EMC
TEST REPORT

Report No.: **160400471TWN-001**
Model No.: **CS01A**
Issued Date: **Jun. 13, 2016**

Applicant: **Cocoon Labs Ltd.**
46 The Calls, Leeds, West Yorkshire, LS27EY
United Kingdom

Test Method/ Standard: **47 CFR FCC Part 15.249 & ANSI C63.10 2013**

Test By: **Intertek Testing Services Taiwan Ltd.**
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Testing Laboratory
0597

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Title Senior Engineer

Table of Contents

Summary of Tests

Test	Reference	Results
20dB Bandwidth	15.215(c)	Pass
Radiated Emission test	15.249(c), 15.209	Pass
Emission on the Band Edge	15.249(d)	Pass
Conducted Emission of AC Power	15.207	Pass

1. General information

1.1 Identification of the EUT

Product:	Cocoon
Model No.:	CS01A
Frequency Range:	2402MHz ~ 2480MHz
Channel Number:	79 Channels
Frequency of Each Channel:	2402MHz+1k, k=0~78
Type of Modulation:	GFSK, π/4DQPSK, 8DPSK
Rated Power:	DC 5 V from adapter
Power Cord:	N/A
Sample Received:	Apr. 27, 2016
Sample condition:	Workable
Test Date(s):	Jun. 01, 2016 ~ Jun. 06, 2016
Note 1:	This report is for the exclusive use of Intertek's Client and is provided pursuant to the agreement between Intertek and its Client. Intertek's responsibility and liability are limited to the terms and conditions of the agreement. Intertek assumes no liability to any party, other than to the Client in accordance with the agreement, for any loss, expense or damage occasioned by the use of this report. Only the Client is authorized to permit copying or distribution of this report and then only in its entirety. Any use of the Intertek name or one of its marks for the sale or advertisement of the tested material, product or service must first be approved in writing by Intertek. The observations and test results in this report are relevant only to the sample tested. This report by itself does not imply that the material, product, or service is or has ever been under an Intertek certification program.
Note 2:	When determining the test conclusion, the Measurement Uncertainty of test has been considered.

1.2 Adapter information

The EUT will be supplied with a power supply from below list:

No.	Model no.	Specification
Adapter 1	KSA29B0500210D5	I/P: 100-240 Vac, 50/60 Hz, 0.5 A O/P: DC 5 V, 2.1 A

1.3 Description of EUT

The EUT is a Cocoon, and was defined as information technology equipment.

Product SW version :	0.2.515
Product HW version :	CS01A
Radio SW version :	6.2.4
Radio HW version :	apm6988
Test SW Version :	7.4.1.17

For more detail features, please refer to user's Manual.

1.4 Antenna description

The EUT uses a permanently connected antenna.

Antenna Gain:	2 dBi
Antenna Type:	Chip Antenna
Connector Type:	Fixed

1.5 Peripherals equipment

Peripherals	Brand	Model No.	Serial No.	Description of Data Cable
LCD TV Monitor	VIZIO	VX200E-T	LXMFBBK5100962	N/A
USB Keyboard	Microsoft	1366	0065800930366	N/A

2. Test specifications

2.1 Test standard

The EUT was performed according to the procedures in FCC Part 15 Subpart C Paragraph 15.249 for non-spread spectrum devices.

The test of radiated measurements according to FCC Part15 Section 15.33(a) had been conducted and the field strength of this frequency band were all meet limit requirement, thus we evaluate the EUT pass the specified test.

2.2 Operation mode

The EUT is supplied with DC 5 V from adapter (Test voltage: 120Vac, 60Hz).

TX-MODE is based on “BlueTest3” and the program can select different frequency and modulation.

3. 20dB Bandwidth test

3.1 Operating environment

Temperature:	25	℃
Relative Humidity:	50	%
Atmospheric Pressure:	1008	hPa

3.2 Test setup & procedure

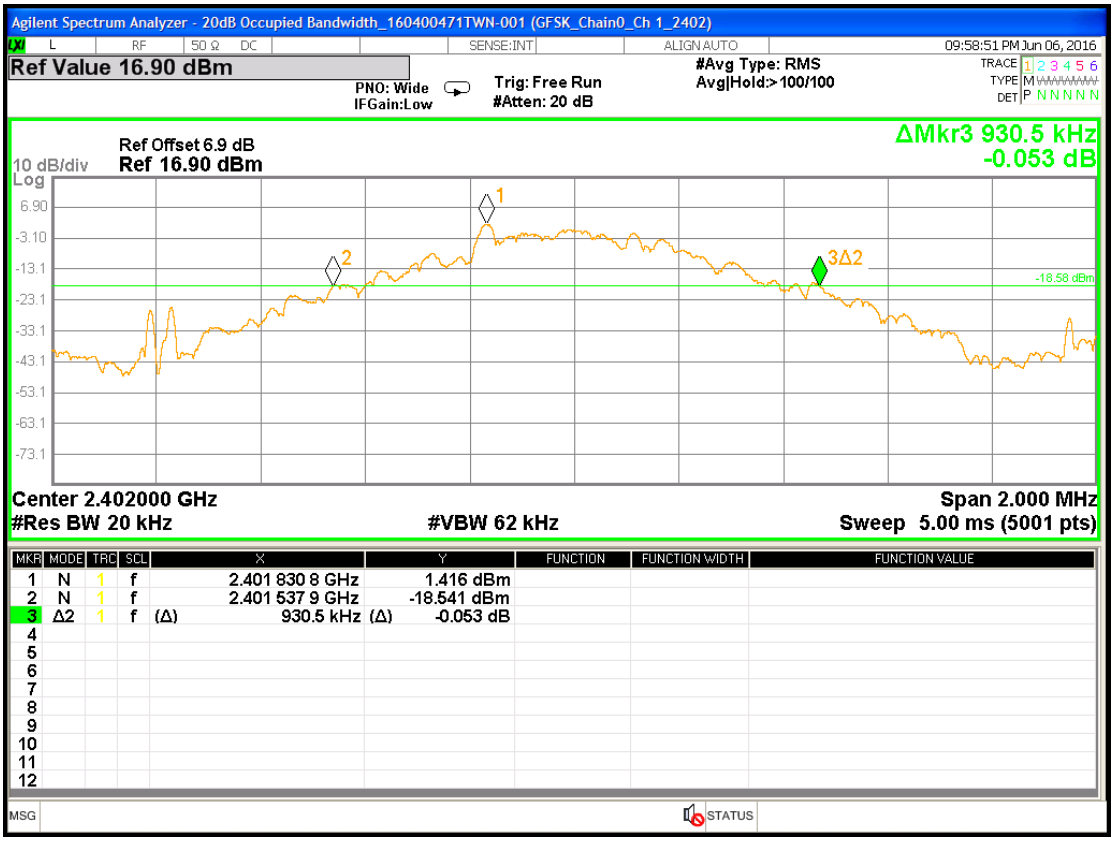
Step 1: The 20dB bandwidth was measured using a 50 ohm spectrum analyzer
Step 2: The span range for the SA display shall be between two times and five times the OBW.
Step 3: The nominal IF filter bandwidth (3 dB RBW) should be approximately 1 % to 5 % of the OBW, unless otherwise specified, depending on the applicable requirement.
Step 4: The test was performed at 3 channels (lowest, middle and highest channel). The maximum 20dB modulation bandwidth is in the following Table.

3.3 Measured data of modulated bandwidth test results

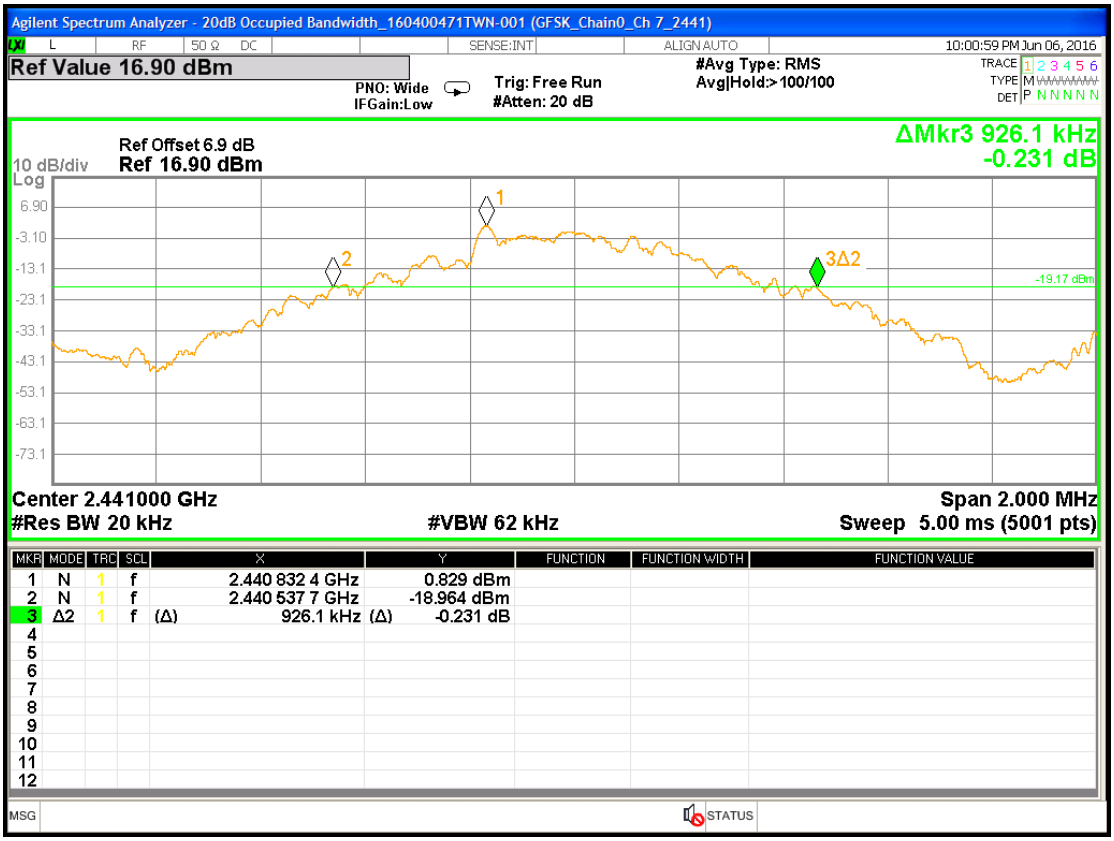
Modulation	Channel	Frequency (MHz)	Data Rate Mbps	20dB Bandwidth (MHz)
GFSK	0	2402	1	0.93
	39	2441		0.93
	78	2480		0.92
π/4-DPSK	0	2402	2	1.29
	39	2441		1.24
	78	2480		1.23
8DPSK	0	2402	3	1.28
	39	2441		1.26
	78	2480		1.25

Please see the plot below.

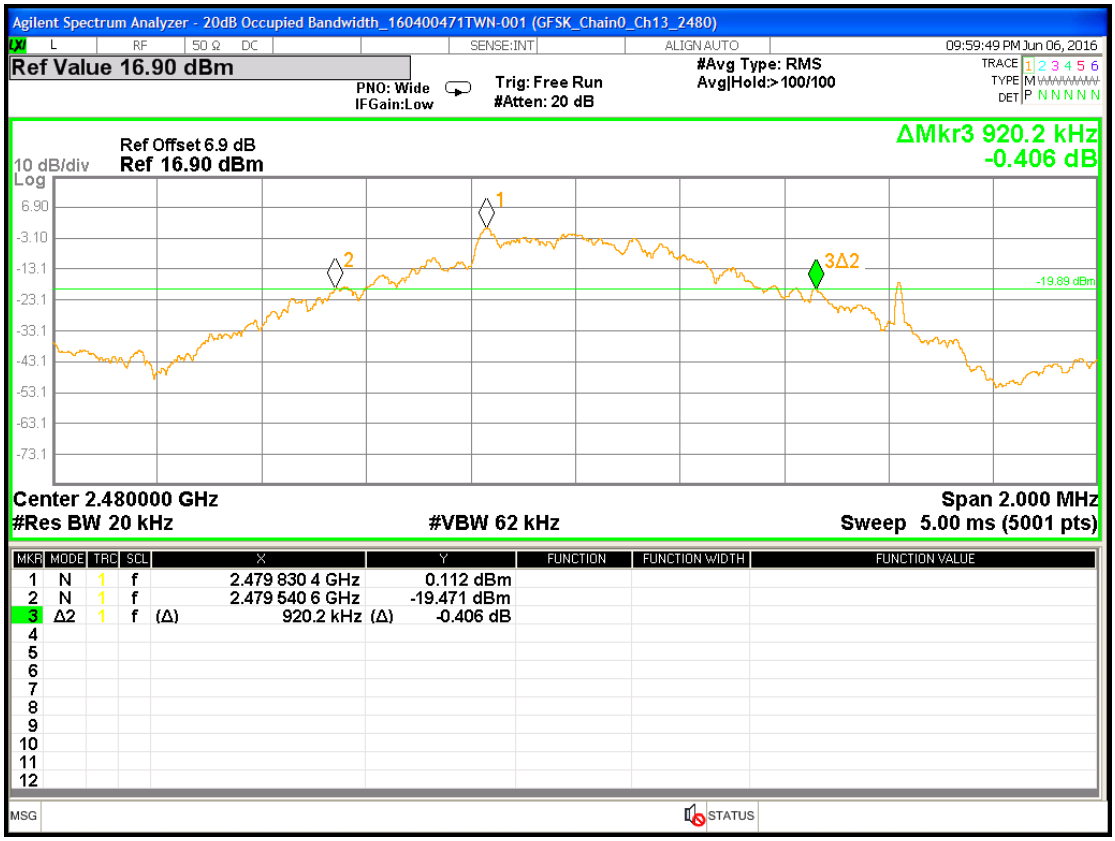
20dB Occupied Bandwidth @ GFSK mode Channel 0 2402MHz



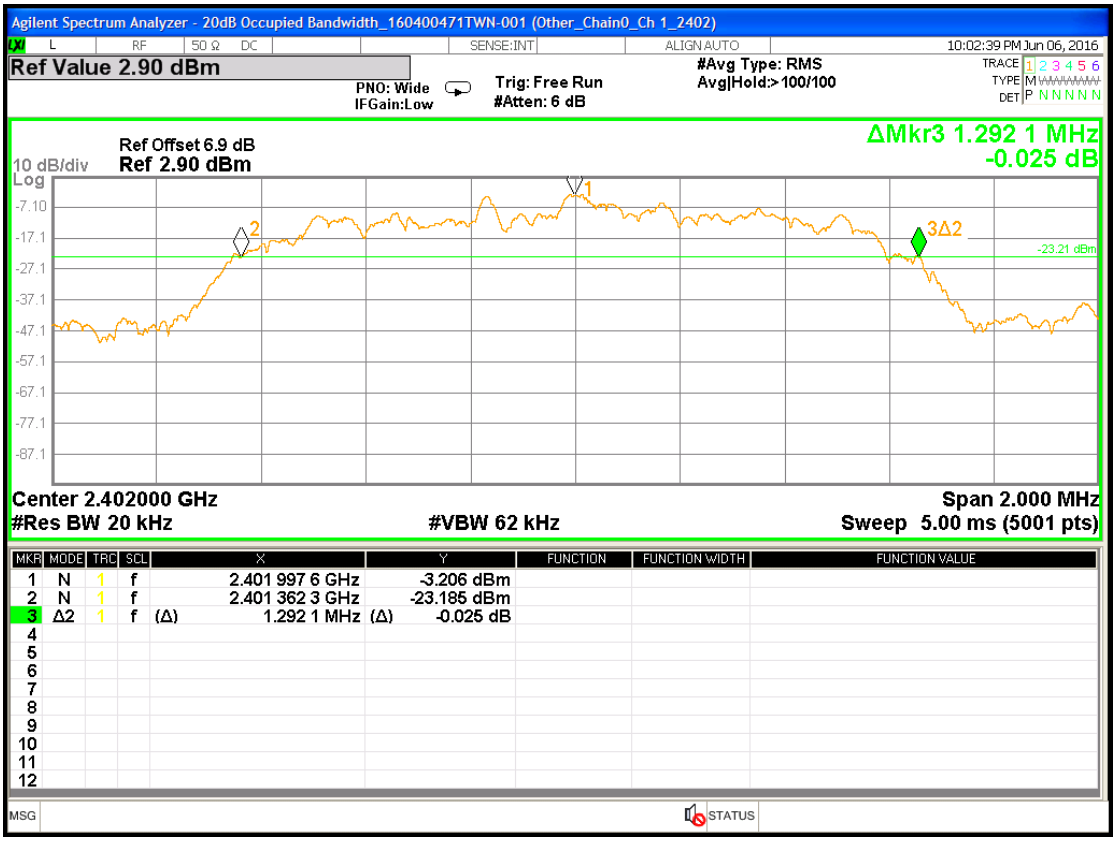
20dB Occupied Bandwidth @ GFSK mode Channel 39 2441MHz



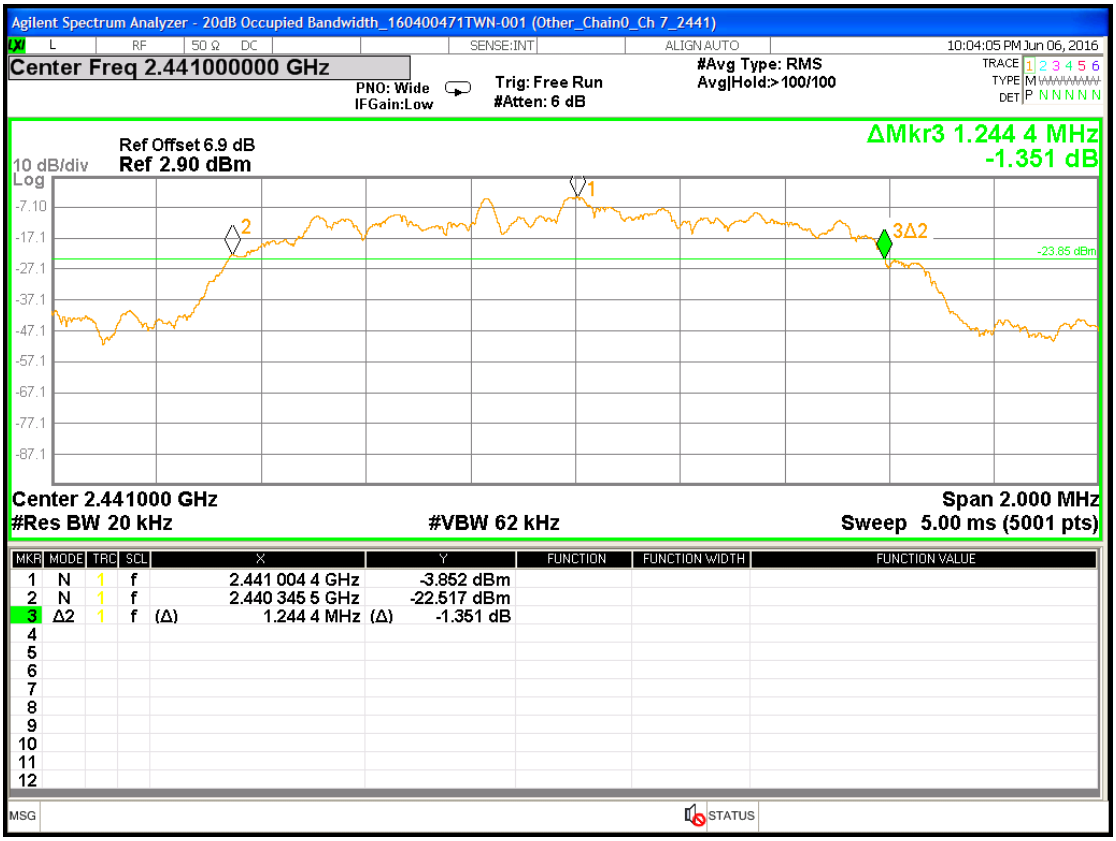
20dB Occupied Bandwidth @ GFSK mode Channel 78 2480MHz



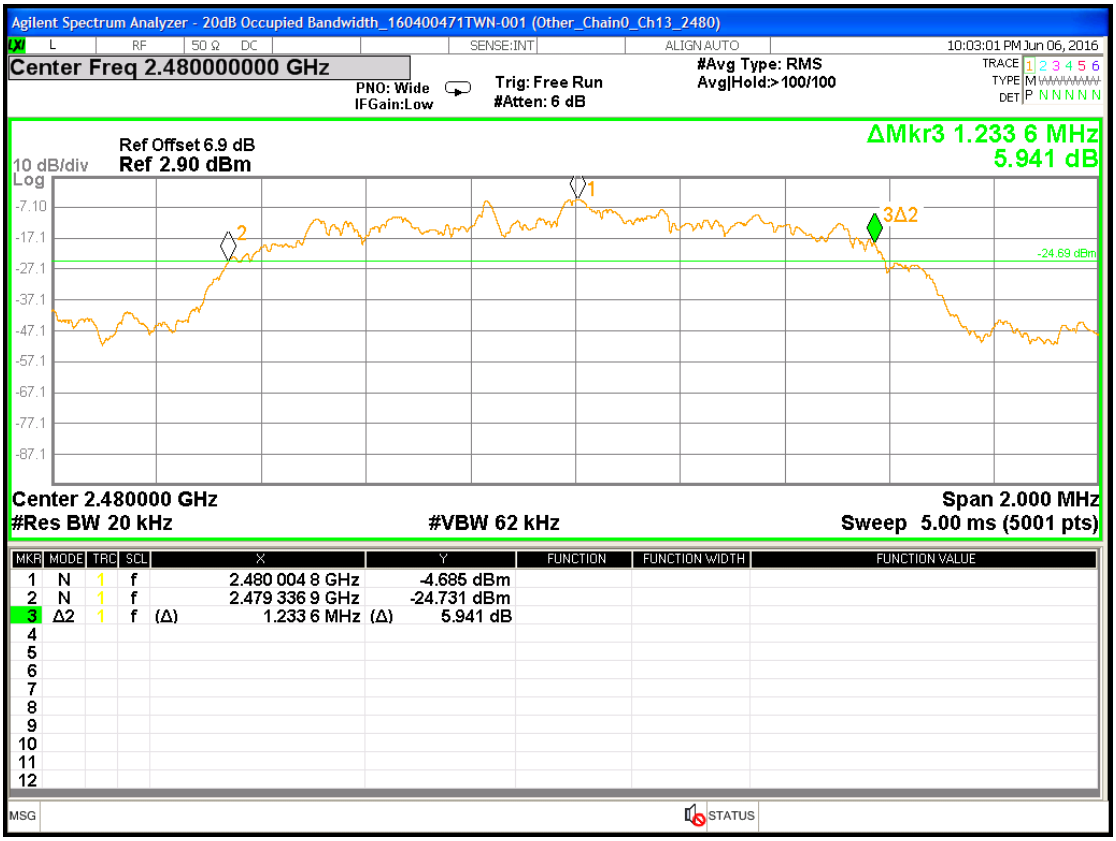
20dB Occupied Bandwidth @ π/4-DQPSK mode Channel 0 2402MHz



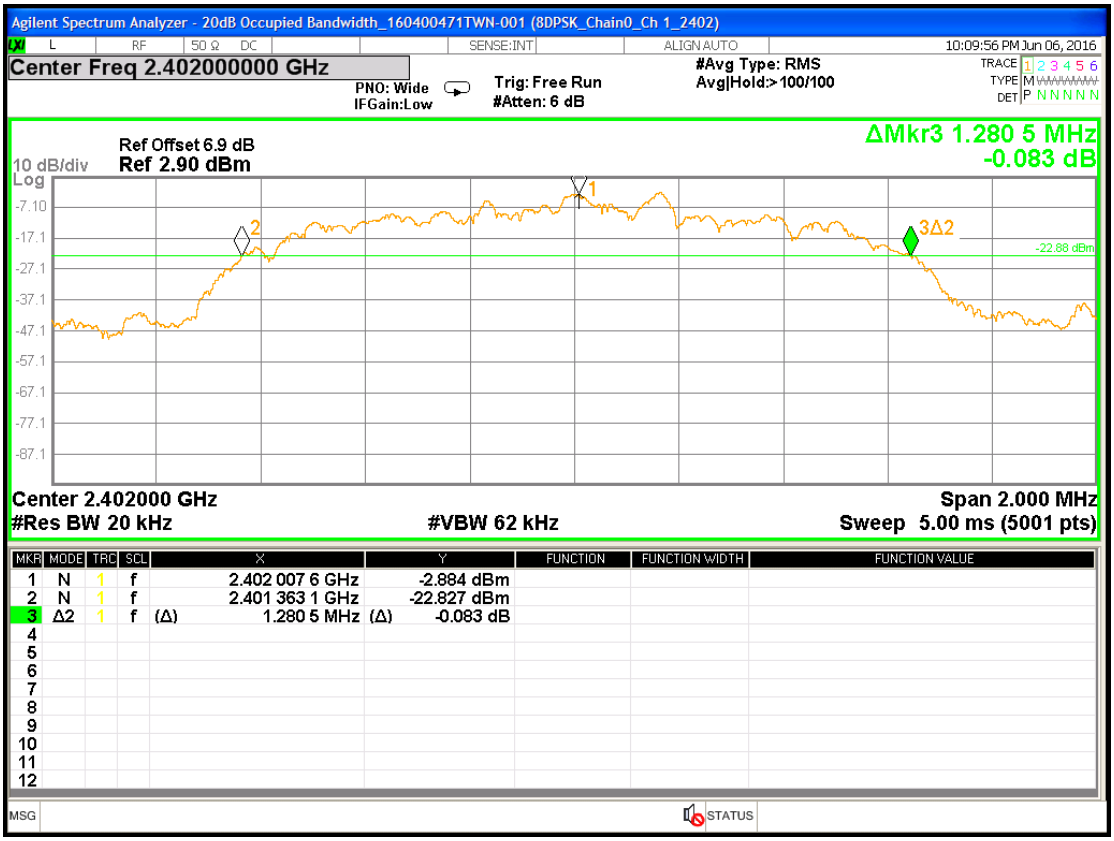
20dB Occupied Bandwidth @π/4-DQPSK mode Channel 39 2441MHz



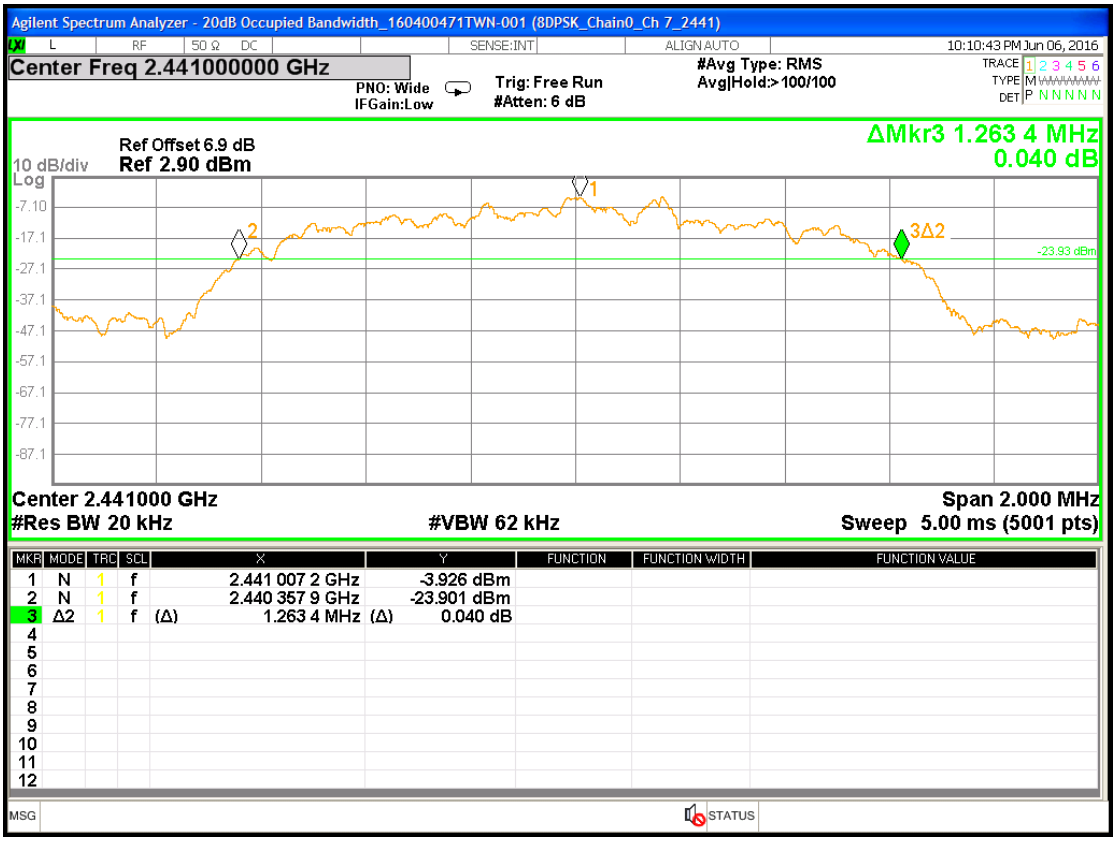
20dB Occupied Bandwidth @π/4-DQPSK mode Channel 78 2480MHz



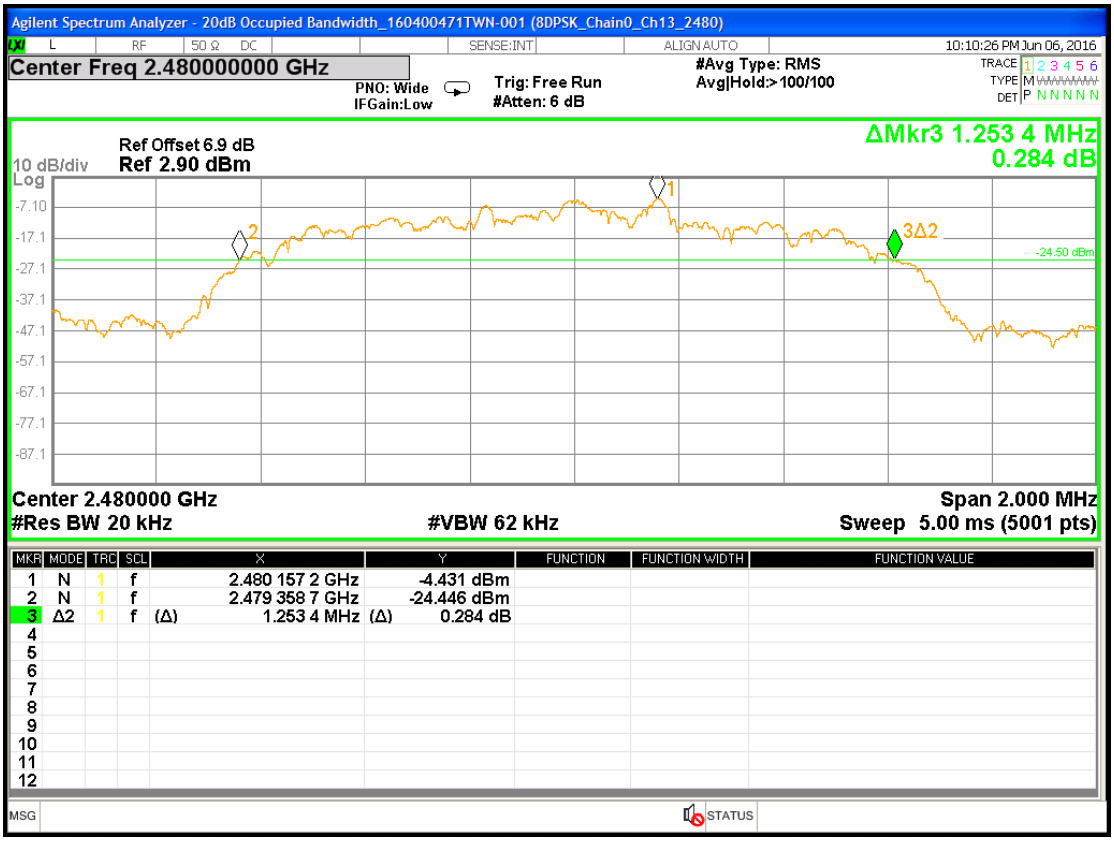
20dB Occupied Bandwidth @ 8DPSK mode Channel 0 2402MHz



20dB Occupied Bandwidth @ 8DPSK mode Channel 39 2441MHz



20dB Occupied Bandwidth @ 8DPSK mode Channel 78 2480MHz



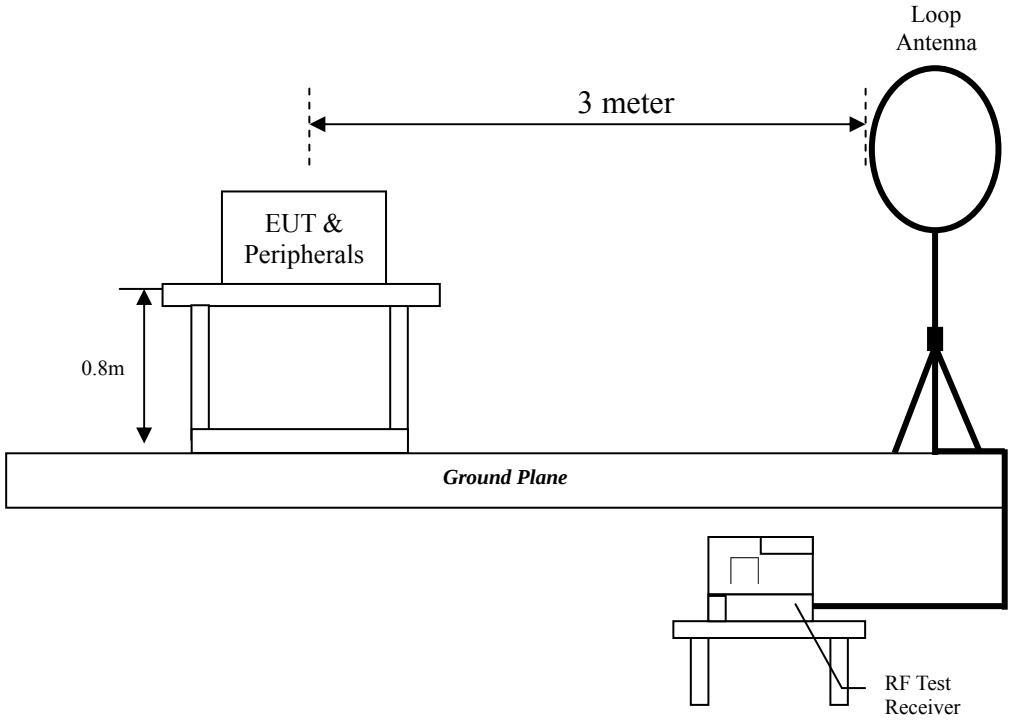
4. Radiated emission test FCC 15.249 (C)

4.1 Operating environment

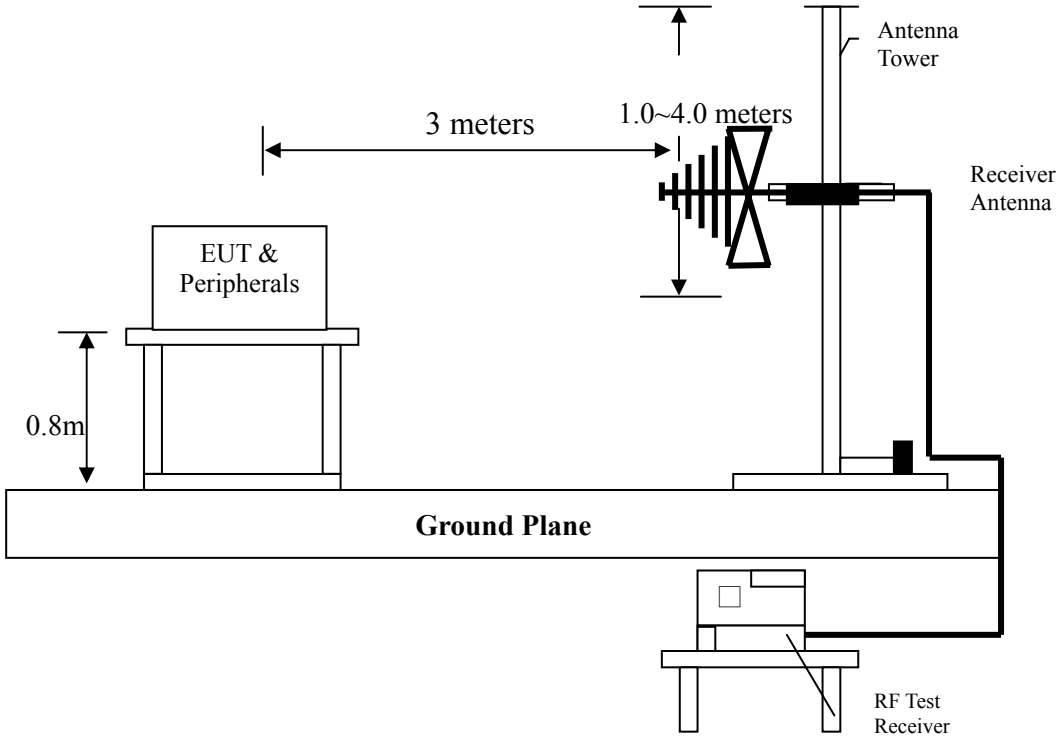
Temperature:	25	℃
Relative Humidity:	50	%
Atmospheric Pressure:	1008	hPa

4.2 Test setup & procedure

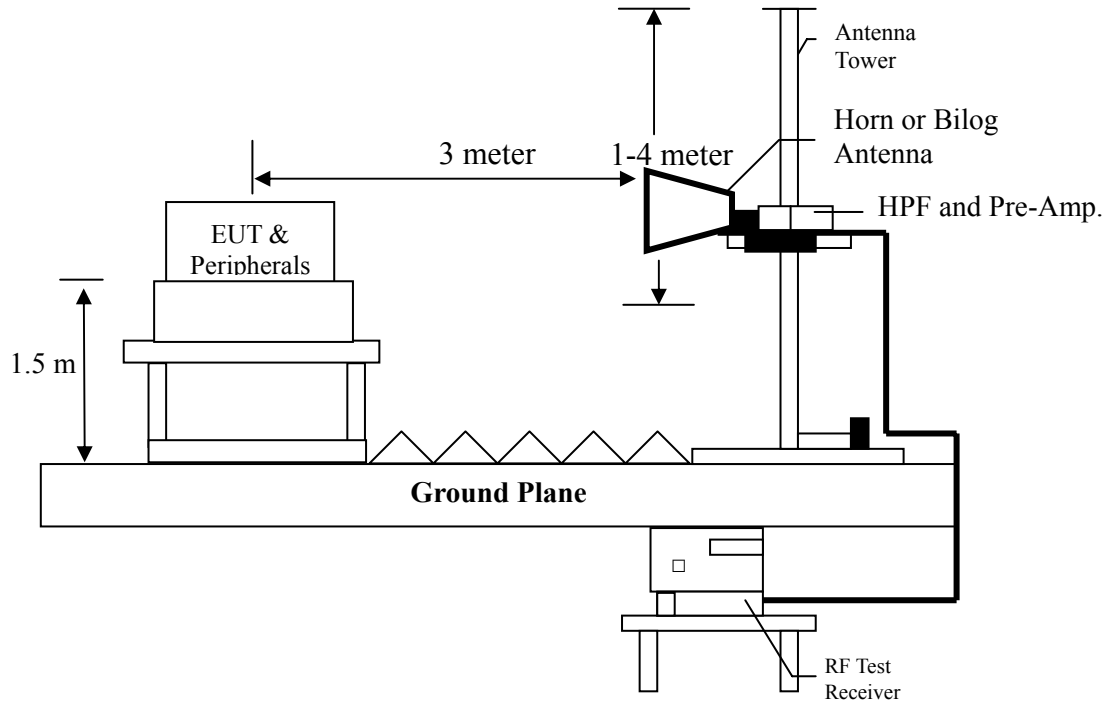
Radiated emission from 9 kHz to 30 MHz uses Loop Antenna:



Radiated emission from 30 MHz to 1 GHz uses Bilog Antenna:



Radiated emission above 1 GHz uses Horn Antenna:



Radiated emissions were invested cover the frequency range from 30MHz to 1000MHz using a receiver RBW of 120kHz record QP reading, and the frequency over 1GHz using a spectrum analyzer RBW of 1MHz and 10Hz VBW record Average reading. (15.209 paragraph), the Peak reading (1 MHz RBW/ 3 MHz VBW) recorded also on the report.
The EUT for testing is arranged on a turntable. If some peripherals apply to the EUT, the peripherals will be connected to EUT and the whole system. During the test, all cables were arranged to produce worst-case emissions. The signal is maximized through rotation. The height of antenna and polarization is changing constantly for exploring for maximum signal level. The height of antenna can be up to 4 meters and down to 1 meter.

The measurement for radiated emission will be done at the distance of three meters unless the signal level is too low to measure at that distance. In the case of the reading under noise floor, a pre-amplifier is used and/or the test is conducted at a closer distance. And then all readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance.

The EUT configuration please refers to the "Spurious set-up photo.pdf".

4.3 Emission limit

4.3.1 Fundamental and harmonics emission limits

Frequency (MHz)	Field Strength of Fundamental		Field Strength of Harmonics	
	(mV/m@3m)	(dBuV/m@3m)	(uV/m@3m)	(dBuV/m@3m)
2400-2483.5	50	94	500	54

4.3.2 General radiated emission limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50dB below the level of the fundamental or to the general radiated emission limits in paragraph 15.209, whichever is the lesser attenuation.

Frequency MHz	15.209 Limits (dB μ V/m@3m)
30-88	40
88-216	43.5
216-960	46
Above 960	54

Remark:
1. In the above table, the tighter limit applies at the band edges.
2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system

4.4 Radiated spurious emission test data

4.4.1 Measurement results: frequency range from 9 kHz to 30 MHz

Frequency (MHz)	Detection value	Factor (dB/m)	Reading (dBµV)	Value (dBµV/m)	Limit @ 3m (dBµV/m)	Tolerance (dB)
0.02	QP	20.92	9.91	30.83	118.06	-87.24
0.03	QP	20.86	21.75	42.61	69.54	-26.93
0.05	QP	20.83	9.16	29.99	69.54	-39.55
0.07	QP	20.81	18.76	39.57	69.54	-29.97
0.09	QP	20.78	7.27	28.05	69.54	-41.49

4.4.2 Measurement results: frequencies equal to or less than 1 GHz

The test was performed on EUT under GFSK, π/4DQPSK, 8DPSK mode. The worst case occurred at GFSK mode at Low channel

EUT: CS01A
Worst case: π/4DQPSK mode at Low channel

Antenna Polarized (V/H)	Freq. (MHz)	Receiver Detector	Corr. Factor (dB/m)	Reading (dBuV)	Corrected Level (dBuV/m)	Limit @ 3 m (dBuV/m)	Margin (dB)
V	59.10	QP	16.28	15.55	31.83	40.00	-8.17
V	107.60	QP	12.68	16.84	29.52	43.50	-13.98
V	128.94	QP	14.78	15.33	30.11	43.50	-13.39
V	315.18	QP	17.81	12.89	30.70	46.00	-15.30
V	408.30	QP	20.12	10.61	30.73	46.00	-15.27
V	864.20	QP	28.19	10.08	38.27	46.00	-7.73
H	59.10	QP	16.28	6.61	22.89	40.00	-17.11
H	175.50	QP	15.42	6.70	22.12	43.50	-21.38
H	214.30	QP	14.64	6.59	21.23	43.50	-22.27
H	322.94	QP	18.02	10.82	28.84	46.00	-17.16
H	385.02	QP	19.56	8.60	28.16	46.00	-17.84
H	864.20	QP	28.19	8.55	36.74	46.00	-9.26

Remark:

1. Corr. Factor = Antenna Factor + Cable Loss
2. Corrected Level = Reading + Corr. Factor

4.4.3 Measurement results: frequency above 1GHz

EUT : CS01A

Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Preamp. Gain (dB)	Correction Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit @ 3 m (dBμV/m)	Margin (dB)
GFSK Ch Low	3720	PK	V	40.19	-2.91	44.60	41.69	74.00	-32.31
	4804	PK	V	40.13	-0.10	67.04	66.94	74.00	-7.06
	4804	AV	V	40.13	-0.10	40.27	40.17	54.00	-13.83
	4980	PK	V	39.81	0.48	48.10	48.58	74.00	-25.42
	4804	PK	H	40.13	-0.10	62.47	62.37	74.00	-11.63
	4804	AV	H	40.13	-0.10	38.43	38.33	54.00	-15.67
GFSK Ch Middle	4882	PK	V	39.99	0.16	66.63	66.79	74.00	-7.21
	4882	AV	V	39.99	0.16	39.87	40.03	54.00	-13.97
	4980	PK	V	39.81	0.48	48.43	48.91	74.00	-25.09
	4882	PK	H	39.99	0.16	64.11	64.27	74.00	-9.73
	4882	AV	H	39.99	0.16	39.69	39.85	54.00	-14.15
GFSK Ch High	4960	PK	V	39.84	0.41	65.23	65.64	74.00	-8.36
	4960	AV	V	39.84	0.41	49.14	49.55	54.00	-4.45
	4960	PK	H	39.84	0.41	61.28	61.69	74.00	-12.31
	4960	AV	H	39.84	0.41	37.51	37.92	54.00	-16.08

Remark:

1. Correction Factor = Antenna Factor + Cable Loss– Preamp. Gain
2. The frequency measured ranges from 1GHz to 25GHz.The data value listed above which is higher than the noise floor, the others please refer to noise floor level.

EUT : CS01A

Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Preamp. Gain (dB)	Correction Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit @ 3 m (dBμV/m)	Margin (dB)
π/4DQPSK Ch Low	4804	PK	V	40.13	-0.10	66.04	65.94	74.00	-8.06
	4804	AV	V	40.13	-0.10	39.96	39.86	54.00	-14.14
	4804	PK	H	40.13	-0.10	60.19	60.09	74.00	-13.91
	4804	AV	H	40.13	-0.10	36.73	36.63	54.00	-17.37
	4980	PK	H	39.81	0.48	43.49	43.97	74.00	-30.03
π/4DQPSK Ch Middle	4882	PK	V	39.99	0.16	66.94	67.10	74.00	-6.90
	4882	AV	V	39.99	0.16	40.51	40.67	54.00	-13.33
	4980	PK	V	39.81	0.48	49.11	49.59	74.00	-24.41
	4882	PK	H	39.99	0.16	64.19	64.35	74.00	-9.65
	4882	AV	H	39.99	0.16	39.00	39.16	54.00	-14.84
π/4DQPSK Ch High	4960	PK	V	39.84	0.41	63.21	63.62	74.00	-10.38
	4960	AV	V	39.84	0.41	37.85	38.26	54.00	-15.74
	4960	PK	H	39.84	0.41	62.86	63.27	74.00	-10.73
	4960	AV	H	39.84	0.41	37.58	37.99	54.00	-16.01

Remark:

1. Correction Factor = Antenna Factor + Cable Loss– Preamp. Gain
2. The frequency measured ranges from 1GHz to 25GHz.The data value listed above which is higher than the noise floor, the others please refer to noise floor level.

EUT : CS01A

Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Preamp. Gain (dB)	Correction Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit @ 3 m (dBμV/m)	Margin (dB)
8DPSK Ch Low	4804	PK	V	40.13	-0.10	67.26	67.16	74.00	-6.84
	4804	AV	V	40.13	-0.10	40.92	40.82	54.00	-13.18
	4980	PK	V	39.81	0.48	47.95	48.43	74.00	-25.57
	4804	PK	H	40.13	-0.10	60.66	60.56	74.00	-13.44
	4804	AV	H	40.13	-0.10	37.71	37.61	54.00	-16.39
	4980	PK	H	39.81	0.48	42.78	43.26	74.00	-30.74
8DPSK Ch Middle	4882	PK	V	39.99	0.16	68.02	68.18	74.00	-5.82
	4882	AV	V	39.99	0.16	41.41	41.57	54.00	-12.43
	4980	PK	V	39.81	0.48	48.06	48.54	74.00	-25.46
	4882	PK	H	39.99	0.16	59.25	59.41	74.00	-14.59
	4882	AV	H	39.99	0.16	37.46	37.62	54.00	-16.38
8DPSK Ch High	4960	PK	V	39.84	0.41	65.40	65.81	74.00	-8.19
	4960	AV	V	39.84	0.41	39.62	40.03	54.00	-13.97
	4960	PK	H	39.84	0.41	61.96	62.37	74.00	-11.63
	4960	AV	H	39.84	0.41	38.06	38.47	54.00	-15.53

Remark:

1. Correction Factor = Antenna Factor + Cable Loss– Preamp. Gain
2. The frequency measured ranges from 1GHz to 25GHz.The data value listed above which is higher than the noise floor, the others please refer to noise floor level.

4.4.4 Measurement results: Fundamental and harmonics emission

EUT : CS01A

Mode	Frequency (MHz)	Spectrum Analyzer	Ant. Pol. (H/V)	Correction Factor (dB/m)	Reading (dBuV)	Corrected Reading (dBuV/m)	Limit @ 3 m (dBuV/m)	Margin (dB)
GFSK Ch Low	2402	PK	V	105.85	-10.67	95.18	114	-18.82
	2402	AV	V	64.67	-6.00	58.67	94	-35.33
	2402	PK	H	105.83	-6.31	99.52	114	-14.48
	2402	AV	H	63.94	-3.36	60.58	94	-33.42
GFSK Ch Middle	2440	PK	V	106.41	-11.00	95.41	114	-18.59
	2440	AV	V	65.99	-6.50	59.49	94	-34.51
	2440	PK	H	99.52	-1.69	97.83	114	-16.17
	2440	AV	H	62.18	-1.75	60.43	94	-33.57
GFSK Ch High	2480	PK	V	104.62	-12.13	92.49	114	-21.51
	2480	PK	H	103.44	-7.96	95.48	114	-18.52
	2480	AV	H	62.57	-3.00	59.57	94	-34.43

Remark:

1. Correction Factor = Antenna Factor + Cable Loss– Preamp. Gain
2. The frequency measured ranges from 1GHz to 25GHz.The data value listed above which is higher than the noise floor, the others please refer to noise floor level.

EUT : CS01A

Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Correction Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit @ 3 m (dBμV/m)	Margin (dB)
π/4DQPSK Ch Low	2402	PK	V	105.85	-13.55	92.30	114	-21.70
	2402	PK	H	105.83	-5.72	100.11	114	-13.89
	2402	AV	H	63.94	-3.28	60.66	94	-33.34
π/4DQPSK Ch Middle	2440	PK	V	106.41	-11.15	95.26	114	-18.74
	2440	AV	V	65.99	-6.78	59.21	94	-34.79
	2440	PK	H	99.52	-1.34	98.18	114	-15.82
	2440	AV	H	62.18	-2.07	60.11	94	-33.89
π/4DQPSK Ch High	2480	PK	V	104.62	-12.46	92.16	114	-21.84
	2480	PK	H	103.44	-8.05	95.39	114	-18.61
	2480	AV	H	62.57	-3.17	59.40	94	-34.60

Remark:

1. Correction Factor = Antenna Factor + Cable Loss– Preamp. Gain
2. The frequency measured ranges from 1GHz to 25GHz.The data value listed above which is higher than the noise floor, the others please refer to noise floor level.

EUT : CS01A

Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Correction Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit @ 3 m (dBμV/m)	Margin (dB)
8DPSK Ch Low	2402	PK	V	105.85	-10.40	95.45	114	-18.55
	2402	AV	V	64.67	-5.52	59.15	94	-34.85
	2402	PK	H	105.83	-5.94	99.89	114	-14.11
	2402	AV	H	63.94	-3.44	60.50	94	-33.50
8DPSK Ch Middle	2440	PK	V	106.41	-11.30	95.11	114	-18.89
	2440	AV	V	65.99	-7.36	58.63	94	-35.37
	2440	PK	H	99.52	-1.28	98.24	114	-15.76
	2440	AV	H	62.18	-2.17	60.01	94	-33.99
8DPSK Ch High	2480	PK	V	104.62	-11.91	92.71	114	-21.29
	2480	PK	H	103.44	-8.26	95.18	114	-18.82
	2480	AV	H	62.57	-3.25	59.32	94	-34.68

Remark:

1. Correction Factor = Antenna Factor + Cable Loss– Preamp. Gain
2. The frequency measured ranges from 1GHz to 25GHz.The data value listed above which is higher than the noise floor, the others please refer to noise floor level.

5. Radiated emission on the band edge FCC 15.249(d)

5.1 Operating environment

Temperature:	25	℃
Relative Humidity:	50	%
Atmospheric Pressure:	1008	hPa

5.2 Radiated emission on the band edge test data

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental (2414~2470MHz) or to the general radiated emission limits in §15.209, whichever is the lesser attenuation.

Mode	Frequency (MHz)	Spectrum Analyzer Detector	Ant. Pol. (H/V)	Correction Factor (dB/m)	Reading (dBμV)	Corrected Reading (dBμV/m)	Limit @ 3 m (dBμV/m)	Margin (dB)	Restricted band (MHz)
GFSK	2380.16	PK	V	33.80	19.94	53.74	74	-20.26	2310~2390
	2390.00	AV	V	33.85	7.87	41.72	54	-12.28	
	2490.20	PK	V	34.33	21.34	55.67	74	-18.33	2483.5~2500
	2483.50	AV	V	34.30	8.40	42.70	54	-11.30	
π/4-DPSK	2387.74	PK	V	33.84	19.73	53.57	74	-20.43	2310~2390
	2390.00	AV	V	33.85	7.88	41.73	54	-12.27	
	2491.24	PK	V	34.34	21.62	55.96	74	-18.04	2483.5~2500
	2483.50	AV	V	34.30	8.39	42.69	54	-11.31	
8-DPSK	2381.85	PK	V	33.81	20.29	54.10	74	-19.90	2310~2390
	2390.00	AV	V	33.85	8.21	42.06	54	-11.94	
	2489.80	PK	V	34.33	20.85	55.18	74	-18.82	2483.5~2500
	2483.50	AV	V	34.30	8.36	42.66	54	-11.34	

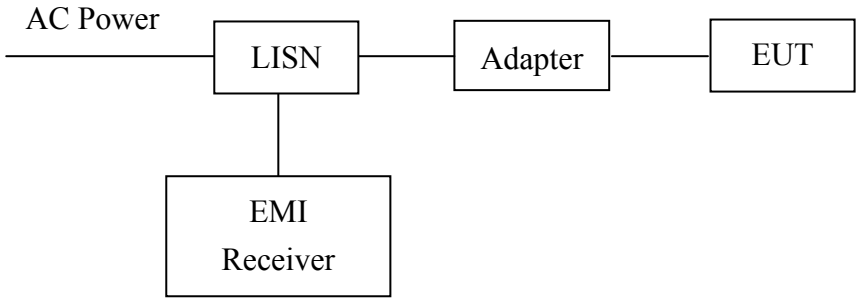
Remark: Correction Factor = Antenna Factor + Cable Loss

6. Conducted emission test FCC 15.207

6.1 Operating environment

Temperature:	25	℃
Relative Humidity:	50	%
Atmospheric Pressure:	1008	hPa

6.2 Test setup & procedure



The EUT are connected to the main power through a line impedance stabilization network (LISN). This provides a 50 ohm/50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm/50uH coupling impedance with 50ohm termination.
Both sides (Line and Neutral) of AC line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4/2003 on conducted measurement.
The bandwidth of the field strength meter (R & S Test Receiver ESCI 30) is set at 9kHz.

The EUT configuration please refer to the "Conducted set-up photo.pdf".

6.3 Emission limit

Freq. (MHz)	Conducted Limit (dBuV)	
	Q.P.	Ave.
0.15~0.50	66 – 56*	56 – 46*
0.50~5.00	56	46
5.00~30.0	60	50

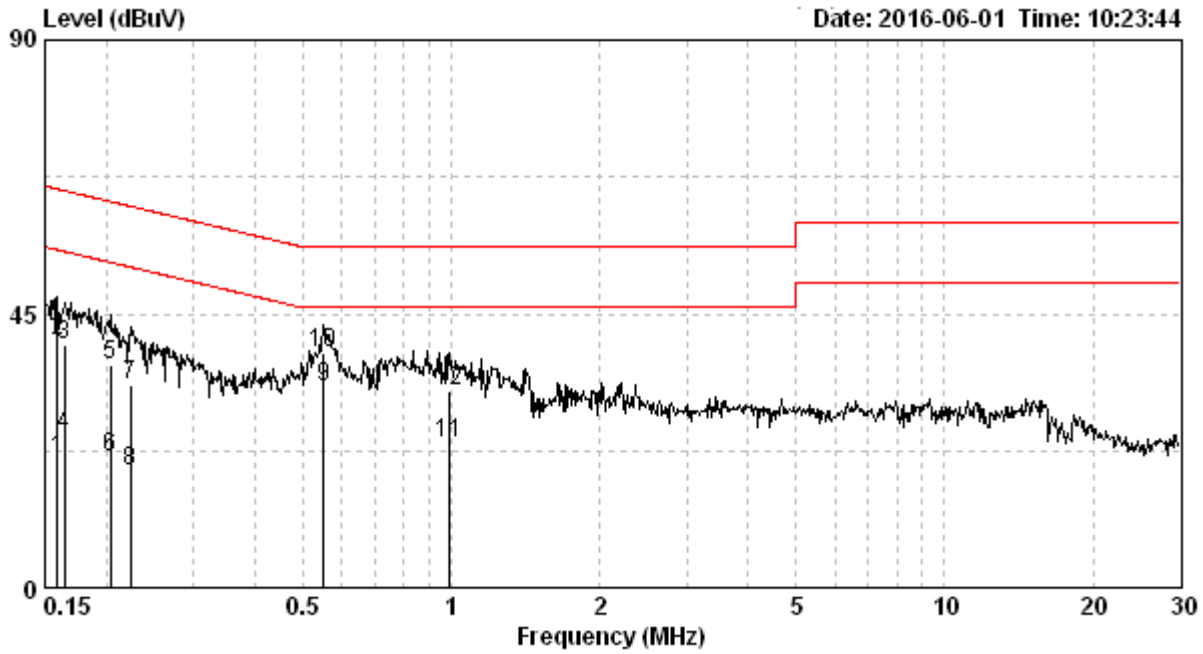
*Decreases with the logarithm of the frequency.

6.4 Conducted emission data FCC 15.207

Phase: Live Line
Model No.: CS01A
Test Condition: WiFi mode

Frequency (MHz)	Corr. Factor (dB)	Level Qp (dBuV)	Limit Qp (dBuV)	Level Av (dBuV)	Limit Av (dBuV)	Over Limit (dB) Qp	Av
0.159	10.32	40.70	65.52	21.19	55.52	-24.82	-34.33
0.164	10.33	39.87	65.25	25.22	55.25	-25.38	-30.03
0.204	10.38	36.47	63.45	21.49	53.45	-26.98	-31.96
0.223	10.39	33.20	62.70	19.08	52.70	-29.50	-33.62
0.552	10.49	38.43	56.00	33.10	46.00	-17.57	-12.90
0.989	10.63	32.36	56.00	23.65	46.00	-23.64	-22.35

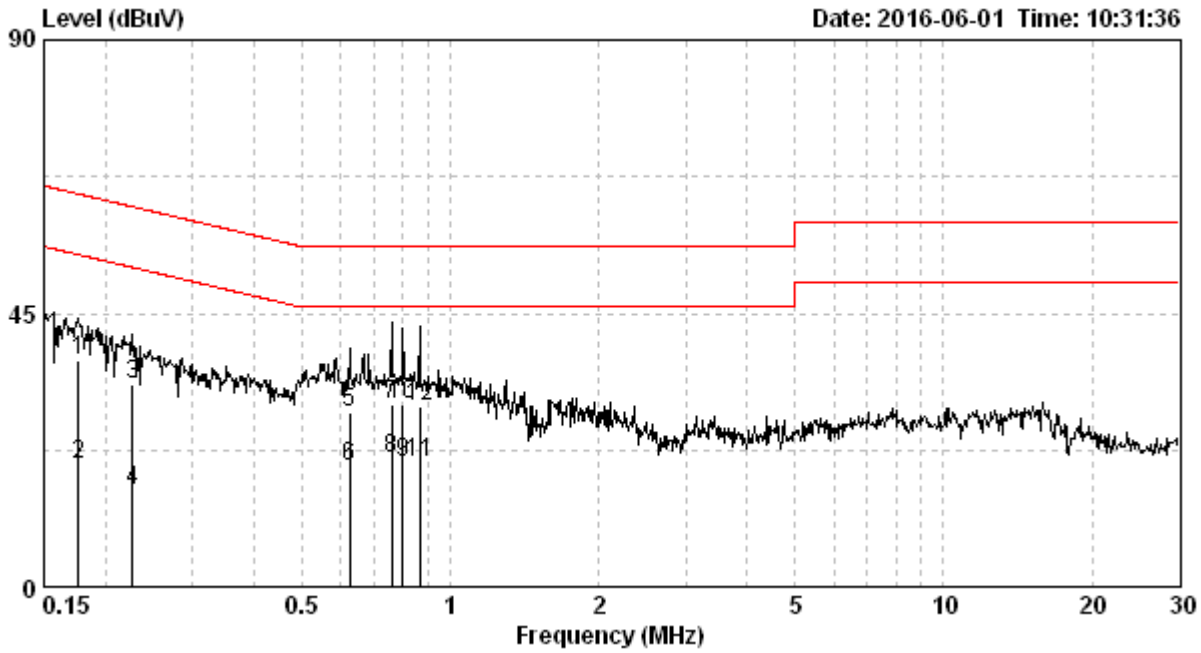
Remark:
1. Correction Factor (dB)= LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) = Level (dBuV) – Limit (dBuV)



Phase: Neutral Line
Model No.: CS01A
Test Condition: WiFi mode

Frequency (MHz)	Corr. Factor (dB)	Level Qp (dBuV)	Limit Qp (dBuV)	Level Av (dBuV)	Limit Av (dBuV)	Over Limit (dB) Qp	Av
0.176	10.33	37.25	64.68	19.95	54.68	-27.43	-34.73
0.227	10.37	33.42	62.57	15.98	52.57	-29.14	-36.58
0.624	10.50	28.79	56.00	19.73	46.00	-27.21	-26.27
0.759	10.55	29.88	56.00	21.15	46.00	-26.12	-24.85
0.800	10.56	30.15	56.00	20.33	46.00	-25.85	-25.67
0.866	10.58	29.80	56.00	20.49	46.00	-26.20	-25.51

Remark:
1. Correction Factor (dB)= LISN Factor (dB) + Cable Loss (dB)
2. Margin (dB) = Level (dBuV) – Limit (dBuV)



Appendix A: Test equipment list

Equipment	Brand	Model No.	Serial No.	Calibration Date	Next Calibration Date
ESCI EMI Test Receiver	Rohde & Schwarz	ESCI	100018	2015/12/02	2016/11/30
Spectrum Analyzer	Rohde & Schwarz	FSP30	100137	2015/08/18	2016/08/16
Horn Antenna (1-18G)	SHWARZBECK	BBHA 9120 D	9120D-456	2014/08/29	2017/08/27
Horn Antenna (14-42G)	SHWARZBECK	BBHA 9170	BBHA9170159	2014/09/16	2017/09/14
Broadband Antenna	SHWARZBECK	VULB 9168	9168-172	2013/08/08	2016/08/06
Pre-Amplifier	EMC Co.	EMC12635SE	980205	2015/10/7	2016/10/05
Pre-Amplifier	MITEQ	JS4-26004000--27-8A	828825	2015/09/15	2016/09/13
Signal Analyzer	Agilent	N9030A	MY51380492	2015/09/21	2016/09/19
966-2(A) Cable 9kHz~26.5GHz	SUHNER	SMA / EX 100	N/A	2016/05/05	2017/05/04
966-2(B) Cable 9kHz~26.5GHz	SUHNER	SUCOFLEX 104P	CB0005	2016/05/04	2017/05/03
RF Cable 9kHz~26.5GHz	SUHNER	SUCOFLEX 102	CB0006	2016/05/05	2017/05/04
966-2_3m Semi-Anechoic Chamber	966_2	CEM-966_2	N/A	2016/02/24	2017/02/22
High Pass Filter	Reactel	7HS-3G/18G-S11	N/A	2016/06/03	2017/06/02
Active Loop Antenna	SCHWARZBECK MESS-ELEKTRONIC	FMZB1519	1519-067	2016/03/03	2017/03/02

Note: No Calibration Required (NCR).

Test Equipment/ Test site	Brand	Model No.	Serial No.	Calibration Date	Next Calibration Date
EMI Test Receiver	Rohde & Schwarz	ESR-7	101232	2015/12/02	2016/11/30
Test software	ADT	Radiated test system	7.5.14	NCR	NCR
Two-Line V-Network	R&S	ENV216	101160	2015/06/16	2016/06/14
Two-Line -V-Network	R&S	ESH3-Z5	825562/003	2015/10/07	2016/10/05
CON-2 Shielded Room	N/A	N/A	N/A	NCR	NCR
CON-2 Cable	SUHNER	BNC / RG-58	2146637	2016/05/10	2017/05/09
Test software	Audix	e3	4.03b13d	NCR	NCR

Appendix B: Measurement Uncertainty

This uncertainty represents an expanded uncertainty expressed at approximately the 95 % confidence level using a coverage factor of *k*=2.

Item	Uncertainty
Vertically polarized radiated disturbances from 30MHz~1GHz in a semi-anechoic chamber at a distance of 3m	5.14 dB
Horizontally polarized radiated disturbances from 30MHz~1GHz in a semi-anechoic chamber at a distance of 3m	5.22 dB
Vertically polarized Radiated disturbances from 1GHz~18GHz in a semi-anechoic chamber at a distance of 3m	3.64 dB
Horizontally polarized Radiated disturbances from 1GHz~18GHz in a semi-anechoic chamber at a distance of 3m	3.64 dB
Vertically polarized Radiated disturbances from 18GHz~40GHz in a semi-anechoic chamber at a distance of 3m	2.7 dB
Horizontally polarized Radiated disturbances from 18GHz~40GHz in a semi-anechoic chamber at a distance of 3m	2.7 dB
Radiated disturbances from 9kHz~30MHz in a semi-anechoic chamber at a distance of 3m	3.53 dB
Emission on the Band Edge Test	3.64 dB
20dB Bandwidth	0.85 dB
AC Power Line Conducted Emission	2.47 dB