



EMC TEST REPORT

FOR RIVERDI STM32 EMBEDDED 7.0" SERIES

Rev.1.0
2022-07-21

The EMC test report applies to below STM32 Embedded 7.0" Series

PRODUCT NAME	DESCRIPTION
RVT70HSSNWC00	7.0", 800 cd/m ² , IPS, MCU STM32H747XIH6, uxTouch, Air bonding, No metal frame
RVT70HSSNWC00-B	7.0", 850 cd/m ² , IPS, MCU STM32H747XIH6, uxTouch, Optical bonding, No metal frame
RVT70HSSNWCA0	7.0", 800 cd/m ² , IPS, MCU STM32H747XIH6, aTouch, Air bonding, No metal frame
RVT70HSSFWCA0	7.0", 800 cd/m ² , IPS, MCU STM32H747XIH6, aTouch, Air bonding, With metal frame



1. REVISION RECORD

REV NO.	REV DATE	CONTENTS	REMARKS
1.0	2022-07-21	Initial version	



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3. SUMMARY OF TEST RESULT

TEST ITEM	NORM APPLIED	Result	Criterion
RADIATED EMISSION	EN 55032 (CISPR32). Radiated emission 30-1000 MHz (EMI)	Pass	Class B
CONDUCTED EMISSION	EN 55032 (CISPR32). Conducted emission 150KHz-30MHz (EMI)	Pass	Class B
ESD	EN 61000-4-2	Pass	Class A

Date of Test: 23/06/2022

Certificated EMC Lab: RADMOR S.A., Gdynia.

Scope of accreditation for the testing lab: **No AB 1132**

More info about the lab from the below link:

<https://www.radmor.com.pl/services/lab>



AB 1132

4. GENERAL INFORMATION

4.1 Description of EUT

PRODUCT NAME	RVT70HSSNWCA0
TEST VOLTAGE	Battery 12V

Note. All test was performed on RVT70HSSNWCA0. But results applied for every module within this line: RVT70HSSNWC00-B, RVT70HSSNWC00, RVT70HSSFWCA0

4.2 Description of EUT peripheral

Configuration of the EUT:

The module was pre-programmed with TouchGFX Smart Home demo with full brightness.

Power supply: 12V battery

System Clock: 480MHz

SDRAM Clock: 115.5MHz

HSE Clock: from the external oscillator: 16MHz

4.3 Measuring device and test settings

EQUIPMENT	MODEL	VERSION	
EMI test receiver	Rohde & Schwarz ESW-44	1.72 SP1	
Meas BW: 120 kHz	Filter Type: Quasipeak	Meas Time: 1 s	Center Freq: 1 GHz
Attenuation: 0 dB	Auto Range: On	Auto Preamp: On	Preamp: On
Preselector: On	Filter Split: Off	Notch Filter 1: Off	Notch Filter 2: Off
Input: 1 DC			



5. RADIATED EMISSION TEST

5.1 Measuring device and test settings

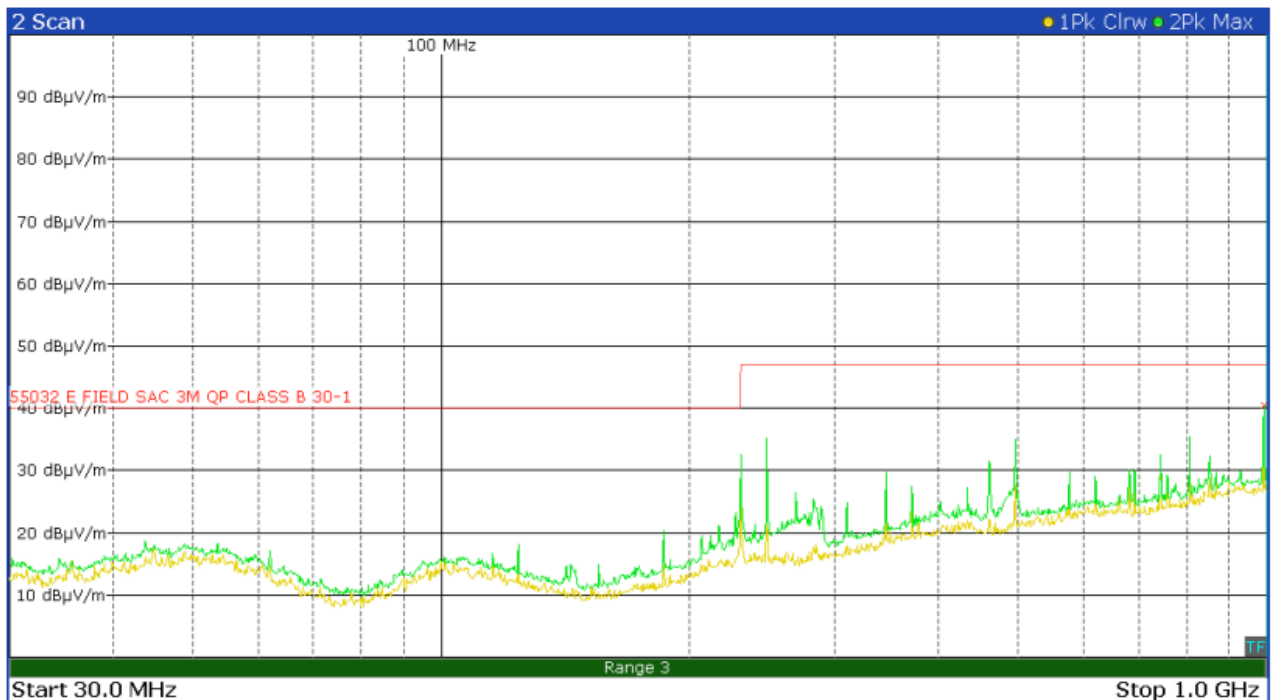
EQUIPMENT	MODEL	VERSION
EMI test receiver	Rohde & Schwarz ESW-44	2.10

Meas BW: 120 kHz	Filter Type: Quasipeak	Meas Time: 1 s	Center Freq: 1 GHz
Attenuation: 0 dB	Auto Range: On	Auto Preamp: On	Preamp: On
Preselector: On	Filter Split: Off	Notch Filter 1: Off	Notch Filter 2: Off
Input: 1 DC			

5.2 Test results

Horizontal 360°

The antenna is configured for horizontal polarization and the measurements were done by rotating the EUT on a turntable 0 to 360 degrees to find the maximum field-strength readings from an EUT directional standpoint.



Trace 2:

MAX HOLD

MAX PEAK

Meas Time: 1 s

Margin: 10 dB

Peak Values: 1

Trace	Frequency	Level	Delta Limit	LISN Phase	Comment
2	992 MHz	40.39 dBµV/m	-6.61 dBµV/m		



Vertical 360°

The antenna is configured for vertical polarization and the measurements were done by rotating the EUT on a turntable 0 to 360 degrees to find the maximum field-strength readings from an EUT directional standpoint.



Trace 2:

MAX HOLD

MAX PEAK

Meas Time: 1 s

Margin: 10 dB

Peak Values: 2

Trace	Frequency	Level	Delta Limit	LISN Phase	Comment
2	461.3 MHz	38.78 dBµV/m	-8.22 dBµV/m		
2	992 MHz	44.14 dBµV/m	-2.86 dBµV/m		



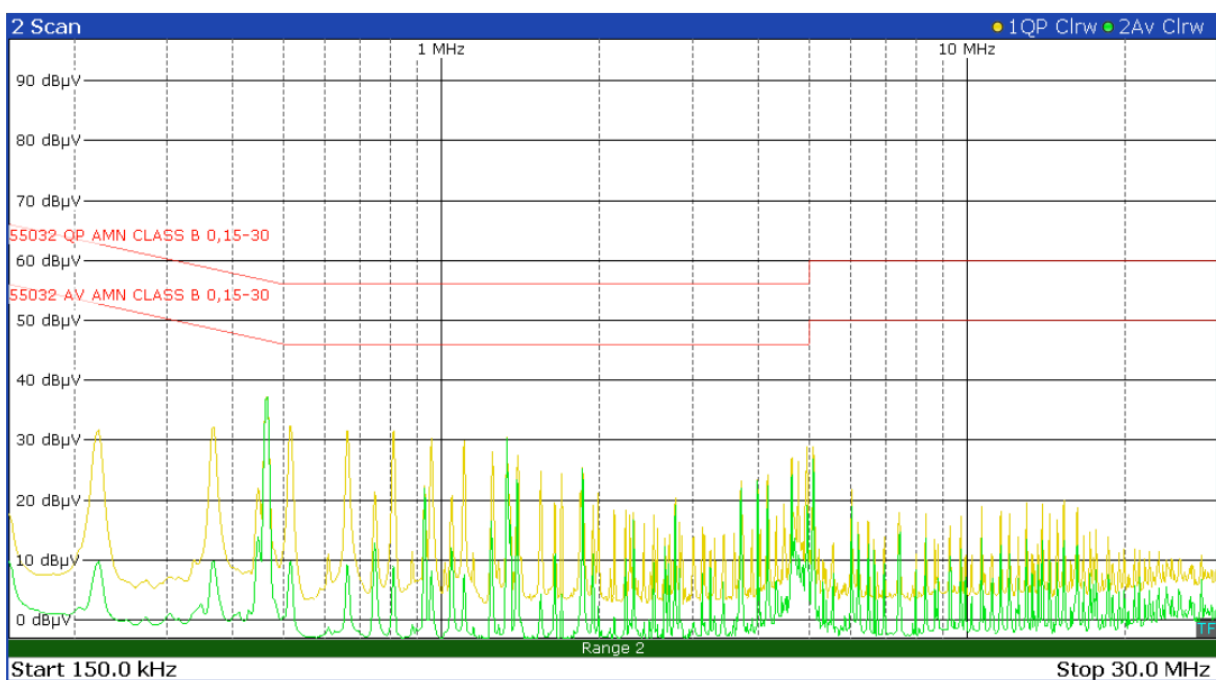
6. CONDUCTED EMISSION TEST

6.1 Measuring device and test settings

EQUIPMENT	MODEL	VERSION	
EMI test receiver	Rohde & Schwarz ESW-44	2.10	
Meas BW: 9 kHz	Filter Type: Quasipeak	Meas Time: 1 s	Center Freq: 30 MHz
Attenuation: 0 dB	Auto Range: On	Auto Preamp: On	Preamp: On
Preselector: On	Filter Split: Off	Notch Filter 1: Off	Notch Filter 2: Off
Input: 1 DC			

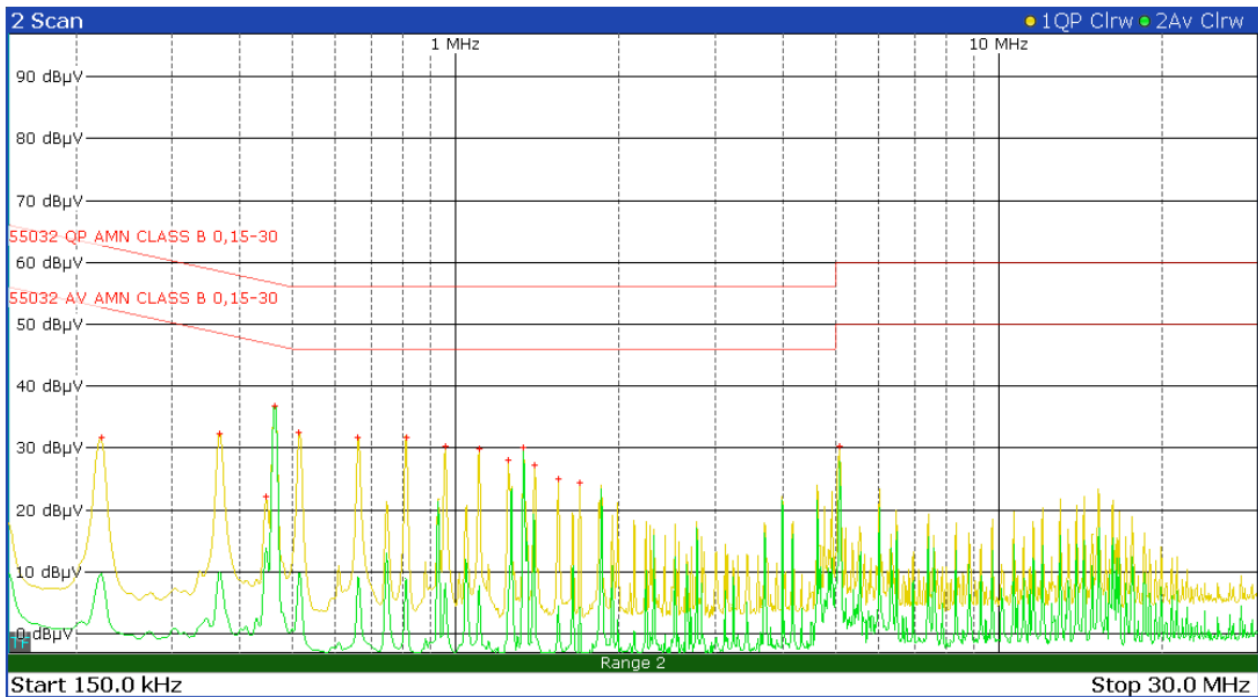
6.2 Test results

Conducted +





Conducted –



Trace 1:

CLR/WRITE

QUASI PEAK

Meas Time: 1 s

Margin: 2.3 dB

Peak Values: 15

Trace	Frequency	Level	Delta Limit	LISN Phase	Comment
1	222 kHz	31.72 dBµV	-31.02 dBµV		
1	366 kHz	32.23 dBµV	-26.36 dBµV		
1	447 kHz	22.05 dBµV	-34.88 dBµV		
1	465 kHz	36.71 dBµV	-19.89 dBµV		
1	514.5 kHz	32.48 dBµV	-23.52 dBµV		
1	660.8 kHz	31.64 dBµV	-24.36 dBµV		
1	809.3 kHz	31.6 dBµV	-24.4 dBµV		
1	955.5 kHz	30.26 dBµV	-25.74 dBµV		
1	1.104 MHz	29.9 dBµV	-26.1 dBµV		
1	1.25 MHz	28.07 dBµV	-27.93 dBµV		
1	1.333 MHz	30.14 dBµV	-25.86 dBµV		
1	1.399 MHz	27.24 dBµV	-28.76 dBµV		
1	1.545 MHz	24.94 dBµV	-31.06 dBµV		
1	1.691 MHz	24.3 dBµV	-31.7 dBµV		
1	5.098 MHz	30.26 dBµV	-29.74 dBµV		



7. ESD TEST

7.1 Test setting:

Environment condition		
T [°C] 21.1	RH [%] 54	Atm.(hPa) 1009
Device operation mode	ON	
Auxiliary equipment	12V Battery	
Observed parameters and signaling	Display/screen	

7.2 Test results:

Test Point	Air discharge	Contact discharge	In direct discharge HCP/NCP	Test voltage [KV]					Number of frequencies per test level		Test Frequency	Criterion	Result	
				2	4	6	8	16	+	-				
Display in multiple points	✓			✓	✓		✓			5	5	1/s = 1Hz	A	Pass
power interface		✓			✓					5	5	1/s = 1Hz	A	Pass
Extension connector	✓	✓			✓					5	5	1/s = 1Hz	A	Pass
All Molex interface	✓				✓					5	5	1/s = 1Hz	A	Pass

8. Photos

Figure 1. Radiation Emission 30-1000MHz Test Front View





Hi, I am here to help you!
If you have any additional
questions, please contact
our support via email:
contact@riverdi.com

