

MEASUREMENT REPORT

FCC PART 15 Subpart D / Industry Canada RSS 213

FCC ID: T2C-DD10
IC: 10741A-DD10
APPLICANT: YEALINK(XIAMEN) NETWORK TECHNOLOGY
CO.,LTD
Application Type: Certification
Product: DECT USB Dongle
Model No.: DD10
Brand Name: YEALINK
FCC Classification: Unlicensed PCS Base Station (PUB)
FCC Rule Part(s): FCC Part 15, Subpart D
IC Rule(s): RSS-213 Issue 3, RSS-Gen Issue 4
Test Procedure(s): ANSI C63.17-2013
Test Date: January 29 ~ February 09, 2018

Reviewed By : *Sunny Sun*
(Sunny Sun)
Approved By : *Marlinchen*
(Marlin Chen)



The test results relate only to the samples tested.

This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in ANSI C63.17. Test results reported herein relate only to the item(s) tested.

The test report shall not be reproduced except in full without the written approval of MRT Technology (Suzhou) Co., Ltd.

Revision History

Report No.	Version	Description	Issue Date	Note
1801RSU026-U1	Rev. 01	Initial Report	02-27-2017	Invalid
1801RSU026-U1	Rev. 02	Modified the Product name	03-12-2017	Valid

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§2.1033 General Information

Applicant:	YEALINK(XIAMEN) NETWORK TECHNOLOGY CO.,LTD
Applicant Address:	309, 3th Floor, No.16, Yun Ding North Road, Huli District, Xiamen City, Fujian, P.R. China
Manufacturer:	YEALINK(XIAMEN) NETWORK TECHNOLOGY CO.,LTD
Manufacturer Address:	309, 3th Floor, No.16, Yun Ding North Road, Huli District, Xiamen City, Fujian, P.R. China
Test Site:	MRT Technology (Suzhou) Co., Ltd
Test Site Address:	D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China
FCC Registration No.:	893164
IC Registration No.:	11384A-1
Test Device Serial No.:	N/A <input type="checkbox"/> Production <input checked="" type="checkbox"/> Pre-Production <input type="checkbox"/> Engineering

Test Facility / Accreditations

Measurements were performed at MRT Laboratory located in Tian'edang Rd., Suzhou, China.

- MRT facility is a FCC registered (MRT Reg. No. 893164) test facility with the site description report on file and has met all the requirements specified in Section 2.948 of the FCC Rules.
- MRT facility is an IC registered (MRT Reg. No. 11384A-1) test laboratory with the site description on file at Industry Canada.
- MRT facility is a VCCI registered (R-20025, G-20034, C-20020, T-20020) test laboratory with the site description on file at VCCI Council.
- MRT Lab is accredited to ISO 17025 by the American Association for Laboratory Accreditation (A2LA) under the American Association for Laboratory Accreditation Program (A2LA Cert. No. 3628.01) in EMC, Telecommunications and Radio testing for FCC, Industry Canada, EU and TELEC Rules.



1. INTRODUCTION

1.1. Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Industry Canada Certification and Engineering Bureau.

1.2. MRT Test Location

The map below shows the location of the MRT LABORATORY, its proximity to the Taihu Lake. These measurement tests were conducted at the MRT Technology (Suzhou) Co., Ltd. Facility located at D8 Building, No.2 Tian'edang Rd., Wuzhong Economic Development Zone, Suzhou, China. The detailed description of the measurement facility was found to be in compliance with the requirements of § 2.948 according to ANSI C63.4-2009 on September 30, 2013.



2. PRODUCT INFORMATION

2.1. Feature of Equipment under Test

Product Name:	DECT USB Dongle
Model No.:	DD10
Brand Name:	YEALINK
DECT Version:	v6.0

2.2. Product Specification Subjective to this Report

Frequency Range:	1921.536 ~ 1928.448MHz
Number of Channels:	5
Maximum Output Power:	21.25dBm
Type of Modulation:	Digital (Gaussian Frequency Shift Keying)
Antenna Gain:	-1dBi

2.3. Working Frequencies

UPCS CHANNEL	FREQUENCY (MHz)
Upper Band Edge	1930.000
0 (Highest)	1928.448
1	1926.720
2	1924.992
3	1923.264
4 (Lowest)	1921.536
Lowest Band Edge	1920.000

Requirement: FCC 15.303

Within 1920 -1930 MHz band for isochronous devices

2.4. Test Mode

Test Mode	Mode 1: Transmit by FP
	Mode 2: Transmit by PP

2.5. Device Capabilities

DECT Device.

2.6. Test Software

The test utility software used during testing was “DD10 RF TOOL”.

2.7. EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and/or no modifications were made during testing.

2.8. Labeling Requirements

Per 2.1074 & 15.19; Docket 95-19

The label shall be permanently affixed at a conspicuous location on the device; instruction manual or pamphlet supplied to the user and be readily visible to the purchaser at the time of purchase. However, when the device is so small wherein placement of the label with specified statement is not practical, only the FCC ID must be displayed on the device per Section 15.19(a)(5). Please see attachment for FCC ID label and label location.

RSP-100 Issue 11 Section 3

The manufacturer, importer or distributor shall meet the labelling requirements set out in this section for every unit:

- (i) prior to marketing in Canada, for products manufactured in Canada
- (ii) prior to importation into Canada, for imported products

For information regarding the e-labelling option, see Notice 2014–DRS1003. The label for the certified product represents the manufacturer’s or importer’s compliance with Innovation, Science and Economic Development Canada’s (ISED) regulatory requirements.

Please see attachment for IC label and label location.

2.9. Automatic Discontinuation of Transmission

Does the EUT transmit Control and Signaling Information?	<input checked="" type="checkbox"/> YES	<input type="checkbox"/> NO
TYPE OF EUT :	<input type="checkbox"/> INITIATING DEVICE	<input checked="" type="checkbox"/> RESPONDING DEVICE

The following tests simulate the reaction of the EUT in case of either absence of information to transmit or operational failure after a connection with the companion device is established.

Number	Test	EUT Reaction	Verdict
1	Power removed from EUT	A	Pass
2	Switch Off EUT	N/A	Pass
3	Hook-On by EUT	N/A	Pass
4	Power Removed from Companion Device	B	Pass
5	Switch Off Companion Device	B	Pass
6	Hook-On by Companion Device	B	Pass

A - Connection breakdown, Cease of all transmissions

B - Connection breakdown, EUT transmits control and signaling information

C - Connection breakdown, Companion Device transmits control and signaling information

N/A - Not Applicable (EUT does not have On/Off switch and cannot perform Hook-On)

Requirements, FCC 15.319(f)

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

3. DESCRIPTION of TEST

3.1. Evaluation Procedure

All measurements are traceable to national standards.

The tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with FCC CFR47 Part 15D for Isochronous UPCS Devices and Industry Canada RSS-213 Issue 3 / RSS-GEN Issue 4 / RSP-100 Issue 11.

All tests were conducted in accordance with ANSI C63.4-2014 and ANSI C63.17-2013. Antenna Gain tests were made in a 3m fully-anechoic chamber.

3.2. AC Line Conducted Emissions

The line-conducted facility is located inside an 8'x4'x4' shielded enclosure. A 1m x 2m wooden table 80cm high is placed 40cm away from the vertical wall and 80cm away from the sidewall of the shielded room. Two 10kHz-30MHz, 50Ω/50uH Line-Impedance Stabilization Networks (LISNs) are bonded to the shielded room floor. Power to the LISNs is filtered by external high-current high-insertion loss power line filters. These filters attenuate ambient signal noise from entering the measurement lines. These filters are also bonded to the shielded enclosure.

The EUT is powered from one LISN and the support equipment is powered from the second LISN. All interconnecting cables more than 1 meter were shortened to a 1 meter length by non-inductive bundling (serpentine fashion) and draped over the back edge of the test table. All cables were at least 40cm above the horizontal reference ground-plane. Power cables for support equipment were routed down to the second LISN while ensuring that that cables were not draped over the second LISN.

Sufficient time for the EUT, support equipment, and test equipment was allowed in order for them to warm up to their normal operating condition. The RF output of the LISN was connected to the receiver and exploratory measurements were made to determine the frequencies producing the maximum emission from the EUT. The receiver was scanned from 150kHz to 30MHz. The detector function was set to peak mode for exploratory measurements while the bandwidth of the analyzer was set to 9kHz. The EUT, support equipment, and interconnecting cables were arranged and manipulated to maximize each emission. Each emission was also maximized by varying: power lines, the mode of operation or data exchange speed, or support equipment whichever determined the worst-case emission. Once the worst case emissions have been identified, the one EUT cable configuration/arrangement and mode of operation that produced these emissions are used for final measurements on the same test site. The analyzer is set to CISPR quasi-peak and average detectors with a 9kHz resolution bandwidth for final measurements.

An extension cord was used to connect to a single LISN which powered by EUT. The extension cord was calibrated with LISN, the impedance and insertion loss are compliance with the requirements as stated in ANSI C63.10-2013.

4. ANTENNA REQUIREMENTS

Excerpt from §15.203 of the FCC Rules/Regulations:

“An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can 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 shall be considered sufficient to comply with the provisions of this section.”

- The antenna of the Radio Controller is **permanently attached**.
- There are no provisions for connection to an external antenna.

Conclusion:

The unit complies with the requirement of §15.203.

5. TEST EQUIPMENT CALIBRATION DATE

Conducted Emissions - SR2

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
EMI Test Receiver	R&S	ESR3	MRTTWA00045	1 year	2018/03/17
Two-Line V-Network	R&S	ENV216	MRTTWA00019	1 year	2018/03/23
Two-Line V-Network	R&S	ENV216	MRTTWA00020	1 year	2018/03/23
Temperature/Humidity Meter	Yuhuaze	HTC-2	MRTTWA00033	1 year	2018/06/08

Conducted Test Equipment - TR3

Instrument	Manufacturer	Type No.	Asset No.	Cali. Interval	Cali. Due Date
Spectrum Analyzer	Agilent	N9020A	MRTSUE06106	1 year	2018/04/25
Digital Radio Communication Tester	R&S	RTX	1050.9008.60	1 year	2018/09/04
Temperature/Humidity Meter	Yuhuaze	HTC-2	MRTSUE06184	1 year	2018/12/22

Software	Version	Function
e3	V8.3.5	EMI Test Software

6. MEASUREMENT UNCERTAINTY

Where relevant, the following test uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k = 2$.

AC Conducted Emission Measurement - SR2
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 150kHz~30MHz: $\pm 3.46\text{dB}$
Output Power - TR4
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): $\pm 0.52\text{dB}$
Power Spectral Density - TR4
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): $\pm 0.52\text{dB}$
Out of Band Emissions - TR4
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): $\pm 0.75\text{dB}$
Emission Bandwidth - TR4
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): 3.8%
Frequency error - TR4
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): $\pm 0.5\text{ppm}$
Acknowledgements and Transmission Duration - TR4
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): $\pm 1.9\text{ns}$
Timing and Jitter Measurements - TR4
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): $\pm 1.9\text{ns}$
Frame Timing Measurements - TR4
Measuring Uncertainty for a Level of Confidence of 95% ($U=2Uc(y)$): $\pm 0.8\text{ppm}$

7. TEST RESULT

7.1. Summary

Test Item	FCC CFR 47 Paragraph	IC RSS-213 Paragraph	Verdict
Power Line Conducted Emission	15.107(a) 15.207(a)	5.4 RSS-GEN 8.8	Complies
Digital Modulation Techniques	15.319(b)	5.1	Complies
Labeling requirements	15.19(a)(3)	RSP-100 3.1	Complies
Antenna Requirement	15.317, 15.203	RSS-GEN 8.3	Complies
Channel Frequencies	15.303	5.1	Complies
Automatic discontinuation of transmission	15.319(f)	5.2 (4)	Complies
Emission Bandwidth	15.323(a) 5.5	RSS-GEN 6.6	Complies
In-band emissions	15.323(d)	5.8.2	Complies
Out-of-band emissions	15.323(d)	5.8.1	Complies
Peak Transmit Power and Antenna Gain	15.319(c)(e), 15.31(e)	5.6 RSS-GEN 8.3	Complies
Power Spectral Density	15.319(d)	5.7	Complies
Carrier frequency stability	15.323(f)	5.3	Complies
Spurious Emissions (Radiated)	15.319(g) 15.109(a) 15.209(a)	RSS-GEN 8.9	Note
Specific Requirements for UPCS	15.323(c)(e)	5.2	Complies

Note: Not required if the Conducted Out-of-Band Emissions test is passed, and assessed in the FCC 15B test report.

7.2. Power Line Conducted Emissions

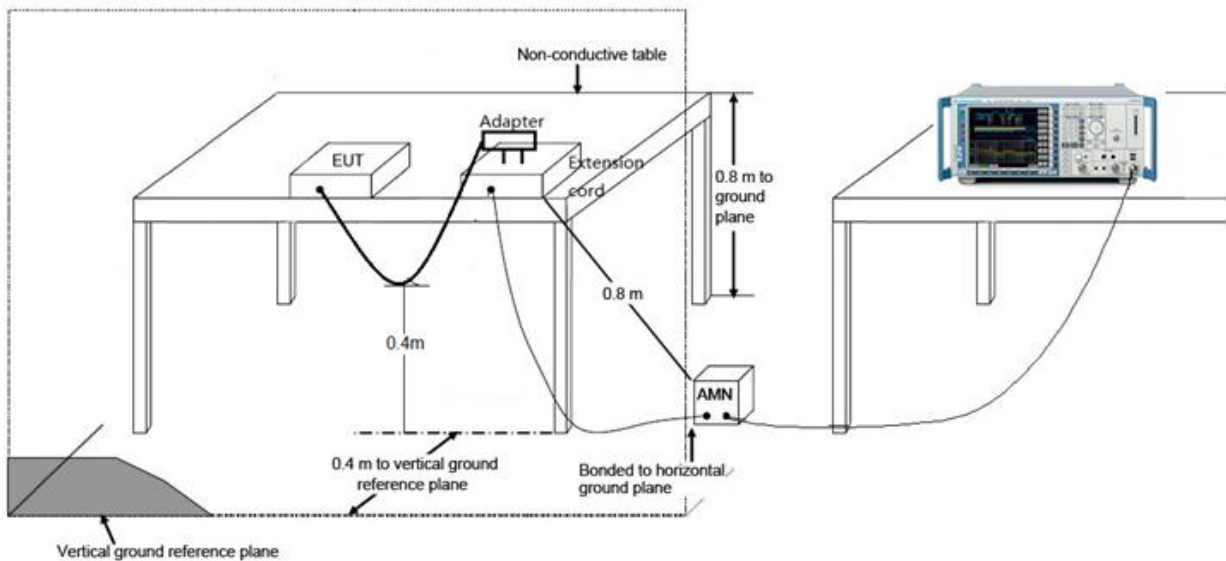
7.2.1. Test Limit

FCC Part 15.107 Limits		
Frequency (MHz)	QP (dB μ V)	AV (dB μ V)
0.15 - 0.50	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30	60	50

Note 1: The lower limit shall apply at the transition frequencies.

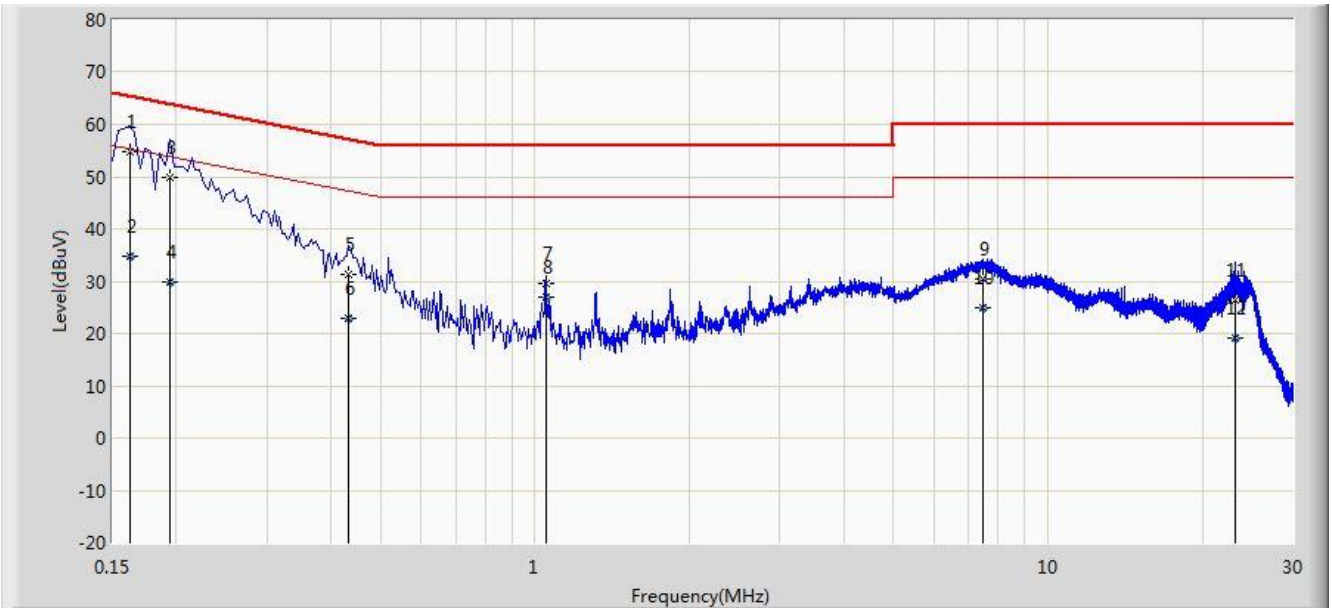
Note 2: The limit decreases linearly with the logarithm of the frequency in the range 0.15MHz to 0.5MHz.

7.2.2. Test Setup



7.2.3. Test Result

Site: SR2	Time: 2018/02/05 - 13:50
Limit: FCC_Part15.107_Class B	Engineer: Polly Zong
Probe: ENV216_101683_Filter On	Polarity: Line
EUT: DECT USB Dongle	Power: AC 120V/60Hz
Test Mode: Mode 1	

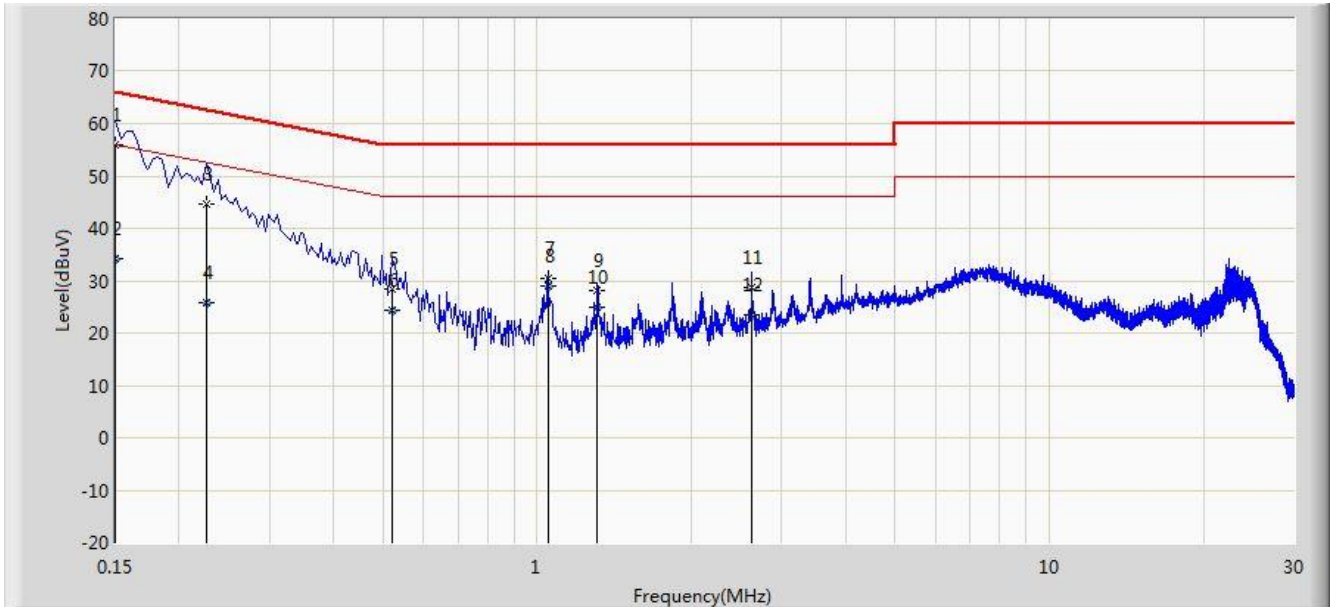


No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		*	0.162	54.892	44.795	-10.469	65.361	10.097	QP
2			0.162	34.650	24.553	-20.710	55.361	10.097	AV
3			0.194	49.971	39.954	-13.893	63.864	10.017	QP
4			0.194	29.854	19.838	-24.009	53.864	10.017	AV
5			0.434	31.365	21.251	-25.811	57.176	10.113	QP
6			0.434	22.810	12.697	-24.366	47.176	10.113	AV
7			1.050	29.635	19.728	-26.365	56.000	9.907	QP
8			1.050	26.850	16.943	-19.150	46.000	9.907	AV
9			7.470	30.389	20.219	-29.611	60.000	10.170	QP
10			7.470	24.844	14.674	-25.156	50.000	10.170	AV
11			23.158	26.447	16.260	-33.553	60.000	10.187	QP
12			23.158	19.040	8.853	-30.960	50.000	10.187	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB)

Site: SR2	Time: 2018/02/05 - 13:54
Limit: FCC_Part15.107_Class B	Engineer: Polly Zong
Probe: ENV216_101683_Filter On	Polarity: Neutral
EUT: DECT USB Dongle	Power: AC 120V/60Hz
Test Mode: Mode 1	



No	Flag	Mark	Frequency (MHz)	Measure Level (dBuV)	Reading Level (dBuV)	Over Limit (dB)	Limit (dBuV)	Factor (dB)	Type
1		*	0.150	55.806	44.664	-10.194	66.000	11.142	QP
2			0.150	34.197	23.055	-21.803	56.000	11.142	AV
3			0.226	44.663	34.680	-17.933	62.595	9.982	QP
4			0.226	25.744	15.761	-26.852	52.595	9.982	AV
5			0.522	28.297	18.124	-27.703	56.000	10.174	QP
6			0.522	24.413	14.240	-21.587	46.000	10.174	AV
7			1.050	30.360	20.453	-25.640	56.000	9.907	QP
8			1.050	28.919	19.012	-17.081	46.000	9.907	AV
9			1.310	28.023	18.126	-27.977	56.000	9.898	QP
10			1.310	24.804	14.907	-21.196	46.000	9.898	AV
11			2.622	28.586	18.729	-27.414	56.000	9.857	QP
12			2.622	23.568	13.711	-22.432	46.000	9.857	AV

Note: Measure Level (dBμV) = Reading Level (dBμV) + Factor (dB)

Factor (dB) = Cable Loss (dB) + LISN Factor (dB)

7.3. Emission Bandwidth Measurement

7.3.1. Test Limit

Requirement: FCC 15.323(a)

The 26 dB Bandwidth B shall be larger than 50 kHz and less than 2.5MHz.

Requirement: RSS-213 Issue 3, clause 6.4

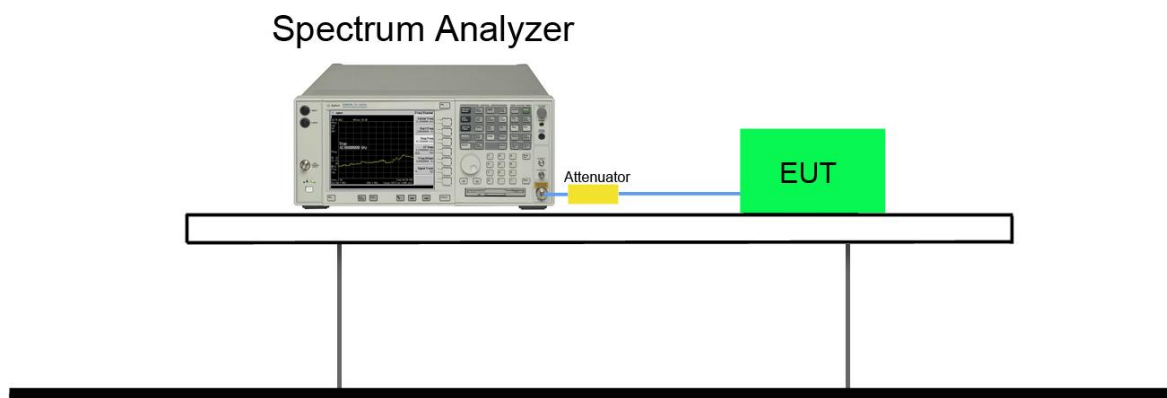
The 20 dB Bandwidth B shall be larger than 50 kHz and less than 2.5MHz.

No requirement for 6 dB and 12 dB Bandwidth. These values are only used for testing Monitoring Bandwidth if the Simple Compliance test fails (ANSI C63.17, clause 7.4).

7.3.2. Test Procedure used

ANSI C63.17, Clause 6.1.3

7.3.3. Test Setup



7.3.4. Test Result

Product	DECT USB Dongle	Temperature	24°C
Test Engineer	Dandy Li	Relative Humidity	51%
Test Site	TR3	Test Date	2018/02/05
Test Mode	Mode 1		

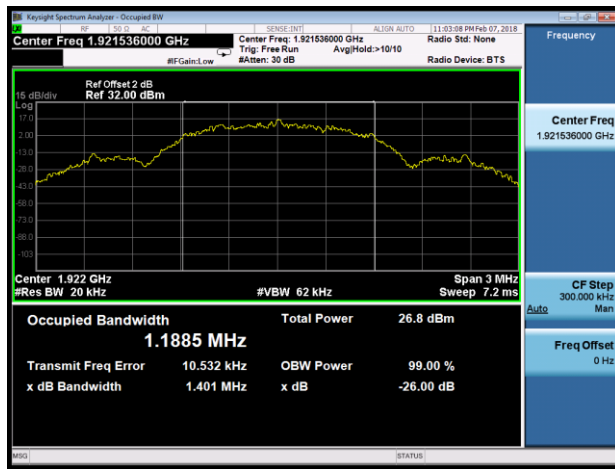
Channel No.	Frequency (MHz)	Emission Bandwidth (MHz)	Result
26dB Bandwidth – Ant 0			
4	1921.536	1.401	Pass
2	1924.992	1.407	Pass
0	1928.448	1.413	Pass
20dB Bandwidth – Ant 0			
4	1921.536	1.286	Pass
2	1924.992	1.256	Pass
0	1928.448	1.281	Pass
26dB Bandwidth – Ant 1			
4	1921.536	1.412	Pass
2	1924.992	1.418	Pass
0	1928.448	1.394	Pass
20dB Bandwidth – Ant 1			
4	1921.536	1.293	Pass
2	1924.992	1.269	Pass
0	1928.448	1.304	Pass

Product	DECT USB Dongle	Temperature	24°C
Test Engineer	Dandy Li	Relative Humidity	51%
Test Site	TR3	Test Date	2018/02/05
Test Mode	Mode 2		

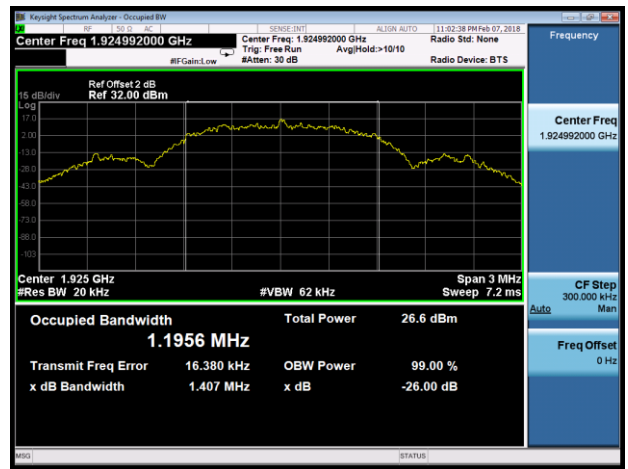
Channel No.	Frequency (MHz)	Emission Bandwidth (MHz)	Result
26dB Bandwidth – Ant 0			
4	1921.536	1.422	Pass
2	1924.992	1.442	Pass
0	1928.448	1.452	Pass
20dB Bandwidth – Ant 0			
4	1921.536	1.237	Pass
2	1924.992	1.286	Pass
0	1928.448	1.246	Pass
26dB Bandwidth – Ant 1			
4	1921.536	1.446	Pass
2	1924.992	1.410	Pass
0	1928.448	1.431	Pass
20dB Bandwidth – Ant 1			
4	1921.536	1.297	Pass
2	1924.992	1.249	Pass
0	1928.448	1.265	Pass

Mode 1 - 26dB Emission Bandwidth-Ant 0

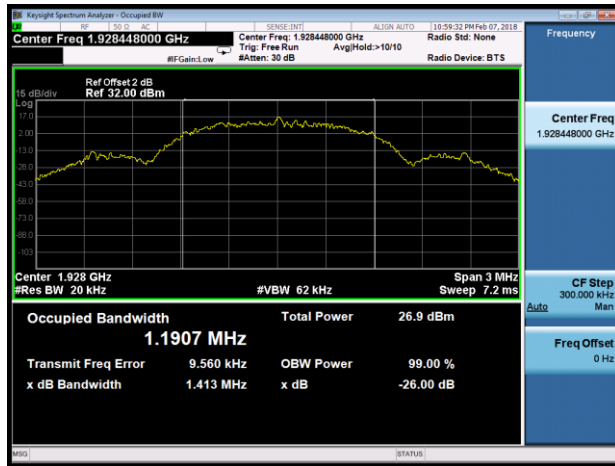
Lowest Channel



Middle Channel

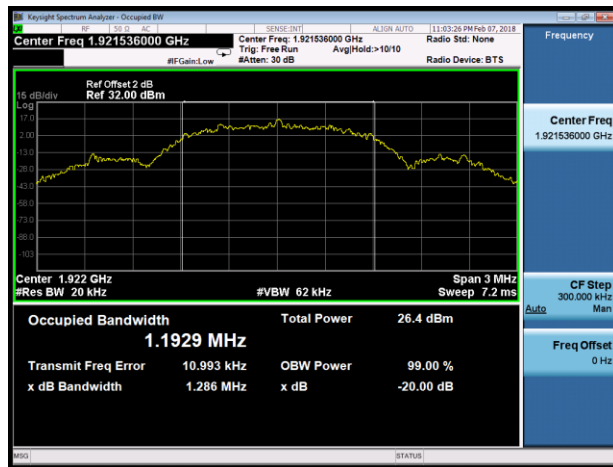


Upper Channel

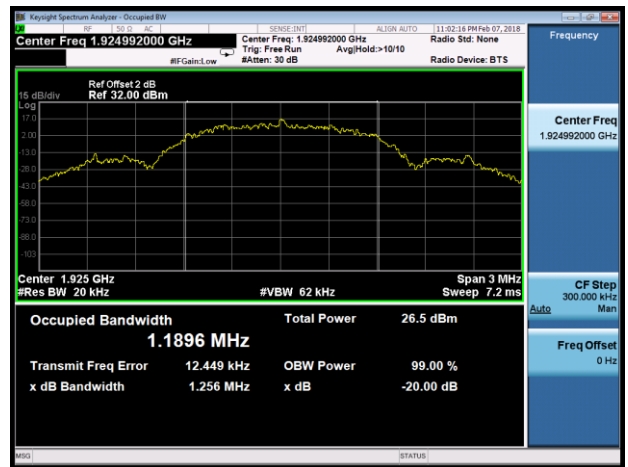


Mode 1 - 20dB Emission Bandwidth-Ant 0

Lowest Channel



Middle Channel

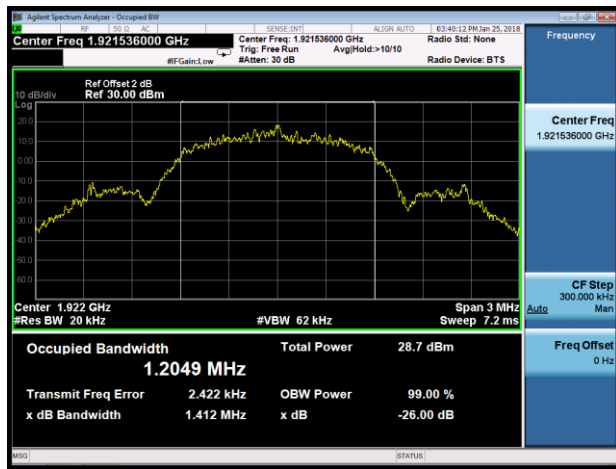


Upper Channel

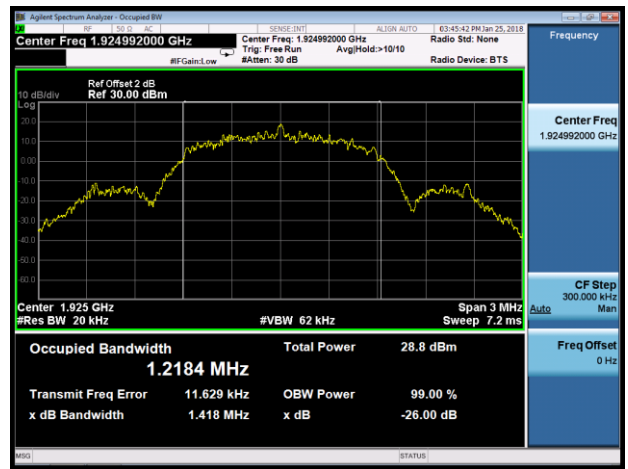


Mode 1 - 26dB Emission Bandwidth-Ant 1

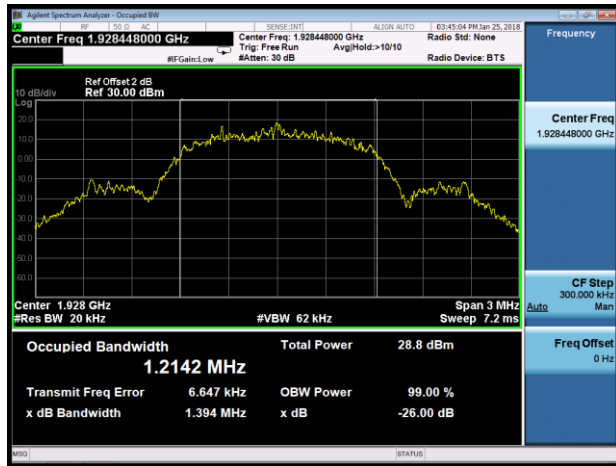
Lowest Channel



Middle Channel

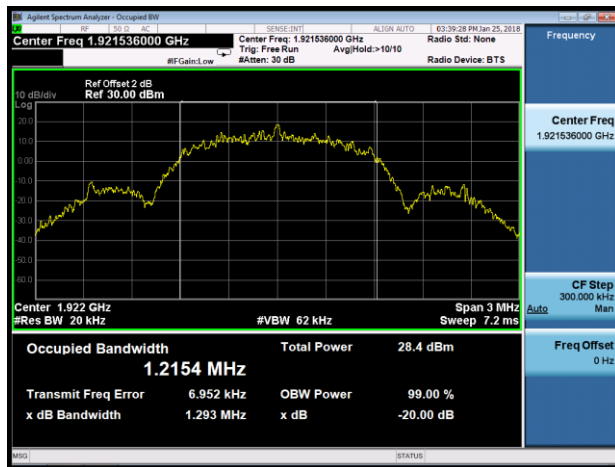


Upper Channel

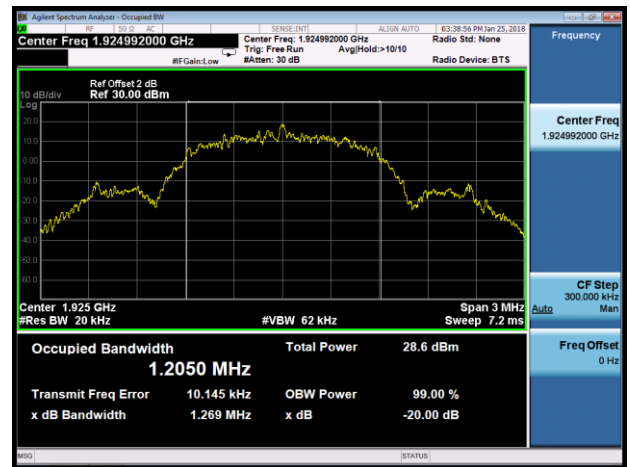


Mode 1 - 20dB Emission Bandwidth-Ant 1

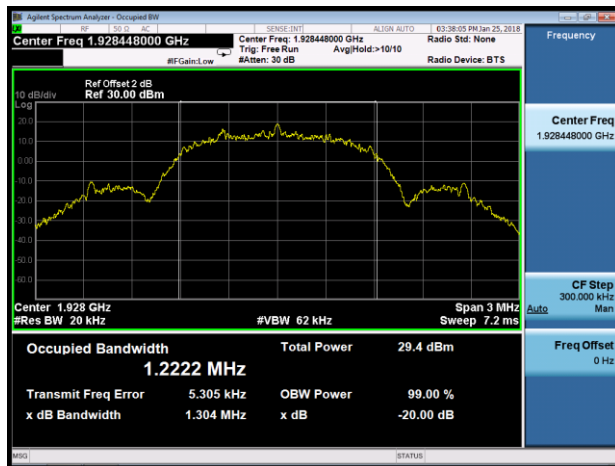
Lowest Channel



Middle Channel

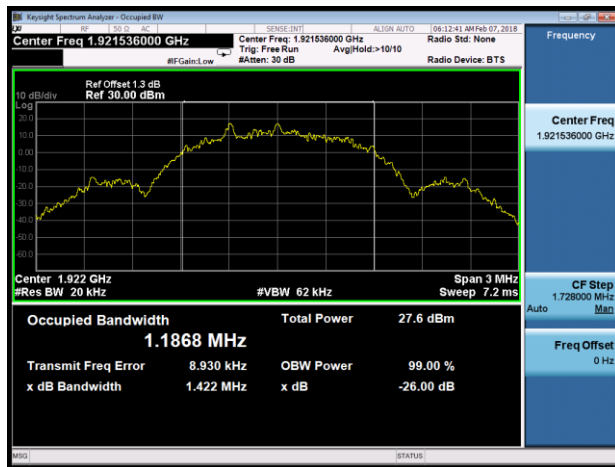


Upper Channel

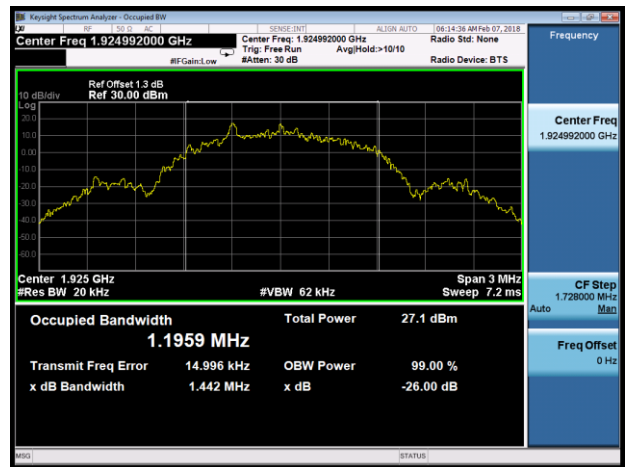


Mode 2 - 26dB Emission Bandwidth-Ant 0

Lowest Channel



Middle Channel

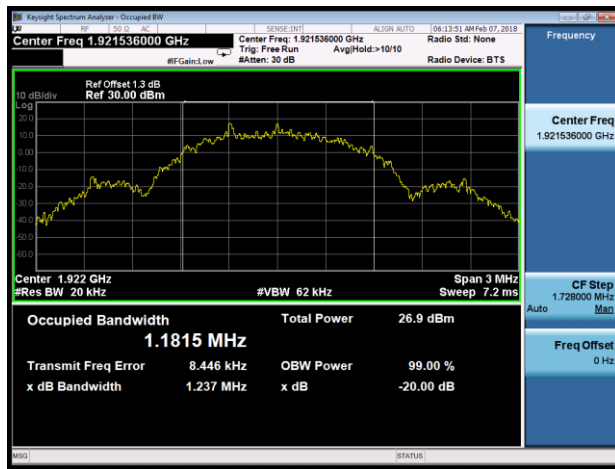


Upper Channel

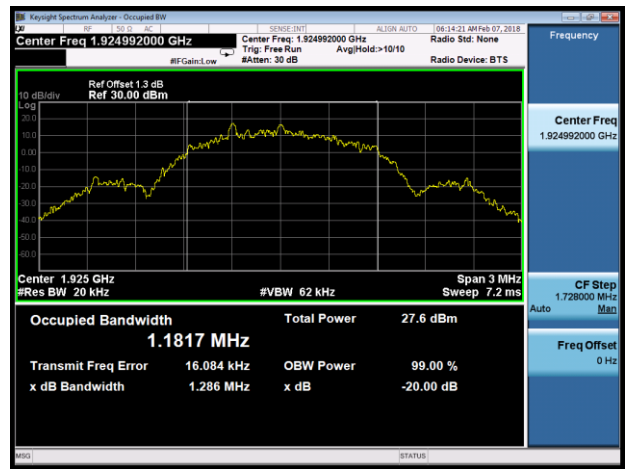


Mode 2 - 20dB Emission Bandwidth-Ant 0

Lowest Channel



Middle Channel

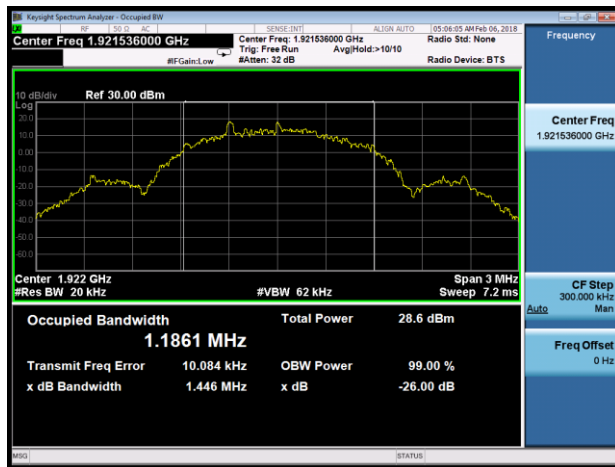


Upper Channel

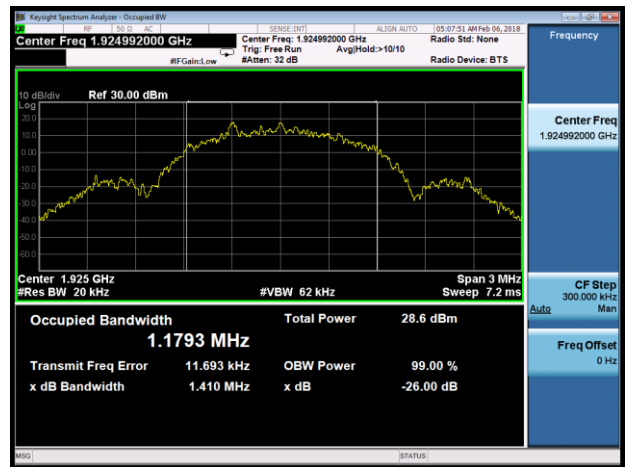


Mode 2 - 26dB Emission Bandwidth-Ant 1

Lowest Channel



Middle Channel

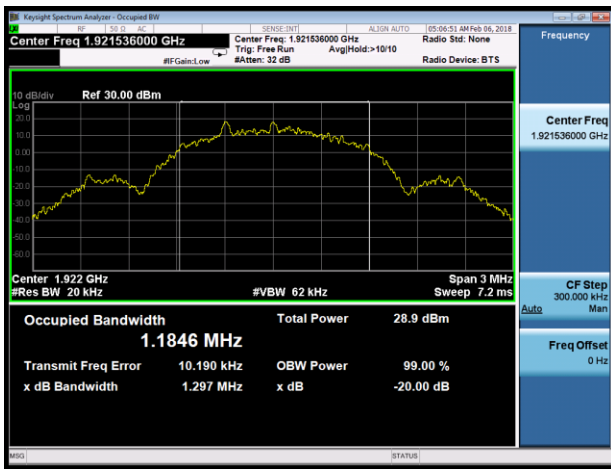


Upper Channel



Mode 2 - 20dB Emission Bandwidth-Ant 1

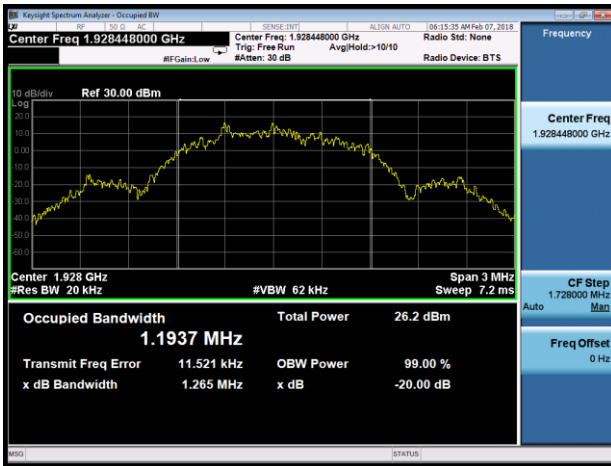
Lowest Channel



Middle Channel



Upper Channel



7.4. Peak Power Output

7.4.1. Test Limit

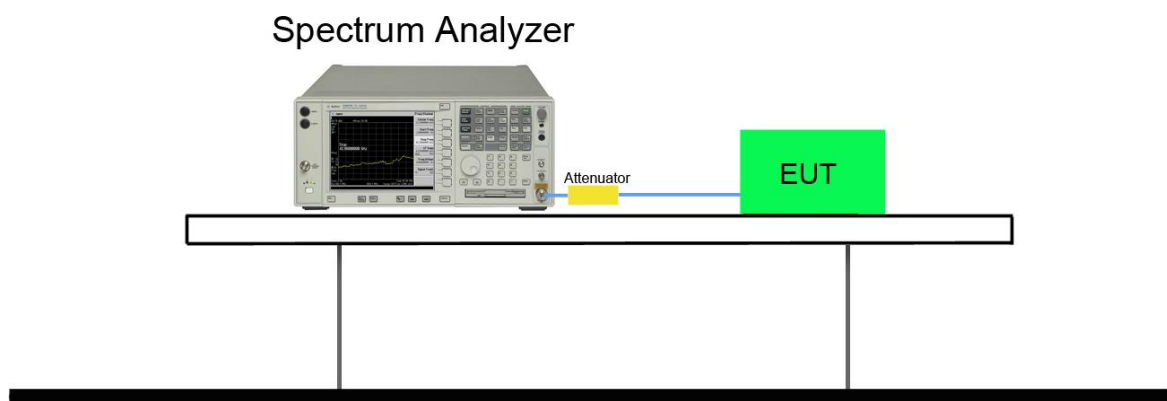
Peak transmit power shall not exceed 100 microwatts multiplied by the square root of the emission bandwidth in Hertz.

The peak transmit power shall be reduced by the amount in decibels that the maximum directional gain of the antenna exceeds 3dBi.

7.4.2. Test Procedure Used

ANSI C63.17, Clause 6.1.2

7.4.3. Test Setup



7.4.4. Test Result

Product	DECT USB Dongle	Temperature	24°C
Test Engineer	Dandy Li	Relative Humidity	51%
Test Site	TR3	Test Date	2018/02/05
Test Mode	Mode 1		

Channel No.	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Maximum Antenna Gain (dBi)	Maximum Radiated Output Power (dBm)	Limit (dBm)
Ant 0					
4	1921.536	18.96	-1	17.96	≤ 20.73
2	1924.992	18.95	-1	17.95	≤ 20.73
0	1928.448	18.99	-1	17.99	≤ 20.73
Ant 1					
4	1921.536	19.71	-1	18.71	≤ 20.72
2	1924.992	19.73	-1	18.73	≤ 20.72
0	1928.448	19.73	-1	18.73	≤ 20.72

Note: Ant 0: The min EBW = 1401000Hz

Peak Transmit Power Limit = $10 \cdot \log(100\mu\text{W} \times (\text{EBW})^{1/2} \div 1000) = 20.73\text{dBm}$

Ant 1: The min EBW = 1394000Hz

Peak Transmit Power Limit = $10 \cdot \log(100\mu\text{W} \times (\text{EBW})^{1/2} \div 1000) = 20.72\text{dBm}$

Product	DECT USB Dongle	Temperature	24°C
Test Engineer	Dandy Li	Relative Humidity	51%
Test Site	TR3	Test Date	2018/02/05
Test Mode	Mode 2		

Channel No.	Frequency (MHz)	Maximum Conducted Output Power (dBm)	Maximum Antenna Gain (dBi)	Maximum Radiated Output Power (dBm)	Limit (dBm)
Ant 0					
4	1921.536	20.27	-1	19.27	≤ 20.76
2	1924.992	20.26	-1	19.26	≤ 20.76
0	1928.448	20.25	-1	19.25	≤ 20.76
Ant 1					
4	1921.536	21.24	-1	20.24	≤ 20.74
2	1924.992	21.25	-1	20.25	≤ 20.74
0	1928.448	21.22	-1	20.22	≤ 20.74

Note: Ant 0: The min EBW = 1422000Hz

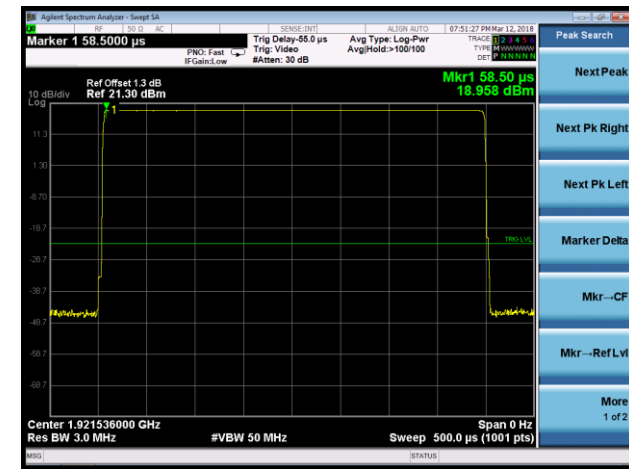
Peak Transmit Power Limit = $10 \cdot \log(100\mu\text{W} \times (\text{EBW})^{1/2} \div 1000) = 20.76\text{dBm}$

Ant 1: The min EBW = 1410000Hz

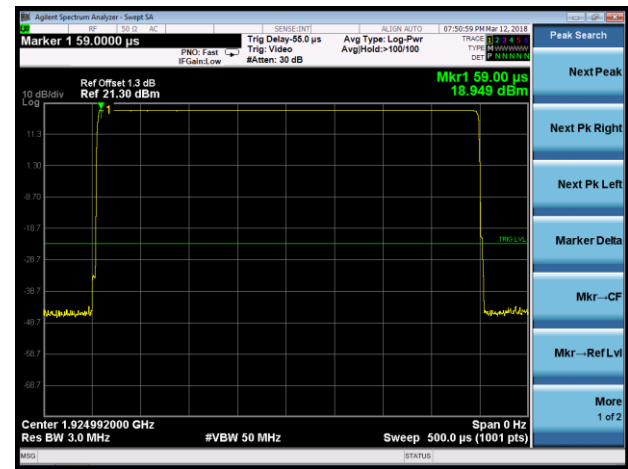
Peak Transmit Power Limit = $10 \cdot \log(100\mu\text{W} \times (\text{EBW})^{1/2} \div 1000) = 20.74\text{dBm}$

Mode 1 - Ant 0 Peak Output Power

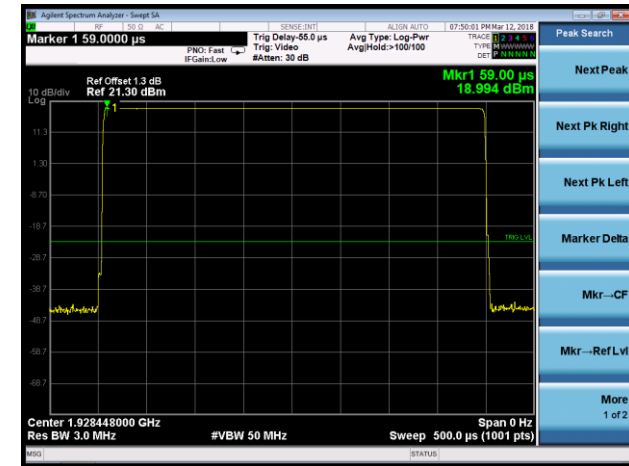
Lowest Channel



Middle Channel

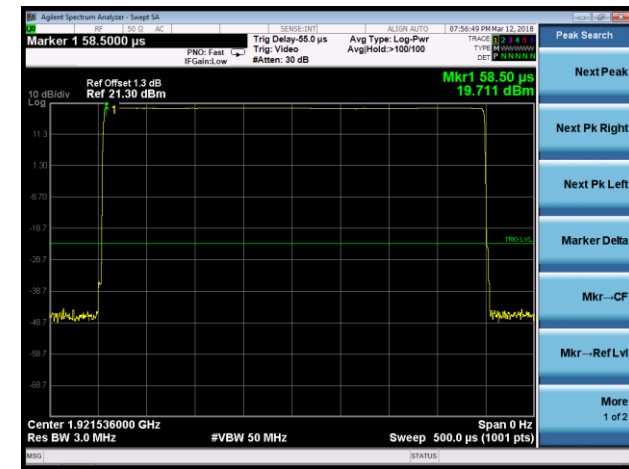


Upper Channel

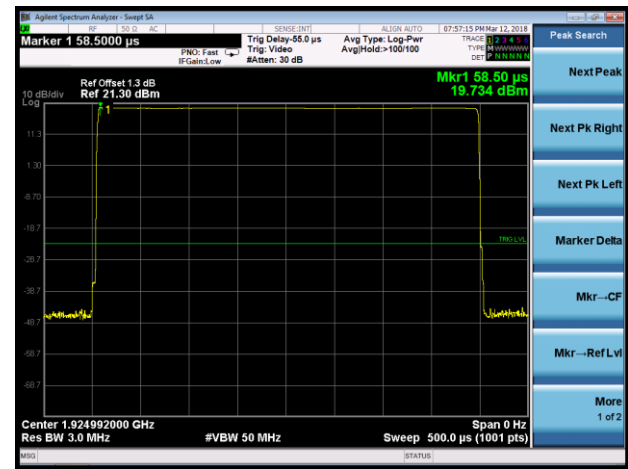


Mode 1 - Ant 1 Peak Output Power

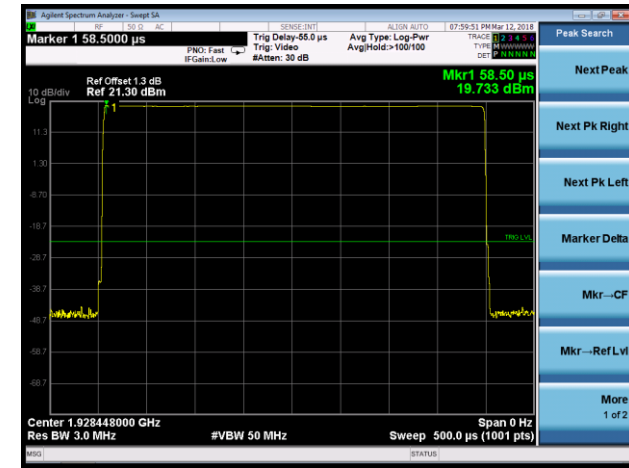
Lowest Channel



Middle Channel

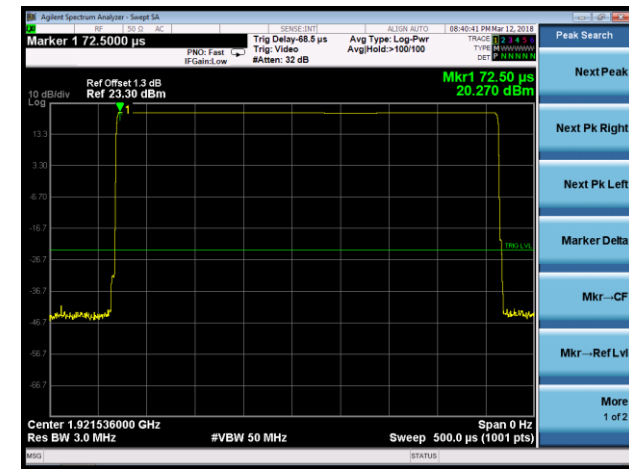


Upper Channel

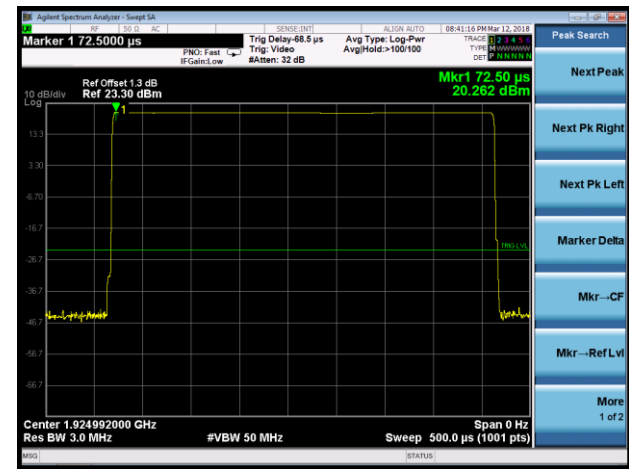


Mode 2 - Ant 0 Peak Output Power

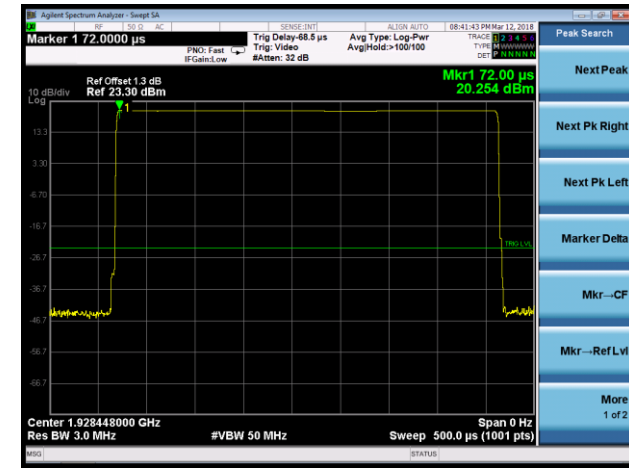
Lowest Channel



Middle Channel

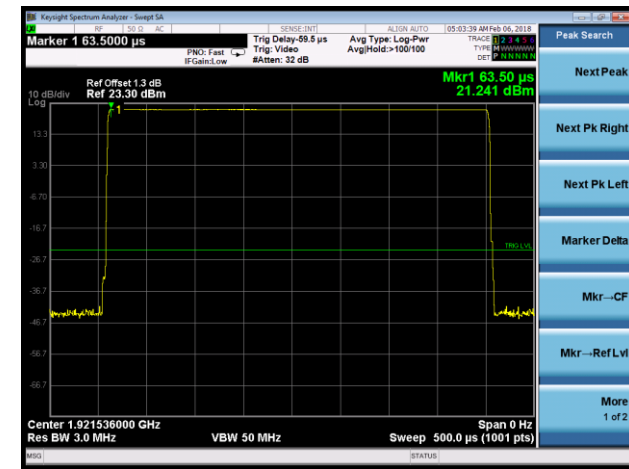


Upper Channel

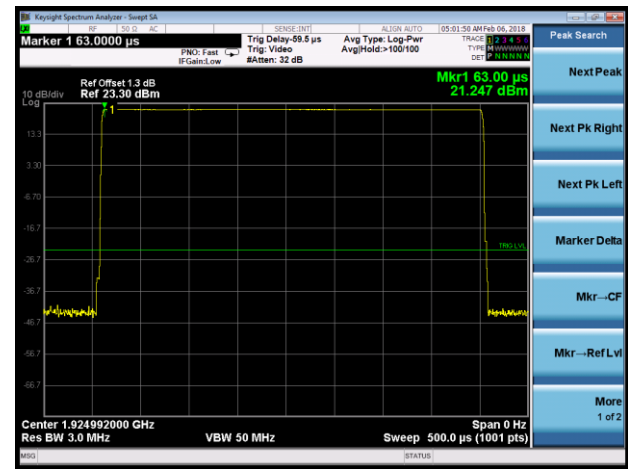


Mode 2 - Ant 1 Peak Output Power

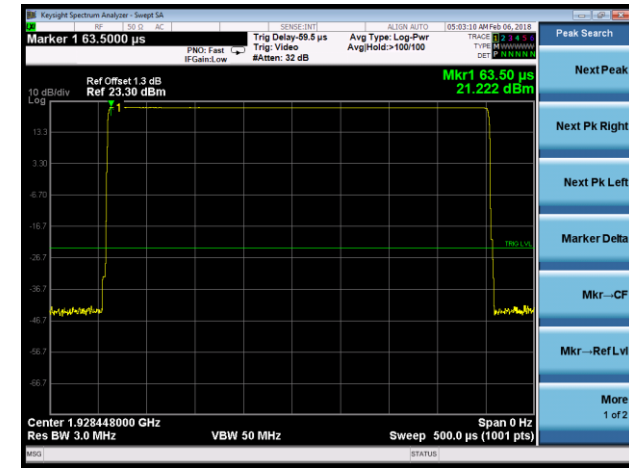
Lowest Channel



Middle Channel



Upper Channel



7.5. Power Spectral Density

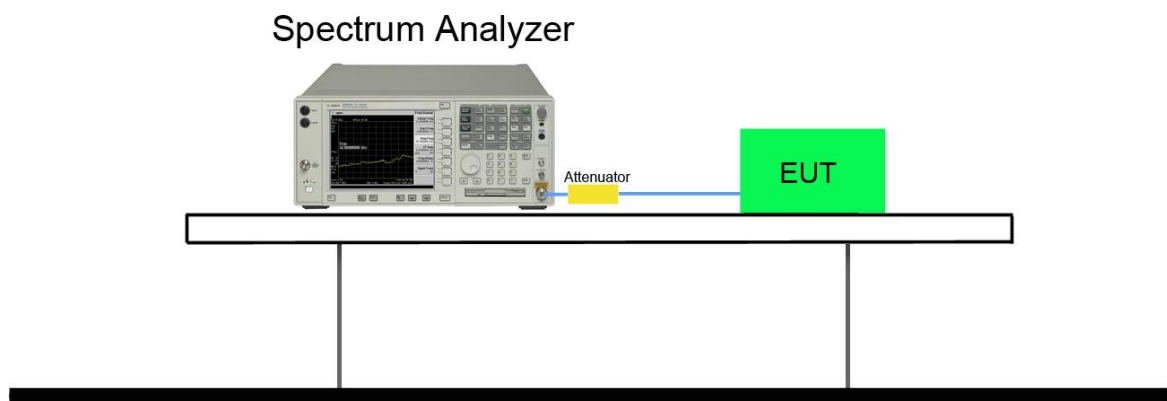
7.5.1. Test Limit

Power spectral density shall not exceed 3 milliwatts in any 3 kHz bandwidth as measured with a spectrum analyzer having a resolution bandwidth of 3 kHz.

7.5.2. Test Procedure Used

ANSI C63.17, Clause 6.1.5

7.5.3. Test Setup



7.5.4. Test Result

Product	DECT USB Dongle	Temperature	24°C
Test Engineer	Dandy Li	Relative Humidity	51%
Test Site	TR3	Test Date	2018/02/05
Test Mode	Mode 1		

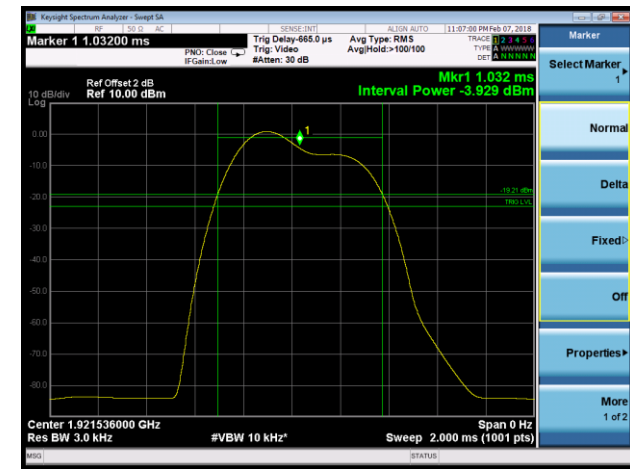
Channel No.	Frequency (MHz)	Measured PSD (dBm / 3kHz)	Limit (mW / 3kHz)	Result
Ant 0				
4	1921.536	-3.93	≤ 3.00	Pass
2	1924.992	-3.65	≤ 3.00	Pass
0	1928.448	-3.38	≤ 3.00	Pass
Ant 1				
4	1921.536	-3.44	≤ 3.00	Pass
2	1924.992	-3.47	≤ 3.00	Pass
0	1928.448	-3.34	≤ 3.00	Pass

Product	DECT USB Dongle	Temperature	24°C
Test Engineer	Dandy Li	Relative Humidity	51%
Test Site	TR3	Test Date	2018/02/05
Test Mode	Mode 2		

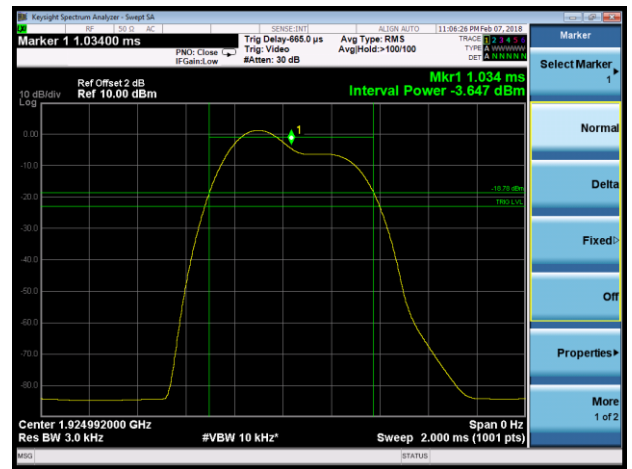
Channel No.	Frequency (MHz)	Measured PSD (dBm / 3kHz)	Limit (mW / 3kHz)	Result
Ant 0				
4	1921.536	0.06	≤ 3.00	Pass
2	1924.992	-0.13	≤ 3.00	Pass
0	1928.448	0.15	≤ 3.00	Pass
Ant 1				
4	1921.536	-1.09	≤ 3.00	Pass
2	1924.992	-1.45	≤ 3.00	Pass
0	1928.448	-1.34	≤ 3.00	Pass

Mode 1 - Ant 0 Power Spectral Density

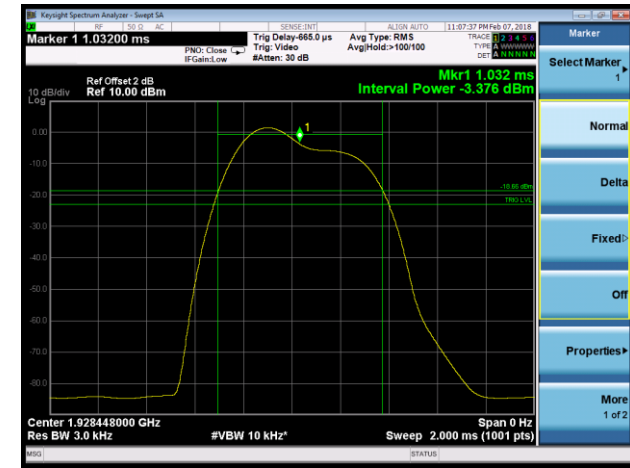
Lowest Channel



Middle Channel

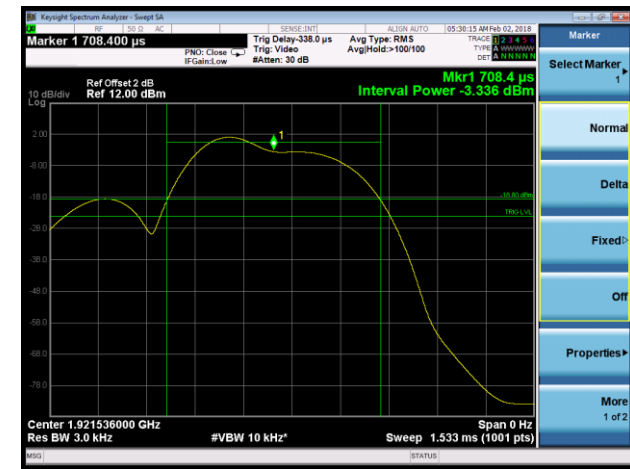


Upper Channel

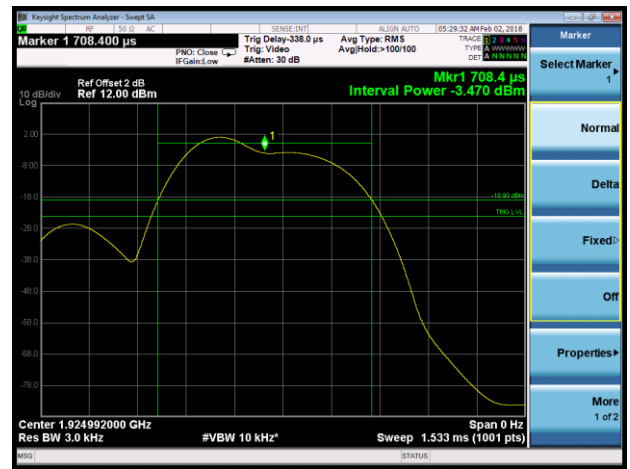


Mode 1 - Ant 1 Power Spectral Density

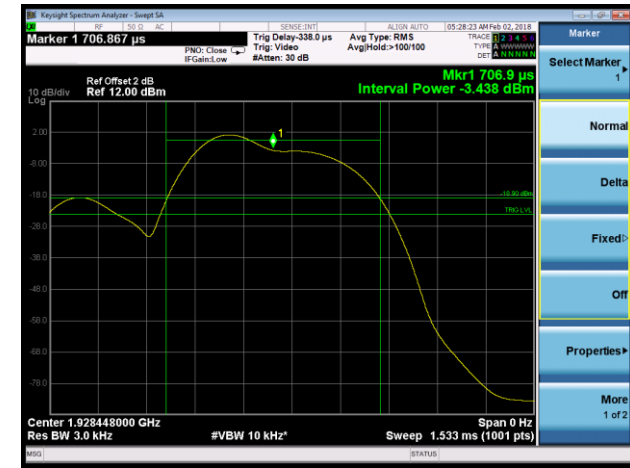
Lowest Channel



Middle Channel

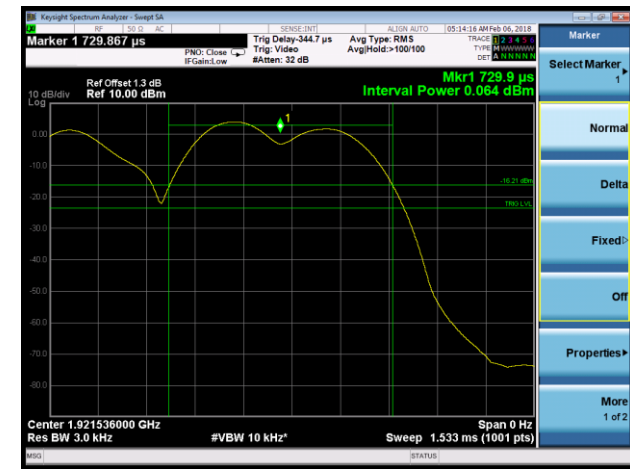


Upper Channel

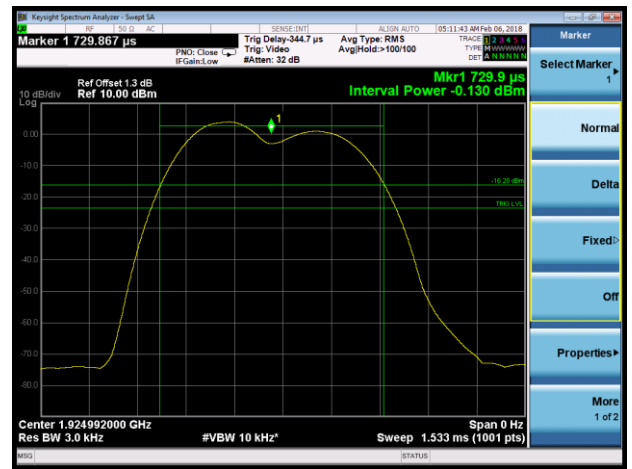


Mode 2 - Ant 0 Power Spectral Density

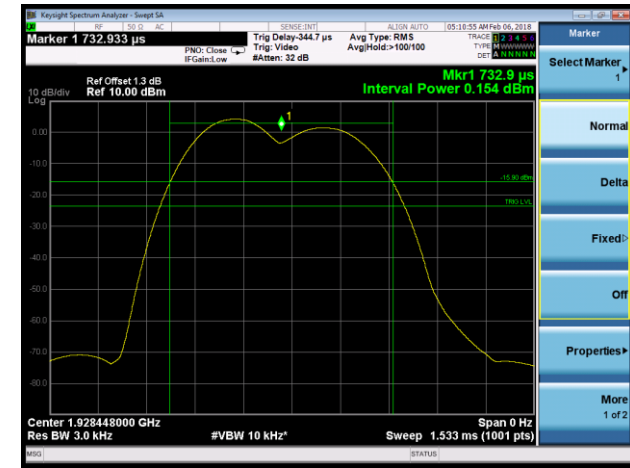
Lowest Channel



Middle Channel

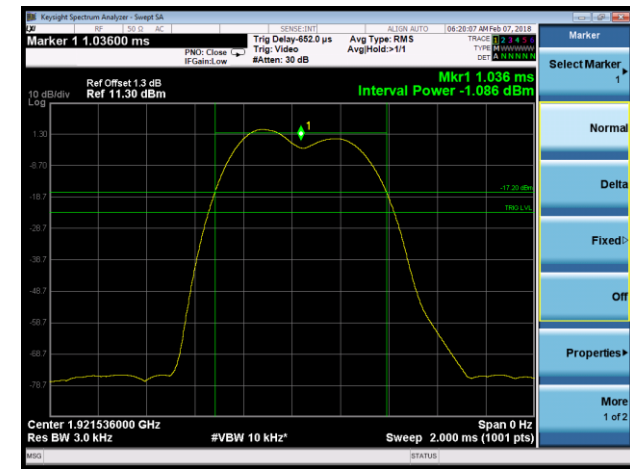


Upper Channel

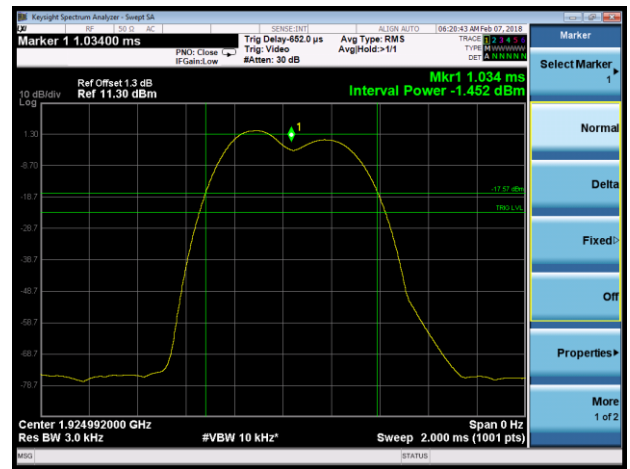


Mode 2 - Ant 1 Power Spectral Density

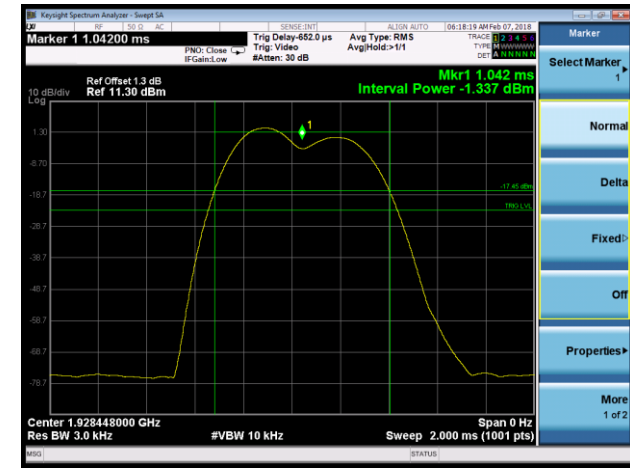
Lowest Channel



Middle Channel



Upper Channel



7.6. In-Band Unwanted Emissions

7.6.1. Test Limit

B < f2_2B: less than or equal to 30 dB below maximum permitted peak power level

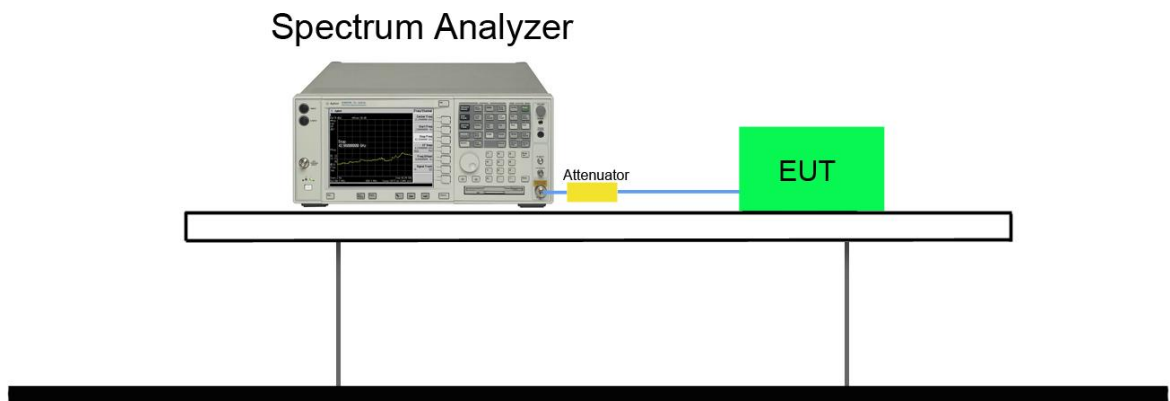
2B < f2_3B: less than or equal to 50 dB below maximum permitted peak power level

3B < f2_UPCS Band Edge: less than or equal to 60 dB below maximum permitted peak power level.

7.6.2. Test Procedure Used

ANSI C63.17, Clause 6.1.6.1

7.6.3. Test Setup



7.6.4. Test Result

Product	DECT USB Dongle	Temperature	24°C
Test Engineer	Dandy Li	Relative Humidity	51%
Test Site	TR3	Test Date	2018/02/07
Test Mode	Mode 1 & 2		

