-26, RRL Notice 2008-2, RRL Notice 2008-10, RRL Notice 2007-49, RRL Notice 2007-20, RRL Notice 2007-21, RRL Notice 2007-80, RRL Notice 2004-68</p> <p>Telecom: President Notice 20664, RRL Notice 2007-30, RRL Notice 2008-7 with attachments 1, 3, 5, 6; President Notice 20664, RRL Notice 2008-7 with attachment 4</p>
Taiwan NCC CAB Recognition		LP0002, PSTN01, ADSL01, ID0002, IS6100, CNS14336, PLMN07, PLMN01, PLMN08
Taiwan BSMI CAB Recognition		CNS 13438
Japan VCCI		<p>R-3083: Radiation 3 meter site</p> <p>C-3421: Main Ports Conducted Interference Measurement</p> <p>T-1597: Telecommunication Ports Conducted Interference Measurement</p>
Australia CAB Recognition		<p>EMC: AS/NZS CISPR 11, AS/NZS CISPR 14.1, AS/NZS CISPR22, AS/NZS 61000.6.3, AS/NZS 61000.6.4</p>
		<p>Radio communications: AS/NZS 4281, AS/NZS 4268, AS/NZS 4280.1, AS/NZS 4280.2, AS/NZS 4295, AS/NZS 4582, AS/NZS 4583, AS/NZS 4769.1, AS/NZS 4769.2, AS/NZS 4770, AS/NZS 4771</p>
		<p>Telecommunications: AS/ACIF S002:05, AS/ACIF S003:06, AS/ACIF S004:06 AS/ACIF S006:01, AS/ACIF S016:01, AS/ACIF S031:01, AS/ACIF S038:01, AS/ACIF S040:01, AS/ACIF S041:05, AS/ACIF S043.2:06, AS/ACIF S60950.1</p>
Australia NATA Recognition		AS/ACIF S002, AS/ACIF S003, AS/ACIF S004, AS/ACIF S006, AS/ACIF S016, AS/ACIF S031, AS/ACIF S038, AS/ACIF S040, AS/ACIF S041, AS/ACIF S043.2