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Confidential Report

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FCC Test Firm Registration	409640
ISED CAB identifier:	IE0001
Date	4 th Oct 2022
EUT Description	Nordic ID HH83 Barcode, Model 837-1A
Authorised by	Paul Reilly
Authorised Signature:	Part Rug

TEST SUMMARY

Emissions were assessed to the following standards:

FCC CFR 47 Part 15 Federal Communications Commission: Part 15 Radio Frequency Devices

RSS Gen Issue 5 Amendment 1 Mar 2019 Amd 2 Feb 2021 RSS-210 Issue 10 Dec 2019 Amd Apr 2020 RSS-247 Issue 2 Feb 2017

The equipment complies with the requirements according to the following standards.

FCC Part Section(s)	RSS Part Section(s)	TEST PARAMETERS	Test Result
15.203		Antenna Requirement all antennas internal	Pass
15.209,15.247,15.407	RSS-Gen 8.9, RSS 247	Spurious Emissions	Pass
15.207	RSS-Gen 8.8	Conducted Emissions on the mains	Pass

Measurements performed according to the procedures in ANSI C63.10-2013

THIS REPORT SHALL NOT BE REPRODUCED EXCEPT IN FULL, WITHOUT THE WRITTEN APPROVAL OF COMPLIANCE ENGINEERING IRELAND LTD

Exhibit A – Technical Report

Tab	ble of Contents	
1.0	EUT DESCRIPTION	
1.1	EUT OPERATION	5
1.2	MODIFICATIONS	5
1.3	DATE OF TEST	5
1.4	DESCRIPTION OF TEST METHODS	5
2	EMISSIONS MEASUREMENTS	6
2.1.1	1 CONDUCTED EMISSIONS MEASUREMENTS	6
2.2	RADIATED EMISSIONS MEASUREMENTS	6
3.0	RESULTS FOR CONDUCTED EMISSIONS	7
4.	SPURIOUS EMISSIONS	
4	4.1 Spurious Emissions with BLE and Wifi 2.4GHz	8
4	4.2 Spurious Emissions with NFC and Wifi 5GHz band	
4	4.3 Spurious Emissions with NFC and BLE	9
4	4.4 Co-location	9
4	4.5 Carrier Power	
	4.5.1 BLE	
	4.5.2 Wifi 2.4G	
	4.5.3 Wifi 5G	
5.	MEASUREMENT UNCERTAINTIES	11
A	Appendix A: Radios on NFC with Wifi in 2.4GHz band	
	Appendix B: Radios on NFC with Wifi in 5GHz band	
A	Appendix C: Radios on NFC and BLE	29

Ref 22E10132-2a Part 2 of 2 for the remaining Appendices below

Appendix C	Conducted Emissions on the mains	Error! Bookmark not defined.
Appendix D	List of Test Equipment	Error! Bookmark not defined.
Appendix E	Test Configurations:	
Appendix F	Block Diagrams of Test Setup:	Error! Bookmark not defined.

1.0 EUT Description

The Nordic ID HH83 which is a battery powered handheld product, with functionality for, NFC WLAN and Bluetooth

Nordic ID HH83 Barcode, Model 837-1A

and contains the following pre-approved modules

Queltec SC600Y-WF (**WLAN ABGN, BT+BLE**) FCCID: XMR201911SC600WF ICID 10224A-2019SC600WF

1.1 EUT Operation

Operating Conditions during Test:

The equipment under test was operated during the measurement under the following conditions:

The EUT was operated with all radios on while powered from its internal battery.

A radiated test was also performed with all radios off.

Note for Conducted Emissions on the mains, the HH83 host (containing the EUT) was placed on a charging cradle which was plugged directly into the LISN

Environmental conditions

During the measurement the environmental conditions were within the listed ranges:Temperature:+15 to +35 ° CHumidity:20-75 %

1.2 Modifications

No modifications were required in order to pass the test specifications.

1.3 Date of Test

The tests were carried out on one sample of the EUT on dates 29th ,30th Sept 3rd, 4th Oct 2022.

1.4 Description of Test Methods

Tests were performed manually, and no special software was used

2 Emissions Measurements

2.1.1 Conducted Emissions Measurements

The EUT was connected to connected to a 12v DC adapter Manufacturer Kings Model KSS12_120_1000B, which was connected to the mains through a LISN and measurements were carried out using a Receiver over the frequency range 150KHz to 30MHz.

2.2 Radiated Emissions Measurements

Radiated Power measurements were made at the Compliance Engineering Ireland Ltd anechoic chamber located in Dunshaughlin, Co. Meath, Ireland to determine the radio noise radiated from the EUT. A "Description of Measurement Facilities" has been submitted to the FCC and approved pursuant to Section 2.948 of CFR 47 of the FCC rules.

The EUT was centred on a motorized turntable, which allows 360 degree rotation. A measurement antenna was positioned at a distance of 3 metres as measured from the closest point of the EUT. The radiated emissions were maximised by configuring the EUT, by rotating the EUT and by raising and lowering the antenna from 1 to 4 meters. Emissions below 30MHz were measured using a loop antenna. In this case the resolution bandwidth was 200Hz for frequencies below 150KHz and RBW was 9KHz for frequencies above 150KHz.

Emissions between 30MHz and 300MHz were measured using a bi-conical antenna. Emissions between 300MHz and 1GHz were measured using a bi-log antenna. In both cases the resolution bandwidth was 120KHz.

3.0 Results for Conducted emissions

Detector	Frequency	Reading	Margin	Phase
QP/ Ave	MHz	dBuV	dB	L/N
Quasi-Peak	0.1500	43.07	-22.93	Live
Average	0.1568	21.35	-34.46	Live
Average	0.5348	5.55	-40.45	Live
Average	1.3065	15.56	-30.44	Live
Average	1.309	15.58	-30.42	Live
Average	1.311	15.65	-30.35	Live
Average	4.038	13.83	-32.17	Live
Average	8.493	2.16	-47.84	Live
Average	11.974	4.06	-45.94	Live
Quasi-Peak	18.551	17.60	-42.4	Live

Mains Conducted Emissions results

Detector	Frequency	Reading	Margin	Phase
QP/ Ave	MHz	dBuV	dB	L/N
Quasi-Peak	0.1500	40.43	-25.57	Neutral
Average	0.1568	21.65	-34.16	Neutral
Average	0.5348	6.74	-39.26	Neutral
Average	1.3065	14.79	-31.21	Neutral
Average	1.3088	14.63	-31.37	Neutral
Average	1.3110	14.33	-31.67	Neutral
Average	4.0380	10.37	-35.63	Neutral
Average	8.4930	1.42	-48.58	Neutral
Average	11.9738	4.83	-45.17	Neutral
Quasi-Peak	18.5505	17.38	-42.62	Neutral

Ref Appendix B for scans

Result: Pass

4. Spurious Emissions

Frequency	Measured Peak Level	Antenna Factor	Preamp Gain	Cable Loss	Antenna Polarity	Duty Cycle Correction	Final Peak Level	Average Limit +20dB	Margin
GHz	dBuV/m	dB	dB	dB	V/H	dB	dBuV/m	dBuV/m	dB
4.874	48.5	32.4	37.3	5.2	Vertical	0.00	48.8	74	25.2
7.311	44.2	37.7	38	6.7	Vertical	0.00	50.6	74	23.4
12.185	44.1	40.3	37.7	8.9	Vertical	0.00	55.6	74	18.4
4.874	47.5	32.4	37.3	5.2	Horizontal	0.00	47.8	74	26.2
7.311	44.1	37.7	38	6.7	Horizontal	0.00	50.5	74	23.5
12.185	43.6	40.3	37.7	8.9	Horizontal	0.00	55.1	74	18.9

4.1 Spurious Emissions with BLE and Wifi 2.4GHz

Frequency	Measured Average Level	Antenna Factor	Preamp Gain	Cable Loss	Antenna Polarity	Duty Cycle Correction	Final Average Level	Average Limit	Margin
GHz	dBuV/m	dB	dB	dB	V/H	dB	dBuV/m	dBuV/m	dB
12.185	33.7	40.3	37.7	8.9	Vertical	0.00	45.2	54	8.8
12.185	33.4	40.3	37.7	8.9	Horizontal	0.00	44.9	54	9.1

4.2 Spurious Emissions with NFC and Wifi 5GHz band

Frequency	Measured Peak Level dBuV/m	Antenna Factor dB	Preamp Gain dB	Cable Loss dB	Antenna Polarity V/H	Duty Cycle Correction dB	Final Peak Level dBuV/m	Average Limit +20dB dBuV/m	Margin dB
11.550	49.0	39.6	37.4	6.6	Vertical	0.00	57.8	74	16.3
17.325	42.4	43.8	33.5	10.1	Vertical	0.00	62.8	74	11.3
11.550	51.4	39.6	37.4	6.6	Horizontal	0.00	60.2	74	13.8
17.325	43.1	43.8	33.5	10.1	Horizontal	0.00	63.5	74	10.5

Frequency	Measured Average Level	Antenna Factor	Preamp Gain	Cable Loss	Antenna Polarity	Duty Cycle Correction	Final Average Level	Average Limit	Margin
GHz	dBuV/m	dB	dB	dB	V/H	dB	dBuV/m	dBuV/m	dB
11.550	41.6	39.6	37.4	6.6	Vertical	0.00	50.41	54	3.6
17.325	31.9	43.8	33.5	10.1	Vertical	0.00	52.3	54	1.7
11.550	43.2	39.6	37.4	6.6	Horizontal	0.00	52.0	54	2.1
17.325	31.7	43.8	33.5	10.1	Horizontal	0.00	52.1	54	1.9

Test Result Pass

Frequency	Measured Peak Level	Antenna Factor	Preamp Gain	Cable Loss	Antenna Polarity	Duty Cycle Correction	Final Peak Level	Average Limit +20dB	Margin
GHz	dBuV/m	dB	dB	dB	V/H	dB	dBuV/m	dBuV/m	dB
4.804	47.4	32.4	37.1	5.2	Vertical	0.00	47.9	74	26.1
12.010	45.5	40.3	36.5	7.8	Vertical	0.00	57.1	74	16.9
4.804	47.4	32.4	37.1	5.2	Horizontal	0.00	47.9	74	26.1
12.010	45.1	40.3	36.5	7.8	Horizontal	0.00	56.7	74	17.3

4.3 Spurious Emissions with NFC and BLE

Frequency	Measured Average Level	Antenna Factor	Preamp Gain	Cable Loss	Antenna Polarity	Duty Cycle Correction	Final Average Level	Average Limit	Margin
GHz	dBuV/m	dB	dB	dB	V/H	dB	dBuV/m	dBuV/m	dB
12.010	35.2	40.3	36.5	7.8	Vertical	0.00	46.81	54	7.2
12.010	34.9	40.3	36.5	7.8	Horizontal	0.00	46.5	54	7.5

Test Result Pass

4.4 Co-location

No Spurious emissions related to co-location issues were found

Test Result Pass

4.5 Carrier Power

4.5.1 BLE

Frequency	Measured Peak Level	Antenna Factor	Preamp Gain	Cable Loss	Antenna Polarity	Final Peak Level	Transmitted power	Limit	Margin
GHz	dBuV/m	dB	dB	dB	V/H	dBuV/m	dBm	dBm	dBm
2.402	103.1	27.4	38.5	3.5	Vertical	95.5	0	36.0	35.8
2.402	104.2	27.4	38.5	3.5	Horizontal	96.6	1	36.0	34.6

Note the Radiated field strength was measured at 3 metres and the conversion formula below was used to determine the EIRP in dBm $EIRP (dBm) = E_{3m} (dBuV/m) - 95.2$

Test Result Pass

4.5.2 Wifi 2.4G

Frequency	Measured Peak Level	Antenna Factor	Preamp Gain	Cable Loss	Antenna Polarity	Final Peak Level	Transmitted power	Limit	Margin
GHz	dBuV/m	dB	dB	dB	V/H	dBuV/m	dBm	dBm	dBm
2.437	118.8	27.4	38.5	3.5	Vertical	111.2	16	36.0	20.0
2.437	120.5	27.4	38.5	3.5	Horizontal	112.9	18	36.0	18.3

Note the Radiated field strength was measured at 3 metres and the conversion formula below was used to determine the EIRP in dBm $EIRP (dBm) = E_{3m} (dBuV/m) - 95.2$

Test Result Pass

4.5.3 Wifi 5G

Frequency	Measured Peak Level	Emission limit	Antenna Polarity	EUT orient	Δ Limit	Pass / Fail
MHz	dBm	dBm	V/H		dB	P/F
5775	20.36	36	Vertical	O2	15.6	Pass
5775	19.87	36	Horizontal	O2	16.1	Pass

Test Result Pass

5. Measurement Uncertainties

Measurement	Uncertainty
Radio Frequency	+/- 5x10 ⁻⁷
Maximum Frequency Deviation	+/- 1.7 %
Radiated Emission 30MHz-100MHz	+/- 5.3 dB
Radiated Emission 100MHz-300MHz	+/- 4.7 dB
Radiated Emission 300MHz-1GHz	+/- 3.9 dB
Radiated Emission 1GHz-40GHz	+/- 3.8 dB
Occupied Bandwidth	± 5%
Conducted RF power	± 1.23 dB
Conducted Spurious Emission of transmitter	± 2.14 dB
Conducted Emissions of Receivers	± 2.14 dB
RF level of uncertainty for a given BER	± 1.23 dB
Temperature	± 0.2°C
Humidity	± 4% RH
Frequency	±0.01 ppm
Duty Cycle	+/- 5 %

Table 1: Measurement Uncertainties

The measurement uncertainties stated were calculated with a k=2 for a confidence level of 95.45%.

The test data can be compared directly to the specification limit to determine compliance, as the calculated measurement uncertainty meets the requirements of the applicable specification.

Appendix A:

Report Ref: 22E10132-2a Part 1 of 2 Page 13 of 37



Report Ref: 22E10132-2a Part 1 of 2 Page 14 of 37

Receiver	Spectr	um	🗴 Spe	ctrum 2	2 🛛	ר				
	RBW (QPK)			100 ms			871_3mx			
Input 1 DC 🖷	Att	0 dB	Preamp	ON	Step T	D Scan				
Scan <mark>O</mark> 1Pk	Max <mark>o</mark> 2QP Ma	эх								
					100	MHz				
80 dBµV				1 1 1 1						
70 dBµV										
60 dBµV				1 1 1 1 1 1 1						
50 dBµV				1 1 1 1						
40 dBµV										
30 dBµV				1 1 1 1 1 1 1						
20 dBµV		-		1 1 1 1	1					
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										TI
Start 30.0 M	Hz						lz Vertical 3metr		Stop 300.0	J MHZ

Receiver	Spectru	im (🗴 Spec	trum 2	X	ס		
	RBW (QPK) 1			100 ms			871_3mx	* *
Input 1 DC 🖷	🕨 Att	0 dB	Preamp	ON	Step `	TD Scan		
Scan O1Pk	Max 😋 2 QP Max							
					100	MHz		
80 dBµV								
70 dBµV			1 1 1 1					
60 dBµV								
50 dBµV			1 1 1 1 1 1 1	1 1 1 1 1 1				
40 dBµV			 					
30 dBµV				1 1 1 1	-			
20 dBµV					-			
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10 dBµV				methoday	Aller	Arranges .		
0 dBµV	h	\sim	m	~~~	able	L		~
					1			T
Start 30.0 M	3.018.							Stop 300.0 MHz
		Fig A3 F	Radiated Er	nissions	30MHz	-300MHz	Horizontal 3metres	

Report Ref: 22E10132-2a Part 1 of 2 Page 15 of 37

Receiver	Spectrum 🗴 Spectrum 2 💌	
	RBW (QPK) 120 kHz MT 100 ms 609_3mx	
Input 1 DC 🥌		
Scan 🔾 1Pk	Max O2QP Max	
80 dBµV		
		1
70 dBµV		
		1
60 dBµV		
50 dBµV		1
40 dBµV		1
30 dBµV		- have - have - have -
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	has another and and and and a start and and and a start and and a start and a	1
20 dBµV	Marina and a state marine and a state of the	mon
10 dBµV		
~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	and the second s	
0 dBµV		1
		TF
Start 300.0 (	MHz Sto	p 1.0 GHz
	Fig A4 Radiated Emissions 300MHz-1GHz Vertical 3metres	

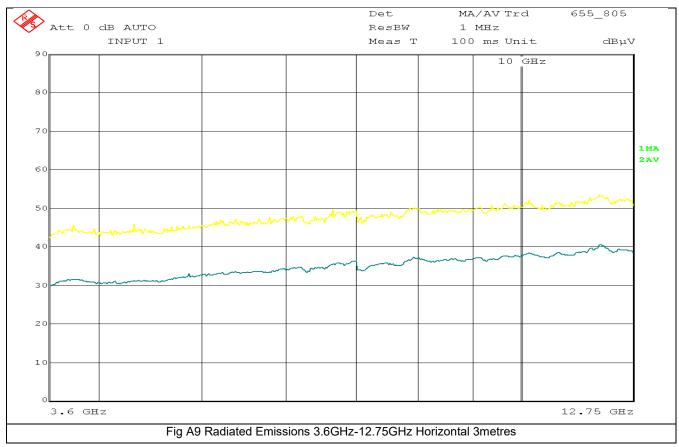
Receiver	Spectrum 🗴 Spectrum 2 🕱
	<b>3W</b> (QPK) 120 kHz <b>MT</b> 100 ms 609_3mx
	tt
🛛 Scan 👴1Pk Ma	(@2QP Max
80 dBµV	
70 dBµV	
60 dBµV	
50 dBµV	
50 GDDA	
40 dBµV	
30 dBµV	when the and the advertised of
	the and the stand of the stand
20 dBµV	a show and will be all and the show and the
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10 dBuV	- American and a second and a
о dвµv	
Start 300.0 MH	z Stop 1.0 GH
n	Fig A5 Radiated Emissions 300MHz-1GHz Horizontal 3metres

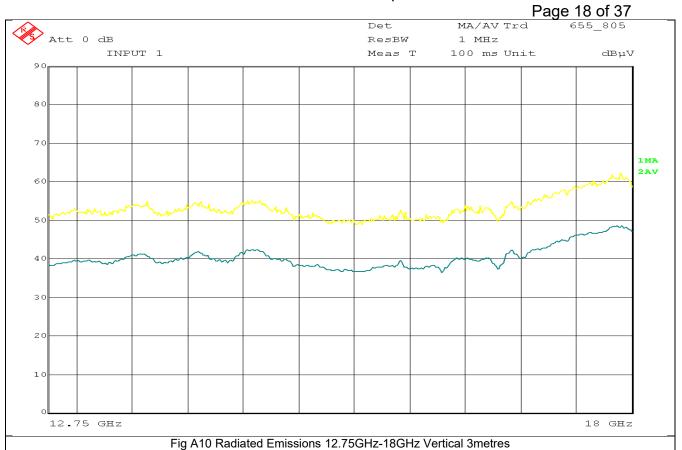
# Report Ref: 22E10132-2a Part 1 of 2 Page 16 of 37

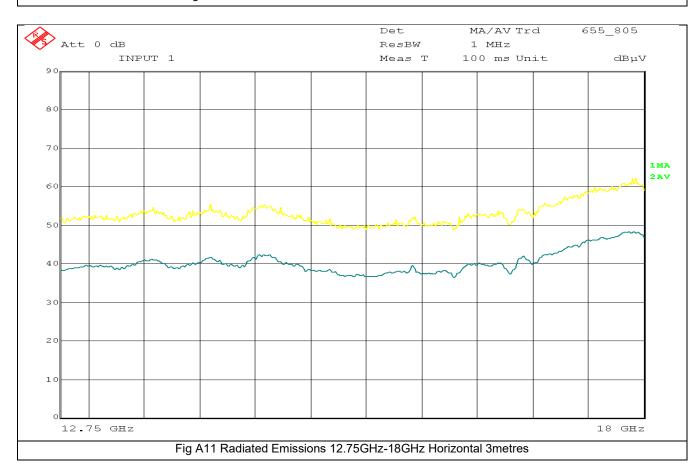
Receiver Spectrum 🗵	
<b>RBW</b> 1 MHz <b>MT</b> 100 ms 655Rx	
Input 1 AC 🖷 Att 0 dB Preamp ON Step TD Scan	
Scan O1Pk MaxO2Av Max	
100 -0.44	
100 dBµV	
90 dBµV	
an apho-	
80 dBµV	
70 dBµV	
60 dBµV	
50 dBµV	and and a supervision of the sup
and a second	Martin
140 dBUV-	
30 dBµV	
20 dBµV	
10 dBµV	
	TE
Start 1.0 GHz	Stop 3.6 GHz
Fig A6 Radiated Emissions 1GHz-3.6GHz Vertical 3metr	

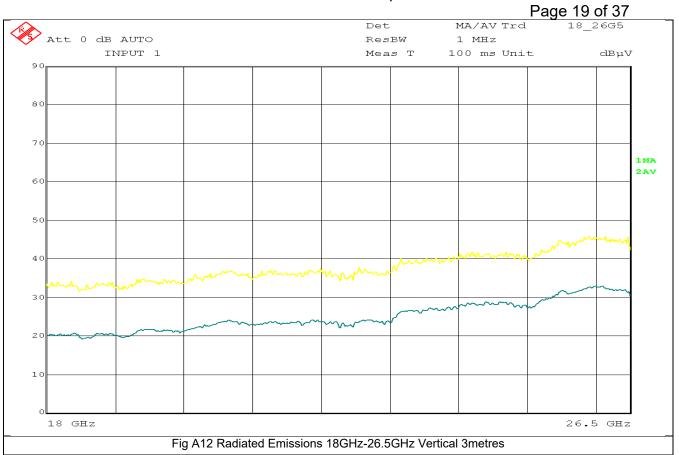
Receiver Spectrum 🛞	
RBW 1 MHz MT 100 ms 655Rx	
Input 1 AC 🖷 Att 🛛 dB 🛛 Preamp 🛛 ON 🛛 Step TD Scan	
Scan O1Pk MaxO2Av Max	
100 dBµV	
	L
90 dBµV	
80 dBµV	
70 dBµV	
60 dBµV	
50 dBµV	
	have all a second and the second and
40 dBUV	
have a second and the second and the second s	
30 dвµV	harmonit
20 dвµV	
10 dвµv	
	TF
Start 1.0 GHz	Stop 3.6 GHz
Fig A7 Radiated Emissions 1GHz-3.6GHz Horizontal 3	Bmetres

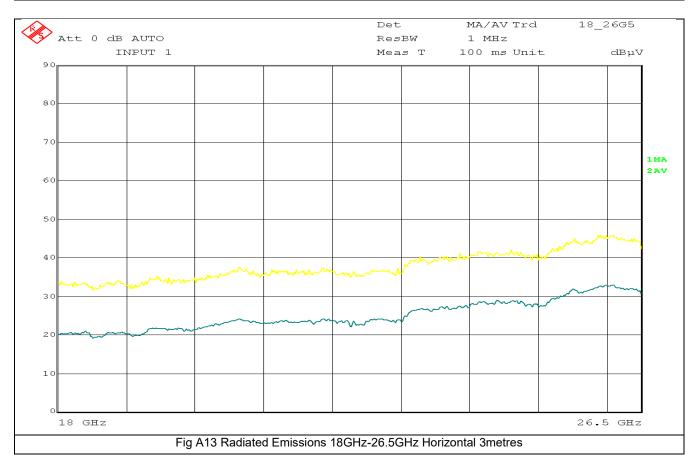
		Pa	ge 17 of 37
<u> </u>	Det	MA/AV Trd	655_805
Att 0 dB AUTO	ResBW	1 MHz	
INPUT 1	Meas T	100 ms Unit	dBµV
90		10 GHz	1
30			
7 0			
			1M 2A
60			
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40			~~~~
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	-		
30			
20			
10			
0			
3.6 GHz			12.75 GHz
Fig A8 Radiated Emissions 3.60	GHz-12.75GHz V	ertical 3metres	
č			





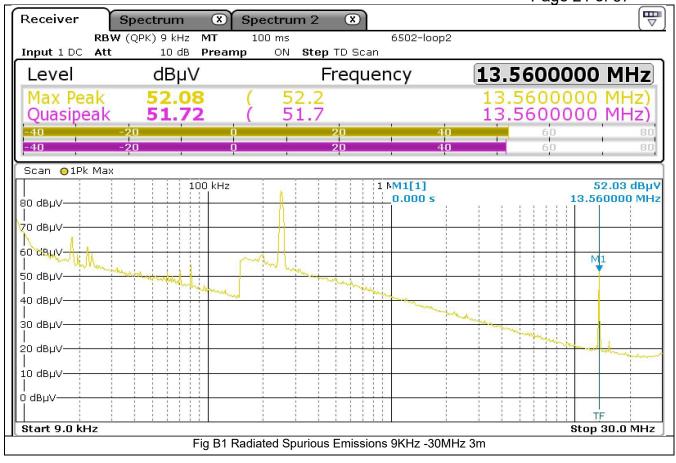






Appendix B: Radios on NFC with Wifi in 5GHz band





Report Ref: 22E10132-2a Part 1 of 2 Page 22 of 37

Receiver	Spectru	im (× Spec	trum 2	2 🕱			
	RBW (QPK)			100 ms		-	871_3mx	
Input 1 DC 🖷	Att	0 dB	Preamp	ON	Step TD) Scan		
Scan 🔾 1Pk I	Max o 2QP Ma:	×						
					100 M	Hz		
80 dBµV								
70 dBµV								
60 dBµV								
50 dBµV				1 1 1 1 1				
40 dBµV				 				
30 dBµV								
20 dBµV			1 				~~~~~~	
10 dBµV	many	n man	munda	mon	math	mont	here we have a second when the second s	monument
0 dBµV—	\sim	\sim	m.	~~~	hard			human
								т
Start 30.0 M	Hz						z Vertical 3metres	Stop 300.0 MHz

RBW (QPK) 120 kHz MT 100 ms 871_3mx Input 1 DC • Att 0 dB Preamp ON Step TD Scan Scan • 1Pk Max • 2QP Max 100 MHz 100 MHz 100 MHz 80 dBµV 100 MHz 100 MHz 100 MHz 70 dBµV 100 MHz 100 MHz 100 MHz 60 dBµV 100 MHz 100 MHz 100 MHz 10 dBµV 10 MHz 100 MHz 100 MHz 10 dBµV 10 MHz 100 MHz 10 MHz 10 dBµV 10 MHz 100 MHz 100 MHz 10 dBµV 10 MHz 10 MHz 10 MHz	Receiver Spectrum 🗴 Spectrum 2 🛞								
Scan 1Pk Max 2QP Max 80 dBµV 100 MHz 70 dBµV 100 MHz 60 dBµV 100 MHz 50 dBµV 100 MHz 40 dBµV 100 MHz 30 dBµV 100 MHz									
100 МНz 80 dBµV 70 dBµV 60 dBµV 50 dBµV 40 dBµV 30 dBµV 20 dBµV			O dB I	Preamp	ON	Step 7	TD Scan		
80 dBµV 70 dBµV 60 dBµV 50 dBµV 40 dBµV 20 dBµV	Scan O1Pk	Max o 2QP Max							
70 dBμV 60 dBμV 60 dBμV 60 dBμV 50 dBμV 60 dBμV 30 dBμV 60 dBμV 20 dBμV 60 dBμV					1	100	MHz		
70 dBμV 60 dBμV 60 dBμV 60 dBμV 50 dBμV 60 dBμV 30 dBμV 60 dBμV 20 dBμV 60 dBμV						1			
60 dBµV	80 dBµV			1	1	-			_
60 dBµV 50 dBµV 40 dBµV 30 dBµV 20 dBµV									
50 dBµV	70 dBµV				-	1			_
50 dBµV									
50 dBµV	60 dBuV				1	1			
40 dBμV 30 dBμV 20 dBμV	00 000		1	1	1	1			
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Stop 300.0 MHz Stop 300.0 MHz Fig B3 Radiated Emissions 30MHz-300MHz Horizontal 3metres	[start 30.0 M		. D0 D			001411	0001411		z

Report Ref: 22E10132-2a Part 1 of 2 Page 23 of 37

Receiver	Spectru		Spect		×				
	RBW (QPK) 1	L20 kHz 🏼 🖡	ИТ 10)0 ms		609_3mx			
Input 1 AC 🖷 Att 0 dB Preamp ON Step TD Scan									
Scan O1Pk 🛛	Max o 2QP Max								
				1					
		l I I		1	1		1	1	
80 dBµV		1		1			1	1	1
		1 1 1						1	1
70 dBµV		1 1		1			1	1	1
		1						1	1
60 dBµV		1					1	1	1
							1		
50 dBµV							1	1	1
50 ивµ∨——		1		1	1		1	1	I I
		1 1 1						1	
40 dBµV		1		1			1	1	1
								1	
30 dBµV				-	1			and the market	when the destants
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10 dBµV					mon	month	the sea		
		mon		min			1		
		1						1	
0 dBµV		1			1			1	
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Start 300.0 M	/IHz			i	1		î.	Stor	1.0 GHz
<u></u>		Fia B4 F	Radiated Er	missions 3	00MHz-1G	Hz Vertical 3	netres	5.01	

Receiver	Spectrum	× Specti	rum 2 🛛 🗶			
	RBW (QPK) 120 k	:Hz MT 10)0 ms	609_3mx		
Input 1 AC 👄	Att 0	dB Preamp	ON Step TD S	ican		
🛛 Scan 🔾 1Pk M	axo2QP Max					
80 dBµV	1 1 1		 	1 1 1 1		
	1				1	1
70 dBuV						
101 - 004A 102BA						
60 dBµV	1					1
оо ивµv						
50 dBµV	1 1 1		1		1	
	1					
40 dBµV						
30 dBµV	1					March
зо uвµv	1			a management and	water water and the second	A comment
	1		much maker when	approximation and the second and the second s	man manager	
20 dBµV	mounter think	and a second and the		1 1 1 1	1 1 1	1 pmp
					minim	
10 dBµV				minun		
mon	montoin					1 1 1
0 dBuV	1				1	1
ο ασμν	1					
	1				1	ТЕ
Start 300.0 M	Hz		i.	i i	St	op 1.0 GHz
		B5 Radiated Fm	issions 300MHz-1	GHz Horizontal 3m		

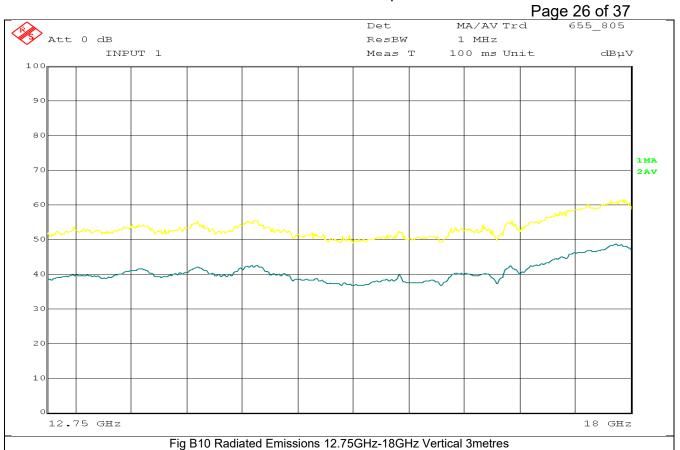
Report Ref: 22E10132-2a Part 1 of 2 Page 24 of 37

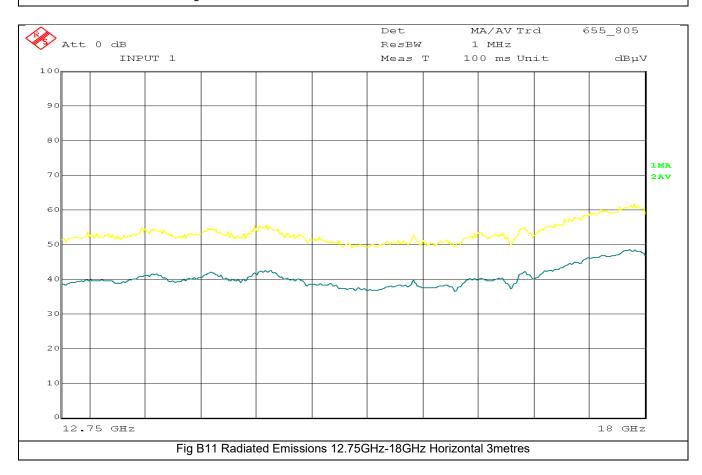
RBW 1 MHz MT 100 ms 655Rx Input 1 AC Att 0 db Preamp ON Step TD Scan Scan 1Pk Max 2Av Ax	Receiver Spectrum 🗵	
Scan 1Pk Max@2Av Max 90 dBµV 90 80 dBµV 90 70 dBµV 90 60 dBµV 90 50 dBµV 90 50 dBµV 90 90 dBµV 90 </td <td></td> <td></td>		
90 dBµV- 80 dBµV- 70 dBµV- 50 dBµV- 50 dBµV- 40 dBµV- 10 dBµV- 10 dBµV- 50 dBµV- 10 dBµV- 50 dBµ	Input 1 AC 🖷 Att – 0 dB – Preamp – ON – Step TD Scan	
80 dBμV	Scan O1Pk MaxO2Av Max	
80 dBμV		
80 dBμV		
70 dBμV 60 dBμV 50 dBμV 60 dBμV 50 dBμV 60 dBμV 20 dBμV 60 dBμV 10 dBμV 70 dBμV 10 dBμV 10 dBμV 50 dBμV 50 dBμV 50 dBμV 50 dBμV 50 dBμV 50 dBμV 30 dBμV 50 dBμV 50 dBμV 50 dBμV <td< td=""><td></td><td></td></td<>		
70 dBμV 60 dBμV 50 dBμV 60 dBμV 50 dBμV 60 dBμV 20 dBμV 60 dBμV 10 dBμV 70 dBμV 10 dBμV 10 dBμV 50 dBμV 50 dBμV 50 dBμV 50 dBμV 50 dBμV 50 dBμV 30 dBμV 50 dBμV 50 dBμV 50 dBμV <td< td=""><td></td><td></td></td<>		
60 dBμV- 50 dBμV- 40 dBμV- 30 dBμV- 20 dBμV- 10 dBμV- 10 dBμV- TF Start 1.0 GHz TF	80 dBµV	
60 dBμV- 50 dBμV- 40 dBμV- 30 dBμV- 20 dBμV- 10 dBμV- 10 dBμV- TF Start 1.0 GHz TF		
50 dBμV 40 dBμV 40 dBμV 40 dBμV 30 dBμV 40 dBμV 20 dBμV 40 dBμV 10 dBμV 10 dBμV 50 dBμV 50 dBμV 10 dBμV 50 dBμV 50 dBμV 50 dBμV 10 dBμV 50 dBμV 50 dBμV 50 dBμV 10 dBμV 50 dBμV 50 dBμV 50 dBμV <td< td=""><td>70 dBµV</td><td></td></td<>	70 dBµV	
50 dBμV 40 dBμV 40 dBμV 40 dBμV 30 dBμV 40 dBμV 20 dBμV 40 dBμV 10 dBμV 10 dBμV 50 dBμV 50 dBμV 10 dBμV 50 dBμV 50 dBμV 50 dBμV 10 dBμV 50 dBμV 50 dBμV 50 dBμV 10 dBμV 50 dBμV 50 dBμV 50 dBμV <td< td=""><td></td><td></td></td<>		
50 dBμV 40 dBμV 40 dBμV 40 dBμV 30 dBμV 40 dBμV 20 dBμV 40 dBμV 10 dBμV 10 dBμV 50 dBμV 50 dBμV 10 dBμV 50 dBμV 50 dBμV 50 dBμV 10 dBμV 50 dBμV 50 dBμV 50 dBμV 10 dBμV 50 dBμV 50 dBμV 50 dBμV <td< td=""><td>60 dBµV</td><td></td></td<>	60 dBµV	
40 dBμV 30 dBμV 20 dBμV 10 dBμV TF Start 1.0 GHz Stop 3.6 GHz		
40 dBμV 30 dBμV 20 dBμV 10 dBμV TF Start 1.0 GHz Stop 3.6 GHz	50 dBuX	
30 dBμV 20 dBμV 10 dBμV 5tart 1.0 GHz TF		manston
30 dBμV 20 dBμV 10 dBμV 5tart 1.0 GHz TF	10 Jp. M.	
30 dBμV 20 dBμV 10 dBμV 5tart 1.0 GHz TF	Lither and the second and the second of the	
20 dBμV- 10 dBμV- TF Start 1.0 GHz TF		menen
20 dBμV		
10 dBμV		
TF Start 1.0 GHz Stop 3.6 GHz	20 dBµV	
TF Start 1.0 GHz Stop 3.6 GHz		
Start 1.0 GHz Stop 3.6 GHz	10 dBµV	
Start 1.0 GHz Stop 3.6 GHz		
		1.01
	Stop 3.6 Fig B6 Radiated Emissions 1GHz-3.6GHz Vertical 3metres	GHz

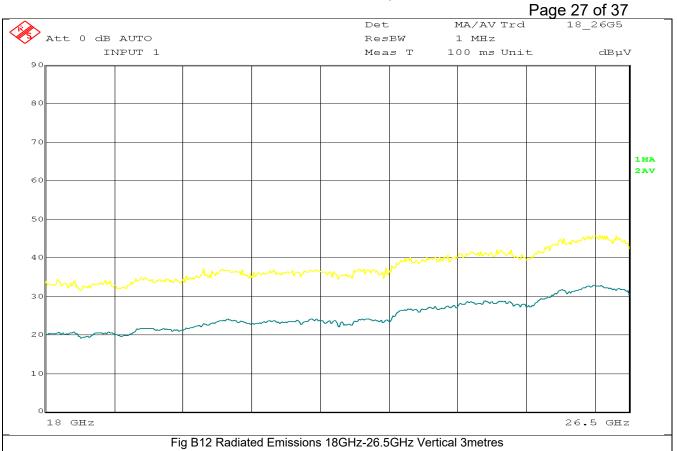
Receiver Spectrum 🛞	
RBW 1 MHz MT 100 ms	655Rx
Input 1 AC 👄 Att – 0 dB – Preamp – ON – Step TD Scan	
Scan 👴1Pk Max●2Av Max	
90 dBµV	
80 dBµV	
70 dBµV	
60 dBµV	
50 dBµV	
40 dBuV	he we down day in the way which
40 dBuV	and an and a second and a second and a second a
Man and a second a	
30 dBµV	
20 dBµV	
10 dBµV	
Start 1.0 GHz Fig B7 Radiated Emissions 1GHz	Stop 3.6 GHz

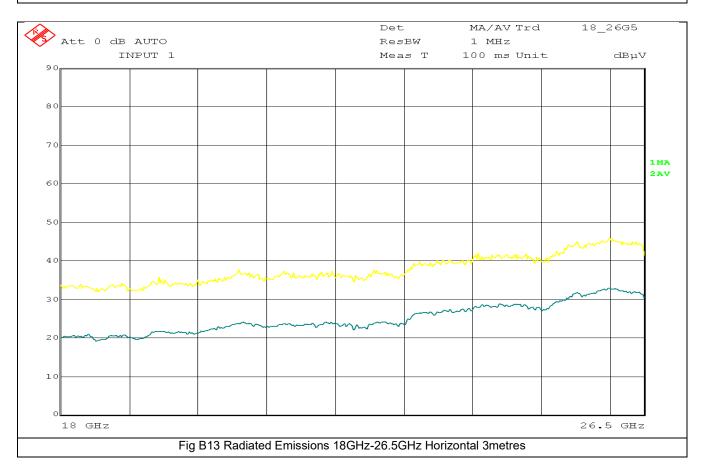
		Γč	age 25 of 37
8	Det	MA/AV Trd	655_805
Att 0 dB AUTO	ResBW	1 MHz	
INPUT 1	Meas T	100 ms Unit	dBµV
00		10 GHz	
90			
n			
80			
			1 112
70			28
60 			
			monthing
50	mont		
and a second and a second and a second			
40			~~~~~
30	-		
20			
10			
3.6 GHz			12.75 GHz
Fig B8 Radiated Emissions 3.60		artical 2motros	

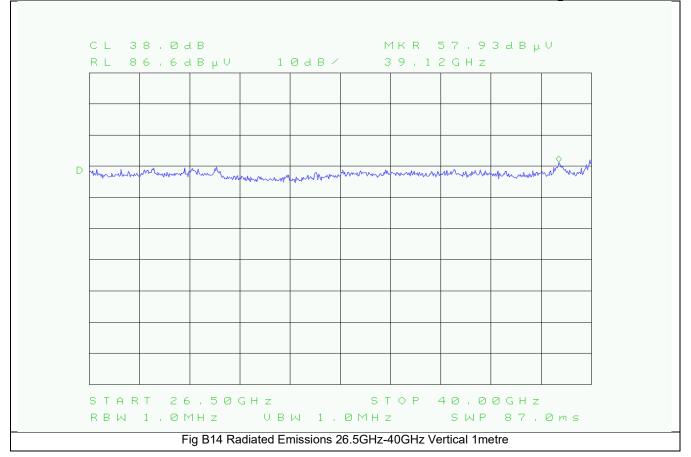
MA/AV Trd 655_805 Det Att 0 dB AUTO ResBW 1 MHz INPUT 1 Meas T 100 ms Unit dBµV 110 10 GHz 100 90 1 MA 80 2AV 70 60 50 4 C 30 20 10 0 3.6 GHz 12.75 GHz Fig B9 Radiated Emissions 3.6GHz-12.75GHz Horizontal 3metres

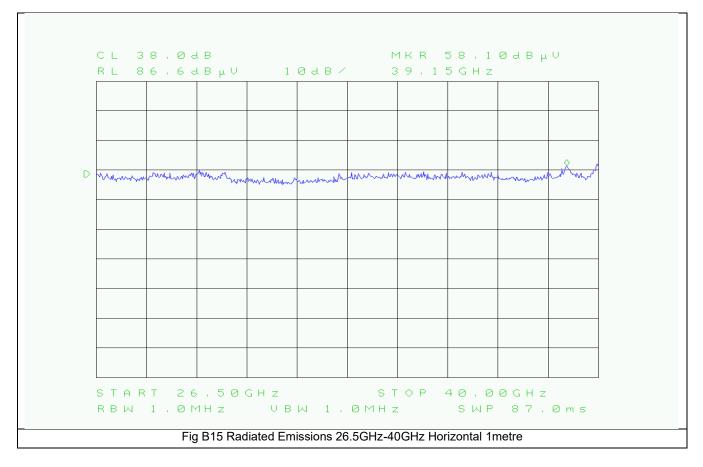






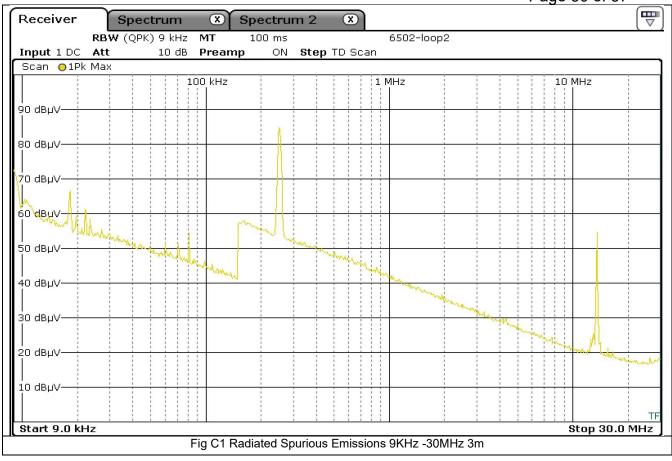






Appendix C: Radios on NFC and BLE

Report Ref: 22E10132-2a Part 1 of 2 Page 30 of 37



Report Ref: 22E10132-2a Part 1 of 2 Page 31 of 37

Receiver Spectrum 🗶 Spectrum 2 🕱
RBW (QPK) 120 kHz MT 100 ms 871_3mx
Input 1 AC 🖷 Att
Scan O1Pk MaxO2QP Max
100 MHz
80 dBµV
70 dBµV
60 dBµV
50 dBµV
40 dBµV
30 dBµV
20 dBµV
an and the second and
10 dBµV
D dBµV
Start 30.0 MHz Stop 300.0 MH: Fig C2 Radiated Emissions 30MHz-300MHz Vertical 3metres

Receiver	Spectru	m (×) Spect	rum 2	2 X			₹
	RBW (QPK) 1			00 ms			871_3mx	
Input 1 AC 🖷	🕨 Att	0 dB	Preamp	ON	Step TD S	Scan		
Scan O1Pk	Max o 2QP Max							
					100 MHz	2		
80 dBµV		-		I I				
				1				
70 dBµV			1	1	1			
60 dBµV		1		1	1			
		-		1				
50 dBµV				1 1 1				
30 dbpv				1	1			
40 dBµV				1	1			
10 abpv								
30 dBµV				1				
				1				
20 dBµV			1	1 1 1	1			_
homen	umanum	in	1				mannes the har and a person that	A
10 dBµV			Charmen	mon	aluna	and the second	and a support of the second	_
							· · · · · · · · ·	~
о двил	$ \sim $		min	A	Walnut		- manual and a second s	
		1		1				TF
Start 30.0 M							Stop 300.0 MH z Horizontal 3metres	IZ ,

Report Ref: 22E10132-2a Part 1 of 2 Page 32 of 37

Receiver	Spectrum 🗴 Spectrum 2 🗴					
	RBW (QPK) 120 kHz MT 100 ms 609_3mx					
Input 1 AC 🖷 Att 0 dB Preamp ON Step TD Scan						
Scan O1Pk	Maxe2QP Max					
80 dBµV						
		1				
70 dBµV						
60 dBµV						
50 dBµV		1				
		1				
40 dBµV						
40 ασμν						
30 dBµV	and a how we all and a second a second and a second	- the second				
	a har an and the the marker and the marker and the second and the second and the second and the second and the					
20 dBµV	any some of the second and second and second and and and and and and and and and a	- mar				
are an	a second and as	man an				
10 dBµV		1				
m	man han have a second and have a second a second and have a second					
0 dBµV		1				
		TF				
Start 300.0		top 1.0 GHz				
	Fig C4 Radiated Emissions 300MHz-1GHz Vertical 3metres					

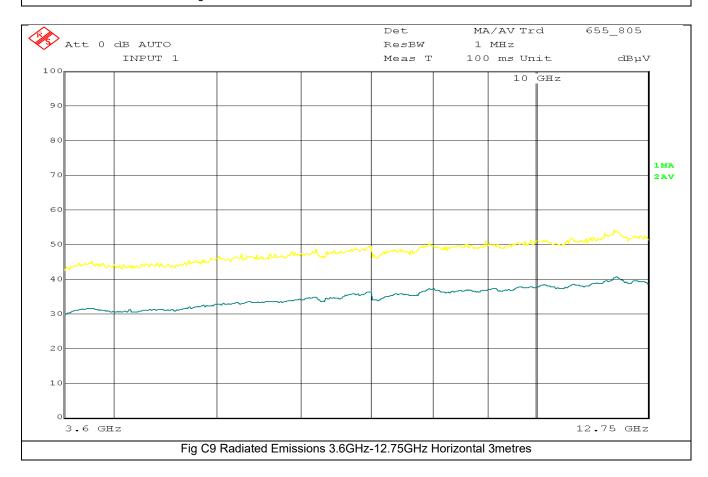
Receiver	Spectrum	X Spect	trum 2 🛛 🗵			
	RBW (QPK) 120	kHz MT 1	.00 ms	609_3mx		
Input 1 AC 🖷	Att 0)dB Preamp	ON Step TD S	ican		
Scan O1Pk	Maxo2QP Max					
			1	1	1	1
80 dBµV						
					1	1
70 dBµV						1
co lo lu						
60 dBµV						1
50 dBµV						
40 dBµV						1
5.1						
						O IS MANA
зо ивµv——					mm tom the	Multiple
		0.000.00	and advanter have have	mademations		
20 dBµV——	houmanna	me date advince to me pe	and the second sec	1 I I I I I	1	
					monim	- mar -
10 dBµV			monter		1	
					1	1
0 dBµV	i				1	
C GOPY	1				1	
	1					TE
Start 300.0 1	MHz				5	Stop 1.0 GHz
•	Fig	C5 Radiated Er	nissions 300MHz-1	GHz Horizontal 3m	etres	

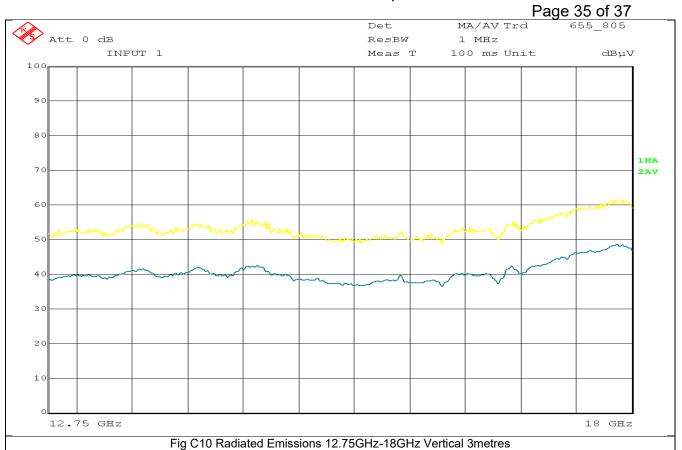
Report Ref: 22E10132-2a Part 1 of 2 Page 33 of 37

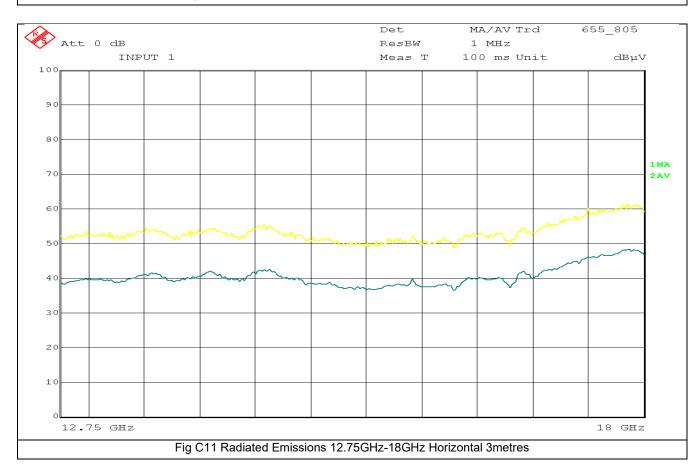
Receiver Spectrum 🗴	
RBW 1 MHz MT 100 ms 655Rx	
Input 1 AC 🖷 Att 0 dB Preamp ON Step TD Scan	
Scan O1Pk MaxO2Av Max	
90 dBµV	
80 dBµV	
1 March 1 Marc	
70 dBµV	
, o dop.	
60 dBµV	
50 dBµV	and the second second
havenun	New manus and the second
and the second	1
40 dBUV	
30 dBµV	
20 dBµV	
10 dBµV	
	1
	TF
Start 1.0 GHz	Stop 3.6 GHz
Fig C6 Radiated Emissions 1GHz-3.6GHz Vertical 3metres	

Receiver Spectrum 🗴	
RBW 1 MHz MT 100 ms	655Rx
Input 1 AC 👄 Att – 0 dB – Preamp – ON – Step TD Scar	
Scan 👴1Pk Maxo2Av Max	
90 dBµV	
80 dBµV	1.e.
70 dBµV	
60 dBµV	
50 dBµV	and an a second for the second second second
40 dBUV-	man have the second second second
30 dBµV	
20 dBµV	
10 dBµV	
	TE
Start 1.0 GHz	Stop 3.6 GHz
Fig C7 Radiated Emissions 1GHz	

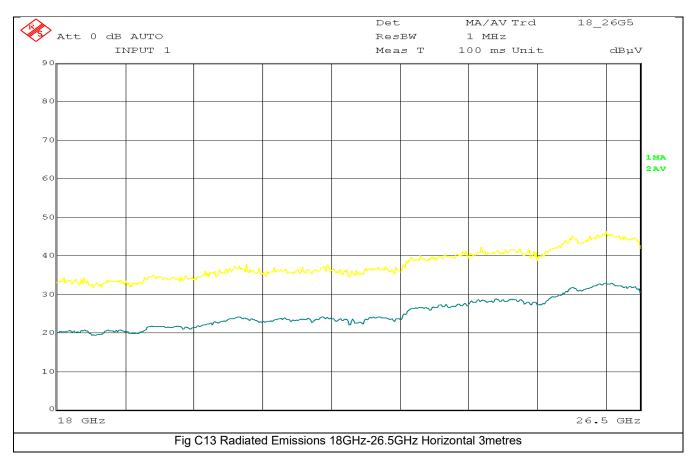
			Page 34 of 37
>	Det	MA/AV Trd	
Att 0 dB AUTO	ResBW	1 MHz	
INPUT 1	Meas T	100 ms Uni	t dBµV
00		10 0	Ξz
90			
80			
80			
			1 M2
70			221
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50 marine bank hat many more the	Marmon Mar	man parts	
may marked with the marked and	~		
40			
	~~~~~		~
30	-		
20			
10			
3.6 GHz			12.75 GHz
Fig C8 Radiated Emissions 3.6G		Vertical Orecture -	











Ref 22E10132-2b Part 2 of 2 for appendices D-F

End of Part 1 of Report