FCC TEST REPORT

(PART 95)

Applicant:	Cohda Wireless Pty Ltd.
Address:	27 Greenhill Road Wayville SA 5034 Australia

Manufacturer or Supplier	Cohda Wireless Pty Ltd.
Address	27 Greenhill Road Wayville SA 5034 Australia
Product	On board（Transceiver) unit for Automotive.
Brand Name	Cohda Wireless
Model Name	MK6 OBU
Series Model:	MK6 OBU
FCC ID	2AEGPMK6OBU
Date of tests	Jul. 03, 2023 ~ Sep. 01, 2023

The tests have been carried out according to the requirements of the following standard:

☒ **FCC Part 95, Subpart L** ☒ **ANSI/TIA/EIA-603- D**
☒ **FCC Part 2** ☒ **ANSI/TIA/EIA-603-E** ☒ **ANSI C63.26-2015**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Chao Wu Engineer / Mobile Department	Approved by Peibo Sun Manager / Mobile Department
Chao Wu Date: Sep. 01, 2023	Sun Peibo Date: Sep. 01, 2023

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSU-QSU2307030110RF05	Original release	Sep. 01, 2023

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 95				
No.	**Test Description**	**Standard Clause**	**Remark**	**DSRC Test result**
1	Transmitter frequency stability	§ 95.3189 § 2.1055	Applicable	See Note1
2	RF output power	§ 95.3189	Applicable	See Note1
3	Conducted spurious emissions	§ 95.3189	Applicable	See Note1
4	Occupied Bandwidth	§ 95.3189 § 2.1049	Applicable	See Note1
5	Transmitter spectrum mask	§ 95.3189	Applicable	See Note1
6	Radiated Spurious Emissions	§ 95.3189	Applicable	Compliance

Note: **1.**Please refer to the report (Report No.: CQC-IVTS-2023-00334, Model Name:MK6 OBU, FCC ID:2AEGPMK6OBU).

***Test Lab Information Reference**

Lab :

Huarui 7Layers High Technology (Suzhou) Co., Ltd.

Lab Address:

Tower N, Innovation Center, 88 Zhuyi Road, High-tech District, Suzhou City, Anhui Province

The FCC Site Registration No. is 434559; The Designation No. is CN1325.

1.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.66dB
Radiated emissions	9KHz ~ 30MHz	2.68dB
	30MHz ~ 1GHz	3.26dB
	1GHz ~ 18GHz	4.48dB
	18GHz ~ 40GHz	4.12dB

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

1.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Pre-Amplifier	R&S	SCU18F1	100815	Aug.30,22	Aug.29,24
Pre-Amplifier	R&S	SCU08F1	101028	Sep.16,22	Sep.15,24
Signal Generator	R&S	SMB100A	182185	Feb.16,22	Fed.15,24
3m Fully-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-01Chamber	Nov.24,22	Nov.23,25
3m Semi-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-02Chamber	Nov.24,22	Nov.23,25
EMI TEST Receiver	R&S	ESW44	101973	Feb.25,22	Feb.24,24
Bilog Antenna	SCHWARZBECK	VULB 9163	1264	Feb.28,22	Feb.27,24
Horn Antenna	ETS-LINDGREN	3117	227836	Aug.22,22	Aug.21,24
Biconical Antenna	SCHWARZ	VUBA 9117	69250	Nov.14,22	Nov.13,24
Horn Antenna (18GHz-40GHz)	Steatite Q-par Antennas	QMS 00880	23486	Feb.23,22	Feb.22,24
Horn Antenna	Steatite Q-par Antennas	QMS 00208	23485	Aug.22,22	Aug.21,24
Loop Antenna	SCHWARZ	HFH2-Z2/Z2E	100976	Feb.23,22	Feb.22,24
WIDEBANDRADIO COMMUNICATION TESTER	R&S	CMW500	169399	Jun.27,22	Jun.26,24
Test Software	ELEKTRA	ELEKTRA4.32	N/A	N/A	N/A
Open Switch and Control Unit	R&S	OSP220	101964	N/A	N/A
DC Source	HYELEC	HY3010B	551016	Aug.31,22	Aug.30,24
Hygrothermograph	DELI	20210528	SZ014	Sep.06,22	Sep.05,24
PC	LENOVO	E14	HRSW0024	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-7.00M	N/A	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-4.00M	N/A	N/A	N/A
CABLE	R&S	W13.02	N/A	Apr.28,23	Oct.27,23
CABLE	R&S	W12.14	N/A	Apr.28,23	Oct.27,23
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Arp.28,23	Oct.27,23
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Arp.28,23	Oct.27,23
Temperature Chamber	votsch	VT4002	58566078100050	May.31,22	May.30,24

NOTE:

1. The calibration interval of the above test instruments is 6 months or 24 months or 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in 3m Fully-anechoic Chamber.
3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 434559; The Designation No. is CN1325.

1.3 TEST ENVIRONMENT

Environment Parameter	96~98 kPa Selected Values During Tests	
Relative Humidity	40-60 % RH Ambient	
Value	**Temperature(℃)**	**Voltage(V)**
NTNV	25	12
LTLV	-20	10.2
LTHV	-20	13.8
HTLV	75	10.2
HTHV	75	13.8
Remark:		
NV: Normal Voltage LV: Low Extreme Test Voltage HV: High Extreme Test Voltage NT: Normal Temperature LT: Low Extreme Test Temperature HT: High Extreme Test Temperature		
The EUT was tested by adjustable DC power supply.		

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT*	On board (Transceiver) unit for Automotive	
BRAND NAME*	Cohda Wireless	
MODEL NAME*	MK6 OBU	
Nominal Voltage*	EUT 12Vdc	
Extreme Temperature*	-20℃ and 75℃	
Modulation Type*	**DSRC**	BPSK,QPSK,16QAM,64QAM
Operating Frequency*	**DSRC**	5855 MHz – 5925 MHz
Antenna Gain*	**DSRC**	5.00 dBi
Max Conducted Output power	**DSRC**	19.90 dBm(See note5)
Antenna Type*	**DSRC**	DOM Antenna
FCC ID*	2AEGPMK6OBU	
HW VERSION*	Rev 1.0	
SW VERSION*	19.Release.134186	
I/O PORTS*	Refer to user's manual	
CABLE SUPPLIED*	N/A	

NOTE:

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

2. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

3. The EUT incorporates a SISO function. Physically, the EUT provides two transmitters and two receivers. Both ICs share the 2 X DSRC antenna ports through the use of RF switches and combiners but MK6 does not support MIMO on DSRC.

MODULATION MODE	TX/RX FUNCTION
BPSK (1/2,3/4)	2TX /2RX
QPSK (1/2,3/4)	2TX /2RX
16QAM (1/2,3/4)	2TX /2RX
64QAM (2/3,3/4)	2TX /2RX

4. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

5. Please refer to the report (Report No.: CQC-IVTS-2023-00334, Model Name:MK6 OBU, FCC ID:2AEGPMK6OBU).

List of Accessory:

ACCESSORIES	MANUFACTURER	ANTENNA TYPE	MODEL
2x Antenna for LTE/2G/3G/CDMA	Taoglas	Monopole Antenna	TG.66.0723
1x Antenna for WLAN/BT	Taoglas	Monopole Antenna	GW.05.0E23
1x Antenna for WLAN	Taoglas	Monopole Antenna	GW.05.0E23
2x Antenna for C-V2X	MobileMark	DOM Antenna	MGWG-303
2x Antenna for DSRC	MobileMark	DOM Antenna	MGWG-303
1x Antenna for GNSS	MobileMark	DOM Antenna	MGWG-303

2.2 DESCRIPTION OF TEST MODES

The EUT was tested together with the above additional components, and a configuration, which produced the worst emission levels, was selected and recorded in the report.

DSRC:

Channel	Modulation	Coding rate
180	BPSK	1/2
	BPSK	3/4
	QPSK	1/2
	QPSK	3/4
	16-QAM	1/2
	16-QAM	3/4
	64-QAM	2/3
	64-QAM	3/4
182	BPSK	1/2
	BPSK	3/4
	QPSK	1/2
	QPSK	3/4
	16-QAM	1/2
	16-QAM	3/4
	64-QAM	2/3
	64-QAM	3/4
184	BPSK	1/2
	BPSK	3/4
	QPSK	1/2
	QPSK	3/4
	16-QAM	1/2
	16-QAM	3/4
	64-QAM	2/3
	64-QAM	3/4

TEST CONDITION:

APPLICABLE TO	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
Transmitter unwanted emissions	25deg. C, 60%RH	12Vdc (host equipment)	Chao Wu
Receiver spurious emissions	25deg. C, 60%RH	12Vdc (host equipment)	Chao Wu

2.3 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standard:

FCC 47 CFR Part 2

FCC 47 CFR Part 95, Suppart L

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

All tests have been performed and recorded as per the above standard.

2.4 CONFIGURATION OF SYSTEM UNDER TEST

Please see section 5 photograph of the test configuration for reference.

For the actual test configuration, please refer to the related Item in this test report (Photographs of the Test Configuration).

2.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together without any other necessary accessories or support units.

For test

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	PC	Lenovo	ThinkPad E14	HRSW00024	N/A
2	DC Source	HYELEC	HY3010B	551016	N/A
3	Ethernet	N/A	N/A	N/A	N/A
4	CAN Connector	N/A	N/A	N/A	N/A

NO.	DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable, 1.0m;
2	PC USB Line: Unshielded, Detachable, 1.0m;
3	CAN Box: Unshielded, Detachable, 1.8m;
4	Ethernet: Unshielded, Detachable, 0.8m;
5	Router:Unshielded, Detachable, 2.0m;

3. TEST TYPES AND RESULTS

3.1 TRANSMITTER FREQUENCY STABILITY

3.1.1 LIMITS OF TRANSMITTER FREQUENCY STABILITY

The transmitted center frequency tolerance shall be ±10 ppm maximum for RSUs and ±10 ppm maximum for OBUs. The transmit center frequency and the symbol clock frequency shall be derived from the same reference oscillator.

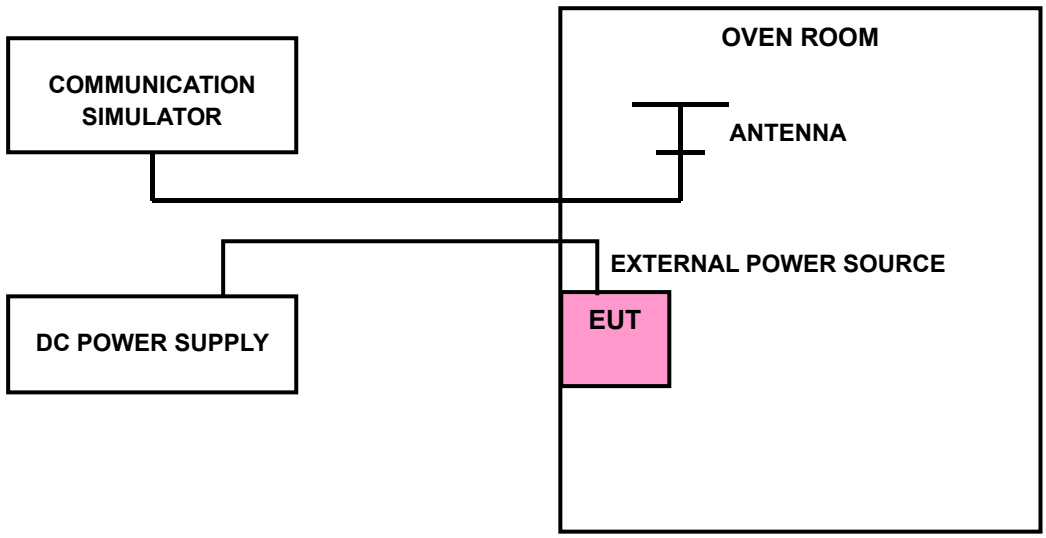
3.1.2 TEST PROCEDURES

a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.

b. EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.

c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±0.5℃ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

3.1.3 TEST SETUP



3.1.4 TEST RESULTS

Please refer to the report (Report No.: CQC-IVTS-2023-00334, Model Name:MK6 OBU, FCC ID:2AEGPMK6OBU).

3.2 RF OUTPUT POWER

3.2.1 LIMITS

Per FCC Part 90.3189& Part 90.3101

3.2.2 TEST PROCEDURES

EIRP / ERP MEASUREMENT:

Per KDB 971168 D01 Power Meas License Digital Systems v03r01 or subclause 5.2.5.5 of ANSI C63.26-2015, the relevant equation for determing the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

ERP or EIRP = $P_{Meas} + G_T – L_C$

Where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively

(expressed in the same units as P_{Meas}, typically dBW or dBm);

P_{Meas} = measured transmitter output power or PSD, in dBm or dBW;

G_T = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

L_C = signal attenuation in the connecting cable between the transmitter and antenna, in dB

CONDUCTED POWER MEASUREMENT:

a. The EUT was set up for the maximum power with LTE link data modulation and link up with simulator.
b. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

3.2.3 TEST SETUP

CONDUCTED POWER MEASUREMENT:

For the actual test configuration, please refer to the attached file (Test Setup Photo).

3.2.4 TEST RESULTS

RF OUTPUT POWER

DSRC:

Please refer to the report (Report No.: CQC-IVTS-2023-00334, Model Name:MK6 OBU, FCC ID:2AEGPMK6OBU).

3.3 CONDUCTED SPURIOUS EMISSIONS

3.3.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

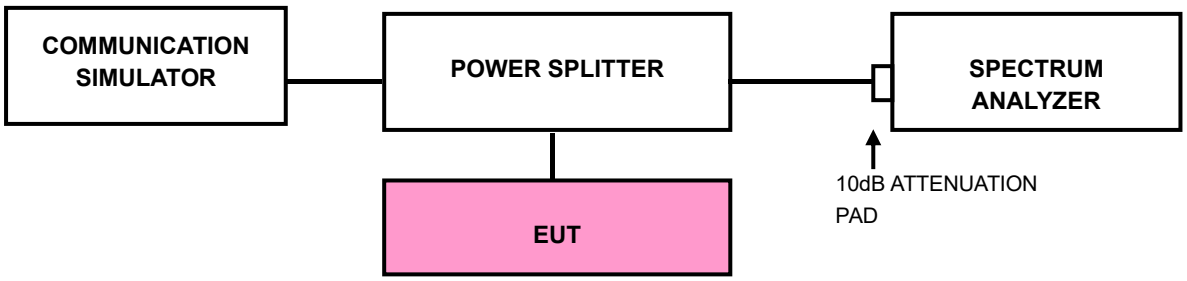
The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log10(P) dB. The limit of emission equal to –13dBm

3.3.2 TEST PROCEDURE

a. The EUT makes a phone call to the communication simulator. All measurements were done at middle operational frequency range.

b. Measuring frequency range is from 9kHz up to a frequency including its 10th harmonic. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

3.3.3 TEST SETUP



3.1.4 TEST RESULTS

NOTE ：The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

Please refer to the report (Report No.: CQC-IVTS-2023-00334, Model Name:MK6 OBU, FCC ID:2AEGPMK6OBU).

3.4 OCCUPIED BANDWIDTH MEASUREMENT

3.4.1 LIMITS OF OF OCCUPIED BANDWIDTH MEASUREMENT

The transmitted spectral mask for class A, B, C, and D devices are shown in Figs. 12-15. In addition, all DSRC site installations shall limit the EIRP in the transmitted spectrum to −25 dBm or less in the 100 kHz at the channel edges and the band edges.

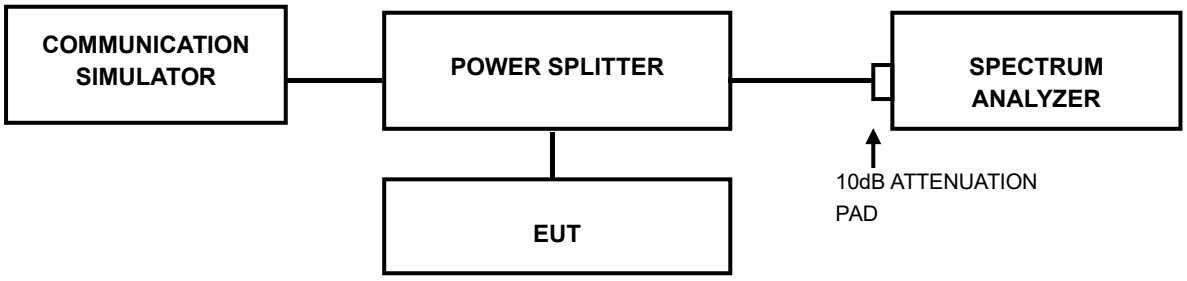
The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

Refer to Part 2.1049 & Part 95.3189

3.4.2 TEST PROCEDURES

Refer to ANSI C63.26-2015 section 5.4.4

3.4.3 TEST SETUP



3.4.4 TEST RESULTS

Please refer to the report (Report No.: CQC-IVTS-2023-00334, Model Name:MK6 OBU, FCC ID:2AEGPMK6OBU).

3.5 Transmitter Spectrum Mask Within The 5 Ghz Its Frequency Band For 10 Mhz Channels

3.5.1 LIMITS

The transmitted spectral mask for class A, B, C, and D devices are shown in Figs. 12-15. In addition, all DSRC site installations shall limit the EIRP in the transmitted spectrum to −25 dBm or less in the 100 kHz at the channel edges and the band edges.

TABLE 10 DSRC Spectrum Mask[A]

NOTE 1—Reduction in Power Spectral Density, dBr.

Class	± 4.5-MHz Offset	± 5.0-MHz Offset	± 5.5-MHz Offset	± 10-MHz Offset	± 15-MHz Offset
Class A	0	-10	-20	-28	-40
Class B	0	-16	-20	-28	-40
Class C	0	-26	-32	-40	-50
Class D	0	-35	-45	-55	-65

[A] From IEEE 802.11a. Copyright 1999 IEEE. All rights reserved.

3.5.2 TEST PROCEDURE

Refer to chapter § 95.3189

3.5.3 TEST SETUP

Step 1:

• Connect the DUT transmitter output to the test setup and activate normal operation at maximum output power.

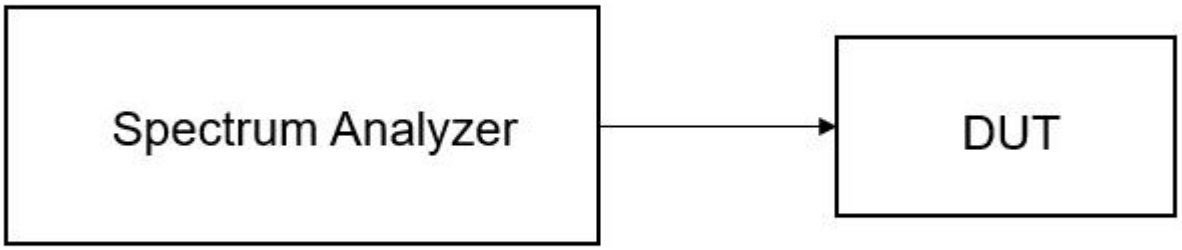
Step 2:

• Measure the average power in the transmission bandwidth (fc ± 4,5 MHz) using a resolution bandwidth of 100 kHz. This shall be recorded as the "Power Spectral Density at the carrier centre frequency fc" according to Table 6.

Step 3:

• Measure the power level in the range of fc ± 15 MHz with a resolution bandwidth of 100 kHz and record these values.

• The video signal of the spectrum analyser can be "gated" such that the spectrum measured is measured 4,0 µs before the beginning of the transmission to 4,0 µs after the end of the transmission.



3.5.4 TEST RESULTS

Please refer to the report (Report No.: CQC-IVTS-2023-00334, Model Name:MK6 OBU, FCC ID:2AEGPMK6OBU).

3.6 Radiated emission measuremnet

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The spurious emissions of the receiver shall not exceed the limits given in § 15.209.

(1)The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log10(P) dB. The limit of emission equal to –13dBm

(2) For operations in the 763–775 MHz and 793–805 MHz bands, all emissions including harmonics in the band 1559– 1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

3.6.2 TEST PROCEDURES

a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.

b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value” of step a. Record the power level of S.G

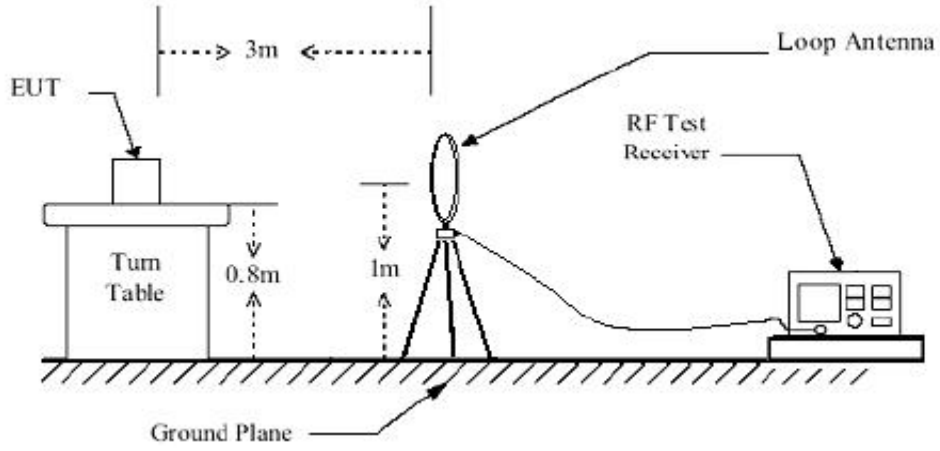
c. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.

d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.P.R power - 2.15dBi.

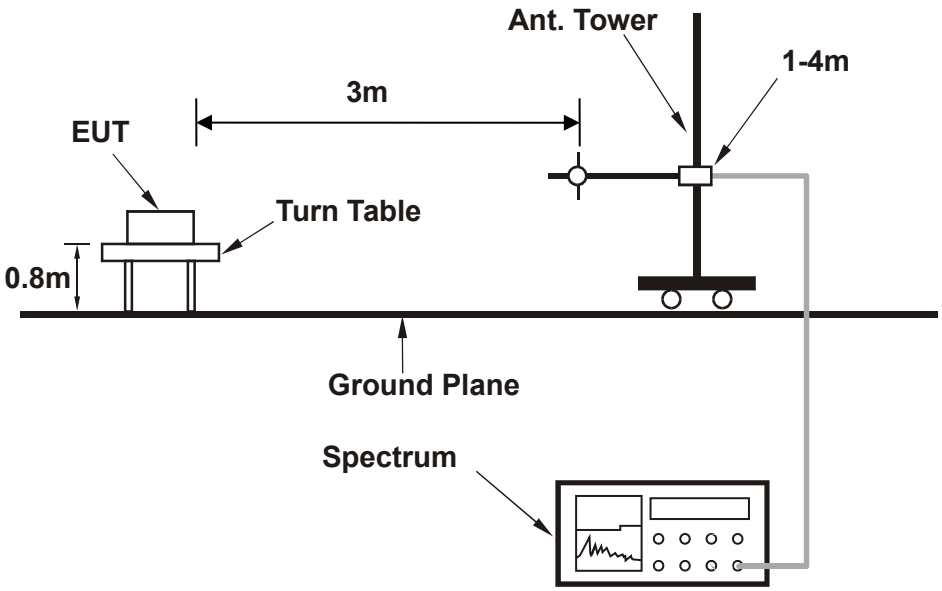
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

3.6.3 TEST SETUP

<Below 30MHz>



< Frequency Range 30MHz~1GHz >



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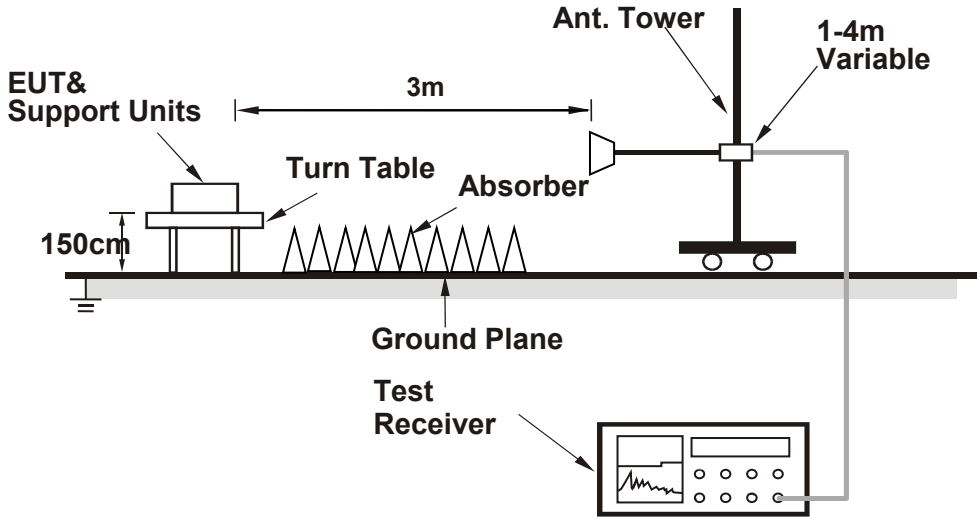


For the actual test configuration, please refer to the attached file (Test Setup Photo).

3.6.4 DEVIATION FROM TEST STANDARD

No deviation

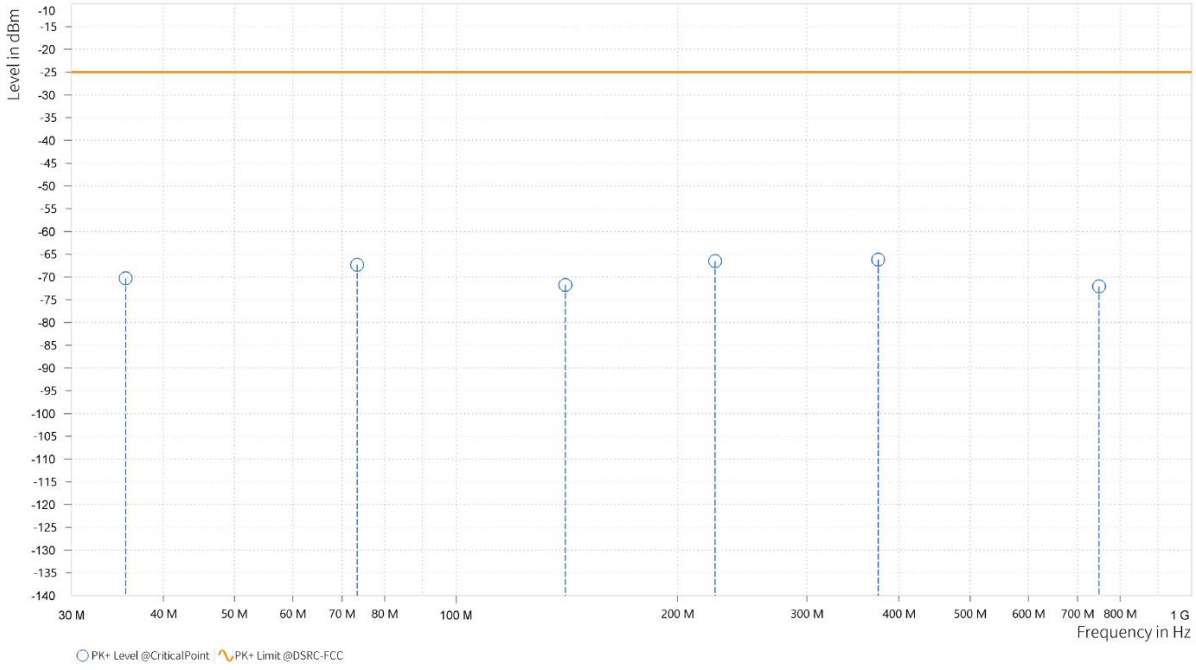
3.6.5 TEST RESULTS

NOTE : The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

TX BELOW 1GHz WORST-CASE DATA as below:

DSRC _3/4 64QAM_(SISO- ANT1)

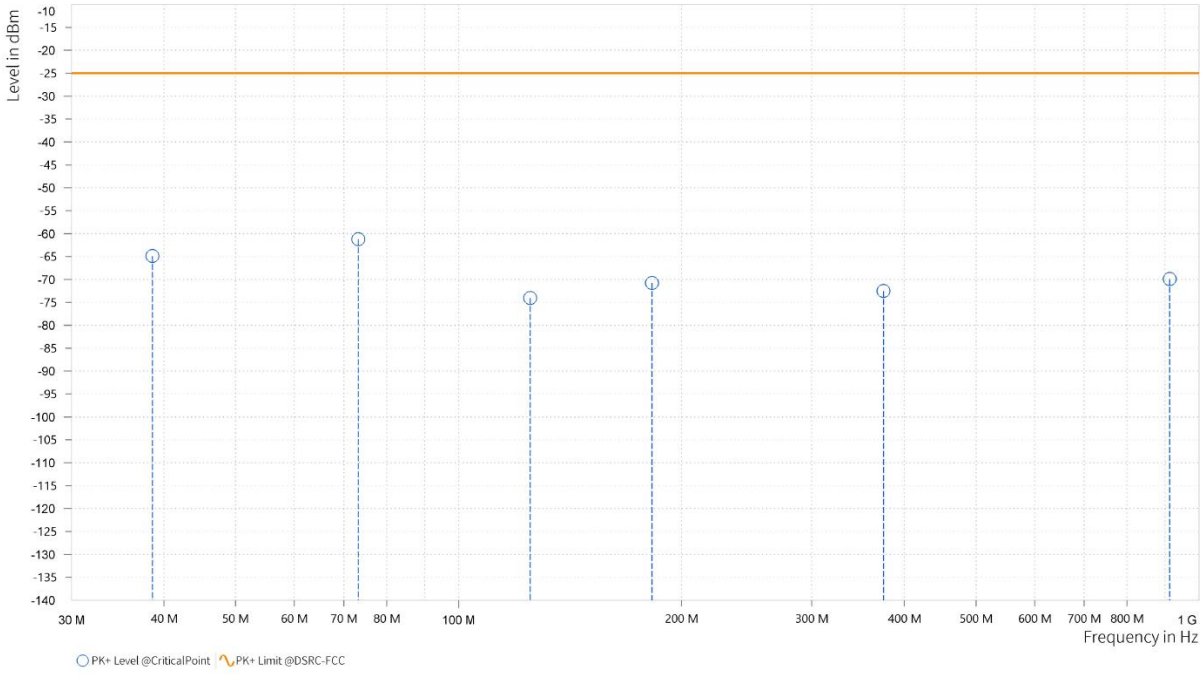
SPURIOUS EMISSION FREQUENCY RANGE	30MHz ~ 1GHz	OPERATING CHANNEL	180
SPURIOUS EMISSION LEVEL			
H			



Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	35.550	-70.29	-25.00	45.29	-2.48	H	359	2
1	73.400	-67.35	-25.00	42.35	-5.84	H	1	1
1	140.900	-71.74	-25.00	46.74	-8.09	H	328.2	2
1	225.000	-66.52	-25.00	41.52	-2.28	H	178.7	1
1	375.000	-66.17	-25.00	41.17	2.54	H	5.1	2
2	748.788	-72.10	-25.00	47.10	8.25	H	1	1

NOTE: RMS Margin=RMS Limit-RMS Level.

SPURIOUS EMISSION FREQUENCY RANGE	30MHz ~ 1GHz	OPERATING CHANNEL	180
SPURIOUS EMISSION LEVEL			
V			



Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	38.600	-64.88	-25.00	39.88	-0.64	V	359	1
1	73.250	-61.24	-25.00	36.24	-5.03	V	1	1
1	124.950	-74.02	-25.00	49.02	-3.17	V	5.2	2
1	182.500	-70.80	-25.00	45.80	-4.38	V	181.2	1
1	375.000	-72.50	-25.00	47.50	1.56	V	181.2	2
2	913.329	-69.90	-25.00	44.90	10.82	V	111.8	2

NOTE: RMS Margin=RMS Limit-RMS Level.

ABOVE 1GHz DATA

Note: For higher frequency, the emission is too low to be detected.

TX THE WORSE CASE TEST DATA

DSRC_1/2 BPSK_(SISO- ANT1)

SPURIOUS EMISSION FREQUENCY RANGE	1GHz ~ 18GHz	OPERATING CHANNEL	180,182,184

SPURIOUS EMISSION LEVEL	
Channel	180

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,800.000	-48.48	-25.00	23.48	23.24	H	359	2
6	17,699.000	-38.67	-25.00	13.67	37.20	H	12.6	2

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,800.500	-44.16	-25.00	19.16	23.67	V	359	2
6	17,700.000	-39.00	-25.00	14.00	36.05	V	5.1	2

SPURIOUS EMISSION LEVEL	
Channel	182

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,819.500	-49.16	-25.00	24.16	23.29	H	12.6	2
6	17,730.500	-38.04	-25.00	13.04	36.96	H	1	1

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,820.000	-48.85	-25.00	23.85	23.73	V	1	1
6	17,730.000	-39.36	-25.00	14.36	35.82	V	359.1	1

SPURIOUS EMISSION LEVEL	
Channel	184

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,839.000	-47.77	-25.00	22.77	23.35	H	359.1	1
6	17,759.000	-39.67	-25.00	14.67	36.74	H	347.2	1

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,839.500	-44.57	-25.00	19.57	23.78	V	359	2
6	17,761.000	-40.82	-25.00	15.82	35.58	V	359	1

NOTE: RMS Margin=RMS Limit-RMS Level.

SPURIOUS EMISSION FREQUENCY RANGE	1GHz ~ 18GHz	OPERATING CHANNEL	180,182,184

SPURIOUS EMISSION LEVEL	
Channel	180

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,800.000	-48.42	-25.00	23.42	23.24	H	358.6	1
6	17,700.000	-38.98	-25.00	13.98	37.20	H	1	2

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,801.500	-44.82	-25.00	19.82	23.67	V	359	2
6	17,700.500	-38.48	-25.00	13.48	36.05	V	12	2

SPURIOUS EMISSION LEVEL	
Channel	182

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,821.000	-47.03	-25.00	22.03	23.30	H	359	2
6	17,730.000	-38.27	-25.00	13.27	36.96	H	353.8	1

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,821.000	-44.24	-25.00	19.24	23.74	V	359	2
6	17,729.500	-38.40	-25.00	13.40	35.82	V	1	1

SPURIOUS EMISSION LEVEL	
Channel	184

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,840.000	-45.03	-25.00	20.03	23.35	H	12.7	2
6	17,762.000	-39.34	-25.00	14.34	36.71	H	359	2

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,838.500	-43.55	-25.00	18.55	23.79	V	359	2
6	17,760.500	-40.90	-25.00	15.90	35.59	V	359.1	1

NOTE: RMS Margin=RMS Limit-RMS Level.

DSRC_1/2 QPSK_(SISO- ANT1)

SPURIOUS EMISSION FREQUENCY RANGE	1GHz ~ 18GHz	OPERATING CHANNEL	180,182,184

SPURIOUS EMISSION LEVEL	
Channel	180

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,800.000	-47.24	-25.00	22.24	23.24	H	357.8	1
6	17,702.000	-37.54	-25.00	12.54	37.18	H	1	1

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,802.000	-44.56	-25.00	19.56	23.68	V	359	2
6	17,699.500	-39.29	-25.00	14.29	36.06	V	11.2	2

SPURIOUS EMISSION LEVEL	
Channel	182

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,821.000	-47.92	-25.00	22.92	23.30	H	0.9	2
6	17,731.000	-36.56	-25.00	11.56	36.95	H	1	1

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,820.500	-44.36	-25.00	19.36	23.73	V	359	2
6	17,730.000	-39.57	-25.00	14.57	35.82	V	11.2	2

SPURIOUS EMISSION LEVEL	
Channel	184

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,840.500	-46.72	-25.00	21.72	23.35	H	359	2
6	17,760.000	-39.09	-25.00	14.09	36.73	H	1	1

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,836.000	-44.32	-25.00	19.32	23.78	V	359	2
6	17,759.500	-40.47	-25.00	15.47	35.59	V	1	2

NOTE: RMS Margin=RMS Limit-RMS Level.

DSRC _3/4 QPSK_(SISO- ANT1)

SPURIOUS EMISSION FREQUENCY RANGE	1GHz ~ 18GHz	OPERATING CHANNEL	180,182,184

SPURIOUS EMISSION LEVEL	
Channel	180

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,800.500	-48.57	-25.00	23.57	23.24	H	11.2	2
6	17,700.500	-38.22	-25.00	13.22	37.19	H	359	2

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,799.500	-46.75	-25.00	21.75	23.67	V	357.7	1
6	17,700.000	-41.18	-25.00	16.18	36.05	V	1	2

SPURIOUS EMISSION LEVEL	
Channel	182

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,819.500	-48.84	-25.00	23.84	23.29	H	359	1
6	17,731.500	-38.57	-25.00	13.57	36.95	H	359	1

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,820.500	-47.06	-25.00	22.06	23.73	V	359	2
6	17,729.000	-39.55	-25.00	14.55	35.83	V	359	2

SPURIOUS EMISSION LEVEL	
Channel	184

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,841.500	-46.63	-25.00	21.63	23.36	H	359.1	1
6	17,762.000	-40.37	-25.00	15.37	36.71	H	359	2

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,839.500	-45.16	-25.00	20.16	23.79	V	359	1
6	17,760.000	-41.01	-25.00	16.01	35.59	V	1	1

NOTE: RMS Margin=RMS Limit-RMS Level.

DSRC _1/2 16QAM_(SISO- ANT1)

SPURIOUS EMISSION FREQUENCY RANGE	1GHz ~ 18GHz	OPERATING CHANNEL	180,182,184

SPURIOUS EMISSION LEVEL	
Channel	180

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,800.500	-48.96	-25.00	23.96	23.24	H	359	1
6	17,701.000	-36.80	-25.00	11.80	37.19	H	1	2

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,800.000	-44.94	-25.00	19.94	23.67	V	359	2
6	17,700.500	-39.04	-25.00	14.04	36.05	V	1	2

SPURIOUS EMISSION LEVEL	
Channel	182

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,819.500	-49.16	-25.00	24.16	23.29	H	12.6	2
6	17,730.500	-38.04	-25.00	13.04	36.96	H	1	1

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,820.000	-48.85	-25.00	23.85	23.73	V	1	1
6	17,730.000	-39.36	-25.00	14.36	35.82	V	359.1	1

SPURIOUS EMISSION LEVEL	
Channel	184

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,839.000	-47.77	-25.00	22.77	23.35	H	359.1	1
6	17,759.000	-39.67	-25.00	14.67	36.74	H	347.2	1

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,839.500	-44.57	-25.00	19.57	23.78	V	359	2
6	17,761.000	-40.82	-25.00	15.82	35.58	V	359	1

NOTE: RMS Margin=RMS Limit-RMS Level.

DSRC _3/4 16QAM_(SISO- ANT1)

SPURIOUS EMISSION FREQUENCY RANGE	1GHz ~ 18GHz	OPERATING CHANNEL	180,182,184

SPURIOUS EMISSION LEVEL	
Channel	180

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,800.000	-49.05	-25.00	24.05	23.24	H	12	2
6	17,700.000	-39.93	-25.00	14.93	37.20	H	359	2

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,801.000	-44.42	-25.00	19.42	23.67	V	359	2
6	17,701.000	-39.87	-25.00	14.87	36.05	V	359	2

SPURIOUS EMISSION LEVEL	
Channel	182

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,820.500	-48.72	-25.00	23.72	23.30	H	1	2
6	17,729.500	-39.42	-25.00	14.42	36.97	H	1	1

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,822.000	-45.11	-25.00	20.11	23.74	V	0.9	2
6	17,730.500	-39.27	-25.00	14.27	35.82	V	359	2

SPURIOUS EMISSION LEVEL	
Channel	184

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,840.500	-48.14	-25.00	23.14	23.35	H	1	1
6	17,760.000	-39.21	-25.00	14.21	36.73	H	359	2

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,840.500	-43.74	-25.00	18.74	23.80	V	1	2
6	17,760.000	-40.57	-25.00	15.57	35.59	V	1	2

NOTE: RMS Margin=RMS Limit-RMS Level.

DSRC _2/3 64QAM_(SISO- ANT1)

SPURIOUS EMISSION FREQUENCY RANGE	1GHz ~ 18GHz	OPERATING CHANNEL	180,182,184

SPURIOUS EMISSION LEVEL	
Channel	180

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,800.000	-48.06	-25.00	23.06	23.24	H	9.9	2
6	17,700.500	-37.14	-25.00	12.14	37.19	H	359.1	1

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,799.000	-44.74	-25.00	19.74	23.67	V	359	2
6	17,700.500	-39.15	-25.00	14.15	36.05	V	1	1

SPURIOUS EMISSION LEVEL	
Channel	182

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,819.500	-48.55	-25.00	23.55	23.29	H	1	1
6	17,731.500	-37.52	-25.00	12.52	36.95	H	1	2

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,822.000	-43.05	-25.00	18.05	23.74	V	359	2
6	17,731.500	-39.29	-25.00	14.29	35.81	V	359	2

SPURIOUS EMISSION LEVEL	
Channel	184

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,840.000	-48.51	-25.00	23.51	23.35	H	12	2
6	17,780.500	-38.48	-25.00	13.48	36.57	H	12	2

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,840.500	-44.51	-25.00	19.51	23.80	V	1	2
6	17,760.000	-39.80	-25.00	14.80	35.59	V	1	2

NOTE: RMS Margin=RMS Limit-RMS Level.

DSRC _3/4 64QAM_(SISO- ANT1)

SPURIOUS EMISSION FREQUENCY RANGE	1GHz ~ 18GHz	OPERATING CHANNEL	180,182,184

SPURIOUS EMISSION LEVEL	
Channel	180

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,800.000	-49.28	-25.00	24.28	23.24	H	0.9	2
6	17,701.000	-37.04	-25.00	12.04	37.19	H	11.3	2

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,802.000	-45.50	-25.00	20.50	23.68	V	359	2
6	17,700.500	-40.64	-25.00	15.64	36.05	V	358.6	1

SPURIOUS EMISSION LEVEL	
Channel	182

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,820.000	-47.52	-25.00	22.52	23.30	H	1	1
6	17,730.500	-39.69	-25.00	14.69	36.96	H	359	2

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,820.500	-47.08	-25.00	22.08	23.73	V	359	1
6	17,730.000	-39.87	-25.00	14.87	35.82	V	359	1

SPURIOUS EMISSION LEVEL	
Channel	184

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,840.000	-47.28	-25.00	22.28	23.35	H	359	2
6	17,759.500	-39.50	-25.00	14.50	36.73	H	359	2

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
6	11,841.500	-45.30	-25.00	20.30	23.80	V	359	2
6	17,760.000	-40.06	-25.00	15.06	35.59	V	12	2

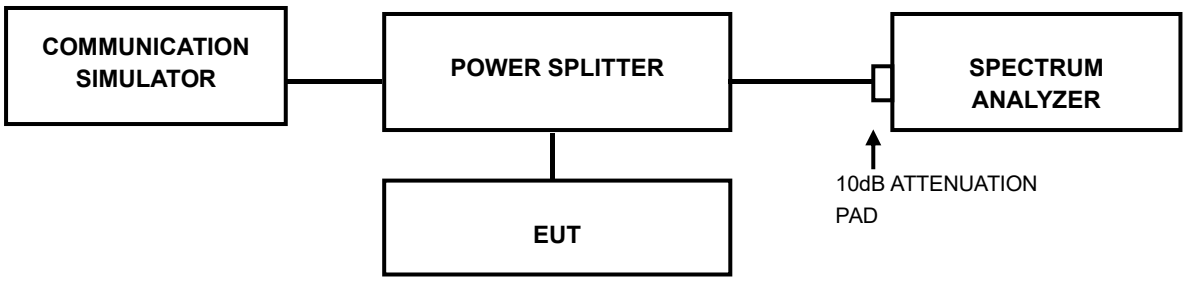
NOTE: RMS Margin=RMS Limit-RMS Level.

3.7 PEAK TO AVERAGE RATIO

3.7.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB

3.7.2 TEST SETUP



3.7.3 TEST PROCEDURES

1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

3.7.4 TEST RESULTS

Please refer to the report (Report No.: CQC-IVTS-2023-00334, Model Name:MK6 OBU, FCC ID:2AEGPMK6OBU).

4. PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

5. MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications were made to the EUT by the lab during the test.

--- END ---