

No. 1 Workshop, M-10, Middle section, Science & Technology Park, Shenzhen, Guangdong, China 518057

Telephone:	+86 (0) 755 2601 2053
Fax:	+86 (0) 755 2671 0594
Email:	ee.shenzhen@sgs.com

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### TEST REPORT

Application No.:	SZEM1705005171CR
Applicant:	Edifier International Limited
Address of Applicant:	Room 2207-9, Tower Two, Lippo Centre 89 Queensway, HongKong
Manufacturer:	Beijing Edifier Technology Co., Ltd.
Address of Manufacturer:	8th floor, ZuoAn Building, NO.68 BeiSiHuanXiLu, Haidian District, Beijing 100080, CHINA
Factory:	Dongguan Edifier Technology Co., Ltd.
Address of Factory:	No.2 Gongyedong Road, Songshan Lake Sci&Tech Industry Park, Dongguan, Guangdong 523808, PR.China
Equipment Under Test (EUT	):
EUT Name:	Bluetooth Stereo Headphones, Headphones
Model No.:	W675BT
Trade mark:	EDIFIER
FCC ID:	Z9G-EDF53
Standards:	47 CFR Part 15, Subpart C 15.247
Date of Receipt:	2017-05-26
Date of Test:	2017-06-01 to 2017-06-08
Date of Issue:	2017-06-21
Test Result :	Pass*

\* In the configuration tested, the EUT complied with the standards specified above.



#### Jack Zhang EMC Laboratory Manager

The manufacturer should ensure that all products in series production are in conformity with the product sample detailed in this report. If the product in this report is used in any configuration other than that detailed in the report, the manufacturer must ensure the new system complies with all relevant standards. Any mention of SGS International Electrical Approvals or testing done by SGS International Electrical Approvals in connection with, distribution or use of the product described in this report must be approved by SGS International Electrical Approvals in writing.



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Revision Record					
Version	Version Chapter Date I			Remark	
01		2017-06-21		Original	

Authorized for issue by:		
	Bdisonti	
	Edison Li /Project Engineer	
	Eric Fu	
	Eric Fu /Reviewer	



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### 2 Test Summary

#### Radio Spectrum Technical Requirement

ltem	Standard	Method	Requirement	Result
Antenna Requirement	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.203 & 15.247(c)	Pass
Other requirements Frequency Hopping Spread Spectrum System Hopping Sequence	47 CFR Part 15, Subpart C 15.247	N/A	47 CFR Part 15, Subpart C 15.247(a)(1),(g),(h )	Pass

Radio Spectrum Matter Part					
Item	Standard	Method	Requirement	Result	
Conducted Disturbance at AC Power Line (150kHz- 30MHz)	47 CFR Part 15, Subpart C 15.247			Pass	
Conducted Peak Output Power	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.5	47 CFR Part 15, Subpart C 15.247(b)(1)	Pass	
20dB Bandwidth	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.7	47 CFR Part 15, Subpart C 15.247(a)(1)	Pass	
Carrier Frequencies Separation	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.2	47 CFR Part 15, Subpart C 15.247a(1)	Pass	
Hopping Channel Number	47 CFR Part 15, Subpart C 15.247	Part 15, ANSI C63.10 (2013) 47 CFR Part 15, Subpart C		Pass	
Dwell Time	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.4	47 CFR Part 15, Subpart C 15.247a(1)(iii)	Pass	
Conducted Band Edges Measurement	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.6	47 CFR Part 15, Subpart C 15.247(d)	Pass	
Conducted Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 7.8.8	47 CFR Part 15, Subpart C 15.247(d)	Pass	
Radiated Emissions which fall in the restricted bands	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.10.5	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass	
Radiated Spurious Emissions	47 CFR Part 15, Subpart C 15.247	ANSI C63.10 (2013) Section 6.4,6.5,6.6	47 CFR Part 15, Subpart C 15.205 & 15.209	Pass	



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### 4 General Information

### 4.1 Details of E.U.T.

Power supply:	DC 3.7V, 390mAh rechargeable battery which charged by USB port
Test voltage	DC 5V, 500mA
Cable:	USB cable: 74cm unshielded
	AUX In cable: 131cm unshielded
Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	Bluetooth V4.1
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, π/4DQPSK, 8DPSK
Number of Channel:	79
Hopping Channel Type:	Adaptive Frequency Hopping systems
Sample Type:	Portable production
Antenna Type:	Integral
Antenna Gain:	2.5dBi

#### 4.2 Description of Support Units

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.
Adapter	Apple	A1357 W010A051



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#### 4.3 Measurement Uncertainty

No.	ltem	Measurement Uncertainty
1	Radio Frequency	7.25 x 10-8
2	Duty cycle	0.37%
3	Occupied Bandwidth	3%
4	RF conducted power	0.75dB
5	RF power density	2.84dB
6	Conducted Spurious emissions	0.75dB
7		4.5dB (below 1GHz)
7	RF Radiated power	4.5dB (below 1GHz) 4.8dB (above 1GHz)
0	Dedicted Opumieuro coniecione tent	4.5dB (30MHz-1GHz)
8	Radiated Spurious emission test	4.8dB (1GHz-18GHz)
9	Temperature test	1°C
10	Humidity test	3%
11	Supply voltages	1.5%



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#### 4.4 Test Location

All tests were performed at:

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen Branch

No. 1 Workshop, M-10, Middle Section, Science & Technology Park, Shenzhen, Guangdong, China. 518057.

Tel: +86 755 2601 2053 Fax: +86 755 2671 0594

No tests were sub-contracted.

#### 4.5 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

#### • CNAS (No. CNAS L2929)

CNAS has accredited SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab to ISO/IEC 17025:2005 General Requirements for the Competence of Testing and Calibration Laboratories (CNAS-CL01 Accreditation Criteria for the Competence of Testing and Calibration Laboratories) for the competence in the field of testing.

#### A2LA (Certificate No. 3816.01)

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 3816.01.

#### VCCI

The 10m Semi-anechoic chamber and Shielded Room of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-823, R-4188, T-1153 and C-2383 respectively.

#### FCC – Registration No.: 556682

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files. Registration No.: 556682.

#### Industry Canada (IC)

Two 3m Semi-anechoic chambers and the 10m Semi-anechoic chamber of SGS-CSTC Standards Technical Services Co., Ltd. Shenzhen Branch EMC Lab have been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 4620C-1, 4620C-2, 4620C-3.

#### 4.6 Deviation from Standards None

### 4.7 Abnormalities from Standard Conditions

None



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### 5 Equipment List

Conducted Disturbance at AC Power Line (150kHz-30MHz)					
Equipment Manufacturer Model No Inver				Cal Date	Cal Due Date
Shielding Room	ZhongYu Electron	GB-88	SEM001-06	2017-05-10	2018-05-10
LISN	Rohde & Schwarz	ENV216	SEM007-01	2016-10-09	2017-10-09
LISN	ETS-LINDGREN	3816/2	SEM007-02	2017-04-14	2018-04-13
8 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN- T8-02	EMC0120	2016-09-28	2017-09-28
4 Line ISN	Fischer Custom Communications Inc.	FCC-TLISN- T4-02	EMC0121	2016-09-28	2017-09-28
2 Line ISN	Fischer Custom	FCC-TLISN- T2-02	EMC0122	2016-09-28	2017-09-28

RF Conduced Test					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
DC Power Supply	ZhaoXin	RXN-305D	SEM011-02	2016-10-09	2017-10-09
Spectrum Analyzer	Rohde & Schwarz	FSP	SEM004-06	2016-10-09	2017-10-09
Power Meter	Rohde & Schwarz	NRVS	SEM014-02	2016-10-09	2017-10-09
Attenuator	Weinschel Associates	WA41	SZRF0015	N/A	N/A

RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
3m Semi-Anechoic Chamber	ETS-LINDGREN	N/A	SEM001-01	2017-05-13	2018-05-13
EMI Test Receiver	Agilent Technologies	N9038A	SEM004-05	2016-10-09	2017-10-09
BiConiLog Antenna (26-3000MHz)	ETS-LINDGREN	3142C	SEM003-01	2014-11-01	2017-11-01
Double-ridged horn (1-18GHz)	ETS-LINDGREN	3117	SEM003-11	2015-10-17	2018-10-17
Horn Antenna (18-26GHz)	ETS-LINDGREN	3160	SEM003-12	2014-11-24	2017-11-24
Pre-amplifier (0.1-1300MHz)	Agilent Technologies	8447D	SEM005-01	2017-04-14	2018-04-14
Band filter	Amindeon	Asi 3314	SEM023-01	N/A	N/A
DC Power Supply	Zhao Xin	RXN-305D	SEM011-02	2016-10-09	2017-10-09
Loop Antenna	Beijing Daze	ZN30401	SEM003-09	2015-05-13	2018-05-13



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RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. Date (yyyy-mm-dd)	Cal. Due date (yyyy-mm-dd)
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2017-05-13	2018-05-13
EXA Spectrum Analyzer	Agilent Technologies Inc	N9010A	SEM004-09	2016-07-19	2017-07-19
BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-02	2014-11-15	2017-11-15
Amplifier (0.1-1300MHz)	HP	8447D	SEM005-02	2016-10-09	2017-10-09
Horn Antenna (1-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2015-06-14	2018-06-14
Horn Antenna (18-26GHz)	ETS-Lindgren	3160	SEM003-12	2014-11-24	2017-11-24
Horn Antenna(26GHz- 40GHz)	A.H.Systems, inc.	SAS-573	SEM003-13	2015-02-12	2018-02-12
Low Noise Amplifier	Black Diamond Series	BDLNA- 0118-352810	SEM005-05	2016-10-09	2017-10-09
Band filter	Amindeon	Asi 3314	SEM023-01	N/A	N/A

General used equipment					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-03	2016-10-12	2017-10-12
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2016-10-12	2017-10-12
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2016-10-12	2017-10-12
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2017-04-18	2018-04-18



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### 6 Radio Spectrum Technical Requirement

#### 6.1 Antenna Requirement

#### 6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203 & 15.247(c)

#### 6.1.2 Conclusion

Standard Requirment:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

#### 15.247(b) (4) requirement:

The conducted output power limit specified in paragraph (b) of this section is based on the use of antennas with directional gains that do not exceed 6 dBi. Except as shown in paragraph (c) of this section, if transmitting antennas of directional gain greater than 6 dBi are used, the conducted output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1), (b)(2), and (b)(3) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

#### EUT Antenna:

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 2.5dBi.





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### 6.2 Other requirements Frequency Hopping Spread Spectrum System Hopping Sequence

#### 6.2.1 Test Requirement:

47 CFR Part 15, Subpart C 15.247(a)(1),(g),(h)

#### 6.2.2 Conclusion

Standard Requirment:

The system shall hop to channel frequencies that are selected at the system hopping rate from a Pseudorandom ordered list of hopping frequencies. Each frequency must be used equally on the average by each transmitter. The system receivers shall have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shall shift frequencies in synchronization with the transmitted signals.

Frequency hopping spread spectrum systems are not required to employ all available hopping channels during each transmission. However, the system, consisting of both the transmitter and the receiver, must be designed to comply with all of the regulations in this section should the transmitter be presented with a continuous data (or information) stream. In addition, a system employing short transmission bursts must comply with the definition of a frequency hopping system and must distribute its transmissions over the minimum number of hopping channels specified in this section.

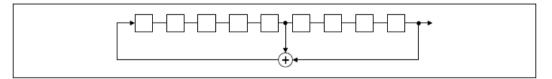
The incorporation of intelligence within a frequency hopping spread spectrum system that permits the system to recognize other users within the spectrum band so that it individually and independently chooses and adapts its hopsets to avoid hopping on occupied channels is permitted. The coordination of frequency hopping systems in any other manner for the express purpose of avoiding the simultaneous occupancy of individual hopping frequencies by multiple transmitters is not permitted.

#### Compliance for section 15.247(a)(1):

According to Technical Specification, the pseudorandom sequence may be generated in a nine-stage shift register whose 5th and 9th stage outputs are added in a modulo-two addition stage. And the result is fed back to the input of the first stage. The sequence begins with the first ONE of 9 consecutive ONEs; i.e. the shift register is initialized with nine ones.

- > Number of shift register stages: 9
- > Length of pseudo-random sequence: 29 -1 = 511 bits
- > Longest sequence of zeros: 8 (non-inverted signal)

Linear Feedback Shift Register for Generation of the PRBS sequence



An example of Pseudorandom Frequency Hopping Sequence as follow:

20 62 46 77	7 64 8 73	16:75 1

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Each frequency used equally on the average by each transmitter.

According to Technical Specification, the receivers are designed to have input and IF bandwidths that match the hopping channel bandwidths of any transmitters and shift frequencies in synchronization with the transmitted signals.

Compliance for section 15.247(g):

According to Technical Specification, the system transmits the packet with the pseudorandom hopping frequency with a continuous data and the short burst transmission from the Bluetooth system is also transmitted under the frequency hopping system with the pseudorandom hopping frequency system.

Compliance for section 15.247(h):

According to Bluetooth Core specification, the Bluetooth system incorporates with an adaptive system to detect other user within the spectrum band so that it individually and independently to avoid hopping on the occupied channels.

According to the Bluetooth Core specification, the Bluetooth system is designed not have the ability to coordinated with other FHSS System in an effort to avoid the simultaneous occupancy of individual hopping frequencies by multiple transmitter.



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### 7 Radio Spectrum Matter Test Results

#### 7.1 Conducted Disturbance at AC Power Line (150kHz-30MHz)

Test Requirement47 CFR Part 15, Subpart C 15.207Test Method:ANSI C63.10 (2013) Section 6.2Limit:

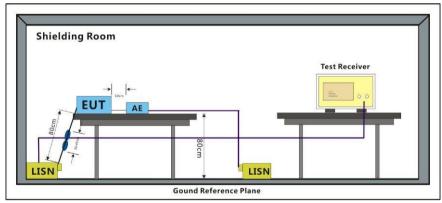
	Conducted	limit(dBµV)
Frequency of emission(MHz)	Quasi-peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

7.1.1 E.U.T. Operation

**Operating Environment:** 

Temperature:25 °CHumidity:54 % RHAtmospheric Pressure:1010 mbarTest modee:Charge + TX\_non-Hop mode\_Keep the EUT in charging and continuously<br/>transmitting mode with GFSK modulation,  $\pi/4DQPSK$  modulation, 8DPSK<br/>modulation. All modes have been tested and only the data of worst case is recorded<br/>in the report.

#### 7.1.2 Test Setup Diagram





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#### 7.1.3 Measurement Procedure and Data

1) The mains terminal disturbance voltage test was conducted in a shielded room.

2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50ohm/50 $\mu$ H + 5ohm linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.

3) The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,

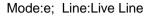
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.

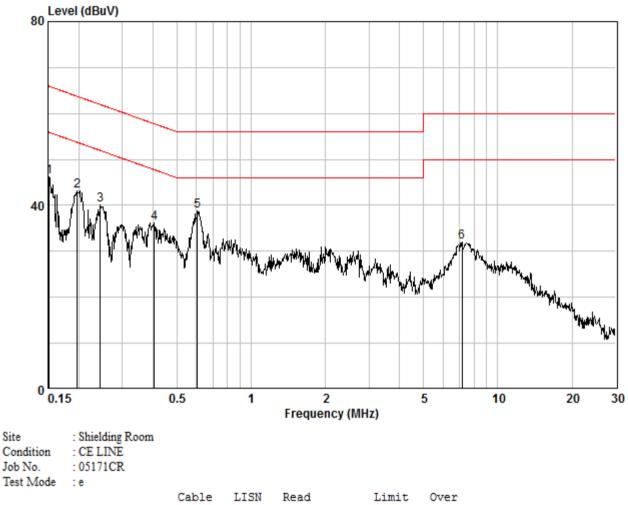
5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.

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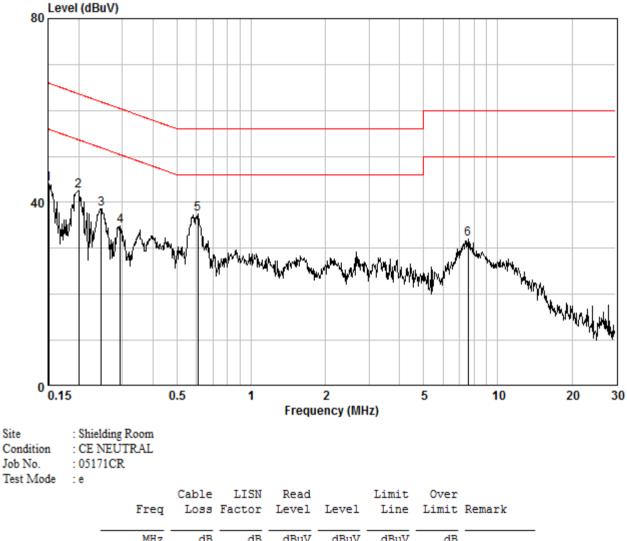


	Freq		Factor			Limit Line	Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.15160	0.02	9.64	36.53	46.19	55.91	-9.72	Peak
2	0.19758	0.02	9.64	33.46	43.12	53.71	-10.60	Peak
3	0.24422	0.02	9.64	30.34	40.00	51.95	-11.95	Peak
4	0.40400	0.02	9.64	26.59	36.25	47.77	-11.52	Peak
50	0.60431	0.02	9.65	29.07	38.74	46.00	-7.26	Peak
6	7.175	0.08	9.79	22.17	32.05	50.00	-17.95	Peak

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Mode:e; Line:Neutral Line

	Freq		LISN Factor		Level		Over Limit	Remark
	MHz	dB	dB	dBuV	dBuV	dBuV	dB	
1	0.15080	0.02	9.64	34.40	44.06	55.96	-11.90	Peak
2	0.19969	0.02	9.63	32.80	42.45	53.62	-11.18	Peak
3	0.24682	0.02	9.63	28.98	38.63	51.86	-13.23	Peak
4	0.29398	0.02	9.63	25.13	34.78	50.41	-15.63	Peak
50	0.60752	0.02	9.63	27.92	37.57	46.00	-8.43	Peak
6	7.566	0.09	9.78	22.19	32.07	50.00	-17.93	Peak



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#### 7.2 Conducted Peak Output Power

Test Requirement	47 CFR Part 15, Subpart C 15.247(b)(1)
Test Method:	ANSI C63.10 (2013) Section 7.8.5
Limit:	

Frequency range(MHz)	Output power of the intentional radiator(watt)			
	1w for ≥50 hopping channels			
902-928	0.25w for <50 hopping channels			
	1 for digital modulation			
	1w for ≥75 non-overlapping hopping channels			
2400-2483.5	0.125w for all other frequency hopping systems			
	1w for digital modulation			
5725-5850	1w for frequency hopping systems and digital modulation			

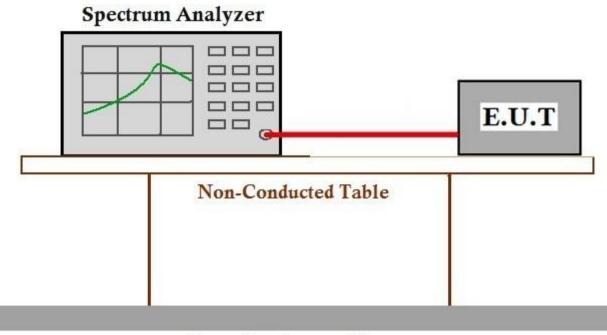
#### 7.2.1 E.U.T. Operation

Operating Enviror	iment:			
Temperature:	23 °C Hum	idity: 56 % RH	Atmospheric Pressure:	1010 mbar
Pretest these mode to find the worst case:		SK modulation, 8DF	continuously transmitting mod SK modulation. All modes hav ed in the report.	
	transmitting mode	with GFSK mod	p the EUT in charging and lulation, π/4DQPSK modula and only the data of worst cas	tion, 8DPSK
The worst case for final test:		SK modulation, 8DF	continuously transmitting mod SK modulation. All modes hav ed in the report.	



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#### 7.2.2 Test Setup Diagram



### **Ground Reference Plane**

#### 7.2.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247

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#### 7.3 20dB Bandwidth

Test Requirement	47 CFR Part 15, Subpart C 15.247(a)(1)
Test Method:	ANSI C63.10 (2013) Section 7.8.7

in the report.

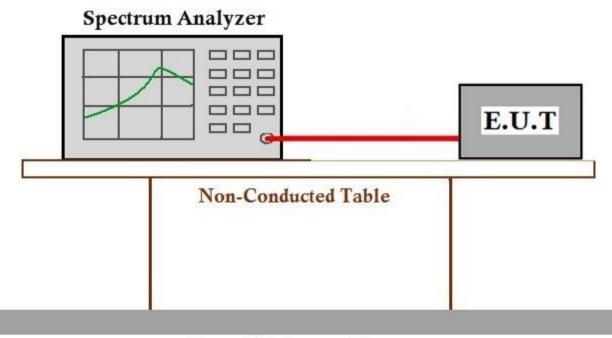
#### 7.3.1 E.U.T. Operation

**Operating Environment:** 

Temperature:23 °CHumidity:56 % RHAtmospheric Pressure:1010 mbarPretest these<br/>mode to find the<br/>worst case:d: TX\_non-Hop mode\_Keep the EUT in continuously transmitting mode with GFSK<br/>modulation,  $\pi/4DQPSK$  modulation, 8DPSK modulation. All modes have been tested<br/>and only the data of worst case is recorded in the report.e:Charge + TX\_non-Hop mode\_Keep the EUT in charging and continuously<br/>transmitting mode with GFSK modulation,  $\pi/4DQPSK$  modulation,  $\pi/4DQPSK$  modulation, 8DPSK

The worst case d: TX\_non-Hop mode\_Keep the EUT in continuously transmitting mode with GFSK modulation,  $\pi/4DQPSK$  modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

#### 7.3.2 Test Setup Diagram



### **Ground Reference Plane**

#### 7.3.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247



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#### 7.4 Carrier Frequencies Separation

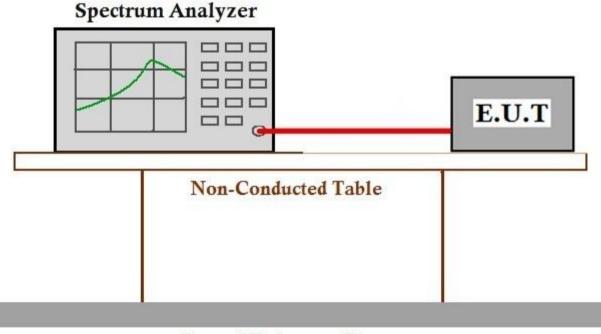
Test Requirement	47 CFR Part 15, Subpart C 15.247a(1)
Test Method:	ANSI C63.10 (2013) Section 7.8.2
Limit:	$2/3$ of the 20dB bandwidth base on the transmission power is less than $0.125 \mathrm{W}$

#### 7.4.1 E.U.T. Operation

**Operating Environment:** 

Temperature:	23 °C Humi	dity: 56 % RH	Atmospheric Pressure:	1010 mbar
Pretest these mode to find the worst case:		K modulation, 8DPS	continuously transmitting moo SK modulation. All modes hav d in the report.	
	transmitting mode	with GFSK modu	the EUT in charging and lation, π/4DQPSK modula and only the data of worst cas	tion, 8DPSK
The worst case for final test:		K modulation, 8DPS	continuously transmitting mod SK modulation. All modes hav d in the report.	

#### 7.4.2 Test Setup Diagram



### **Ground Reference Plane**

#### 7.4.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247



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#### 7.5 Hopping Channel Number

Test Requirement	47 CFR Part 15, Subpart C 15.247a(1)(iii)
Test Method:	ANSI C63.10 (2013) Section 7.8.3
Limit:	

Frequency range(MHz)	Number of hopping channels (minimum)
	50 for 20dB bandwidth <250kHz
902-928	25 for 20dB bandwidth ≥250kHz
2400-2483.5	15
5725-5850	75

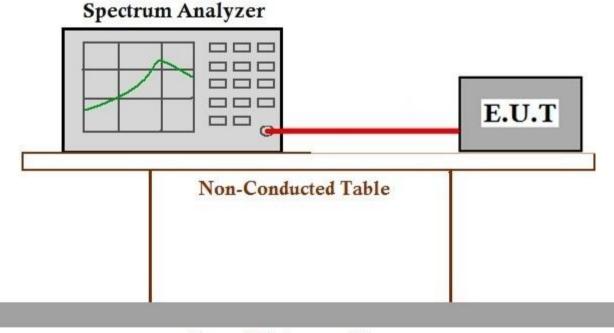
#### 7.5.1 E.U.T. Operation

Operating Environment:

Temperature:	23 °C	Humidity:	56 % RH	Atmospheric Pressure:	1010 mbar
Pretest these mode to find the worst case:	modulation.	TX mode_Kee	0.0	nd continuously transmitting macharging and continuously trans	

The worst case f: Tx mode, Keep the EUT in charging and continuously transmitting mode with nonfor final test: modulation.

#### 7.5.2 Test Setup Diagram



### **Ground Reference Plane**



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#### 7.5.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247



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#### 7.6 Dwell Time

Test Requirement47 CFR Part 15, Subpart C 15.247a(1)(iii)Test Method:ANSI C63.10 (2013) Section 7.8.4Limit:Ansi C63.10 (2013) Section 7.8.4

Frequency(MHz)	Limit		
000.000	0.4S within a 20S period(20dB bandwidth<250kHz)		
902-928	0.4S within a 10S period(20dB bandwidth≥250kHz)		
0.400 0.400 5	0.4S within a period of 0.4S multiplied by the number		
2400-2483.5	of hopping channels		
5725-5850	0.4S within a 30S period		

#### 7.6.1 E.U.T. Operation

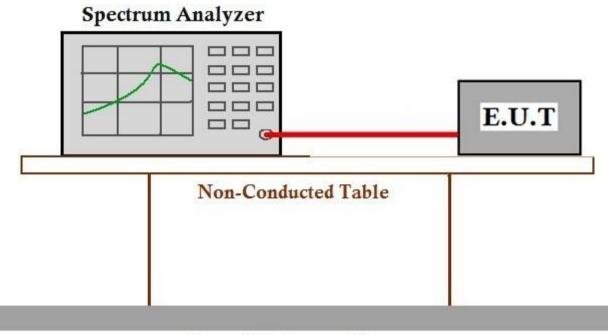
**Operating Environment:** 

Temperature:	23 °C	Humidity:	56 % RH	Atmospheric Pressure:	1010 mbar
Pretest these mode to find the	f: Tx mode, modulation.	Keep the EUT	in charging ar	nd continuously transmitting m	ode with non-
worst case:	g: Charge + with non-mo	_	p the EUT in c	harging and continuously tran	smitting mode
The worst case for final test:	f: Tx mode, modulation.	Keep the EUT	in charging ar	nd continuously transmitting m	ode with non-



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#### 7.6.2 Test Setup Diagram



### **Ground Reference Plane**

#### 7.6.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247

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#### 7.7 Conducted Band Edges Measurement

Test Requirement	47 CFR Part 15, Subpart C 15.247(d)
Test Method:	ANSI C63.10 (2013) Section 7.8.6

#### 7.7.1 E.U.T. Operation

Operating Environment:

Temperature: 23 °C Humidity: 56 % RH Atmospheric Pressure: 1010 mbar Pretest these mode to find the worst case: 4: TX\_non-Hop mode\_Keep the EUT in continuously transmitting mode with GFSK modulation,  $\pi/4DQPSK$  modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report. e: Charge + TX\_non-Hop mode\_Keep the EUT in charging and continuously transmitting mode with GESK modulation  $\pi/4DQPSK$  modulation 8DPSK

transmitting mode with GFSK modulation,  $\pi$ /4DQPSK modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

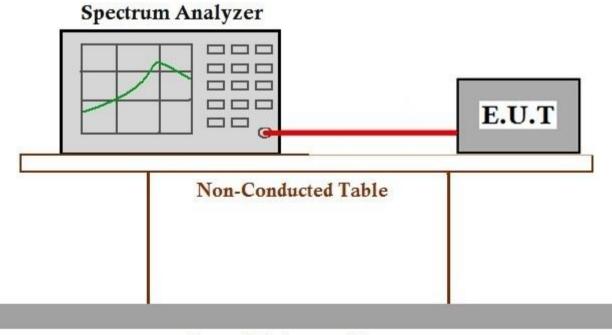
f: Tx mode, Keep the EUT in charging and continuously transmitting mode with non-modulation.

g: Charge + TX mode\_Keep the EUT in charging and continuously transmitting mode with non-modulation.

The worst case d: TX\_non-Hop mode\_Keep the EUT in continuously transmitting mode with GFSK modulation,  $\pi/4DQPSK$  modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

f: Tx mode, Keep the EUT in charging and continuously transmitting mode with non-modulation.

#### 7.7.2 Test Setup Diagram



### **Ground Reference Plane**



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#### 7.7.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247



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#### 7.8 Conducted Spurious Emissions

Test Requirement	47 CFR Part 15, Subpart C 15.247(d)
Test Method:	ANSI C63.10 (2013) Section 7.8.8
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum 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.

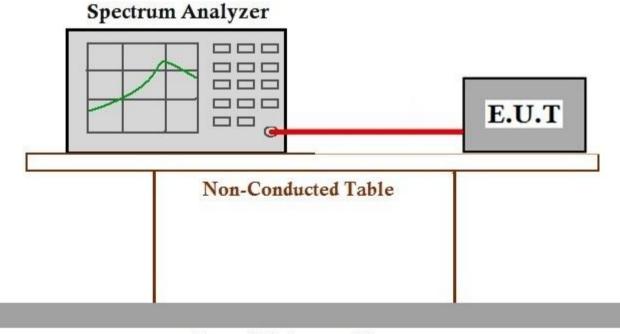
#### 7.8.1 E.U.T. Operation

**Operating Environment:** 

Temperature:	23	°C	Humidity:	56 % RH	Atmospheric Pressure:	1010 mbar
Pretest these mode to find the worst case:	mod	dulation, π/4	DQPSK mo		tinuously transmitting mod nodulation. All modes have the report.	
	tran moo	smitting m	node with	GFSK modulatio	e EUT in charging and on, π/4DQPSK modulat only the data of worst case	ion, 8DPSK

The worst case d: TX\_non-Hop mode\_Keep the EUT in continuously transmitting mode with GFSK modulation,  $\pi/4DQPSK$  modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

#### 7.8.2 Test Setup Diagram



### **Ground Reference Plane**



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#### 7.8.3 Measurement Procedure and Data

The detailed test data see: Appendix 15.247



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#### 7.9 Radiated Emissions which fall in the restricted bands

Test Requirement	47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method:	ANSI C63.10 (2013) Section 6.10.5
Measurement Distance:	3m

#### 7.9.1 E.U.T. Operation

#### **Operating Environment:**

Temperature: Pretest these mode to find the worst case:

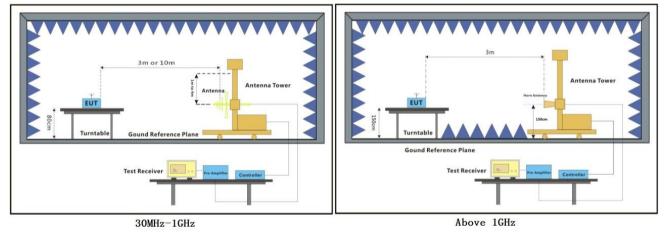
: 23 °C Humidity: 54 % RH Atmospheric Pressure: 1010 mbar d: TX\_non-Hop mode\_Keep the EUT in continuously transmitting mode with GFSK modulation,  $\pi/4DQPSK$  modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

e: Charge + TX\_non-Hop mode\_Keep the EUT in charging and continuously transmitting mode with GFSK modulation,  $\pi/4DQPSK$  modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

### The worst case for final test:

e: Charge + TX\_non-Hop mode\_Keep the EUT in charging and continuously transmitting mode with GFSK modulation,  $\pi/4DQPSK$  modulation, 8DPSK modulation. All modes have been tested and only the data of worst case is recorded in the report.

#### 7.9.2 Test Setup Diagram





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#### 7.9.3 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

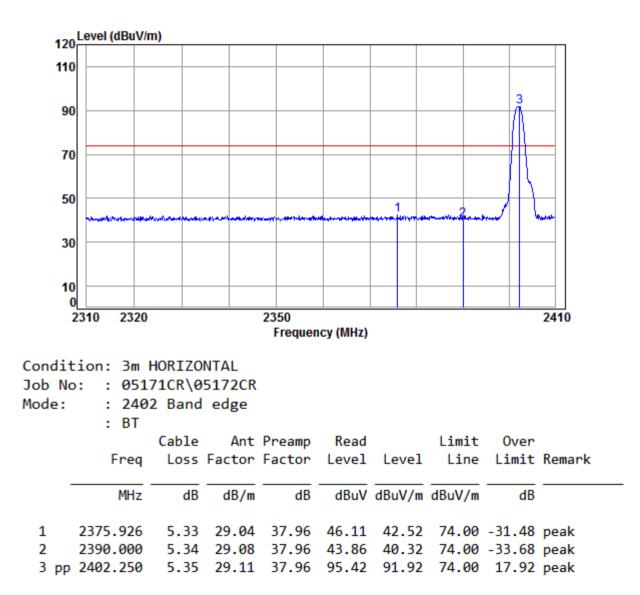
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

j. Repeat above procedures until all frequencies measured was complete.



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Mode:e; Polarization:Horizontal; Modulation Type:GFSK; Channel:Low



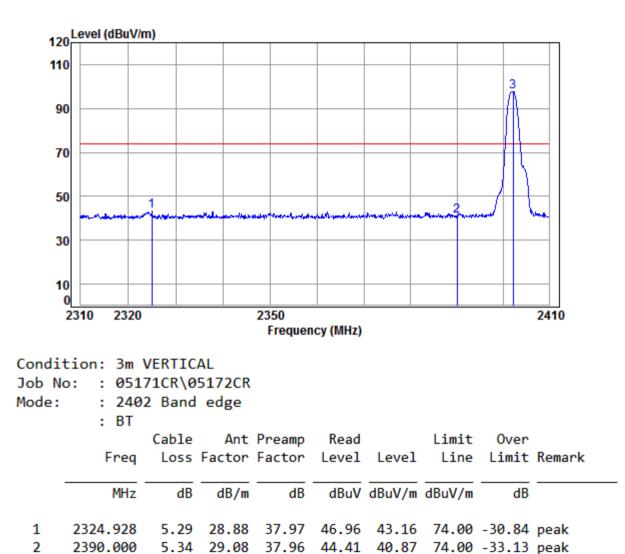


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Mode:e; Polarization:Vertical; Modulation Type:GFSK; Channel:Low

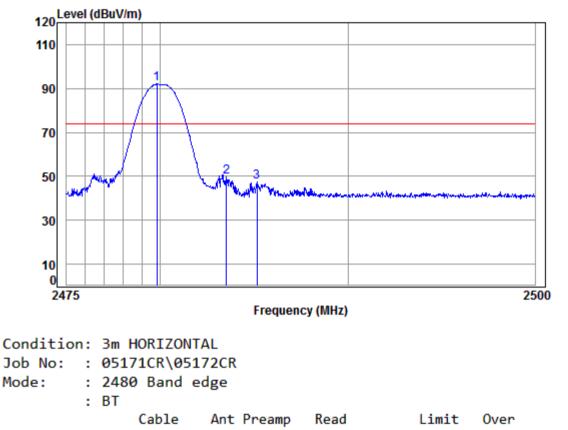


5.35 29.11 37.96 101.36 97.86 74.00 23.86 peak



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Mode:e; Polarization:Horizontal; Modulation Type:GFSK; Channel:High

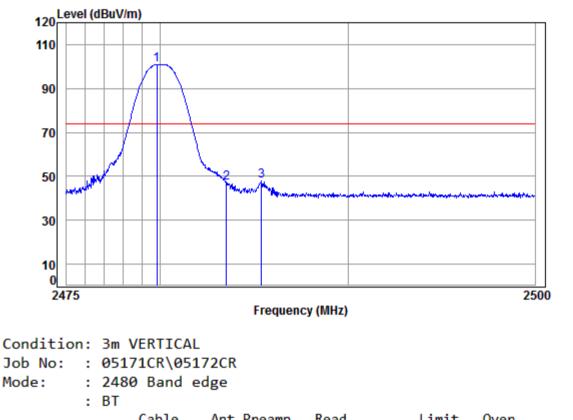


	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
-	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
2	2479.805 2483.500 2485.145	5.41	29.35	37.95	52.98	49.79	74.00	-24.21	peak



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Mode:e; Polarization:Vertical; Modulation Type:GFSK; Channel:High



	Freq					Level				
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB		_
2	2479.805 2483.500 2485.369	5.41	29.35	37.95	50.02	46.83	74.00	-27.17	peak	



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#### 7.10 Radiated Spurious Emissions

Test Requirement	47 CFR Part 15, Subpart C 15.205 & 15.209
Test Method:	ANSI C63.10 (2013) Section 6.4,6.5,6.6
Measurement Distance:	3m
Limit:	

Frequency(MHz)	Field strength(microvolts/meter)	Measurement distance(meters)				
0.009-0.490	2400/F(kHz)	300				
0.490-1.705	24000/F(kHz)	30				
1.705-30.0	30	30				
30-88	100	3				
88-216	150	3				
216-960	200	3				
Above 960	500	3				
Remark: The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90kHz, 110-490kHz and above 1000						
MHz. Radiated emission limits in these three bands are based on measurements employing an						
average detector, the peak field strength of any emission shall not exceed the maximum permitted						
average limits specified above by more than 20 dB under any condition of modulation.						



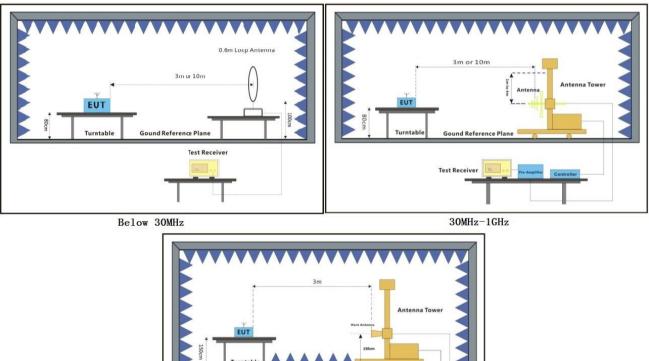
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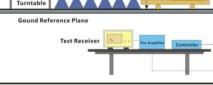
#### 7.10.1 E.U.T. Operation

Operating Enviror	nment:							
Temperature:	24 °C	Humidity:	54 % RH	Atmospheric Pressure:	1010 mbar			
Pretest these mode to find the worst case:	modulation, $\pi/2$	4DQPSK mo	dulation, 8DPSK i	tinuously transmitting moo modulation. All modes hav the report.				
	and only the data of worst case is recorded in the report. e: Charge + TX_non-Hop mode_Keep the EUT in charging and continuously transmitting mode with GFSK modulation, $\pi$ /4DQPSK modulation, 8DPSF modulation. All modes have been tested and only the data of worst case is recorded in the report.							
The worst case for final test:	transmitting r	node with	GFSK modulati	e EUT in charging and on, π/4DQPSK modula only the data of worst cas	tion, 8DPSK			

#### 7.10.2Test Setup Diagram

in the report.





Above 1GHz

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#### 7.10.3 Measurement Procedure and Data

a. For below 1GHz, the EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 or 10 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

b. For above 1GHz, the EUT was placed on the top of a rotating table 1.5 meters above the ground at a 3 meter fully-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.

c. The EUT was set 3 or 10 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.

d. The antenna height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

e. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.

f. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

h. Test the EUT in the lowest channel, the middle channel, the Highest channel.

i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is the worst case.

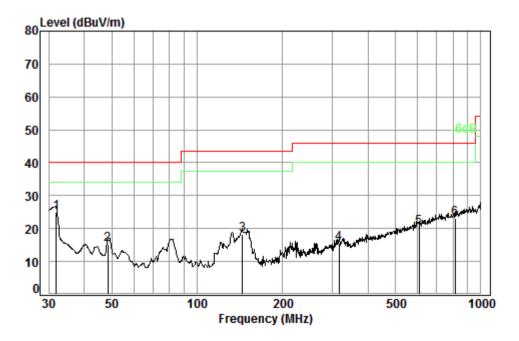
j. Repeat above procedures until all frequencies measured was complete.



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#### **Radiated Emission below 1GHz**

Mode:e; Polarization:Horizontal



#### Condition: 3m HORIZONTAL Job No. : 05171CR Test mode: e

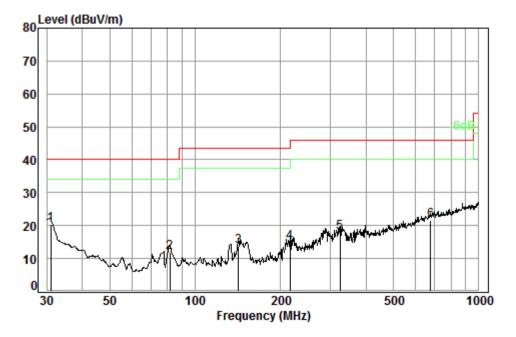
Fr			Preamp Factor				Over Limit
м	Hz dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 31. 2 48. 3 144. 4 316. 5 605. 6 813.	50 0.77 33 1.31 59 1.95 66 2.71	9.36 8.49 14.50 19.96	27.35 27.29 26.94 26.52 27.53 27.23	32.29 35.28 25.73 25.13	15.13 18.14 15.66 20.27	40.00 43.50 46.00 46.00	-25.36 -30.34 -25.73

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Mode:e; Polarization:Vertical



Condition: 3m Vertical Job No. : 05171CR Test mode: e

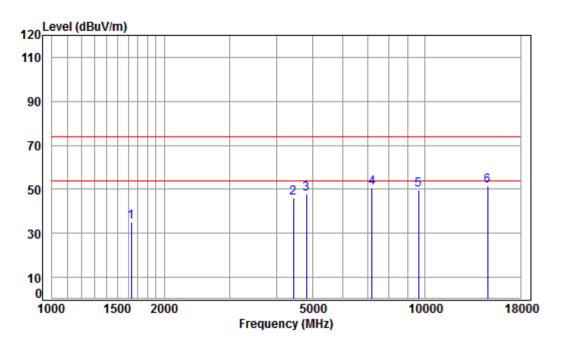
	Freq			Preamp Factor				Over Limit
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB
1 pp 2 3 4 5 6	30.96 81.50 142.32 216.02 324.46 675.21	0.60 1.10 1.30 1.49 1.98 2.85	7.85 8.31 11.03 14.78		30.18 31.12 29.14 27.70	11.90 13.79 15.02 17.88	40.00 43.50 46.00 46.00	-19.64 -28.10 -29.71 -30.98 -28.12 -24.32



Report No.: SZEM170500517102 Page: 41 of 120

#### **Transmitter Emission above 1GHz**

Mode:e; Polarization:Horizontal; Modulation Type:GFSK; Channel:Low



Condition:	3m HORIZONTAL
Job No: :	05171CR\05172CR
Mode: :	2402 TX RSE

	<b>RT</b>
	01

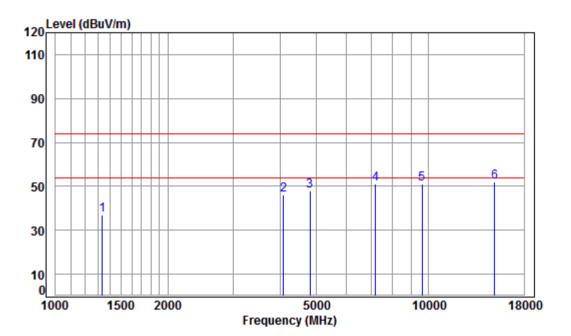
	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1				38.04					
2	4443.453	7.22	33.60	38.22	43.51	46.11	74.00	-27.89	peak
3	4804.000	7.73	34.16	38.40	44.40	47.89	74.00	-26.11	peak
4	7206.000	9.65	36.42	37.11	41.76	50.72	74.00	-23.28	peak
5	9608.000	11.06	37.52	35.10	36.45	49.93	74.00	-24.07	peak
6	pp14702.910	14.77	40.77	38.93	35.06	51.67	74.00	-22.33	peak

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Mode:e; Polarization:Vertical; Modulation Type:GFSK; Channel:Low



Condition:	3m VERTICAL
Job No: :	05171CR\05172CR
Mode: :	2402 TX RSE

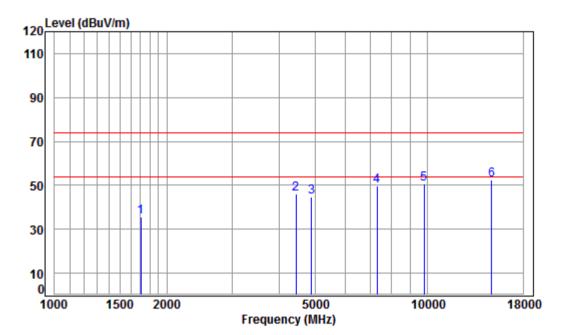
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	v		

	Fred			Preamp Factor					Remark
	MHz			dB					
1	1335.141	4.27	25.11	38.07	45.60	36.91	74.00	-37.09	peak
2				38.04					•
3 4									•
5									
6	pp15003.420	14.85	41.30	38.90	34.99	52.24	74.00	-21.76	peak



Report No.: SZEM170500517102 Page: 43 of 120

Mode:e; Polarization:Horizontal; Modulation Type:GFSK; Channel:middle



Condition:	3m HORIZONTAL
Job No: :	05171CR\05172CR
Mode: :	2441 TX RSE

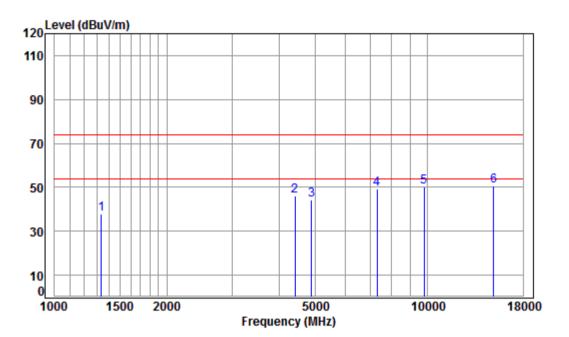
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	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1702.042	4.71	26.68	38.03	42.26	35.62	74.00	-38.38	peak
2	4443.453	7.22	33.60	38.22	43.53	46.13	74.00	-27.87	peak
3	4882.000	7.84	34.30	38.44	41.21	44.91	74.00	-29.09	peak
4	7323.000	9.73	36.37	37.01	40.80	49.89	74.00	-24.11	peak
5	9764.000	11.21	37.55	35.02	36.71	50.45	74.00	-23.55	peak
6	pp14830.960	14.81	41.00	38.92	35.54	52.43	74.00	-21.57	peak



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Mode:e; Polarization:Vertical; Modulation Type:GFSK; Channel:middle



Condition:	3m VERTICAL
Job No: :	05171CR\05172CR
Mode: :	2441 TX RSE

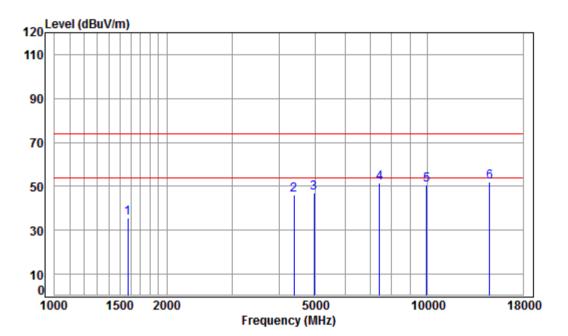
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	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1335.141	4.27	25.11	38.07	46.42	37.73	74.00	-36.27	peak
2	4405.090	7.18	33.60	38.20	43.43	46.01	74.00	-27.99	peak
3	4882.000	7.84	34.30	38.44	40.38	44.08	74.00	-29.92	peak
4	7323.000	9.73	36.37	37.01	40.41	49.50	74.00	-24.50	peak
5	9764.000	11.21	37.55	35.02	36.42	50.16	74.00	-23.84	peak
6	pp15003.420	14.85	41.30	38.90	33.28	50.53	74.00	-23.47	peak



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Mode:e; Polarization:Horizontal; Modulation Type:GFSK; Channel:High



Condition:	3m HORIZONTAL
Job No: :	05171CR\05172CR
Mode: :	2480 TX RSE

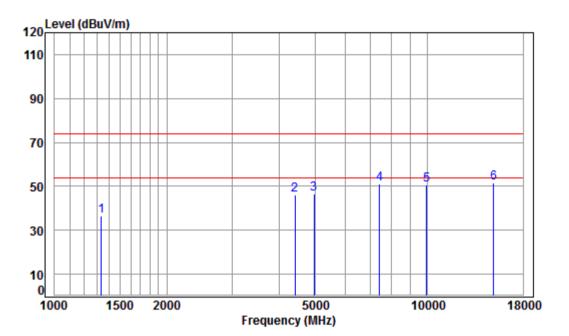
	<b>DT</b>
	- к і

	Freq	Cable Loss		Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1574.265	4.56	26.14	38.04	43.06	35.72	74.00	-38.28	peak
2	4379.699	7.15	33.60	38.19	43.67	46.23	74.00	-27.77	peak
3	4960.000	7.95	34.43	38.48	42.94	46.84	74.00	-27.16	peak
4	7440.000	9.81	36.32	36.90	42.23	51.46	74.00	-22.54	peak
5	9920.000	11.36	37.58	34.94	36.83	50.83	74.00	-23.17	peak
6	pp14660.480	14.76	40.69	38.93	35.63	52.15	74.00	-21.85	peak



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Mode:e; Polarization:Vertical; Modulation Type:GFSK; Channel:High



Condition:	3m VERTICAL
Job No: :	05171CR\05172CR
	2400 TV DCF

		Cable Ant Dussey
	:	BT
Mode:	:	2480 TX RSE
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	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1335.141	4.27	25.11	38.07	45.27	36.58	74.00	-37.42	peak
2	4405.090	7.18	33.60	38.20	43.72	46.30	74.00	-27.70	peak
3	4960.000	7.95	34.43	38.48	42.56	46.46	74.00	-27.54	peak
4	7440.000	9.81	36.32	36.90	42.09	51.32	74.00	-22.68	peak
5	9920.000	11.36	37.58	34.94	36.44	50.44	74.00	-23.56	peak
6	pp15003.420	14.85	41.30	38.90	34.35	51.60	74.00	-22.40	peak



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Remark:

1) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

Final Test Level =Receiver Reading + Antenna Factor + Cable Factor – Preamplifier Factor

2) Scan from 9kHz to 25GHz, the disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

3) As shown in this section, for frequencies above 1GHz, the field strength limits are based on average limits. However, the peak field strength of any emission shall not exceed the maximum permitted average limits specified above by more than 20 dB under any condition of modulation. So, only the peak measurements were shown in the report.



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#### 8 Photographs

8.1 Conducted Disturbance at AC Power Line (150kHz-30MHz) Test Setup





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#### 8.3 EUT Constructional Details

Refer to Appendix A - Photographs of EUT Constructional Details for SZEM1705005171CR.



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#### 9 Appendix

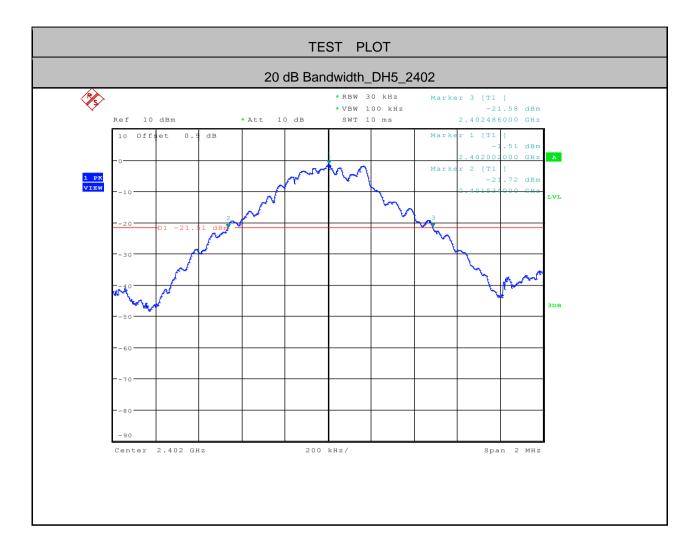
#### 9.1 Appendix 15.247

#### 1.20 dB Bandwidth

Test Mode	Test Channel	EBW[MHz]	Limit[MHz]	Verdict
DH5	2402	0.952		PASS
DH5	2441	0.952		PASS
DH5	2480	0.984		PASS
2DH5	2402	1.272		PASS
2DH5	2441	1.230		PASS
2DH5	2480	1.230		PASS
3DH5	2402	1.238		PASS
3DH5	2441	1.258		PASS
3DH5	2480	1.254		PASS

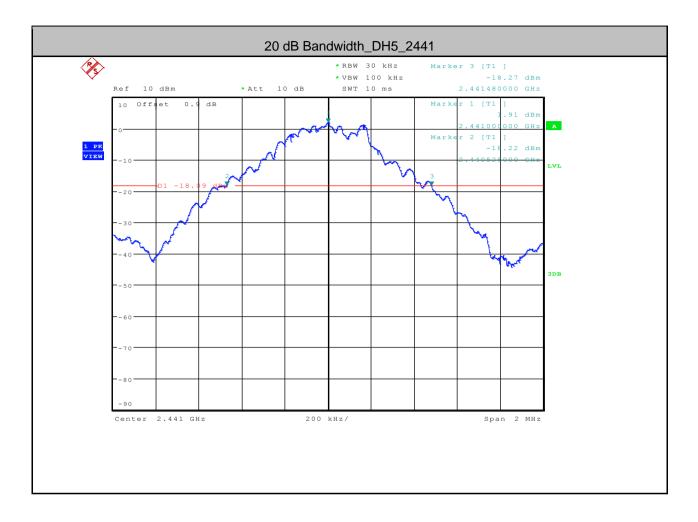


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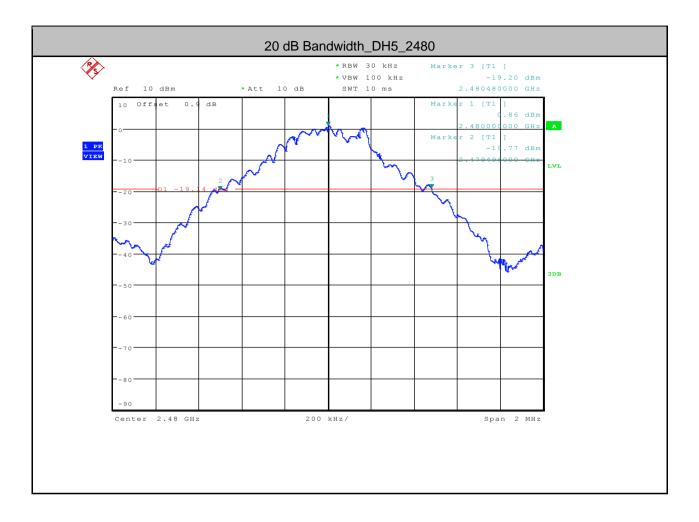


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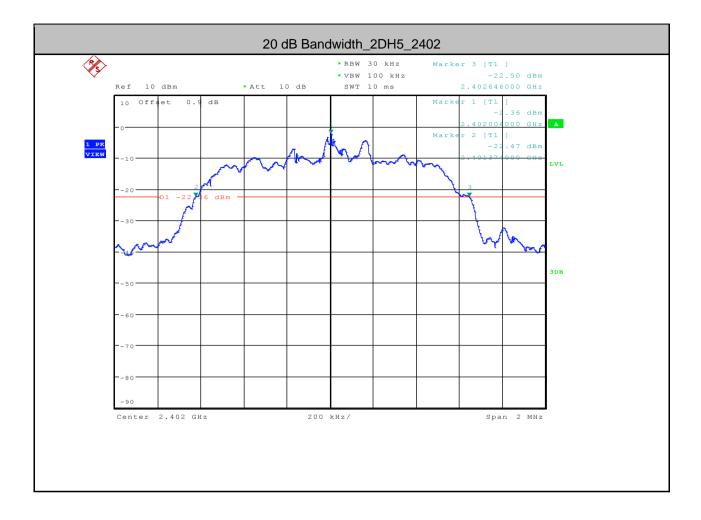


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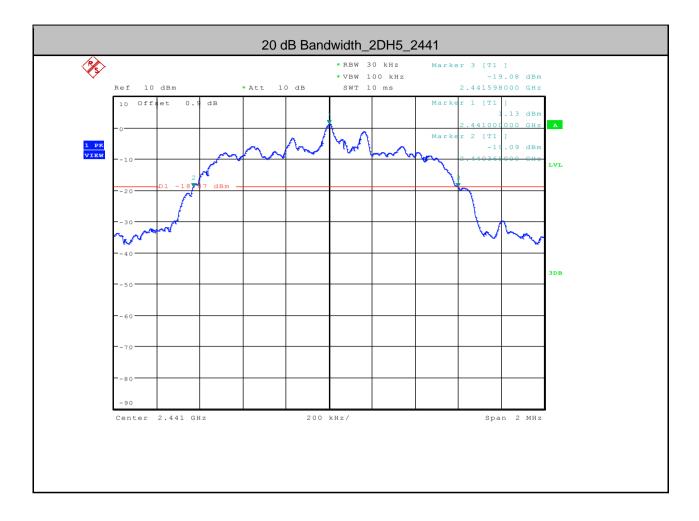


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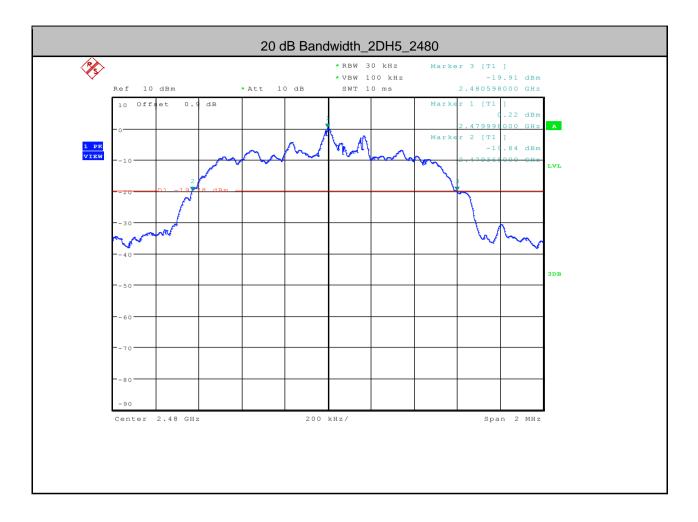


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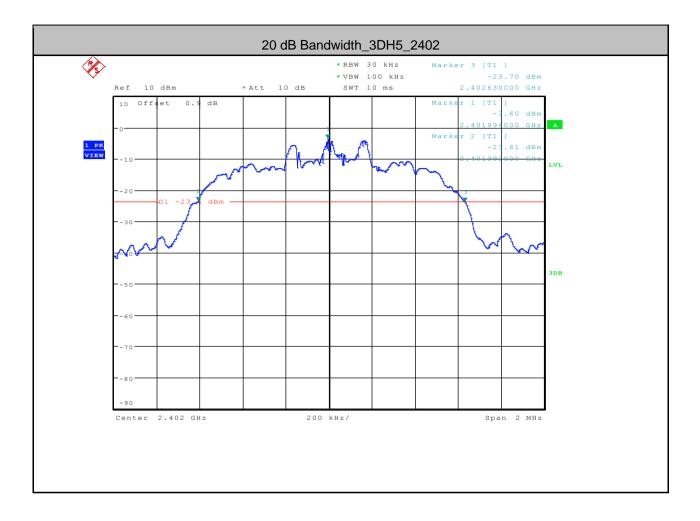


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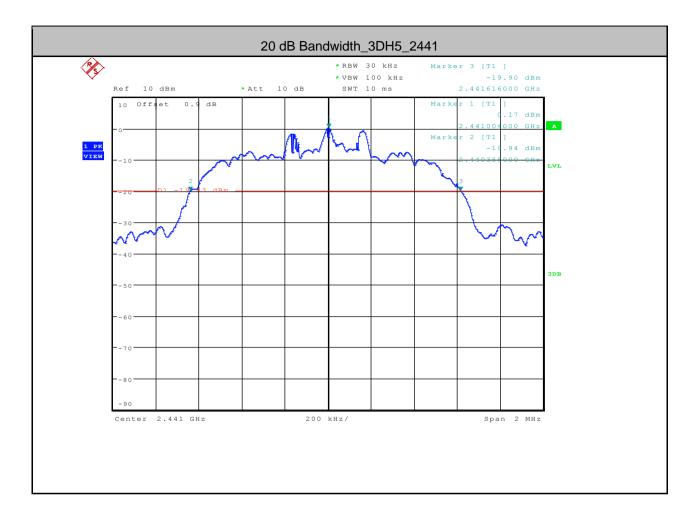


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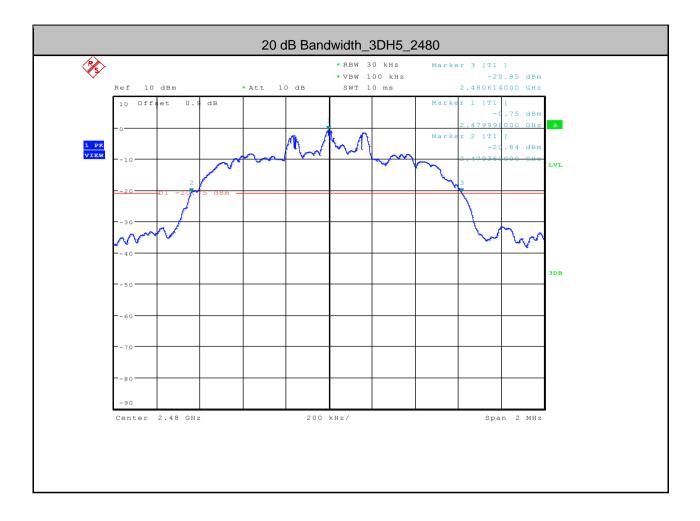


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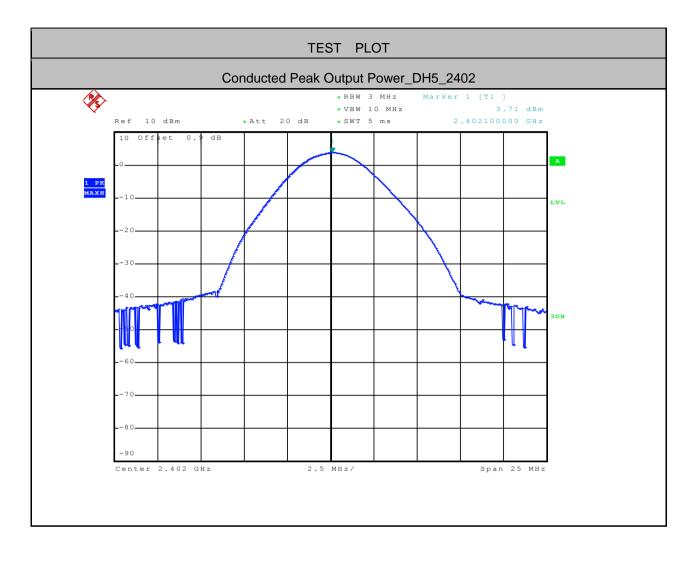
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#### 2.Conducted Peak Output Power

Test Mode	Test Channel	Power[dBm]	Limit[dBm]	Verdict
DH5	2402	3.71	<20.97	PASS
DH5	2441	3.39	<20.97	PASS
DH5	2480	2.61	<20.97	PASS
2DH5	2402	0.60	<20.97	PASS
2DH5	2441	0.51	<20.97	PASS
2DH5	2480	-0.62	<20.97	PASS
3DH5	2402	0.94	<20.97	PASS
3DH5	2441	1.21	<20.97	PASS
3DH5	2480	0.08	<20.97	PASS

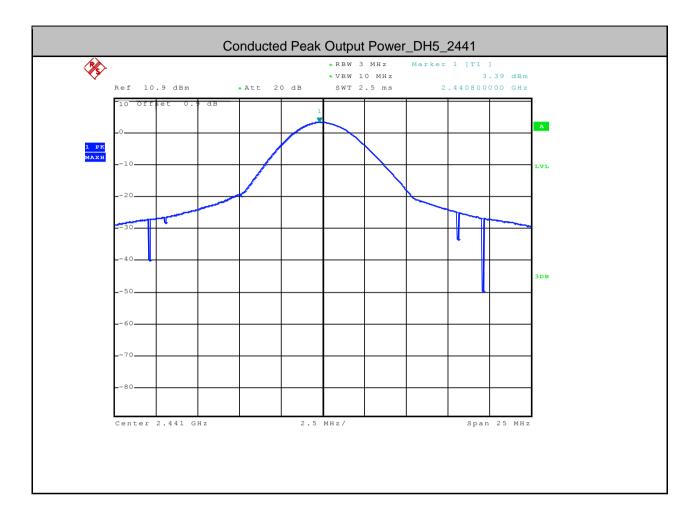


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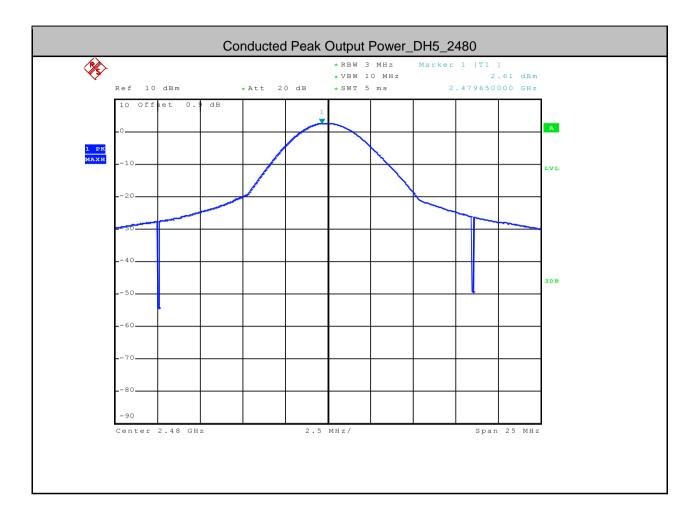


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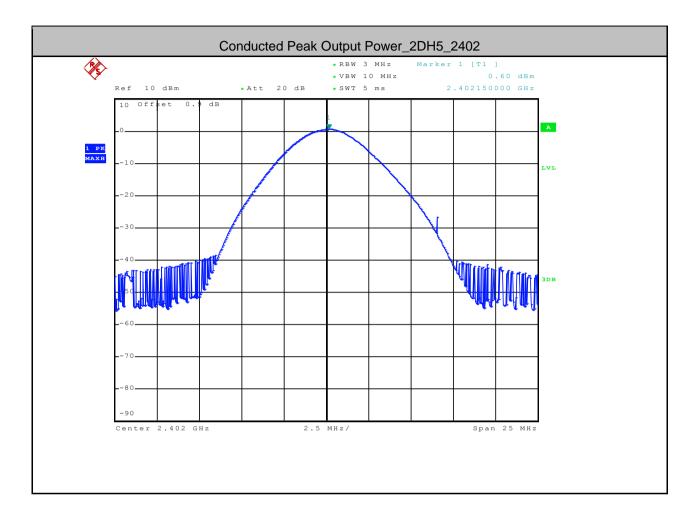


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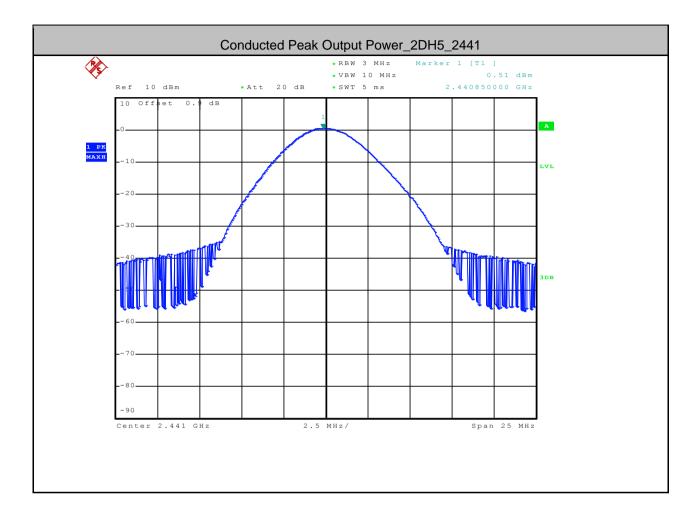


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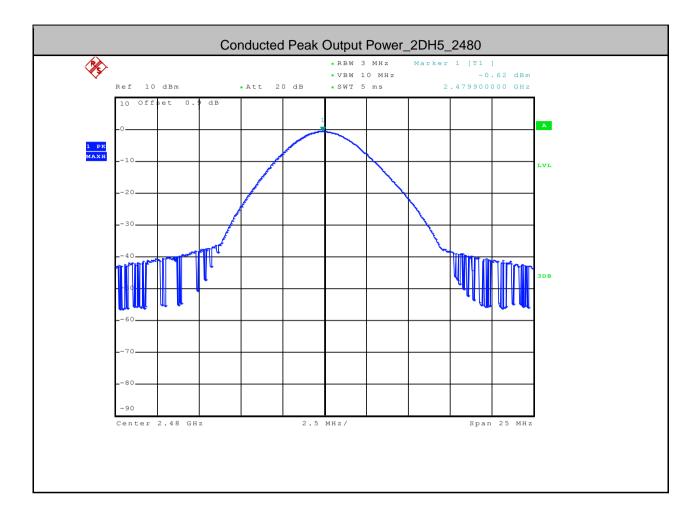


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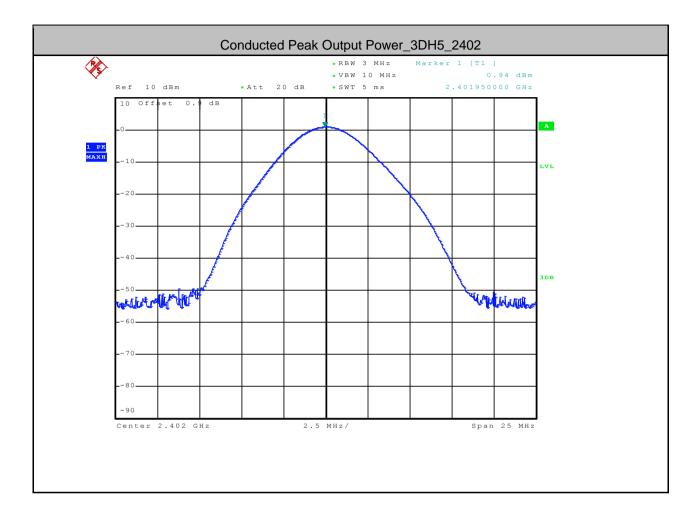


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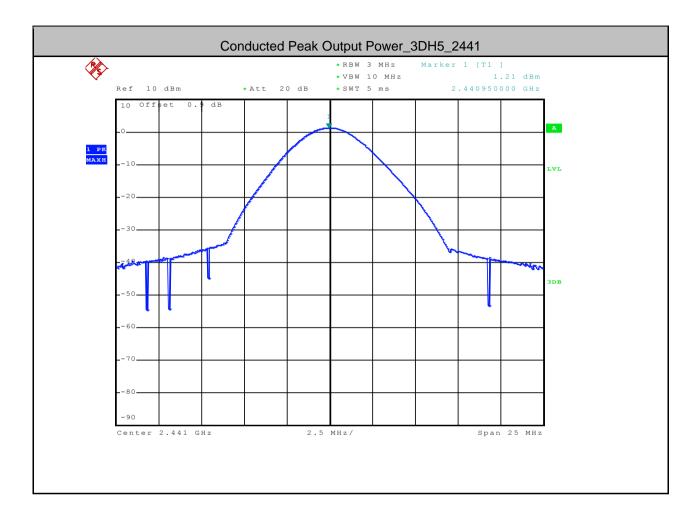


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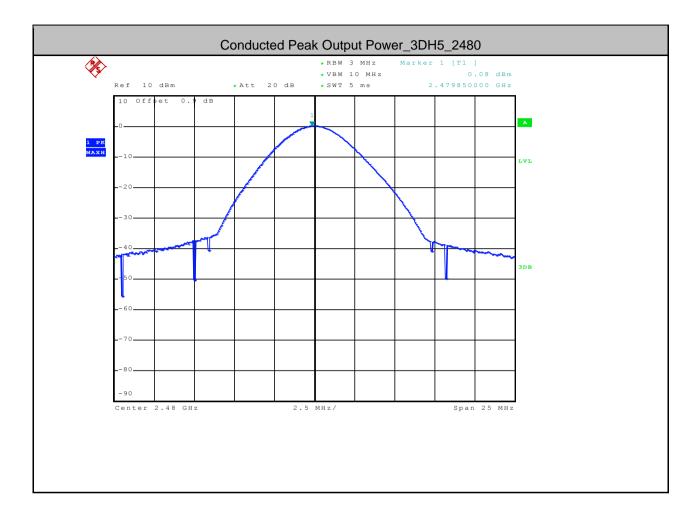


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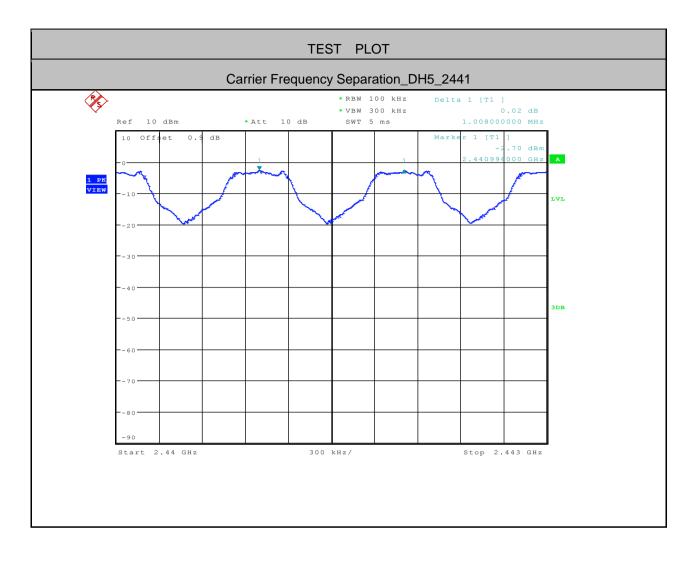
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#### **3.Carrier Frequency Separation**

Test Mode	Test Channel	Result[MHz]	Limit[MHz]	Verdict
DH5	2441	1.008	>=0.656	PASS
2DH5	2441	1.007	>=0.848	PASS
3DH5	2441	1.008	>=0.839	PASS

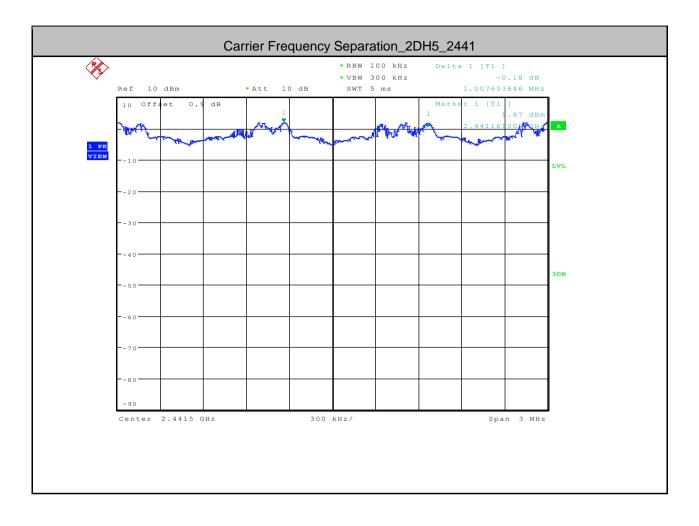


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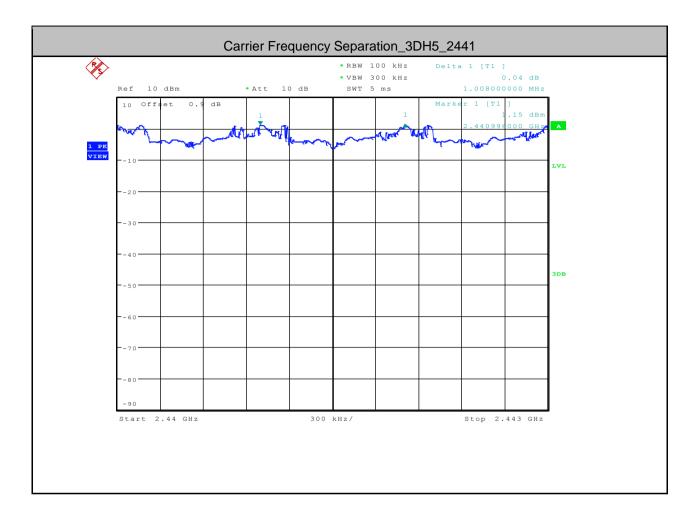


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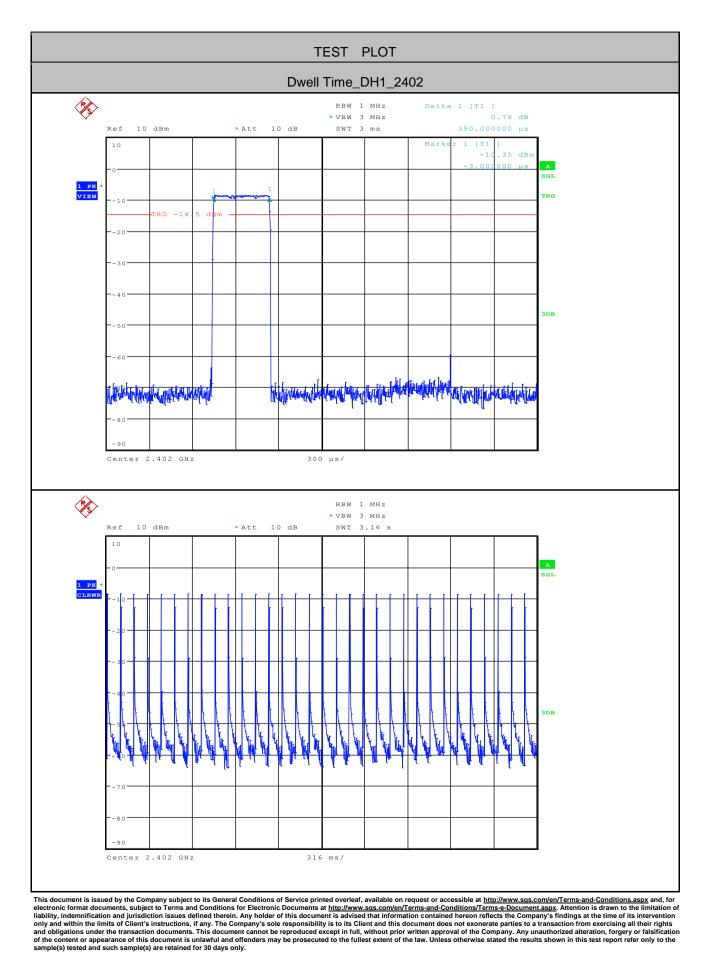
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Test Mode	Test Channel	Burst Width[ms/hop/ch]	Total Hops[hop*ch]	Dwell Time[s]	Limit[s]	Verdict
DH1	2402	0.39	320	0.125	<0.4	PASS
DH3	2402	1.65	160	0.264	<0.4	PASS
DH5	2402	2.9	110	0.319	<0.4	PASS
2DH1	2402	0.41	320	0.131	<0.4	PASS
2DH3	2402	1.67	150	0.251	<0.4	PASS
2DH5	2402	2.91	110	0.32	<0.4	PASS
3DH1	2402	0.41	320	0.131	<0.4	PASS
3DH3	2402	1.67	160	0.267	<0.4	PASS
3DH5	2402	2.9	110	0.319	<0.4	PASS

#### 4.Dwell Time

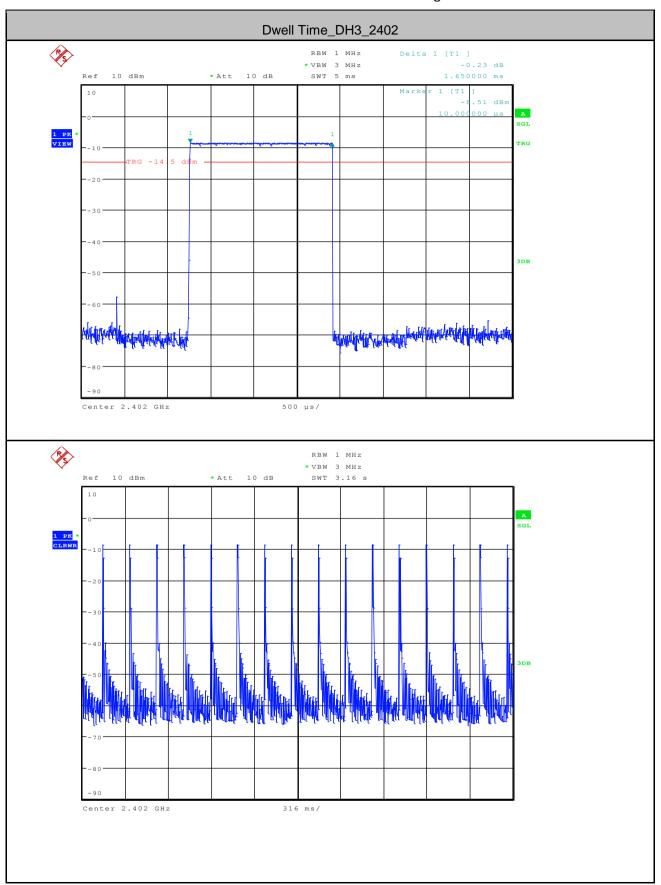


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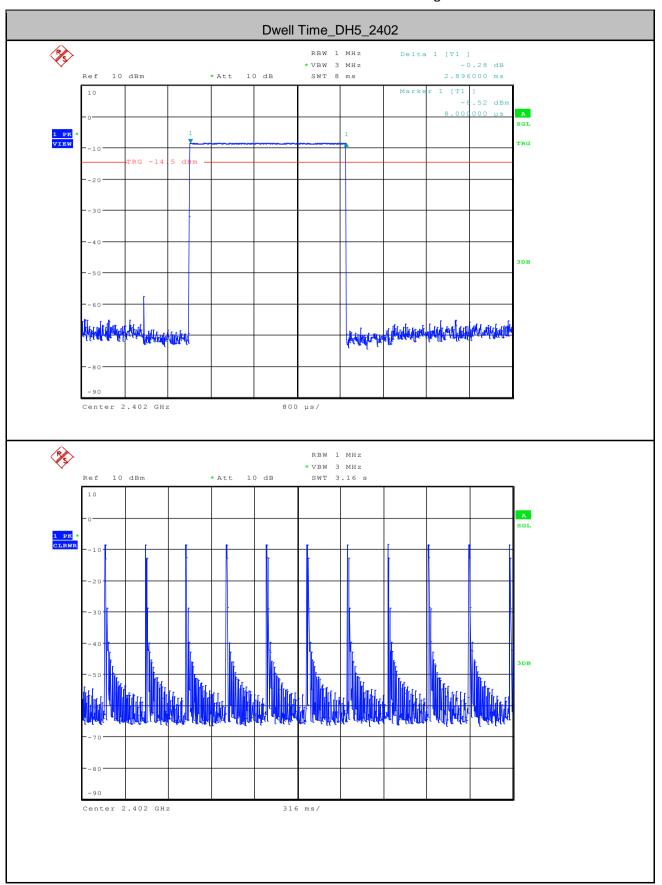


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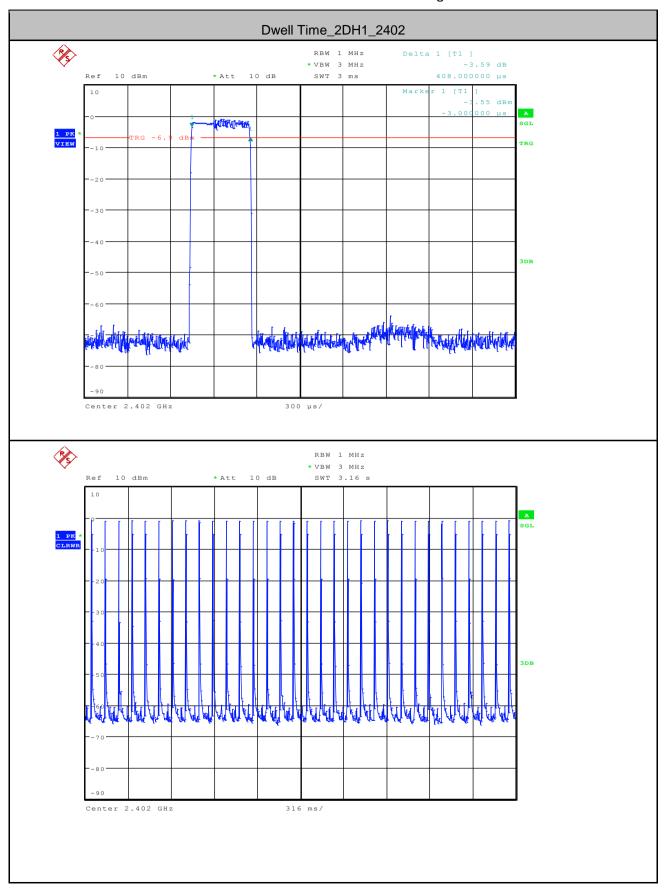


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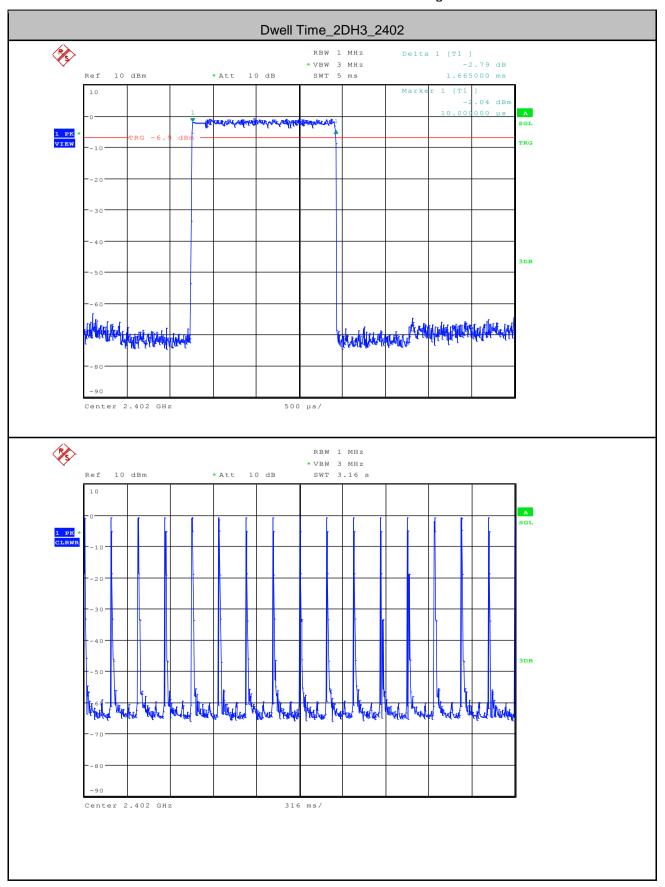
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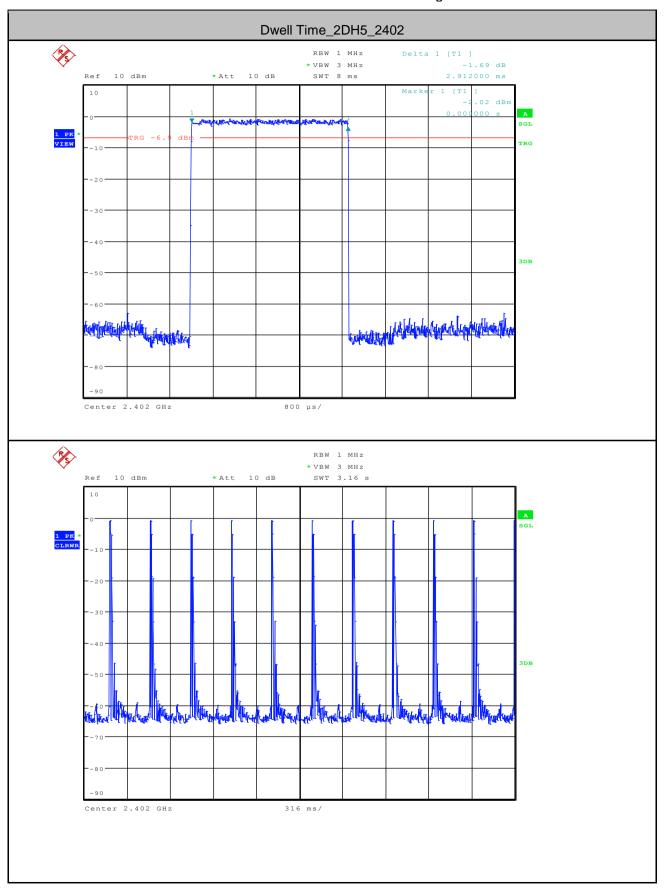


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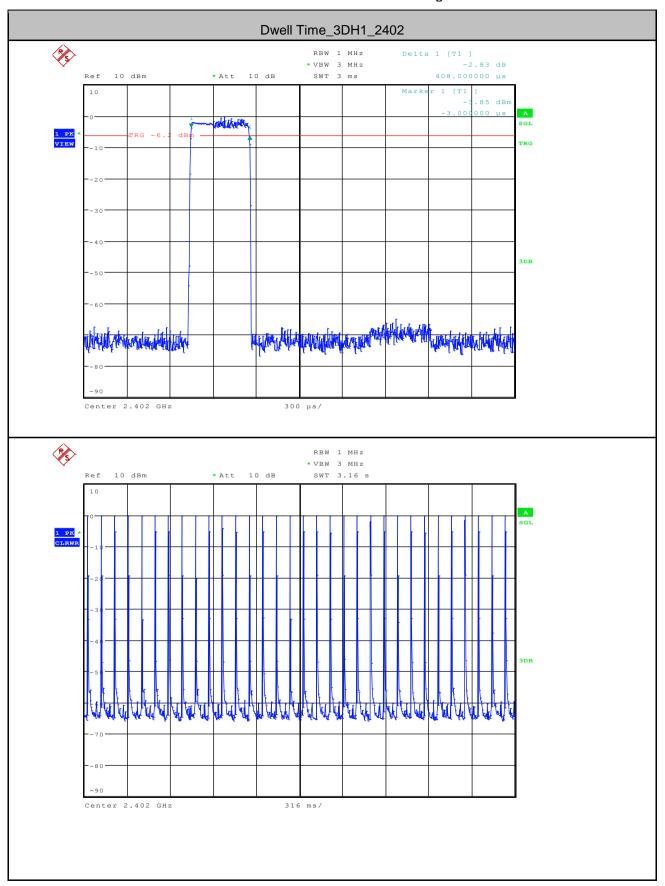


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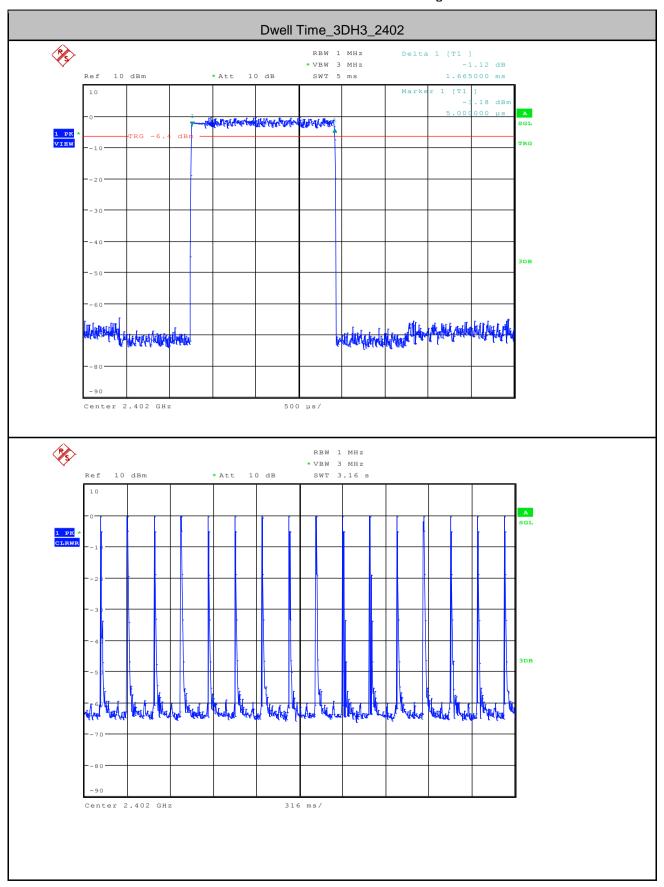
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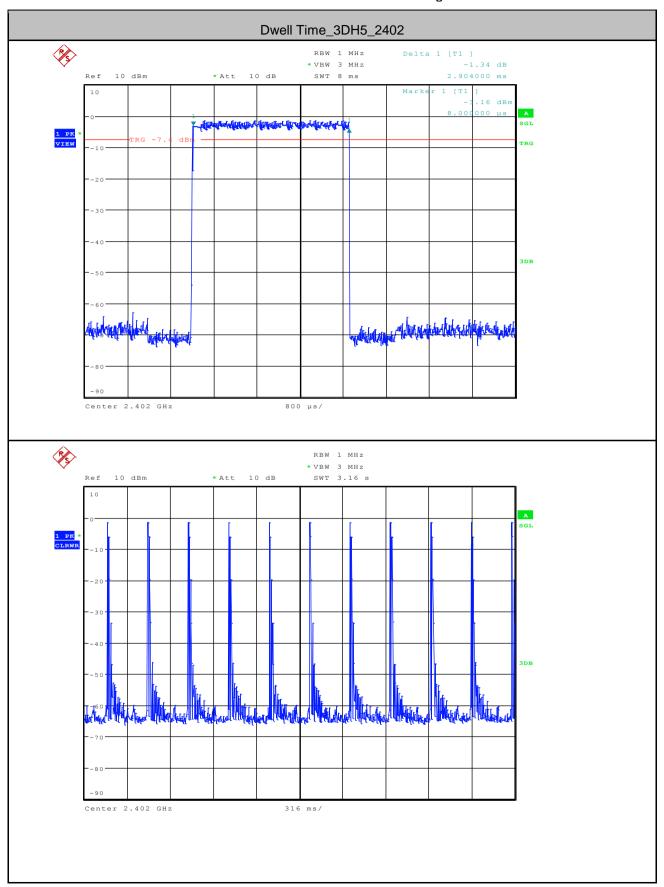


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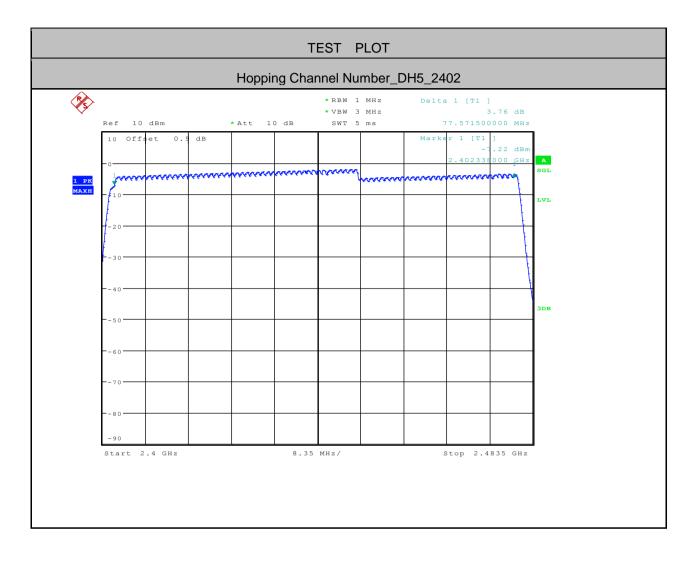
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#### **5.Hopping Channel Number**

Test Mode	Test Channel	Number of Hopping Channel[N]	Limit[N]	Verdict
DH5	2402	79	>=15	PASS
2DH5	2402	79	>=15	PASS
3DH5	2402	79	>=15	PASS

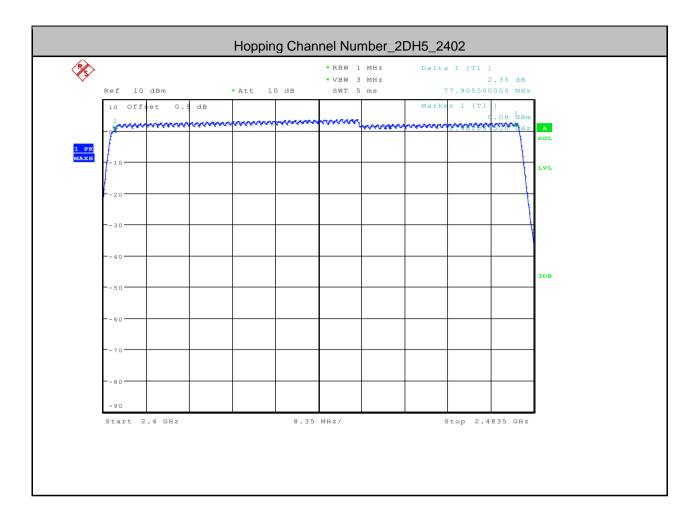


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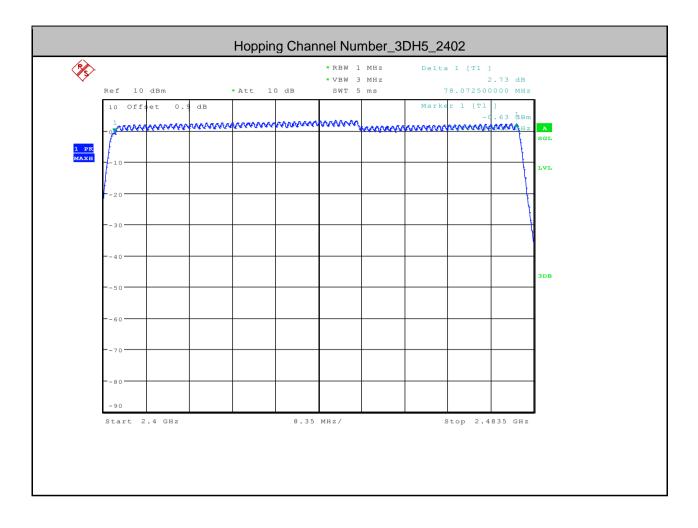


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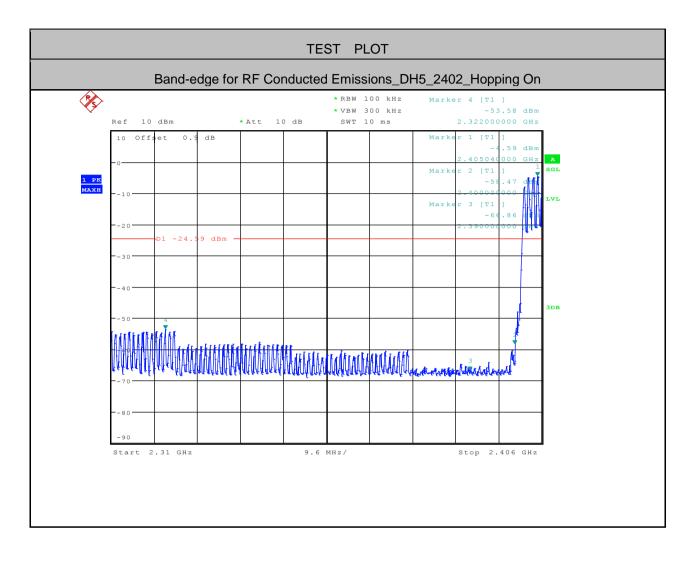
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Test Mode	Test Channel	Hopping	Carrier Max. Spurious Level Power[dBm] [dBm]		Limit[dBm]	Verdict
DH5	2402	On	-4.590	-53.579	<-24.59	PASS
DH5	2402	Off	0.230	-62.383	<-19.77	PASS
DH5	2480	On	-4.000	-60.689	<-24	PASS
DH5	2480	Off	2.560	-47.736	<-17.44	PASS
2DH5	2402	On	0.840	-52.043	<-19.16	PASS
2DH5	2402	Off	-3.520	-65.772	<-23.52	PASS
2DH5	2480	On	0.480	-57.843	<-19.52	PASS
2DH5	2480	Off	1.070	-58.687	<-18.93	PASS
3DH5	2402	On	-0.150	-52.246	<-20.15	PASS
3DH5	2402	Off	-4.440	-65.107	<-24.44	PASS
3DH5	2480	On	0.130	-57.779	<-19.87	PASS
3DH5	2480	Off	0.110	-56.390	<-19.89	PASS

#### 6.Band-edge for RF Conducted Emissions

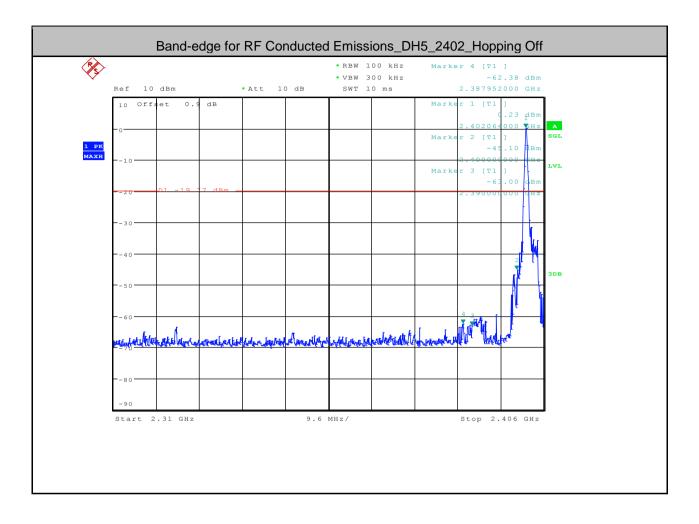


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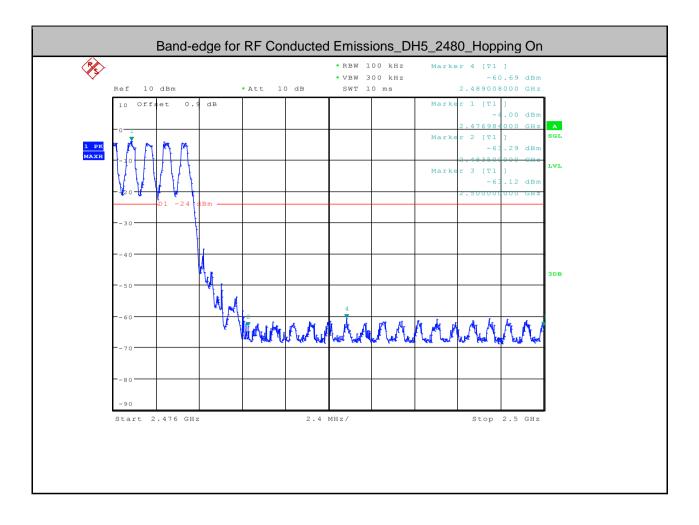


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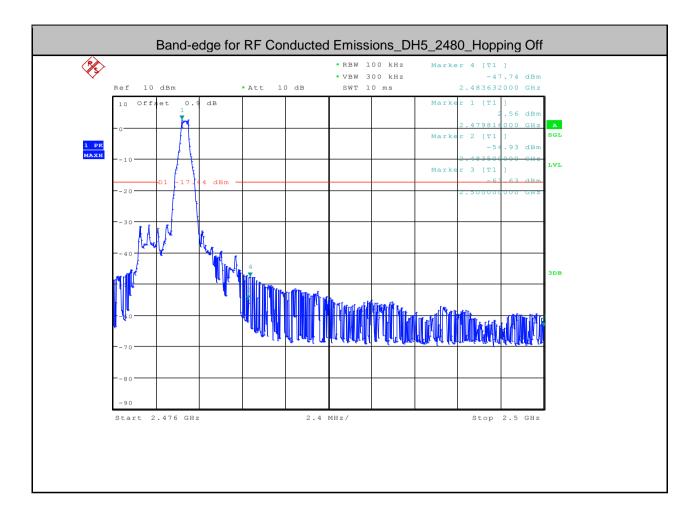


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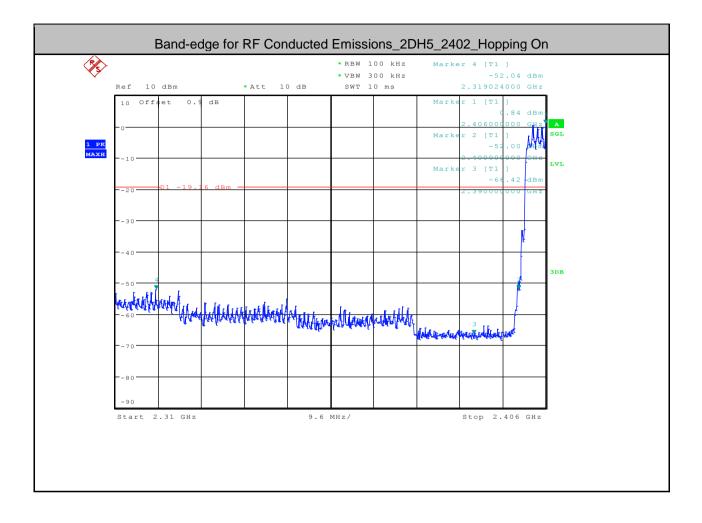


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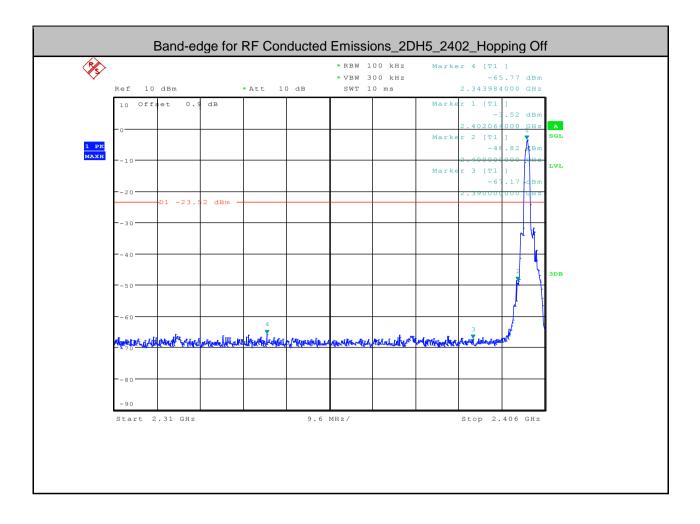


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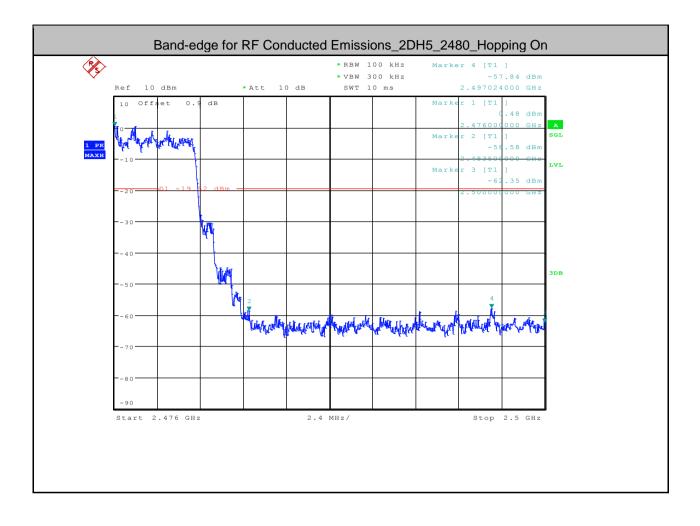


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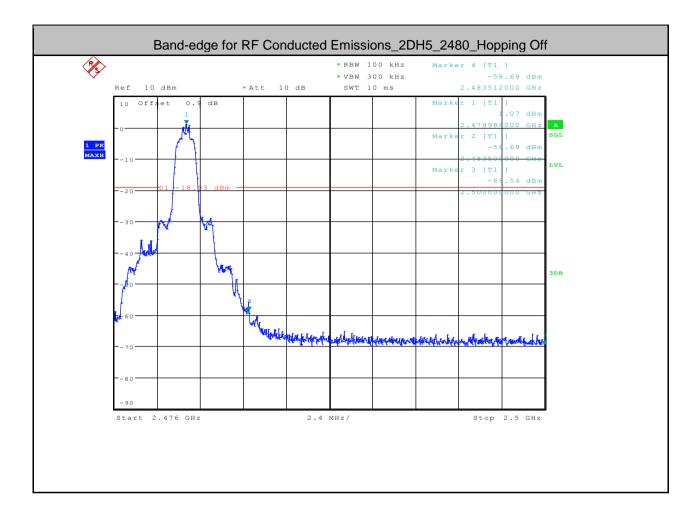


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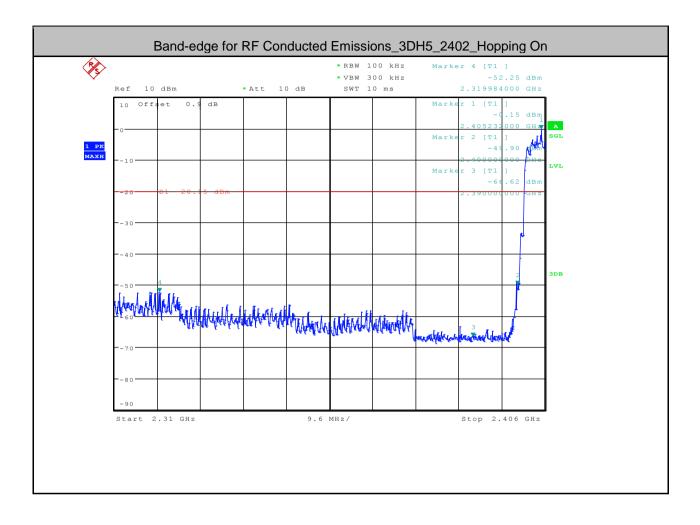


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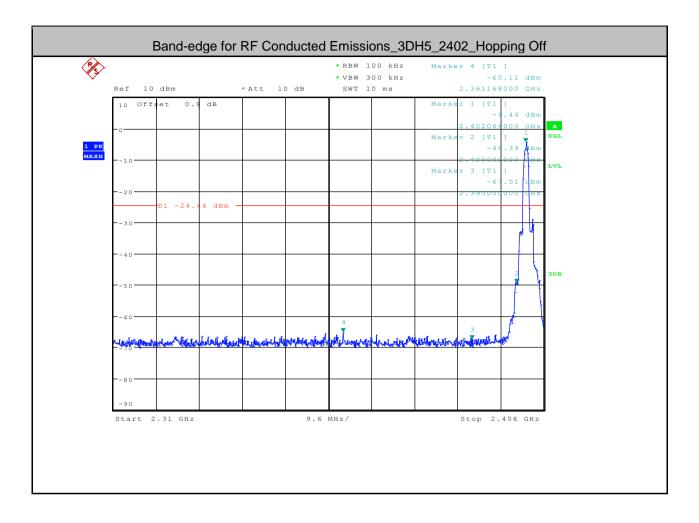


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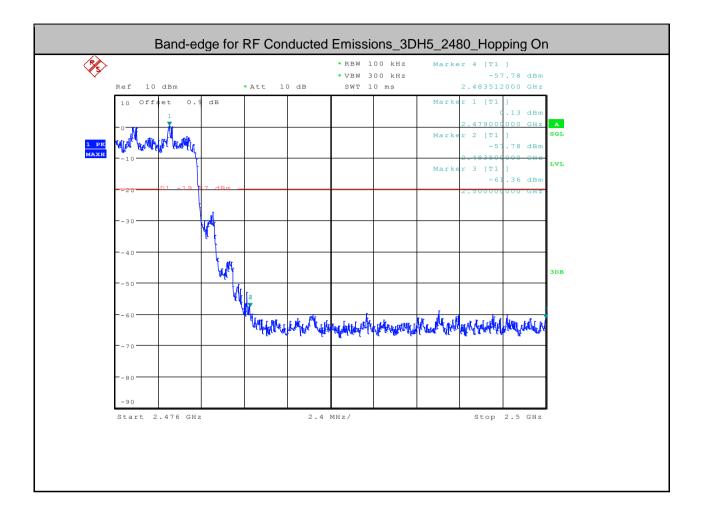


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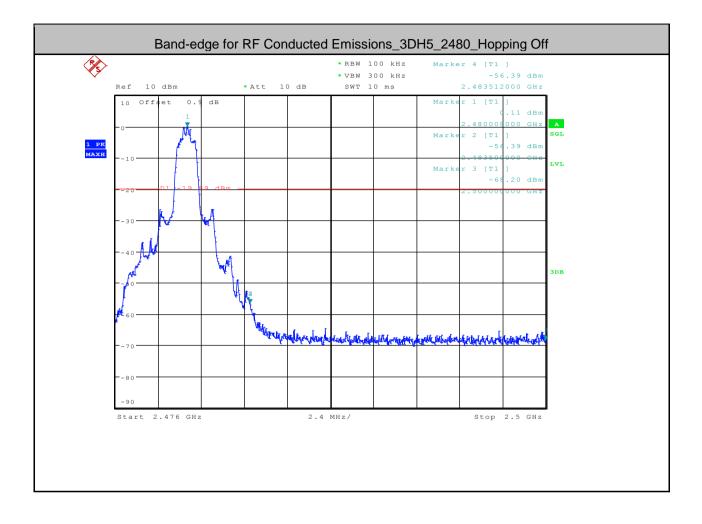


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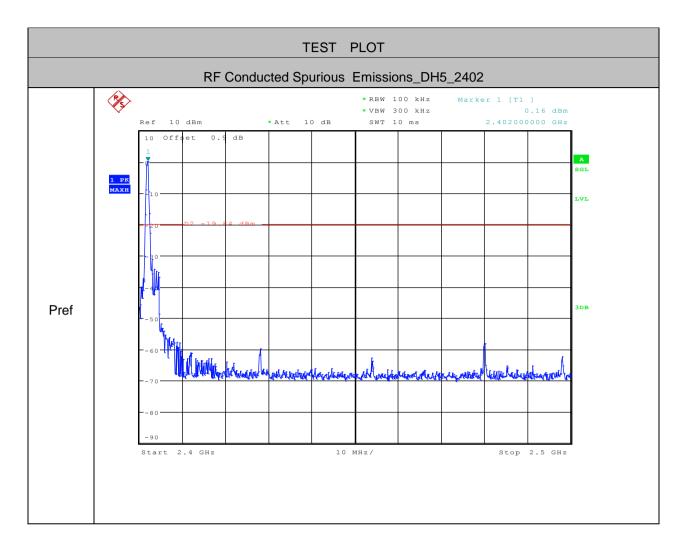
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Test Mode	Test Channel	StartFre [MHz]	StopFre [MHz]	RBW [kHz]	VBW [kHz]	Pref [dBm]	Max. Level [dBm]	Limit [dBm]	Verdict
DH5	2402	30	10000	1000	3000	0.16	-44.720	<-19.84	PASS
DH5	2402	10000	25000	1000	3000	0.16	-61.550	<-19.84	PASS
DH5	2441	30	10000	1000	3000	3.7	-44.740	<-16.3	PASS
DH5	2441	10000	25000	1000	3000	3.7	-60.100	<-16.3	PASS
DH5	2480	30	10000	1000	3000	2.65	-43.770	<-17.35	PASS
DH5	2480	10000	25000	1000	3000	2.65	-64.020	<-17.35	PASS
2DH5	2402	30	10000	1000	3000	-1.65	-47.020	<-21.65	PASS
2DH5	2402	10000	25000	1000	3000	-1.65	-62.050	<-21.65	PASS
2DH5	2441	30	10000	1000	3000	2.01	-46.120	<-17.99	PASS
2DH5	2441	10000	25000	1000	3000	2.01	-60.530	<-17.99	PASS
2DH5	2480	30	10000	1000	3000	1.18	-44.710	<-18.82	PASS
2DH5	2480	10000	25000	1000	3000	1.18	-63.190	<-18.82	PASS
3DH5	2402	30	10000	1000	3000	-2.34	-46.740	<-22.34	PASS
3DH5	2402	10000	25000	1000	3000	-2.34	-61.570	<-22.34	PASS
3DH5	2441	30	10000	1000	3000	1.27	-46.520	<-18.73	PASS
3DH5	2441	10000	25000	1000	3000	1.27	-60.560	<-18.73	PASS
3DH5	2480	30	10000	1000	3000	0.03	-45.670	<-19.97	PASS
3DH5	2480	10000	25000	1000	3000	0.03	-63.360	<-19.97	PASS

#### 7.RF Conducted Spurious Emissions



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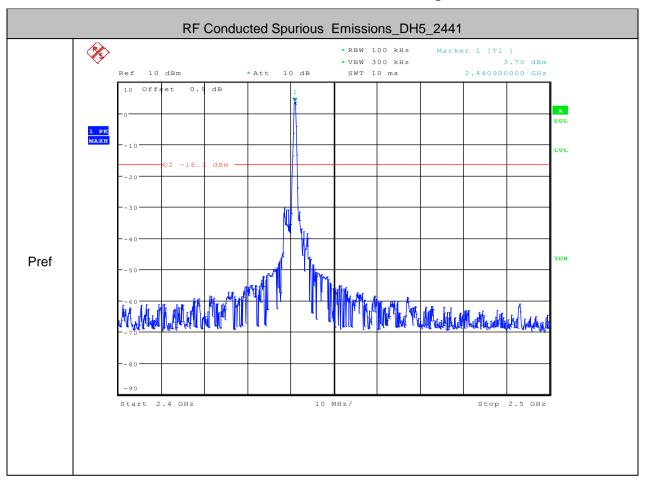




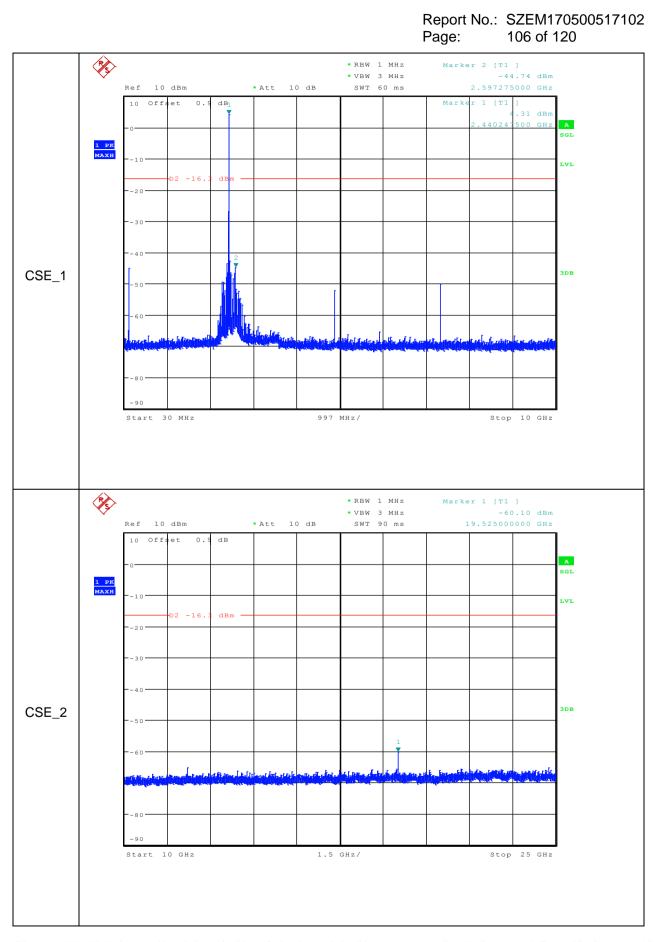
Report No.: SZEM170500517102 104 of 120 Page: × \* RBW 1 MHz Marker 2 [T1 ] ★ VBW 3 MHz -44.72 dBm Ref 10 dBm \* Att 10 dB SWT 60 ms 2.558641250 GHz Off dB 10 et ο. Mark 82 dBr 000 GH: 1 PK MAXH CSE\_1 308 30 MHz Stop 10 GHz Start 997 MHz/ × \* RBW 1 MHz Marker 1 [T1 ] \* VBW 3 MHz -61.55 dBm Ref 10 dBm \* Att 10 dB SWT 90 ms 19.221250000 GHz 10 Off et Ο. dB 1 PK MAXH vi 3DB CSE 2 Start 10 GHz 1.5 GHz/ Stop 25 GHz



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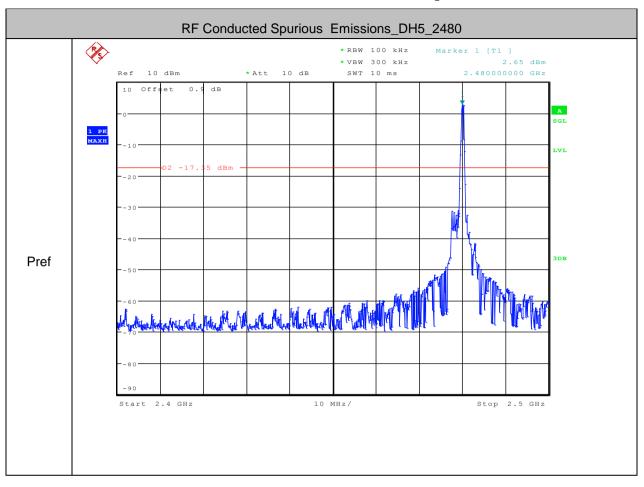




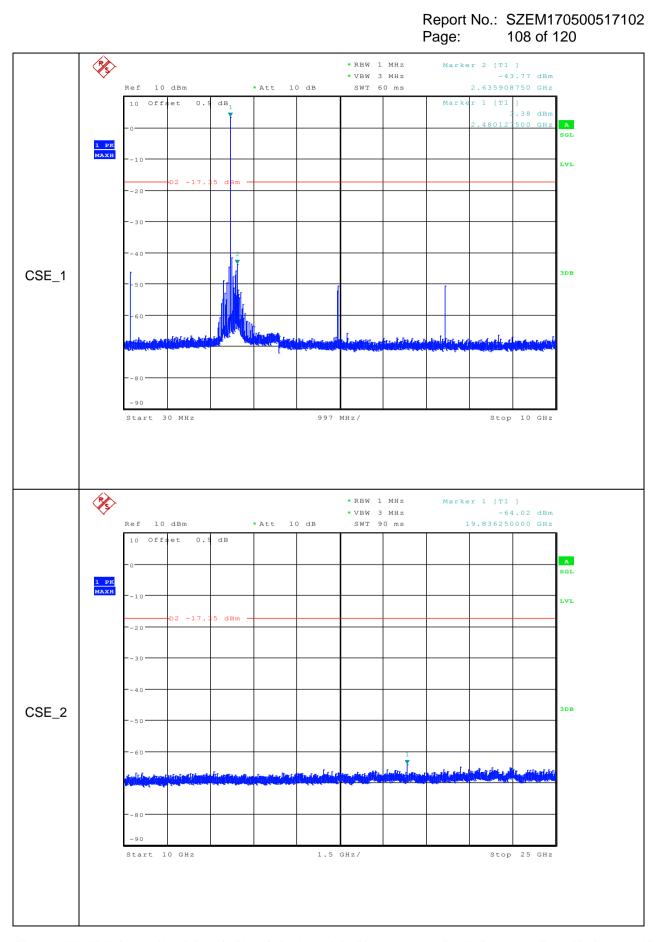




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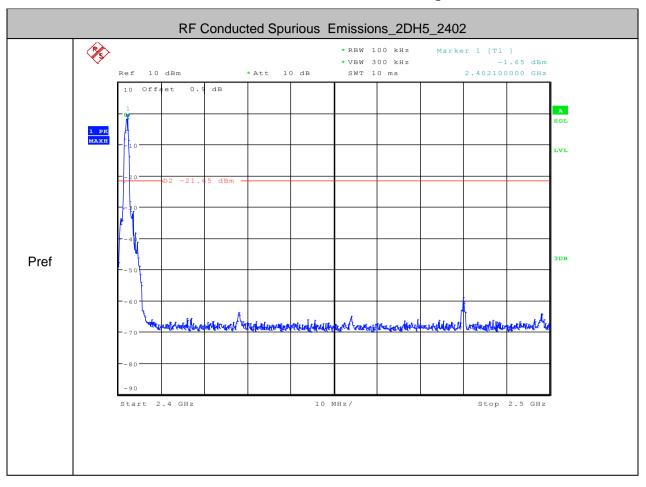








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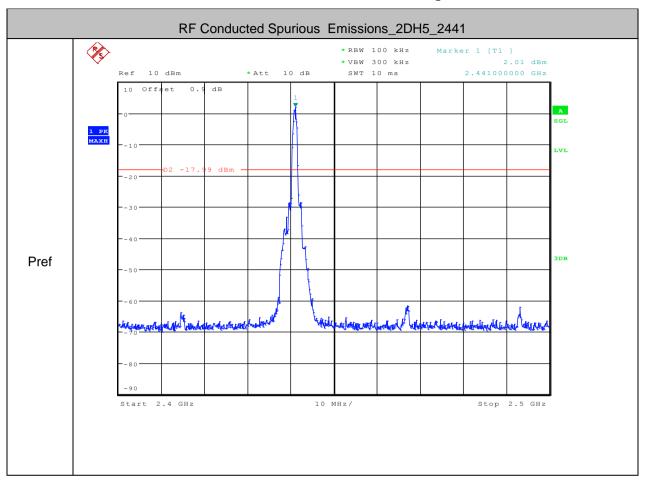




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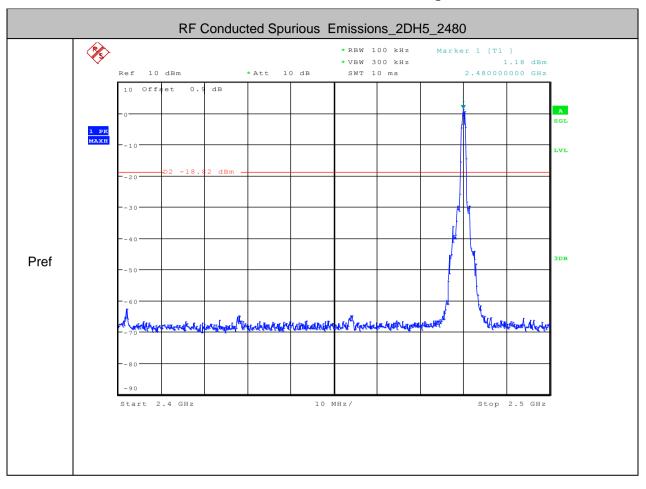




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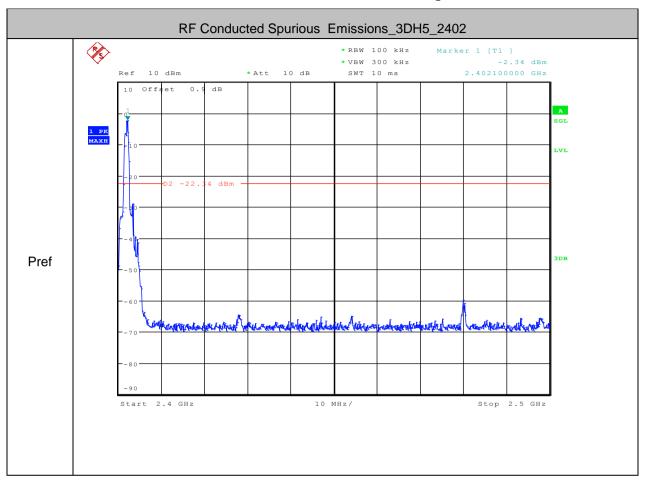




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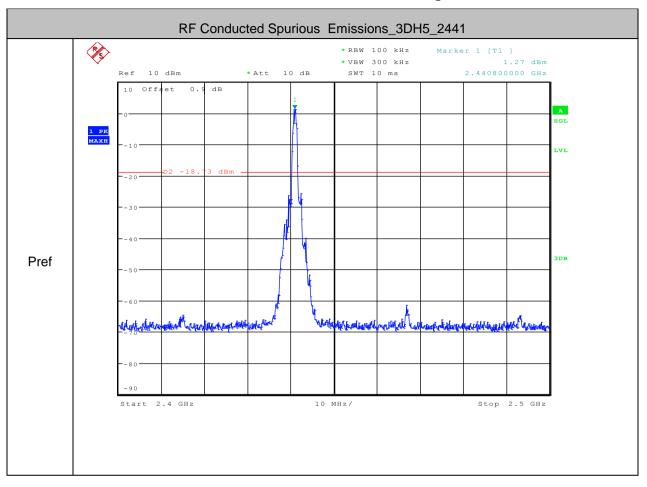




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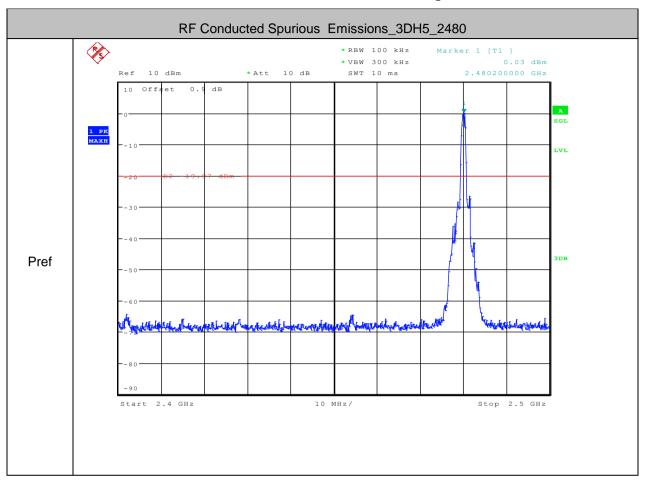




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