

Report No.: SZEM201101192802

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# TEST REPORT

Application No.: SZEM2011011928CR

**Applicant:** SZ DJI TECHNOLOGY CO., LTD.

Address of Applicant: 14th floor, West Wing, Skyworth Semiconductor Design Building NO.18

Gaoxin South 4th Ave, Nanshan District, Shenzhen, Guangdong, China

Manufacturer: SZ DJI TECHNOLOGY CO., LTD.

Address of Manufacturer: 14th floor, West Wing, Skyworth Semiconductor Design Building NO.18

Gaoxin South 4th Ave, Nanshan District, Shenzhen, Guangdong, China

**Equipment Under Test (EUT):** 

EUT Name: DJI MINI SE

Model No.: MT2SS5, MT2SS5A ♣

Please refer to section 2 of this report which indicates which model was

actually tested and which were electrically identical.

Trade Mark: DJI

FCC ID: SS3-MT2SS52010

Standard(s): 47 CFR Part 15, Subpart E 15.407

**Date of Receipt:** 2020-11-24

**Date of Test:** 2020-12-04 to 2020-12-24

**Date of Issue:** 2020-12-26

Test Result: Pass\*

Keny Xu EMC Laboratory Manager

Ceny. Ku



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<sup>\*</sup> In the configuration tested, the EUT complied with the standards specified above.



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	Revision Record						
Version	Version Chapter Date Modifier Rema						
01		2020-12-26		Original			

Authorized for issue by:		
	Hany Ulu	
	Harry Wu/Project Engineer	-
	EvicFu	
	Eric Fu/Reviewer	



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#### **Test Summary** 2

Radio Spectrum Technical Requirement						
Item	Standard	Method	Requirement	Result		
Antenna Requirement	47 CFR Part 15, Subpart E 15.407	N/A	47 CFR Part 15, Subpart C 15.203	Pass		
Transmission in the Absence of Data	47 CFR Part 15, Subpart E 15.407	N/A	47 CFR Part 15, Subpart C 15.407 (c)	Pass		

Radio Spectrum Matter Part						
Item	Standard	Method	Requirement	Result		
Duty Cycle	47 CFR Part 15, Subpart E 15.407	KDB 789033 II B 1	KDB 789033 D02 II B 1	Pass		
99% Bandwidth	47 CFR Part 15, Subpart E 15.407	KDB 789033 II D	N/A	Pass		
26dB Emission bandwidth	47 CFR Part 15, Subpart E 15.407	KDB 789033 D02 II C 1	47 CFR Part 15, Subpart C 15.407 (a)	Pass		
Minimum 6 dB bandwidth (5.725- 5.85 GHz band)	47 CFR Part 15, Subpart E 15.407	KDB 789033 D02 II C 2	47 CFR Part 15, Subpart C 15.407 (e)	Pass		
Maximum Conducted output power	47 CFR Part 15, Subpart E 15.407	KDB 789033 D02 II E	47 CFR Part 15, Subpart C 15.407 (a)	Pass		
Peak Power spectrum density	47 CFR Part 15, Subpart E 15.407	KDB 789033 D02 II F	47 CFR Part 15, Subpart C 15.407 (a)	Pass		
Radiated Emissions	47 CFR Part 15, Subpart E 15.407	KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & 15.407(b)	Pass		
Radiated Emissions which fall in the restricted bands	47 CFR Part 15, Subpart E 15.407	KDB 789033 D02 II G	47 CFR Part 15, Subpart C 15.209 & 15.407(b)	Pass		
Frequency Stability	47 CFR Part 15, Subpart E 15.407	ANSI C63.10 (2013) Section 6.8	47 CFR Part 15, Subpart C 15.407 (g)	Pass		

#### **Declaration of EUT Family Grouping:**

Model No.: MT2SS5, MT2SS5A

Only the model MT2SS5 was tested, since according to the declaration from the applicant, the electrical circuit design, layout, components used, internal wiring and functions were identical for the above models, with only difference on model No.



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## 4 General Information

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

Power Supply:	DC 7.7V Rechargeable Battery
	Model:BWX161-2250-7.7
Operating Frequency:	5745MHz-5825MHz
Modulation Type:	OFDM
Bandwidth:	5MHz, 20MHz
Channel Spacing	20MHz
Channel number:	5
Antenna Type:	FPC Antenna
Antenna Gain:	Antenna 1& 2:3.5dBi
Remark:	Antenna 1 & 2 can not simultaneous transmit, two Antennas were tested, only worst case (Antenna 2) was recorded in the report

#### 4.2 Cable

Cable	Length	Shielding	Core
Type C Cable	0.5 meters	Unshielded	Non-Core

#### 4.3 Description of Support Units

Description	Manufacturer Model No.		Serial No.			
		-				
The EUT has been tested as an independent unit.						



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## 4.4 Measurement Uncertainty

Test Item	Measurement Uncertainty		
Duty Cycle	± 0.37%		
99% Bandwidth	± 3%		
26dB Emission bandwidth	± 3%		
Minimum 6 dB bandwidth (5.725-5.85 GHz band )	± 3%		
Maximum Conducted output power	± 0.75dB		
Peak Power spectrum density	± 2.84dB		
Radiated Emissions	± 4.8dB		
Radiated Emissions which fall in the restricted bands	± 4.5dB (below 1GHz); ± 4.8dB (above 1GHz);		
Frequency Stability	± 7.25 x 10-8		

#### Remark:

The Ulab (lab Uncertainty) is less than Ucispr (CISPR Uncertainty), so the test results

- compliance is deemed to occur if no measured disturbance level exceeds the disturbance limit;
- non-compliance is deemed to occur if any measured disturbance level exceeds the disturbance limit.



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#### 4.5 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.

#### 4.6 Test Facility

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

#### • 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 3m Fully-anechoic chamber for above 1GHz, 10m Semi-anechoic chamber for below 1GHz, Shielded Room for Mains Port Conducted Interference Measurement and Telecommunication Port Conducted Interference Measurement of SGS-CSTC Standards Technical Services Co., Ltd. have been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-20026, R-14188, C-12383 and T-11153 respectively.

#### • FCC -Designation Number: CN1178

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized as an accredited testing laboratory.

Designation Number: CN1178. Test Firm Registration Number: 406779.

#### • Innovation, Science and Economic Development Canada

SGS-CSTC Standards Technical Services Co., Ltd., Shenzhen EMC Laboratory has been recognized by ISED as an accredited testing laboratory.

CAB identifier: CN0006.

IC#: 4620C.

#### 4.7 Deviation from Standards

None

#### 4.8 Abnormalities from Standard Conditions

None



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# 5 Equipment List

Duty Cycle					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2020-04-01	2021-03-31
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50- 1	SEM021-09	2020-05-21	2021-05-20
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24

99% Bandwidth					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2020-04-01	2021-03-31
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50- 1	SEM021-09	2020-05-21	2021-05-20
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2020-04-01	2021-03-31
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50- 1	SEM021-09	2020-05-21	2021-05-20



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Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24
Chamber	GIIIDH				

Minimum 6 dB bandwid	th (5.725-5.85 GHz ba	ınd )			
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2020-04-01	2021-03-31
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50- 1	SEM021-09	2020-05-21	2021-05-20
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24

Maximum Conducted or	utput power				
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2020-04-01	2021-03-31
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50- 1	SEM021-09	2020-05-21	2021-05-20

Peak Power spectrum d	ensity				
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23
Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2020-04-01	2021-03-31
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50- 1	SEM021-09	2020-05-21	2021-05-20
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24



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Radiated Emissions					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018-03-13	2021-03-12
EXA Signal Analyzer	Agilent Technologies Inc	N9010A	SEM004-12	2020-04-09	2021-04-08
Horn Antenna	Rohde&Schwarz	HF907	SEM003-07	2018-04-13	2021-04-12
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2020-09-23	2021-09-22
Measurement Software	AUDIX	e3 V8.2014-6- 27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2020-07-10	2021-07-09

Radiated Emissions (30MHz-1GHz)					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
10m Semi-Anechoic Chamber	SAEMC	FSAC1018	SEM001-03	2018-03-31	2021-03-30
MXE EMI receiver	KEYSIGHT	N9038A	SEM004-16	2020-11-02	2021-11-01
Trilog-Broadband Antenna	Schwarzbeck	VULB9168	SEM003-18	2019-08-08	2022-08-07
Pre-amplifier	Sonoma Instrument Co	310N	SEM005-04	2020-04-09	2021-04-08
Measurement Software	AUDIX	e3 V8.2014-6- 27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM029-01	2020-07-10	2021-07-09

Radiated Emissions wh	Radiated Emissions which fall in the restricted bands					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date	
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018-03-13	2021-03-12	
EXA Signal Analyzer	Agilent Technologies Inc	N9010A	SEM004-12	2020-04-09	2021-04-08	
Horn Antenna	Rohde&Schwarz	HF907	SEM003-07	2018-04-13	2021-04-12	
Pre-Amplifier	Compliance Directions Systems Inc.	PAP-0126	SEM004-11	2020-09-23	2021-09-22	
Measurement Software	AUDIX	e3 V8.2014-6- 27	N/A	N/A	N/A	
Coaxial Cable	SGS	N/A	SEM026-01	2020-07-10	2021-07-09	

Frequency Stability					
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Shielding Room	SAEMC	MSR733	SEM001-09	2019-06-13	2022-06-12
DC Power Supply	Rohde & Schwarz	NGSM 32/10	SEM011-04	2020-03-24	2021-03-23



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Spectrum Analyzer	Rohde & Schwarz	FSU43	SEM004-08	2020-04-01	2021-03-31
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2020-09-23	2021-09-22
Measurement Software	TST	TST PASS V1.0.5	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM031-02	2020-07-10	2021-07-09
Attenuator	Huber+Suhner	6620_SMA-50- 1	SEM021-09	2020-05-21	2021-05-20
Programmable Temperature & Humidity Chamber	Votsch Industrietechnik GmbH	VT 4002	SEM002-15	2020-03-25	2021-03-24

General used equipmen	t				
Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	ZJ1-2B	SEM002-04	2020-09-15	2021-09-14
Humidity/ Temperature Indicator	Mingle	N/A	SEM002-08	2020-09-15	2021-09-14
Barometer	Changchun Meteorological Industry Factory	DYM3	SEM002-01	2020-04-07	2021-04-06



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# **Radio Spectrum Technical Requirement**

#### 6.1 Antenna Requirement

#### 6.1.1 Test Requirement:

47 CFR Part 15, Subpart C 15.203

#### 6.1.2 Conclusion

#### Standard Requirement:

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.

#### **EUT Antenna:**

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antennas are Antenna 1& 2:3.5dBi.

Antenna location: Refer to internal photo.





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#### 6.2 Transmission in the Absence of Data

#### 6.2.1 Test Requirement:

47 CFR Part 15, Subpart C 15.407 (c)

#### 6.2.2 Conclusion

#### Standard Requirement:

The device shall automatically discontinue transmission in case of either absence of information to transmit or operational failure. These provisions are not intended to preclude the transmission of control or signalling information or the use of repetitive codes used by certain digital technologies to complete frame or burst intervals.

Applicants shall include in their application for equipment authorization a description of how this requirement is met.

#### **EUT Details:**

RF chip support automatically discontinue transmission in case of either absence of information to transmit or operational failure, if the chip detect absence of information to transmit or operational failure, it will be automatically shut off.



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# **Radio Spectrum Matter Test Results**

#### 7.1 Duty Cycle

Test Requirement KDB 789033 D02 II B 1 Test Method: KDB 789033 II B 1

#### 7.1.1 E.U.T. Operation

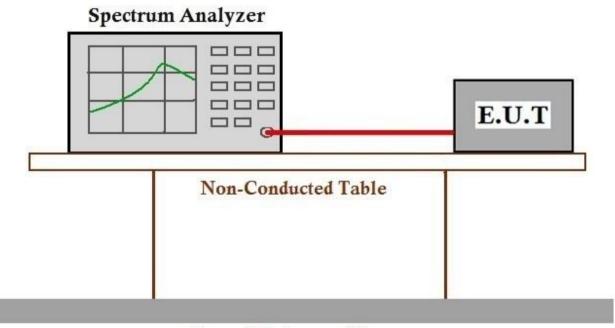
Operating Environment:

Temperature: 26.7 °C Humidity: 42.7 % RH Atmospheric Pressure: 1010 mbar

7.1.2 Test Mode Description

Pre-scan Final test		Description
Final test	00	TX mode_Keep the EUT in transmitting mode.

#### 7.1.3 Test Setup Diagram



Ground Reference Plane

#### 7.1.4 Measurement Procedure and Data

Please Refer To Appendix For Details



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#### 7.2 99% Bandwidth

Test Requirement N/A

Test Method: KDB 789033 II D

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

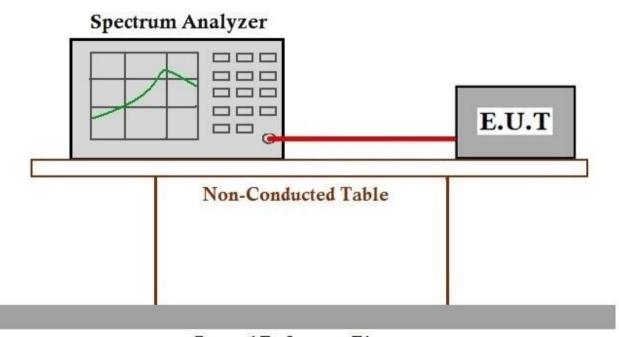
**Operating Environment:** 

Temperature: 26.7 °C Humidity: 42.7 % RH Atmospheric Pressure: 1010 mbar

#### 7.2.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in transmitting mode.

#### 7.2.3 Test Setup Diagram



#### Ground Reference Plane

#### 7.2.4 Measurement Procedure and Data

Please Refer To Appendix For Details



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#### 7.3 26dB Emission bandwidth

Test Requirement 47 CFR Part 15, Subpart C 15.407 (a)

Test Method: KDB 789033 D02 II C 1

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

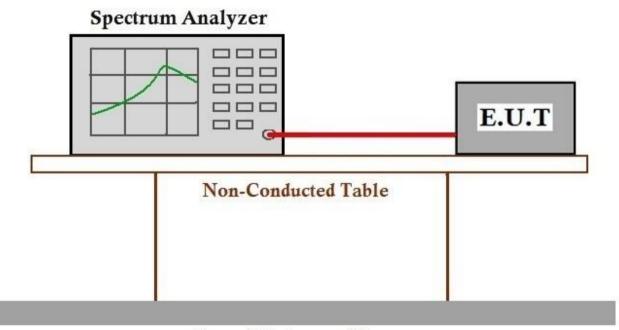
**Operating Environment:** 

Temperature: 26.7 °C Humidity: 42.8 % RH Atmospheric Pressure: 1010 mbar

#### 7.3.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in transmitting mode.

#### 7.3.3 Test Setup Diagram



#### Ground Reference Plane

#### 7.3.4 Measurement Procedure and Data

Please Refer To Appendix For Details



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#### 7.4 Minimum 6 dB bandwidth (5.725-5.85 GHz band )

Test Requirement 47 CFR Part 15, Subpart C 15.407 (e)

Test Method: KDB 789033 D02 II C 2

#### Limit:

Frequency band(MHz)	Limit
5725-5850	≥500 kHz

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

Operating Environment:

Temperature: 26.7 °C Humidity: 42.9 % RH Atmospheric Pressure: 1010 mbar

#### 7.4.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in transmitting mode.

#### 7.4.3 Test Setup Diagram

# Spectrum Analyzer E.U.T Non-Conducted Table

#### Ground Reference Plane

#### 7.4.4 Measurement Procedure and Data

#### Please Refer To Appendix For Details



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#### 7.5 Maximum Conducted output power

Test Requirement 47 CFR Part 15, Subpart C 15.407 (a)

Test Method: KDB 789033 D02 II E

#### Limit:

Frequen	cy band(MHz)	Limit				
E1E0	F2F0	≤1W(30dBm) for master device				
5150-	5250	≤250mW(24dBm) for client device				
5250-	5350	≤250mW(24dBm) for client device or 11dBm+10logB*				
5470-	5725	≤250mW(24dBm) for client device or 11dBm+10logB*				
5725-	5850	≤1W(30dBm)				
Remark:	* Where B is the	e 26dB emission bandwidth in MHz.				
		conducted output power must be measured over any interval ransmission using instrumentation calibrated in terms of an voltage.				

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

Operating Environment:

Temperature: 26.7 °C Humidity: 42.8 % RH Atmospheric Pressure: 1010 mbar

7.5.2 Test Mode Description

7.0.2 103010	ouc Dc.	son phon
Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in transmitting mode.



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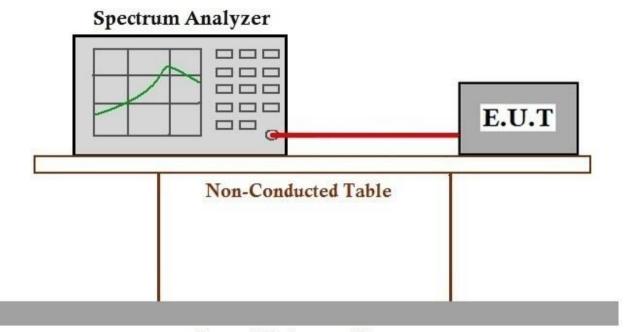
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#### 7.5.3 Test Setup Diagram



Ground Reference Plane

#### 7.5.4 Measurement Procedure and Data

Please Refer To Appendix For Details



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#### 7.6 Peak Power spectrum density

Test Requirement 47 CFR Part 15, Subpart C 15.407 (a)

Test Method: KDB 789033 D02 II F

#### Limit:

Frequenc	y band(MHz)	Limit		
E1E0 E	250	≤17dBm in 1MHz for master device		
5150-5	250	≤11dBm in 1MHz for client device		
5250-5	350	≤11dBm in 1MHz for client device		
5470-5	725	≤11dBm in 1MHz for client device		
5725-5	850	≤30dBm in 500 kHz		
Remark:		power spectral density is measured as a conducted emission ection of a calibrated test instrument to the equipment under		

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

Operating Environment:

Temperature: 26.7 °C Atmospheric Pressure: 1010 mbar Humidity: 42.8 % RH

7.6.2 Test Mode Description

7.0.2 103010	ioac Dc.	somption
Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode Keep the EUT in transmitting mode.



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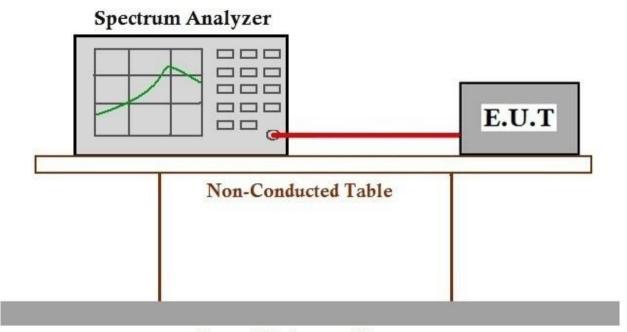
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#### 7.6.3 Test Setup Diagram



Ground Reference Plane

#### 7.6.4 Measurement Procedure and Data

Please Refer To Appendix For Details



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#### 7.7 Radiated Emissions

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.407(b)

Test Method: KDB 789033 D02 II G

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

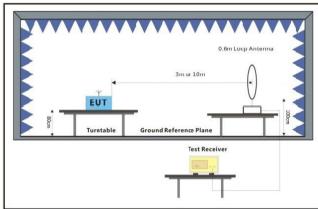
**Operating Environment:** 

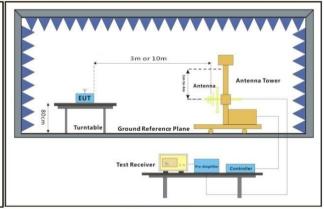
Humidity: 52.1 % RH Temperature: 23.5 °C Atmospheric Pressure: 1010 mbar

#### 7.7.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in transmitting mode.

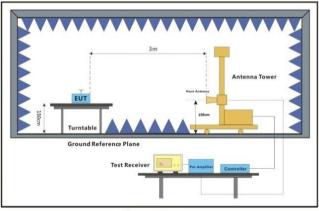
#### 7.7.3 Test Setup Diagram





Below 30MHz

30MHz-1GHz



Above 1GHz



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#### 7.7.4 Measurement Procedure and Data

- a. 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.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. 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.
- d. 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.
- e. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.
- f. 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 or average method as specified and then reported in a data sheet.
- g. Test the EUT in the lowest channel, the middle channel, the Highest channel.
- h. 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.
- i. Repeat above procedures until all frequencies measured was complete.

#### Remark:

- 1. Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor
- 2. Scan from 18GHz to 40GHz, the disturbance above 18GHz was very low. The points marked on above plots are the highest emissions could be found when testing, so only above points 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. For the emissions whose peak level is lower than the average limit, only the peak measurement is shown in the report.



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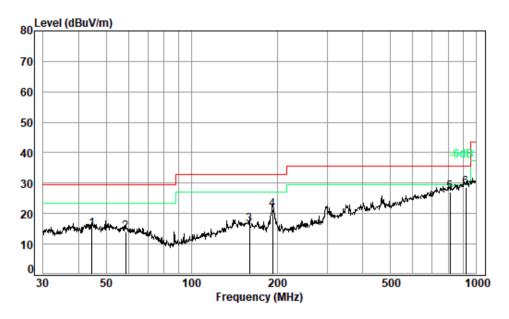


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Below 1GHz(Worst Case)

Test Mode: 00; Polarity: Horizontal; Modulation:OFDM; Bandwidth:5MHz; Channel:Low



Condition: 10m HORIZONTAL

: 11928CR Job No.

Test Mode: 00

	nouc. oo								
		Ant	Preamp	Cable	Read		Limit	0ver	
	Freq	Factor	Factor	Loss	Level	Level	Line	Limit	Remark
	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	44.587	20.36	32.50	0.94	26.17	14.97	29.50	-14.53	QP
2	58.613	19.51	32.49	1.04	26.01	14.07	29.50	-15.43	QP
3	159.784	19.81	32.42	1.52	27.55	16.46	33.00	-16.54	QP
4	192.500	16.52	32.40	1.60	35.59	21.31	33.00	-11.69	QP
5	810.265	28.60	32.05	3.34	27.21	27.10	35.60	-8.50	QP
6 pr	922.516	29.80	31.39	3.50	26.57	28.48	35.60	-7.12	OP



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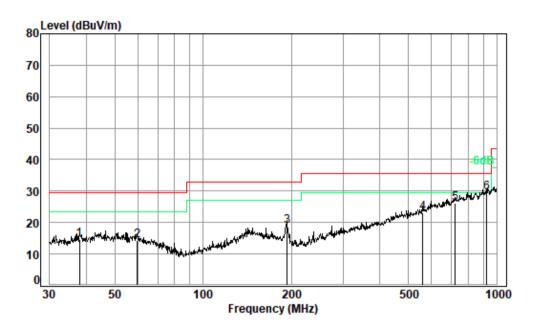
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Test Mode: 00; Polarity: Vertical; Modulation:OFDM; Bandwidth:5MHz; Channel:Low



Condition: 10m VERTICAL

Job No. : 11928CR

Test Mode: 00

	Freq		Preamp Factor						Remark
-	MHz	dB/m	dB	dB	dBuV	dBuV/m	dBuV/m	dB	
1	37.945	19.99	32.50	0.92	26.32	14.73	29.50	-14.77	QP
2	59.649	19.20	32.49	1.05	26.56	14.32	29.50	-15.18	QP
3	193.100	16.51	32.40	1.60	33.13	18.84	33.00	-14.16	QP
4	560.693	25.01	32.30	3.06	27.41	23.18	35.60	-12.42	QP
5	721.726	27.57	32.25	3.32	27.46	26.10	35.60	-9.50	QP
6 pp	925.756	29.80	31.36	3.50	27.42	29.36	35.60	-6.24	QP



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The test was performed at a 10m test site. According to below formulate and the test data at 10m test distance,

 $L_3 / L_{10} = D_{10} / D_3$ 

Note:

L<sub>3</sub>: Level @ 3m distance. Unit: uV/m; L<sub>10</sub>: Level @ 10m distance. Unit: uV/m;

D<sub>3</sub>: 3m distance. Unit: m D<sub>10</sub>: 10m distance. Unit: m

The level at 3m test distance is below:

Frequency (MHz)	Level @ 10m (dBuV/m)	Level @ 10m (uV/m)	Level @ 3m (uV/m)	Level @ 3m (dBuV/m)	Limit @ 3m (dBuV/m)	Margin (dB)	Ant. Polarization
37.95	14.73	5.45	18.17	25.19	40.00	-14.81	V
59.65	14.32	5.20	17.33	24.78	40.00	-15.22	V
193.10	18.84	8.75	29.17	29.30	43.50	-14.20	V
560.69	23.18	14.42	48.07	33.64	46.00	-12.36	V
721.73	26.10	20.18	67.28	36.56	46.00	-9.44	V
925.76	29.36	29.38	97.92	39.82	46.00	-6.18	V
44.59	14.97	5.60	18.68	25.43	40.00	-14.57	Н
58.61	14.07	5.05	16.84	24.53	40.00	-15.47	Н
159.78	16.46	6.65	22.18	26.92	43.50	-16.58	Н
192.50	21.31	11.63	38.76	31.77	43.50	-11.73	Н
810.27	27.10	22.65	75.49	37.56	46.00	-8.44	Н
922.52	28.48	26.55	88.49	38.94	46.00	-7.06	Н



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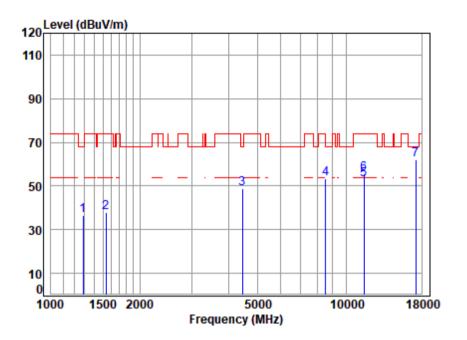


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#### Above 1GHz

Test Mode: 00; Polarity: Horizontal; Modulation:OFDM; Bandwidth:5MHz; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL Job No : 11928CR/11927CR

Mode : 5745 TX SE

Note: 5M

		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1285.904	2.92	24.96	39.82	48.40	36.46	68.20	-31.74	peak
2	1533.841	3.29	25.96	39.97	48.39	37.67	74.00	-36.33	peak
3	4456.315	6.72	33.53	41.84	50.20	48.61	68.20	-19.59	peak
4	8514.456	10.11	37.01	39.77	45.90	53.25	68.20	-14.95	peak
5	11490.000	11.62	37.90	37.86	41.21	52.87	54.00	-1.13	Average
6	11490.000	11.62	37.90	37.86	43.97	55.63	74.00	-18.37	peak
7	17235.000	14.09	42.74	40.28	45.44	61.99	68.20	-6.21	peak



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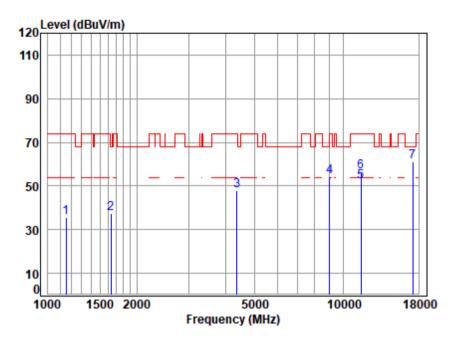
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Test Mode: 00; Polarity: Vertical; Modulation:OFDM; Bandwidth:5MHz; Channel:Low



Site : chamber

Condition: 3m VERTICAL Job No : 11928CR/11927CR

Mode : 5745 TX SE

Note : 5M

		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
	4450 440			20.70		35 50	74.00	20.44	
1	1152.148	2.6/	24.3/	39.72	48.2/	35.59	/4.00	-38.41	peak
2	1634.543	3.38	26.40	40.03	47.55	37.30	68.20	-30.90	peak
3	4367.058	6.64	33.37	41.75	49.66	47.92	74.00	-26.08	peak
4	8995.123	10.30	37.20	38.86	45.43	54.07	68.20	-14.13	peak
5	11490.000	11.62	37.90	37.86	40.42	52.08	54.00	-1.92	Average
6	11490.000	11.62	37.90	37.86	44.90	56.56	74.00	-17.44	peak
7	17235.000	14.09	42.74	40.28	44.47	61.02	68.20	-7.18	peak



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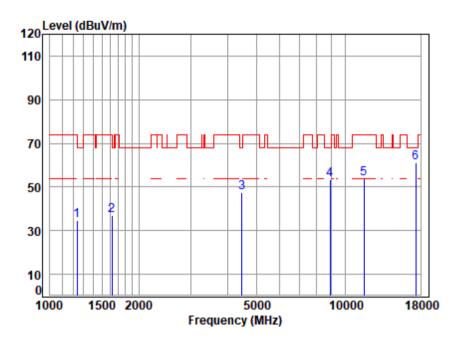
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Report No.: SZEM201101192802

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Test Mode: 00; Polarity: Horizontal; Modulation:OFDM; Bandwidth:5MHz; Channel:middle



Site : chamber

Condition: 3m HORIZONTAL Job No : 11928CR/11927CR

Mode : 5785 TX SE

Note: 5M

		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1234.909	2.83	24.74	39.78	46.86	34.65	74.00	-39.35	peak
2	1620.431	3.36	26.34	40.02	47.23	36.91	74.00	-37.09	peak
3	4469.214	6.73	33.55	41.85	49.02	47.45	68.20	-20.75	peak
4	8891.725	10.26	37.16	39.05	44.85	53.22	68.20	-14.98	peak
5	11570.000	11.72	37.87	37.90	42.30	53.99	74.00	-20.01	peak
6	17355.000	14.06	42.81	40.25	44.63	61.25	68.20	-6.95	peak



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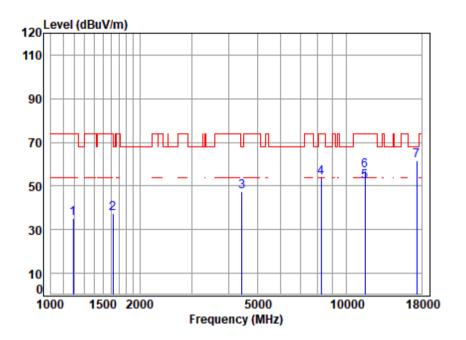
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Report No.: SZEM201101192802

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Test Mode: 00; Polarity: Vertical; Modulation:OFDM; Bandwidth:5MHz; Channel:middle



Site : chamber

Condition: 3m VERTICAL

Job No : 11928CR/11927CR

Mode : 5785 TX SE

Note : 5M

occ	. 511								
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1189.368	2./4	24.54	39.75	47.38	34.91	74.00	-39.09	peak
2	1625.121	3.37	26.36	40.02	47.80	37.51	74.00	-36.49	peak
3	4430.628	6.70	33.48	41.81	49.00	47.37	68.20	-20.83	peak
4	8224.200	9.73	36.84	40.34	47.73	53.96	74.00	-20.04	peak
5	11570.000	11.72	37.87	37.90	40.41	52.10	54.00	-1.90	Average
6	11570.000	11.72	37.87	37.90	45.21	56.90	74.00	-17.10	peak
7	17355 000	14 96	42 81	40 25	44 99	61 61	68 20	-6 59	neak



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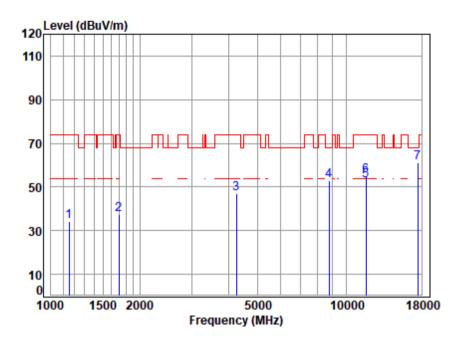
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Report No.: SZEM201101192802

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Test Mode: 00; Polarity: Horizontal; Modulation: OFDM; Bandwidth: 5MHz; Channel: High



Site : chamber

Condition: 3m HORIZONTAL Job No : 11928CR/11927CR

Mode : 5825 TX SE

: 5M Note

		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1152.148	2.67	24.37	39.72	46.99	34.31	74.00	-39.69	peak
2	1702.042	3.43	26.68	40.06	47.18	37.23	74.00	-36.77	peak
3	4242.641	6.52	33.15	41.64	49.16	47.19	74.00	-26.81	peak
4	8764.146	10.21	37.11	39.29	45.08	53.11	68.20	-15.09	peak
5	11650.000	11.82	37.84	37.94	41.28	53.00	54.00	-1.00	Average
6	11650.000	11.82	37.84	37.94	43.38	55.10	74.00	-18.90	peak
7	17475.000	14.02	42.89	40.23	44.63	61.31	68.20	-6.89	peak



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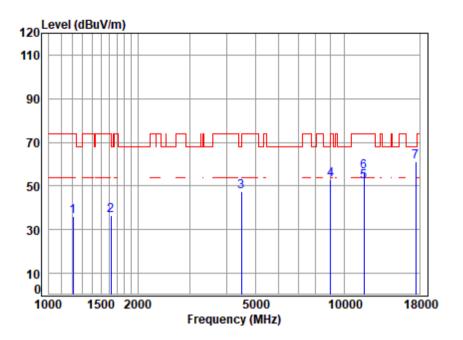
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Report No.: SZEM201101192802

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Test Mode: 00; Polarity: Vertical; Modulation:OFDM; Bandwidth:5MHz; Channel:High



Site : chamber

Condition: 3m VERTICAL

Job No : 11928CR/11927CR

Mode : 5825 TX SE

Note: 5M

	F			Preamp					Damanla
	Freq	LOSS	Factor	Factor	rever	rever	Line	Limit	Kemark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1206.682	2.78	24.62	39.76	48.30	35.94	74.00	-38.06	peak
2	1625.121	3.37	26.36	40.02	46.92	36.63	74.00	-37.37	peak
3	4495.125	6.76	33.59	41.87	49.18	47.66	68.20	-20.54	peak
4	8995.123	10.30	37.20	38.86	44.25	52.89	68.20	-15.31	peak
5	11650.000	11.82	37.84	37.94	40.28	52.00	54.00	-2.00	Average
6	11650.000	11.82	37.84	37.94	44.85	56.57	74.00	-17.43	peak
7	17475.000	14.02	42.89	40.23	44.51	61.19	68.20	-7.01	peak



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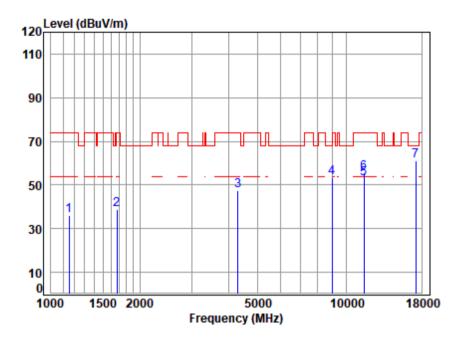
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Report No.: SZEM201101192802

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Test Mode: 00; Polarity: Horizontal; Modulation:OFDM; Bandwidth:20MHz; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL Job No : 11928CR/11927CR

Mode : 5745 TX SE

Note: 20M

		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1152.148	2.67	24.37	39.72	48.76	36.08	74.00	-37.92	peak
2	1672.779	3.41	26.56	40.05	48.69	38.61	74.00	-35.39	peak
3	4304.400	6.58	33.26	41.70	49.30	47.44	74.00	-26.56	peak
4	8943.274	10.28	37.18	38.95	44.91	53.42	68.20	-14.78	peak
5	11490.000	11.62	37.90	37.86	41.27	52.93	54.00	-1.07	Average
6	11490.000	11.62	37.90	37.86	43.86	55.52	74.00	-18.48	peak
7	17235.000	14.09	42.74	40.28	44.77	61.32	68.20	-6.88	peak



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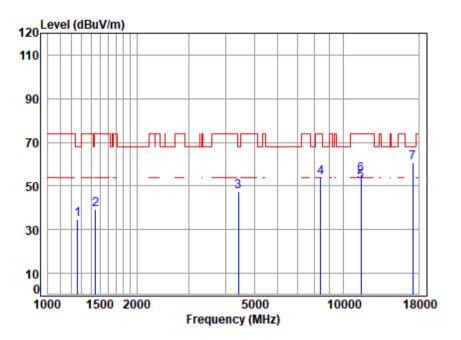
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Report No.: SZEM201101192802

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Test Mode: 00; Polarity: Vertical; Modulation:OFDM; Bandwidth:20MHz; Channel:Low



Site : chamber Condition: 3m VERTICAL

Job No : 11928CR/11927CR

Mode : 5745 TX SE

: 20M Note

		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1260.149	2.87	24.85	39.80	46.86	34.78	68.20	-33.42	peak
2	1447.688	3.18	25.61	39.92	50.45	39.32	74.00	-34.68	peak
3	4417.841	6.68	33.46	41.80	49.25	47.59	68.20	-20.61	peak
4	8392.292	9.96	36.94	40.01	46.91	53.80	74.00	-20.20	peak
5	11490.000	11.62	37.90	37.86	40.35	52.01	54.00	-1.99	Average
6	11490.000	11.62	37.90	37.86	43.36	55.02	74.00	-18.98	peak
7	17235.000	14.09	42.74	40.28	44.14	60.69	68.20	-7.51	peak



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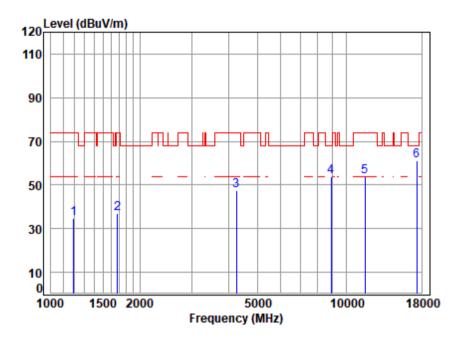
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Report No.: SZEM201101192802

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Test Mode: 00; Polarity: Horizontal; Modulation:OFDM; Bandwidth:20MHz; Channel:middle



Site : chamber

Condition: 3m HORIZONTAL Job No : 11928CR/11927CR

Mode : 5785 TX SE

Note: 20M

		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1192.811	2.75	24.56	39.75	47.25	34.81	74.00	-39.19	peak
2	1677.621	3.41	26.58	40.05	47.03	36.97	74.00	-37.03	peak
3	4242.641	6.52	33.15	41.64	49.29	47.32	74.00	-26.68	peak
4	8891.725	10.26	37.16	39.05	45.55	53.92	68.20	-14.28	peak
5	11570.000	11.72	37.87	37.90	42.14	53.83	74.00	-20.17	peak
6	17355.000	14.06	42.81	40.25	44.72	61.34	68.20	-6.86	peak



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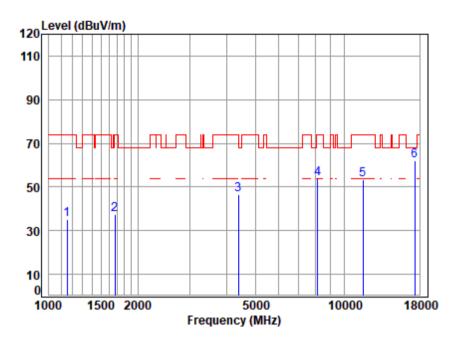
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Test Mode: 00; Polarity: Vertical; Modulation:OFDM; Bandwidth:20MHz; Channel:middle



Site : chamber Condition: 3m VERTICAL

Job No : 11928CR/11927CR

Mode : 5785 TX SE

Note: 20M

		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1152.148	2.67	24.37	39.72	47.92	35.24	74.00	-38.76	peak
2	1672.779	3.41	26.56	40.05	47.50	37.42	74.00	-36.58	peak
3	4379.699	6.65	33.39	41.77	48.45	46.72	74.00	-27.28	peak
4	8129.664	9.60	36.78	40.53	47.83	53.68	74.00	-20.32	peak
5	11570.000	11.72	37.87	37.90	41.87	53.56	74.00	-20.44	peak
6	17355.000	14.06	42.81	40.25	45.63	62.25	68.20	-5.95	peak



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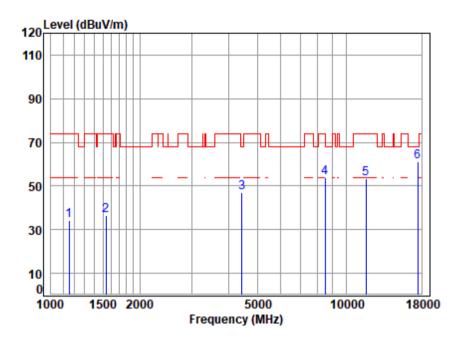
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Test Mode: 00; Polarity: Horizontal; Modulation:OFDM; Bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL Job No : 11928CR/11927CR

Mode : 5825 TX SE

Note: 20M

	Freq			Preamp Factor					Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1152.148	2.67	24.37	39.72	46.98	34.30	74.00	-39.70	peak
2	1538.281	3.29	25.98	39.97	47.14	36.44	74.00	-37.56	peak
3	4430.628	6.70	33.48	41.81	48.65	47.02	68.20	-21.18	peak
4	8489.882	10.09	36.99	39.81	46.69	53.96	74.00	-20.04	peak
5	11650.000	11.82	37.84	37.94	41.89	53.61	74.00	-20.39	peak
6	17475.000	14.02	42.89	40.23	44.25	60.93	68.20	-7.27	peak



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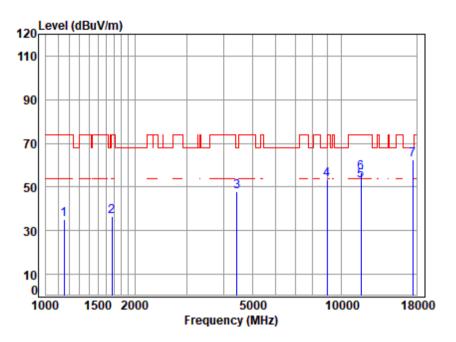
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Test Mode: 00; Polarity: Vertical; Modulation:OFDM; Bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m VERTICAL

Job No : 11928CR/11927CR Mode : 5825 TX SE

: 20M Note

		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	1152.148	2.67	24.37	39.72	47.73	35.05	74.00	-38.95	peak
2	1672.779	3.41	26.56	40.05	46.70	36.62	74.00	-37.38	peak
3	4443.453	6.71	33.50	41.82	49.49	47.88	68.20	-20.32	peak
4	8943.274	10.28	37.18	38.95	44.79	53.30	68.20	-14.90	peak
5	11650.000	11.82	37.84	37.94	41.28	53.00	54.00	-1.00	Average
6	11650.000	11.82	37.84	37.94	44.66	56.38	74.00	-17.62	peak
7	17475.000	14.02	42.89	40.23	45.65	62.33	68.20	-5.87	peak



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

Test Requirement 47 CFR Part 15, Subpart C 15.209 & 15.407(b)

Test Method: KDB 789033 D02 II G

#### 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

- \*(1) For transmitters operating in the 5.15-5.25 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (2) For transmitters operating in the 5.25-5.35 GHz band: All emissions outside of the 5.15-5.35 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (3) For transmitters operating in the 5.47-5.725 GHz band: All emissions outside of the 5.47-5.725 GHz band shall not exceed an e.i.r.p. of -27 dBm/MHz.
- (4) For transmitters operating in the 5.725-5.85 GHz band:
- (i) All emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

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

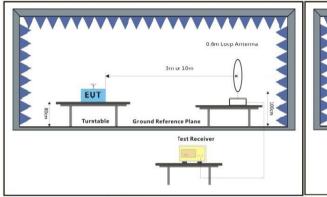
Operating Environment:

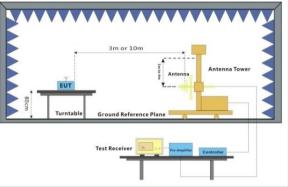
Temperature: 23.2 °C Humidity: 53.5 % RH Atmospheric Pressure: 1010 mbar

#### 7.8.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in transmitting mode.

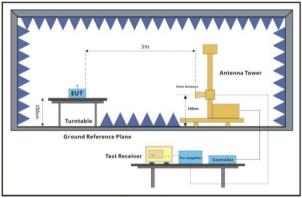
#### 7.8.3 Test Setup Diagram





Below 30MHz

30MHz-1GHz



Above 1GHz



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#### 7.8.4 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, guasi-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.

Remark: Level= Read Level+ Cable Loss+ Antenna Factor- Preamp Factor

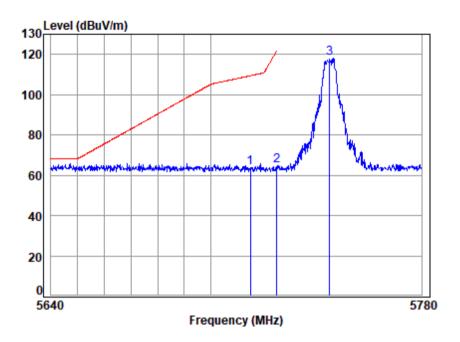




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Test Mode: 00; Polarity: Horizontal; Modulation:OFDM; Bandwidth:5MHz; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL Job No : 11928CR/11927CR Mode : 5745 Band edge

5M

		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5715.000	8.22	34.82	34.56	55.16	63.64	109.40	-45.76	peak
2	5725.000	8.22	34.83	34.56	56.40	64.89	122.20	-57.31	peak
3	5745.000	8.22	34.85	34.57	109.56	118.06			peak



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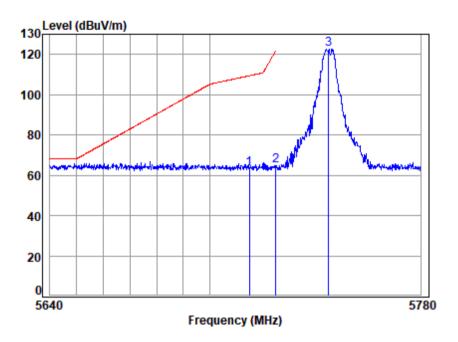
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Test Mode: 00; Polarity: Vertical; Modulation:OFDM; Bandwidth:5MHz; Channel:Low



Site : chamber Condition: 3m VERTICAL

Job No : 11928CR/11927CR Mode : 5745 Band edge

5M

		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5715.000	8.22	34.82	34.56	54.72	63.20	109.40	-46.20	peak
2	5725.000	8.22	34.83	34.56	56.40	64.89	122.20	-57.31	peak
3	5745.000	8.22	34.85	34.57	113.97	122.47			peak



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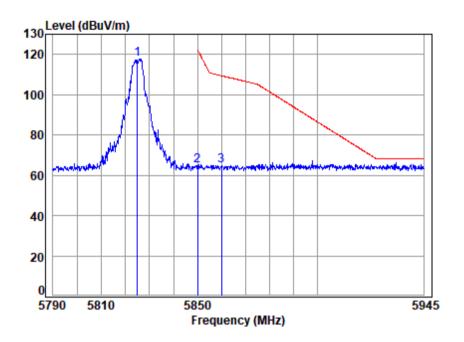
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Test Mode: 00; Polarity: Horizontal; Modulation: OFDM; Bandwidth: 5MHz; Channel: High



Site : chamber

Condition: 3m HORIZONTAL Job No : 11928CR/11927CR Mode : 5825 Band edge

5M

	. 3	Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	8.23	34.93	34.58	108.83	117.41			peak
2	5850.000	8.24	34.95	34.58	56.07	64.68	122.20	-57.52	peak
3	5860.000	8.24	34.96	34.58	56.38	65.00	109.40	-44.40	peak



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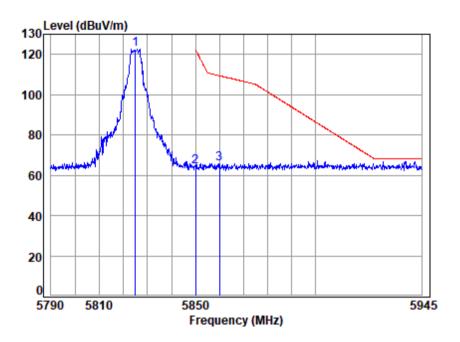
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Report No.: SZEM201101192802

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Test Mode: 00; Polarity: Vertical; Modulation:OFDM; Bandwidth:5MHz; Channel:High



Site : chamber

Condition: 3m VERTICAL

Job No : 11928CR/11927CR Mode : 5825 Band edge

	. 201								
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	8.23	34.93	34.58	114.23	122.81			peak
2	5850.000	8.24	34.95	34.58	55.75	64.36	122.20	-57.84	peak
3	5860.000	8.24	34.96	34.58	57.18	65.80	109.40	-43.60	peak



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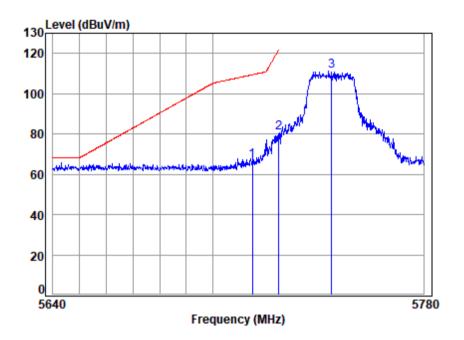
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Test Mode: 00; Polarity: Horizontal; Modulation:OFDM; Bandwidth:20MHz; Channel:Low



Site : chamber

Condition: 3m HORIZONTAL
Job No : 11928CR/11927CR
Mode : 5745 Band edge

: 20M

	Freq					Level			Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5715.000	8.22	34.82	34.56	58.10	66.58	109.40	-42.82	peak
2	5725.000	8.22	34.83	34.56	72.29	80.78	122.20	-41.42	peak
3	5745.000	8.22	34.85	34.57	102.90	111.40			peak



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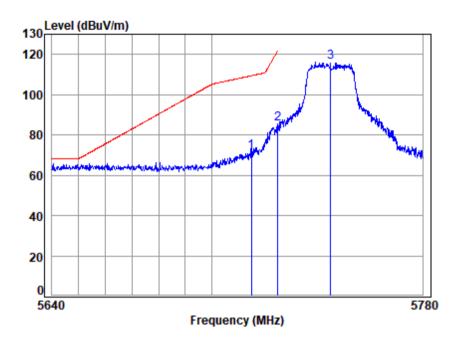
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Test Mode: 00; Polarity: Vertical; Modulation:OFDM; Bandwidth:20MHz; Channel:Low



Site : chamber Condition: 3m VERTICAL

Job No : 11928CR/11927CR Mode : 5745 Band edge

: 20M

		•							
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5715.000	8.22	34.82	34.56	63.16	71.64	109.40	-37.76	peak
2	5725.000	8.22	34.83	34.56	77.26	85.75	122.20	-36.45	peak
3	5745,000	8.22	34.85	34.57	107.50	116.00			neak



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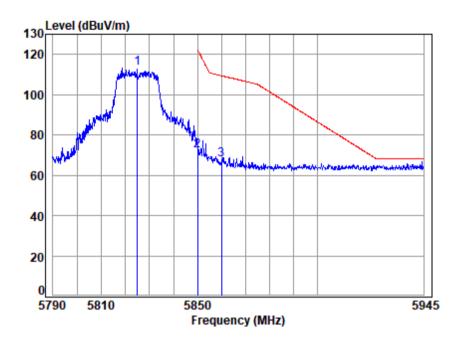
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Test Mode: 00; Polarity: Horizontal; Modulation:OFDM; Bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m HORIZONTAL Job No : 11928CR/11927CR Mode : 5825 Band edge

: 20M

		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	8.23	34.93	34.58	104.39	112.97			peak
2	5850.000	8.24	34.95	34.58	63.75	72.36	122.20	-49.84	peak
3	5860.000	8.24	34.96	34.58	59.07	67.69	109.40	-41.71	neak



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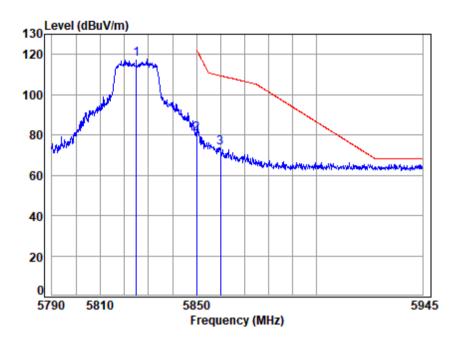
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Test Mode: 00; Polarity: Vertical; Modulation:OFDM; Bandwidth:20MHz; Channel:High



Site : chamber

Condition: 3m VERTICAL

Job No : 11928CR/11927CR Mode : 5825 Band edge

: 20M

		•							
		Cable	Ant	Preamp	Read		Limit	0ver	
	Freq	Loss	Factor	Factor	Level	Level	Line	Limit	Remark
	MHz	dB	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	5825.000	8.23	34.93	34.58	108.85	117.43			peak
2	5850.000	8.24	34.95	34.58	71.77	80.38	122.20	-41.82	peak
3	5860.000	8.24	34.96	34.58	65.09	73.71	109.40	-35.69	peak



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#### 7.9 Frequency Stability

Test Requirement 47 CFR Part 15, Subpart C 15.407 (g) Test Method: ANSI C63.10 (2013) Section 6.8

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

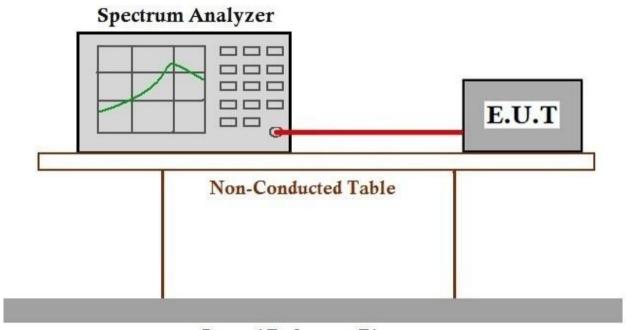
Operating Environment:

Temperature: 26.7 °C Humidity: 42.8 % RH Atmospheric Pressure: 1010 mbar

#### 7.9.2 Test Mode Description

Pre-scan / Final test	Mode Code	Description
Final test	00	TX mode_Keep the EUT in transmitting mode.

#### 7.9.3 Test Setup Diagram



Ground Reference Plane

#### 7.9.4 Measurement Procedure and Data

The applicant declares that the emissions are maintained within the band of operation under all conditions of normal operation as specified in the user's manual and meets Section 15.407(g) requirements.



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# 8 Test Setup Photo

Please refer to setup photos.

#### 9 EUT Constructional Details (EUT Photos)

Refer to Appendix - Photographs of EUT Constructional Details for SZEM2011011928CR



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# 10 Appendix

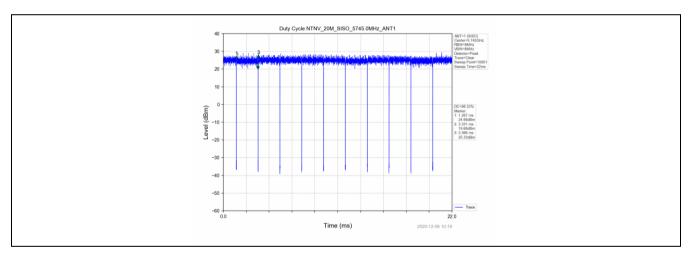
Appendix for 15.407

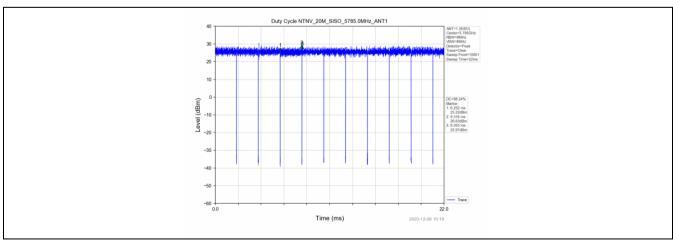
1. Duty Cycle

#### 1.1 Test Result

Test Mode	Channel Frequency (MHz)	ТХ Туре	ANT No.	T_on (ms)	Period (ms)	Duty Cycle (%)	Duty Cycle Correction Factor (dB)
Bandwidth:20Mz	5745.0	SISO	1	2.064	2.099	98.33	0.07
	5785.0	SISO	1	2.064	2.101	98.24	0.08
	5825.0	SISO	1	2.061	2.099	98.19	0.08
Bandwidth:5Mz	5745.0	SISO	1	7.992	14.108	56.65	2.47
	5785.0	SISO	1	7.988	14.088	56.70	2.46
	5825.0	SISO	1	8.000	13.862	57.71	2.39

#### 1.2 Test Graph







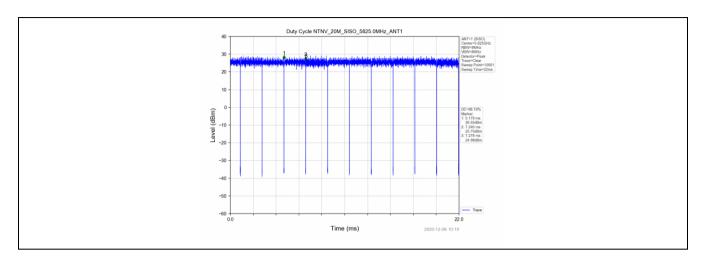
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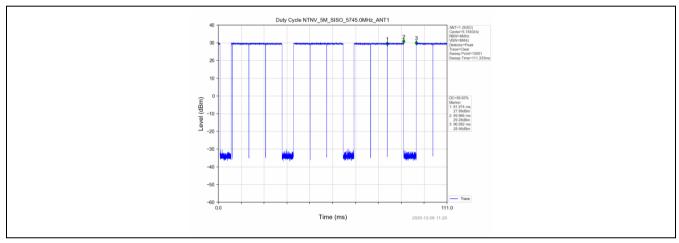
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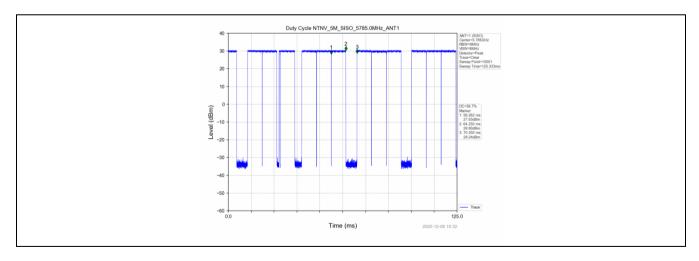


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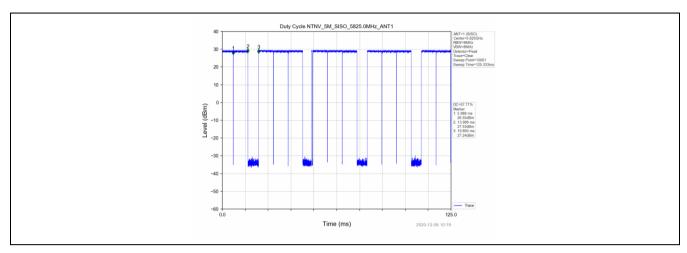
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#### 2. Bandwidth

#### 2.1 Test Result

Took Mode	Frequency	TV T. //2.0	ANT No	Emission E	Vardiat	
Test Mode	(MHz)	TX Type	ANT No.	Test Result (MHz)	Limits (MHz)	Verdict
	5745.0	SISO	1	16.323	≥0.5	PASS
Bandwidth:20Mz	5785.0	SISO	1	16.092	≥0.5	PASS
	5825.0	SISO	1	16.098	≥0.5	PASS
	5745.0	SISO	1	4.150	≥0.5	PASS
Bandwidth:5Mz	5785.0	SISO	1	4.134	≥0.5	PASS
	5825.0	SISO	1	4.132	≥0.5	PASS

Took Mode	Frequency	TV Tura	ANT No.	99% Occupied Bandwidth  Test Result (MHz)			
Test Mode	(MHz)	TX Type					
	5745.0	SISO	1	18.379	Only for Report Use		
Bandwidth:20Mz	5785.0	SISO	1	18.783	Only for Report Use		
	5825.0	SISO	1	19.063	Only for Report Use		
	5745.0	SISO	1	5.063	Only for Report Use		
Bandwidth:5Mz	5785.0	SISO	1	5.217	Only for Report Use		
	5825.0	SISO	1	5.191	Only for Report Use		



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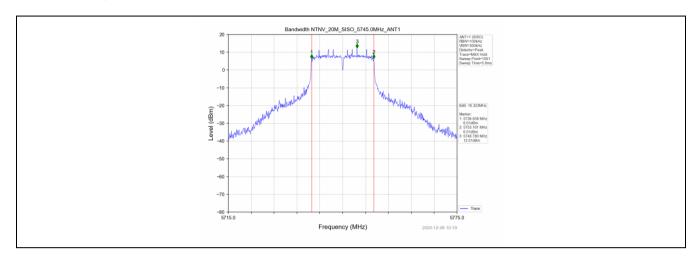
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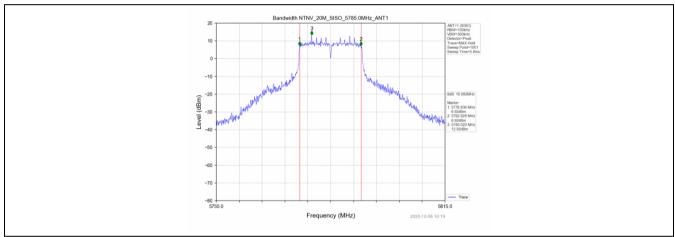


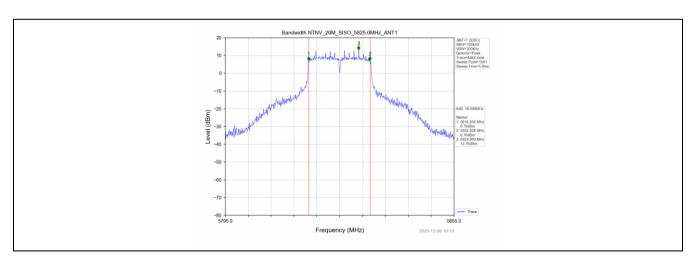
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#### 2.2 Test Graph - Emission Bandwidth









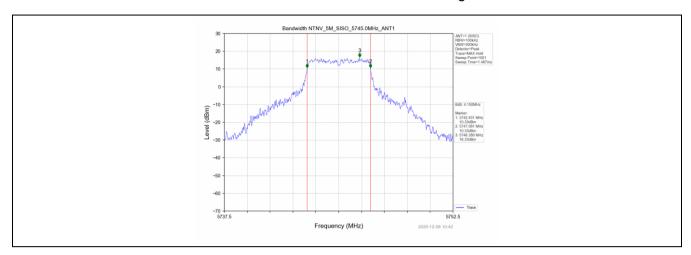
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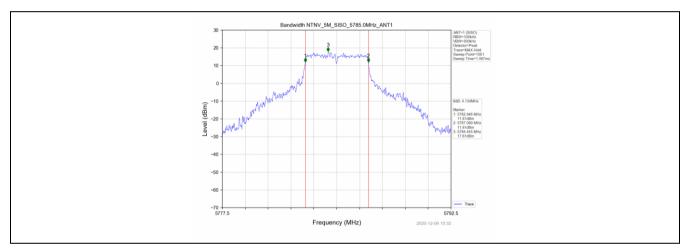
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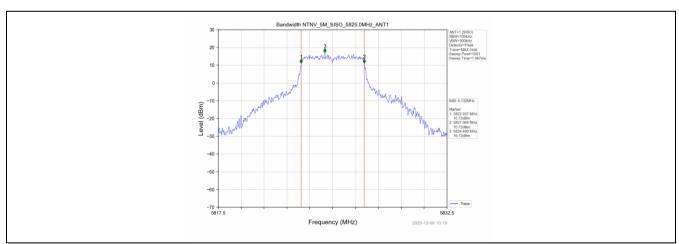


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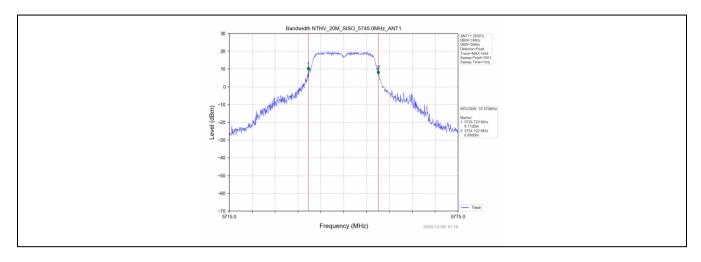
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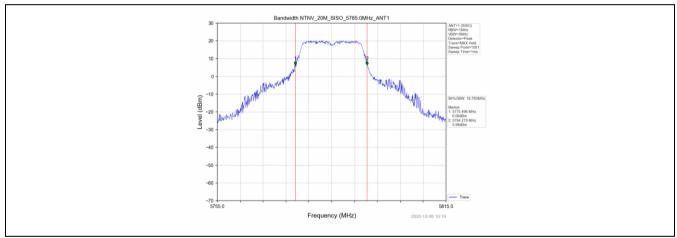


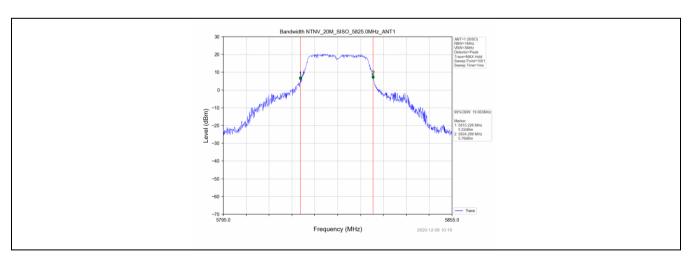
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#### 2.3 Test Graph - 99% Occupied Bandwidth









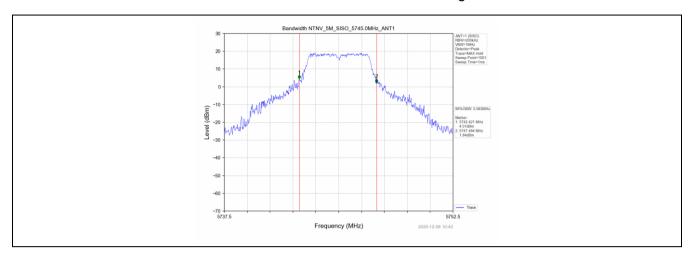
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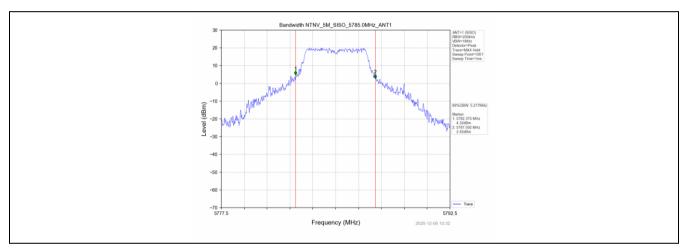
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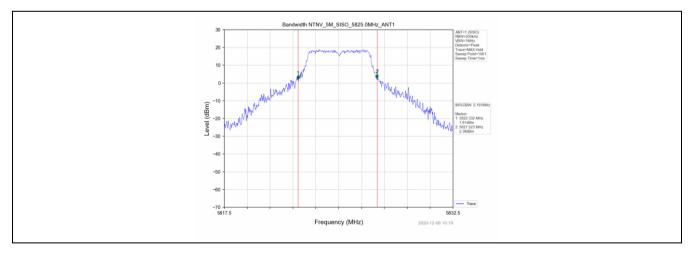


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#### 3. Maximum Conducted Output Power

#### 3.1 Test Result

Took Mode	Frequency	Tv. Tv. a	Measured Outp	ut Power (dBm)	Lineit (dDree)	\/ordiot
Test Mode	(MHz)	Tx Type	Ant 2	Ant 1	Limit (dBm)	Verdict
	5745.0	SISO	23.94	23.05	≤30.00	PASS
Bandwidth: 20M	5785.0	SISO	24.30	23.70	≤30.00	PASS
	5825.0	SISO	24.08	23.60	≤30.00	PASS
	5745.0	SISO	25.44	24.73	≤30.00	PASS
Bandwidth: 5M	5785.0	SISO	25.37	25.25	≤30.00	PASS
	5825.0	SISO	24.58	24.05	≤30.00	PASS



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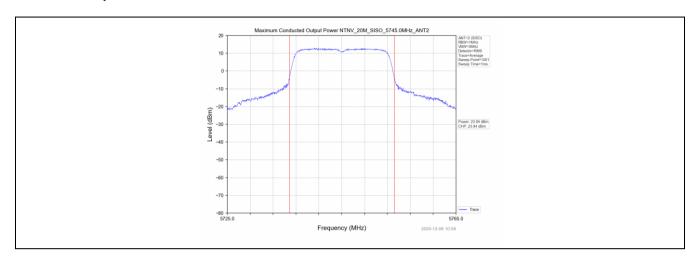
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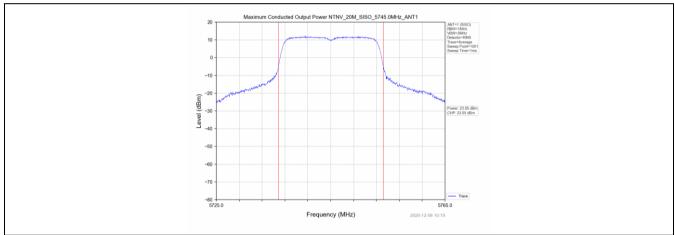


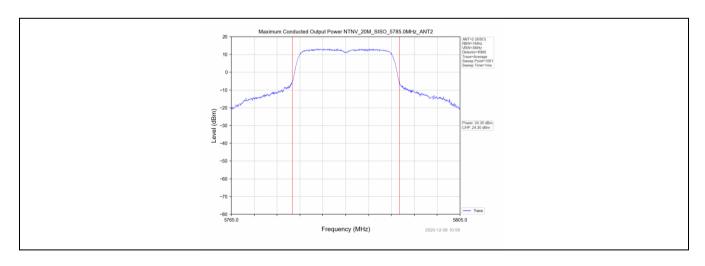
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#### 3.2 Test Graph









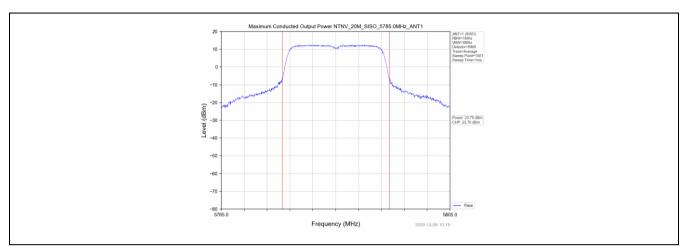
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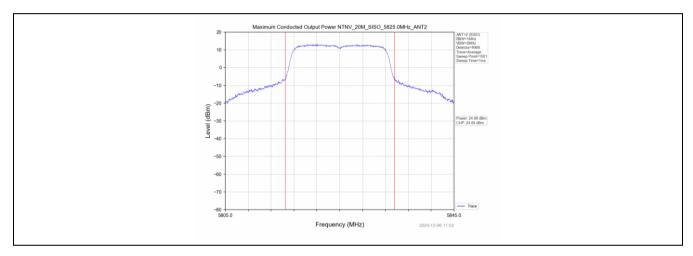
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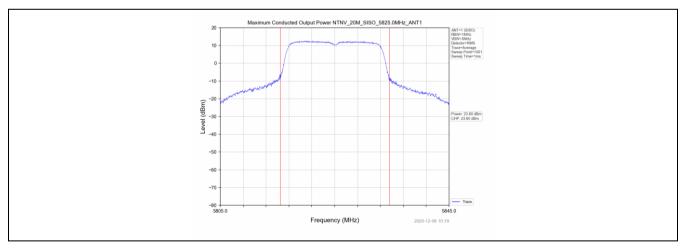


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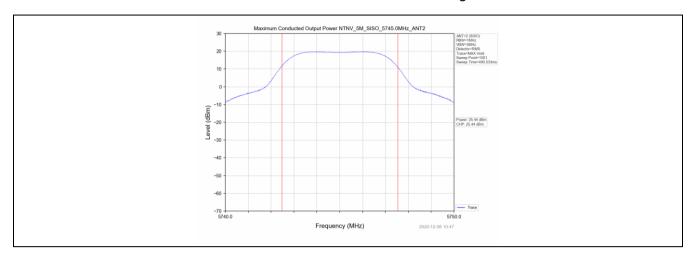
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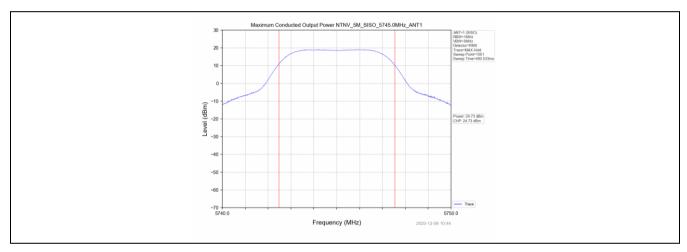
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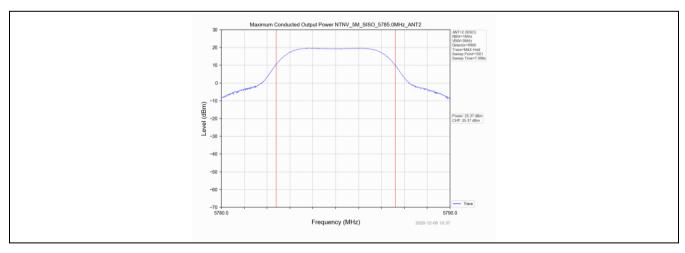


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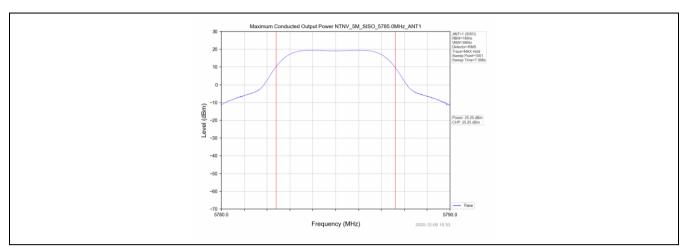
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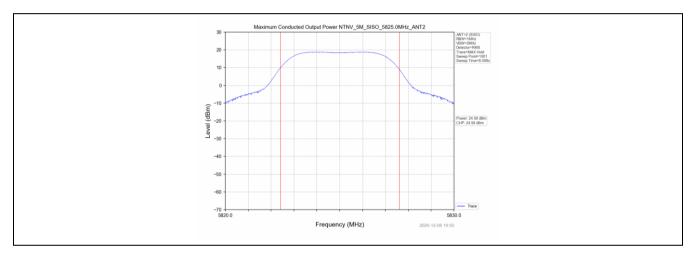
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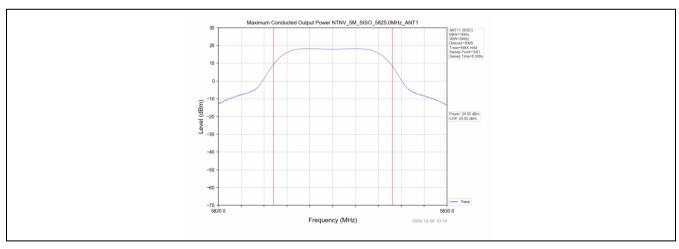


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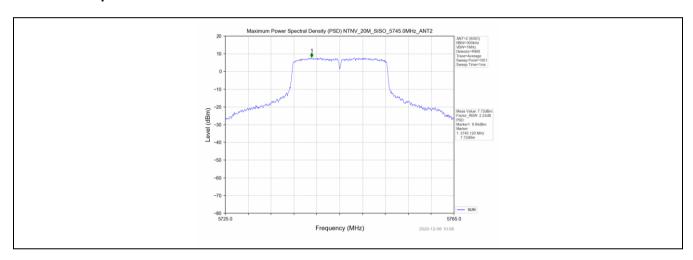
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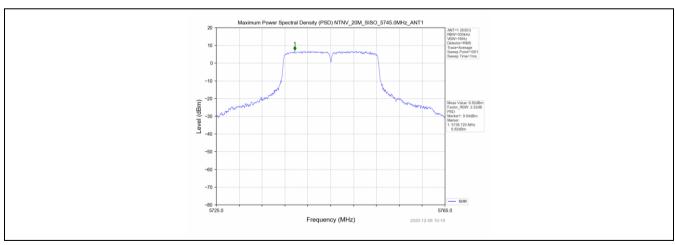
#### 4. Maximum Power Spectral Density (PSD)

#### 4.1 Test Result

Test Mode	Frequency (MHz)	Тх Туре	Maximum Po Density (dB		Limits (dBm/500kHz	Verdict
	(1711 12)		Ant 2	Ant 1	)	
	5745.0	SISO	9.94	9.04	≤30	PASS
Bandwidth:20Mz	5785.0	SISO	10.41	9.81	≤30	PASS
	5825.0	SISO	10.19	9.58	≤30	PASS
	5745.0	SISO	17.04	16.20	≤30	PASS
Bandwidth:5Mz	5785.0	SISO	16.80	16.66	≤30	PASS
	5825.0	SISO	15.99	15.44	≤30	PASS

#### 4.2 Test Graph







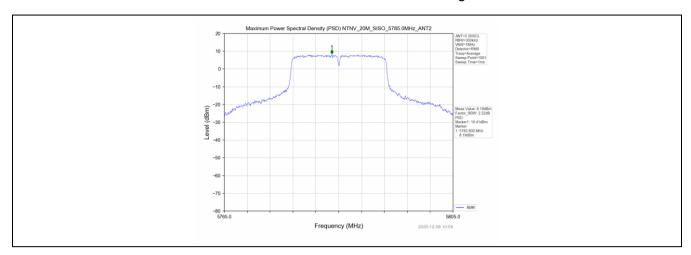
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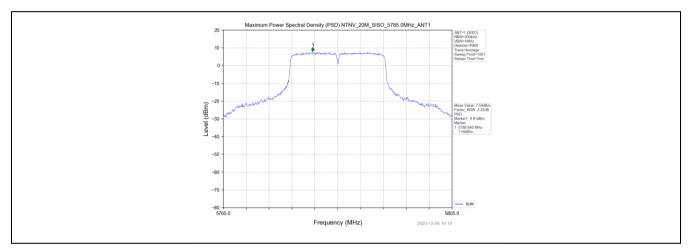
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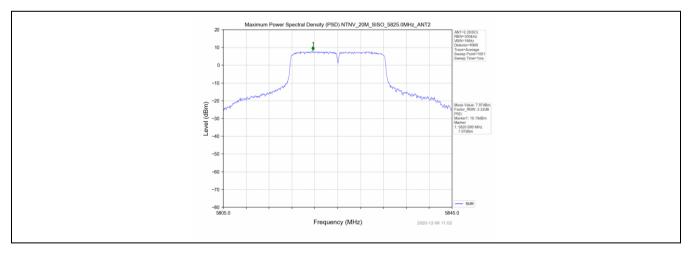


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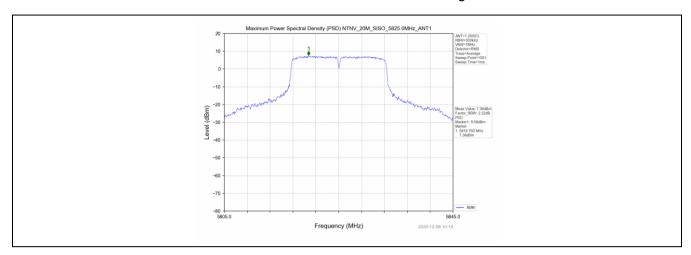
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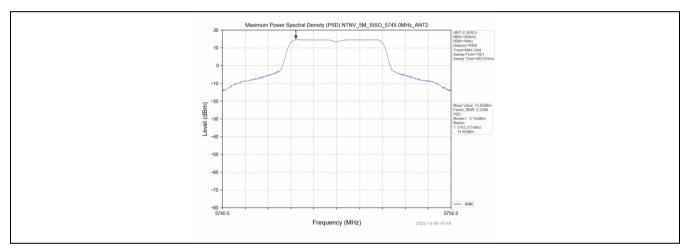
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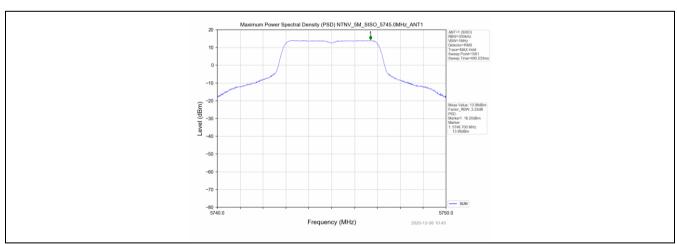


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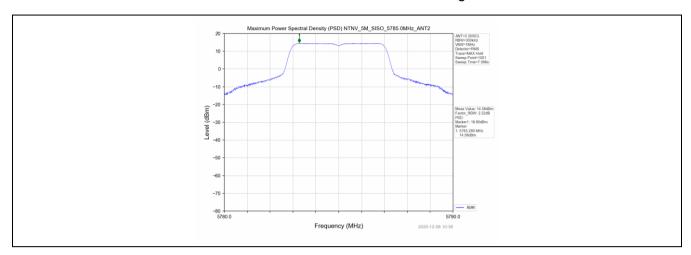
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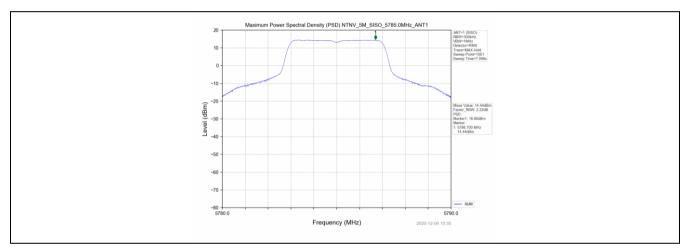
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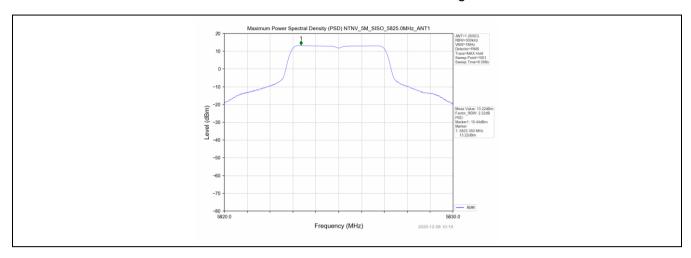
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#### 5. Frequency Stability

#### 5.1 Test Result

Test Condition	Test Mode	Test Frequency [MHz]	Ant	Result [ppm]	Limit [ppm]	Verdict
	Bandwidth: 20M  Bandwidth: 5M	5745.0	1	0	<=20	PASS
		5785.0	1	0	<=20	PASS
NTNV		5825.0	1	-3.43	<=20	PASS
		5745.0	1	3.48	<=20	PASS
		5785.0	1	-3.46	<=20	PASS
		5825.0	1	0	<=20	PASS

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