

TEST REPORT

Classification: **EMC**
Report Number.: **S100113E-RX**
Date: **2010, January 28**

Applicant : **INTERNATIONAL DEVELOPMENT CORP.**

Address : **899 HENRIETTA CREEK ROAD, ROANOKE, TX 76262,
USA**

Product : **SOLAR SPEAKER**

Brand name/Trade mark : **HONEYWELL / HONEYWELL**
Model Number : **881011-XX (XX STANDS FOR FINISH/COLOR)**

According to :
FCC part 15, Subpart B

SIC INTERNATIONAL CERTIFICATION GROUP



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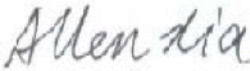

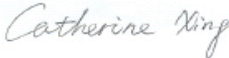
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Administrative Data	
Report No.	S100113E-RX
Tested by (name and signature)	Allen Xia 
Reviewed by (name and signature) ..	Angel Xie 
Approved by (name and signature) ..	Catherine Xing 
Date of issue	2010-01-28
Accreditation Bodies	SIC International Certification Group
Address	505 Wuning Road Shanghai P.R. China
Testing location	Jiangsu Electronic Information Product Quality Supervision & Inspection Research Institute
Address	No.107, Zhongqiaogexiang, Wuxi, Jiangsu, China
Registration Number	CNAS:L0262
Applicant's name	INTERNATIONAL DEVELOPMENT CORP.
Address	899 HENRIETTA CREEK ROAD, ROANOKE, TX 76262, USA
Manufacturer	SONAVOX ACOUSTICS CO., LTD. SUZHOU
Address	88 WANLI ROAD, YUANHE TOWNSHIP, XIANGCHENG DISTRICT, SUZHOU
Test specification:	
Standard(s)	FCC part 15, Subpart B
Standard test method	ANSI C63.4-2003
Non-standard test method	/
Test case verdicts	
Test case does't apply to the test object	N(N/A)
Test item does meet the requirement:	P(Pass)
Test item does't meet the requirement:	F(Fail)
Testing	
Date of receipt of test item :	2010-01-15
Date(s) of performance of test :	2010-01-15 to 2010-01-27

General Remarks:

This report shall not be reproduced except in full without the written approval of the testing laboratory.

The test results presented in this report relate only to the item(s) tested.

"(see remark #)" refers to a remark appended to the report.

"(see Annex #)" refers to an annex appended to the report.

Throughout this report a comma is used as the decimal separator.

Statement of Measurement Uncertainty

The data and results referenced in the document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities that can account for a nominal measurement error. Furthermore, component and process variability of devices similar to that tested may result in additional deviation.

General product information:

Test Sample.....: SOLAR SPEAKER

Model Numbers.....: 881011-XX (XX STANDS FOR FINISH/COLOR)

Model Tested.....: 881011-06

Serial Number.....: Engineering Sample

Input Voltage..... : 13.5 V DC

Support Equipment.....: N/A

Cable Description.....: N/A

FCC ID.....: X5FB-IDC881011XX

EUT Exercise Software.....: The EUT is not programmable and doesn't exercise any software.

Equipment Modification.....: Any modifications installed previous to testing by INTERNATIONAL DEVELOPMENT CORP. will be incorporated in each production model sold or leased in United States.
There were no modifications installed by SIC International Certification Group test personnel.

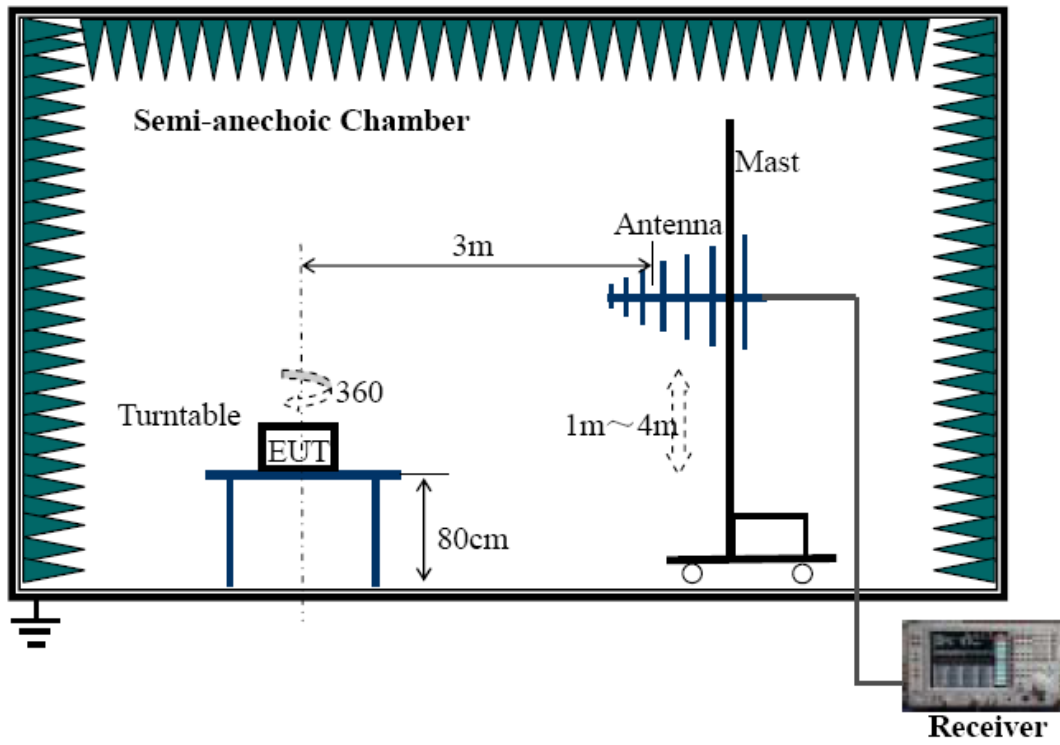
INTERNATIONAL DEVELOPMENT CORP. Model number 881011-06 (referred to as the EUT in this test report) is a receiver part of SOLAR SPEAKER system.

Test Summary

The Electromagnetic Compatibility requirements on model 881011-XX tested for this test are stated below. All results listed in this report relate exclusively to this above-mentioned model as the Equipment Under Test. This report confers no approval or endorsement upon any other component, host or subsystem used in the test set-up.

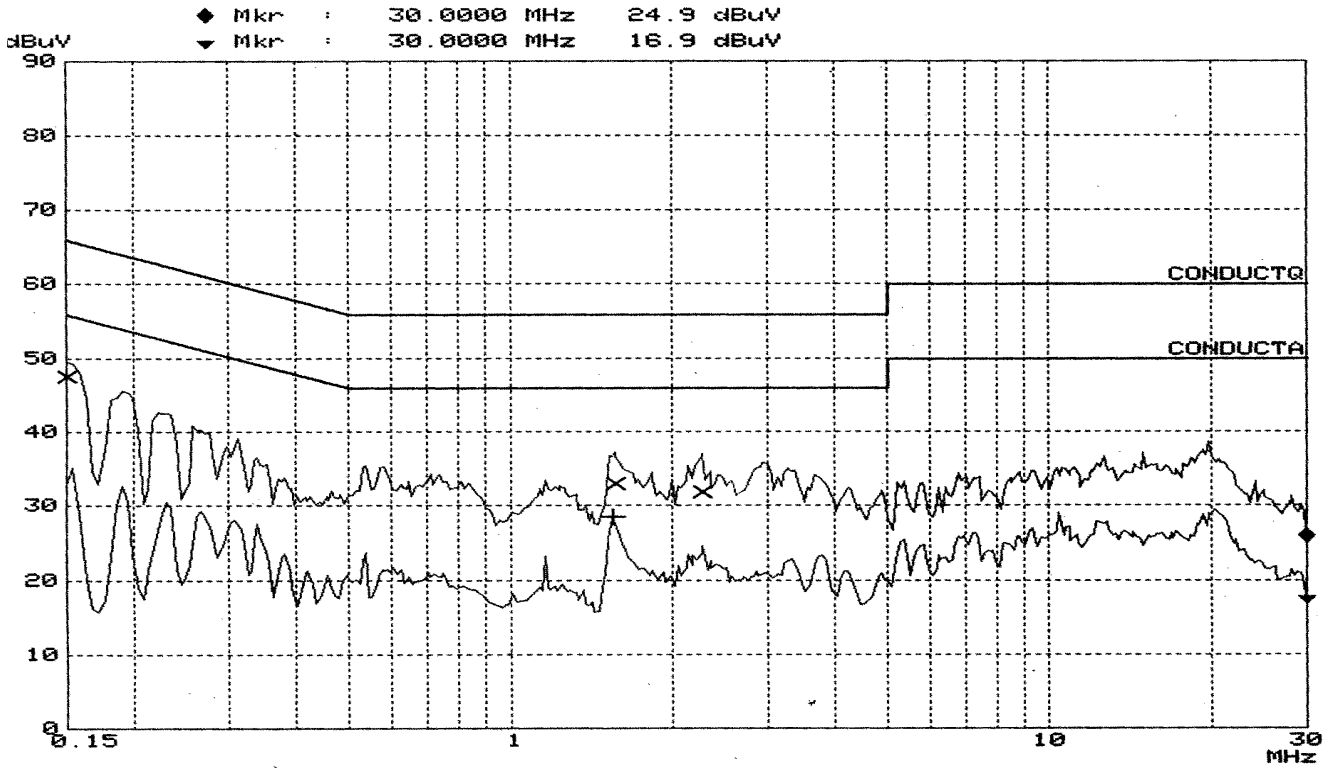
EMC Test Items			
Specification	Description	Test Results	Remark
FCC Part 15.107	Conducted Emission Limits	Compliance	Attachment 1
FCC Part 15.109	Radiated Emission Limits	Compliance	Attachment 2
FCC Part 15.111	Antenna Power Conduction Limits	N/A	No external receiving antenna.

Configuration of Tested System

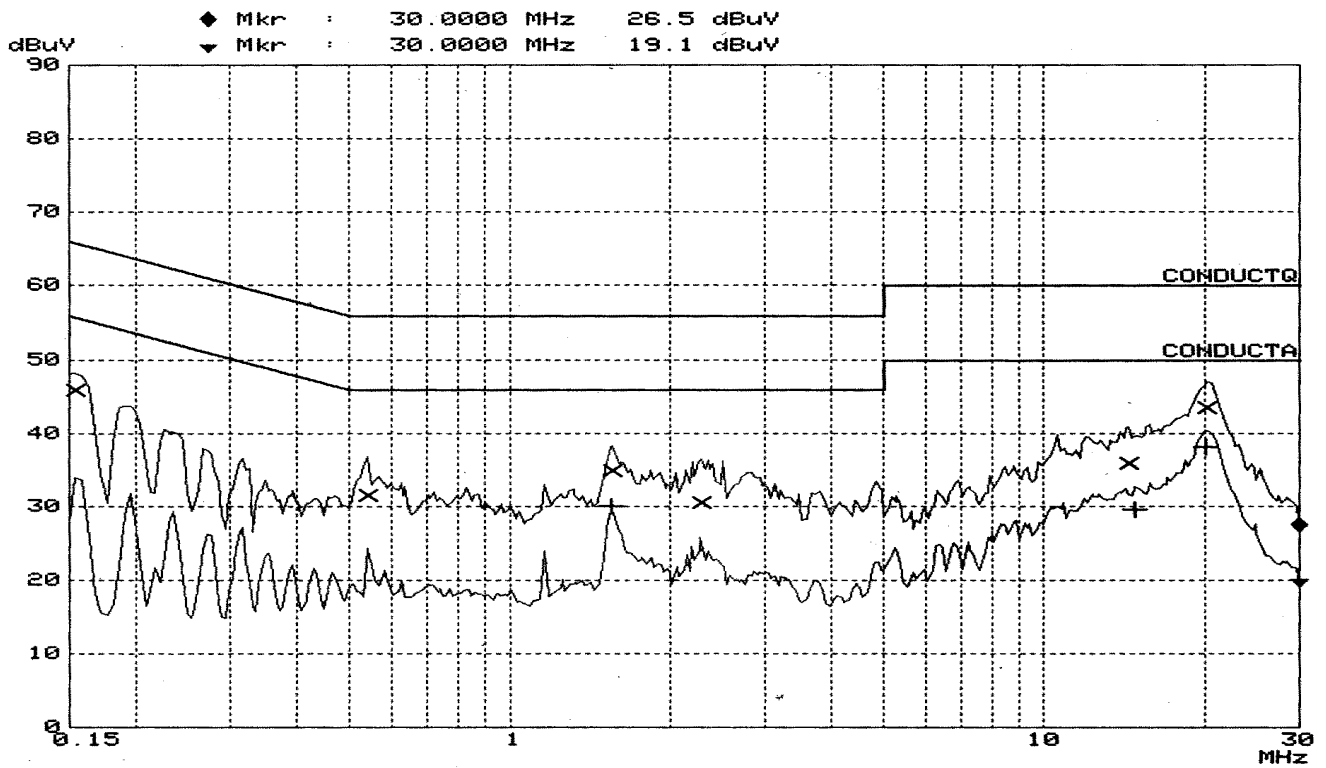


ATTACHMENT 1 – CONDUCTED EMISSION TEST RESULTS

CLIENT:	INTERNATIONAL DEVELOPMENT CORP.	TEST STANDARD:	FCC Part 15.107
MODEL TESTED:	881011-XX	PRODUCT:	SOLAR SPEAKER
SERIAL NO.:	Engineering Sample	EUT DESIGNATION:	RF Equipment
TEMPERATURE:	20°C	HUMIDITY:	55%RH
ATM PRESSURE:	101.2kPa	GROUNDING:	No Grounding
TESTED BY:	Allen Xia	DATE OF TEST:	2010, January 18
TEST REFERENCE:	ANSI C63.4 - 2003		
TEST PROCEDURE:	<ul style="list-style-type: none"> a) The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface. b) Connect EUT to the power mains through a line impedance stabilization network (LISN) c) The LISN provides 50ohm coupling impedance for the measuring instrument d) Both sides of AC line were checked for maximum conducted interference. e) The frequency range from 150kHz to 30MHz was searched. f) Set the test-receiver system to Peak Detect Function and Specified bandwidth. g) If the emission level of the EUT in peak mode was 20 dB lower than the specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be tested using the quasi-peak method in about six maximal points and the results will be reported. 		
TESTED RANGE:	150kHz-30MHz		
TEST VOLTAGE:	120V/60Hz		
RESULTS:	The EUT meets the requirements of test reference for Conducted emissions. The test results relate only to the equipment under test provided by client.		
CHANGES OR MODIFICATIONS:	There were no modifications installed by SIC International Certification Group test personnel.		
M. UNCERTAINTY:	Freq. $\pm 2 \times 10^{-7}$ x Center Freq., Amp ± 2.6 dB		



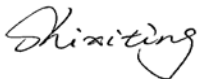
Line L Conducted Emission Graph



Line N Conducted Emission Graph

Line L (Hot Lead)							
No.	Frequency (MHz)	Corrected QP Level dB(uV)	Limits QP dB(uV)	Margin QP(dB)	Corrected AVE Level dB(uV)	Limits AVE dB(uV)	Margin AVE (dB)
1	0.15000	47.5	66.0	-18.4	33.5	56.0	-22.5
2	1.5630	33.0	56.0	-22.9	28.5	46.0	-17.4
3	2.2695	31.9	56.0	-24.0	23.9	46.0	-22.1
Line N (Neutral Lead)							
No.	Frequency (MHz)	Corrected QP Level dB(uV)	Limits QP dB(uV)	Margin QP(dB)	Corrected AVE Level dB(uV)	Limits AVE dB(uV)	Margin AVE (dB)
1	1.5475	35.0	56.0	-20.9	30.1	46.0	-15.8
2	14.7695	36.0	60.0	-23.9	29.7	50.0	-20.2
3	20.1075	43.6	60.0	-16.3	38.3	50.0	-11.6
Note: All readings are using a bandwidth of 9 kHz, with a 30 ms sweep time. A video filter was not used.							

Test Equipment	Model No.	Manufacturer	Serial No.	Cal Date	Cal Due
Test Receiver	HP	85462A	3650A00363	11/28/09	11/27/10
LISN	R&S	ESH3-Z5	844249/018	12/03/09	12/02/10
Note: All testing were performed using internationally recognized standards. All test instruments were calibrated and traceable to the National Institute of Standards and Technology (NIST).					

SIGNED BY: 
ENGINEER

REVIEWED BY: 
SENIOR ENGINEER

ATTACHMENT 2 – RADIATED EMISSION TEST RESULTS

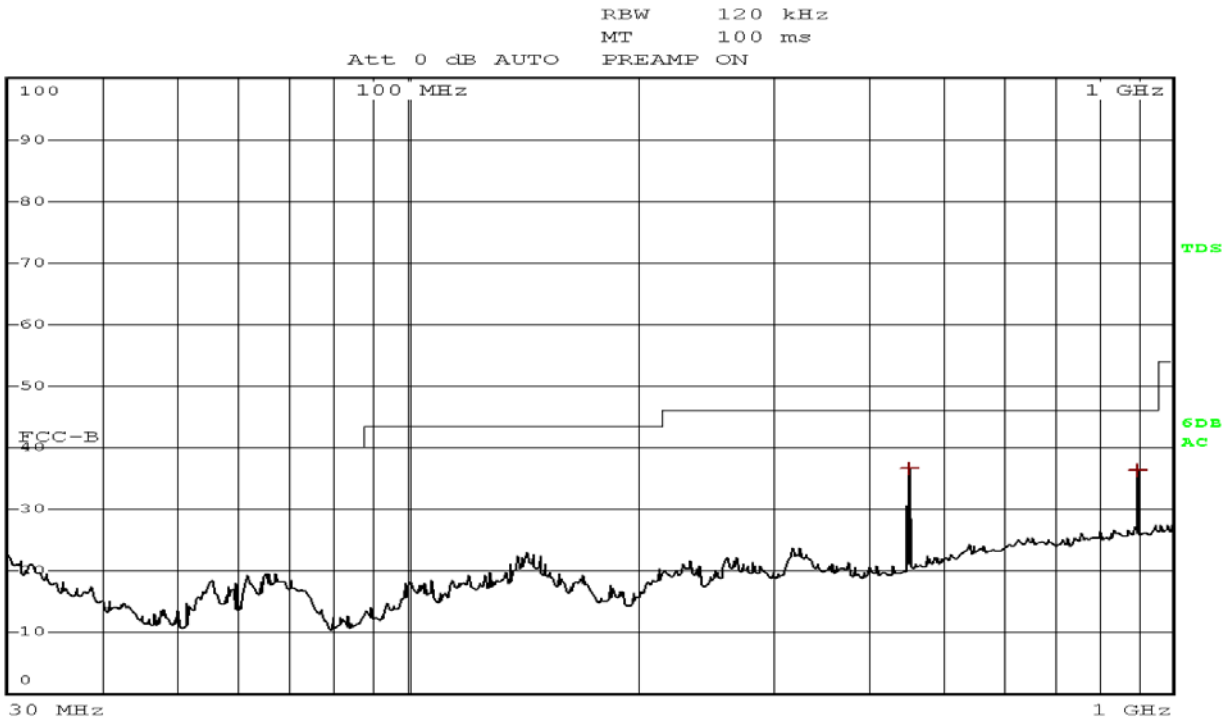
CLIENT:	INTERNATIONAL DEVELOPMENT CORP.	TEST STANDARD:	FCC Part 15.109
MODEL TESTED:	881011-XX	PRODUCT:	SOLAR SPEAKER
SERIAL NO.:	Engineering Sample	EUT DESIGNATION:	RF Equipment
TEMPERATURE:	20°C	HUMIDITY:	55%RH
ATM PRESSURE:	101.2kPa	GROUNDING:	No Grounding
TESTED BY:	Allen Xia	DATE OF TEST:	2010, January 18
TEST REFERENCE:	ANSI C63.4 : 2003		
TEST PROCEDURE:	<p>a) The EUT was placed on a rotatable table with 0.8 meters above ground.</p> <p>b) The EUT was set 3 meters from the interference-receiving antenna, which was mounted on the top of a variable height antenna tower.</p> <p>c) The antenna was varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna were set to make measurement.</p> <p>d) For each suspected emission the EUT was arranged to its worst case and then change the antenna tower height (from 1m to 4m) and turn table (from 0 degree to 360 degree) to find the maximum reading.</p> <p>e) If the emission level of the EUT in peak mode was 20 dB lower than the specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be tested using the quasi-peak method in about six maximal points and the results will be reported.</p> <p>f) Broadband antenna (Calibrated antenna) was used as receiving antenna below 1000MHz. Horn antenna were used as receiving antenna above 1000MHz.</p> <p>g) The bandwidth is 120 kHz below 1000 MHz, and 1 MHz above 1000 MHz</p> <p>Explanation of the Correction Factor are given as follows:</p> $FS = RA + AF + CF - AG$ <p>Where: FS = Field Strength RA = Receiver Amplitude AF = Antenna Factor CF = Cable Attenuation Factor AG = Amplifier Gain</p>		
TESTED RANGE	30MHz to 10,000MHz		
TEST VOLTAGE:	120V/60Hz		
TEST STATUS:	Keep Rx in continuous receive mode		

RESULTS:	The EUT meets the requirements of field strength test. The test results relate only to the equipment under test provided by client.
CHANGES OR MODIFICATIONS:	There were no modifications installed by SIC International Certification Group test personnel.
M. UNCERTAINTY:	Freq. $\pm 2 \times 10^{-7}$ x Center Freq., Amp ± 2.6 dB

Frequency 913MHz



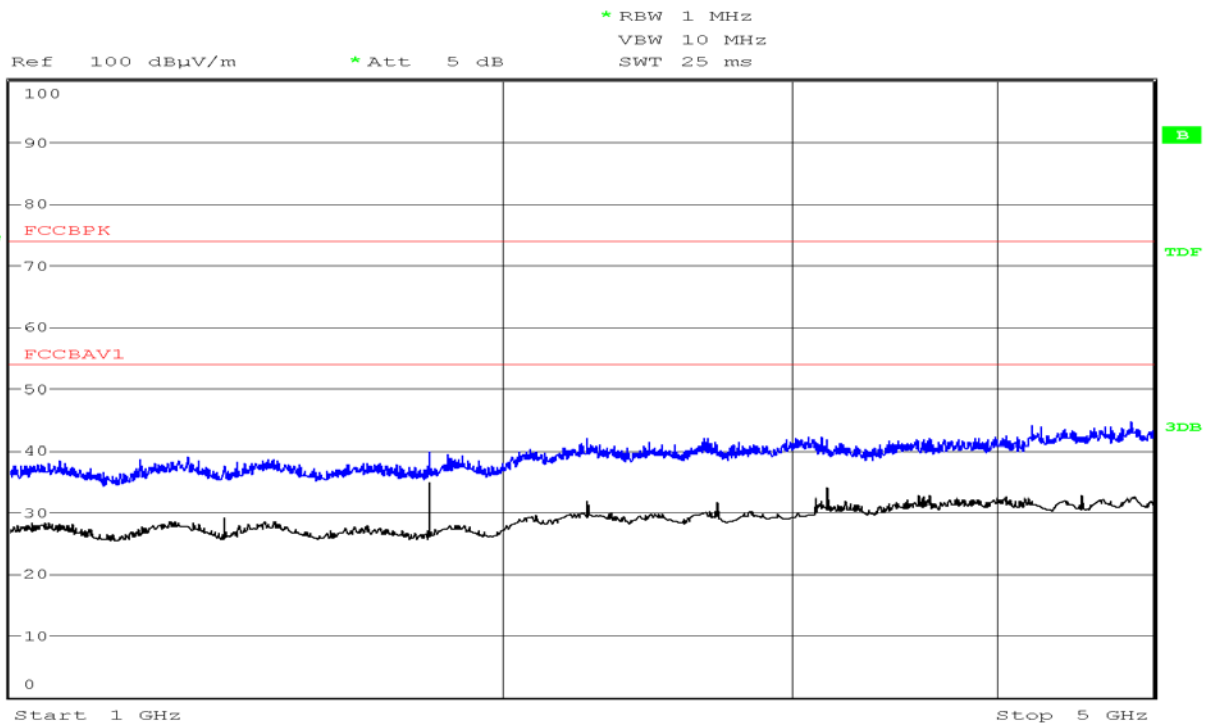
dBµV /m
1 PK
MAXH



Below 1GHz

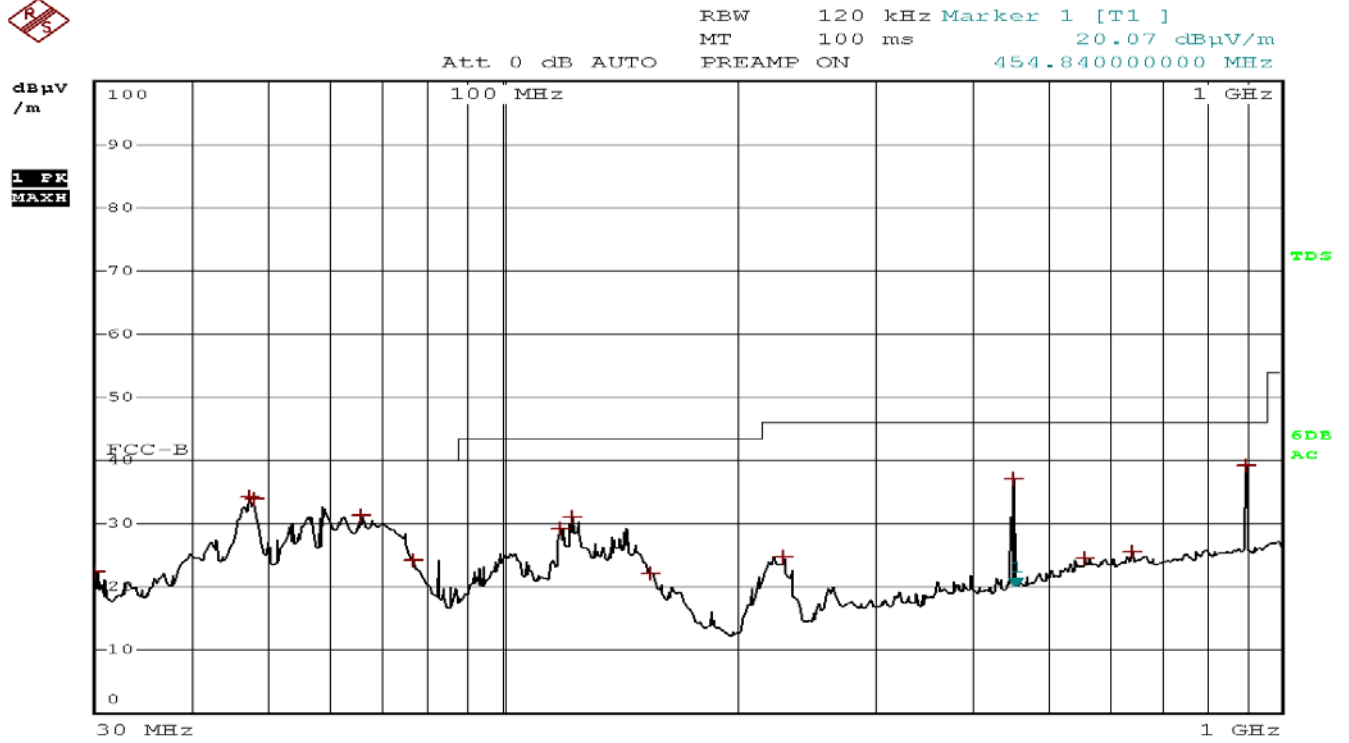


1 PK
MAXH
2 AV
MAXH

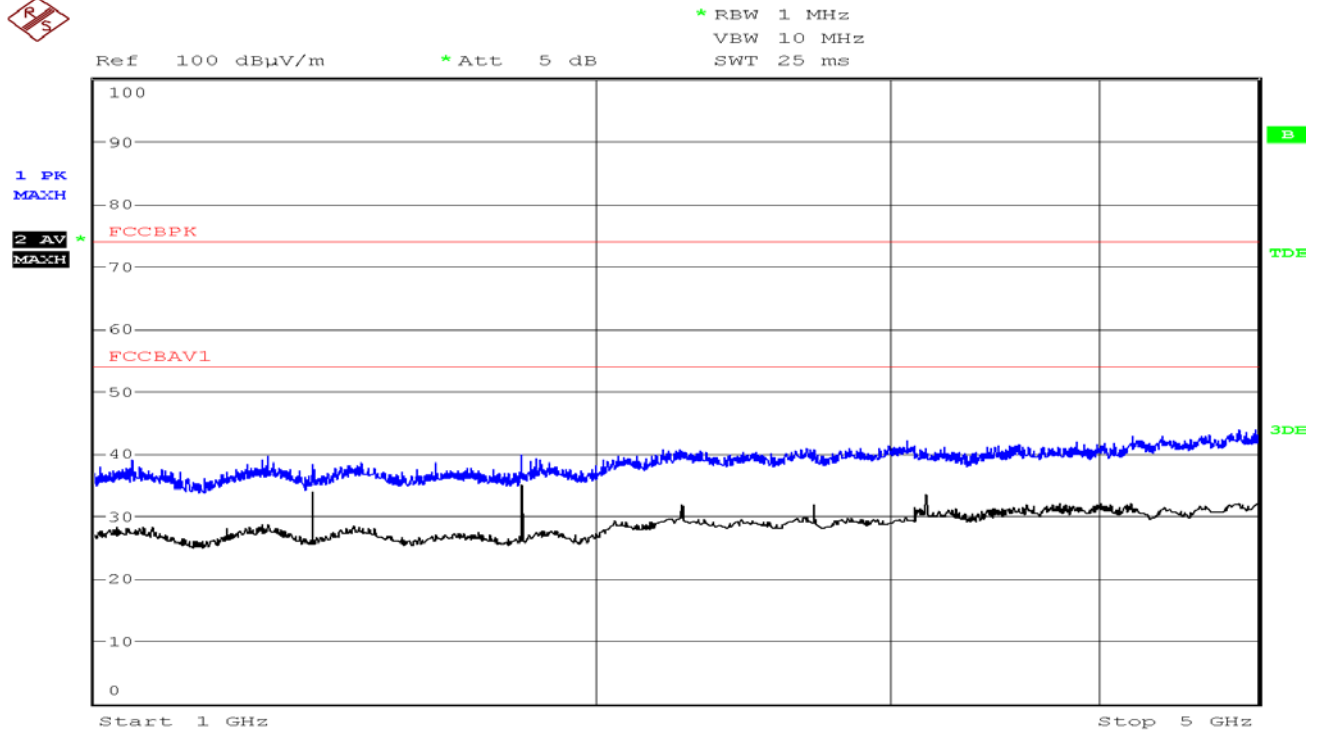


Above 1GHz

Horizontal Radiated Emission Plot



Below 1GHz



Above 1GHz

Vertical Radiated Emission Plot

Blow 1GHz

Horizontal									
No.	Frequency (MHz)	Corrected QP Level dB(uV/m)	Antenna factor (dB)	Cable factor (dB)	Pre-Amp (dB)	3 Meter Limits dB(uV/m)	Margin (dB)	Angle of Turner (degree)	Height of Tower (cm)
1	451.16	37.1	16.8	1.3	0	46.0	-8.9	219	200
2	902.28	34.00	23.2	2.0	0	46.0	-12.0	145	182
Vertical									
No.	Frequency (MHz)	Corrected QP Level dB(uV/m)	Antenna factor (dB)	Cable factor (dB)	Pre-Amp (dB)	3 Meter Limits dB(uV/m)	Margin (dB)	Angle of Turner (degree)	Height of Tower (cm)
1	47.40	27.1	9.3	0.3	0	40.0	-12.9	185	100
2	122.56	21.5	7.8	0.5	0	43.5	-22.0	169	105
3	451.16	34.2	16.8	1.3	0	46.0	-11.8	233	118
4	902.28	34.4	23.2	2.0	0	46.0	-11.6	79	118

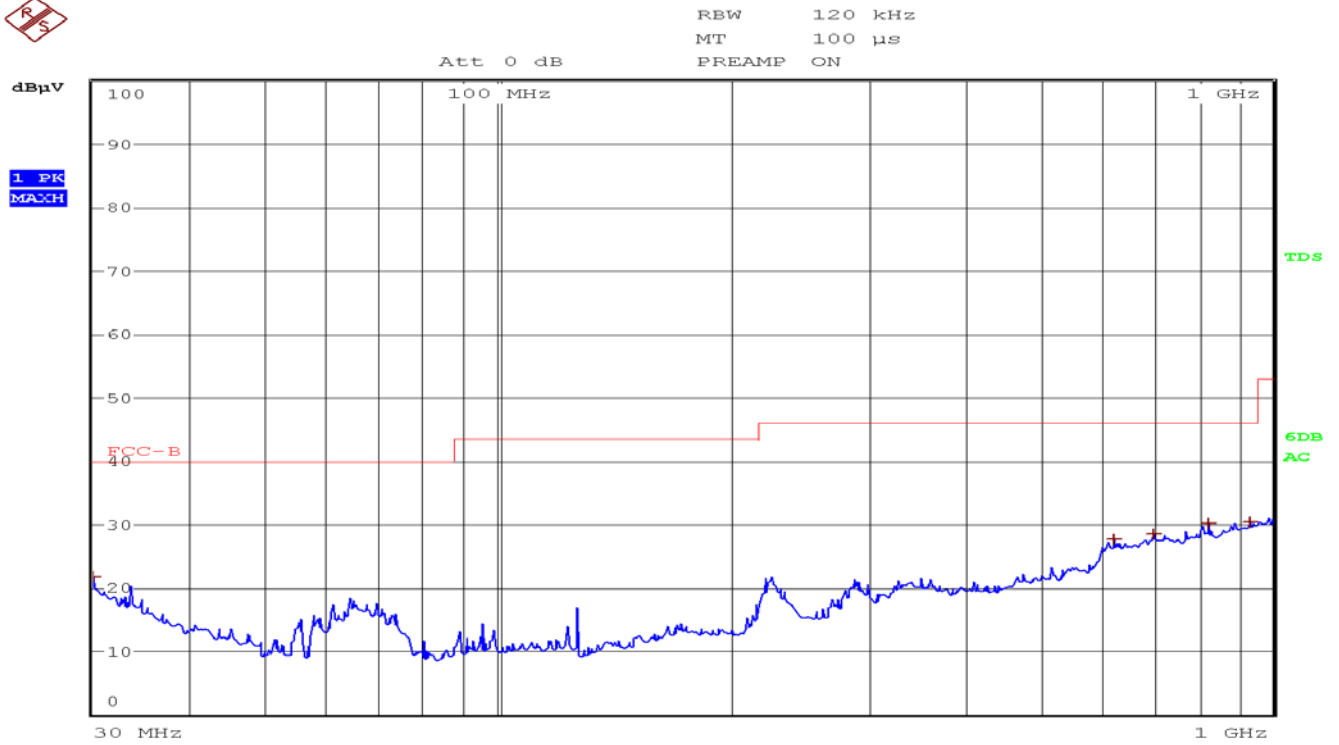
Note: All readings are quasi-peak unless stated otherwise, using a QP bandwidth of 120kHz. A video filter was not used.

Above 1GHz

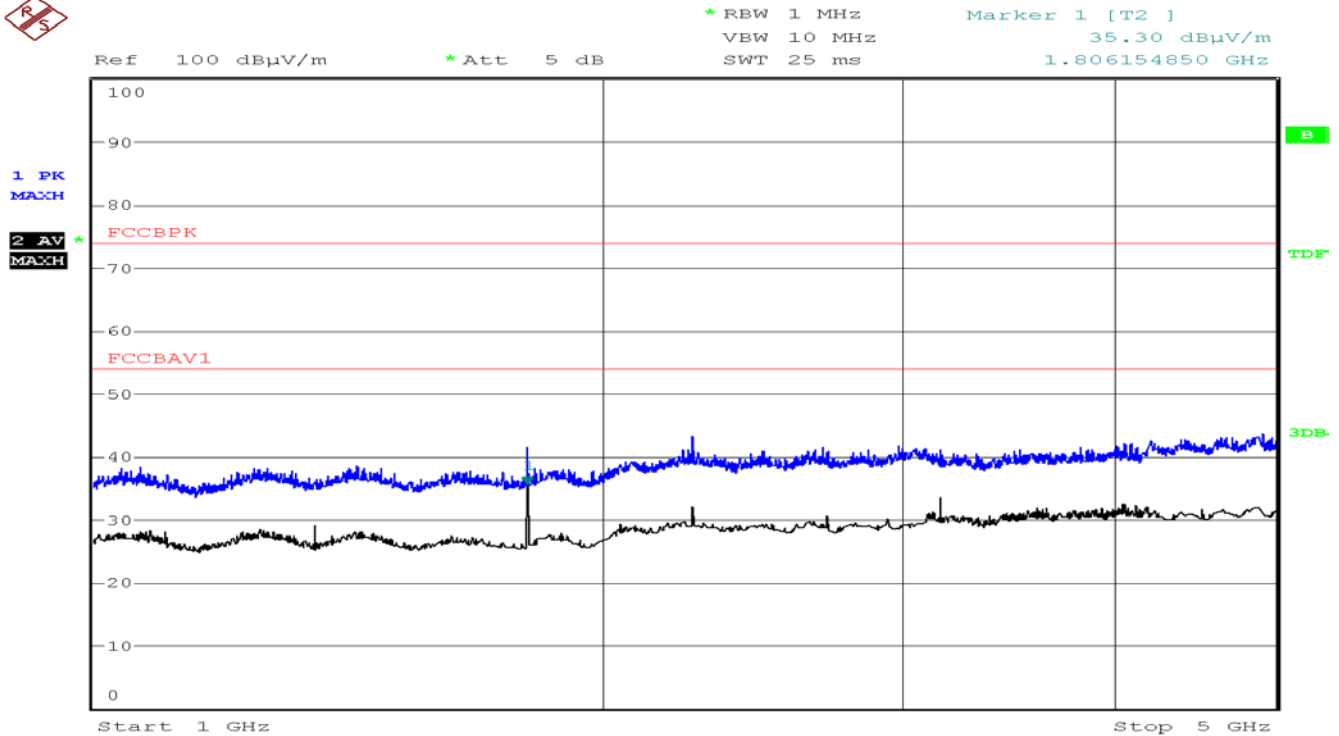
Horizontal										
No.	Frequency (MHz)	Antenna factor (dB)	Cable factor (dB)	Pre-Amp (dB)	Corrected Peak Level dB(uV/m)	Peak Limits dB(uV/m)	Margin (dB)	Corrected AV Level dB(uV/m)	AV Limits dB(uV/m)	Margin (dB)
1	1804.00	25.0	3.4	36.5	40.0	74.0	-34.0	34.7	54.0	-19.3
Vertical										
No.	Frequency (MHz)	Antenna factor (dB)	Cable factor (dB)	Pre-Amp (dB)	Corrected Peak Level dB(uV/m)	Peak Limits dB(uV/m)	Margin (dB)	Corrected AV Level dB(uV/m)	AV Limits dB(uV/m)	Margin (dB)
1	1353.00	23.9	3.3	36.5	38.2	74.0	-35.8	34.0	54.0	-20.0
2	1804.00	25.0	3.4	36.5	40.1	74.0	-33.9	35.0	54.0	-19.0

Note: All readings are average and peak unless stated otherwise, using a bandwidth of 1000khz. A video filter was not used.

Frequency 914MHz

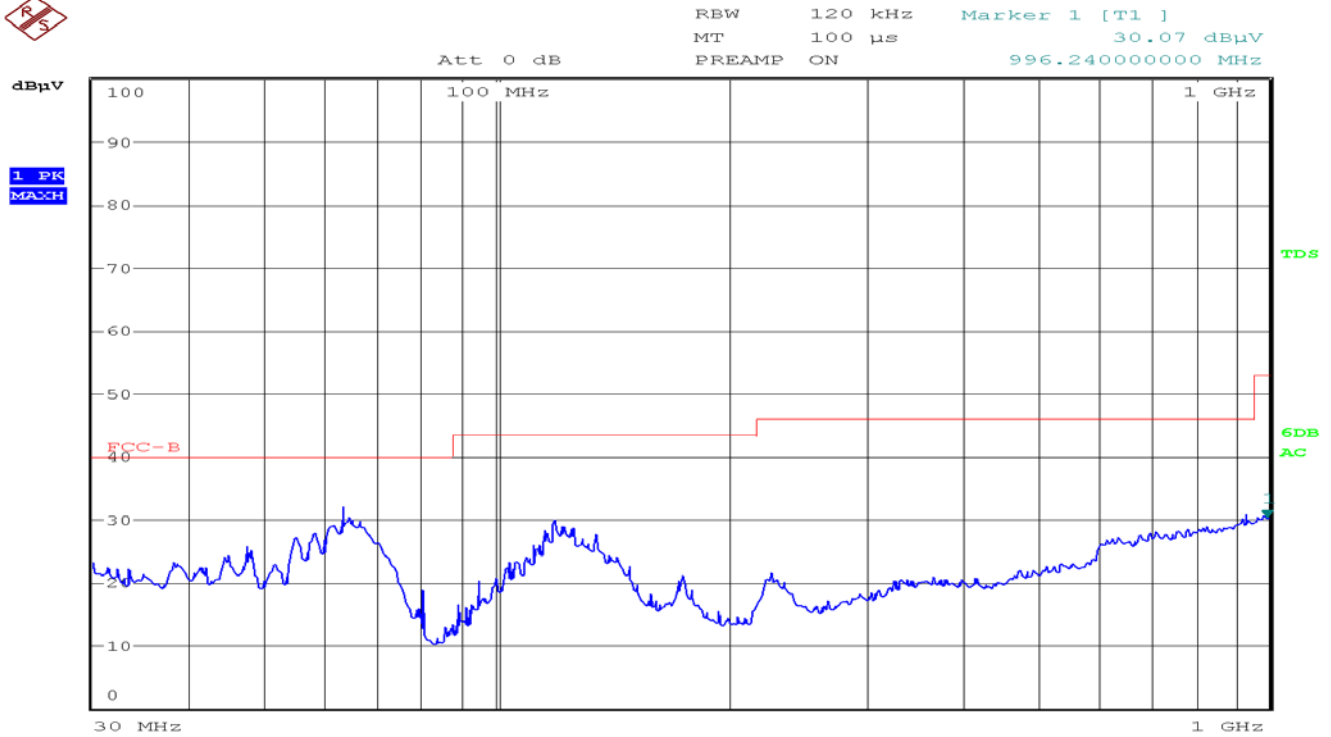


Below 1GHz

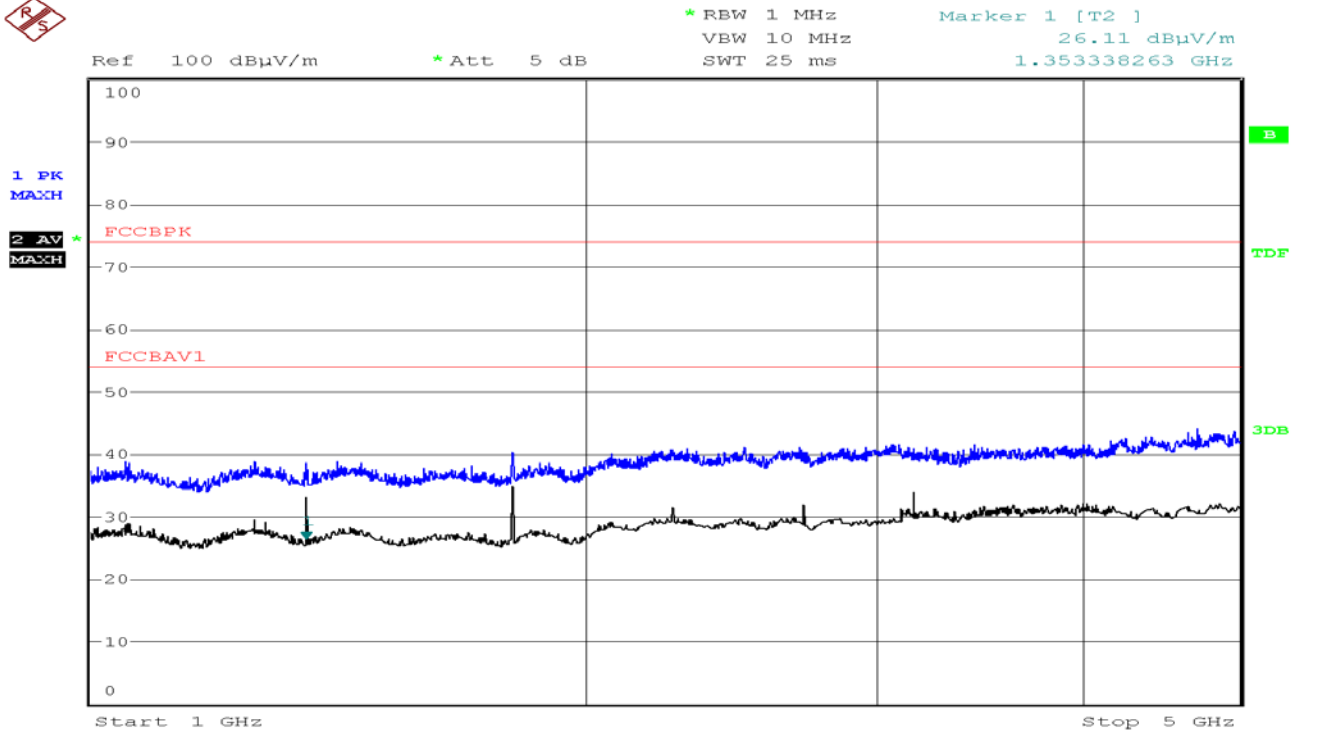


Above 1GHz

Horizontal Radiated Emission Plot



Below 1GHz



Above 1GHz

Vertical Radiated Emission Plot

Blow 1GHz

Horizontal									
No.	Frequency (MHz)	Corrected QP Level dB(uV/m)	Antenna factor (dB)	Cable factor (dB)	Pre-Amp (dB)	3 Meter Limits dB(uV/m)	Margin (dB)	Angle of Turner (degree)	Height of Tower (cm)
1	30.00	17.4	18.7	0.1	0	40.0	-22.6	245	100
2	225.75	21.7	11.4	0.9	0	46.0	-24.3	290	176
3	623.28	23.2	20.6	1.3	0	46.0	-22.8	164	134
4	932.28	25.7	23.5	2.1	0	46.0	-20.3	185	120
Vertical									
No.	Frequency (MHz)	Corrected QP Level dB(uV/m)	Antenna factor (dB)	Cable factor (dB)	Pre-Amp (dB)	3 Meter Limits dB(uV/m)	Margin (dB)	Angle of Turner (degree)	Height of Tower (cm)
1	63.28	32.0	7.1	0.3	0	40.0	-8.0	210	195
2	122.00	26.8	7.8	0.5	0	43.5	-16.7	185	120
3	932.28	26.3	23.5	2.1	0	46.0	-19.7	185	100

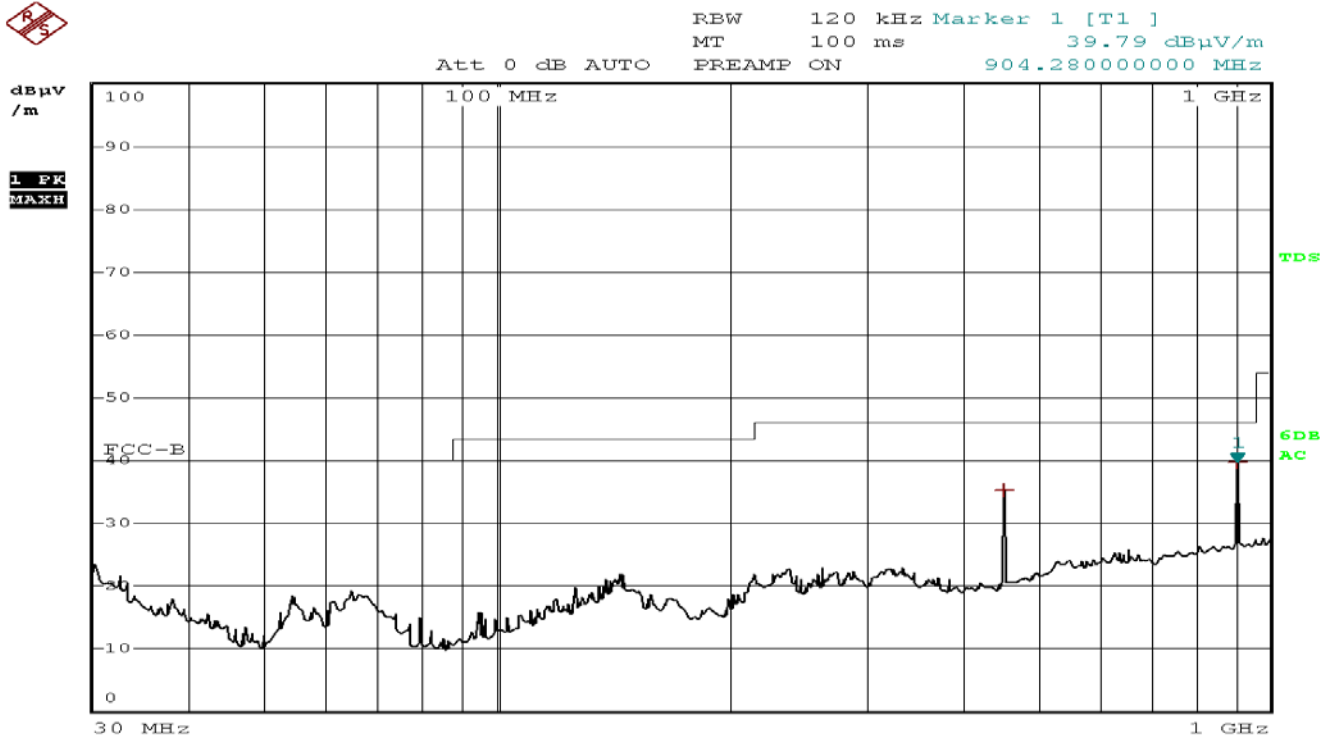
Note: All readings are quasi-peak unless stated otherwise, using a QP bandwidth of 120kHz, with a 30 ms sweep time. A video filter was not used.

Above 1GHz

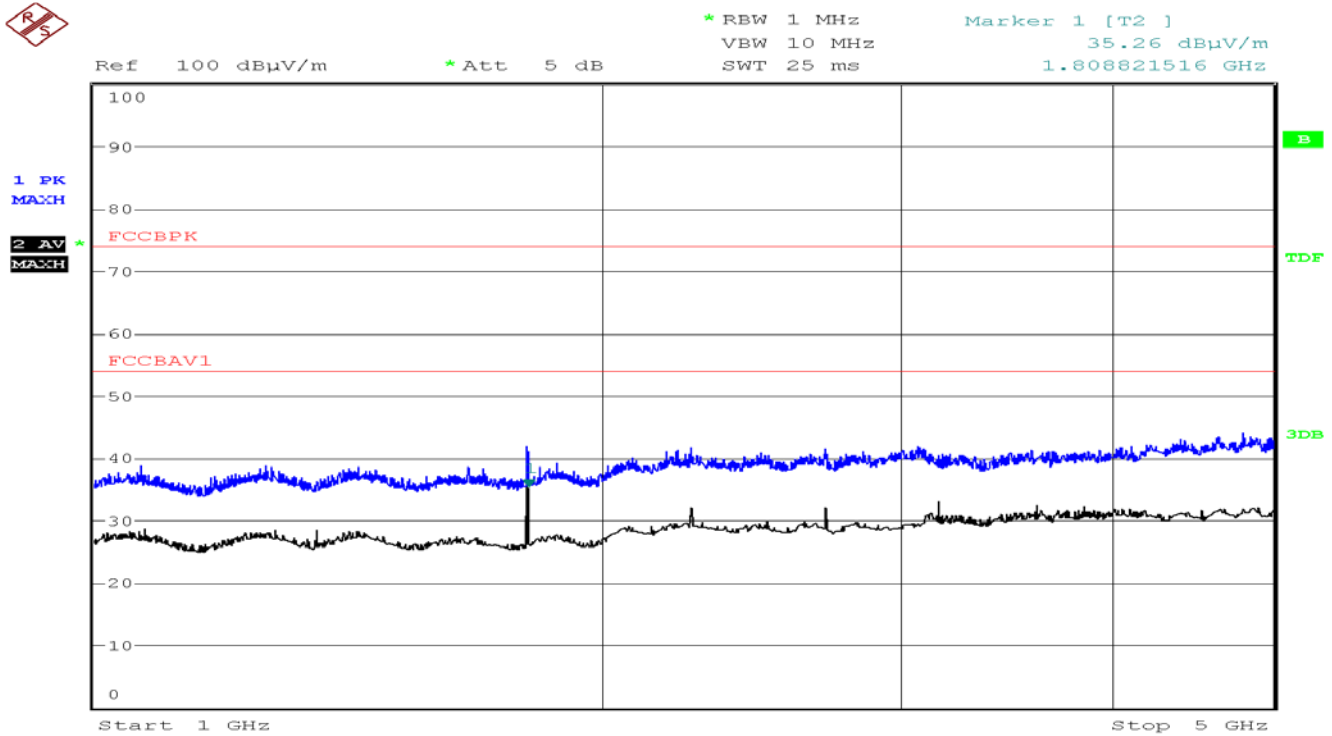
Horizontal										
No.	Frequency (MHz)	Antenna factor (dB)	Cable factor (dB)	Pre-Amp (dB)	Corrected Peak Level dB(uV/m)	Peak Limits dB(uV/m)	Margin (dB)	Corrected AV Level dB(uV/m)	AV Limits dB(uV/m)	Margin (dB)
1	1806.00	25.0	3.4	36.5	41.8	74.0	-32.2	35.3	54.0	-18.7
Vertical										
No.	Frequency (MHz)	Antenna factor (dB)	Cable factor (dB)	Pre-Amp (dB)	Corrected Peak Level dB(uV/m)	Peak Limits dB(uV/m)	Margin (dB)	Corrected AV Level dB(uV/m)	AV Limits dB(uV/m)	Margin (dB)
1	1354.00	23.9	3.3	36.5	38.4	74.0	-35.6	33.1	54.0	-20.9
2	1806.00	25.0	3.4	36.5	40.5	74.0	-33.5	34.8	54.0	-19.2

Note: All readings are average and peak unless stated otherwise, using a bandwidth of 1000kHz. A video filter was not used.

Frequency 915MHz

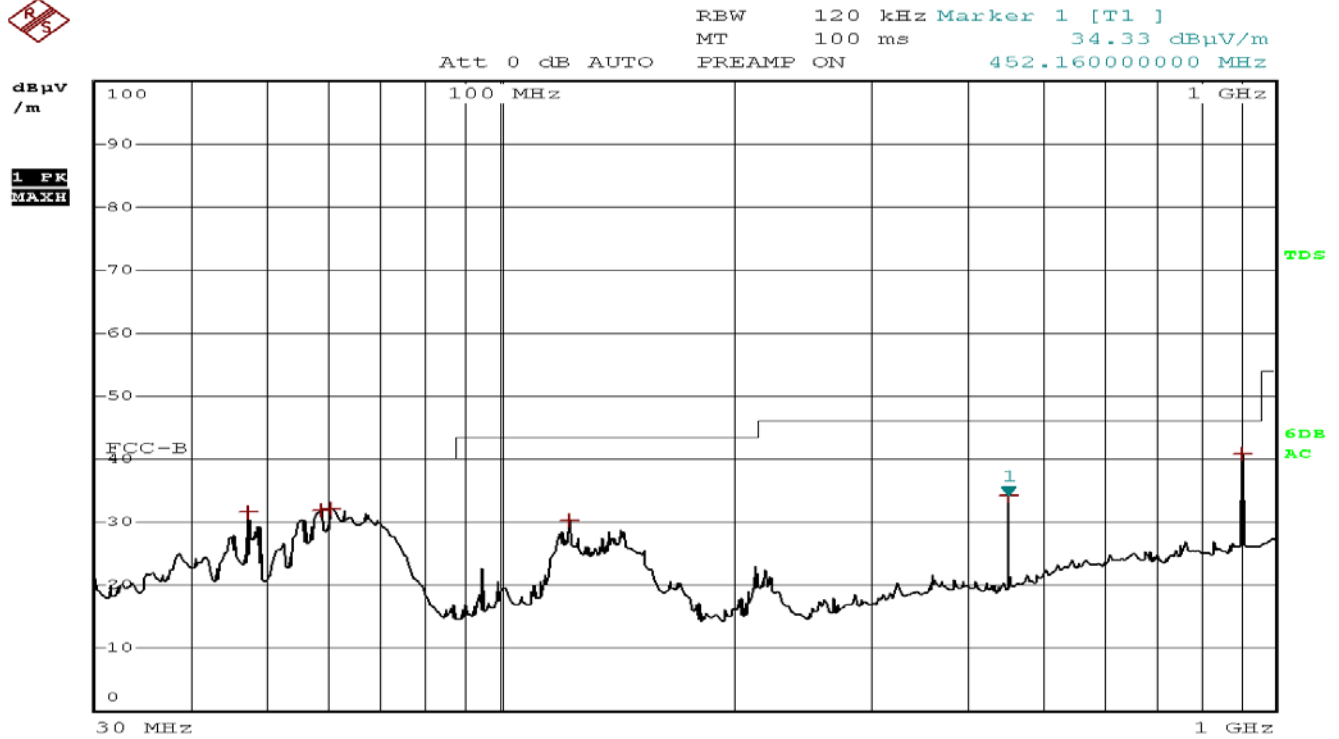


Below 1GHz

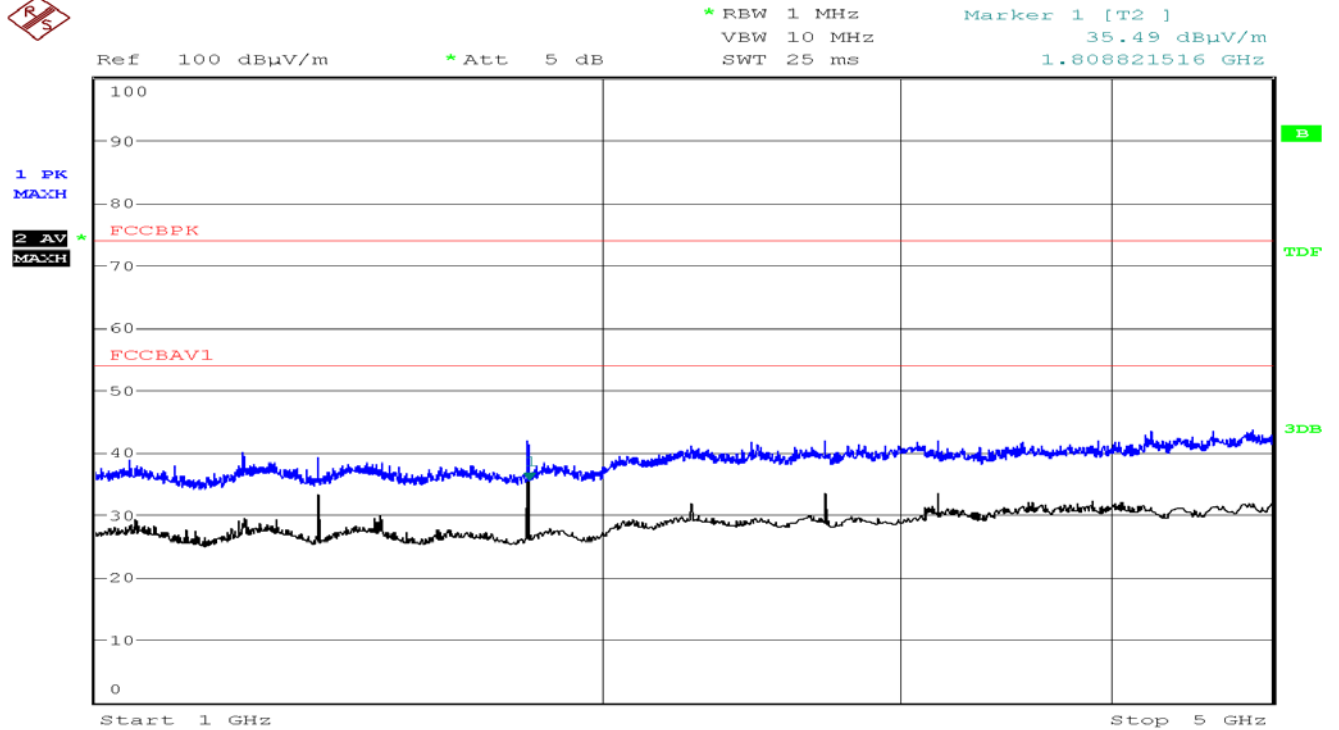


Above 1GHz

Horizontal Radiated Emission Plot



Below 1GHz



Above 1GHz

Vertical Radiated Emission Plot

Horizontal									
No.	Frequency (MHz)	Corrected QP Level dB(uV/m)	Antenna factor (dB)	Cable factor (dB)	Pre-Amp (dB)	3 Meter Limits dB(uV/m)	Margin (dB)	Angle of Turner (degree)	Height of Tower (cm)
1	452.16	37.0	16.8	1.3	0	46.0	-9.0	268	180
2	904.28	25.9	23.2	2.0	0	46.0	-20.1	268	180
Vertical									
No.	Frequency (MHz)	Corrected QP Level dB(uV/m)	Antenna factor (dB)	Cable factor (dB)	Pre-Amp (dB)	3 Meter Limits dB(uV/m)	Margin (dB)	Angle of Turner (degree)	Height of Tower (cm)
1	47.44	29.5	9.3	0.2	0	40.0	-10.5	180	110
2	452.16	33.2	16.8	1.3	0	46.0	-12.8	240	140
3	904.28	37.0	23.2	2.0	0	46.0	-9.0	190	114

Note: All readings are quasi-peak unless stated otherwise, using a QP bandwidth of 120kHz, with a 30 ms sweep time. A video filter was not used.

Above 1GHz

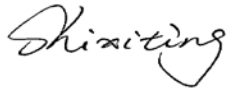
Horizontal										
No.	Frequency (MHz)	Antenna factor (dB)	Cable factor (dB)	Pre-Amp (dB)	Corrected Peak Level dB(uV/m)	Peak Limits dB(uV/m)	Margin (dB)	Corrected AV Level dB(uV/m)	AV Limits dB(uV/m)	Margin (dB)
1	1808.00	25.0	3.4	36.5	42.1	74.0	-31.9	35.3	54.0	-18.7
Vertical										
No.	Frequency (MHz)	Antenna factor (dB)	Cable factor (dB)	Pre-Amp (dB)	Corrected Peak Level dB(uV/m)	Peak Limits dB(uV/m)	Margin (dB)	Corrected AV Level dB(uV/m)	AV Limits dB(uV/m)	Margin (dB)
1	1356.00	23.9	3.3	36.5	38.7	74.0	-35.3	33.4	54.0	-20.6
2	1808.00	25.0	3.4	36.5	42.6	74.0	-31.4	35.5	54.0	-18.5

Note: All readings are average and peak unless stated otherwise, using a bandwidth of 1000khz. A video filter was not used.

Test Equipment	Model No.	Manufacturer	Serial No.	Cal Date	Cal Due
Test Receiver	ESIB26	R&S	1088.7490.26	06/18/09	06/17/10
Preamplifier	HP	CC4494	3520	06/18/09	06/17/10
Bilog Antenna	Chase	HL562	4041.3000.02	06/18/09	06/17/10
Horn Antenna	Schwarzbeck	9120D	576	06/18/09	06/17/10

Note: All testing were performed using internationally recognized standards. All test instruments were calibrated and traceable to the National Institute of Standards and Technology (NIST).

SIGNED BY:



ENGINEER

REVIEWED BY:



SENIOR ENGINEER