TEST REPORT

CTK Co., Ltd.
(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

Report No.: CTK-2022-00169

1. Client

◦ Name : S-winnus Co.,Ltd

◦ Address : NO. 1504, 1505, Centum Sky Biz A, 97, Centum jungang-ro, Haeundae-gu, Busan, Korea

◦ Date of Receipt : 2021-11-16

2. Manufacturer

◦ Name : S-winnus Co.,Ltd

◦ Address : NO. 1504, 1505, Centum Sky Biz A, 97, Centum jungang-ro, Haeundae-gu, Busan, Korea

3. Use of Report : For FCC Certification

4. Test Sample / Model : ConTracer-R / CTR-S200

5. Date of Test : 2022-01-13 to 2022-01-24

6. Test Standard(method) used : FCC 47 CFR PART 2, Subpart J
FCC 47 CFR PART 22, Subpart H
FCC 47 CFR PART 24, Subpart E
FCC 47 CFR PART 27

7. Testing Environment: Temp.: (23 ± 1) ℃, Humidity: (48 ± 1) % R.H.

8. Test Results : Compliance

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.

Affirmation	Tested by Ji-Hye, Kim: (Signature)	Technical Manager Won-Jae, Hwang: (Signature)

2022-01-24

Republic of KOREA **CTK Co., Ltd.**

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REPORT REVISION HISTORY

Date	Revision	Page No
2022-01-24	Issued (CTK-2022-00169)	all

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1. General Information

1.1 Client Information

Company	S-winnus Co.,Ltd
Contact Point	NO. 1504, 1505, Centum Sky Biz A, 97, Centum jungang-ro, Haeundae-gu, Busan, Korea
Contact Person	Name : Jae Min Shin E-mail : jm.shin@swinnus.com Tel : +82-70-4270-2622 Fax : -

1.2 Product Information

Product name		ConTracer-R
FCC ID		2AJOX-CTR-S200
Model name		CTR-S200
LTE/WCDMA Module		Manufacturer : Quectel Wireless Solutions Co., Ltd.
		FCC ID : XMR201906EG21G
BLE Module		Manufacturer : Raytac Corporation
		FCC ID : SH6MDBT42Q
Frequency range	**LTE**	Band 5 : 824 MHz - 849 MHz(Tx), 869 MHz - 894 MHz(Rx) Band 7 : 2 500 MHz - 2 570 MHz(Tx), 2 620 MHz - 2 690 MHz(Rx)
	WCDMA	Band II : 1 852.4 MHz - 1907.6 MHz(Tx), 1 932.4 MHz - 1 987.6 MHz(RX) Band IV : 1 712.4 MHz - 1 752.6 MHz(Tx), 2 112.4 MHz - 2 152.6 MHz(Rx) Band V : 826.4 MHz - 846.6 MHz(Tx), 871.4 MHz - 891.6 MHz(Rx)
	BLE	2 402 MHz – 2 480 MHz
Supported Channel Bandwidth	**LTE**	Band 5 : 1.4 MHz, 3 MHz, 5 MHz, 10 MHz Band 7 : 5 MHz, 10 MHz, 15 MHz, 20 MHz
	WCDMA	5 MHz
	BLE	1 MHz, 2 MHz
Type of Modulation	**LTE**	QPSK, 16QAM
	WCDMA	QPSK, 16QAM
	BLE	GFSK
Conducted Output power (Peak) (Module test report reference)	**LTE**	Band 5_1.4 MHz_QPSK : 23.19 dBm (0.208 W) Band 5_1.4 MHz_16QAM : 22.18 dBm (0.252 W) Band 5_3 MHz_QPSK : 23.19 dBm (0.208 W) Band 5_3 MHz_16QAM : 22.19 dBm (0.253 W) Band 5_5 MHz_QPSK : 23.13 dBm (0.206 W) Band 5_5 MHz_16QAM : 22.19 dBm (0.253 W) Band 5_10 MHz_QPSK : 23.14 dBm (0.206 W) Band 5_10 MHz_16QAM : 22.19 dBm (0.253 W) Band 7_5 MHz_QPSK : 23.20 dBm (0.209 W) Band 7_5 MHz_16QAM : 21.59 dBm (0.165 W) Band 7_10 MHz_QPSK : 23.65 dBm (0.232 W) Band 7_10 MHz_16QAM : 22.20 dBm (0.190 W) Band 7_15 MHz_QPSK : 23.41 dBm (0.219 W) Band 7_15 MHz_16QAM : 22.19 dBm (0.190 W) Band 7_20 MHz_QPSK : 23.29 dBm (0.213 W) Band 7_20 MHz_16QAM : 22.18 dBm (0.189 W)
	WCDMA	Band II : 23.88 dBm (0.244 W) Band IV : 23.82 dBm (0.241 W) Band V : 23.86 dBm (0.243 W)

<table>
<tr><td></td><td>BLE</td><td>3.57 dBm</td></tr>
<tr><td rowspan="3">Antenna Specification</td><td>LTE</td><td>Antenna type : FPCB antenna
Antenna Gain :
<table><tr><td>Band 5</td><td>1.84 dBi</td></tr><tr><td>Band 7</td><td>0.59 dBi</td></tr></table></td></tr>
<tr><td>WCDMA</td><td>Antenna type : FPCB antenna
Antenna Gain :
<table><tr><td>Band II</td><td>1.42 dBi</td></tr><tr><td>Band IV</td><td>0.39 dBi</td></tr><tr><td>Band V</td><td>1.84 dBi</td></tr></table></td></tr>
<tr><td>BLE</td><td>Antenna type : Chip antenna
Antenna Gain : -1.6 dBi</td></tr>
<tr><td rowspan="2">Output power(ERP, EIRP)</td><td>LTE</td><td><table><tr><th>Mode</th><th>Conducted Output power (dBm)</th><th>Antenna Gain (dBi)</th><th>Output power (ERP or EIRP)</th></tr><tr><td>Band 5_1.4MHz _QPSK</td><td>23.19</td><td>1.84</td><td>25.03 dBm (0.318 W)</td></tr><tr><td>Band 5_1.4MHz _16QAM</td><td>22.18</td><td>1.84</td><td>24.02 dBm (0.252 W)</td></tr><tr><td>Band 5_3MHz _QPSK</td><td>23.19</td><td>1.84</td><td>25.03 dBm (0.318 W)</td></tr><tr><td>Band 5_3MHz _16QAM</td><td>22.19</td><td>1.84</td><td>24.03 dBm (0.253 W)</td></tr><tr><td>Band 5_5MHz _QPSK</td><td>23.13</td><td>1.84</td><td>24.97 dBm (0.314 W)</td></tr><tr><td>Band 5_5MHz _16QAM</td><td>22.19</td><td>1.84</td><td>24.03 dBm (0.253 W)</td></tr><tr><td>Band 5_10MHz _QPSK</td><td>23.14</td><td>1.84</td><td>24.98 dBm (0.315 W)</td></tr><tr><td>Band 5_10MHz _16QAM</td><td>22.19</td><td>1.84</td><td>24.03 dBm (0.253 W)</td></tr><tr><td>Band 7_5MHz _QPSK</td><td>23.20</td><td>0.59</td><td>23.79 dBm (0.239 W)</td></tr><tr><td>Band 7_5MHz _16QAM</td><td>21.59</td><td>0.59</td><td>22.18 dBm (0.165 W)</td></tr><tr><td>Band 7_10MHz _QPSK</td><td>23.65</td><td>0.59</td><td>24.24 dBm (0.266 W)</td></tr><tr><td>Band 7_10MHz _16QAM</td><td>22.20</td><td>0.59</td><td>22.79 dBm (0.190 W)</td></tr><tr><td>Band 7_15MHz _QPSK</td><td>23.41</td><td>0.59</td><td>24.00 dBm (0.251 W)</td></tr><tr><td>Band 7_15MHz _16QAM</td><td>22.19</td><td>0.59</td><td>22.78 dBm (0.190 W)</td></tr><tr><td>Band 7_20MHz _QPSK</td><td>23.29</td><td>0.59</td><td>23.88 dBm (0.244 W)</td></tr><tr><td>Band 7_20MHz _16QAM</td><td>22.18</td><td>0.59</td><td>22.77 dBm (0.189 W)</td></tr></table></td></tr>
<tr><td>WCDMA</td><td><table><tr><th>Mode</th><th>Conducted Output Power (dBm)</th><th>Antenna Gain (dBi)</th><th>Output power (ERP or EIRP)</th></tr><tr><td>Band II</td><td>23.88</td><td>1.42</td><td>25.30 dBm (0.339 W)</td></tr><tr><td>Band IV</td><td>23.82</td><td>0.39</td><td>24.21 dBm (0.264 W)</td></tr><tr><td>Band V</td><td>23.86</td><td>1.84</td><td>25.70 dBm (0.372 W)</td></tr></table></td></tr>
<tr><td colspan="2">Power Source</td><td>DC 3.7 V (Rechargeable Li-ion Battery)</td></tr>
</table>

1.3 Peripheral Devices

Device	Manufacturer	Model No.	Serial No.
Wideband Radio Communication tester	Rohde & Schwarz	CMW500	114635

2. Facility and Accreditations

2.1 Test Facility

The measurement facility is located at (Ho-dong), 113, Yejik-ro, Cheoin-gu, Yong-in-si, Gyeonggi-do, Korea.

2.2 Laboratory Accreditations and Listings

Country	Agency	Registration Number
USA	FCC	805871
CANADA	ISED	8737A-2
KOREA	NRRA	KR0025

2.3 Calibration Details of Equipment Used for Measurement

Test equipment and test accessories are calibrated on regular basis. The maximum time between calibrations is one year or what is recommended by the manufacturer, whichever is less. All test equipment calibrations are traceable to the Korea Research Institute of Standards and Science (KRISS), therefore, all test data recorded in this report is traceable to KRISS.

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3. Test Specifications

3.1 Standards

Section in FCC	Requirement(s)	Status (note1)	Test condition
2.1053, 22.917, 24.238, 27.53(h), 27.53(m)	Field Strength of spurious radiation	C	Radiated
Other test requirements		NA(Note 3)	Conducted

Note 1: C=Complies NC=Not Complies NT=Not Tested NA=Not Applicable

Note 2: The data in this test report are traceable to the national or international standards.

Note 3: The equipment contains an approved single module(FCC ID : XMR201906EG21G).
The test result is the same as the single module.

Note 4: The tests were performed according to the method of measurements prescribed in KDB 971168 D01 v03.

etc. : The conformity assessment of except for this item was confirmed by the RF module installed in the device. Refer to module test report.
Test was performed by modular transmitter. (Test Report No. HR/2019/10016E-0101 issued on May. 7,2019 by SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch)

3.2 Mode of operation during the test

- The test item was measured in the worst case requested by the applicant.
- This device is equipped with an approved LTE/WCDMA/BLE module.
- This device cannot be used for voice-communication.

Test Frequency

- BLE

	Lowest	Middle	Highest
Frequency (MHz)	2 402	-	-

- LTE

Test Mode		Lowest	Middle	Highest
Band 5_1.4MHz _QPSK	Channel	-	20525	-
	Frequency (MHz)	-	836.5	-
Band 7_10MHZ _QPSK	Channel	-	21100	-
	Frequency (MHz)	-	2 535	-

- WCDMA

Test Mode		Lowest	Middle	Highest
Band II_QPSK	Channel	9262	-	-
	Frequency (MHz)	1 852.4	-	-
Band IV_QPSK	Channel	1312	-	-
	Frequency (MHz)	1 712.4	-	-
Band V_QPSK	Channel	4132	-	-
	Frequency (MHz)	826.4	-	-

3.3 Measurement Uncertainty

Compliance of the product is based on the measured value.
However, the measurement uncertainty is included for information purposes.
The measurement uncertainties given below are based on standard uncertainty multiplied by a coverage factor of k = 2, providing a level of confidence of approximately 95 %.

Description	Uncertainty
Radiated Emissions (f ≤ 1 GHz)	4.66 dB (C.L.: Approx. 95 %, k = 2)
Radiated Emissions (f ≥ 1 GHz)	4.76 dB (C.L.: Approx. 95 %, k = 2)

3.4 Test Software

Radiated Test	TOYO EMI software EP5RE Ver. 6.0.1.0

4. Test Requirements

4.1 Field Strength of Emissions

FCC 2.1053 Measurements required: Field strength of spurious radiation.

(a) Measurements shall be made to detect spurious emissions that may be radiated directly from the cabinet, control circuits, power leads or intermediate circuit elements under normal conditions of installation and operation. Curves or equivalent data shall be supplied showing the magnitude of each harmonic and other spurious emission.

Test Location

☒ Testing was performed at a test distance of 3 meter SAC

Test measurement procedure:

Based on ANSI/TIA-603-D-2010

The EUT was placed on a turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. A half-wave dipole was substituted in place of the EUT. This dipole antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. This spurious level is recorded. For readings above 1GHz, the above procedure is repeated using horn antennas and the difference between the gain of the horn and an isotropic or dipole antenna are taken into consideration.

Limit

[LTE Band 5 / WCDMA Band V]

- FCC 22.917 Emission limitations for cellular equipment.

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

[WCDMA Band II]

- FCC 24.238 Emission limitations for Broadband PCS equipment.

The power of any emission shall be attenuated below the transmitter power (P) by a factor of at least 43 + 10 log(P) dB.

[WCDMA Band IV]

- FCC 27.53(h) AWS emission limits.

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB.

[LTE Band 7]

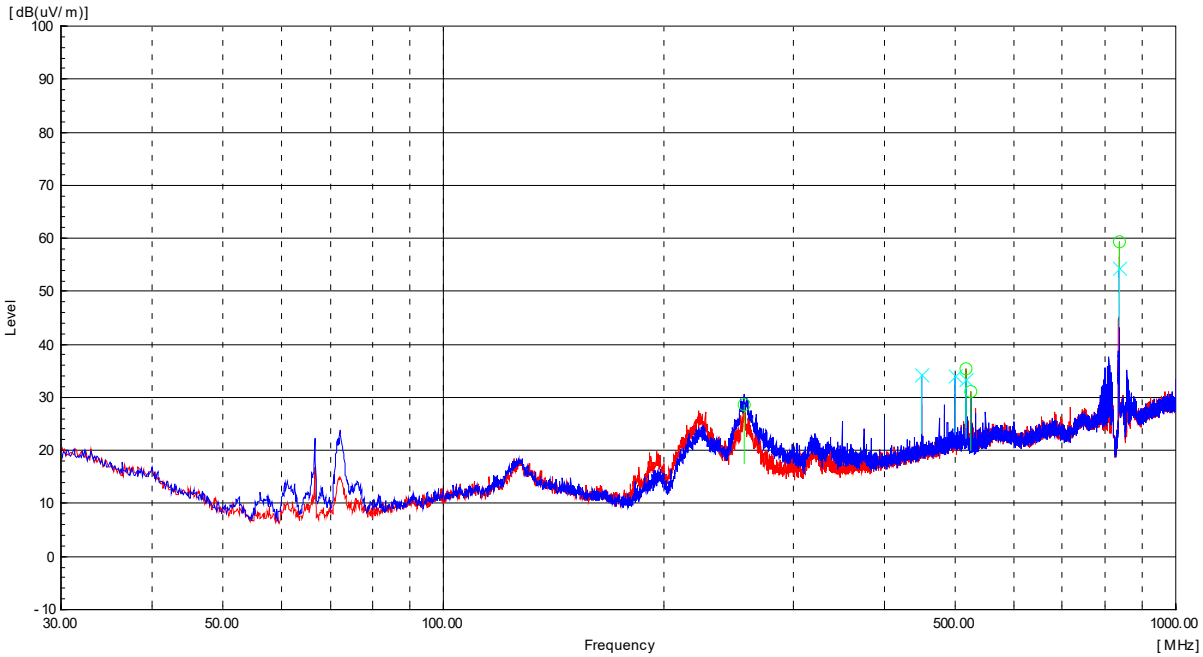
- FCC 27.53(m)

For mobile digital stations, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section.

Test results

1) 30 MHz to 1 GHz

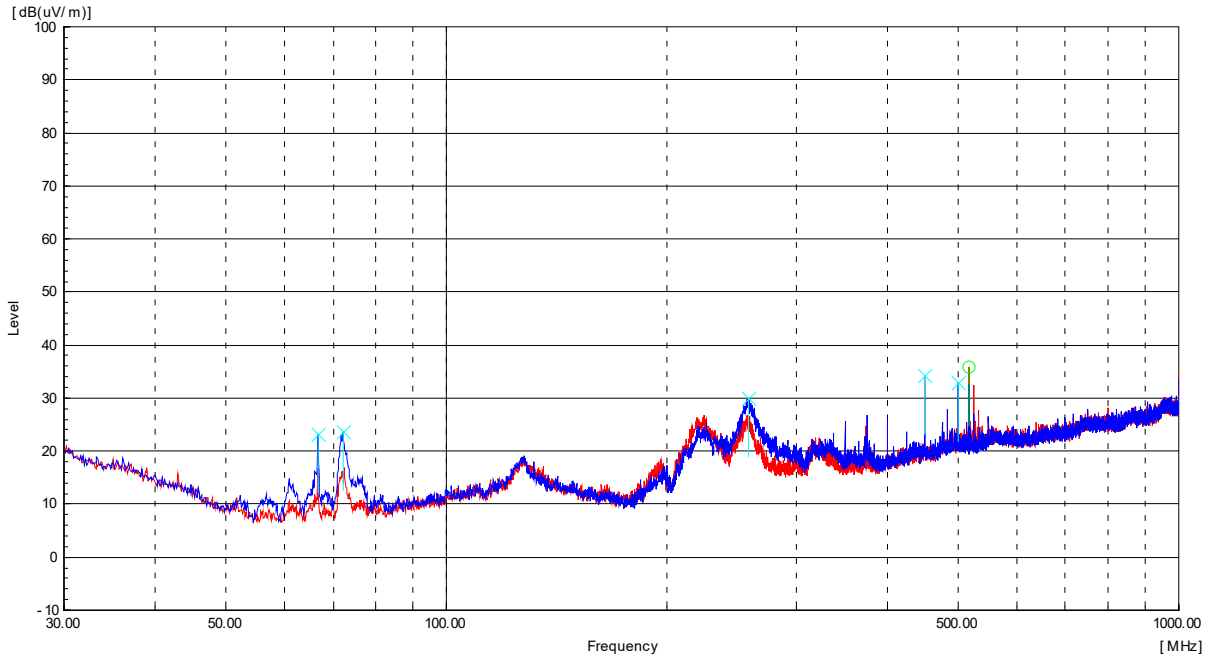
Test mode : LTE Band 5



Frequency [MHz]	Pol.	Reading PK [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	ERP[dBm]	Limit[dBm]	Margin[dB]	Remark
257.71	H	37.1	-8.5	28.6	-68.8	-13.0	55.8	
450.01	V	37.6	-3.4	34.2	-63.2	-13.0	50.2	
499.97	V	36.4	-2.4	34.0	-63.4	-13.0	50.4	
516.70	H	37.7	-2.3	35.4	-62.0	-13.0	49.0	
516.70	V	35.7	-2.3	33.4	-64.0	-13.0	51.0	
525.06	H	33.4	-2.3	31.1	-66.3	-13.0	53.3	
836.68	H	55.2	4.0	59.2	-38.2	-13.0	25.2	Carrier(TX)
837.16	V	50.3	4.0	54.3	-43.1	-13.0	30.1	Carrier(TX)

Remark :
1. The unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(Y axis) and the worst case was recorded.
2. Result(ERP) = Reading + c.f(Correction factor) – 95.2 – 2.15
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator – Amp Gain

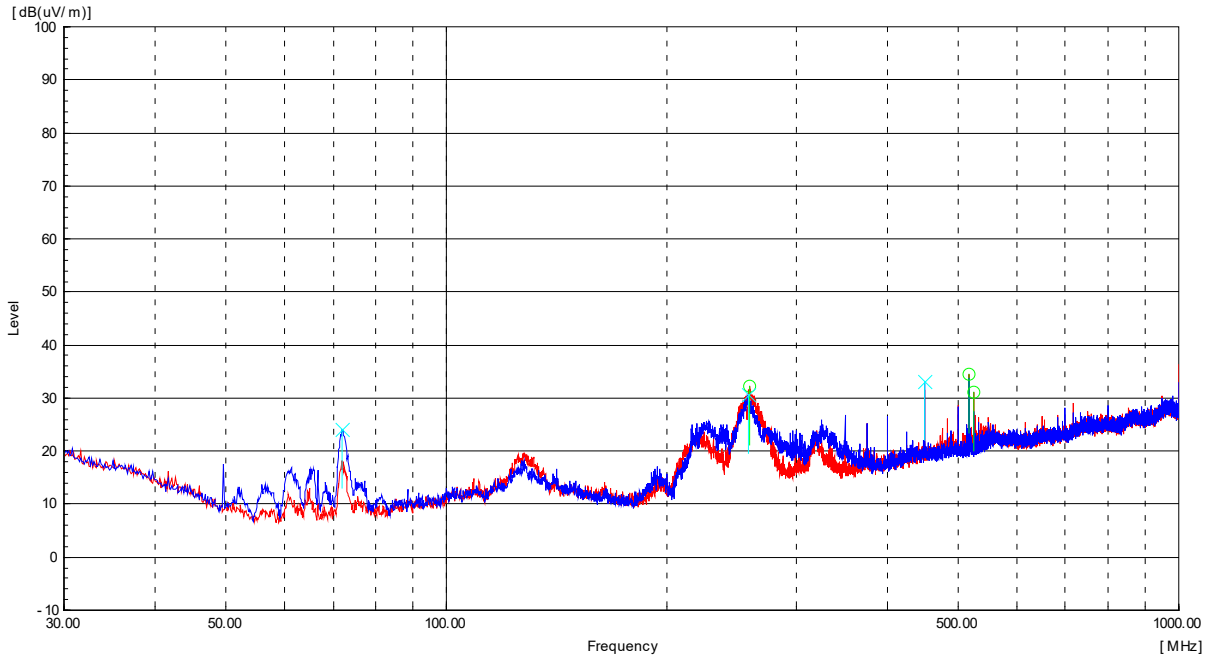
Test mode : LTE Band 7



Frequency [MHz]	Pol.	Reading PK [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	ERP[dBm]	Limit[dBm]	Margin[dB]	Remark
66.62	V	41.1	-18.0	23.1	-74.3	-25.0	49.3	
72.20	V	41.2	-17.5	23.7	-73.7	-25.0	48.7	
258.31	V	38.4	-8.4	30.0	-67.4	-25.0	42.4	
450.01	V	37.7	-3.4	34.3	-63.1	-25.0	38.1	
499.97	V	35.2	-2.4	32.8	-64.6	-25.0	39.6	
516.70	H	38.2	-2.3	35.9	-61.5	-25.0	36.5	

Remark :
1. The unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(Y axis) and the worst case was recorded.
2. Result(ERP) = Reading + c.f(Correction factor) – 95.2 – 2.15
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator – Amp Gain

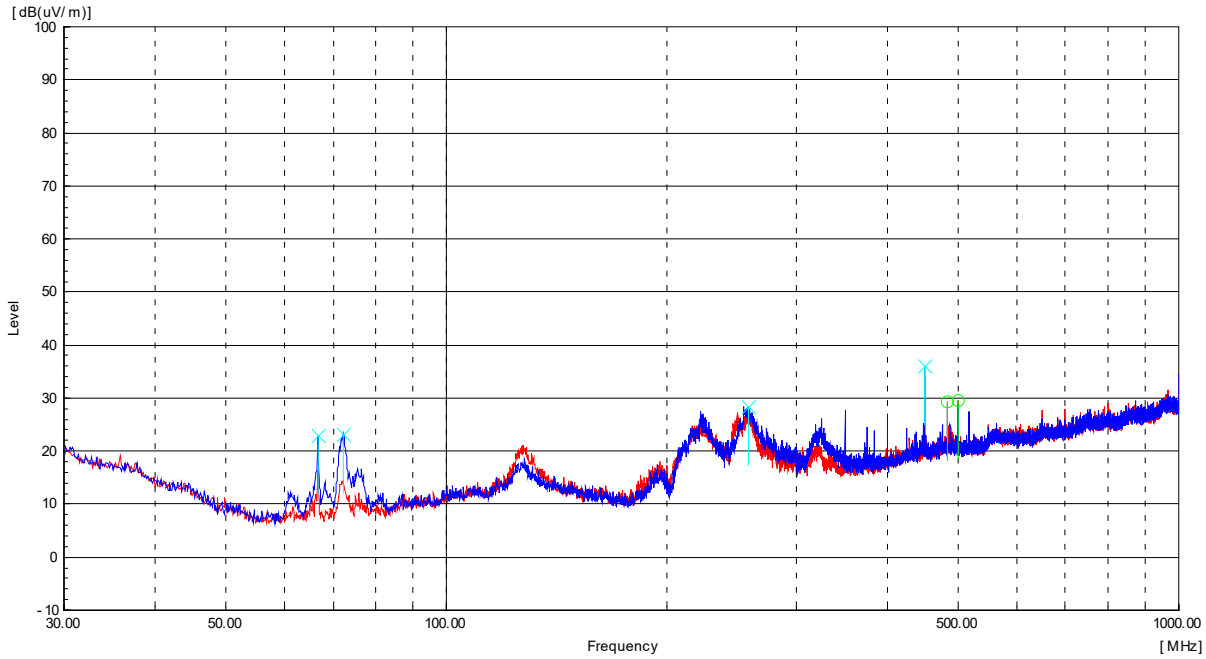
Test mode : LTE Band 7 + BLE (simultaneous Transmissions)



Frequency [MHz]	Pol.	Reading PK [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	ERP[dBm]	Limit[dBm]	Margin[dB]	Remark
71.95	V	41.5	-17.5	24.0	-73.4	-25.0	48.4	
257.95	V	39.2	-8.5	30.7	-64.5	-25.0	39.5	
259.28	H	40.4	-8.3	32.1	-63.1	-25.0	38.1	
450.01	V	36.5	-3.4	33.1	-62.1	-25.0	37.1	
516.70	H	36.8	-2.3	34.5	-60.7	-25.0	35.7	
525.06	H	33.3	-2.3	31.0	-64.2	-25.0	39.2	

Remark :
1. The unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(Y axis) and the worst case was recorded.
2. Result(ERP) = Reading + c.f(Correction factor) – 95.2 – 2.15
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator – Amp Gain

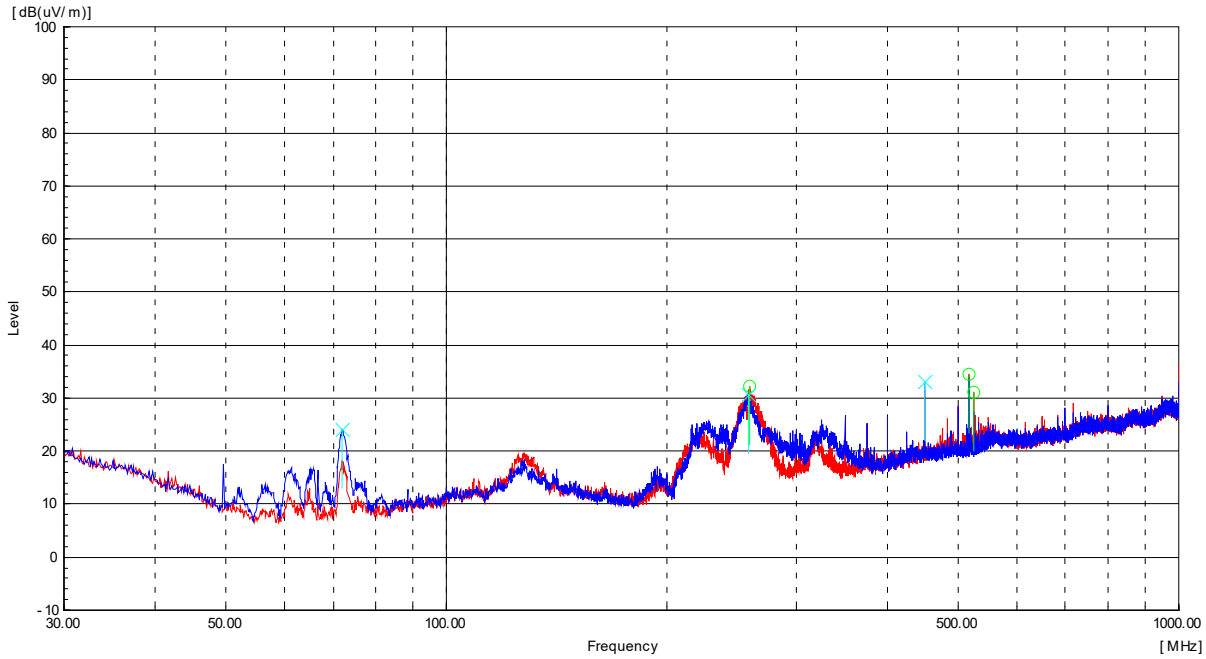
Test mode : WCDMA Band II



Frequency [MHz]	Pol.	Reading PK [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	ERP[dBm]	Limit[dBm]	Margin[dB]	Remark
66.62	V	41.0	-18.0	23.0	-74.4	-13.0	61.4	
72.20	V	40.8	-17.5	23.3	-74.1	-13.0	61.1	
257.83	V	36.9	-8.5	28.4	-69.0	-13.0	56.0	
450.01	V	39.5	-3.4	36.1	-61.3	-13.0	48.3	
483.35	H	32.1	-2.8	29.3	-68.1	-13.0	55.1	
499.97	H	31.8	-2.4	29.4	-68.0	-13.0	55.0	

Remark :
1. The unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(Y axis) and the worst case was recorded.
2. Result(ERP) = Reading + c.f(Correction factor) – 95.2 – 2.15
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator – Amp Gain

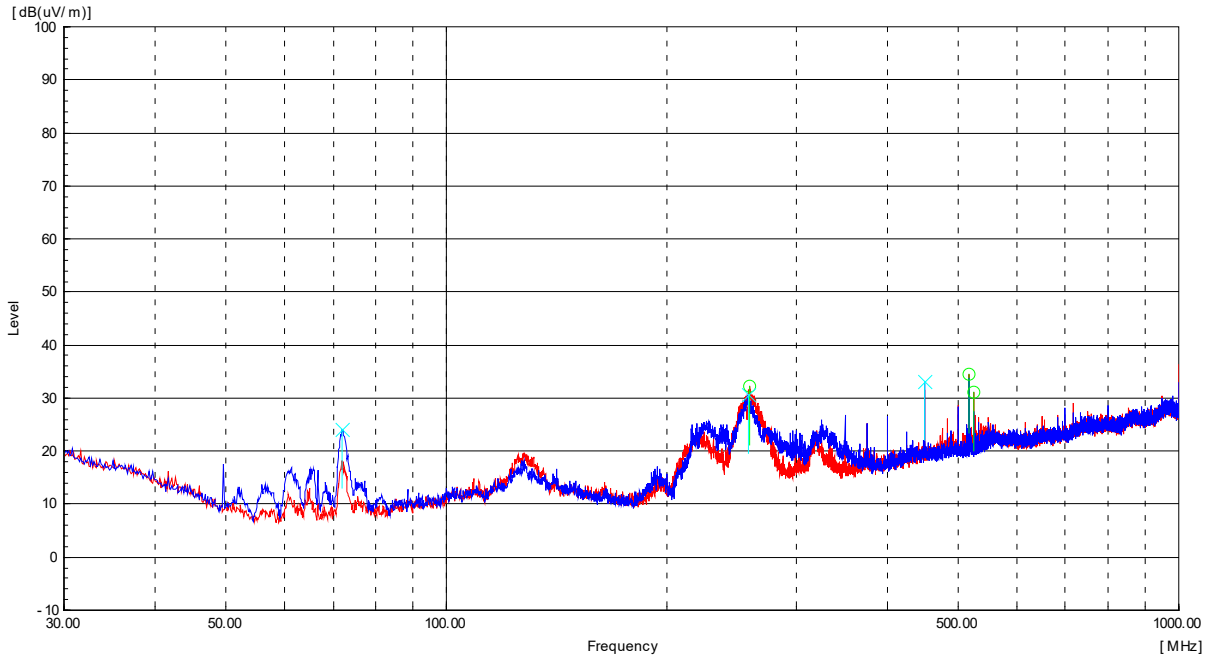
Test mode : WCDMA Band IV



Frequency [MHz]	Pol.	Reading PK [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	ERP[dBm]	Limit[dBm]	Margin[dB]	Remark
72.07	V	43.5	-17.5	26.0	-71.4	-13.0	58.4	
450.01	V	41.8	-3.4	38.4	-59.0	-13.0	46.0	
474.99	V	32.4	-3.0	29.4	-68.0	-13.0	55.0	
483.35	V	36.0	-2.8	33.2	-64.2	-13.0	51.2	
650.07	V	30.3	1.1	31.4	-66.0	-13.0	53.0	
700.03	V	29.4	1.4	30.8	-66.6	-13.0	53.6	

Remark :
1. The unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(Y axis) and the worst case was recorded.
2. Result(ERP) = Reading + c.f(Correction factor) – 95.2 – 2.15
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator – Amp Gain

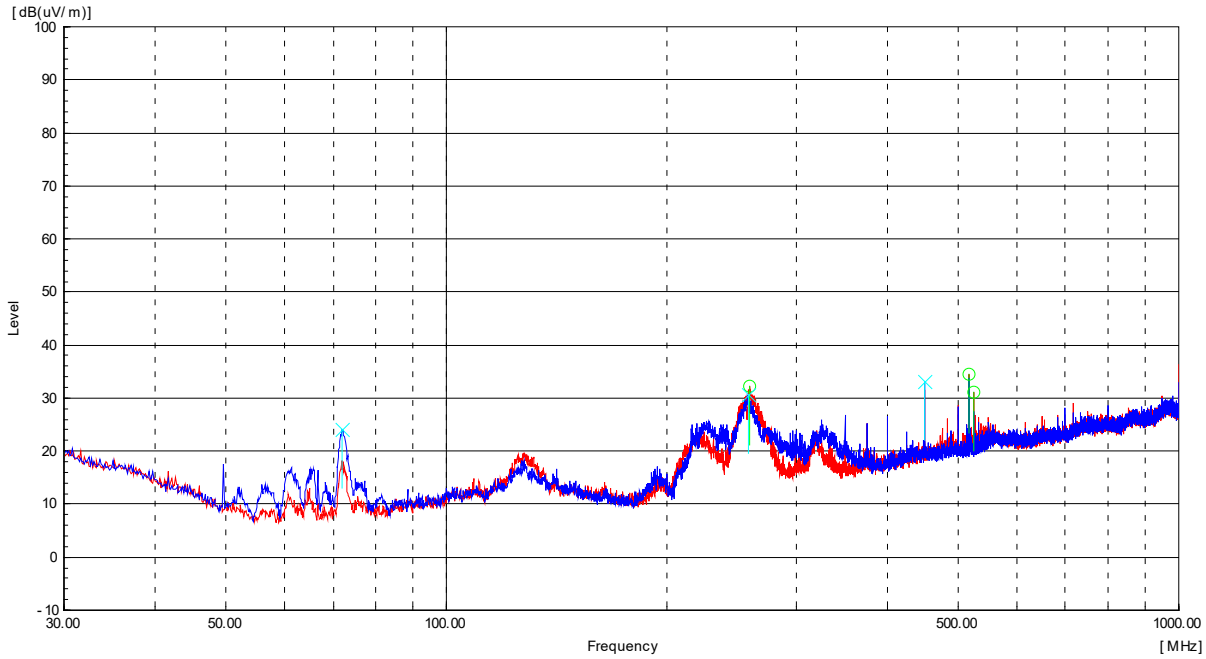
Test mode : WCDMA Band V



Frequency [MHz]	Pol.	Reading PK [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	ERP[dBm]	Limit[dBm]	Margin[dB]	Remark
71.95	V	45.1	-17.5	27.6	-69.8	-13.0	56.8	
257.34	V	38.5	-8.6	29.9	-67.5	-13.0	54.5	
450.01	V	39.9	-3.4	36.5	-60.9	-13.0	47.9	
483.35	V	33.2	-2.8	30.4	-67.0	-13.0	54.0	
516.70	H	36.1	-2.3	33.8	-63.6	-13.0	50.6	
525.06	H	33.9	-2.3	31.6	-65.8	-13.0	52.8	

Remark :
1. The unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(Y axis) and the worst case was recorded.
2. Result(ERP) = Reading + c.f(Correction factor) – 95.2 – 2.15
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator – Amp Gain

Test mode : WCDMA Band II + BLE (simultaneous Transmissions)

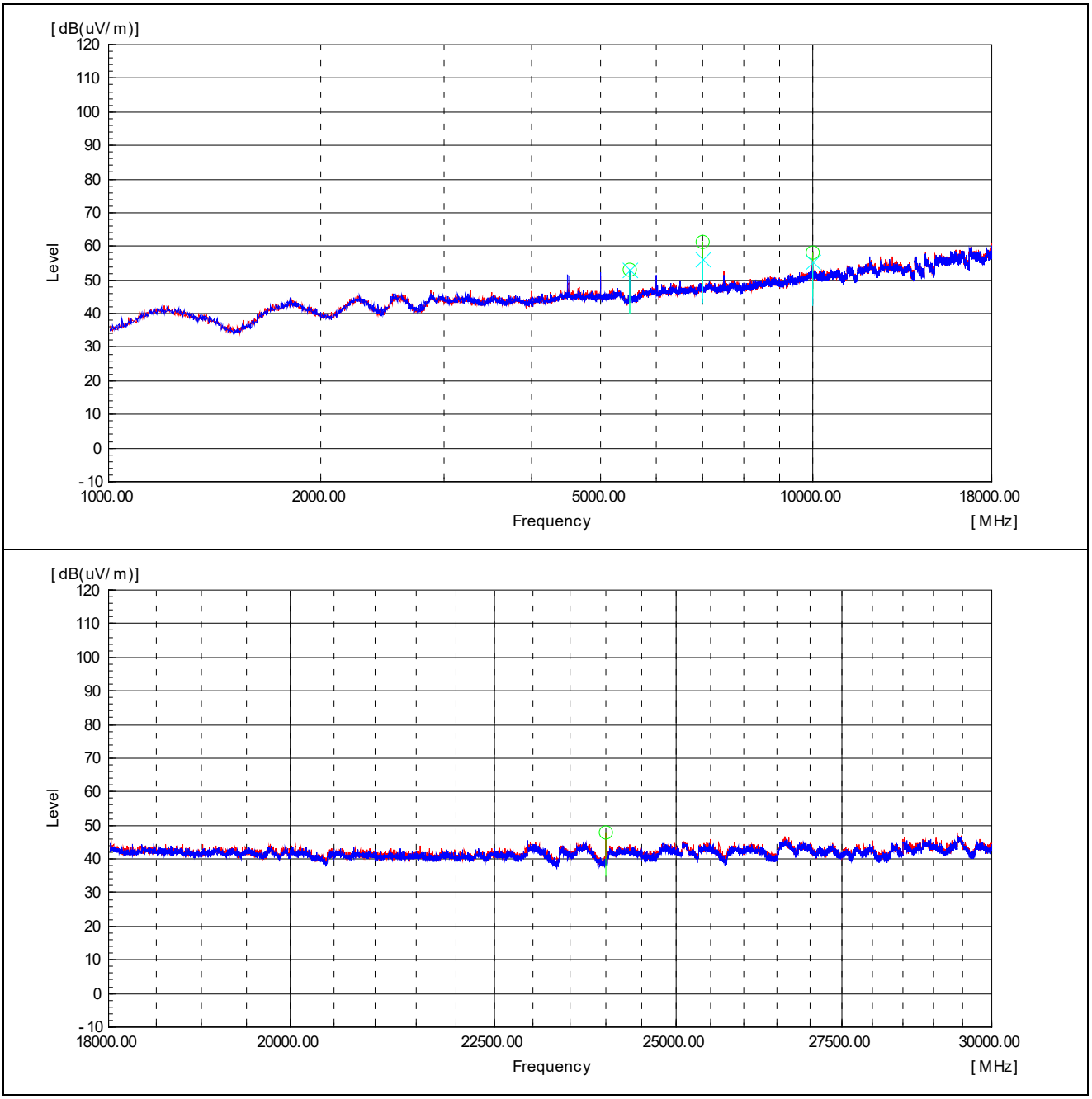


Frequency [MHz]	Pol.	Reading PK [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	ERP[dBm]	Limit[dBm]	Margin[dB]	Remark
72.07	V	43.0	-17.5	25.5	-71.9	-13.0	58.9	
258.07	V	38.4	-8.5	29.9	-67.5	-13.0	54.5	
450.01	V	41.3	-3.4	37.9	-59.5	-13.0	46.5	
483.35	V	36.0	-2.8	33.2	-64.2	-13.0	51.2	
550.04	V	30.1	-1.0	29.1	-68.3	-13.0	55.3	
650.07	V	28.4	1.1	29.5	-67.9	-13.0	54.9	

Remark :
1. The unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(Y axis) and the worst case was recorded.
2. Result(ERP) = Reading + c.f(Correction factor) – 95.2 – 2.15
3. Correction factor = Antenna factor + Cable loss + 6 dB attenuator – Amp Gain

2) above 1 GHz

Test Data



Test mode : LTE Band 5

Frequency [MHz]	Pol.	Reading PK [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	EIRP[dBm]	Limit[dBm]	Margin[dB]	Remark
1 672.75	H	79.5	-6.1	73.4	-21.8	-13.0	8.8	
1 672.75	V	86.5	-6.1	80.4	-14.8	-13.0	1.8	
2 508.63	H	63.1	-2.1	61.0	-34.2	-13.0	21.2	
2 508.63	V	66.2	-2.1	64.1	-31.1	-13.0	18.1	

Test mode : LTE Band 7

Frequency [MHz]	Pol.	Reading PK [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	EIRP[dBm]	Limit[dBm]	Margin[dB]	Remark
5 498.63	H	50.7	2.2	52.9	-42.3	-25.0	17.3	
5 498.63	V	50.7	2.2	52.9	-42.3	-25.0	17.3	
6 998.88	H	57.3	3.9	61.2	-34.0	-25.0	9.0	
6 998.88	V	52.2	3.9	56.1	-39.1	-25.0	14.1	
9 999.37	H	51.7	6.6	58.3	-36.9	-25.0	11.9	
9 999.37	V	48.6	6.6	55.2	-40.0	-25.0	15.0	

Test mode : LTE Band 7 + BLE (simultaneous Transmissions)

Frequency [MHz]	Pol.	Reading PK [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	EIRP[dBm]	Limit[dBm]	Margin[dB]	Remark
4 499.88	V	50.1	1.6	51.7	-43.5	-25.0	18.5	
5 498.63	V	51.8	2.2	54.0	-41.2	-25.0	16.2	
6 998.88	H	54.6	3.9	58.5	-36.7	-25.0	11.7	
6 998.88	V	54.1	3.9	58.0	-37.2	-25.0	12.2	
7 498.25	H	48.6	4.7	53.3	-41.9	-25.0	16.9	
7 500.37	V	47.0	4.7	51.7	-43.5	-25.0	18.5	

Remark :
1. The unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(Y axis) and the worst case was recorded.
2. Result(EIRP) = Reading + c.f(Correction factor) – 95.2
3. Correction factor = Antenna factor + Cable loss – Amp Gain

Test mode : WCDMA Band II

Frequency [MHz]	Pol.	Reading PK [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	EIRP[dBm]	Limit[dBm]	Margin[dB]	Remark
The emissions above 1 GHz were 20 dB lower than the limit.								

Test mode : WCDMA Band IV

Frequency [MHz]	Pol.	Reading PK [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	EIRP[dBm]	Limit[dBm]	Margin[dB]	Remark
The emissions above 1 GHz were 20 dB lower than the limit.								

Test mode : WCDMA Band V

Frequency [MHz]	Pol.	Reading PK [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	EIRP[dBm]	Limit[dBm]	Margin[dB]	Remark
The emissions above 1 GHz were 20 dB lower than the limit.								

Test mode : WCDMA Band II+ BLE (simultaneous Transmissions)

Frequency [MHz]	Pol.	Reading PK [dBuV]	c.f [dB(1/m)]	Level PK [dB(uV/m)]	EIRP[dBm]	Limit[dBm]	Margin[dB]	Remark
The emissions above 1 GHz were 20 dB lower than the limit.								

Remark :
1. The unwanted emission was measured in the following position: EUT stand-up position(Z axis), lie-down position(X,Y axis). The worst emission was found in lie-down position(Y axis) and the worst case was recorded.
2. Result(EIRP) = Reading + c.f(Correction factor) – 95.2
3. Correction factor = Antenna factor + Cable loss – Amp Gain

APPENDIX A – Test Equipment Used For Tests

	Name of Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
1	EMI Test Receiver	Rohde & Schwarz	ESCI7	100814	2021-10-20	2022-10-20
2	Bilog Antenna	TESEQ	CBL6111D	58490	2021-03-03	2023-03-03
3	ATTENUATOR	PASTERNACK	PE7047-6	NONE	2021-02-26	2022-02-26
4	AMPLIFIER	SONOMA	310	291721	2022-01-21	2023-01-21
5	EMI Test Receiver	Rohde & Schwarz	ESU40	100336	2023-01-11	2023-01-11
6	Horn Antenna	ETS-Lindgren	3117	00154525	2021-10-21	2022-10-21
7	Preamplifier	Agilent	8449B	3008A01504	2021-12-17	2022-12-17
8	Horn Antenna	SCHWARZBECK	BBHA9170	00967	2021-05-25	2022-05-25
9	Low Noise Amplifier	TESTEK	TK-PA1840H	200115-L	2021-05-21	2022-05-21
10	Band Reject Filter	Wainwright Instruments	WRCG824/849 -814/859- 70/11EE	110331712	2021-09-10	2022-09-10
11	High Pass Filter	FILTRON	H16029FL	1606001S-1	2021-04-09	2022-04-09
12	High Pass Filter	FILTRON	H16030FL	1606001S-2	2021-04-09	2022-04-09
13	Band Reject Filter	Micro Tronics	BRM50702	G444	2021-10-08	2022-10-08