



**FCC PART 15 SUBPART C
ISED RSS-247 ISSUE 2**

TEST REPORT

For

RFID Module

MODEL NUMBER: TRW-USM-10

REPORT NUMBER: UL20221202-000943-WFC

FCC ID: BJIOH0007

IC ID: 1004C-MS0001

ISSUE DATE: 7 March 2023

Prepared for

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Revision History

Rev.	Issue Date	Revisions	Revised By
0	3/7/2023	Initial Issue	-

**Summary of Test Results**

Clause	Test Items	FCC Requirements	Test Results
1	Radiated Spurious Emission	FCC 15.247 (d) FCC 15.209 RSS-247 Clause 5.5 RSS-GEN Clause 8.9	Pass
2	Peak Output Power	FCC 15.247(b) ISED RSS-247 5.4	Pass



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1. ATTESTATION OF TEST RESULTS

Applicant Information

Company Name: Toshiba Tec Singapore Pte Ltd
Address: 2 Ang Mo Kio St 62 Singapore 569138 Singapore

Manufacturer Information

Company Name: PT. Tec Indonesia
Address: Lot 108-110 Batamindo Industrial Park Muka Kuning Batam Riau 29433 Indonesia

EUT Description

EUT Name: RFID Module
Wireless Module: Radio Frequency Identification (RFID) module
Model: TRW-USM-10
Brand Name: TOSHIBA
Sample Status: Mass-production
Sample ID: 2322T520010
Sample Received Date: November 24, 2022
Date of Tested: November 24, 2022 - December 31, 2022

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
CFR 47 FCC PART 15 SUBPART C ISED RSS-GEN ISSUE 5 ISED RSS-247 ISSUE 2	Pass

Prepared By:

Approved By:

Yu Bin
RF Project Engineer

Lim Kian Meng
Program Manager



2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with 558074 D01 DTS Meas Guidance v05, 414788 D01 Radiated Test Site v01, FCC CFR 47 Part 2, FCC CFR 47 Part 15 and ANSI C63.10-2013.

3. FACILITIES AND ACCREDITATION

Accreditation Certificate	SINGLAS REGISTRATION LA-2009-0450-E
	FCC REGISTRATION 600804
	VCCI REGISTRATION R-14163 (RE ≤ 1 GHz) G-10846 (RE ≥ 1 GHz) T-20138 (CE Mains) T-20138 (CE Telecom)
	ISED CAB Identifier SGAP07

Note: All tests measurement facilities use to collect the measurement data are located at UL INTERNATIONAL-SINGAPORE PTE LTD, 20 KIAN TECK LANE, SINGAPORE 627854. Otherwise, indicated.

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The results reported herein have been performed in accordance with the laboratory's terms of accreditation under the Singapore Accreditation Council.





4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognize national standards.

4.2. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

Test Item	Uncertainty
Conduction emission	± 3.83
Radiation Emission test (include Fundamental emission) (30MHz-1GHz)	± 5.22
Radiation Emission test (include Fundamental emission) (1GHz to 26GHz)	± 5.48
Note: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.	



5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

Equipment	RFID Module	
EUT Description	RFID Module	
Model	TRW-USM-10	
Series Model	N. A	
Model Difference	No difference	
Radio Technology	RFID	
Operation Frequency and Channel	902.75MHz – 927.25MHz	
Modulation	PR-ASK	
Data Rate	N. A	
Power Supply	Input & Output	DC 5V ± 10%
	Battery	N. A

5.2. MAXIMUM OUTPUT POWER

Frequency Range (MHz)	Number of Transmit Chains (NTX)	Radio Technology	Frequency (MHz)	No. of Channels	Max PK Conducted Power (dBm)	EIRP (dBm)
902 – 928	1	RFID	902.75 – 927.25	50	8.8	-5.2

5.3. CHANNEL LIST

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
1	902.75	21	912.75	41	922.75
2	903.25	22	913.25	42	923.25
3	903.75	23	913.75	43	923.75
4	904.25	24	914.25	44	924.25
5	904.75	25	914.75	45	924.75
6	905.25	26	915.25	46	925.25
7	905.75	27	915.75	47	925.75
8	906.25	28	916.25	48	926.25
9	906.75	29	916.75	49	926.75
10	907.25	30	917.25	50	927.25
11	907.75	31	917.75	-/-	-/-
12	908.25	32	918.25	-/-	-/-
13	908.75	33	918.75	-/-	-/-



14	909.25	34	919.25	-/-	-/-
15	909.75	35	919.75	-/-	-/-
16	910.25	36	920.25	-/-	-/-
17	910.75	37	920.75	-/-	-/-
18	911.25	38	921.25	-/-	-/-
19	911.75	39	921.75	-/-	-/-
20	912.25	40	922.25	-/-	-/-

5.4. TEST CHANNEL CONFIGURATION

RFID			
Channel	1	25	50
Frequency (MHz)	902.75	914.75	927.25

5.5. THE WORSE CASE POWER SETTING PARAMETER

The Worse Case Power Setting Parameter under 902-928MHz Band		
Test Mode	Test Channel	Output Power Setting
RFID	1, 25, 50	Max Output Power

5.6. DESCRIPTION OF AVAILABLE ANTENNAS

Antenna Specifications	Frequency	902 – 928 MHz
	Model	SF2049E
	Gain	-14 dBi
	Type	PCBA
	Transmit & Receive Mode	TRX, Chain 1 can be used as transmitting/receiving antenna.



5.7. DESCRIPTION OF TEST SETUP

SUPPORT EQUIPMENT

Item	Equipment	Brand Name	Model Name	P/N
1	PC	HP	EliteBook	NIL
2	-/-	-/-	-/-	-/-

I/O CABLES

Cable No	Port	Connector Type	Cable Type	Cable Length(m)	Remarks
1	Ethernet	Shielded	0.3	NIL	1

ACCESSORY

Item	Accessory	Brand Name	Model Name	Description
1	-/-	-/-	-/-	-/-

TEST MODE

RF continuously transmitting mode

**6. MEASURING INSTRUMENT AND SOFTWARE USED**

Test Equipment					
Used	Equipment	Manufacturer	Model No.	Serial No.	Due. Date
☒	ESW - EMI Test Receiver 2Hz - 44GHz	R & S	ESW44	101838	13-Apr-23
☒	Teseq Bilog Antenna 30MHz – 1GHz	Teseq	CBL6111D	53627	11-Jun-23
☒	Pre-Amplifier 20MHz – 3GHz	EMC Instruments Corporation	EMC330N	980553	4-Jul-23
☒	Horn Antenna 1-6GHz	Schwarzbeck	BBHA 9120 D	1019	27-Aug-23
☒	Pre-Amplifier 1-6GHz	COM-POWER	PAM-6000	10030027	26-Jan-23
☒	Horn antenna 3 – 18GHz	Schwarzbeck	BBHA 9120 C	9120C-519	14-Mar-23
☒	Pre-Amplifier 6.0 – 18.0 GHz	Schwarzbeck	HAP06-18W	B1510452202	14-Mar-23
☒	EPM-P Series Dual- Channel Power Meter 9 kHz to 110 GHz, sensor dependent	Keysight Technologies	E4417A	MY56040009	1-Sep-23
☒	Power Sensor 50MHz to 6GHz, 1.5MHz bandwidth	Keysight Technologies	E9322A	MY62360002	25-Sep-23
Software					
Used	Description	Manufacturer	Name		Version
☒	RSE Test Software	Toyo	Toyo EMI Software		V 6.0.120



7. MEASUREMENT METHODS

No.	Test Item	KDB Name
1	6dB Bandwidth and 99% Bandwidth	KDB 558074 D01 DTS Meas Guidance v05 and ANSI C63.10-2013 11.8.1
2	Peak Output Power	KDB 558074 D01 DTS Meas Guidance v05 and ANSI C63.10-2013 11.9.2.2
3	Power Spectral Density	KDB 558074 D01 DTS Meas Guidance v05 and ANSI C63.10-2013
4	Out-of-band emissions in non-restricted bands	KDB 558074 D01 DTS Meas Guidance v05 and ANSI C63.10-2013 11.11
5	Out-of-band emissions in restricted bands	KDB 558074 D01 DTS Meas Guidance v05 and ANSI C63.10-2013 11.12
6	Band-edge	KDB 558074 D01 DTS Meas Guidance v05 and ANSI C63.10-2013
7	Conducted Emission Test for AC Power Port	ANSI C63.10-2013



8. TEST PROCEDURES AND RESULTS

8.1. NORMAL AND EXTREME CONDITIONS

LIMITS

None; for reporting purposes only.

RESULTS

	Normal Test Conditions (T _{nom})	Extreme Test Conditions (T _{ext})
Relative Humidity	66.1 %	-/-
Temperature	20.1 °C	-/-



8.2. PEAK CONDUCTED OUTPUT POWER

LIMITS

CFR 47 FCC Part15 (15.247) Subpart C ISED RSS-247 ISSUE 2			
Section	Test Item	Limit	Frequency Range (MHz)
CFR 47 FCC 15.247(b)(3) ISED RSS-247 5.4 (e)	Peak Output Power	1 watt or 30dBm (See Note 1/2)	902 – 928
1. If transmitting antennas of directional gain greater than 6 dBi are used, both the maximum conducted output power and the maximum power spectral density shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi. 2. Limit=30dBm – (Directional gain -6) dBi Directional gain = $10\log [(10^{G1/20} + 10^{G2/20})^2 / N_{ANT}] = 8.01 > 6\text{dBi}$, where the N_{ANT} is the numbers of antenna. So, the power limit shall be reduced to $30 - (8.01-6) = 27.99 \text{ dBm}$			

TEST PROCEDURE

Place the EUT on the table and set it in the transmitting mode.

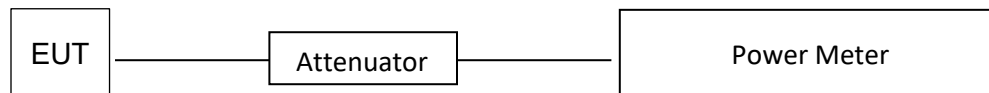
Remove the antenna from the EUT and then connect a low loss RF cable from the antenna port to the Power sensor.

Measure peak power each channel.

Peak Detector used for Peak result.

AVG Detector used for AVG result.

TEST SETUP



Test Channel	Maximum Peak Conducted Output Power(dBm)	EIRP (dBm)	Limit (dBm)	Result
1	6.8	-7.3	30	Pass
25	8.8	-5.2	30	Pass
50	8.8	-5.2	30	Pass



8.3. RADIATED SPURIOUS EMISSION

LIMITS

Please refer to CFR 47 FCC §15.205 and §15.209

Please refer to ISSED RSS-GEN Clause 8.9 (Transmitter)

Radiation Disturbance Test Limit for FCC (Class B) (9KHz-1GHz)

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
960~1000	500	3

Note: 1) At frequencies at or above 30 MHz, measurements may be performed at a distance other than what is specified provided: measurements are not made in the near field except where it can be shown that near field measurements are appropriate due to the characteristics of the device; and it can be demonstrated that the signal levels needed to be measured at the distance employed can be detected by the measurement equipment. Measurements shall not be performed at a distance greater than 30 meters unless it can be further demonstrated that measurements at a distance of 30 meters or less are impractical. When performing measurements at a distance other than that specified, the results shall be extrapolated to the specified distance using an extrapolation factor of 20 dB/decade (inverse linear-distance for field strength measurements; inverse-linear-distance-squared for power density measurements).

(2) At frequencies below 30 MHz, measurements may be performed at a distance closer than that specified in the regulations; however, an attempt should be made to avoid making measurements in the near field. Pending the development of an appropriate measurement procedure for measurements performed below 30 MHz, when performing measurements at a closer distance than specified, the results shall be extrapolated to the specified distance by either making measurements at a minimum of two distances on at least one radial to determine the proper extrapolation factor or by using the square of an inverse linear distance extrapolation factor (40 dB/decade). This paragraph (f) shall not apply to Access BPL devices operating below 30 MHz.

Radiation Disturbance Test Limit for FCC (Above 1G)

Frequency (MHz)	dB(uV/m) (at 3 meters)	
	Peak	Average
Above 1000	74	54

FCC Restricted bands of operation:

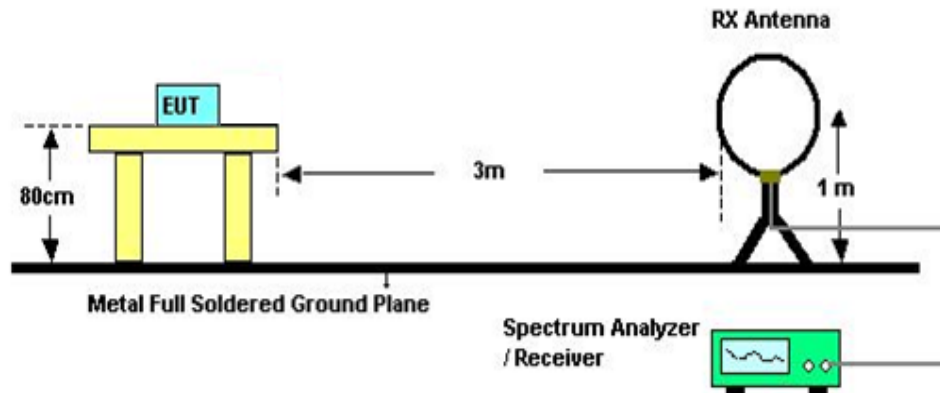
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	(²)
13.36-13.41			

Note: ¹Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

²Above 38.6c

TEST SETUP AND PROCEDURE

Below 30MHz



The setting of the spectrum analyser

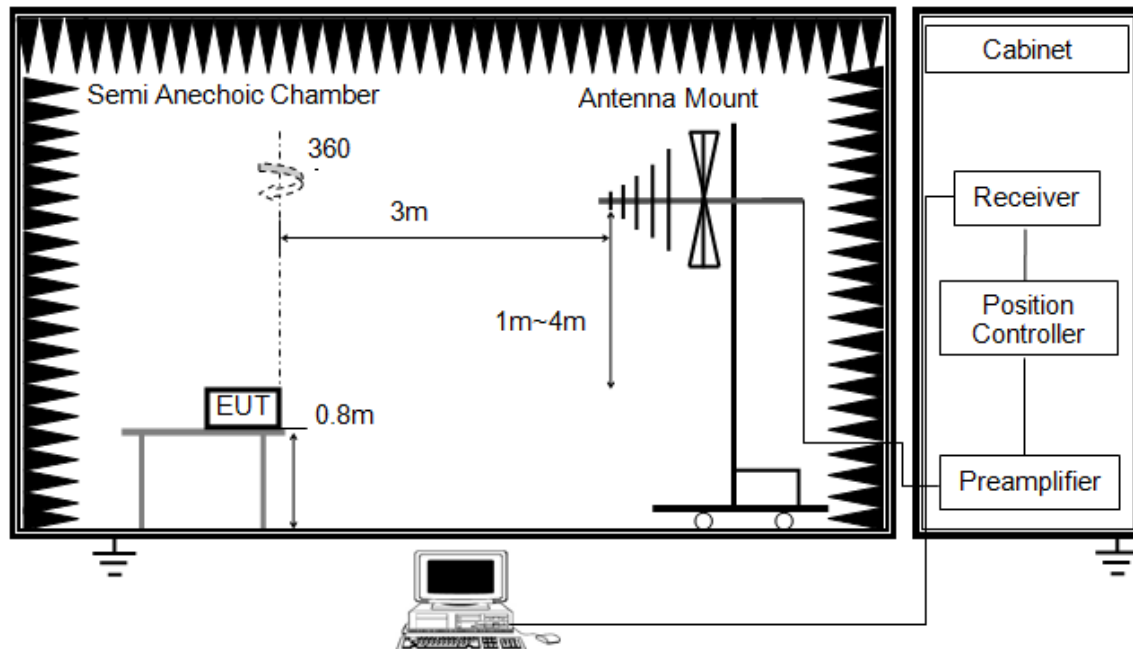
RBW	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)
VBW	200Hz (From 9kHz to 0.15MHz)/ 9KHz (From 0.15MHz to 30MHz)
Sweep	Auto
Detector	Peak/QP/ Average
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013

2. The EUT was arranged to its worst case and then turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both Horizontal, Face-on and Face-off polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 0.8 meter above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a 1m height antenna tower.
5. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.
6. For the actual test configuration, please refer to the related item in this test report (Photographs of the Test Configuration)
7. Although these tests were performed other than open area test site, adequate comparison measurements were confirmed against 30m open area test site. Therefore, sufficient tests were made to demonstrate that the alternative site produces results that correlate with the ones of tests made in an open field based on KDB 414788.

Below 1G

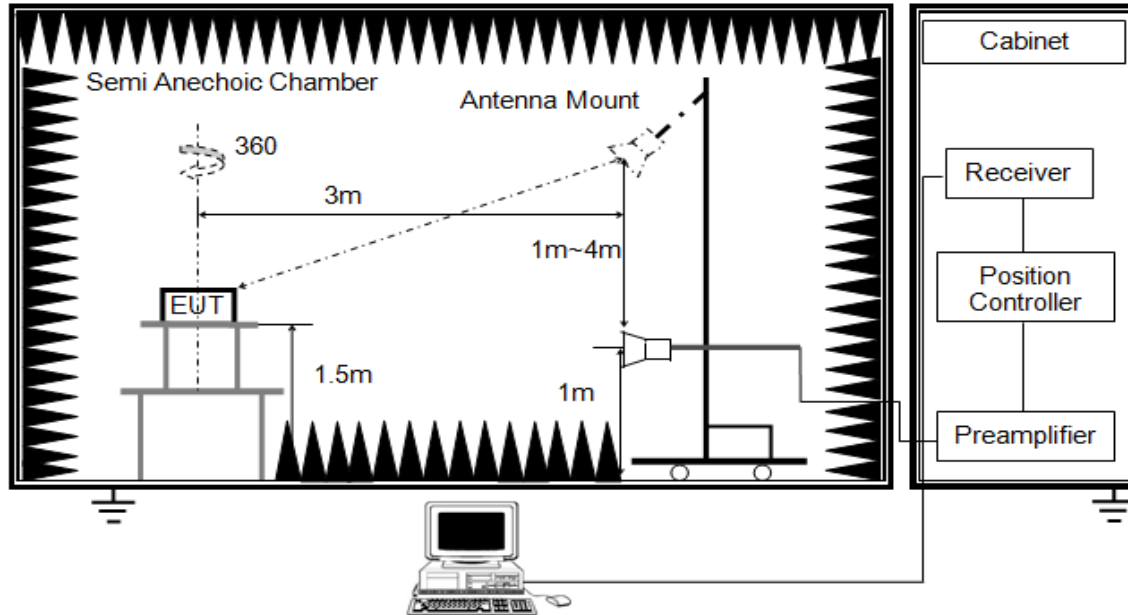


The setting of the spectrum analyser

RBW	120K
VBW	300K
Sweep	Auto
Detector	Peak/QP
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter

ABOVE 1G



are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

3. The EUT was placed on a turntable with 0.8 meter above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement below 1GHz, the initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured. If the emission level of the EUT measured by the peak detector is 3 dB lower than the applicable limit, the peak emission level will be reported. Otherwise, the emission measurement will be repeated using the quasi-peak detector and reported.

The setting of the spectrum analyser

RBW	1M
VBW	PEAK: 3M AVG: see note 6
Sweep	Auto
Detector	Peak
Trace	Max hold

1. The testing follows the guidelines in ANSI C63.10-2013.

2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

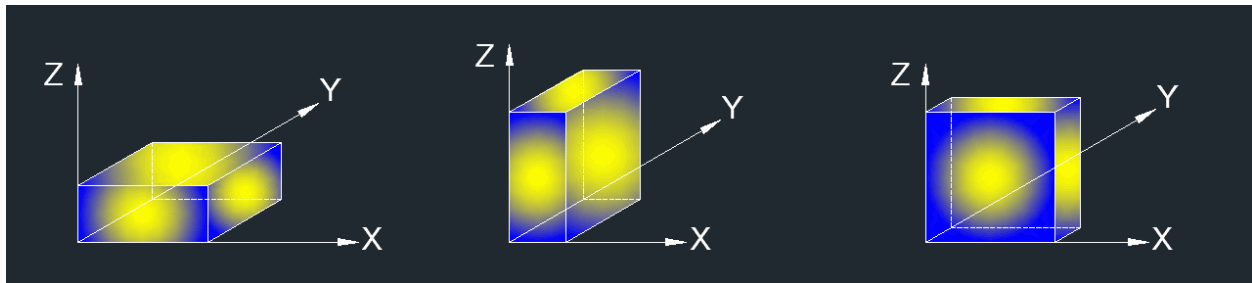
3. The EUT was placed on a turntable with 1.5m above ground.

4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.

5. For measurement above 1GHz, the emission measurement will be measured by the peak detector. This peak level, once corrected, must comply with the limit specified in Section 15.209.

6. For measurements above 1 GHz the resolution bandwidth is set to 1 MHz, then the video bandwidth is set to 3 MHz for peak measurements and 1 MHz resolution bandwidth with 1/T video bandwidth with peak detector for average measurements. For the Duty Cycle please refer to clause 8.1. ON TIME AND DUTY CYCLE.

X axis, Y axis, Z axis positions :



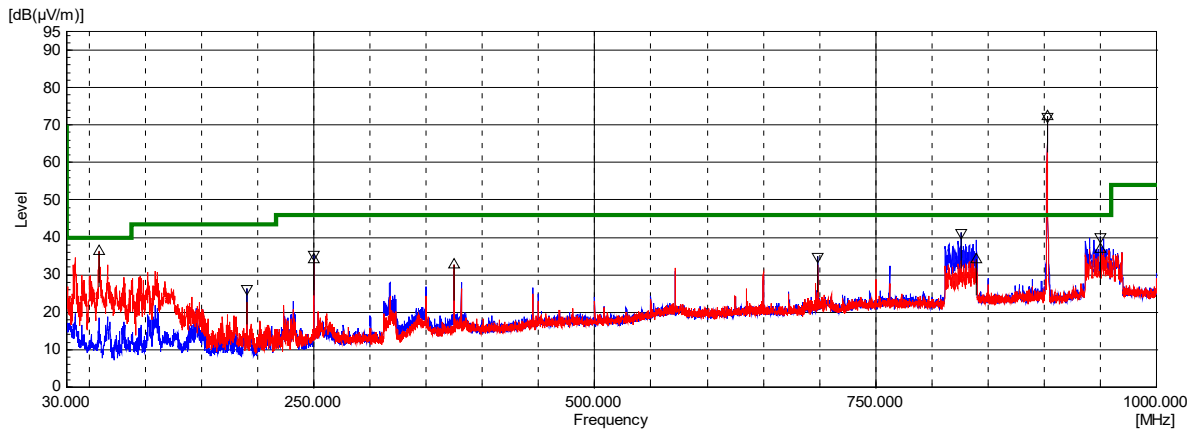
Note 1: For all radiated test, EUT in each of three orthogonal axis emissions had been tested, but only the worst case (X axis) data recorded in the report.

Note 2: The EUT was fully exercised with external accessories during the test. In the case of multiple accessory external ports, an external accessory shall be connected to one of each type of port.

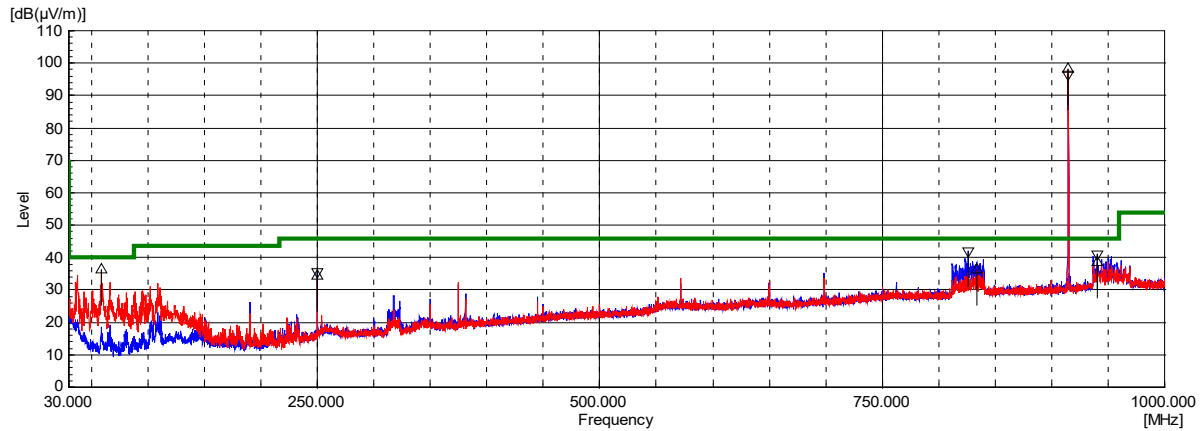
**RESULT****30MHz – 1GHz (Low/Mid/High)**

Horizontal

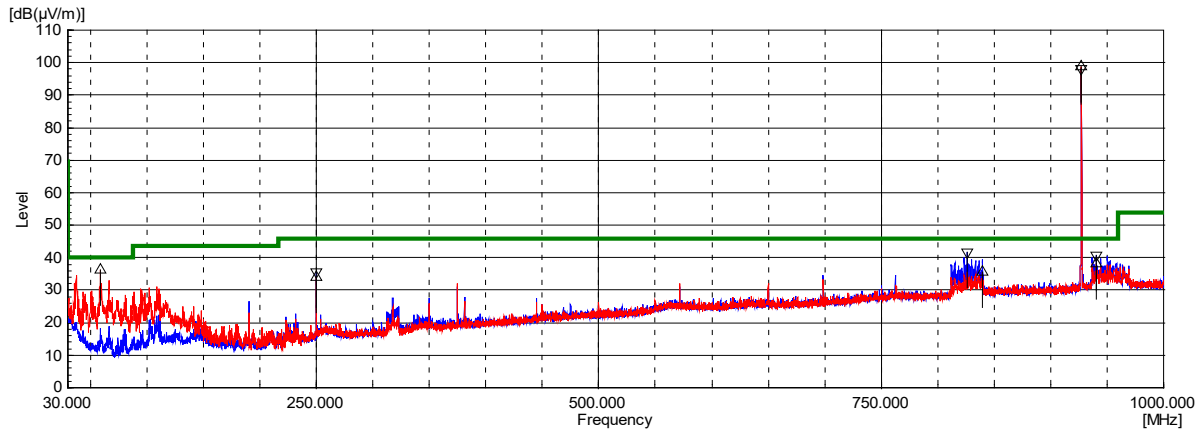
Vertical



Frequency [MHz]	(P)	Reading [dB(μV)]	Factor [dB(1/m)]	Level PK [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]	Remark
58.656	V	61	-24.8	36.2	40	3.8	200	24	
249.943	V	50.7	-16.7	34	46	12	100	19	
374.977	V	46.5	-13.7	32.8	46	13.2	200	129	
839.844	V	37.3	-3.2	34.1	46	11.9	100	49	
902.79	V	75	-2.7	72.3	-	-	100	109	intentional frequency from EUT
950.183	V	37.8	-0.9	36.9	46	9.1	100	335	
249.943	H	52.1	-16.7	35.4	46	10.6	100	47	
825.884	H	45.1	-3.8	41.3	46	4.7	100	304	
902.79	H	75	-2.7	72.3	-	-	300	115	intentional frequency from EUT
950.183	H	41	-0.9	40.1	46	5.9	200	94	
698.89	H	41.4	-6.4	35	46	11	100	304	
190.548	H	47.5	-21.2	26.3	43.5	17.2	200	94	



Frequency [MHz]	(P)	Reading [dB(μV)]	Factor [dB(1/m)]	Level PK [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]	
249.943	H	52.4	-16.7	35.7	46	10.3	100	47	
825.884	H	45.7	-3.8	41.9	46	4.1	100	289	
914.792	H	99	-2.4	96.6	-	-	200	19	intentional frequency from EUT
940.509	H	42.4	-1.2	41.2	46	4.8	200	94	
58.656	V	61.1	-24.8	36.3	40	3.7	100	19	
249.943	V	51	-16.7	34.3	46	11.7	200	0	
914.792	V	100.4	-2.4	98	-	-	100	359	intentional frequency from EUT
940.509	V	39.7	-1.2	38.5	46	7.5	200	280	
833.476	V	39.5	-3.4	36.1	46	9.9	100	185	



Frequency [MHz]	(P)	Reading [dB(μV)]	Factor [dB(1/m)]	Level PK [dB(μV/m)]	Limit QP [dB(μV/m)]	Margin QP [dB]	Height [cm]	Angle [°]	
58.656	V	61.2	-24.8	36.4	40	3.6	100	359	
249.943	V	50.6	-16.7	33.9	46	12.1	100	19	
927.283	V	100.5	-1.8	98.7	-	-	100	359	intentional frequency from EUT
940.631	V	39.2	-1.2	38	46	8	200	280	
839.844	V	38.9	-3.2	35.7	46	10.3	100	320	
249.943	H	52.3	-16.7	35.6	46	10.4	100	62	
825.884	H	45.4	-3.8	41.6	46	4.4	100	289	
927.283	H	100	-1.8	98.2	-	-	100	183	intentional frequency from EUT
940.509	H	42	-1.2	40.8	46	5.2	200	94	

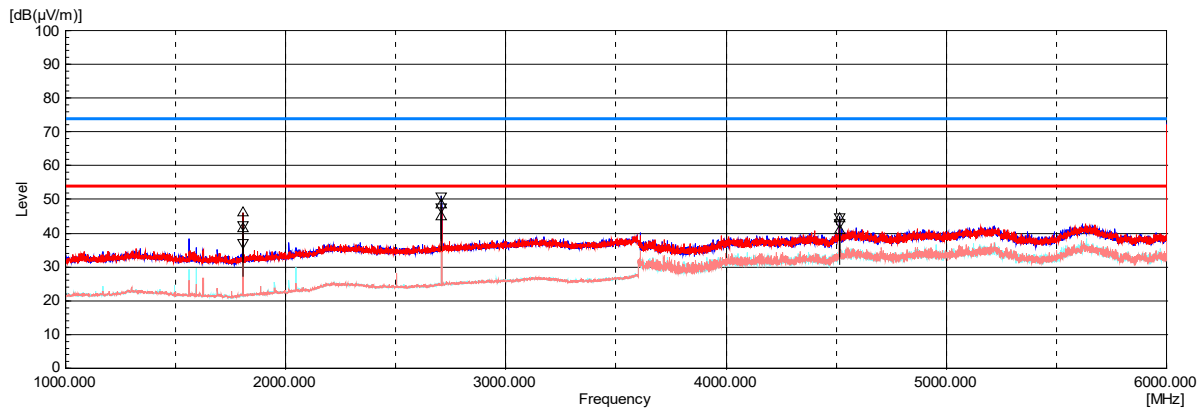
Note:

1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Only the worst-case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
3. For all the test results have been considered the correct factors.

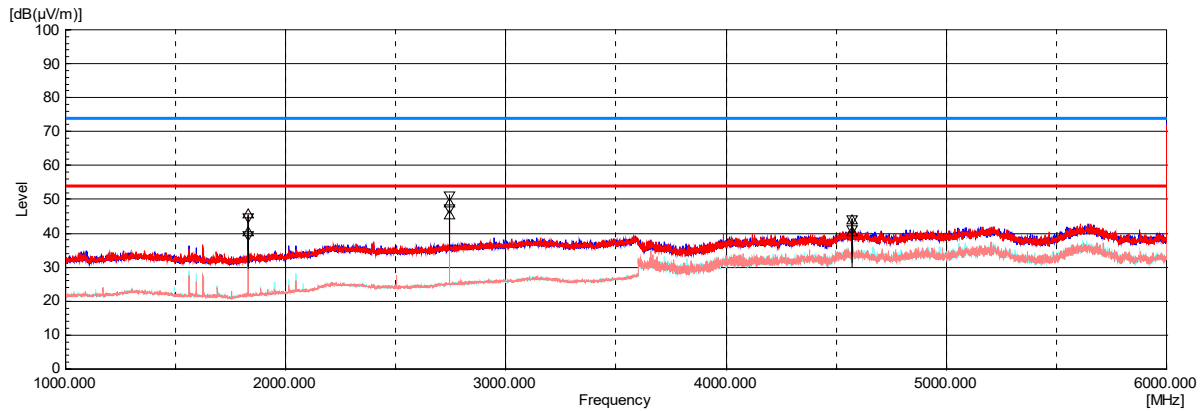
1GHz – 6GHz (Low/Mid/High)

Horizontal

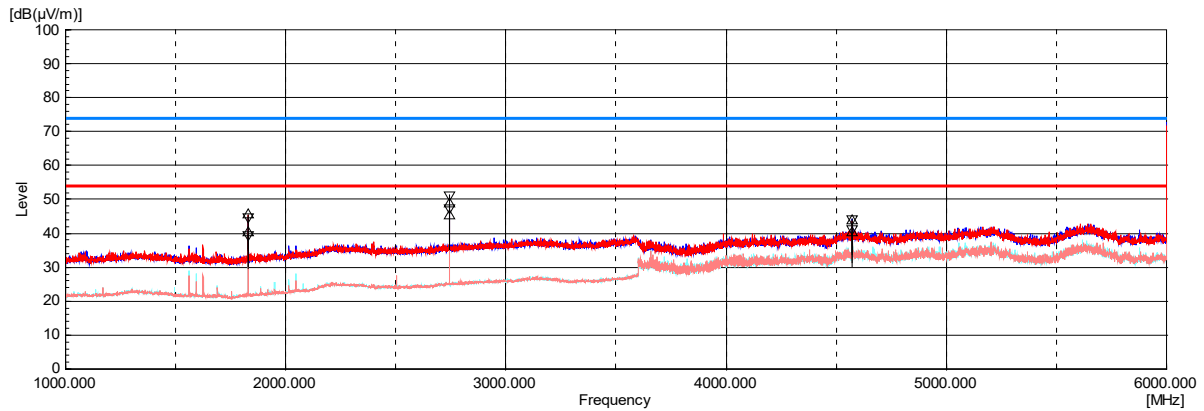
Vertical



Frequency [MHz]	(P)	Reading [dB(μV)]	Factor [dB(1/m)]	Level PK [dB(μV/m)]	Level AV [dB(μV/m)]	Limit PK [dB(μV/m)]	Limit AV [dB(μV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [°]
1805.475	V	60.9	-14.9	46	-----	74	-----	28	-----	200	89
1805.475	V	56.2	-14.9	-----	41.3	-----	54	-----	12.7	200	110
2708.163	V	58.4	-9.9	48.5	-----	74	-----	25.5	-----	100	237
2708.163	V	54.8	-9.9	-----	44.9	-----	54	-----	9.1	200	131
4513.538	V	47.2	-3	44.2	-----	74	-----	29.8	-----	300	228
4513.538	V	43.8	-3	-----	40.8	-----	54	-----	13.2	200	27
1805.475	H	57.4	-14.9	42.5	-----	74	-----	31.5	-----	100	318
1805.475	H	52.2	-14.9	-----	37.3	-----	54	-----	16.7	200	166
2708.163	H	60.8	-9.9	50.9	-----	74	-----	23.1	-----	400	154
2708.163	H	57.7	-9.9	-----	47.8	-----	54	-----	6.2	400	50
4513.538	H	47.9	-3	44.9	-----	74	-----	29.1	-----	200	353
4513.538	H	46	-3	-----	43	-----	54	-----	11	200	353



Frequency [MHz]	(P)	Reading [dB(μV)]	Factor [dB(1/m)]	Level PK [dB(μV/m)]	Level AV [dB(μV/m)]	Limit PK [dB(μV/m)]	Limit AV [dB(μV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [°]
1829.463	V	60.5	-14.9	45.6	-----	74	-----	28.4	-----	200	339
1829.463	V	54.9	-14.9	-----	40	-----	54	-----	14	100	359
2744.144	V	58.3	-9.7	48.6	-----	74	-----	25.4	-----	200	214
2744.144	V	54.8	-9.7	-----	45.1	-----	54	-----	8.9	200	235
4573.506	V	46.8	-3	43.8	-----	74	-----	30.2	-----	300	62
4574.138	V	43.1	-3	-----	40.1	-----	54	-----	13.9	300	41
1829.463	H	59.8	-14.9	44.9	-----	74	-----	29.1	-----	200	187
1829.463	H	54.6	-14.9	-----	39.7	-----	54	-----	14.3	200	166
2744.144	H	60.9	-9.7	51.2	-----	74	-----	22.8	-----	400	71
2744.144	H	57.3	-9.7	-----	47.6	-----	54	-----	6.4	400	50
4573.506	H	47.2	-3	44.2	-----	74	-----	29.8	-----	200	311
4574.138	H	44.5	-3	-----	41.5	-----	54	-----	12.5	400	195



Frequency [MHz]	(P)	Reading [dB(μV)]	Factor [dB(1/m)]	Level PK [dB(μV/m)]	Level AV [dB(μV/m)]	Limit PK [dB(μV/m)]	Limit AV [dB(μV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [°]
1854.081	V	58.6	-14.8	43.8	-----	74	-----	30.2	-----	300	145
1854.081	V	53.2	-14.8	-----	38.4	-----	54	-----	15.6	300	125
2781.387	V	53.4	-9.5	-----	43.9	-----	54	-----	10.1	200	214
2782.019	V	58.8	-9.5	49.3	-----	74	-----	24.7	-----	200	152
1854.081	H	59	-14.8	44.2	-----	74	-----	29.8	-----	100	48
1854.081	H	53.6	-14.8	-----	38.8	-----	54	-----	15.2	100	68
2781.387	H	52.5	-9.5	-----	43	-----	54	-----	11	300	276
2782.019	H	57.7	-9.5	48.2	-----	74	-----	25.8	-----	300	48

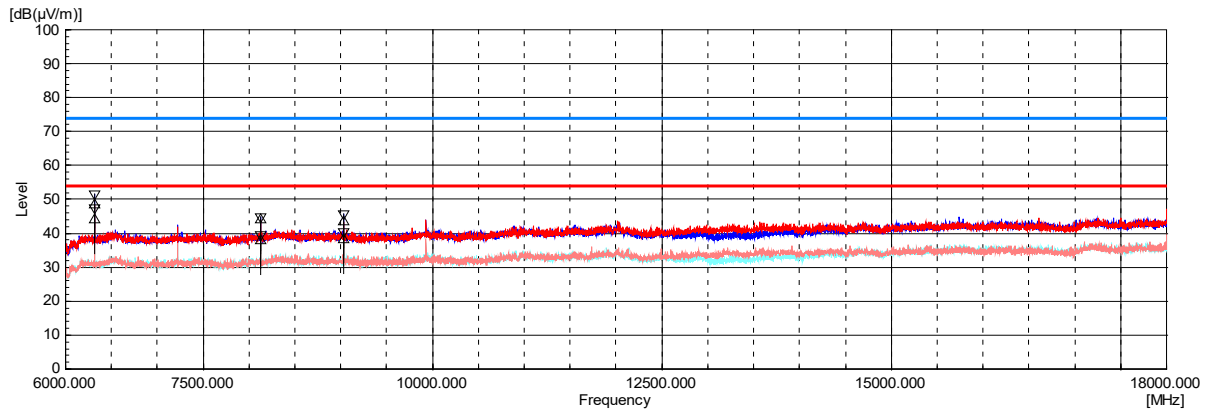
Note:

1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Only the worst-case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
3. For all the test results have been considered the correct factors.
4. 2.4GHz band-stop filter is applied in the duration of the scan.

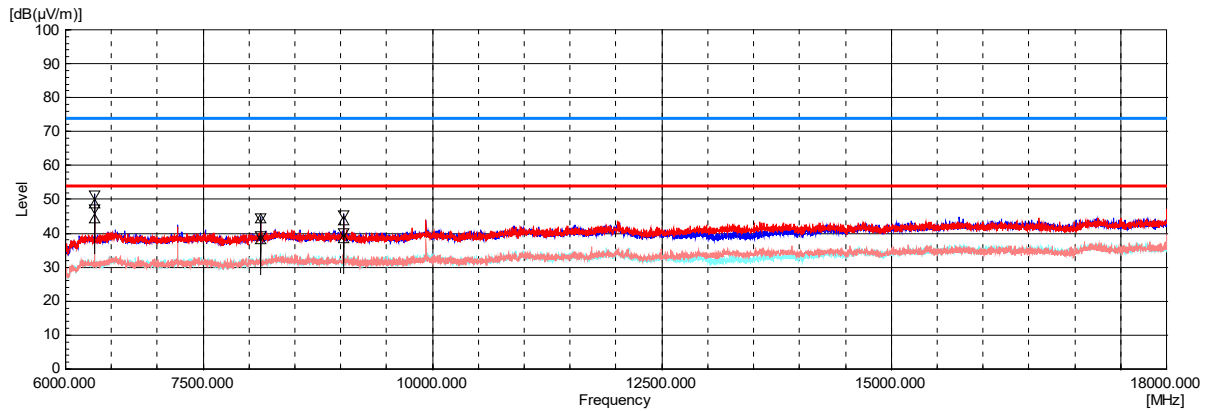
**6GHz – 18GHz (Low/Mid/High)**

Horizontal

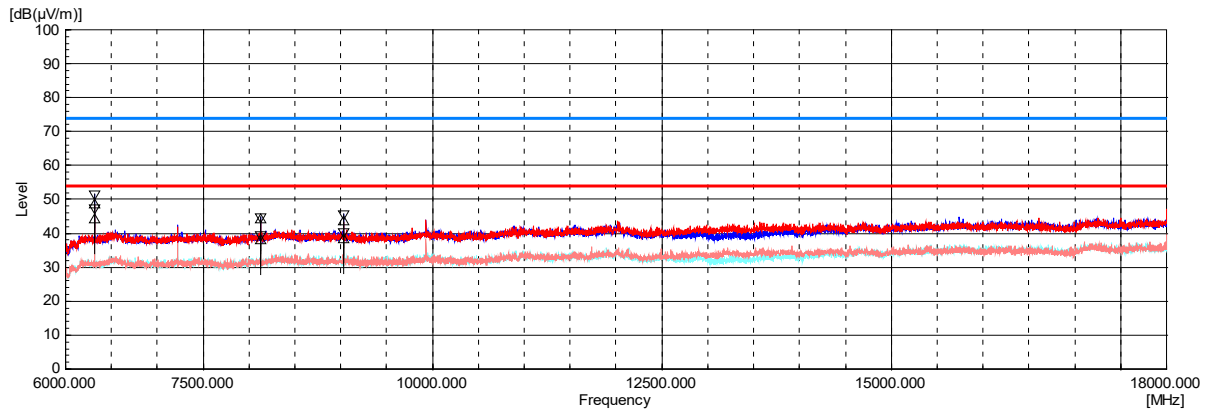
Vertical



Frequency [MHz]	(P)	Reading [dB(μV)]	Factor [dB(1/m)]	Level PK [dB(μV/m)]	Level AV [dB(μV/m)]	Limit PK [dB(μV/m)]	Limit AV [dB(μV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [°]
6318.15	V	56.3	-7.9	48.4	-----	74	-----	25.6	-----	300	89
6318.15	V	51.9	-7.9	-----	44	-----	54	-----	10	300	109
8124.03	V	52.1	-8.2	43.9	-----	74	-----	30.1	-----	200	145
8124.03	V	46	-8.2	-----	37.8	-----	54	-----	16.2	300	89
9026.97	V	45.6	-7.5	-----	38.1	-----	54	-----	15.9	300	131
9026.97	V	50.9	-7.5	43.4	-----	74	-----	30.6	-----	300	131
6318.15	H	59.5	-7.9	51.6	-----	74	-----	22.4	-----	300	187
6318.15	H	55.4	-7.9	-----	47.5	-----	54	-----	6.5	300	166
8124.03	H	53.2	-8.2	45	-----	74	-----	29	-----	300	353
8124.03	H	47.9	-8.2	-----	39.7	-----	54	-----	14.3	100	154
9026.97	H	48	-7.5	-----	40.5	-----	54	-----	13.5	200	110
9026.97	H	53.3	-7.5	45.8	-----	74	-----	28.2	-----	200	89



Frequency [MHz]	(P)	Reading [dB(μV)]	Factor [dB(1/m)]	Level PK [dB(μV/m)]	Level AV [dB(μV/m)]	Limit PK [dB(μV/m)]	Limit AV [dB(μV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [°]
6401.475	V	55.9	-7.6	48.3	-----	74	-----	25.7	-----	200	332
6401.475	V	48.1	-7.6	-----	40.5	-----	54	-----	13.5	200	312
8231.595	V	46	-7.9	-----	38.1	-----	54	-----	15.9	300	297
8231.595	V	52.3	-7.9	44.4	-----	74	-----	29.6	-----	300	276
9146.655	V	48.6	-7.9	40.7	-----	74	-----	33.3	-----	200	104
9146.655	V	42.5	-7.9	-----	34.6	-----	54	-----	19.4	100	26
6401.475	H	55.4	-7.6	47.8	-----	74	-----	26.2	-----	300	208
6401.475	H	48.1	-7.6	-----	40.5	-----	54	-----	13.5	100	29
8231.595	H	44.6	-7.9	-----	36.7	-----	54	-----	17.3	400	68
8231.595	H	51.7	-7.9	43.8	-----	74	-----	30.2	-----	400	276
9146.655	H	51.4	-7.9	43.5	-----	74	-----	30.5	-----	200	89
9146.655	H	46.5	-7.9	-----	38.6	-----	54	-----	15.4	200	109



Frequency [MHz]	(P)	Reading [dB(μV)]	Factor [dB(1/m)]	Level PK [dB(μV/m)]	Level AV [dB(μV/m)]	Limit PK [dB(μV/m)]	Limit AV [dB(μV/m)]	Margin PK [dB]	Margin AV [dB]	Height [cm]	Angle [°]
6489.345	V	53.4	-7.4	46	-----	74	-----	28	-----	300	193
6489.345	V	47.1	-7.4	-----	39.7	-----	54	-----	14.3	300	151
7416.525	V	48.9	-8.3	40.6	-----	74	-----	33.4	-----	100	68
7416.525	V	41.3	-8.3	-----	33	-----	54	-----	21	400	217
8343.705	V	43	-7.9	-----	35.1	-----	54	-----	18.9	300	339
8343.705	V	51	-7.9	43.1	-----	74	-----	30.9	-----	300	317
6489.345	H	55	-7.4	47.6	-----	74	-----	26.4	-----	100	175
6489.345	H	49.2	-7.4	-----	41.8	-----	54	-----	12.2	100	154
7416.525	H	50.4	-8.3	42.1	-----	74	-----	31.9	-----	400	151
7416.525	H	44.1	-8.3	-----	35.8	-----	54	-----	18.2	400	172
8343.705	H	43.1	-7.9	-----	35.2	-----	54	-----	18.8	300	104
8343.705	H	50.5	-7.9	42.6	-----	74	-----	31.4	-----	400	47

Note:

1. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.
2. Only the worst-case emission was recorded, if it complies with the limit, the other emissions deemed to comply with the limit.
3. For all the test results have been considered the correct factors.



END OF REPORT