
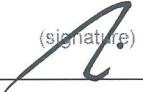




# Certificate of Test

<b>NCT CO., LTD.</b> 211-71, Geumgok-ro, Hwaseong-si, Gyeonggi-do, 18511, Republic of Korea (Tel: +82-31-323-6070 / Fax: +82-31-323-6071)	Report No.: NW2304-F002  Page (1) / (7)	
<p><b>1. Client</b></p> <ul style="list-style-type: none"><li>○ Name : Samsung Electronics Co., Ltd.</li><li>○ Address : (Maetan dong) 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, Korea</li><li>○ Date of Receipt : 2023-03-24</li></ul> <p><b>2. Use of Report : FCC/IC Certification</b></p> <p><b>3. Test Sample</b></p> <ul style="list-style-type: none"><li>○ Description / Model : SMART CONTROL / RE20</li><li>○ FCC ID : A3LRE20 / IC : 649E-RE20</li></ul> <p><b>4. Place of Test : <input checked="" type="checkbox"/> Fixed test <input type="checkbox"/> Field test</b> (Address:211-71, Geumgok-ro, Hwaseong-si, Gyeonggi-do, 18511, Republic of Korea)</p> <p><b>5. Date of Test : 2023-03-24 ~ 2023-04-04</b></p> <p><b>6. Test method used : FCC Part 1.1310</b> RSS-102 Issue5(2021-02)</p> <p><b>7. Testing Environment :</b></p> <ul style="list-style-type: none"><li>○ Temperature: (25 ± 5) °C, Humidity: Less than 75 % R.H.</li></ul> <p>* Unless specified otherwise in the individual methods, the tests were conducted on ambient conditions.</p> <p><b>8. Test Results : Refer to the test results</b></p> <p>The results shown in this test report refer only to the sample(s) tested unless otherwise stated. This Test Report cannot be reproduced, except in full This test report is not related to KOLAS recognition and RRA designation.</p>		
Affirmation	<b>Tested by</b> Jun-gi Sin  (signature)	<b>Technical Manager</b> Changmin, Kim  (signature)
<p style="text-align: right;">Apr 06, 2023</p> <p style="text-align: center;"><b>NCT CO., LTD.</b> </p>		

Contact us at [report@nct.re.kr](mailto:report@nct.re.kr) to confirm the authenticity of this report

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Test Repot No.: NW2304-F002

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## 1. General Information's

### 1.1 Test Performed

Laboratory : NCT Co., Ltd.  
Address : 211-71, Geumgok-ro, Hwaseong-si, Gyeonggi-do, 18511, Korea  
Telephone : +82-31-323-6070  
Facsimile : +82-31-323-6071  
FCC Designation No. : KR0166  
FCC Registration Number : 409631

## 2. Information's about Test Item

### 2.1 Applicant Information

Company name : Samsung Electronics Co., Ltd.  
Address : (Maetan dong) 129, Samsung-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do,  
Korea  
Telephone / Facsimile : +82-10-2666-5199 / +82-31-277-9027

### 2.2 Equipment Under Test (EUT) description

Test item particulars : SMART CONTROL  
Model and/or type reference : RE20  
Additional model name : -  
Serial number : Prototype  
Antenna type and gain : Chip Antenna with Max gain: 0.50 dBi  
Date (s) of performance of tests: : 2023-03-24 ~ 2023-04-04  
Date of receipt of test item : 2023-03-24  
EUT condition : Pre-production, not damaged  
Number of channel : 40  
EUT Power Source : DC 3.00 V  
Type of Modulation : GFSK  
Firmware version : 1.0  
Hardware version : 1.0  
Test software name(version) : RadioControlConsole(Version 4.0.0.0)

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**2.3 Tested Frequency**

Test Mode	Test frequency (MHz)		
	Low frequency	Middle frequency	High frequency
<b>BLE</b>	2 402	2 440	2 480



### 3. Test Report

#### 3.1 Test Report Version

Test Report No.	Date	Description
NW2304-F002	2023-04-06	Initial issue

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### 3.2 SAR Test Exclusion Considerations for FCC

Following FCC KDB 447498 D01 “General SAR test exclusion guidance” - 4.3.1 a)

a) For 100 MHz to 6 GHz and test separation distances  $\leq 50$  mm, the 1-g and 10-g SAR test exclusion thresholds are determined by the following:

$$[(\text{max. power of channel, including tune-up tolerance, mW}) / (\text{min. test separation distance, mm})] \cdot [\sqrt{f(\text{GHz})}] \leq 3.0 \text{ for 1-g SAR, and } \leq 7.5 \text{ for 10-g extremity SAR, where}$$

- f(GHz) is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison

Modulation	Frequency (MHz)	Min. Test separation distance	Measured Maximum Average power	Tune-up tolerance	Max. Power with tune-up tolerance		Standalone SAR Test exclusion thresholds for 100MHz to 6GHz at test separation distance $\leq 50$ mm	Limit	Result
		(mm)	(dBm)	(dB)	(dBm)	(mW)			
BT LE	2402	5.00	2.17	$\pm 0.50$	2.67	1.85	0.57	3.00	<b>PASS</b>
	2440		0.56		1.06	1.28	0.40	3.00	<b>PASS</b>
	2480		-1.90		-1.40	0.72	0.23	3.00	<b>PASS</b>

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**Test Report No.: NW2304-F002**

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### 3.3 SAR Test Exclusion Considerations for ISED

Following RSS-102 “Radio Frequency (RF) Rxposure Compliance of Radiocommunication Apparatus”

**Table 1: SAR evaluation – Exemption limits for routine evaluation based on frequency and separation distance<sup>4,5</sup>**

Frequency (MHz)	Exemption Limits (mW)				
	At separation distance of ≤5 mm	At separation distance of 10 mm	At separation distance of 15 mm	At separation distance of 20 mm	At separation distance of 25 mm
≤300	71 mW	101 mW	132 mW	162 mW	193 mW
450	52 mW	70 mW	88 mW	106 mW	123 mW
835	17 mW	30 mW	42 mW	55 mW	67 mW
1900	7 mW	10 mW	18 mW	34 mW	60 mW
2450	4 mW	7 mW	15 mW	30 mW	52 mW
3500	2 mW	6 mW	16 mW	32 mW	55 mW
5800	1 mW	6 mW	15 mW	27 mW	41 mW

Frequency (MHz)	Exemption Limits (mW)				
	At separation distance of 30 mm	At separation distance of 35 mm	At separation distance of 40 mm	At separation distance of 45 mm	At separation distance of ≥50 mm
≤300	223 mW	254 mW	284 mW	315 mW	345 mW
450	141 mW	159 mW	177 mW	195 mW	213 mW
835	80 mW	92 mW	105 mW	117 mW	130 mW
1900	99 mW	153 mW	225 mW	316 mW	431 mW
2450	83 mW	123 mW	173 mW	235 mW	309 mW
3500	86 mW	124 mW	170 mW	225 mW	290 mW
5800	56 mW	71 mW	85 mW	97 mW	106 mW

Mode	Frequency (MHz)	Measured Max. Average power	Antenna Gain	EIRP for Max. Average power		Limit	Result
		(dBm)		(dBi)	(dBm)		
BT LE	2402	2.17	0.50	2.67	1.85	4.26	<b>PASS</b>
	2440	0.56		1.06	1.28	4.05	<b>PASS</b>
	2480	-1.90		-1.40	0.72	3.94	<b>PASS</b>

**Test Report No.: NW2304-F002**

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