FCC Radio Test Report

FCC ID: KR5-BSRFV1RW0

This report concerns: Original Grant

Project No.	:	2106C224
Equipment	:	Intelligent Antenna Module
Brand Name	:	Continental
Test Model	:	BSRF-V1RWHIGH.0
Series Model	:	N/A
Applicant	:	Continental Automotive GmbH
Address	:	Siemensstrasse 12 SV C TS RBG EMC-Laboratory Regensburg Germany 93055
Manufacturer	:	Continental Automotive GmbH
Address	:	Siemensstrasse 12, 93055 Regensburg, Germany
Factory	:	Continental Automotive Systems S.R.L.
Address	:	Strada Salzburg 8, 550018 Sibiu, Romania
Date of Receipt	:	Jul. 19, 2021
Date of Test	:	Jul. 20, 2021 ~ Aug. 18, 2021
Issued Date	:	Sep. 30, 2021
Report Version	:	R00
Test Sample	:	SN: 2133100014S
Standard(s)	:	FCC CFR Title 47, Part 15, Subpart C FCC CFR Title 47, Part 15, Subpart E FCC KDB 789033 D02 General UNII Test Procedures New Rules v02r01 FCC KDB 558074 D01 15.247 Meas Guidance v05r02 ANSI C63.10-2013

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

Treey Chen

Prepared by : Treey Chen

Steven Lu

Approved by : Steven Lu

TESTING CERT #5123.02

Add: No. 3 Jinshagang 1st Rd. Shixia, Dalang Town, Dongguan City, Guangdong, People's Republic of China

Tel: +86-769-8318-3000

Web: www.newbtl.com

Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

The report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, A2LA, or any agency of the U.S. Government.

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BTL's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.
Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

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REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Sep. 30, 2021

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

Standard(s) Section		Test Item	Test Result	Judgment	Remark
FCC CFR Title 47, Part 15, Subpart C	15.247(d) 15.205(a) 15.209(a)	Radiated Emissions	APPENDIX A APPENDIX B	PASS	------
FCC CFR Title 47, Part 15, Subpart E	15.407(b) 15.205(a) 15.209(a)				

Note:

(1) “N/A” denotes test is not applicable in this test report.

1.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No. 3 Jinshagang 1st Rd. Shixia, Dalang Town, Dongguan City, Guangdong, People's Republic of China.
BTL's Test Firm Registration Number for FCC: 357015
BTL's Designation Number for FCC: CN1240

1.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))
The BTL measurement uncertainty as below table:

A. Radiated emissions test:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U, (dB)
DG-CB03	CISPR	9kHz ~ 30MHz	-	3.02
		30MHz ~ 200MHz	V	4.26
		30MHz ~ 200MHz	H	3.38
		200MHz ~ 1,000MHz	V	3.98
		200MHz ~ 1,000MHz	H	3.94
		1GHz ~ 6GHz	-	3.96
		6GHz ~ 18GHz	-	5.24
		18GHz ~ 26.5GHz	-	3.62
		26.5GHz ~ 40GHz	-	4.00

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
Radiated Emissions-30MHz to 1000MHz	25°C	60%	DC 12V	Kwok Guo
Radiated Emissions-Above 1000MHz	25°C	60%	DC 12V	Kwok Guo

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Intelligent Antenna Module
Brand Name	Continental
Test Model	BSRF-V1RWHIGH.0
Series Model	N/A
Model Difference(s)	N/A
Hardware Version	D5
Software Version	V15_1.15.1.21.10.30
Power Source	Supplied from battery.
Power Rating	DC 12V

Note:

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

2.2 DESCRIPTION OF TEST MODES

The test system was pre-tested based on the consideration of all possible combinations of EUT operation mode.

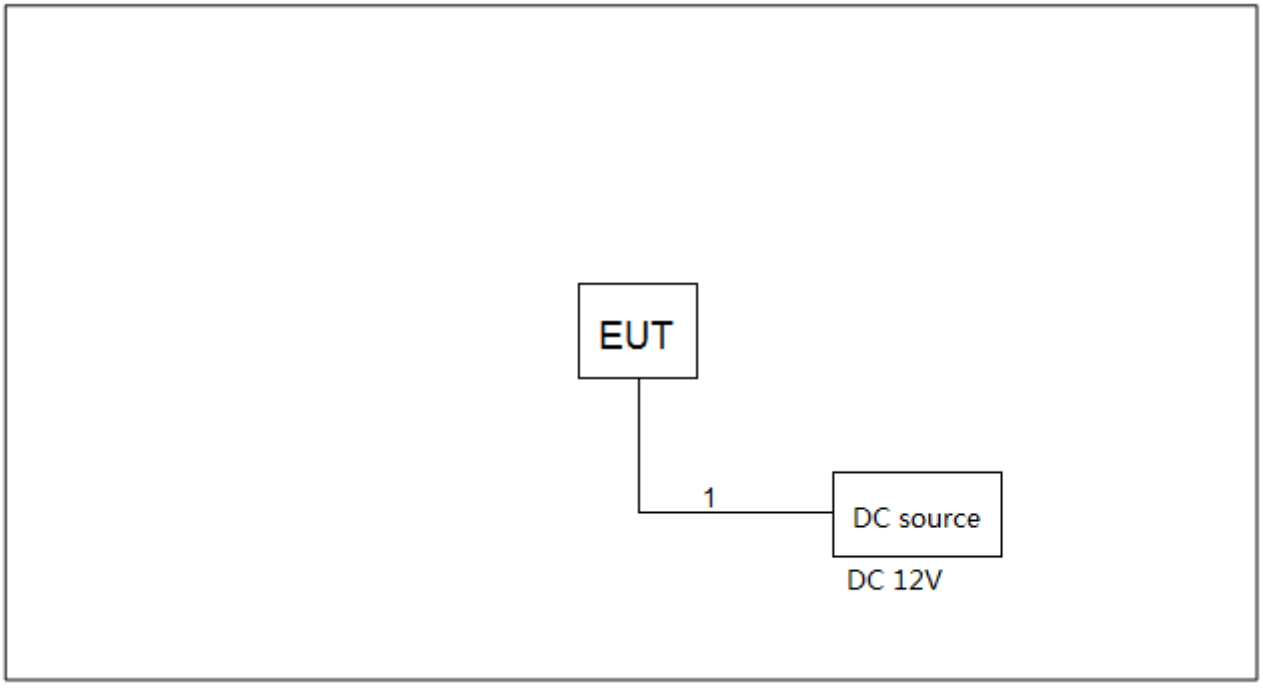
Pretest Mode	Description
Mode 1	GSM850_CH190+TX_2.4G WIFI_B Mode 2462 MHz
Mode 2	GSM850_CH190+TX_5G WIFI_A Mode 5745 MHz
Mode 3	PCS1900_CH661+TX_2.4G WIFI_B Mode 2462 MHz
Mode 4	WCDMA Band II_CH9800+TX_2.4G WIFI_B Mode 2462 MHz
Mode 5	WCDMA Band IV_CH1638+TX_2.4G WIFI_B Mode 2462 MHz
Mode 6	WCDMA Band V_CH4407+TX_2.4G WIFI_B Mode 2462 MHz
Mode 7	LTE Band 2_CH18900+TX_2.4G WIFI_B Mode 2462 MHz
Mode 8	LTE Band 4_CH20175+TX_2.4G WIFI_B Mode 2462 MHz
Mode 9	LTE Band 5_CH20525+TX_2.4G WIFI_B Mode 2462 MHz
Mode 10	LTE Band 7_CH21100+TX_2.4G WIFI_B Mode 2462 MHz

Following mode(s) was (were) found to be the worst case(s) and selected for the final test.

Radiated emissions test - Below 1GHz	
Final Test Mode	Description
Mode 2	GSM850_CH190+TX_5G WIFI_A Mode 5745 MHz

Radiated emissions test- Above 1GHz	
Final Test Mode	Description
Mode 1	GSM850_CH190+TX_2.4G WIFI_B Mode 2462 MHz
Mode 2	GSM850_CH190+TX_5G WIFI_A Mode 5745 MHz
Mode 3	PCS1900_CH661+TX_2.4G WIFI_B Mode 2462 MHz
Mode 4	WCDMA Band II_CH9800+TX_2.4G WIFI_B Mode 2462 MHz
Mode 5	WCDMA Band IV_CH1638+TX_2.4G WIFI_B Mode 2462 MHz
Mode 6	WCDMA Band V_CH4407+TX_2.4G WIFI_B Mode 2462 MHz
Mode 7	LTE Band 2_CH18900+TX_2.4G WIFI_B Mode 2462 MHz
Mode 8	LTE Band 4_CH20175+TX_2.4G WIFI_B Mode 2462 MHz
Mode 9	LTE Band 5_CH20525+TX_2.4G WIFI_B Mode 2462 MHz
Mode 10	LTE Band 7_CH21100+TX_2.4G WIFI_B Mode 2462 MHz

2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



2.4 SUPPORT UNITS

Item	Equipment	Mfr/Brand	Model/Type No.	Series No.
A	DC Source	TRUE-POWER	GPC30300N	N/A

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	DC Cable	NO	NO	1.5m

3. RADIATED EMISSIONS

3.1 LIMIT FOR 2.4G WIFI

In case the emission fall within the restricted band specified on 15.205(a) , then the 15.209(a) limit in the table below has to be followed.

LIMITS OF RADIATED EMISSION MEASUREMENT (9 kHz-1000 MHz)

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
Above 960	500	3

LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000 MHz)

Frequency (MHz)	(dBuV/m at 3 m)	
	Peak	Average
Above 1000	74	54

NOTE:

(1) The limit for radiated test was performed according to FCC CFR Title 47, Part 15, Subpart C.

(2) The tighter limit applies at the band edges.

(3) Emission level (dBuV/m)=20log Emission level (uV/m).

(4)

$$FS_{\text{limit}} = FS_{\max} - 20\log\left(\frac{d_{\text{limit}}}{d_{\text{measure}}}\right)$$

20log ($d_{limit}/d_{measure}$)=20log (3/1.5)=6 dB.

3.2 LIMIT FOR 5G WIFI

In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

LIMITS OF RADIATED EMISSIONS MEASUREMENT (9 kHz to 1000 MHz)

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
Above 960	500	3

LIMITS OF UNWANTED EMISSION OUT OF THE RESTRICTED BANDS (Above 1000 MHz)

Frequency (MHz)	EIRP Limit (dBm/MHz)	Band edge at 3m (dBμV/m)	Harmonic at 1.5m (dBμV/m)
5150-5250	-27	68.2	74.2 (Note 3)
5250-5350	-27	68.2	74.2 (Note 3)
5470-5725	-27	68.2	74.2 (Note 3)
5725-5850 **NOTE (2)**	-27	68.2	74.2 (Note 3)
	10	105.2	111.2 (Note 3)
	15.6	110.8	116.8 (Note 3)
	27	122.2	128.2 (Note 3)

NOTE:

(1) The following formula is used to convert the equipment isotropic radiated power (eirp) to field strength:

$$E = \frac{1000000\sqrt{30P}}{3}$$ μV/m, where P is the eirp (Watts)

(2) According to 15.407(b)(4)(i), all emissions shall be limited to a level of -27 dBm/MHz at 75 MHz or more above or below the band edge increasing linearly to 10 dBm/MHz at 25 MHz above or below the band edge, and from 25 MHz above or below the band edge increasing linearly to a level of 15.6 dBm/MHz at 5 MHz above or below the band edge, and from 5 MHz above or below the band edge increasing linearly to a level of 27 dBm/MHz at the band edge.

(3)

$$FS_{\text{limit}} = FS_{\max} - 20\log\left(\frac{d_{\text{limit}}}{d_{\text{measure}}}\right)$$

20log ($d_{limit}/d_{measure}$)=20log (3/1.5)=6 dB.

3.3 TEST PROCEDURE

a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1 GHz)
b. The measuring distance of 3 m or 1.5m shall be used for measurements. The EUT was placed on the top of a rotating table 1.5 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
c. The height of the equipment or of the substitution antenna shall be 0.8m or 1.5m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz.
f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn‘t perform. (below 1 GHz)
h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn‘t perform. (above 1 GHz)
i. For the actual test configuration, please refer to the related Item -EUT Test Photos.

The following table is the setting of the receiver:

Spectrum Parameters	Setting
Start ~ Stop Frequency	9 kHz~150 kHz for RBW 200 Hz
Start ~ Stop Frequency	0.15 MHz~30 MHz for RBW 9 kHz
Start ~ Stop Frequency	30 MHz~1000 MHz for RBW 100 kHz

Spectrum Parameters	Setting
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1 MHz / 3 MHz for PK value 1 MHz / 1/T Hz for AVG value

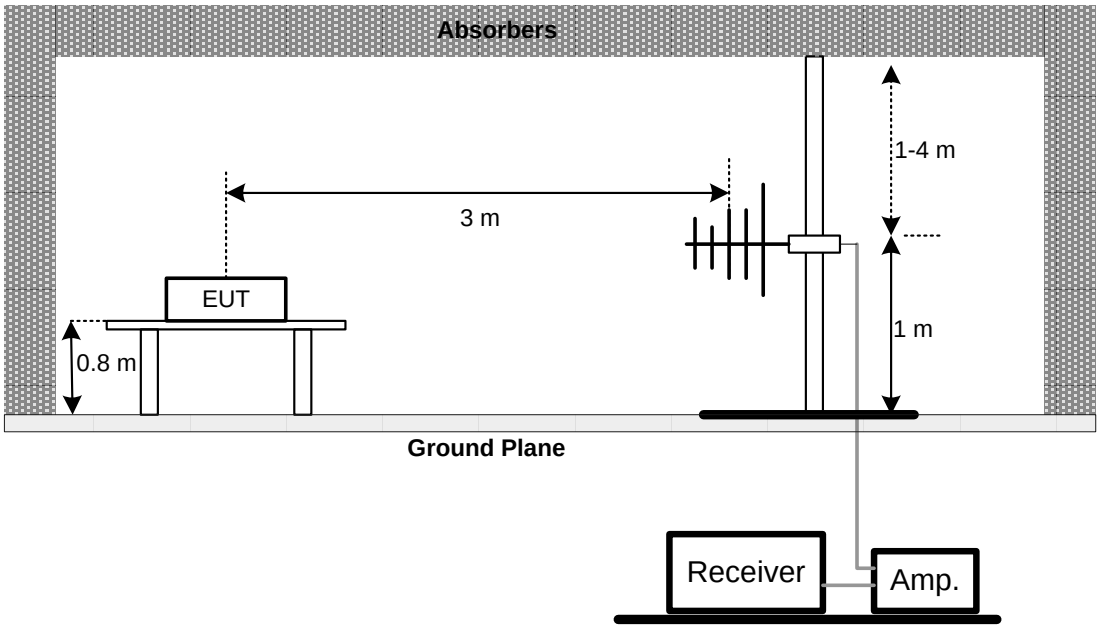
Receiver Parameters	Setting
Start ~ Stop Frequency	9 kHz~90 kHz for PK/AVG detector
Start ~ Stop Frequency	90 kHz~110 kHz for QP detector
Start ~ Stop Frequency	110 kHz~490 kHz for PK/AVG detector
Start ~ Stop Frequency	490 kHz~30 MHz for QP detector
Start ~ Stop Frequency	30 MHz~1000 MHz for QP detector
Start ~ Stop Frequency	1 GHz~26.5 GHz for PK/AVG detector

3.4 DEVIATION FROM TEST STANDARD

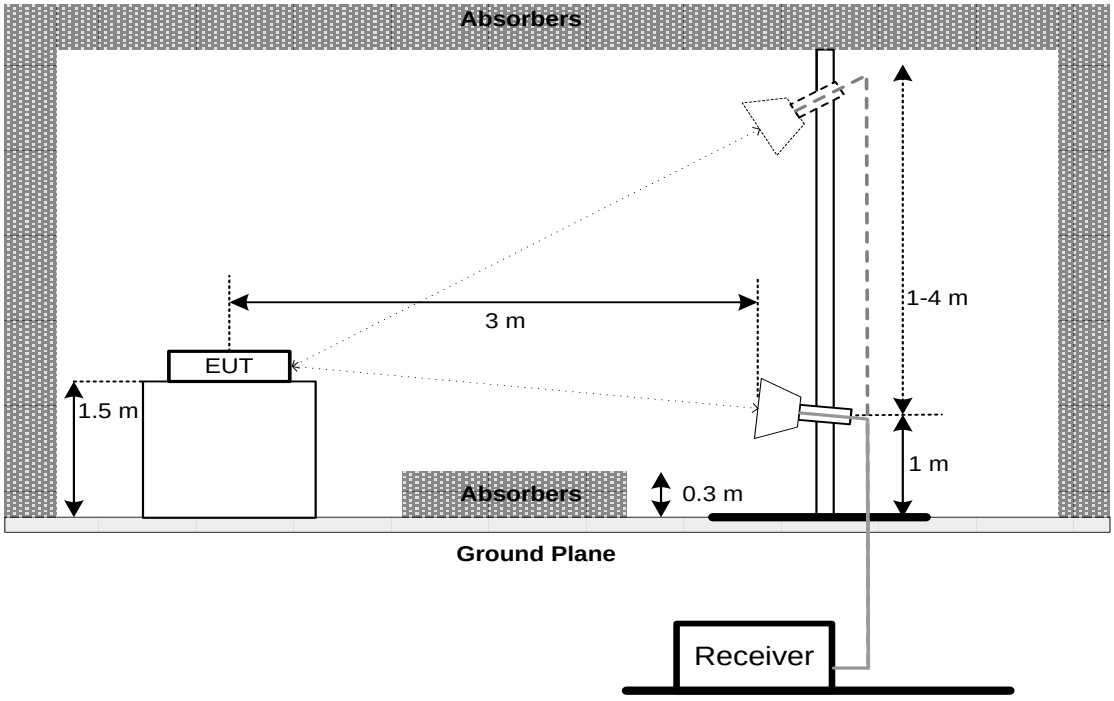
No deviation.

3.5 TEST SETUP

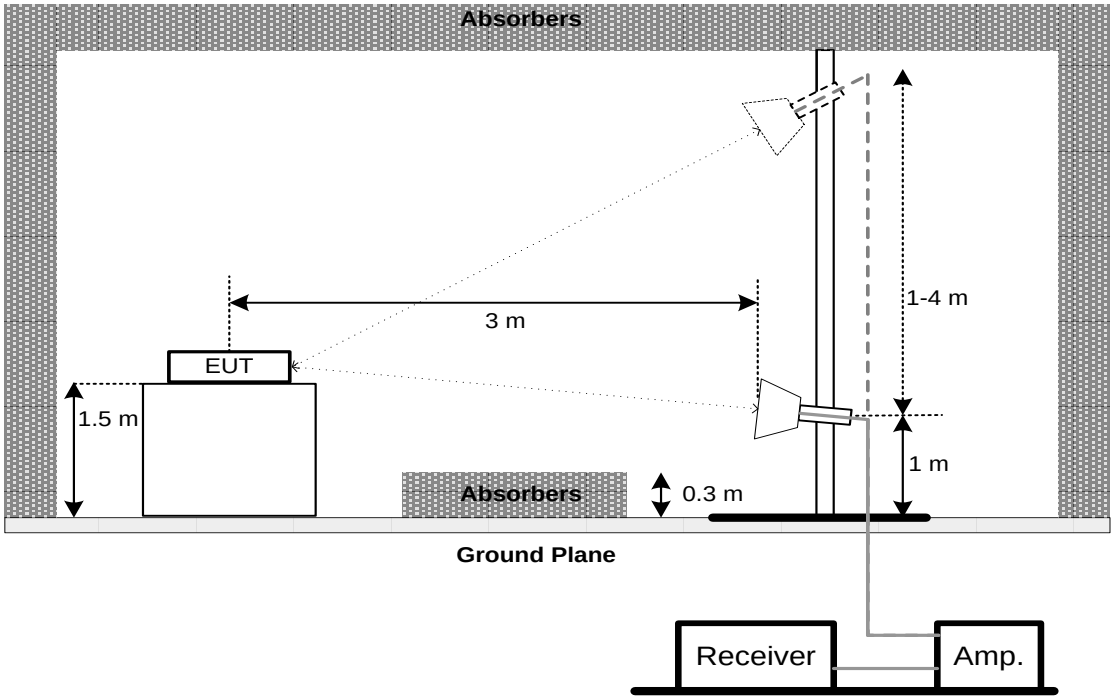
30 MHz to 1 GHz



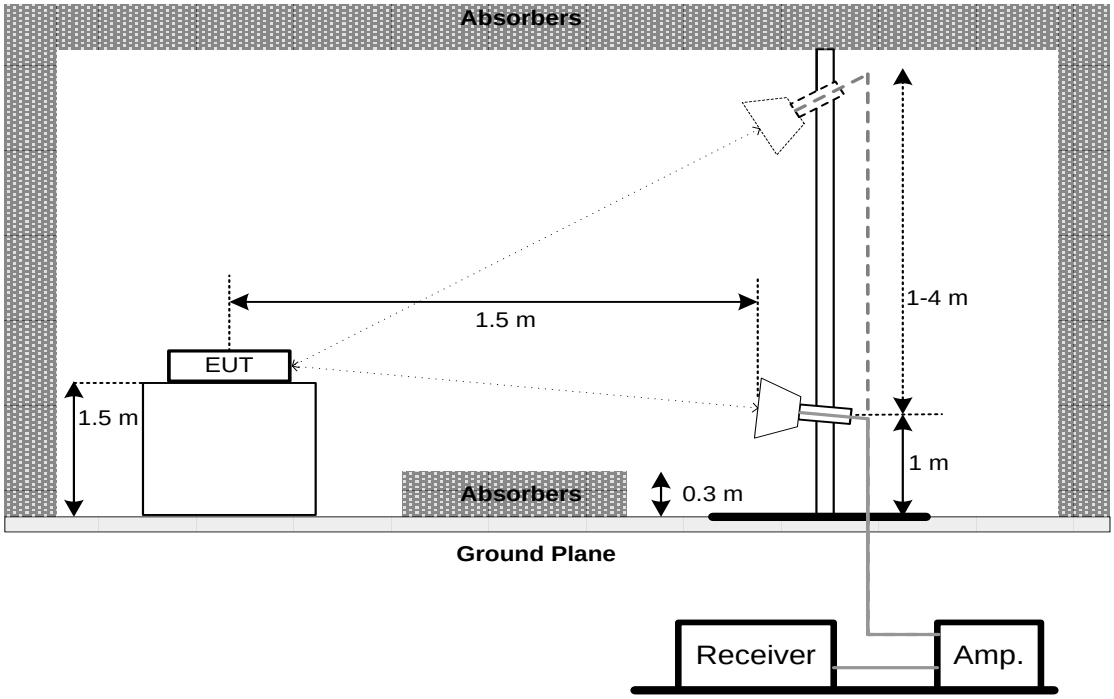
Above 1 GHz
Band edge



Harmonic(1 GHz to 18 GHz)



Harmonic(18 GHz to 26.5 GHz)



3.6 EUT OPERATION CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

3.7 TEST RESULTS - 30 MHZ TO 1000 MHZ

Please refer to the APPENDIX A.

3.8 TEST RESULTS - ABOVE 1000 MHZ

Please refer to the APPENDIX B.

Remark:

(1) No limit: This is fundamental signal, the judgment is not applicable.
For fundamental signal judgment was referred to Peak output test.

4. MEASUREMENT INSTRUMENTS LIST

Radiated Emissions - 30 MHz to 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarzbeck	VULB9160	9160-3232	Mar. 15, 2022
2	Amplifier	HP	8447D	2944A08742	Feb. 28, 2022
3	Receiver	Agilent	N9038A	MY52130039	Mar. 19, 2022
4	Cable	emci	LMR-400(30MHz-1 GHz)(8m+5m)	N/A	May 20, 2022
5	Controller	CT	SC100	N/A	N/A
6	Controller	MF	MF-7802	MF780208416	N/A
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
8	966 Chambe Room	RM	9*6*6m	N/A	Jul. 24, 2022

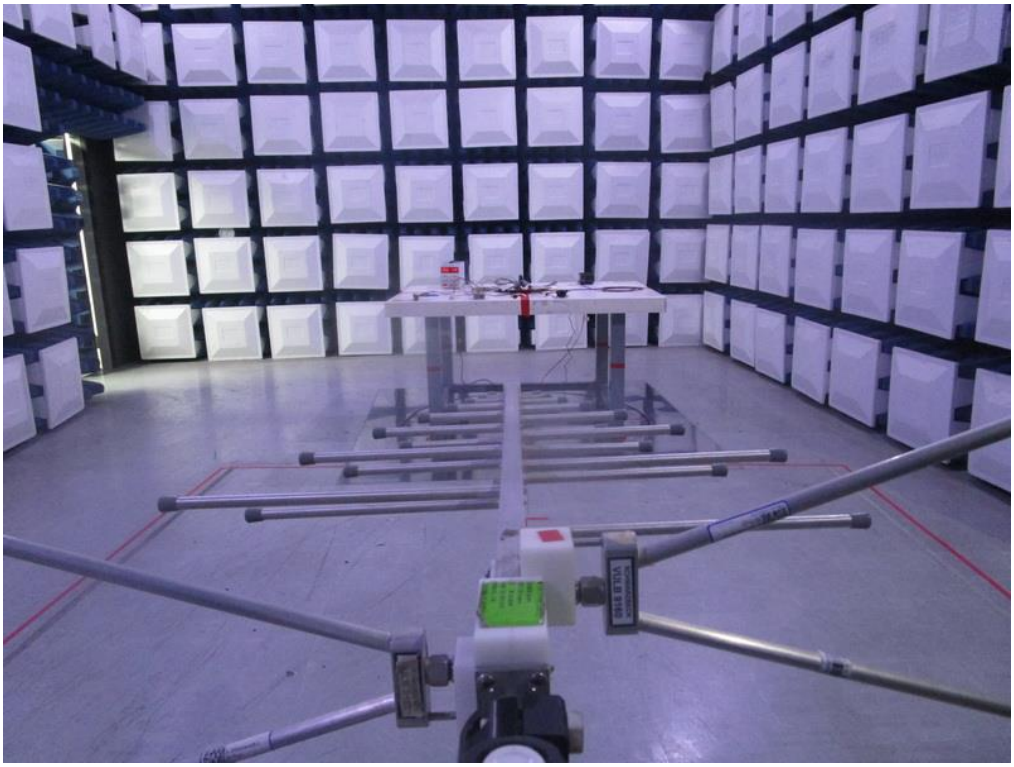
Radiated Emissions - Above 1 GHz					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Double Ridged Guide Antenna	ETS	3115	75789	May 10, 2022
2	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Jun. 30, 2022
3	Amplifier	Agilent	8449B	3008A02584	Jul. 10, 2022
4	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Feb. 28, 2022
5	Receiver	Agilent	N9038A	MY52130039	Mar. 19, 2022
6	Controller	CT	SC100	N/A	N/A
7	Controller	MF	MF-7802	MF780208416	N/A
8	Cable	N/A	EMC104-SM-SM-6000	N/A	Oct. 16, 2021
9	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
10	Filter	STI	STI15-9912	N/A	Jul. 10, 2022
11	966 Chambe Room	RM	9*6*6m	N/A	Jul. 24, 2022

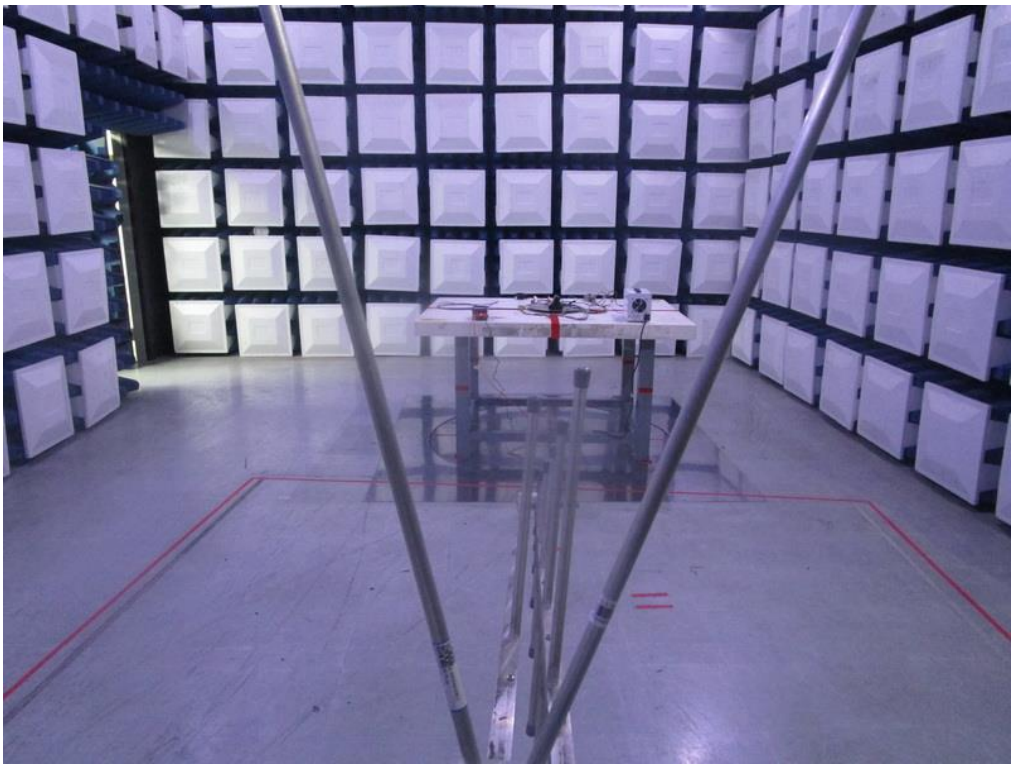
Remark: ”N/A” denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

5. EUT TEST PHOTO

Radiated Emissions Test Photos

30 MHz to 1 GHz



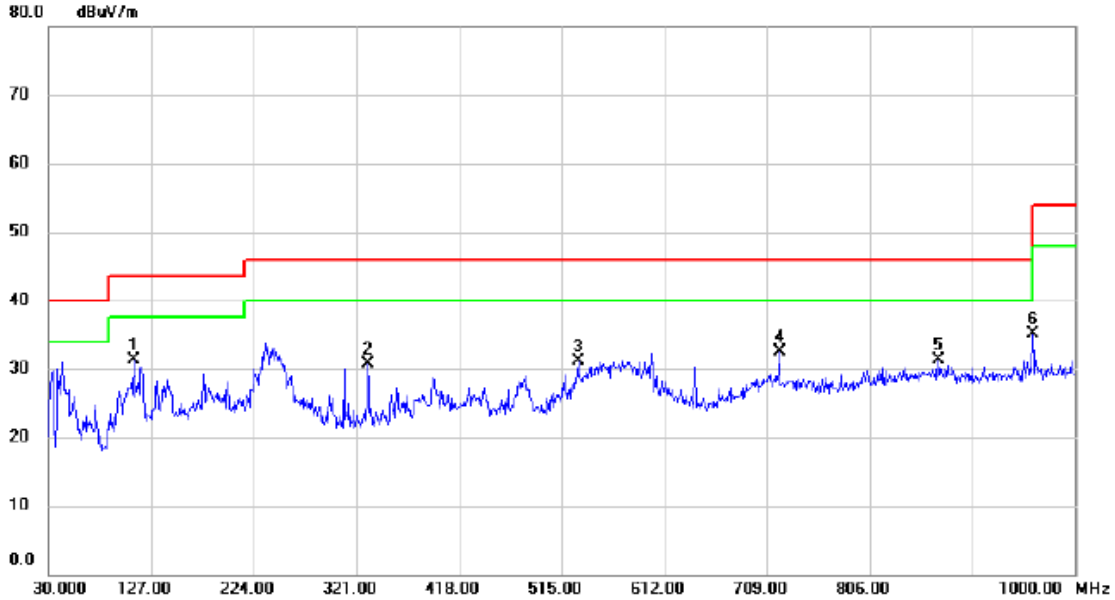


Radiated Emissions Test Photos

Above 1 GHz

APPENDIX A - RADIATED EMISSION - 30 MHZ TO 1000 MHZ

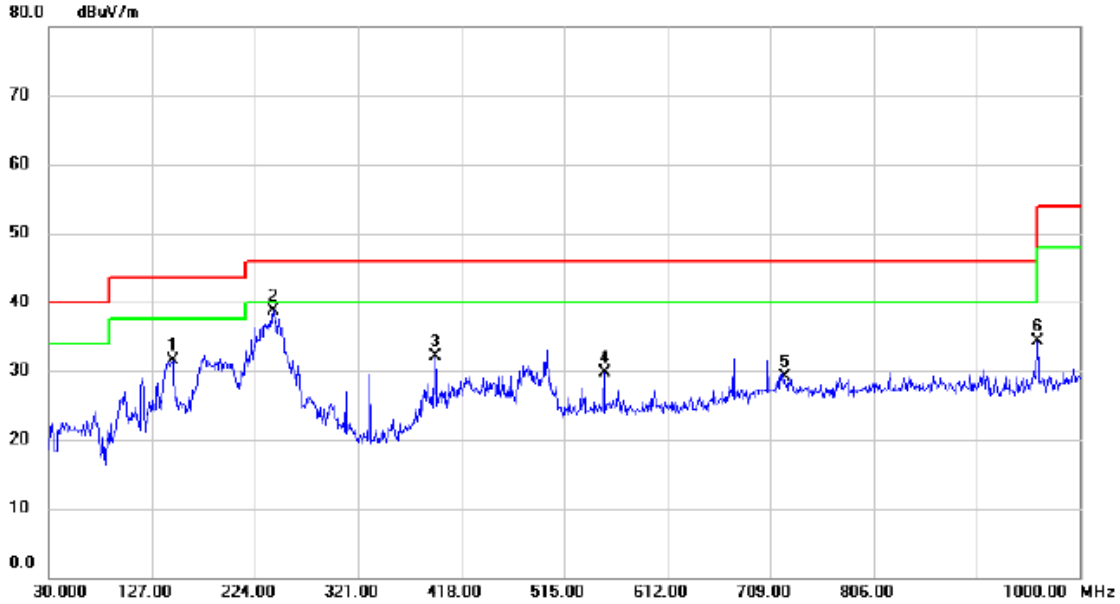
Test Mode	GSM850_CH190+TX_5G WIFI_ A Mode 5745 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	110.510	45.44	-14.16	31.28	43.50	-12.22	peak	
2		331.670	41.11	-10.49	30.62	46.00	-15.38	peak	
3		531.005	37.99	-6.98	31.01	46.00	-14.99	peak	
4		720.640	35.84	-3.43	32.41	46.00	-13.59	peak	
5		871.475	32.88	-1.49	31.39	46.00	-14.61	peak	
6		960.230	34.83	0.33	35.16	54.00	-18.84	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	GSM850_CH190+TX 5G WIFI_ A Mode 5745 MHz	Polarization	Horizontal

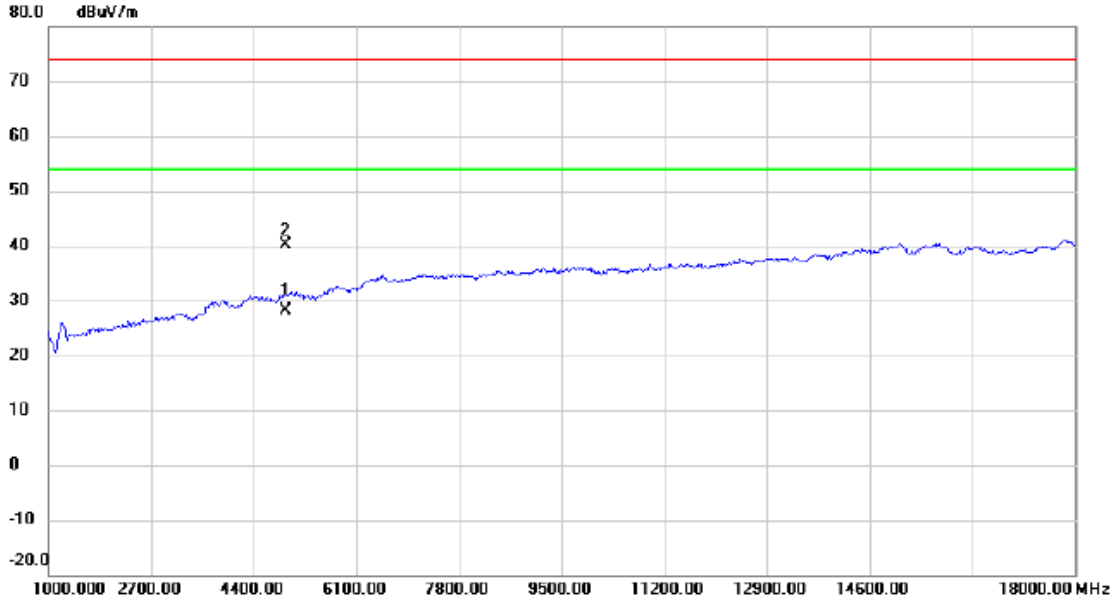


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		146.400	43.65	-12.18	31.47	43.50	-12.03	peak	
2	*	241.945	52.31	-13.53	38.78	46.00	-7.22	peak	
3		393.750	41.19	-9.16	32.03	46.00	-13.97	peak	
4		553.315	36.47	-6.71	29.76	46.00	-16.24	peak	
5		722.095	32.57	-3.41	29.16	46.00	-16.84	peak	
6		960.230	34.07	0.33	34.40	54.00	-19.60	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

APPENDIX B - RADIATED EMISSION- ABOVE 1000 MHZ

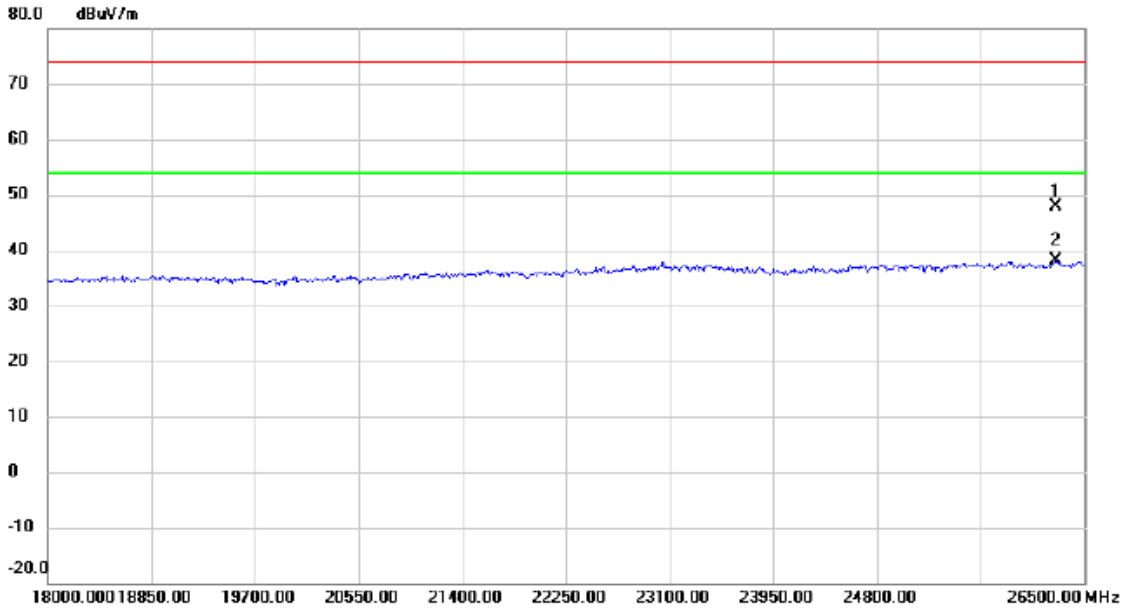
Test Mode	GSM850_CH190+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4923.623	22.48	5.73	28.21	54.00	-25.79	AVG	
2		4923.815	34.41	5.73	40.14	74.00	-33.86	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

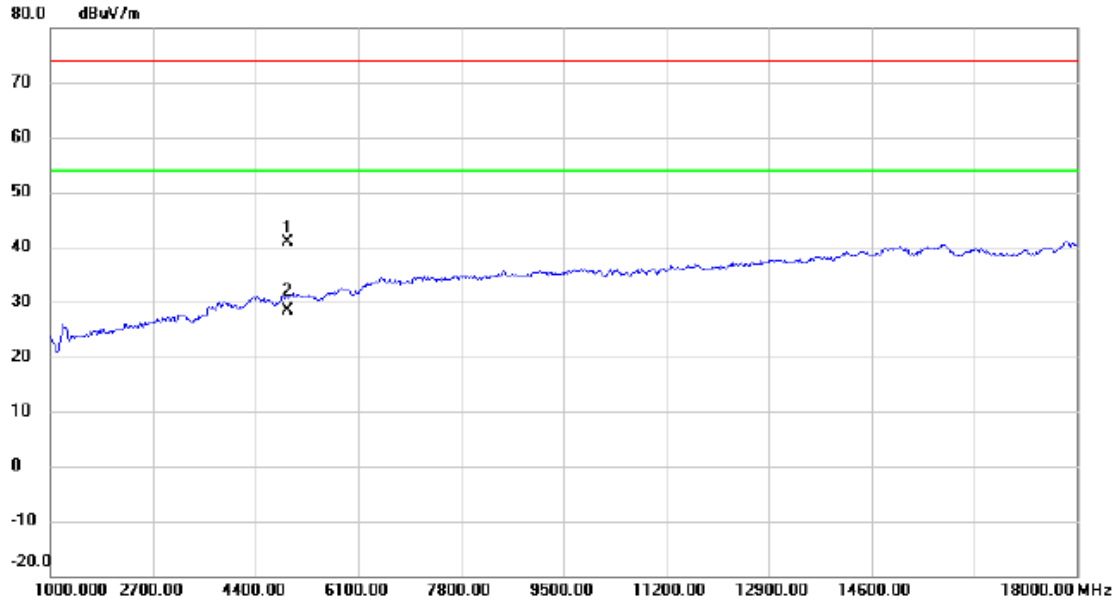
Test Mode	GSM850_CH190+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26266.250	36.82	11.16	47.98	74.00	-26.02	peak	
2	*	26266.250	26.85	11.16	38.01	54.00	-15.99	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

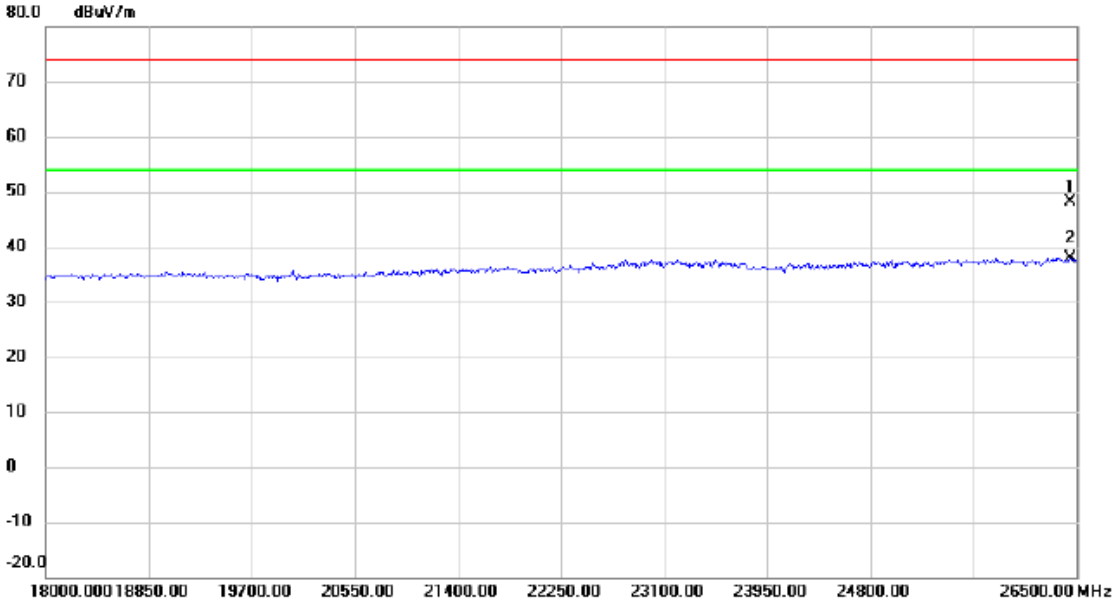
Test Mode	GSM850_CH190+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4923.843	35.12	5.73	40.85	74.00	-33.15	peak	
2	*	4924.155	22.53	5.73	28.26	54.00	-25.74	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

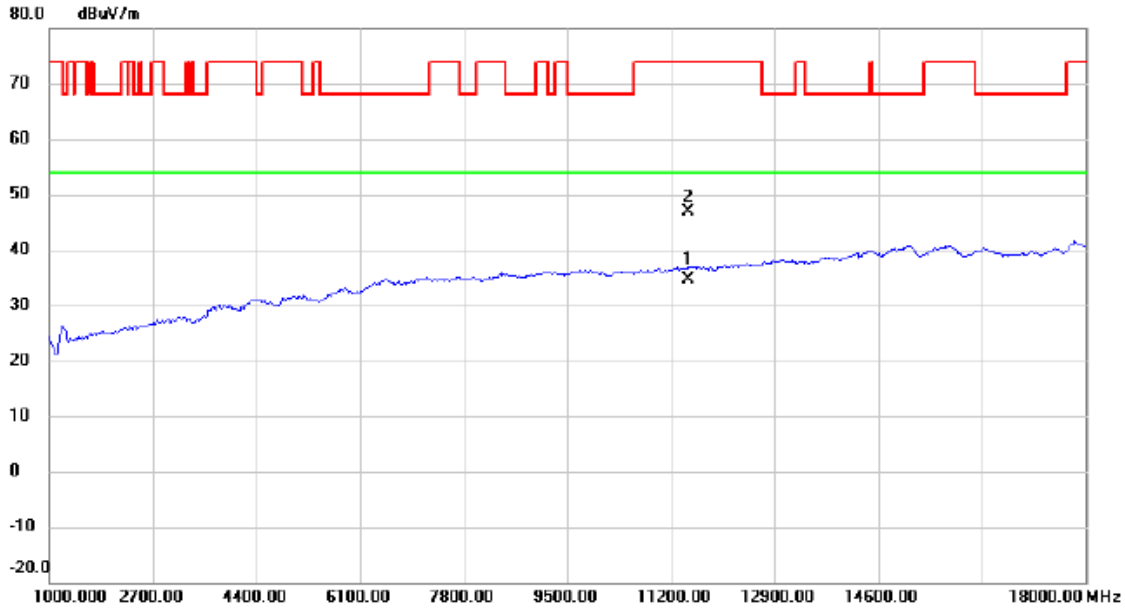
Test Mode	GSM850_CH190+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26449.000	36.94	11.09	48.03	74.00	-25.97	peak	
2	*	26449.000	26.89	11.09	37.98	54.00	-16.02	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

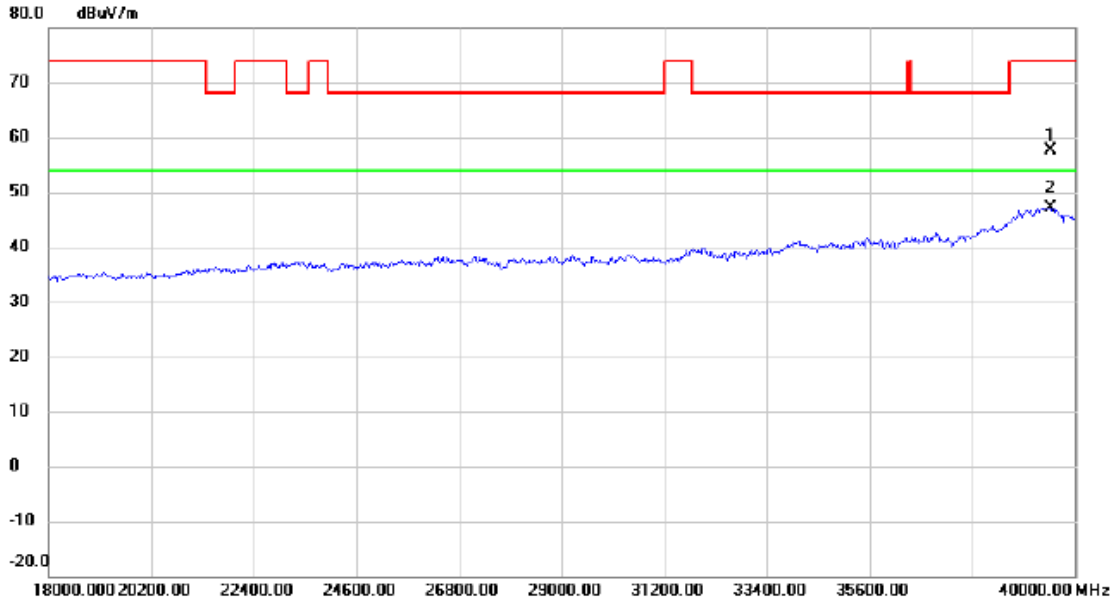
Test Mode	GSM850_CH190+TX_5G WIFI_ A Mode 5745 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	11489.548	19.99	14.63	34.62	54.00	-19.38	AVG	
2		11490.472	32.36	14.63	46.99	74.00	-27.01	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

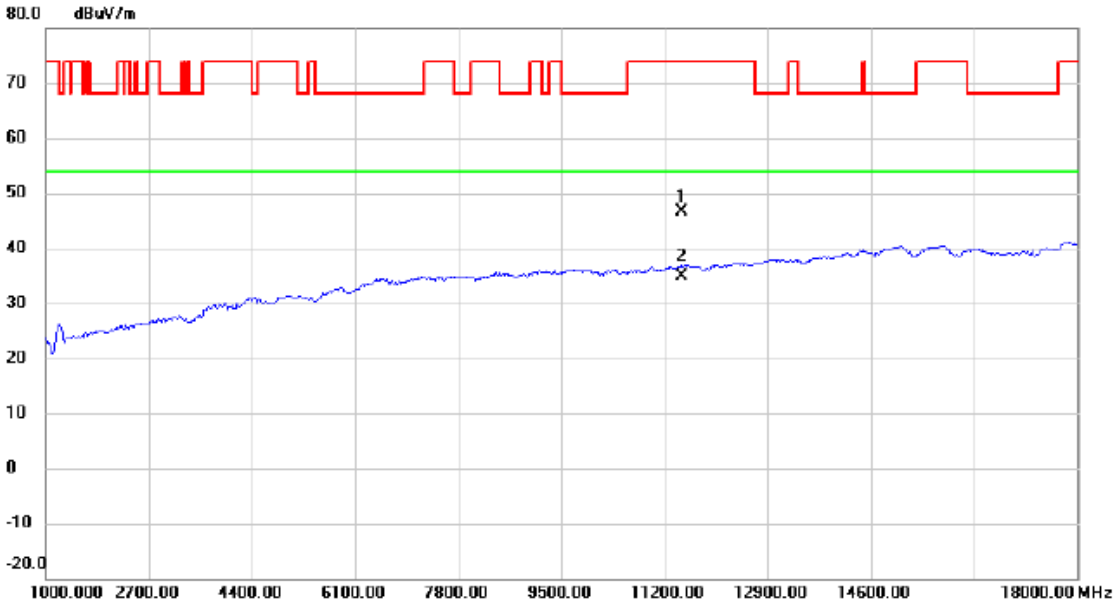
Test Mode	GSM850_CH190+TX_5G WIFI_ A Mode 5745 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		39472.000	39.73	17.86	57.59	74.00	-16.41	peak	
2	*	39472.000	29.38	17.86	47.24	54.00	-6.76	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

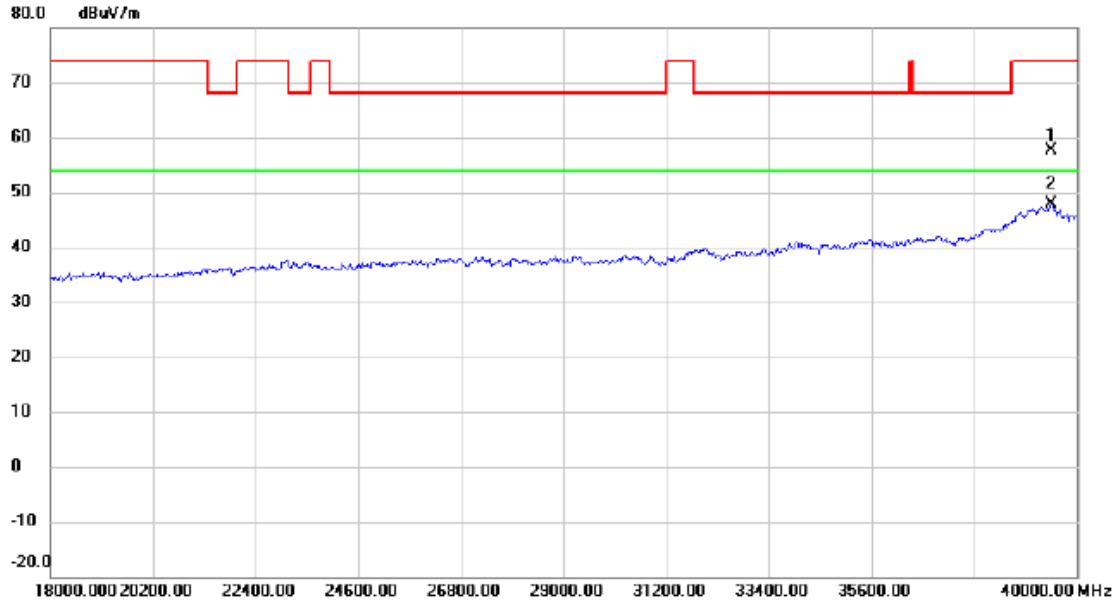
Test Mode	GSM850_CH190+TX_5G WIFI_ A Mode 5745 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		11490.167	31.90	14.63	46.53	74.00	-27.47	peak	
2	*	11490.492	20.14	14.63	34.77	54.00	-19.23	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

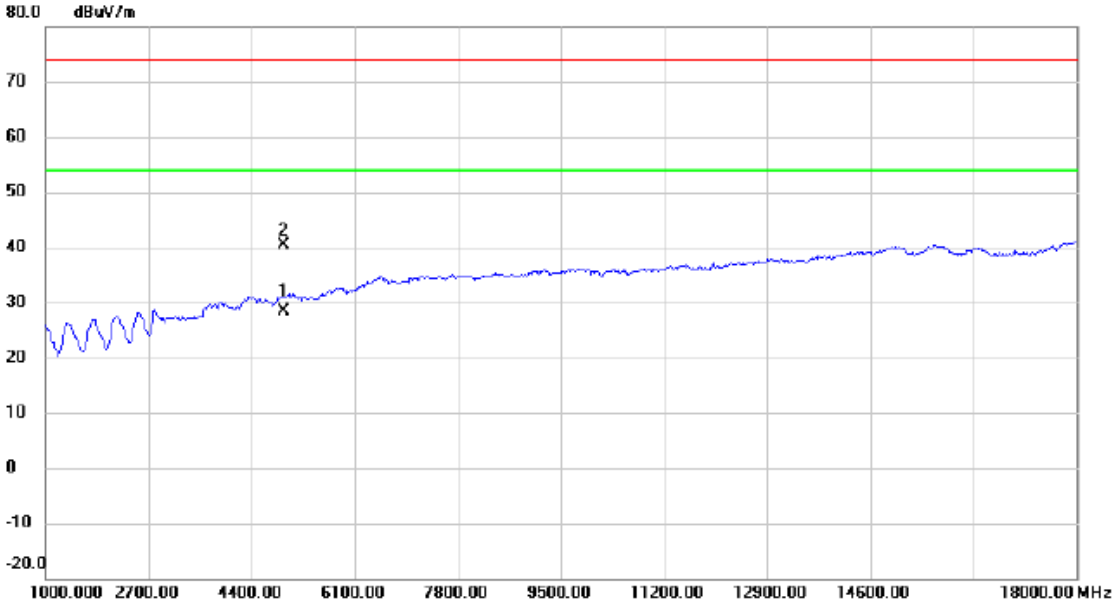
Test Mode	GSM850_CH190+TX_5G WIFI_ A Mode 5745 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		39450.000	39.82	17.82	57.64	74.00	-16.36	peak	
2	*	39450.000	30.16	17.82	47.98	54.00	-6.02	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

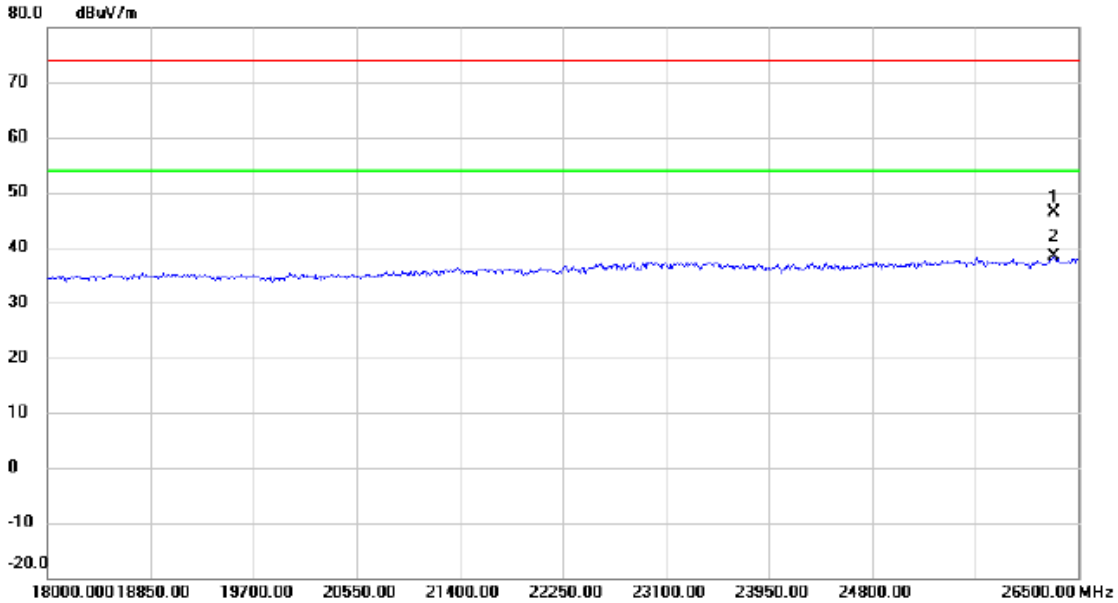
Test Mode	PCS1900_CH661+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4923.882	22.71	5.73	28.44	54.00	-25.56	AVG	
2		4924.028	34.63	5.73	40.36	74.00	-33.64	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

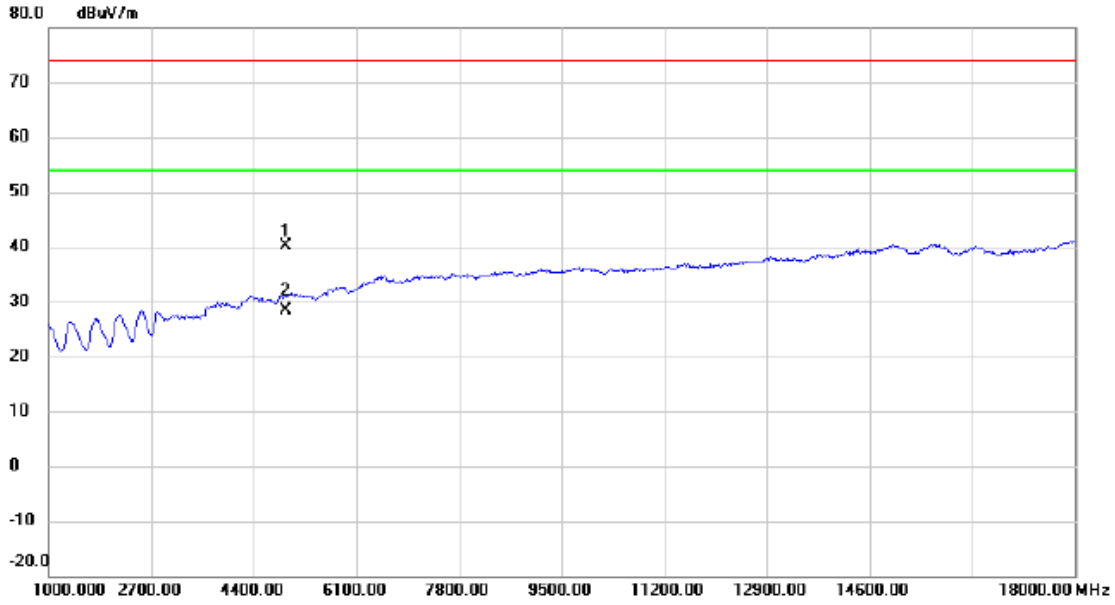
Test Mode	PCS1900_CH661+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26304.500	35.31	11.14	46.45	74.00	-27.55	peak	
2	*	26304.500	27.18	11.14	38.32	54.00	-15.68	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

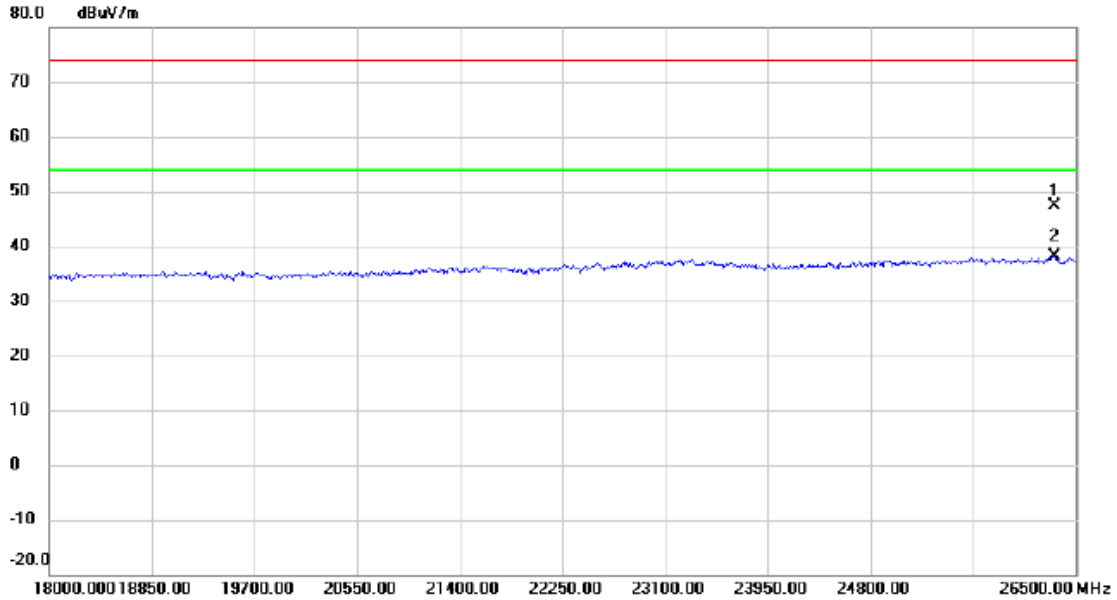
Test Mode	PCS1900_CH661+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4923.850	34.52	5.73	40.25	74.00	-33.75	peak	
2	*	4924.087	22.61	5.73	28.34	54.00	-25.66	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

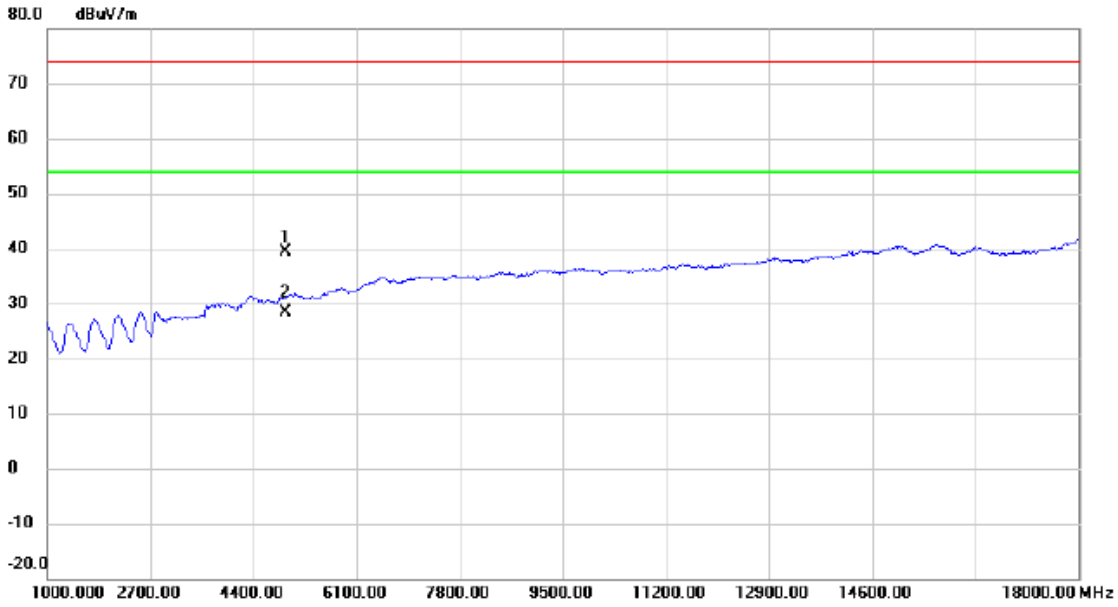
Test Mode	PCS1900_CH661+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26325.750	36.34	11.14	47.48	74.00	-26.52	peak	
2	*	26325.750	26.94	11.14	38.08	54.00	-15.92	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

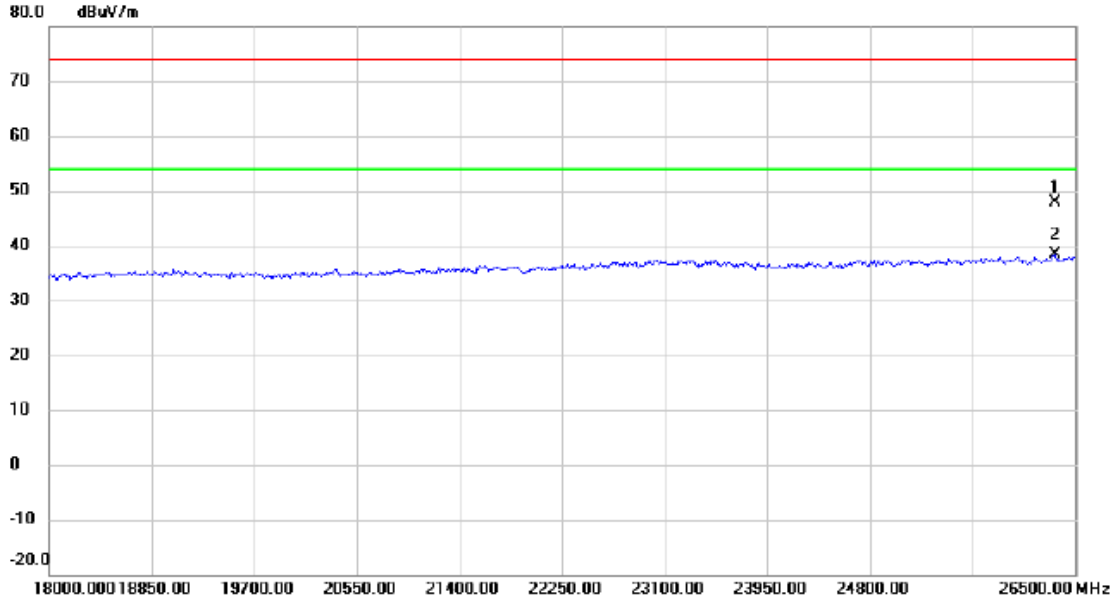
Test Mode	WCDMA Band II_CH9800+TX 2.4G WIFI_B Mode 2462 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4923.713	33.55	5.73	39.28	74.00	-34.72	peak	
2	*	4924.493	22.54	5.73	28.27	54.00	-25.73	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

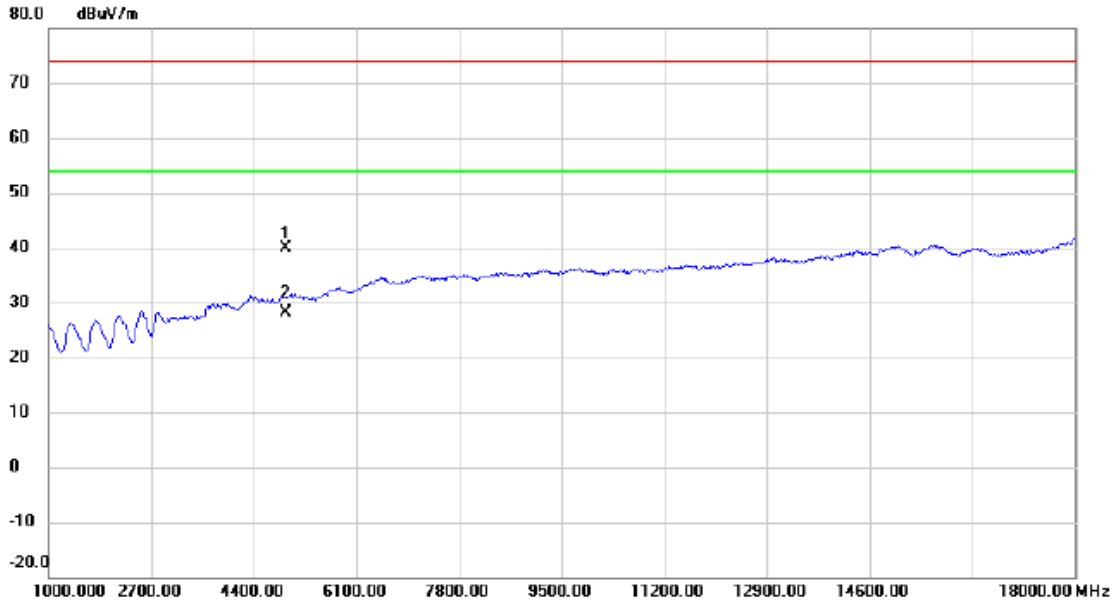
Test Mode	WCDMA Band II_CH9800+TX_2.4G WIFI_B Mode 2462 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26330.000	36.86	11.14	48.00	74.00	-26.00	peak	
2	*	26330.000	27.20	11.14	38.34	54.00	-15.66	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

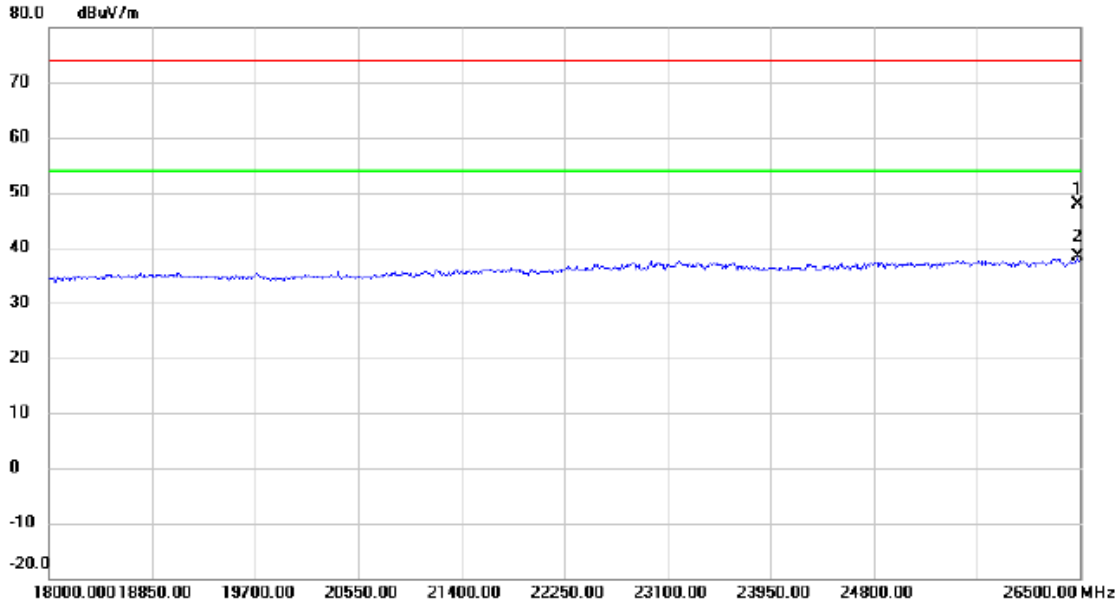
Test Mode	WCDMA Band II_CH9800+TX_2.4G WIFI_B Mode 2462 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4923.813	34.25	5.73	39.98	74.00	-34.02	peak	
2	*	4924.452	22.46	5.73	28.19	54.00	-25.81	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

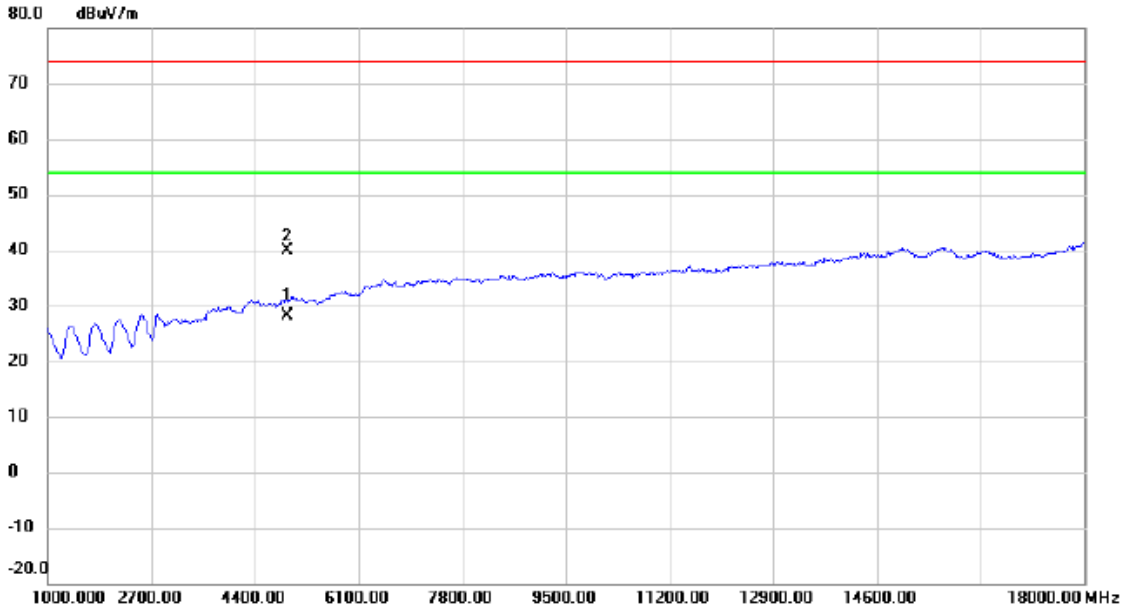
Test Mode	WCDMA Band II_CH9800+TX_2.4G WIFI_B Mode 2462 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26478.750	36.86	11.08	47.94	74.00	-26.06	peak	
2	*	26478.750	27.30	11.08	38.38	54.00	-15.62	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

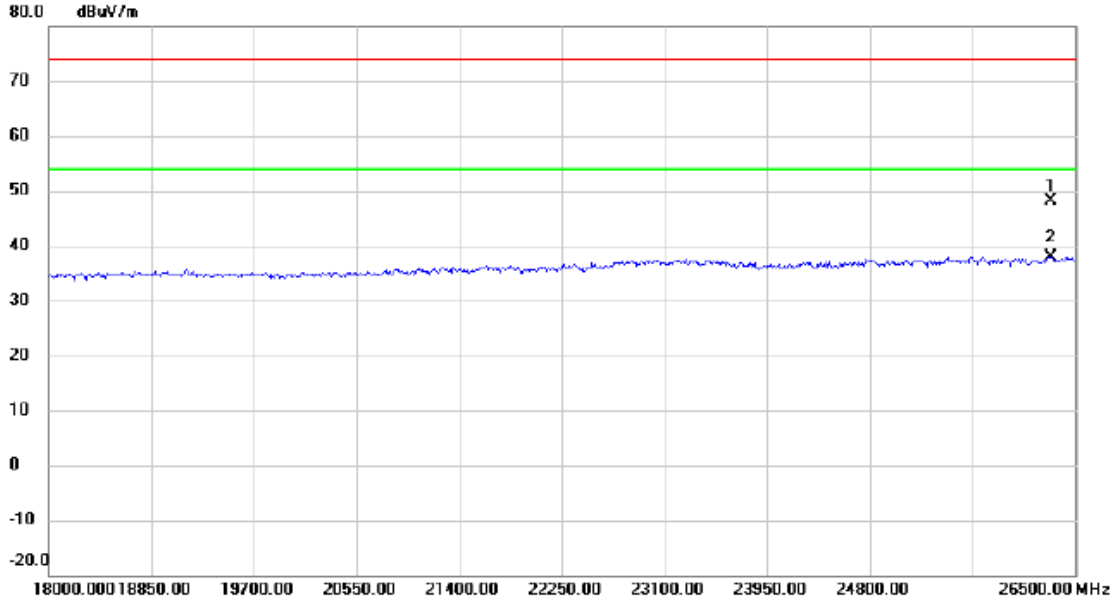
Test Mode	WCDMA Band IV_CH1638+TX_2.4G WIFI_B Mode 2462 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4923.542	22.48	5.73	28.21	54.00	-25.79	AVG	
2		4923.708	34.22	5.73	39.95	74.00	-34.05	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

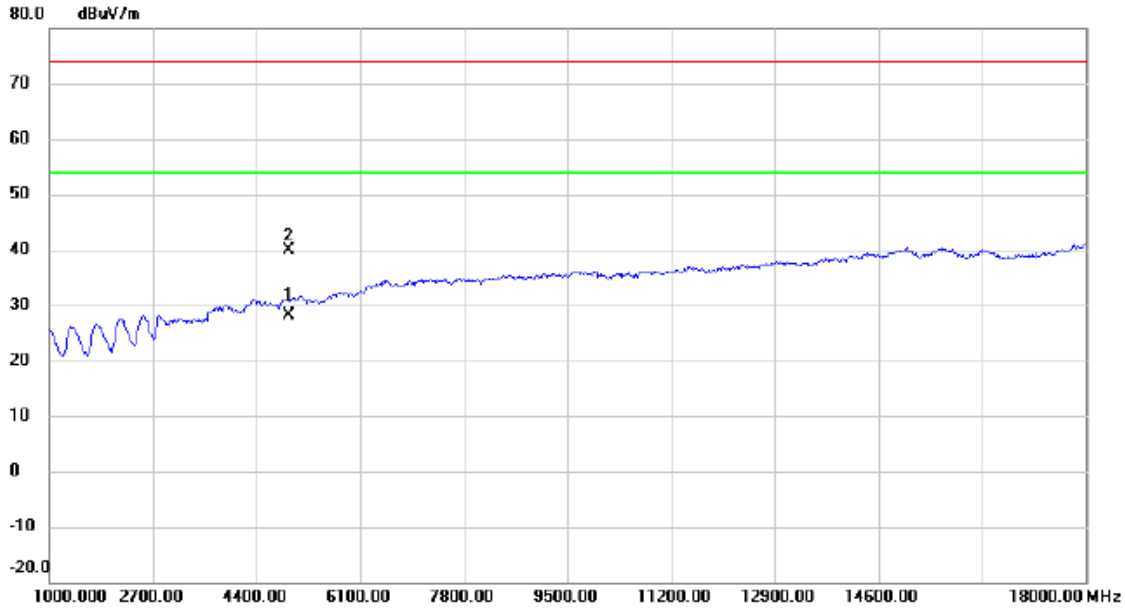
Test Mode	WCDMA Band IV_CH1638+TX_2.4G WIFI_B Mode 2462 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26300.250	36.96	11.14	48.10	74.00	-25.90	peak	
2	*	26300.250	26.83	11.14	37.97	54.00	-16.03	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

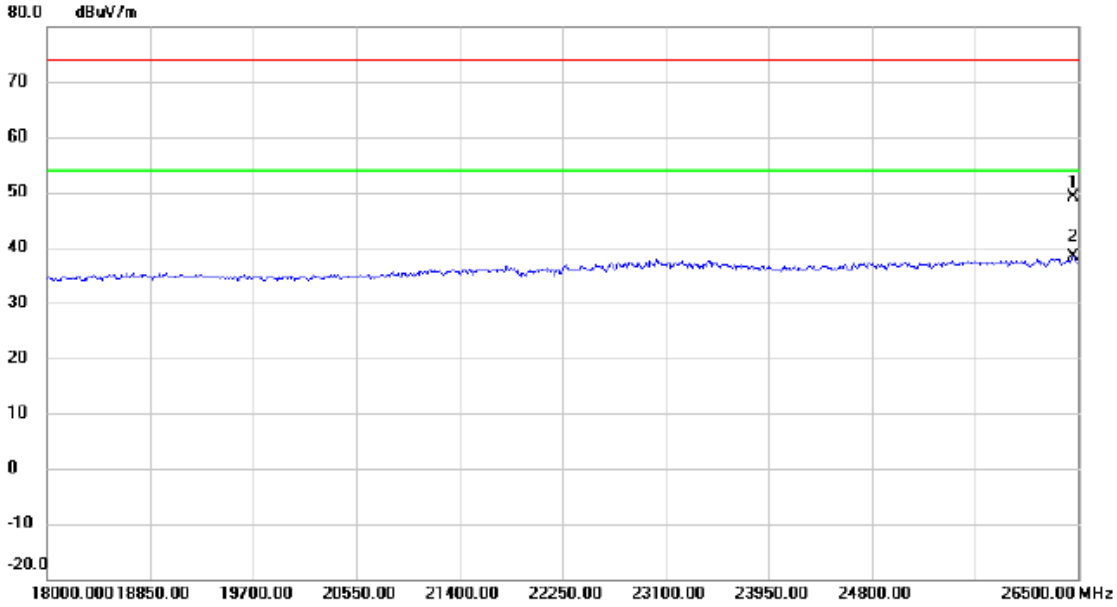
Test Mode	WCDMA Band IV_CH1638+TX_2.4G WIFI_B Mode 2462 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4923.533	22.51	5.73	28.24	54.00	-25.76	AVG	
2		4923.778	34.25	5.73	39.98	74.00	-34.02	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

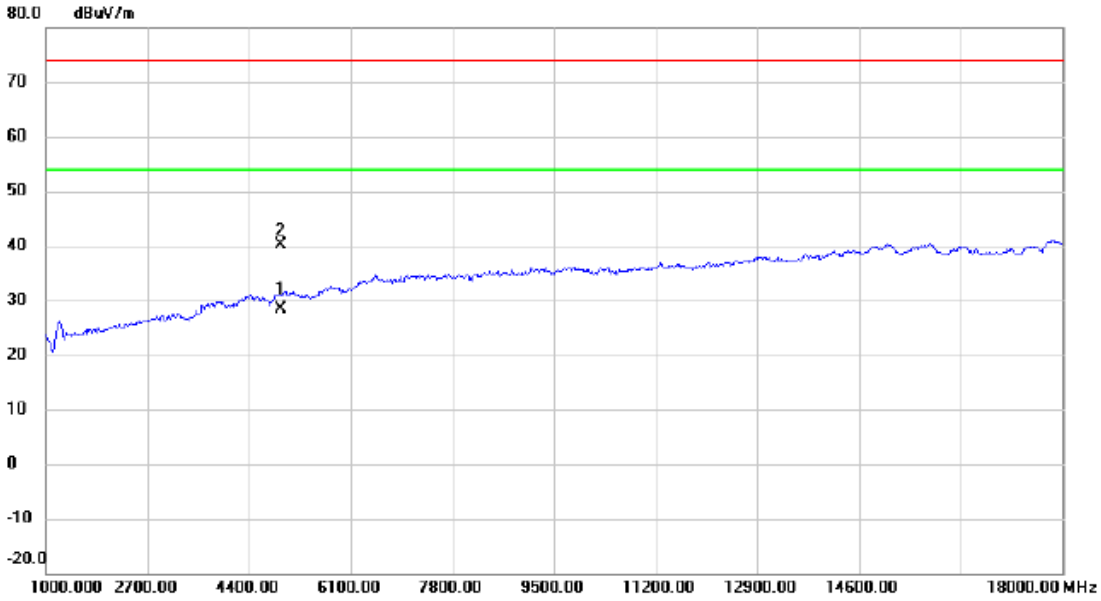
Test Mode	WCDMA Band IV_CH1638+TX_2.4G WIFI_B Mode 2462 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26461.750	37.96	11.09	49.05	74.00	-24.95	peak	
2	*	26461.750	27.22	11.09	38.31	54.00	-15.69	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

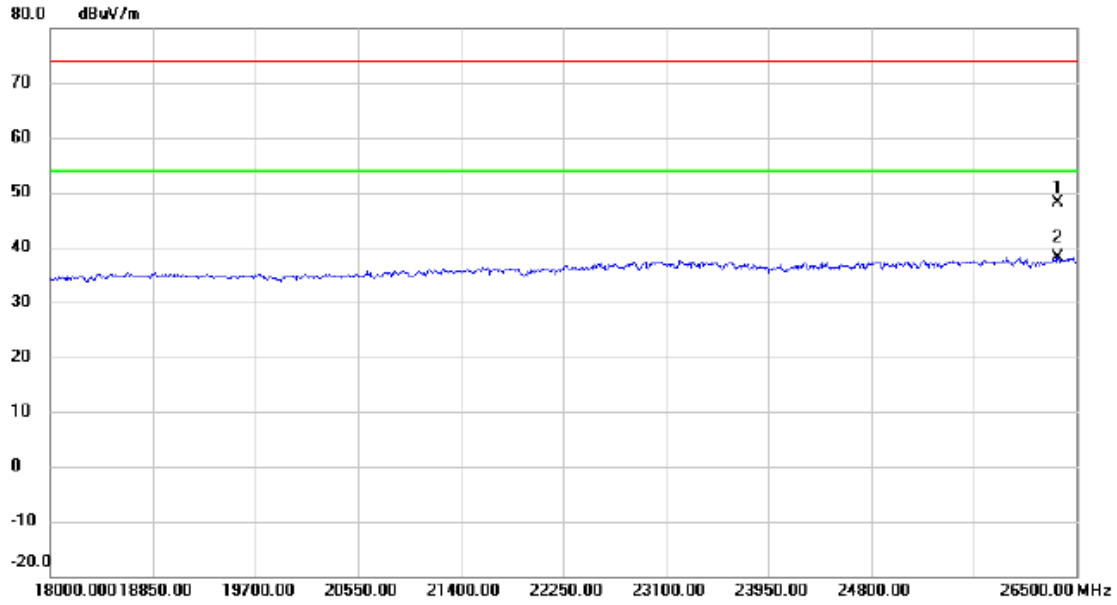
Test Mode	WCDMA Band V_CH4407+TX_2.4G WIFI_B Mode 2462 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4923.517	22.53	5.73	28.26	54.00	-25.74	AVG	
2		4924.212	34.42	5.73	40.15	74.00	-33.85	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

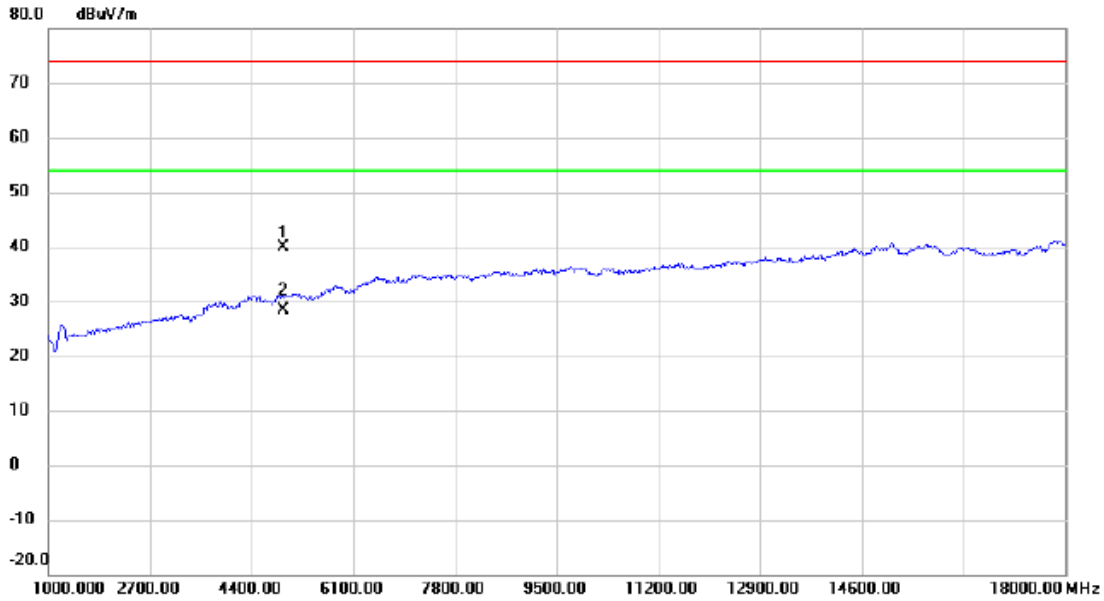
Test Mode	WCDMA Band V_CH4407+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26342.750	36.96	11.13	48.09	74.00	-25.91	peak	
2	*	26342.750	26.97	11.13	38.10	54.00	-15.90	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

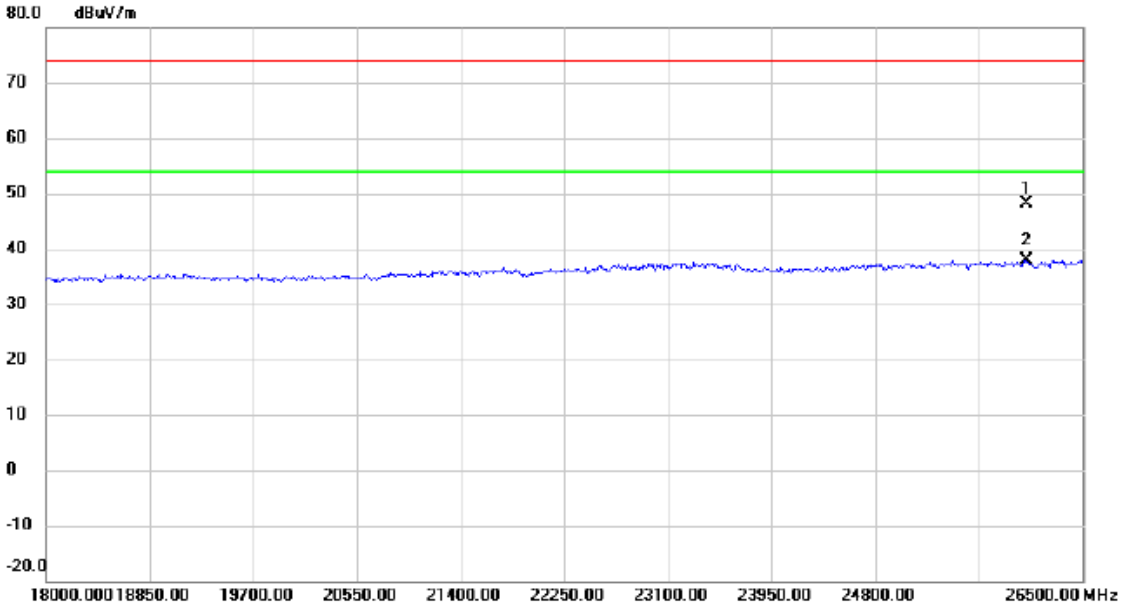
Test Mode	WCDMA Band V_CH4407+TX_2.4G WIFI_B Mode 2462 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4923.961	34.27	5.73	40.00	74.00	-34.00	peak	
2	*	4923.992	22.56	5.73	28.29	54.00	-25.71	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

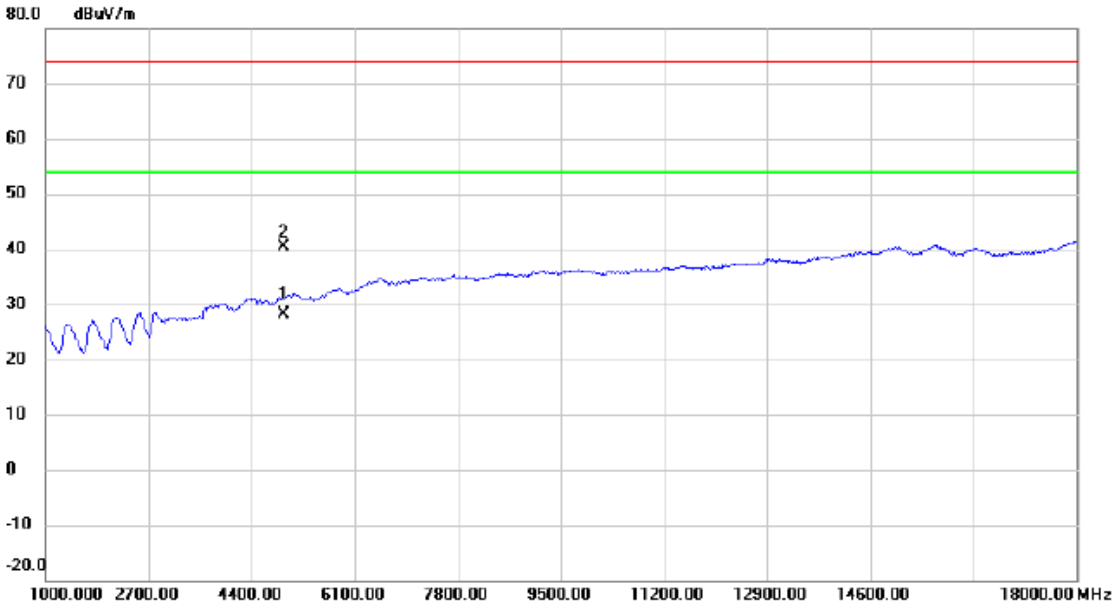
Test Mode	WCDMA Band V_CH4407+TX_2.4G WIFI_B Mode 2462 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26036.750	36.78	11.25	48.03	74.00	-25.97	peak	
2	*	26036.750	26.62	11.25	37.87	54.00	-16.13	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

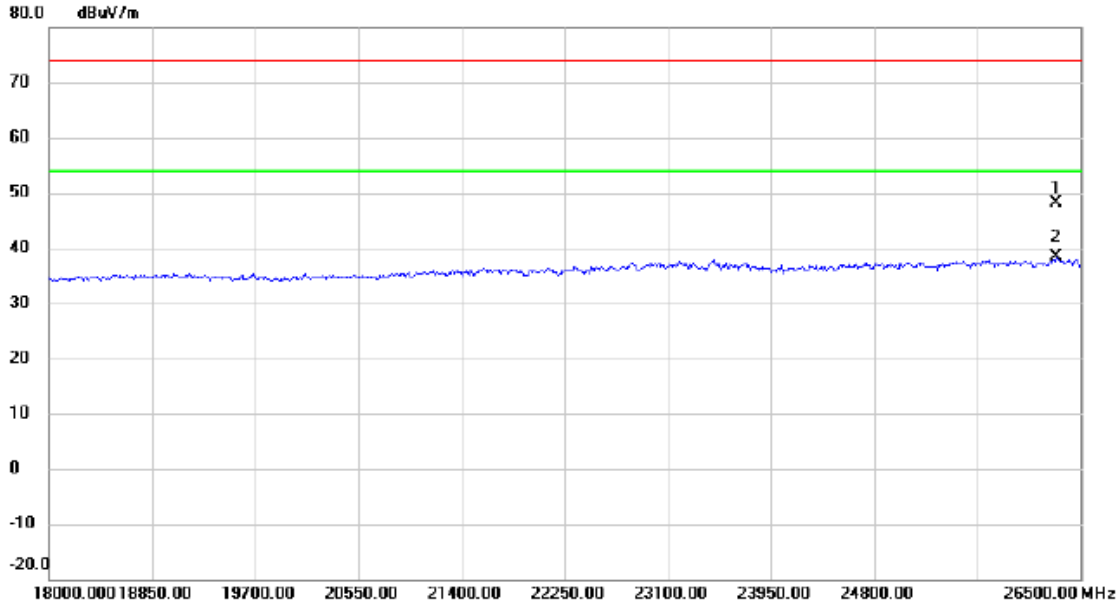
Test Mode	LTE Band 2_CH18900+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4923.812	22.46	5.73	28.19	54.00	-25.81	AVG	
2		4924.062	34.53	5.73	40.26	74.00	-33.74	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

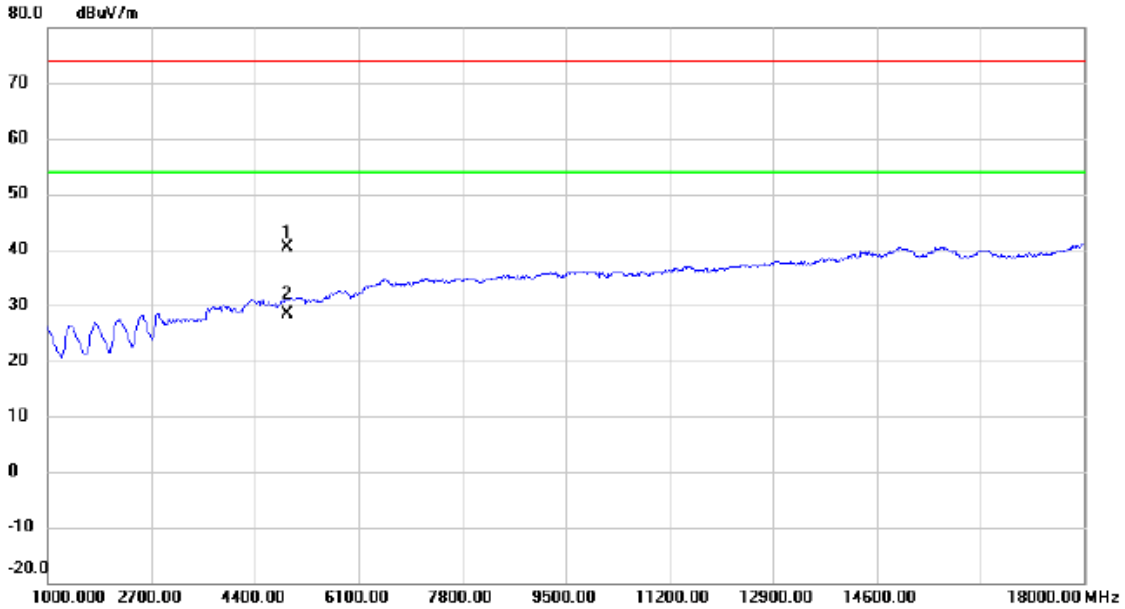
Test Mode	LTE Band 2_CH18900+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26304.500	37.11	11.14	48.25	74.00	-25.75	peak	
2	*	26304.500	27.19	11.14	38.33	54.00	-15.67	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

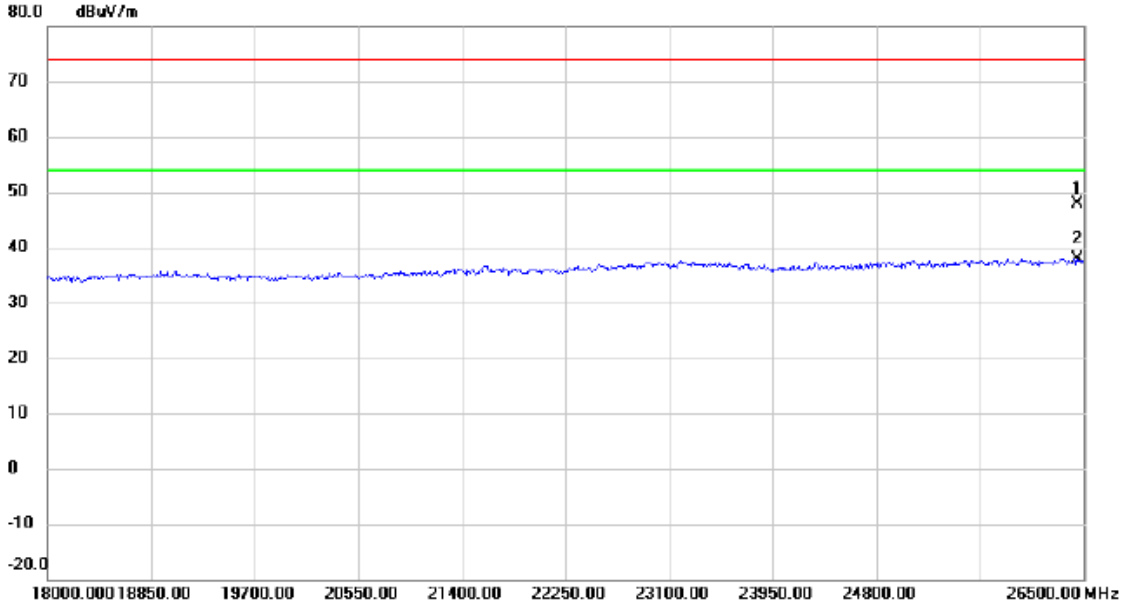
Test Mode	LTE Band 2_CH18900+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4923.888	34.67	5.73	40.40	74.00	-33.60	peak	
2	*	4923.909	22.61	5.73	28.34	54.00	-25.66	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

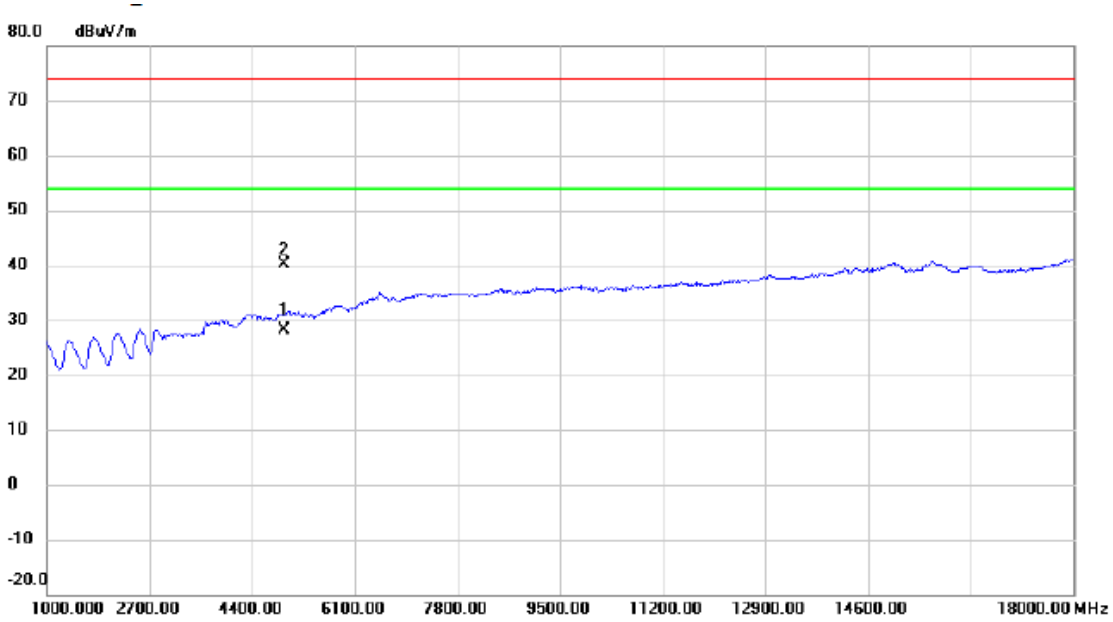
Test Mode	LTE Band 2_CH18900+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26453.250	36.86	11.08	47.94	74.00	-26.06	peak	
2	*	26453.250	26.86	11.08	37.94	54.00	-16.06	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

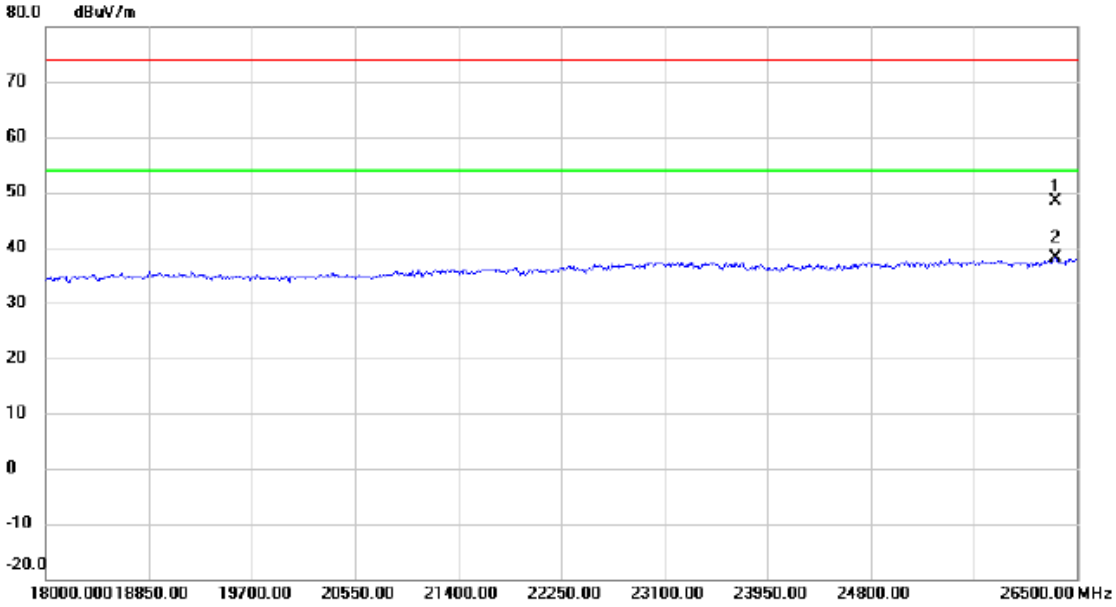
Test Mode	LTE Band 4_CH20175+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4923.890	22.42	5.73	28.15	54.00	-25.85	AVG	
2		4924.294	34.33	5.73	40.06	74.00	-33.94	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

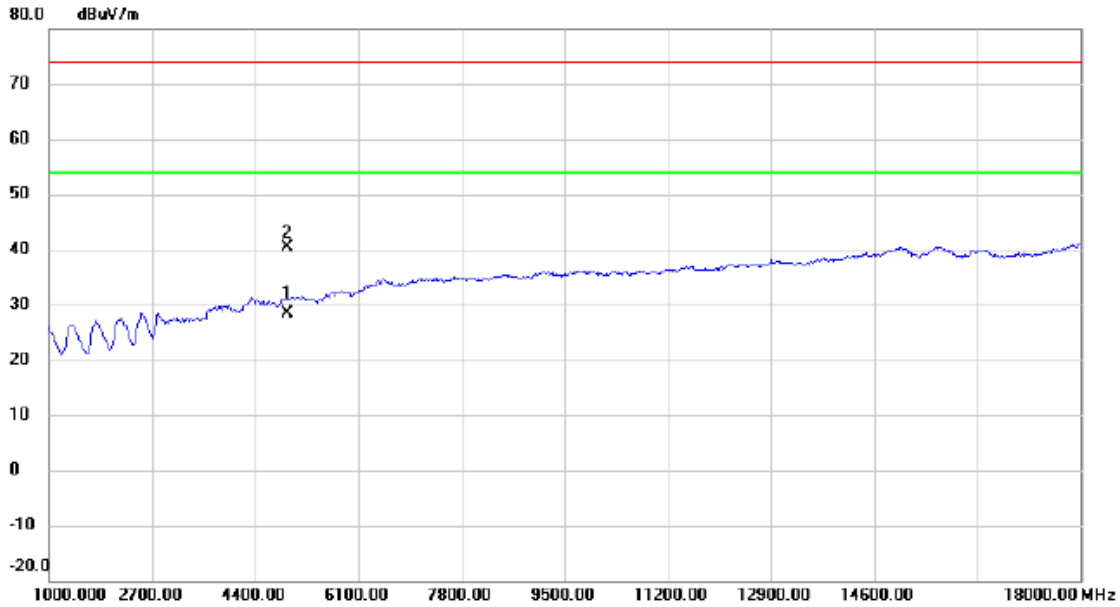
Test Mode	LTE Band 4_CH20175+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26321.500	37.18	11.13	48.31	74.00	-25.69	peak	
2	*	26321.500	27.08	11.13	38.21	54.00	-15.79	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

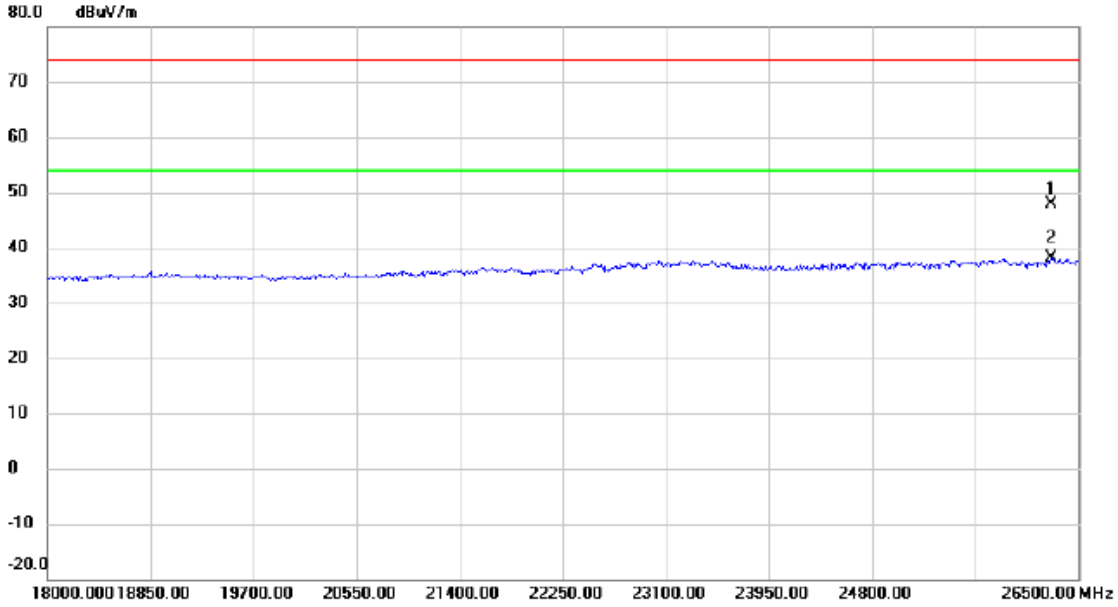
Test Mode	LTE Band 4_CH20175+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4923.526	22.59	5.73	28.32	54.00	-25.68	AVG	
2		4924.039	34.59	5.73	40.32	74.00	-33.68	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

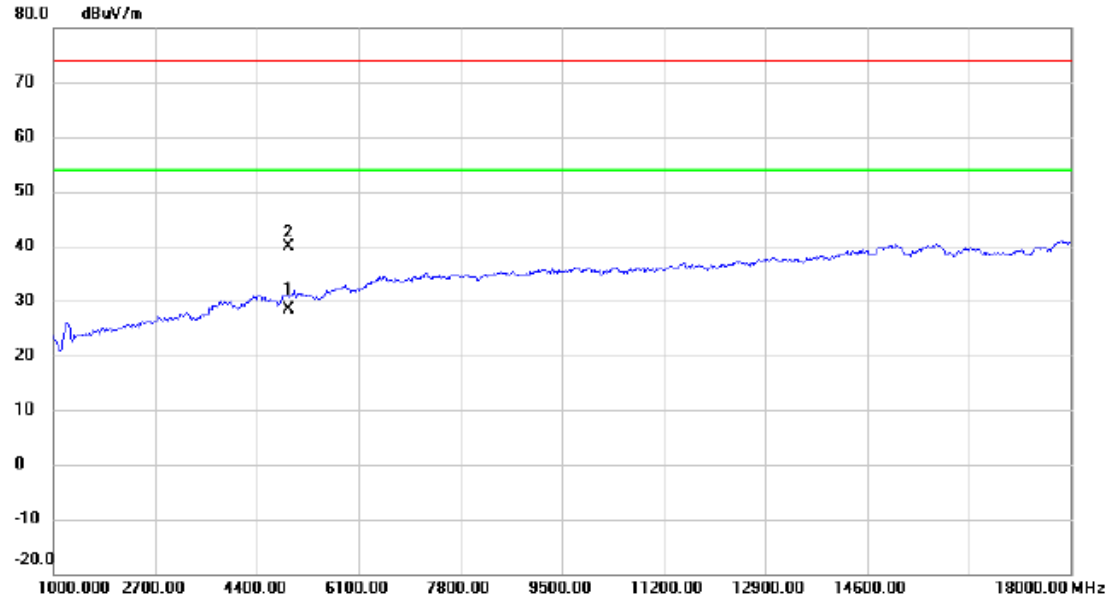
Test Mode	LTE Band 4_CH20175+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26283.250	36.82	11.15	47.97	74.00	-26.03	peak	
2	*	26283.250	26.94	11.15	38.09	54.00	-15.91	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

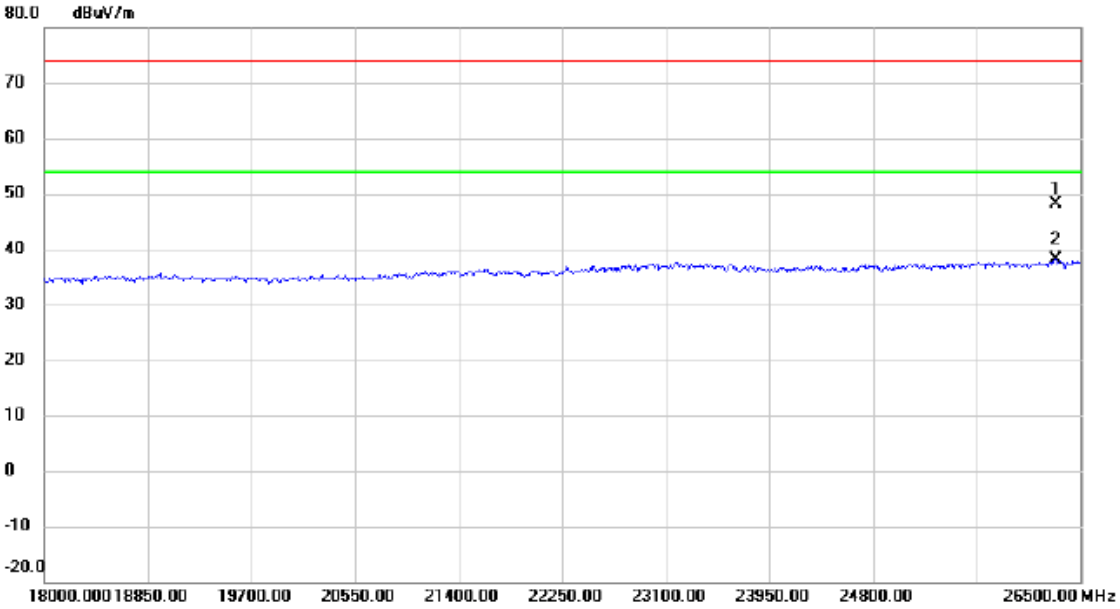
Test Mode	LTE Band 5_CH20525+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4923.548	22.58	5.73	28.31	54.00	-25.69	AVG	
2		4924.440	34.18	5.73	39.91	74.00	-34.09	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

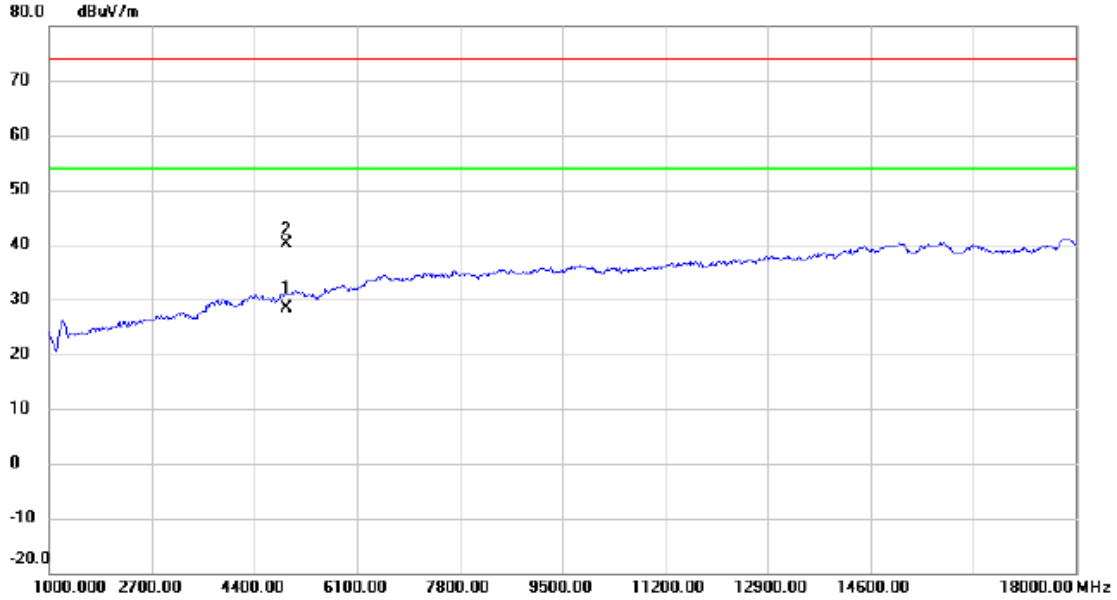
Test Mode	LTE Band 5_CH20525+TX_2.4G WIFI B Mode 2462 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26296.000	36.93	11.15	48.08	74.00	-25.92	peak	
2	*	26296.000	26.93	11.15	38.08	54.00	-15.92	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

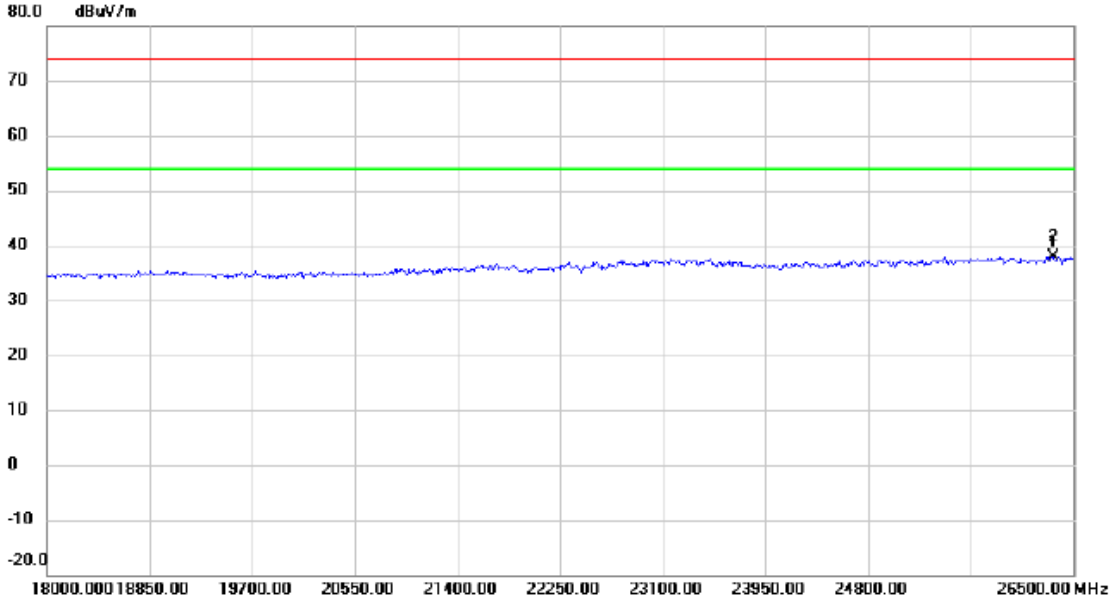
Test Mode	LTE Band 5_CH20525+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4923.753	22.61	5.73	28.34	54.00	-25.66	AVG	
2		4923.805	34.50	5.73	40.23	74.00	-33.77	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

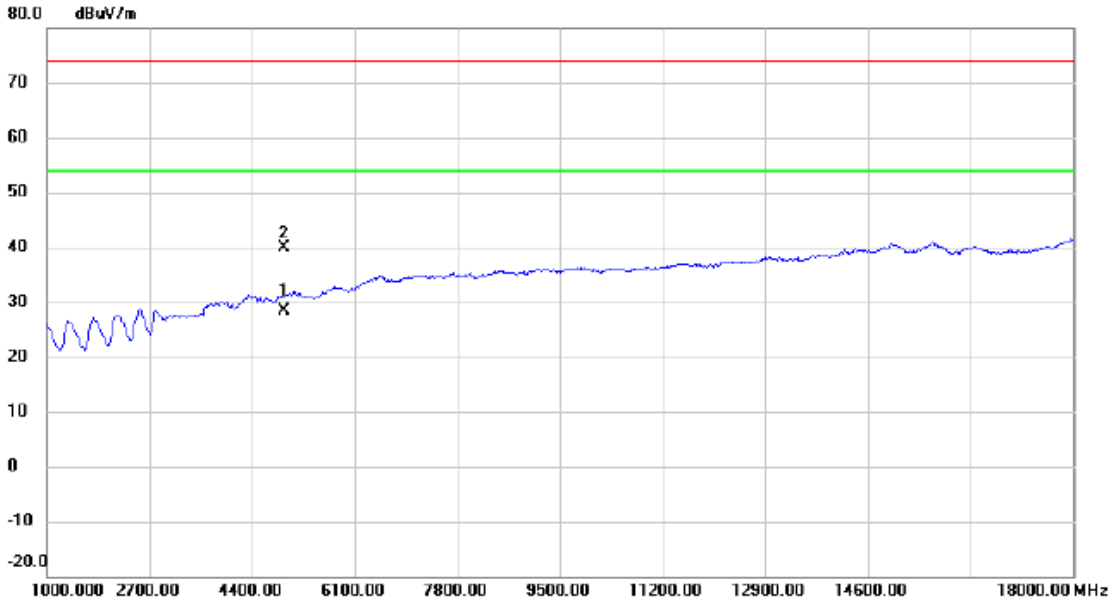
Test Mode	LTE Band 5_CH20525+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26334.250	26.84	11.13	37.97	74.00	-36.03	peak	
2	*	26334.250	26.84	11.13	37.97	54.00	-16.03	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

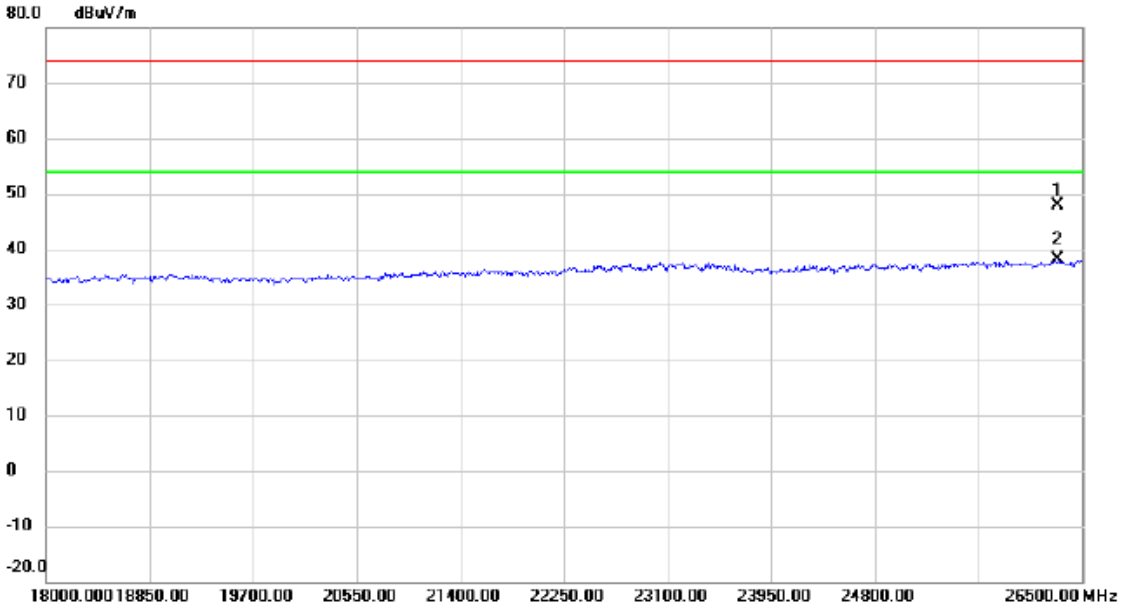
Test Mode	LTE Band 7_CH21100+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1	*	4924.072	22.60	5.73	28.33	54.00	-25.67	AVG	
2		4924.128	34.20	5.73	39.93	74.00	-34.07	peak	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

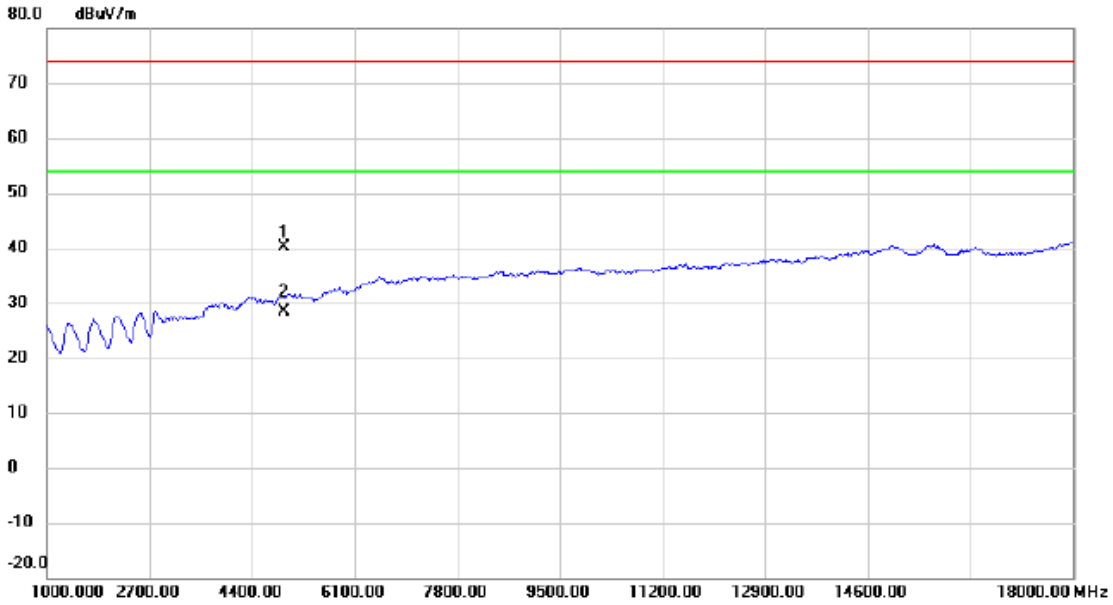
Test Mode	LTE Band 7_CH21100+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26304.500	36.81	11.14	47.95	74.00	-26.05	peak	
2	*	26304.500	26.96	11.14	38.10	54.00	-15.90	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

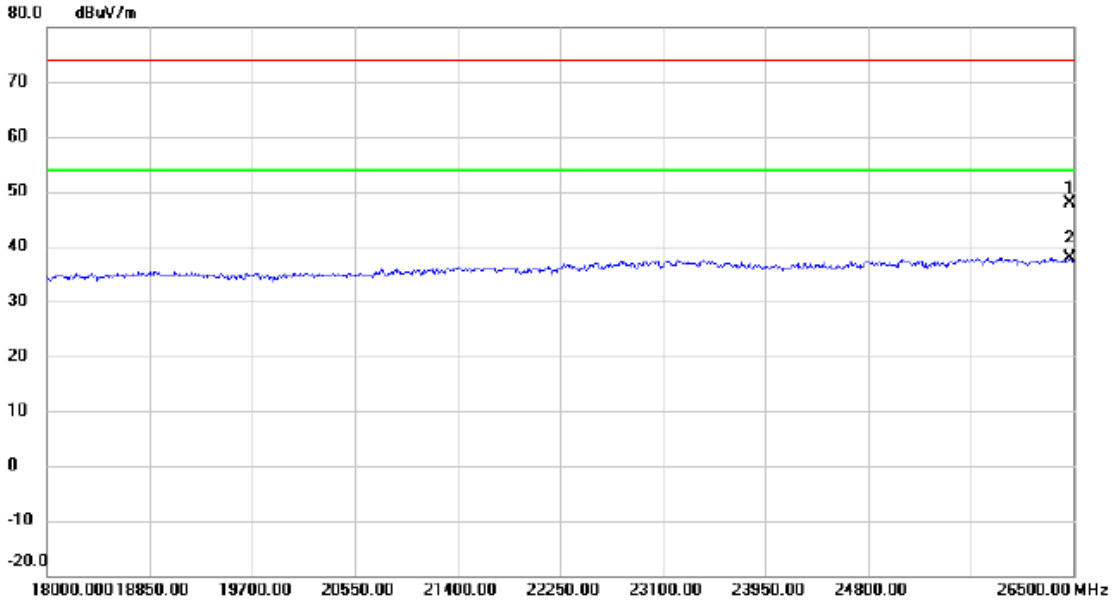
Test Mode	LTE Band 7_CH21100+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		4923.652	34.33	5.73	40.06	74.00	-33.94	peak	
2	*	4923.814	22.55	5.73	28.28	54.00	-25.72	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

Test Mode	LTE Band 7_CH21100+TX_2.4G WIFI_ B Mode 2462 MHz	Polarization	Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		26474.500	36.88	11.07	47.95	74.00	-26.05	peak	
2	*	26474.500	26.86	11.07	37.93	54.00	-16.07	AVG	

REMARKS:
(1) Measurement Value = Reading Level + Correct Factor.
(2) Margin Level = Measurement Value - Limit Value.

End of Test Report