



## MEASUREMENT REPORT

**Applicant** : Fanstel Corporation, Taipei

**Address** : 10F-10, No. 79, Sec. 1, Hsin Tai Wu Rd., Hsi-Chih, New Taipei City 221 Taiwan

**Product** : BLG840F/X BLE/802.15.4 to LTE Gateways

**Model No.** : BLG840F, BLG840X, BLG40F, BLG840E, BLG840XE, BLG40E, BLE840F, BLE840X, BLE40F, BLE840E, BLE840XE, BLE40E, LN60G840F, LN60G840X, LN60G40F, LN60G840E, LN60G840XE, LN60G40E, LN60E840F, LN60E840X, LN60E40F, LN60E840E, LN60E840XE, LN60E40E

**Trademark** : Fanstel

**Standards** : EN 301 908-1 V13.1.1 (2019-11)

**Result** : Complies

**Received Date** : May 24, 2022

**Test Date** : July 21, 2022~ July 26, 2022

**Tested By** : *Fran Chen*  
( Fran Chen )

**Reviewed By** : *Paddy Chen*  
( Paddy Chen )

**Approved By** : *Chenz Ker*  
( Chenz Ker )



The test results only relate to the tested sample.

The test results shown in the test report are traceable to the national/international standards through the calibration of the equipment and evaluated measurement uncertainty herein.

The test report shall not be reproduced except in full without the written approval of MRT Technology ( Taiwan ) Co., Ltd.

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### Revision History

Report No.	Version	Description	Issue Date	Note
2205TWB901-E4	1.0	Original Report	2022-08-25	

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## 1. General Information

<b>Applicant</b>	Fanstel Corporation, Taipei
<b>Applicant Address</b>	10F-10, No. 79, Sec. 1, Hsin Tai Wu Rd., Hsi-Chih, New Taipei City 221 Taiwan
<b>Manufacturer</b>	Fanstel Corporation, Taipei
<b>Manufacturer Address</b>	10F-10, No. 79, Sec. 1, Hsin Tai Wu Rd., Hsi-Chih, New Taipei City 221 Taiwan
<b>Test Site</b>	MRT Technology (Taiwan) Co., Ltd
<b>Test Site Address</b>	No. 38, Fuxing Second Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C)
<b>Test Device Serial No</b>	#1-1 <input type="checkbox"/> Production <input checked="" type="checkbox"/> Pre-Production <input type="checkbox"/> Engineering

### Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Fuxing Rd., Taoyuan, Taiwan ( R.O.C )

- MRT facility is a FCC registered (Reg. No. 291082) test facility with the site description report on file and is designated by the FCC as an Accredited Test Firm.
- MRT facility is an IC registered (MRT Reg. No. 21723) test laboratory with the site description on file at Industry Canada.
- MRT Lab is accredited to ISO 17025 by the Taiwan Accreditation Foundation (TAF Cert. No. 3261) in EMC, Telecommunications and Radio testing for FCC (Designation Number: TW3261), Industry Taiwan, EU and TELEC Rules.

## 2. PRODUCT INFORMATION

Product Name	BLG840F/X BLE/802.15.4 to LTE Gateways
Trademark	Fanstel
Model No.	BLG840F, BLG840X, BLG40F, BLG840E, BLG840XE, BLG40E, BLE840F, BLE840X, BLE40F, BLE840E, BLE840XE, BLE40E, LN60G840F, LN60G840X, LN60G40F, LN60G840E, LN60G840XE, LN60G40E, LN60E840F, LN60E840X, LN60E40F, LN60E840E, LN60E840XE, LN60E40E
Hardware Version	BT840XE-V5
Firmware Version	N/A
IMEI	351358811087409
4G Cat-M1 Operation Band (s)	Band1,3,8,20,28
Power Adapter	Brand: GAT Model No: GA-0502000V Input: AC 100-240V~ 50/60Hz 0.6A Output: DC 5.0V, 2000mA

### Note:

#### 1. Model Difference Description:

BLE to LTE Gateways		
BLG840F	LN60G840F	BT840F, nRF9160, integrated GPS antenna
BLG840X	LN60G840X	BT840X, nRF9160, integrated GPS antenna
BLG40F	LN60G40F	BT40F, nRF9160, integrated GPS antenna
BLG840E	LN60G840E	BT840E, nRF9160, integrated GPS antenna
BLG840XE	LN60G840XE	BT840XE, nRF9160, integrated GPS antenna
BLG40E	LN60G40E	BT40E, nRF9160, integrated GPS antenna
BLE840F	LN60E840F	BT840F, nRF9160, external GPS antenna (not included)
BLE840X	LN60E840X	BT840X, nRF9160, external GPS antenna (not included)
BLE40F	LN60E40F	BT40F, nRF9160, external GPS antenna (not included)
BLE840E	LN60E840E	BT840E, nRF9160, GPS not supported
BLE840XE	LN60E840XE	BT840XE, nRF9160, GPS not supported
BLE40E	LN60E40E	BT40E, nRF9160, GPS not supported

#### 2. The test was performed base on BLG840F.

## 2.1. Product Specification Subjective to this Report

Cat-M1 Specification	
FDD T <sub>x</sub> Frequency Range	Band 1: 1920MHz–1980MHz
	Band 3: 1710MHz–1785MHz
	Band 8: 880MHz–915MHz
	Band 20: 832MHz–862MHz
	Band 28: 703MHz–748MHz
FDD R <sub>x</sub> Frequency Range	Band 1: 2110MHz–2170MHz
	Band 3: 1805MHz–1880MHz
	Band 8: 925MHz–960MHz
	Band 20: 791MHz–821MHz
	Band 28: 758MHz–803MHz
Antenna Type	Dipole Antenna
Antenna Gain	Band 1: 1.83dBi, Band 3: 0.41dBi, Band 8: 0.94dBi
	Band 20: 1.85dBi, Band 28: 1.61dBi
Type of Modulation	Cat-M1: QPSK, 16QAM
Category	Category 1

Note: For other features of this EUT, test report will be issued separately.

## 2.2. Standards Applicable for Testing

The EUT complies with the requirements of EN 301 908-1 V13.1.1 (2019-11).

### 3. Test Summary

Specification	EN 301 908 - 1	Result
4.2.2	Radiated emissions (UE)	Pass
4.2.4	Control and monitoring functions (UE)	Pass
4.2.2	Radiated emissions (BS and repeater)	Not applicable

Note: Determining compliance is based on the test results met the regulation limits or requirements declared by clients, and the test results don't take into account the value of measurement uncertainty.

## 4. Measurement Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Parameter	Uncertainty
Effective radiated RF power between 30 MHz and 180 MHz	$\pm 6$ dB
Effective radiated RF power between 180 MHz and 12,75 GHz	$\pm 3$ dB

For the test methods, according to the present document, the measurement uncertainty figures shall be calculated and shall correspond to an expansion factor (coverage factor)  $k = 1,96$  (which provides a confidence level of 95 % in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)). Principles for the calculation of measurement uncertainty are contained in TR 100 028 , in particular in annex D of the TR 100 028-2..



## 5. List of Measuring Instrument

### Radiated – AC1

Instrument	Manufacturer	Type No.	Asset No.	interval	Cal. Date
Broadband TRILOG Antenna	SCHWARZBECK	VULB 9162	MRTTWA00001	1 year	2022/10/04
EMI Test Receiver	R&S	ESR3	MRTTWA00009	1 year	2023/03/09
Active Loop Antenna	Schwarzbeck	FMZB 1519B	MRTTWA00002	1 year	2023/05/24
Broadband Horn antenna	SCHWARZBECK	BBHA 9120D	MRTTWA00003	1 year	2023/03/30
Breitband Hornantenna	Schwarzbeck	BBHA 9170	MRTTWA00004	1 year	2023/03/29
Broadband Amplifier	Schwarzbeck	BBV 9721	MRTTWA00006	1 year	2023/03/30
Broadband Preampifier	SCHWARZBECK	BBV 9718	MRTTWA00005	1 year	2023/03/30
Cable	HUBERSUHNER	SF106	MRTTWE00010	1 year	2023/06/14

### Conducted – SR5

Instrument	Manufacturer	Type No.	Asset No.	interval	Cal. Date
EXA Signal Analyzer	Keysight	N9010A	MRTTWA00012	1 year	2022/10/18
EXA Signal Analyzer	Keysight	N9010B	MRTTWA00074	1 year	2023/7/19
Communication Tester	R&S	CMW 500	MRTTWA00084	1 year	2022/10/18

### Test Tool

Software	Manufacturer	Version
e3	Audix	9.160520a
EMI	Quietek	V3

## 6. Radiated emissions (UE)

### 6.1. Limits

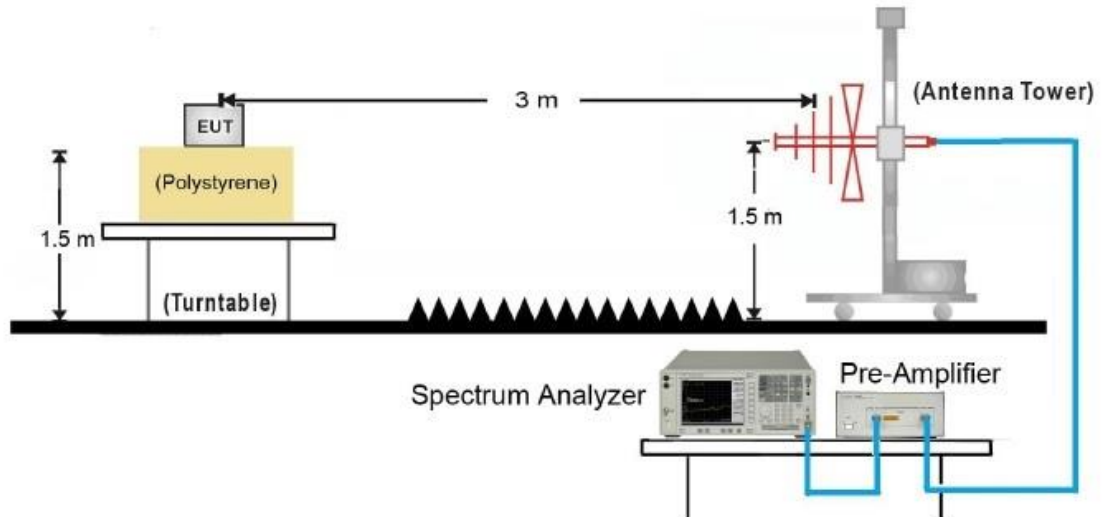
The frequency boundary and reference bandwidths for the detailed transitions of the limits between the requirements for out-of-band emissions and spurious emissions are based on Recommendations ITU-R SM.329-12 and SM.1539-1.

The requirements shown in below table are only applicable for frequencies in the spurious domain.

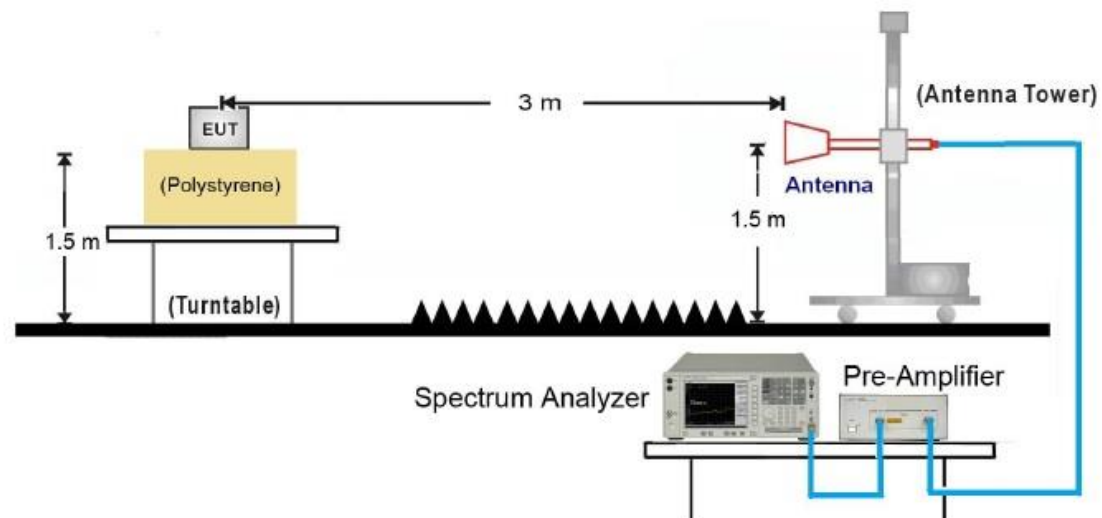
Frequency	Minimum requirement (e.r.p.)/ reference bandwidth idle mode	Minimum requirement (e.r.p.)/ reference bandwidth traffic mode	Applicability
$30 \text{ MHz} < f < 1\,000 \text{ MHz}$	-57 dBm/100 kHz	-36 dBm/100 kHz	All
$1 \text{ GHz} < f < 12,75 \text{ GHz}$	-47 dBm/1 MHz	-30 dBm/1 MHz	All
$f_c - 2,5 \times 5 \text{ MHz} < f < f_c + 2,5 \times 5 \text{ MHz}$	--	Not defined	UTRA FDD,UTRA TDD, 3,84 Mbps option,cdma2000, spreading rate 3
$f_c - 2,5 \times \text{BW Channel MHz} < f < f_c + 2,5 \times \text{BW Channel MHz}$	--	Not defined	E-UTRA FDD, E-UTRA TDD, Mobile WiMAX™
$f_c - 2,5 \times 10 \text{ MHz} < f < f_c + 2,5 \times 10 \text{ MHz}$	--	Not defined	UTRA TDD, 7,68 Mcps option
$f_c - 4 \text{ MHz} < f < f_c + 4 \text{ MHz}$	--	Not defined	UTRA TDD, 1,28 Mcps option cdma2000, spreading rate 1
NOTE: $f_c$ is the UE transmit centre frequency.			

## 6.2. Test Setup

(a) 30MHz ~ 1GHz Test Setup:

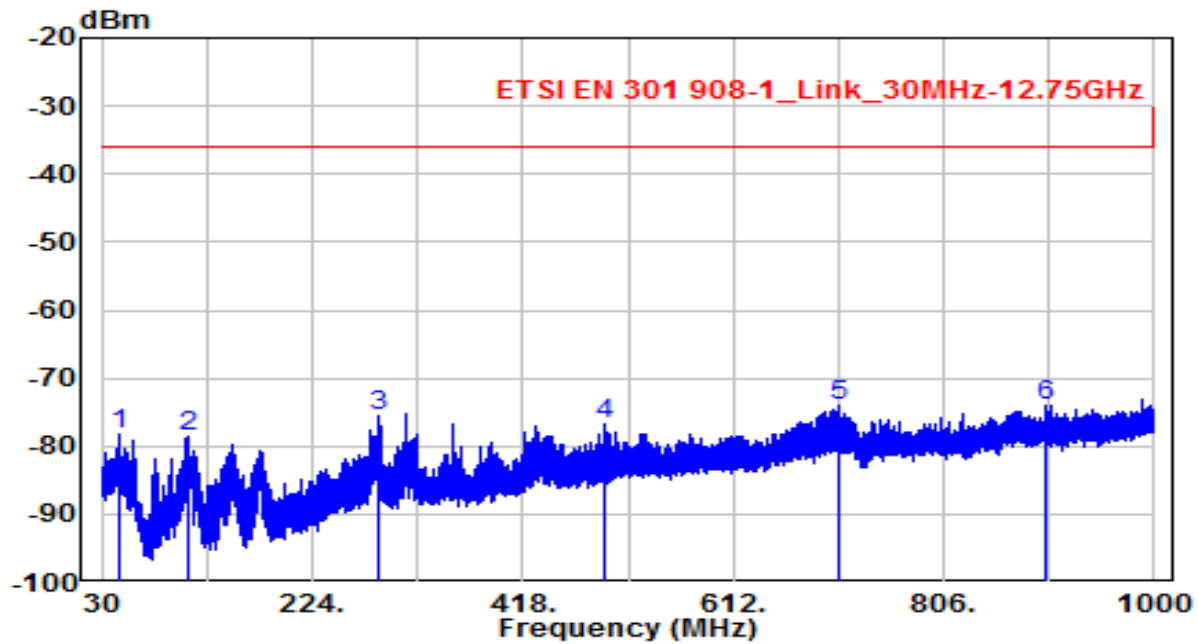


(b) 1GHz ~ 12.75GHz Test Setup:



### 6.3. Radiated Spurious Emission Test Result

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-21
Factor	ERP_30MHz~1GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 1_CH 18300_BW 20MHz	Test Voltage	AC 230V/50Hz

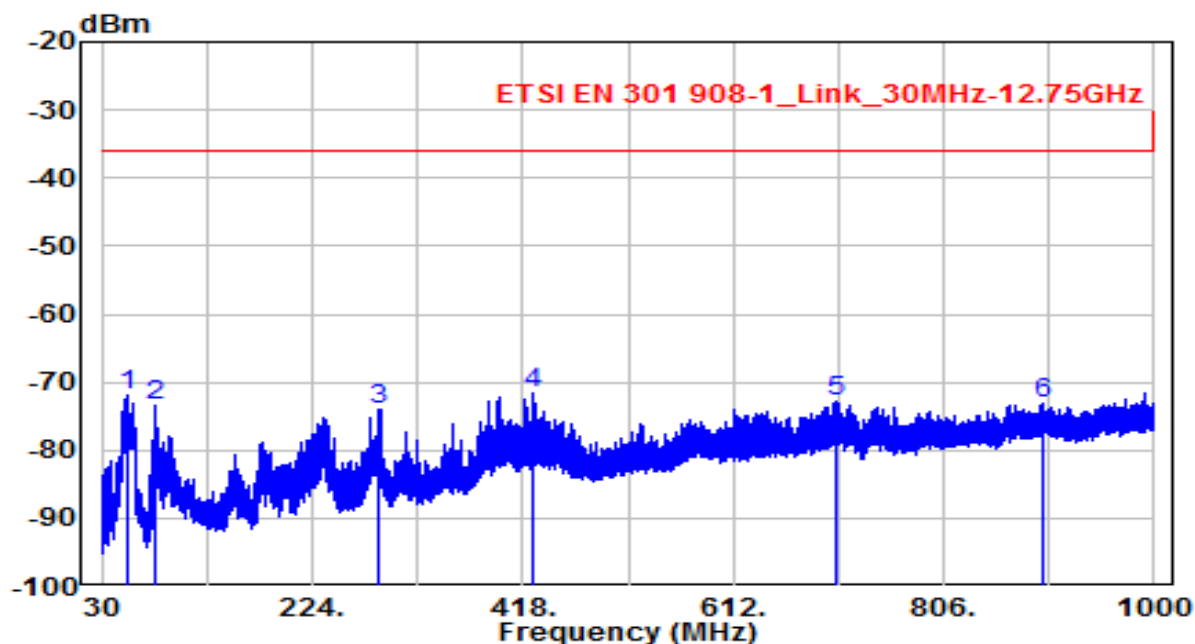


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	46.399	-103.03	24.91	-78.11	-42.11	-36.00	150	360	Peak
2	108.570	-97.03	18.57	-78.47	-42.47	-36.00	150	360	Peak
3	286.019	-96.48	21.07	-75.41	-39.41	-36.00	150	360	Peak
4	492.781	-101.30	24.66	-76.65	-40.65	-36.00	150	360	Peak
5	* 708.394	-101.68	27.75	-73.93	-37.93	-36.00	150	360	Peak
6	901.121	-104.88	30.82	-74.05	-38.05	-36.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-21
Factor	ERP_30MHz~1GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 1_CH 18300_BW 20MHz	Test Voltage	AC 230V/50Hz

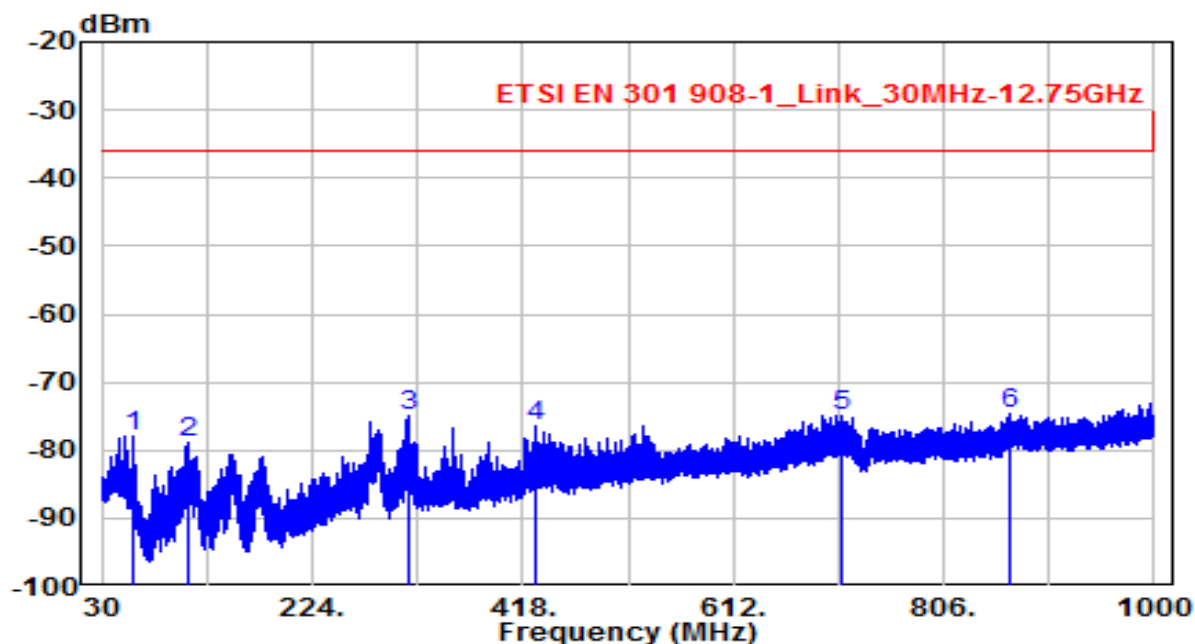


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	52.765	-91.95	20.01	-71.94	-35.94	-36.00	150	360	Peak
2	79.409	-93.59	20.03	-73.56	-37.56	-36.00	150	360	Peak
3	286.141	-96.26	22.19	-74.07	-38.07	-36.00	150	360	Peak
4	* 428.397	-97.68	26.12	-71.56	-35.56	-36.00	150	360	Peak
5	705.696	-102.30	29.59	-72.71	-36.71	-36.00	150	360	Peak
6	897.241	-105.71	32.52	-73.19	-37.19	-36.00	150	360	Peak

Note:

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2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-21
Factor	ERP_30MHz~1GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 3_CH 19575_BW 20MHz	Test Voltage	AC 230V/50Hz

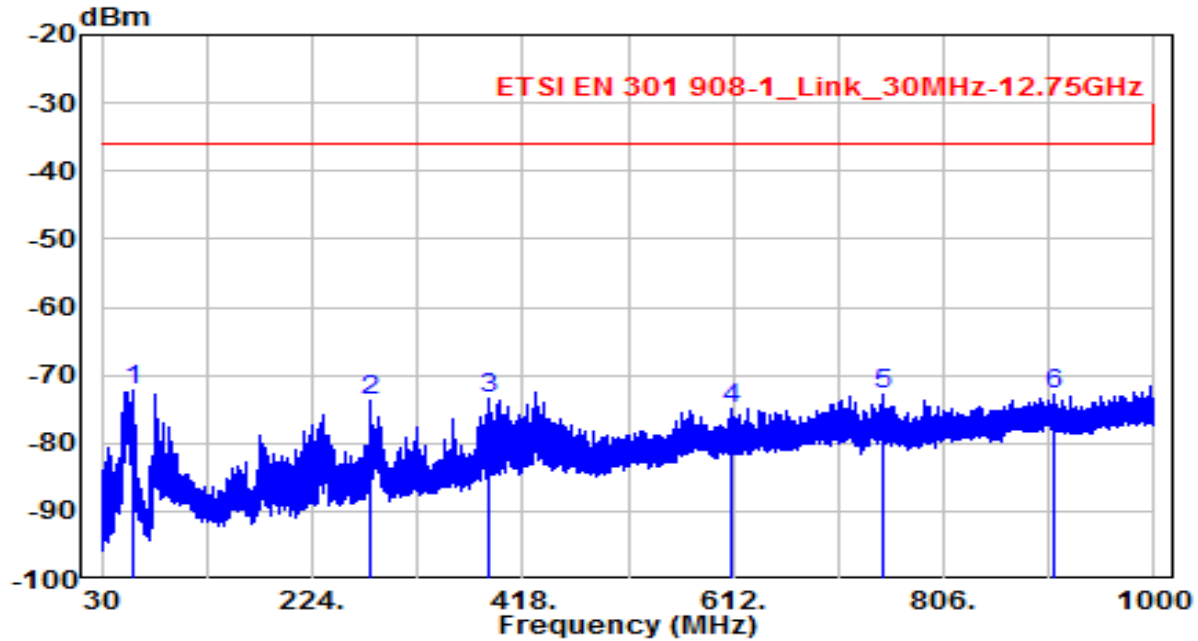


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	59.221	-97.58	19.50	-78.08	-42.08	-36.00	150	360	Peak
2	108.782	-97.70	18.69	-79.01	-43.01	-36.00	150	360	Peak
3	311.937	-96.23	21.24	-74.99	-38.99	-36.00	150	360	Peak
4	428.913	-100.23	23.88	-76.35	-40.35	-36.00	150	360	Peak
5	711.334	-102.58	27.78	-74.80	-38.80	-36.00	150	360	Peak
6	* 866.868	-105.42	30.83	-74.59	-38.59	-36.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

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Factor	ERP_30MHz~1GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 3_CH 19575_BW 20MHz	Test Voltage	AC 230V/50Hz

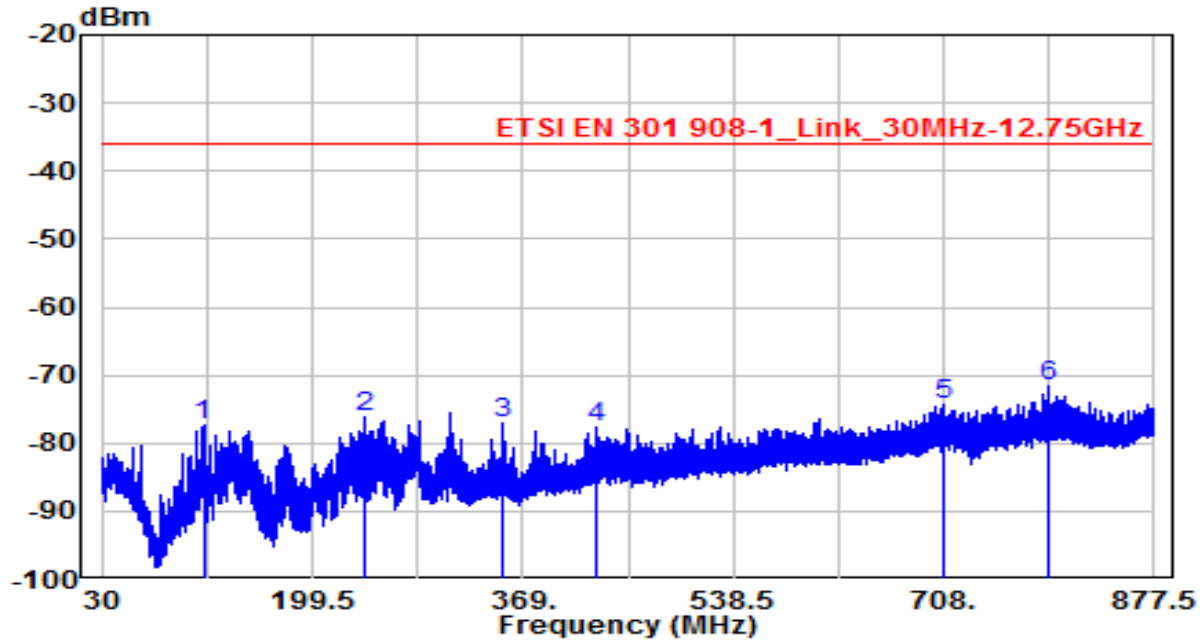


No		Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	59.464	-90.76	18.52	-72.24	-36.24	-36.00	150	360	Peak
2		277.744	-95.55	21.69	-73.86	-37.86	-36.00	150	360	Peak
3		387.415	-98.71	25.39	-73.32	-37.32	-36.00	150	360	Peak
4		611.394	-103.07	28.27	-74.79	-38.79	-36.00	150	360	Peak
5		751.134	-103.14	30.27	-72.87	-36.87	-36.00	150	360	Peak
6		907.698	-105.24	32.40	-72.84	-36.84	-36.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

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Factor	ERP_30MHz~1GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 8_CH 21625_BW 10MHz	Test Voltage	AC 230V/50Hz



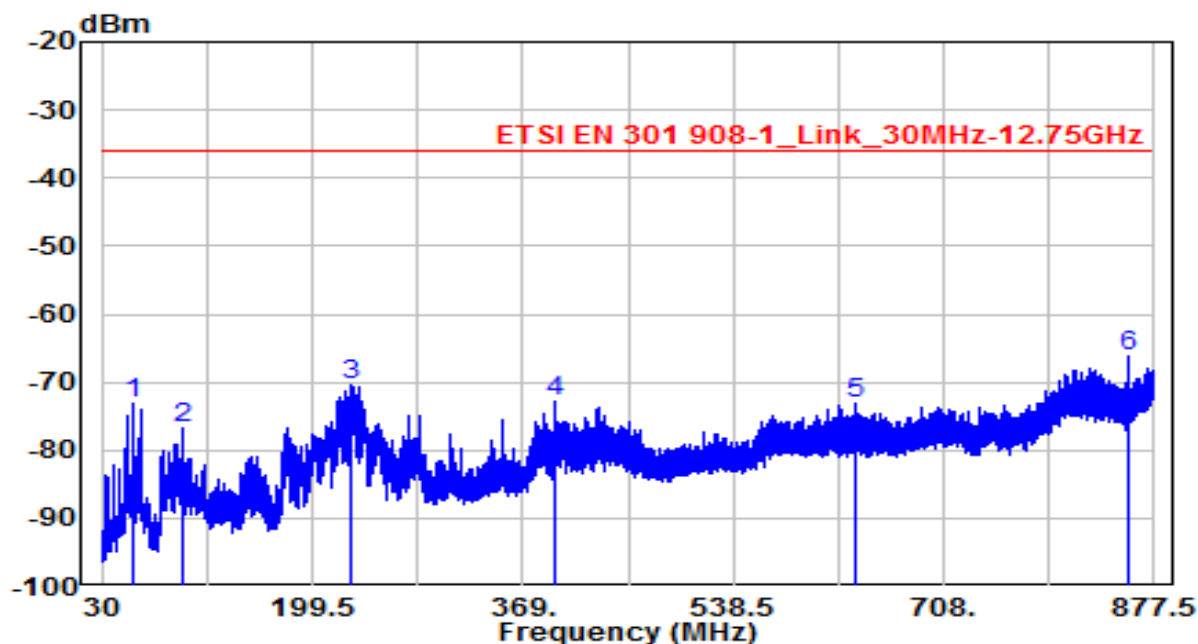
No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	111.916	-94.67	17.39	-77.28	-41.28	-36.00	150	360	Peak
2	241.716	-96.32	20.26	-76.06	-40.06	-36.00	150	360	Peak
3	353.745	-99.19	22.16	-77.03	-41.03	-36.00	150	360	Peak
4	429.146	-101.56	23.89	-77.67	-41.67	-36.00	150	360	Peak
5	707.974	-102.17	27.75	-74.42	-38.42	-36.00	150	360	Peak
6	* 793.015	-100.72	29.13	-71.60	-35.60	-36.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.



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Factor	ERP_30MHz~1GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 8_CH 21625_BW 10MHz	Test Voltage	AC 230V/50Hz

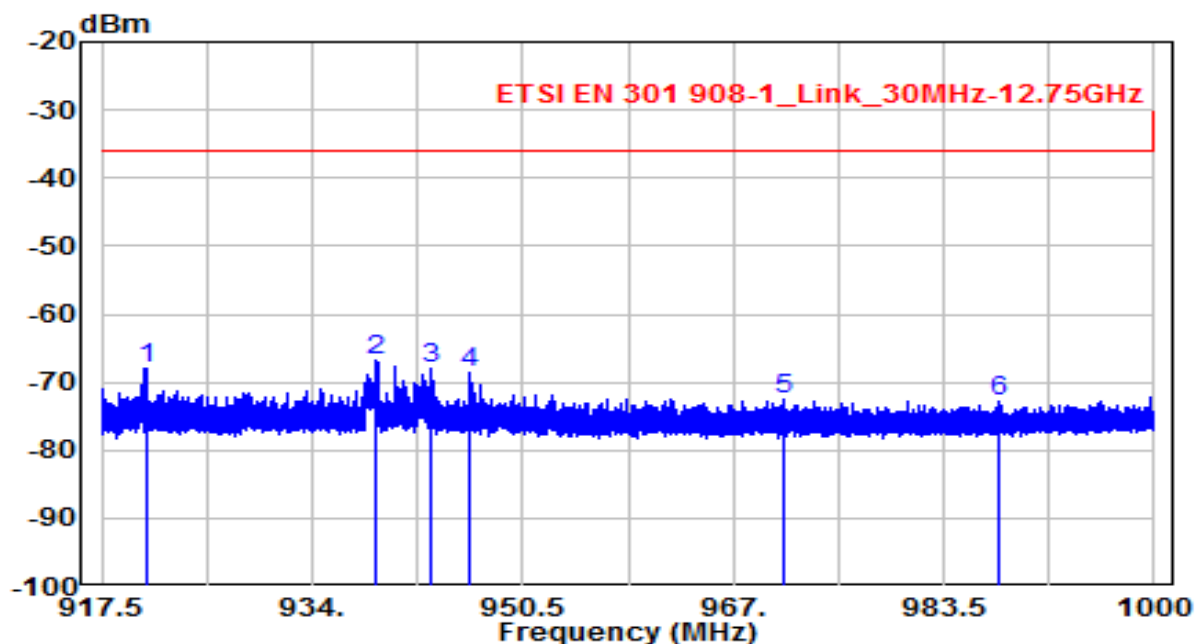


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	55.451	-92.97	19.82	-73.15	-37.15	-36.00	150	360	Peak
2	95.019	-98.23	21.63	-76.61	-40.61	-36.00	150	360	Peak
3	230.752	-90.77	20.48	-70.29	-34.29	-36.00	150	360	Peak
4	395.696	-98.02	25.31	-72.71	-36.71	-36.00	150	360	Peak
5	637.578	-101.87	28.70	-73.17	-37.17	-36.00	150	360	Peak
6	* 857.001	-97.20	31.13	-66.07	-30.07	-36.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-21
Factor	ERP_30MHz~1GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 8_CH 21625_BW 10MHz	Test Voltage	AC 230V/50Hz

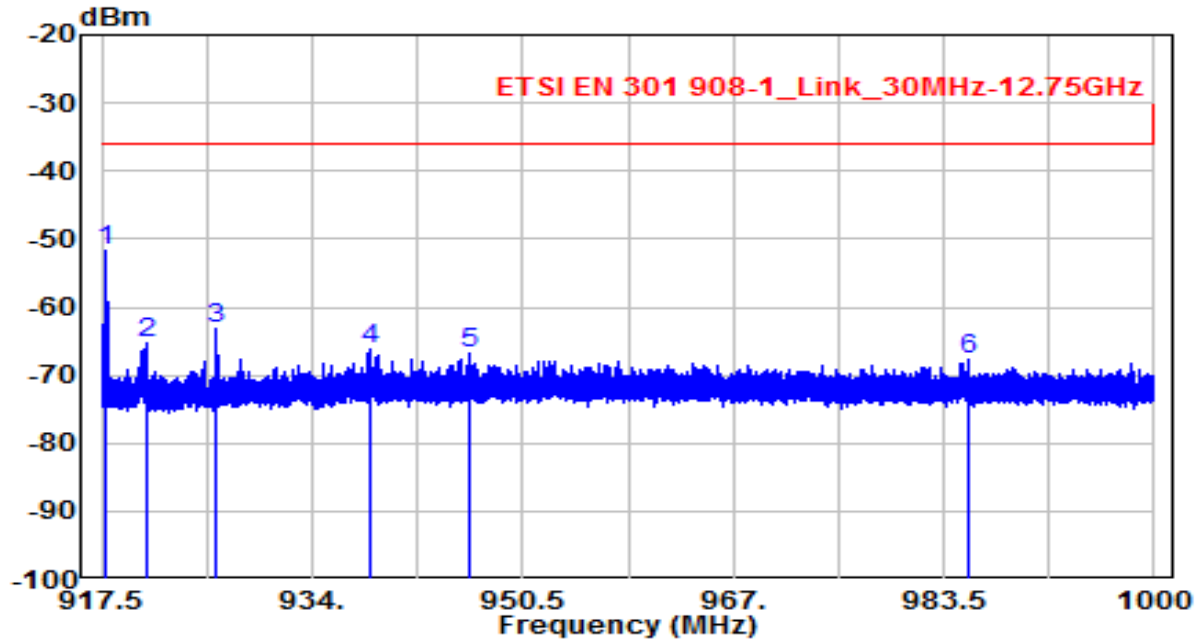


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	920.955	-99.02	30.93	-68.09	-32.09	-36.00	150	360	Peak
2	* 939.066	-97.91	31.17	-66.74	-30.74	-36.00	150	360	Peak
3	943.299	-99.27	31.16	-68.11	-32.11	-36.00	150	360	Peak
4	946.290	-99.73	31.06	-68.67	-32.67	-36.00	150	360	Peak
5	970.978	-103.89	31.37	-72.52	-36.52	-36.00	150	360	Peak
6	987.924	-104.50	31.53	-72.97	-36.97	-36.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-21
Factor	ERP_30MHz~1GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 8_CH 21625_BW 10MHz	Test Voltage	AC 230V/50Hz

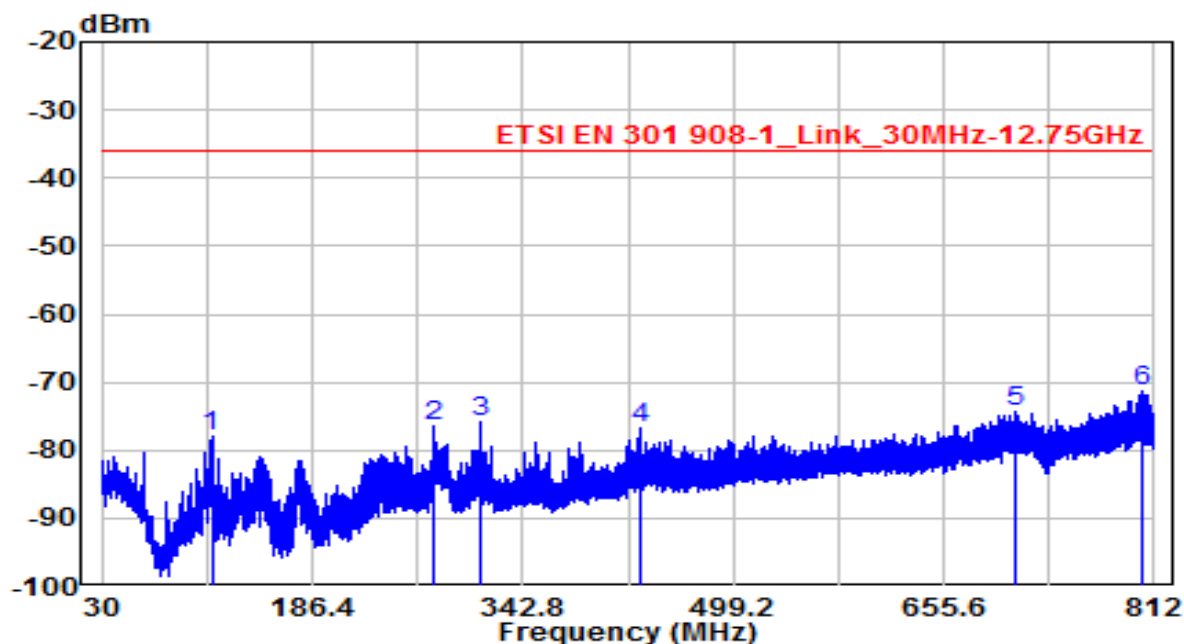


No		Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	917.781	-83.79	32.12	-51.66	-15.66	-36.00	150	360	Peak
2		920.981	-97.43	32.05	-65.38	-29.38	-36.00	150	360	Peak
3		926.474	-95.34	32.02	-63.32	-27.32	-36.00	150	360	Peak
4		938.447	-98.40	32.14	-66.26	-30.26	-36.00	150	360	Peak
5		946.251	-99.13	32.37	-66.75	-30.75	-36.00	150	360	Peak
6		985.374	-100.92	33.11	-67.81	-31.81	-36.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-21
Factor	ERP_30MHz~1GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 20_CH 24300_BW20MHz	Test Voltage	AC 230V/50Hz

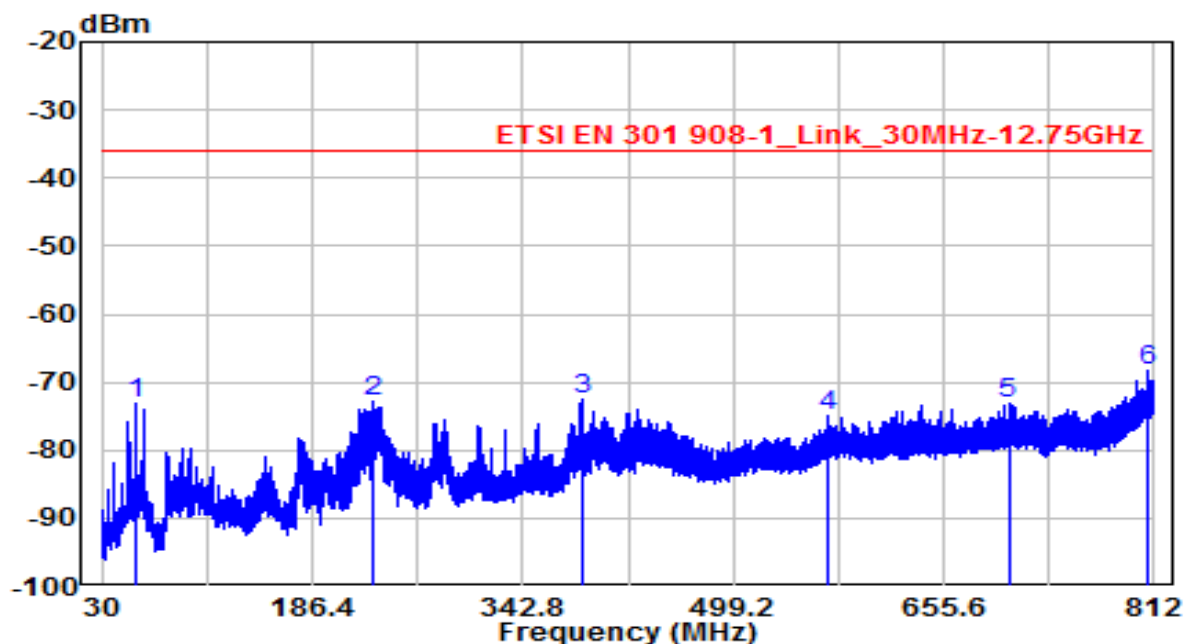


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	111.670	-95.61	17.50	-78.11	-42.11	-36.00	150	360	Peak
2	277.527	-97.04	20.74	-76.30	-40.30	-36.00	150	360	Peak
3	310.982	-97.11	21.20	-75.92	-39.92	-36.00	150	360	Peak
4	429.651	-100.68	23.90	-76.78	-40.78	-36.00	150	360	Peak
5	709.827	-102.16	27.74	-74.42	-38.42	-36.00	150	360	Peak
6	* 802.152	-100.62	29.30	-71.32	-35.32	-36.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-21
Factor	ERP_30MHz~1GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 20_CH 24300_BW20MHz	Test Voltage	AC 230V/50Hz

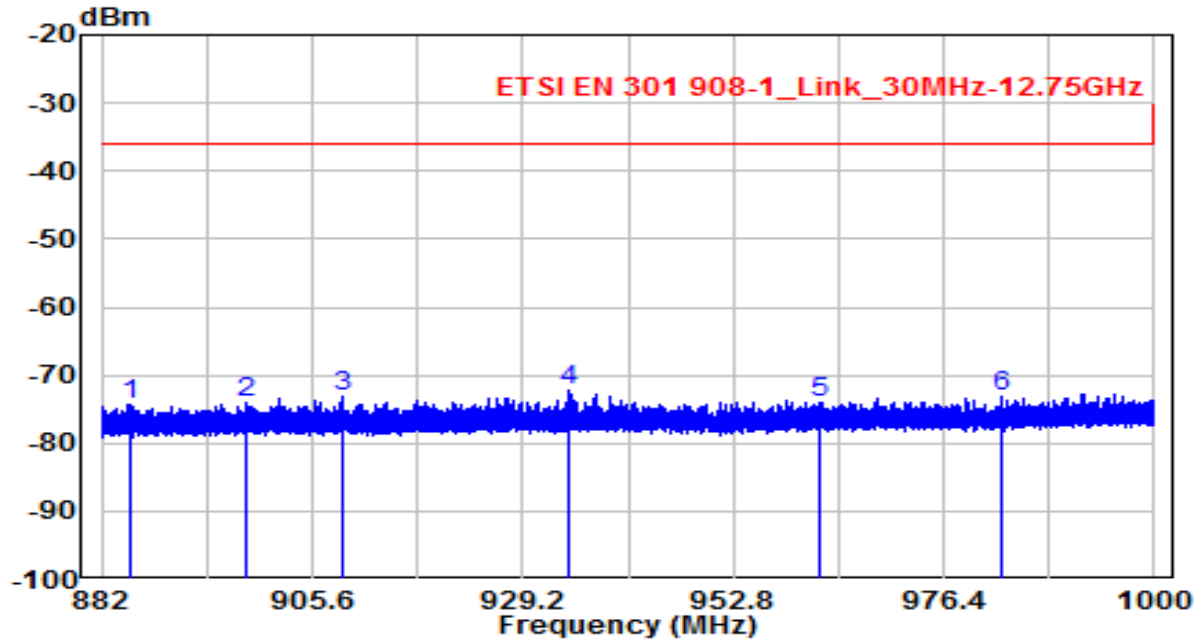


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	55.708	-93.28	20.02	-73.26	-37.26	-36.00	150	360	Peak
2	231.414	-93.40	20.51	-72.89	-36.89	-36.00	150	360	Peak
3	386.348	-97.93	25.36	-72.57	-36.57	-36.00	150	360	Peak
4	569.995	-102.90	28.04	-74.86	-38.86	-36.00	150	360	Peak
5	703.766	-102.75	29.58	-73.17	-37.17	-36.00	150	360	Peak
6	* 806.477	-99.08	30.75	-68.33	-32.33	-36.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-21
Factor	ERP_30MHz~1GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 20_CH 24300_BW20MHz	Test Voltage	AC 230V/50Hz

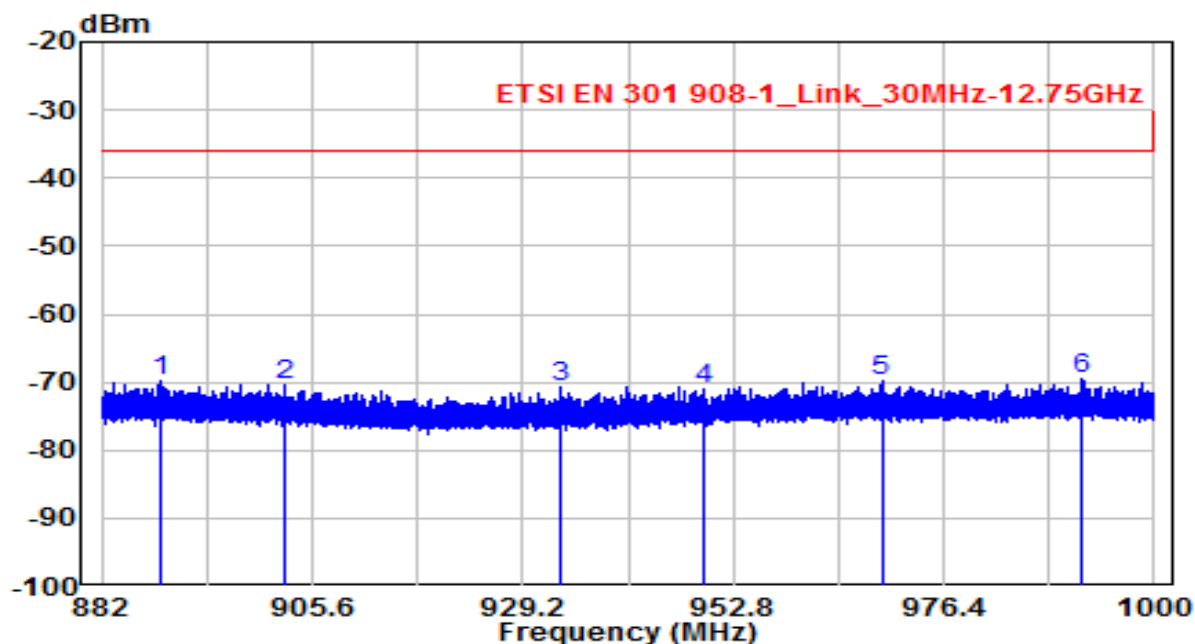


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	885.219	-104.99	30.66	-74.33	-38.33	-36.00	150	360	Peak
2	898.078	-104.68	30.77	-73.91	-37.91	-36.00	150	360	Peak
3	909.122	-103.80	30.79	-73.01	-37.01	-36.00	150	360	Peak
4	* 934.455	-103.44	31.13	-72.31	-36.31	-36.00	150	360	Peak
5	962.616	-105.33	31.27	-74.06	-38.06	-36.00	150	360	Peak
6	982.864	-104.48	31.34	-73.14	-37.14	-36.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-21
Factor	ERP_30MHz~1GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 20_CH 24300_BW20MHz	Test Voltage	AC 230V/50Hz

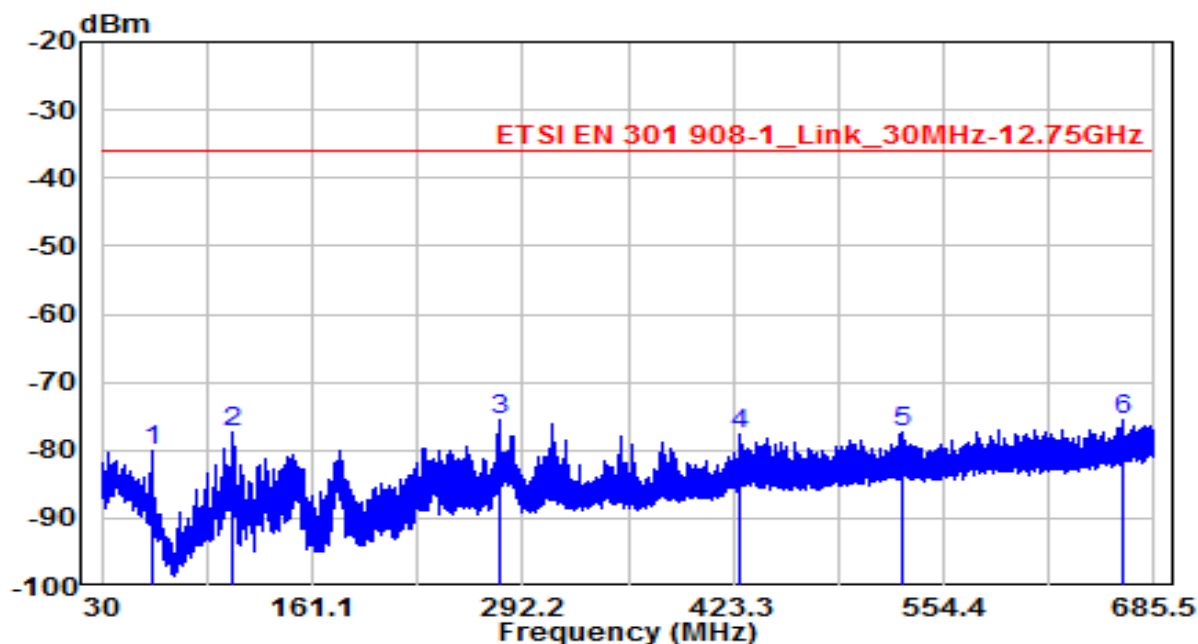


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	888.490	-102.14	32.37	-69.77	-33.77	-36.00	150	360	Peak
2	902.525	-103.12	32.58	-70.54	-34.54	-36.00	150	360	Peak
3	933.430	-102.83	32.05	-70.79	-34.79	-36.00	150	360	Peak
4	949.621	-103.61	32.51	-71.10	-35.10	-36.00	150	360	Peak
5	969.442	-103.02	33.11	-69.91	-33.91	-36.00	150	360	Peak
6	* 991.943	-102.51	33.12	-69.39	-33.39	-36.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-21
Factor	ERP_30MHz~1GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 28_CH 27385_BW20MHz	Test Voltage	AC 230V/50Hz



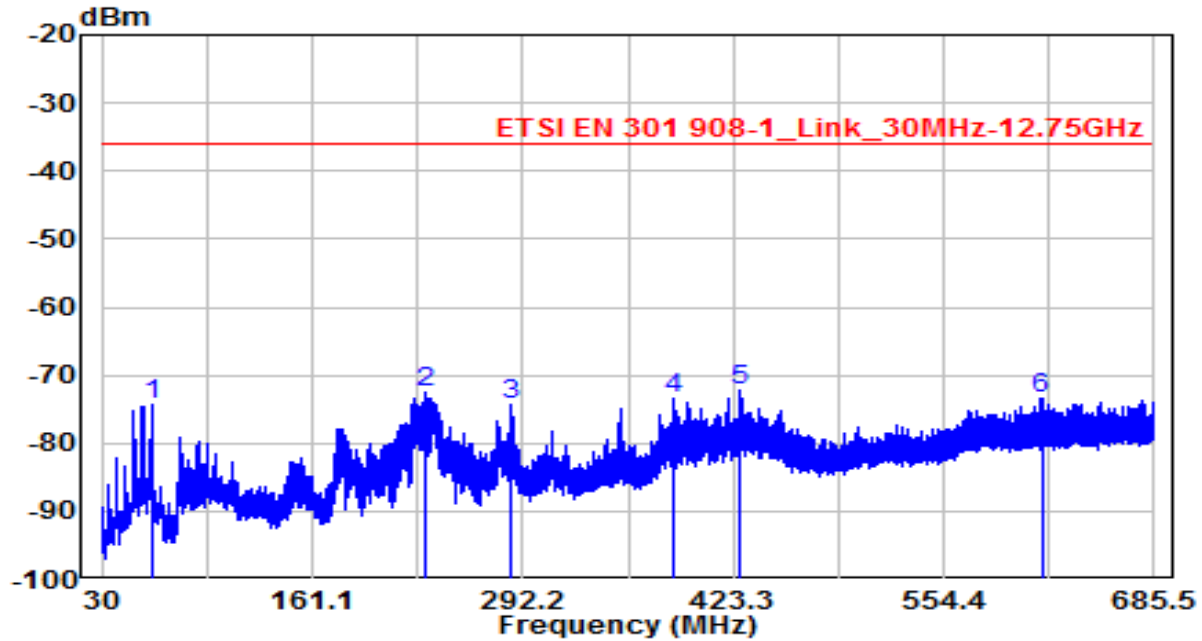
No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	61.116	-100.40	20.34	-80.06	-44.06	-36.00	150	360	Peak
2	111.958	-94.67	17.37	-77.30	-41.30	-36.00	150	360	Peak
3	277.984	-96.43	20.74	-75.69	-39.69	-36.00	150	360	Peak
4	427.192	-101.55	23.83	-77.72	-41.72	-36.00	150	360	Peak
5	529.163	-102.81	25.49	-77.32	-41.32	-36.00	150	360	Peak
6	* 665.856	-102.84	27.27	-75.57	-39.57	-36.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.



EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-21
Factor	ERP_30MHz~1GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 28_CH 27385_BW20MHz	Test Voltage	AC 230V/50Hz

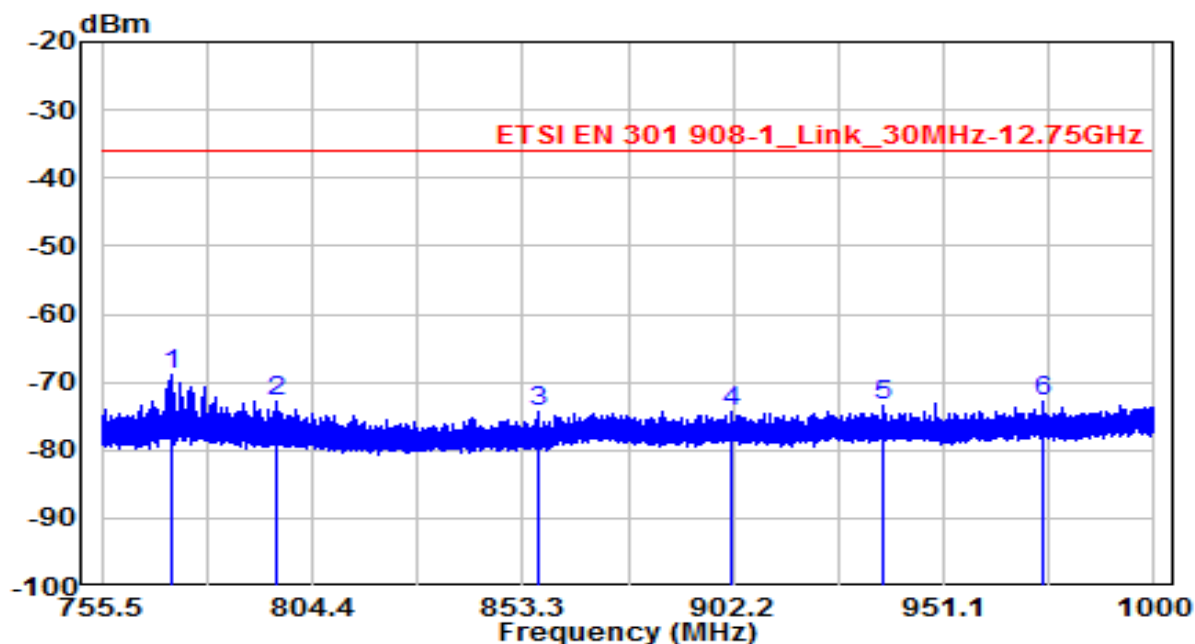


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	61.300	-94.38	20.15	-74.24	-38.24	-36.00	150	360	Peak
2	231.423	-93.01	20.51	-72.49	-36.49	-36.00	150	360	Peak
3	285.584	-96.46	22.15	-74.31	-38.31	-36.00	150	360	Peak
4	386.059	-98.66	25.35	-73.31	-37.31	-36.00	150	360	Peak
5	* 427.684	-98.42	26.08	-72.35	-36.35	-36.00	150	360	Peak
6	615.341	-101.78	28.29	-73.49	-37.49	-36.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-21
Factor	ERP_30MHz~1GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 28_CH 27385_BW20MHz	Test Voltage	AC 230V/50Hz

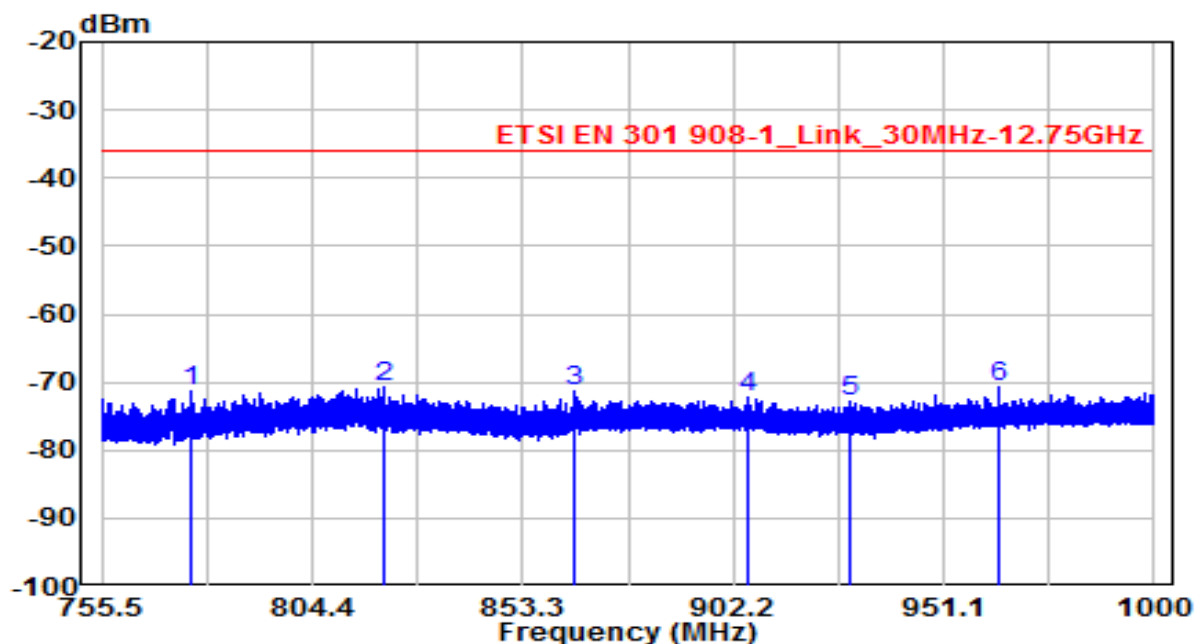


No		Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	*	771.966	-97.94	28.99	-68.95	-32.95	-36.00	150	360	Peak
2		795.827	-102.02	29.21	-72.82	-36.82	-36.00	150	360	Peak
3		856.685	-104.39	30.02	-74.37	-38.37	-36.00	150	360	Peak
4		901.917	-105.08	30.84	-74.25	-38.25	-36.00	150	360	Peak
5		937.270	-104.56	31.16	-73.40	-37.40	-36.00	150	360	Peak
6		974.182	-104.26	31.36	-72.89	-36.89	-36.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-21
Factor	ERP_30MHz~1GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 28_CH 27385_BW20MHz	Test Voltage	AC 230V/50Hz

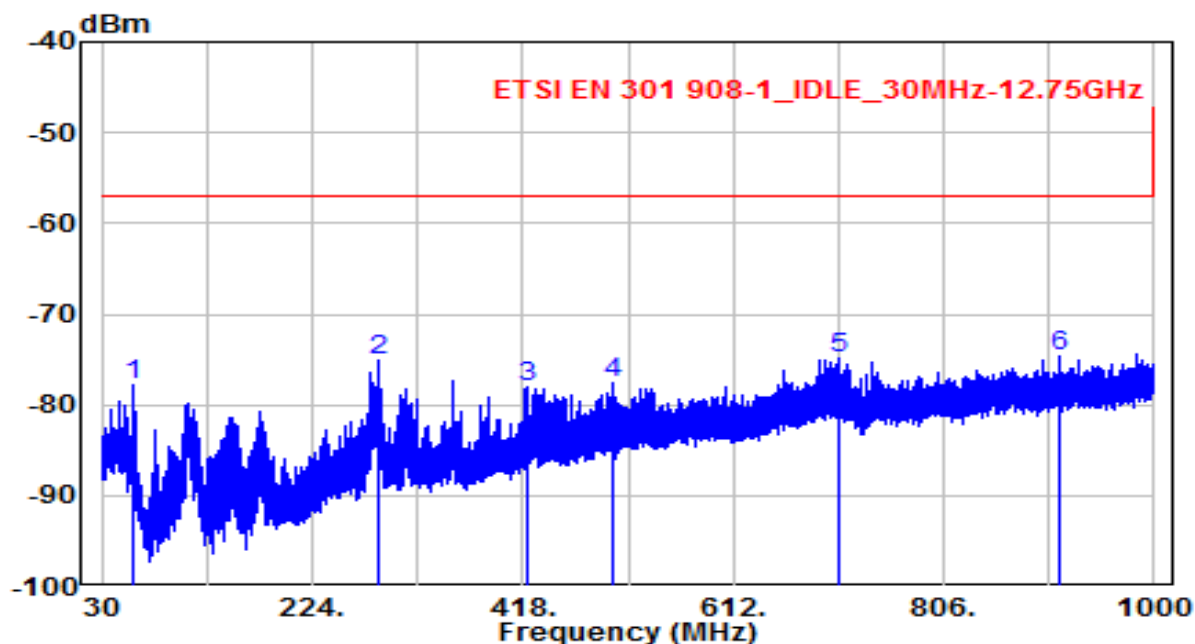


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	775.992	-101.45	30.04	-71.41	-35.41	-36.00	150	360	Peak
2	821.011	-101.76	31.09	-70.66	-34.66	-36.00	150	360	Peak
3	865.579	-103.07	31.89	-71.17	-35.17	-36.00	150	360	Peak
4	905.707	-104.62	32.47	-72.15	-36.15	-36.00	150	360	Peak
5	929.072	-104.73	32.02	-72.70	-36.70	-36.00	150	360	Peak
6	* 963.715	-103.60	33.03	-70.57	-34.57	-36.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-21
Factor	ERP_30MHz~1GHz (RX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Idle	Test Voltage	AC 230V/50Hz

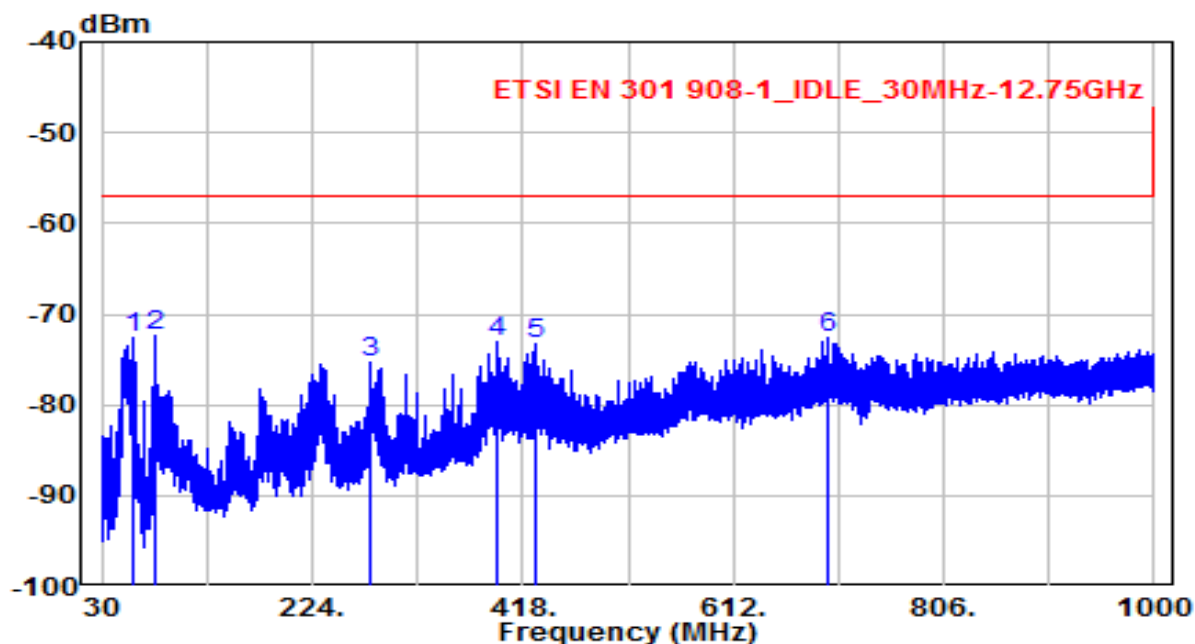


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	59.524	-97.18	19.32	-77.86	-20.86	-57.00	150	360	Peak
2	286.080	-95.80	20.73	-75.07	-18.07	-57.00	150	360	Peak
3	421.213	-101.26	23.31	-77.95	-20.95	-57.00	150	360	Peak
4	502.269	-102.60	24.98	-77.62	-20.62	-57.00	150	360	Peak
5	710.213	-102.46	27.53	-74.93	-17.93	-57.00	150	360	Peak
6	* 911.730	-104.65	30.05	-74.60	-17.60	-57.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-21
Factor	ERP_30MHz~1GHz (RX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Idle	Test Voltage	AC 230V/50Hz

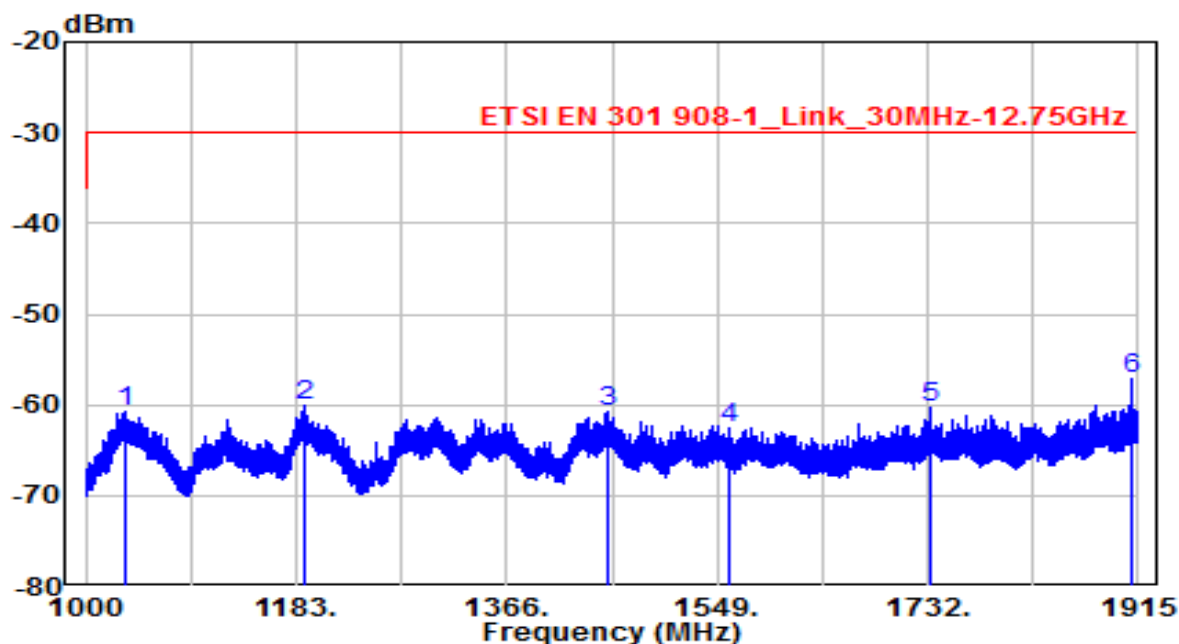


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	59.221	-91.09	18.42	-72.67	-15.67	-57.00	150	360	Peak
2	* 79.440	-91.79	19.51	-72.28	-15.28	-57.00	150	360	Peak
3	278.108	-96.81	21.52	-75.28	-18.28	-57.00	150	360	Peak
4	395.175	-98.03	24.93	-73.10	-16.10	-57.00	150	360	Peak
5	429.094	-98.85	25.59	-73.26	-16.26	-57.00	150	360	Peak
6	698.664	-102.14	29.50	-72.64	-15.64	-57.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 1_CH 18300_BW 20MHz	Test Voltage	AC 230V/50Hz

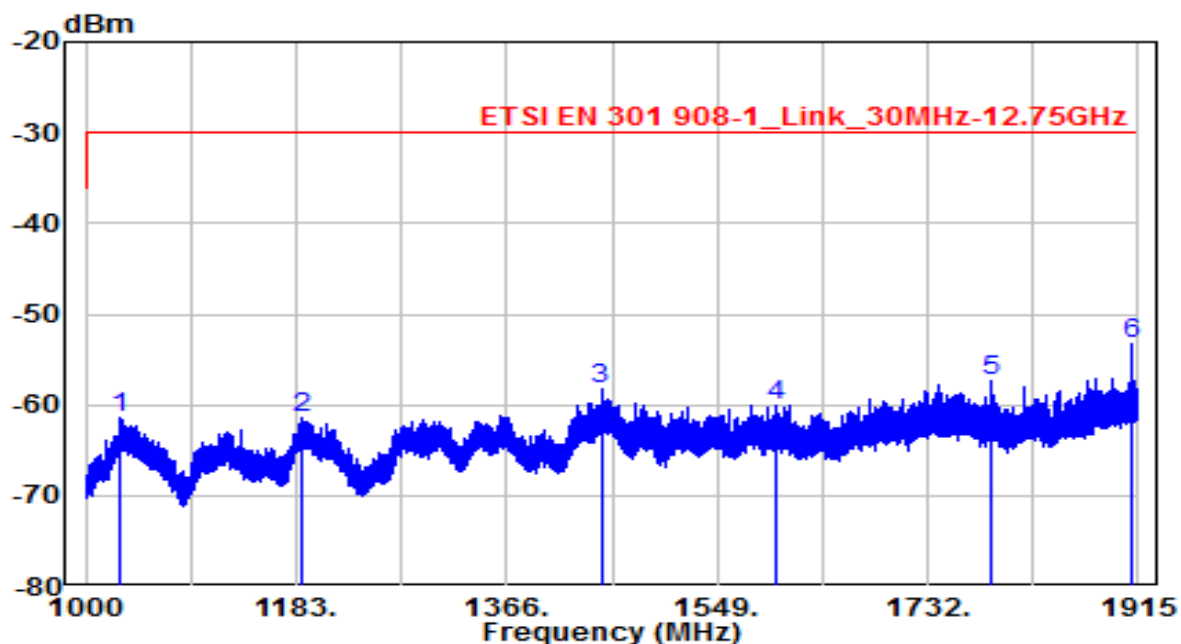


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	1033.569	-63.58	2.80	-60.79	-30.79	-30.00	150	360	Peak
2	1189.948	-64.19	4.04	-60.15	-30.15	-30.00	150	360	Peak
3	1453.468	-65.98	5.14	-60.84	-30.84	-30.00	150	360	Peak
4	1558.550	-66.73	4.19	-62.54	-32.54	-30.00	150	360	Peak
5	1734.688	-64.78	4.50	-60.29	-30.29	-30.00	150	360	Peak
6	* 1909.338	-62.84	5.70	-57.14	-27.14	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 1_CH 18300_BW 20MHz	Test Voltage	AC 230V/50Hz

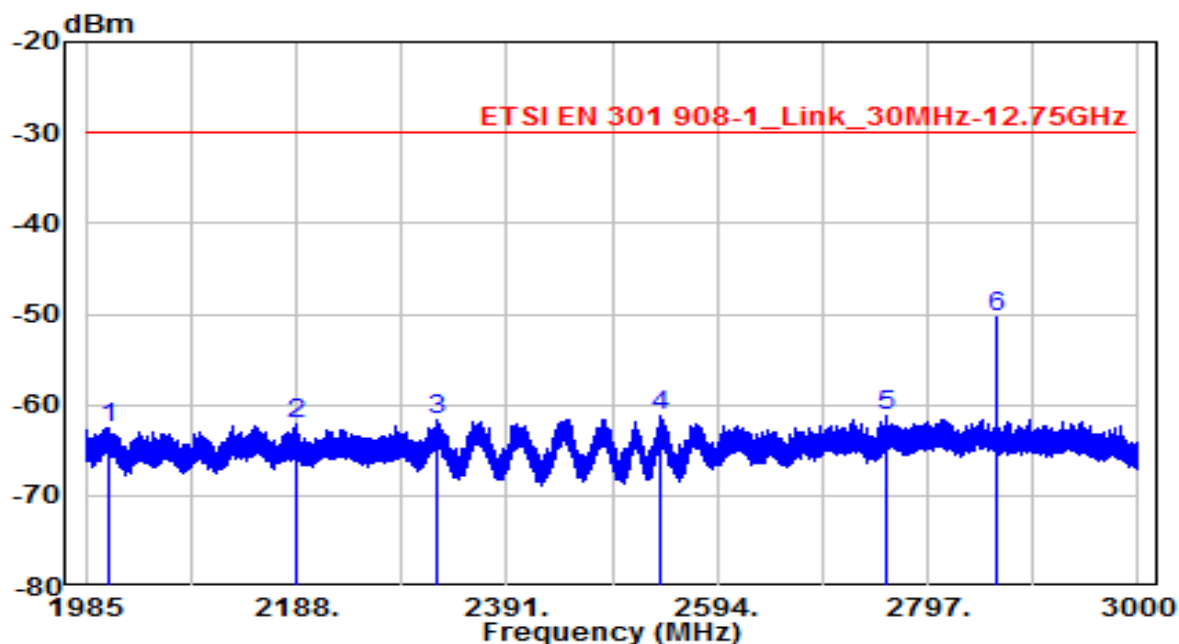


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	1030.195	-63.10	1.60	-61.50	-31.50	-30.00	150	360	Peak
2	1188.747	-64.79	3.38	-61.40	-31.40	-30.00	150	360	Peak
3	1447.950	-64.10	5.86	-58.23	-28.23	-30.00	150	360	Peak
4	1600.955	-64.41	4.39	-60.03	-30.03	-30.00	150	360	Peak
5	1787.615	-61.61	4.26	-57.36	-27.36	-30.00	150	360	Peak
6	* 1909.453	-58.65	5.45	-53.20	-23.20	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 1_CH 18300_BW 20MHz	Test Voltage	AC 230V/50Hz



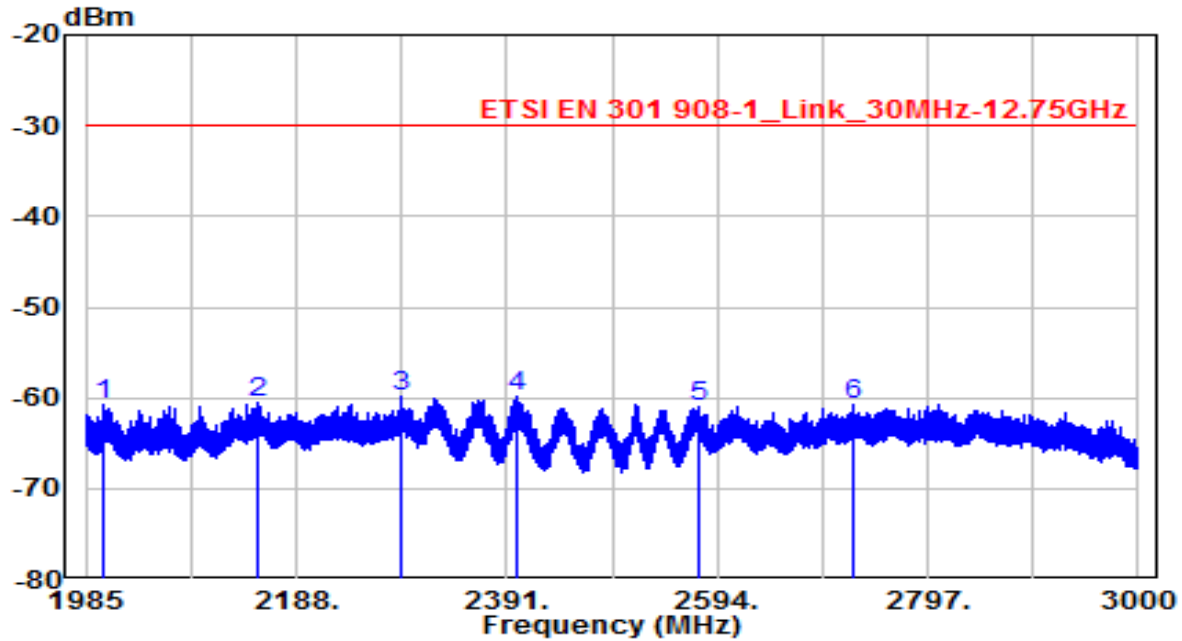
No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2008.123	-68.68	6.17	-62.51	-32.51	-30.00	150	360	Peak
2	2187.239	-68.32	6.20	-62.12	-32.12	-30.00	150	360	Peak
3	2322.868	-67.96	6.39	-61.56	-31.56	-30.00	150	360	Peak
4	2540.300	-67.53	6.43	-61.11	-31.11	-30.00	150	360	Peak
5	2758.145	-68.77	7.46	-61.31	-31.31	-30.00	150	360	Peak
6	* 2863.007	-57.29	7.02	-50.28	-20.28	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.



EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 1_CH 18300_BW 20MHz	Test Voltage	AC 230V/50Hz

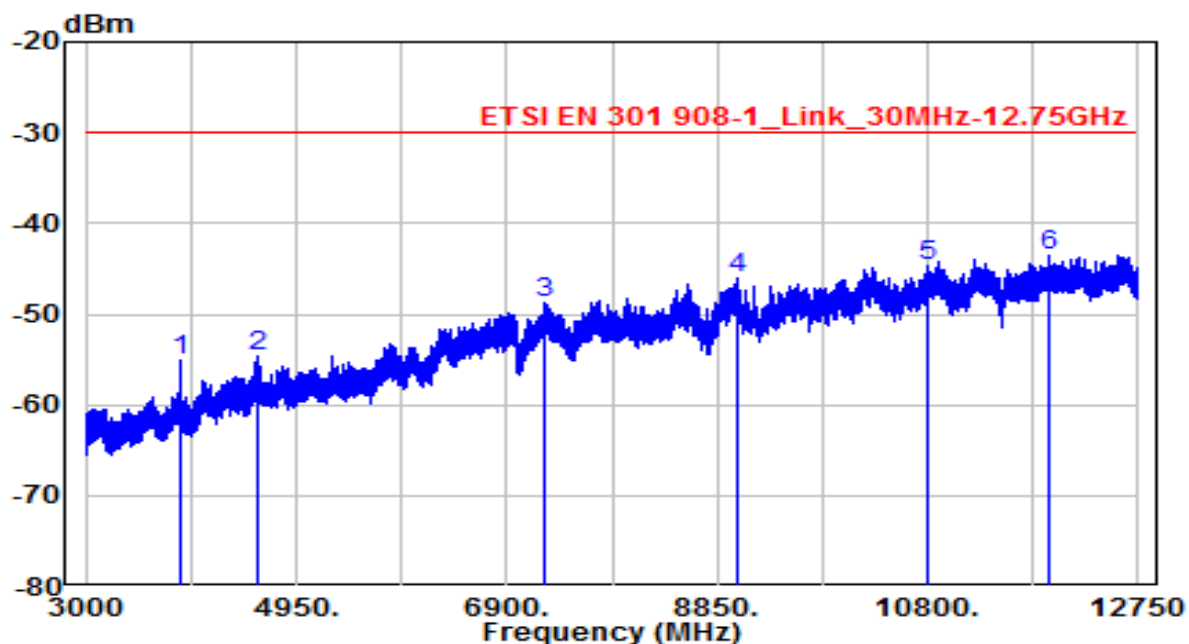


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2001.208	-67.10	6.28	-60.82	-30.82	-30.00	150	360	Peak
2	2150.350	-68.42	7.93	-60.50	-30.50	-30.00	150	360	Peak
3	* 2290.198	-68.20	8.28	-59.92	-29.92	-30.00	150	360	Peak
4	2400.008	-67.95	8.01	-59.94	-29.94	-30.00	150	360	Peak
5	2575.508	-68.73	7.83	-60.89	-30.89	-30.00	150	360	Peak
6	2725.823	-69.24	8.52	-60.73	-30.73	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 1_CH 18300_BW 20MHz	Test Voltage	AC 230V/50Hz

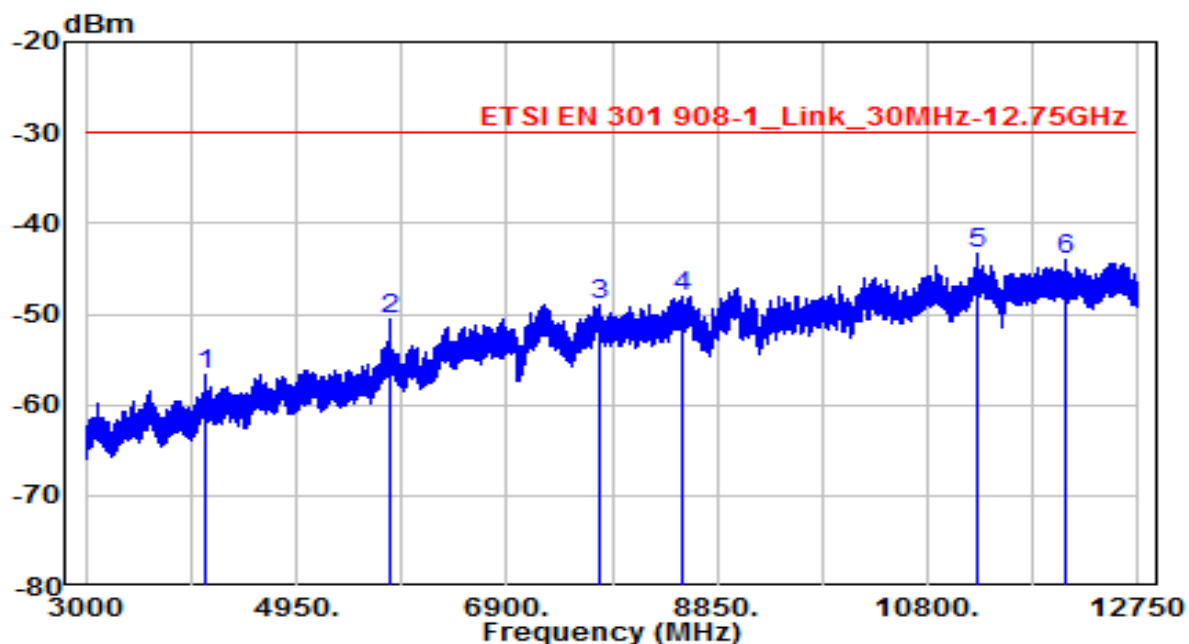


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	3882.984	-65.99	11.00	-54.99	-24.99	-30.00	150	360	Peak
2	4586.203	-69.02	14.47	-54.55	-24.55	-30.00	150	360	Peak
3	7260.141	-71.98	23.25	-48.73	-18.73	-30.00	150	360	Peak
4	9039.820	-71.98	26.01	-45.97	-15.97	-30.00	150	360	Peak
5	10809.140	-72.40	27.64	-44.76	-14.76	-30.00	150	360	Peak
6	* 11913.020	-72.51	28.89	-43.62	-13.62	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 1_CH 18300_BW 20MHz	Test Voltage	AC 230V/50Hz

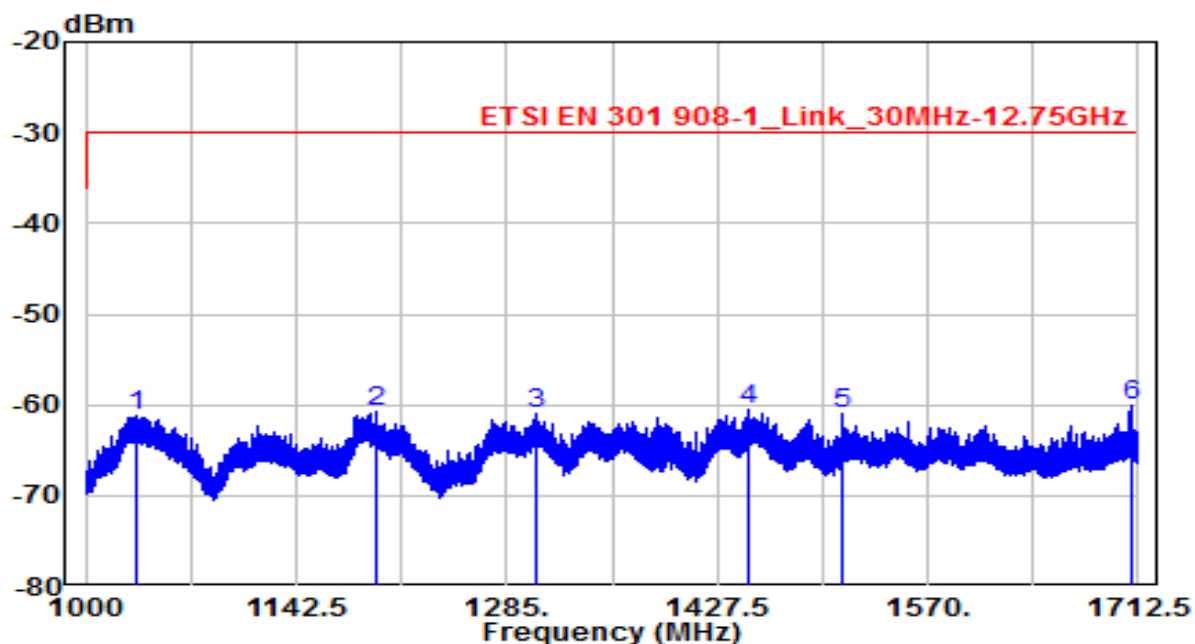


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4110.281	-67.87	11.18	-56.69	-26.69	-30.00	150	360	Peak
2	5823.844	-67.39	16.79	-50.59	-20.59	-30.00	150	360	Peak
3	7752.211	-71.59	22.53	-49.06	-19.06	-30.00	150	360	Peak
4	8521.852	-72.32	24.14	-48.18	-18.18	-30.00	150	360	Peak
5	* 11268.910	-71.90	28.50	-43.40	-13.40	-30.00	150	360	Peak
6	12079.380	-73.23	29.20	-44.04	-14.04	-30.00	150	360	Peak

Note:

- "\*" means this data is the worst emission level.
- C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
- Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
- The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 3_CH 19575_BW 20MHz	Test Voltage	AC 230V/50Hz

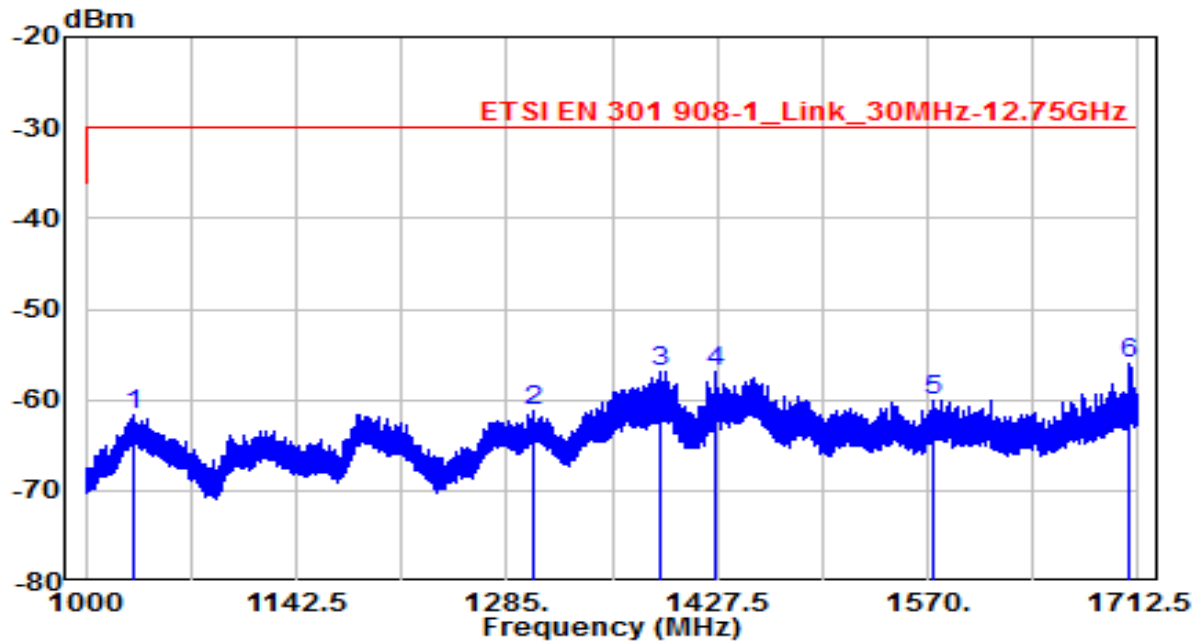


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	1034.801	-64.16	2.87	-61.30	-31.30	-30.00	150	360	Peak
2	1195.915	-64.89	4.19	-60.70	-30.70	-30.00	150	360	Peak
3	1304.661	-66.33	5.46	-60.87	-30.87	-30.00	150	360	Peak
4	1447.895	-65.75	5.19	-60.56	-30.56	-30.00	150	360	Peak
5	1512.911	-64.56	3.56	-61.00	-31.00	-30.00	150	360	Peak
6	* 1707.468	-64.10	4.09	-60.01	-30.01	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 3_CH 19575_BW 20MHz	Test Voltage	AC 230V/50Hz

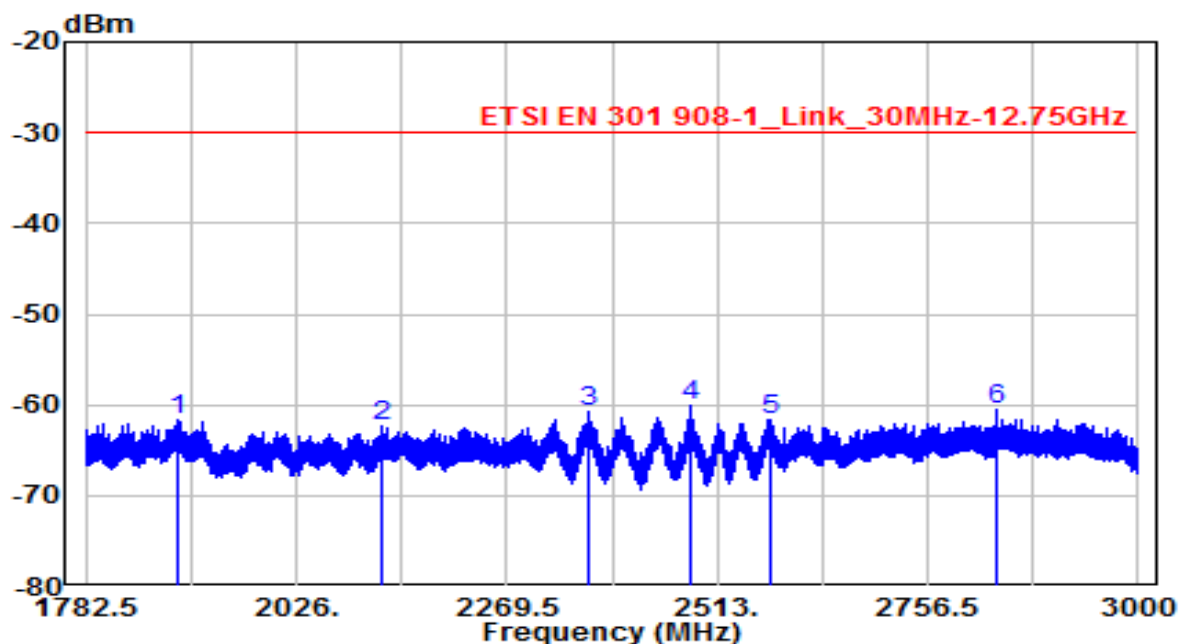


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	1032.886	-63.40	1.69	-61.71	-31.71	-30.00	150	360	Peak
2	1302.813	-66.56	5.46	-61.10	-31.10	-30.00	150	360	Peak
3	1389.426	-60.86	3.92	-56.94	-26.94	-30.00	150	360	Peak
4	1425.585	-61.66	4.83	-56.84	-26.84	-30.00	150	360	Peak
5	1572.961	-64.68	4.56	-60.11	-30.11	-30.00	150	360	Peak
6	* 1706.755	-60.04	3.94	-56.10	-26.10	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 3_CH 19575_BW 20MHz	Test Voltage	AC 230V/50Hz

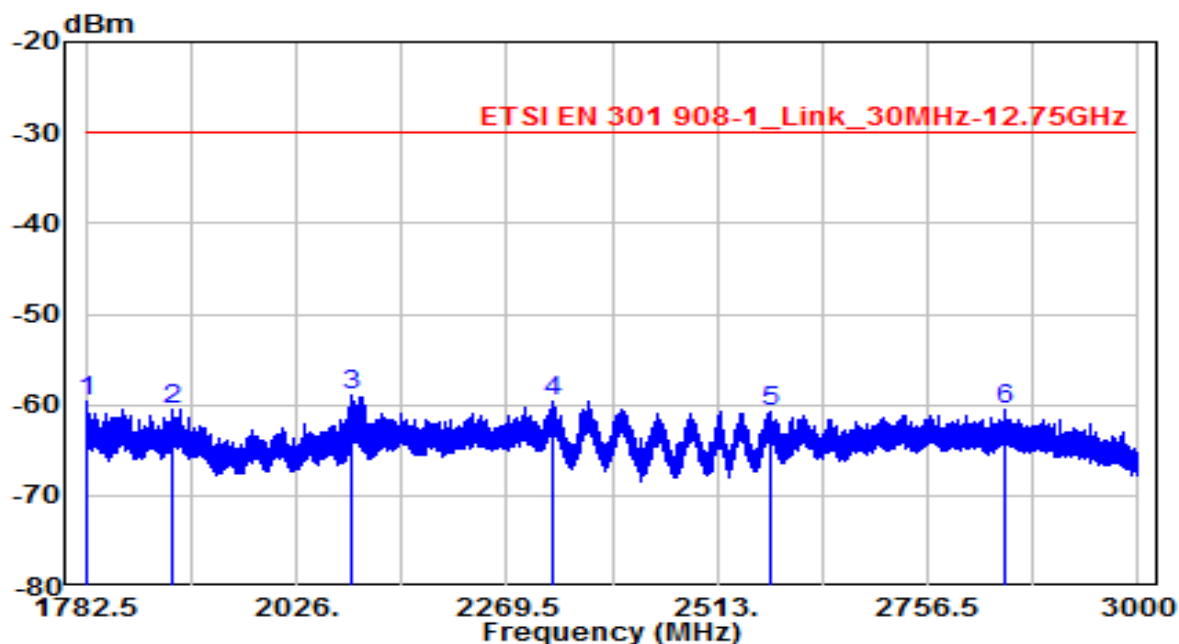


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	1888.042	-67.38	5.82	-61.56	-31.56	-30.00	150	360	Peak
2	2124.503	-68.47	6.16	-62.31	-32.31	-30.00	150	360	Peak
3	2364.465	-67.31	6.52	-60.79	-30.79	-30.00	150	360	Peak
4	* 2483.362	-66.77	6.72	-60.05	-30.05	-30.00	150	360	Peak
5	2575.968	-68.48	6.78	-61.70	-31.70	-30.00	150	360	Peak
6	2836.132	-67.82	7.22	-60.60	-30.60	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 3_CH 19575_BW 20MHz	Test Voltage	AC 230V/50Hz

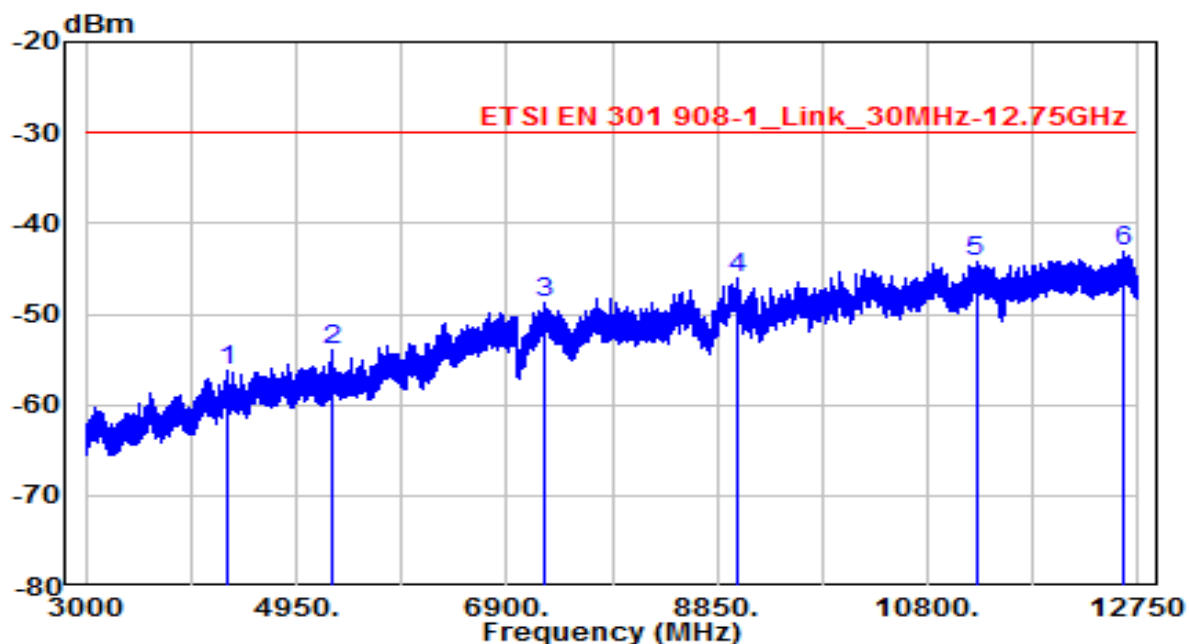


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	1784.440	-63.98	4.28	-59.71	-29.71	-30.00	150	360	Peak
2	1881.232	-66.03	5.51	-60.53	-30.53	-30.00	150	360	Peak
3	* 2091.365	-65.53	6.51	-59.02	-29.02	-30.00	150	360	Peak
4	2323.336	-67.75	8.21	-59.54	-29.54	-30.00	150	360	Peak
5	2573.380	-68.48	7.80	-60.68	-30.68	-30.00	150	360	Peak
6	2844.807	-68.22	7.69	-60.53	-30.53	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 3_CH 19575_BW 20MHz	Test Voltage	AC 230V/50Hz



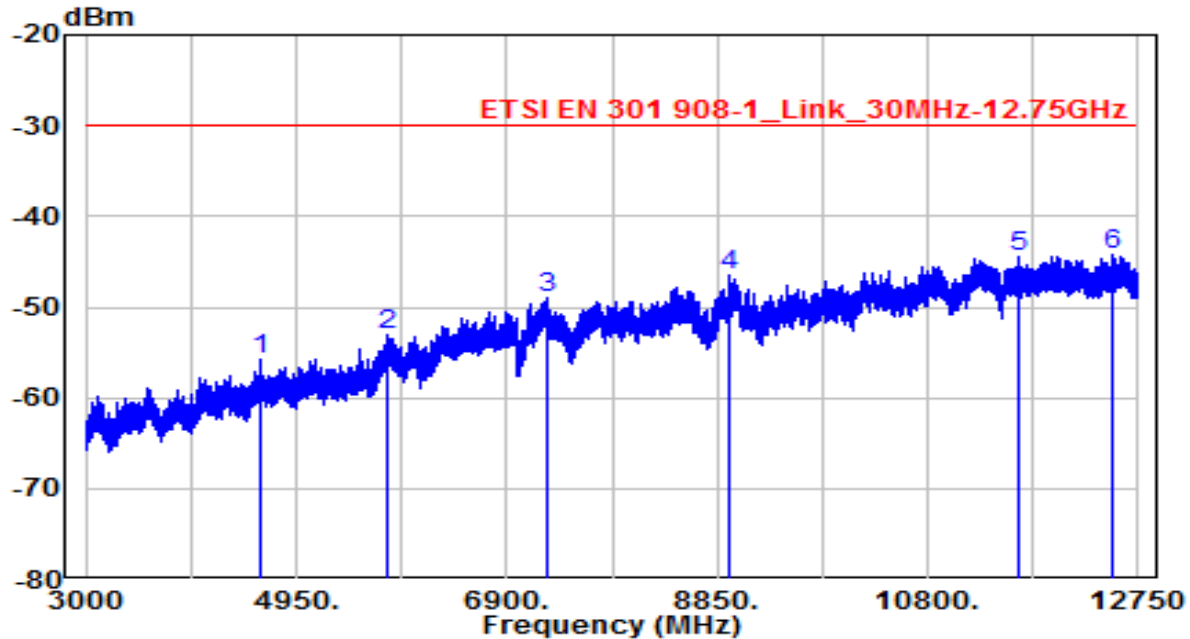
No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4308.023	-69.32	13.16	-56.16	-26.16	-30.00	150	360	Peak
2	5285.461	-69.25	15.19	-54.05	-24.05	-30.00	150	360	Peak
3	7239.422	-71.93	23.18	-48.76	-18.76	-30.00	150	360	Peak
4	9046.219	-71.89	25.95	-45.93	-15.93	-30.00	150	360	Peak
5	11247.280	-73.30	28.98	-44.31	-14.31	-30.00	150	360	Peak
6	* 12609.540	-73.47	30.36	-43.10	-13.10	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.



EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 3_CH 19575_BW 20MHz	Test Voltage	AC 230V/50Hz

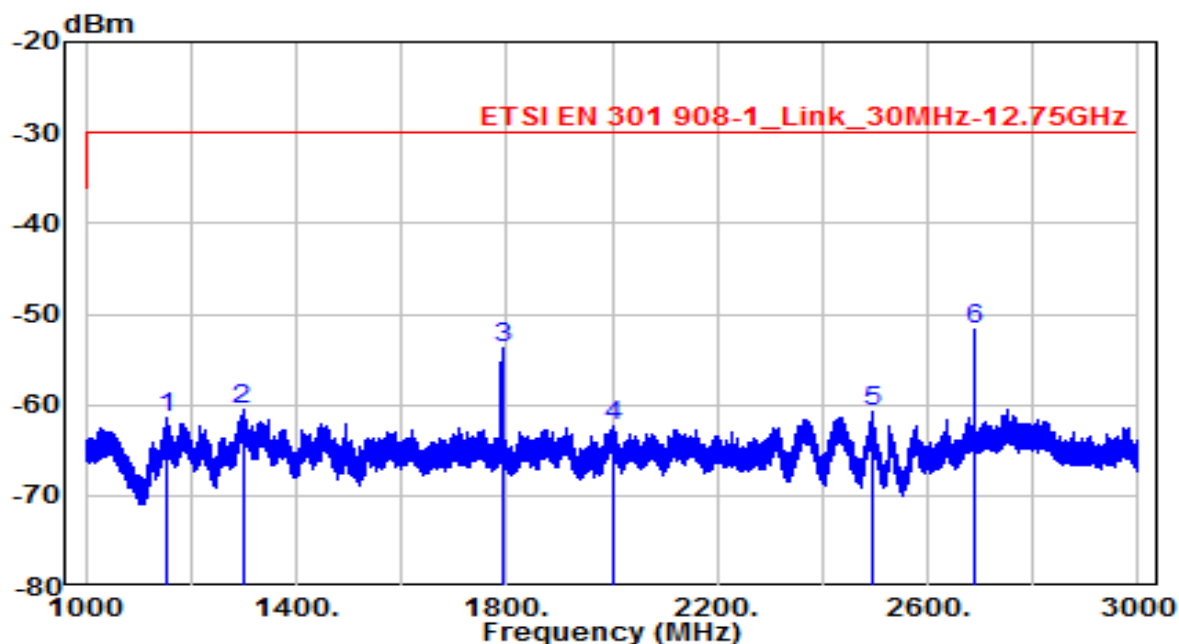


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4608.750	-69.34	13.63	-55.71	-25.71	-30.00	150	360	Peak
2	5797.945	-69.77	16.68	-53.10	-23.10	-30.00	150	360	Peak
3	7269.281	-71.72	22.82	-48.90	-18.90	-30.00	150	360	Peak
4	8969.438	-71.65	25.10	-46.56	-16.56	-30.00	150	360	Peak
5	11632.100	-73.96	29.45	-44.51	-14.51	-30.00	150	360	Peak
6	* 12510.210	-73.60	29.37	-44.23	-14.23	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 8_CH 21625_BW 10MHz	Test Voltage	AC 230V/50Hz

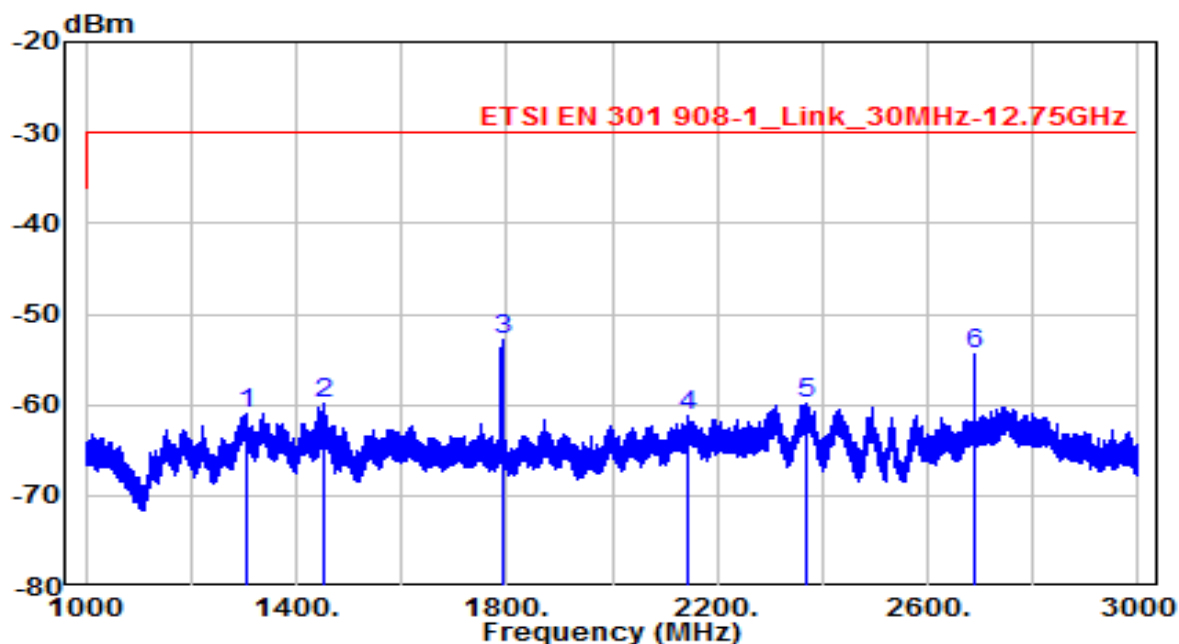


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	1153.375	-64.63	3.12	-61.51	-31.51	-30.00	150	360	Peak
2	1298.063	-65.91	5.40	-60.51	-30.51	-30.00	150	360	Peak
3	1791.500	-58.05	4.39	-53.66	-23.66	-30.00	150	360	Peak
4	2002.875	-68.69	6.24	-62.45	-32.45	-30.00	150	360	Peak
5	2494.125	-67.53	6.67	-60.86	-30.86	-30.00	150	360	Peak
6	* 2687.313	-59.00	7.39	-51.61	-21.61	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 8_CH 21625_BW 10MHz	Test Voltage	AC 230V/50Hz

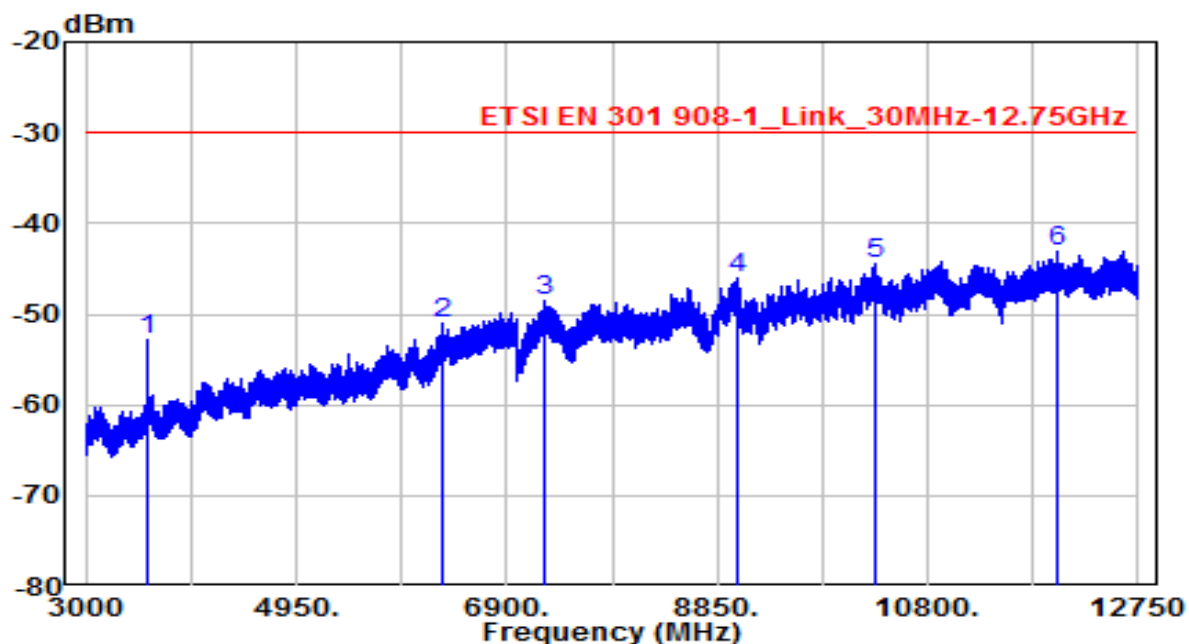


No	Frequency (MHz)	Reading (dBUV)	C.F (dB/m)	Measurement (dBUV/m)	Margin (dB)	Limit (dBUV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	1307.375	-66.34	5.41	-60.93	-30.93	-30.00	150	360	Peak
2	1451.750	-65.81	5.87	-59.94	-29.94	-30.00	150	360	Peak
3	* 1791.438	-57.09	4.23	-52.86	-22.86	-30.00	150	360	Peak
4	2145.375	-68.91	7.81	-61.11	-31.11	-30.00	150	360	Peak
5	2369.813	-67.93	8.01	-59.92	-29.92	-30.00	150	360	Peak
6	2687.188	-62.61	8.16	-54.45	-24.45	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBUV/m) = Reading(dBUV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 8_CH 21625_BW 10MHz	Test Voltage	AC 230V/50Hz

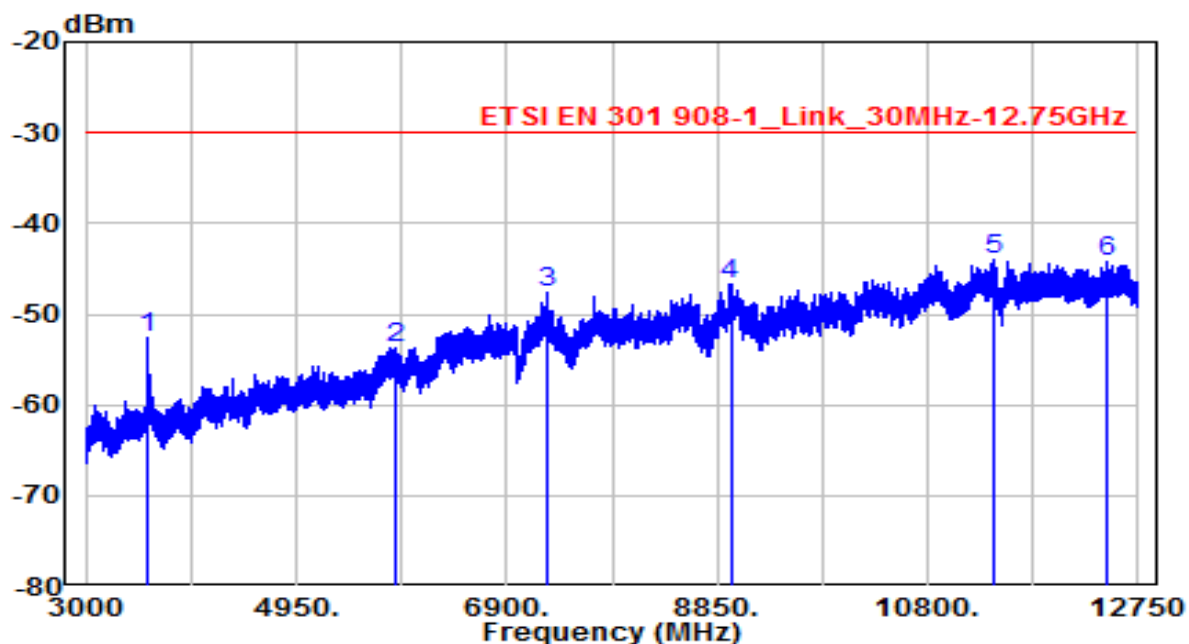


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	3583.172	-62.62	9.83	-52.79	-22.79	-30.00	150	360	Peak
2	6295.805	-69.99	18.88	-51.12	-21.12	-30.00	150	360	Peak
3	7248.258	-71.74	23.27	-48.48	-18.48	-30.00	150	360	Peak
4	9041.953	-72.07	25.99	-46.08	-16.08	-30.00	150	360	Peak
5	10302.750	-71.61	27.21	-44.40	-14.40	-30.00	150	360	Peak
6	* 12012.660	-73.08	29.97	-43.11	-13.11	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 8_CH 21625_BW 10MHz	Test Voltage	AC 230V/50Hz

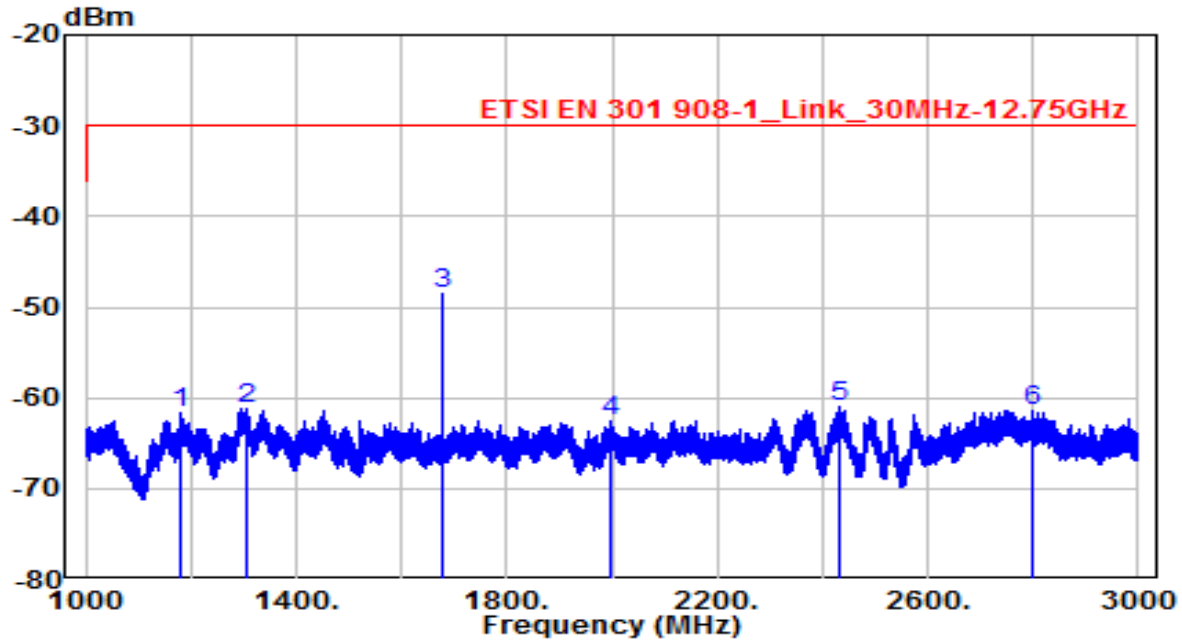


No	Frequency (MHz)	Reading (dBuV)	C.F (dB/m)	Measurement (dBuV/m)	Margin (dB)	Limit (dBuV/m)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	3582.867	-62.59	9.99	-52.61	-22.61	-30.00	150	360	Peak
2	5858.883	-70.79	16.98	-53.82	-23.82	-30.00	150	360	Peak
3	7271.719	-70.54	22.81	-47.73	-17.73	-30.00	150	360	Peak
4	8974.008	-71.90	25.19	-46.71	-16.71	-30.00	150	360	Peak
5	* 11406.630	-72.62	28.58	-44.04	-14.04	-30.00	150	360	Peak
6	12451.410	-73.53	29.31	-44.21	-14.21	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBuV/m) = Reading(dBuV) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 20_CH 24300_BW20MHz	Test Voltage	AC 230V/50Hz

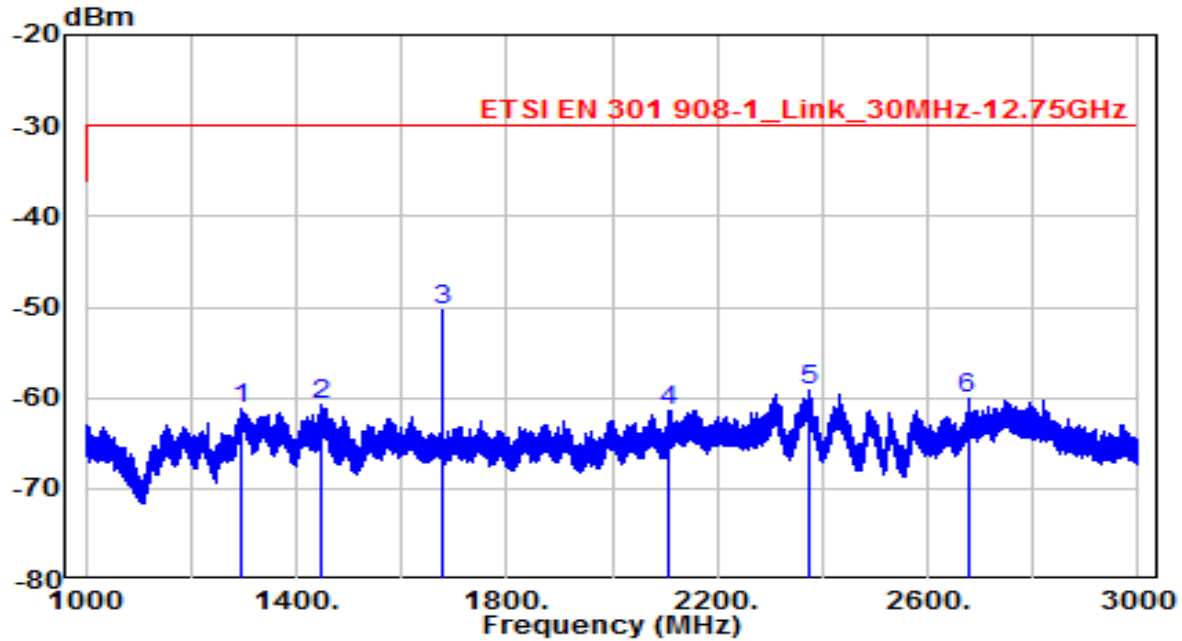


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	1180.063	-65.35	3.79	-61.56	-31.56	-30.00	150	360	Peak
2	1304.500	-66.74	5.47	-61.28	-31.28	-30.00	150	360	Peak
3	* 1676.875	-52.05	3.42	-48.63	-18.63	-30.00	150	360	Peak
4	1997.313	-68.70	6.18	-62.52	-32.52	-30.00	150	360	Peak
5	2432.375	-67.60	6.68	-60.92	-30.92	-30.00	150	360	Peak
6	2801.125	-68.87	7.55	-61.32	-31.32	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 20_CH 24300_BW20MHz	Test Voltage	AC 230V/50Hz

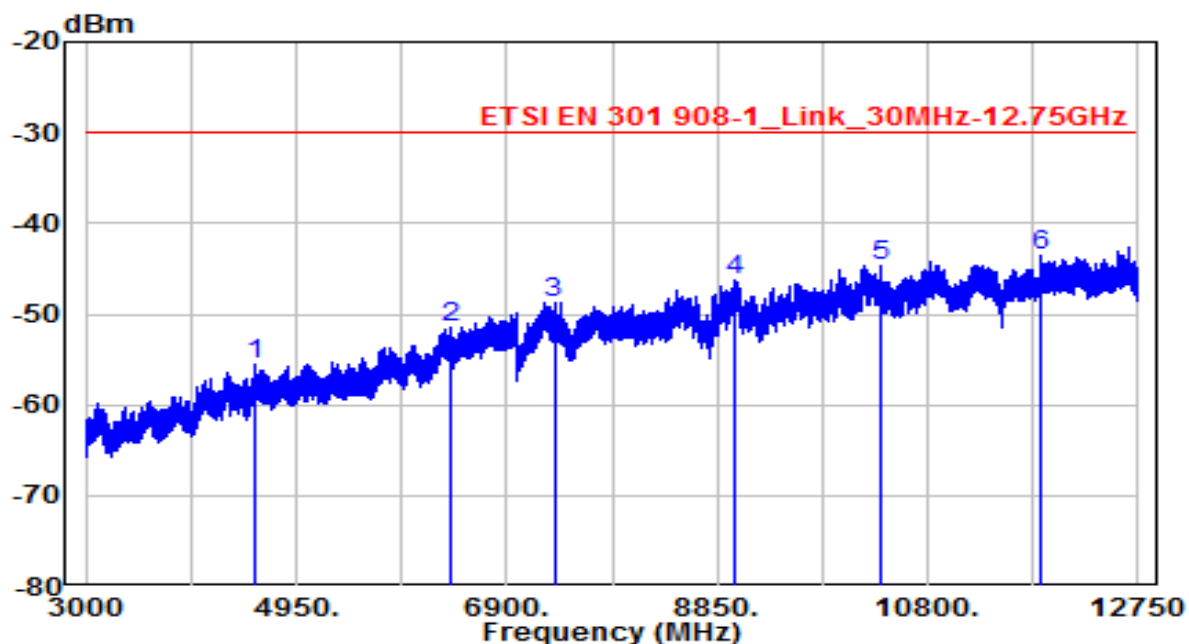


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	1296.500	-66.33	5.22	-61.11	-31.11	-30.00	150	360	Peak
2	1449.375	-66.73	5.93	-60.80	-30.80	-30.00	150	360	Peak
3	* 1676.750	-53.75	3.52	-50.23	-20.23	-30.00	150	360	Peak
4	2109.250	-68.23	6.83	-61.40	-31.40	-30.00	150	360	Peak
5	2373.063	-67.18	8.01	-59.17	-29.17	-30.00	150	360	Peak
6	2675.875	-68.04	7.92	-60.12	-30.12	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 20_CH 24300_BW20MHz	Test Voltage	AC 230V/50Hz



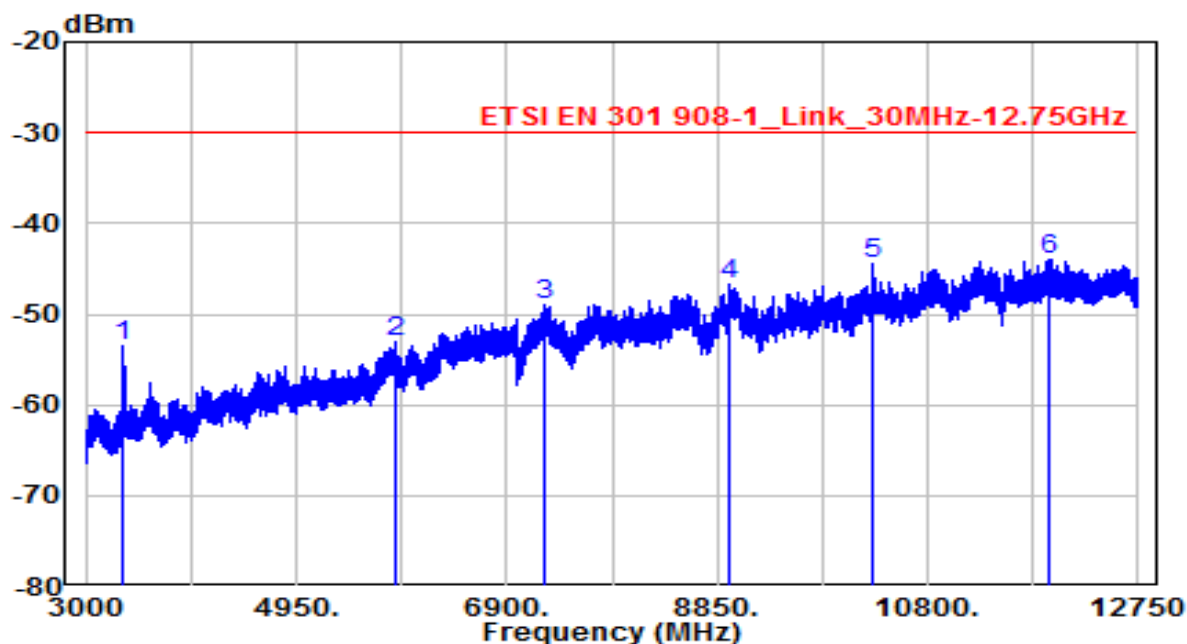
No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4577.367	-69.86	14.43	-55.44	-25.44	-30.00	150	360	Peak
2	6371.672	-70.27	18.82	-51.46	-21.46	-30.00	150	360	Peak
3	7339.359	-72.05	23.37	-48.68	-18.68	-30.00	150	360	Peak
4	9014.531	-72.53	26.21	-46.32	-16.32	-30.00	150	360	Peak
5	10355.770	-71.90	27.18	-44.71	-14.71	-30.00	150	360	Peak
6	* 11835.940	-72.56	29.07	-43.49	-13.49	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.



EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 20_CH 24300_BW20MHz	Test Voltage	AC 230V/50Hz

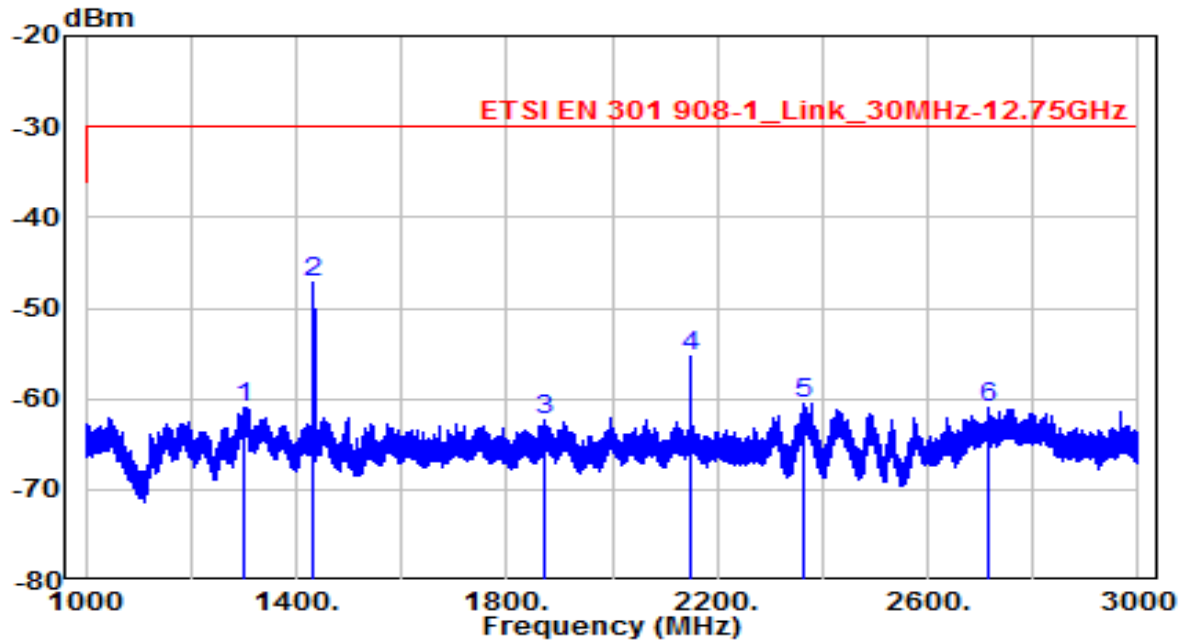


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	3353.742	-61.95	8.48	-53.48	-23.48	-30.00	150	360	Peak
2	5875.031	-70.17	17.08	-53.09	-23.09	-30.00	150	360	Peak
3	7238.508	-71.78	22.88	-48.90	-18.90	-30.00	150	360	Peak
4	8969.742	-71.73	25.10	-46.63	-16.63	-30.00	150	360	Peak
5	10285.690	-70.31	25.96	-44.35	-14.35	-30.00	150	360	Peak
6	* 11916.380	-72.32	28.43	-43.90	-13.90	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 28_CH 27385_BW20MHz	Test Voltage	AC 230V/50Hz

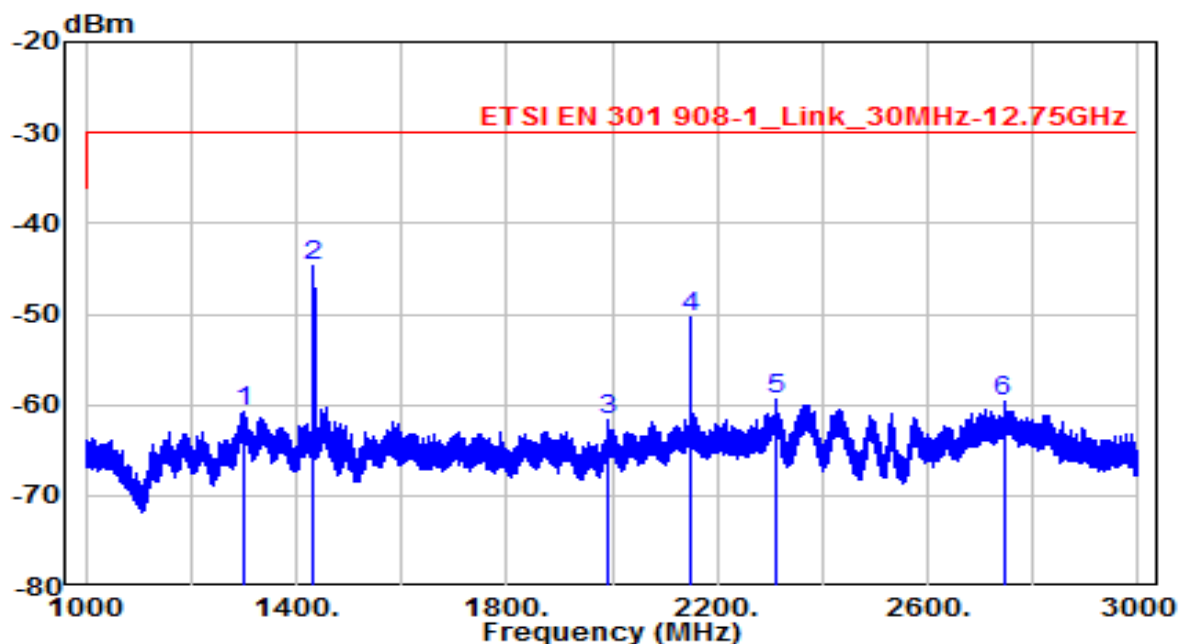


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	1300.375	-66.43	5.54	-60.89	-30.89	-30.00	150	360	Peak
2	* 1434.000	-51.69	4.57	-47.12	-17.12	-30.00	150	360	Peak
3	1872.813	-68.03	5.60	-62.43	-32.43	-30.00	150	360	Peak
4	2150.938	-61.83	6.49	-55.35	-25.35	-30.00	150	360	Peak
5	2363.938	-67.07	6.52	-60.55	-30.55	-30.00	150	360	Peak
6	2715.313	-68.64	7.60	-61.04	-31.04	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 28_CH 27385_BW20MHz	Test Voltage	AC 230V/50Hz

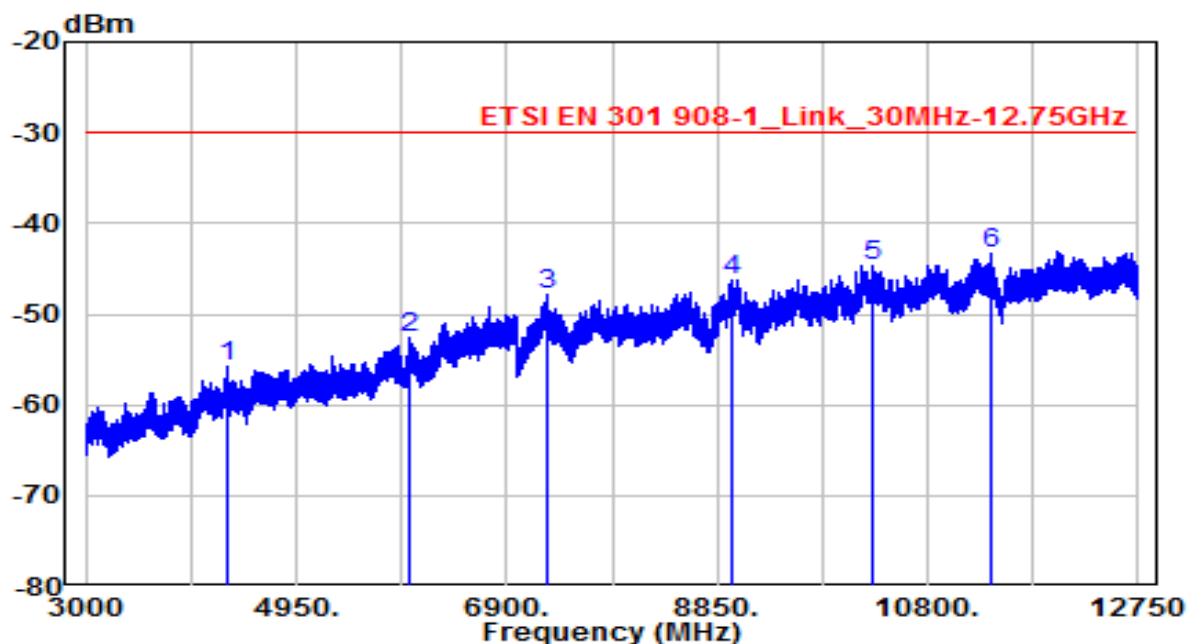


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	1298.813	-66.19	5.40	-60.79	-30.79	-30.00	150	360	Peak
2	* 1433.750	-49.80	5.21	-44.60	-14.60	-30.00	150	360	Peak
3	1993.000	-67.63	6.04	-61.60	-31.60	-30.00	150	360	Peak
4	2150.750	-58.34	7.92	-50.42	-20.42	-30.00	150	360	Peak
5	2310.625	-67.78	8.31	-59.47	-29.47	-30.00	150	360	Peak
6	2744.125	-68.13	8.58	-59.55	-29.55	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 28_CH 27385_BW20MHz	Test Voltage	AC 230V/50Hz

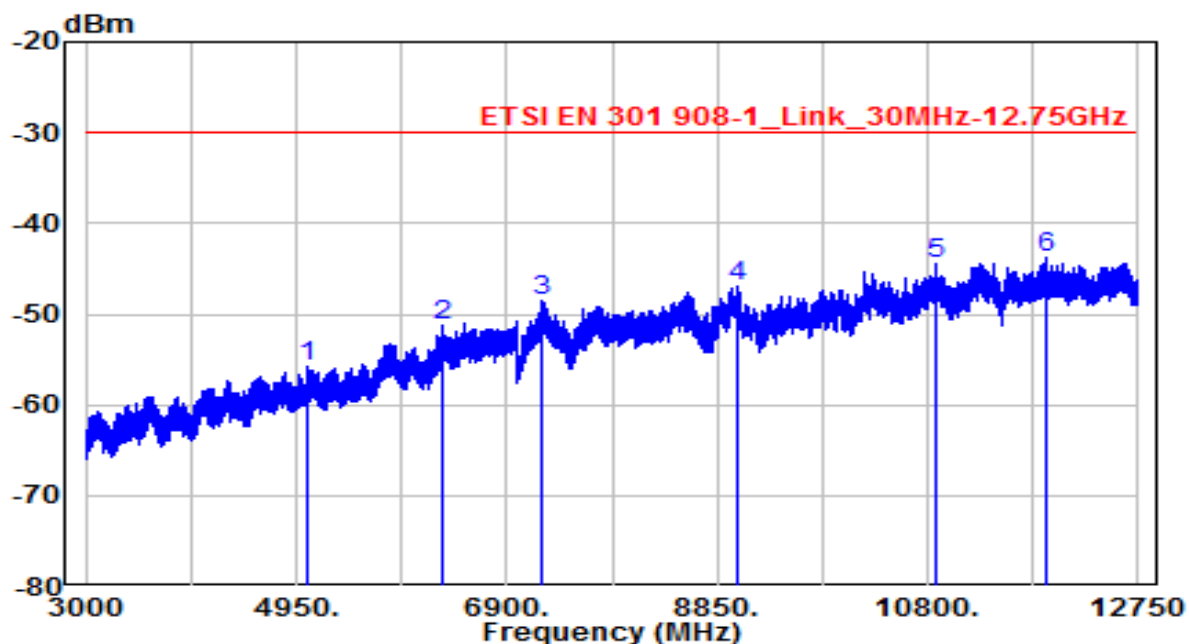


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	4322.953	-68.84	13.08	-55.75	-25.75	-30.00	150	360	Peak
2	6003.305	-70.12	17.50	-52.61	-22.61	-30.00	150	360	Peak
3	7284.211	-70.95	23.17	-47.78	-17.78	-30.00	150	360	Peak
4	8980.406	-72.07	25.86	-46.20	-16.20	-30.00	150	360	Peak
5	10282.640	-71.67	27.07	-44.61	-14.61	-30.00	150	360	Peak
6	* 11399.320	-71.83	28.46	-43.37	-13.37	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (TX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Link_Band 28_CH 27385_BW20MHz	Test Voltage	AC 230V/50Hz

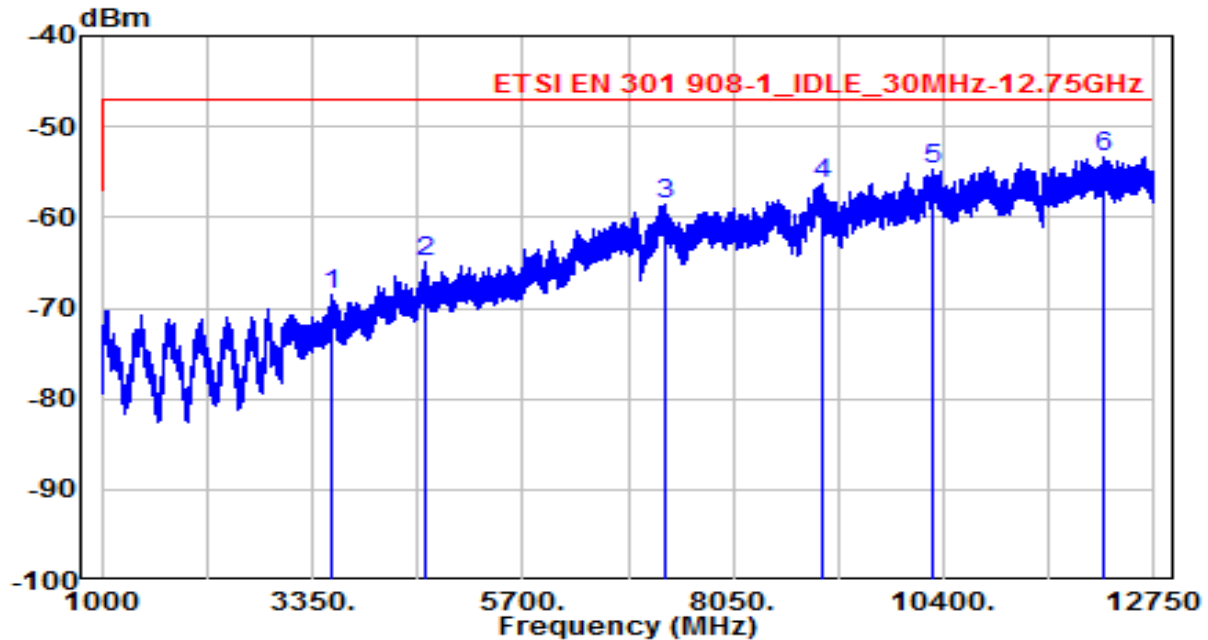


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	5059.078	-70.45	14.64	-55.81	-25.81	-30.00	150	360	Peak
2	6297.328	-69.72	18.48	-51.24	-21.24	-30.00	150	360	Peak
3	7213.219	-71.21	22.76	-48.46	-18.46	-30.00	150	360	Peak
4	9031.289	-72.26	25.36	-46.90	-16.90	-30.00	150	360	Peak
5	10882.570	-72.34	27.78	-44.56	-14.56	-30.00	150	360	Peak
6	* 11894.440	-72.11	28.37	-43.75	-13.75	-30.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (RX)	Temp. / Humidity	22°C /57%
Polarity	Horizontal	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Idle	Test Voltage	AC 230V/50Hz

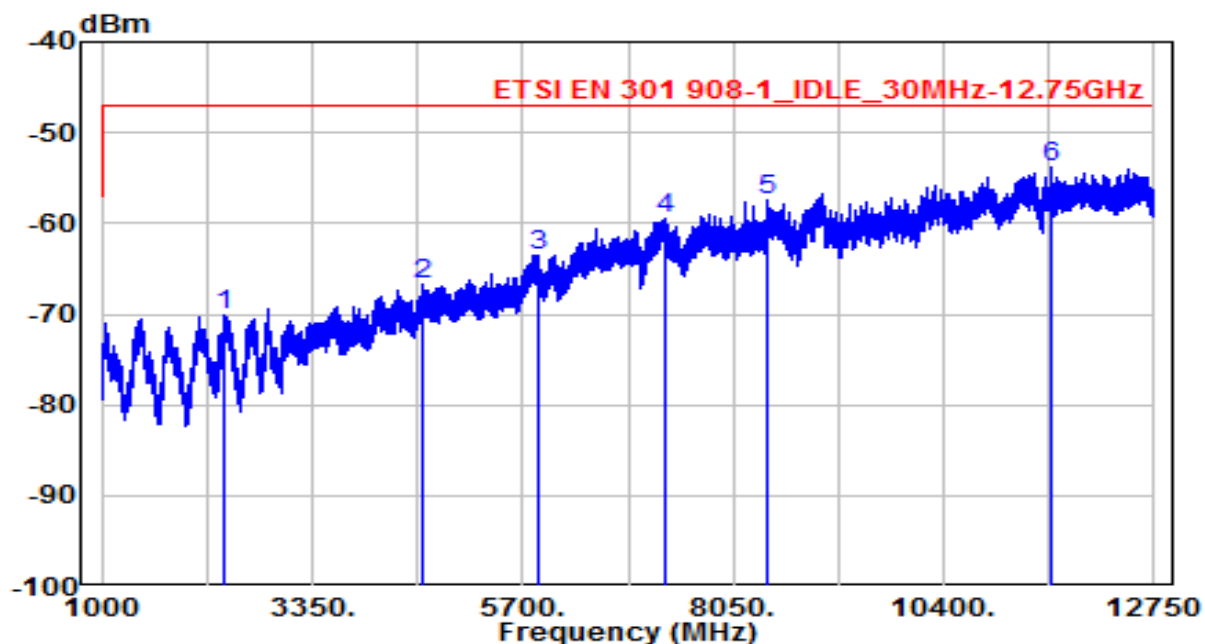


No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	3558.195	-78.20	9.60	-68.60	-21.60	-47.00	150	360	Peak
2	4600.641	-79.45	14.53	-64.92	-17.92	-47.00	150	360	Peak
3	7296.531	-81.68	23.13	-58.56	-11.56	-47.00	150	360	Peak
4	9043.242	-82.23	25.98	-56.25	-9.25	-47.00	150	360	Peak
5	10290.580	-81.78	27.13	-54.65	-7.65	-47.00	150	360	Peak
6	* 12177.920	-84.00	30.64	-53.36	-6.36	-47.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

EUT	BLG840F/X BLE/802.15.4 to LTE Gateways	Date of Test	2022-07-26
Factor	EIRP_1GHz~18GHz (RX)	Temp. / Humidity	22°C /57%
Polarity	Vertical	Site / Test Engineer	AC1 / Kaunaz
Test Mode	Cat-M1_Idle	Test Voltage	AC 230V/50Hz



No	Frequency (MHz)	Reading (dBm)	C.F (dB)	Measurement (dBm)	Margin (dB)	Limit (dBm)	Height (cm)	Angle (deg)	Remark (QP/PK/AV)
1	2376.219	-78.19	8.01	-70.18	-23.18	-47.00	150	360	Peak
2	4581.547	-80.21	13.51	-66.70	-19.70	-47.00	150	360	Peak
3	5868.906	-80.47	17.04	-63.44	-16.44	-47.00	150	360	Peak
4	7289.922	-82.21	22.70	-59.51	-12.51	-47.00	150	360	Peak
5	8439.219	-81.66	24.30	-57.36	-10.36	-47.00	150	360	Peak
6	* 11602.540	-83.16	29.44	-53.72	-6.72	-47.00	150	360	Peak

Note:

1. " \*", means this data is the worst emission level.
2. C.F (Correction Factor) = Antenna Factor (dB)+ Cable Loss (dB) – Preamplifier(dB).
3. Measurement (dBm) = Reading(dBm) + C.F (Correction Factor).
4. The emission levels of other frequencies are very lower than the limit and not show in test report.

## 7. Control and monitoring functions (UE)

### 7.1. Limits

The maximum measured power during the duration of the test shall not exceed -30 dBm.

### 7.2. Test method

a) At the start of the test, the UE shall be switched off. The UE antenna connector shall be connected to a power measuring equipment, with the following characteristics:

- the RF bandwidth shall exceed the total operating transmit frequency range of the UE for operation with an applicable part;
- the response time of the power measuring equipment shall be such that the measured power has reached within 1 dB of its steady state value within 100  $\mu$ s of a CW signal being applied;
- it shall record the maximum power measured.

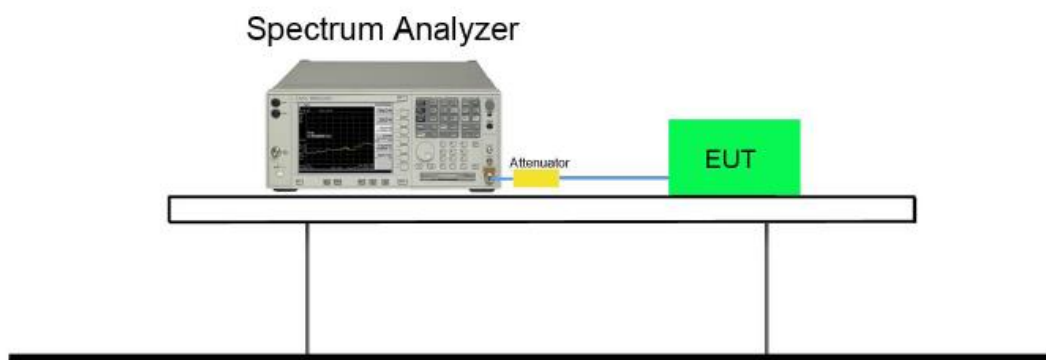
NOTE: The equipment may include a video low pass filter to minimize its response to transients or Gaussian noise peaks.

b) The UE shall be switched on for a period of approximately fifteen minutes, and then switched off.

c) The EUT shall remain switched off for a period of at least thirty seconds, and shall then be switched on for a period of approximately one minute.

d) The maximum power emitted from the UE throughout the duration of the test shall be recorded. The results obtained shall be compared to the limits in clause.

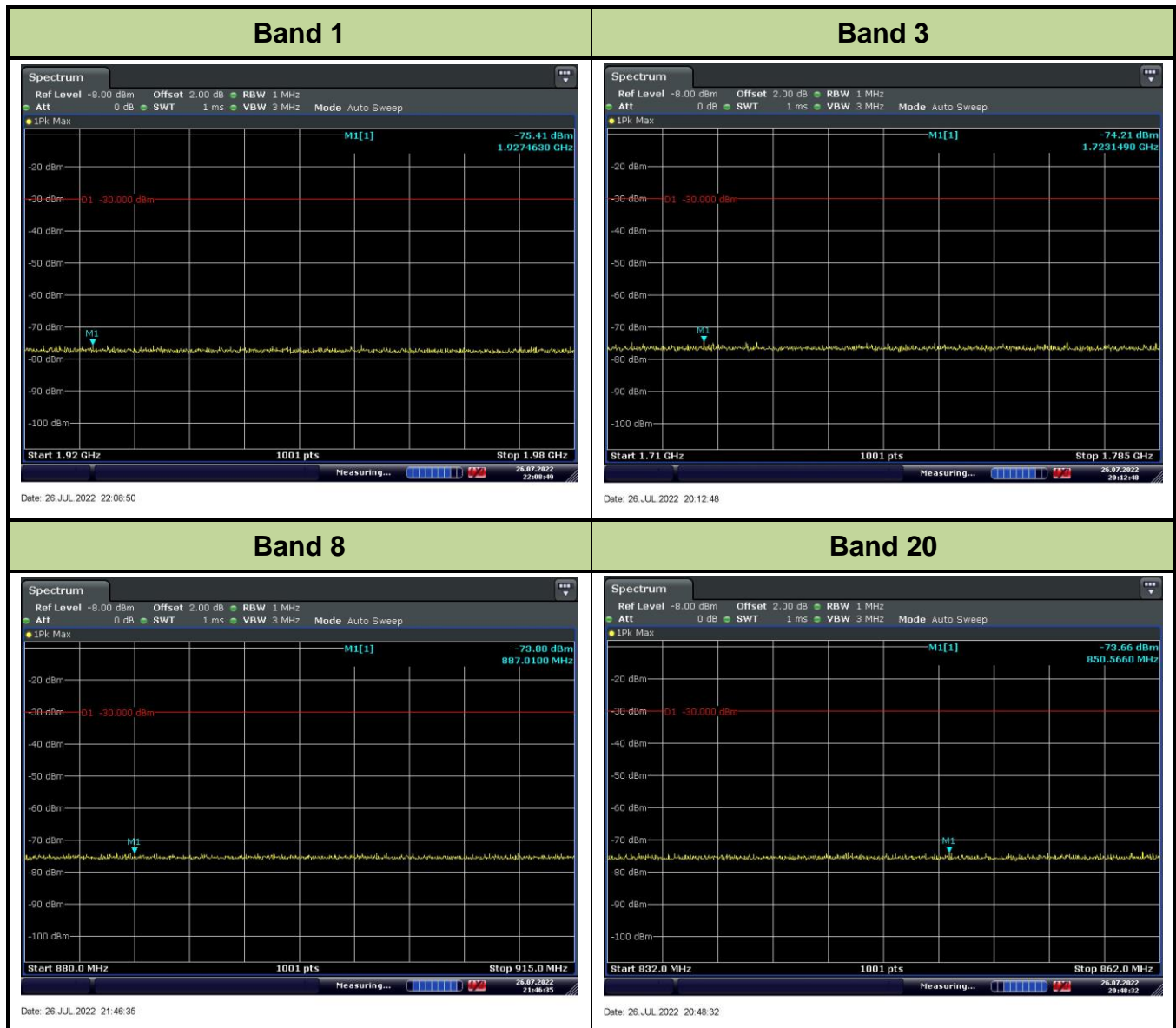
### 7.3. Test Setup





## 7.4. Control and monitoring functions (UE) Result

Control and monitoring functions		
Cat-M1 Band	Test Freq	Test Result
Band1	1920MHz–1980MHz	Pass
Band3	1710MHz–1785MHz	Pass
Band8	880MHz–915MHz	Pass
Band20	832MHz–862MHz	Pass
Band28	703MHz–748MHz	Pass



## Band 28

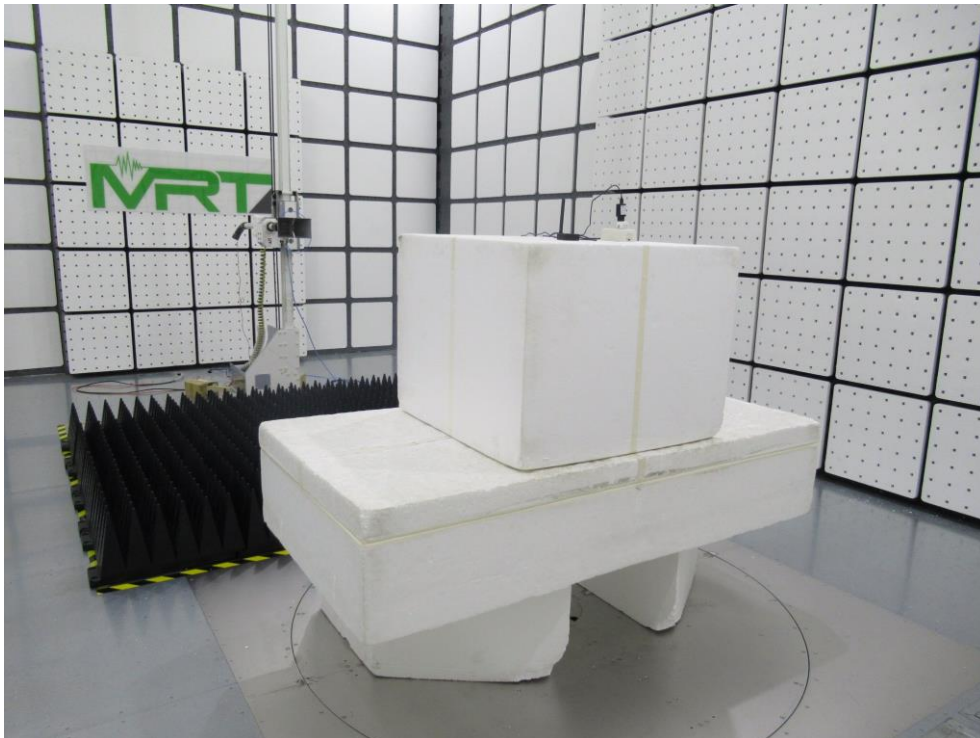


## Appendix A : Test Photograph

Description: Radiated Emission Test Setup for below 1GHz

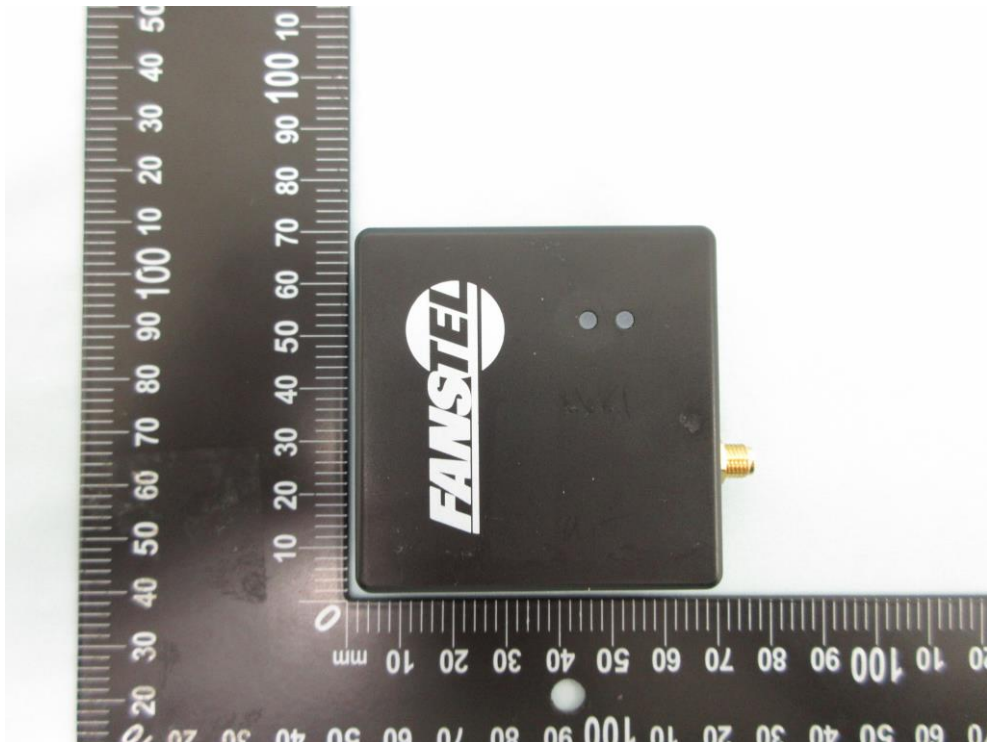


Description: Radiated Emission Test Setup for above 1GHz

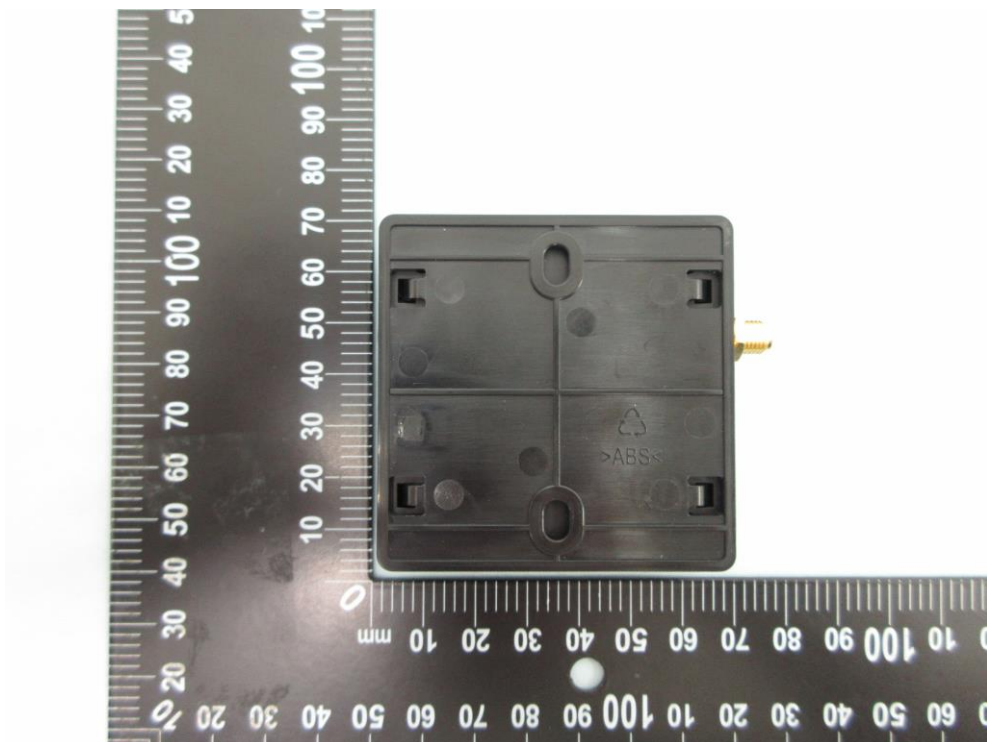


## Appendix B : External Photograph

(1) EUT Photo (BLG40F with GPS Integrated Antenna)



(2) EUT Photo (BLG40F with GPS Integrated Antenna)

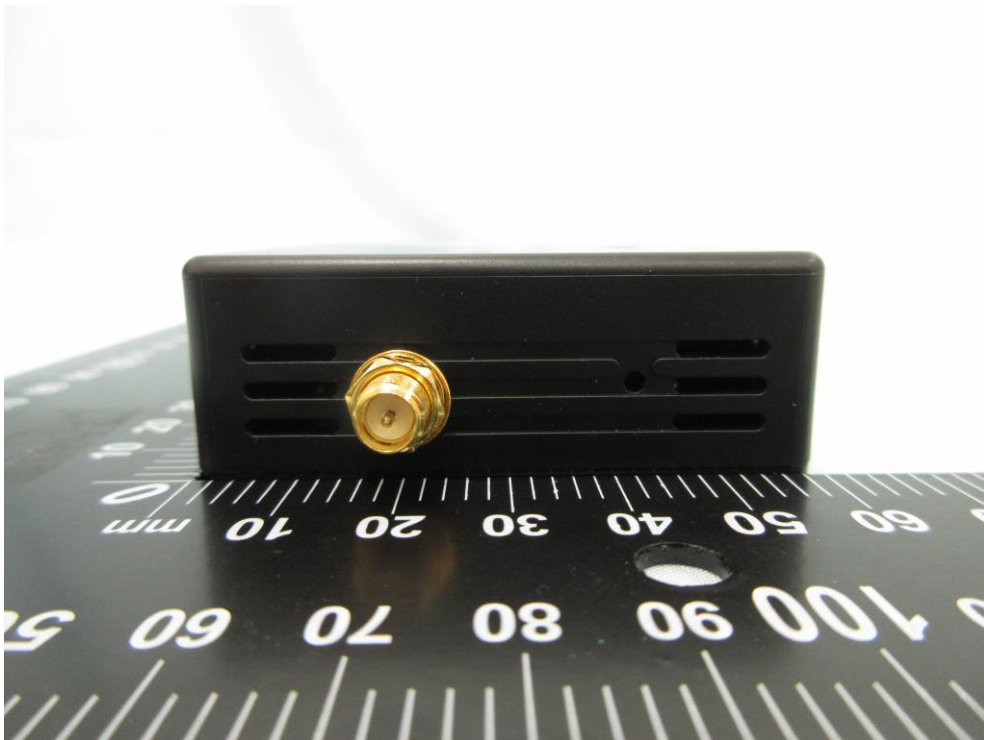




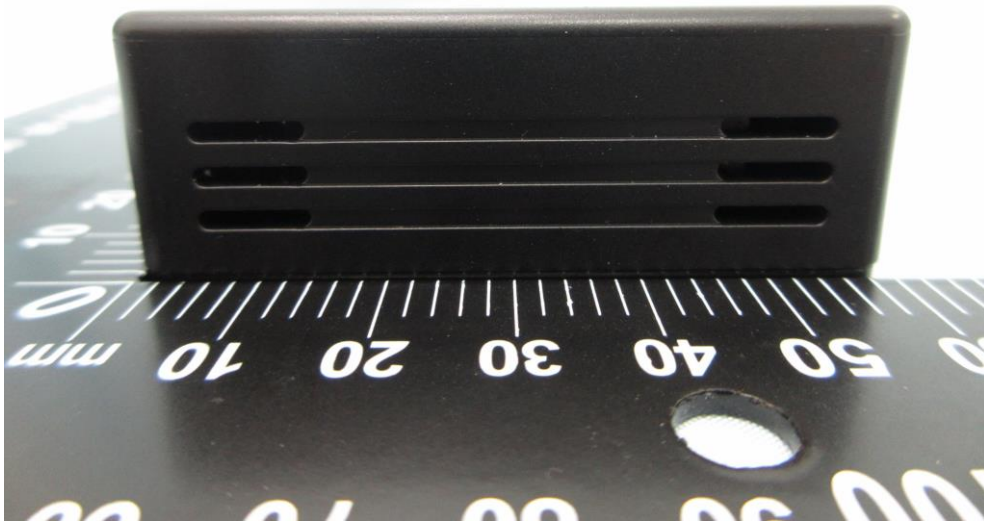
(3) EUT Photo (BLG40F with GPS Integrated Antenna)



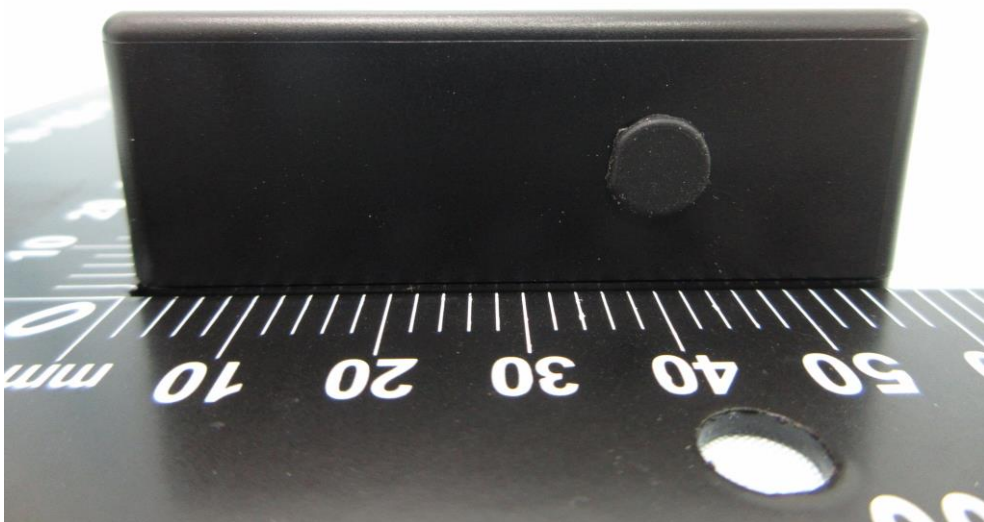
(4) EUT Photo (BLG40F with GPS Integrated Antenna)



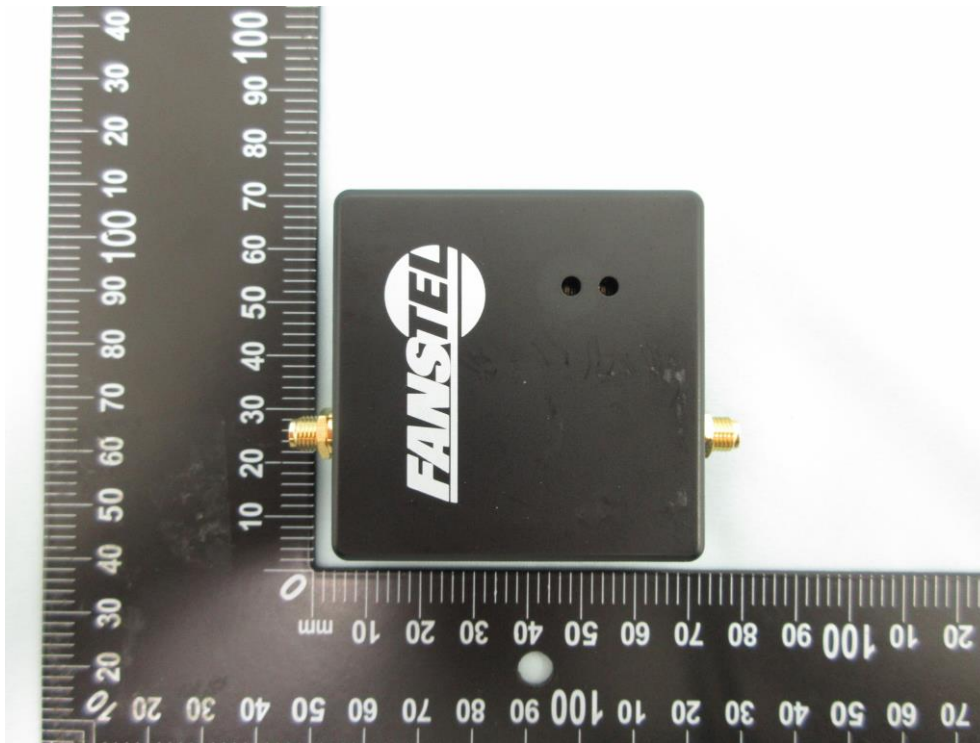
(5) EUT Photo (BLG40F with GPS Integrated Antenna)



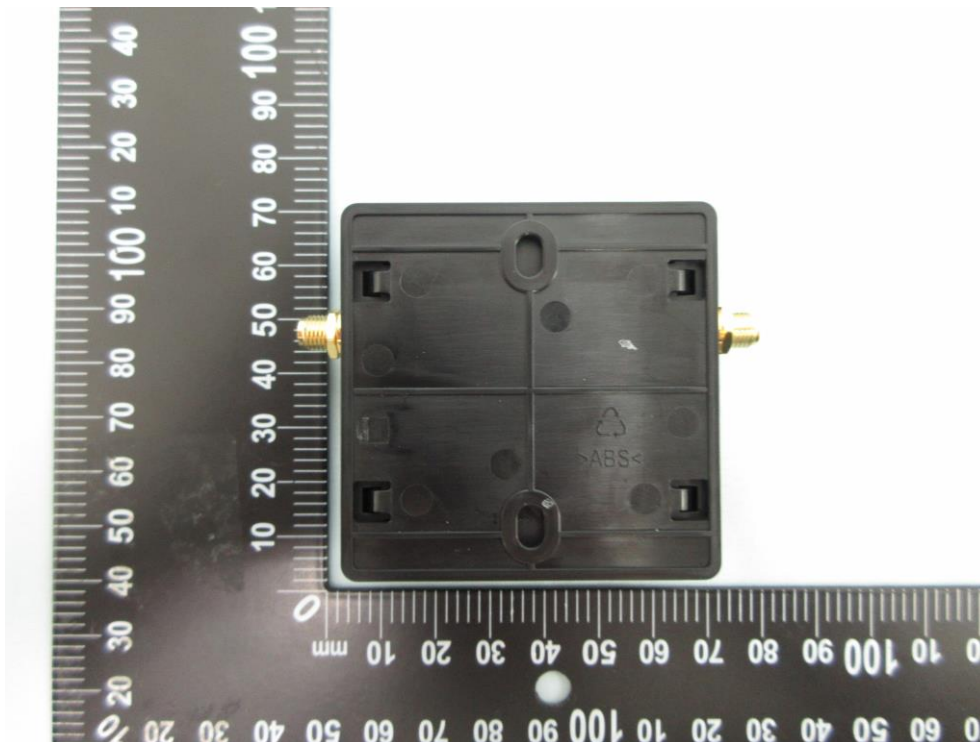
(6) EUT Photo (BLG40F with GPS Integrated Antenna)



(7) EUT Photo (BLE840X with GPS External Antenna)



(8) EUT Photo (BLE840X with GPS External Antenna)



(9) EUT Photo (BLE840X with GPS External Antenna)



(10) EUT Photo (BLE840X with GPS External Antenna)

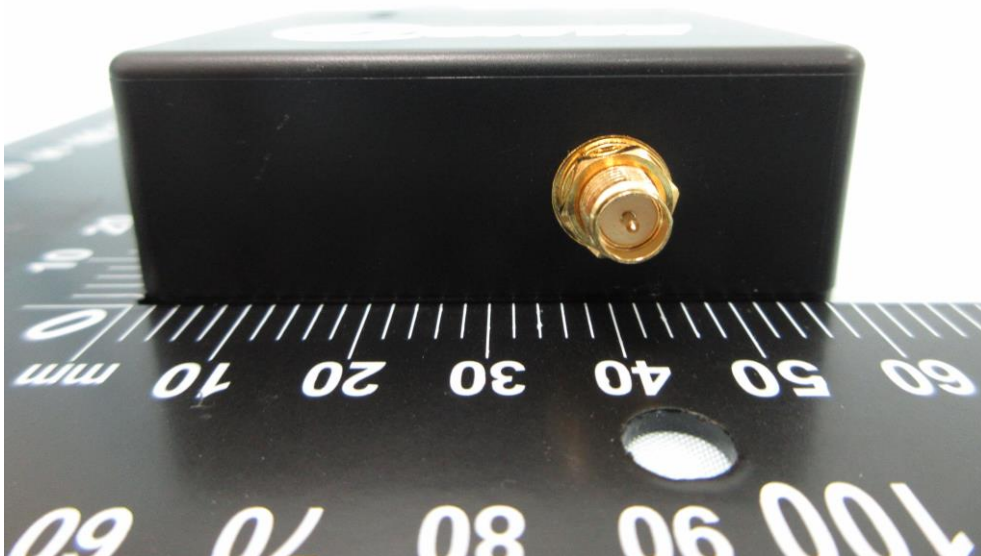




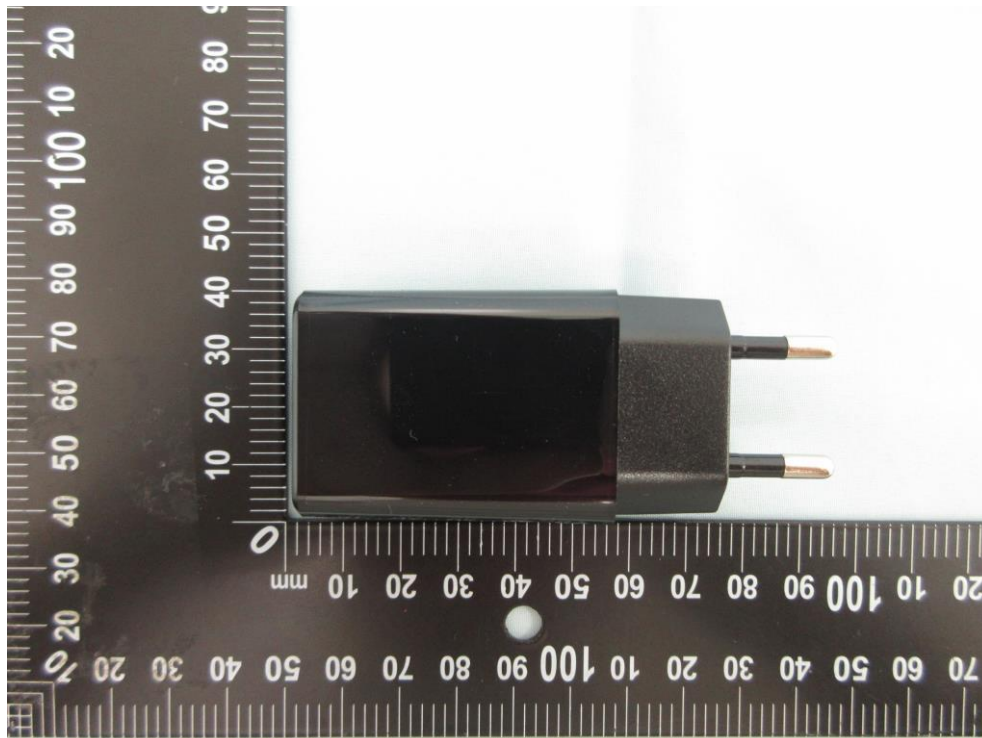
(11) EUT Photo (BLE840X with GPS External Antenna)



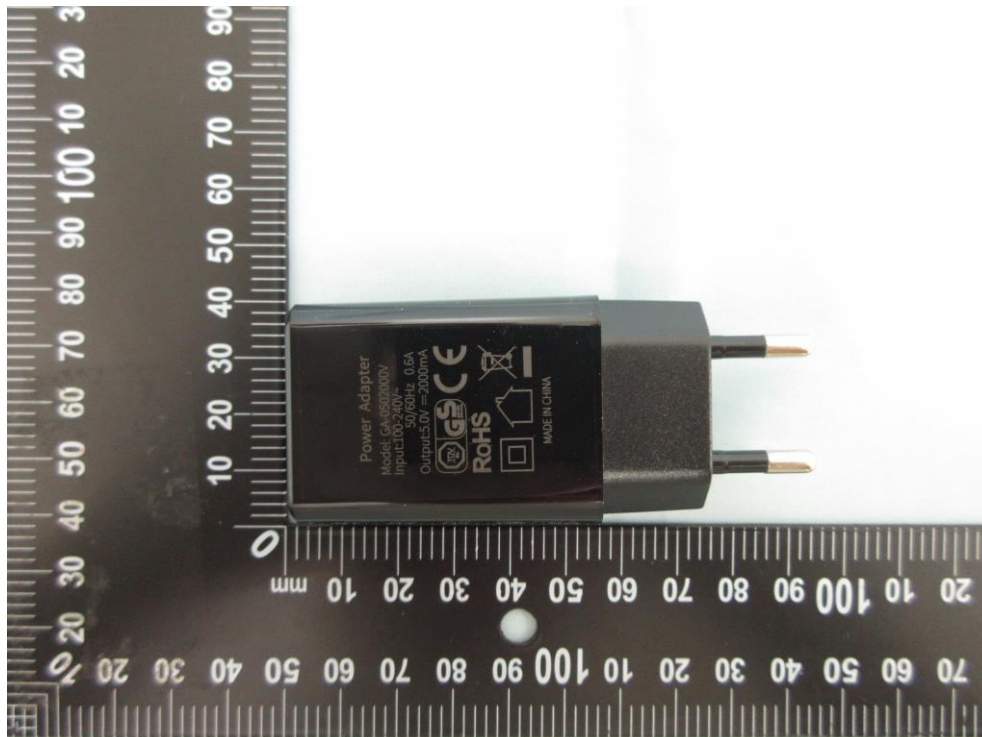
(12) EUT Photo (BLE840X with GPS External Antenna)



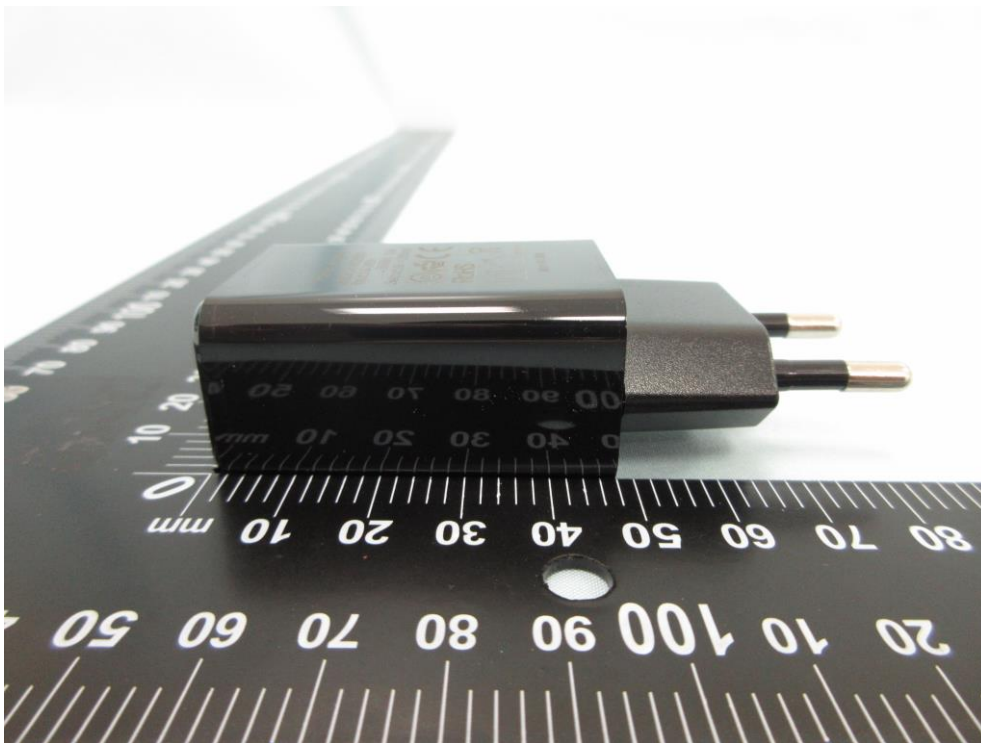
(13) EUT Photo (USB Adapter)



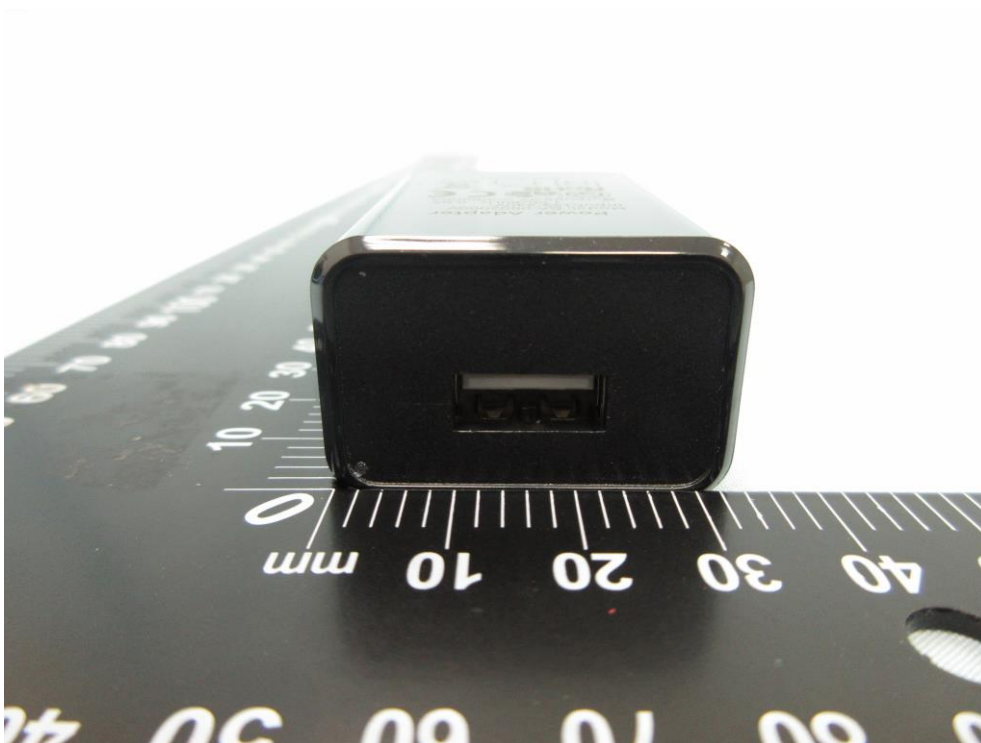
(14) EUT Photo (USB Adapter)



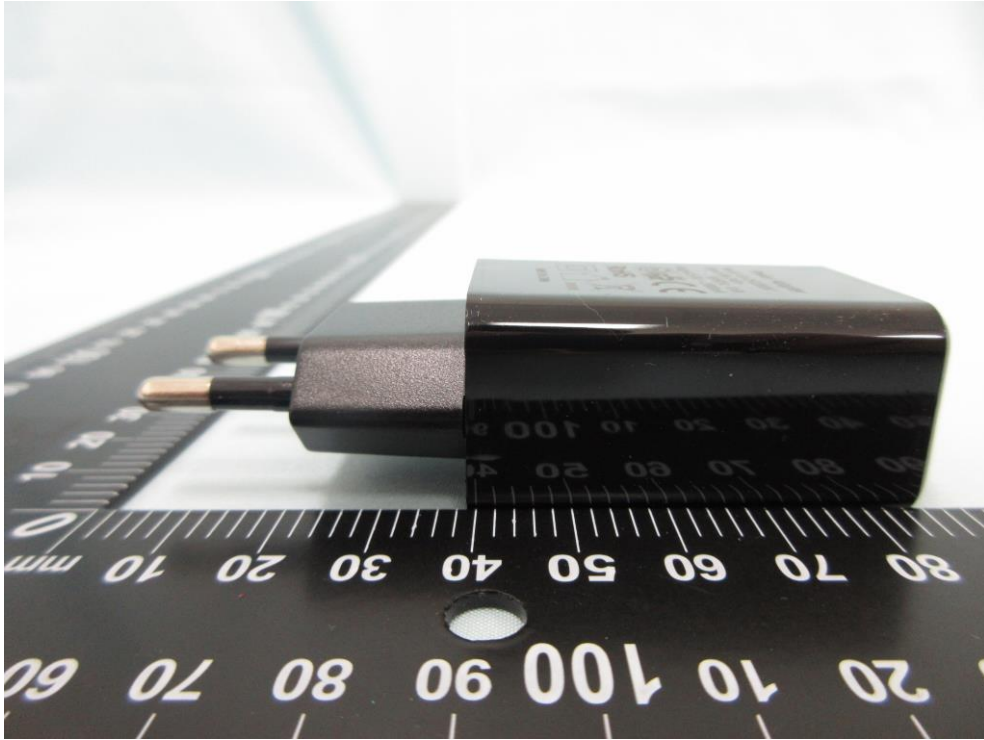
(15) EUT Photo (USB Adapter)



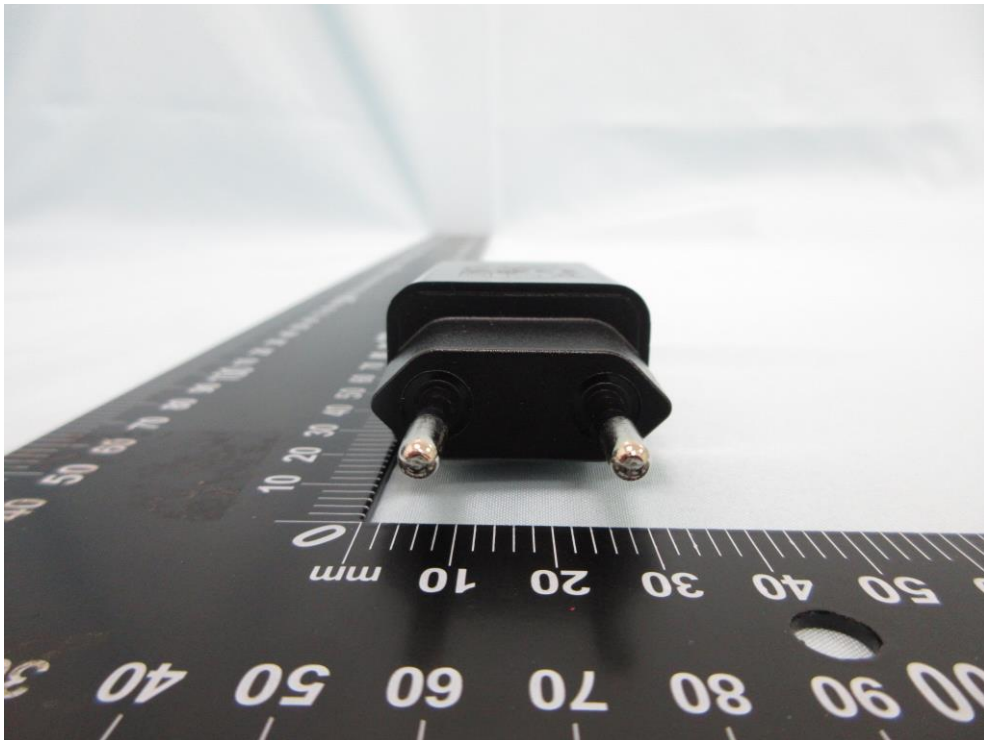
(16) EUT Photo (USB Adapter)



(17) EUT Photo (USB Adapter)



(18) EUT Photo (USB Adapter)





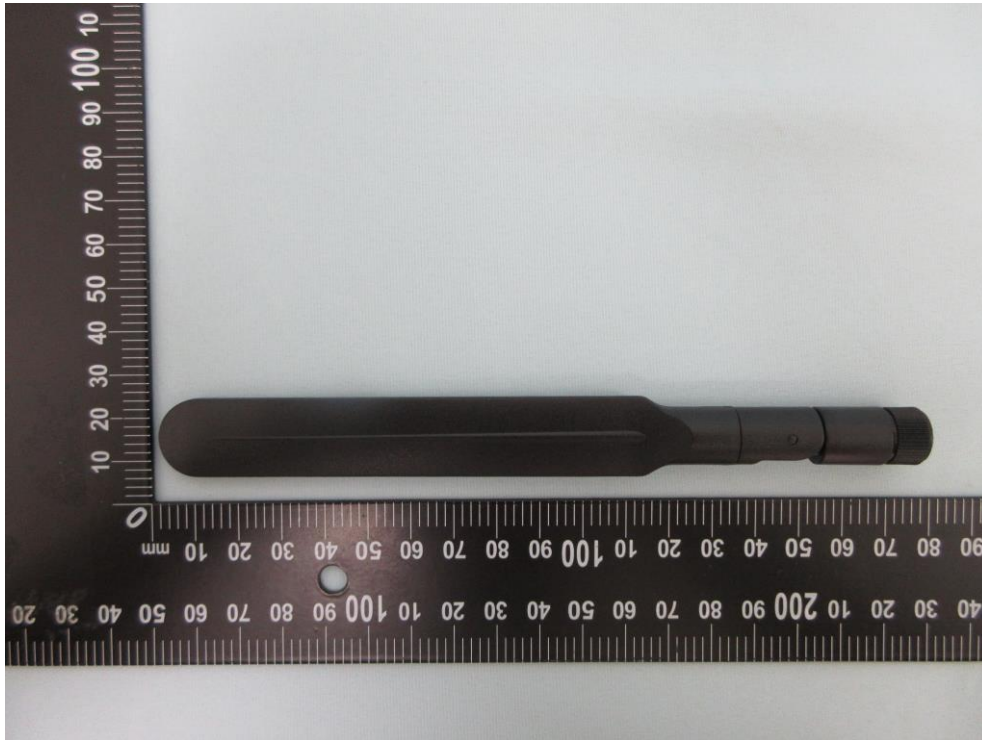
(19) EUT Photo (USB Adapter)



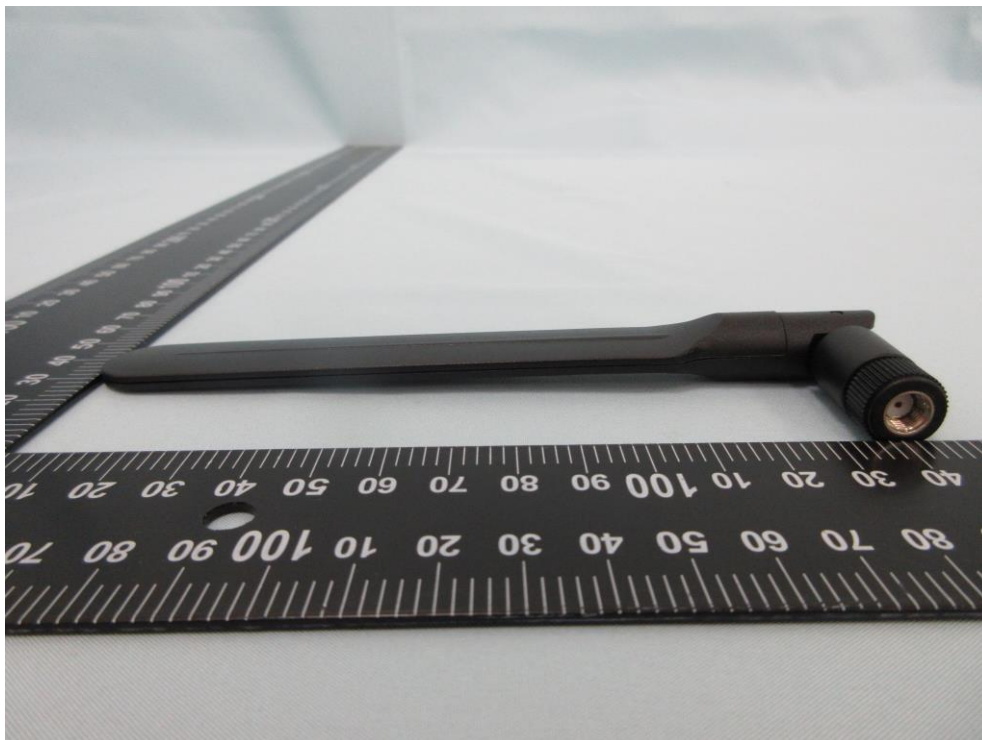
(20) EUT Photo (Micro USB Cable)



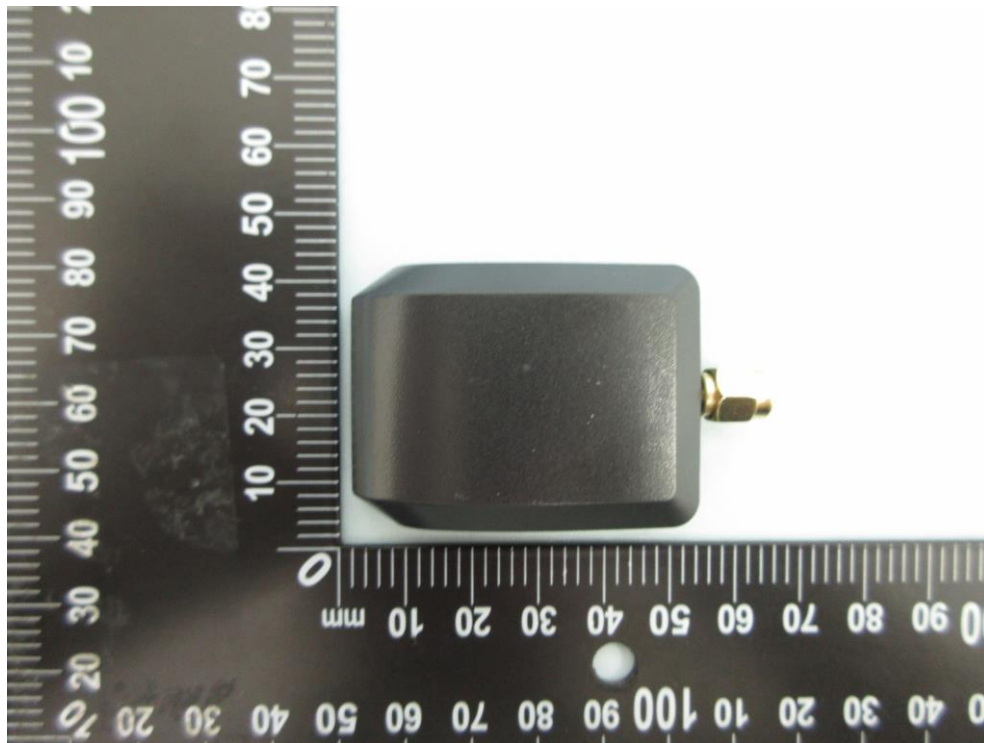
(21) EUT Photo (LTE External Antenna)



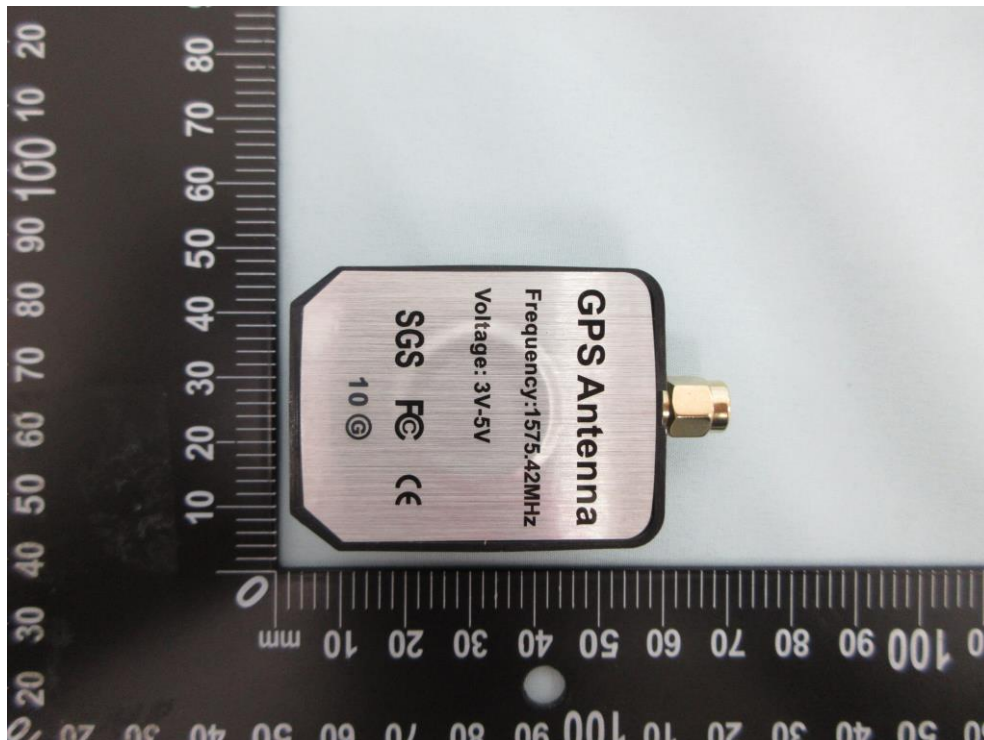
(22) EUT Photo (LTE External Antenna)



(23) EUT Photo (GPS External Antenna)



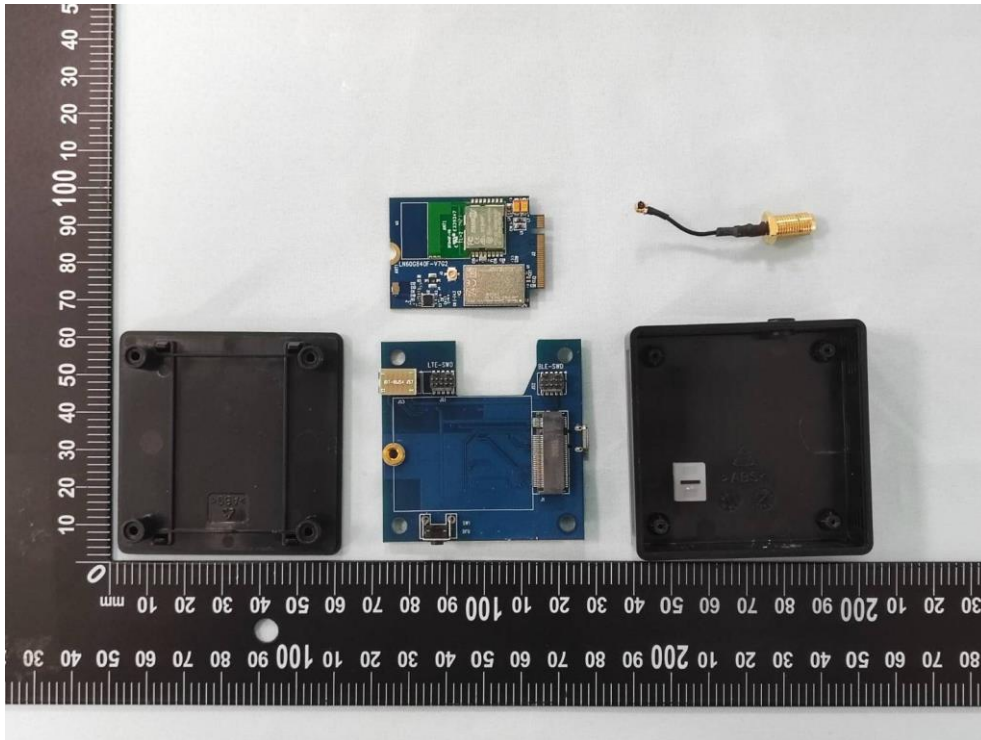
(24) EUT Photo (GPS External Antenna)



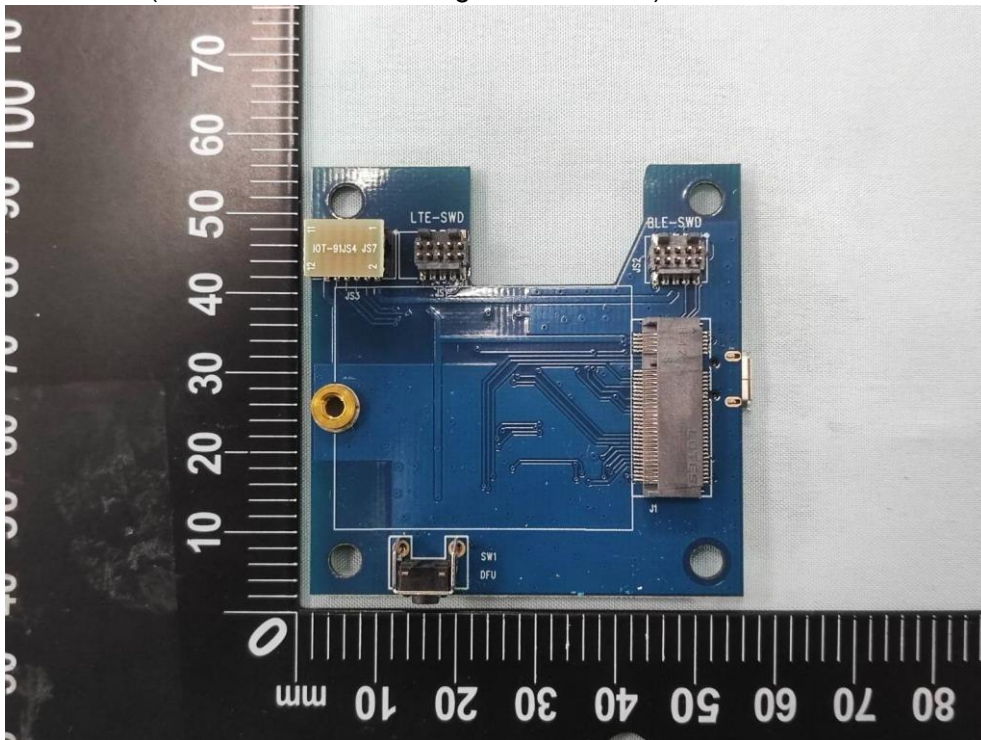


## Appendix C : Internal Photograph

(1) EUT Photo (BLG40F with GPS Integrated Antenna)

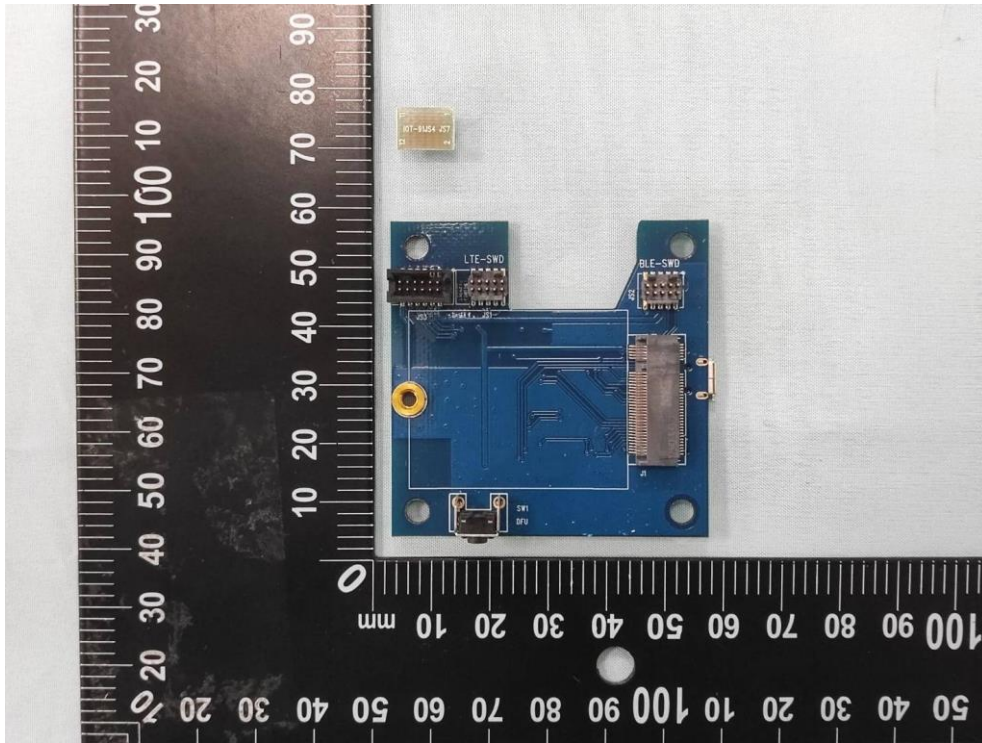


(2) EUT Photo (BLG40F with GPS Integrated Antenna)

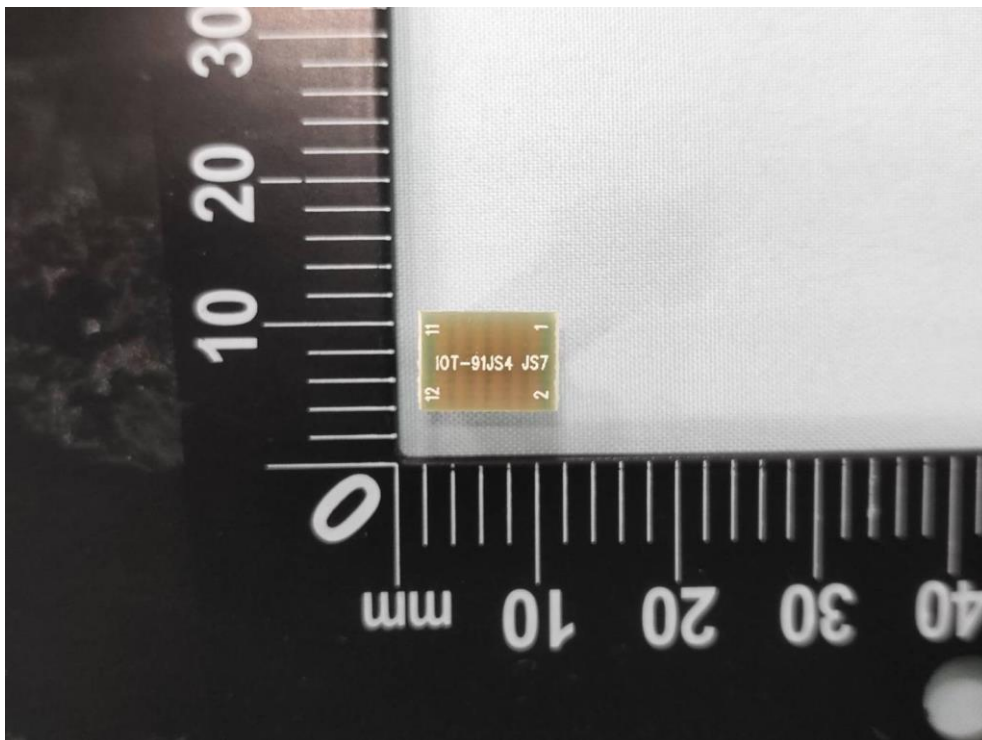




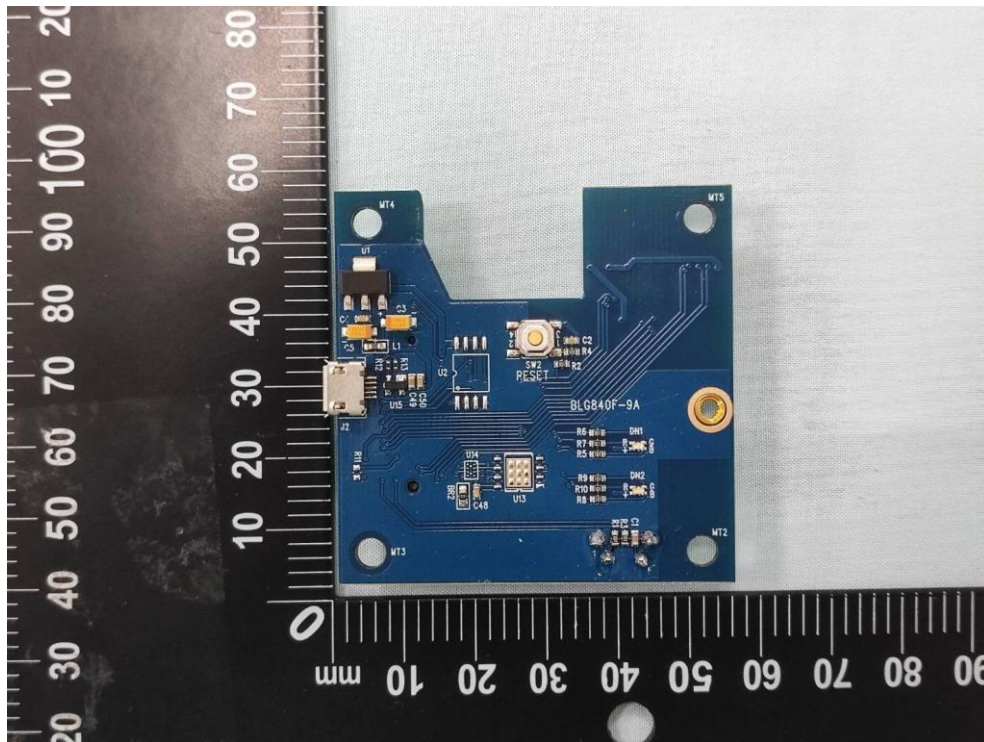
(3) EUT Photo (BLG40F with GPS Integrated Antenna)



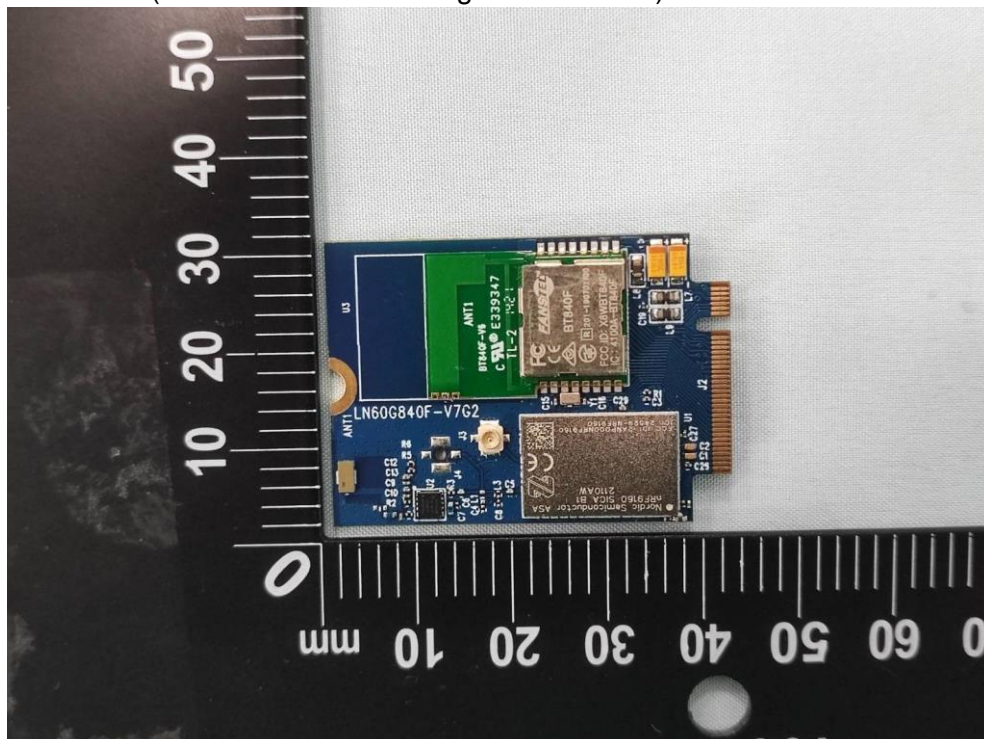
(4) EUT Photo (BLG40F with GPS Integrated Antenna)



(5) EUT Photo (BLG40F with GPS Integrated Antenna)

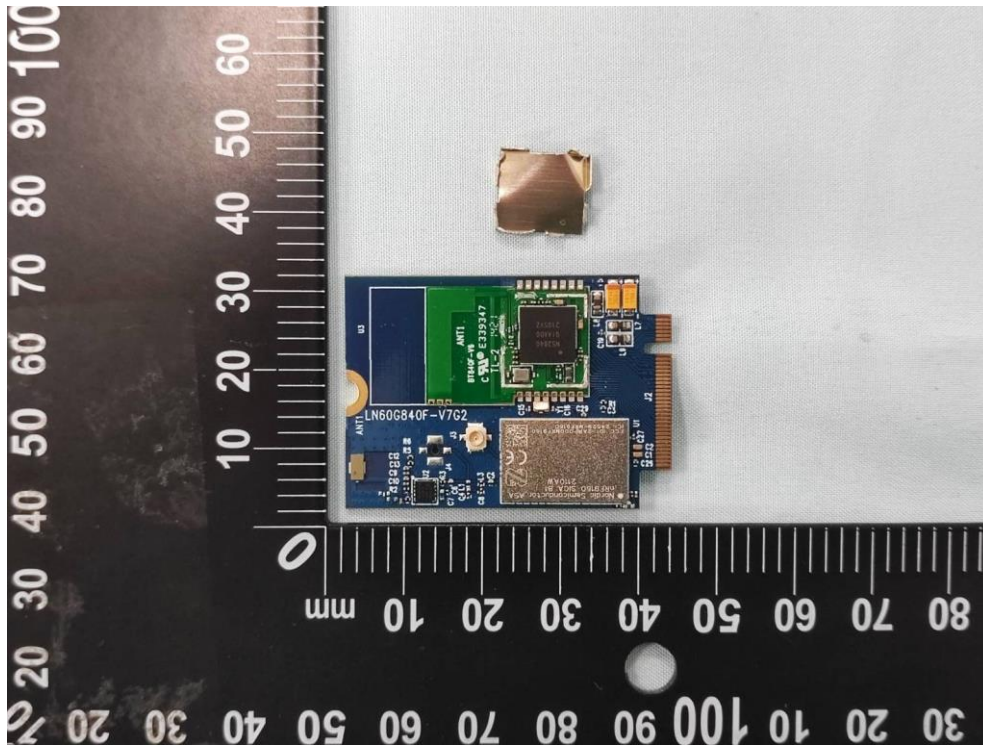


(6) EUT Photo (BLG40F with GPS Integrated Antenna)

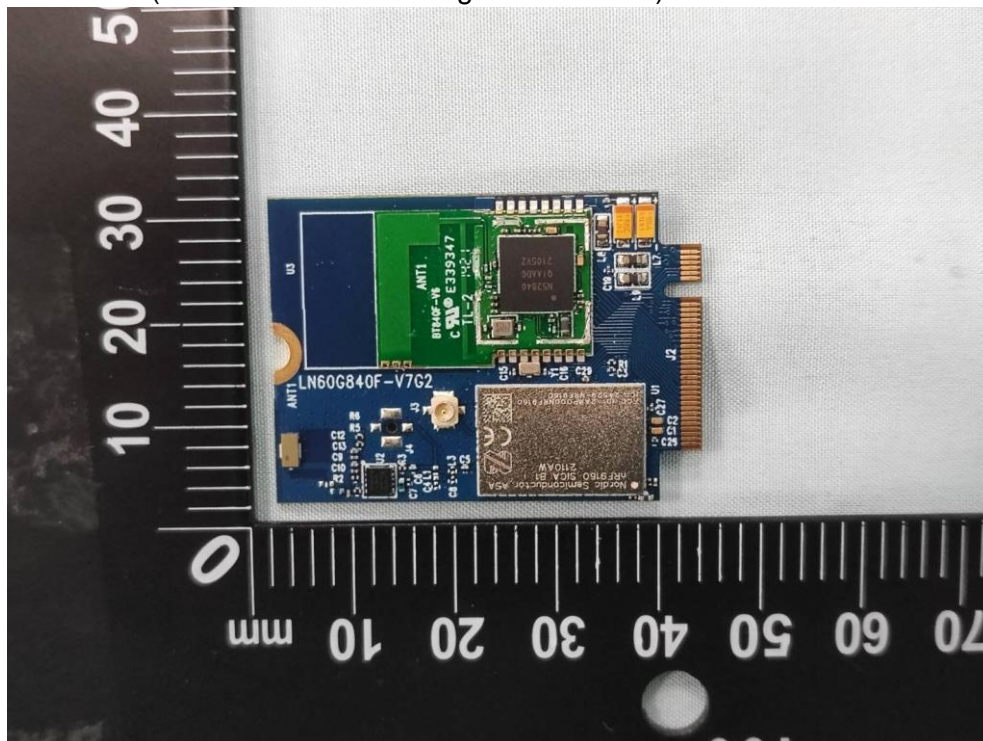




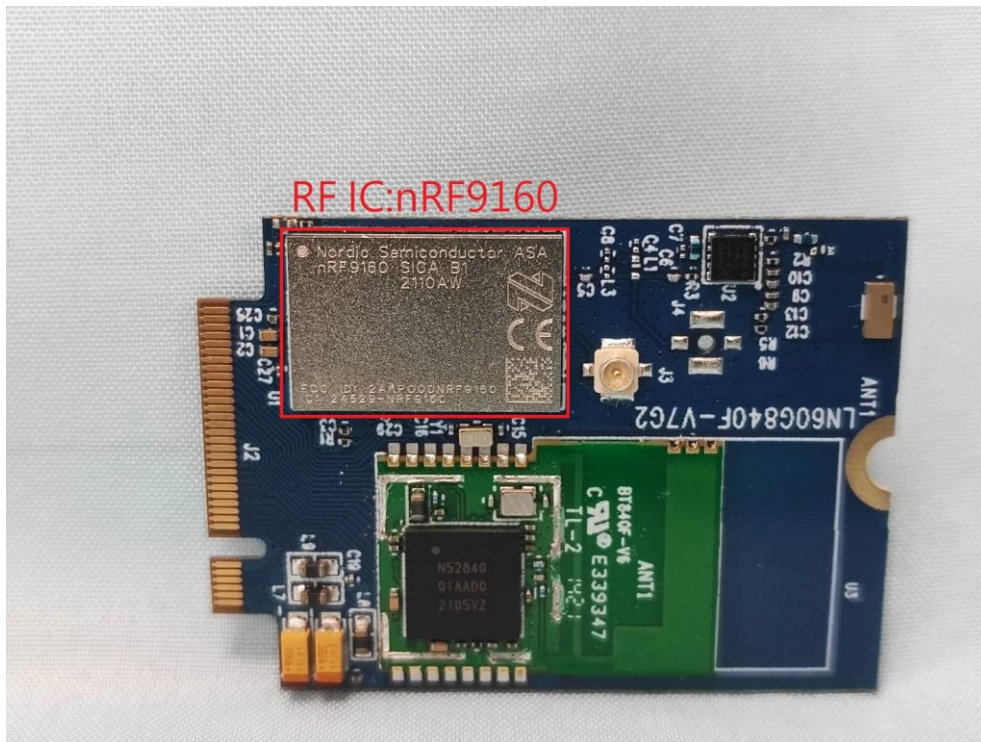
(7) EUT Photo (BLG40F with GPS Integrated Antenna)



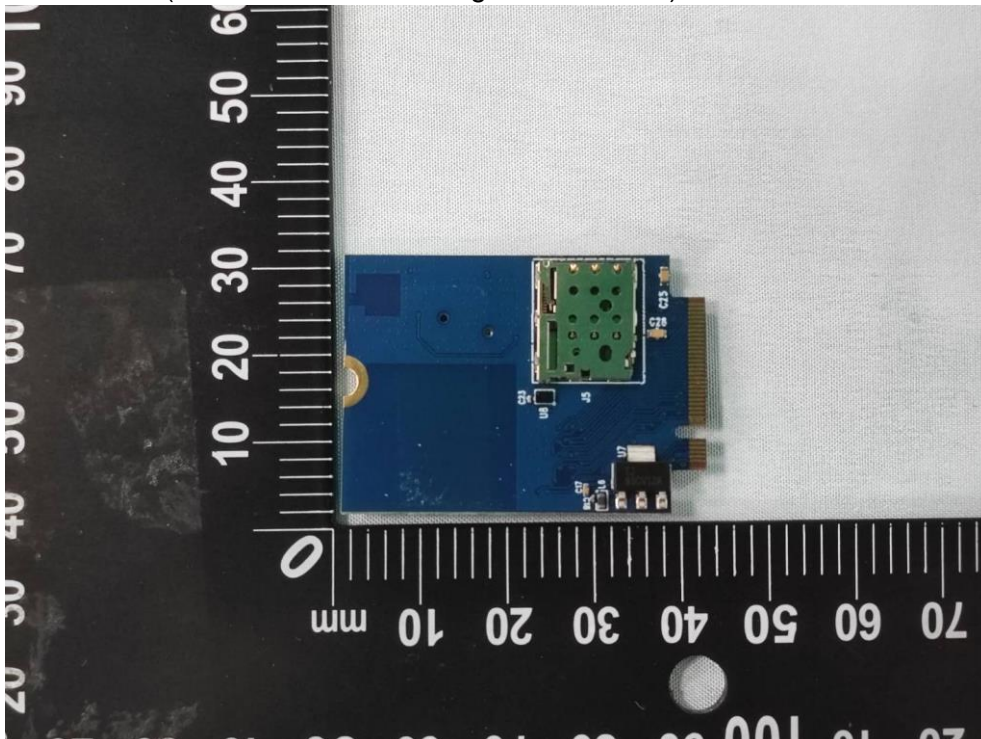
(8) EUT Photo (BLG40F with GPS Integrated Antenna)



(9) EUT Photo (BLG40F with GPS Integrated Antenna)

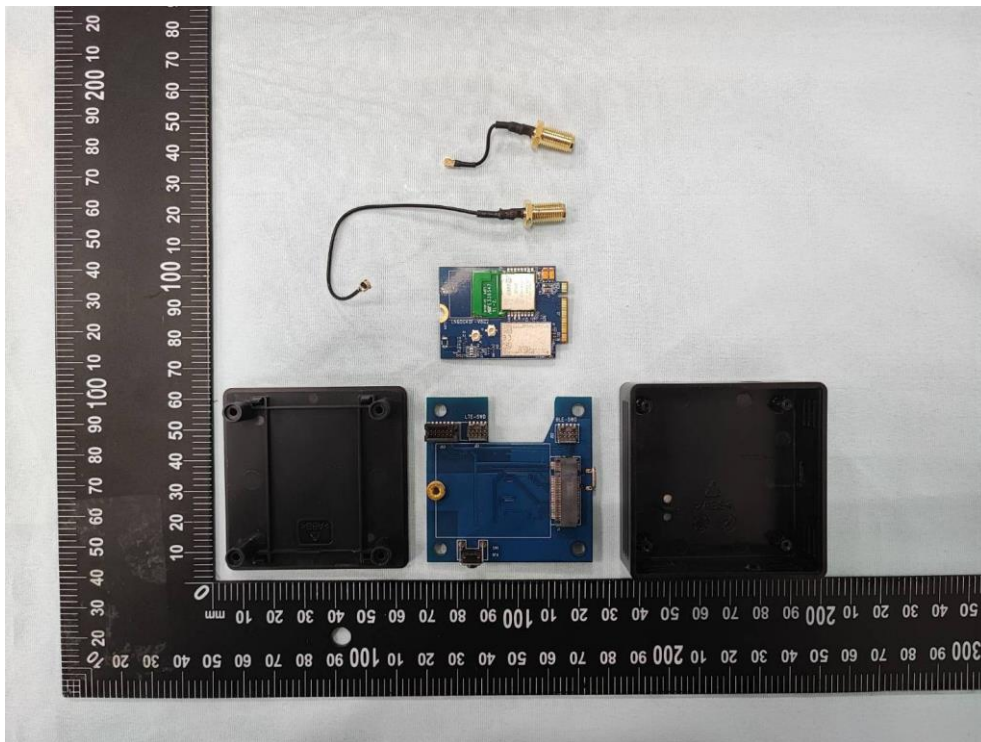


(10) EUT Photo (BLG40F with GPS Integrated Antenna)

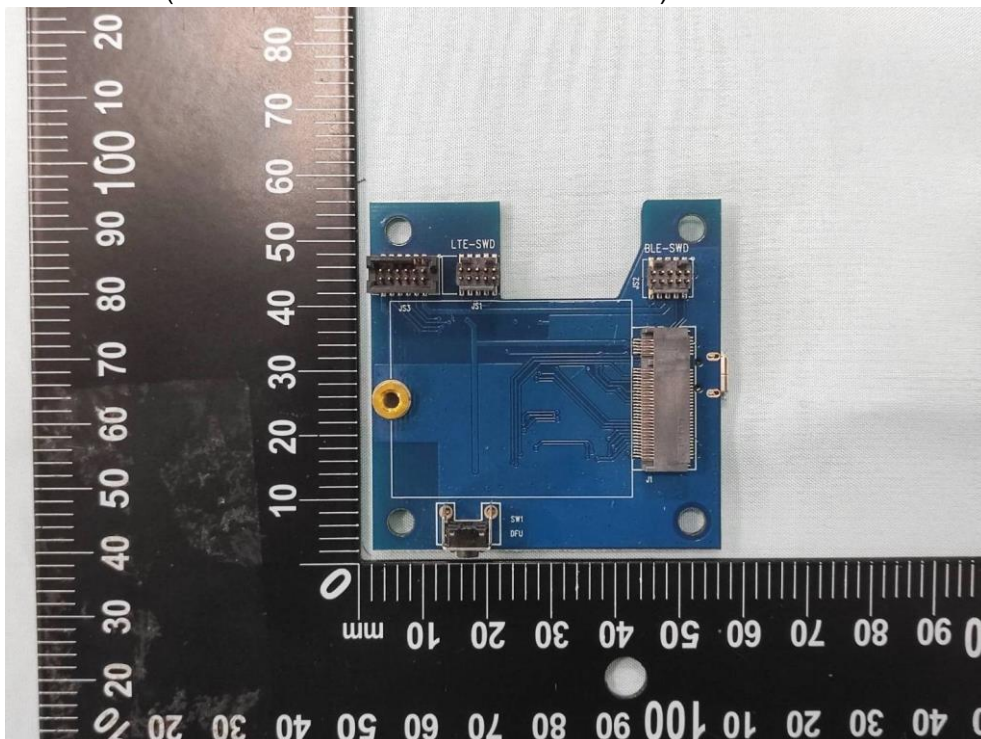




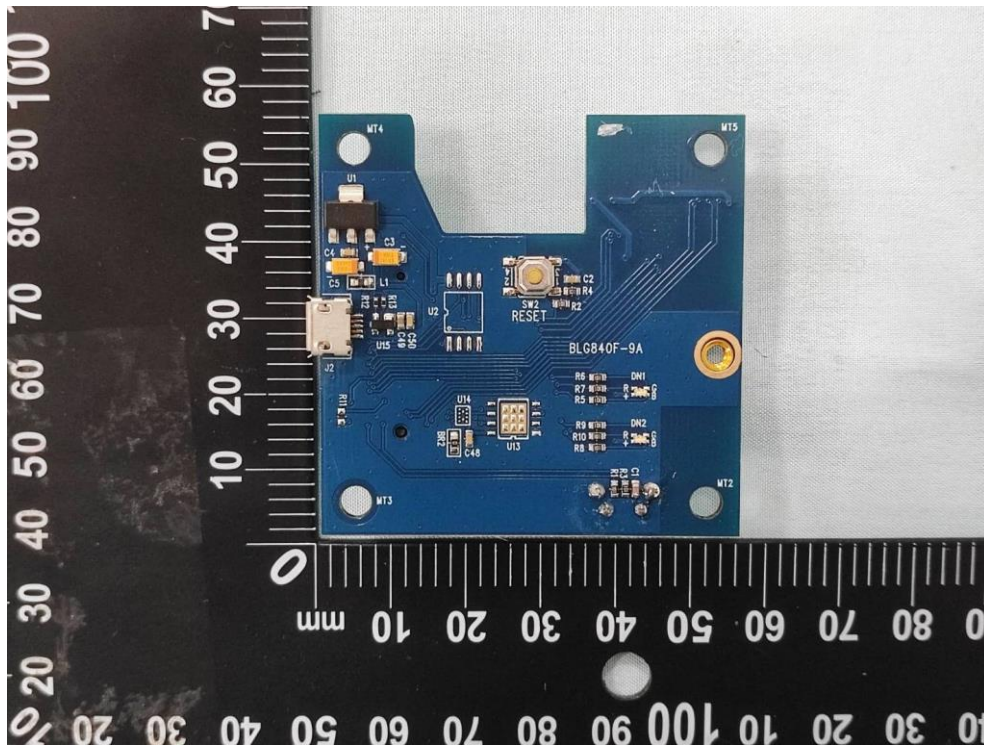
(11) EUT Photo (BLE840X with GPS External Antenna)



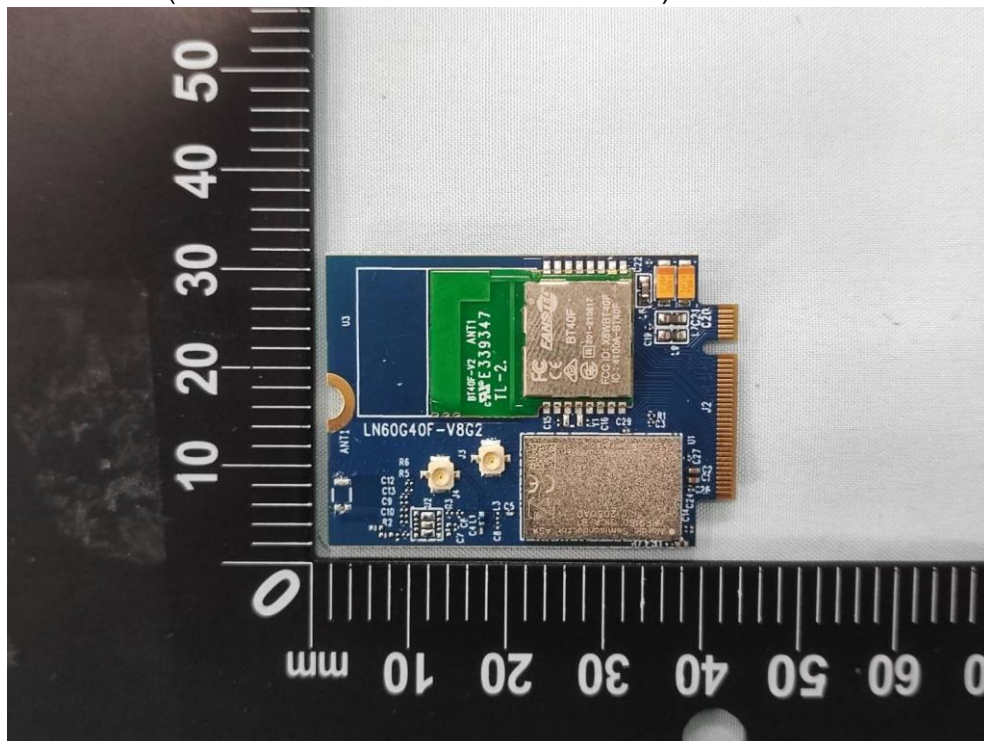
(12) EUT Photo (BLE840X with GPS External Antenna)



(13) EUT Photo (BLE840X with GPS External Antenna)

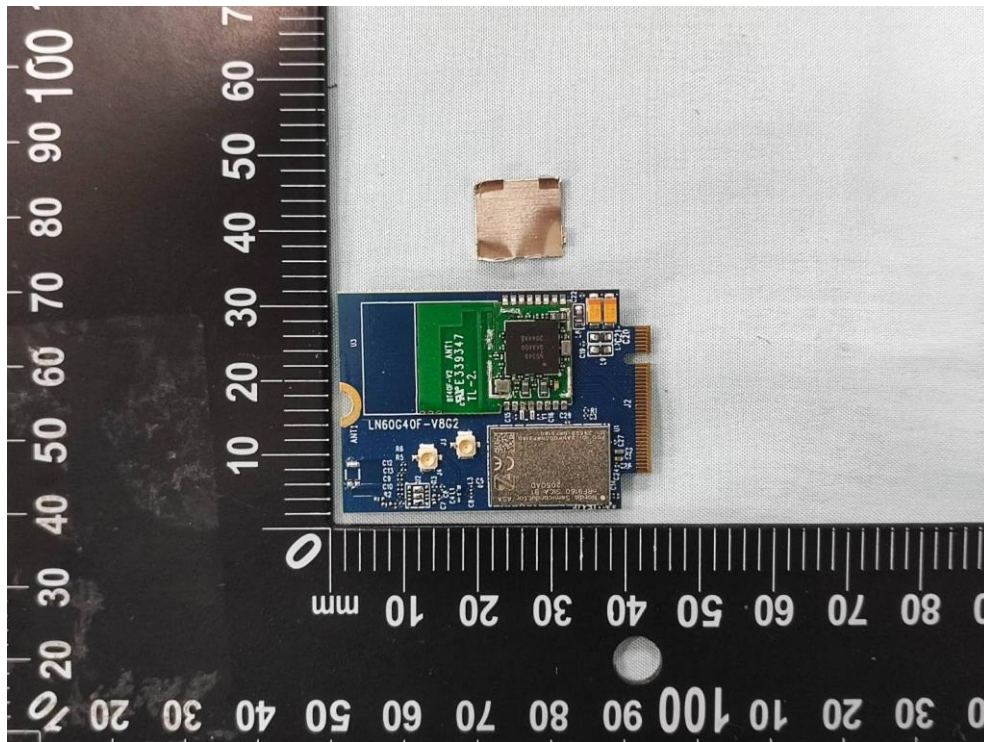


(14) EUT Photo (BLE840X with GPS External Antenna)

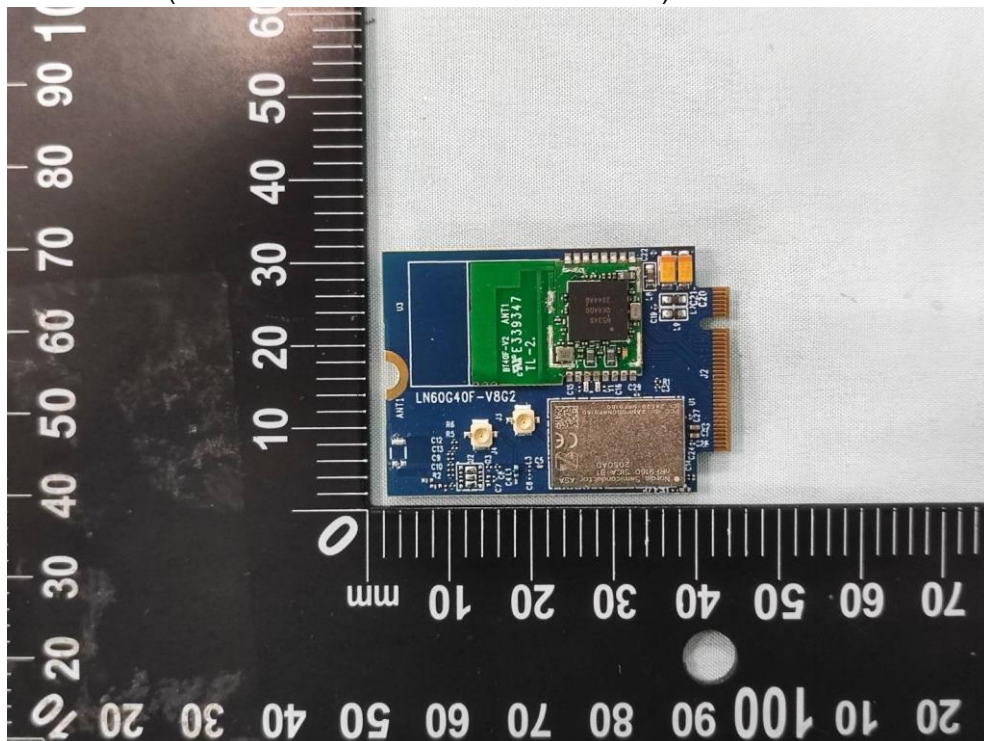




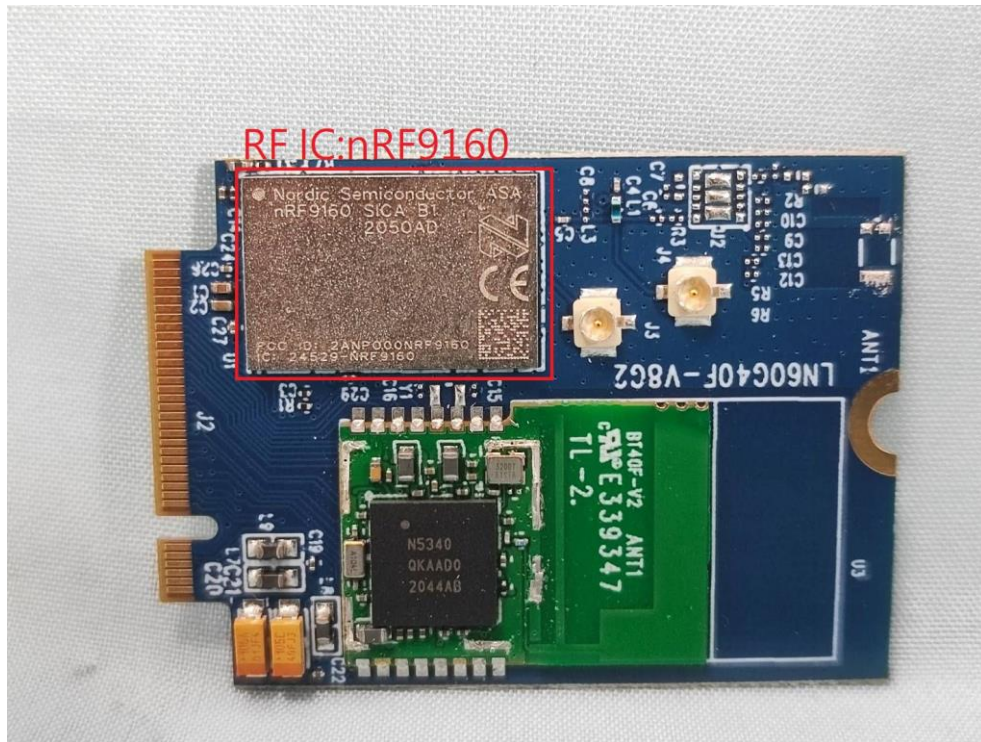
(15) EUT Photo (BLE840X with GPS External Antenna)



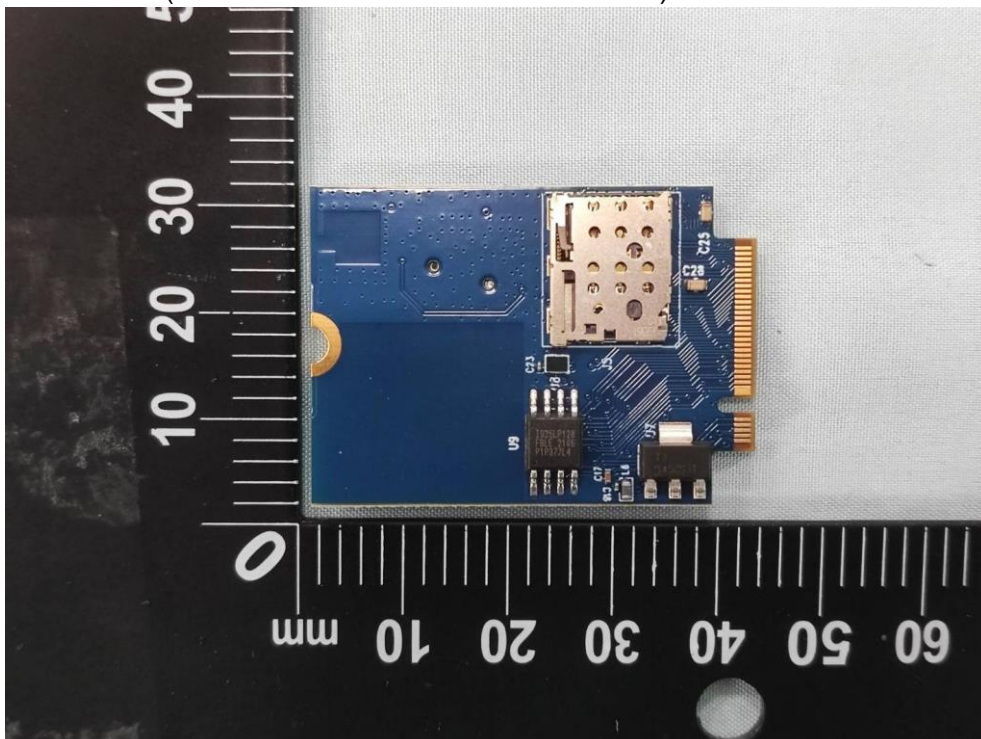
(16) EUT Photo (BLE840X with GPS External Antenna)



(17) EUT Photo (BLE840X with GPS External Antenna)



(18) EUT Photo (BLE840X with GPS External Antenna)



The End