

RADIO TEST REPORT FCC ID: YB2-S528

Product:BLUETOOTH SPEAKERTrade Mark:N/AModel No.:S528Family Model:HS05,S057,S528JEBAReport No.:S22040100402001Issue Date:Apr 24, 2022

Prepared for

HONGTIANTAI(H.K.)CO.,LIMITED

2102Pakpolee Commercial Centre 1A Sai Yeung Choi Street South Monqkok Kowloon Hong Kong Sar, HONGKONG, China

Prepared by

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1 TEST RESULT CERTIFICATION

Applicant's name	HONGTIANTAI(H.K.)CO.,LIMITED		
Address	2102Pakpolee Commercial Centre 1A Sai Yeung Choi Street South Monqkok Kowloon Hong Kong Sar,HONGKONG,China		
Manufacturer's Name	HONGFUTAI E-TECH (SHENZHEN) CO., LIMITED		
Address	4F, No.17, Xinxing Industrial Park, Xinhe Community, Fuhai Street, Baoan District, Shenzhen 518103, China		
Product description			
Product name	BLUETOOTH SPEAKER		
Model and/or type reference:	S528		
Family Model	HS05,S057,S528JEBA		

Measurement Procedure Used:

APPLICABLE STANDARDS STANDARD/ TEST PROCEDURE TEST RESULT FCC 47 CFR Part 2, Subpart J Complied FCC 47 CFR Part 15, Subpart C ANSI C63.10-2013

This device described above has been tested by Shenzhen NTEK Testing Technology Co., Ltd., and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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

Date of Test

Testing Engineer

(Mary Hu)

Apr 01. 2022~ Apr 24. 2022

. Hu

Authorized Signatory

(Alex Li)



FCC Part15 (15.247), Subpart C						
Standard Section	Standard Section Test Item					
15.207	Conducted Emission	PASS				
15.209 (a) 15.205 (a)	Radiated Spurious Emission	PASS				
15.247(a)(1)	Hopping Channel Separation	PASS				
15.247(b)(1)	Peak Output Power	PASS				
15.247(a)(iii)	Number of Hopping Frequency	PASS				
15.247(a)(iii)	Dwell Time	PASS				
15.247(a)(1)	Bandwidth	PASS				
15.247 (d)	Band Edge Emission	PASS				
15.247 (d)	Spurious RF Conducted Emission	PASS				
15.203	Antenna Requirement	PASS				

Remark:

 "N/A" denotes test is not applicable in this Test Report.
 All test items were verified and recorded according to the standards and without any deviation during the test.



3 FACILITIES AND ACCREDITATIONS

3.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen 518126 P.R. China.

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10 and CISPR Publication 22.

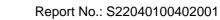
3.2 LABORATORY ACCREDITATIONS AND LISTINGS

Site Description	
CNAS-Lab.	: The Certificate Registration Number is L5516.
IC-Registration	The Certificate Registration Number is 9270A.
-	CAB identifier:CN0074
FCC- Accredited	Test Firm Registration Number: 463705.
	Designation Number: CN1184
A2LA-Lab.	The Certificate Registration Number is 4298.01
	This laboratory is accredited in accordance with the recognized
	International Standard ISO/IEC 17025:2005 General requirements for
	the competence of testing and calibration laboratories.
	This accreditation demonstrates technical competence for a defined
	scope and the operation of a laboratory quality management system
	(refer to joint ISO-ILAC-IAF Communiqué dated 8 January 2009).
Name of Firm	: Shenzhen NTEK Testing Technology Co., Ltd.
Site Location	: 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang
	Street, Bao'an District, Shenzhen 518126 P.R. China.

3.3 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y\pm U$, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	Conducted Emission Test	±2.80dB
2	RF power, conducted	±0.16dB
3	Spurious emissions, conducted	±0.21dB
4	All emissions, radiated(30MHz~1GHz)	±2.64dB
5	All emissions, radiated(1GHz~6GHz)	±2.40dB
6	All emissions, radiated(>6GHz)	±2.52dB
7	Temperature	±0.5°C
8	Humidity	±2%
9	All emissions, radiated(9KHz~30MHz)	±6dB





4 GENERAL DESCRIPTION OF EUT

Product Feature and Specification			
Equipment BLUETOOTH SPEAKER			
Trade Mark N/A			
FCC ID	YB2-S528		
Model No.	S528		
Series no.	S220401004002		
Family Model	HS05,S057,S528JEBA		
Model Difference	All models are the same circuit and RF module, except the Model name.		
Operating Frequency 2402MHz~2480MHz			
Modulation	GFSK, π/4-DQPSK		
Number of Channels	79 Channels		
Antenna Type	PCB Antenna		
Antenna Gain	3 dBi		
Power supply	DC 3.7V from Battery or DC 5V form USB Port		
Adapter	N/A		
Battery	DC 3.7V,500mAh,1.85Wh		
HW Version	S528/521 BT4.2 V0.0		
SW Version	AC6905C_Parity code A5B7_Bluetooth pairing name HOTT		

Note 1: Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.

Note 2: The engineering test program was provided and the EUT was programmed to be in continuously transmitting mode, the power level is the software default value.



Certificate #4298.01 Revision History					
Report No.	Version	Description	Issued Date		
S22040100402001	Rev.01	Initial issue of report	Apr 24. 2022		



5 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

The Transmitter was operated in the normal operating mode. The TX frequency was fixed which was for the purpose of the measurements.

Test of channel included the lowest and middle and highest frequency to perform the test, then record on this report.

Those data rates (1Mbps for GFSK modulation; 2Mbps for $\pi/4$ -DQPSK ; modulation) were used for all test. The EUT was pretested with 3 orientations placed on the table for the radiated emission measurement –X, Y, and Z-plane. The X-plane results were found as the worst case and were shown in this report.

Carrier Frequency and Channel list:

Channel	Frequency(MHz)
0	2402
1	2403
39	2441
40	2442
77	2479
78	2480

Note: fc=2402MHz+k×1MHz k=0 to 78

The following summary table is showing all test modes to demonstrate in compliance with the standard.

For AC Conducted Emission				
Final Test Mode Description				
Mode 1	normal link mode			

Note: AC power line Conducted Emission was tested under maximum output power.

For Radiated Test Cases					
Final Test Mode Description					
Mode 1 normal link mode					
Mode 2 CH00(2402MHz)					
Mode 3 CH39(2441MHz)					
Mode 4 CH78(2480MHz)					

Note: For radiated test cases, the worst mode data rate 2Mbps was reported only, because this data rate has the highest RF output power at preliminary tests, and no other significantly frequencies found in conducted spurious emission.

For Conducted Test Cases					
Final Test Mode Description					
Mode 2 CH00(2402MHz)					
Mode 3 CH39(2441MHz)					
Mode 4 CH78(2480MHz)					
Mode 5 Hopping mode					

Note: The engineering test program was provided and the EUT was programmed to be in continuously transmitting mode.

NTEK 北测	The Ander	CCREDITED ificate #4298.01	Report	No.: S22040100402001
6 SETUP OF EQUIPMEN				
6.1 BLOCK DIAGRAM CONFIGU For AC Conducted Emission Mode		TEST SYSTEM		ï
	C-1	AE-1	AC PLUG	
EUT		Adapter		
For Radiated Test Cases				
EUT				
For Conducted Test Cases				1
Measurement Instrument	UT			
Note: 1. The temporary antenna co	onnector is sol	dered on the PC	B board in order to	perform conducted tests

note: 1. The temporary antenna connector is soldered on the PCB be and this temporary antenna connector is listed in the equipment list.



6.2 SUPPORT EQUIPMENT

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Model/Type No.	Series No.	Note
AE-1	Adapter	N/A	N/A	Peripherals

Item	Cable Type	Shielded Type	Ferrite Core	Length
C-1	DC Cable	NO	NO	0.8m
C-2	RF Cable	YES	NO	0.1m

Notes:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in [Length] column.
- (3) "YES" is means "shielded" "with core"; "NO" is means "unshielded" "without core".



6.3 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation& Conducted Test equipment

	na conducted i	corequipment					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibrati on period
1	Spectrum Analyzer	Aglient	E4407B	MY45108040	2021.04.27	2022.04.26	1 year
2	Spectrum Analyzer	Agilent	N9020A	MY49100060	2021.07.01	2022.06.30	1 year
3	Spectrum Analyzer	R&S	FSV40	101417	2021.07.01	2022.06.30	1 year
4	Test Receiver	R&S	ESPI7	101318	2021.04.27	2022.04.26	1 year
5	Bilog Antenna	TESEQ	CBL6111D	31216	2022.03.30	2023.03.29	1 year
6	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2020.05.11	2023.05.10	3 year
7	Horn Antenna	EM	EM-AH-1018 0	2011071402	2022.03.31	2023.03.30	1 year
8	Broadband Horn Antenna	SCHWARZBE CK	BBHA 9170	803	2021.11.07	2022.11.06	1 year
9	Amplifier	EMC	EMC051835 SE	980246	2021.11.07	2022.11.06	1 year
10	Active Loop Antenna	SCHWARZBE CK	FMZB 1519 B	055	2021.11.07	2022.11.06	1 year
11	Power Meter	DARE	RPR3006W	15I00041SN 084	2021.07.01	2022.06.30	1 year
12	Test Cable (9KHz-30MHz)	N/A	R-01	N/A	2019.08.06	2022.08.05	3 year
13	Test Cable (30MHz-1GHz)	N/A	R-02	N/A	2019.08.06	2022.08.05	3 year
14	High Test Cable(1G-40G Hz)	N/A	R-03	N/A	2019.06.28	2022.06.27	3 year
15	Filter	TRILTHIC	2400MHz	29	2020.04.07	2023.04.06	3 year
16	temporary antenna connector (Note)	NTS	R001	N/A	N/A	N/A	N/A

Note:

We will use the temporary antenna connector (soldered on the PCB board) When conducted test And this temporary antenna connector is listed within the instrument list

AC Co	AC Conduction Test equipment						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2021.04.27	2022.04.26	1 year
2	LISN	R&S	ENV216	101313	2021.04.27	2022.04.26	1 year
3	LISN	SCHWARZBE CK	NNLK 8129	8129245	2021.04.27	2022.04.26	1 year
4	50Ω Coaxial Switch	ANRITSU CORP	MP59B	6200983704	2020.05.11	2023.05.10	3 year
5	Test Cable (9KHz-30MH z)	N/A	C01	N/A	2020.05.11	2023.05.10	3 year
6	Test Cable (9KHz-30MH z)	N/A	C02	N/A	2020.05.11	2023.05.10	3 year
7	Test Cable (9KHz-30MH z)	N/A	C03	N/A	2020.05.11	2023.05.10	3 year

Note: Each piece of equipment is scheduled for calibration once a year except the Aux Equipment & Test Cable which is scheduled for calibration every 2 or 3 years.



7 TEST REQUIREMENTS

7.1 CONDUCTED EMISSIONS TEST

7.1.1 Applicable Standard

According to FCC Part 15.207(a)

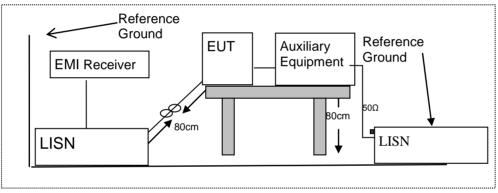
7.1.2 Conformance Limit

Frequency(MHz)	Conducted Emission Limit		
Frequency(MHz)	Quasi-peak	Average	
0.15-0.5	66-56*	56-46*	
0.5-5.0	56	46	
5.0-30.0	60	50	

Note: 1. *Decreases with the logarithm of the frequency

- 2. The lower limit shall apply at the transition frequencies
 - 3. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

7.1.3 Test Configuration



7.1.4 Test Procedure

According to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 Conducted emissions the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-Peak and average detector mode.

- 1. The EUT was placed 0.4 meter from the conducting wall of the shielding room.
- 2. The EUT was placed on a table which is 0.8m above ground plane.
- Connect EUT to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- 4. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40cm long.
- I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable
 may be terminated, if required, using the correct terminating impedance. The overall length shall not
 exceed 1 m.
- 6. LISN at least 80 cm from nearest part of EUT chassis.
- 7. The frequency range from 150KHz to 30MHz was searched.
- 8. Set the test-receiver system to Peak Detect Function and specified bandwidth(IF bandwidth=9KHz) with Maximum Hold Mode
- 9. For the actual test configuration, please refer to the related Item -EUT Test Photos.

7.1.5 Test Results

Pass



7.1.6 Test Results

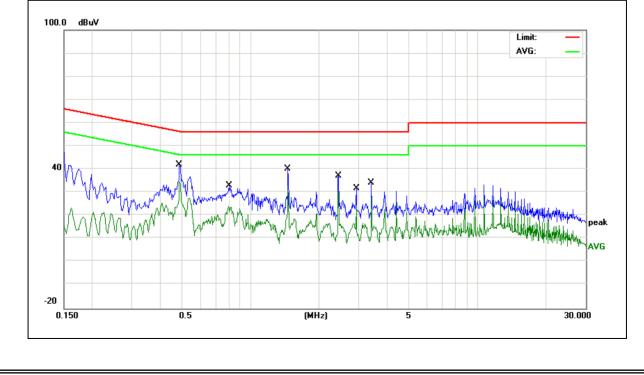
EUT:	BLUETOOTH SPEAKER	Model Name :	S528
Temperature:	21.6℃	Relative Humidity:	56%
Pressure:	1010hPa	Phase :	L
Test Voltage :	DC 5V from adapter AC 120V/60Hz	Test Mode:	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Bomork
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remark
0.4860	32.27	9.64	41.91	56.24	-14.33	QP
0.4860	24.84	9.64	34.48	46.24	-11.76	AVG
0.7980	14.08	9.74	23.82	46.00	-22.18	QP
0.8020	23.28	9.74	33.02	56.00	-22.98	AVG
1.4620	30.34	9.75	40.09	56.00	-15.91	QP
1.4620	22.75	9.75	32.50	46.00	-13.50	AVG
2.4380	27.41	9.74	37.15	56.00	-18.85	QP
2.4380	21.06	9.74	30.80	46.00	-15.20	AVG
2.9219	22.03	9.72	31.75	56.00	-24.25	QP
2.9219	14.71	9.72	24.43	46.00	-21.57	AVG
3.4100	24.40	9.70	34.10	56.00	-21.90	QP
3.4100	18.08	9.70	27.78	46.00	-18.22	AVG

Remark:

1. All readings are Quasi-Peak and Average values.

2. Factor = Insertion Loss + Cable Loss.





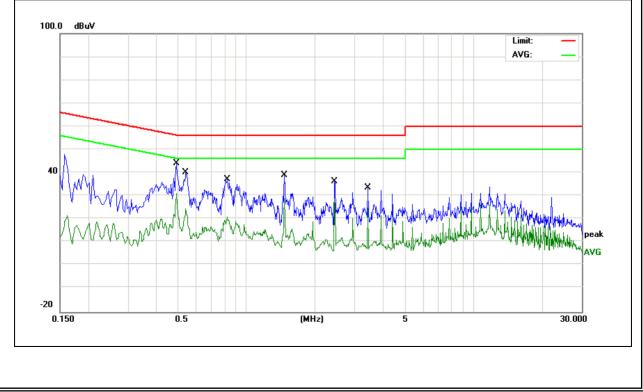
EUT:	BLUETOOTH SPEAKER	Model Name :	S528
Temperature:	21.6 ℃	Relative Humidity:	56%
Pressure:	1010hPa	Phase :	Ν
Test Voltage :	DC 5V from adapter AC 120V/60Hz	Test Mode:	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBµV)	(dB)	(dBµV)	(dBµV)	(dB)	Remain
0.4900	34.45	9.74	44.19	56.17	-11.98	QP
0.4900	21.53	9.74	31.27	46.17	-14.90	AVG
0.5380	30.44	9.72	40.16	56.00	-15.84	QP
0.5380	14.69	9.72	24.41	46.00	-21.59	AVG
0.8220	27.42	9.68	37.10	56.00	-18.90	QP
0.8220	11.25	9.68	20.93	46.00	-25.07	AVG
1.4700	29.22	9.70	38.92	56.00	-17.08	AVG
1.4700	19.28	9.70	28.98	46.00	-17.02	QP
2.4460	26.69	9.68	36.37	56.00	-19.63	QP
2.4460	19.12	9.68	28.80	46.00	-17.20	AVG
3.4260	23.84	9.74	33.58	56.00	-22.42	AVG
3.4260	15.22	9.74	24.96	46.00	-21.04	QP

Remark:

1. All readings are Quasi-Peak and Average values.

2. Factor = Insertion Loss + Cable Loss.





7.2 RADIATED SPURIOUS EMISSION

7.2.1 Applicable Standard

According to FCC Part 15.247(d) and 15.209 and ANSI C63.10-2013

7.2.2 Conformance Limit

According to FCC Part 15.247(d): radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)). According to FCC Part15.205, Restricted bands

According to For Fart 13.200, Restricted bands				
MHz	MHz	MHz	GHz	
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15	
0.495-0.505	16.69475-16.69525	608-614	5.35-5.46	
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75	
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5	
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2	
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5	
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7	
6.26775-6.26825	123-138	2200-2300	14.47-14.5	
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2	
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4	
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12	
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0	
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8	
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5	
12.57675-12.57725	322-335.4	3600-4400	(2)	
13.36-13.41				

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Restricted Frequency(MHz)	Field Strength (µV/m)	Field Strength (dBµV/m)	Measurement Distance
0.009~0.490	2400/F(KHz)	20 log (uV/m)	300
0.490~1.705	24000/F(KHz)	20 log (uV/m)	30
1.705~30.0	30	29.5	30
30-88	100	40	3
88-216	150	43.5	3
216-960	200	46	3
Above 960	500	54	3

Limits of Radiated Emission Measurement(Above 1000MHz)

Fraguanay(MHz)	Class B (dBuV/m) (at 3M)		
Frequency(MHz)	PEAK	AVERAGE	
Above 1000	74	54	

Remark :1. Emission level in dBuV/m=20 log (uV/m)

Measurement was performed at an antenna to the closed point of EUT distance of meters.
 For Frequency 9kHz~30MHz:

Distance extrapolation factor =40log(Specific distance/ test distance)(dB);

Limit line=Specific limits(dBuV) + distance extrapolation factor.

For Frequency above 30MHz:

Distance extrapolation factor =20log(Specific distance/ test distance)(dB);

Limit line=Specific limits(dBuV) + distance extrapolation factor.

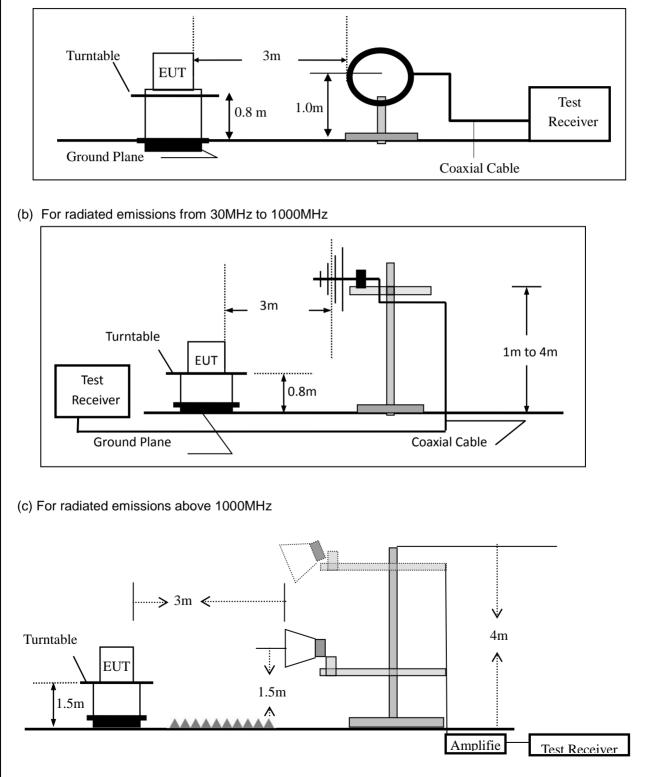
7.2.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

ACCREDITED Certificate #4298.01

7.2.4 Test Configuration

(a) For radiated emissions below 30MHz





7.2.5 Test Procedure

The test site semi-anechoic chamber has met the requirement of NSA tolerance 4 dB according to the standards: ANSI C63.10-2013. The test distance is 3m.The setup is according to the requirements in Section 13.1.4.1 of ANSI C63.10-2013 and CAN/CSA-CEI/IEC CISPR 22.

This test is required for any spurious emission that falls in a Restricted Band, as defined in Section 15.205. It must be performed with the highest gain of each type of antenna proposed for use with the EUT. Use the following spectrum analyzer settings:

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1 MHz / 1 MHz for Peak, 1 MHz / 1 MHz for Average

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

- a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 m for below 1GHz and 1.5m for above 1GHz the ground at a 3 meter. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m for below 1GHz and 1.5m for above 1GHz; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For the radiated emission test above 1GHz: Place the measurement antenna away from each area of the EUT determined to be a source of emissions at the specified measurement distance, while keeping the measurement antenna aimed at the source of emissions at each frequency of significant emissions, with polarization oriented for maximum response. The measurement antenna may have to be higher or lower than the EUT, depending on the radiation pattern of the emission and staying aimed at the emission source for receiving the maximum signal. The final measurement antenna elevation shall be that which maximizes the emissions. The measurement antenna elevation for maximum emissions shall be restricted to a range of heights of from 1 m to 4 m above the ground or reference ground plane.
- e. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- f. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- g. For the actual test configuration, please refer to the related Item -EUT Test Photos.
 - Note:

Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported



During the radiated emission to	During the radiated emission test, the Spectrum Analyzer was set with the following configurations:								
Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth						
30 to 1000	QP	120 kHz	300 kHz						
Ah awa 4000	Peak	1 MHz	1 MHz						
Above 1000	Average	1 MHz	1 MHz						

Note: for the frequency ranges below 30 MHz, a narrower RBW is used for these ranges but the measured value should add a RBW correction factor (RBWCF) where RBWCF [dB] =10*lg(100 [kHz]/narrower RBW [kHz])., the narrower RBW is 1 kHz and RBWCF is 20 dB for the frequency 9 kHz to 150 kHz, and the narrower RBW is 10 kHz and RBWCF is 10 dB for the frequency 150 kHz to 30 MHz.

7.2.6 Test Results

Spurious Emission below 30MHz (9KHz to 30MHz)

EUT:	BLUETOOTH SPEAKER	Model No.:	S528
Temperature:	20 °C	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Mary Hu

Freq.	Ant.Pol.	Emission L	evel(dBuV/m)	Limit 3	m(dBuV/m)	Over(dB)		
(MHz)	H/V	PK	AV	PK	AV	PK	AV	

Note: the amplitude of spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

QP

QP

-12.15

-8.86



Spurious Emission below 1GHz (30MHz to 1GHz) All the modulation modes have been tested, and the worst result was report as below: EUT: BLUETOOTH SPEAKER Model Name : S528 Temperature: **25.3**℃ **Relative Humidity:** 51% 1010hPa Test Mode: Mode 1 Pressure: DC 5V from adapter AC 120V/60Hz Test Voltage : Emission Meter Frequency Factor Limits Margin Polar Reading Level Remark (H/V) (MHz) (dBuV) (dB) (dBuV/m) (dBuV/m) (dB) V 30.3173 7.80 24.96 32.76 40.00 -7.24 QP 44.5868 16.70 40.00 QP V 12.66 29.36 -10.64 V 13.79 -12.05 QP 52.3912 14.16 27.95 40.00 QP V 108.6470 14.73 16.77 31.50 43.50 -12.00

31.35

37.14

43.50

46.00

V Remark:

V

213.0151

845.0878

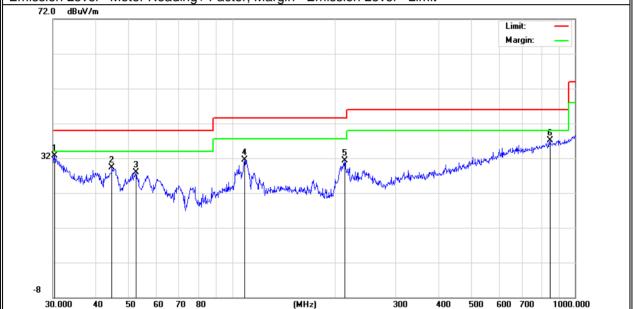
Emission Level= Meter Reading+ Factor, Margin= Emission Level - Limit

15.62

29.86

15.73

7.28





(H/V) (MHz) (dBuV) (dB) (dBuV/m) (dBuV/m) (dB) H 30.5306 5.58 24.73 30.31 40.00 -9.69 0 H 109.4116 11.52 16.75 28.27 43.50 -15.23 0 H 214.5143 10.91 15.80 26.71 43.50 -16.79 0 H 244.2321 10.66 18.01 28.67 46.00 -17.33 0 H 316.5890 10.23 20.59 30.82 46.00 -15.18 0 H 768.7481 7.40 28.99 36.39 46.00 -9.61 0 Remark: Emission Level= Meter Reading+ Factor, Margin= Emission Level - Limit -9.61 0 72.0 dBuV/m dBuV/m dBuV/m dBuV/m dBuV/m dBuV/m	QP QP QP QP QP
H 30.5306 5.58 24.73 30.31 40.00 -9.69 0 H 109.4116 11.52 16.75 28.27 43.50 -15.23 0 H 214.5143 10.91 15.80 26.71 43.50 -16.79 0 H 244.2321 10.66 18.01 28.67 46.00 -17.33 0 H 316.5890 10.23 20.59 30.82 46.00 -15.18 0 H 768.7481 7.40 28.99 36.39 46.00 -9.61 0 Remark: Emission Level= Meter Reading+ Factor, Margin= Emission Level - Limit 10.00 10.00 10.00 10.00 72.0 dBuW/m Imit: Margin: Imit: Margin: 10.00 10.00 10.00	QP QP QP QP
H 109.4116 11.52 16.75 28.27 43.50 -15.23 0 H 214.5143 10.91 15.80 26.71 43.50 -16.79 0 H 244.2321 10.66 18.01 28.67 46.00 -17.33 0 H 316.5890 10.23 20.59 30.82 46.00 -15.18 0 H 768.7481 7.40 28.99 36.39 46.00 -9.61 0 Remark: Emission Level= Meter Reading+ Factor, Margin= Emission Level - Limit -9.61 0 0 72.0 dBuV/m dBuV/m -10.00 -10.00 0	QP QP QP QP
H 244.2321 10.66 18.01 28.67 46.00 -17.33 () H 316.5890 10.23 20.59 30.82 46.00 -15.18 () H 768.7481 7.40 28.99 36.39 46.00 -9.61 () Remark: Emission Level= Meter Reading+ Factor, Margin= Emission Level - Limit -9.61 () 72.0 dBuV/m Imit: Margin: - Imit: Margin: - Imit: -	QP QP
H 316.5890 10.23 20.59 30.82 46.00 -15.18 () H 768.7481 7.40 28.99 36.39 46.00 -9.61 () Remark: Emission Level= Meter Reading+ Factor, Margin= Emission Level - Limit -	QP
H 768.7481 7.40 28.99 36.39 46.00 -9.61 0 Remark: Emission Level= Meter Reading+ Factor, Margin= Emission Level - Limit - <td></td>	
Remark: Emission Level= Meter Reading+ Factor, Margin= Emission Level - Limit 72.0 dBuV/m	<u>QP</u>
Emission Level= Meter Reading+ Factor, Margin= Emission Level - Limit 72.0 dBuV/m Limit:	
32 Manual Manual Manual Manual Manual Manu	
-8 30.000 40 50 60 70 80 (MHz) 300 400 500 600 700 1000.00	00



EUT: BLUETOOTH SPEAKER Model No.:							S528				
emperature: 20 °C Relative H						<i>'</i> :	48%				
Fest Mode:											
All the modulation modes have been tested, and the worst result was report as below:											
Frequency	Read Level	Cable loss	Antenna Factor	Preamp Factor	Emission Level	Li	imits	Margin	Rema	rk	Commen
(MHz)	(dBµV)	(dB)	dB/m	(dB)	(dBµV/m)	(dB	µV/m)	(dB)			
		Lov	v Channel (2402 MHz	<u>(</u> π/4-DQPS	SK)/	Above ?	1G			
4802.65	64.12	5.21	35.59	44.30	60.62	74	4.00	-13.38	Pk		Vertical
4802.65	43.35	5.21	35.59	44.30	39.85	54	4.00	-14.15	AV		Vertical
7206.73	63.65	6.48	36.27	44.60	61.80	74	4.00	-12.20	Pk		Vertical
7206.73	43.63	6.48	36.27	44.60	41.78	54	4.00	-12.22	AV		Vertical
4804.59	63.50	5.21	35.55	44.30	30 59.96		4.00	-14.04	Pk	H	lorizontal
4804.59	43.20	5.21	35.55	44.30 39.66		54	4.00	-14.34	AV	H	lorizontal
7206.36	62.62	6.48	36.27	44.52 60.85		74	4.00	-13.15	Pk	H	lorizontal
7206.36	43.04	6.48	36.27	44.52 41.27		54	4.00			H	lorizontal
		Mie	d Channel (2441 MHz)	(π/4-DQPS	SK)/	Above 1	G			
4882.72	64.58	5.21	35.66	44.20	61.25	74	4.00	-12.75	Pk		Vertical
4882.72	43.07	5.21	35.66	44.20	39.74	54	4.00	-14.26	AV		Vertical
7323.16	63.97	7.10	36.50	44.43	63.14	74	4.00	-10.86	Pk		Vertical
7323.16	43.33	7.10	36.50	44.43	42.50	54	4.00	-11.50	AV		Vertical
4882.41	60.79	5.21	35.66	44.20	57.46	74	4.00	-16.54	Pk	F	lorizontal
4882.41	43.48	5.21	35.66	44.20	40.15	54	4.00	-13.85	AV	F	lorizontal
7324.34	62.20	7.10	36.50	44.43	61.37	74	4.00	-12.63	Pk	F	lorizontal
7324.34	40.39	7.10	36.50	44.43	39.56		4.00	-14.44	AV	F	lorizontal
		Hig	h Channel (2480 MHz	(π/4-DQPS	SK)	Above	1G			
4959.58	64.03	5.21	35.52	44.21	60.55	74	4.00	-13.45	Pk		Vertical
4959.58	43.28	5.21	35.52	44.21	39.80	54	4.00	-14.20	AV		Vertical
7439.45	63.04	7.10	36.53	44.60	62.07	74	4.00	-11.93	Pk		Vertical
7439.45	42.93	7.10	36.53	44.60	41.96	54	4.00	-12.04	AV		Vertical
4960.34	62.50	5.21	35.52	44.21	59.02	74	4.00	-14.98	Pk		lorizontal
4960.34	41.41	5.21	35.52	44.21	37.93	54	4.00	-16.07	AV	ŀ	lorizontal
7440.30	59.41	7.10	36.53	44.60	58.44	74	4.00	-15.56	Pk	F	lorizontal
7440.30	42.23	7.10	36.53	44.60	41.26	54	4.00	-12.74	AV	F	lorizontal

Note:

(1) Emission Level= Antenna Factor + Cable Loss + Read Level - Preamp Factor (2)All other emissions more than 20dB below the limit.



 Spurious Emission in Restricted Band 2310-2390MHz and 2483.5-2500MHz EUT: BLUETOOTH SPEAKER Model No.: S528 										
_										
Temperature	perature: 20 °C Relative Humidity:						48%			
Test Mode:	Test Mode: Mode2/ Mode4 Test By: Mary							Hu		
All the modu	All the modulation modes have been tested, and the worst result was report as below:									
Frequency	Meter Reading	Cable Loss	Antenna Factor	Preamp Factor	Emission Level	Lin	nits	Margin	Detector	Comment
(MHz)	(dBµV)	(dB)	dB/m	(dB)	(dBµV/m)	(dBµ	V/m)	(dB)	Туре	
	•	•	2M	bps(GFSK)- Non-hop	ping				
2310.00	56.29	2.97	27.80	43.80	43.26	7	4	-30.74	Pk	Horizontal
2310.00	41.87	2.97	27.80	43.80	28.84	5	4	-25.16	AV	Horizontal
2310.00	52.55	2.97	27.80	43.80	39.52	7	4	-34.48	Pk	Vertical
2310.00	41.17	2.97	27.80	43.80	28.14	5	4	-25.86	AV	Vertical
2390.00	52.83	3.14	27.21	43.80	39.38	7	4	-34.62	Pk	Vertical
2390.00	40.02	3.14	27.21	43.80	26.57	5	4	-27.43	AV	Vertical
2390.00	52.24	3.14	27.21	43.80	38.79	7		-35.21	Pk	Horizontal
2390.00	40.31	3.14	27.21	43.80	26.86	5	4	-27.14	AV	Horizontal
2483.50	52.68	3.58	27.70	44.00	39.96	7	4	-34.04	Pk	Vertical
2483.50	40.24	3.58	27.70	44.00	27.52	5	4	-26.48	AV	Vertical
2483.50	52.72	3.58	27.70	44.00	40.00	7	4	-34.00	Pk	Horizontal
2483.50	41.50	3.58	27.70	44.00	28.78	5	4	-25.22	AV	Horizontal
		1		2Mbps	hopping	-			r	
2310.00	55.45	2.97	27.80	43.80	42.42	74.		-31.58	Pk	Vertical
2310.00	42.68	2.97	27.80	43.80	29.65	54.		-24.35	AV	Vertical
2310.00	51.25	2.97	27.80	43.80	38.22	74.	.00	-35.78	Pk	Horizontal
2310.00	42.98	2.97	27.80	43.80	29.95	54.	.00	-24.05	AV	Horizontal
2390.00	50.70	3.14	27.21	43.80	37.25	74.	.00	-36.75	Pk	Vertical
2390.00	44.72	3.14	27.21	43.80	31.27	54.		-22.73	AV	Vertical
2390.00	51.81	3.14	27.21	43.80	38.36	74.		-35.64	Pk	Horizontal
2390.00	42.91	3.14	27.21	43.80	29.46	54.		-24.54	AV	Horizontal
2483.50	50.50	3.58	27.70	44.00	37.78	74.	.00	-36.22	Pk	Vertical
2483.50	44.60	3.58	27.70	44.00	31.88	54.	.00	-22.12	AV	Vertical
2483.50	54.59	3.58	27.70	44.00	41.87	74.	.00	-32.13	Pk	Horizontal
2483.50	43.96	3.58	27.70	44.00	31.24	54.	.00	-22.76	AV	Horizontal

Note: (1) All other emissions more than 20dB below the limit.



EUT: BLUETOOTH SPEAKER					RN	Model No.:			S528			
Temperature	nperature: 20 °C					Relativ	elative Humidity: 48%					
Test Mode:	est Mode: Mode2/ Mode4				Т	est B	y:		Mary	Hu		
All the modu	ulation	mode	es have b	been teste	d, ar	nd the	worst resu	lt wa	s repo	rt as belo	W:	
Frequency		ding vel	Cable Loss	Antenna Factor		amp ctor	Emission Level	Lir	mits	Margin	Detector	Comment
(MHz)	(dB	μV)	(dB)	dB/m	(d	lΒ)	B) (dBµV/m) (uV/m)	(dB)	Туре	
3260	59.	.73	4.04	29.57	44	.70	48.64	7	74	-25.36	Pk	Vertical
3260	46	.25	4.04	29.57	44	.70	35.16	Ę	54	-18.84	AV	Vertical
3260	56	.05	4.04	29.57	44	.70	44.96	7	74	-29.04	Pk	Horizonta
3260	44	.44	4.04	29.57	44	.70	33.35	Ę	54	-20.65	AV	Horizonta
3332	64	.78	4.26	29.87	44	.40	54.51		74	-19.49	Pk	Vertical
3332	44.	.77	4.26	29.87	44	.40	34.50	Ę	54	-19.50	AV	Vertical
3332	61	.87	4.26	29.87	44	.40	51.60		74	-22.40	Pk	Horizonta
3332	46	.96	4.26	29.87	44	.40	36.69	Ę	54	-17.31	AV	Horizonta
17797	49	.90	10.99	43.95	43	8.50	61.34	7	74	-12.66	Pk	Vertical
17797	37.	.81	10.99	43.95	43	3.50	49.25	ę	54	-4.75	AV	Vertical
17788	56	.78	11.81	43.69	44	.60	67.68	7	74	-6.32	Pk	Horizonta
17788	37.	.71	11.81	43.69	44	.60	48.61	Į	54	-5.39	AV	Horizonta

Note: (1) All other emissions more than 20dB below the limit.



7.3 NUMBER OF HOPPING CHANNEL

7.3.1 Applicable Standard

According to FCC Part 15.247(a)(1) (iii)and ANSI C63.10-2013

7.3.2 Conformance Limit

Frequency hopping systems in the 2400-2483.5MHz band shall use at least 15 channels.

7.3.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.3.4 Test Setup

Please refer to Section 6.1 of this test report.

7.3.5 Test Procedure

The testing follows ANSI C63.10-2013 clause 7.8.3

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT must have its hopping function enabled.

Use the following spectrum analyzer settings:

Span = the frequency band of operation

RBW : To identify clearly the individual channels, set the RBW to less than 30% of the channel spacing or the 20 dB bandwidth, whichever is smaller.

 $VBW \ge RBW$

Sweep = auto

Detector function = peak

Trace = max hold

7.3.6 Test Results

EUT:	BLUETOOTH SPEAKER	Model No.:	S528
Temperature:	20 (Relative Humidity:	S528 48% Mary Hu
Test Mode:	Mode 5(1Mbps)	Test By:	Mary Hu



7.4 HOPPING CHANNEL SEPARATION MEASUREMENT

7.4.1 Applicable Standard

According to FCC Part 15.247(a)(1) and ANSI C63.10-2013

7.4.2 Conformance Limit

Frequency hopping systems shall have hopping channel carrier frequencies separated by a minimum of 25 kHz or the 20 dB bandwidth of the hopping channel, whichever is greater. Alternatively, frequency hopping systems operating in the 2400-2483.5MHz band shall have hopping channel carrier frequencies that are separated by 25kHz or two-thirds of the 20dB bandwidth of the hopping channel, whichever is greater.

7.4.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.4.4 Test Setup

Please refer to Section 6.1 of this test report.

7.4.5 Test Procedure

The testing follows ANSI C63.10-2013 clause 7.8.2

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

Use the following spectrum analyzer settings:

Span = Measurement Bandwidth or Channel Separation

RBW: Start with the RBW set to approximately 3% of the channel spacing; adjust as necessary to best identify the center of each individual channel.

VBW ≥ RBW Sweep = auto

Detector function = peak

Trace = max hold

7.4.6 Test Results

EUT:	BLUETOOTH SPEAKER	Model No.:	S528
Temperature:	20 °C	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Mary Hu



7.5 AVERAGE TIME OF OCCUPANCY (DWELL TIME)

7.5.1 Applicable Standard

According to FCC Part 15.247(a)(1)(iii) and ANSI C63.10-2013

7.5.2 Conformance Limit

The average time of occupancy on any channel shall not be greater than 0.4s within a period of 0.4s multiplied by the number of hopping channels employed.

7.5.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.5.4 Test Setup

Please refer to Section 6.1 of this test report.

7.5.5 Test Procedure

The testing follows ANSI C63.10-2013 clause 7.8.4 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. The EUT must have its hopping function enabled. Use the following spectrum analyzer settings: Span = zero span, centered on a hopping channel RBW \geq 1MHz VBW \geq RBW Sweep = as necessary to capture the entire dwell time per hopping channel Detector function = peak Trace = max hold Measure the maximum time duration of one single pulse. Set the EUT for DH5, DH3 and DH1 packet transmitting. Measure the maximum time duration of one single pulse.



7.5.6 Test Results

EUT:	BLUETOOTH SPEAKER	Model No.:	S528
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Mary Hu

Test data reference attachment.

Note:

A Period Time = (channel number)*0.4

DH1 Dwell time: Reading * (1600/2)*31.6/(channel number) DH3 Dwell time: Reading * (1600/4)*31.6/(channel number) DH5 Dwell time: Reading * (1600/6)*31.6/(channel number)

For Example:

- 1. In normal mode, hopping rate is 1600 hops/s with 6 slots in 79 hopping channels. With channel hopping rate (1600 / 6 / 79) in Occupancy Time Limit (0.4 x 79) (s), Hops Over Occupancy Time comes to $(1600 / 6 / 79) \times (0.4 \times 79) = 106.67$ hops.
- 2. In AFH mode, hopping rate is 800 hops/s with 6 slots in 20 hopping channels. With channel hopping rate (800 / 6 / 20) in Occupancy Time Limit (0.4 x 20) (s), Hops Over Occupancy Time comes to $(800 / 6 / 20) \times (0.4 \times 20) = 53.33$ hops.
- 3. Dwell Time(s) = Hops Over Occupancy Time (hops) x Package Transfer Time



7.6 20DB BANDWIDTH TEST

7.6.1 Applicable Standard

According to FCC Part 15.247(a)(1) and ANSI C63.10-2013

7.6.2 Conformance Limit

No limit requirement.

7.6.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.6.4 Test Setup

Please refer to Section 6.1 of this test report.

7.6.5 Test Procedure

The testing follows ANSI C63.10-2013 clause 6.9.2 The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement. Set to the maximum power setting and enable the EUT transmit continuously. The EUT was operating in controlled its channel. Use the following spectrum analyzer settings: Span = approximately 2 to 3 times the 20 dB bandwidth, centered on a hopping channel RBW \geq 1% of the 20 dB bandwidth VBW \geq RBW Sweep = auto Detector function = peak Trace = max hold

7.6.6 Test Results

EUT:	BLUETOOTH SPEAKER	Model No.:	S528 48% Mary Hu
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Mary Hu



7.7 **PEAK OUTPUT POWER**

7.7.1 Applicable Standard

According to FCC Part 15.247(b)(1) and ANSI C63.10-2013

7.7.2 Conformance Limit

The maximum peak conducted output power of the intentional radiator shall not exceed the following: (1) For frequency hopping systems operating in the 2400-2483.5 MHz band employing at least 75 non-overlapping hopping channels, and all frequency hopping systems in the 5725-5850 MHz band: 1 watt. For all other frequency hopping systems in the 2400-2483.5 MHz band 0.125 watts.

7.7.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.7.4 Test Setup

Please refer to Section 6.1 of this test report.

7.7.5 Test Procedure

The testing follows ANSI C63.10-2013 clause 7.8.5.

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT was operating in controlled its channel.

Use the following spectrum analyzer settings:

Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel

 $RBW \ge the 20 dB$ bandwidth of the emission being measured

 $VBW \ge RBW$

Sweep = auto

Detector function = peak Trace = max hold

7.7.6 Test Results

EUT:	BLUETOOTH SPEAKER	Model No.:	S528
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2/Mode3/Mode4	Test By:	Mary Hu



7.8 CONDUCTED BAND EDGE MEASUREMENT

7.8.1 Applicable Standard

According to FCC Part 15.247(d) and ANSI C63.10-2013

7.8.2 Conformance Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.205(c)).

7.8.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.8.4 Test Setup

Please refer to Section 6.1 of this test report.

7.8.5 Test Procedure

The testing follows ANSI C63.10-2013 clause 7.8.6.

The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.

The path loss was compensated to the results for each measurement.

Set to the maximum power setting and enable the EUT transmit continuously.

The EUT must have its hopping function enabled.

Use the following spectrum analyzer settings:

Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel

RBW = 100KHz

VBW = 300KHz

Band edge emissions must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100kHz RBW. The attenuation shall be 30 dB instead of 20 dB when RMS conducted output power procedure is used.

Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.

Repeat above procedures until all measured frequencies were complete.

7.8.6 Test Results

EUT:	BLUETOOTH SPEAKER	Model No.:	S528
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2 /Mode4/ Mode 5	Test By:	Mary Hu



7.9 SPURIOUS RF CONDUCTED EMISSION

7.9.1 Applicable Standard

According to FCC Part 15.247(d) and ANSI C63.10-2013.

7.9.2 Conformance Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

7.9.3 Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.9.4 Test Setup

Please refer to Section 6.1 of this test report.

7.9.5 Test Procedure

Establish an emission level by using the following procedure:

a) Set the center frequency and span to encompass frequency range to be measured.

- b) Set the RBW = 100 kHz.
- c) Set the VBW \geq [3 × RBW].
- d) Detector = peak.
- e) Sweep time = auto couple.
- f) Trace mode = max hold.

g) Allow trace to fully stabilize.

h) Use the peak marker function to determine the maximum amplitude level.

Then the limit shall be attenuated by at least 20 dB relative to the maximum amplitude level in 100 kHz.

7.9.6 Test Results

Remark: The measurement frequency range is from 30MHzHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandege measurement data.



7.10 ANTENNA APPLICATION

7.10.1 Antenna Requirement

15.203 requirement: For intentional device, according to 15.203: 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.

7.10.2 Result

The EUT antenna is permanent attached PCB antenna (Gain: 3dBi). It comply with the standard requirement.

NTEK ILW®

7.11 FREQUENCY HOPPING SYSTEM (FHSS) EQUIPMENT REQUIREMENTS 7.11.1 Standard Applicable

According to FCC Part 15.247(a)(1), The system shall hop to channel frequencies that are selected at the system hopping rate from a pseudo randomly 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. (g) 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 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. (h) 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.

7.11.2 Frequency Hopping System

This transmitter device is frequency hopping device, and complies with FCC part 15.247 rule. This device uses Bluetooth radio which operates in 2400-2483.5 MHz band. Bluetooth uses a radio technology called frequency-hopping spread spectrum, which chops up the data being sent and transmits chunks of it on up to 79 bands (1 MHz each; centred from 2402 to 2480 MHz) in the range 2,400-2,483.5 MHz. The transmitter switches hop frequencies 1,600 times per second to assure a high degree of data security. All Bluetooth devices participating in a given piconet are synchronized to the frequency-hopping channel for the piconet. The frequency hopping sequence is determined by the master's device address and the phase of the hopping sequence (the frequency to hop at a specific time) is determined by the master's internal clock. Therefore, all slaves in a piconet must know the master's device address and must synchronize their clocks with the master's clock. Adaptive Frequency Hopping (AFH) was introduced in the Bluetooth specification to provide an effective way for a Bluetooth radio to counteract normal interference. AFH identifies "bad" channels, where either other wireless devices are interfering with the Bluetooth signal or the Bluetooth signal is interfering with another device. The AFH-enabled Bluetooth device will then communicate with other devices within its piconet to share details of any identified bad channels. The devices will then switch to alternative available "good" channels, away from the areas of interference, thus having no impact on the bandwidth used.

This device was tested with an bluetooth system receiver to check that the device maintained hopping synchronization, and the device complied with these requirements for FCC Part 15.247 rule.

7.11.3 EUT Pseudorandom Frequency Hopping Sequence

Pseudorandom Frequency Hopping Sequence Table as below: Channel: 08, 24, 40, 56, 40, 56, 72, 09, 01, 09, 33, 41, 33, 41, 65, 73, 53, 69, 06, 22, 04, 20, 36, 52, 38, 46, 70, 78, 68, 76, 21, 29, 10, 26, 42, 58, 44, 60, 76, 13, 03, 11, 35, 43, 37, 45, 69, 77, 55, 71, 08, 24, 08, 24, 40, 56, 40, 48, 72, 01, 72, 01, 25, 33, 12, 28, 44, 60, 42, 58, 74, 11, 05, 13, 37, 45 etc.

The system receiver have input bandwidths that match the hopping channel bandwidths of their corresponding transmitters and shift frequencies in synchronization with the transmitted signals.

 $\overline{}$



8 TEST RESULTS

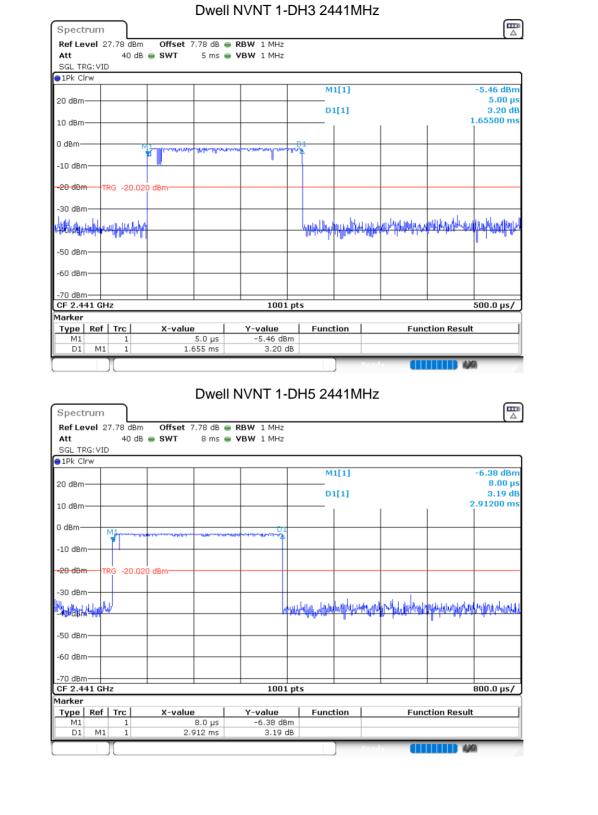
8.1 **DWELL TIME**

O.I DILLE							
Condition Mode	Frequency	Pulse Time	Total Dwell	Period Time	Limit	Verdict	
Condition	Condition Mode		(ms)	Time (ms)	(ms)	(ms)	veruici
NVNT	1-DH1	2441	0.405	129.6	31600	400	Pass
NVNT	1-DH3	2441	1.655	264.8	31600	400	Pass
NVNT	1-DH5	2441	2.912	310.613	31600	400	Pass
NVNT	2-DH1	2441	0.375	120	31600	400	Pass
NVNT	2-DH3	2441	1.665	266.4	31600	400	Pass
NVNT	2-DH5	2441	2.872	306.347	31600	400	Pass

Dwell NVNT 1-DH1 2441MHz

	rw											
							М	1[1]				6.02 dBr
20 dBm-					_		n	1[1]				5.00 µ -1.28 d
10 dBm-				M1				1[1]				405.00 μ
10 0000				Ι <u>Υ</u> _		_D1						1
0 dBm—						-						
-10 dBm												
-20 dBm		G -20.02	 0.d8m									
			Ĭ									
-30 dBm	∩											
	الدارين	asa da sida	Busices dilate	Lat		1.1	المراجعة المراجع	La di	لمال	n kilalandi	Wellergludd	يد حام والالدان
-40 dB#	, Andra	արիտոփ	Month Marine	רעוז		100	heleneddy	MAR AND	Abudh	hallan adla	uli i autice entite	Alfanda Landah
-50 dBm	, L	1.1								· ·		
-60 dBm	ι 											
-70 dBm CF 2.44		7				1001	nts					300.0 µs/
darker	TT GIT	-				1001	P(3					000.0 µ37
	Ref	Trc	X-value	.	Y-v	alue	Func	tion		Fu	nction Resu	lt
M1		1		5.0 µs		5.02 dB						
D1	M1	1	4()5.0 µs		-1.28 d	1B					







SGL TRG: VID 1Pk Clrw									
20 dBm					M1	1[1]			-2.86 dBm 44.00 µs
10 dBm					D1	L[1]			-0.77 dB 375.00 µs
			M1 .						
0 dBm				And All Alland I					
-10 dBm									
-20 dBm TRG	-20.020) dBm							
-30 dBm									
Net the model of the second	4H-14	ullulu and a		- party	Ynddy my ddy my dy	1. Martin Martin	hall a grant a	helither the second	
-50 dBm	· •	μ.		1	* 4 ***	l a			Ť
-60 dBm									
-70 dBm									
CF 2.441 GHz				1001	pts				300.0 µs/
Marker Type Ref Ti		X-value		Y-value	Funct	tion	Fund	ction Result	:
M1	1		ŀ4.0 μs '5.0 μs	-2.86 dBr -0.77 dl					
D1 M1	1	37	5.0 µS	0.11 0	0				
D1 M1 Spectrum Ref Level 27.7 Att	8 dBm		Dwell N	NVNT 2-I) Poor 41MHz			
Spectrum Ref Level 27.7 Att SGL TRG:VID	8 dBm	Offset 7	Dwell N	NVNT 2-I RBW 1 MHz		41MHz			
Spectrum Ref Level 27.7 Att SGL TRG:VID 1Pk Cirw	8 dBm	Offset 7	Dwell N	NVNT 2-I RBW 1 MHz	DH3 24) Pear 41MHz			5.96 dBm
Spectrum Ref Level 27.7 Att SGL TRG:VID	8 dBm	Offset 7	Dwell N	NVNT 2-I RBW 1 MHz	DH3 24				5.96 dBm 5.00 μs -1.55 dB
Spectrum Ref Level 27.7 Att SGL TRG:VID 1Pk Cirw	8 dBm	Offset 7	Dwell N	NVNT 2-I RBW 1 MHz	DH3 24	1[1]		, , ,	5.96 dBm 5.00 μs
Spectrum Ref Level 27.7 Att SGL TRG:VID 1Pk Clrw 20 dBm	8 dBm	Offset 7	Dwell N	NVNT 2-I RBW 1 MHz	DH3 24	1[1]		,	5.96 dBm 5.00 μs -1.55 dB
Spectrum Ref Level 27.7 Att SGL TRG: VID 1Pk Clrw 20 dBm 10 dBm	8 dBm	Offset 7	Dwell N	NVNT 2-I RBW 1 MHz	DH3 24	1[1]			5.96 dBm 5.00 μs -1.55 dB
Spectrum Ref Level 27.7 Att SGL TRG:VID 1Pk Clrw 20 dBm 10 dBm 0 dBm -10 dBm	8 dBm	Offset 7	Dwell N	NVNT 2-I RBW 1 MHz	DH3 24	1[1]			5.96 dBm 5.00 μs -1.55 dB
Spectrum Ref Level 27.7 Att SGL TRG: VID 1Pk Clrw 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm	8 dBm 40 dB	Offset 7	Dwell N	NVNT 2-I RBW 1 MHz	DH3 24	1[1]			5.96 dBm 5.00 µs -1.55 dB .66500 ms
Spectrum Ref Level 27.7 Att SGL TRG: VID 1Pk Clrw 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm	8 dBm 40 dB	Offset 7	Dwell N	NVNT 2-I RBW 1 MHz	DH3 24	1[1]			5.96 dBm 5.00 µs -1.55 dB .66500 ms
Spectrum Ref Level 27.7 Att SGL TRG: VID ● 1Pk Clrw 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 usyl + 10 usyl	8 dBm 40 dB	Offset 7	Dwell N	NVNT 2-I RBW 1 MHz	DH3 24	1[1]			5.96 dBm 5.00 µs -1.55 dB .66500 ms
Spectrum Ref Level 27.7 Att SGL TRG: VID ● 1Pk Clrw 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm TRG -30 dBm -40 ugt 14 ugt 14 -50 dBm	8 dBm 40 dB	Offset 7	Dwell N	NVNT 2-I RBW 1 MHz	DH3 24	1[1]			5.96 dBm 5.00 µs -1.55 dB .66500 ms
Spectrum Ref Level 27.7 Att SGL TRG: VID IPk Clrw 20 dBm 10 dBm -10 dBm -20 dBm -10 dBm -50 dBm -60 dBm	8 dBm 40 dB	Offset 7	Dwell N	NVNT 2-I RBW 1 MHz	DH3 24	1[1]			5.96 dBm 5.00 µs -1.55 dB .66500 ms
Spectrum Ref Level 27.7 Att SGL TRG: VID 1Pk Clrw 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm TRG -30 dBm -40 dBm -50 dBm	8 dBm 40 dB	Offset 7	Dwell N	NVNT 2-I RBW 1 MHz	DH3 24	1[1]		(Malalaha)	5.96 dBm 5.00 µs -1.55 dB .66500 ms
Spectrum Ref Level 27.7 Att SGL TRG: VID 1Pk Clrw 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -50 dBm -60 dBm -70 dBm -70 dBm CF 2.441 GHz	-20.020	Offset 7 SWT	Dwell N	NVNT 2-I	DH3 24	1[1] 1[1]	Milley Prise al Market	(papilalaphijonativ	5.96 dBm 5.00 μs -1.55 dB 1.66500 ms
Spectrum Ref Level 27.7 Att SGL TRG: VID 1Pk Clrw 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -20 dBm -50 dBm -60 dBm -70 dBm -70 dBm -70 dBm	-20.020	Offset 7 SWT	Dwell N	NVNT 2-I	DH3 24	1[1] 1[1]	Milley Prise al Market	(Malalaha)	5.96 dBm 5.00 μs -1.55 dB 1.66500 ms



Spectrum								
Ref Level 27.78		_	RBW 1 MHz					
Att 4 SGL TRG: VID	O dB 😑 SWT	8 ms 🖷	VBW 1 MHz					
1Pk Clrw								
				м	1[1]			-3.02 dBm
20 dBm		_						48.00 µs
				D	1[1]			0.44 dB
10 dBm						1	2	2.87200 ms
o do se M1								
0 dBm	ppt. Manperty Mar	لإوام المركالية وإوام الم	per prover services					
-10 dBm		() ()	1. T					
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-30 dBm		-			1			
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-50 dBm								
50 dbiii								
-60 dBm		_						
-70 dBm								
CF 2.441 GHz			1001	pts				800.0 µs/
Marker	1			1 -				
Type Ref Trc M1	X-val		<u>Y-value</u> -3.02 dB	Func	tion	Fund	ction Result	:
		48.0 µs						
D1 M1 1	1	2.872 ms	0.44 c	38				

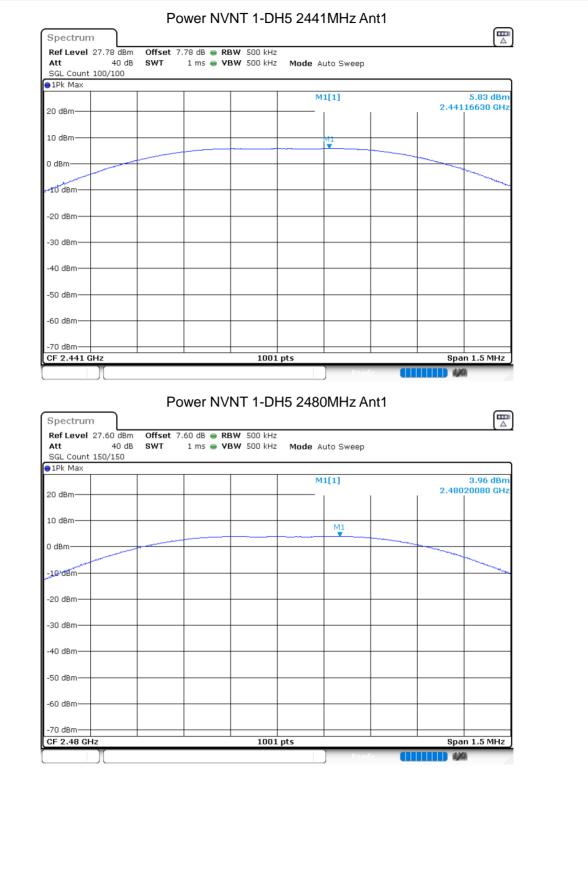


8.2 MAXIMUM CONDUCTED OUTPUT POWER

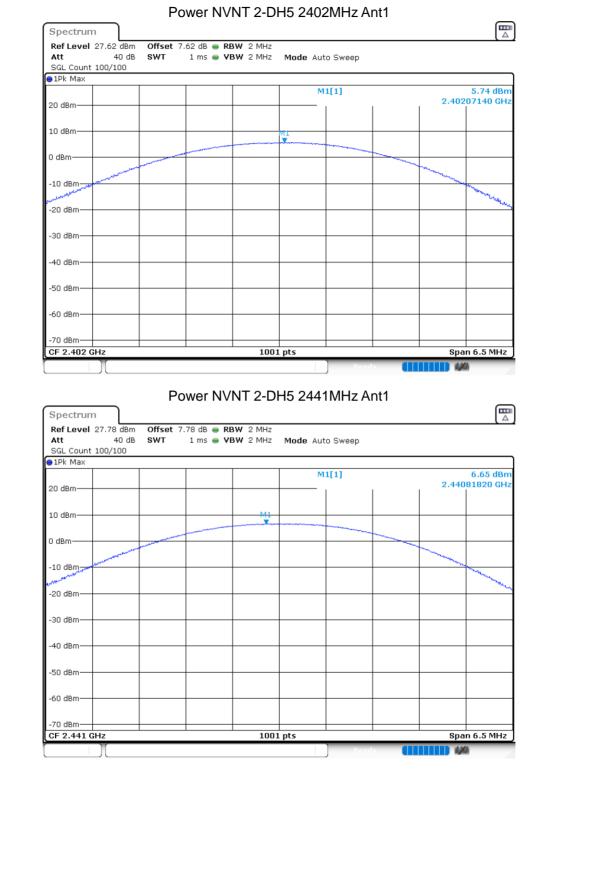
		••				
Condition	Mode	Frequency (MHz)	Antenna	Power (dBm)	Limit (dBm)	Verdict
NVNT	1-DH5	2402	Ant 1	4.57	30	Pass
NVNT	1-DH5	2441	Ant 1	5.83	30	Pass
NVNT	1-DH5	2480	Ant 1	3.96	30	Pass
NVNT	2-DH5	2402	Ant 1	5.74	20.97	Pass
NVNT	2-DH5	2441	Ant 1	6.65	20.97	Pass
NVNT	2-DH5	2480	Ant 1	5.10	20.97	Pass

Ref Level 30.62 dBm Att 40 dB SGL Count 300/300	 RBW 500 kHz VBW 500 kHz 	Mode Auto Sweep		
1Pk Max				
		M1[1]	2.4	4.57 dBn 0218580 GH
20 dBm			2.1	
10 dBm				
		M1		
) dBm				+
10 dBm				
20 dBm				
-30 dBm				
40 dBm				
50 dBm				
co do-				
60 dBm				
CF 2.402 GHz	1001 p	nts		pan 1.5 MHz

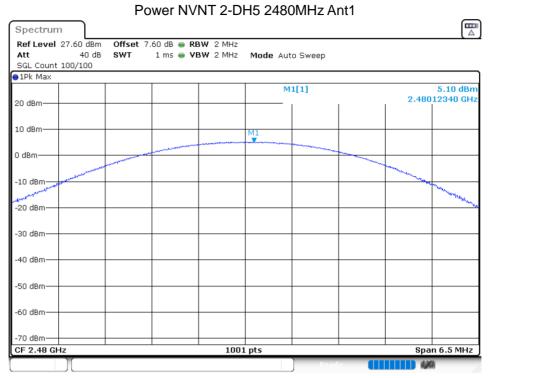










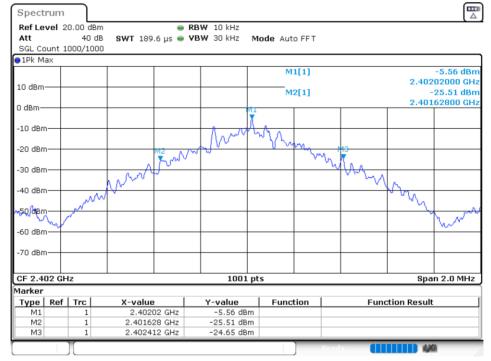




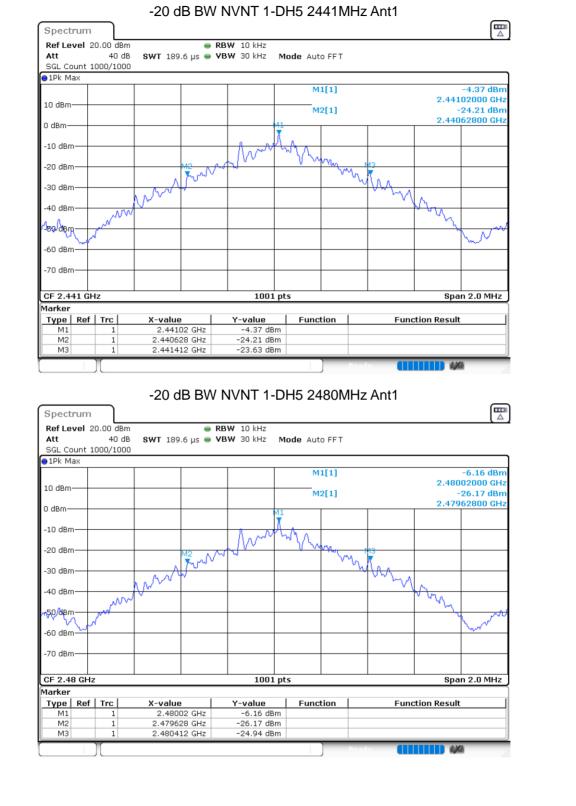
8.3 OCCUPIED CHANNEL BANDWIDTH

Condition	Mode	Frequency (MHz)	Antenna	-20 dB Bandwidth (MHz)	Verdict
NVNT	1-DH5	2402	Ant 1	0.784	Pass
NVNT	1-DH5	2441	Ant 1	0.784	Pass
NVNT	1-DH5	2480	Ant 1	0.784	Pass
NVNT	2-DH5	2402	Ant 1	1.224	Pass
NVNT	2-DH5	2441	Ant 1	1.228	Pass
NVNT	2-DH5	2480	Ant 1	1.226	Pass

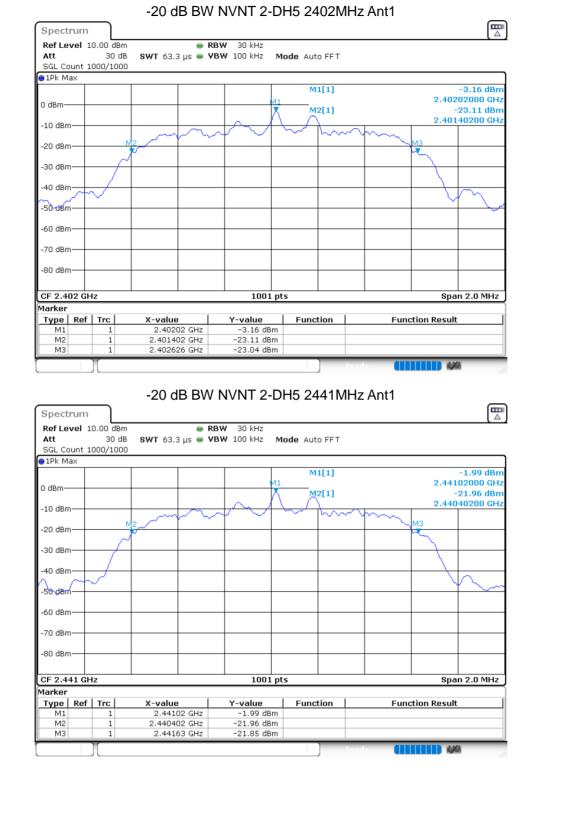
-20 dB BW NVNT 1-DH5 2402MHz Ant1



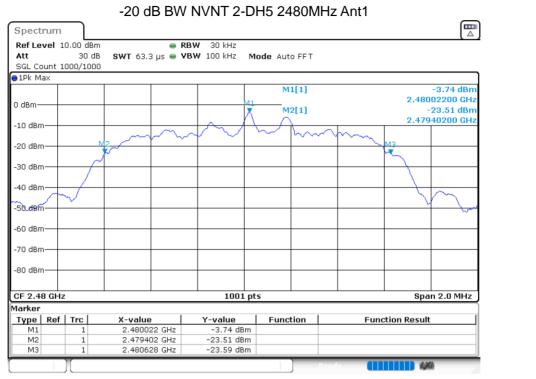














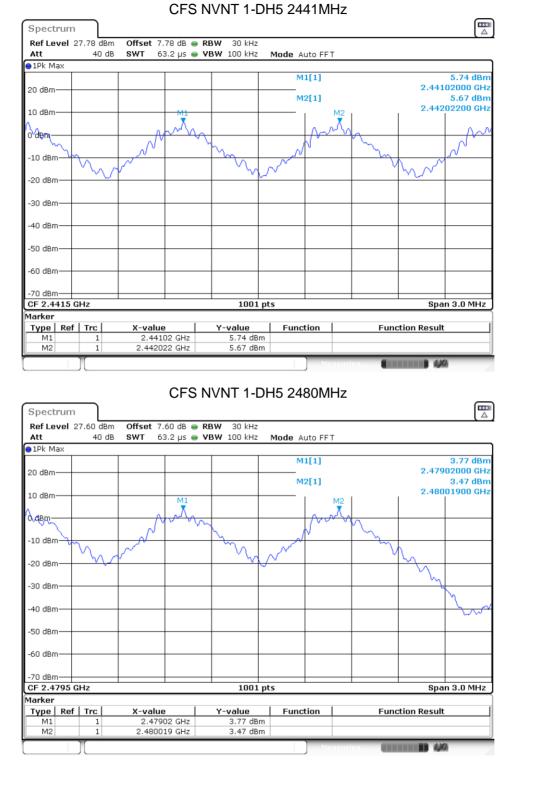
8.4 CARRIER FREQUENCIES SEPARATION

Condition	Mode	Hopping Freq1 (MHz)	Hopping Freq2 (MHz)	HFS (MHz)	Limit (MHz)	Verdict
NVNT	1-DH5	2402.017	2403.022	1.005	0.784	Pass
NVNT	1-DH5	2441.02	2442.022	1.002	0.784	Pass
NVNT	1-DH5	2479.02	2480.019	0.999	0.784	Pass
NVNT	2-DH5	2402.02	2403.019	0.999	0.816	Pass
NVNT	2-DH5	2441.02	2442.022	1.002	0.819	Pass
NVNT	2-DH5	2479.017	2480.022	1.005	0.817	Pass

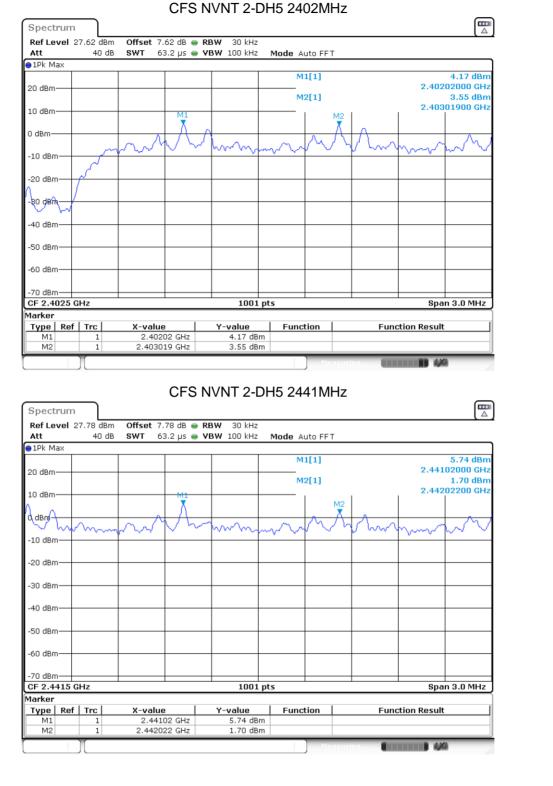


CFS NVNT 1-DH5 2402MHz

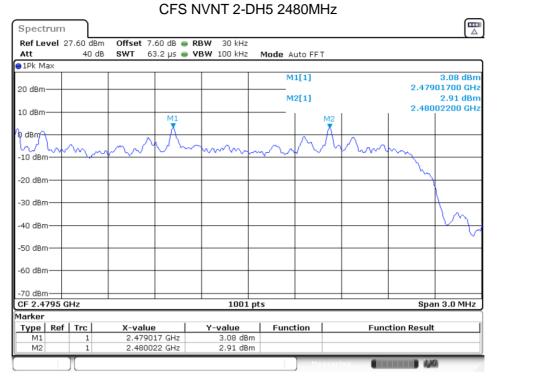














8.5 NUMBER OF HOPPING CHANNEL

Condition	Mode	Hopping Number	Limit	Verdict
NVNT	1-DH5	79	15	Pass

	40 dB 3000/8000	SWT 1	_	BW 100 kHz BW 300 kHz	Mode A	uto Sweep			
1Pk Max				1					0.00.40
20 dBm					M	1[1]		2.40	3.88 dBm 18370 GHz
LO UDIII					м	2[1]			3.52 dBm
101dBm		+		+		1	1	2.48	02435 GHz M2
	UNAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	VARAROAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	6666888	AAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAA	BAAAAAA	10000000	NA DA	павалав	th n n n 🕈
U ØEM -10 ØEM	NWW	WWWWW	MWW	NAVANA	WWW	WWW	WANNA		WAAA
-44 @9/0111	010101-		Ť				00000010	A	01000
-20 dBm		+							
-30 dBm									ML,
-40 dBm									i) where the second sec
-50 dBm		+ +							
-60 dBm									
-00 ubiii									
-70 dBm									
Start 2.4 GH	lz			1001	ots			Stop 2	.4835 GHz
Marker	1 - 1				1 -	1			1
Type Ref M1	1 Trc	2.401837	GH7	<u>Y-value</u> 3.88 dBm	Func	tion	Fund	ction Result	
M2	1	2.4802435		3.52 dBm					



8.6 BAND EDGE

0.0 DAND	EDGE						
Condition	Mode	Frequency (MHz)	Antenna	Hopping Mode	Max Value	Limit	Verdict
Contaition	mode	1 10400103 (11112)	/	nopping mode	(dBc)	(dBc)	Veraiet
NVNT	1-DH5	2402	Ant 1	No-Hopping	-45.37	-20	Pass
NVNT	1-DH5	2402	Ant 1	Hopping	-45.03	-20	Pass
NVNT	1-DH5	2480	Ant 1	No-Hopping	-35.63	-20	Pass
NVNT	1-DH5	2480	Ant 1	Hopping	-39.22	-20	Pass
NVNT	2-DH5	2402	Ant 1	No-Hopping	-44.33	-20	Pass
NVNT	2-DH5	2402	Ant 1	Hopping	-45.43	-20	Pass
NVNT	2-DH5	2480	Ant 1	No-Hopping	-34.22	-20	Pass
NVNT	2-DH5	2480	Ant 1	Hopping	-43.46	-20	Pass

Band Edge NVNT 1-DH5 2402MHz Ant1 No-Hopping Ref





20 dBm	8 dBm 10/GHz
10 dBm M2[1] -28.98 0 dBm 2.40000000 0 dBm 10 dBm -10 dBm 10 dBm -20 dBm 10 dBm -20 dBm 10 dBm -30 dBm 10 dBm	8 dBm 10/GHz
0 dBm 10 dBm 11 dBm 12 dBm	2
-10 dBm	
D1 -15.498 dBm	
-30 dBm	
40.40m	///
	1 In h
unantradional and the second second and the second and the second and the second s	U VV
-50 dBm	
-60 dBm	
-70 dBm Start 2.306 GHz 1001 pts Stop 2.406 G	i GHz
Marker	
Type Ref Trc X-value Y-value Function Function Result M1 1 2.40205 GHz 4.52 dBm	
M2 1 2.4 GHz -28.98 dBm M3 1 2.39 GHz -46.23 dBm	
M4 1 2.344 GHz -40.88 dBm	
Band Edge(Hopping) NVNT 1-DH5 2402MHz Ant1 Hopping Ref Spectrum Ref Level 27.62 dB Offset 7.62 dB RBW 100 kHz Att 40 dB SWT 18.9 µs VBW 300 kHz Mode Auto FFT SGL Count 2000/2000	
Spectrum Ref Level 27.62 dB Offset 7.62 dB RBW 100 kHz Att 40 dB SWT 18.9 μs VBW 300 kHz Mode Auto FFT SGL Count 2000/2000 Image: Count Provide Provid	
Spectrum Ref Level 27.62 dB Offset 7.62 dB RBW 100 kHz Att 40 dB SWT 18.9 μs VBW 300 kHz Mode Auto FFT SGL Count 2000/2000 Image: Count Provide Provid	8 dBm
Spectrum Ref Level 27.62 dB Offset 7.62 dB RBW 100 kHz Att 40 dB SWT 18.9 µs VBW 300 kHz Mode Auto FFT SGL Count 2000/2000 Max M1[1] 4.78 d 20 dBm	8 dBm
Spectrum Ref Level 27.62 dBm Offset 7.62 dB RBW 100 kHz Att 40 dB SWT 18.9 µs VBW 300 kHz Mode Auto FFT SGL Count 2000/2000 Max M1[1] 4.78 d 20 dBm 10 dBm 10 dBm 10 dBm 10 dBm 10 dBm	8 dBm
Spectrum Ref Level 27.62 dB Offset 7.62 dB RBW 100 kHz Att 40 dB SWT 18.9 µs VBW 300 kHz Mode Auto FFT SGL Count 2000/2000 Max M1[1] 4.78 d 20 dBm	8 dBm L0 GHz
Spectrum Ref Level 27.62 dB Offset 7.62 dB RBW 100 kHz Att 40 dB SWT 18.9 µs VBW 300 kHz Mode Auto FFT SGL Count 2000/2000 Image: Superstand state of the superstate of the	8 dBm L0 GHz
Spectrum Ref Level 27.62 dBm Offset 7.62 dB RBW 100 kHz Att 40 dB SWT 18.9 µs VBW 300 kHz Mode Auto FFT SGL Count 2000/2000 Image: Second sec	8 dBm L0 GHz
Spectrum Ref Level 27.62 dB Offset 7.62 dB RBW 100 kHz Att 40 dB SWT 18.9 µs VBW 300 kHz Mode Auto FFT SGL Count 2000/2000 Image: Second seco	8 dBm L0 GHz
Spectrum Ref Level 27.62 dBm Offset 7.62 dB RBW 100 kHz Att 40 dB SWT 18.9 µs VBW 300 kHz Mode Auto FFT SGL Count 2000/2000 Image: Second sec	8 dBm L0 GHz
Spectrum Offset 7.62 dB RBW 100 kHz Att 40 dB SWT 18.9 µs YBW 300 kHz Mode Auto FFT SGL Count 2000/2000 Image: Second	8 dBm L0 GHz
Spectrum Offset 7.62 dB RBW 100 kHz Att 40 dB SWT 18.9 µs VBW 300 kHz Mode Auto FFT SGL Count 2000/2000 Image: Superstandard Stress of Superst	8 dBm L0 GHz
Spectrum Offset 7.62 dB RBW 100 kHz Att 40 dB SWT 18.9 µs YBW 300 kHz Mode Auto FFT SGL Count 2000/2000 9 IPk Max M1[1] 4.78 d 20 dBm 0 dBm 0 dBm 0 dBm 0 dBm -10 dBm -10 dBm -10 dBm -10 dBm -10 dBm -10 dBm	8 dBm L0 GHz
Spectrum Offset 7.62 dB RBW 100 kHz Att 40 dB SWT 18.9 µs YBW 300 kHz Mode Auto FFT SGL Count 2000/2000 9 IPk Max M1[1] 4.78 c 20 dBm 0 dBm 0 dBm 0 dBm 0 dBm 10 dBm 0 dBm 0 dBm 0 dBm 0 dBm -20 dBm -30 dBm -40 dBm -40 dBm -40 dBm -40 dBm	8 dBm L0 GHz
Spectrum Offset 7.62 dB RBW 100 kHz Att 40 dB SWT 18.9 µs VBW 300 kHz Mode Auto FFT SGL Count 2000/2000 Image: Superstand	8 dBm L0 GHz
Spectrum Offset 7.62 dB RBW 100 kHz Att 40 dB SWT 18.9 µs YBW 300 kHz Mode Auto FFT SGL Count 2000/2000 91Pk Max	8 dBm 10 GHz







SGL Count 1Pk Max	100/100									
20 dBm					M	1[1]		2.48	3.30 dBm 005000 GHz	
10 <mark>d</mark> Bm					M	2[1]			-31.70 dBm 350000 GHz	
0 dBm										
-10 dBm—										
-20 c Bm	D1 -16.067	dBm								
-30 dBm										
-40 alim 4		M3	Mand it a	4				. ndia		
-50 dBm	und wat all all all all all all all all all a	ոնել վետեստ	nyang man	the how approved	munantitud	and the second	mannelulation	and the second des	who to make	
-60 dBm—										
-70 dBm										
Start 2.47 Marker	6 GHz			1001	pts			Stop	2.576 GHz	
Type Re	ef Trc	X-value 2.480	e 05 GHz	Y-value 3.30 dB	Func	tion	Fun	ction Resul	t	
				-31.70 dB	m					
M1 M2	1	2.48			100					
M2 M3 M4 Spectrur Ref Level Att	1 5and Edg 1 27.60 dBm 40 dB	2.48 ge(Hop) offset 7	2.5 GHz 35 GHz Ding) N	-44.35 dB -31.70 dB VNT 1-D BW 100 kHz /BW 300 kHz	0H5 248		Ant1 Ho	pping R	ef	
M2 M3 M4 Spectrur Ref Level Att	1 1 Sand Edg 1 27.60 dBm	2.48 ge(Hop) offset 7	2.5 GHz 35 GHz Ding) N	-44.35 dB -31.70 dB VNT 1-D	0H5 248 Mode A	uto FFT	Ant1 Ho	pping R		
M2 M3 M4 Spectrur Ref Level Att SGL Count	1 5and Edg 1 27.60 dBm 40 dB	2.48 ge(Hop) offset 7	2.5 GHz 35 GHz Ding) N	-44.35 dB -31.70 dB VNT 1-D	0H5 248 Mode A		Ant1 Ho			
M2 M3 M4 Spectrur Ref Level Att SGL Count • 1Pk Max 20 dBm-	1 5and Edg 1 27.60 dBm 40 dB	2.48 ge(Hop) offset 7	2.5 GHz 35 GHz Ding) N	-44.35 dB -31.70 dB VNT 1-D	0H5 248 Mode A	uto FFT	Ant1 Ho]
M2 M3 M4 Spectrur Ref Level Att SGL Count 9 1Pk Max	1 5and Edg 1 27.60 dBm 40 dB	2.48 ge(Hop) offset 7	2.5 GHz 35 GHz Ding) N	-44.35 dB -31.70 dB VNT 1-D RBW 100 kHz /BW 300 kHz	0H5 248 Mode A	uto FFT	Ant1 Ho			
M2 M3 M4 Spectrur Ref Level Att SGL Count • 1Pk Max 20 dBm-	1 5and Edg 1 27.60 dBm 40 dB	2.48 ge(Hop) offset 7	2.5 GHz 35 GHz Ding) N	-44.35 dB -31.70 dB VNT 1-D RBW 100 kHz /BW 300 kHz	0H5 248 Mode A	uto FFT	Ant1 Ho			
M2 M3 M4 Spectrur Ref Level Att SGL Count IPk Max 20 dBm 10 dBm	1 5and Edg 1 27.60 dBm 40 dB	2.48 ge(Hop) offset 7	2.5 GHz 35 GHz Ding) N	-44.35 dB -31.70 dB VNT 1-D RBW 100 kHz /BW 300 kHz	0H5 248 Mode A	uto FFT	Ant1 Ho			
M2 M3 M4 Spectrur Ref Level Att SGL Count • 1Pk Max 20 dBm 10 dBm -10 dBm	1 5and Edg 1 27.60 dBm 40 dB	2.48 ge(Hop) offset 7	2.5 GHz 35 GHz Ding) N	-44.35 dB -31.70 dB VNT 1-D RBW 100 kHz /BW 300 kHz	0H5 248 Mode A	uto FFT	Ant1 Ho			
M2 M3 M4 Spectrur Ref Level Att SGL Count 9 1Pk Max 20 dBm 10 dBm -10 dBm -10 dBm -20 dBm	1 5and Edg 1 27.60 dBm 40 dB	2.48 ge(Hop) offset 7	2.5 GHz 35 GHz Ding) N	-44.35 dB -31.70 dB VNT 1-D RBW 100 kHz /BW 300 kHz	0H5 248 Mode A	uto FFT	Ant1 Ho			
M2 M3 M4 Spectrur Ref Level Att SGL Count • 1Pk Max 20 dBm 10 dBm -10 dBm	1 5and Edg 1 27.60 dBm 40 dB	2.48 ge(Hop) offset 7	2.5 GHz 35 GHz Ding) N	-44.35 dB -31.70 dB VNT 1-D RBW 100 kHz /BW 300 kHz	0H5 248 Mode A	uto FFT	Ant1 Ho			
M2 M3 M4 Spectrur Ref Level Att SGL Count O dBm 10 dBm -10 dBm -10 dBm -20 dBm	1 5and Edg 1 27.60 dBm 40 dB	2.48 ge(Hop) offset 7	2.5 GHz 35 GHz Ding) N	-44.35 dB -31.70 dB VNT 1-D RBW 100 kHz /BW 300 kHz	0H5 248 Mode A	uto FFT	Ant1 Ho			
M2 M3 M4 Spectrur Ref Level Att SGL Count SGL Count 10 dBm 10 dBm -10 dBm -10 dBm -20 dBm -30 dBm	1 5and Edg 1 27.60 dBm 40 dB	2.48 ge(Hop) offset 7	2.5 GHz 35 GHz Ding) N	-44.35 dB -31.70 dB VNT 1-D RBW 100 kHz /BW 300 kHz	0H5 248 Mode A	uto FFT	Ant1 Ho			
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M2 M3 M4 Spectrur Ref Level Att SGL Count • 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -40 dBm	1 5and Edg 1 27.60 dBm 40 dB	2.48 ge(Hop) offset 7	2.5 GHz 35 GHz Ding) N	-44.35 dB -31.70 dB VNT 1-D RBW 100 kHz /BW 300 kHz	0H5 248 Mode A	uto FFT	Ant1 Ho			
M2 M3 M4 Spectrur Ref Level Att SGL Count • 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm	and Edg 27.60 dBm 40 dB 2000/2000	2.48 ge(Hop) offset 7	2.5 GHz 35 GHz Ding) N	-44.35 dB -31.70 dB VNT 1-D RBW 100 kHz /BW 300 kHz	Mode A	uto FFT	Ant1 Ho	2.48		



SGL Count 1000/1			RBW 100 kH VBW 300 kH		Auto FFT				
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20 dBm					12[1]			605000 GHz -35.73 dBm	
10 dBm					1	I	2.48	350000 GHz	
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M1 1 M2 1	. 2.4	7605 GHz	3.35 dB -35.73 dB	m					
M3 1		2.5 GHz	-43.56 dB	im					
Spectrum Ref Level 27.62	2.4 nd Edge I dBm Offset	1845 GHz NVNT 2∙ 7.62 dB ● F	RBW 100 kHz	02MHz		o-Hoppi	ng Ref]
Ba Spectrum Ref Level 27.62	2.4 nd Edge I dBm Offset 0 dB SwT	1845 GHz NVNT 2∙ 7.62 dB ● F	-DH5 24(02MHz Mode A	uto FFT	o-Hoppi	ng Ref]
Ba Spectrum Ref Level 27.62 Att 44 SGL Count 100/10	2.4 nd Edge I dBm Offset 0 dB SwT	1845 GHz NVNT 2∙ 7.62 dB ● F	-DH5 24(02MHz Mode A		o-Hoppi		3.20 dBm 202400 GHz]
Ba Spectrum Ref Level 27.62 Att 44 SGL Count 100/10 1Pk Max	2.4 nd Edge I dBm Offset 0 dB SwT	1845 GHz NVNT 2∙ 7.62 dB ● F	-DH5 24(02MHz Mode A	uto FFT	o-Hoppi		(△ 3.20 dBm]
Ba Spectrum Ref Level 27.62 Att 44 SGL Count 100/10 1Pk Max 20 dBm	2.4 nd Edge I dBm Offset 0 dB SwT	1845 GHz NVNT 2∙ 7.62 dB ● F	-DH5 24(D2MHz	uto FFT	o-Hoppi		(△ 3.20 dBm]
Ba Spectrum Ref Level 27.62 Att 44 SGL Count 100/10 • 1Pk Max 20 dBm 10 dBm 0 dBm	2.4 nd Edge I dBm Offset 0 dB SwT	1845 GHz NVNT 2∙ 7.62 dB ● F	-DH5 24(D2MHz	uto FFT	o-Hoppi		(△ 3.20 dBm)
Ba Spectrum Ref Level 27.62 Att 44 SGL Count 100/10 @ 1Pk Max 20 dBm 10 dBm -10 dBm	2.4 nd Edge I dBm Offset 0 dB SwT	1845 GHz NVNT 2∙ 7.62 dB ● F	-DH5 24(D2MHz	uto FFT	b-Hoppi		(△ 3.20 dBm	
Ba Spectrum Ref Level 27.62 Att 44 SGL Count 100/10 • 1Pk Max 20 dBm 10 dBm 0 dBm	2.4 nd Edge I dBm Offset 0 dB SwT	1845 GHz NVNT 2∙ 7.62 dB ● F	-DH5 24(D2MHz	uto FFT	b-Hoppi		(△ 3.20 dBm	
Ba Spectrum Ref Level 27.62 Att 44 SGL Count 100/10 1Pk Max 20 dBm 10 dBm 0 dBm -10 dBm	2.4 nd Edge I dBm Offset 0 dB SwT	1845 GHz NVNT 2∙ 7.62 dB ● F	-DH5 24(D2MHz	uto FFT			(△ 3.20 dBm	
Ba Spectrum Ref Level 27.62 Att 44 SGL Count 100/10 1Pk Max 20 dBm 10 dBm 0 dBm -10 dBm	2.4 nd Edge I dBm Offset 0 dB SwT	1845 GHz NVNT 2∙ 7.62 dB ● F	-DH5 24(D2MHz	uto FFT			(△ 3.20 dBm	
Ba Spectrum Ref Level 27.62 Att 44 SGL Count 100/10 • 1Pk Max 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	2.4 nd Edge I dBm Offset 0 dB SwT	1845 GHz NVNT 2∙ 7.62 dB ● F	-DH5 24(D2MHz	uto FFT	b-Hoppi		(△ 3.20 dBm	
Ba Spectrum Ref Level 27.62 Att 44 SGL Count 100/10 1Pk Max 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm	2.4 nd Edge I dBm Offset 0 dB SwT	1845 GHz NVNT 2∙ 7.62 dB ● F	-DH5 24(D2MHz	uto FFT			(△ 3.20 dBm	
Ba Spectrum Ref Level 27.62 Att 44 SGL Count 100/10 • 1Pk Max 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30 dBm -40 dBm	2.4 nd Edge I dBm Offset 0 dB SwT	1845 GHz NVNT 2∙ 7.62 dB ● F	-DH5 24(D2MHz	uto FFT			(△ 3.20 dBm	
Ba Spectrum Ref Level 27.62 Att 44 SGL Count 100/10 • 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -50 dBm -50 dBm -70 dBm	2.4 nd Edge I dBm Offset 0 dB SwT	1845 GHz NVNT 2∙ 7.62 dB ● F		D2MHz	uto FFT		2.40	3.20 dBm 202400 GHz	
Ba Spectrum Ref Level 27.62 Att 44 SGL Count 100/10 • 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm -60 dBm	2.4 nd Edge I dBm Offset 0 dB SwT	1845 GHz NVNT 2∙ 7.62 dB ● F	-DH5 24(D2MHz	uto FFT		2.40	(△ 3.20 dBm	
Ba Spectrum Ref Level 27.62 Att 44 SGL Count 100/10 • 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm -50 dBm -60 dBm -70 dBm	2.4 nd Edge I dBm Offset 0 dB SwT	1845 GHz NVNT 2∙ 7.62 dB ● F		D2MHz	uto FFT		2.40	3.20 dBm 202400 GHz	



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10 dBm M2[1] -28.95 dBm 0 dBm 0 0 0 0 -10 dBm 0 0 0 0 -10 dBm 0 0 0 0 -20 dBm 0 0 0 0 -30 dBm 0 0 0 0 -30 dBm 0 0 0 0 -40 dBm 0 0 0 0 -50 dBm 0 0 0 0 -60 dBm 0 0 0 0 -70 dBm 0 0 0 0 M1 1 1 2.40205 GHz 4.55 dBm 0 M2 1 2.40 GHz -28.95 dBm 0 M3 1 2.394 GHz -46.47 dBm 0	m
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40 dBm M4	
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Start 2.306 GHz 1001 pts Stop 2.406 GHz Marker Type Ref Trc X-value Y-value Function Function Result M1 1 2.40205 GHz 4.55 dBm 6Hz 6Hz M2 1 2.4 GHz -28.95 dBm 6Hz 6Hz M3 1 2.39 GHz -46.7 dBm 6Hz 6Hz M4 1 2.3445 GHz -41.13 dBm 6Hz 6Hz Ref Level 27.62 dBm Offset 7.62 dB RBW 100 kHz Att 40 dB SWT 18.9 µs VBW 300 kHz Mode Auto FFT SGL Count 8000/8000 6Hz M1[1] 2.478 dBr 2.478 dBr	
Start 2.306 GHz 1001 pts Stop 2.406 GHz Marker Type Ref Trc X-value Y-value Function Function Result M1 1 2.40205 GHz 4.55 dBm Function Function Result M2 1 2.4 GHz -28.95 dBm Function Function Result M3 1 2.39 GHz -46.47 dBm Function Function Result M4 1 2.3445 GHz -41.13 dBm Function Function Result M4 1 2.3445 GHz -41.13 dBm Function Result Function Result M4 1 2.3445 GHz -41.13 dBm Function Result Function Result M4 1 0.3445 GHz -41.13 dBm Function Result Function Result Spectrum Ref Level 27.62 dBm Offset 7.62 dB • RBW 100 kHz Mate Muto FFT SGL Count 8000/8000 SWT 18.9 µs VBW 300 kHz Mode Auto FFT First Aut 40 dB SWT 18.9 µs M1[1]	
Type Ref Trc X-value Y-value Function Function Result M1 1 2.40205 GHz 4.55 dBm	z]
M2 1 2.4 GHz -28.95 dBm M3 1 2.39 GHz -46.47 dBm M4 1 2.3445 GHz -41.13 dBm Points Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref Spectrum Ref Level 27.62 dBm Offset 7.62 dB ● RBW 100 kHz Att 40 dB SWT 18.9 µs • VBW 300 kHz Mode Auto FFT SGL Count 8000/8000 ●1Pk Max M1[1] 4.78 dBm	
M4 1 2.3445 GHz -41.13 dBm Band Edge(Hopping) NVNT 2-DH5 2402MHz Ant1 Hopping Ref Spectrum Image: Control of the second	
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Peady	
-50 dBm	



Ref Level Att SGL Count	27.62 dBm 40 dB 1000/1000		7.62 dB ● 227.5 µs ●	VBW 300 kH		Auto FFT				
⊖1Pk Max										
20 dBm					N	11[1]		2.40	0.97 dBm 305000 GHz	
10 dBm					N	12[1]			-29.77 dBm 000000 GHz	
0 dBm						ļ			M1	
-10 dBm									Lan Bark	
-20 dBm	D1 -15.216	dBm								
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			M4						, i w	
	number	whenthen	harvery the way	he was here the second	yunu Thankilan	mothingph	anter share	mapul Toranaulte	M(N	
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Type Re M1	f Trc 1	X-valu 2.40	10 10 10 10 10 10 10 10	Y-value 0.97 de		tion	Fur	iction Resul	lt 🔤	
	1		2.4 GHz	-29.77 dB	Bm					
M2				-44.49 dE	Bm					
M3 M4 Spectrun Ref Level	n 27.60 dBm	2.3 Edge N	7.60 dB 👄 I	-40.65 df -DH5 24 RBW 100 kHz	80MHz		b-Hopp	ing Ref		
M3 M4	1 Band 27.60 dBm 40 dB	2.3 Edge N	403 GHz IVNT 2 7.60 dB • I	-40.65 df	BomHz 80MHz 2 Mode 4	uto FFT	o-Hopp	ing Ref		
M3 M4 Spectrun Ref Level Att SGL Count	1 Band 27.60 dBm 40 dB	2.3 Edge N	403 GHz IVNT 2 7.60 dB • I	-40.65 df -DH5 24 RBW 100 kHz	BomHz 80MHz 2 Mode 4		o-Hopp		3.54 dBm 002400 GHz	
M3 M4 Spectrun Ref Level Att SGL Count @1Pk Max	1 Band 27.60 dBm 40 dB	2.3 Edge N	403 GHz IVNT 2 7.60 dB • I	-40.65 df -DH5 24- RBW 100 kH2 VBW 300 kH2	BOMHz	uto FFT	o-Hopp		3.54 dBm	
M3 M4 Spectrun Ref Level Att SGL Count 9 1Pk Max 20 dBm	1 Band 27.60 dBm 40 dB	2.3 Edge N	403 GHz IVNT 2 7.60 dB • I	-40.65 df -DH5 24- RBW 100 kH2 VBW 300 kH2	BomHz 80MHz 2 Mode 4	uto FFT	p-Hopp		3.54 dBm	
M3 M4 Spectrun Ref Level Att SGL Count IPk Max 20 dBm-	1 Band 27.60 dBm 40 dB	2.3 Edge N	403 GHz IVNT 2 7.60 dB • I	-40.65 df -DH5 24- RBW 100 kH2 VBW 300 kH2	BOMHz	uto FFT	p-Hopp		3.54 dBm	
M3 M4 Spectrun Ref Level Att SGL Count 9 1Pk Max 20 dBm- 10 dBm-	1 Band 27.60 dBm 40 dB	2.3 Edge N	403 GHz IVNT 2 7.60 dB • I	-40.65 df -DH5 24- RBW 100 kH2 VBW 300 kH2	BOMHz	uto FFT	b-Hopp		3.54 dBm	
M3 M4 Spectrun Ref Level Att SGL Count 9 1Pk Max 20 dBm	1 Band 27.60 dBm 40 dB	2.3 Edge N	403 GHz IVNT 2 7.60 dB • I	-40.65 df -DH5 24- RBW 100 kH2 VBW 300 kH2	BOMHz	uto FFT	b-Hopp		3.54 dBm	
M3 M4 Spectrun Ref Level Att SGL Count ID dBm 0 dBm -10 dBm -20 dBm	1 Band 27.60 dBm 40 dB	2.3 Edge N	403 GHz IVNT 2 7.60 dB • I	-40.65 df -DH5 24- RBW 100 kH2 VBW 300 kH2	BOMHz	uto FFT	p-Hopp		3.54 dBm	
M3 M4 Spectrun Ref Level Att SGL Count IPk Max 20 dBm- 10 dBm- -10 dBm-	1 Band 27.60 dBm 40 dB	2.3 Edge N	403 GHz IVNT 2 7.60 dB • I	-40.65 df -DH5 24- RBW 100 kH2 VBW 300 kH2	BOMHz	uto FFT	D-Hopp		3.54 dBm	
M3 M4 Spectrun Ref Level Att SGL Count IV Max 20 dBm 0 dBm -10 dBm -20 dBm	1 Band 27.60 dBm 40 dB	2.3 Edge N	403 GHz IVNT 2 7.60 dB • I	-40.65 df -DH5 24- RBW 100 kH2 VBW 300 kH2	BOMHz	uto FFT	p-Hopp		3.54 dBm	
M3 M4 Spectrun Ref Level Att SGL Count ● 1Pk Max 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30-dBm -40 dBm	1 Band 27.60 dBm 40 dB	2.3 Edge N	403 GHz IVNT 2 7.60 dB • I	-40.65 df -DH5 24- RBW 100 kH2 VBW 300 kH2	BOMHz	uto FFT	D-Hopp		3.54 dBm	
M3 M4 Spectrun Ref Level Att SGL Count • 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm -30-dBm	1 Band 27.60 dBm 40 dB	2.3 Edge N	403 GHz IVNT 2 7.60 dB • I	-40.65 df -DH5 24- RBW 100 kH2 VBW 300 kH2	BOMHz	uto FFT			3.54 dBm	
M3 M4 Spectrun Ref Level Att SGL Count ● 1Pk Max 20 dBm 10 dBm 0 dBm -10 dBm -20 dBm -30-dBm -40 dBm	1 Band 27.60 dBm 40 dB	2.3 Edge N	403 GHz IVNT 2 7.60 dB • I	-40.65 df -DH5 24- RBW 100 kH2 VBW 300 kH2	BOMHz	uto FFT			3.54 dBm	
M3 M4 M4 Spectrun Ref Level Att SGL Count • 1Pk Max 20 dBm 0 dBm -10 dBm -20 dBm -20 dBm -30 dBm -30 dBm -50 dBm -70 dBm	1 Band 27.60 dBm 40 dB 100/100	2.3 Edge N	403 GHz IVNT 2 7.60 dB • I	-40.65 dt	BomHz	uto FFT		2.48	3.54 dBm 002400 GHz	
M3 M4 Spectrun Ref Level Att SGL Count ●1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm -30-dBm -40 dBm -50 dBm -60 dBm	1 Band 27.60 dBm 40 dB 100/100	2.3 Edge N	403 GHz IVNT 2 7.60 dB • I	-40.65 df -DH5 24- RBW 100 kH2 VBW 300 kH2	BomHz	uto FFT		2.48	3.54 dBm 002400 GHz	
M3 M4 M4 Spectrun Ref Level Att SGL Count • 1Pk Max 20 dBm - 10 dBm - 10 dBm - 20 dBm - 30 dBm - 40 dBm - 50 dBm - 70 dBm	1 Band 27.60 dBm 40 dB 100/100	2.3 Edge N	403 GHz IVNT 2 7.60 dB • I	-40.65 dt	BomHz	uto FFT		2.48	3.54 dBm 002400 GHz	



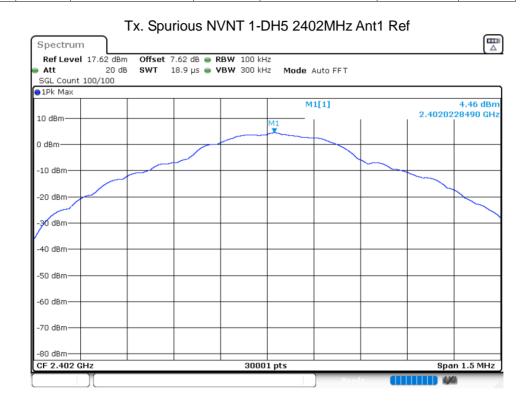
Ref Level Att SGL Count	27.60 dBm 40 dB t 100/100			RBW 100 kH: V BW 300 kH:		Auto FFT				
●1Pk Max			1	1					0.60.40.00	
20 dBm					M	1[1]		2.47	3.63 dBm 985000 GHz	
10,d8m					M	2[1]			-30.68 dBm 350000 GHz	
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	1	2.48	335 GHz	-30.68 dB -45.41 dB]	
M2 M3			2.5 GHz							
M3 M4 Spectrur Ref Level Att	and Edg	2.46 ge(Hop Offset 7	7.60 dB 👄 RE	-30.68 dB	0H5 248		Ant1 Ho	pping R	Ref	
M3 M4 Spectrur Ref Level Att	1 5and EdQ 1 27.60 dBm 40 dB	2.46 ge(Hop Offset 7	335 GHz ping) N\ 7.60 dB ● RE	-30.68 dB	0H5 248 Mode A	uto FFT	Ant1 Ho	pping R		
M3 M4 Spectrur Ref Level Att SGL Count	1 5and EdQ 1 27.60 dBm 40 dB	2.46 ge(Hop Offset 7	335 GHz ping) N\ 7.60 dB ● RE	-30.68 dB	0H5 248 Mode A		Ant1 Ho			
M3 M4 Spectrur Ref Level Att SGL Count • 1Pk Max	1 5and EdQ 1 27.60 dBm 40 dB	2.46 ge(Hop Offset 7	335 GHz ping) N\ 7.60 dB ● RE	-30.68 dB	0H5 248 Mode A	uto FFT	Ant1 Ho		4.01 dBm	
M3 M4 Spectrur Ref Level Att SGL Count • 1Pk Max 20 dBm	1 5and EdQ 1 27.60 dBm 40 dB	2.46 ge(Hop Offset 7	335 GHz ping) N\ 7.60 dB ● RE	-30.68 dB	0H5 248 Mode A	uto FFT	Ant1 Ho		4.01 dBm]
M3 M4 Spectrur Ref Level Att SGL Count • 1Pk Max 20 dBm-	1 5and EdQ 1 27.60 dBm 40 dB	2.46 ge(Hop Offset 7	335 GHz ping) N\ 7.60 dB ● RE	-30.68 dB	0H5 248 Mode A	uto FFT	Ant1 Ho		4.01 dBm]
M3 M4 Spectrur Ref Level Att SGL Count • 1Pk Max 20 dBm	1 5and EdQ 1 27.60 dBm 40 dB	2.46 ge(Hop Offset 7	335 GHz ping) N\ 7.60 dB ● RE	-30.68 dB	0H5 248 Mode A	uto FFT	Ant1 Ho		4.01 dBm	
M3 M4 Spectrur Ref Level Att SGL Count • 1Pk Max 20 dBm 10 dBm	1 5and EdQ 1 27.60 dBm 40 dB	2.46 ge(Hop Offset 7	335 GHz ping) N\ 7.60 dB ● RE	-30.68 dB	0H5 248 Mode A	uto FFT	Ant1 Ho		4.01 dBm]
M3 M4 Spectrur Ref Level Att SGL Count 10 dBm 10 dBm -10 dBm -20 dBm	1 5and EdQ 1 27.60 dBm 40 dB	2.46 ge(Hop Offset 7	335 GHz ping) N\ 7.60 dB ● RE	-30.68 dB	0H5 248 Mode A	uto FFT	Ant1 Ho		4.01 dBm	
M3 M4 Spectrur Ref Level Att SGL Count 1Pk Max 20 dBm 10 dBm -10 dBm	1 5and EdQ 1 27.60 dBm 40 dB	2.46 ge(Hop Offset 7	335 GHz ping) N\ 7.60 dB ● RE	-30.68 dB	0H5 248 Mode A	uto FFT	Ant1 Ho		4.01 dBm	
M3 M4 Spectrur Ref Level Att SGL Count 10 dBm 10 dBm -10 dBm -20 dBm	1 5and EdQ 1 27.60 dBm 40 dB	2.46 ge(Hop Offset 7	335 GHz ping) N\ 7.60 dB ● RE	-30.68 dB	0H5 248 Mode A	uto FFT	Ant1 Ho		4.01 dBm]
M3 M4 Spectrur Ref Level Att SGL Count • 1Pk Max 20 dBm 10 dBm -10 dBm -10 dBm -20 dBm -30 dBm	1 5and EdQ 1 27.60 dBm 40 dB	2.46 ge(Hop Offset 7	335 GHz ping) N\ 7.60 dB ● RE	-30.68 dB	0H5 248 Mode A	uto FFT	Ant1 Ho		4.01 dBm	
M3 M4 Spectrur Ref Level Att SGL Count SGL Count 10 dBm 10 dBm -10 dBm -10 dBm -20 dBm -30 dBm -30 dBm -50 dBm	1 5and EdQ 1 27.60 dBm 40 dB	2.46 ge(Hop Offset 7	335 GHz ping) N\ 7.60 dB ● RE	-30.68 dB	0H5 248 Mode A	uto FFT	Ant1 Ho		4.01 dBm	
M3 M4 Spectrur Ref Level Att SGL Count • 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm -20 dBm -30 dBm	1 5and EdQ 1 27.60 dBm 40 dB	2.46 ge(Hop Offset 7	335 GHz ping) N\ 7.60 dB ● RE	-30.68 dB	0H5 248 Mode A	uto FFT	Ant1 Ho		4.01 dBm	
M3 M4 Spectrur Ref Level Att SGL Count SGL Count 10 dBm 10 dBm - -10 dBm - -20 dBm - -30 dBm - -40 dBm - -50 dBm - -70 dBm -	and Edg	2.46 ge(Hop Offset 7	335 GHz ping) N\ 7.60 dB ● RE	-30.68 dB	PH5 248	uto FFT	Ant1 Ho	2.48	4.01 dBm 018380 GHz	
M3 M4 Spectrur Ref Level Att SGL Count • 1Pk Max 20 dBm 10 dBm -10 dBm -20 dBm -30 dBm -40 dBm -50 dBm	and Edg	2.46 ge(Hop Offset 7	335 GHz ping) N\ 7.60 dB ● RE	-30.68 dB	PH5 248	uto FFT	Ant1 Ho	2.48	4.01 dBm	
M3 M4 Spectrur Ref Level Att SGL Count • 1Pk Max 20 dBm • 10 dBm • 10 dBm • -10 dBm • -20 dBm • -30 dBm • -50 dBm • -50 dBm • -60 dBm	and Edg	2.46 ge(Hop Offset 7	335 GHz ping) N\ 7.60 dB ● RE	-30.68 dB	PH5 248	uto FFT	Ant1 Ho	2.48	4.01 dBm 018380 GHz	



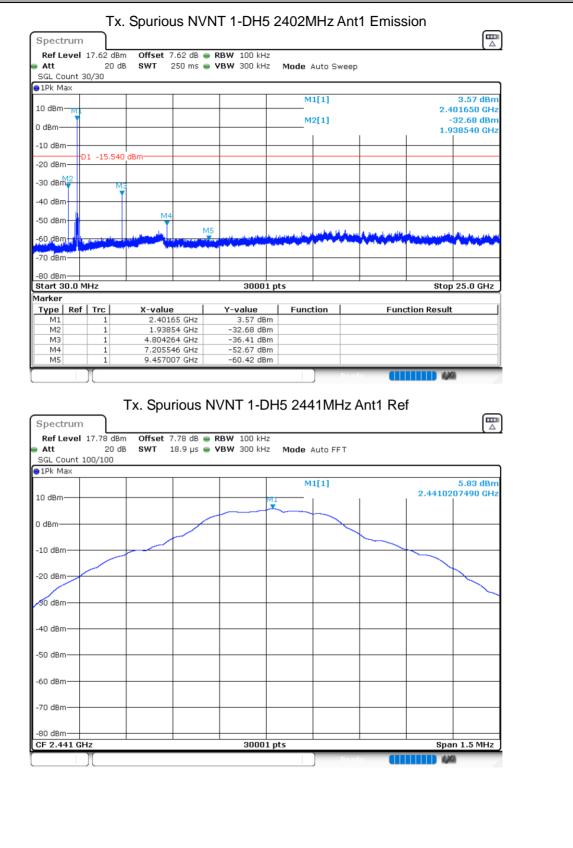
Ref Level 27 Att	.60 dBm 40 dB			RBW 100 kH; VBW 300 kH;		uto FFT			
SGL Count 10 1Pk Max	00/1000								
TEK Max			1		M	1[1]			3.96 dBm
20 dBm								2.476	605000 GHz
					M	2[1]			-40.86 dBm
.0 dBm								2.483	350000 GHz
do									
dBm									
	-15.988	dBm							
) dBm	-10,900	abin							
30 d <mark>Bm</mark>									
		MB							
male	Mar your	werthurtow	and well	which repersioned	Jun marga	Unallited	manuna	an we white m	My wow work
0 dBm	•								-
i0 dBm									
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tart 2.476 G	HZ			1001	pts			stop	2.576 GHz
arker	T 1		1		1 =		-		
Type Ref	1	X-value	9 05 GHz	Y-value 3.96 dBr	Func	ion	Fund	ction Result	[
M1 M2	1		35 GHz	-40.86 dBi					
M3	1		2.5 GHz	-44.28 dBi					
M4	1		39 GHz	-39.45 dB					



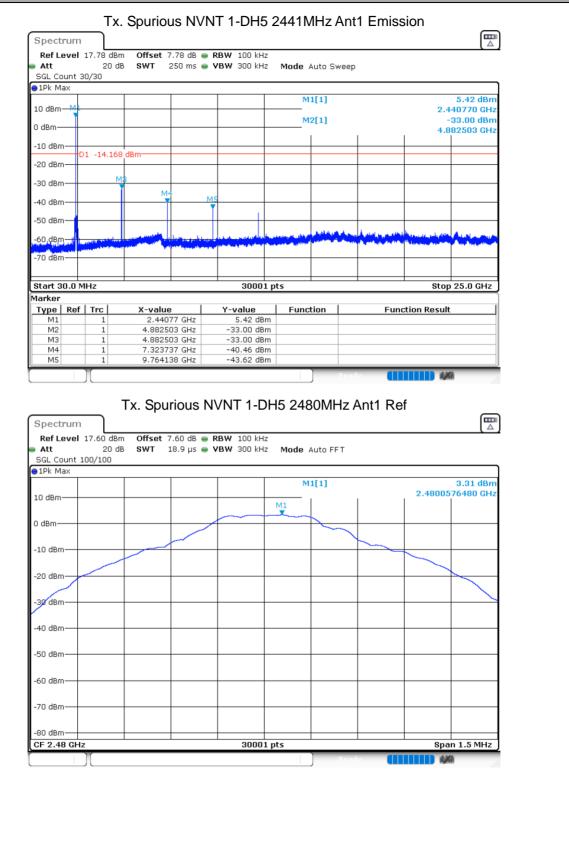
	-					
Condition	Mode	Frequency (MHz)	Antenna	Max Value (dBc)	Limit (dBc)	Verdict
NVNT	1-DH5	2402	Ant 1	-37.13	-20	Pass
NVNT	1-DH5	2441	Ant 1	-38.82	-20	Pass
NVNT	1-DH5	2480	Ant 1	-35.21	-20	Pass
NVNT	2-DH5	2402	Ant 1	-46.38	-20	Pass
NVNT	2-DH5	2441	Ant 1	-40.84	-20	Pass
NVNT	2-DH5	2480	Ant 1	-38.78	-20	Pass



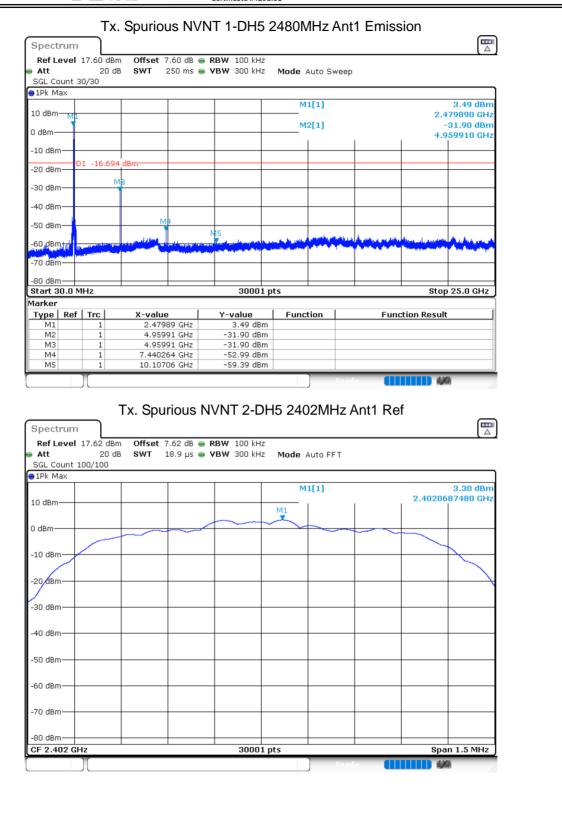




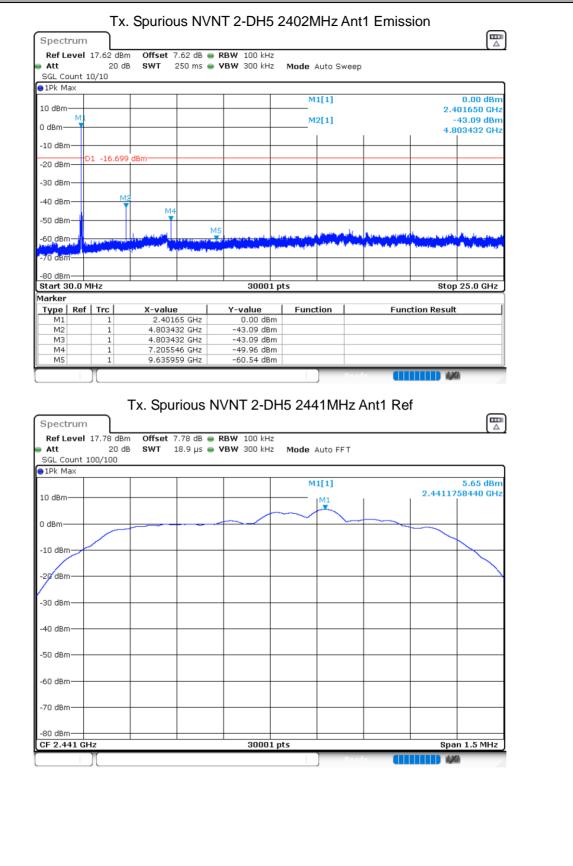




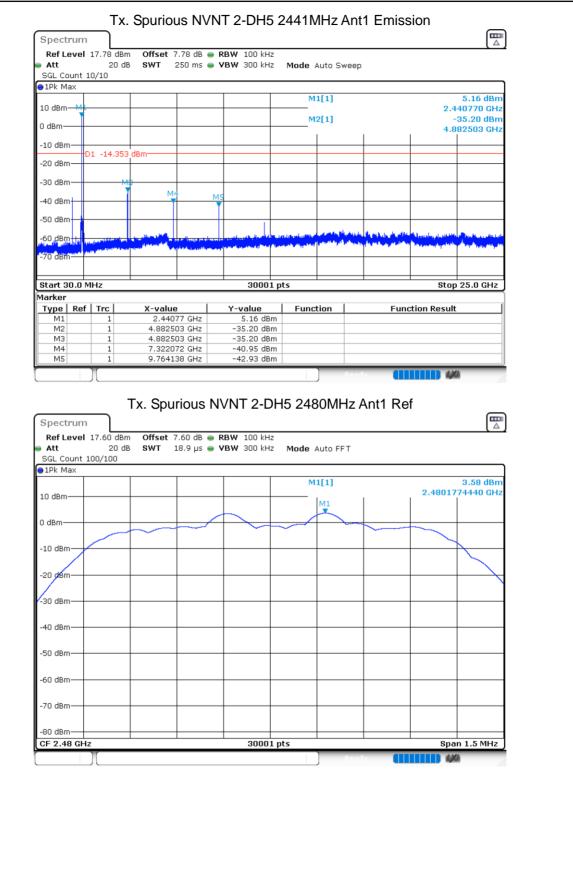














	Тx	. Spuriou	ls N∖	NT 2-DH	5 2480	MHz	Ant	1 Emiss	sion	_
Spectrum	ı									
Ref Level	17.60 dBr	m Offset 7	.60 dB (🔵 RBW 100 kH	z					
Att	20 d	B SWT :	250 ms (🔵 VBW 300 kH	lz Mode	Auto Sv	weep			
SGL Count	10/10									
●1Pk Max										
10 dBm						M1[1]				-0.52 dBm
MI	1					M2[1]				80720 GHz 35.21 dBm
0 dBm	ř.					mz[1]				59910 GHz
						1				
-10 dBm										
-20 dBm-	D1 -16.410	6 dBm								
20 0.0.11										
-30 dBm	ŕ	12				-				
10.10		1 I								
-40 dBm										
-50 dBm-		M	4			_				
				MS						ш.,
-60 dBm	autori han sidan		and the second second	n in dission of the	لينا يكنيك ميدوما در العربية من مرجع	and the second second	ada and	August and the		
-70 dBm	ومعاقبه والمالية والمراجع		and the second	hand the state of the						
-/0 ubiii										
-80 dBm						_				
Start 30.0 i	MHz			3000	1 pts				Stop	25.0 GHz
Marker										
Type Ref		X-value		Y-value		nction		Fund	tion Result	:l
M1	1		72 GHz	-0.52 dB						
M2	1		91 GHz	-35.21 de -35.21 de						
M3 M4	1	7,4394	91 GHz	-35.21 de -52.66 de						
M5	1	10.0063		-59.71 dB						
	7			55112.02		<u> </u>		488		
										• ///

END OF REPORT