Shenzhen Global Test Service Co.,Ltd.
No.7-101 and 8A-104, Building 7 and 8, DCC Cultural and Creative Garden, No.98, Pingxin North Road, Shangmugu Community, Pinghu Street, Longgang District, Shenzhen, Guangdong

FCC PART 15 SUBPART C TEST REPORT

FCC PART 15.247

Report Reference No.....:	**GTS20230704026-1-40**
FCC ID..... :	**2AYD5-I23D02**
Compiled by (position+printed name+signature)..:	File administrators Peter Xiao
Supervised by (position+printed name+signature)..:	Test Engineer Jenny Zeng
Approved by (position+printed name+signature)..:	Manager Jason Hu
Date of issue.....:	Sep.06, 2023
Representative Laboratory Name.:	**Shenzhen Global Test Service Co.,Ltd.**
Address .....:	No.7-101 and 8A-104, Building 7 and 8, DCC Cultural and Creative Garden, No.98, Pingxin North Road, Shangmugu Community, Pinghu Street, Longgang District, Shenzhen, Guangdong,China
Applicant's name.....:	**Imin Technology Pte Ltd**
Address .....:	11 Bishan Street 21, #03-05 Bosch Building, Singapore 573943
Test specification .....**:**	
Standard .....:	**FCC Part 15.247: Operation within the bands 902-928 MHz, 2400-2483.5 MHz and 5725-5850 MHz**
TRF Originator.....:	Shenzhen Global Test Service Co.,Ltd.
Master TRF.....:	Dated 2014-12

Test item description .....:	**POS Device**
Trade Mark .....:	iMin
Manufacturer .....:	Imin Technology Pte Ltd
Model/Type reference.....:	I23D02
Listed Models .....:	N/A
Operation Frequency.....:	From 2412MHz to 2462MHz
Hardware Version .....:	N/A
Software Version .....:	N/A
Rating .....:	DC 24V/1.5A by adapter
Result.....:	**PASS**

TEST REPORT

Test Report No. :	**GTS20230704026-1-40**	Sep.06, 2023 Date of issue

Equipment under Test	:	POS Device
Model /Type	:	I23D02
Listed model	:	N/A
Applicant	:	**Imin Technology Pte Ltd**
Address	:	11 Bishan Street 21, #03-05 Bosch Building, Singapore 573943
Manufacturer	:	**Imin Technology Pte Ltd**
Address	:	11 Bishan Street 21, #03-05 Bosch Building, Singapore 573943

Test Result:	**PASS**

Contents

1. TEST STANDARDS

The tests were performed according to following standards:

FCC Rules Part 15.247: Frequency Hopping, Direct Spread Spectrum and Hybrid Systems that are in operation within the bands of 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz.
ANSI C63.10-2020: American National Standard for Testing Unlicensed Wireless Devices
KDB 558074 D01 DTS Meas Guidance v05r02: Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247.
KDB 662911 D01 Multiple Transmitter Output v02r01: Measurement of Transmitters with Multiple Output, MIMO, Smart Antenna.

2. SUMMARY

2.1. General Remarks

Date of receipt of test sample	:	Aug.18, 2023
Testing commenced on	:	Aug.18, 2023
Testing concluded on	:	Sep.05, 2023

2.2. Product Description

Product Name:	POS Device
Trade Mark:	iMin
Model/Type reference:	I23D02
List Model:	N/A
Model Declaration	N/A
Power supply:	DC 24V/1.5A by adapter
Hardware Version	N/A
Software Version	N/A
Sample ID	GTS20230704026-1-S0001-3# GTS20230704026-1-S0001-4#(Version A) GTS20230704026-1-S0001-5#(Version B)
Bluetooth	
Frequency Range	2402MHz ~ 2480MHz
Channel Number	79 channels for Bluetooth (DSS) 40 channels for Bluetooth (DTS)
Channel Spacing	1MHz for Bluetooth (DSS) 2MHz for Bluetooth (DTS)
Modulation Type	GFSK, π/4-DQPSK, 8DPSK for Bluetooth (DSS) GFSK for Bluetooth (DTS)
2.4GWLAN	
WLAN Operation frequency	IEEE 802.11b:2412-2462MHz IEEE 802.11g:2412-2462MHz IEEE 802.11n HT20:2412-2462MHz IEEE 802.11ax HE20:2412-2462MHz
WLAN Modulation Type	IEEE 802.11b: DSSS(CCK,DQPSK,DBPSK) IEEE 802.11g: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ax HE20: OFDMA (1024QAM,256QAM,64QAM,16QAM, QPSK,BPSK)
Channel number:	11 Channel for IEEE 802.11b/g/n/ax (HT20)
Channel separation:	5MHz
WIFI(5.2G/5.3G/5.7G/5.8G Band)	
WLAN Operation frequency	5180-5240MHz/ 5260MHz to 5320MHz/ 5500MHz to 5700MHz/ 5745MHz to 5825MHz
WLAN Modulation Type	IEEE 802.11a: OFDM(64QAM, 16QAM, QPSK, BPSK) IEEE 802.11n HT20: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac VHT20: OFDM (256QAM,64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ax HE20: OFDMA (1024QAM,256QAM,64QAM, 16QAM, QPSK,BPSK)

	IEEE 802.11n HT40: OFDM (64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac VHT40: OFDM (256QAM,64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ax HE40: OFDMA (1024QAM,256QAM,64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ac VHT80: OFDM (256QAM,64QAM, 16QAM, QPSK,BPSK) IEEE 802.11ax HE80: OFDMA (1024QAM,256QAM,64QAM, 16QAM, QPSK,BPSK)
Channel number:	4 Channels for 20MHz bandwidth(5180-5240MHz) 4 Channels for 20MHz bandwidth(5260-5320MHz) 11 Channels for 20MHz bandwidth(5500-5700MHz) 5 channels for 20MHz bandwidth(5745-5825MHz) 2 channels for 40MHz bandwidth(5190~5230MHz) 2 channels for 40MHz bandwidth(5270~5310MHz) 5 Channels for 40MHz bandwidth(5510-5670MHz) 2 channels for 40MHz bandwidth(5755~5795MHz) 1 channels for 80MHz bandwidth(5210MHz) 1 channels for 80MHz bandwidth(5290MHz) 2 Channels for 80MHz bandwidth(5530-5610MHz) 1 channels for 80MHz bandwidth(5775MHz)
Antenna Description	Three Internal antenna respectively.WLAN support 2*2MIMO technology. ANT0 used for WIFI TX/RX, 3.13 dBi(Max.) for 2.4G Band and 1.76dBi(Max.) for 5G Band ANT1 used for WIFI TX/RX, 3.13 dBi(Max.) for 2.4G Band and 1.76dBi (Max.) for 5G Band ANT2 used for BT TX/RX, 3.66 dBi(Max.) for 2.4G Band
RFID(13.56MHz) (Optional)	
Frequency Range	13.56MHz
Channel Number	1
Modulation Type	ASK
Antenna Description	Internal Antenna, 0dBi (Max.)
Remark:The I23D02 model has 2 versions; Version A: One large display and one small display Version B: Only one large display	

2.3. Equipment Under Test

Power supply system utilised

Power supply voltage	:	○	230V / 50 Hz	○	120V / 60Hz
		○	12 V DC	●	24 V DC
		○	Other (specified in blank below)		

DC 24.0V

2.4. Short description of the Equipment under Test (EUT)

For more details, refer to the user's manual of the EUT.

2.5. EUT operation mode

The application provider specific test software to control sample in continuous TX and RX (Duty Cycle >98%) for testing meet KDB558074 test requirement.

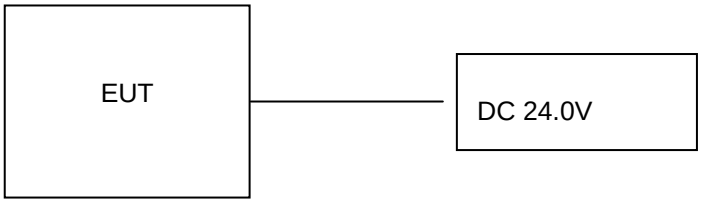
IEEE 802.11b/g/n/ax: Thirteen channels are provided to the EUT.

Antenna	Chain 0		Chain 1		Simultaneously
Bandwidth Mode	20MHz	40MHz	20MHz	40MHz	/
IEEE 802.11b	☑	☐	☑	☐	☐
IEEE 802.11g	☑	☐	☑	☐	☐
IEEE 802.11n	☑	☐	☑	☐	☑
IEEE 802.11ax	☑	☐	☑	☐	☑

Channel	Frequency(MHz)	Channel	Frequency(MHz)
1	2412	8	2447
2	2417	9	2452
3	2422	10	2457
4	2427	11	2462
5	2432		
6	2437		
7	2442		

The EUT has been tested under operating condition.
AC main conducted emission pre-test voltage at both AC 120V/60Hz and AC 240V/60Hz, recorded worst case;
AC main conducted emission pre-test at charge from PC modes, recorded worst case;
This test was performed with EUT in X, Y, Z position and the worst case was found when EUT in X position.
Worst-case mode and channel used for 9 KHz-1000 MHz radiated emissions was the mode and channel with the highest output power, that was determined to be IEEE 802.11g mode (MCH).
AX mode tested all RU, only worst case mode (Full RU) recorded in report.

2.6. Block Diagram of Test Setup



2.7. Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for **FCC ID: 2AYD5-I23D02** filing to comply with Section 15.247 of the FCC Part 15, Subpart C Rules.

2.8. EUT Exercise Software

The system was configured for testing in a continuous transmits condition and change test channels by software (adb model) provided by application.

2.9. Special Accessories

Manufacturer	Description	Model	Serial Number	Certificate
SHENZHEN HONOR ELECTRONIC CO.,LTD.	Adapter	ADS-65HI-19A-124036E	--	SDOC
Shenzhen SOY Technology Co.,Ltd.	Adapter	SOY-2400150-332-A	--	SDOC
Jiangsu Chenyang Electron Co.,Ltd.	Adapter	CYZS36-240150	--	SDOC
LENOVO	PC	DESKYOP-EUIVCNR	--	SDOC
LENOVO	Keyboard	T460S	--	SDOC
LENOVO	Mouse	Howard	--	SDOC
aigo	USB flash disk	U330	--	SDOC

Note: The PC, Keyboard, Mouse and USB flash disk is only used for auxiliary testing.

2.10. External I/O Cable

I/O Port Description	Quantity	Cable
DC IN Port	1	Non-Shielded, 1.0m
USB Port	3	N/A
LAN Port	1	Non-Shielded, 10m
TF Cart	1	N/A
RJ11 Port	1	N/A
RJ12 Port	1	N/A

2.11. Modifications

No modifications were implemented to meet testing criteria.

3. TEST ENVIRONMENT

3.1. Address of the test laboratory

Shenzhen Global Test Service Co.,Ltd.
No.7-101 and 8A-104, Building 7 and 8, DCC Cultural and Creative Garden, No.98, Pingxin North Road, Shangmugu Community, Pinghu Street, Longgang District, Shenzhen, Guangdong,China.

3.2. Test Facility

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

CNAS (No. CNAS L8169)
Shenzhen Global Test Service Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2019 General Requirements) for the Competence of Testing and Calibration Laboratories.
A2LA (Certificate No. 4758.01)
Shenzhen Global Test Service Co., Ltd. has been assessed by the American Association for Laboratory Accreditation (A2LA). Certificate No. 4758.01.
Industry Canada Registration Number. is 24189.
FCC Designation Number is CN1234.
FCC Registered Test Site Number is165725.

3.3. Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15-35 ° C
Humidity:	30-60 %
Atmospheric pressure:	950-1050mbar

3.4. Statement of the measurement uncertainty

The data and results referenced in this document are true and accurate. The reader is cautioned that there may be errors within the calibration limits of the equipment and facilities. The measurement uncertainty was calculated for all measurements listed in this test report acc. to CISPR 16 - 4 „Specification for radio disturbance and immunity measuring apparatus and methods – Part 4: Uncertainty in EMC Measurements“ and is documented in the Shenzhen Global Test Service Co.,Ltd quality system acc. to DIN EN ISO/IEC 17025. Furthermore, component and process variability of devices similar to that tested may result in additional deviation. The manufacturer has the sole responsibility of continued compliance of the device.

Hereafter the best measurement capability for Shenzhen GTS laboratory is reported:

Test	Range	Measurement Uncertainty	Notes
Radiated Emission	30~1000MHz	4.10 dB	(1)
Radiated Emission	1~18GHz	4.32 dB	(1)
Radiated Emission	18-40GHz	5.54 dB	(1)
Conducted Disturbance	0.15~30MHz	3.12 dB	(1)

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

3.5. Test Description

Applied Standard: FCC Part 15 Subpart C				
FCC Rules	Description of Test	Test Sample	Result	Remark
/	On Time and Duty Cycle	GTS20230704026-1-S0001-3#	/	/
§15.247(b)	Maximum Conducted Output Power	GTS20230704026-1-S0001-3#	Compliant	Appendix C
§15.247(e)	Power Spectral Density	GTS20230704026-1-S0001-3#	Compliant	Appendix C
§15.247(a)(2)	6dB Bandwidth	GTS20230704026-1-S0001-3#	Compliant	Appendix C
§2.1047	99% Occupied Bandwidth	GTS20230704026-1-S0001-3#	Compliant	Appendix C
§15.209, §15.247(d)	Conducted Spurious Emissions and Band Edges Test	GTS20230704026-1-S0001-3#	Compliant	Appendix C
§15.209, §15.247(d)	Radiated Spurious Emissions	GTS20230704026-1-S0001-3# GTS20230704026-1-S0001-4# GTS20230704026-1-S0001-5#	Compliant	Note 1
§15.205	Emissions at Restricted Band	GTS20230704026-1-S0001-3#	Compliant	Note 1
§15.207(a)	AC Conducted Emissions	GTS20230704026-1-S0001-4# GTS20230704026-1-S0001-5#	Compliant	Note 1
§15.203 §15.247(c)	Antenna Requirements	GTS20230704026-1-S0001-3#	Compliant	Note 1
§15.247(i)§2.1091	RF Exposure	/	Compliant	Note 2

Remark:
1. The measurement uncertainty is not included in the test result.
2. NA = Not Applicable; NP = Not Performed
3. Note 1 – Test results inside test report;
4. Note 2 – Test results in other test report (MPE Report).
5. We tested all test mode and recorded worst case in report

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

Test Items	Mode	Data Rate	Channel
Maximum Peak Conducted Output Power Power Spectral Density 6dB Bandwidth Spurious RF conducted emission Radiated Emission 9kHz~1GHz& Radiated Emission 1GHz~10th Harmonic	11b/DSSS	1 Mbps	1/6/11
	11g/OFDM	6 Mbps	1/6/11
	11n(20MHz)/OFDM	6.5Mbps	1/6/11
	11ax(20MHz)/OFDMA	8.6Mbps	1/6/11
Band Edge	11b/DSSS	1 Mbps	1/11
	11g/OFDM	6 Mbps	1/11
	11n(20MHz)/OFDM	6.5Mbps	1/11
	11ax(20MHz)/OFDMA	8.6Mbps	1/11

3.6. Equipments Used during the Test

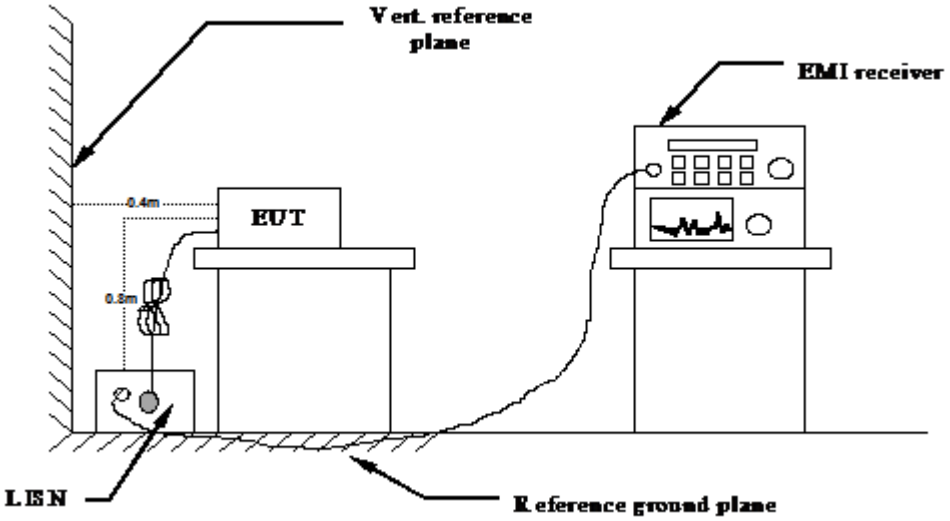
Test Equipment	Manufacturer	Model No.	Serial No.	Calibration Date	Calibration Due Date
LISN	CYBERTEK	EM5040A	E1850400105	2023/07/13	2024/07/12
LISN	R&S	ESH2-Z5	893606/008	2023/07/13	2024/07/12
EMI Test Receiver	R&S	ESPI3	101841-cd	2023/07/13	2024/07/12
EMI Test Receiver	R&S	ESCI7	101102	2022/09/09	2023/09/08
Spectrum Analyzer	Agilent	N9020A	MY48010425	2022/09/09	2023/09/08
Spectrum Analyzer	R&S	FSV40	100019	2023/07/13	2024/07/12
Vector Signal generator	Agilent	N5181A	MY49060502	2023/07/13	2024/07/12
Signal generator	Agilent	N5182A	3610AO1069	2022/09/09	2023/09/08
Climate Chamber	ESPEC	EL-10KA	A20120523	2022/09/09	2023/09/08
Controller	EM Electronics	Controller EM 1000	N/A	N/A	N/A
Horn Antenna	Schwarzbeck	BBHA 9120D	01622	2022/09/09	2023/09/08
Active Loop Antenna	Beijing Da Ze Technology Co.,Ltd.	ZN30900C	15006	2022/09/09	2023/09/08
Bilog Antenna	Schwarzbeck	VULB9163	000976	2023/07/13	2024/07/12
Broadband Horn Antenna	SCHWARZBECK	BBHA 9170	791	2022/09/09	2023/09/08
Amplifier	Schwarzbeck	BBV 9743	#202	2023/07/13	2024/07/12
Amplifier	Schwarzbeck	BBV9179	9719-025	2023/07/13	2024/07/12
Amplifier	EMCI	EMC051845B	980355	2023/07/13	2024/07/12
Temperature/Humidity Meter	Gangxing	CTH-608	02	2023/07/13	2024/07/12
High-Pass Filter	K&L	9SH10-2700/X12750-O/O	KL142031	2023/07/13	2024/07/12
High-Pass Filter	K&L	41H10-1375/U12750-O/O	KL142032	2023/07/13	2024/07/12
RF Cable(below 1GHz)	HUBER+SUHNER	RG214	RE01	2023/07/13	2024/07/12
RF Cable(above 1GHz)	HUBER+SUHNER	RG214	RE02	2023/07/13	2024/07/12
Data acquisition card	Agilent	U2531A	TW53323507	2023/07/13	2024/07/12
Power Sensor	Agilent	U2021XA	MY5365004	2023/07/13	2024/07/12
Test Control Unit	Tonscend	JS0806-1	178060067	2023/07/13	2024/07/12
Automated filter bank	Tonscend	JS0806-F	19F8060177	2023/07/13	2024/07/12
EMI Test Software	Tonscend	JS1120-1	Ver 2.6.8.0518	/	/
EMI Test Software	Tonscend	JS1120-3	Ver 2.5.77.0418	/	/
EMI Test Software	Tonscend	JS32-CE	Ver 2.5	/	/
EMI Test Software	Tonscend	JS32-RE	Ver 2.5.1.8	/	/

Note: The Cal.Interval was one year.

4. TEST CONDITIONS AND RESULTS

4.1. AC Power Conducted Emission

TEST CONFIGURATION



TEST PROCEDURE

1 The equipment was set up as per the test configuration to simulate typical actual usage per the user's manual. The EUT is a tabletop system, a wooden table with a height of 0.8 meters is used and is placed on the ground plane as per ANSI C63.10-2020.
2 Support equipment, if needed, was placed as per ANSI C63.10-2020.
3 All I/O cables were positioned to simulate typical actual usage as per ANSI C63.10-2020.
4 The EUT received DC 24V power, the adapter received AC120V/60Hz or AC 240V/60Hz power through a Line Impedance Stabilization Network (LISN) which supplied power source and was grounded to the ground plane.
5 All support equipments received AC power from a second LISN, if any.
6 The EUT test program was started. Emissions were measured on each current carrying line of the EUT using a spectrum Analyzer / Receiver connected to the LISN powering the EUT. The LISN has two monitoring points: Line 1 (Hot Side) and Line 2 (Neutral Side). Two scans were taken: one with Line 1 connected to Analyzer / Receiver and Line 2 connected to a 50 ohm load; the second scan had Line 1 connected to a 50 ohm load and Line 2 connected to the Analyzer / Receiver.
7 Analyzer / Receiver scanned from 150 KHz to 30MHz for emissions in each of the test modes.
8 During the above scans, the emissions were maximized by cable manipulation.

AC Power Conducted Emission Limit

For intentional device, according to § 15.207(a) AC Power Conducted Emission Limits is as following：

Frequency range (MHz)	Limit (dBuV)	
	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 logarithm of the frequency.		

TEST RESULTS

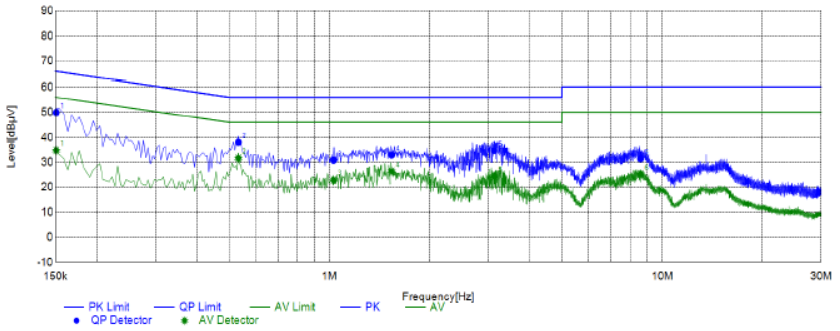
Remark: We measured Conducted Emission at 802.11b/802.11g/802.11n HT20 /802.11ax HE20 mode from 150 KHz to 30MHz in AC120V and the worst case was recorded.

Temperature	25℃	Humidity	60%
Test Engineer	Jenny Zeng	Configurations	IEEE 802.11g (MCH)

Version A:
Adapter: ADS-65HI-19A-124036E

Power supply:	AC 120V/60Hz	Polarization	L

Test Graph



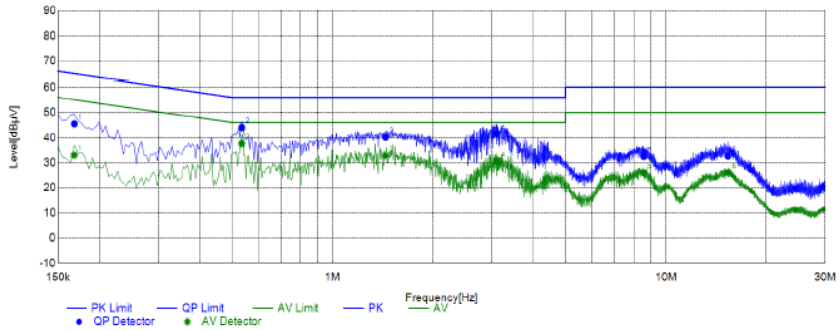
Final Data List												
NO.	Frequency	QP Reading	AVG. Reading	Factor	QP Result	AVG. Result	QP Limit	AVG. Limit	QP Margin	AVG. Margin	Line	Remark
1	0.1510	39.91	24.78	9.96	49.87	34.74	65.94	55.94	16.07	21.20	L1	PASS
2	0.5321	28.33	21.92	9.69	38.02	31.61	56.00	46.00	17.98	14.39	L1	PASS
3	1.0277	21.15	13.25	9.67	30.82	22.92	56.00	46.00	25.18	23.08	L1	PASS
4	1.5358	23.18	16.77	9.69	32.87	26.46	56.00	46.00	23.13	19.54	L1	PASS
5	3.1268	24.91	14.66	9.76	34.67	24.42	56.00	46.00	21.33	21.58	L1	PASS
6	8.6091	21.75	15.62	9.69	31.44	25.31	60.00	50.00	28.56	24.69	L1	PASS

Note: 1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N

Test Graph



Final Data List												
NO.	Frequency	QP Reading	AVG. Reading	Factor	QP Result	AVG. Result	QP Limit	AVG. Limit	QP Margin	AVG. Margin	Line	Remark
1	0.1679	35.69	23.28	9.79	45.48	33.07	65.06	55.06	19.58	21.99	N	PASS
2	0.5341	34.33	27.97	9.68	44.01	37.65	56.00	46.00	11.99	8.35	N	PASS
3	1.4414	30.44	23.11	9.68	40.12	32.79	56.00	46.00	15.88	13.21	N	PASS
4	3.1090	31.62	20.86	9.76	41.38	30.62	56.00	46.00	14.62	15.38	N	PASS
5	8.5764	22.80	16.39	9.70	32.50	26.09	60.00	50.00	27.50	23.91	N	PASS
6	15.3513	23.39	16.97	9.24	32.63	26.21	60.00	50.00	27.37	23.79	N	PASS

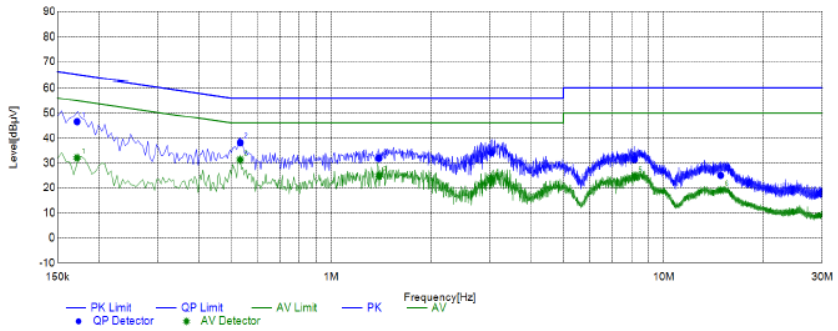
Note: 1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Adapter: SOY-2400150-332-A

Power supply:	AC 120V/60Hz	Polarization	L

Test Graph



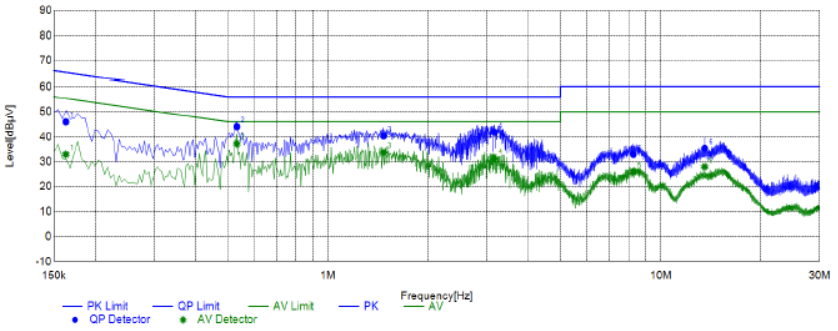
Final Data List												
NO.	Frequency	QP Reading	AVG. Reading	Factor	QP Result	AVG. Result	QP Limit	AVG. Limit	QP Margin	AVG. Margin	Line	Remark
1	0.1720	36.57	22.10	9.89	46.46	31.99	64.86	54.86	18.40	22.87	L1	PASS
2	0.5320	28.42	21.59	9.69	38.11	31.28	56.00	46.00	17.89	14.72	L1	PASS
3	1.3917	22.13	15.16	9.69	31.82	24.85	56.00	46.00	24.18	21.15	L1	PASS
4	3.0286	24.29	13.95	9.77	34.06	23.72	56.00	46.00	21.94	22.28	L1	PASS
5	8.1733	21.73	14.89	9.71	31.44	24.60	60.00	50.00	28.56	25.40	L1	PASS
6	14.8611	15.76	9.89	9.22	24.98	19.11	60.00	50.00	35.02	30.89	L1	PASS

Note: 1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N

Test Graph



Final Data List												
NO.	Frequency	QP Reading	AVG. Reading	Factor	QP Result	AVG. Result	QP Limit	AVG. Limit	QP Margin	AVG. Margin	Line	Remark
1	0.1629	36.16	23.14	9.79	45.95	32.93	65.32	55.32	19.37	22.39	N	PASS
2	0.5319	34.37	27.52	9.68	44.05	37.20	56.00	46.00	11.95	8.80	N	PASS
3	1.4692	30.62	24.08	9.69	40.31	33.77	56.00	46.00	15.69	12.23	N	PASS
4	3.1606	31.97	21.62	9.77	41.74	31.39	56.00	46.00	14.26	14.61	N	PASS
5	8.2799	23.19	16.28	9.71	32.90	25.99	60.00	50.00	27.10	24.01	N	PASS
6	13.5612	26.04	18.61	9.36	35.40	27.97	60.00	50.00	24.60	22.03	N	PASS

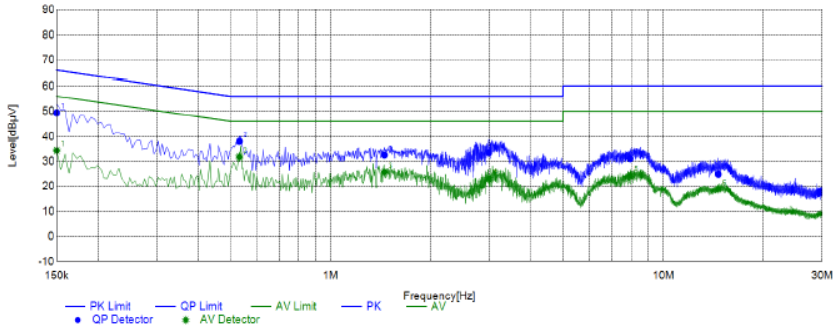
Note: 1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Adapter: CYZS36-240150

Power supply:	AC 120V/60Hz	Polarization	L

Test Graph



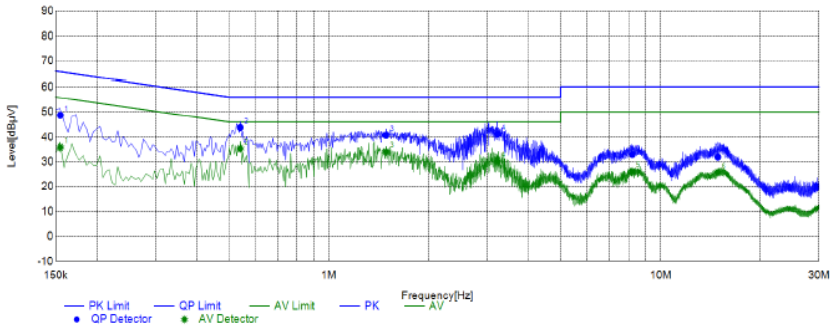
Final Data List												
NO.	Frequency	QP Reading	AVG. Reading	Factor	QP Result	AVG. Result	QP Limit	AVG. Limit	QP Margin	AVG. Margin	Line	Remark
1	0.1501	39.40	24.38	9.96	49.36	34.34	65.99	55.99	16.63	21.65	L1	PASS
2	0.5316	28.36	22.06	9.69	38.05	31.75	56.00	46.00	17.95	14.25	L1	PASS
3	1.4509	22.81	16.03	9.70	32.51	25.73	56.00	46.00	23.49	20.27	L1	PASS
4	2.9881	23.69	13.35	9.77	33.46	23.12	56.00	46.00	22.54	22.88	L1	PASS
5	7.9583	21.39	14.72	9.72	31.11	24.44	60.00	50.00	28.89	25.56	L1	PASS
6	14.6468	15.59	9.75	9.24	24.83	18.99	60.00	50.00	35.17	31.01	L1	PASS

Note: 1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N

Test Graph



Final Data List												
NO.	Frequency	QP Reading	AVG. Reading	Factor	QP Result	AVG. Result	QP Limit	AVG. Limit	QP Margin	AVG. Margin	Line	Remark
1	0.1548	38.89	26.08	9.79	48.68	35.87	65.74	55.74	17.06	19.87	N	PASS
2	0.5408	34.11	25.68	9.68	43.79	35.36	56.00	46.00	12.21	10.64	N	PASS
3	1.4859	30.97	24.35	9.69	40.66	34.04	56.00	46.00	15.34	11.96	N	PASS
4	3.2236	31.35	20.54	9.77	41.12	30.31	56.00	46.00	14.88	15.69	N	PASS
5	8.2179	23.21	16.38	9.72	32.93	26.10	60.00	50.00	27.07	23.90	N	PASS
6	14.8776	22.61	16.39	9.27	31.88	25.66	60.00	50.00	28.12	24.34	N	PASS

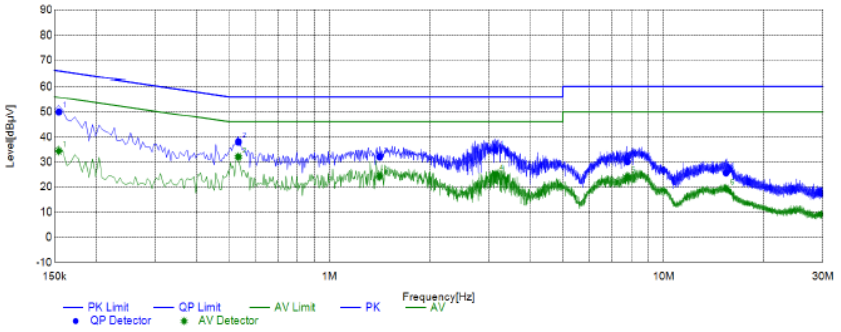
Note: 1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Version B:
Adapter: ADS-65HI-19A-124036E

Power supply:	AC 120V/60Hz	Polarization	L

Test Graph



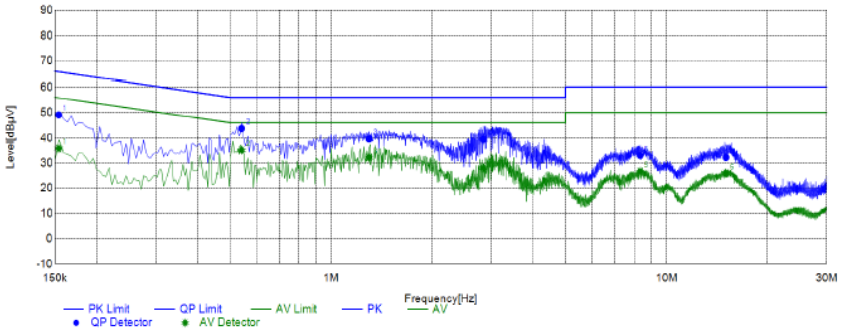
Final Data List												
NO.	Frequency	QP Reading	AVG. Reading	Factor	QP Result	AVG. Result	QP Limit	AVG. Limit	QP Margin	AVG. Margin	Line	Remark
1	0.1545	39.98	24.34	9.95	49.93	34.29	65.75	55.75	15.82	21.46	L1	PASS
2	0.5332	28.31	22.31	9.69	38.00	32.00	56.00	46.00	18.00	14.00	L1	PASS
3	1.4148	22.30	14.54	9.69	31.99	24.23	56.00	46.00	24.01	21.77	L1	PASS
4	3.1430	24.94	15.34	9.76	34.70	25.10	56.00	46.00	21.30	20.90	L1	PASS
5	7.7930	20.46	14.42	9.73	30.19	24.15	60.00	50.00	29.81	25.85	L1	PASS
6	15.4080	16.44	10.33	9.18	25.62	19.51	60.00	50.00	34.38	30.49	L1	PASS

Note: 1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N

Test Graph



Final Data List												
NO.	Frequency	QP Reading	AVG. Reading	Factor	QP Result	AVG. Result	QP Limit	AVG. Limit	QP Margin	AVG. Margin	Line	Remark
1	0.1539	39.28	26.03	9.79	49.07	35.82	65.79	55.79	16.72	19.97	N	PASS
2	0.5410	34.07	25.44	9.68	43.75	35.12	56.00	46.00	12.25	10.88	N	PASS
3	1.2970	29.90	22.46	9.67	39.57	32.13	56.00	46.00	16.43	13.87	N	PASS
4	2.8387	29.58	18.26	9.75	39.33	28.01	56.00	46.00	16.67	17.99	N	PASS
5	8.3485	23.25	17.03	9.71	32.96	26.74	60.00	50.00	27.04	23.26	N	PASS
6	15.0282	22.96	16.77	9.25	32.21	26.02	60.00	50.00	27.79	23.98	N	PASS

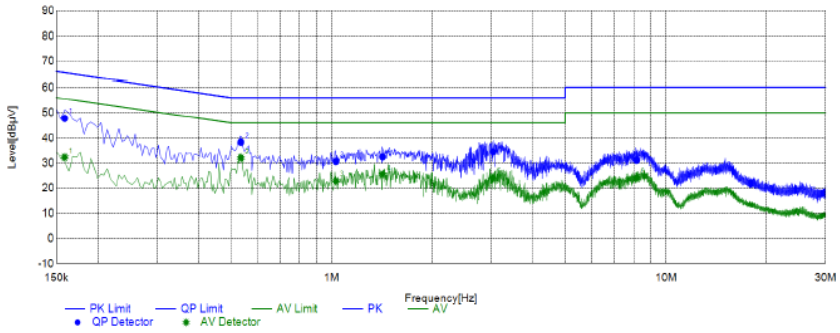
Note: 1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Adapter: SOY-2400150-332-A

Power supply:	AC 120V/60Hz	Polarization	L

Test Graph



Final Data List

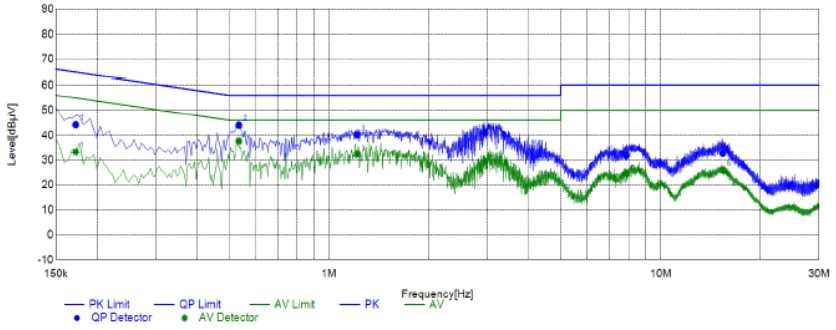
NO.	Frequency	QP Reading	AVG. Reading	Factor	QP Result	AVG. Result	QP Limit	AVG. Limit	QP Margin	AVG. Margin	Line	Remark
1	0.1589	37.84	22.37	9.93	47.77	32.30	65.52	55.52	17.75	23.22	L1	PASS
2	0.5351	28.61	22.34	9.69	38.30	32.03	56.00	46.00	17.70	13.97	L1	PASS
3	1.0283	20.97	13.26	9.67	30.64	22.93	56.00	46.00	25.36	23.07	L1	PASS
4	1.4210	22.76	15.86	9.69	32.45	25.55	56.00	46.00	23.55	20.45	L1	PASS
5	3.0412	24.68	14.49	9.77	34.45	24.26	56.00	46.00	21.55	21.74	L1	PASS
6	8.1644	21.41	14.41	9.71	31.12	24.12	60.00	50.00	28.88	25.88	L1	PASS

Note: 1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N

Test Graph



Final Data List

NO.	Frequency	QP Reading	AVG. Reading	Factor	QP Result	AVG. Result	QP Limit	AVG. Limit	QP Margin	AVG. Margin	Line	Remark
1	0.1723	34.44	23.52	9.79	44.23	33.31	64.85	54.85	20.62	21.54	N	PASS
2	0.5347	34.35	27.96	9.68	44.03	37.64	56.00	46.00	11.97	8.36	N	PASS
3	1.2149	30.38	22.63	9.67	40.05	32.30	56.00	46.00	15.95	13.70	N	PASS
4	2.9543	31.23	19.88	9.77	41.00	29.65	56.00	46.00	15.00	16.35	N	PASS
5	7.8839	22.06	14.80	9.73	31.79	24.53	60.00	50.00	28.21	25.47	N	PASS
6	15.4101	23.45	16.93	9.23	32.68	26.16	60.00	50.00	27.32	23.84	N	PASS

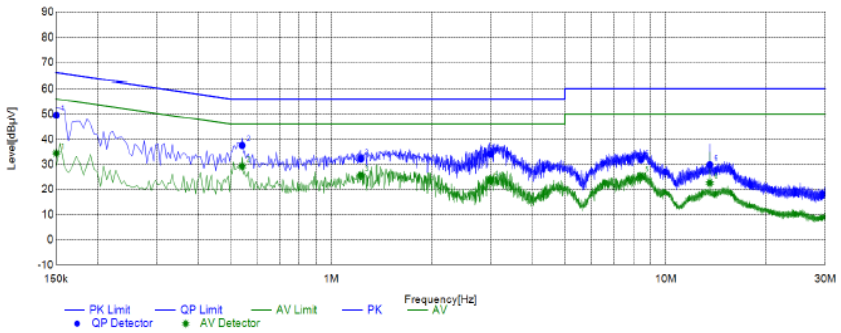
Note: 1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Adapter: CYZS36-240150

Power supply:	AC 120V/60Hz	Polarization	L

Test Graph



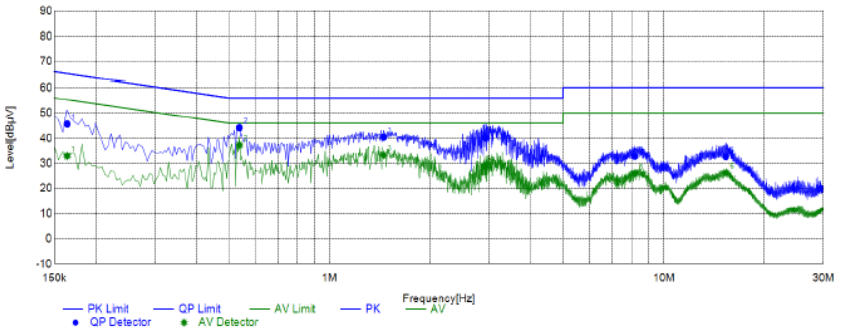
Final Data List												
NO.	Frequency	QP Reading	AVG. Reading	Factor	QP Result	AVG. Result	QP Limit	AVG. Limit	QP Margin	AVG. Margin	Line	Remark
1	0.1505	39.56	24.46	9.96	49.52	34.42	65.97	55.97	16.45	21.55	L1	PASS
2	0.5414	27.84	19.54	9.69	37.53	29.23	56.00	46.00	18.47	16.77	L1	PASS
3	1.2247	22.43	15.98	9.68	32.11	25.66	56.00	46.00	23.89	20.34	L1	PASS
4	2.9980	24.30	13.97	9.77	34.07	23.74	56.00	46.00	21.93	22.26	L1	PASS
5	8.4309	22.12	15.63	9.71	31.83	25.34	60.00	50.00	28.17	24.66	L1	PASS
6	13.5603	20.54	13.32	9.33	29.87	22.65	60.00	50.00	30.13	27.35	L1	PASS

Note: 1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

Power supply:	AC 120V/60Hz	Polarization	N

Test Graph



Final Data List												
NO.	Frequency	QP Reading	AVG. Reading	Factor	QP Result	AVG. Result	QP Limit	AVG. Limit	QP Margin	AVG. Margin	Line	Remark
1	0.1640	35.87	23.18	9.79	45.66	32.97	65.26	55.26	19.60	22.29	N	PASS
2	0.5374	34.53	27.58	9.68	44.21	37.26	56.00	46.00	11.79	8.74	N	PASS
3	1.4507	30.67	23.65	9.69	40.36	33.34	56.00	46.00	15.64	12.66	N	PASS
4	2.9278	30.35	19.25	9.76	40.11	29.01	56.00	46.00	15.89	16.99	N	PASS
5	8.1928	23.11	16.30	9.72	32.83	26.02	60.00	50.00	27.17	23.98	N	PASS
6	15.3395	23.42	17.09	9.23	32.65	26.32	60.00	50.00	27.35	23.68	N	PASS

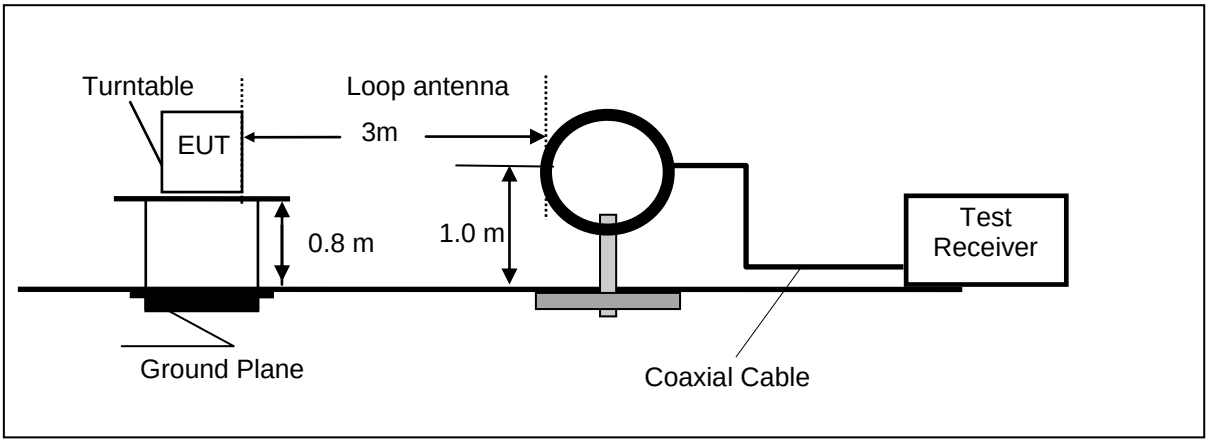
Note: 1. Result (dBµV) = Reading (dBµV) + Factor (dB).

2. Factor (dB) = Cable loss (dB) + LISN Factor (dB).

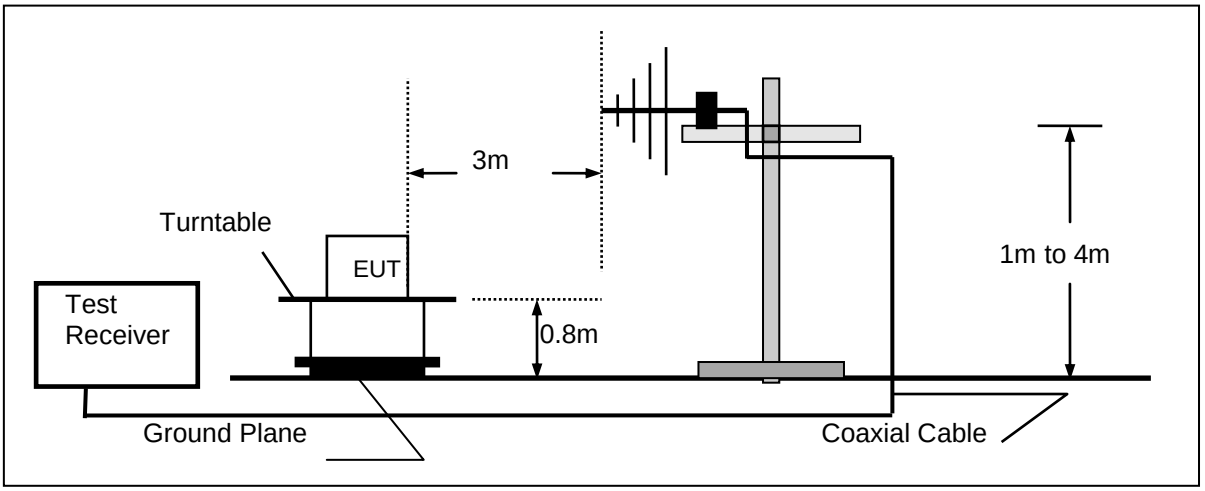
4.2. Radiated Emission

TEST CONFIGURATION

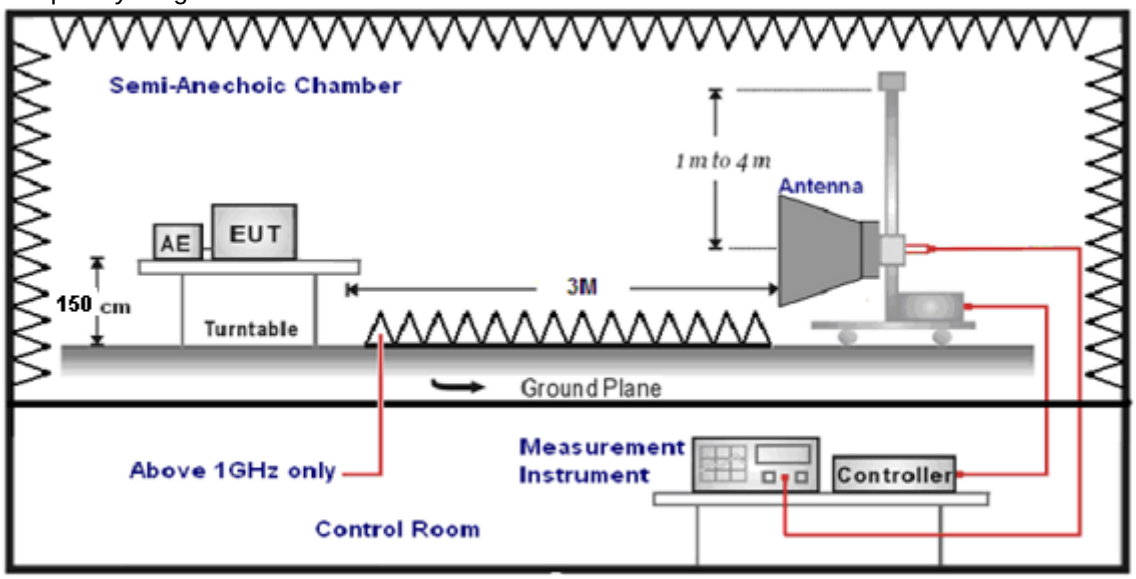
Frequency range 9 KHz – 30MHz



Frequency range 30MHz – 1000MHz



Frequency range above 1GHz-25GHz



TEST PROCEDURE

1. The EUT was placed on a turn table which is 0.8m above ground plane when testing frequency range 30MHz –1GHz;the EUT was placed on a turn table which is 1.5m above ground plane when testing frequency range 1GHz – 25GHz.
2. Maximum procedure was performed by raising the receiving antenna from 1m to 4m and rotating the turn table from 0° to 360° to acquire the highest emissions from EUT.
3. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
4. Repeat above procedures until all frequency measurements have been completed.
5. Radiated emission test frequency band from 30MHz to 25GHz.
6. The distance between test antenna and EUT as following table states:

Test Frequency range	Test Antenna Type	Test Distance
9KHz-30MHz	Active Loop Antenna	3
30MHz-1GHz	Ultra-Broadband Antenna	3
1GHz-18GHz	Double Ridged Horn Antenna	3
18GHz-25GHz	Horn Anternna	1

7. Setting test receiver/spectrum as following table states:

Test Frequency range	Test Receiver/Spectrum Setting	Detector
9KHz-150KHz	RBW=200Hz/VBW=3KHz,Sweep time=Auto	QP
150KHz-30MHz	RBW=9KHz/VBW=100KHz,Sweep time=Auto	QP
30MHz-1GHz	RBW=120KHz/VBW=1000KHz,Sweep time=Auto	QP
1GHz-40GHz	Peak Value: RBW=1MHz/VBW=3MHz, Sweep time=Auto Average Value: RBW=1MHz/VBW=10Hz, Sweep time=Auto	Peak

Field Strength Calculation

The field strength is calculated by adding the Antenna Factor and Cable Factor and subtracting the Amplifier Gain and Duty Cycle Correction Factor(if any) from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CL - AG

Where FS = Field Strength	CL = Cable Attenuation Factor (Cable Loss)
RA = Reading Amplitude	AG = Amplifier Gain
AF = Antenna Factor	

Transd=AF +CL-AG

RADIATION LIMIT

For intentional device, according to § 15.209(a), the general requirement of field strength of radiated emission from intentional radiators at a distance of 3 meters shall not exceed the following table. According to § 15.247(d), in any 100kHz bandwidth outside the frequency band in which the EUT is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the100kHz bandwidth within the band that contains the highest level of desired power.

The pre-test have done for the EUT in three axes and found the worst emission at position shown in test setup photos.

Frequency (MHz)	Distance (Meters)	Radiated (dBμV/m)	Radiated (μV/m)
0.009-0.49	3	20log(2400/F(KHz))+40log(300/3)	2400/F(KHz)
0.49-1.705	3	20log(24000/F(KHz))+ 40log(30/3)	24000/F(KHz)
1.705-30	3	20log(30)+ 40log(30/3)	30
30-88	3	40.0	100
88-216	3	43.5	150
216-960	3	46.0	200
Above 960	3	54.0	500

TEST RESULTS

Remark: We measured Radiated Emission at 802.11b/802.11g/802.11n HT20/802.11n HT40/802.11ax HE20/802.11ax HE40 mode from 9KHz to 25GHz in AC120V and the worst case was recorded.

Temperature	25℃	Humidity	60%
Test Engineer	Jenny Zeng	Configurations	IEEE 802.11g (MCH)

For 9 KHz~30MHz

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Over Limit (dBuV)	Remark
-	-	-	-	See Note

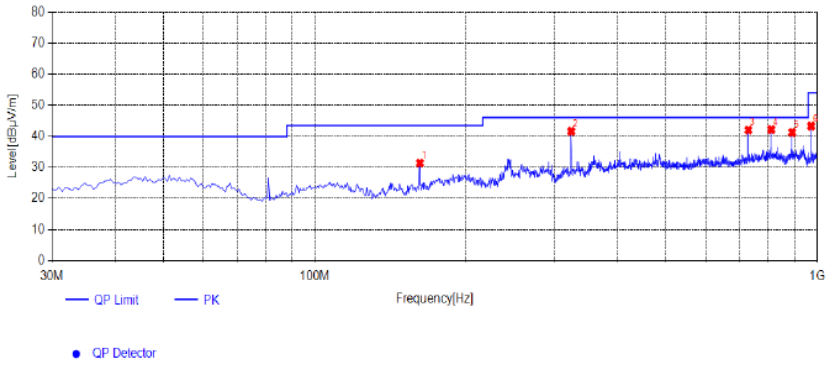
Note:
The amplitude of spurious emissions which are attenuated by more than 20 dB below the permissible value has no need to be reported.
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);
Limit line = specific limits (dBuV) + distance extrapolation factor.

For 30MHz-1GHz
Version A:

Adapter: ADS-65HI-19A-124036E

Horizontal

Test Graph



Suspected List

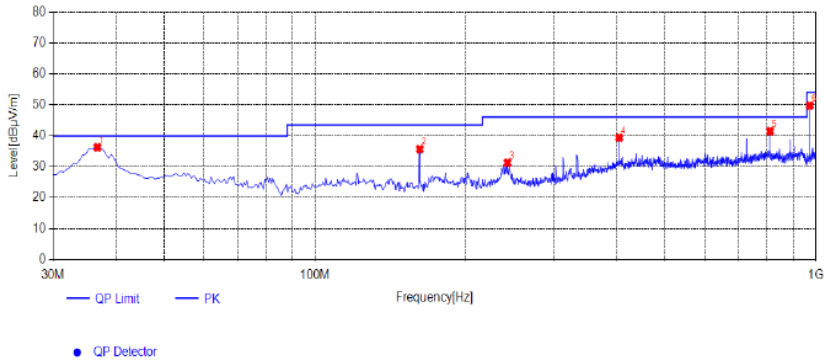
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	161.92	46.29	-14.87	31.42	43.50	12.08	100	169	PK	Horizonta	PASS
2	323.91	50.05	-8.41	41.64	46.00	4.36	100	331	PK	Horizonta	PASS
3	729.37	41.93	0.12	42.05	46.00	3.95	100	328	PK	Horizonta	PASS
4	810.365	40.18	2.02	42.20	46.00	3.80	100	334	PK	Horizonta	PASS
5	891.36	38.83	2.46	41.29	46.00	4.71	100	344	PK	Horizonta	PASS
6	972.355	39.05	4.27	43.32	54.00	10.68	100	334	PK	Horizonta	PASS

Note: 1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Vertical

Test Graph



Suspected List

NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	36.79	50.34	-14.12	36.22	40.00	3.78	100	358	PK	Vertical	PASS
2	161.92	50.51	-14.87	35.64	43.50	7.86	100	55	PK	Vertical	PASS
3	242.43	42.45	-11.16	31.29	46.00	14.71	100	208	PK	Vertical	PASS
4	404.905	42.84	-3.48	39.36	46.00	6.64	100	284	PK	Vertical	PASS
5	810.365	39.47	2.02	41.49	46.00	4.51	100	224	PK	Vertical	PASS
6	972.355	45.49	4.27	49.76	54.00	4.24	100	15	PK	Vertical	PASS

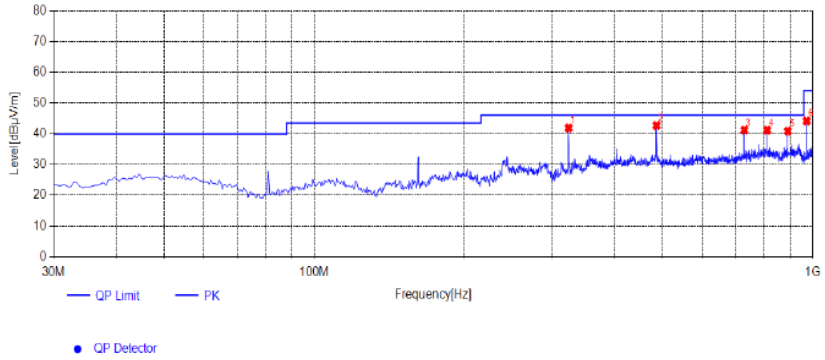
Note: 1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Adapter: SOY-2400150-332-A

Horizontal

Test Graph



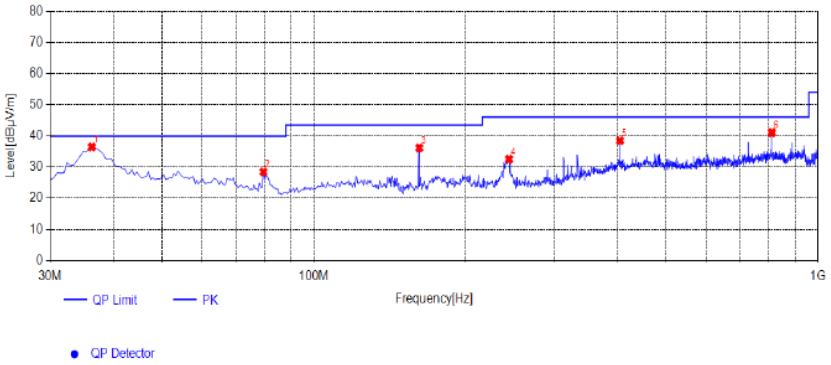
Suspected List											
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	323.91	50.31	-8.41	41.90	46.00	4.10	100	320	PK	Horizonta	PASS
2	485.9	45.71	-3.02	42.69	46.00	3.31	100	132	PK	Horizonta	PASS
3	729.37	41.12	0.12	41.24	46.00	4.76	100	331	PK	Horizonta	PASS
4	810.365	39.20	2.02	41.22	46.00	4.78	100	337	PK	Horizonta	PASS
5	891.36	38.43	2.46	40.89	46.00	5.11	100	42	PK	Horizonta	PASS
6	972.355	39.89	4.27	44.16	54.00	9.84	100	42	PK	Horizonta	PASS

Note: 1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Vertical

Test Graph



Suspected List											
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	36.305	50.70	-14.28	36.42	40.00	3.58	100	142	PK	Vertical	PASS
2	79.47	45.29	-16.78	28.51	40.00	11.49	100	292	PK	Vertical	PASS
3	161.92	50.98	-14.87	36.11	43.50	7.39	100	56	PK	Vertical	PASS
4	243.885	43.59	-11.06	32.53	46.00	13.47	100	238	PK	Vertical	PASS
5	404.905	41.94	-3.48	38.46	46.00	7.54	100	95	PK	Vertical	PASS
6	810.365	39.08	2.02	41.10	46.00	4.90	100	235	PK	Vertical	PASS

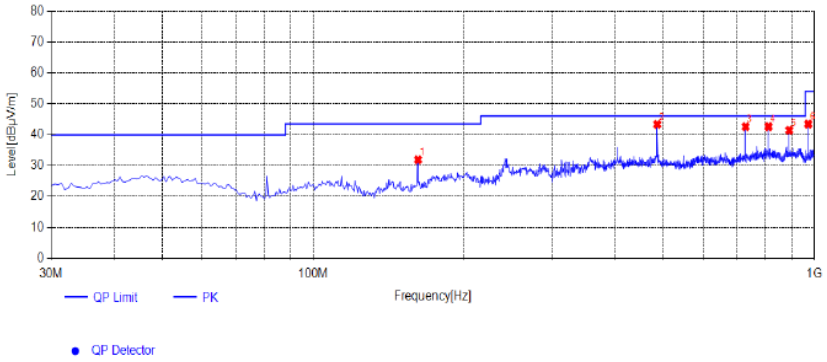
Note: 1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Adapter: CYZS36-240150

Horizontal

Test Graph



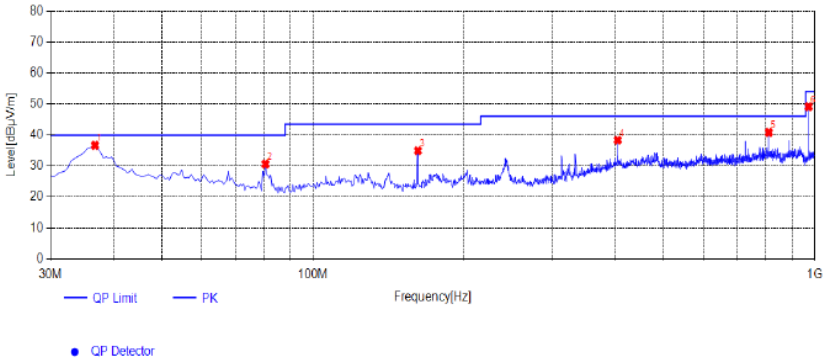
Suspected List											
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	161.92	46.77	-14.87	31.90	43.50	11.60	100	119	PK	Horizonta	PASS
2	485.9	46.37	-3.02	43.35	46.00	2.65	100	135	PK	Horizonta	PASS
3	729.37	42.48	0.12	42.60	46.00	3.40	100	39	PK	Horizonta	PASS
4	810.365	40.60	2.02	42.62	46.00	3.38	100	338	PK	Horizonta	PASS
5	891.36	39.00	2.46	41.46	46.00	4.54	100	331	PK	Horizonta	PASS
6	972.355	39.18	4.27	43.45	54.00	10.55	100	345	PK	Horizonta	PASS

Note: 1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Vertical

Test Graph



Suspected List											
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	36.79	50.74	-14.12	36.62	40.00	3.38	100	331	PK	Vertical	PASS
2	80.44	47.44	-16.80	30.64	40.00	9.36	100	264	PK	Vertical	PASS
3	161.92	49.77	-14.87	34.90	43.50	8.60	100	104	PK	Vertical	PASS
4	404.905	41.80	-3.48	38.32	46.00	7.68	100	264	PK	Vertical	PASS
5	810.365	38.85	2.02	40.87	46.00	5.13	100	238	PK	Vertical	PASS
6	972.355	44.80	4.27	49.07	54.00	4.93	100	8	PK	Vertical	PASS

Note: 1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

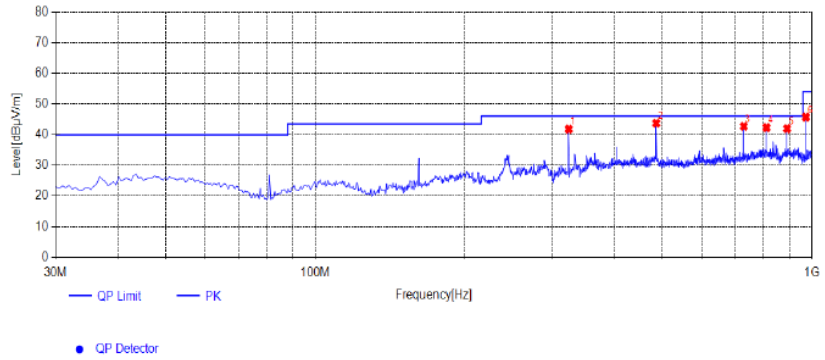
2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Version B:

Adapter: ADS-65HI-19A-124036E

Horizontal

Test Graph



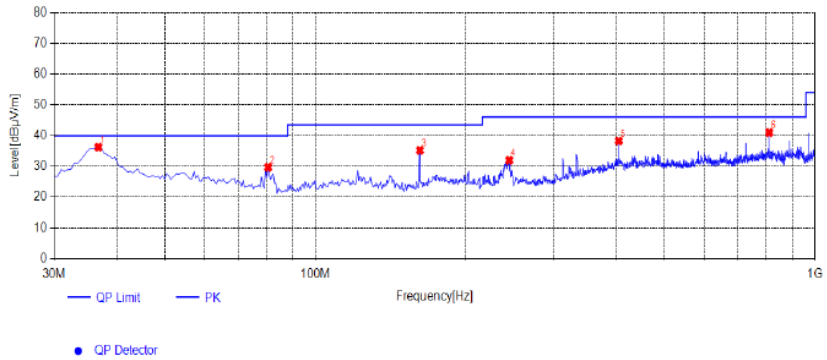
Suspected List											
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	323.91	50.23	-8.41	41.82	46.00	4.18	100	317	PK	Horizonta	PASS
2	485.9	46.74	-3.02	43.72	46.00	2.28	100	118	PK	Horizonta	PASS
3	729.37	42.58	0.12	42.70	46.00	3.30	100	327	PK	Horizonta	PASS
4	810.365	40.29	2.02	42.31	46.00	3.69	100	347	PK	Horizonta	PASS
5	891.36	39.52	2.46	41.98	46.00	4.02	100	337	PK	Horizonta	PASS
6	972.355	41.43	4.27	45.70	54.00	8.30	100	61	PK	Horizonta	PASS

Note: 1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Vertical

Test Graph



Suspected List											
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	36.79	50.32	-14.12	36.20	40.00	3.80	100	89	PK	Vertical	PASS
2	80.44	46.51	-16.80	29.71	40.00	10.29	100	332	PK	Vertical	PASS
3	161.92	50.04	-14.87	35.17	43.50	8.33	100	49	PK	Vertical	PASS
4	244.37	43.01	-11.03	31.98	46.00	14.02	100	186	PK	Vertical	PASS
5	404.905	41.75	-3.48	38.27	46.00	7.73	100	289	PK	Vertical	PASS
6	810.365	39.02	2.02	41.04	46.00	4.96	100	269	PK	Vertical	PASS

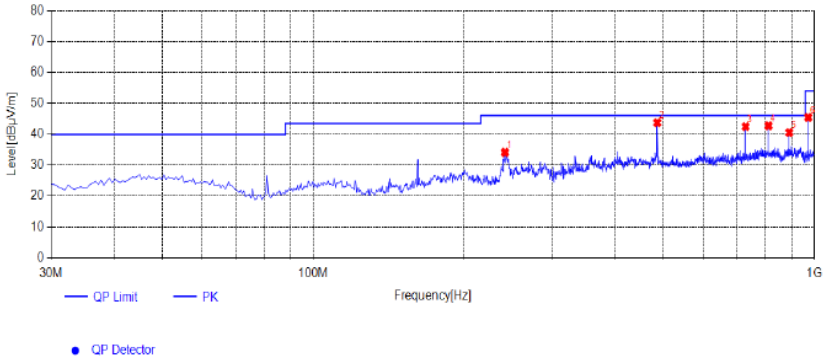
Note: 1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Adapter: SOY-2400150-332-A

Horizontal

Test Graph



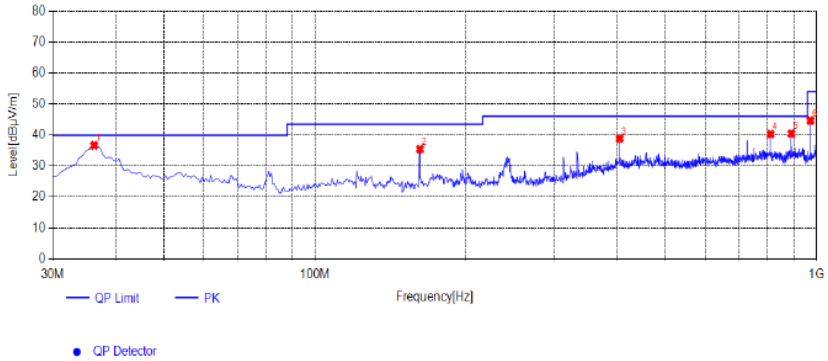
Suspected List											
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	241.46	45.28	-11.17	34.11	46.00	11.89	100	289	PK	Horizonta	PASS
2	485.9	46.75	-3.02	43.73	46.00	2.27	100	132	PK	Horizonta	PASS
3	729.37	42.37	0.12	42.49	46.00	3.51	100	329	PK	Horizonta	PASS
4	810.365	40.74	2.02	42.76	46.00	3.24	100	346	PK	Horizonta	PASS
5	891.36	38.12	2.46	40.58	46.00	5.42	100	42	PK	Horizonta	PASS
6	972.355	41.16	4.27	45.43	54.00	8.57	100	65	PK	Horizonta	PASS

Note: 1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Vertical

Test Graph



Suspected List											
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	36.305	50.90	-14.28	36.62	40.00	3.38	100	354	PK	Vertical	PASS
2	161.92	50.26	-14.87	35.39	43.50	8.11	100	75	PK	Vertical	PASS
3	404.905	42.32	-3.48	38.84	46.00	7.16	100	281	PK	Vertical	PASS
4	810.365	38.28	2.02	40.30	46.00	5.70	100	268	PK	Vertical	PASS
5	891.36	38.01	2.46	40.47	46.00	5.53	100	357	PK	Vertical	PASS
6	972.355	40.39	4.27	44.66	54.00	9.34	100	304	PK	Vertical	PASS

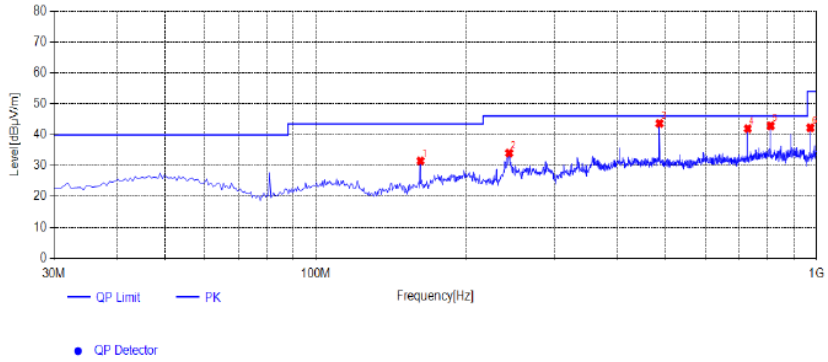
Note: 1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Adapter: CYZS36-240150

Horizontal

Test Graph



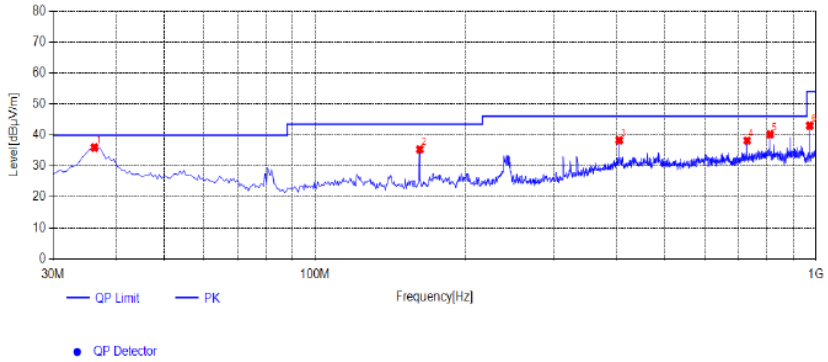
Suspected List											
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	161.92	46.41	-14.87	31.54	43.50	11.96	100	109	PK	Horizonta	PASS
2	243.4	45.14	-11.10	34.04	46.00	11.96	100	105	PK	Horizonta	PASS
3	485.9	46.66	-3.02	43.64	46.00	2.36	100	122	PK	Horizonta	PASS
4	729.37	41.86	0.12	41.98	46.00	4.02	100	46	PK	Horizonta	PASS
5	810.365	40.85	2.02	42.87	46.00	3.13	100	336	PK	Horizonta	PASS
6	972.355	37.99	4.27	42.26	54.00	11.74	100	43	PK	Horizonta	PASS

Note: 1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

Vertical

Test Graph



Suspected List											
NO.	Frequency [MHz]	Reading [dBµV/m]	Factor [dB]	Result [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Height [cm]	Angle [°]	Detector	Polarity	Remark
1	36.305	50.19	-14.28	35.91	40.00	4.09	100	147	PK	Vertical	PASS
2	161.92	50.19	-14.87	35.32	43.50	8.18	100	74	PK	Vertical	PASS
3	404.905	41.78	-3.48	38.30	46.00	7.70	100	297	PK	Vertical	PASS
4	729.37	38.05	0.12	38.17	46.00	7.83	100	223	PK	Vertical	PASS
5	810.365	38.17	2.02	40.19	46.00	5.81	100	233	PK	Vertical	PASS
6	972.355	38.76	4.27	43.03	54.00	10.97	100	134	PK	Vertical	PASS

Note: 1. Result (dBµV/m) = Reading(dBµV/m) + Factor (dB) .

2. Factor (dB) = Antenna Factor (dB/m) + Cable loss (dB) - Pre Amplifier gain (dB).

For 1GHz to 25GHz

IEEE 802.11n HT20_MIMO(Worst Case)

Channel 1 / 2412 MHz

Freq. MHz	Reading dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4824.00	49.63	32.44	30.25	7.95	59.77	74.00	-14.23	Peak	Horizontal
4824.00	34.93	32.44	30.25	7.95	45.07	54.00	-8.93	Average	Horizontal
4824.00	54.19	32.44	30.25	7.95	64.33	74.00	-9.67	Peak	Vertical
4824.00	36.30	32.44	30.25	7.95	46.44	54.00	-7.56	Average	Vertical

Channel 6 / 2437 MHz

Freq. MHz	Reading dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4874.00	50.90	32.52	30.31	8.12	61.23	74.00	-12.77	Peak	Horizontal
4874.00	37.21	32.52	30.31	8.12	47.54	54.00	-6.46	Average	Horizontal
4874.00	51.71	32.52	30.31	8.12	62.04	74.00	-11.96	Peak	Vertical
4874.00	35.14	32.52	30.31	8.12	45.47	54.00	-8.53	Average	Vertical

Channel 11 / 2462 MHz

Freq. MHz	Reading dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4924.00	51.55	32.68	30.27	7.88	61.84	74.00	-12.16	Peak	Horizontal
4924.00	36.60	32.68	30.27	7.88	46.89	54.00	-7.11	Average	Horizontal
4924.00	48.67	32.68	30.27	7.88	58.96	74.00	-15.04	Peak	Vertical
4924.00	32.03	32.68	30.27	7.88	42.32	54.00	-11.68	Average	Vertical

IEEE 802.11ax HE20_MIMO(Worst Case)

Channel 1 / 2412 MHz

Freq. MHz	Reading dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4824.00	51.12	32.44	30.25	7.95	61.26	74.00	-12.74	Peak	Horizontal
4824.00	36.16	32.44	30.25	7.95	46.30	54.00	-7.70	Average	Horizontal
4824.00	54.30	32.44	30.25	7.95	64.44	74.00	-9.56	Peak	Vertical
4824.00	35.83	32.44	30.25	7.95	45.97	54.00	-8.03	Average	Vertical

Channel 6 / 2437 MHz

Freq. MHz	Reading dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4874.00	49.56	32.52	30.31	8.12	59.89	74.00	-14.11	Peak	Horizontal
4874.00	36.07	32.52	30.31	8.12	46.40	54.00	-7.60	Average	Horizontal
4874.00	52.32	32.52	30.31	8.12	62.65	74.00	-11.35	Peak	Vertical
4874.00	35.58	32.52	30.31	8.12	45.91	54.00	-8.09	Average	Vertical

Channel 11 / 2462 MHz

Freq. MHz	Reading dBuV	Ant. Fac. dB/m	Pre. Fac. dB	Cab. Loss dB	Measured dBuV/m	Limit dBuV/m	Margin dB	Remark	Pol.
4924.00	50.46	32.68	30.27	7.88	60.75	74.00	-13.25	Peak	Horizontal
4924.00	36.86	32.68	30.27	7.88	47.15	54.00	-6.85	Average	Horizontal
4924.00	49.75	32.68	30.27	7.88	60.04	74.00	-13.96	Peak	Vertical
4924.00	31.82	32.68	30.27	7.88	42.11	54.00	-11.89	Average	Vertical

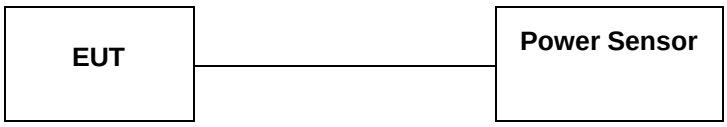
REMARKS:

1. Emission level (dBuV/m) =Raw Value (dBuV)+Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
3. Margin value = Limit value- Emission level.
4. -- Mean the PK detector measured value is below average limit.
5. The other emission levels were very low against the limit.

NOTE: All the modes have been tested and recorded worst mode in the report(Version A_Adapter: ADS-65HI-19A-124036E).

4.3. Maximum Peak Output Power

TEST CONFIGURATION



TEST PROCEDURE

According to KDB558074 D01 DTS Measurement Guidance Section 9.1 Maximum peak conducted output power,9.1.2. and Average conducted output power, 9.2.3.1.

The maximum peak conducted output power may be measured using a broadband peak RF power meter. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.

The maximum Average conducted output power may be measured using a wideband RF power meter with a thermocouple derector or equivalent. The power meter shall have a video bandwidth that is greater than or equal to the DTS bandwidth and shall utilize a fast-responding diode detector.

LIMIT

The Maximum Peak Output Power Measurement is 30dBm.

TEST RESULTS

For reporting purpose only.
Antenna 0:
Please refer to Appendix C-ANT0-Appendix C.3.
For reporting purpose only.

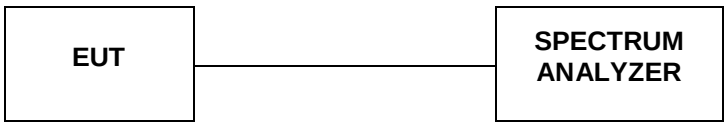
Antenna 1:
Please refer to Appendix C-ANT1-Appendix C.3.
For reporting purpose only.
MIMO*2

Type	Channel	Peak Output power ANT0 (dBm)	Peak Output power ANT1 (dBm)	Peak Output power Total (dBm)	Limit (dBm)	Result
802.11n (HT20)	01	18.15	20.22	22.32	29.86	Pass
	06	18.87	20.93	23.03		
	11	19.21	21.29	23.38		
802.11ax (HE20)	01	23.05	20.26	24.89	29.86	Pass
	06	21.91	20.86	24.43		
	11	22.20	21.29	24.78		

Remark:
The Directional Gain= Gain of individual transmit antennas (dBi) + Array gain;
Array gain = 10 log (Nant), where Nant is the number of transmit antennas
Directional Gain=6.14 dBi
MIMO Limit (dBm)= Limit (dBm)-(Directional Gain-6dBi)

4.4. Power Spectral Density

TEST CONFIGURATION



TEST PROCEDURE

According to KDB 558074 D01 Method PKPSD (peak PSD) This procedure shall be used if maximum peak conducted output power was used to demonstrate compliance, and is optional if the maximum conducted (average) output power was used to demonstrate compliance.

1. Set analyzer center frequency to DTS channel center frequency.
2. Set the span to 1.5 times the DTS bandwidth.
3. Set the RBW to: 3 kHz ≤ RBW ≤ 100 kHz.
4. Set the VBW ≥ 3 RBW.
5. Detector = peak.
6. Sweep time = auto couple.
7. Trace mode = max hold.
8. Allow trace to fully stabilize.
9. Use the peak marker function to determine the maximum amplitude level within the RBW.
10. If measured value exceeds limit, reduce RBW (no less than 3 kHz) and repeat.

LIMIT

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.

TEST RESULTS

For reporting purpose only.

Antenna 0:
Please refer to Appendix C-ANT0-Appendix C.4.
For reporting purpose only.

Antenna 1:
Please refer to Appendix C-ANT1-Appendix C.4.
For reporting purpose only.

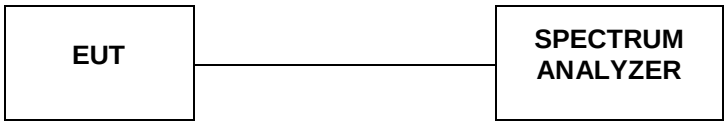
MIMO*2

Type	Channel	Power Spectral Density ANT0 (dBm/3KHz)	Power Spectral Density ANT1 (dBm/3KHz)	Power Spectral Density Total (dBm/3KHz)	Limit (dBm/3KHz)	Result
802.11n(HT20)	01	-13.23	-10.88	-8.89	7.86	Pass
	06	-12.86	-9.07	-7.55		
	11	-12.64	-9.54	-7.81		
802.11ax(HE20)	01	-10.13	-11.69	-7.83	7.86	Pass
	06	-8.82	-11.43	-6.92		
	11	-10.71	-10.43	-7.56		

Remark:
The Directional Gain= Gain of individual transmit antennas (dBi) + Array gain;
Array gain = 10 log (Nant), where Nant is the number of transmit antennas
Directional Gain=6.14 dBi
MIMO Limit (dBm)= Limit (dBm)-(Directional Gain-6dBi)

4.5. 99% and 6dB Bandwidth

TEST CONFIGURATION



TEST PROCEDURE

The transmitter output was connected to the spectrum analyzer through an attenuator. The bandwidth of the fundamental frequency was measured by spectrum analyzer with RBW=100 KHz and VBW=300KHz.
The 6dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 6dB.
According to KDB558074 D01 for one of the following procedures may be used to determine the modulated DTS device signal bandwidth.
1. Set RBW = 100 kHz.
2. Set the video bandwidth (VBW) ≥ 3 RBW.
3. Detector = Peak.
4. Trace mode = max hold.
5. Sweep = auto couple.
6. Allow the trace to stabilize.
7. 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.

LIMIT

For digital modulation systems, the minimum 6 dB bandwidth shall be at least 500 kHz

TEST RESULTS

For reporting purpose only.

6dB Bandwidth
Antenna 0:
Please refer to Appendix C-ANT0-C.1.

Antenna 1:
Please refer to Appendix C-ANT1-C.1.

99% Bandwidth

Antenna 0:
Please refer to Appendix C-ANT0-C.2.

Antenna 1:
Please refer to Appendix C-ANT1-C.2.

4.6. Conducted Spurious Emissions and Band Edge Compliance of RF Emission

TEST REQUIREMENT

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

TEST PROCEDURE

According to KDB 558074 D01 for Antenna-port conducted measurement. Antenna-port conducted measurements may also be used as an alternative to radiated measurements for demonstrating compliance in the restricted frequency bands. If conducted measurements are performed, then proper impedance matching must be ensured and an additional radiated test for cabinet/case spurious emissions is required.

1. Check the calibration of the measuring instrument using either an internal calibrator or a known signal from an external generator.
2. Remove the antenna from the EUT and then connect to a low loss RF cable from the antenna port to a EMI test receiver, then turn on the EUT and make it operate in transmitting mode. Then set it to Low Channel and High Channel within its operating range, and make sure the instrument is operated in its linear range.
3. Set both RBW and VBW of spectrum analyzer to 100 kHz with a convenient frequency span including 100kHz bandwidth from band edge, for Radiated emissions restricted band RBW=1MHz, VBW=3MHz for peak detector and RBW=1MHz, VBW=10Hz for average detector.
4. Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
5. Repeat above procedures until all measured frequencies were complete.
6. Measure the conducted output power (in dBm) using the detector specified by the appropriate regulatory agency (see 12.2.2, 12.2.3, and 12.2.4 for guidance regarding measurement procedures for determining quasi-peak, peak, and average conducted output power, respectively).
7. Add the maximum transmit antenna gain (in dBi) to the measured output power level to determine the EIRP level (see 12.2.5 for guidance on determining the applicable antenna gain)
8. Add the appropriate maximum ground reflection factor to the EIRP level (6 dB for frequencies ≤ 30 MHz, 4.7 dB for frequencies between 30 MHz and 1000 MHz, inclusive and 0 dB for frequencies > 1000 MHz).
9. For devices with multiple antenna-ports, measure the power of each individual chain and sum the EIRP of all chains in linear terms (e.g., Watts, mW).
10. Convert the resultant EIRP level to an equivalent electric field strength using the following relationship:
    $E = EIRP – 20\log D + 104.8$

where:
E = electric field strength in dBμV/m,
EIRP = equivalent isotropic radiated power in dBm
D = specified measurement distance in meters.

11. Since the out-of-band characteristics of the EUT transmit antenna will often be unknown, the use of a conservative antenna gain value is necessary. Thus, when determining the EIRP based on the measured conducted power, the upper bound on antenna gain for a device with a single RF output shall be selected as the maximum in-band gain of the antenna across all operating bands, or 2 dBi, whichever is greater. However, for devices that operate in multiple frequency bands while using the same transmit antenna, the highest gain of the antenna within the operating band nearest in frequency to the restricted band emission being measured may be used in lieu of the overall highest gain when the emission is at a frequency that is within 20 percent of the nearest band edge frequency, but in no case shall a value less than 2 dBi be used.
12. Compare the resultant electric field strength level to the applicable regulatory limit.
13. Perform radiated spurious emission test dures until all measured frequencies were complete.

LIMIT

Below -20dB of the highest emission level in operating band.
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).

TEST RESULTS

4.6.1 For Radiated Bandedge Measurement

Temperature	23.8℃	Humidity	53.7%
Test Engineer	Jenny Zeng	Configurations	IEEE 802.11b/g/n/ax

IEEE 802.11b_Antenna 0

Frequency(MHz):			2412			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier	Correction Factor (dB/m)
2390.00	45.77	PK	74.00	-28.23	1.50	67	51.08	27.49	3.32	36.12	-5.31
2390.00	33.85	AV	54.00	-20.15	1.50	67	39.16	27.49	3.32	36.12	-5.31
Frequency(MHz):			2412			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier	Correction Factor (dB/m)
2390.00	48.95	PK	74.00	-25.05	1.50	292	54.26	27.49	3.32	36.12	-5.31
2390.00	30.34	AV	54.00	-23.66	1.50	292	35.65	27.49	3.32	36.12	-5.31
Frequency(MHz):			2462			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier	Correction Factor (dB/m)
2483.50	45.24	PK	74.00	-28.76	1.50	168	50.96	27.45	3.38	36.55	-5.72
2483.50	35.03	AV	54.00	-18.97	1.50	168	40.75	27.45	3.38	36.55	-5.72
Frequency(MHz):			2462			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier	Correction Factor (dB/m)
2483.50	49.75	PK	74.00	-24.25	1.50	111	55.47	27.45	3.38	36.55	-5.72
2483.50	30.11	AV	54.00	-23.89	1.50	111	35.83	27.45	3.38	36.55	-5.72

IEEE 802.11g_Antenna 0

Frequency(MHz):			2412			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier	Correction Factor (dB/m)
2390.00	45.58	PK	74.00	-28.42	1.50	137	50.89	27.49	3.32	36.12	-5.31
2390.00	35.05	AV	54.00	-18.95	1.50	137	40.36	27.49	3.32	36.12	-5.31
Frequency(MHz):			2412			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier	Correction Factor (dB/m)
2390.00	49.51	PK	74.00	-24.49	1.50	102	54.82	27.49	3.32	36.12	-5.31
2390.00	30.55	AV	54.00	-23.45	1.50	102	35.86	27.49	3.32	36.12	-5.31
Frequency(MHz):			2462			Polarity:			HORIZONTAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier	Correction Factor (dB/m)
2483.50	45.40	PK	74.00	-28.60	1.50	206	51.12	27.45	3.38	36.55	-5.72
2483.50	34.33	AV	54.00	-19.67	1.50	206	40.05	27.45	3.38	36.55	-5.72
Frequency(MHz):			2462			Polarity:			VERTICAL		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier	Correction Factor (dB/m)
2483.50	49.79	PK	74.00	-24.21	1.50	170	55.51	27.45	3.38	36.55	-5.72
2483.50	30.88	AV	54.00	-23.12	1.50	170	36.60	27.45	3.38	36.55	-5.72

IEEE 802.11n HT20_MIMO

Frequency(MHz):			**2412**			**Polarity:**			**HORIZONTAL**		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier	Correction Factor (dB/m)
2390.00	45.35	PK	74.00	-28.65	1.50	113	50.66	27.49	3.32	36.12	-5.31
2390.00	34.28	AV	54.00	-19.72	1.50	113	39.59	27.49	3.32	36.12	-5.31
Frequency(MHz):			**2412**			**Polarity:**			**VERTICAL**		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier	Correction Factor (dB/m)
2390.00	50.34	PK	74.00	-23.66	1.50	202	55.65	27.49	3.32	36.12	-5.31
2390.00	29.98	AV	54.00	-24.02	1.50	202	35.29	27.49	3.32	36.12	-5.31
Frequency(MHz):			**2462**			**Polarity:**			**HORIZONTAL**		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier	Correction Factor (dB/m)
2483.50	45.59	PK	74.00	-28.41	1.50	344	51.31	27.45	3.38	36.55	-5.72
2483.50	35.13	AV	54.00	-18.87	1.50	344	40.85	27.45	3.38	36.55	-5.72
Frequency(MHz):			**2462**			**Polarity:**			**VERTICAL**		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier	Correction Factor (dB/m)
2483.50	49.56	PK	74.00	-24.44	1.50	183	55.28	27.45	3.38	36.55	-5.72
2483.50	30.47	AV	54.00	-23.53	1.50	183	36.19	27.45	3.38	36.55	-5.72

IEEE 802.11ax HE20_MIMO

Frequency(MHz):			**2412**			**Polarity:**			**HORIZONTAL**		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier	Correction Factor (dB/m)
2390.00	46.18	PK	74.00	-27.82	1.50	129	51.49	27.49	3.32	36.12	-5.31
2390.00	35.46	AV	54.00	-18.54	1.50	129	40.77	27.49	3.32	36.12	-5.31
Frequency(MHz):			**2412**			**Polarity:**			**VERTICAL**		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier	Correction Factor (dB/m)
2390.00	50.10	PK	74.00	-23.90	1.50	234	55.41	27.49	3.32	36.12	-5.31
2390.00	30.87	AV	54.00	-23.13	1.50	234	36.18	27.49	3.32	36.12	-5.31
Frequency(MHz):			**2462**			**Polarity:**			**HORIZONTAL**		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier	Correction Factor (dB/m)
2483.50	45.03	PK	74.00	-28.97	1.50	253	50.75	27.45	3.38	36.55	-5.72
2483.50	34.06	AV	54.00	-19.94	1.50	253	39.78	27.45	3.38	36.55	-5.72
Frequency(MHz):			**2462**			**Polarity:**			**VERTICAL**		
Frequency (MHz)	Emission Level (dBuV/m)		Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Antenna Factor (dB/m)	Cable Factor (dB)	Pre-amplifier	Correction Factor (dB/m)
2483.50	49.90	PK	74.00	-24.10	1.50	159	55.62	27.45	3.38	36.55	-5.72
2483.50	30.17	AV	54.00	-23.83	1.50	159	35.89	27.45	3.38	36.55	-5.72

REMARKS:

1. Emission level (dBuV/m) =Raw Value (dBuV)+Correction Factor (dB/m)
2. Correction Factor (dB/m) = Antenna Factor (dB/m)+Cable Factor (dB)-Pre-amplifier Factor
3. Margin value = Limit value- Emission level.
4. -- Mean the PK detector measured value is below average limit.
5. The other emission levels were very low against the limit.

NOTE: All the modes have been tested and recorded worst mode in the report(Version A_Adapter: ADS-65HI-19A-124036E).

4.6.2 For Conducted Bandedge Measurement

For reporting purpose only.

Antenna 0:
Please refer to Appendix C-ANT0-Appendix C.5.

Antenna 1:
Please refer to Appendix C-ANT1-Appendix C.5.

4.6.3 For Conducted Spurious Emissions Measurement

For reporting purpose only.

Antenna 0:
Please refer to Appendix C-ANT0-Appendix C.6.

Antenna 1:
Please refer to Appendix C-ANT1-Appendix C.6.

4.7. Antenna Requirement

Standard Applicable

For intentional device, according to FCC 47 CFR Section 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.

And according to FCC 47 CFR Section 15.247 (c), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

Test Result

The antenna used for this product is Internal Antenna and that no antenna other than that furnished by the responsible party shall be used with the device, the maximum peak gain of the transmit antenna is only 3.13dBi.

Reference to the Test Report: **GTS20230704026-1-38**.

5. TEST SETUP PHOTOS OF THE EUT

Reference to the Test Report: **GTS20230704026-1-38**.

6. EXTERNAL AND INTERNAL PHOTOS OF THE EUT

Reference to the Test Report: **GTS20230704026-1-38**.

.....End of Report.....