FCC Part 15C
Measurement and Test Report

For

DongZheng Electronics & Plastic Products (Shenzhen) Ltd.

No.69, Chi Ao Industrial Zone, Ma Luan Block, Pingshan District, Shenzhen

FCC ID: 2ALPMLY100

FCC Rule(s):	FCC Part 15.247
Product Description:	Bluetooth button
Tested Model:	DZ-LY100
Report No.:	STR17038364I
Tested Date:	2017-03-31 to 2017-04-17
Issued Date:	2017-04-18
Tested By:	Sweet Liang / Engineer
Reviewed By:	Silin Chen / EMC Manager
Approved & Authorized By:	Jandy So / PSQ Manager

Prepared By:

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1. GENERAL INFORMATION

1.1 Product Description for Equipment Under Test (EUT)

Client Information

Applicant:	DongZheng Electronics & Plastic Products (Shenzhen) Ltd.
Address of applicant:	No.69, Chi Ao Industrial Zone, Ma Luan Block, Pingshan District, Shenzhen
Manufacturer:	DongZheng Electronics & Plastic Products (Shenzhen) Ltd.
Address of manufacturer:	No.69, Chi Ao Industrial Zone, Ma Luan Block, Pingshan District, Shenzhen

General Description of EUT	
Product Name:	Bluetooth button
Trade Name:	/
Model No.:	DZ-LY100
Adding Model(s):	/
Rated Voltage:	DC 3.0V Battery
Power Adaptor Model:	/
Note: The test data is gathered from a production sample, provided by the manufacturer.	

Technical Characteristics of EUT	
Bluetooth Version:	V4.0 (BLE mode)
Frequency Range:	2402-2480MHz
RF Output Power:	-5.028dBm (Conducted)
Data Rate:	1Mbps
Modulation:	GFSK
Quantity of Channels:	40
Channel Separation:	2MHz
Type of Antenna:	PCB
Antenna Gain:	0dBi
Lowest Internal Frequency:	12MHz

1.2 Test Standards

The following report is prepared on behalf of the DongZheng Electronics & Plastic Products (Shenzhen) Ltd. in accordance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 of the Federal Communication Commissions rules.

Maintenance of compliance is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

1.3 Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard for Testing Unlicensed Wireless Devices, and ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz. The measurement guide KDB 558074 D01 v04 for digital transmission systems shall be performed also.

1.4 Test Facility

FCC – Registration No.: 934118

Shenzhen SEM.Test Technology Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files and the Registration is 934118.

Industry Canada (IC) Registration No.: 11464A

The 3m Semi-anechoic chamber of Shenzhen SEM.Test Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

CNAS Registration No.: L4062

Shenzhen SEM.Test Technology Co., Ltd. is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L4062. All measurement facilities used to collect the measurement data are located at 1/F, Building A, Hongwei Industrial Park, Liuxian 2nd Road, Bao'an District, Shenzhen, P.R.C (518101).

1.5 EUT Setup and Test Mode

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. All testing shall be performed under maximum output power condition, and to measure its highest possible emissions level, more detailed description as follows:

Test Mode List		
Test Mode	Description	Remark
TM1	GFSK(BLE)	2402MHz, 2440MHz, 2480MHz

EUT Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Special Cable List and Details			
Cable Description	Length (m)	Shielded/Unshielded	With / Without Ferrite
/	/	/	/

Auxiliary Equipment List and Details			
Description	Manufacturer	Model	Serial Number
/	/	/	/

1.6 Measurement Uncertainty

Measurement uncertainty		
Parameter	Conditions	Uncertainty
RF Output Power	Conducted	±0.42dB
Occupied Bandwidth	Conducted	±1.5%
Power Spectral Density	Conducted	±1.8dB
Conducted Spurious Emission	Conducted	±2.17dB
Conducted Emissions	Conducted	±2.88dB
Transmitter Spurious Emissions	Radiated	±5.1dB

1.7 Test Equipment List and Details

No.	Description	Manufacturer	Model	Serial No.	Cal Date	Due Date
SEMT-1072	Spectrum Analyzer	Agilent	E4407B	MY41440400	2016-06-04	2017-06-03
SEMT-1031	Spectrum Analyzer	Rohde & Schwarz	FSP30	836079/035	2016-06-04	2017-06-03
SEMT-1007	EMI Test Receiver	Rohde & Schwarz	ESVB	825471/005	2016-06-04	2017-06-03
SEMT-1008	Amplifier	Agilent	8447F	3113A06717	2016-06-04	2017-06-03
SEMT-1043	Amplifier	C&D	PAP-1G18	2002	2016-06-04	2017-06-03
SEMT-1011	Broadband Antenna	Schwarz beck	VULB9163	9163-333	2016-06-04	2017-06-03
SEMT-1042	Horn Antenna	ETS	3117	00086197	2016-06-04	2017-06-03
SEMT-1121	Horn Antenna	Schwarzbeck	BBHA 9170	BBHA9170582	2016-06-04	2017-06-03
SEMT-1069	Loop Antenna	Schwarz beck	FMZB 1516	9773	2016-06-04	2017-06-03
SEMT-1001	EMI Test Receiver	Rohde & Schwarz	ESPI	101611	2016-06-04	2017-06-03
SEMT-1003	L.I.S.N	Schwarz beck	NSLK8126	8126-224	2016-06-04	2017-06-03
SEMT-1002	Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100911	2016-06-04	2017-06-03

2. SUMMARY OF TEST RESULTS

FCC Rules	Description of Test Item	Result
§ 2.1093	RF Exposure	Compliant
§ 15.203; § 15.247(b)(4)(i)	Antenna Requirement	Compliant
§15.205	Restricted Band of Operation	Compliant
§ 15.207(a)	Conducted Emission	N/A
§ 15.247(e)	Power Spectral Density	Compliant
§ 15.247(a)(2)	6 dB Bandwidth	Compliant
§ 15.247(b)(3)	RF Output Power	Compliant
§ 15.209(a)	Radiated Emission	Compliant
§ 15.247(d)	Band Edge (Out of Band Emissions)	Compliant

N/A: not applicable

3. RF Exposure

3.1 Standard Applicable

According to § 1.1307 and § 2.1093, the portable transmitter must comply the RF exposure requirements.

3.2 Test Result

This product complied with the requirement of the RF exposure, please see the RF Exposure Report.

4. Antenna Requirement

4.1 Standard Applicable

According to FCC Part 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. 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.

4.2 Evaluation Information

This product has a PCB antenna, fulfill the requirement of this section.

5. Power Spectral Density

5.1 Standard Applicable

According to 15.247(a)(1)(iii), For digitally modulated systems, the power spectral density conducted from the intentional radiator to the antenna shall not be greater than 8 dBm in any 3 kHz band during any time interval of continuous transmission.

5.2 Test Procedure

According to the KDB 558074 D01 v04, the test method of power spectral density as below:

a) Set analyzer center frequency to DTS channel center frequency.
b) Set the span to 1.5 times the DTS bandwidth.
c) Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
d) Set the VBW ≥ 3 × RBW.
e) Detector = peak.
f) Sweep time = auto couple.
g) Trace mode = max hold.
h) Allow trace to fully stabilize.
i) Use the peak marker function to determine the maximum amplitude level within the RBW.
j) If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

5.3 Environmental Conditions

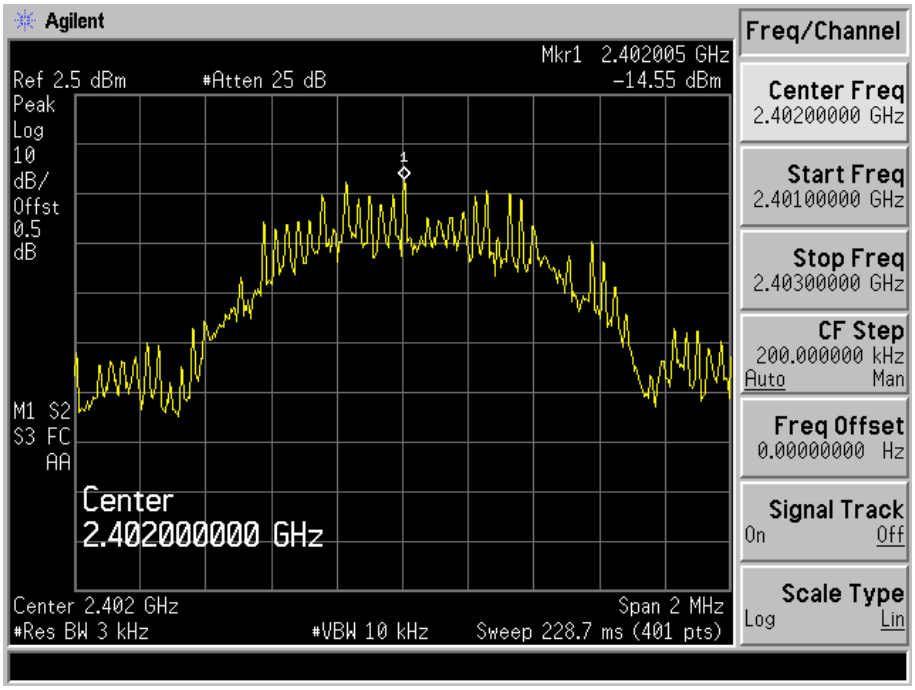
Temperature:	26° C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

5.4 Summary of Test Results/Plots

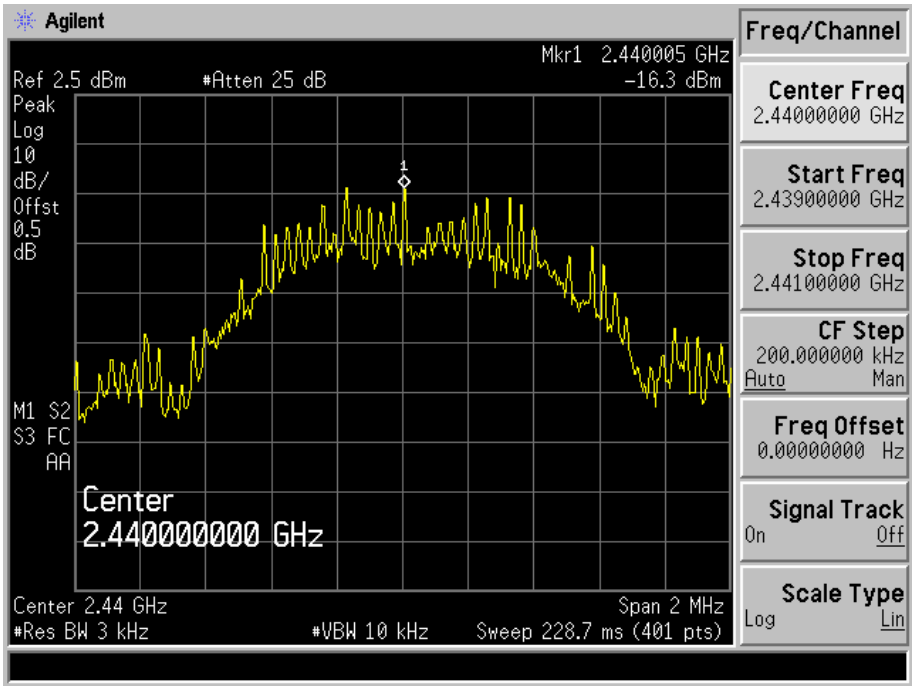
Test Mode	Test Channel MHz	Power Spectral Density dBm/3kHz	Limit dBm/3kHz
GFSK(BLE)	2402	-14.55	8
	2440	-16.30	8
	2480	-17.98	8

Please refer to the following test plots:

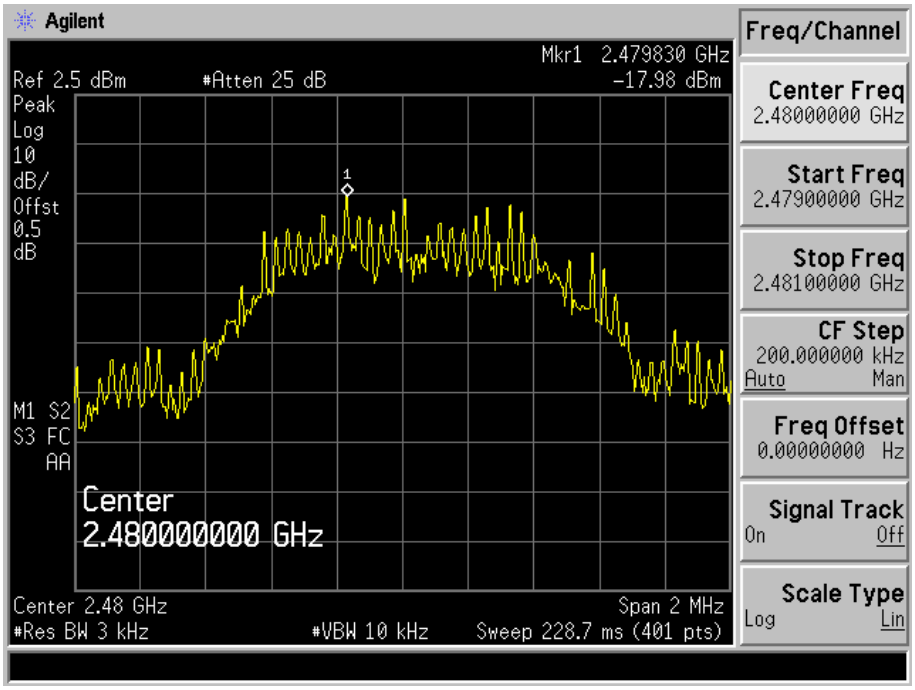
Low Channel



Middle Channel



High Channel



6. 6dB Bandwidth

6.1 Standard Applicable

According to 15.247(a)(2). Systems using digital modulation techniques may operate in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands. The minimum 6 dB bandwidth shall be at least 500 kHz.

6.2 Test Procedure

a) Set RBW = 100 kHz.
b) Set the video bandwidth (VBW) ≥ 3 × RBW.
c) Detector = Peak.
d) Trace mode = max hold.
e) Sweep = auto couple.
f) Allow the trace to stabilize.
g) Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

6.3 Environmental Conditions

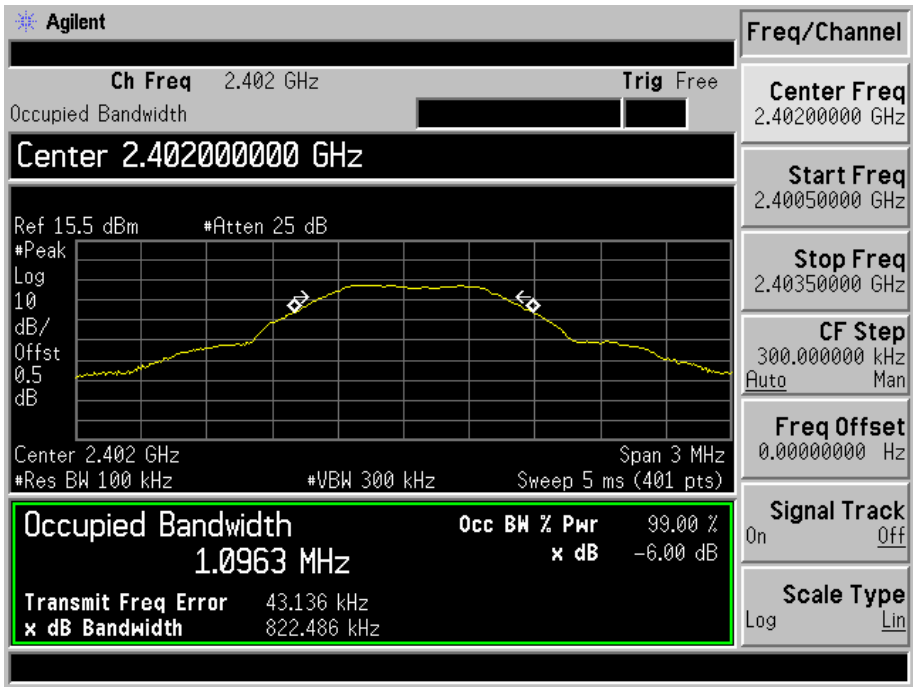
Temperature:	25° C
Relative Humidity:	53%
ATM Pressure:	1018 mbar

6.4 Summary of Test Results/Plots

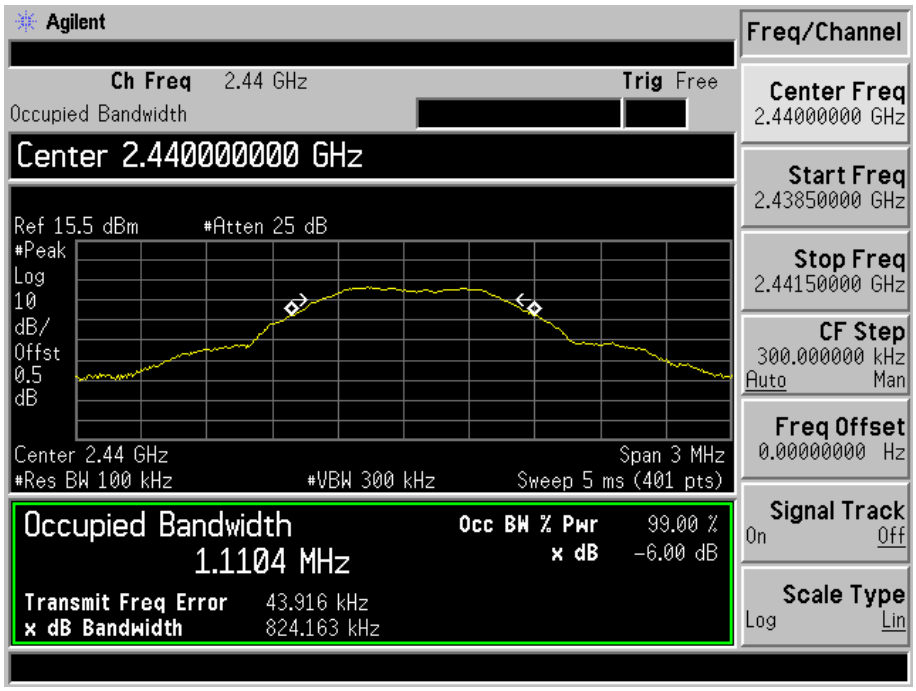
Test Mode	Test Channel MHz	6 dB Bandwidth kHz	99% Bandwidth kHz	Limit kHz
GFSK(BLE)	2402	822.486	1096.3	≥500
	2440	824.163	1110.4	≥500
	2480	873.715	1143.1	≥500

Please refer to the following test plots:

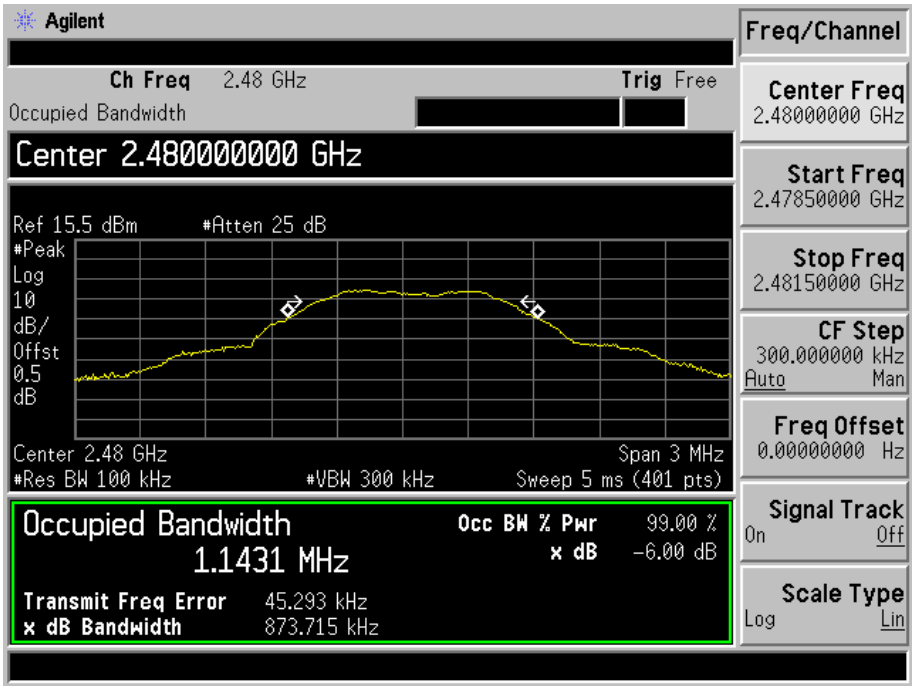
For BLE
Low Channel:



Middle Channel:



High Channel:



7. RF Output Power

7.1 Standard Applicable

According to 15.247(b)(3). For systems using digital modulation in the 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz bands: 1 Watt.

7.2 Test Procedure

According to section KDB-558074 D01 v04 section 9.1.1, this procedure shall be used when the measurement instrument has available a resolution bandwidth that is greater than the DTS bandwidth.

a) Set the RBW ≥ DTS bandwidth.
b) Set VBW ≥ 3 × RBW.
c) Set span ≥ 3 x RBW
d) Sweep time = auto couple.
e) Detector = peak.
f) Trace mode = max hold.
g) Allow trace to fully stabilize.
h) Use peak marker function to determine the peak amplitude level.

7.3 Environmental Conditions

Temperature:	26° C
Relative Humidity:	57%
ATM Pressure:	1011 mbar

7.4 Summary of Test Results/Plots

Test Mode	Frequency MHz	Reading dBm	Output Power mW	Limit mW
GFSK(BLE)	2402	-5.028	0.314	1000
	2440	-6.241	0.238	1000
	2480	-7.959	0.160	1000

Note: the antenna gain of 0dBi less than 6dBi maximum permission antenna gain value based on 1 watt peak output power limit.

8. Field Strength of Spurious Emissions

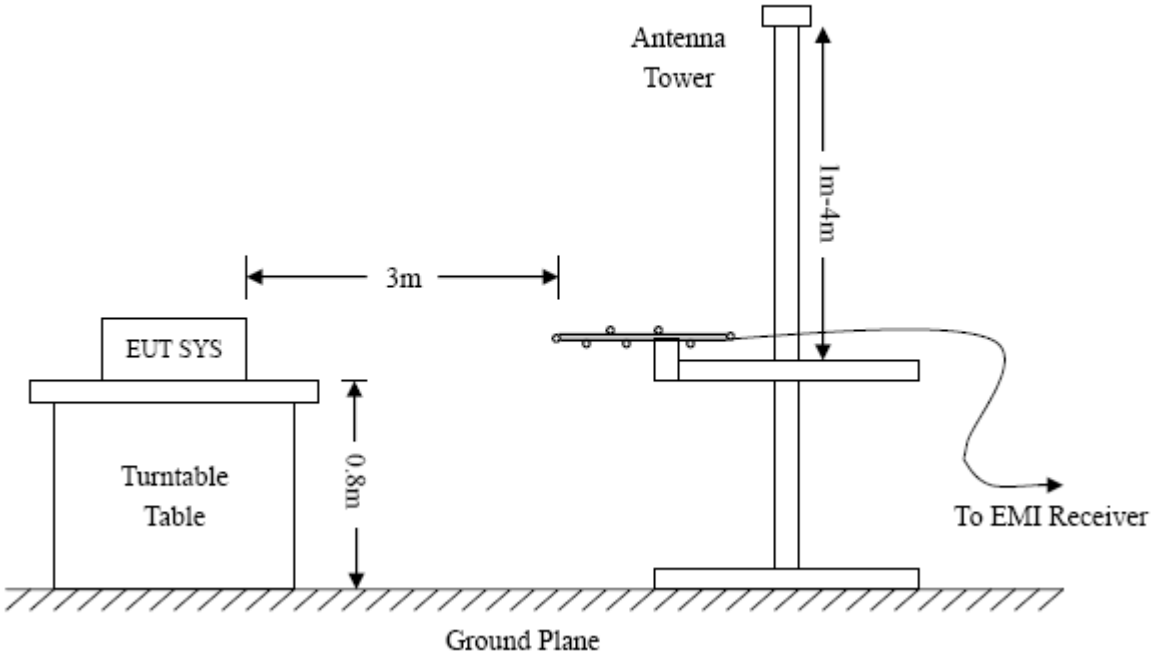
8.1 Standard Applicable

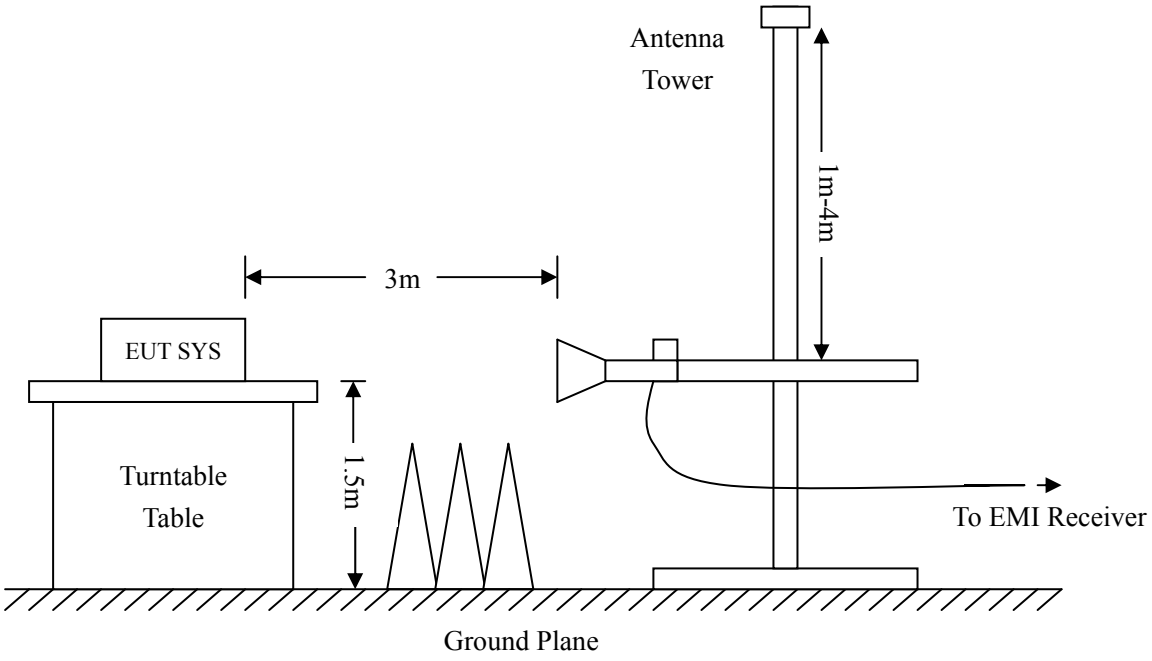
According to §15.247(d), in any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within 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).

The emission limit in this paragraph is based on measurement instrumentation employing an average detector. The provisions in §15.35 for limiting peak emissions apply. Spurious Radiated Emissions measurements starting below or at the lowest crystal frequency.

8.2 Test Procedure

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC Part 15.205 15.247(a) and FCC Part 15.209 Limit.
The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.
The spacing between the peripherals was 10 cm.





Frequency :9kHz-30MHz	Frequency :30MHz-1GHz	Frequency :Above 1GHz
RBW=10KHz,	RBW=120KHz,	RBW=1MHz,
VBW =30KHz	VBW=300KHz	VBW=3MHz(Peak), 10Hz(AV)
Sweep time= Auto	Sweep time= Auto	Sweep time= Auto
Trace = max hold	Trace = max hold	Trace = max hold
Detector function = peak	Detector function = peak, QP	Detector function = peak, AV

8.3 Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and the Cable Factor, and subtracting the Amplifier Gain from the Amplitude reading. The basic equation is as follows:

Corr. Ampl. = Indicated Reading + Ant. Factor + Cable Loss – Ampl. Gain

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of -6dBμV means the emission is 6dBμV below the maximum limit. The equation for margin calculation is as follows:

Margin = Corr. Ampl. – FCC Part 15 Limit

8.4 Environmental Conditions

Temperature:	25 °C
Relative Humidity:	52%
ATM Pressure:	1012 mbar

8.5 Summary of Test Results/Plots

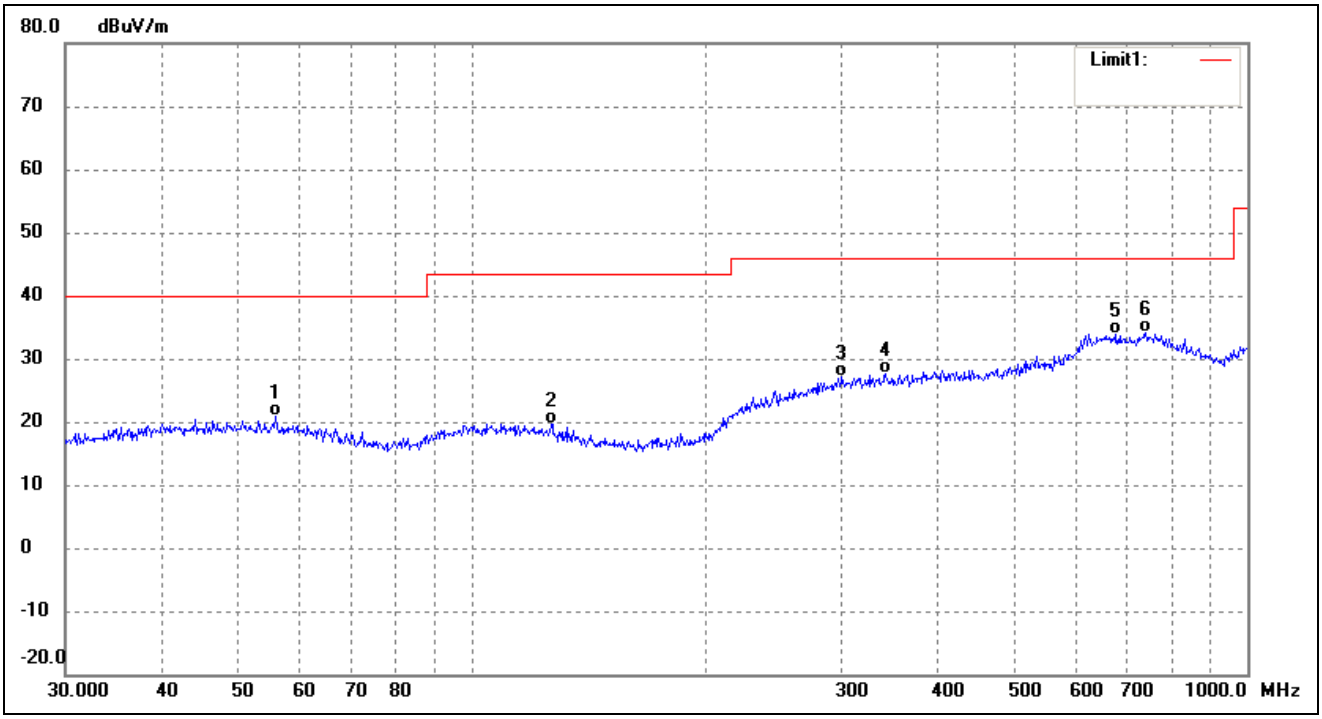
According to the data below, the FCC Part 15.205, 15.209 and 15.247 standards, and had the worst cases:

Note: this EUT was tested in 3 orthogonal positions and the worst case position data was reported.

Plot of Radiated Emissions Test Data

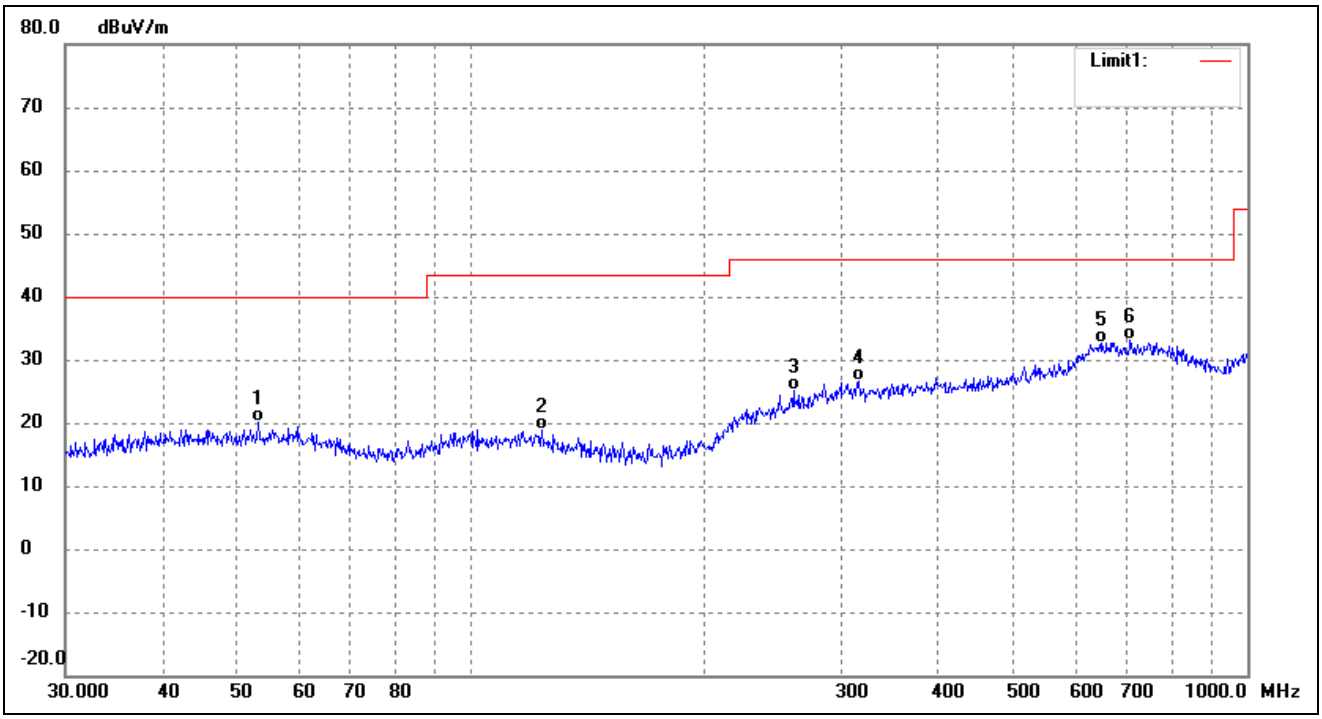
EUT: *Bluetooth button*
Tested Model: *DZ-LY100*
Operating Condition: *Transmitting-Low channel (2402MHz)*
Comment: *DC 3.0V*

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	56.0007	15.83	5.01	20.84	40.00	-19.16	265	100	QP
2	126.7723	15.46	4.26	19.72	43.50	-23.78	94	100	QP
3	300.3673	15.07	11.95	27.02	46.00	-18.98	223	100	QP
4	341.9787	16.13	11.43	27.56	46.00	-18.44	114	100	QP
5	677.5798	15.36	18.55	33.91	46.00	-12.09	67	100	QP
6	739.6605	15.03	19.00	34.03	46.00	-11.97	133	100	QP

Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	53.1313	15.05	5.06	20.11	40.00	-19.89	286	100	QP
2	123.2655	14.23	4.55	18.78	43.50	-24.72	95	100	QP
3	260.1444	15.33	9.69	25.02	46.00	-20.98	280	100	QP
4	315.4808	14.72	11.95	26.67	46.00	-19.33	121	100	QP
5	649.6597	14.74	17.84	32.58	46.00	-13.42	145	100	QP
6	706.6999	15.77	17.40	33.17	46.00	-12.83	169	100	QP

Plot of Radiated Emissions Test Data

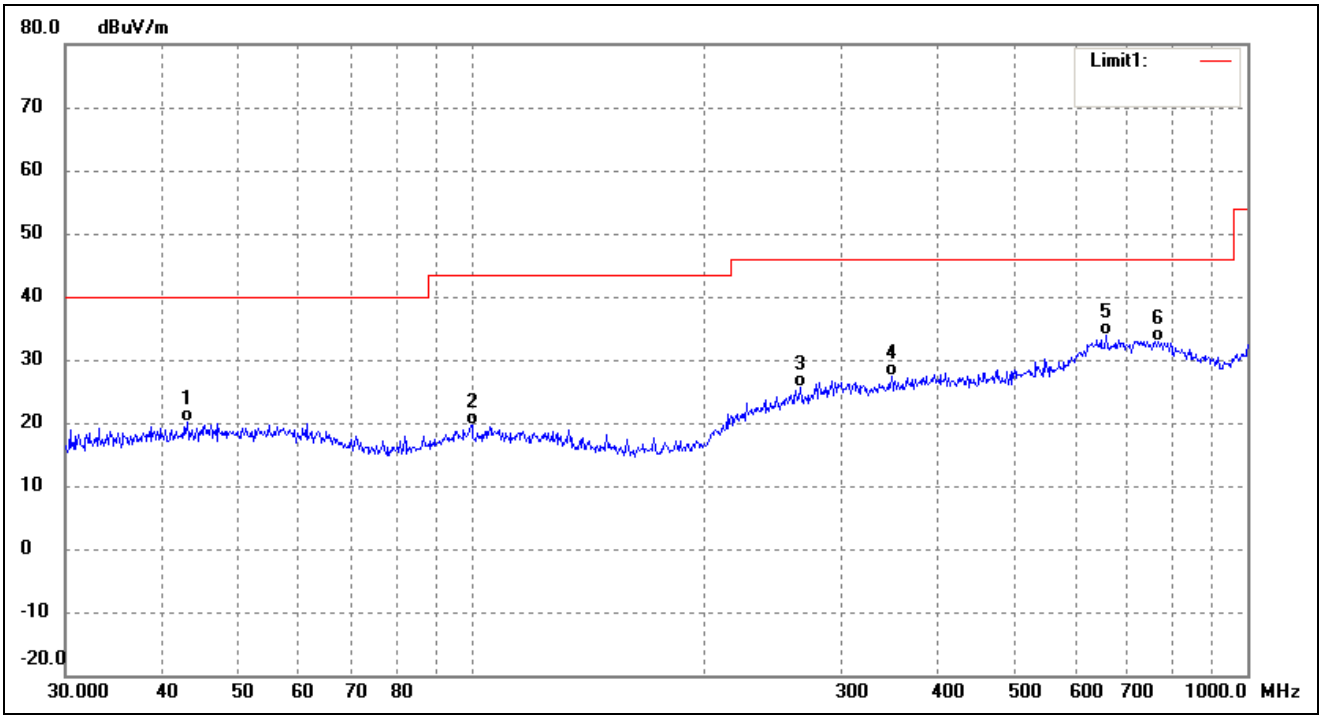
EUT: *Bluetooth button*

Tested Model: *DZ-LY100*

Operating Condition: *Transmitting-Middle channel (2440MHz)*

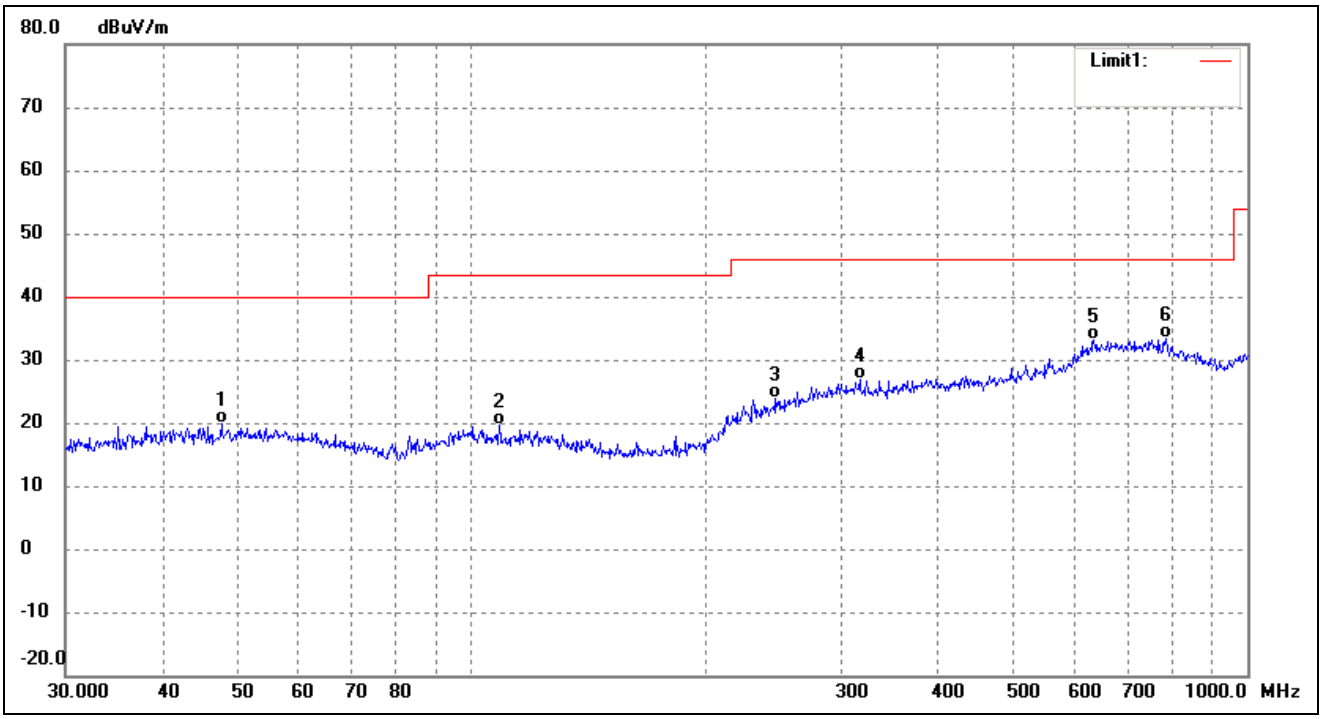
Comment:

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	43.0505	15.26	4.94	20.20	40.00	-19.80	320	100	QP
2	100.2286	14.68	4.93	19.61	43.50	-23.89	193	100	QP
3	265.6757	15.52	10.10	25.62	46.00	-20.38	95	100	QP
4	348.0274	15.73	11.59	27.32	46.00	-18.68	287	100	QP
5	658.8362	16.32	17.61	33.93	46.00	-12.07	203	100	QP
6	768.7482	15.36	17.60	32.96	46.00	-13.04	225	100	QP

Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	47.6586	14.93	4.96	19.89	40.00	-20.11	140	100	QP
2	108.6470	14.73	4.87	19.60	43.50	-23.90	188	100	QP
3	246.8149	14.67	9.18	23.85	46.00	-22.15	74	100	QP
4	316.5890	15.01	11.96	26.97	46.00	-19.03	106	100	QP
5	633.9073	15.25	17.86	33.11	46.00	-12.89	176	100	QP
6	785.0935	16.65	16.65	33.30	46.00	-12.70	143	100	QP

Plot of Radiated Emissions Test Data

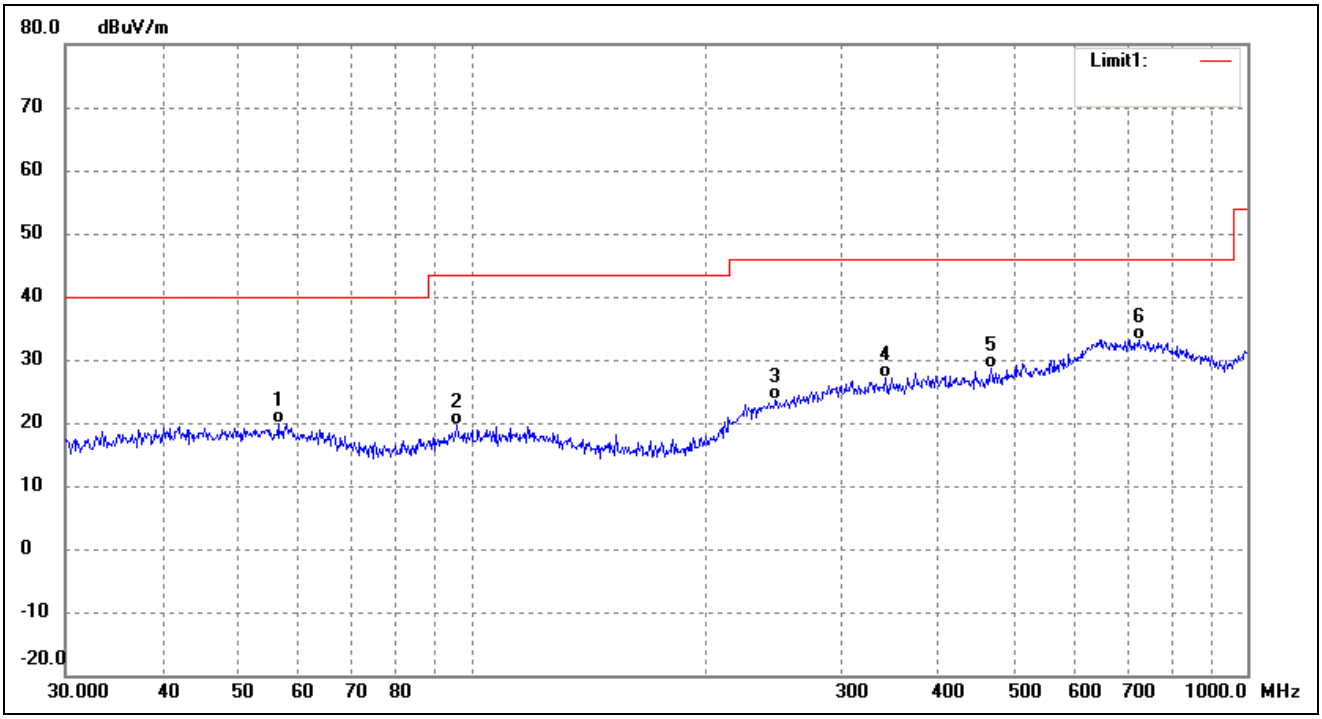
EUT: *Bluetooth button*

Tested Model: *DZ-LY100*

Operating Condition: *Transmitting-High channel (2480MHz)*

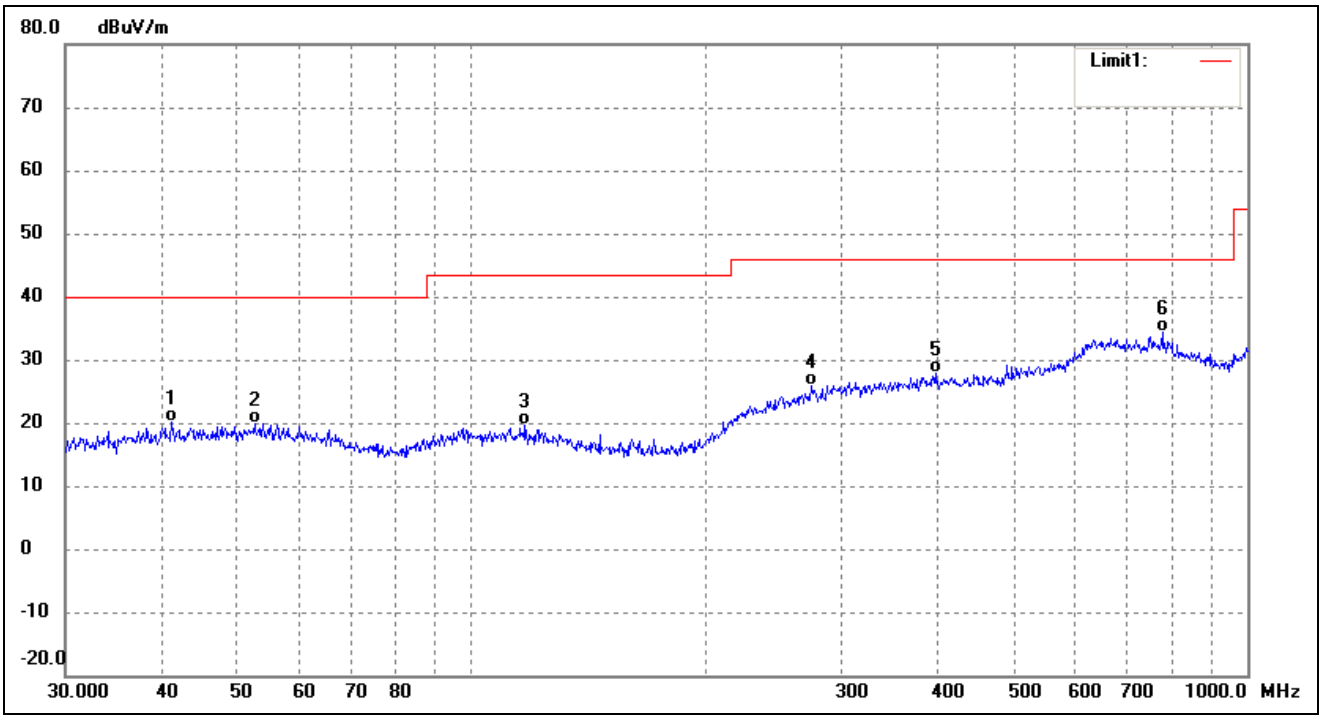
Comment:

Test Specification: *Horizontal*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	56.3948	14.87	5.00	19.87	40.00	-20.13	119	100	QP
2	95.7622	15.25	4.29	19.54	43.50	-23.96	109	100	QP
3	246.8149	14.45	9.18	23.63	46.00	-22.37	101	100	QP
4	341.9787	15.82	11.43	27.25	46.00	-18.75	93	100	QP
5	467.2349	15.70	12.85	28.55	46.00	-17.45	270	100	QP
6	724.2611	15.01	18.07	33.08	46.00	-12.92	300	100	QP

Test Specification: *Vertical*



No.	Frequency	Reading	Correct	Result	Limit	Margin	Degree	Height	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	( )	(cm)	
1	41.1320	15.23	4.93	20.16	40.00	-19.84	78	100	QP
2	52.5753	14.95	5.05	20.00	40.00	-20.00	105	100	QP
3	117.3603	14.73	4.83	19.56	43.50	-23.94	102	100	QP
4	274.1939	15.11	10.72	25.83	46.00	-20.17	132	100	QP
5	396.2415	15.34	12.51	27.85	46.00	-18.15	207	100	QP
6	776.8778	17.31	17.00	34.31	46.00	-11.69	91	100	QP

Spurious Emissions Above 1GHz

Transmitting: BLE mode:

Frequency	Reading	Correct	Result	Limit	Margin	Polar	Detector
(MHz)	(dBuV/m)	dB	(dBuV/m)	(dBuV/m)	(dB)	H/V	
Low Channel-2402MHz							
4804	57.27	-3.59	53.68	74	-20.32	H	PK
4804	44.55	-3.59	40.96	54	-13.04	H	AV
7206	53.64	-0.52	53.12	74	-20.88	H	PK
7206	43.64	-0.52	43.12	54	-10.88	H	AV
4804	58.18	-3.59	54.59	74	-19.41	V	PK
4804	40.00	-3.59	36.41	54	-17.59	V	AV
7206	52.73	-0.52	52.21	74	-21.79	V	PK
7206	40.00	-0.52	39.48	54	-14.52	V	AV
Middle Channel-2440MHz							
4880	59.09	-3.49	55.60	74	-18.40	H	PK
4880	47.27	-3.49	43.78	54	-10.22	H	AV
7320	56.36	-0.47	55.89	74	-18.11	H	PK
7320	47.27	-0.47	46.80	54	-7.20	H	AV
4880	52.73	-3.49	49.24	74	-24.76	V	PK
4880	40.91	-3.49	37.42	54	-16.58	V	AV
7320	60.00	-0.47	59.53	74	-14.47	V	PK
7320	41.82	-0.47	41.35	54	-12.65	V	AV
High Channel-2480MHz							
4960	57.27	-3.41	53.86	74	-20.14	H	PK
4960	50.00	-3.41	46.59	54	-7.41	H	AV
7440	52.73	-0.42	52.31	74	-21.69	H	PK
7440	49.09	-0.42	48.67	54	-5.33	H	AV
4960	60.00	-3.41	56.59	74	-17.41	V	PK
4960	46.36	-3.41	42.95	54	-11.05	V	AV
7440	59.09	-0.42	58.67	74	-15.33	V	PK
7440	44.55	-0.42	44.13	54	-9.87	V	AV

Note: Testing is carried out with frequency rang 9kHz to the tenth harmonics, other than listed in the table above are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

9. Out of Band Emissions

9.1 Standard Applicable

According to §15.247 (d) 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).

9.2 Test Procedure

According to the KDB 558074 D01 v04, the band-edge radiated test method as follows:

Set span = wide enough to capture the peak level of the emission operating on the channel closest to the bandedge, as well as any modulation products which fall outside of the authorized band of operation (2310MHz to 2420MHz for low bandedge, 2460MHz to 2500MHz for the high bandedge)
RBW = 1MHz, VBW = 1MHz for peak value measured
RBW = 1MHz, VBW = 10Hz for average value measured
Sweep = auto; Detector function = peak/average; Trace = max hold
All the trace to stabilize, set the marker on the emission at the bandedge, or on the highest modulation product outside of the band, if this level is greater than that at the bandedge. Enable the marker-delta function, then use the marker-to-peak function to move the marker to the peak of the in-band emission. Those emission must comply with the 15.209 limit for fall in the restricted bands listed in section 15.205. Note that the method of measurement KDB publication number: 913591 may be used for the radiated bandedge measurements.

According to the KDB 558074 D01 v04, the conducted spurious emissions test method as follows:
1. Set start frequency to DTS channel edge frequency.
2. Set stop frequency so as to encompass the spectrum to be examined.
3. Set RBW = 100 kHz.
4. Set VBW ≥ 300 kHz.
5. Detector = peak.
6. Trace Mode = max hold.
7. Sweep = auto couple.
8. Allow the trace to stabilize (this may take some time, depending on the extent of the span).
9. Use peak marker function to determine maximum amplitude of all unwanted emissions within any 100 kHz bandwidth.

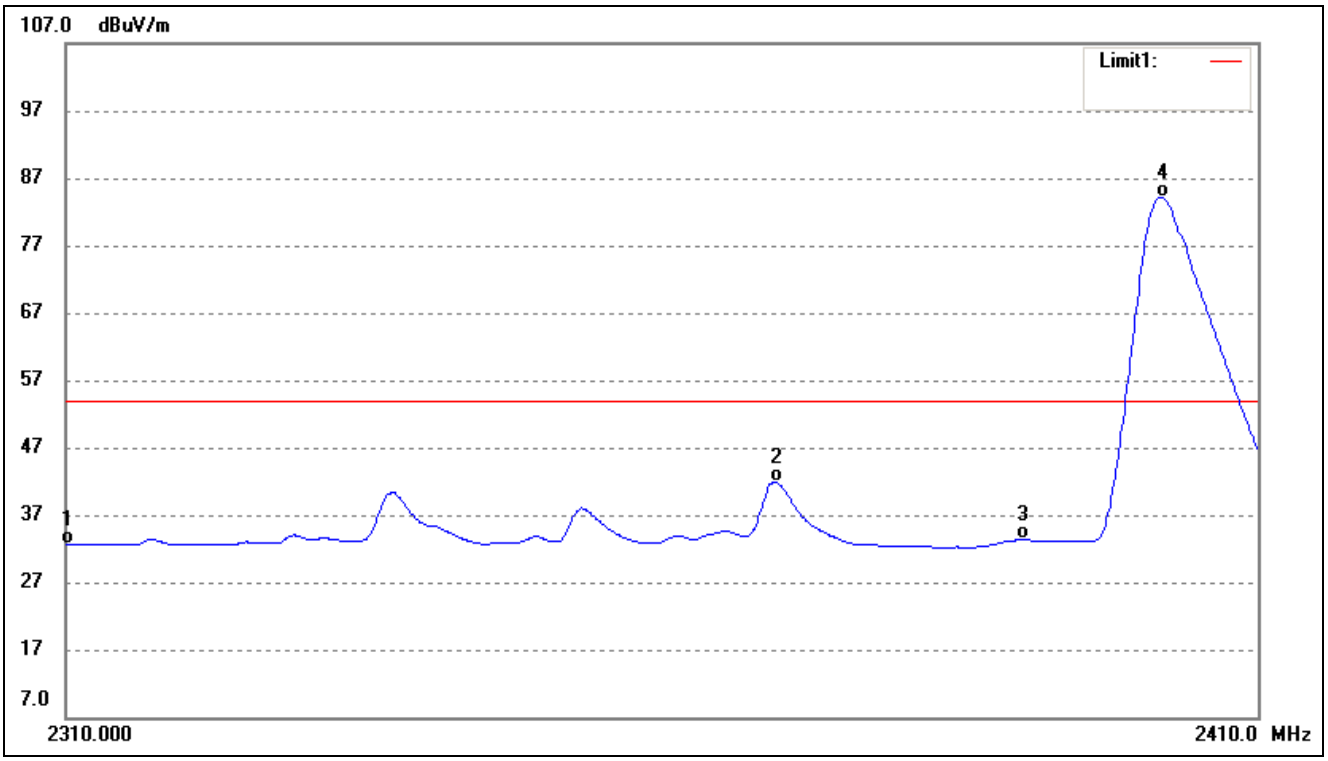
Ensure that the amplitude of all unwanted emissions outside of the authorized frequency band (excluding restricted frequency bands) are attenuated by at least the minimum requirements specified in section 8.1. Report the three highest emissions relative to the limit.

9.3 Environmental Conditions

Temperature:	23°C
Relative Humidity:	54%
ATM Pressure:	1011 mbar

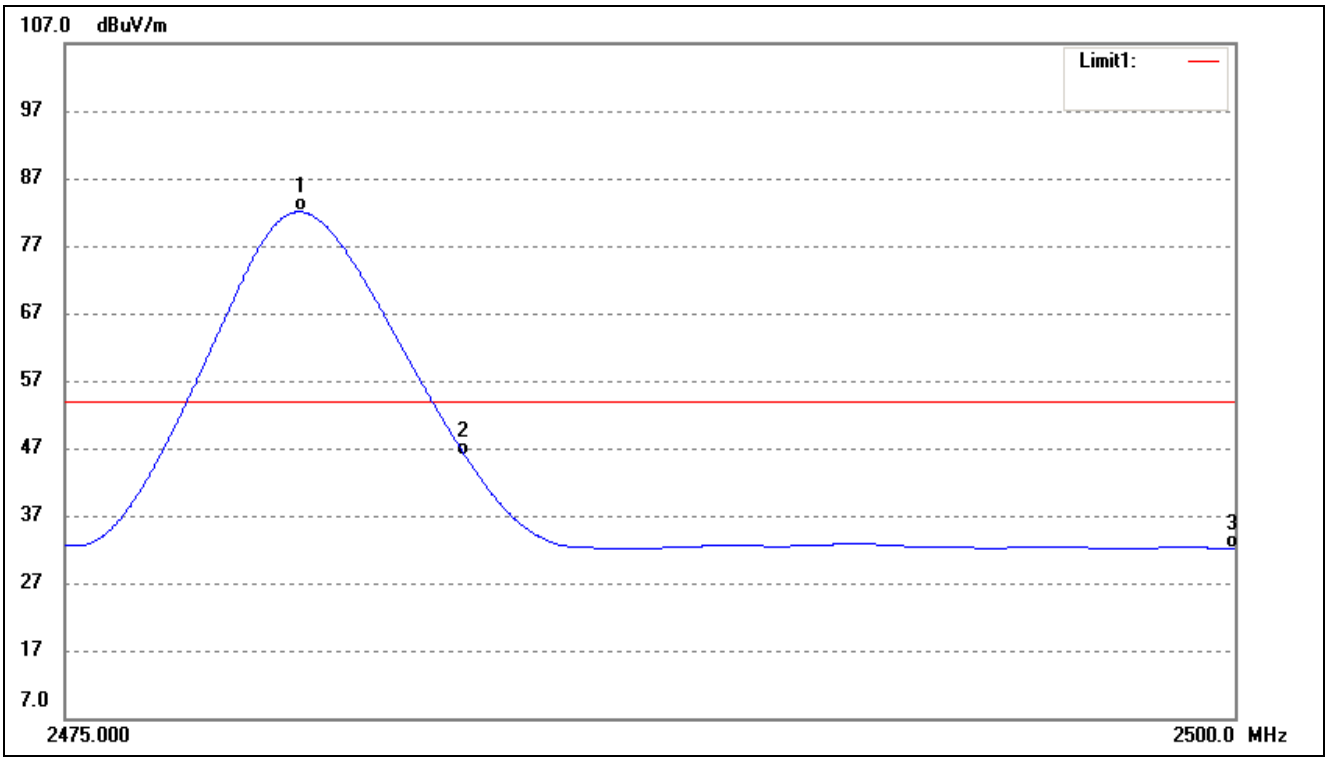
9.4 Summary of Test Results/Plots

Restricted Bandedge (Radiated)
Lowest Bandedge-BLE
Horizontal (Worst case)



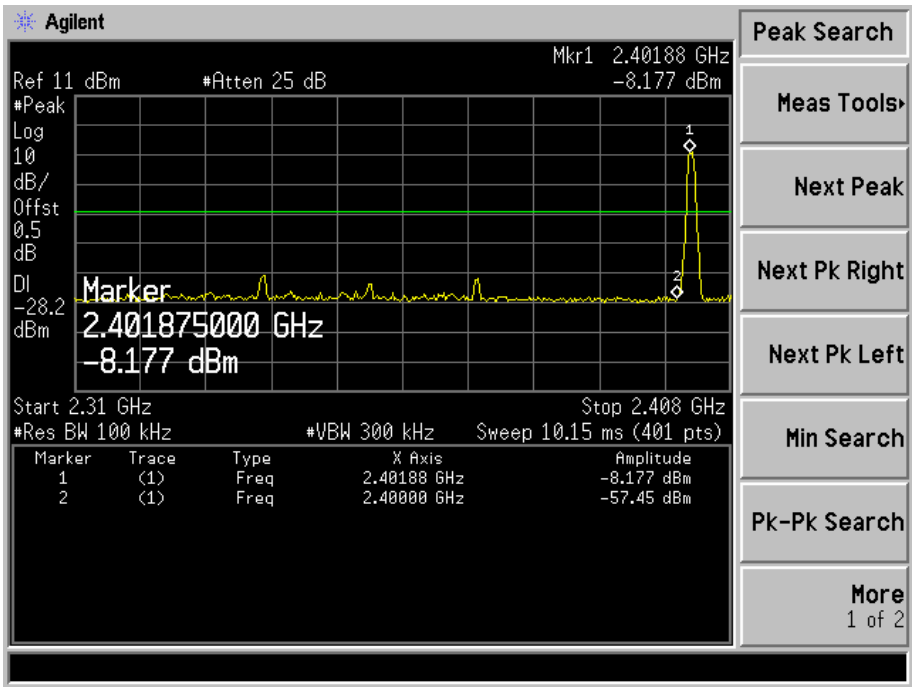
No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	Factor(dB)	(dBuV/m)	(dBuV/m)	(dB)	
1	2310.000	36.36	-3.69	32.67	54.00	-21.33	Average Detector
	2310.000	47.84	-3.69	44.15	74.00	-29.85	Peak Detector
2	2369.09	42.99	-3.54	39.45	54.00	-14.55	Average Detector
	2369.792	54.99	-3.54	51.45	74.00	-22.55	Peak Detector
3	2390.00	35.99	-3.49	32.50	54.00	-21.50	Average Detector
	2390.00	49.13	-3.49	45.64	74.00	-28.36	Peak Detector
4	2401.44	82.88	-3.46	79.42	/	/	Average Detector
	2401.74	89.63	-3.46	86.17	/	/	Peak Detector

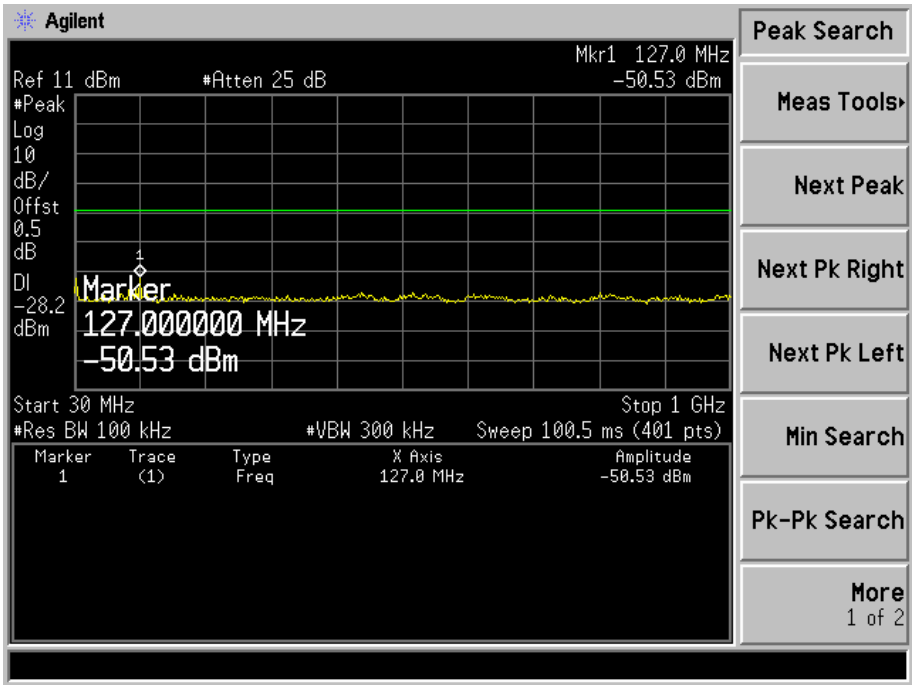
Highest Bandedge-BLE
Horizontal (Worst case)

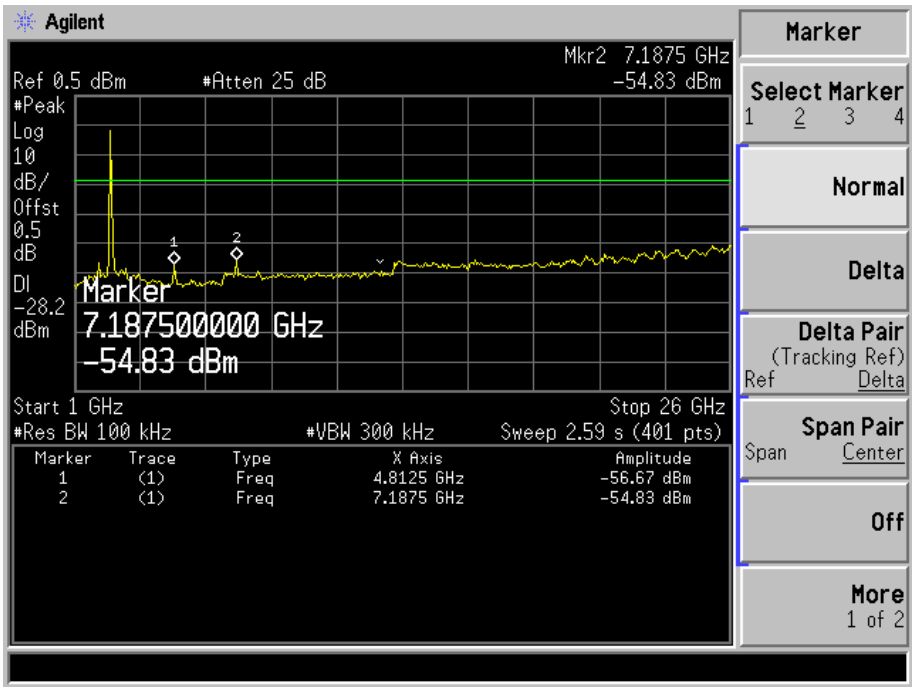


No.	Frequency	Reading	Correct	Result	Limit	Margin	Remark
	(MHz)	(dBuV/m)	dB/m	(dBuV/m)	(dBuV/m)	(dB)	
1	2480.03	85.31	-3.25	82.06	/	/	Average Detector
	2480.25	90.03	-3.25	86.78	/	/	Peak Detector
2	2483.50	49.18	-3.25	45.93	54.00	-8.07	Average Detector
	2483.50	53.78	-3.25	50.53	74.00	-23.47	Peak Detector
3	2500.000	35.36	-3.20	32.16	54.00	-21.84	Average Detector
	2500.000	46.90	-3.20	43.70	74.00	-30.30	Peak Detector

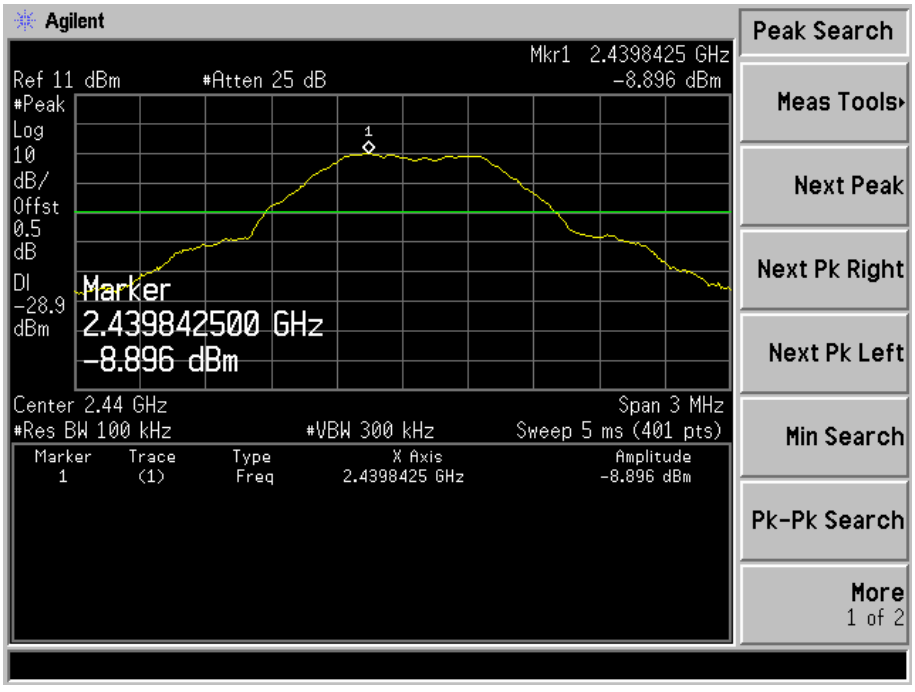
Out of Bandedge and Spurious Emission (Conducted)
Lowest

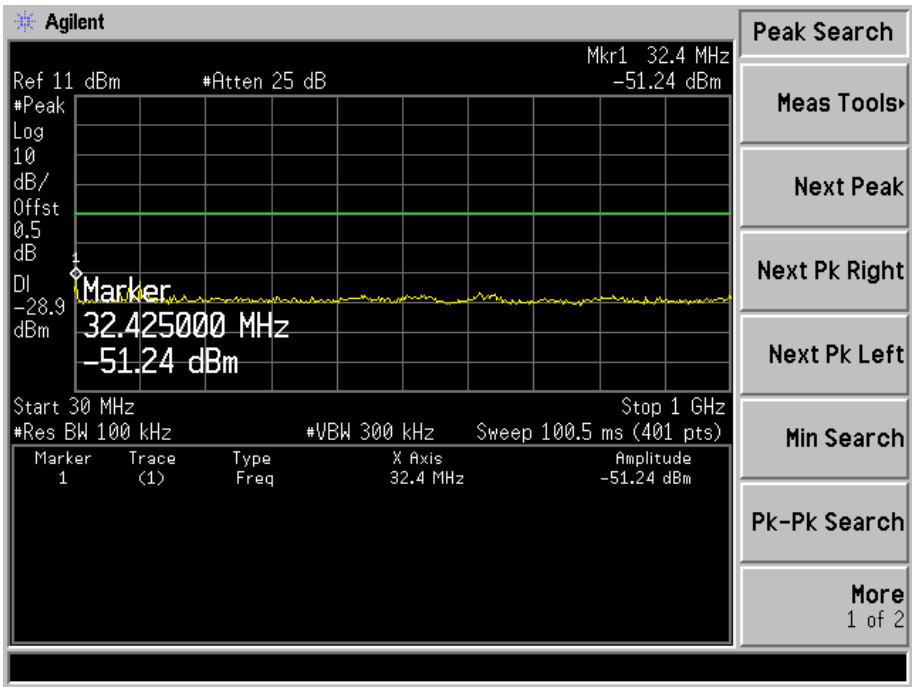


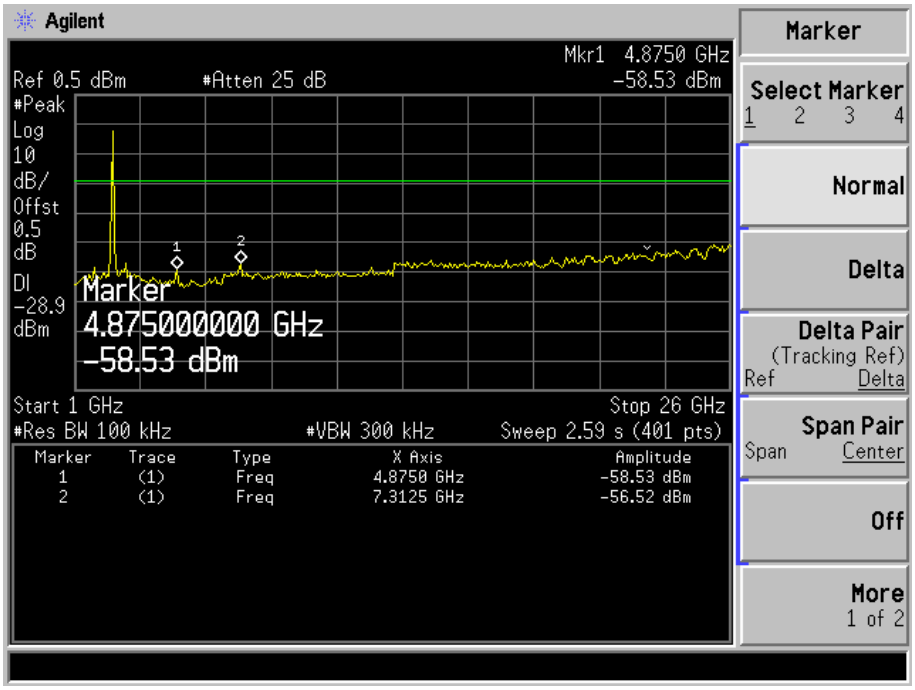




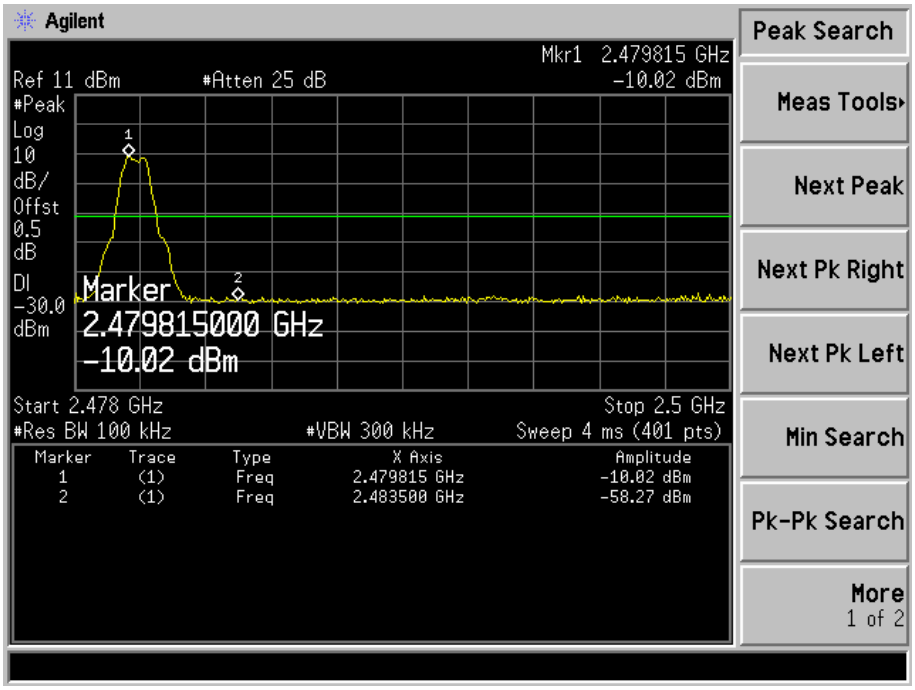
Middle Channel:

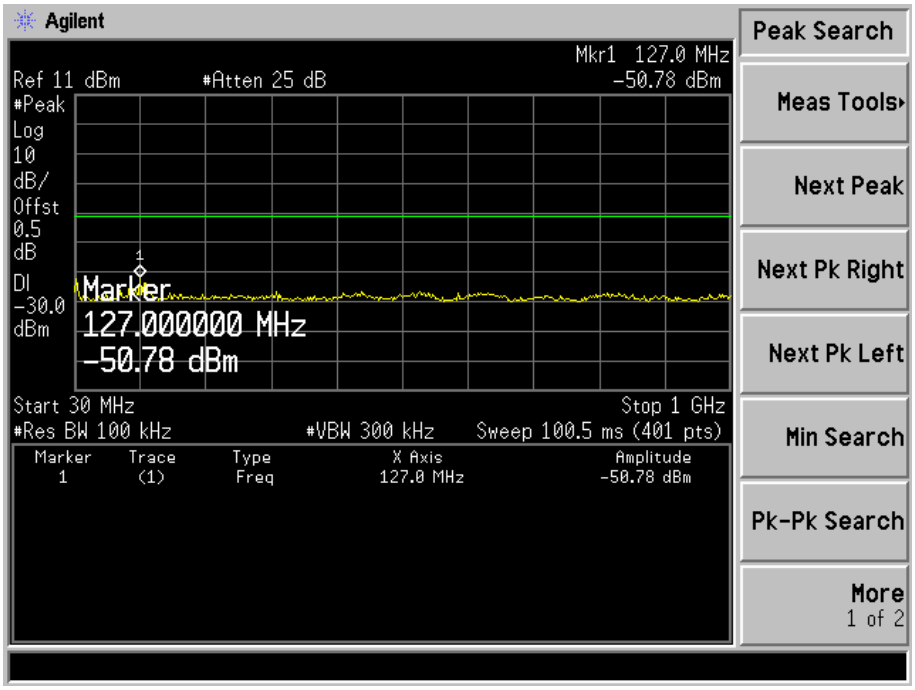


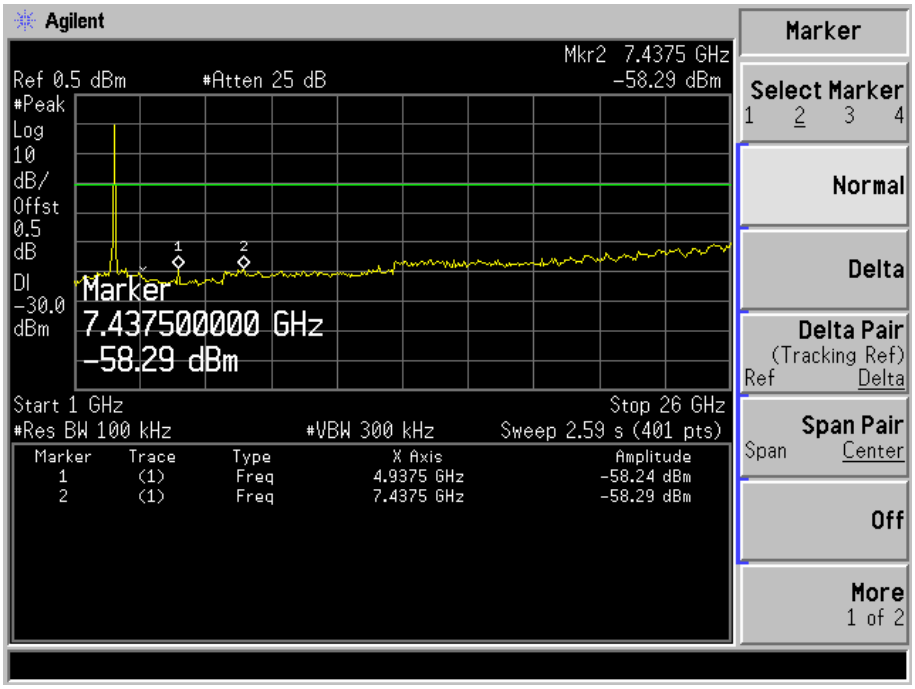

Agilent
Mkr1 32.4 MHz
Ref 11 dBm
#Atten 25 dB
-51.24 dBm
#Peak
Log
10
dB/
Offst
0.5
dB
Dl
-28.9
dBm
Marker
32.425000 MHz
-51.24 dBm
Start 30 MHz
Stop 1 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 100.5 ms (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 32.4 MHz -51.24 dBm
Peak Search
Meas Tools
Next Peak
Next Pk Right
Next Pk Left
Min Search
Pk-Pk Search
More
1 of 2


Agilent
Mkr1 4.8750 GHz
Ref 0.5 dBm
#Atten 25 dB
-58.53 dBm
#Peak
Log
10
dB/
Offst
0.5
dB
Dl
-28.9
dBm
Marker
4.875000000 GHz
-58.53 dBm
Start 1 GHz
Stop 26 GHz
#Res BW 100 kHz
#VBW 300 kHz
Sweep 2.59 s (401 pts)
Marker Trace Type X Axis Amplitude
1 (1) Freq 4.8750 GHz -58.53 dBm
2 (1) Freq 7.3125 GHz -56.52 dBm
Marker
Select Marker
1 2 3 4
Normal
Delta
Delta Pair
(Tracking Ref)
Ref Delta
Span Pair
Span Center
Off
More
1 of 2

High Channel:







******* END OF REPORT *******