ELECTROMAGNETIC EMISSIONS CLASS II & IV PERMISSIVE CHANGE REPORT

Testing Laboratory 3702

Applicant:	Acer Incorporated 8F., No. 88, Sec. 1, Xintai 5th Rd., Xizhi, New Taipei City 22181, Taiwan (R.O.C)
Manufacturer:	Qunata Computer Inc. 211 Wen Hwa 2nd Rd., Kueishan, Taoyuan 33377, Taiwan
Product Name:	7c Modular Platform
Brand Name:	acer
FCC Model No.:	QSIP7180P
IC Model No.:	ASIP7180P
Report Number:	E2/2022/30026
FCC ID	HLZQSIP7180PQ
IC:	1754F-QSIP7180PAI
Issue Date:	Apr. 25, 2022
Date of Test:	Mar. 16, 2022～Mar. 31, 2022
Date of EUT Received:	Mar. 07, 2022

Approved By Arno Hsieh

Arno Hsieh

We hereby certify that:

The above equipment was tested by SGS Taiwan Ltd. Central RF Lab The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.10:2013 and the energy emitted by the sample EUT comply with FCC rule part §15.247, ISED RSS-247.

The results of this report relate only to the sample identified in this report.

Revision History					
Report Number	**Revision**	**Description**	**Issue Date**	**Revised By**	**Remark**
E2/2022/30026	00	Original.	Apr. 25, 2022	Yi-Shan Tsai	

Note:

1、The remark "*" indicates modification of the report upon requests from certification body.

Contents

1 GENERAL INFORMATION

1.1 Product description

Product Name:	7c Modular Platform
Brand Name:	acer
FCC Model No.:	QSIP7180P
IC Model No.:	ASIP7180P
EUT Series No.:	PJ223044010
Power Supply:	7.7Vdc from Rechargeable Li-ion Battery Pack 5 / 9 / 12 / 15 / 20Vdc from AC/DC Adapter

1.2 RF Specification

Radio Technology:	BT BR+EDR
Channel number:	79 channels
Modulation type:	GFSK + π/4DQPSK + 8DPSK
Frequency Range:	2.402GHz – 2.480GHz

1.3 Antenna Designation

Antenna Type	Supplier	Main / Aux	Antenna Part No.	Freq. (MHz)	Peak Antenna Gain (dBi)
PIFA	WNC	Aux	DQ6S15G6000 (81EABS15.G60)	2402~2480	2.87

Note:
1. Pre-scanned was done on the above antennas, measurements were demonstrated by using the antenna with the highest gain as the worst case scenarios.
2. Antenna information is provided by the applicant.

1.4 Test Methodology of Applied Standards

FCC Part 15, Subpart C §15.247
KDB 558074 D01 v05r02 DSS Meas. Guidance
RSS-247 issue 2 Feb. 2017
RSS-Gen Issue 5, Amendment 2, February 2021
ANSI C63.10:2013

1.5 Test Facility

Laboratory	Test Site Address	Test Site Name	FCC Designation number	IC CAB identifier
SGS Taiwan Ltd. Central RF Lab. (TAF code 3702)	No.134, Wu Kung Road, New Taipei Industrial Park, Wuku District, New Taipei City, Taiwan.	SAC 1	TW0027	TW3702
		SAC 3		
		Conduction 1		
		Conducted 1		
		Conducted 2		
		Conducted 3		
		Conducted 4		
		Conducted 5		
		Conducted 6		
	No.2, Keji 1st Rd., Guishan District, Taoyuan City, Taiwan 333	Conduction C	TW0028	
		SAC C		
		SAC D		
		SAC G		
		Conducted A		
		Conducted B		
		Conducted C		
		Conducted D		
		Conducted E		
		Conducted F		
		Conducted G		
Note: Test site name is remarked on the equipment list in each section of this report as an indication where measurements occurred in specific test site and address.				

1.6 Special Accessories

There is no special accessory used while test was conducted.

1.7 Equipment Modifications

There was no modification incorporated into the EUT.

2 SYSTEM TEST CONFIGURATION

2.1 EUT Configuration

The EUT configuration for testing is installed on RF field strength measurement to meet the Commissions requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT Exercise

An engineering test mode (software/firmware) that applicant provided was utilized to manipulate the EUT into transmit, selection of the test channel, and modulation scheme.

2.3 Test Procedure

2.3.1 Radiated Emissions

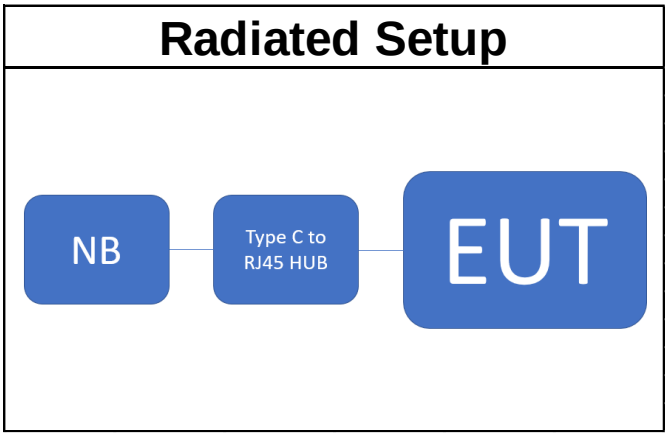
The EUT is a placed on a turn table. For emissions testing at or below 1 GHz, the table height shall be 0.8 m above the reference ground plane. For emission measurements above 1 GHz, the table height shall be 1.5 m. The turn table shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emission. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. In order to find out the max. emission, the relative positions of this transmitter (EUT) was rotated through three orthogonal axes and measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made “while keeping the antenna in the ‘cone of radiation’ from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response.” is still within the 3dB illumination BW of the measurement antenna.

2.4 Measurement Results Explanation Example

2.4.1 Radiated Emission Test Sites For Measurements From 9 kHz To 30 MHz

Radiated emission below 30MHz is measured in a 9m*6m*6m semi-anechoic chamber, the measurements correspond to those obtained at an open-field test site.
There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

2.5 Test Configuration



2.6 Control Unit(s)

Radiated Emission Test Site: SAC D					
EQUIPMENT TYPE	MFR	MODEL NUMBER	SERIAL NUMBER	LAST CAL.	CAL DUE.
Type C to RJ45	eSENSE	01-RJC188	471023570365	N.C.R	N.C.R
LAN Cable	RONEVER	VPH-02	1500021123	N.C.R	N.C.R
Notebook	Lenovo	T470	P0001293	N/A	N/A

3 SUMMARY OF TEST RESULTS

FCC Rules	IC Rules	Description Of Test	Result
§15.247(d) §15.209	RSS-247 §5.5 RSS-Gen §8.9	Radiated Spurious Emission	Compliant

4 DESCRIPTION OF TEST MODES

4.1 Operated in 2400 ~ 2483.5MHz Band

79 channels are provided for Bluetooth

ITEM	FREQUENCY	ITEM	FREQUENCY	ITEM	FREQUENCY	ITEM	FREQUENCY
1	2402 MHz	21	2422 MHz	41	2442 MHz	71	2462 MHz
2	2403 MHz	22	2423 MHz	42	2443 MHz	72	2463 MHz
3	2404 MHz	23	2424 MHz	43	2444 MHz	73	2464 MHz
4	2405 MHz	24	2425 MHz	44	2445 MHz	74	2465 MHz
5	2406 MHz	25	2426 MHz	45	2446 MHz	75	2466 MHz
6	2407 MHz	26	2427 MHz	46	2447 MHz	76	2467 MHz
7	2408 MHz	27	2428 MHz	47	2448 MHz	77	2468 MHz
8	2409 MHz	28	2429 MHz	48	2449 MHz	78	2469 MHz
9	2410 MHz	29	2430 MHz	49	2450 MHz	79	2470 MHz
10	2411 MHz	30	2431 MHz	50	2451 MHz	70	2471 MHz
11	2412 MHz	31	2432 MHz	51	2452 MHz	71	2472 MHz
12	2413 MHz	32	2433 MHz	52	2453 MHz	72	2473 MHz
13	2414 MHz	33	2434 MHz	53	2454 MHz	73	2474 MHz
14	2415 MHz	34	2435 MHz	54	2455 MHz	74	2475 MHz
15	2416 MHz	35	2436 MHz	55	2456 MHz	75	2476 MHz
16	2417 MHz	36	2437 MHz	56	2457 MHz	76	2477 MHz
17	2418 MHz	37	2438 MHz	57	2458 MHz	77	2478 MHz
18	2419 MHz	38	2439 MHz	58	2459 MHz	78	2479 MHz
19	2420 MHz	39	2440 MHz	59	2460 MHz	79	2480 MHz
20	2421 MHz	40	2441 MHz	60	2461 MHz		

4.2 The Worst Test Modes and Channel Details

1 The EUT has been tested under operating condition.
2 Test program used to control the EUT for staying in continuous transmitting and receiving mode is programmed.
3 The field strength of radiated emission was measured as the EUT positioned in different orthogonal planes (E1/E2/H) based on actual usage of the EUT to pre-scan the emissions for determining the worst case scenario.
4 Investigation has been done on all the possible configurations for searching the worst case.

MODE	AVAILABLE CHANNEL	TESTED CHANNEL	MODULATION	PACKET TYPE
RADIATED EMISSION TEST (BELOW 1 GHz)				
Bluetooth	0 to 78	39	8-DPSK	3DH5
RADIATED EMISSION TEST (ABOVE 1 GHz)				
Bluetooth	0 to 78	0,39,78	GFSK/8-DPSK	DH5/3DH5
Note: The field strength of radiation emission was measured as EUT stand-up position (H mode) and lie down position (E1, E2 mode) for channel Low, Mid and High, the worst case position was reported.				

5 MEASUREMENT UNCERTAINTY

Radiated Spurious Emission Measurement Uncertainty				
Polarization: Vertical	+/-	2.57	dB	9kHz~30MHz
	+/-	4.85	dB	30MHz - 1000MHz
	+/-	4.45	dB	1GHz - 18GHz
	+/-	4.24	dB	18GHz - 40GHz
Polarization: Horizontal	+/-	2.57	dB	9kHz~30MHz
	+/-	4.37	dB	30MHz - 1000MHz
	+/-	4.45	dB	1GHz - 18GHz
	+/-	4.24	dB	18GHz - 40GHz

Note:

1. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.
2. The conformity assessment statement in this report is based solely on the test results, measurement uncertainty is excluded.

6 RADIATED BANDEDGE AND SPURIOUS EMISSION MEASUREMENT

6.1 Standard Applicable

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. In addition, radiated emissions which fall in the restricted bands must also comply with the §15.209 limit as below.
And according to §15.33(a) (1), for an intentional radiator operates below 10GHz, the frequency range of measurements: to the tenth harmonic of the highest fundamental frequency or to 40GHz, whichever is lower.

Frequency (MHz)	Field strength (microvolts/meter)	Distance (meters)
0.009-0.490	2400/F(kHz)	300
0.490-1.705	24000/F(kHz)	30
1.705-30	30	30
30-88	100	3
88-216	150	3
216-960	200	3
Above 960	500	3

Note:

1. *The lower limit shall apply at the transition frequencies.*

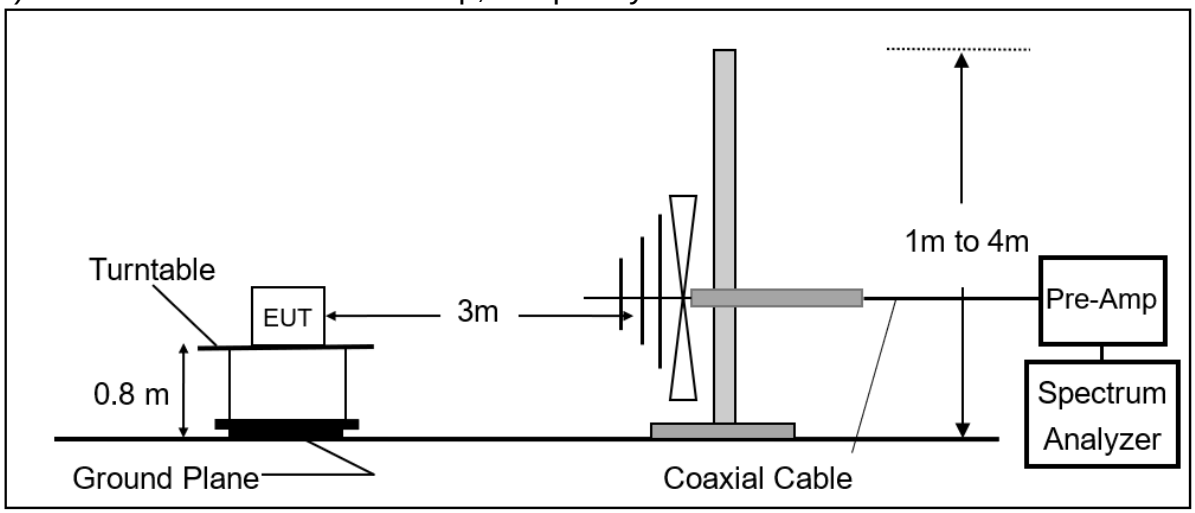
6.2 Measurement Equipment Used

Radiated Emission Test Site: SAC D					
EQUIPMENT TYPE	**MFR**	**MODEL NUMBER**	**SERIAL NUM-BER**	**LAST CAL.**	**CAL DUE.**
Broadband Antenna	SCHWARZ-BECK	VULB 9168	9168-617	11/12/2021	11/11/2022
Horn Antenna	Schwarzbeck	BBHA9170	185	08/06/2021	08/05/2022
Horn Antenna	Schwarzbeck	BBHA9120D	1341	06/04/2021	06/03/2022
Loop Antenna	ETS.LIND-GREN	6502	143303	05/07/2021	05/06/2022
3m Site NSA	SGS	966 chamber D	N/A	07/12/2021	07/11/2022
Test Software	audix	e3	E3 20923 SGS Ver.9 (C)	N.C.R	N.C.R
Spectrum Analyzer	KEYSIGHT	N9010B	MY59071570	06/01/2021	05/31/2022
Pre-Amplifier	EMC Instru-ments	EMC184045B	980135	10/27/2021	10/26/2022
Pre-Amplifier	EMC Instru-ments	EMC9135	980234	11/18/2021	11/17/2022
Pre-Amplifier	EMC Instru-ments	EMC12630SE	980273	11/18/2021	11/17/2022
Coaxial Cable	Huber+Su-hner	RG 214/U	W21.01	11/18/2021	11/17/2022
Coaxial Cable	Huber Su-hner	EMC106-SM-SM-7200	150703	11/18/2021	11/17/2022
Coaxial Cable	Huber Su-hner	SUCOFLEX 104	MY17413/4	11/18/2021	11/17/2022
Attenuator	Marvelous	WATT-218FS-10	RF17	11/18/2021	11/17/2022
Lowpass Filter	Woken	EWT-56-0019	RF173	11/18/2021	11/17/2022
High Pass Filter	R&S	F13 HPF 3GHz	RF175	11/18/2021	11/17/2022
Band Rejection Filter	Micro-Tronics	BRM50701-01	RF201	11/18/2021	11/17/2022

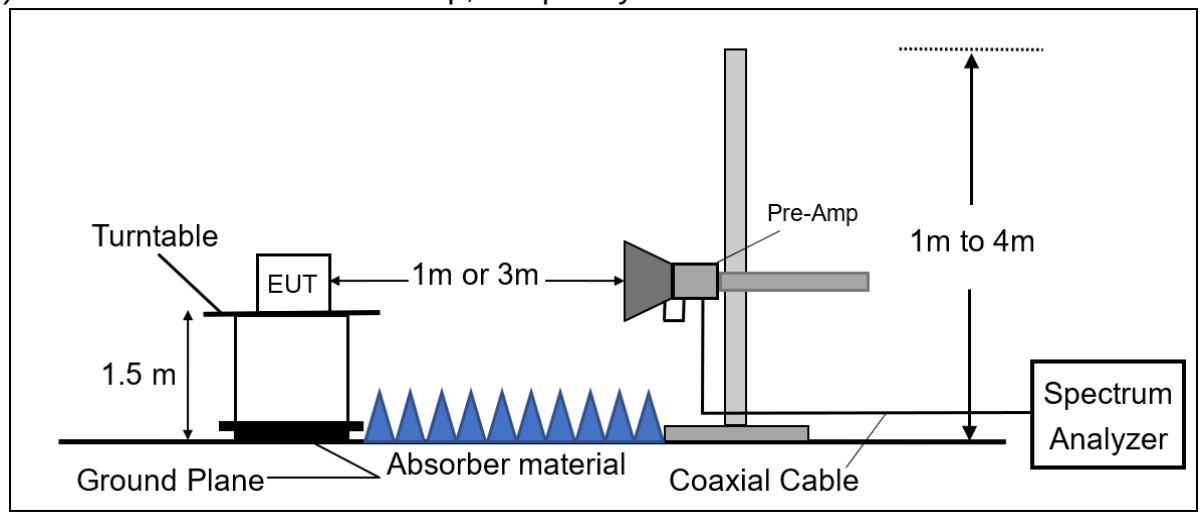
NOTE: *N.C.R refers to Not Calibrated Required.*

6.3 Test SET-UP

(A) Radiated Emission Test Set-Up, Frequency From 30MHz to 1000MHz.



(B) Radiated Emission Test Set-Up, Frequency Above 1GHz.



6.4 Measurement Procedure

6.4.1 Radiated Emission

1. The testing follows the Measurement Procedure of ANSI C63.10:2013.
2. The EUT was placed on a turn table with 0.8m for frequency< 1GHz and 1.5m for frequency> 1GHz above ground plane.
3. The turn table shall rotate 360 degrees to determine the position of maximum emission level.
4. EUT is set 3m away from the receiving antenna which varied from 1m to 4m to find out the highest emissions.
5. Set the spectrum analyzer as RBW=100 kHz and VBW=300 kHz for Peak Detector (PK) at frequency between 30MHz and 1 GHz.
6. Use receiver mode as RBW=120 kHz for Quasi-peak (QP) at frequency between 30MHz and 1 GHz.
7. Set the spectrum analyzer as RBW=1 MHz, VBW=3 MHz for Peak Detector at frequency above 1 GHz.
8. Set the spectrum analyzer as RBW=1 MHz, VBW=10 Hz (Duty cycle > 98%) or VBW ≥ 1/T (Duty cycle < 98%) for Average Detector at frequency above 1 GHz.
9. When measurement procedures for electric field radiated emissions above 1 GHz the EUT measurement is to be made “while keeping the antenna in the ‘cone of radiation’ from that area and pointed at the area both in azimuth and elevation, with polarization oriented for maximum response.” is still within the 3dB illumination BW of the measurement antenna.
10. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
11. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical. On spectrum, change spectrum mode in linear display mode, and reduce VBW = 10Hz if average reading is measured.
12. Repeat above procedures until all default test channel measured were complete.

6.5 Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor (if any) from the measured reading. The basic equation with a sample calculation is as follows:

$$FS = RA + AF + CL – AG$$

Where *FS = Field Strength* *CL = Cable Attenuation Factor (Cable Loss)*
RA = Reading Amplitude *AG = Amplifier Gain*
AF = Antenna Factor

*The limit of the emission level is expressed in dBuV/m, which converts 20*log(uV/m)*

Actual FS(dBμV/m) = SPA. Reading level(dBμV) + Factor(dB)
Factor(dB) = Antenna Factor(dBμV/m) + Cable Loss(dB) – Pre_Amplifier Gain(dB)

6.6 Test Results of Radiated Spurious Emissions from 9 kHz to 30 MHz

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit per 15.31(o) & RSS-GEN §6.13.2 was not reported.

6.7 Measurement Result:

6.7.1 Duty Cycle Correction Factor

BR

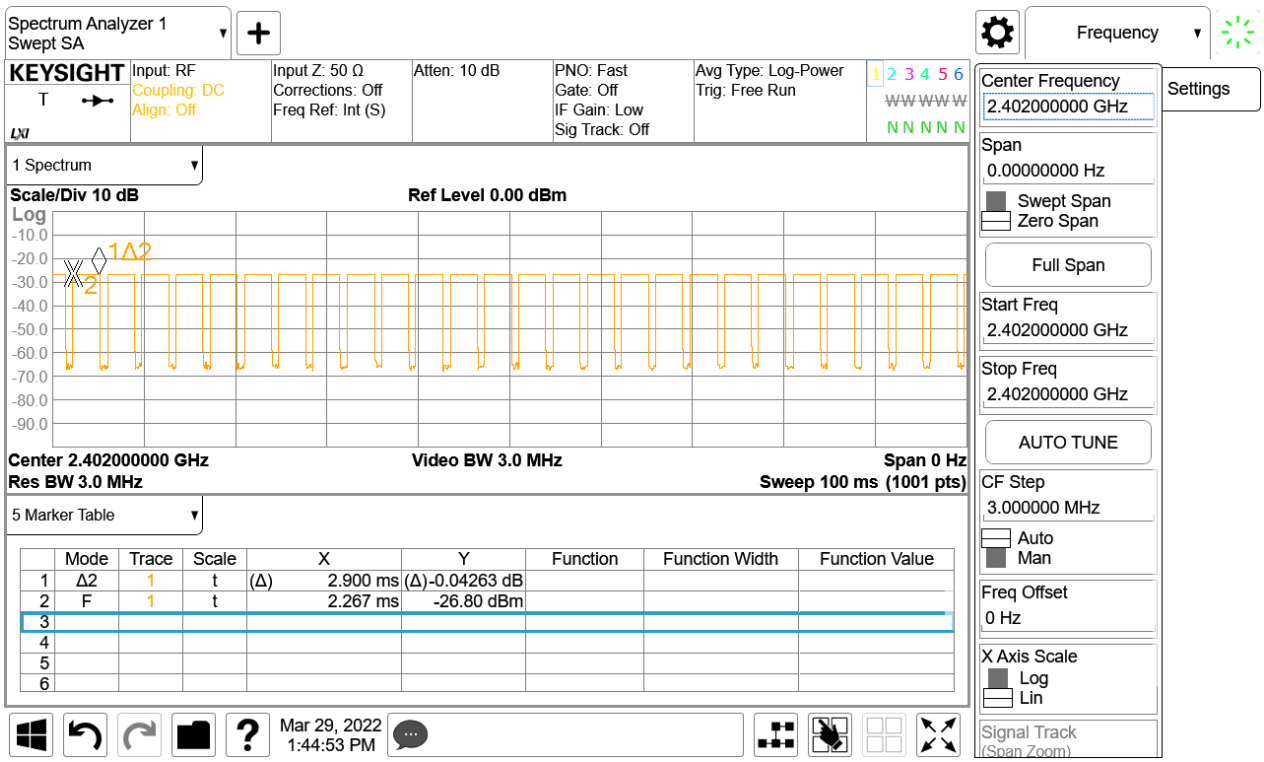
Time ON of 100ms:	75.400	ms	
Duty Cycle=75.4ms / 100m:	0.754	%	
Duty Cycle correction factor=20 LOG 0.754=		-2.45	dB

EDR

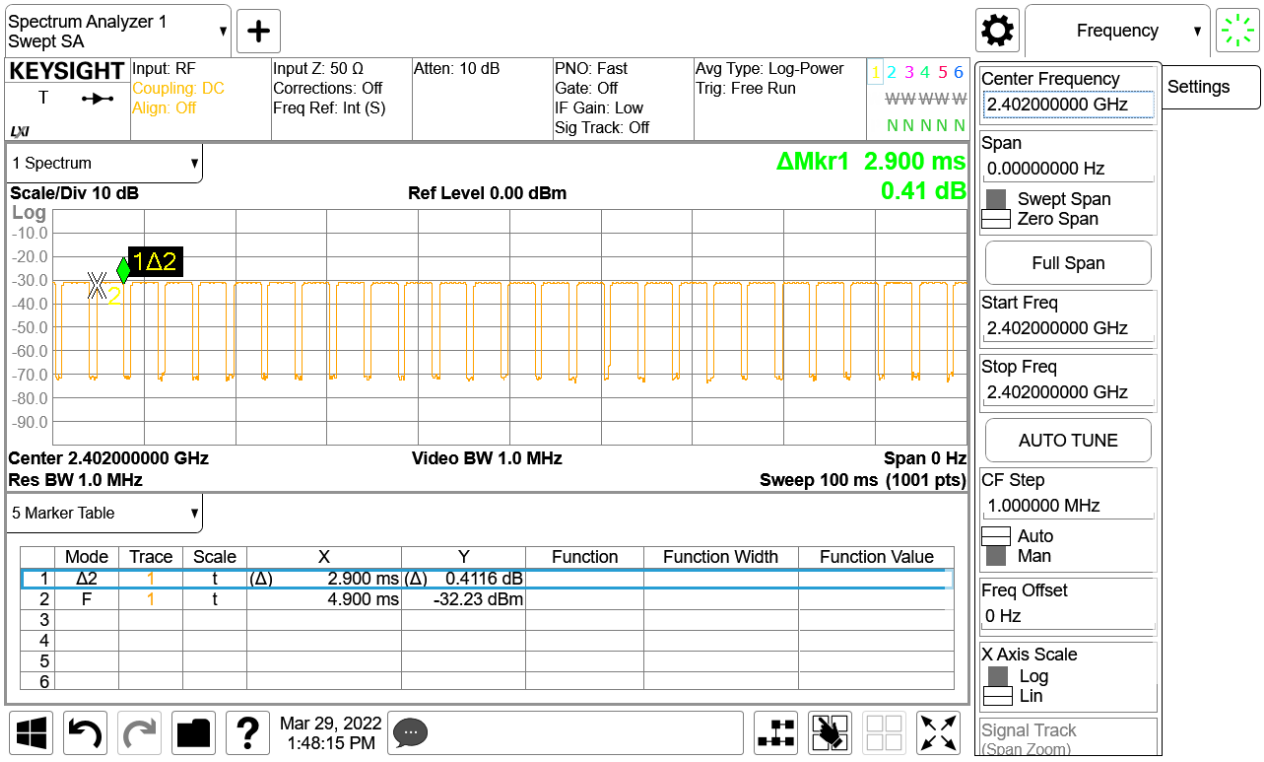
Time ON of 100ms:	75.400	ms	
Duty Cycle=75.4ms / 100m:	0.754	%	
Duty Cycle correction factor=20 LOG 0.754=		-2.45	dB

6.7.2 Duty Cycle test plot

BR

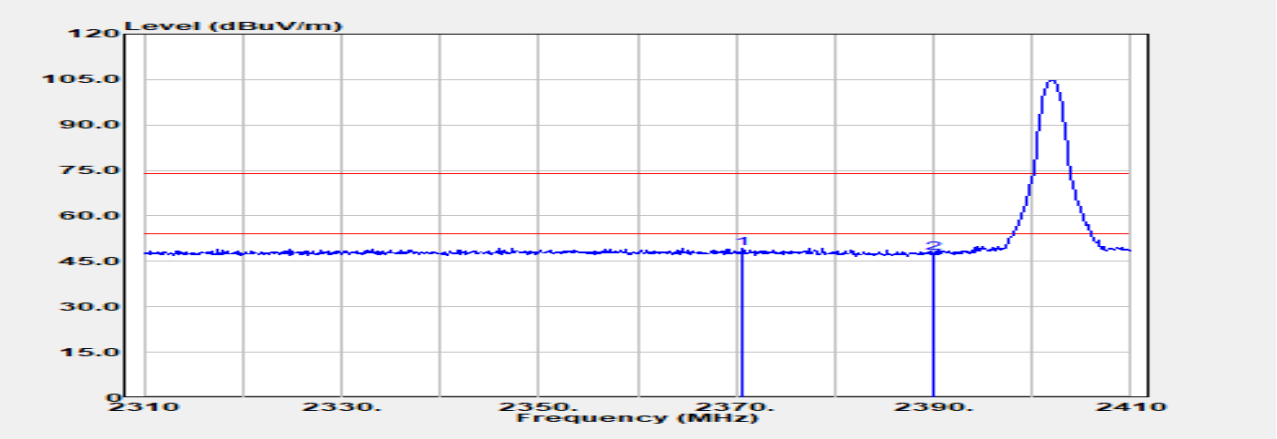


EDR



6.7.3 Bandedge Result

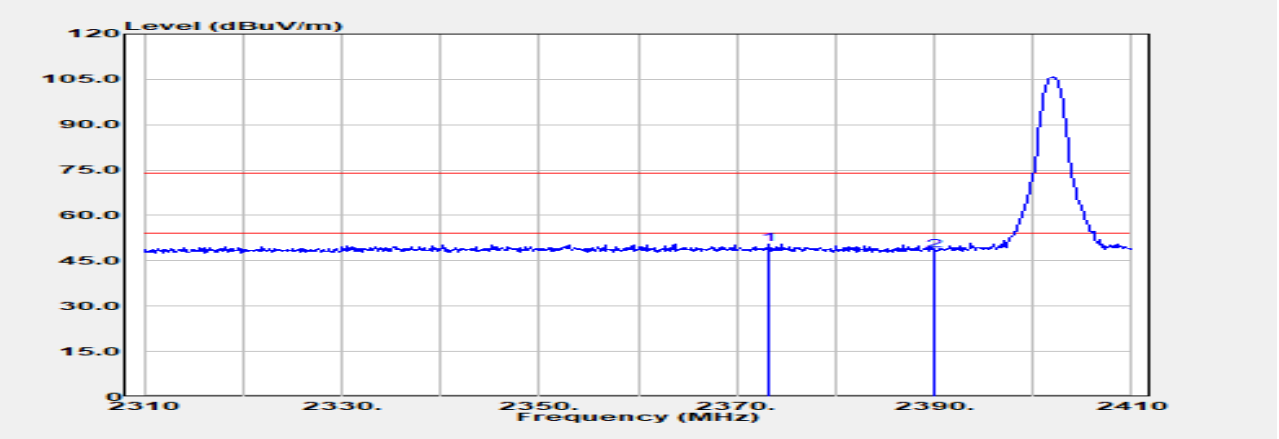
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT BR	Test Date	:2022-03-25
Test Frequency	:2402 MHz	Temp./Humi.	:21.3/62
Test Mode	:BE CH LOW	Antenna Pol.	:Vertical
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
2370.700	Peak	55.06	-5.62	49.44	74.00	-24.56
2390.000	Peak	53.48	-5.69	47.79	74.00	-26.21

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
2370.700	Average	49.44	-2.45	46.99	54.00	-7.01
2390.000	Average	47.79	-2.45	45.34	54.00	-8.66

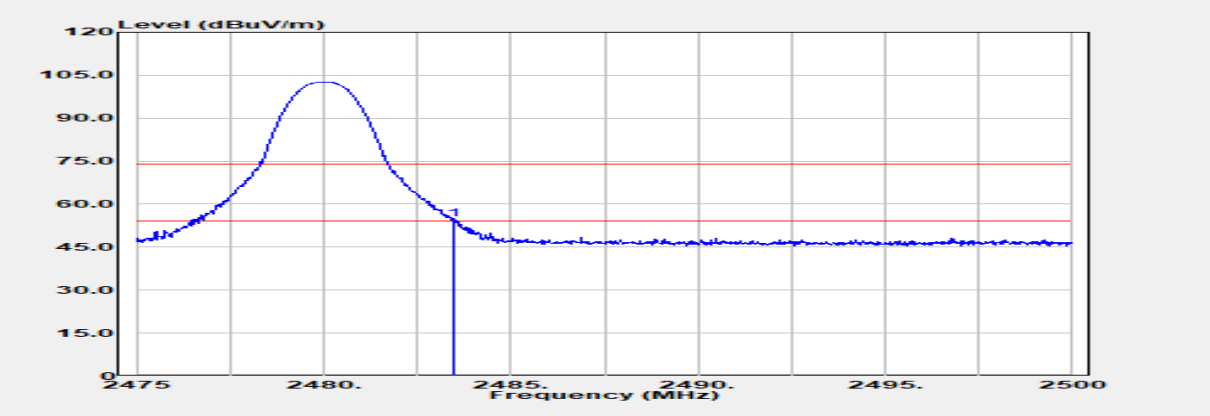
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT BR	Test Date	:2022-03-25
Test Frequency	:2402 MHz	Temp./Humi.	:21.3/62
Test Mode	:BE CH LOW	Antenna Pol.	:Horizontal
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
2373.200	Peak	56.27	-5.63	50.64	74.00	-23.36
2390.000	Peak	54.16	-5.69	48.47	74.00	-25.53

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
2373.200	Average	50.64	-2.45	48.19	54.00	-5.81
2390.000	Average	48.47	-2.45	46.02	54.00	-7.98

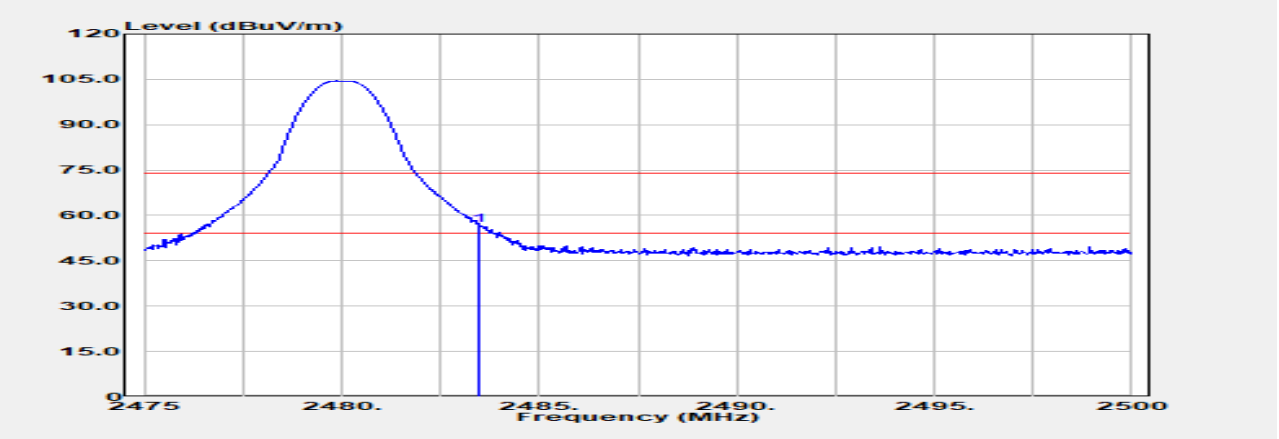
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT BR	Test Date	:2022-03-25
Test Frequency	:2480 MHz	Temp./Humi.	:21.3/62
Test Mode	:BE CH HIGH	Antenna Pol.	:Vertical
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
2483.500	Peak	60.68	-5.94	54.74	74.00	-19.26

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
2483.500	Average	54.74	-2.45	52.29	54.00	-1.71

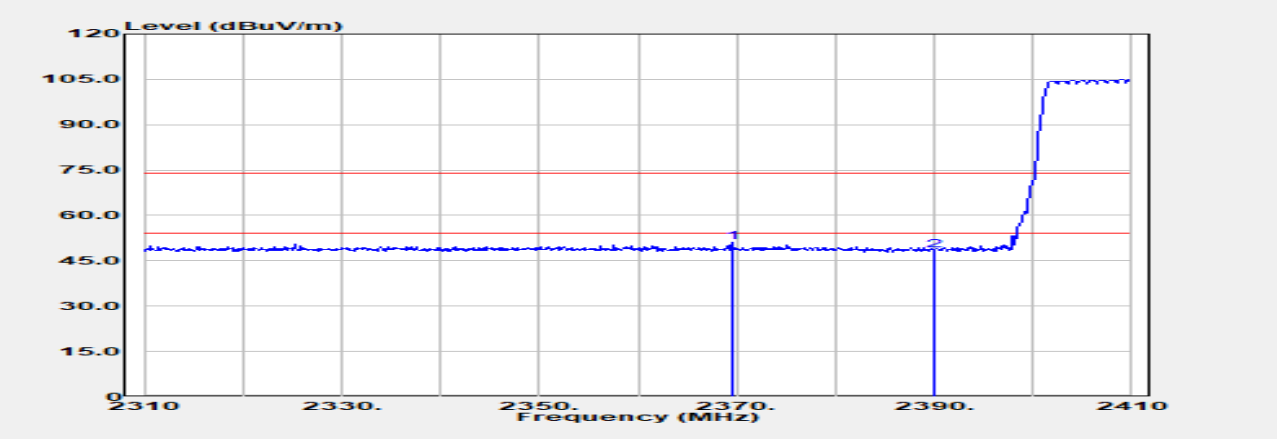
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT BR	Test Date	:2022-03-25
Test Frequency	:2480 MHz	Temp./Humi.	:21.3/62
Test Mode	:BE CH HIGH	Antenna Pol.	:Horizontal
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
2483.500	Peak	61.78	-5.94	56.84	74.00	-18.26

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
2483.500	Average	55.84	-2.45	54.39	54.00	-1.01

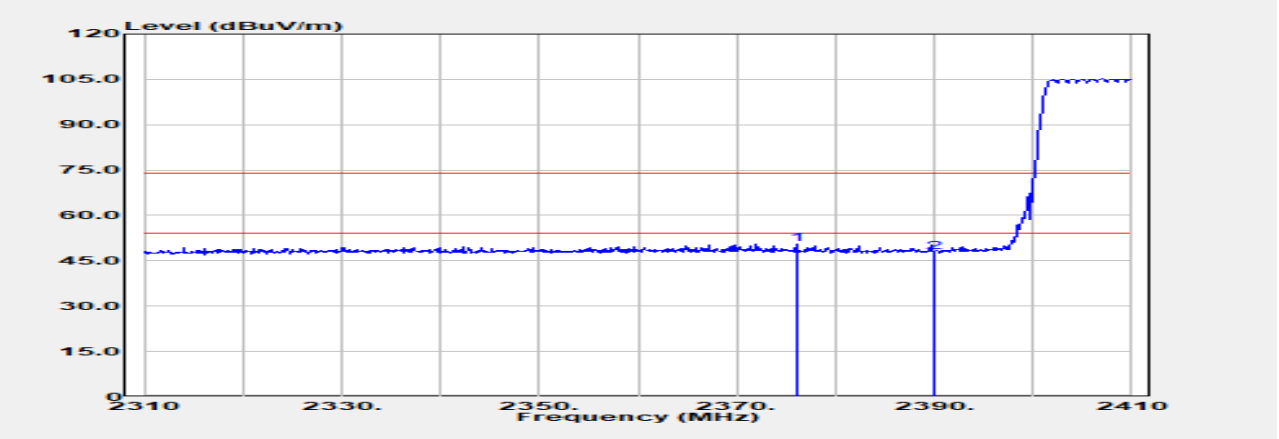
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT BR HOPPING	Test Date	:2022-03-25
Test Frequency	:2402 MHz	Temp./Humi.	:21.3/62
Test Mode	:BE CH LOW	Antenna Pol.	:Vertical
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
2369.500	Peak	56.69	-5.61	51.07	74.00	-22.93
2390.000	Peak	53.98	-5.69	48.29	74.00	-25.71

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
2369.500	Average	51.07	-2.45	48.62	54.00	-5.38
2390.000	Average	48.29	-2.45	45.84	54.00	-8.16

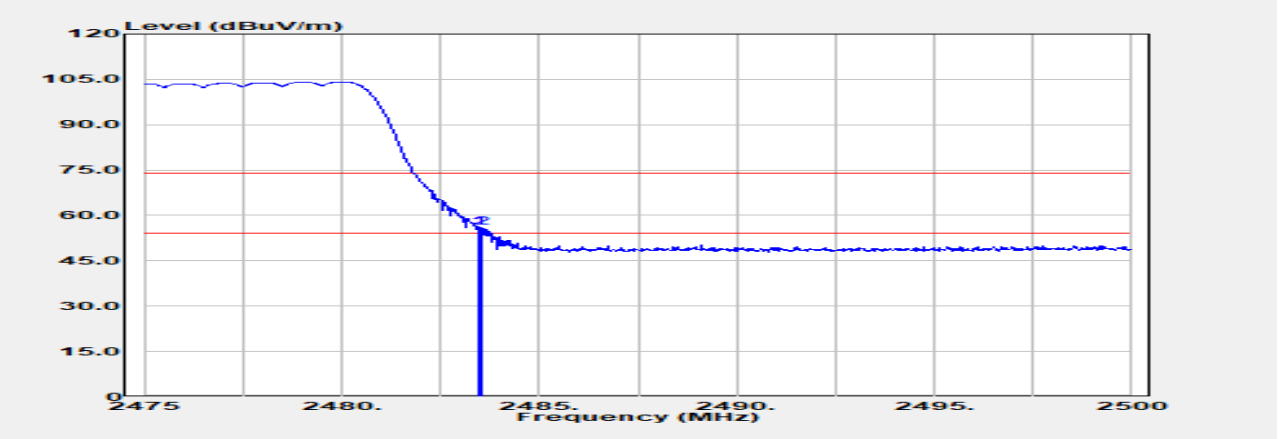
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT BR HOPPING	Test Date	:2022-03-25
Test Frequency	:2402 MHz	Temp./Humi.	:21.3/62
Test Mode	:BE CH LOW	Antenna Pol.	:Horizontal
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
2376.000	Peak	56.09	-5.64	50.45	74.00	-23.55
2390.000	Peak	53.64	-5.69	47.95	74.00	-26.05

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
2376.000	Average	50.45	-2.45	48.00	54.00	-6.00
2390.000	Average	47.95	-2.45	45.50	54.00	-8.50

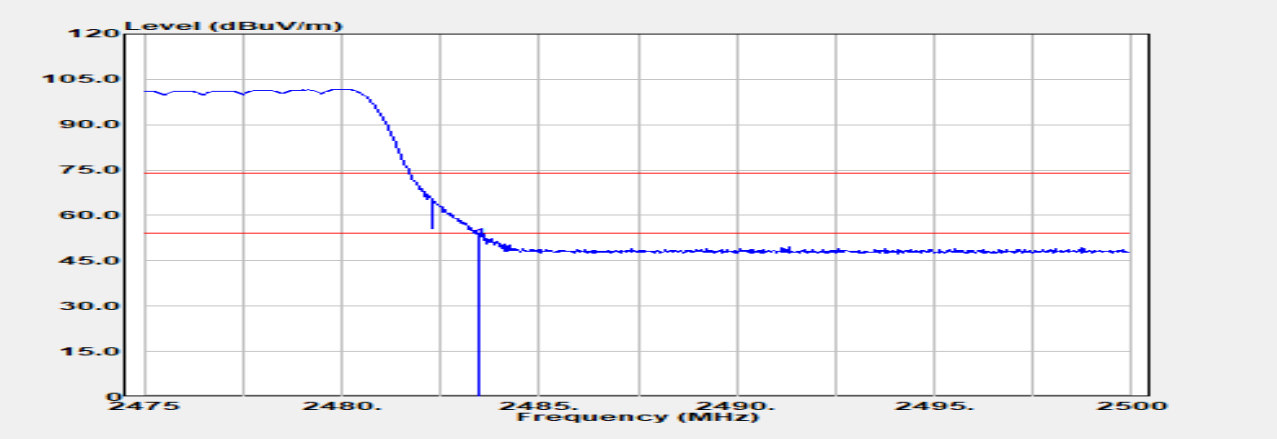
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT BR HOPPING	Test Date	:2022-03-25
Test Frequency	:2480 MHz	Temp./Humi.	:21.3/62
Test Mode	:BE CH HIGH	Antenna Pol.	:Horizontal
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
2483.500	Peak	61.76	-5.94	55.82	74.00	-18.18
2483.550	Peak	61.87	-5.94	55.93	74.00	-18.07

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
2483.500	Average	55.82	-2.45	53.37	54.00	-0.63
2483.550	Average	55.93	-2.45	53.48	54.00	-0.52

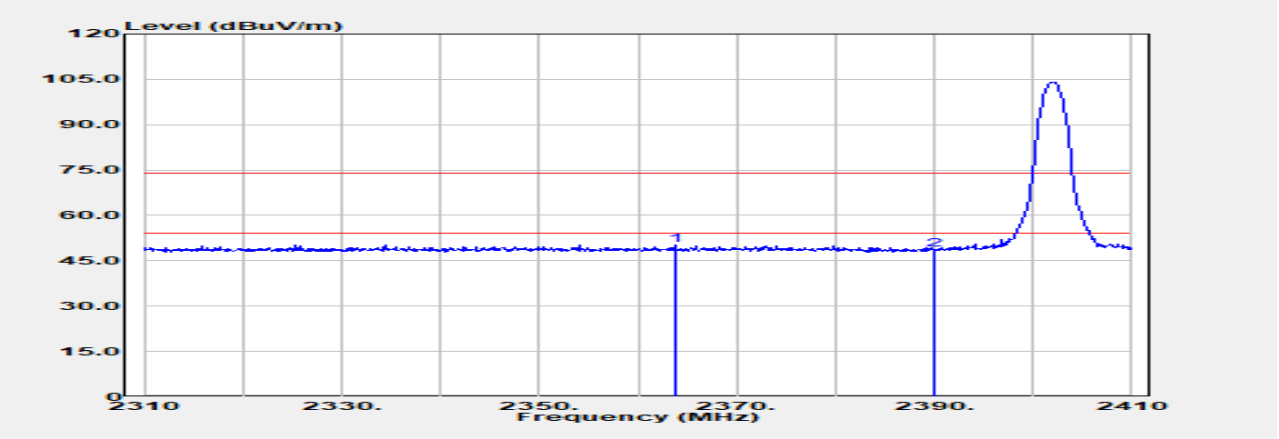
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT BR HOPPING	Test Date	:2022-03-25
Test Frequency	:2480 MHz	Temp./Humi.	:21.3/62
Test Mode	:BE CH HIGH	Antenna Pol.	:Vertical
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
2483.500	Peak	58.04	-5.94	52.10	74.00	-21.90

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
2483.500	Average	52.10	-2.45	49.65	54.00	-4.35

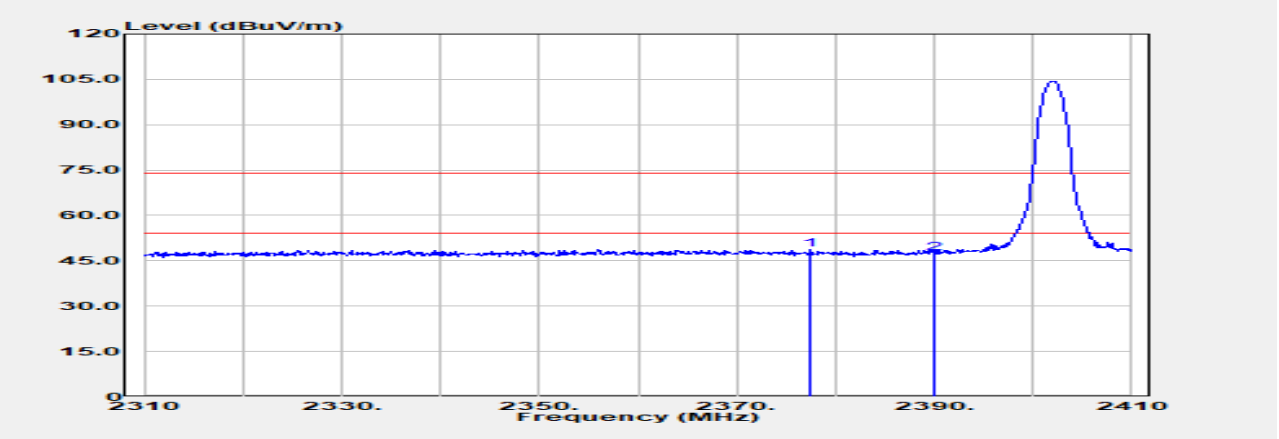
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT EDR 3M 3M	Test Date	:2022-03-25
Test Frequency	:2402 MHz	Temp./Humi.	:21.3/62
Test Mode	:BE CH LOW	Antenna Pol.	:Vertical
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
2363.700	Peak	55.96	-5.59	50.37	74.00	-23.63
2390.000	Peak	54.51	-5.69	48.82	74.00	-25.18

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
2363.700	Average	50.37	-2.45	47.92	54.00	-6.08
2390.000	Average	48.82	-2.45	46.37	54.00	-7.63

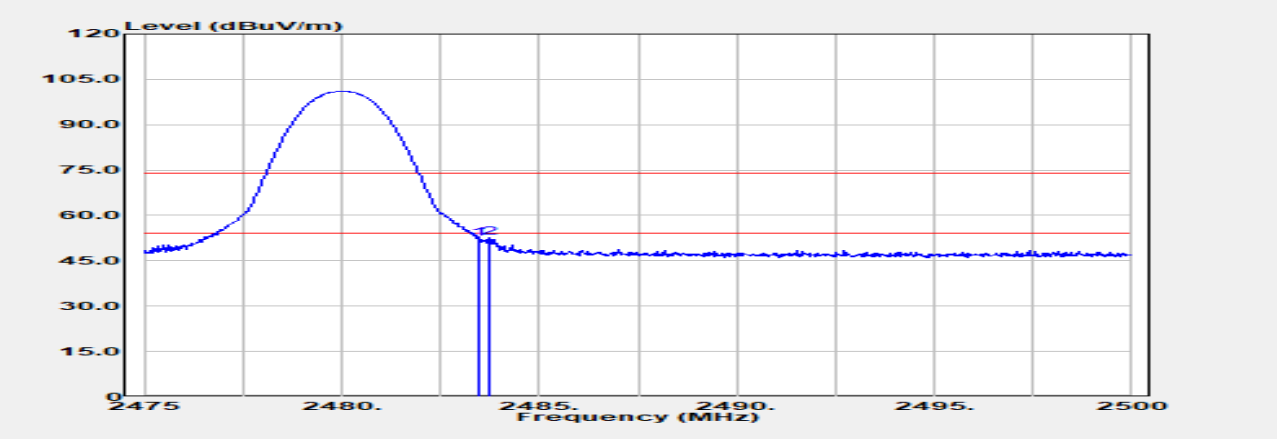
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT EDR 3M	Test Date	:2022-03-25
Test Frequency	:2402 MHz	Temp./Humi.	:21.3/62
Test Mode	:BE CH LOW	Antenna Pol.	:Horizontal
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
2377.500	Peak	54.44	-5.64	48.80	74.00	-25.20
2390.000	Peak	53.11	-5.69	47.42	74.00	-26.58

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
2377.500	Average	48.80	-2.45	46.35	54.00	-7.65
2390.000	Average	47.42	-2.45	44.97	54.00	-9.03

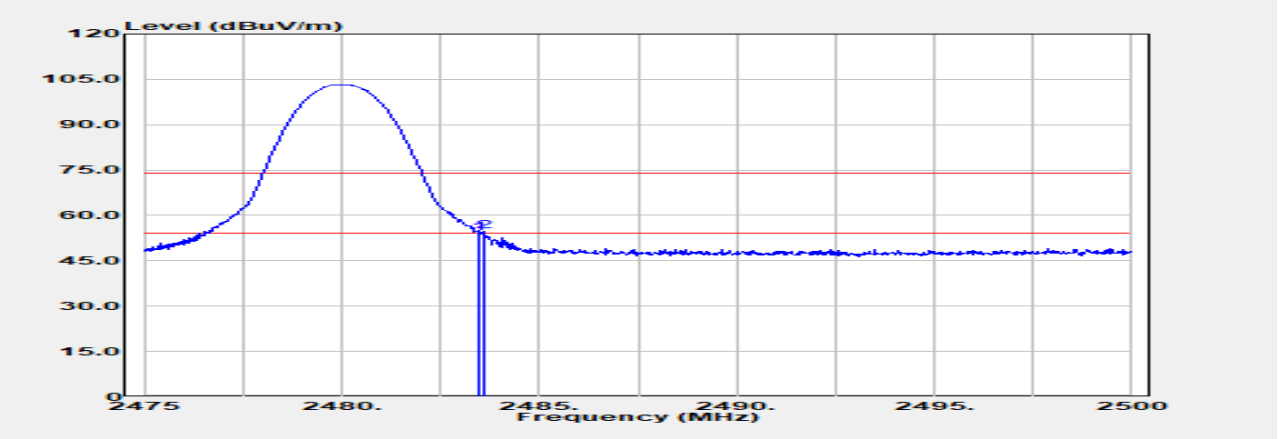
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT EDR 3M	Test Date	:2022-03-25
Test Frequency	:2480 MHz	Temp./Humi.	:21.3/62
Test Mode	:BE CH HIGH	Antenna Pol.	:Vertical
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
2483.500	Peak	58.35	-5.94	52.41	74.00	-21.59
2483.750	Peak	58.46	-5.94	52.52	74.00	-21.48

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
2483.500	Average	52.41	-2.45	49.96	54.00	-4.04
2483.750	Average	52.52	-2.45	50.07	54.00	-3.93

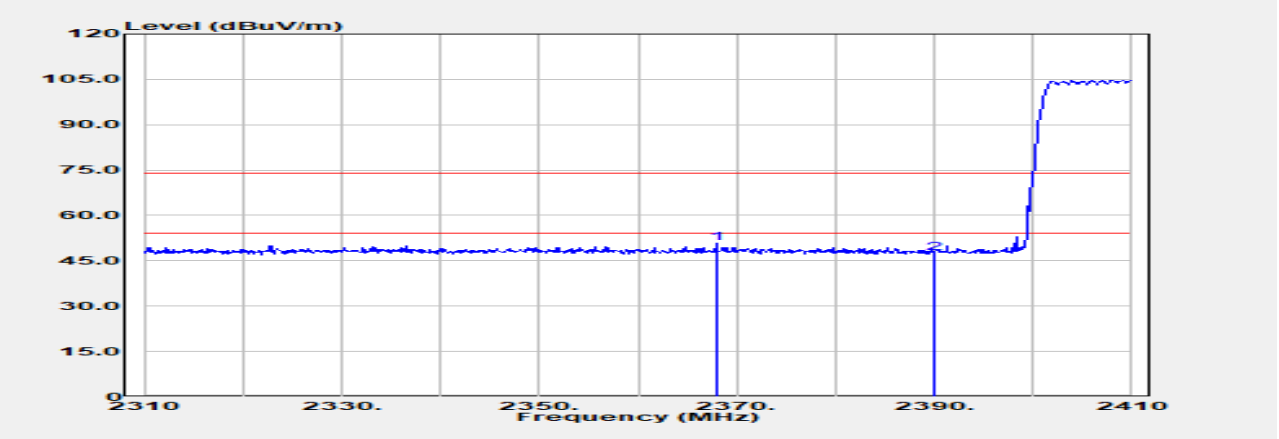
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT EDR 3M	Test Date	:2022-03-25
Test Frequency	:2480 MHz	Temp./Humi.	:21.3/62
Test Mode	:BE CH HIGH	Antenna Pol.	:Horizontal
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
2483.500	Peak	59.93	-5.94	53.99	74.00	-20.01
2483.575	Peak	60.59	-5.94	54.65	74.00	-19.35

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
2483.500	Average	53.99	-2.45	51.54	54.00	-2.46
2483.575	Average	54.65	-2.45	52.20	54.00	-1.80

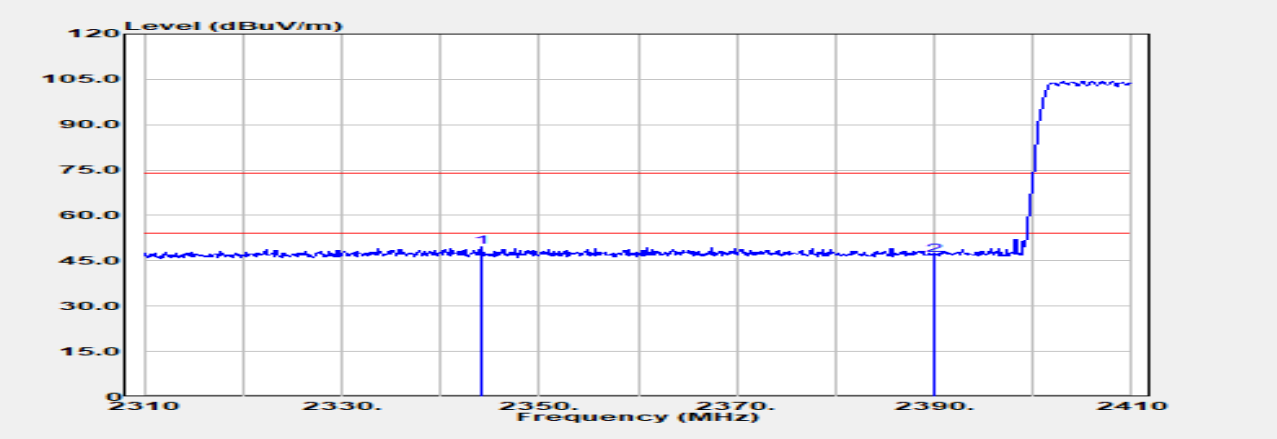
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT EDR 3M HOPPING	Test Date	:2022-03-25
Test Frequency	:2402 MHz	Temp./Humi.	:21.3/62
Test Mode	:BE CH LOW	Antenna Pol.	:Vertical
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
2368.000	Peak	56.56	-5.61	50.96	74.00	-23.04
2390.000	Peak	53.12	-5.69	47.42	74.00	-26.58

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
2368.000	Average	50.96	-2.45	48.51	54.00	-5.49
2390.000	Average	47.42	-2.45	44.97	54.00	-9.03

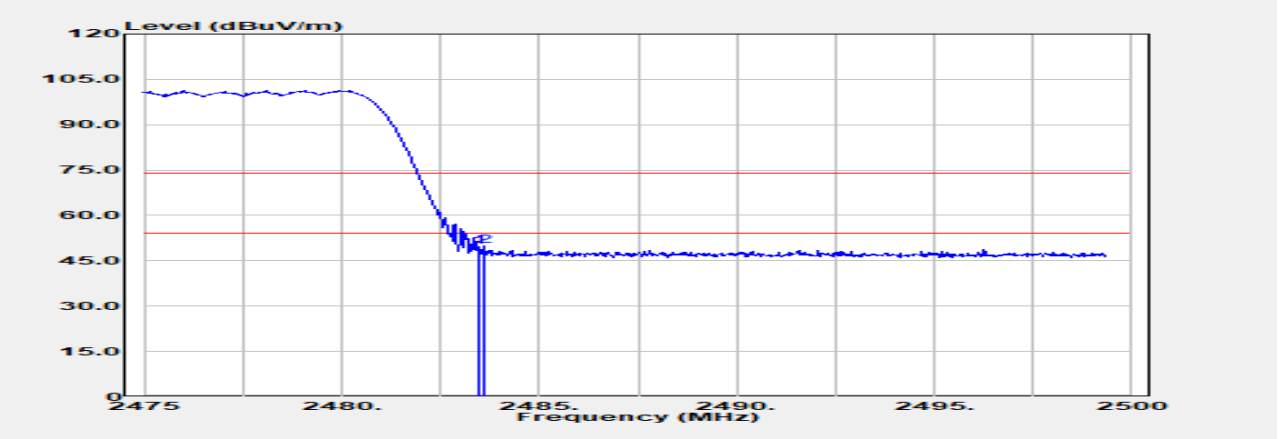
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT EDR 3M HOPPING	Test Date	:2022-03-25
Test Frequency	:2402 MHz	Temp./Humi.	:21.3/62
Test Mode	:BE CH LOW	Antenna Pol.	:Horizontal
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
2344.200	Peak	55.06	-5.55	49.51	74.00	-24.49
2390.000	Peak	52.51	-5.69	46.82	74.00	-27.18

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
2344.200	Average	49.51	-2.45	47.06	54.00	-6.94
2390.000	Average	46.82	-2.45	44.37	54.00	-9.63

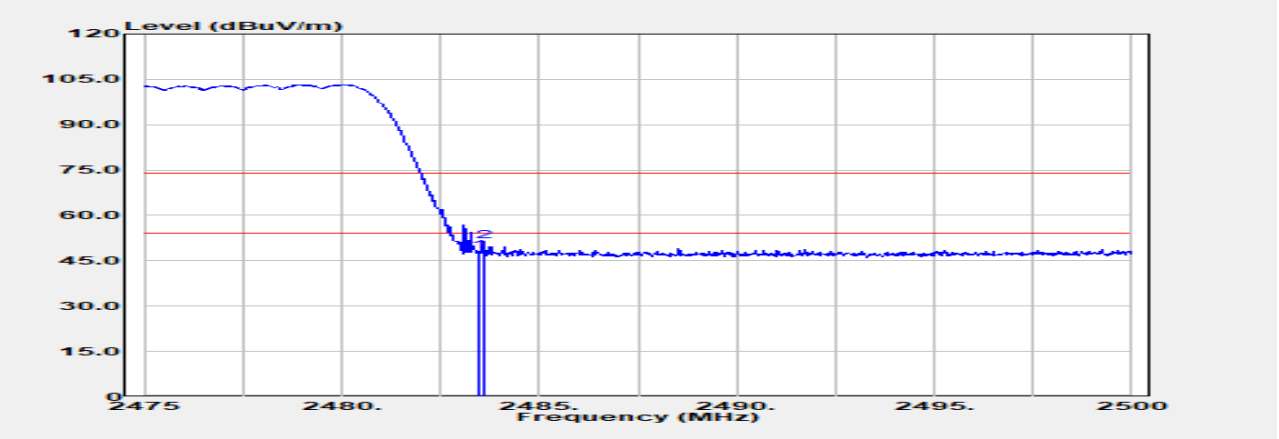
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT EDR 3M HOPPING	Test Date	:2022-03-25
Test Frequency	:2480 MHz	Temp./Humi.	:21.3/62
Test Mode	:BE CH HIGH	Antenna Pol.	:Vertical
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
2483.500	Peak	55.58	-5.94	49.64	74.00	-24.36
2483.575	Peak	55.79	-5.94	49.85	74.00	-24.15

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
2483.500	Average	49.64	-2.45	47.19	54.00	-6.81
2483.575	Average	49.85	-2.45	47.40	54.00	-6.60

Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT EDR 3M HOPPING	Test Date	:2022-03-25
Test Frequency	:2480 MHz	Temp./Humi.	:21.3/62
Test Mode	:BE CH HIGH	Antenna Pol.	:Horizontal
EUT Pol	:E2 Plane	Engineer	:Andy Wang

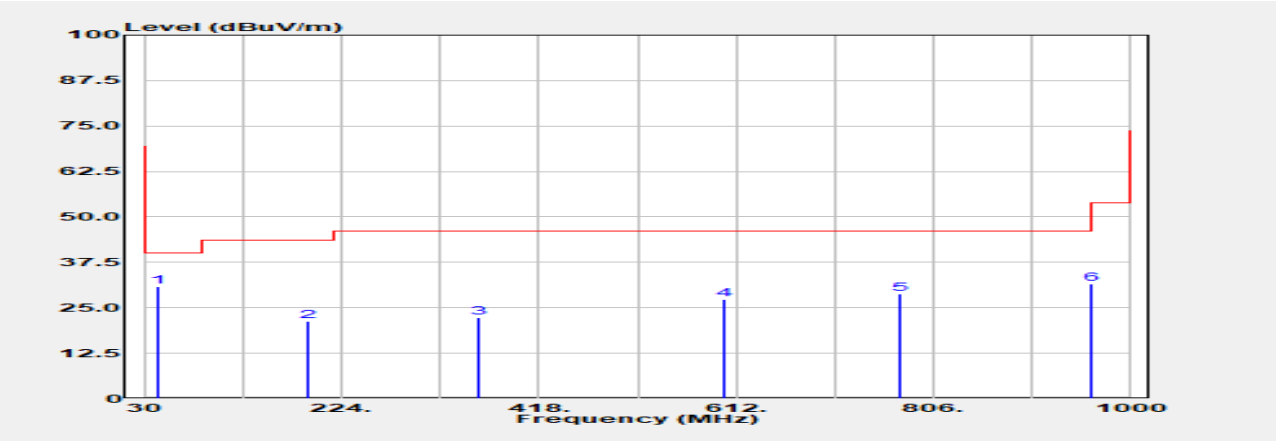


Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
2483.500	Peak	53.98	-5.94	48.04	74.00	-25.96
2483.575	Peak	57.51	-5.94	51.57	74.00	-22.43

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
2483.500	Average	48.04	-2.45	45.59	54.00	-8.41
2483.575	Average	51.57	-2.45	49.12	54.00	-4.88

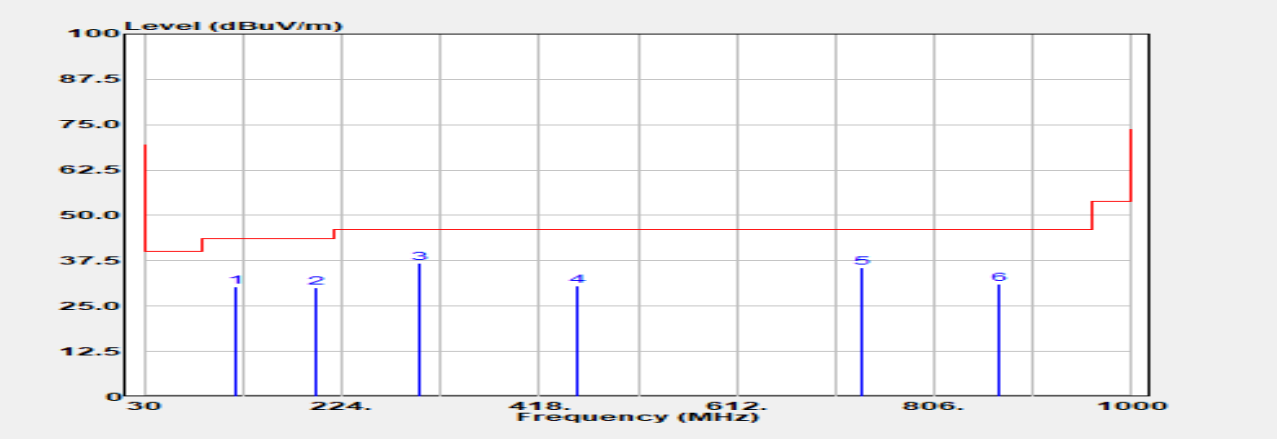
6.7.4 Radiated Spurious Emission

Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT EDR 3M	Test Date	:2022-03-28
Test Frequency	:2441 MHz	Temp./Humi.	:20.5/67
Test Mode	:TX CH MID	Antenna Pol.	:Vertical
EUT Pol	:E2 Plane	Engineer	:Andy Wang



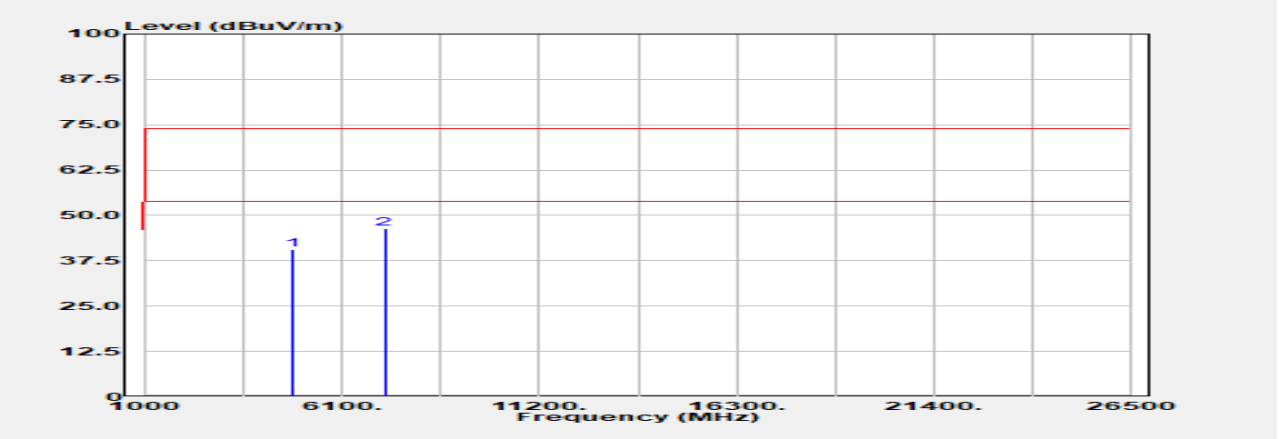
Freq.	Detector Mode	Spectrum Reading Level	Factor	Actual FS	Limit @3m	Margin
MHz	PK/QP	dBµV	dB	dBµV/m	dBµV/m	dB
43.580	Peak	48.81	-18.06	30.75	40.00	-9.25
191.990	Peak	40.74	-19.31	21.42	43.50	-22.08
359.800	Peak	36.77	-14.38	22.39	46.00	-23.61
600.360	Peak	36.98	-9.63	27.36	46.00	-18.64
773.990	Peak	35.51	-6.61	28.90	46.00	-17.10
960.230	Peak	35.82	-4.23	31.59	54.00	-22.41

Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT EDR 3M	Test Date	:2022-03-28
Test Frequency	:2441 MHz	Temp./Humi.	:20.5/67
Test Mode	:TX CH MID	Antenna Pol.	:Horizontal
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
120.210	Peak	49.77	-19.38	30.39	43.50	-13.11
199.750	Peak	49.93	-19.73	30.20	43.50	-13.30
299.660	Peak	53.05	-16.14	36.90	46.00	-9.10
455.830	Peak	42.15	-11.63	30.52	46.00	-15.48
734.220	Peak	43.47	-7.76	35.71	46.00	-10.29
869.050	Peak	37.14	-6.16	30.98	46.00	-15.02

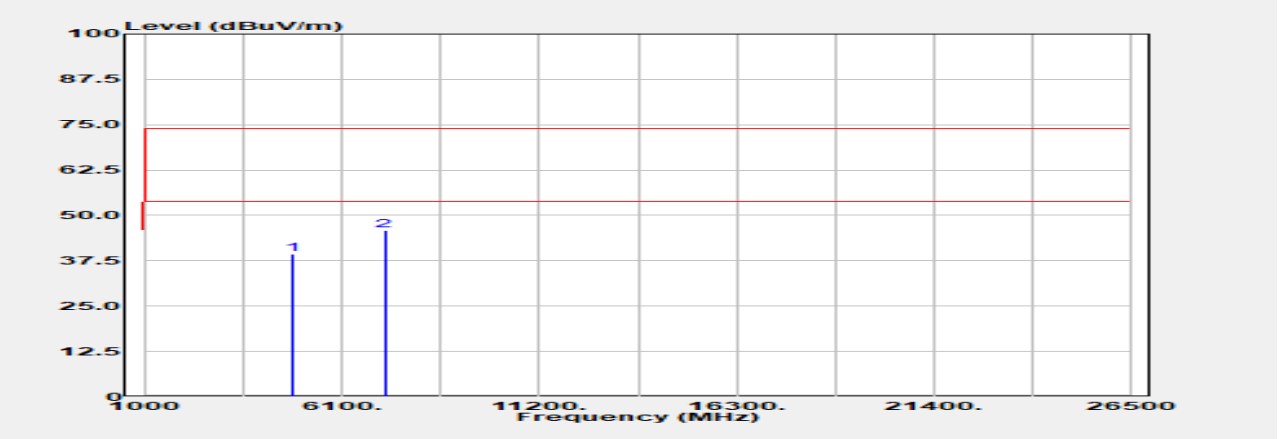
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT BR	Test Date	:2022-03-25
Test Frequency	:2402 MHz	Temp./Humi.	:21.3/62
Test Mode	:TX CH LOW	Antenna Pol.	:Vertical
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
4804.000	Peak	40.82	-0.29	40.53	74.00	-33.47
7206.000	Peak	39.87	6.56	46.43	74.00	-27.57

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
4804.000	Average	40.53	-2.45	38.08	54.00	-15.92
7206.000	Average	46.43	-2.45	43.98	54.00	-10.02

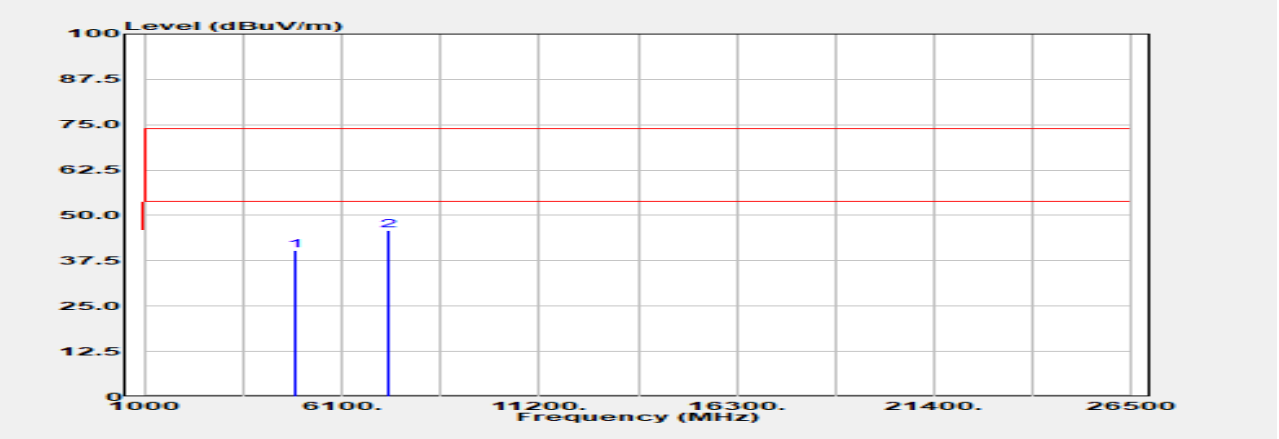
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT BR	Test Date	:2022-03-25
Test Frequency	:2402 MHz	Temp./Humi.	:21.3/62
Test Mode	:TX CH LOW	Antenna Pol.	:Horizontal
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
4804.000	Peak	39.56	-0.29	39.27	74.00	-34.73
7206.000	Peak	39.32	6.56	45.88	74.00	-28.12

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
4804.000	Average	39.27	-2.45	36.82	54.00	-17.18
7206.000	Average	45.88	-2.45	43.43	54.00	-10.57

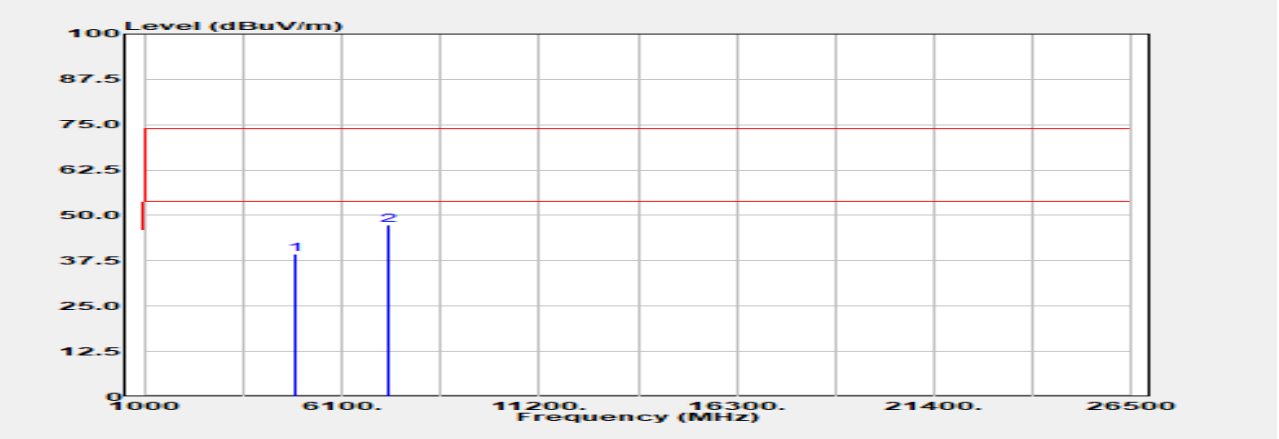
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT BR	Test Date	:2022-03-25
Test Frequency	:2441 MHz	Temp./Humi.	:21.3/62
Test Mode	:TX CH MID	Antenna Pol.	:Vertical
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
4882.000	Peak	40.76	-0.40	40.36	74.00	-33.64
7323.000	Peak	39.00	6.94	45.93	74.00	-28.07

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
4882.000	Average	40.36	-2.45	37.91	54.00	-16.09
7323.000	Average	45.93	-2.45	43.48	54.00	-10.52

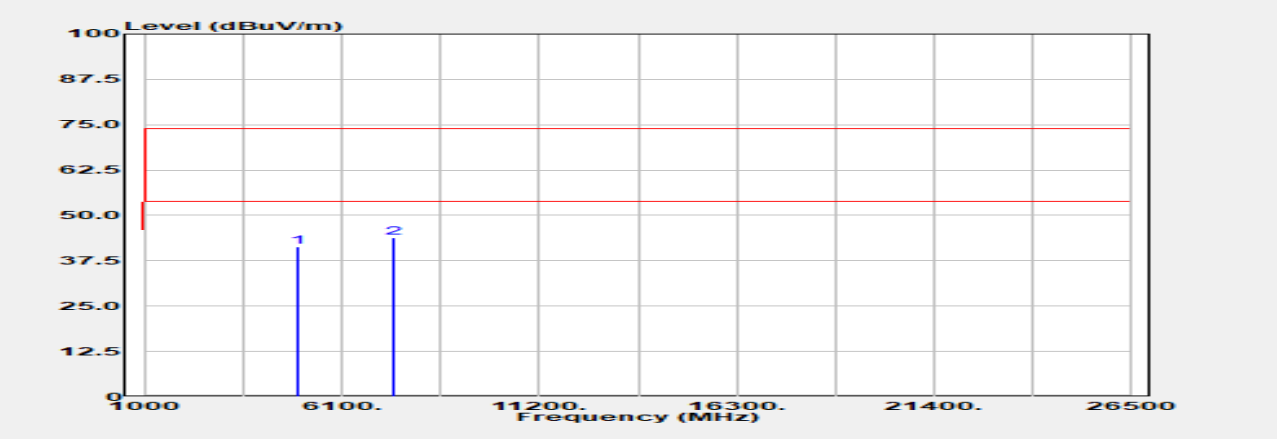
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT BR	Test Date	:2022-03-25
Test Frequency	:2441 MHz	Temp./Humi.	:21.3/62
Test Mode	:TX CH MID	Antenna Pol.	:Horizontal
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
4882.000	Peak	39.71	-0.40	39.31	74.00	-34.69
7323.000	Peak	40.45	6.94	47.39	74.00	-26.61

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
4882.000	Average	39.31	-2.45	36.86	54.00	-17.14
7323.000	Average	47.39	-2.45	44.94	54.00	-9.06

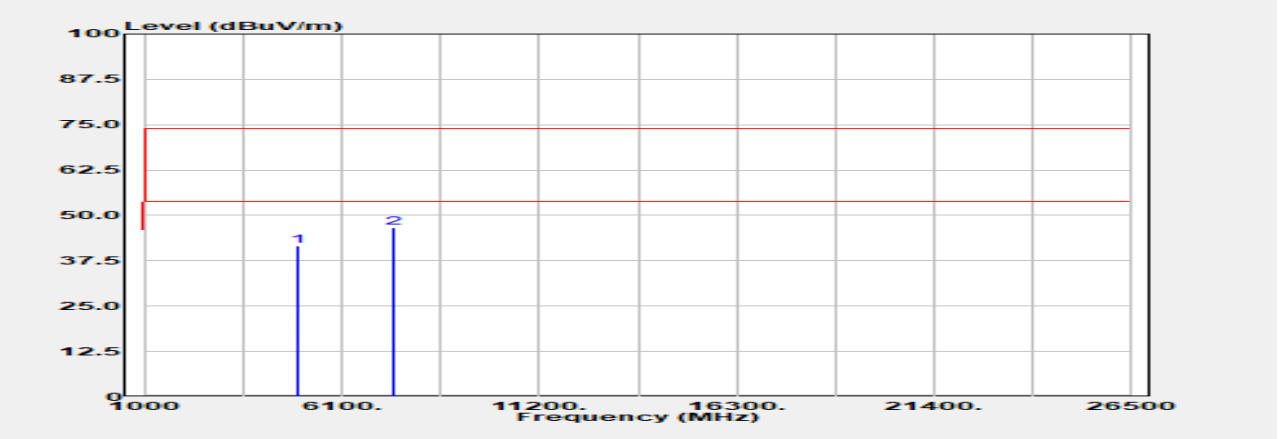
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT BR	Test Date	:2022-03-25
Test Frequency	:2480 MHz	Temp./Humi.	:21.3/62
Test Mode	:TX CH HIGH	Antenna Pol.	:Vertical
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
4960.000	Peak	40.86	0.50	41.36	74.00	-32.64
7440.000	Peak	37.23	6.71	43.94	74.00	-30.06

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
4960.000	Average	41.36	-2.45	38.91	54.00	-15.09
7440.000	Average	43.94	-2.45	41.49	54.00	-12.51

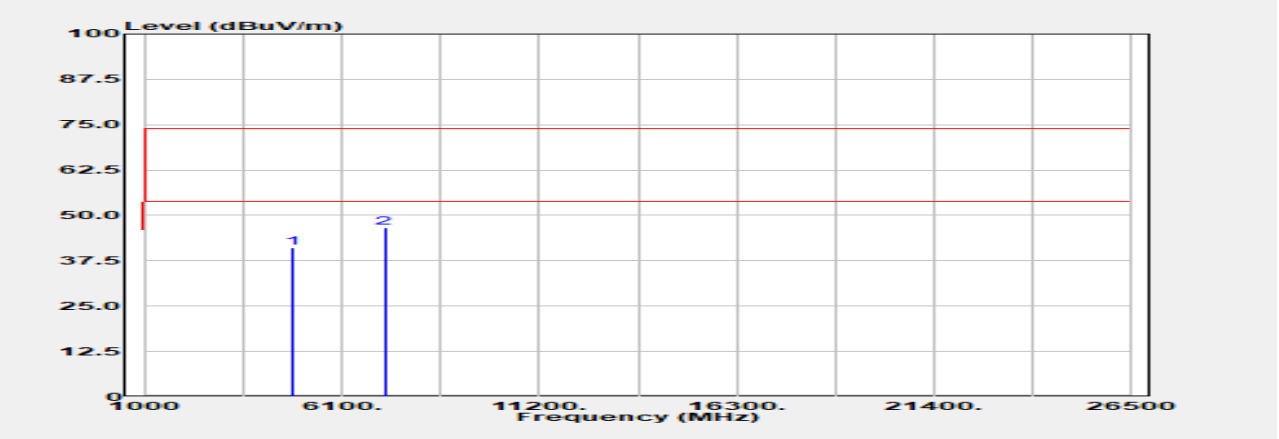
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT BR	Test Date	:2022-03-25
Test Frequency	:2480 MHz	Temp./Humi.	:21.3/62
Test Mode	:TX CH HIGH	Antenna Pol.	:Horizontal
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
4960.000	Peak	41.03	0.50	41.52	74.00	-32.48
7440.000	Peak	39.94	6.71	46.64	74.00	-27.36

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
4960.000	Average	41.52	-2.45	39.07	54.00	-14.93
7440.000	Average	46.64	-2.45	44.19	54.00	-9.81

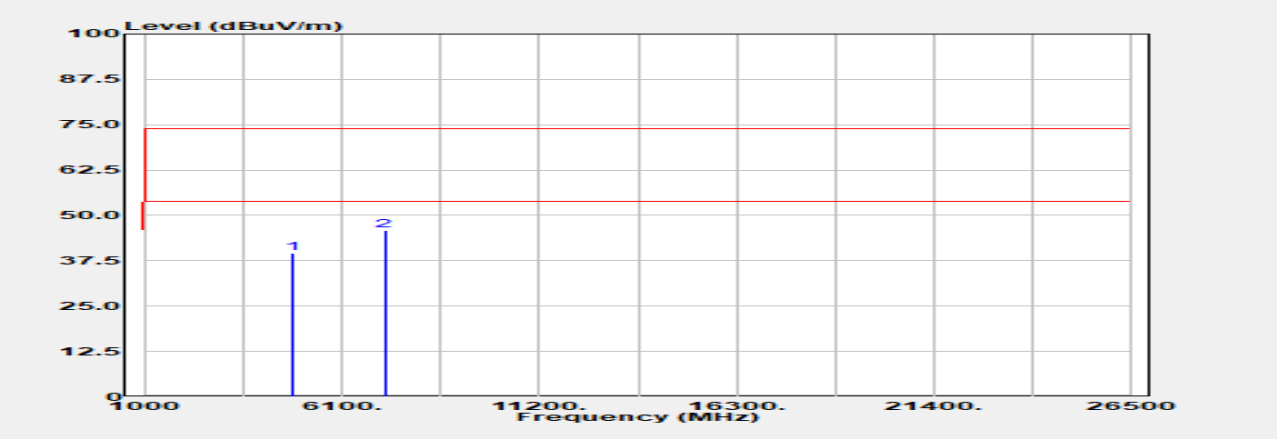
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT EDR 3M	Test Date	:2022-03-25
Test Frequency	:2402 MHz	Temp./Humi.	:21.3/62
Test Mode	:TX CH LOW	Antenna Pol.	:Vertical
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
4804.000	Peak	41.44	-0.29	41.15	74.00	-32.85
7206.000	Peak	40.17	6.56	46.73	74.00	-27.27

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
4804.000	Average	41.15	-2.45	38.70	54.00	-15.30
7206.000	Average	46.73	-2.45	44.28	54.00	-9.72

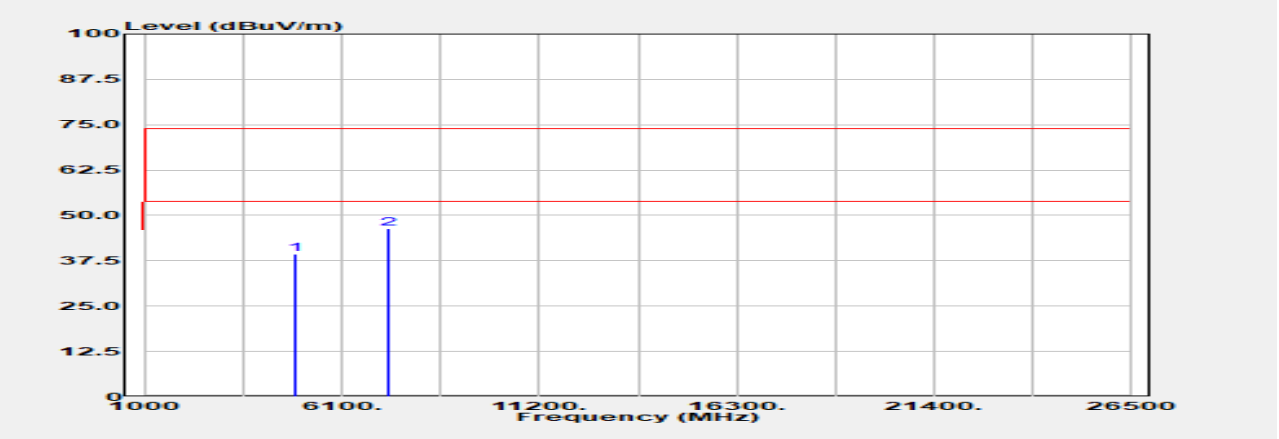
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT EDR 3M	Test Date	:2022-03-25
Test Frequency	:2402 MHz	Temp./Humi.	:21.3/62
Test Mode	:TX CH LOW	Antenna Pol.	:Horizontal
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
4804.000	Peak	39.81	-0.29	39.52	74.00	-34.48
7206.000	Peak	39.29	6.56	45.86	74.00	-28.14

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
4804.000	Average	39.52	-2.45	37.07	54.00	-16.93
7206.000	Average	45.86	-2.45	43.41	54.00	-10.59

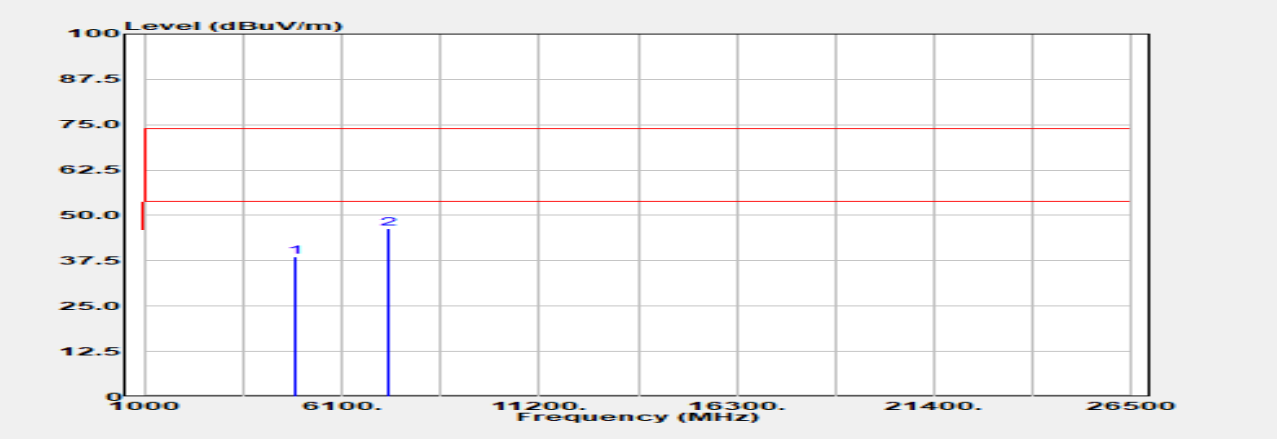
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT EDR 3M	Test Date	:2022-03-25
Test Frequency	:2441 MHz	Temp./Humi.	:21.3/62
Test Mode	:TX CH MID	Antenna Pol.	:Vertical
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
4882.000	Peak	39.81	-0.40	39.42	74.00	-34.58
7323.000	Peak	39.46	6.94	46.39	74.00	-27.61

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
4882.000	Average	39.42	-2.45	36.97	54.00	-17.03
7323.000	Average	46.39	-2.45	43.94	54.00	-10.06

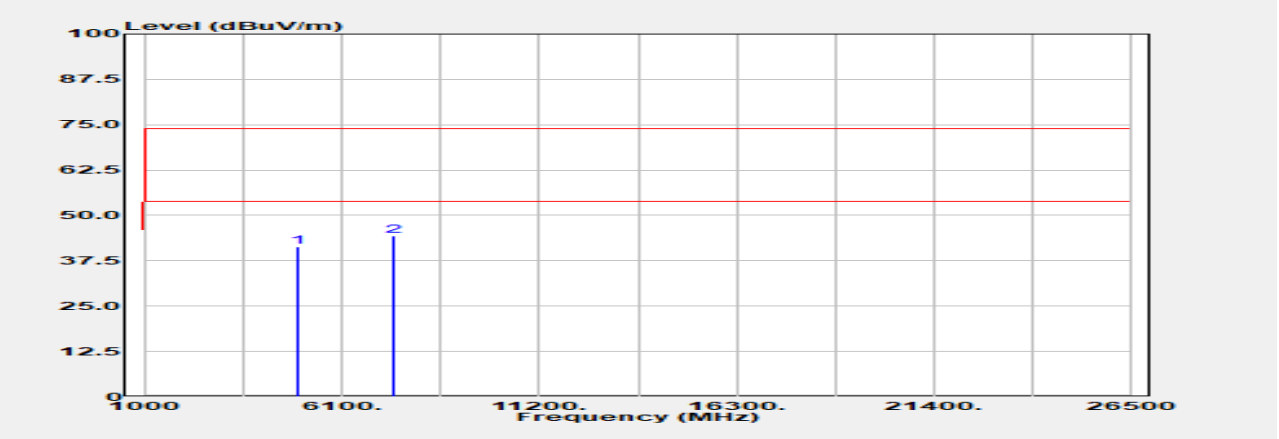
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT EDR 3M	Test Date	:2022-03-25
Test Frequency	:2441 MHz	Temp./Humi.	:21.3/62
Test Mode	:TX CH MID	Antenna Pol.	:Horizontal
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
4882.000	Peak	39.06	-0.40	38.66	74.00	-35.34
7323.000	Peak	39.53	6.94	46.47	74.00	-27.53

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
4882.000	Average	38.66	-2.45	36.21	54.00	-17.79
7323.000	Average	46.47	-2.45	44.02	54.00	-9.98

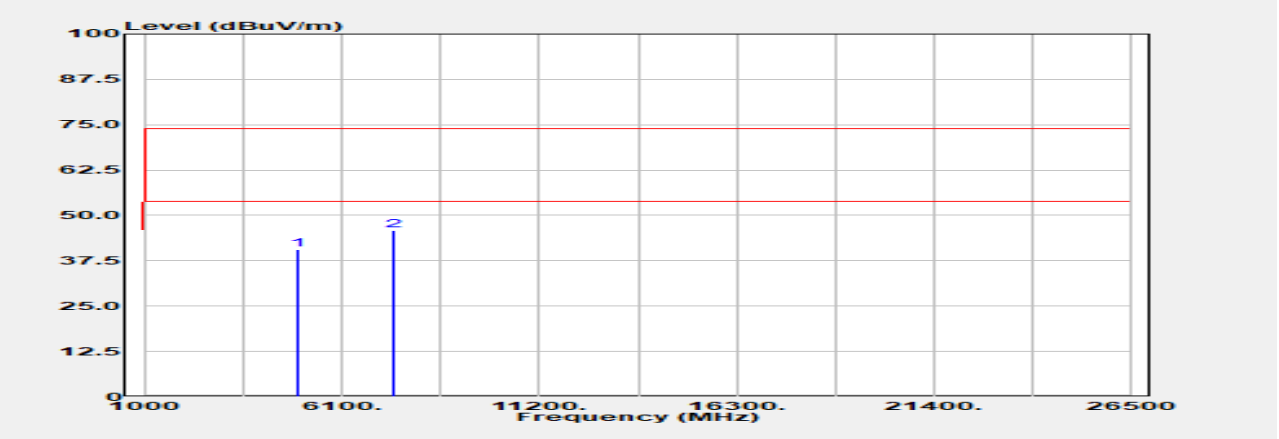
Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT EDR 3M	Test Date	:2022-03-25
Test Frequency	:2480 MHz	Temp./Humi.	:21.3/62
Test Mode	:TX CH HIGH	Antenna Pol.	:Vertical
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
4960.000	Peak	40.76	0.50	41.25	74.00	-32.75
7440.000	Peak	37.66	6.71	44.37	74.00	-29.63

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
4960.000	Average	41.25	-2.45	38.80	54.00	-15.20
7440.000	Average	44.37	-2.45	41.92	54.00	-12.08

Report Number	:E2/2022/30026	Test Site	:SAC D
Operation Mode	:BT EDR 3M	Test Date	:2022-03-25
Test Frequency	:2480 MHz	Temp./Humi.	:21.3/62
Test Mode	:TX CH HIGH	Antenna Pol.	:Horizontal
EUT Pol	:E2 Plane	Engineer	:Andy Wang



Freq. MHz	Detector Mode PK/QP	Spectrum Reading Level dBµV	Factor dB	Actual FS dBµV/m	Limit @3m dBµV/m	Margin dB
4960.000	Peak	40.17	0.50	40.67	74.00	-33.33
7440.000	Peak	39.17	6.71	45.88	74.00	-28.12

Freq. MHz	Detector Mode AV	Peak Actual FS (dBµV/m)	Duty Cycle Factor (dB)	Average Value (dBuV/m)	Average Limit@3m (dBuV/m)	Margin (dB)
4960.000	Average	40.67	-2.45	38.22	54.00	-15.78
7440.000	Average	45.88	-2.45	43.43	54.00	-10.57

~ End of Report ~