



FCC Test Report

Application No.:	DNT2412240620R6328-08180
Applicant:	Dongguan Yong fang Electronic Technology Co., LTD.
Address of Applicant:	No.12, Long an Rd, The 2nd Industrial Zone Shigu, Tangxia, Dongguan, Guangdong, China
EUT Description:	True Wireless Earphone
Model No.:	ANC-T29, Cubitt Power Buds
FCC ID:	2ACYR-ANCT29
Power Supply (Earphone):	DC 3.7V by 40mAH rechargeable lithium-ion battery
Power Supply	Input: DC 5V/300mA
(Charging Box):	DC 3.7V by 500mAH rechargeable lithium-ion battery
Trade Mark:	
	47 CFR FCC Part 2, Subpart J
Standards:	47 CFR Part 15, Subpart C ANSI C63.10: 2013
Date of Receipt:	2024/12/24
Date of Test:	2024/12/24 to 2024/12/29
Date of Issue:	2024/12/30
Test Result:	PASS

Wayne Jin (Testing Engineer) Populs chen (Project Engineer) Prepared By: **Reviewed By:** eine Ahan Approved By: (Manager)



Dongguan DN Testing Co., Ltd.

 Add: No. 1, West Fourth Street, Xingfa South Road, Wusha Community, Chang 'an Town, Dongguan City, Guangdong P.R.China

 Web: www.dn-testing.com

 Tel:+86-769-88087383

 E-mail: service@dn-testing.com



Note: If there is any objection to the results in this report, please submit a written inquiry to the company within 15 days from the date of receiving the report. The test report is effective only with both signature and specialized stamp, and is issued by the company in accordance with the requirements of the "Conditions of Issuance of Test Reports" printed in the attached page. Unless otherwise stated, the results presented in this report only apply to the samples tested this time. Partial reproduction of this report is not allowed unless approved by the company in writing.

Report Revise Record

Report Version	Revise Time	Issued Date	Valid Version	Notes	
V1.0	1	Dec.30, 2024	Valid	Original Report	

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1 Test Summary

Test Item	Test Requirement	Test Method	Test Result	Result
Antenna Requirement	15.203/247(b)		Clause 3.1	PASS
20dB Emission Bandwidth	15.247 (a)(1)	ANSI C63.10: 2013	Clause 3.2	PASS
Conducted Peak Output Power	15.247 (b)(1)	ANSI C63.10: 2013	Clause 3.3	PASS
Carrier Frequencies Separation	15.247 (a)(1)	ANSI C63.10: 2013	Clause 3.4	PASS
Dwell Time	15.247 (a)(1)	ANSI C63.10: 2013	Clause 3.5	PASS
Hopping Channel Number	15.247 (a)(1)	ANSI C63.10: 2013	Clause 3.6	PASS
Band-edge for RF Conducted Emissions	15.247(d)	ANSI C63.10: 2013	Clause 3.7	PASS
RF Conducted Spurious Emissions	15.247(d)	ANSI C63.10: 2013	Clause 3.8	PASS
Radiated Spurious	15.247(d);	ANSI C63.10: 2013	Clause 3.9	PASS
emissions	15.205/15.209	ANSI C03.10. 2013	Clause 5.9	FASS
Restricted bands around fundamental frequency (Radiated Emission)	15.247(d); 15.205/15.209	ANSI C63.10: 2013	Clause 3.10	PASS
AC Power Line Conducted Emission	15.207	ANSI C63.10: 2013	Clause 3.11	PASS

Note:

1. "N/A" denotes test is not applicable in this test report.



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2 General Information

2.1 Test Location

Company:	Dongguan DN Testing Co., Ltd		
Address:	No. 1, West Fourth Street, South Xinfa Road, Wusha Liwu, Chang ' an Town, Dongguan City, Guangdong P.R.China		
Test engineer:	Wayne Lin		



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2.2 General Description of EUT

Manufacturer:	Dongguan Yong fang Electronic Technology Co., LTD.				
Address of Manufacturer:	NO.12, Long'an Road, The 2'nd Industrial Zone, Shigu, Tangxia, Dongguan, 523729, China				
Test EUT Description:	True Wireless Earphone				
Model No.:	ANC-T29				
Additional Model(s):	Cubitt Power Buds				
Chip Type:	AB5632E				
Serial number:	PR2412240620R6328				
Power Supply (Earphone):	DC 3.7V by 40mAH rechargeable lithium-ion battery				
Power Supply (Charging Box):	Input: DC 5V/300mA DC 3.7V by 500mAH rechargeable lithium-ion battery				
Trade Mark:					
Hardware Version:	V1.0				
Software Version:	V1.0				
Operation Frequency:	2402 MHz to 2480 MHz				
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)				
Type of Modulation:	GFSK,π/4-DQPSK,8DPSK				
Sample Type:	☑ Portable Device, ☐ Module, ☐ Mobile Device				
Antenna Type:	□ External, ⊠ Integrated				
Antenna Ports:	⊠ Ant 1, □ Ant 2, □ Ant 3				
Antenna Gain*:	⊠ Provided by applicant				
Antenna Gain .	2.8dBi				
	Provided by applicant				
RF Cable*:	0.5dB(0.6~1GHz); 0.8dB(1.4~2GHz); 1.0dB(2.1~2.7GHz); 1.5dB(3~4GHz); 1.8dB(4.4~6GHz);				

Remark:

*All models are just color differences, motherboard, PCB circuit board, chip, electronic components, appearance is all the same.

*Since the above data and/or information is provided by the applicant relevant results or conclusions of this report are only made for these data and/or information, DNT is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.



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2.3 Channel List

	Operation Frequency of each channel						
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
0	2402MHz	20	2422MHz	40	2442MHz	60	2462MHz
1	2403MHz	21	2423MHz	41	2443MHz	61	2463MHz
2	2404MHz	22	2424MHz	42	2444MHz	62	2464MHz
3	2405MHz	23	2425MHz	43	2445MHz	63	2465MHz
4	2406MHz	24	2426MHz	44	2446MHz	64	2466MHz
5	2407MHz	25	2427MHz	45	2447MHz	65	2467MHz
6	2408MHz	26	2428MHz	46	2448MHz	66	2468MHz
7	2409MHz	27	2429MHz	47	2449MHz	67	2469MHz
8	2410MHz	28	2430MHz	48	2450MHz	68	2470MHz
9	2411MHz	29	2431MHz	49	2451MHz	69	2471MHz
10	2412MHz	30	2432MHz	50	2452MHz	70	2472MHz
11	2413MHz	31	2433MHz	51	2453MHz	71	2473MHz
12	2414MHz	32	2434MHz	52	2454MHz	72	2474MHz
13	2415MHz	33	2435MHz	53	2455MHz	73	2475MHz
14	2416MHz	34	2436MHz	54	2456MHz	74	2476MHz
15	2417MHz	35	2437MHz	55	2457MHz	75	2477MHz
16	2418MHz	36	2438MHz	56	2458MHz	76	2478MHz
17	2419MHz	37	2439MHz	57	2459MHz	77	2479MHz
18	2420MHz	38	2440MHz	58	2460MHz	78	2480MHz
19	2421MHz	39	2441MHz	59	2461MHz		\sim

Remark:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the Lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test, and the selected channel see below:

Channel	Frequency
The Lowest channel	2402MHz
The Middle channel	2441MHz
The Highest channel	2480MHz



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2.4 5Test Environment and Mode

Operating Environment:			
Temperature:	20~25.0 °C		
Humidity:	45~56 % RH		
Atmospheric Pressure:	essure: 101.0~101.30 KPa		
Test mode:			
Transmitting mode: Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate.			



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2.5 Power Setting of Test Software

Software Name	\bigcirc \bigcirc \bigcirc \bigcirc	BT_Tool_v1.1.2	O, O , O , O ,
Frequency(MHz)	2402	2441	2480
GFSK Setting	7	7	7
π/4-DQPSK Setting	7	7	7
8DPSK	7	7	7

2.6 Description of Support Units

The EUT has been tested independent unit.

2.7 Test Facility

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

Lab A:

• FCC, USA

Designation Number: CN1348

A2LA (Certificate No. 7050.01)

DONGGUAN DN TESTING CO., LTD. is accredited by the American Association for Laboratory Accreditation(A2LA). Certificate No. 7050.01.

Innovation, Science and Economic Development Canada

DONGGUAN DN TESTING CO., LTD. EMC Laboratory has been recognized by ISED as an accredited testing laboratory. CAB identifier is CN0149.

IC#: 30755.



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2.8 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	20dB Emission Bandwidth	±0.0196%
2	Carrier Frequency Separation	±1.9%
3	Number of Hopping Channel	±1.9%
4	Time of Occupancy	±0.028%
5	Max Peak Conducted Output Power	±0.743 dB
6	Band-edge Spurious Emission	±1.328 dB
7	Conducted RF Spurious Emission	9KHz-1GHz:±0.746dB 1GHz-26GHz:±1.328dB

No.	Item	Measurement Uncertainty		
1	Conduction Emission	± 3.0dB (150kHz to 30MHz)		
$\langle \rangle$	\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc \bigcirc	± 4.8dB (Below 1GHz)		
0	Radiated Emission	± 4.8dB (1GHz to 6GHz)		
2		± 4.5dB (6GHz to 18GHz)		
		± 5.02dB (Above 18GHz)		



2.9 Equipment List

For Connect EUT Antenna Terminal Test						
Description	Manufacturer	Model	Serial Number	Cal date	Due date	
Signal Generator	Keysight	N5181A-6G	MY48180415	2024-10-23	2025-10-22	
Signal Generator	Keysight	N5182B	MY57300617	2024-10-23	2025-10-22	
Power supply	Keysight	E3640A	ZB2022656	2024-10-23	2025-10-22	
Radio Communication Tester	R&S	CMW500	105082	2024-10-23	2025-10-22	
Spectrum Analyzer	Aglient	N9010A	MY52221458	2024-10-23	2025-10-22	
BT/WIFI Test Software	Tonscend	JS1120 V3.1.83	NA	NA	NA	
RF Control Unit	Tonscend	JS0806-2	22F8060581	NA	NA	
Power Sensor	Anritsu	ML2495A	2129005	2024-10-23	2025-10-22	
Pulse Power Sensor	Anritsu	MA2411B	1911397	2024-10-23	2025-10-22	
temperature and humidity box	SCOTEK	SCD-C40-80PRO	6866682020008	2024-10-23	2025-10-22	

	Test Equipment for Conducted Emission							
Description	Description Manufacturer Model Serial Number Cal Date Due Date							
Receiver	R&S	ESCI3	101152	2024-10-23	2025-10-22			
LISN	R&S	ENV216	102874	2024-10-23	2025-10-22			
ISN	R&S	ENY81-CA6	1309.8590.03	2024-10-23	2025-10-22			

Test Ec	quipment for F	Radiated Emis	sion(30MHz-	-1000MHz	<u>z)</u>
Description	Manufacturer	Model	Serial Number	Cal Date	Due Date
Receiver	R&S	ESR7	102497	2024-10-23	2025-10-22
Test Software	ETS-LINDGREN	TiLE-FULL	NA	NA	NA
RF Cable	ETS-LINDGREN	RFC-NMS-100- NMS-350-IN	NA	2024-10-23	2025-10-22
Log periodic antenna	ETS-LINDGREN	VULB 9168	01475	2022-11-28	2025-11-27
Pre-amplifier	Schwarzbeck	BBV9743B	00423	2024-10-23	2025-10-22



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Test E	Test Equipment for Radiated Emission(Above 1000MHz)							
Description	Manufacturer	Model	Serial Number	Cal Date	Due Date			
Frequency analyser	Keysight	N9010A	MY52221458	2024-10-23	2025-10-22			
RF Cable	ETS-LINDGREN	RFC-NMS-100- NMS-350-IN	NA	2024-10-23	2025-10-22			
Horn Antenna	ETS-LINDGREN	3117	00252567	2022-11-28	2025-11-27			
Double ridged waveguide antenna	ETS-LINDGREN	3116C	00251780	2022-11-28	2025-11-27			
Test Software	ETS-LINDGREN	TILE-FULL	NA	NA	NA			
Pre-amplifier	ETS-LINDGREN	3117-PA	252567	2024-10-23	2025-10-22			
Pre-amplifier	ETS-LINDGREN	3116C-PA	251780	2024-10-23	2025-10-22			

2.10 Assistant equipment used for test

Code	Equipment	Manufacturer	Model No.	Equipment No.
1	Computer	acer	N22C8	EMC notebook01
2	Adapter	HUAWEI	HW-100225C00	NA



3 Test results and Measurement Data

3.1 Antenna Requirement

Standard requirement: 47 CFR Part 15C Section 15.203 /247(c)

15.203 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.

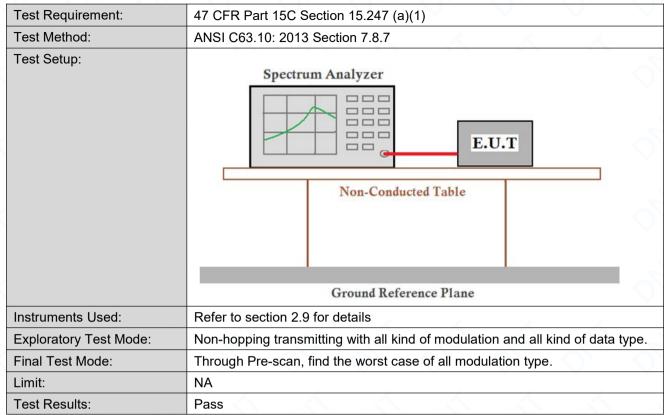
15.247(b) (4) requirement:

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

The antenna is integrated on the main PCB and no consideration of replacement. The best case gain of the antenna is 2.8dBi.



3.2 20dB Emission Bandwidth



The detailed test data see: Appendix A



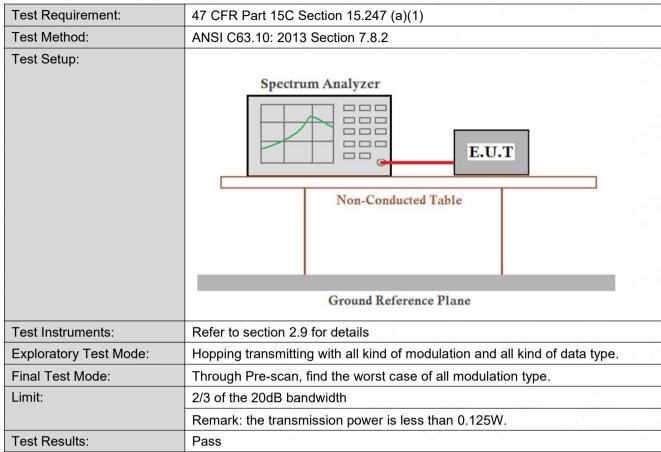
3.3 Conducted Output Power

Test Requirement:	47 CFR Part 15C Section 15.247 (b)(1)
Test Method:	ANSI C63.10: 2013 Section 7.8.5
Test Setup:	Spectrum Analyzer E.U.T
	Non-Conducted Table Ground Reference Plane
Test Instruments:	Refer to section 2.9 for details
Exploratory Test Mode:	Non-hopping transmitting with all kind of modulation and all kind of data type.
· · ·	
Final Test Mode:	Through Pre-scan, find the worst case of all modulation type.
Limit:	(20.97dBm) 125mW
Test Results:	Pass

The detailed test data see: Appendix B



3.4 Carrier Frequencies Separationy



The detailed test data see: Appendix C



3.5 Dwell Time

Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1)	
Test Method:	ANSI C63.10: 2013 Section 7.8.4	
Test Setup:	Spectrum Analyzer E.U.T Non-Conducted Table	0, 0, 0
	Ground Reference Plane	
Instruments Used:	Refer to section 2.9 for details	\bigcirc
Test Mode:	Hopping transmitting with all kind of modulation and all kind of data type.	
Limit:	0.4 Second	
Test Results:	Pass	5

The detailed test data see: Appendix D



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3.6 Hopping Channel Number

Test Requirement:	47 CFR Part 15C Section 15.247 (a)(1)). ().
Test Method:	ANSI C63.10: 2013 Section 7.8.3	
Test Setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane	
Instruments Used:	Refer to section 2.9 for details	
Test Mode:	Hopping transmitting with all kind of modulation	
Limit:	At least 15 channels	~
Test Results:	Pass	2

The detailed test data see: Appendix E



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3.7 Band-edge for RF Conducted Emissions

TID	
Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10: 2013 Section 7.8.6
Test Setup:	Spectrum Analyzer E.U.T Non-Conducted Table
Instruments Used:	Ground Reference Plane Refer to section 2.9 for details
Exploratory Test Mode:	Hopping and Non-hopping transmitting with all kind of modulation and all kind of data type.
Final Test Mode:	Through Pre-scan, find the worst case of all modulation type.
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test Results:	Pass

The detailed test data see: Appendix F



3.8 RF Conducted Spurious Emissions

Test Requirement:	47 CFR Part 15C Section 15.247 (d)
Test Method:	ANSI C63.10: 2013 Section 11.11
Test Setup:	Spectrum Analyzer E.U.T Non-Conducted Table Ground Reference Plane
Instruments Used:	Refer to section 2.9 for details
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates
Final Test Mode:	Through Pre-scan, find the worst case of all modulation type.
Limit:	In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement.
Test Results:	Pass

The detailed test data see: Appendix G



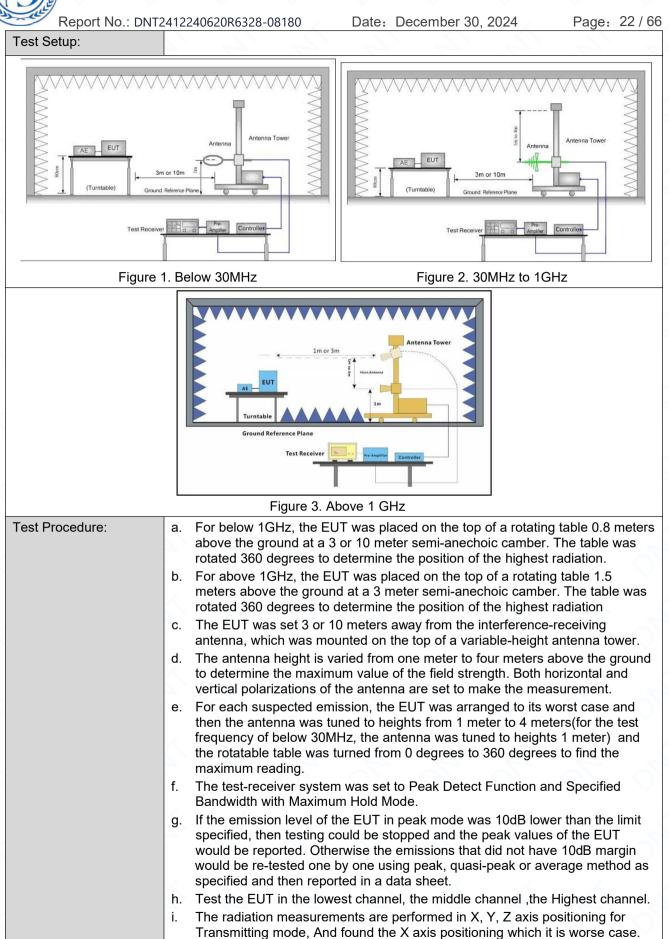
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3.9 Radiated Spurious Emissions

Test Requirement:	47 CFR Part 15C Sectio	47 CFR Part 15C Section 15.209 and 15.205						
Test Method:	ANSI C63.10: 2013 Sect	ANSI C63.10: 2013 Section 11.12						
Test Site:	Measurement Distance:	3m or 10m (Semi-A	Anechoic Ch	amber)	2 2			
Receiver Setup:	Frequency	Detector	RBW	VBW	Remark			
	0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak			
	0.009MHz-0.090MHz	Average	10kHz	30kHz	Average			
	0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak			
	0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak			
	0.110MHz-0.490MHz	Average	10kHz	30kHz	Average			
	0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak			
	30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak			
		Peak	1MHz	3MHz	Peak			
	Above 1GHz	Peak	1MHz	10Hz (DC≷0.98)	Average			
	× × -	5 5	~	≥1/T (DC<0.98)				
Limit:	Frequency	Field strength (microvolt/meter)	Limit (dBuV/m)	Remark	Measurement distance (m)			
	0.009MHz-0.490MHz	2400/F(kHz)	- 🔨	-<	300			
	0.490MHz-1.705MHz	24000/F(kHz)	-	<u></u>	30			
	1.705MHz-30MHz	30	0	<u> </u>	30			
	30MHz-88MHz	100	40.0	Quasi-peak	3			
	88MHz-216MHz	150	43.5	Quasi-peak	3			
	216MHz-960MHz	200	46.0	Quasi-peak	3			
	960MHz-1GHz	500	54.0	Quasi-peak	3			
	Above 1GHz	500	54.0	Average	3			
	Remark: 15.35(b),Unlest emissions is 20dB above applicable to the equipm emission level radiated b	e the maximum per lent under test. This	mitted avera	ige emission lir	nit			





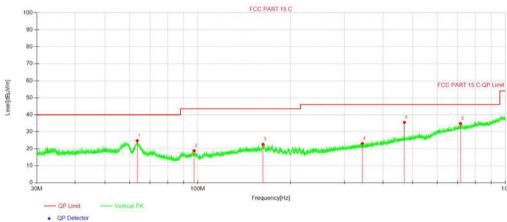


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Test Configuration:	Measurements Below 1000N	/Hz	~	
	• RBW = 120 kHz			
	• VBW = 300 kHz			
	 Detector = Peak 			
	 Trace mode = max hold 			
	Peak Measurements Above 2	1000 MHz		\sim
	• RBW = 1 MHz			
	• VBW \ge 3 MHz			
	 Detector = Peak 			
	 Sweep time = auto 			\mathbf{O}
	 Trace mode = max hold 			
	Average Measurements Abov	ve 1000MHz		
	• RBW = 1 MHz			
	 VBW = 10 Hz, when duty c 	ycle is no less than 98 percent.		\bigcirc
	• VBW \geq 1/T, when duty cyc	cle is less than 98 percent where T i	s the minin	num
		nich the transmitter is on and is tran for the tested mode of operation.	smitting at	its
Exploratory Test Mode:	Transmitting with all kind of m	odulations, data rates.	$\overline{\mathbf{O}}$	\bigcirc
	Charge+Transmitting mode.	~		
Final Test Mode:	Pretest the EUT at Transmitti	ng mode.	<u> </u>	
	Through Pre-scan, find the D	H5 of data type is the worst case of	All modula	tion
	type.	∇ ∇ ∇	\mathbf{v}	
Instruments Used:	Refer to section 2.9 for details	6		
Test Results:	Pass			

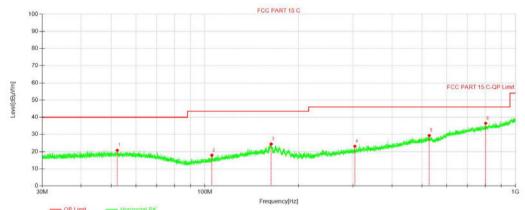


Test data

For 30-1000MHz



NO.	Freq. [MHz]	Reading Level [dBµV]	Correct Factor [dB/m]	Result Level [dBµV/m]	Limit [dBµV/ m]	Margin [dB]	Height [cm]	Angle [°]	Remark	Polarity
1	63.64	33.88	-9.17	24.71	40.00	15.29	100	175	QP	Vertical
2	97.35	31.82	-13.01	18.81	43.50	24.69	100	51	QP	Vertical
3	163.06	30.50	-7.87	22.63	43.50	20.87	100	0	QP	Vertical
4	343.05	29.01	-5.89	23.12	46.00	22.88	200	34	QP	Vertical
5	470.02	37.82	-2.32	35.50	46.00	10.50	200	114	QP	Vertical
6	714.92	32.38	2.46	34.84	46.00	11.16	200	251	QP	Vertical



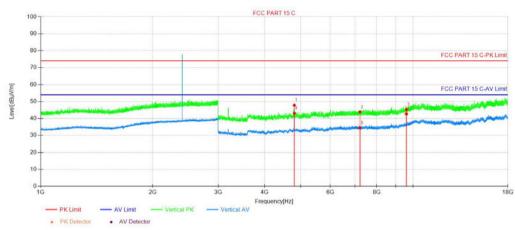
. Car. Futur	Hunzonia
QP Detector	

NO.	Freq. [MHz]	Reading Level [dBµV]	Correct Factor [dB/m]	Result Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark	Polarity
1	52.28	28.89	-8.12	20.77	40.00	19.23	200	360	QP	Horizontal
2	105.38	29.68	-11.77	17.91	43.50	25.59	200	12	QP	Horizontal
3	163.58	32.33	-7.89	24.44	43.50	19.06	100	360	QP	Horizontal
4	304.18	29.99	-6.85	23.14	46.00	22.86	200	88	QP	Horizontal
5	527.87	30.50	-1.15	29.35	46.00	16.65	200	348	QP	Horizontal
6	801.78	32.16	4.34	36.50	46.00	9.50	200	88	QP	Horizontal

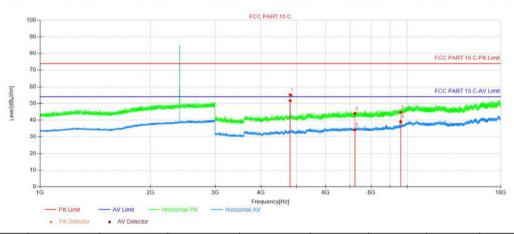


For above 1GHz

DH5 2402MHz



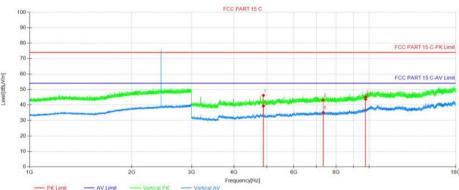
NO.	Freq. [MHz]	Reading Level [dBµV]	Correct Factor [dB/m]	Result Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Heigh t [cm]	Angle [°]	Remark	Polarity
1	4803.84	52.40	-4.61	47.79	74.00	26.21	150	56	Peak	Vertical
2	7206.21	45.65	-1.76	43.89	74.00	30.11	150	270	Peak	Vertical
3	9608.58	44.35	0.88	45.23	74.00	28.77	150	0	Peak	Vertical
4	4804.59	47.72	-4.61	43.11	54.00	10.89	150	56	AV	Vertical
5	7206.21	36.28	-1.76	34.52	54.00	19.48	150	323	AV	Vertical
6	9608.58	41.81	0.88	42.69	54.00	11.31	150	215	AV	Vertical



NO.	Freq. [MHz]	Reading Level [dBµV]	Correct Factor [dB/m]	Result Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark	Polarity
1	4803.84	59.75	-4.61	55.14	74.00	18.86	150	38	Peak	Horizon
2	7206.21	45.81	-1.76	44.05	74.00	29.95	150	56	Peak	Horizon
3	9608.58	43.85	0.88	44.73	74.00	29.27	150	323	Peak	Horizon
4	4804.59	56.28	-4.61	51.67	54.00	2.33	150	56	AV	Horizon
5	7206.21	35.99	-1.76	34.23	54.00	19.77	150	162	AV	Horizon
6	9608.5	38.17	0.88	39.05	54.00	14.95	150	128	AV	Horizon

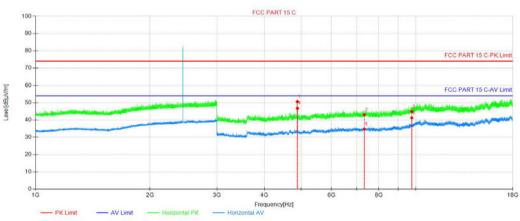


DH5 2441MHz



PK Limit AV Limit Vertical PK Vertical
 PK Detector
 AV Detector

NO.	Freq. [MHz]	Reading Level [dBµV]	Correct Factor [dB/m]	Result Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark	Polarity
1	4881.84	50.84	-4.72	46.12	74.00	27.88	150	56	Peak	Vertical
2	7323.21	44.59	-1.49	43.10	74.00	30.90	150	356	Peak	Vertical
3	9764.58	43.44	1.64	45.08	74.00	28.92	150	4	Peak	Vertical
4	4882.59	44.08	-4.72	39.36	54.00	14.64	150	56	AV	Vertical
5	7323.21	36.74	-1.49	35.25	54.00	18.75	150	92	AV	Vertical
6	9764.58	42.01	1.64	43.65	54.00	10.35	150	234	AV	Vertical

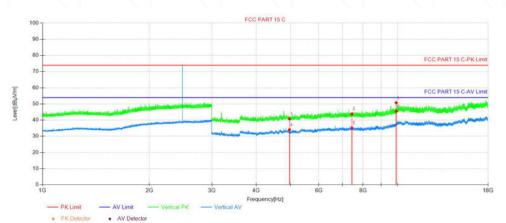


PK Detector
 AV Detector

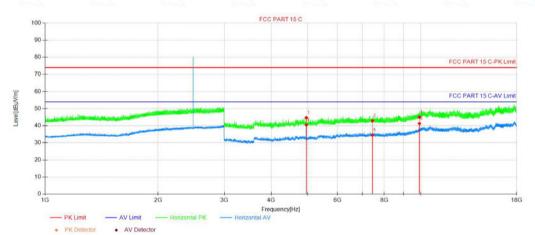
NO.	Freq. [MHz]	Reading Level [dBµV]	Correct Factor [dB/m]	Result Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark	Polarity
1	4881.84	55.32	-4.72	50.60	74.00	23.40	150	54	Peak	Horizon
2	7323.21	44.53	-1.49	43.04	74.00	30.96	150	180	Peak	Horizon
3	9764.58	43.25	1.64	44.89	74.00	29.11	150	143	Peak	Horizon
4	4882.59	51.47	-4.72	46.75	54.00	7.25	150	54	AV	Horizon
5	7323.21	36.21	-1.49	34.72	54.00	19.28	150	18	AV	Horizon
6	9764.58	39.58	1.64	41.22	54.00	12.78	150	127	AV	Horizon



DH5 2480MHz



NO.	Freq. [MHz]	Reading Level [dBµV]	Correct Factor [dB/m]	Result Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark	Polarity
1	4960.59	45.67	-4.86	40.81	74.00	33.19	150	39	Peak	Vertical
2	7440.22	45.25	-1.34	43.91	74.00	30.09	150	107	Peak	Vertical
3	9919.84	48.53	2.26	50.79	74.00	23.21	150	215	Peak	Vertical
4	4960.59	39.02	-4.86	34.16	54.00	19.84	150	56	AV	Vertical
5	7440.22	36.60	-1.34	35.26	54.00	18.74	150	56	AV	Vertical
6	9920.59	43.26	2.27	45.53	54.00	8.47	150	215	AV	Vertical



NO.	Freq. [MHz]	Reading Level [dBµV]	Correct Factor [dB/m]	Result Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark	Polarity
1	4960.59	49.51	-4.86	44.65	74.00	29.35	150	38	Peak	Horizon
2	7440.22	44.29	-1.34	42.95	74.00	31.05	150	253	Peak	Horizon
3	9920.59	42.71	2.27	44.98	74.00	29.02	150	233	Peak	Horizon
4	4960.59	45.35	-4.86	40.49	54.00	13.51	150	55	AV	Horizon
5	7440.22	35.78	-1.34	34.44	54.00	19.56	150	180	AV	Horizon
6	9920.59	39.01	2.27	41.28	54.00	12.72	150	126	AV	Horizon



Note:

1. The Measurement (Result Level) is calculated by Reading Level adding the Correct Factor(maybe including Ant.Factor and the Cable Factor etc.), The basic equation is as follows:

Result Level= Reading Level + Correct Factor(including Ant.Factor, Cable Factor etc.)

2. The amplitude of 9KHz to 30MHz spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be reported.

3. The amplitude of 18GHz to 25GHz spurious emission that is attenuated by more than 20dB below the permissible limit has no need to be report.

4. All channels had been pre-test, DH5 is the worst case, only the worst case was reported.



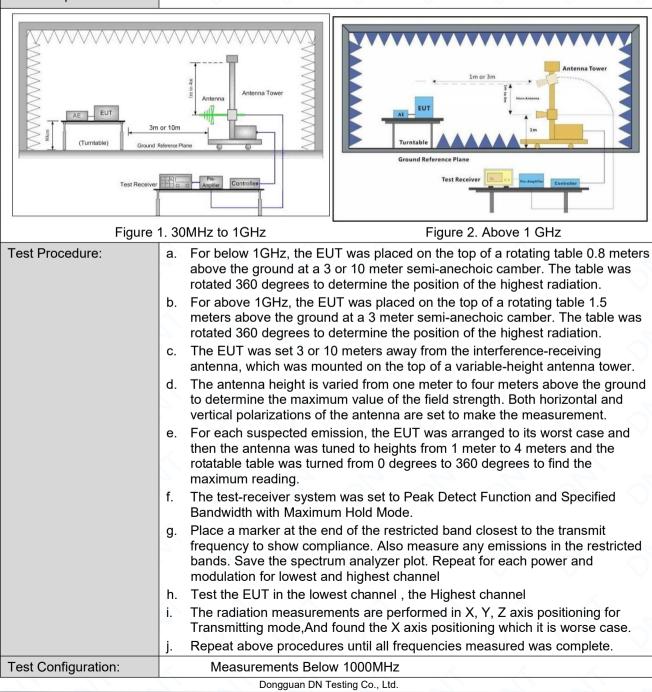
Report No.: DNT2412240620R6328-08180 Date: December 30, 2024

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3.10 Restricted bands around fundamental frequency

Test Requirement:	47 CFR Part 15C Section 1	5.209 and 15.205							
Test Method:	ANSI C63.10: 2013 Section	ANSI C63.10: 2013 Section 11.12							
Test Site:	Measurement Distance: 3m	or 10m (Semi-Anechoic (Chamber)						
_imit:	Frequency	Limit (dBuV/m)	Remark						
	30MHz-88MHz	40.0	Quasi-peak						
	88MHz-216MHz	43.5	Quasi-peak						
	216MHz-960MHz	46.0	Quasi-peak						
	960MHz-1GHz	54.0	Quasi-peak						
	Above 1GHz	54.0	Average Value						
	Above IGH2	74.0	Peak Value						

Test Setup:

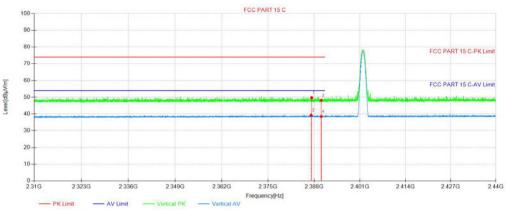


Add: No. 1, West Fourth Street, Xingfa South Road, Wusha Community, Chang 'an Town, Dongguan City, Guangdong P.R.China Web: www.dn-testing.com Tel:+86-769-88087383 E-mail: service@dn-testing.com

Report No.: DNT.	2412240620R6328-08180 Date: December 30, 2024 Page: 30 / 66
	 RBW = 120 kHz VBW = 300 kHz Detector = Peak Trace mode = max hold Peak Measurements Above 1000 MHz RBW = 1 MHz VBW ≥ 3 MHz Detector = Peak Sweep time = auto Trace mode = max hold Average Measurements Above 1000MHz RBW = 1 MHz VBW ≥ 1 MHz VBW ≥ 1 MHz VBW = 10 Hz, when duty cycle is no less than 98 percent. VBW ≥ 1/T, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.
Exploratory Test Mode:	Transmitting with all kind of modulations, data rates. Transmitting mode.
Final Test Mode:	Pretest the EUT Transmitting mode. Through Pre-scan, find the DH5 of data type is the worst case of all modulation type. Only the worst case is recorded in the report.
Instruments Used:	Refer to section 2.9 for details
Test Results:	Pass

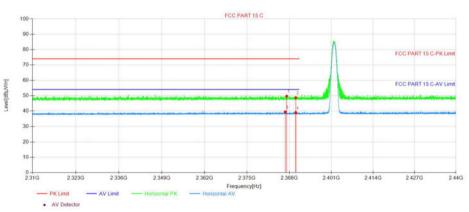


Test Date DH5 2402MHz



AV Detector

NO.	Freq. [MHz]	Reading Level [dBµV]	Correct Factor [dB/m]	Result Level [dBµV/m]	AV Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark	Polarity
1	2387.31	50.54	-0.80	49.74	74.00	24.26	150	101	Peak	Vertical
2	2390.01	48.94	-0.80	48.14	74.00	25.86	150	67	Peak	Vertical
3	2387.16	40.01	-0.80	39.21	54.00	14.79	150	182	AV	Vertical
4	2390.01	39.32	-0.80	38.52	54.00	15.48	150	346	AV	Vertical



1	NO.	Freq. [MHz]	Reading Level [dBµV]	Correct Factor [dB/m]	Result Level [dBµV/m]	AV Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark	Polarity
	1	2387.21	50.44	-0.80	49.64	74.00	24.36	150	242	Peak	Horizon
	2	2390.01	49.43	-0.80	48.63	74.00	25.37	150	232	Peak	Horizon
	3	2386.77	40.23	-0.81	39.42	54.00	14.58	150	60	AV	Horizon
	4	2390.01	39.82	-0.80	39.02	54.00	14.98	150	312	AV	Horizon

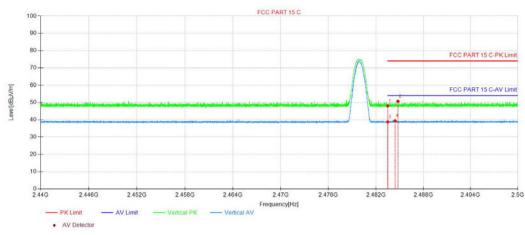
Dongguan DN Testing Co., Ltd.

 Add: No. 1, West Fourth Street, Xingfa South Road, Wusha Community, Chang 'an Town, Dongguan City, Guangdong P.R.China

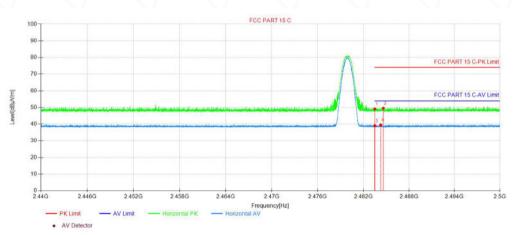
 Web: www.dn-testing.com
 Tel:+86-769-88087383
 E-mail: service@dn-testing.com



DH5 2480MHz



NO.	Freq. [MHz]	Reading Level [dBµV]	Correct Factor [dB/m]	Result Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark	Polarity
1	2483.50	48.24	-0.29	47.95	74.00	26.05	150	324	Peak	Vertical
2	2484.79	50.95	-0.27	50.68	74.00	23.32	150	279	Peak	Vertical
3	2483.50	39.08	-0.29	38.79	54.00	15.21	150	143	AV	Vertical
4	2484.42	39.75	-0.28	39.47	54.00	14.53	150	302	AV	Vertical



NO.	Freq. [MHz]	Reading Level [dBµV]	Correct Factor [dB/m]	Result Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Remark	Polarity
1	2483.50	49.37	-0.29	49.08	74.00	24.92	150	181	Peak	Horizon
2	2484.63	49.85	-0.28	49.57	74.00	24.43	150	358	Peak	Horizon
3	2483.50	39.30	-0.29	39.01	54.00	14.99	150	358	AV	Horizon
4	2484.27	39.72	-0.28	39.44	54.00	14.56	150	114	AV	Horizon

Note:

1. The Measurement (Result Level) is calculated by Reading Level adding the Correct Factor(maybe

including Ant.Factor and the Cable Factor etc.), The basic equation is as follows:

Result Level= Reading Level + Correct Factor(including Ant.Factor, Cable Factor etc.

2.All channels had been pre-test, DH5 is the worst case, only the worst case was reported.



Test Requirement:	47 CFR Part 15C Section 1	5.207	\land \land
Test Method:	ANSI C63.10: 2013	<u>~ 7 7</u>	× <u>~</u> /
Test Frequency Range:	150kHz to 30MHz	Limit (dBuV) Quasi-peak Average 66 to 56* 56 to 46* 56 46 60 50 n of the frequency. ance voltage test was conducted in a shielded o AC power source through a LISN 1 (Line ork) which provides a 50Ω/50µH + 5Ω linear of all other units of the EUT were connected to conded to the ground reference LISN 1 for the unit being measured. A is used to connect multiple power cables to a g of the LISN was not exceeded. ted upon a non-metallic table 0.8m above the or floor-standing arrangement, the EUT was ad reference plane, th a vertical ground reference plane. The rear in the vertical ground reference plane. The rear in the vertical ground reference plane. The e was bonded to the horizontal ground was placed 0.8 m from the boundary of the a ground reference plane for LISNs reference plane. This distance was the LISN 1 and the EUT. All other units of oment was at least 0.8 m from the LISN 2. emission, the relative positions of ace cables must be changed according to ted measurement.	
Limit:		Limit (dBuV) Quasi-peak Average 66 to 56* 56 to 46* 56 46 60 50 writhm of the frequency. sturbance voltage test was conducted in a shielded ted to AC power source through a LISN 1 (Line Network) which provides a 50Ω/50µH + 5Ω linear ables of all other units of the EUT were connected to vas bonded to the ground reference the LISN 1 for the unit being measured. A to was used to connect multiple power cables to a arating of the LISN was not exceeded. a placed upon a non-metallic table 0.8m above the And for floor-standing arrangement, the EUT was ground reference plane, ed with a vertical ground reference plane. The rear from the vertical ground reference plane. The plane was bonded to the horizontal ground N 1 was placed 0.8 m from the boundary of the ed to a ground reference plane for LISNs pund reference plane. This distance was ts of the LISN 1 and the EUT. All other units of equipment was at least 0.8 m from the LISN 2. num emission, the relative positions of netrace cables must be changed according to neducted measurement.	
	Frequency range (MHz)	Quasi-peak	Average
	0.15-0.5	66 to 56*	56 to 46*
	0.5-5	56	46
	5-30	60	50
	* Decreases with the logarit	hm of the frequency.	
Test Procedure:	 room. 2) The EUT was connected Impedance Stabilization Neimpedance. The power cabla a second LISN 2, which was plane in the same way as the multiple socket outlet strip wingle LISN provided the rate 3) The tabletop EUT was piground reference plane. Any placed on the horizontal group of the EUT shall be 0.4 m frivertical ground reference plane. The LISN unit under test and bonded mounted on top of the group between the closest points of the EUT and associated equal in order to find the maximum 	I to AC power source throu twork) which provides a 50 es of all other units of the s bonded to the ground ref the LISN 1 for the unit being vas used to connect multip ing of the LISN was not ex- laced upon a non-metallic d for floor-standing arrang und reference plane, with a vertical ground refe om the vertical ground refe ane was bonded to the ho I was placed 0.8 m from the to a ground reference plane. This d of the LISN 1 and the EUT upment was at least 0.8 m in emission, the relative po-	ugh a LISN 1 (Line DΩ/50µH + 5Ω linear EUT were connected ference g measured. A ble power cables to a xceeded. table 0.8m above the ement, the EUT was rence plane. The rear erence plane. The rear erence plane. The rizontal ground he boundary of the he for LISNs istance was C All other units of h from the LISN 2. ositions of
Test Setup:	Shielding Room	80cm	
Exploratory Test Mode:	Transmitting with all kind of highest channel. Charge + Transmitting mod		t lowest, middle and

3.11 AC Power Line Conducted Emissions



Date: December 30, 2024

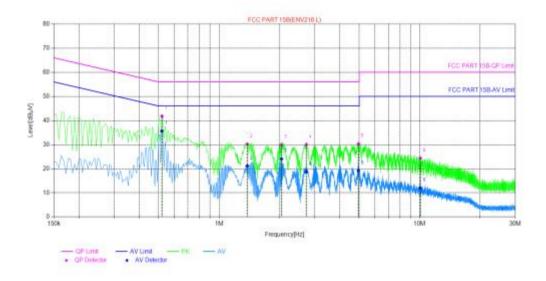
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	Final Test Mode:	Through Pre-scan, find the the worst case.
\langle	Instruments Used:	Refer to section 2.9 for details
	Test Results:	PASS

Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector. Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Live Line:



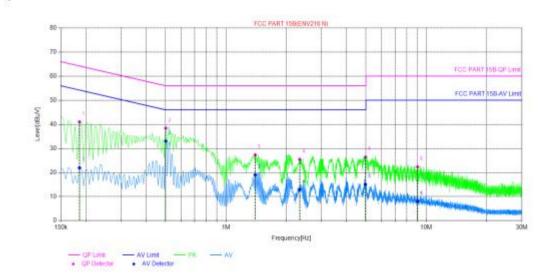
Final Data List										
NO.	Freq. [MHz]	Factor [dB]	QP Value [dBuV]	QP Limit [dBµV]	OP Margin [dB]	AV Value [dBuV]	AV Limit (dBµV)	AV Margin [dB]	Verdict	
1	0.519	9.87	41.79	56.00	14.21	35.64	46.00	10,36	PASS	
2	1.383	9.73	30.17	56.00	25.83	21.17	46.00	24.83	PASS	
3	2.049	9.73	29.92	56.00	26.08	24.08	46.00	21.92	PASS	
4	2.724	9.74	30.03	56.00	25.97	18.74	46.00	27.26	PASS	
5	4.956	9.79	30.25	56.00	25.75	19.23	46.00	26.77	PASS	
6	10.077	9.86	24.40	60.00	35.60	12.01	50.00	37.99	PASS	

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Dongguan Div Testing Co



Neutral Line:



Final Data List											
NO.	Freq [MHz]	Factor [dB]	QP Value [dBuV]	QP Limit [dBµV]	QP Margin [dB]	AV Value [dBuV]	AV Limit (dBµV)	AV Margin [dB]	Verdict		
1	0.186	9.84	41.00	64.21	23.21	21.92	54.21	32.29	PASS		
2	0.501	9.71	38.42	56.00	17.58	33.01	46.00	12.99	PASS		
3	1.401	9.72	27.31	56.00	28.69	18.99	46.00	27.01	PASS		
4	2.337	9.81	25.43	56.00	30.57	12.91	46.00	33.09	PASS		
5	4.9695	9.97	26.39	56.00	29.61	15.08	46.00	30.92	PASS		
6	9.051	9.86	22.35	60.00	37.65	8.03	50.00	41.97	PASS		

Remark:

1. The following Quasi-Peak and Average measurements were performed on the EUT:

2. The Measurement (Result Level) is calculated by Reading Level adding the Correct Factor(maybe

including LISN Factor and the Cable Factor etc.), The basic equation is as follows:

Result Level= Reading Level + Correct Factor(including LISN Factor, Cable Factor etc



4 Appendix

Appendix A: 20dB Emission Bandwidth

Test Result	\mathbf{O}	\circ		\circ			
TestMode	Antenna	Freq(MHz)	20dB EBW[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
	~	2402	0.951	2401.481	2402.432	🔨	<
DH5	Ant1	2441	0.951	2440.481	2441.432		
		2480	0.954	2479.478	2480.432		
	\sim	2402	1.320	2401.286	2402.606		
2DH5	Ant1	2441	1.320	2440.280	2441.600		
		2480	1.350	2479.265	2480.615	🔨	
		2402	1.299	2401.295	2402.594		
3DH5	Ant1	2441	1.314	2440.295	2441.609		<u> </u>
	$\mathbf{>}$	2480	1.314	2479.286	2480.600		



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Test Graphs

Test Graphs		
	DH5_Ant1_2402 Addref Spectrum Analyzer - Swept SA	
	0 AL #7 100 C 10227900cc204 Frequency Center Freq 2.402000000 GHz Trig: Free Run Avg Fold: 100/100 1776[1:22:456 Frequency IFGateway Attain: 40 B	
	Ref Offset 14:31 dB ΔMkr3 951 kHz Auto Tune 10 dB/div -0.342 dB -0.342 dB -0.342 dB	
	Log Center Freq 200 Center Freq 2.40200000 GHz	
<u> </u>	100	
	200 200 200	
	400	
A A	Center 2.402000 GHz Span 3.000 MHz CF Step #Res BW 30 kHz #VBW 100 kHz Sweep 3.200 ms (1001 pts) 300.000 MHz	
	More mode free set X X Runction Runction width Run	
	2 N f 2.401946 GHz -3344 dBm Freq Offset 4 f (A) 951 kHz (A) -0.342 dB Freq Offset 5	
	10 Status QAlign Now, All required	
	DH5_Ant1_2441	
	Agilent Spectrum Analyzer - Swept SA	
S 5 -	Center Freq 2.441000000 GHz PRO: Wide Trig: Free Run If Galekaw If Galekaw Bitan: 40 dB	
	Ref Offset 14.31 dB ΔMkr3 951 kHz Auto Tune 10 dB/div Ref 30.00 dBm -0.234 dB	
	200 Center Freq 100 △ △ 2	
	-100 Δ1 Δ1 Start Freq	
6 6 6	300 30756 2.43960000 GHz	
	400 Store 2 St	
	Center 2.441000 GHz Span 3.000 MHz Step #Res BW 30 kHz #VBW 100 kHz Sweep 3.200 ms (1001 pt) Center 2.44100 Step 3.200 ms (1001 pt) Center 2.44100 Man Step 3.200 ms (1001 pt) Auto Man	
8 8 8	Image block Control Function	
	4 0Hz	
	Kto STATUS 🖉 Align Now, All required	<u> </u>
	DH5_Ant1_2480	
	Addred Spectrum Analyzer - Swigt SA W AL 97 100 0C 99569138 Aug 796: RMS Center Freq 2.480000000 GHz P00: Wide Trig: Free Run Avg Hold: 100/100 176 114:35 MOR: 24,324 P00: Wide Trig: Free Run Avg Hold: 100/100 176 176 197 PP PP	
	Ref Offset 14.31 dB Auto Tune	
\bigcirc \bigcirc \bigcirc \bigcirc \bigcirc	200 Center Freq	
A A	100 2.48000000 GHz	
	00 Start Freq 2.00 300 300 300 300 300 300 300 300 300	
	400 When a stop Freq 2.48150000 GHz	
	Center 2.480000 GHz Span 3.000 MHz CE Step	
	#Res BW 30 kHz #VBW 100 kHz Sweep 3.200 ms (1001 pts) 300.000 kHz mm2 page 1782 (sto) x y Function width Function width Function width Auto Man	
	1 N f 2.479 478 GHz -29.091 dBm 2 N f 2.479 595 GHz -3979 dBm 4 f (Δ) -0.087 dB	
L L L .		
	MIG STATUS 🔁 Align Now, All required	



Date: December 30, 2024

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	rum Analyzer - S								
RL Center F		DOUDOO GHZ	Wide -+-	Trig: Free Run	#Avg Typ AvgjHold		TRAC	4Dec 24, 2024 1 2 3 4 5 6 E MWWWW T P P P P P P	Frequency
10 dB/div	Ref Offset 1 Ref 30.00	14.31 dB	CLOW	PAGE TO US		ΔM	Mkr3 1.3 -0.	20 MHz 492 dB	Auto Tun
20.0 10.0				് ²					Center Fre 2.402000000 GH
10.0 20.0 30.0		p'r	~~~	m	- mon	3Δ1		-22-07-sQm	Start Fre 2.400500000 GH
40.0	maria				-	2000	window	mm	Stop Fre 2.403500000 GH
Center 2 Res BW	402000 GH 30 kHz	z	#VBW	100 kHz		Sweep 3	Span 3. 3.200 ms (CF Ste 300.000 kH Auto Ma
1 N	RC SCL	2.401 286 G	Hz	-23.264 dBm	UNCTION FUR	NCTION WIDTH	FUNCTIO	N VALUE	<u>Auto</u> Ma
2 N 3 Δ1 4	f f (Δ)	2.401 955 G 1.320 M	Hz	-3.069 dBm -0.492 dB					Freq Offse 0 H
5 6 7 8 9									
11									

2DH5_Ant1_2441

Frequency	MDec 24, 2024 VCE 1 2 3 4 5 6 IPE MWWWWW	TR	ALIGN OFF De: RMS 4: 100/100	#Avg Ty		Trig: Free	40	GHz PNO: Wide	000000 G		req	er Fr	en
Auto Tun	DETPPPPP		0.000	0.00000	dB	#Atten: 4		IFGain:Lov					_
Auto Tuli	320 MHz).388 dB		ΔN						14.31 dB) dBm	Offset 14 30.00		Ndiv	
Center Fre 2.441000000 GH					,								.0g 20.0 10.0
Start Fre 2.439500000 GH	-24.19 (206		3∆1	m	V~~	and the	~	1.~~	\$ ¹				0.00 10.0 20.0 30.0
Stop Fre 2.442500000 GH	arwa-	m	~~~						and the second	~~~~~	M	sim	40.0 50.0 50.0
CF Ste 300.000 kH	3.000 MHz (1001 pts)		Sweep 3			100 kHz	VBW	#\	z	00 GHz Hz		er 2.4 BW	
Auto Ma	ION VALUE	FUNC	INCTION WIDTH	NCTION F		-24.359 di		280 GHz	*		20 50 f	109 16	1
Freq Offse 0 H				-	3m	-4.186 df -0.388	2	952 GHz 320 MHz	2.440 9	(Δ)	1	N	2 3 4 5
													6 7 8 9
										-			10

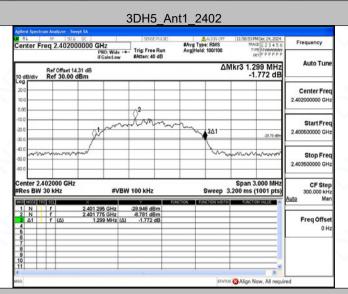
2DH5_Ant1_2480

Frequency	11:51:14 PMDec 24, 2024 TRACE 1 2 3 4 5 6	ALIGN OFF Type: RMS fold: 100/100	#Avg	SBNSE PUL	łz	0000 GH	50 8 2.48000	RF	RL
Auto Tun	CET PPPPP	1991 0001533385	n Avgji	Trig: Free Run #Atten: 40 dB	NO: Wide +++ Gain:Low	PN IF(
Adto Tuli	0.659 dB	ΔN					Offset 14. 30.00 d		0 dB/di
Center Free 2.48000000 GH									000
Start Free 2.478500000 GH	-30.71 dbs	3Δ1	himm	mm	~~~	g2			0.0
Stop Free 2.481500000 GH	m	J.				and the	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	m	0.0
CF Step 300.000 kH	Span 3.000 MHz 200 ms (1001 pts)	Sweep 3.		100 kHz	#VBW		00 GHz Hz	2.4800 W 30 k	
<u>Auto</u> Mar	FUNCTION VALUE	FUNCTION WIDTH	FUNCTION	-31,427 dBm	5 GHz	2,479 26	_	TRE SCI	1 N
Freq Offse 0 H				-10.712 dBm 0.659 dB		2.480 10	(Δ)	1 1	2 Ν 3 Δ1 4 5
									6 7 8 9 0
- 4	Align Now, All requir	lan min							a



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3DH5_Ant1_2441

RL RF 50.9 DC	SENSE PULSE	ALISN OFF	12:01:59 AM Dec 25, 2024	Francisco
enter Freq 2.44100000	OGHZ PNO: Wide Trig: Free Run IFGainclaw #Atten: 40 dB	#Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5 6 TYPE MWWWWW DET P P P P P P	Frequency
Ref Offset 14.31 di dB/div Ref 30.00 dBm	3	ΔN	1kr3 1.314 MHz -0.209 dB	Auto Tune
0.0				Center Fre 2.441000000 GH
00	An marking		-30.26 dbn	Start Fre 2.439500000 GH
0.0 0.0 0.0		Sum	emperante	Stop Fre 2.442500000 GH
enter 2.441000 GHz Res BW 30 kHz	#VBW 100 kHz	Sweep 3	Span 3.000 MHz .200 ms (1001 pts)	CF Ste 300.000 kH
	40 295 GHz -30,487 dBm	UNCTION FUNCTION WIDTH	FUNCTION VALUE	<u>Auto</u> Ma
	40 949 GHz -10.256 dBm 1.314 MHz (Δ) -0.209 dB			Freq Offse 0 H
6 7 8 9 9				
1				

3DH5_Ant1_2480

							er - Swept			
3456 Frequency	12:03:54 AM Dec 25, 2024 TRACE 1 2 3 4 5 6	ALIGN OFF Type: RMS	#Avg	SENSEPULS		0 GHz	800000	req 2.4		Cer
	CET PPPPP	fold: 100/100	Avgit	Trig: Free Run #Atten: 40 dB		PNO: Wide IFGain:Lov				
	lkr3 1.314 MHz 0.324 dB	ΔM				В	set 14.31 0.00 dB		B/div	
Center Free 2.480000000 GH										20.0 10.0
2.478500000 GH	-34 32 456	3∆1	m	man	~	0 ¹ ~~				-10.0 -20.0 -30.0
2.481500000 GH	www.worman.com	- John			-		www	~~~~~	ma	-40.0 -50.0 -60.0
1 pts) 300.000 kH	Span 3.000 MHz 200 ms (1001 pts)	Sweep 3.		100 kHz	/BW	#V	GHz	480000 30 kH:		
Auto Mai	FUNCTION VALUE	FUNCTION WIDTH	FUNCTION	-34,782 dBm	-	79 286 GHz	-	10 SQ	N	1
Freq Offse 0 H				-14.324 dBm 0.324 dB		79 946 GHz 1.314 MHz		1 1	Ν Δ1	3 4 5
	_									6 7 8 9 10 11
2	Align Now, All requi	-								€ MSG



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Report No.: DNT2412240620R6328-08180 Date: December 30, 2024 Appendix B: Maximum conducted output power

Test	Result	

rootritoount					
Test Mode	Antenna	Freq(MHz)	Conducted Peak Powert[dBm]	Conducted Limit[dBm]	Verdict
		2402	-0.75	≤20.97	PASS
DH5	Ant1	2441	-1.51	≤20.97	PASS
		2480	-5.77	≤20.97	PASS
	Ant1	2402	1.08	≤20.97	PASS
2DH5		2441	0.28	≤20.97	PASS
		2480	-4.10	≤20.97	PASS
		2402	1.42	≤20.97	PASS
3DH5	Ant1	2441	0.66	≤20.97	PASS
		2480	-3.68	≤20.97	PASS



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Test Graphs

Center Freq 2.40200000) GHz	#Avg Type: RMS Avg[Hold: 100/100	11:29:54 PMDec 24, 2024 TRACE 1 2 3 4 5 6 TYPE MWWWWW	Frequency			
	PHO: Fast - Trig: Free Run Avg Heid: 100/100 Cet/P P P P P IFGain:Lew #Atten: 40 dB Mkr1 2.401 844 GHz						
Ref Offset 14.31 dB 0 dB/div Ref 30.00 dBm		Auto Tune					
20.0				Center Freq 2.402000000 GHz			
0.00	♦ ¹			Start Free 2.399000000 GH:			
20.0			-	Stop Freq 2.40500000 GHz			
30.0				CF Step 600.000 kHz Auto Man			
50.0				Freq Offset 0 Hz			
60.0							
50.0	#VBW 6.0 MHz		Span 6.000 MHz 1.000 ms (1001 pts)	FreqOf			

DH5_Ant1_2441

Frequency	4Dec 24, 2024		ALIGN OFF		SENSE:PUL		F 50 9 DC	RL			
	123456 MWWWWW TPPPPPP	TRAC TVI DI	vg Type: RMS gjHold: 100/100		Trig: Free Ru #Atten: 40 dB	GHz PNO: Fast	2.441000000	Center Fr			
Auto Tur	00 GHz 08 dBm	Mkr1 2.441 000 -1.508				Ref Offset 14.31 dB 10 dB/div Ref 30.00 dBm					
Center Fre 2.441000000 GH			_					20.0			
Start Fre 2.438000000 GH				~~~~~	• ¹			0.00			
Stop Fre 2.44400000 GH	-	-						10.0 20.0			
CF Ste 600.000 kł Auto Ma				_				40.0			
Freq Offso 0 H			_	_				50.0			
								-60.0			
	.000 MHz 1001 pts)		Sweep 1		6.0 MHz	#VBW		Center 2.4 #Res BW 2			

DH5_Ant1_2480

		11.41.62.0	ALX3N OFF		SENSE PULSE		opt SA	am Analyzer - Sw RF 150.9	gilent Spectr			
Frequency	MDec 24, 2024 CE 1 2 3 4 5 6 PE MWWWWW	TRA	RMS	#Avg Type AvgiHold:	ig: Free Run	z	00000 GI	eq 2.48000				
	et PPPPPP	D		wyginola.	PNO: Fast Trig: Free Run IFGaincLow #Atten: 40 dB							
Auto Tu		Ref Offset 14.31 dB Mkr1 2.479 658 GHz 10 dB/div Ref 30.00 dBm -5.772 dBm										
Center Fre 2.480000000 GH									20.0			
Start Fre 2.477000000 GH					▲1				0.00			
Stop Fre 2.483000000 GH	and and sold and a sold	and the second			********			and a second second	20.0			
CF Ste 600.000 kH Auto Ma	alashe i								30.0			
Freq Offse 0 H									50.0			
	.000 MHz	Cnan 6						180000 GHz	60.0			
	(1001 pts)		weep 1	1	MHz	#VBW			Res BW			
ed	low, All requir	SAlign N	STATUS						ISG			



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Frequency	PMDec 24, 2024 VOE 1 2 3 4 5 6 VPE MWWWWWW Det P P P P P P P	TR	ALIGN OFF vg Type: RMS gjHold: 100/100			1	IZ 10: Fast → SaincLow	00000 GH			RL
	234 GHz	Ref office 14.31 48 Mkr1 2.402 234 GHz 10 dBildv Ref 30.00 dBm 1.079 dBm									
Center Free 2.402000000 GH:					-						20.0
Start Fred 2.399000000 GH:				_	•		*****				0.00
Stop Fred 2.405000000 GH:	Martina	- Marine								and the second second	10.0
CF Step 600.000 kH: Auto Mar											30.0
Freq Offse 0 H:											50.0
	6.000 MHz								2000 GHz		60.0

2DH5_Ant1_2441

RL RF 50 9 DC	SENSE PULSE	🛕 ALUGN OFF	11:49:19 PMDec 24, 2024	Frequency
Center Freq 2.44100000	O GHZ PNO: Fast IFGaincl.ow #Atten: 40 dB	#Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5 6 TYPE MWWWWW CET P P P P P P	
Ref Offset 14.31 d 0 dB/div Ref 30.00 dBm	В	Mkr1	Auto Tune	
20.0				Center Fre 2.441000000 GH
0.00	♦ ¹			Start Fre 2.438000000 GH
20.0 Philipping				Stop Fre 2.444000000 GH
40.0				CF Ste 600.000 kH Auto Ma
50.0				Freq Offs 0 H
60.0 Center 2.441000 GHz #Res BW 2.0 MHz	#VBW 6.0 MHz	Swaan 1	Span 6.000 MHz .000 ms (1001 pts)	
Res BW 2.0 MHz	#VEVV 0.0 MHZ		Align Now, All requir	

2DH5_Ant1_2480

			_	_	_			_		
	rum Analyzer - Swe									
Center F	RL № 50.9 DC Center Freq 2.480000000 GHz PN0: Fast → IFGalacterw		Trig: Free	SENSE PULSE #Avg T) Trig: Free Run Avg[Hol #Atten: 40 dB		me: RMS 1		MDec 24, 2024 CE 1 2 3 4 5 6 PE MWWWWW CE P P P P P P	Frequency	
10 dB/div	Ref Offset 14. Ref 30.00 d	31 dB	anctow	and the second			Mkr1	2.480	126 GHz 99 dBm	Auto Tune
20.0										Center Freq 2.48000000 GHz
0.00					♦ ¹					Start Freq 2.477000000 GHz
-10.0								The course	March Martha	Stop Freq 2.483000000 GHz
-30.0										CF Step 600.000 kHz Auto Man
-50.0										Freq Offset 0 Hz
-60.0 Center 2. #Res BW	480000 GHz		#1/1214/	6.0 MHz			Church 1		5.000 MHz (1001 pts)	
MSG	2.0 mm2		#4BW	0.0 10112					low, All requi	
100							STATU	Consign P	wow, All requ	reu



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glient Spectrum Analyzer - Swept SA RL RF S0 R DC Center Freq 2.402000000	PNO: East -+- Trig: Free Run	#Avg Type: RMS Avg[Hold: 100/100	12:08:31 AM Dec 25, 2024 TRACE 1 2 3 4 5 6 TYPE MWWWWW Det P P P P P P	Frequency
Ref Offset 14.31 dB 10 dB/div Ref 30.00 dBm	IFGain:Low #Atten: 40 dB	Mkr1	2.401 964 GHz 1.422 dBm	Auto Tune
20.0				Center Freq 2.402000000 GHz
0.00				Start Freq 2.39900000 GHz
20.0			and the second s	Stop Free 2.405000000 GH
80.0				CF Step 600.000 kH Auto Mar
50.0				Freq Offse 0 H
60.0 Center 2.402000 GHz #Res BW 2.0 MHz	#VBW 6.0 MHz		Span 6.000 MHz .000 ms (1001 pts)	

3DH5_Ant1_2441

RL RF 50 9		SENSE PULSE	🛕 ALIGN OFF	12:09:04 AM Dec 25, 2024	Frequency	
Center Freq 2.441000	PNO: Fast IFGain:Low	Trig: Free Run #Atten: 40 dB	#Avg Type: RMS Avg Hold: 100/100	TRACE 1 2 3 4 5 6 TYPE MWWWW CET P P P P P	Auto Tune	
Ref Offset 14.3 0 dB/div Ref 30.00 dB			Mkr1	Mkr1 2.441 096 GHz 0.664 dBm		
20.0					Center Free 2.441000000 GH	
0.00					Start Fre 2.438000000 GH	
10.0 20.0				- ma	Stop Fre 2.444000000 GH	
-40.0					CF Ste 600.000 kH Auto Ma	
50.0					Freq Offse 0 H	
Center 2.441000 GHz		6.0 MHz		Span 6.000 MHz		
sa	#VBW	0.0 10112		1.000 ms (1001 pts) S 😋 Align Now, All require	L	

3DH5_Ant1_2480

Agilent Spect	rum Analyzer - Swept !	A				
00 RL № 50 R DC Center Freq 2.480000000 GHz PN0: Fast FGalect.ew		SENSE PULSE Trig: Free Run #Atten: 40 dB	ALIGN OFF #Avg Type: RMS Avg Held: 100/100	12:09:33 AM Dec 25, 2024 TRACE 1 2 3 4 5 6 TYPE MWWWW Det P P P P P P		
10 dB/div	Ref Offset 14.31 Ref 30.00 dBr			Mkr	2.479 970 GHz -3.677 dBm	
20.0						Center Fred 2.480000000 GHz
0.00			• ¹			Start Free 2.477000000 GH:
-10.0	and the second s					Stop Fred 2.483000000 GH:
-30.0						CF Step 600.000 kH: Auto Mar
-50.0	_	_				Freq Offse 0 Hi
	480000 GHz				Span 6.000 MHz	
#Res BW	2.0 MHZ	#VBW	6.0 MHz		1.000 ms (1001 pts) s 😋 Align Now, All regu	



Report No.: DNT2412240620R6328-08180 Date: December 30, 2024 Appendix C: Carrier frequency separation

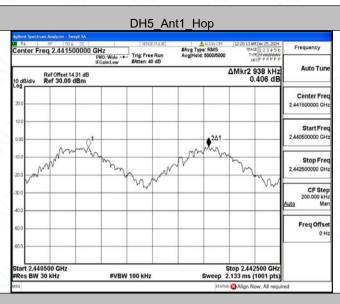
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Test Result

TestMode	Antenna	Freq(MHz)	Result[MHz]	Limit[MHz]	Verdict
DH5	Ant1	Нор	0.938	≥0.636	PASS
2DH5	Ant1	Нор	1.078	≥0.900	PASS
3DH5	Ant1	Нор	1.086	≥0.876	PASS



Test Graphs



2DH5_Ant1_Hop

0 GHz	SENSE PULSE	ALX3N OFF #Avg Type: RMS	02:06:39 AM Dec 25, 2024 TRACE 1 2 3 4 5 6	Frequency
PNO: Wide	#Atten: 40 dB	Avgineia: 500015000	CET P P P P P P	
1		ΔM	kr2 1.078 MHz 0.418 dB	Auto Tuni
				Center Fre 2.441500000 GH
		\$2∆1		Start Fre 2.440500000 GH
mAnn	m	mmm	www	Stop Fre 2.442500000 GH
				CF Ste 200.000 kH Auto Ma
				Freq Offse 0 H
	100 111-			
	3 PNO: Wida	O GHz PNO: Wide IFGalecLow #Atten: 40 dB	0 GHZ Frig: Free Run IFGalet.ew Frig: Free Run Artsm: 40 dB AvgTrpe: RMS AvgTrpe: RMS 3 ΔM	0 GHz HZ Trig: Free Run SAtter: 40 dB Surgitist: 5000000 MKr2 1.078 MHz 0.418 dB 3 ΔMkr2 1.078 MHz 0.418 dB 4 2241 4 4

3DH5_Ant1_Hop

Frequency	02:16:40.AM Dec 25, 2024 TRACE 1 2 3 4 5 6 TYPE MWWWWW CET P P P P P P	ALX3N OFF ype: RMS ld: 5000/5000		Free Run	Trig: I	lz IO: Wide ↔ Sain:Low	0000 GH	2.44150		Cen
Auto Tun	lkr2 1.086 MHz 0.431 dB	ΔMkr2 1.086 MH				Ref Offset 14.31 dB 10 dB/div Ref 30.00 dBm				
Center Fre 2.441500000 GH										20.0
Start Fre 2.440500000 GH								\1		10.0 0.00
Stop Fre 2.442500000 GH	man	mfrond	v	www	Y.	and und	wo	AM	- Lw	-10.0
CF Ste 200.000 kH Auto Ma									_	30.0
Freq Offse 0 H				_						50.0
										-60.0
	top 2.442500 GHz 133 ms (1001 pts)			Hz	100 k	#VBW			2.4405 BW 30	
red	Align Now, All require									150



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Appendix D: Dwell Time

Test Result

TestMode	Antenna	Freq(MHz)	BurstWidth [ms]	TotalHops [Num]	Result[s]	Limit[s]	Verdict
DH1	Ant1	Нор	0.400	320	0.128	≤0.4	PASS
DH3	Ant1	Нор	1.657	160	0.265	≤0.4	PASS
DH5	Ant1	Нор	2.904	106.67	0.31	≤0.4	PASS
2DH1	Ant1	Нор	0.410	320	0.131	≤0.4	PASS
2DH3	Ant1	Нор	1.663	160	0.266	≤0.4	PASS
2DH5	Ant1	Нор	2.911	106.67	0.311	≤0.4	PASS
3DH1	Ant1	Нор	0.412	320	0.132	≤0.4	PASS
3DH3	Ant1	Нор	1.662	160	0.266	≤0.4	PASS
3DH5	Ant1	Нор	2.912	106.67	0.311	≤0.4	PASS