TEST REPORT

of

FCC Part 15 Subpart C §15.209
IC RSS-210 Issue 9, RSS-Gen Issue 5

FCC ID: CQOEG08220
IC Certification: 1551E-EG08220

Equipment Under Test	:	DL3 RSPA IBU
Model Name	:	EG08220
Applicant	:	DENSO Korea Corporation
Manufacturer	:	DENSO Korea Corporation
Date of Receipt	:	2019.10.11
Date of Test(s)	:	2019.10.14 ~ 2019.10.28
Date of Issue	:	2019.11.01

In the configuration tested, the EUT complied with the standards specified above.

Tested By:  **Date:** **2019.11.01**

Nancy Park

Technical Manager:  **Date:** **2019.11.01**

Jungmin Yang

Table of Contents

1. General Information

1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)
- 10-2, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- Designation number: KR0150

All SGS services are rendered in accordance with the applicable SGS conditions of service available on request and accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx.

Phone No. : +82 31 688 0901
Fax No. : +82 31 688 0921

1.2. Details of Applicant

Applicant : DENSO Korea Corporation
Address : 3, Cheomdansaneop-ro, Masanhappo-gu, Changwon-si, Gyeongsangnam-do, Korea 51776
Contact Person : Ha, Chang-su
Phone No. : +82 55 220 9321

1.3. Details of Manufacturer

Applicant : Same as applicant
Address : Same as applicant

1.4. Description of EUT

Kind of Product		DL3 RSPA IBU
Model Name		EG08220
Power Supply		DC 12.0 V
Frequency Range		Tx: 125.00 ㎑, Rx: 433.92 ㎒
Antenna Type	**Tx**	External Type (Coil Antenna)
	Rx	Internal Type

1.5. Declaration of Manufacturer

- The EUT has 8 transmit antennas and one receive antenna.
- The transmit antennas can not operate at the same time.

1.6. Test Equipment List

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Interval	Cal. Due
Spectrum Analyzer	R&S	FSV30	100768	Mar. 08, 2019	Annual	Mar. 08, 2020
Signal Generator	R&S	SMBV100A	259067	Jun. 10, 2019	Annual	Jun. 10, 2020
DC Power Supply	Agilent	U8002A	MY50060028	Mar. 12, 2019	Annual	Mar. 12, 2020
Test Receiver	R&S	ESU26	100109	Jan. 31, 2019	Annual	Jan. 31, 2020
Loop Antenna	Schwarzbeck Mess-Elektronik	FMZB 1519	1519-039	Aug. 22, 2019	Biennial	Aug. 22, 2021
Bilog Antenna	Schwarzbeck Mess-Elektronik	VULB9163	396	Mar. 21, 2019	Biennial	Mar. 21, 2021
Turn Table	Innco systems GmbH	DS 1200 S	N/A	N. C. R.	N/A	N. C. R.
Controller	Innco systems GmbH	CONTROLLER CO3000-4P	CO3000/963/38330516/L	N. C. R.	N/A	N. C. R.
Antenna Mast	Innco systems GmbH	MA4640-XP-ET	MA4640/536/38330516/L	N. C. R.	N/A	N. C. R.
Anechoic Chamber	SY Corporation	L × W × H (9.6 m × 6.4 m × 6.6 m)	N/A	N. C. R.	N/A	N. C. R.
Coaxial Cable	SUCOFLEX	104 (3 m)	MY3258414	Jul. 20, 2019	Semi-annual	Jan. 20, 2020
Coaxial Cable	SUCOFLEX	104 (10 m)	MY3145814	Jul. 20, 2019	Semi-annual	Jan. 20, 2020
Coaxial Cable	Rosenberger	LA1-C006-1500	131014 09/20	Aug. 23, 2019	Semi-annual	Feb. 23, 2020

1.7. Sample Calculation

Where relevant, the following sample calculation is provided:
Field strength level (dBμV/m) = Measured level (dBμV) + Antenna factor (dB) + Cable loss (dB)

1.8. Summary of Test Results

The EUT has been tested according to the following specifications:

Applied standard: FCC Part15 subpart C, IC RSS-210 Issue 9, RSS-Gen Issue 5			
Section in FCC	**Section in IC**	**Test Item**	**Result**
15.209	RSS-210 Issue 9 4.4 RSS-Gen Issue 5 8.9	Radiated emission, Spurious Emission and Field Strength of Fundamental	Complied
2.1049	-	20 dB Bandwidth	Complied
-	RSS-Gen Issue 5 6.7	Occupied Bandwidth	Complied

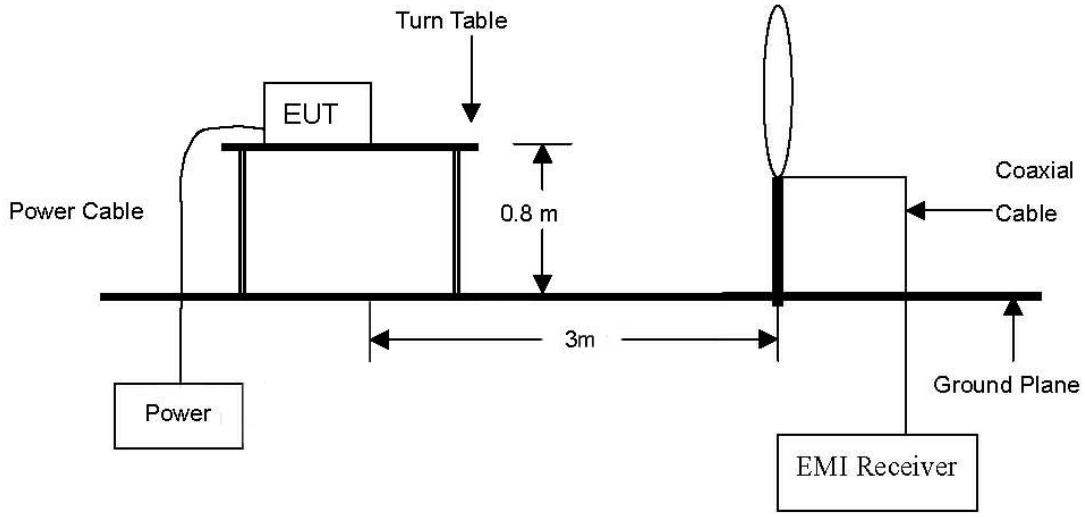
1.9. Test Report Revision

Revision	Report Number	Date of Issue	Description
0	F690501/RF-RTL014484	2019.11.01	Initial

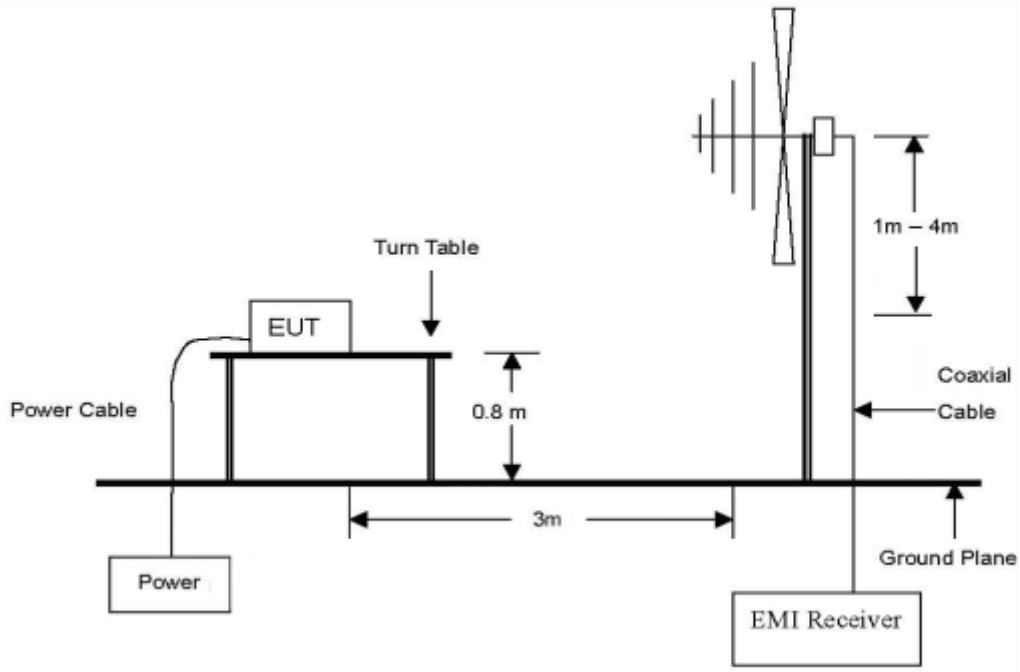
2. Field Strength of Fundamental and Spurious Emission

2.1. Test Setup

The diagram below shows the test setup that is utilized to make the measurements for emission below 30 ㎒.



The diagram below shows the test setup that is utilized to make the measurements for emission from 30 ㎒ to 1 ㎓ Emissions.



2.2. Limits

2.2.1. FCC

According to §15.209(a), except as provided elsewhere in this Subpart, the emissions from an intentional radiator shall not exceed the field strength levels specified in the following table:

Frequency (㎒)	Field Strength (microvolts/meter)	Measurement Distance (meter)
0.009-0.490	2 400/F(㎑)	300
0.490-1.705	24 000/F(㎑)	30
1.705-30.0	30	30
30-88	100**	3
88-216	150**	3
216-960	200**	3
Above 960	500	3

** Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 ㎒, 76-88 ㎒, 174-216 ㎒ or 470-806 ㎒. However, operation within these frequency bands is permitted under other sections of this part, e.g., §§15.231 and 15.241.

According to §15.209(d), The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9-90 ㎑, 110-490 ㎑ and above 1 000 ㎒. Radiated emission limits in these three bands are based on measurements employing an average detector.

2.2.2. IC

2.2.2.1. Transmitter emission limits

According to RSS-Gen Issue 5, 8.9.
Except where otherwise indicated in the applicable RSS, radiated emissions shall comply with the field strength limits shown in table 5 and table 6. Additionally, the level of any transmitter unwanted emission shall not exceed the level of the transmitter's fundamental emission.

Table 5 - General field strength limits at frequencies above 30 ㎒

Frequency (㎒)	Field Strength (㎶/m at 3 m)
30-88	100
88-216	150
216-960	200
Above 960	500

Table 6 - General field strength limits at frequencies below 30 ㎒

Frequency	Magnetic Field Strength (H-Field) (㎂/m)	Measurement Distance (m)
9-490 ㎑ [1]	6.37/F (F in ㎑)	300
490-1 705 ㎑	63.7/F (F in ㎑)	30
1.705-30 ㎒	0.08	30

Note 1: The emission limits for the ranges 9-90 ㎑ and 110-490 ㎑ are based on measurements employing a linear average detector.

2.3. Test Procedures

Radiated emissions from the EUT were measured according to the dictates of ANSI C63.10-2013.

2.3.1. Test Procedures for emission from 9 ㎑ to 30 ㎒

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter anechoic chamber test site. The table was rotated 360 degrees to determine the position of the highest radiation.
2. Then antenna is a loop antenna is fixed at one meter above the ground to determine the maximum value of the field strength. Both parallel and perpendicular of the antenna are set to make the measurement.
3. For each suspected emission, the EUT was arranged to its worst case and then the table was turned from 0 degrees to 360 degrees to find the maximum reading.
4. The test-receiver system was set to average or quasi peak detect function and Specified Bandwidth with Maximum Hold Mode.
5. To get a maximum emission level from the EUT, the EUT is manipulated through three orthogonal planes (X, Y, Z). Worst orthogonal plan of EUT is **X – axis** during radiation test.

2.3.2. Test Procedures for emission from above 30 ㎒

1. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter anechoic chamber test site below 1 ㎓ and 1.5 meters above the ground at a 3 meter anechoic chamber test site above 1 ㎓. The table was rotated 360 degrees to determine the position of the highest radiation.
2. During performing radiated emission below 1 ㎓, the EUT was set 3 meters away from the interference receiving antenna, which was mounted on the top of a variable-height antenna tower. During performing radiated emission above 1 ㎓, the EUT was set 3 meter away from the interference-receiving antenna.
3. The antenna is a bi-log antenna, a horn antenna and its height is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
4. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the table was turned from 0 degrees to 360 degrees to find the maximum reading.
5. The test-receiver system was set to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

2.4. Field Strength of Fundamental Test Result

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 % R.H.

All emissions tested both horizontal and vertical. The following table shows the highest levels of radiated emissions on the worst polarization.

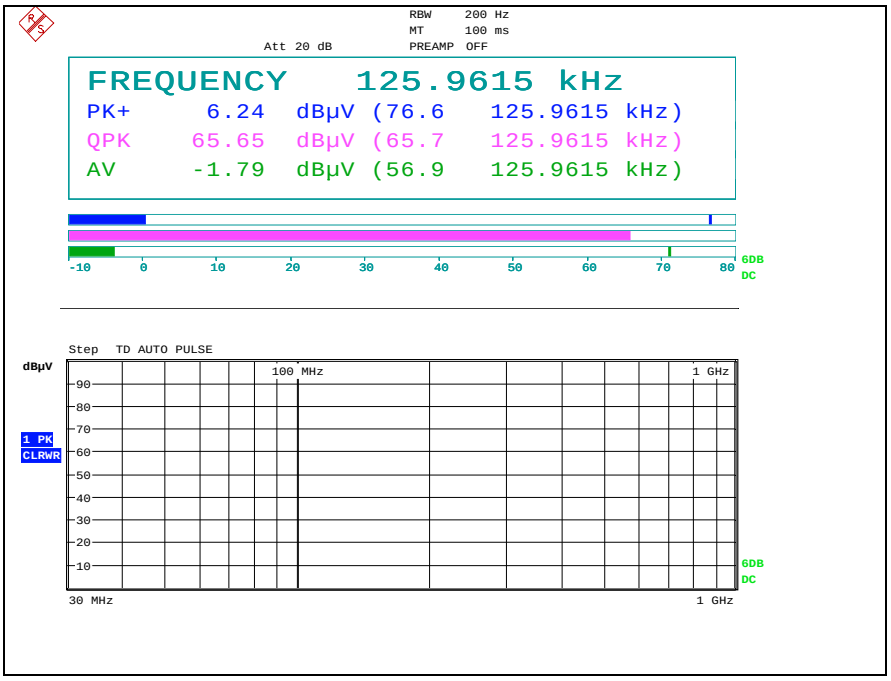
Radiated Emissions			Ant.	Correction Factors		Total		Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	Ant. (dB/m)	Cable (dB)	Actual (dB㎶/m) at 3 m	Actual (dB㎶/m) at 300 m	Limit (dB㎶/m) at 300 m	Margin (dB)
DRV Antenna									
0.126	56.90	Average	H	17.80	0.07	74.77	-5.23	25.60	30.83
AST Antenna									
0.126	52.30	Average	H	17.80	0.07	70.17	-9.83	25.60	35.43
INT1 Antenna									
0.126	42.70	Average	H	17.80	0.07	60.57	-19.43	25.60	45.03
INT2 Antenna									
0.126	54.20	Average	H	17.80	0.07	72.07	-7.93	25.60	33.53
TRK Antenna									
0.126	59.20	Average	H	17.80	0.07	77.07	-2.93	25.60	28.53
BUM Antenna									
0.126	52.40	Average	H	17.80	0.07	70.27	-9.73	25.60	35.33
FRB Antenna									
0.126	45.02	Average	H	17.80	0.07	62.89	-17.11	25.60	42.71
SSB Antenna									
0.125	43.40	Average	H	17.80	0.07	61.27	-18.73	25.67	44.40

Remark;

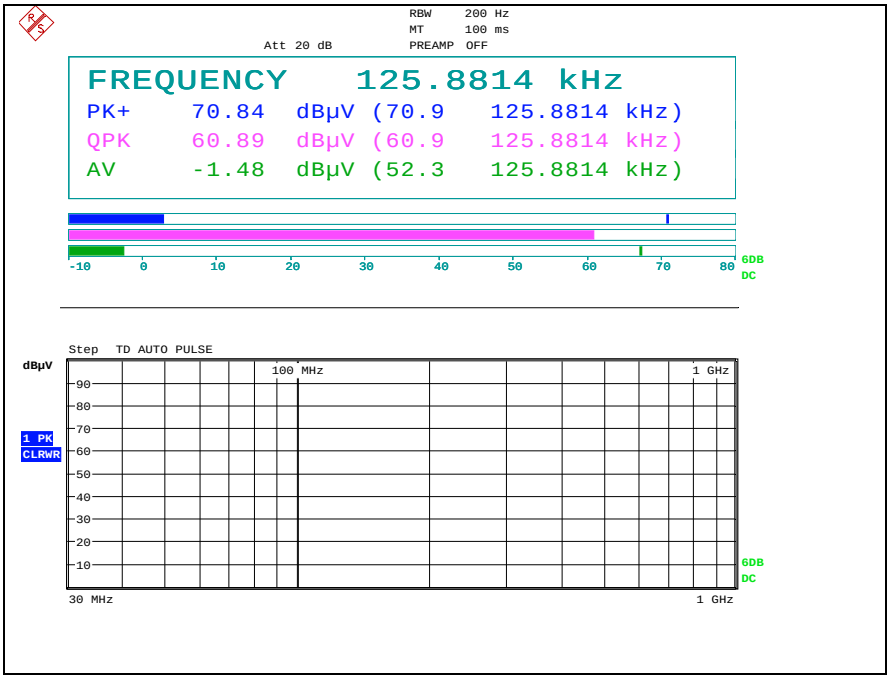
1. According to §15.31(f)(2) 300 m Result (dB㎶/m) = 3 m Result (dB㎶/m) - 40log (300/3) (dB㎶/m).
2. According to §15.209(d), the measurements were tested by using Quasi peak detector except for the frequency bands 9-90 ㎑, 110-490 ㎑ and above 1 ㎓ in these three bands on measurements employing an average detector.
3. The limit above was calculated based on table of §15.209(a).
4. According to ANSI C63.10: 2013, For measurement below 30 ㎒.
   conversion factor from E-field to H-field is considered as free-space impedance [1 ㎶/m = (1/377 Ω) × 1 ㎂/m]
   The FCC limits are same to the IC limits.

- Test plots

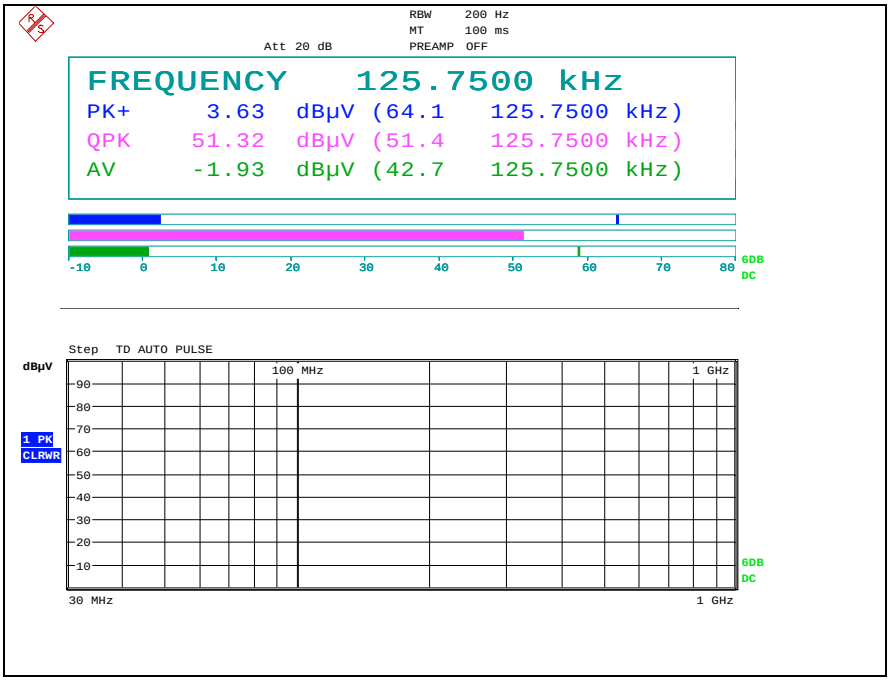
DRV Antenna



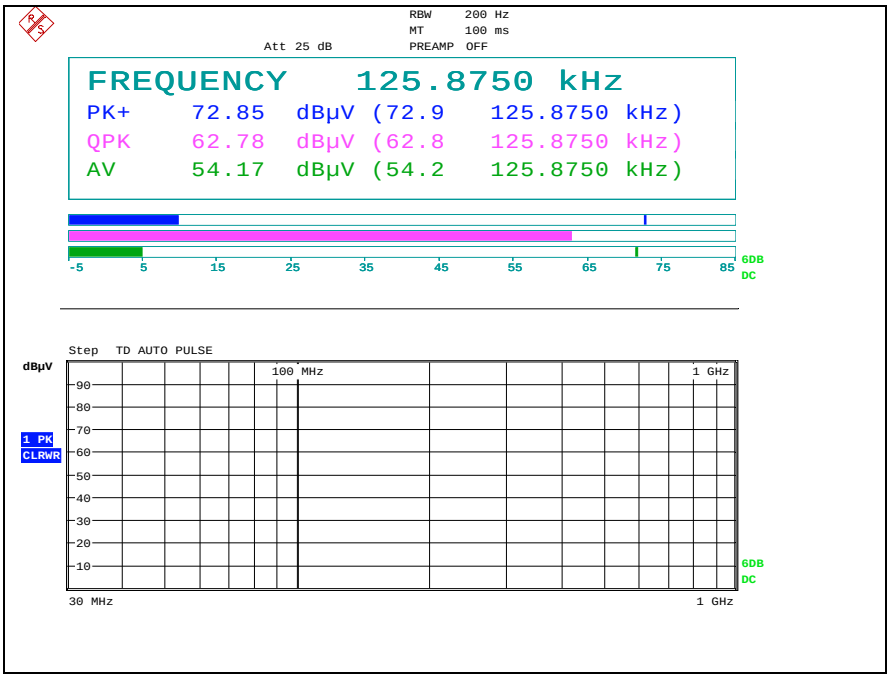
AST Antenna



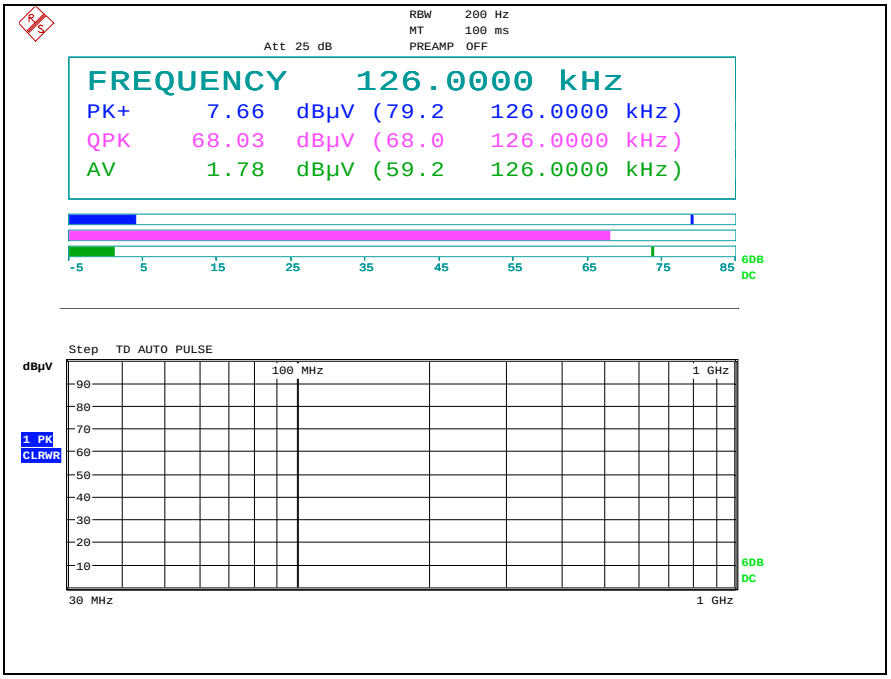
INT1 Antenna



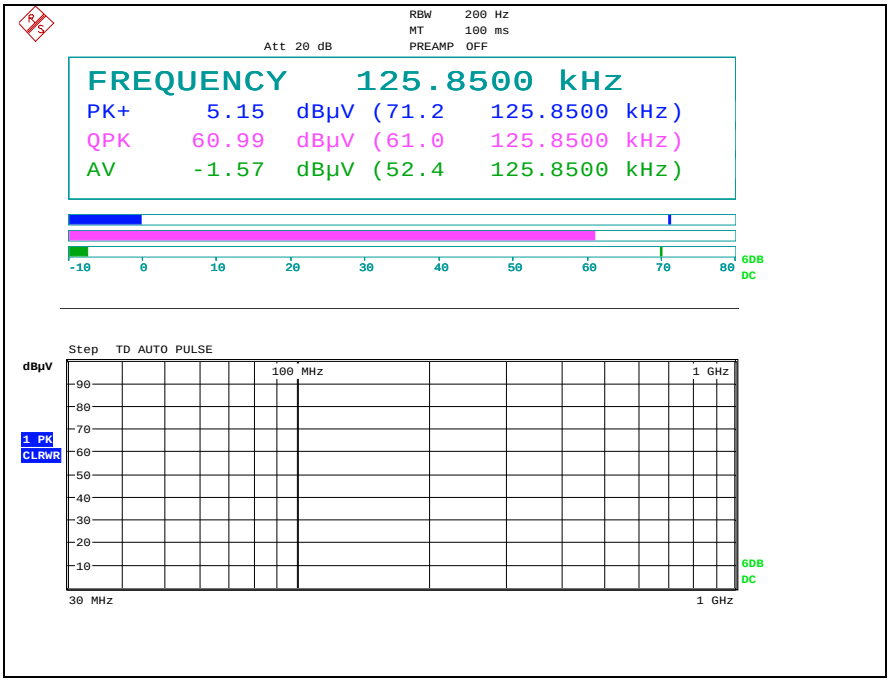
INT2 Antenna



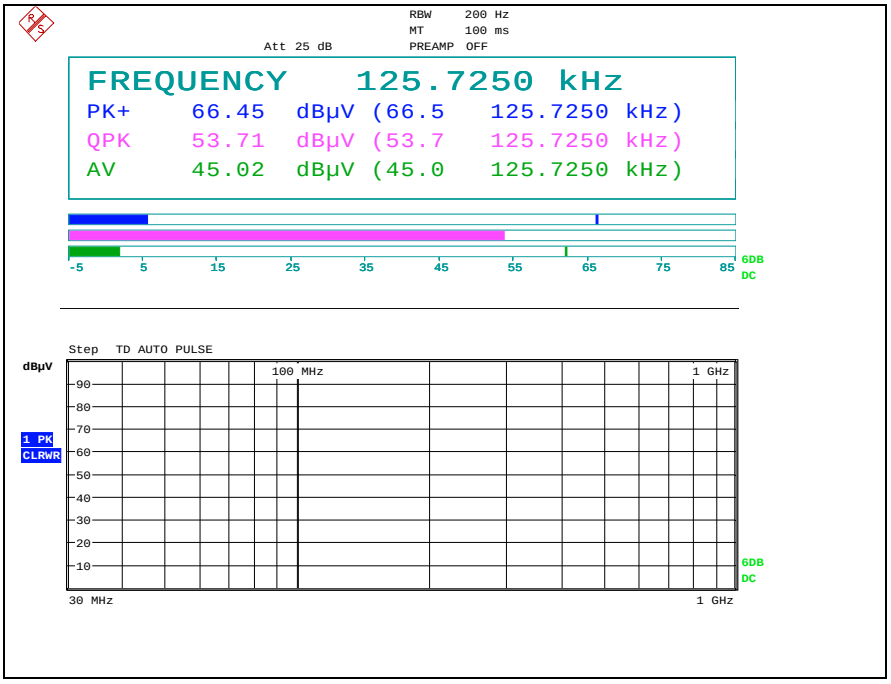
TRK Antenna



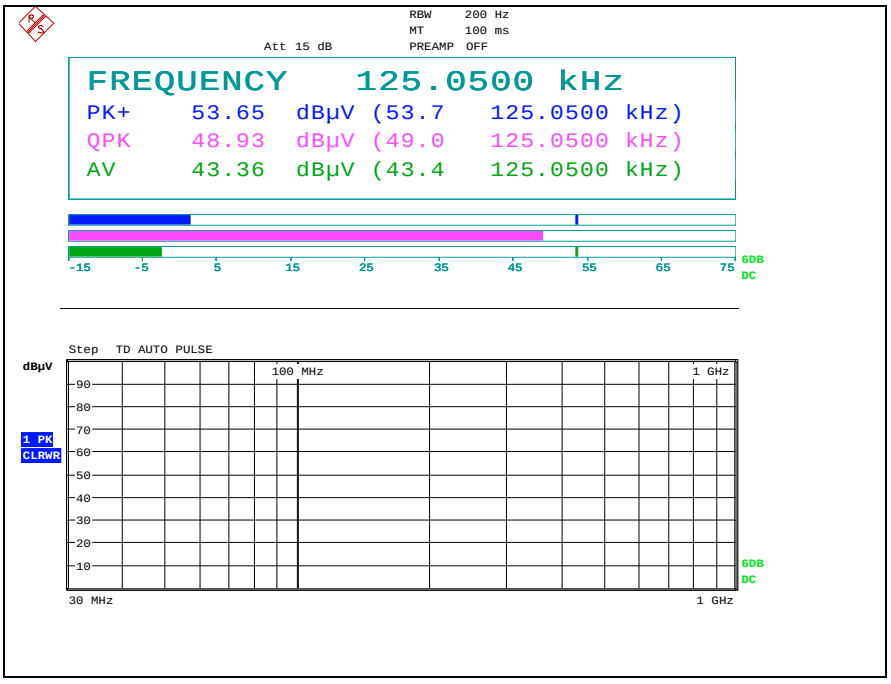
BUM Antenna



FRB Antenna



SSB Antenna



2.5. Spurious Emission Test Result

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 % R.H.

DRV Antenna

Below 30 ㎒

Radiated Emissions			Ant.	Correction Factors		Total		Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m) at 3 m	Actual (dB㎶/m) at 30 m or 300 m	Limit (dB㎶/m) at 30 m or 300 m	Margin (dB)
0.019	25.60	Average	H	18.23	0.01	43.84	-36.16	42.03	78.19
0.035	22.70	Average	H	17.89	0.02	40.61	-39.39	36.72	76.11
0.068	15.50	Average	H	17.85	0.03	33.38	-46.62	30.95	77.57
0.881	16.82	Quasi-Peak	H	18.00	0.52	35.34	-4.66	28.70	33.36
Above 1.000	Not detected	-	-	-	-	-	-	-	-

Above 30 ㎒

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP + CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
46.94	33.00	Peak	V	20.60	-26.75	26.85	40.00	13.15
47.54	33.20	Peak	H	20.55	-26.74	27.01	40.00	12.99
248.78	34.20	Peak	H	18.18	-25.48	26.90	46.00	19.10
425.52	34.40	Peak	V	22.01	-25.04	31.37	46.00	14.63
873.01	33.90	Peak	V	27.70	-23.11	38.49	46.00	7.51
993.86	34.90	Peak	H	28.48	-22.29	41.09	54.00	12.91

AST Antenna

Below 30 ㎒

Radiated Emissions			Ant.	Correction Factors		Total		Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m) at 3 m	Actual (dB㎶/m) at 30 m or 300 m	Limit (dB㎶/m) at 30 m or 300 m	Margin (dB)
0.019	25.90	Average	H	18.23	0.01	44.14	-35.86	42.03	77.89
0.035	21.80	Average	H	17.89	0.02	39.71	-40.29	36.72	77.01
0.067	18.10	Average	H	17.85	0.03	35.98	-44.02	31.08	75.10
0.253	13.90	Average	H	17.80	0.18	31.88	-48.12	19.54	67.66
0.378	19.30	Average	H	17.76	0.25	37.31	-42.69	16.05	58.74
0.629	22.90	Quasi-Peak	H	17.80	0.38	41.08	1.08	31.63	30.55
Above 1.000	Not detected	-	-	-	-	-	-	-	-

Above 30 ㎒

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP + CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
44.31	33.00	Peak	H	20.53	-26.79	26.74	40.00	13.26
51.99	34.60	Peak	V	19.90	-26.66	27.84	40.00	12.16
252.53	34.20	Peak	V	18.30	-25.45	27.05	46.00	18.95
256.46	33.20	Peak	H	18.46	-25.41	26.25	46.00	19.75
894.15	34.90	Peak	V	27.98	-23.14	39.74	46.00	6.26
968.15	35.50	Peak	H	28.36	-22.62	41.24	54.00	12.76

INT1 Antenna

Below 30 ㎒

Radiated Emissions			Ant.	Correction Factors		Total		Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m) at 3 m	Actual (dB㎶/m) at 30 m or 300 m	Limit (dB㎶/m) at 30 m or 300 m	Margin (dB)
0.019	25.70	Average	H	18.23	0.01	43.94	-36.06	42.03	78.09
0.035	21.90	Average	H	17.89	0.02	39.81	-40.19	36.72	76.91
0.068	15.20	Average	H	17.85	0.03	33.08	-46.92	30.95	77.87
0.308	6.43	Average	H	17.80	0.21	24.44	-55.56	17.83	73.39
Above 1.000	Not detected	-	-	-	-	-	-	-	-

Above 30 ㎒

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP + CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
45.40	34.90	Peak	H	20.60	-26.77	28.73	40.00	11.27
100.61	34.10	Peak	H	17.00	-25.64	25.46	43.50	18.04
150.97	35.30	Peak	V	13.90	-25.59	23.61	43.50	19.89
326.98	34.70	Peak	V	19.82	-25.24	29.28	46.00	16.72
395.25	34.30	Peak	H	21.51	-25.15	30.66	46.00	15.34
751.64	34.50	Peak	H	26.80	-23.37	37.93	46.00	8.07
Above 800.00	Not detected	-	-	-	-	-	-	-

INT2 Antenna

Below 30 ㎒

Radiated Emissions			Ant.	Correction Factors		Total		Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m) at 3 m	Actual (dB㎶/m) at 30 m or 300 m	Limit (dB㎶/m) at 30 m or 300 m	Margin (dB)
0.019	23.90	Average	H	18.23	0.01	42.14	-37.86	42.03	79.89
0.031	13.70	Average	H	17.90	0.02	31.62	-48.38	37.78	86.16
Above 1.000	Not detected	-	-	-	-	-	-	-	-

Above 30 ㎒

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP + CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
50.37	33.10	Peak	V	20.23	-26.70	26.63	40.00	13.37
55.14	33.10	Peak	H	19.36	-26.57	25.89	40.00	14.11
196.76	32.90	Peak	H	17.18	-25.42	24.66	43.50	18.84
223.03	34.50	Peak	V	17.48	-25.39	26.59	46.00	19.41
864.36	34.50	Peak	H	27.60	-23.15	38.95	46.00	7.05
907.33	34.80	Peak	V	28.25	-23.00	40.05	46.00	5.95

TRK Antenna

Below 30 ㎒

Radiated Emissions			Ant.	Correction Factors		Total		Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m) at 3 m	Actual (dB㎶/m) at 30 m or 300 m	Limit (dB㎶/m) at 30 m or 300 m	Margin (dB)
0.019	25.40	Average	H	18.23	0.01	43.64	-36.36	42.03	78.39
0.035	20.20	Average	H	17.89	0.02	38.11	-41.89	36.72	78.61
0.047	16.00	Average	H	17.88	0.02	33.90	-46.10	34.16	80.26
Above 1.000	Not detected	-	-	-	-	-	-	-	-

Above 30 ㎒

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP + CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
42.85	33.50	Peak	V	20.39	-26.81	27.08	40.00	12.92
45.12	33.80	Peak	H	20.60	-26.78	27.62	40.00	12.38
50.33	33.30	Peak	V	20.23	-26.70	26.83	40.00	13.17
366.35	35.20	Peak	H	20.35	-25.06	30.49	46.00	15.51
990.66	34.10	Peak	H	28.41	-22.27	40.24	54.00	13.76
999.31	34.30	Peak	V	28.50	-22.32	40.48	54.00	13.52

BUM Antenna

Below 30 ㎒

Radiated Emissions			Ant.	Correction Factors		Total		Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m) at 3 m	Actual (dB㎶/m) at 30 m or 300 m	Limit (dB㎶/m) at 30 m or 300 m	Margin (dB)
0.019	21.70	Average	H	18.23	0.01	39.94	-40.06	42.03	82.09
0.035	22.30	Average	H	17.89	0.02	40.21	-39.79	36.72	76.51
0.068	15.80	Average	H	17.85	0.03	33.68	-46.32	30.95	77.27
Above 1.000	Not detected	-	-	-	-	-	-	-	-

Above 30 ㎒

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP + CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
42.45	33.80	Peak	H	20.35	-26.82	27.33	40.00	12.67
100.73	34.80	Peak	H	17.00	-25.64	26.16	43.50	17.34
150.89	35.40	Peak	V	13.90	-25.59	23.71	43.50	19.79
244.90	35.30	Peak	H	18.10	-25.47	27.93	46.00	18.07
387.93	34.40	Peak	V	21.22	-25.19	30.43	46.00	15.57
854.70	33.90	Peak	V	27.50	-23.18	38.22	46.00	7.78
Above 900.00	Not detected	-	-	-	-	-	-	-

FRB Antenna

Below 30 ㎒

Radiated Emissions			Ant.	Correction Factors		Total		Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m) at 3 m	Actual (dB㎶/m) at 30 m or 300 m	Limit (dB㎶/m) at 30 m or 300 m	Margin (dB)
0.019	25.40	Average	H	18.23	0.01	43.64	-36.36	42.03	78.39
0.035	22.10	Average	H	17.89	0.02	40.01	-39.99	36.72	76.71
0.067	17.90	Average	H	17.85	0.03	35.78	-44.22	31.08	75.30
0.176	13.00	Average	H	17.80	0.12	30.92	-49.08	22.69	71.77
Above 1.000	Not detected	-	-	-	-	-	-	-	-

Above 30 ㎒

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP + CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
44.55	33.90	Peak	V	20.56	-26.79	27.67	40.00	12.33
51.58	33.90	Peak	H	19.98	-26.66	27.22	40.00	12.78
253.22	34.50	Peak	H	18.33	-25.44	27.39	46.00	18.61
345.57	33.70	Peak	V	20.83	-25.29	29.24	46.00	16.76
988.52	35.30	Peak	H	28.40	-22.29	41.41	54.00	12.59
996.36	34.30	Peak	V	28.50	-22.30	40.50	54.00	13.50

SSB Antenna

Below 30 ㎒

Radiated Emissions			Ant.	Correction Factors		Total		Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	CL (dB)	Actual (dB㎶/m) at 3 m	Actual (dB㎶/m) at 30 m or 300 m	Limit (dB㎶/m) at 30 m or 300 m	Margin (dB)
0.019	24.50	Average	H	18.23	0.01	42.74	-37.26	42.03	79.29
0.035	21.90	Average	H	17.89	0.02	39.81	-40.19	36.72	76.91
0.067	18.00	Average	H	17.85	0.03	35.88	-44.12	31.08	75.20
0.193	10.80	Average	H	17.80	0.14	28.74	-51.26	21.89	73.15
Above 1.000	Not detected	-	-	-	-	-	-	-	-

Above 30 ㎒

Radiated Emissions			Ant	Correction Factors		Total	Limit	
Frequency (㎒)	Reading (dB㎶)	Detect Mode	Pol.	AF (dB/m)	AMP + CL (dB)	Actual (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
41.32	34.10	Peak	H	20.23	-26.83	27.50	40.00	12.50
50.33	33.70	Peak	V	20.23	-26.70	27.23	40.00	12.77
110.96	34.80	Peak	H	16.50	-25.54	25.76	43.50	17.74
151.09	36.00	Peak	V	13.91	-25.59	24.32	43.50	19.18
242.23	34.20	Peak	H	18.04	-25.47	26.77	46.00	19.23
560.39	34.40	Peak	V	23.81	-24.76	33.45	46.00	12.55
Above 600.00	Not detected	-	-	-	-	-	-	-

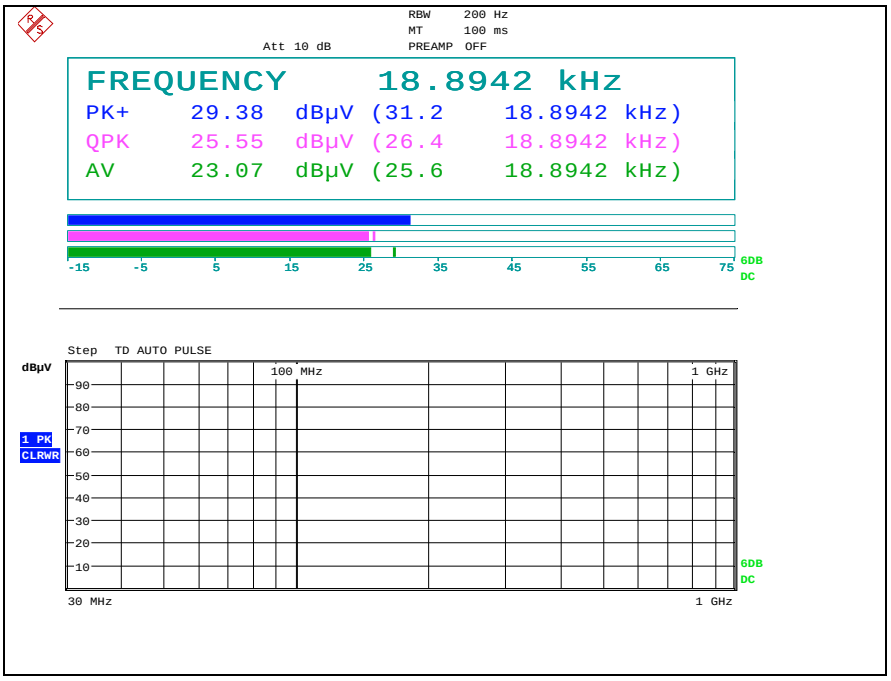
Remark;

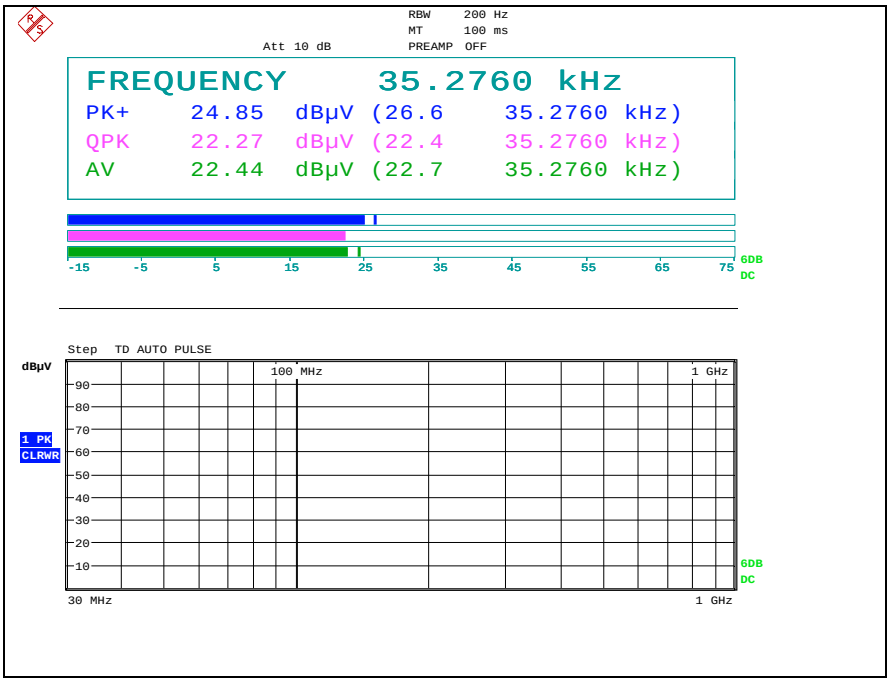
1. According to §15.31(f)(2)
   - 300 m Result (dBμV/m) = 3 m Result (dBμV/m) - 40log (300/3) (dBμV/m)
   - 30 m Result (dBμV/m) = 3 m Result (dBμV/m) - 40log (30/3) (dBμV/m)
2. According to field strength table of general requirement in §15.209(a), field strength limits below 1.705 ㎒ were calculated as below.
   - 9 ㎑ to 490 ㎑: 20log (2 400 / F (㎑)) at 300 m (dBμV/m)
   - 490 ㎑ to 1 705 ㎑: 20log (24 000 / F (㎑)) at 30 m (dBμV/m)
3. According to §15.209(d), the measurements were tested by using Quasi peak detector except for the frequency bands 9-90 ㎑, 110-490 ㎑ and above 1 ㎓ in these three bands on measurements employing an average detector.
4. According to ANSI C63.10: 2013, For measurement below 30 ㎒.
   conversion factor from E-field to H-field is considered as free-space impedance [1 μV/m = (1/377 Ω) × 1 μA/m]
   The FCC limits are same to the IC limits.
5. For measurement above 30 ㎒, the limit was calculated based on table of §15.209(a).
6. Actual = Reading + AF + CL or Reading + AF + AMP + CL.
7. According to §15.31(o), emission levels are not report much lower than the limits by over 20 ㏈.

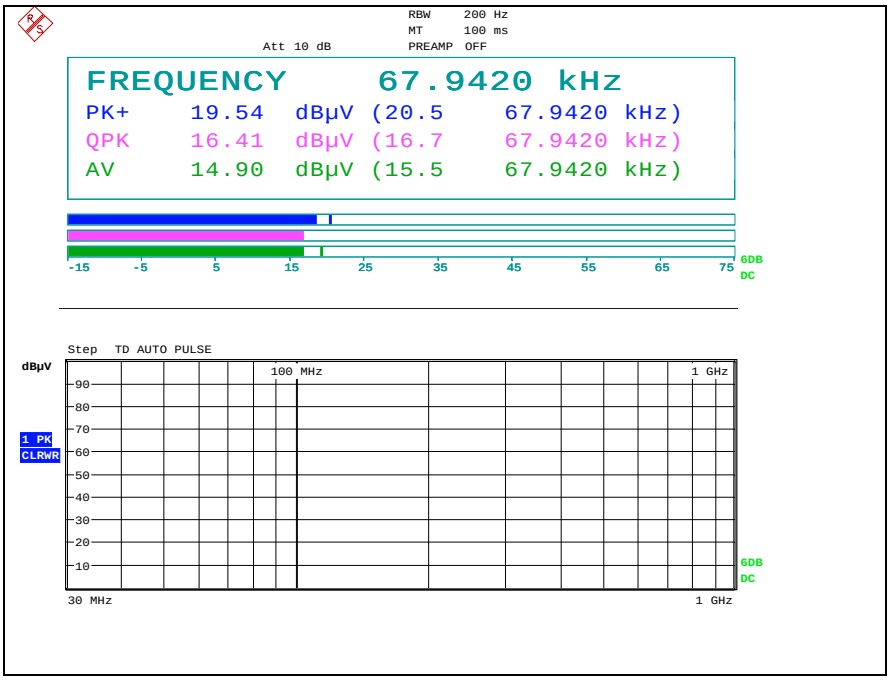
- **Test plots**

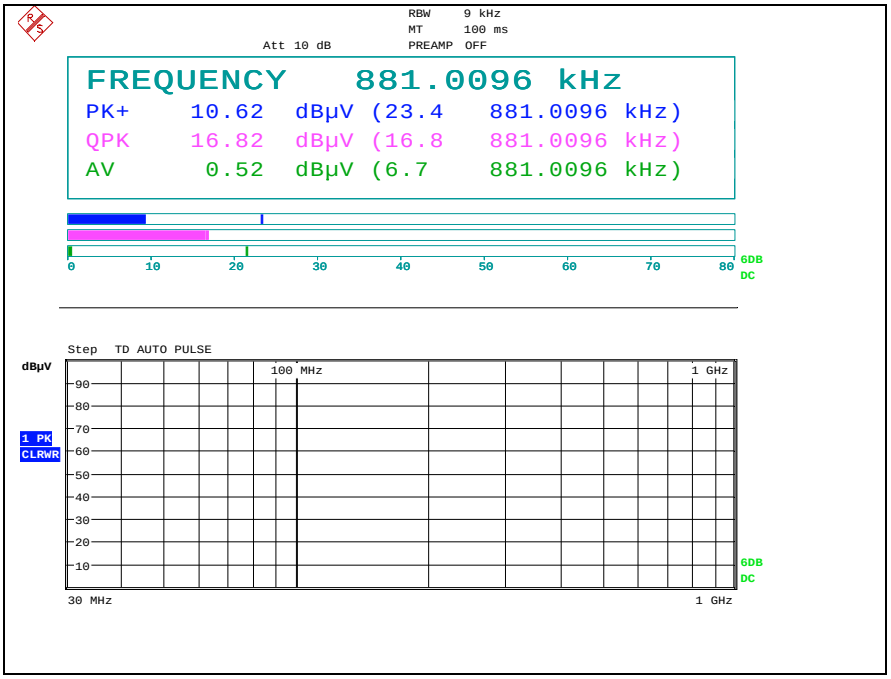
DRV Antenna

Below 30 ㎒

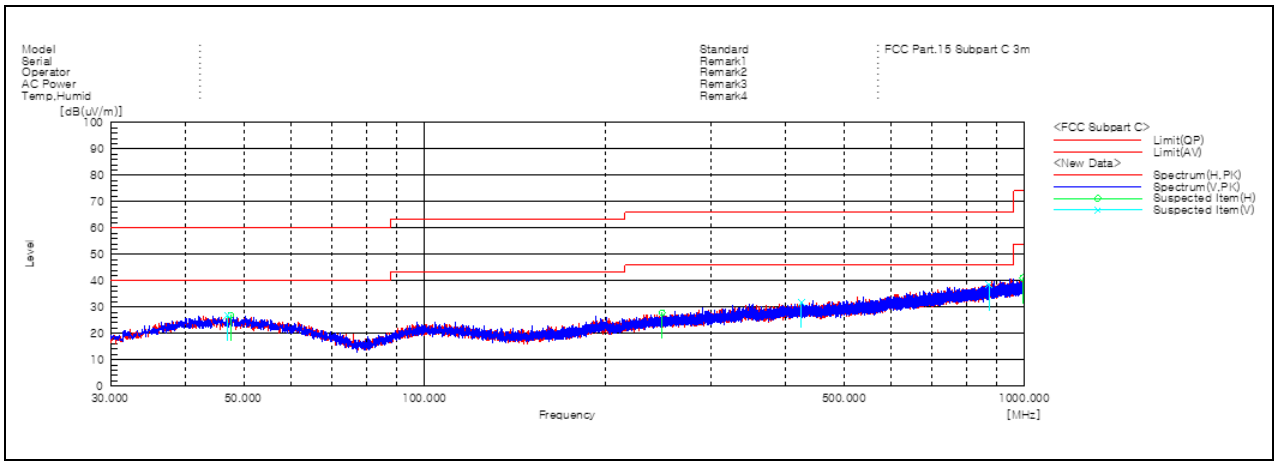








Above 30 ㎒

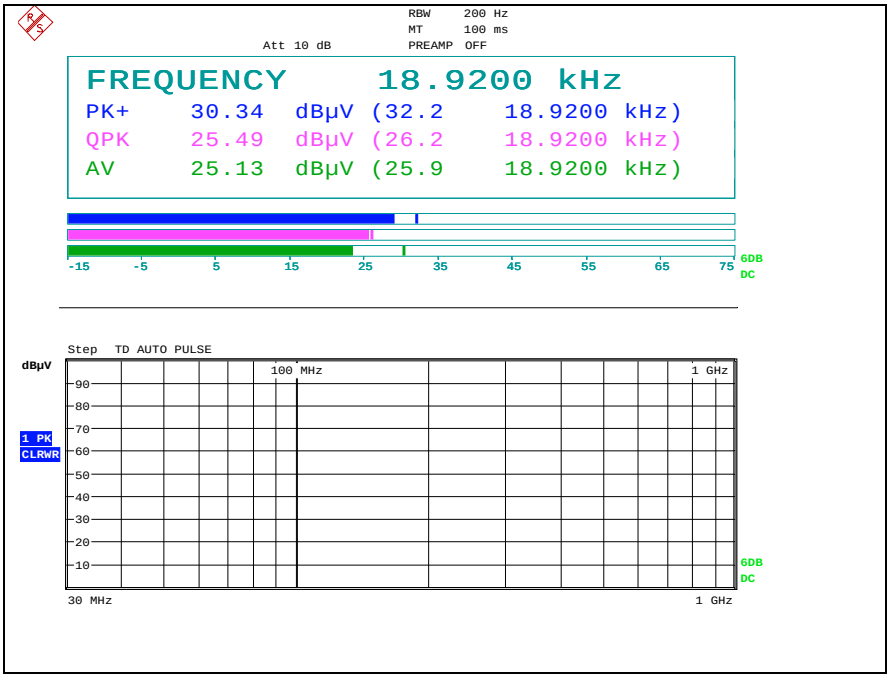


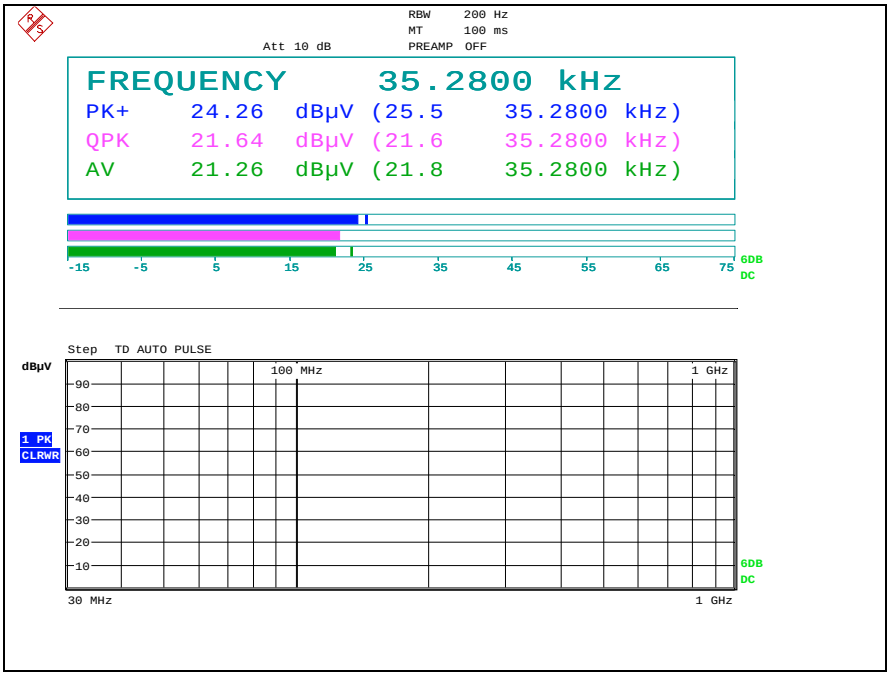
Remark;

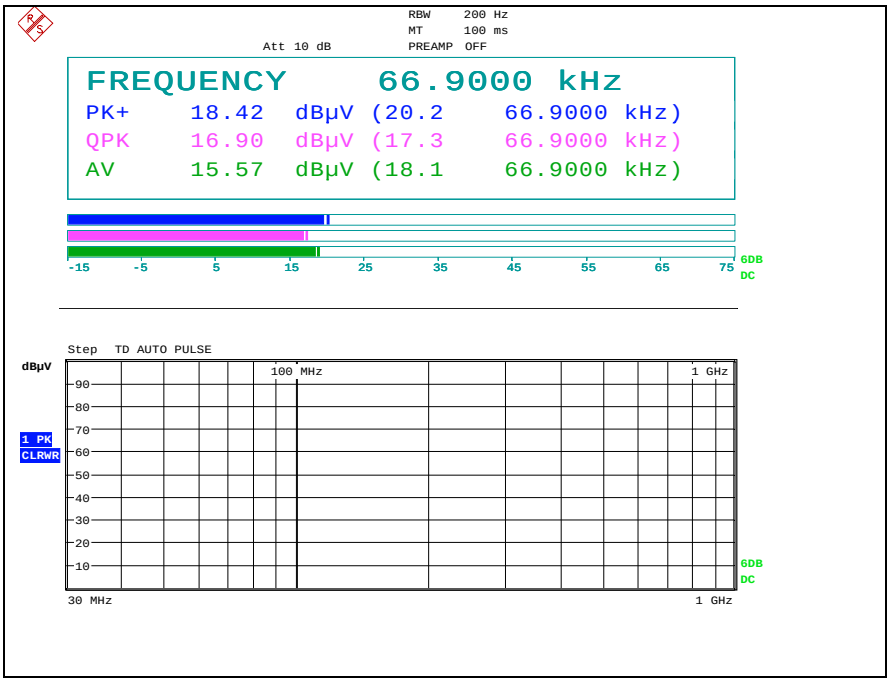
- Traces shown in the plot were made by using a peak detector.

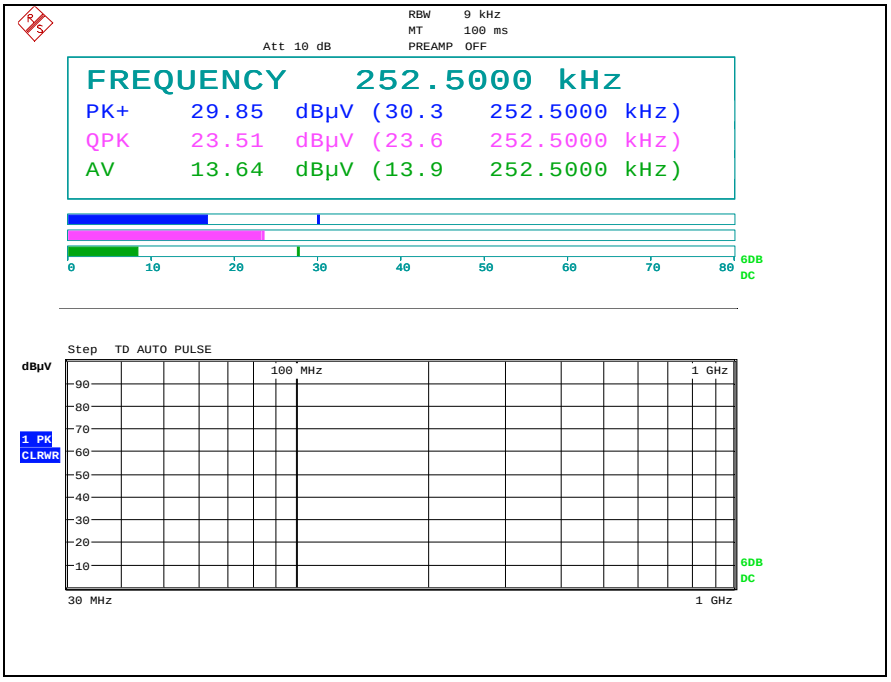
AST Antenna

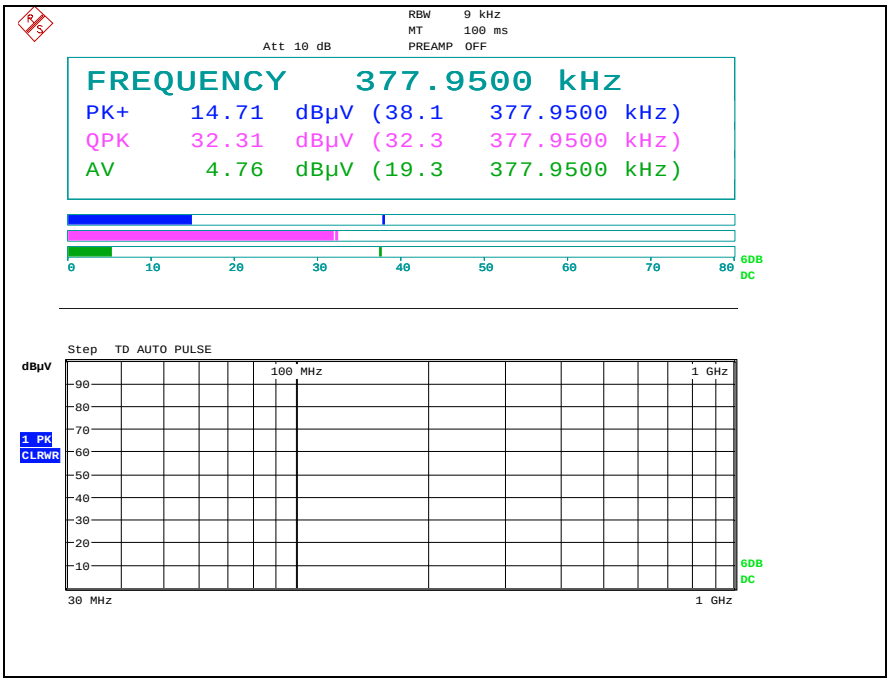
Below 30 ㎒

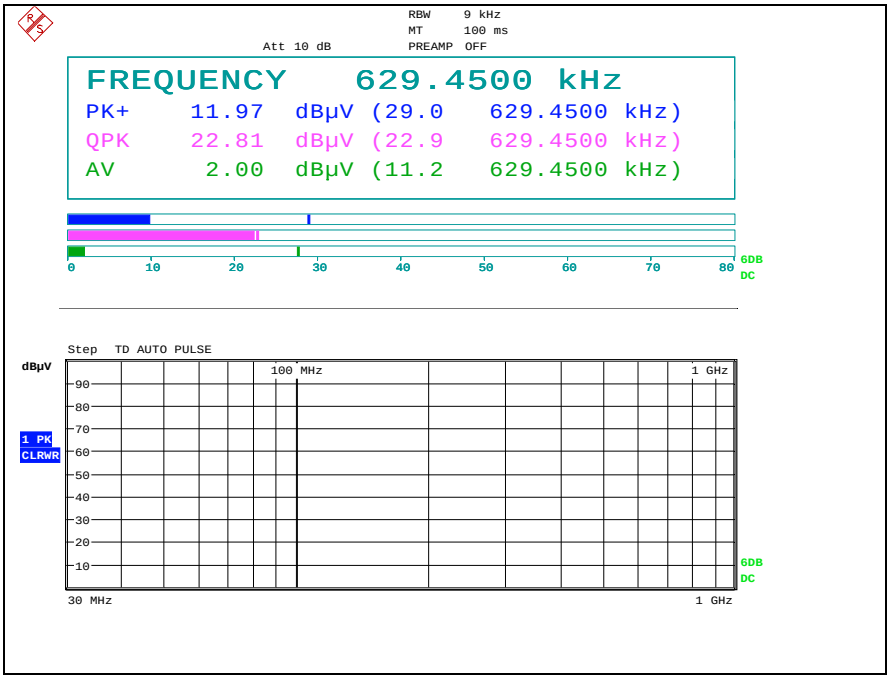




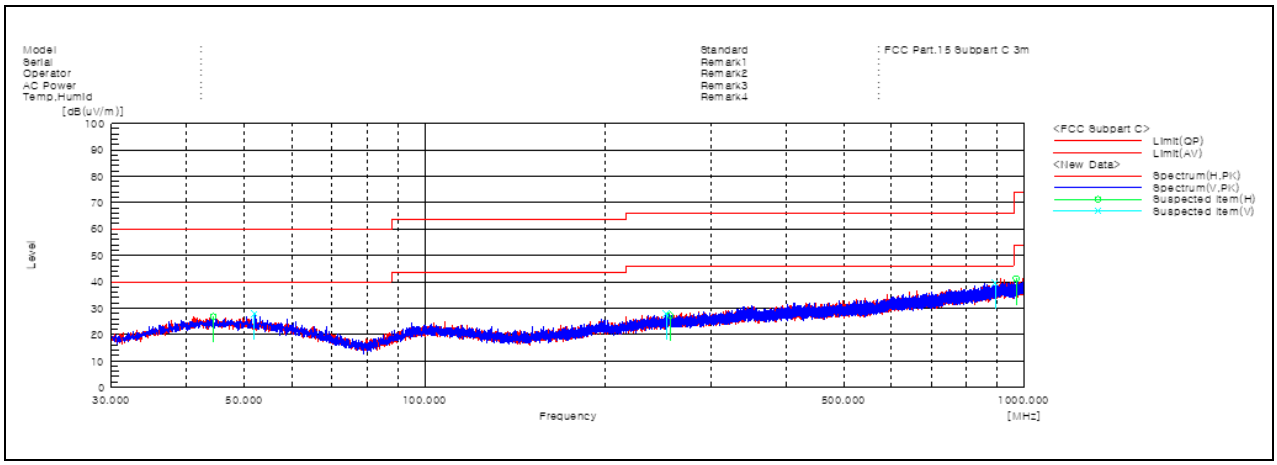








Above 30 ㎒

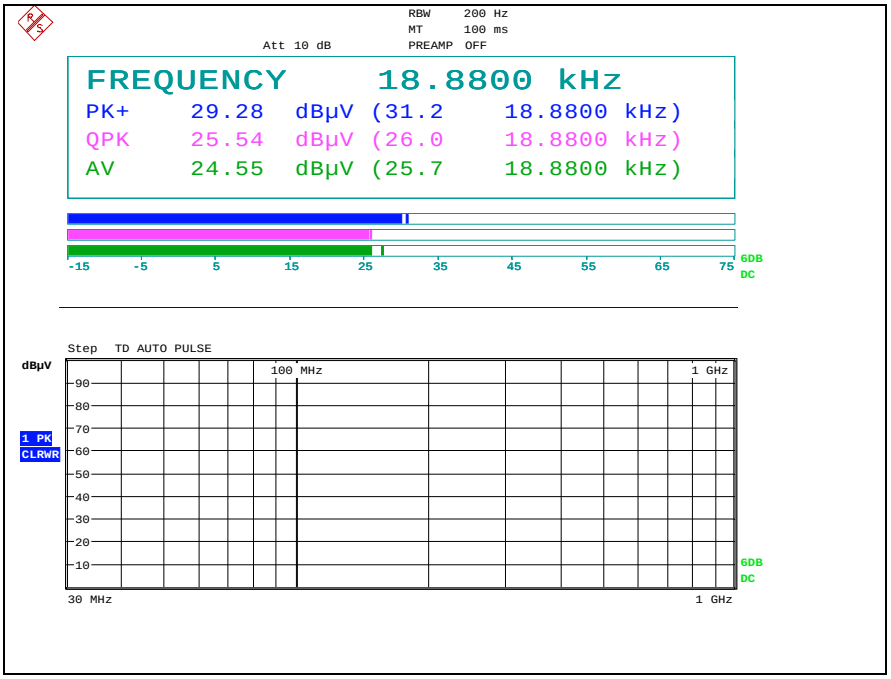


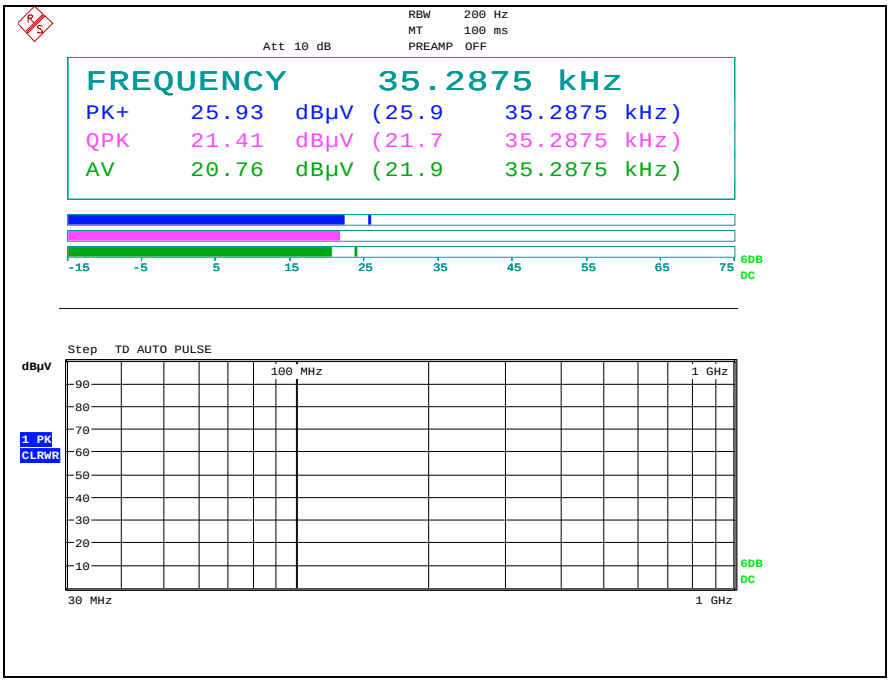
Remark;

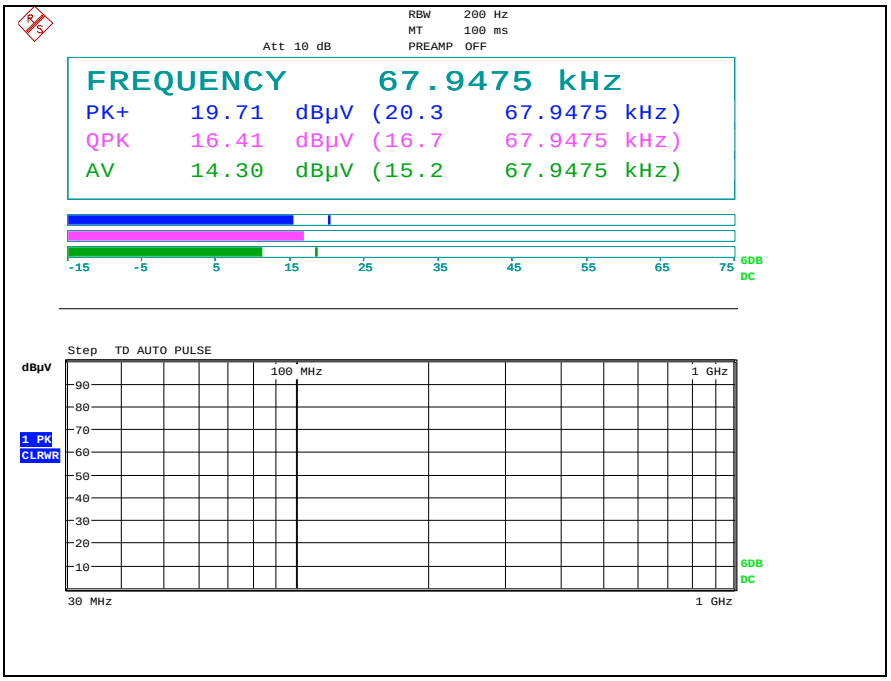
- Traces shown in the plot were made by using a peak detector.

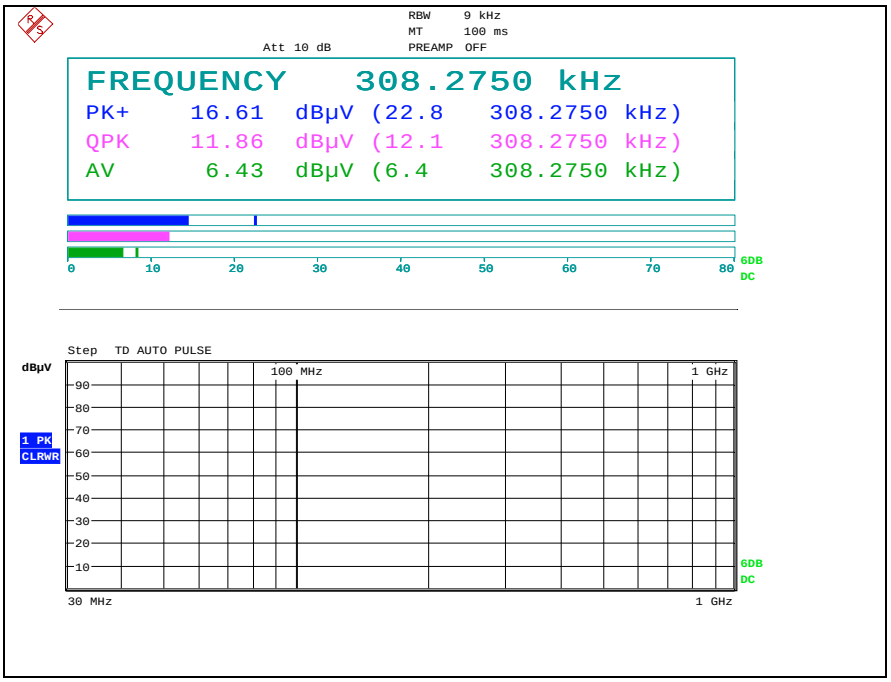
INT1 Antenna

Below 30 ㎒

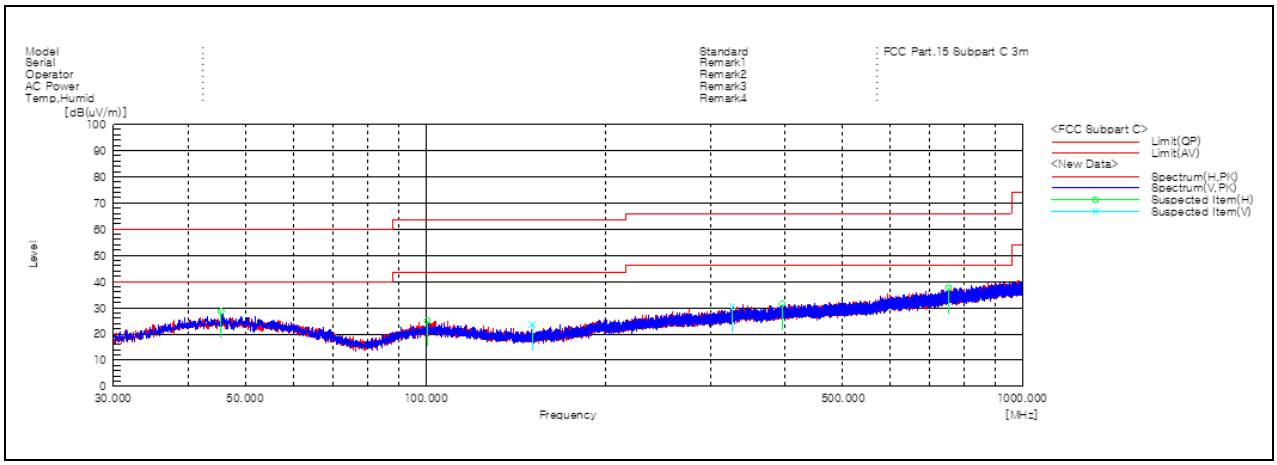








Above 30 ㎒

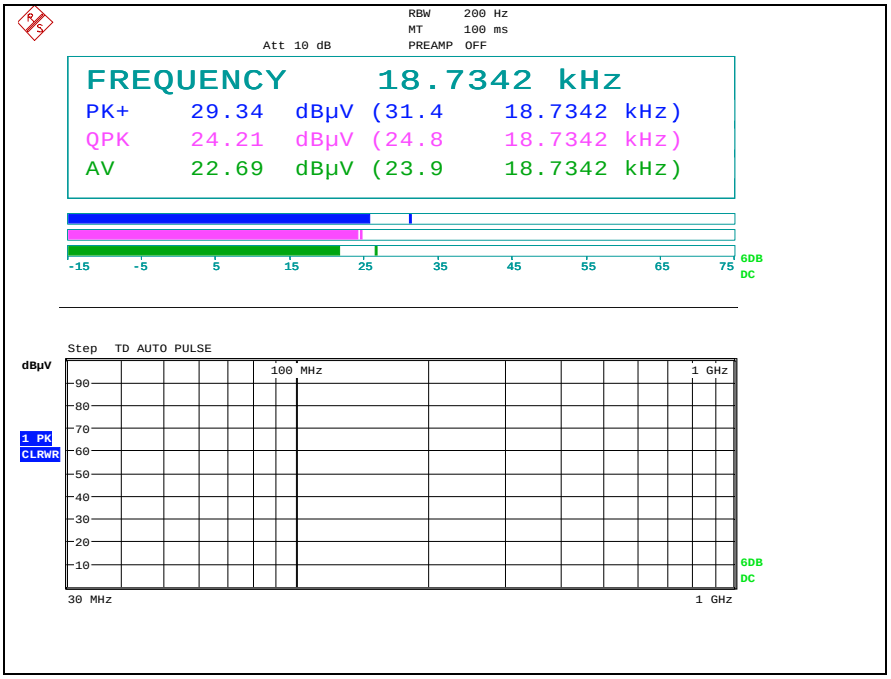


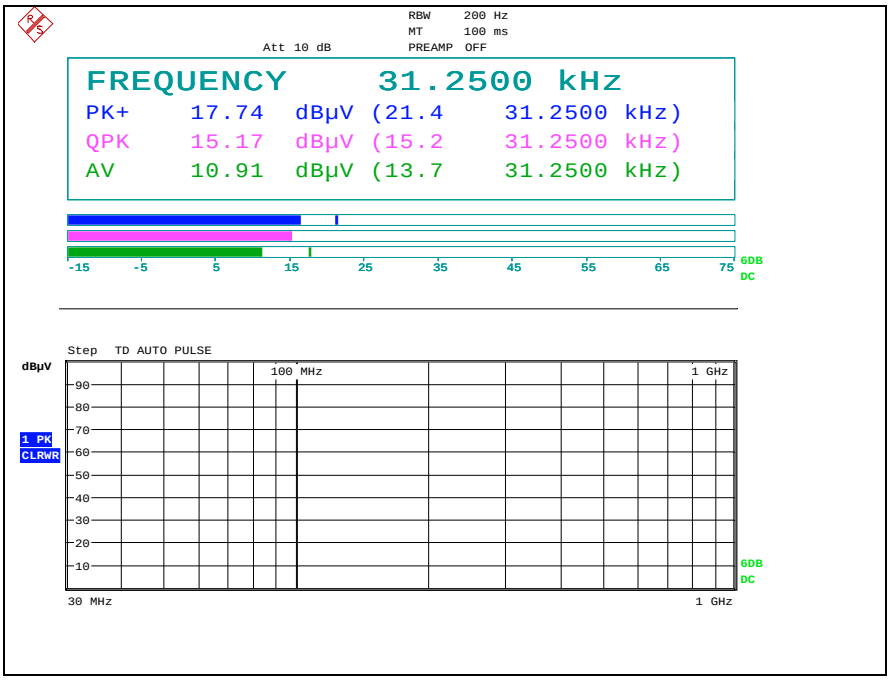
Remark;

- Traces shown in the plot were made by using a peak detector.

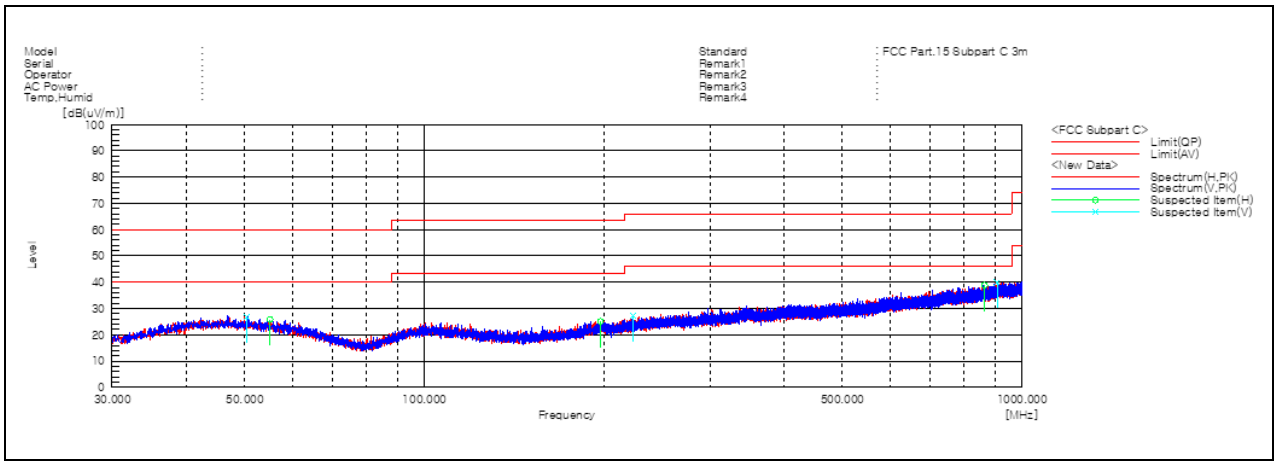
INT2 Antenna

Below 30 ㎒





Above 30 ㎒

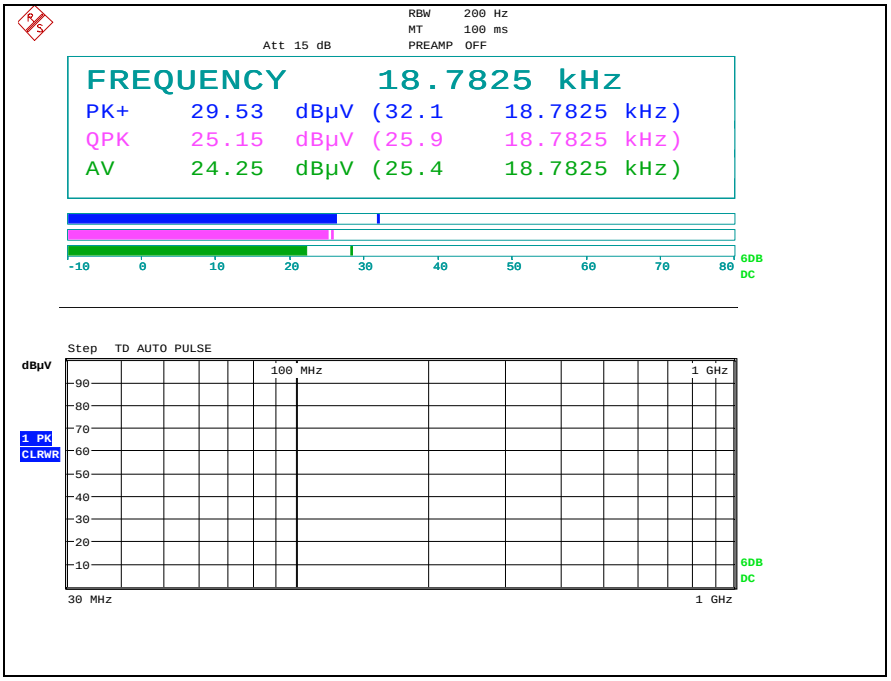


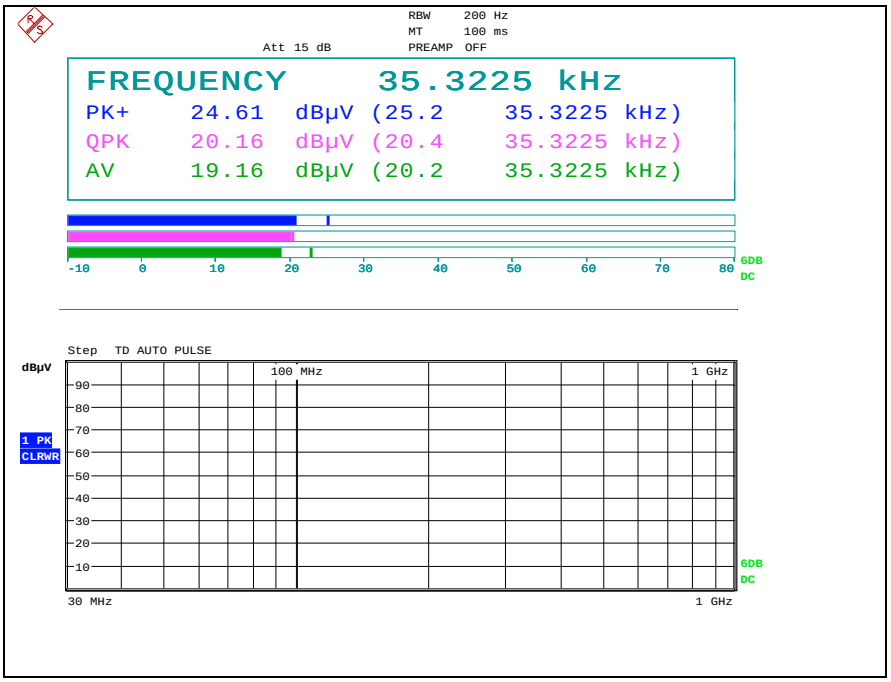
Remark;

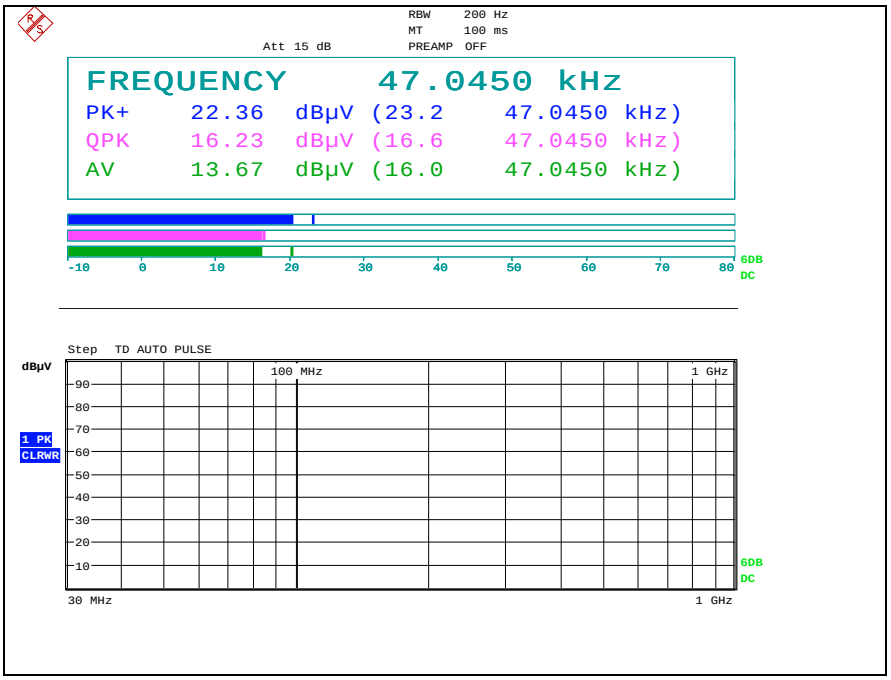
- Traces shown in the plot were made by using a peak detector.

TRK Antenna

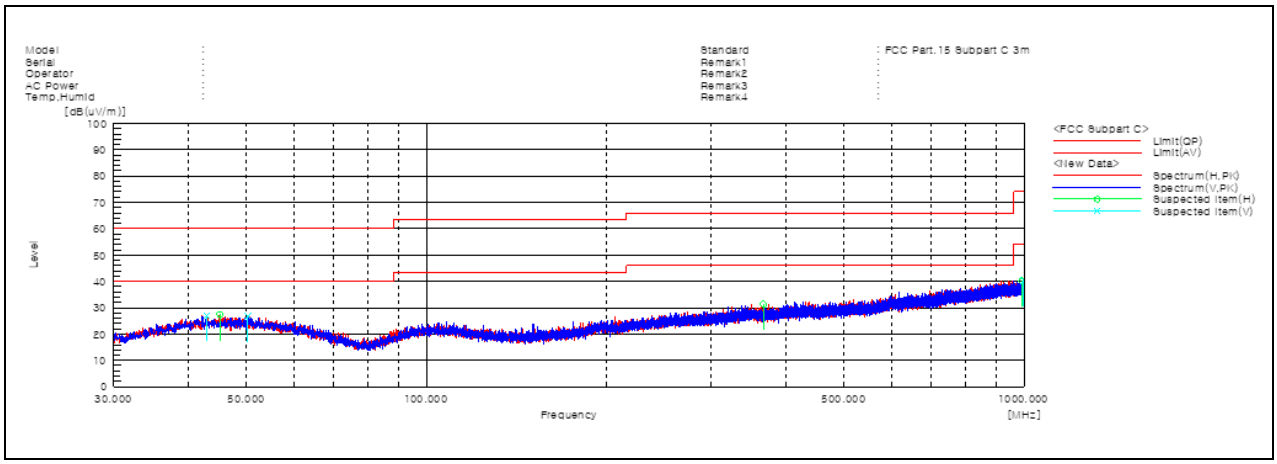
Below 30 ㎒







Above 30 ㎒

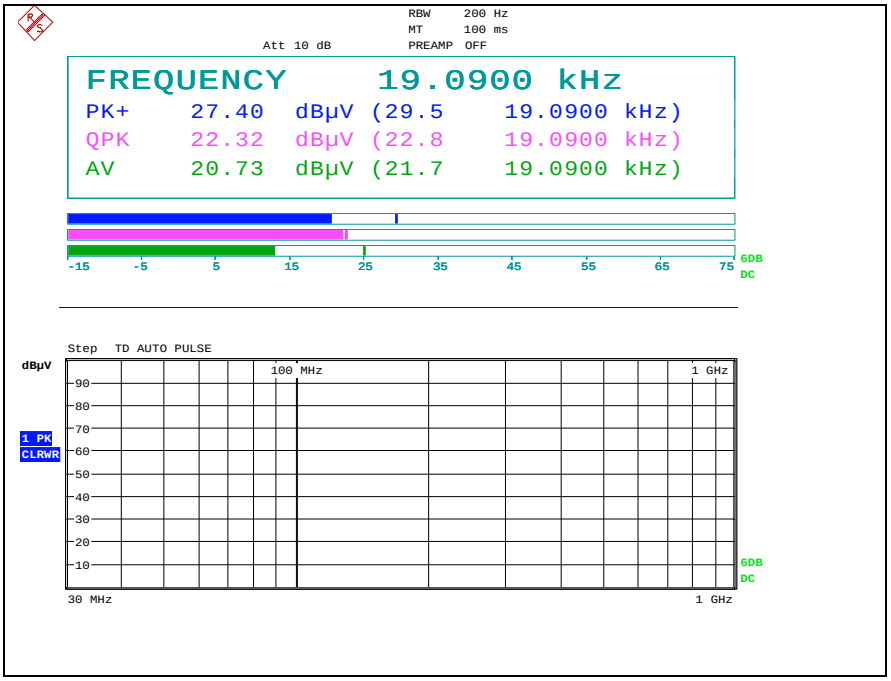


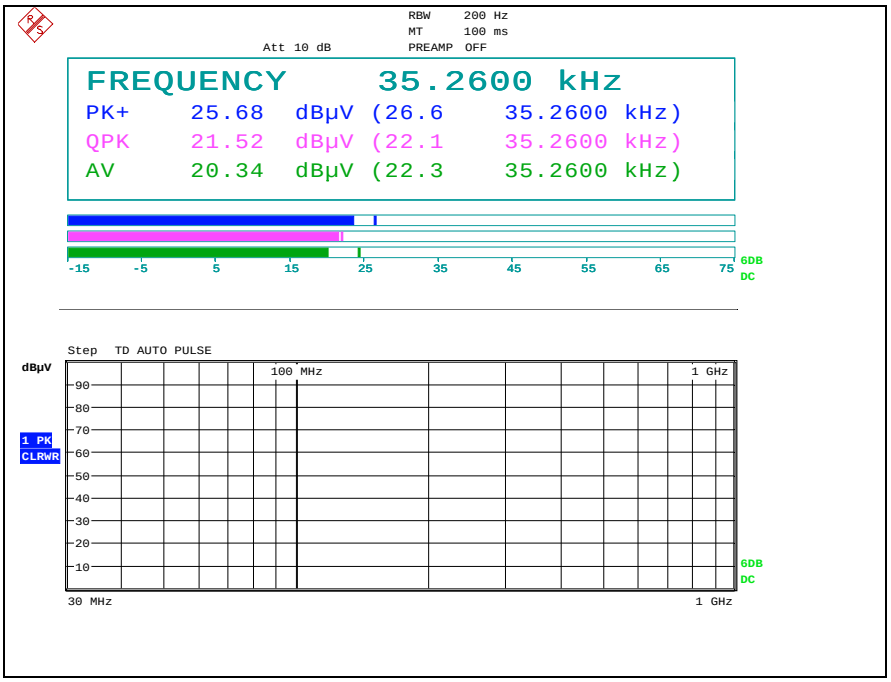
Remark;

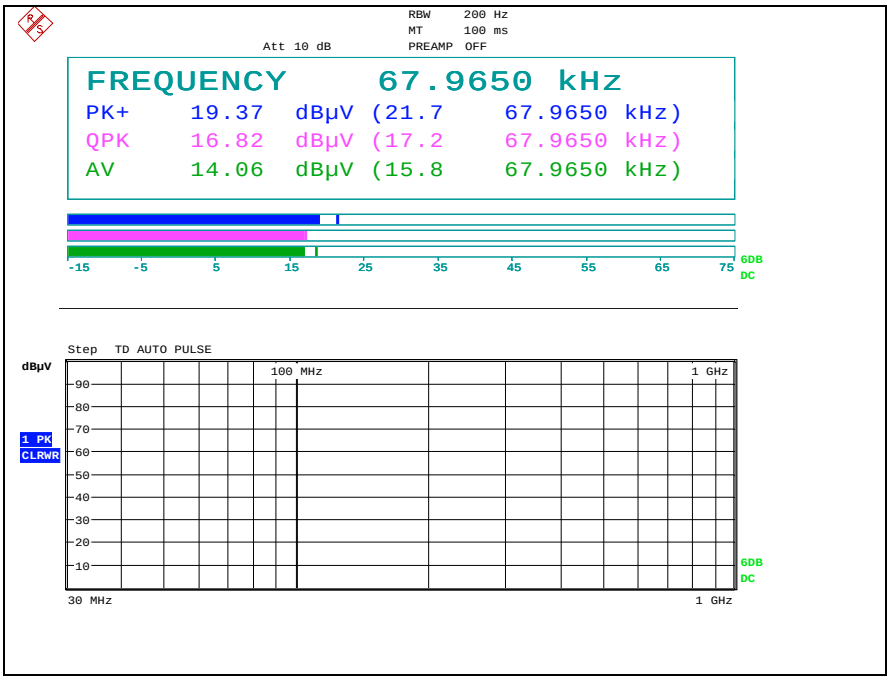
- Traces shown in the plot were made by using a peak detector.

BUM Antenna

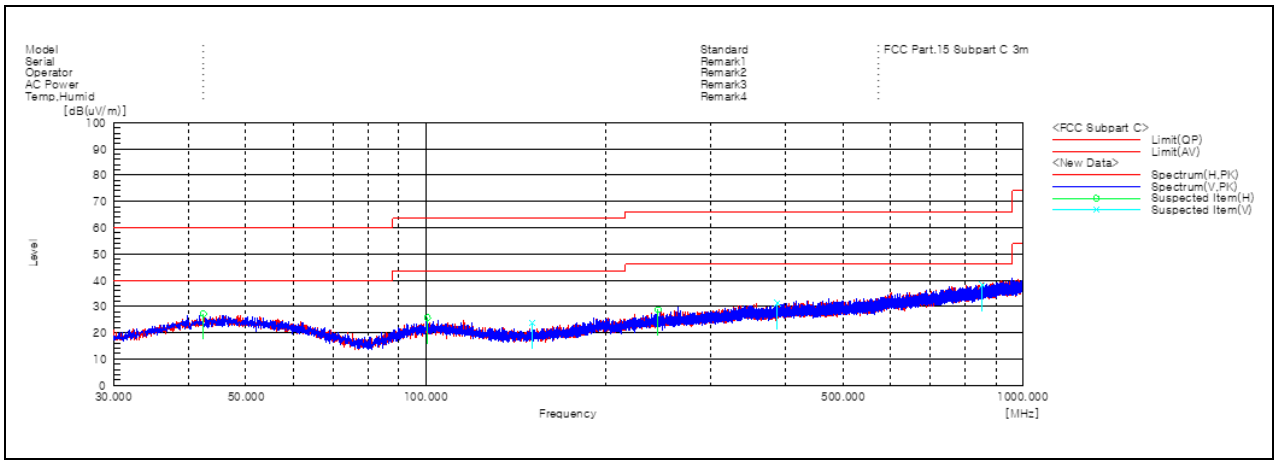
Below 30 ㎒







Above 30 ㎒

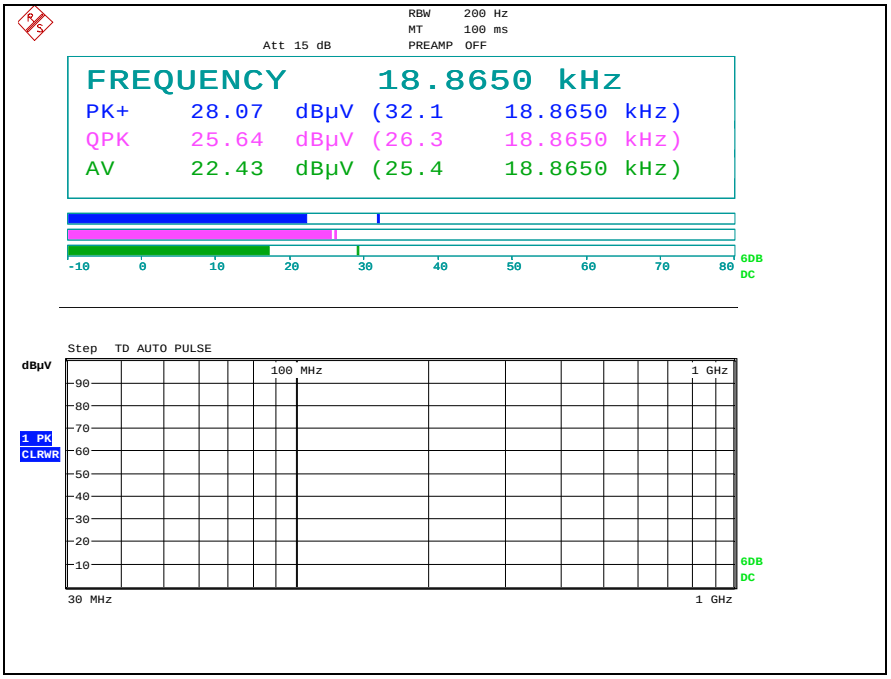


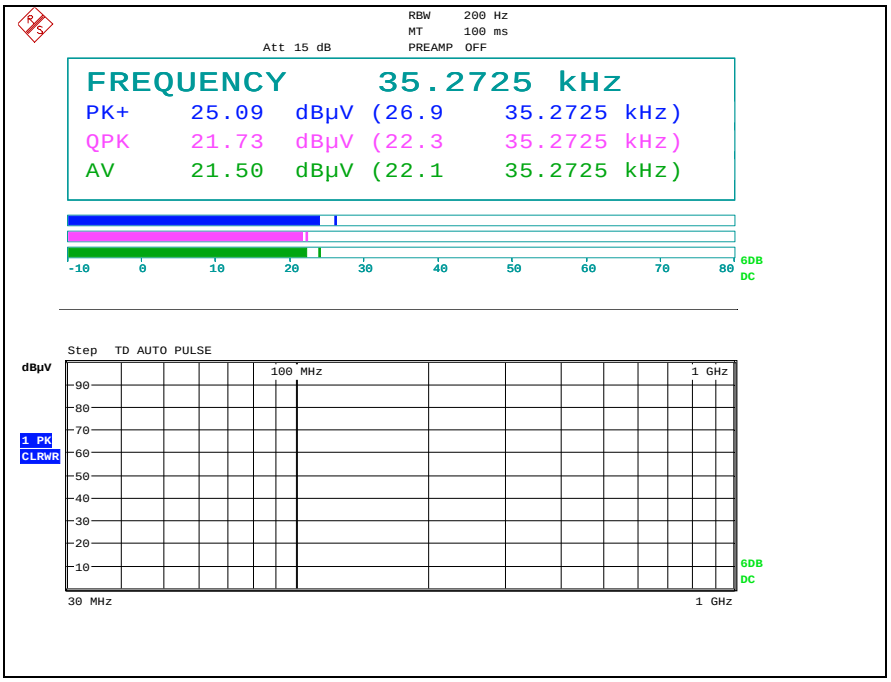
Remark;

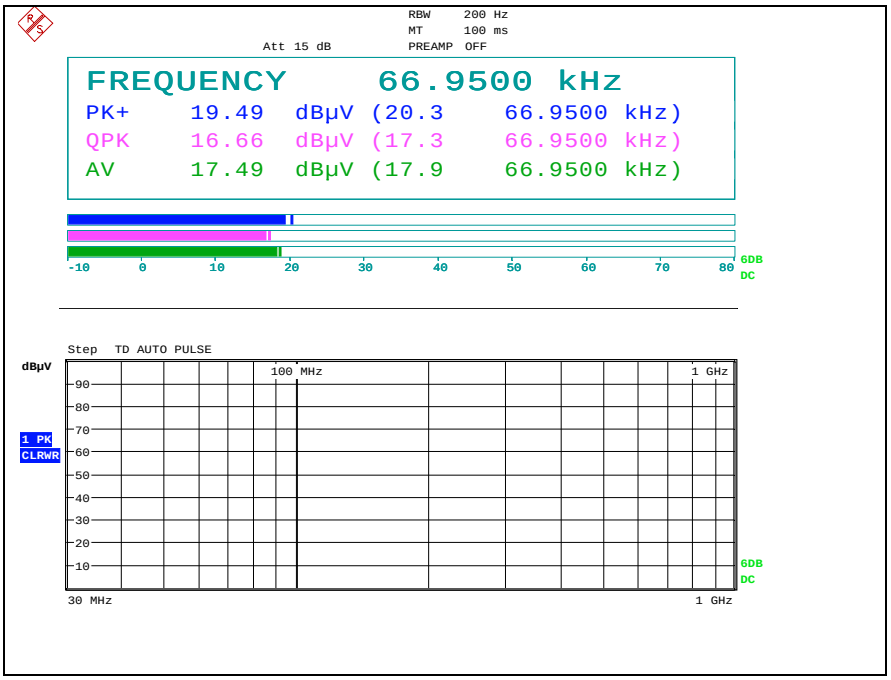
- Traces shown in the plot were made by using a peak detector.

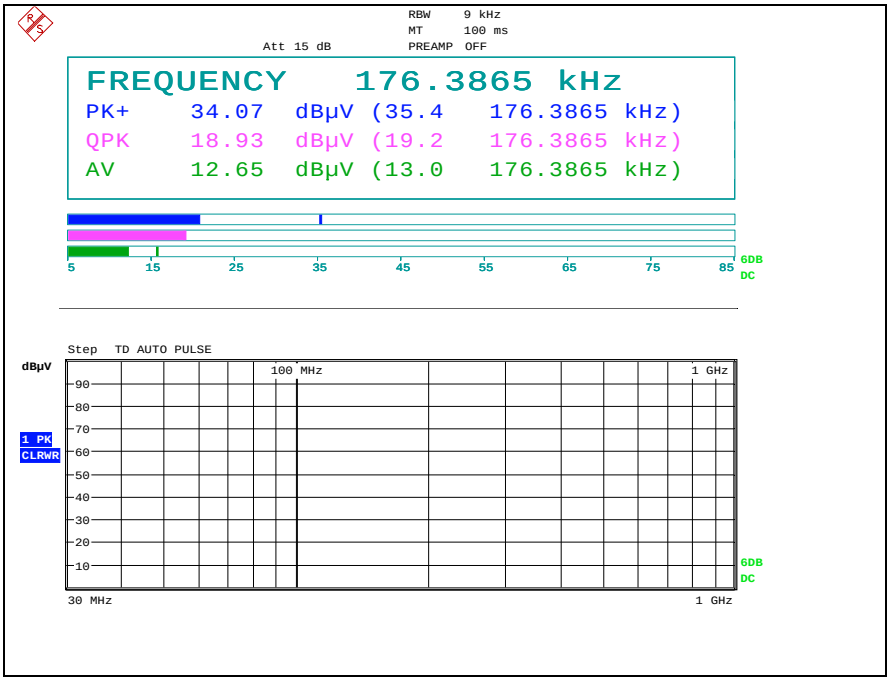
FRB Antenna

Below 30 ㎒

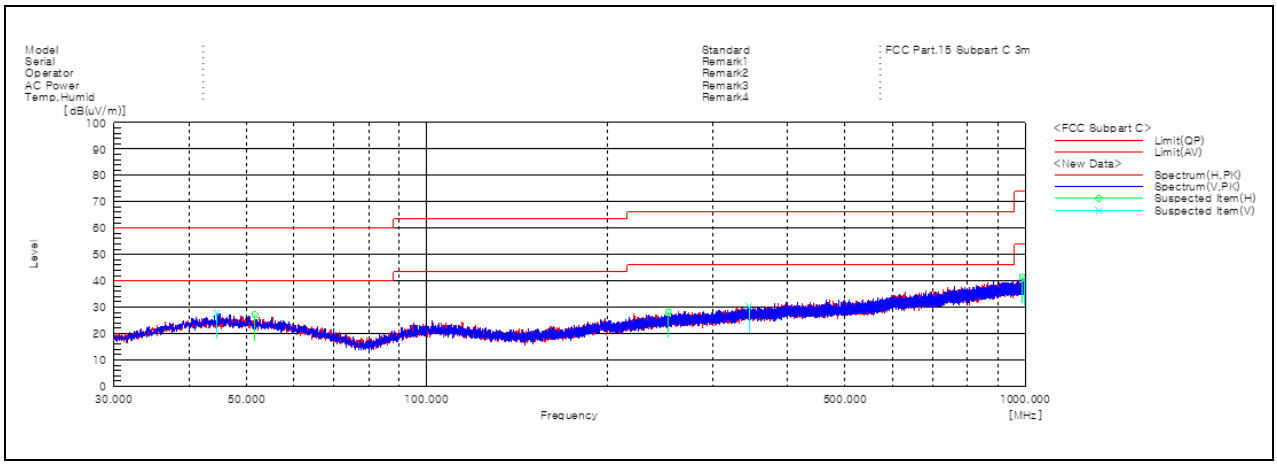








Above 30 ㎒

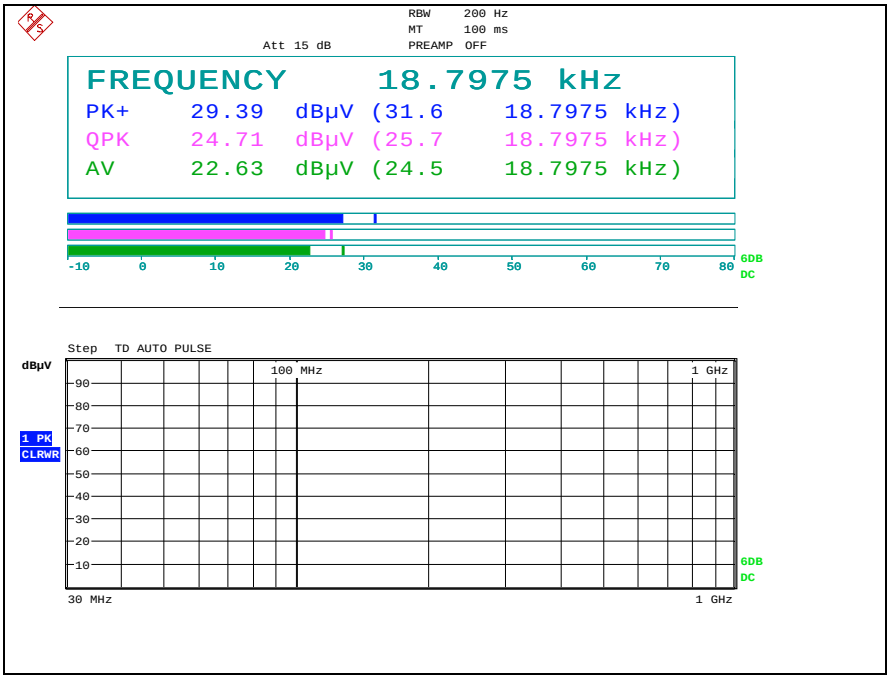


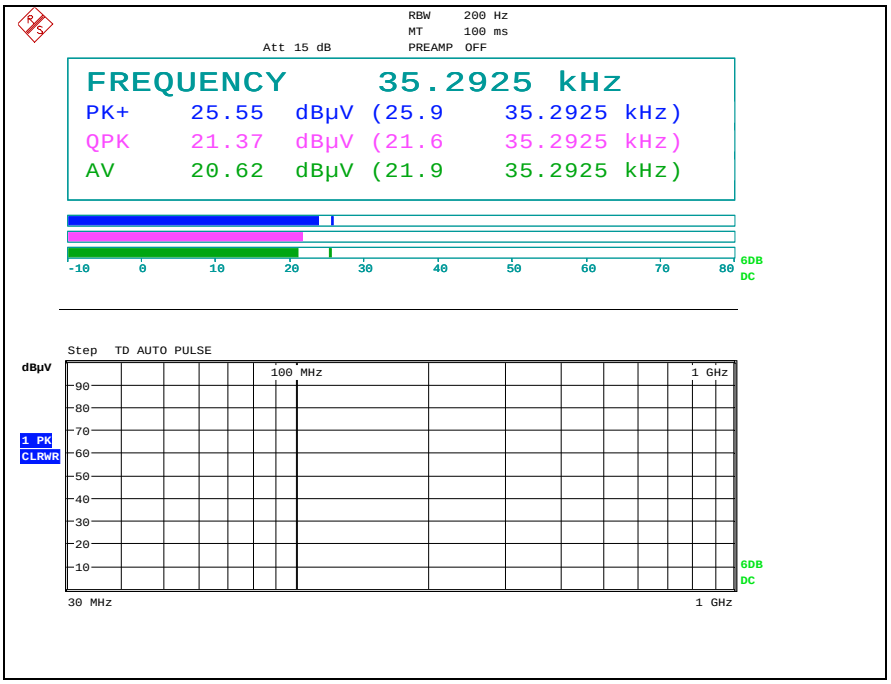
Remark;

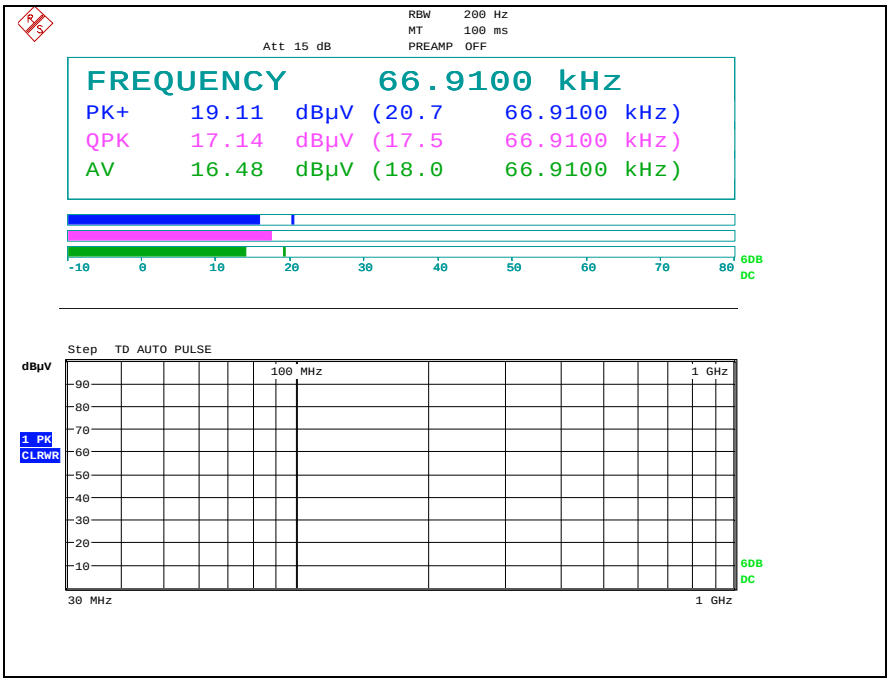
- Traces shown in the plot were made by using a peak detector.

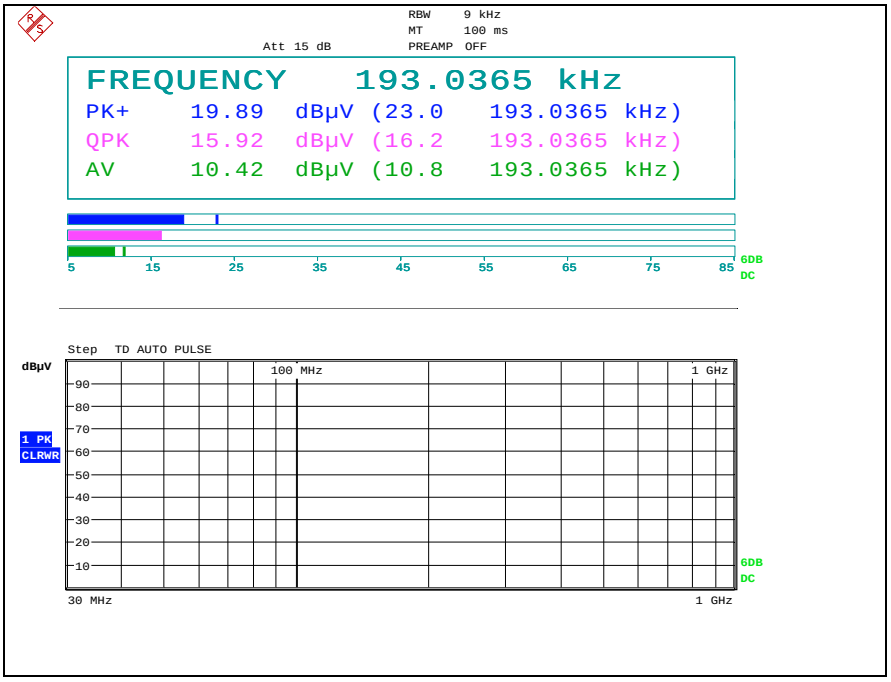
SSB Antenna

Below 30 ㎒

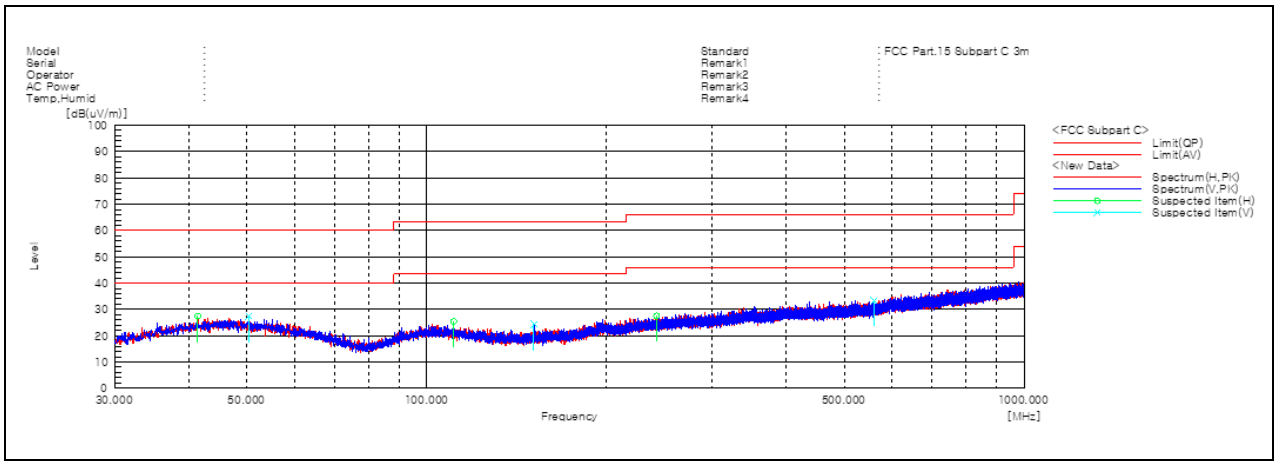








Above 30 ㎒

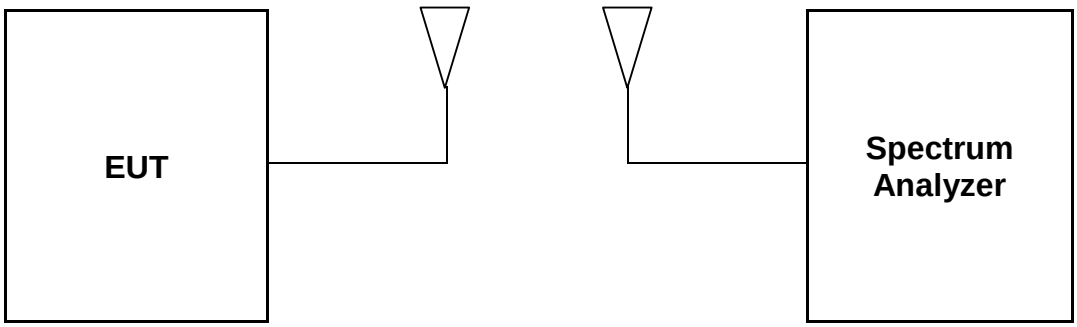


Remark;

- Traces shown in the plot were made by using a peak detector.

3. 20 ㏈ Bandwidth

3.1. Test Setup



3.2. Limit

None; for reporting purposed only

3.3. Test Procedure

1. Span = set to capture all products of the modulation process, including the emission skirts. RBW = 200 ㎐, VBW = 200 ㎐, Sweep = auto, Detector = peak, Trace = max hold.
2. The marker-to-peak function to set the mark to the peak of the emission. Use the marker-delta function to measure 20 ㏈ down one side of the emission. Reset the function, and move the marker to the other side of the emission, until it is (as close as possible to) even with the reference marker level. The marker-delta reading at this point is 20 ㏈ bandwidth of the emission.

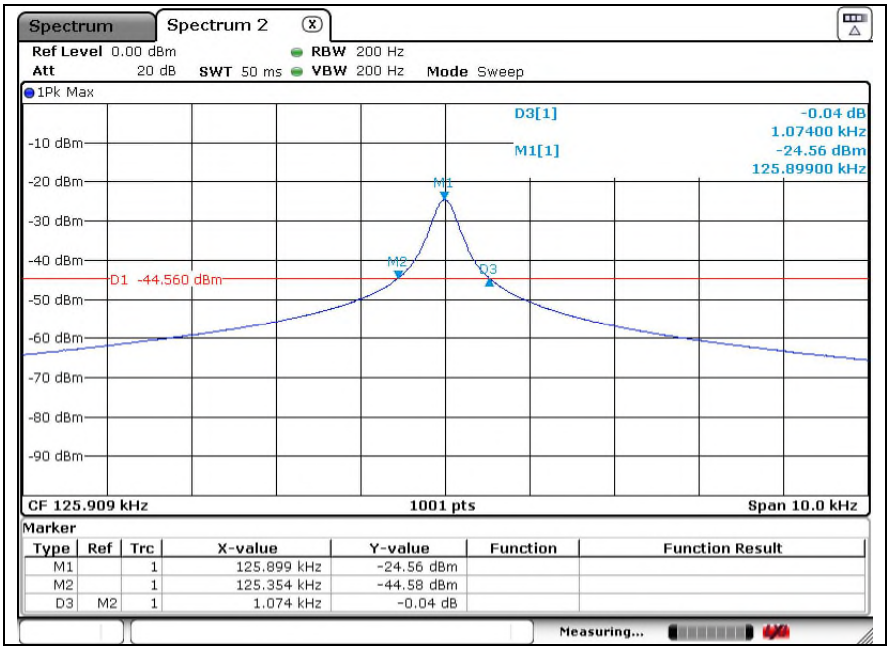
3.4. Test Result

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 % R.H.

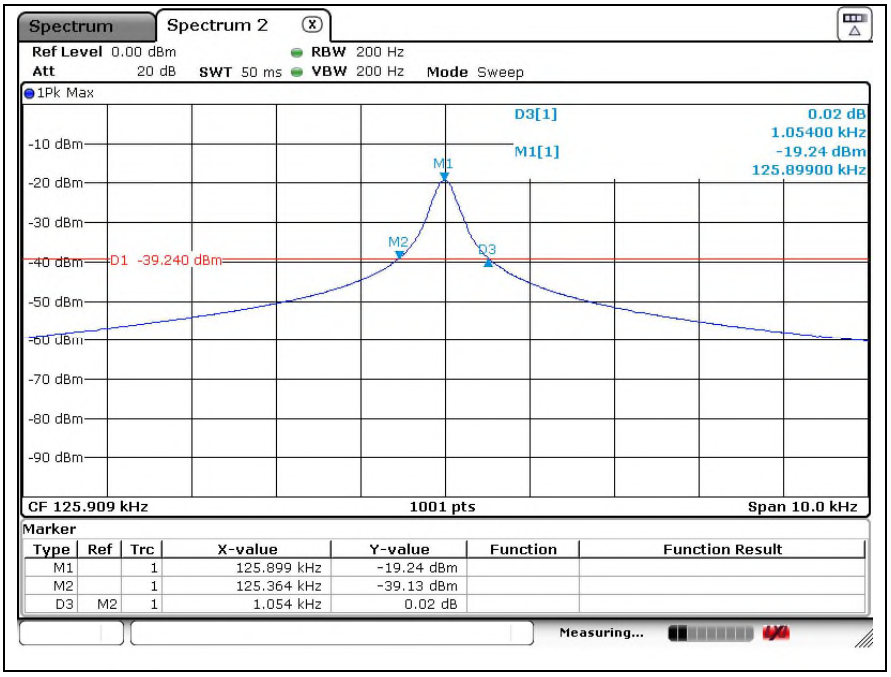
Test Antenna	Frequency (㎑)	20 ㏈ Bandwidth (㎑)	Limit
DRV Antenna	125	1.074	Reporting proposed only
AST Antenna	125	1.054	
INT1 Antenna	125	1.054	
INT2 Antenna	125	1.054	
TRK Antenna	125	1.024	
BUM Antenna	125	1.064	
FRB Antenna	125	1.074	
SSB Antenna	125	1.044	

- Test plots

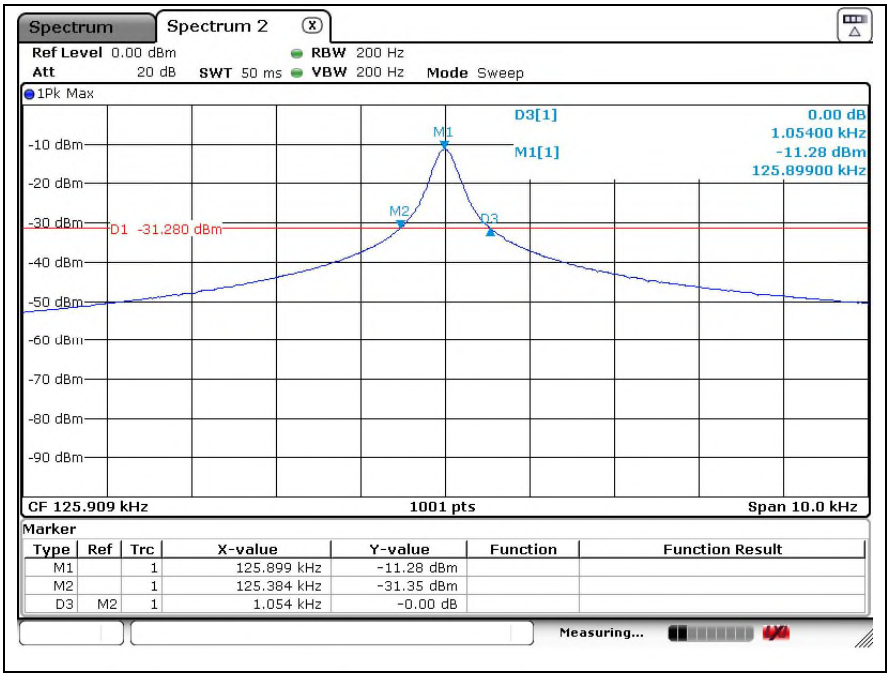
DRV Antenna



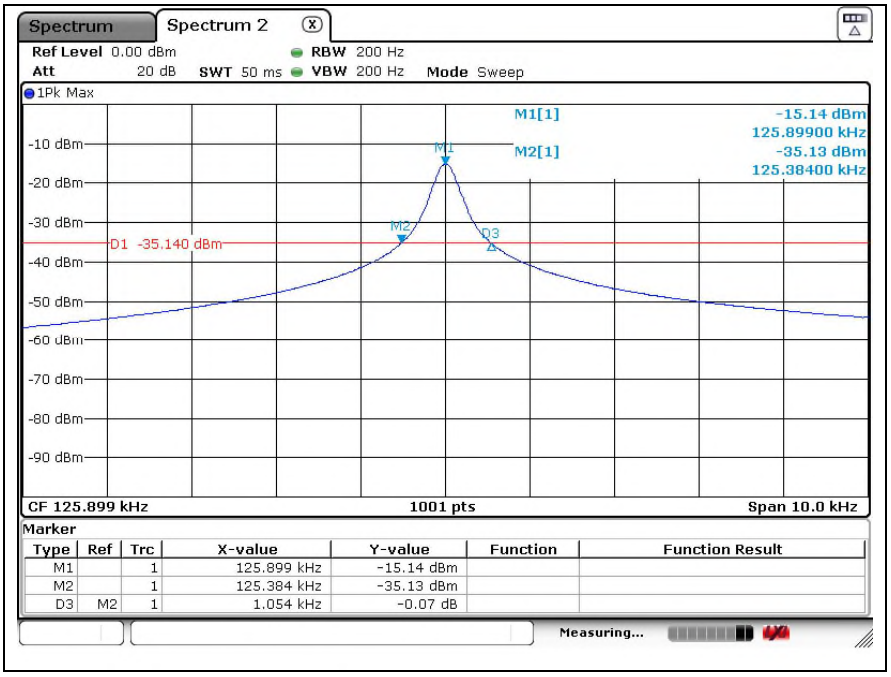
AST Antenna



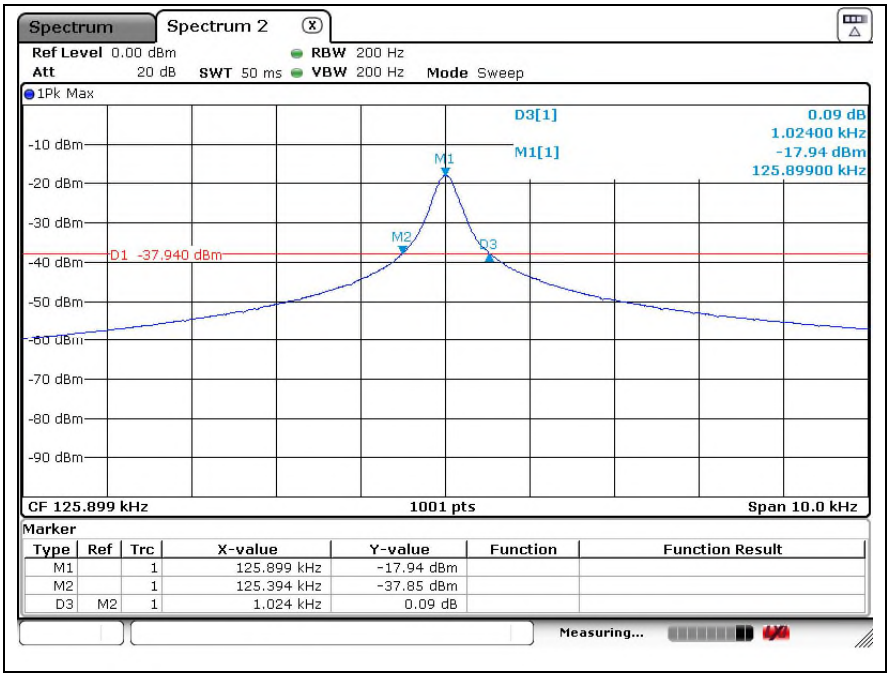
INT1 Antenna



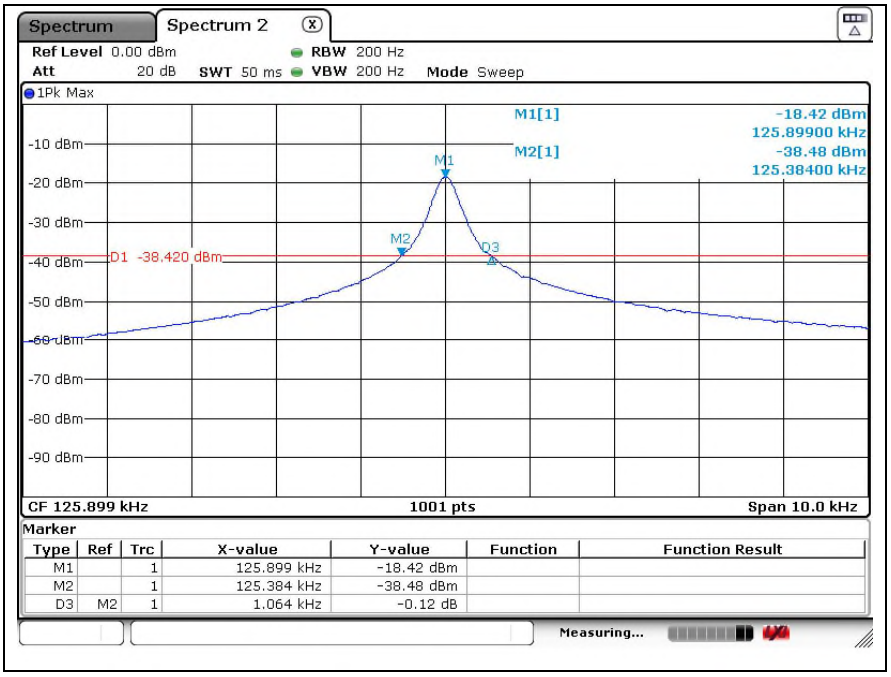
INT2 Antenna



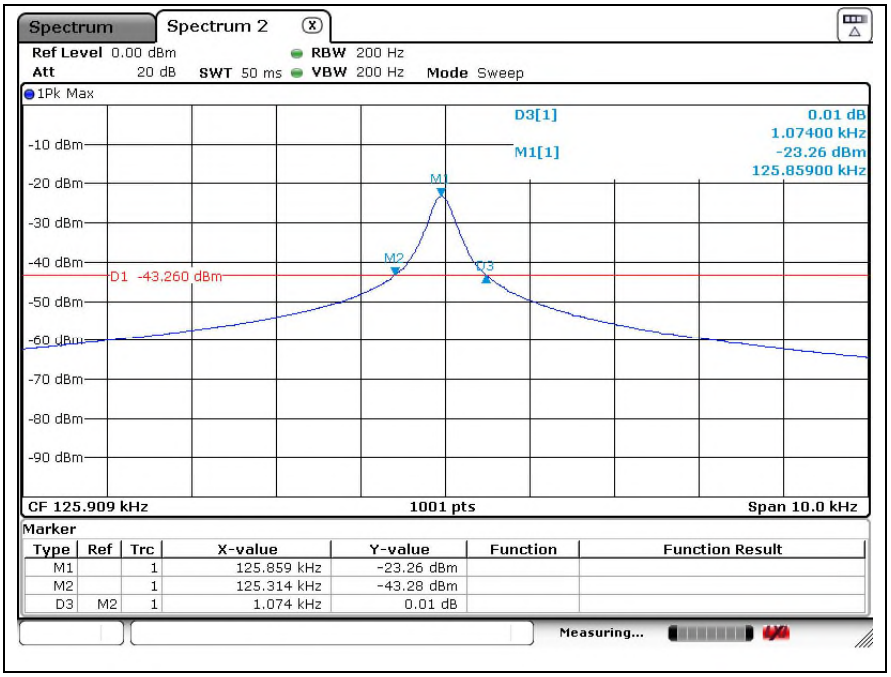
TRK Antenna



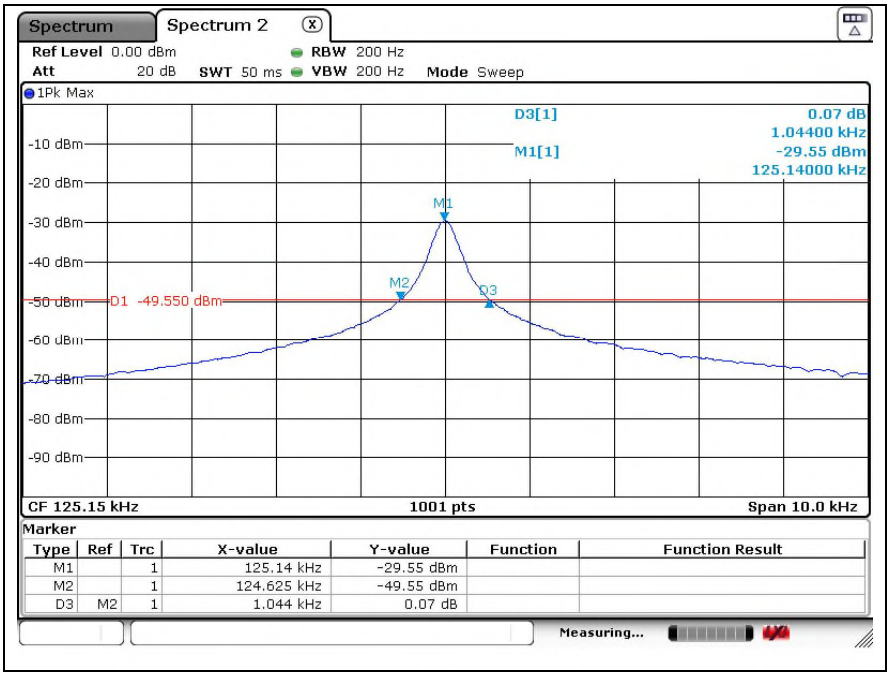
BUM Antenna



FRB Antenna

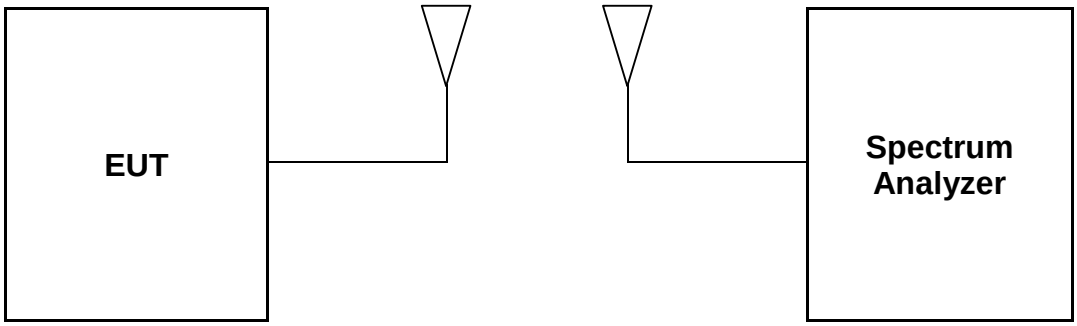


SSB Antenna



4. Occupied Bandwidth

4.1. Test Setup



4.2. Limit

None; for reporting purposed only

4.3. Test Procedure

1. Set the spectrum analyzer as Span = set to capture all products of the modulation process, including the emission skirts, RBW = 200 ㎐, VBW = 200 ㎐, Detector = peak, Trace mode = max hold.
2. Measure lowest and highest frequencies are placed in a running sum until 0.5 % and 99.5 % of the total is reached.
3. Record the SPAN between the lowest and the highest frequencies for the 99 % occupied bandwidth.

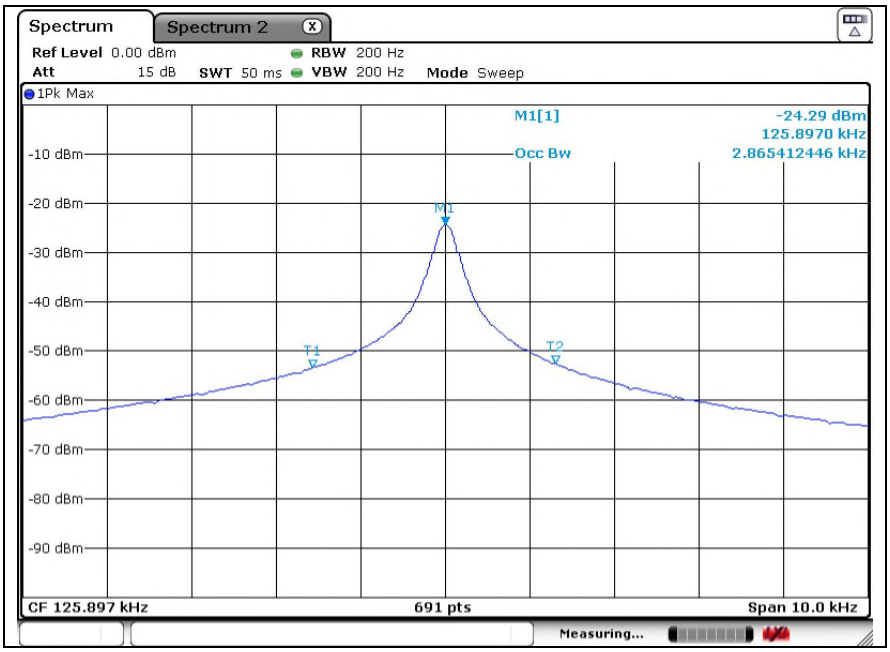
4.4. Test Result

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 % R.H.

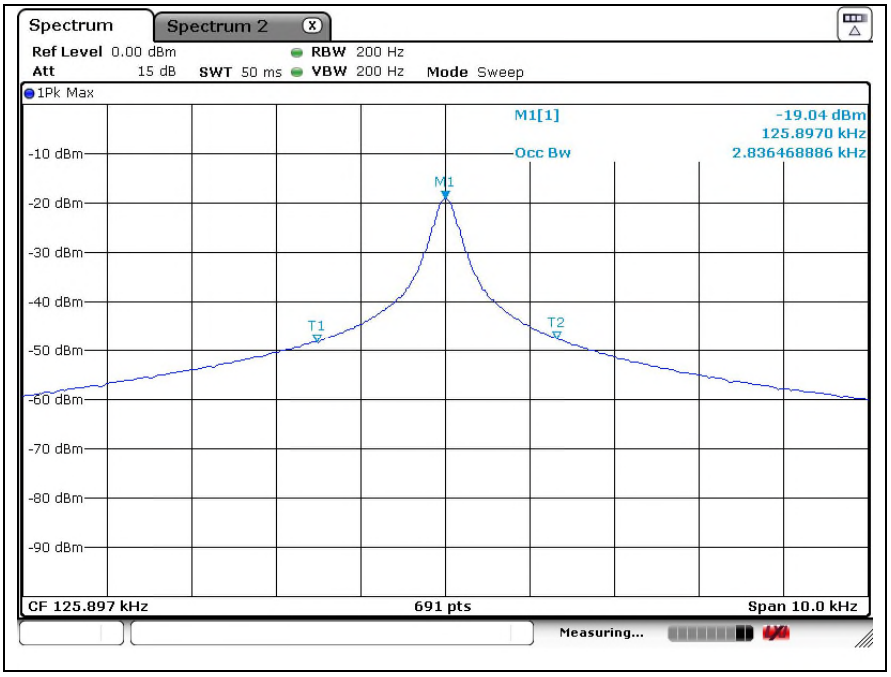
Test Antenna	Frequency (㎑)	Occupied Bandwidth (㎑)	Limit
DRV Antenna	125	2.865	Reporting proposed only
AST Antenna	125	2.836	
INT1 Antenna	125	2.750	
INT2 Antenna	125	2.750	
TRK Antenna	125	2.750	
BUM Antenna	125	2.793	
FRB Antenna	125	2.822	
SSB Antenna	125	2.750	

- Test plots

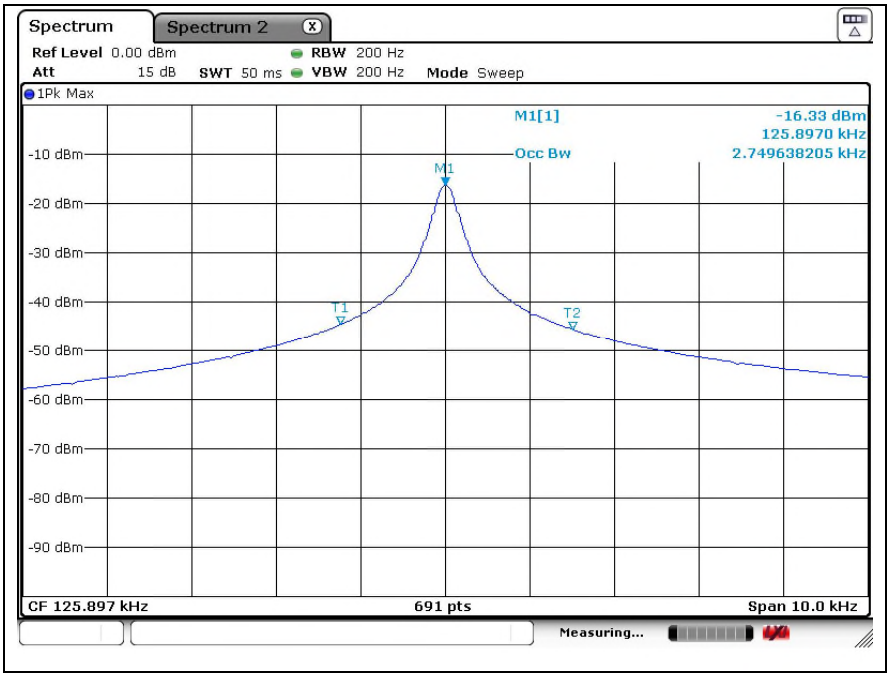
DRV Antenna



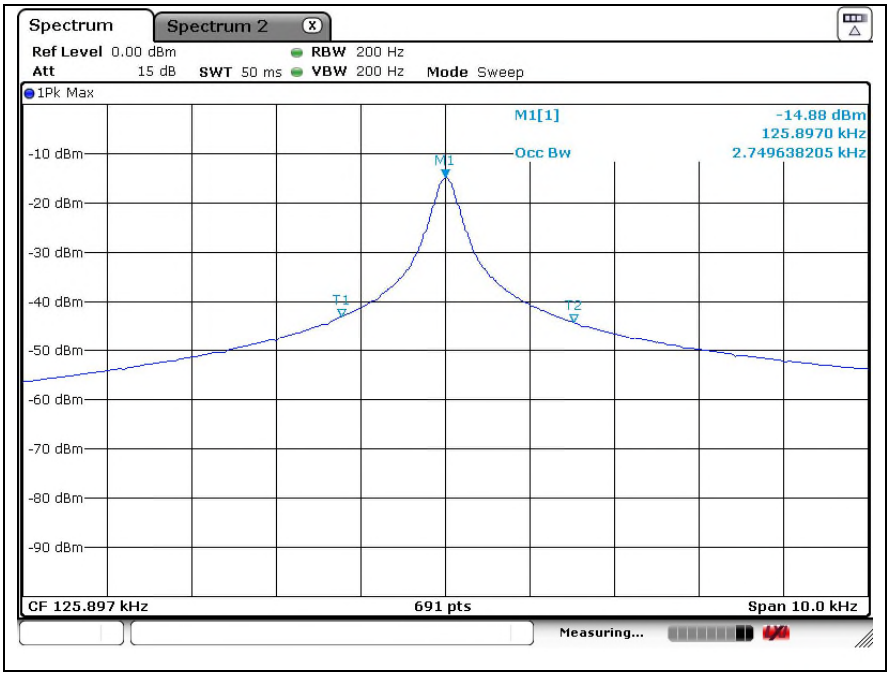
AST Antenna



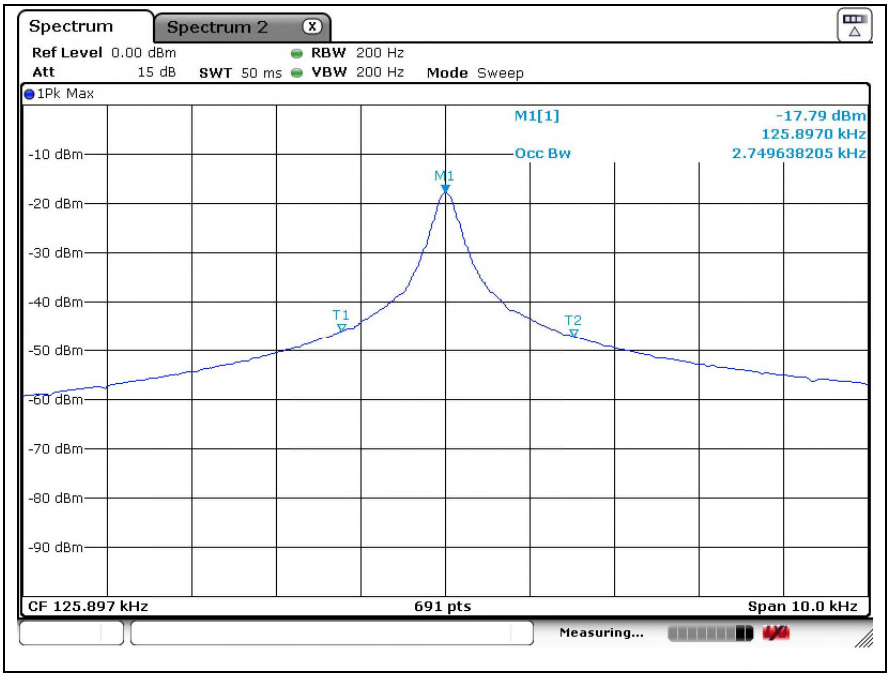
INT1 Antenna



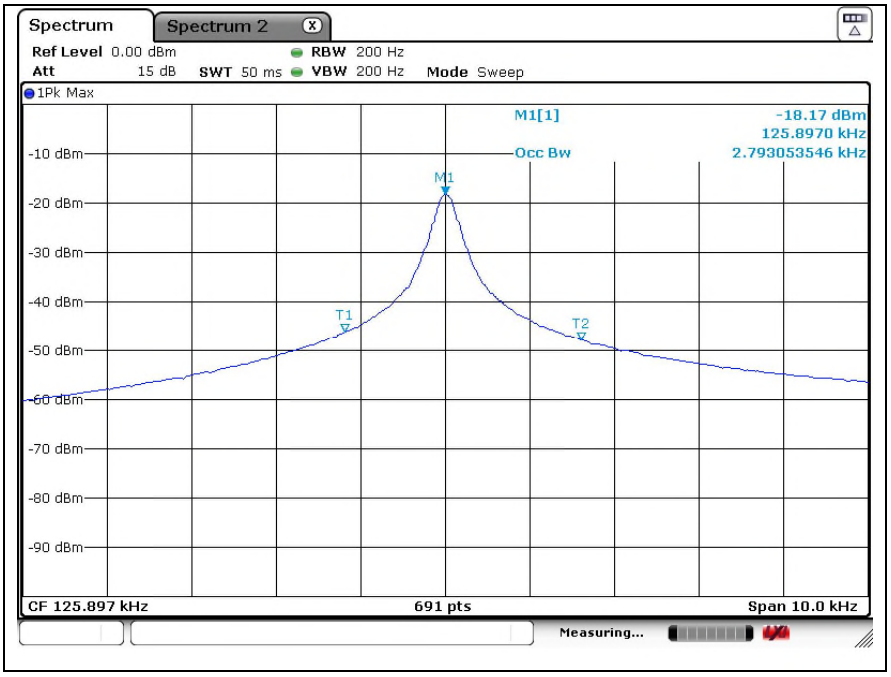
INT2 Antenna



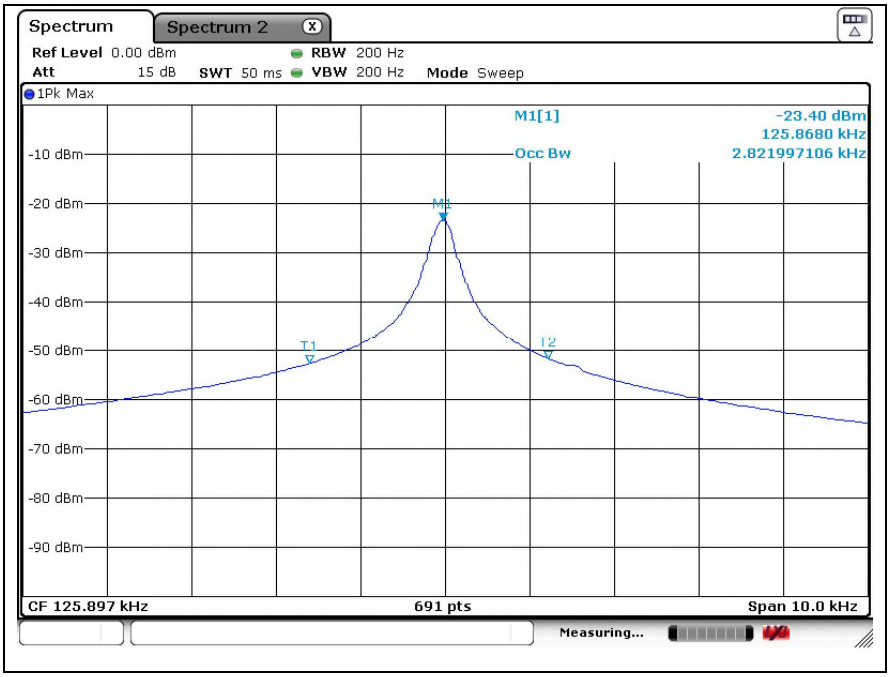
TRK Antenna



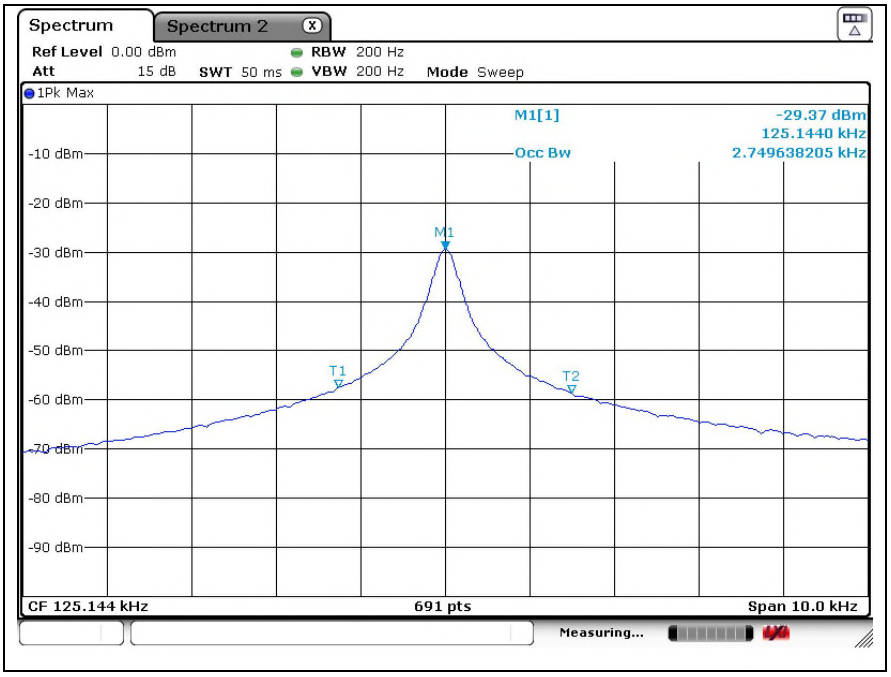
BUM Antenna



FRB Antenna



SSB Antenna



- End of the Test Report -