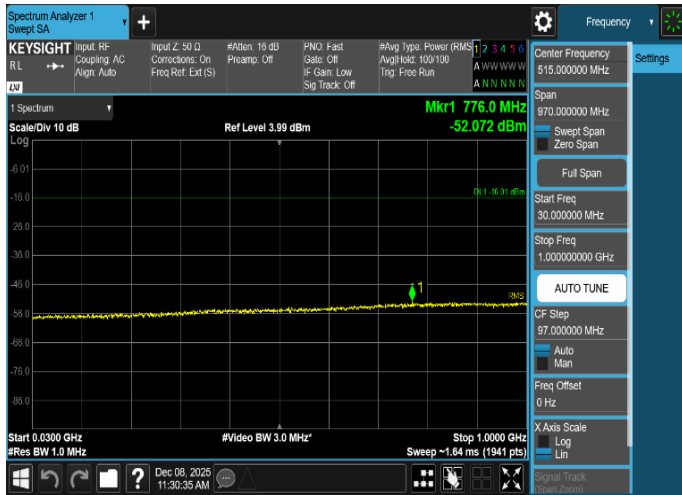




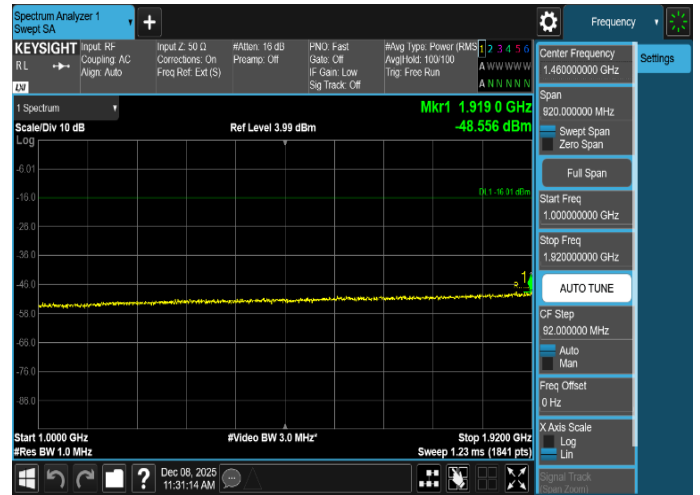
CTK Co., Ltd.

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:
CTK-2025-03736
Page (140) / (195) pages



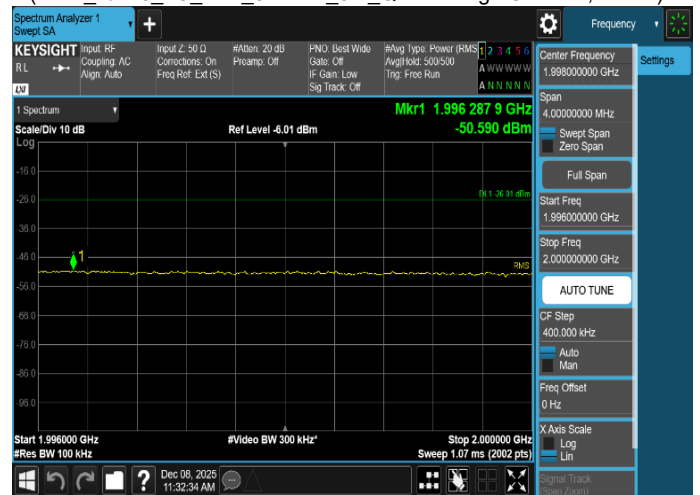
Plot 8-211. Conducted Spurious Emission Plot
30 MHz to 1 GHz
(MSR_B/n25_2C_LTE_5M+NR_5M_QPSK - High Channel, Port 2)



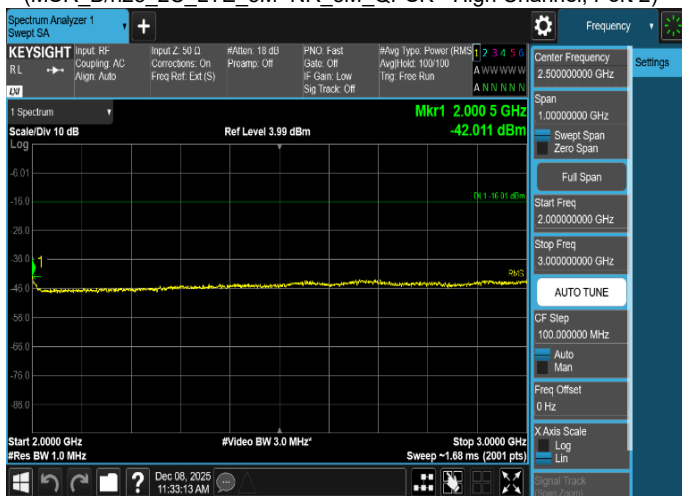
Plot 8-212. Conducted Spurious Emission Plot
1 GHz to 1.92 GHz
(MSR_B/n25_2C_LTE_5M+NR_5M_QPSK - High Channel, Port 2)



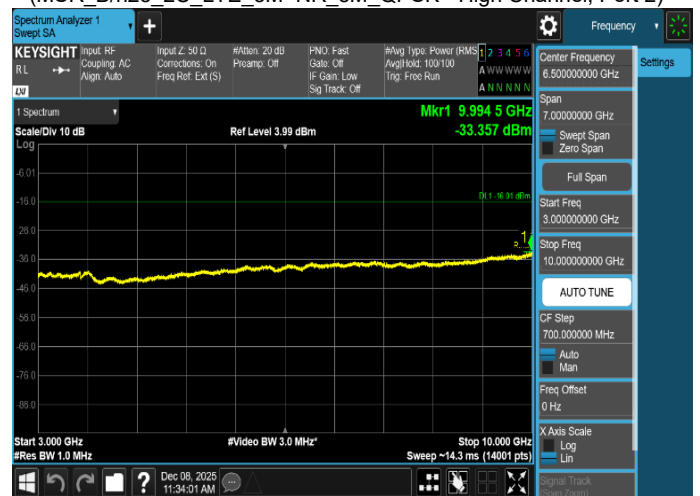
Plot 8-213. Conducted Spurious Emission Plot
1.92 GHz to 1.93 GHz
(MSR_B/n25_2C_LTE_5M+NR_5M_QPSK - High Channel, Port 2)



Plot 8-214. Conducted Spurious Emission Plot
1.996 GHz to 2 GHz
(MSR_B/n25_2C_LTE_5M+NR_5M_QPSK - High Channel, Port 2)



Plot 8-215. Conducted Spurious Emission Plot
2 GHz to 3 GHz
(MSR_B/n25_2C_LTE_5M+NR_5M_QPSK - High Channel, Port 2)



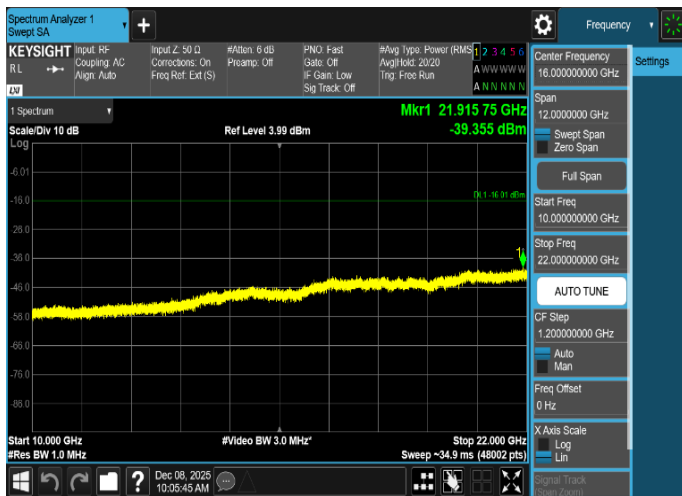
Plot 8-216. Conducted Spurious Emission Plot
3 GHz to 10 GHz
(MSR_B/n25_2C_LTE_5M+NR_5M_QPSK - High Channel, Port 2)



CTK Co., Ltd.

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:
CTK-2025-03736
Page (141) / (195) pages



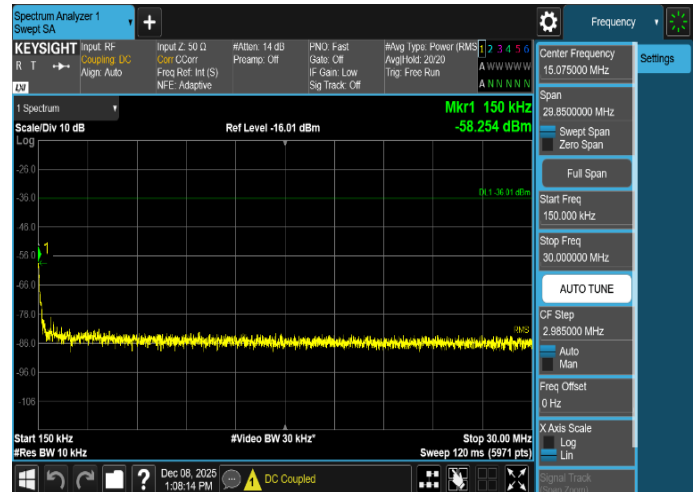
Plot 8-217. Conducted Spurious Emission Plot
10 GHz to 22 GHz

(MSR_B/n25_2C_LTE_5M+NR_5M_QPSK - High Channel, Port 2)



Plot 8-218. Conducted Spurious Emission Plot
9 kHz to 150 kHz

(LTE_B66_1C_10M_64QAM - Low Channel, Port 1)



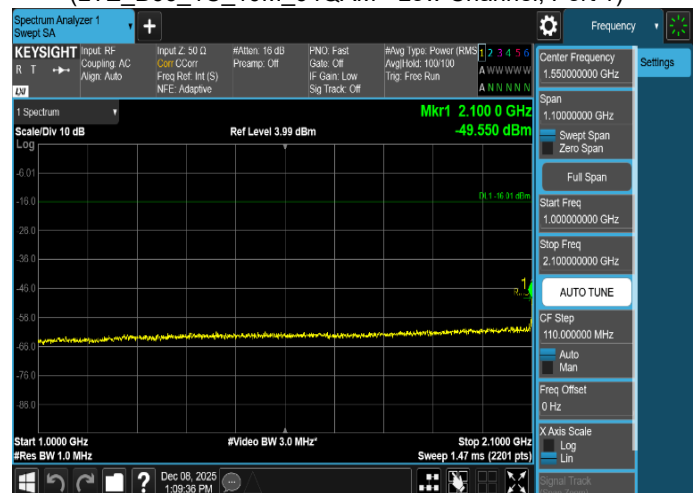
Plot 8-219. Conducted Spurious Emission Plot
150 kHz to 30 MHz

(LTE_B66_1C_10M_64QAM - Low Channel, Port 1)



Plot 8-220. Conducted Spurious Emission Plot
30 MHz to 1 GHz

(LTE_B66_1C_10M_64QAM - Low Channel, Port 1)



Plot 8-221. Conducted Spurious Emission Plot
1 GHz to 2.1 GHz

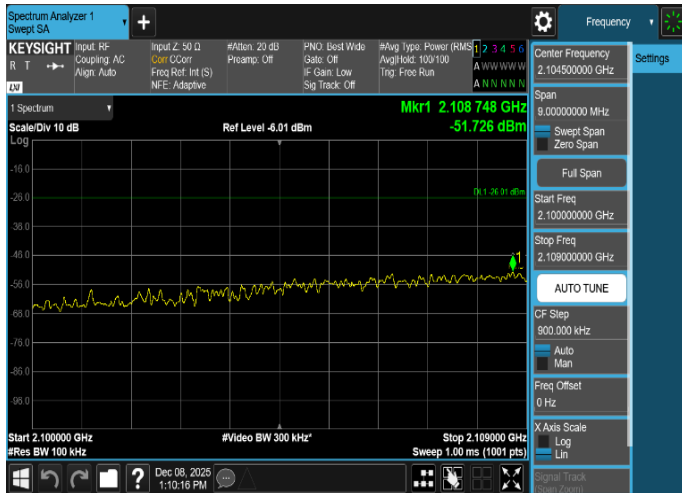
(LTE_B66_1C_10M_64QAM - Low Channel, Port 1)



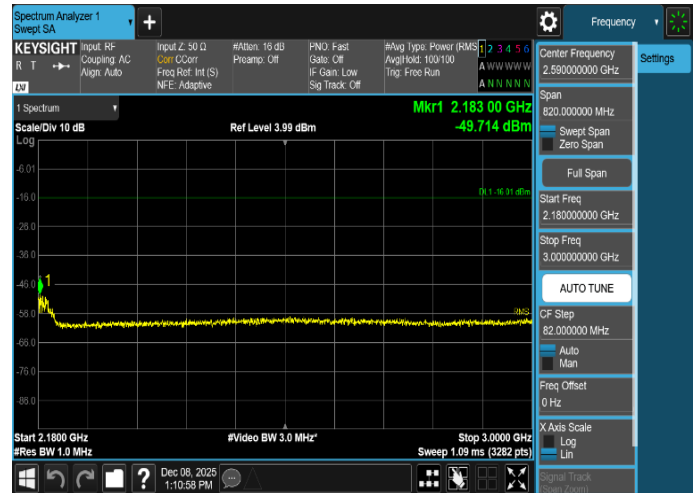
CTK Co., Ltd.

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

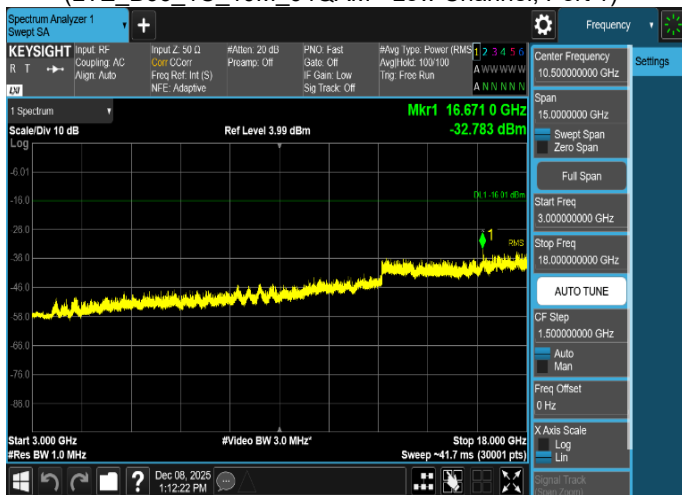
REPORT No.:
CTK-2025-03736
Page (142) / (195) pages



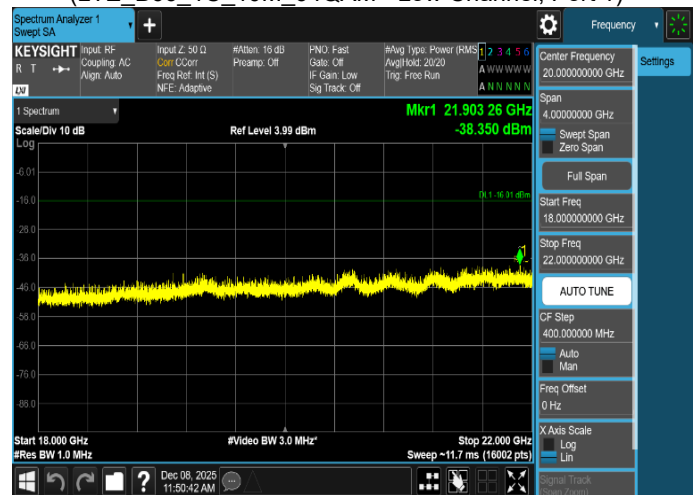
Plot 8-222. Conducted Spurious Emission Plot
2.1 GHz to 2.109 GHz
(LTE_B66_1C_10M_64QAM - Low Channel, Port 1)



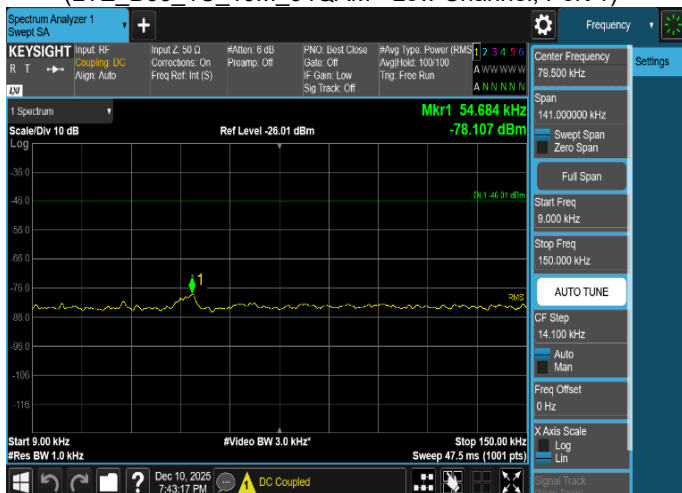
Plot 8-223. Conducted Spurious Emission Plot
2.18 GHz to 3 GHz
(LTE_B66_1C_10M_64QAM - Low Channel, Port 1)



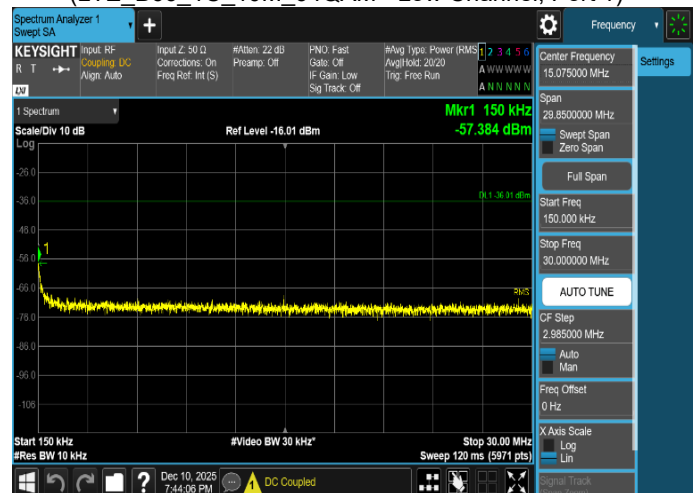
Plot 8-224. Conducted Spurious Emission Plot
3 GHz to 18 GHz
(LTE_B66_1C_10M_64QAM - Low Channel, Port 1)



Plot 8-225. Conducted Spurious Emission Plot
18 GHz to 22 GHz
(LTE_B66_1C_10M_64QAM - Low Channel, Port 1)



Plot 8-226. Conducted Spurious Emission Plot
9 kHz to 150 kHz
(LTE_B66_4C_15M+15M+15M+15M_QPSK - Mid Channel,
Port 2)



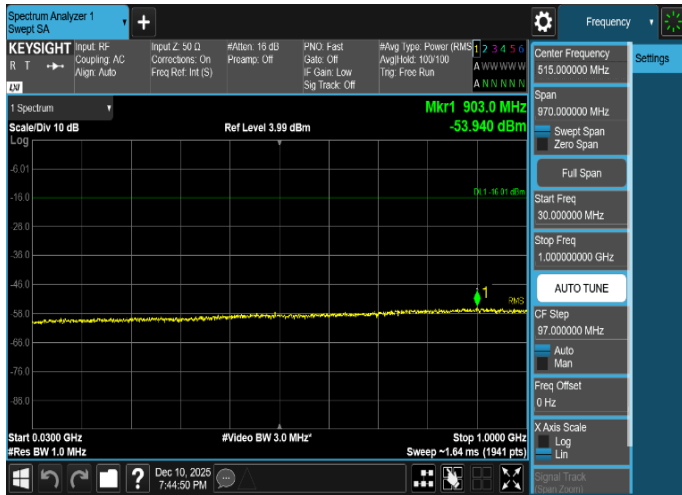
Plot 8-227. Conducted Spurious Emission Plot
150 kHz to 30 MHz
(LTE_B66_4C_15M+15M+15M+15M_QPSK - Mid Channel,
Port 2)



CTK Co., Ltd.

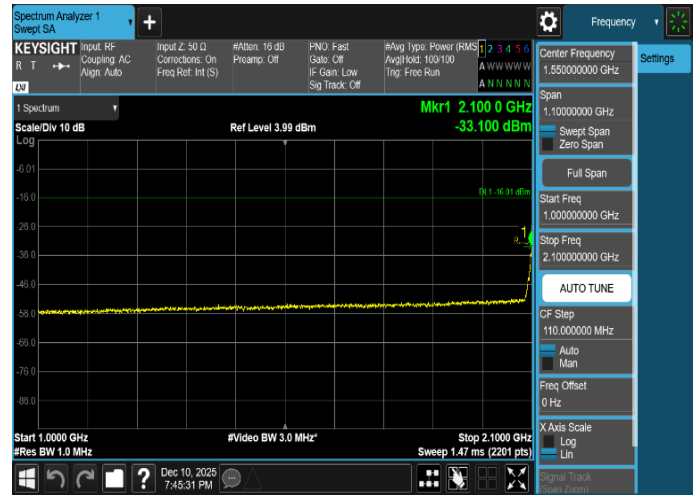
(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:
CTK-2025-03736
Page (143) / (195) pages



Plot 8-228. Conducted Spurious Emission Plot
30 MHz to 1 GHz

(LTE_B66_4C_15M+15M+15M+15M_QPSK - Mid Channel, Port 2)



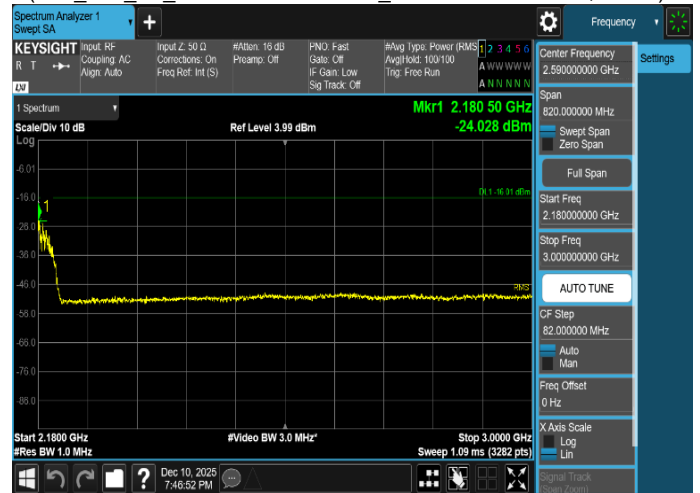
Plot 8-229. Conducted Spurious Emission Plot
1 GHz to 2.1 GHz

(LTE_B66_4C_15M+15M+15M+15M_QPSK - Mid Channel, Port 2)



Plot 8-230. Conducted Spurious Emission Plot
2.1 GHz to 2.11 GHz

(LTE_B66_4C_15M+15M+15M+15M_QPSK - Mid Channel, Port 2)



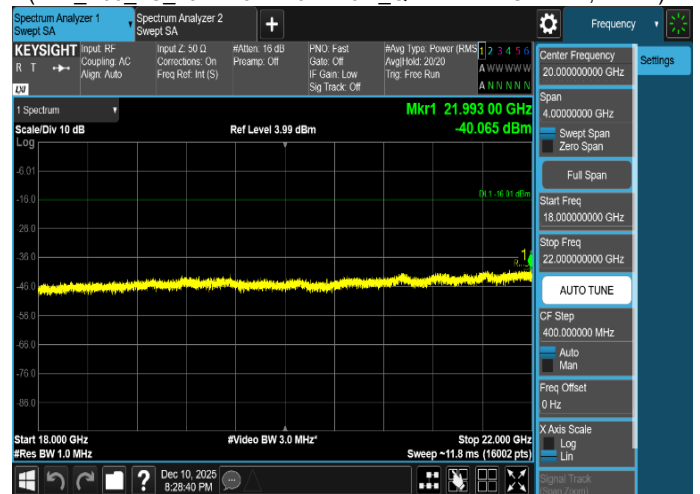
Plot 8-231. Conducted Spurious Emission Plot
2.18 GHz to 3 GHz

(LTE_B66_4C_15M+15M+15M+15M_QPSK - Mid Channel, Port 2)



Plot 8-232. Conducted Spurious Emission Plot
3 GHz to 18 GHz

(LTE_B66_4C_15M+15M+15M+15M_QPSK - Mid Channel,
Port 2)



Plot 8-233. Conducted Spurious Emission Plot
18 GHz to 22 GHz

(LTE_B66_4C_15M+15M+15M+15M_QPSK - Mid Channel,
Port 2)



CTK Co., Ltd.

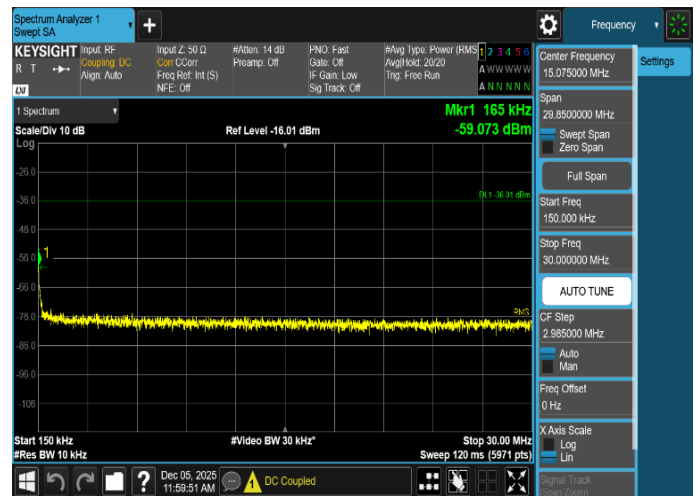
(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:
CTK-2025-03736
Page (144) / (195) pages



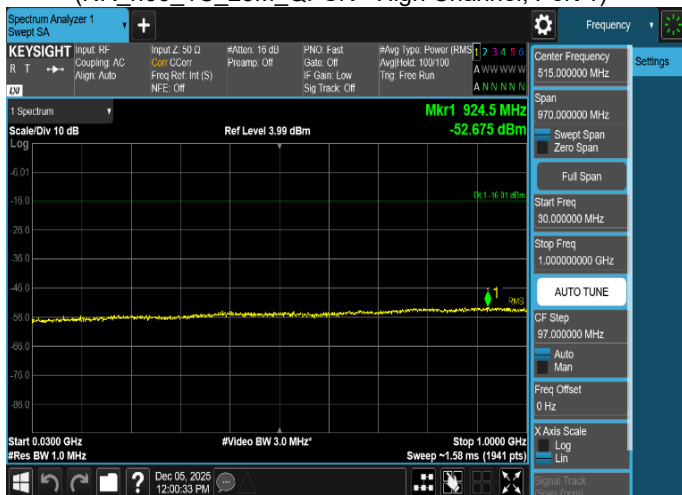
Plot 8-234. Conducted Spurious Emission Plot
9 kHz to 150 kHz

(NR_n66_1C_25M_QPSK - High Channel, Port 1)



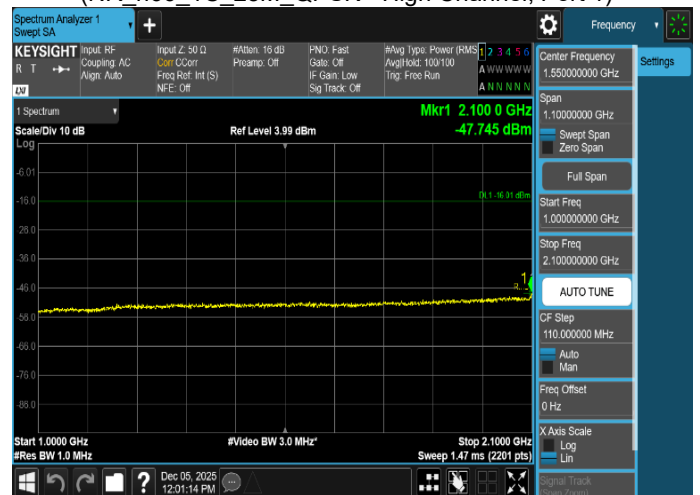
Plot 8-235. Conducted Spurious Emission Plot
150 kHz to 30 MHz

(NR_n66_1C_25M_QPSK - High Channel, Port 1)



Plot 8-236. Conducted Spurious Emission Plot
30 MHz to 1 GHz

(NR_n66_1C_25M_QPSK - High Channel, Port 1)



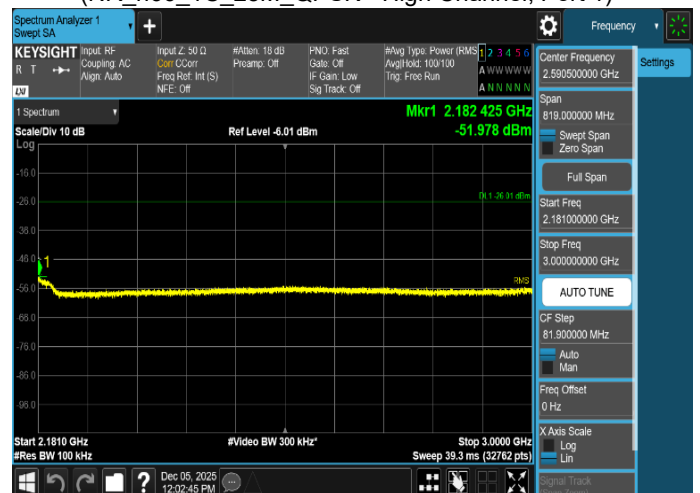
Plot 8-237. Conducted Spurious Emission Plot
1 GHz to 2.1 GHz

(NR_n66_1C_25M_QPSK - High Channel, Port 1)



Plot 8-238. Conducted Spurious Emission Plot
2.1 GHz to 2.11 GHz

(NR_n66_1C_25M_QPSK - High Channel, Port 1)



Plot 8-239. Conducted Spurious Emission Plot
2.181 GHz to 3 GHz

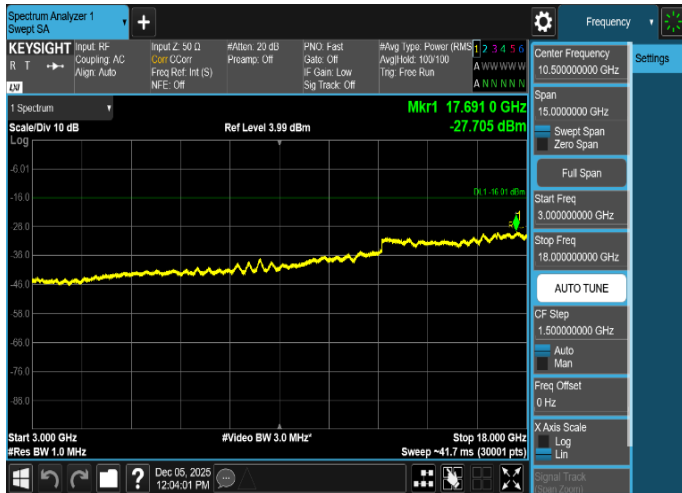
(NR_n66_1C_25M_QPSK - High Channel, Port 1)



CTK Co., Ltd.

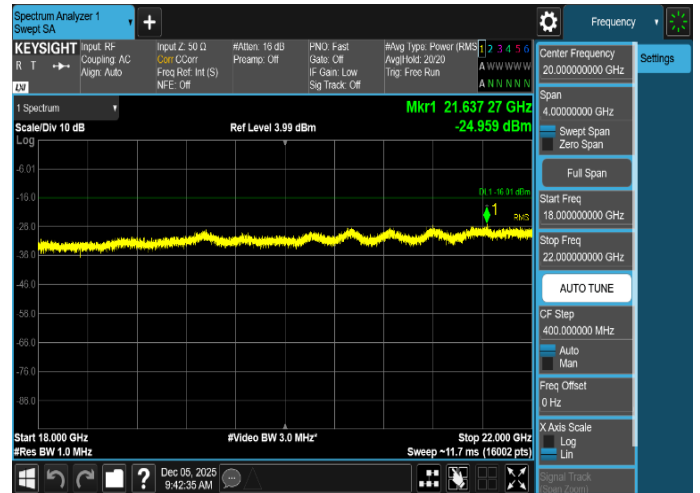
(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:
CTK-2025-03736
Page (145) / (195) pages



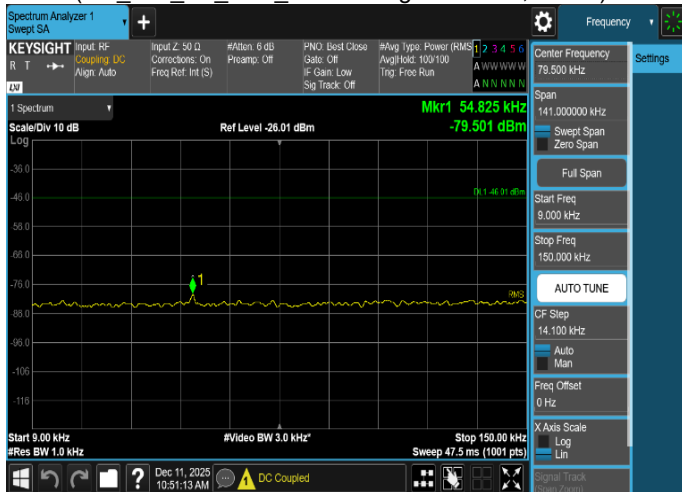
Plot 8-240. Conducted Spurious Emission Plot
3 GHz to 18 GHz

(NR_n66_1C_25M_QPSK - High Channel, Port 1)



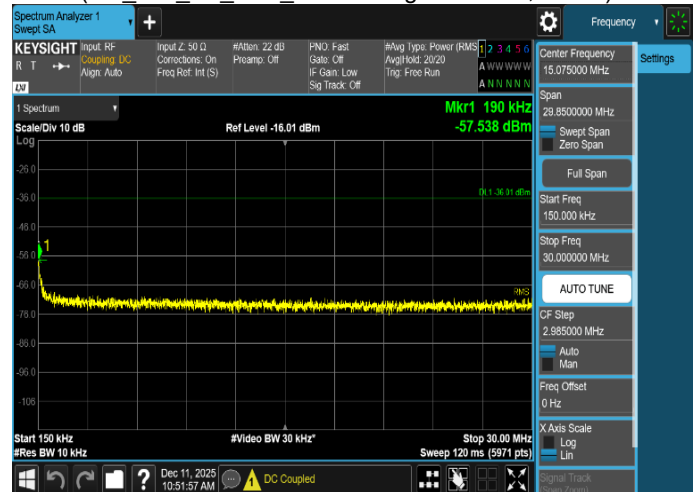
Plot 8-241. Conducted Spurious Emission Plot
18 GHz to 22 GHz

(NR_n66_1C_25M_QPSK - High Channel, Port 1)



Plot 8-242. Conducted Spurious Emission Plot
9 kHz to 150 kHz

(NR_n66_4C_15M+15M+15M+15M_QPSK - Mid Channel, Port 1)



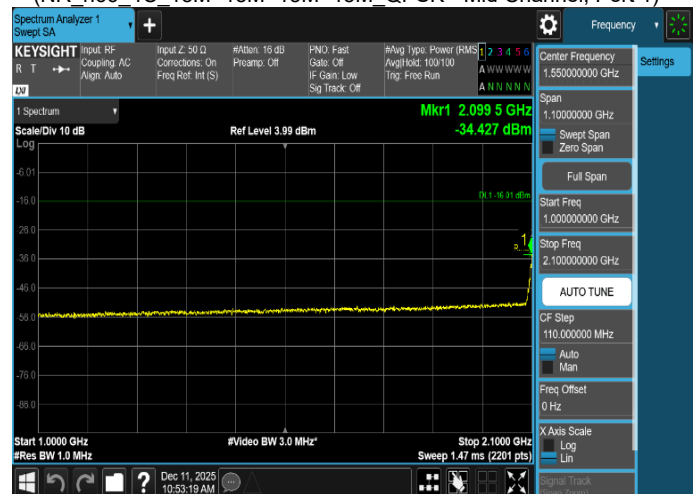
Plot 8-243. Conducted Spurious Emission Plot
150 kHz to 30 MHz

(NR_n66_4C_15M+15M+15M+15M_QPSK - Mid Channel, Port 1)



Plot 8-244. Conducted Spurious Emission Plot
30 MHz to 1 GHz

(NR_n66_4C_15M+15M+15M+15M_QPSK - Mid Channel, Port 1)



Plot 8-245. Conducted Spurious Emission Plot
1 GHz to 2.1 GHz

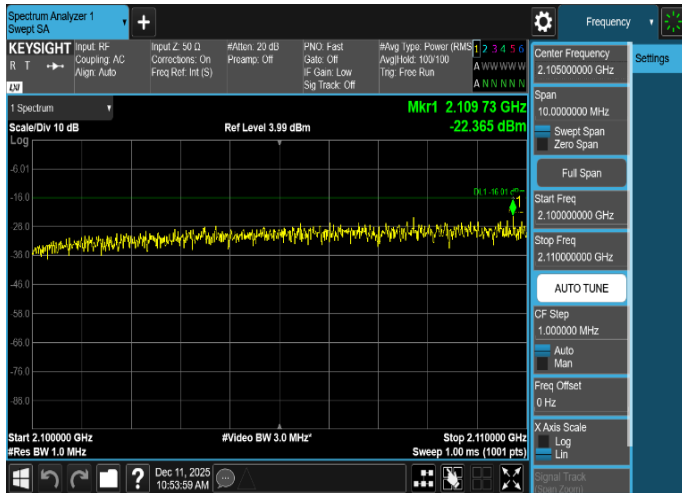
(NR_n66_4C_15M+15M+15M+15M_QPSK - Mid Channel, Port 1)



CTK Co., Ltd.

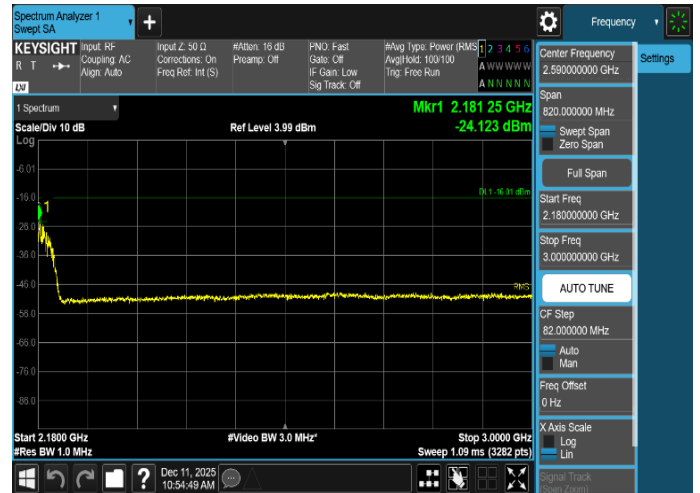
(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:
CTK-2025-03736
Page (146) / (195) pages



Plot 8-246. Conducted Spurious Emission Plot
2.1 GHz to 2.11 GHz

(NR_n66_4C_15M+15M+15M+15M_QPSK - Mid Channel, Port 1)



Plot 8-247. Conducted Spurious Emission Plot
2.18 GHz to 3 GHz

(NR_n66_4C_15M+15M+15M+15M_QPSK - Mid Channel, Port 1)



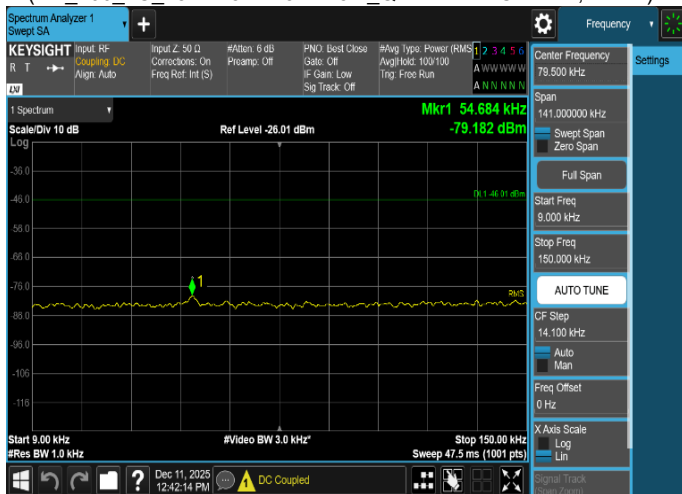
Plot 8-248. Conducted Spurious Emission Plot
3 GHz to 18 GHz

(NR_n66_4C_15M+15M+15M+15M_QPSK - Mid Channel, Port 1)



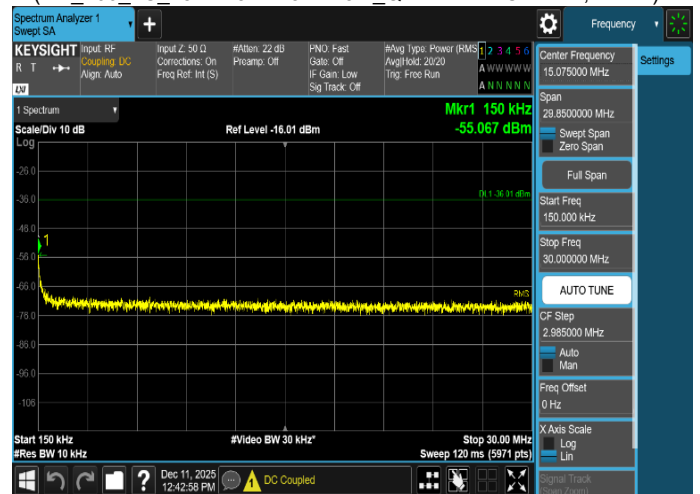
Plot 8-249. Conducted Spurious Emission Plot
18 GHz to 22 GHz

(NR_n66_4C_15M+15M+15M+15M_QPSK - Mid Channel, Port 1)



Plot 8-250. Conducted Spurious Emission Plot
9 kHz to 150 kHz

(MSR_B/n66_2C_LTE_5M+NR_5M_QPSK - Mid Channel, Port 1)



Plot 8-251. Conducted Spurious Emission Plot
150 kHz to 30 MHz

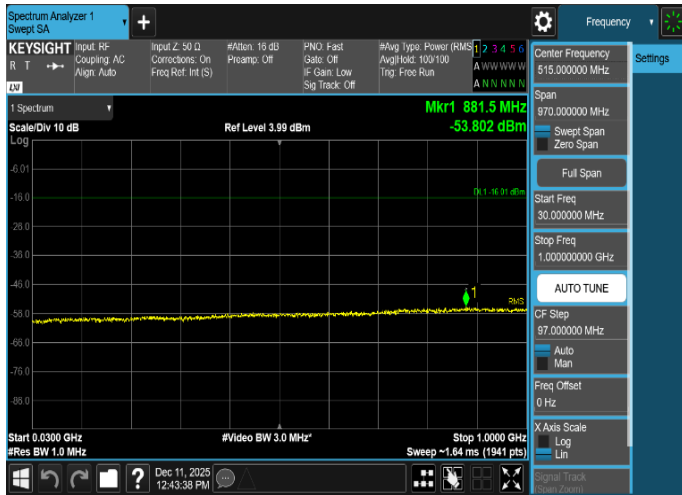
(MSR_B/n66_2C_LTE_5M+NR_5M_QPSK - Mid Channel, Port 1)



CTK Co., Ltd.

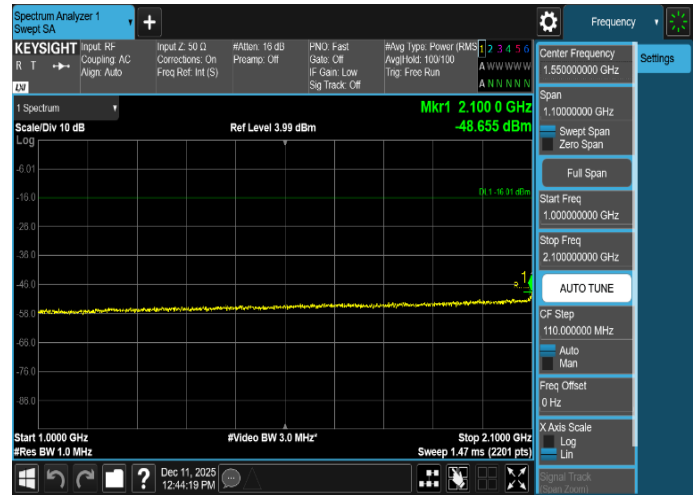
(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:
CTK-2025-03736
Page (147) / (195) pages



Plot 8-252. Conducted Spurious Emission Plot
30 MHz to 1 GHz

(MSR_B/n66_2C_LTE_5M+NR_5M_QPSK - Mid Channel, Port 1)



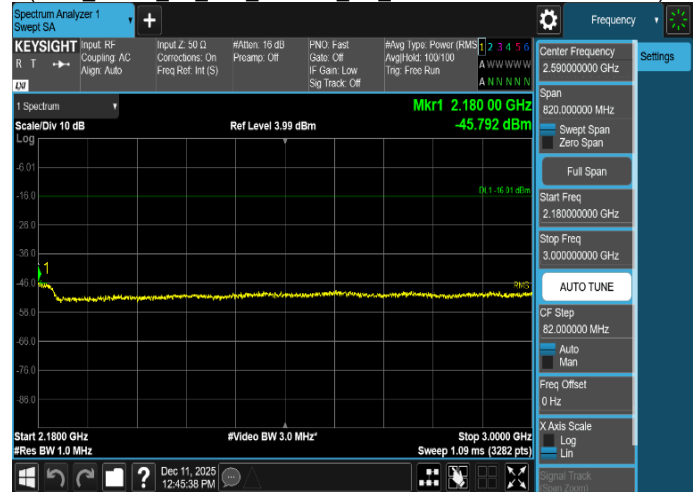
Plot 8-253. Conducted Spurious Emission Plot
1 GHz to 2.1 GHz

(MSR_B/n66_2C_LTE_5M+NR_5M_QPSK - Mid Channel, Port 1)



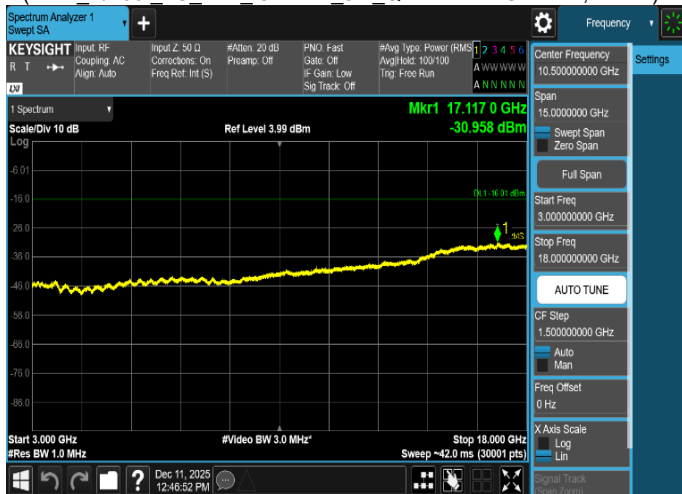
Plot 8-254. Conducted Spurious Emission Plot
2.1 GHz to 2.11 GHz

(MSR_B/n66_2C_LTE_5M+NR_5M_QPSK - Mid Channel, Port 1)



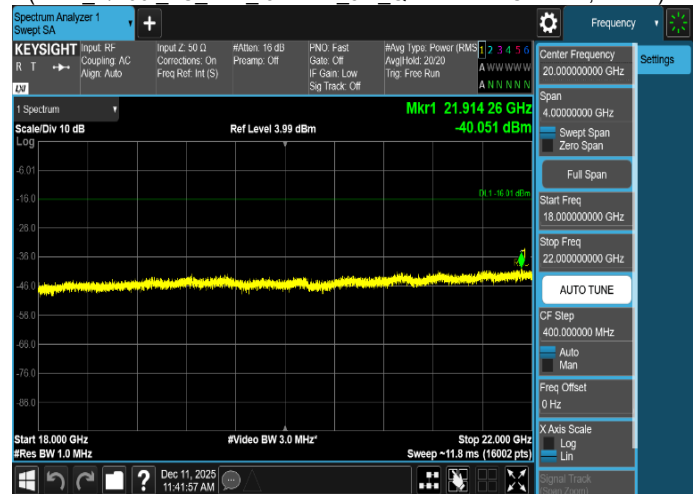
Plot 8-255. Conducted Spurious Emission Plot
2.18 GHz to 3 GHz

(MSR_B/n66_2C_LTE_5M+NR_5M_QPSK - Mid Channel, Port 1)



Plot 8-256. Conducted Spurious Emission Plot
3 GHz to 18 GHz

(MSR_B/n66_2C_LTE_5M+NR_5M_QPSK - Mid Channel, Port 1)



Plot 8-257. Conducted Spurious Emission Plot
18 GHz to 22 GHz

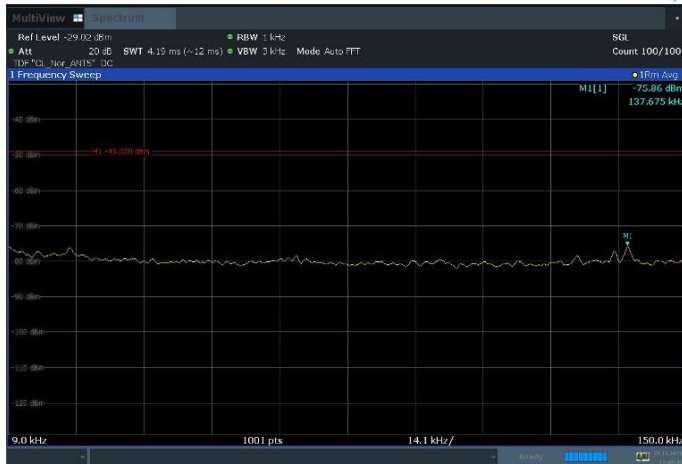
(MSR_B/n66_2C_LTE_5M+NR_5M_QPSK - Mid Channel, Port 1)



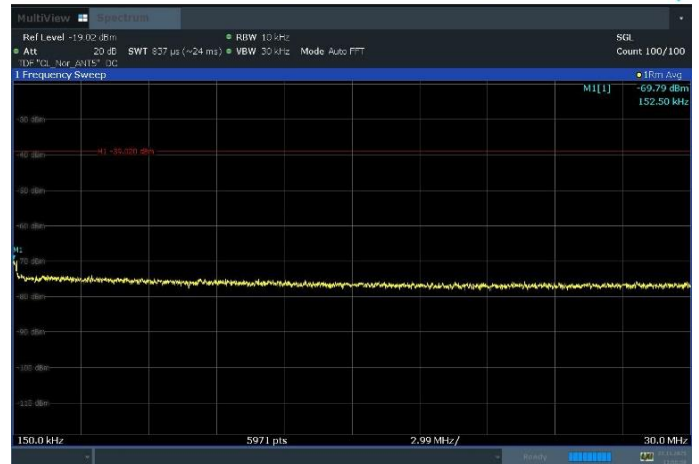
CTK Co., Ltd.

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

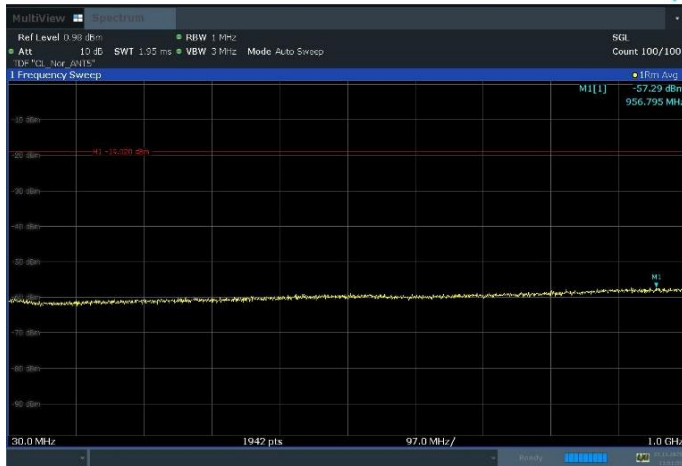
REPORT No.:
CTK-2025-03736
Page (148) / (195) pages



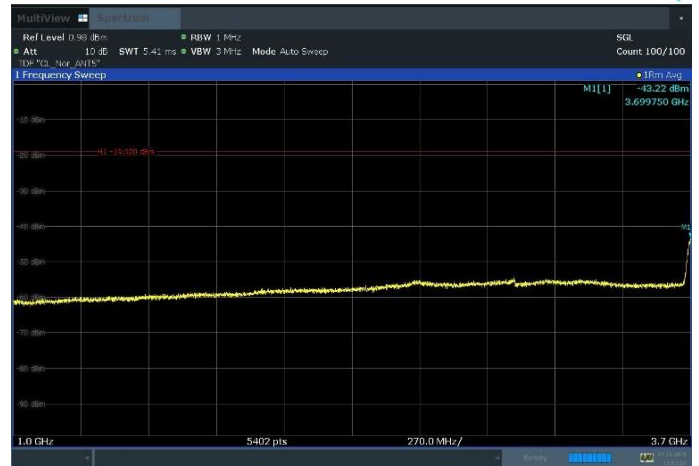
Plot 8-258. Conducted Spurious Emission Plot
9 kHz to 150 kHz
(NR_n77_1C_60M_16QAM - High Channel, Port 5)



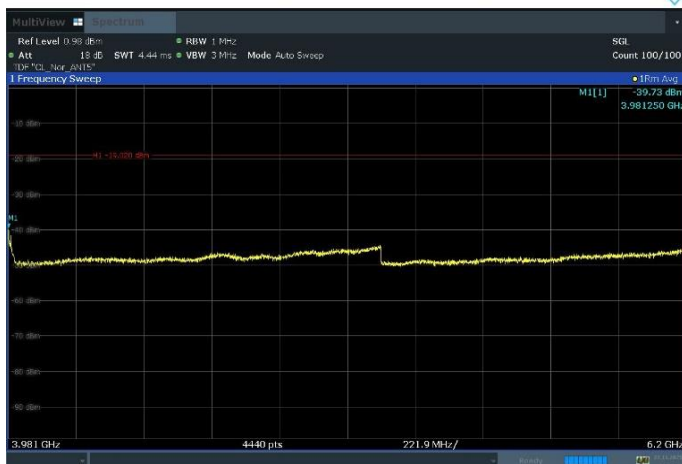
Plot 8-259. Conducted Spurious Emission Plot
150 kHz to 30 MHz
(NR_n77_1C_60M_16QAM - High Channel, Port 5)



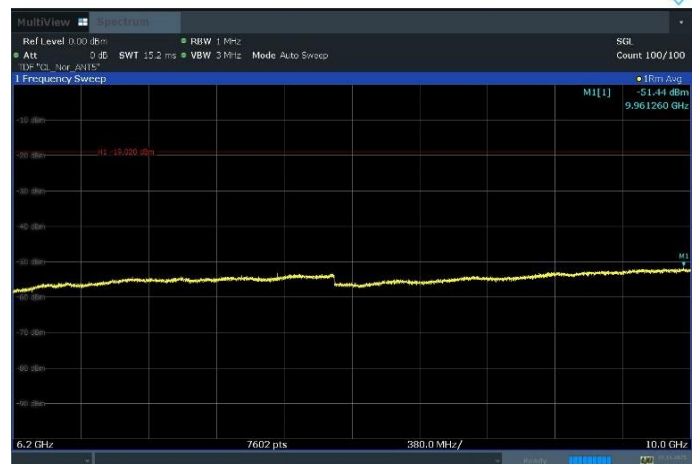
Plot 8-260. Conducted Spurious Emission Plot
30 MHz to 1 GHz
(NR_n77_1C_60M_16QAM - High Channel, Port 5)



Plot 8-261. Conducted Spurious Emission Plot
1 GHz to 3.7 GHz
(NR_n77_1C_60M_16QAM - High Channel, Port 5)



Plot 8-262. Conducted Spurious Emission Plot
3.981 GHz to 6.2 GHz
(NR_n77_1C_60M_16QAM - High Channel, Port 5)



Plot 8-263. Conducted Spurious Emission Plot
6.2 GHz to 10 GHz
(NR_n77_1C_60M_16QAM - High Channel, Port 5)



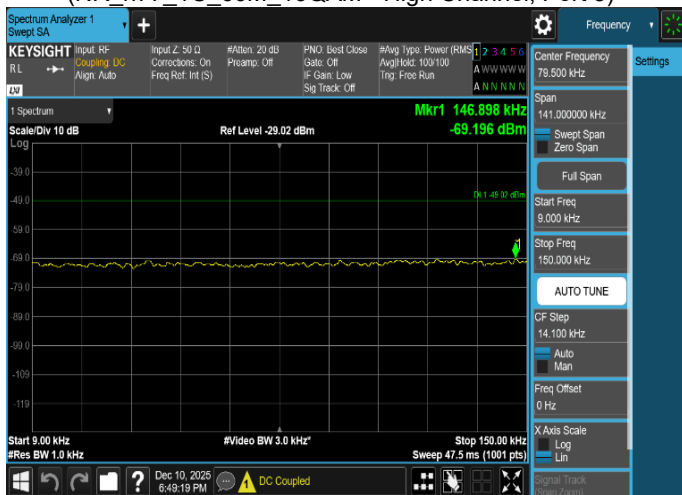
CTK Co., Ltd.

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

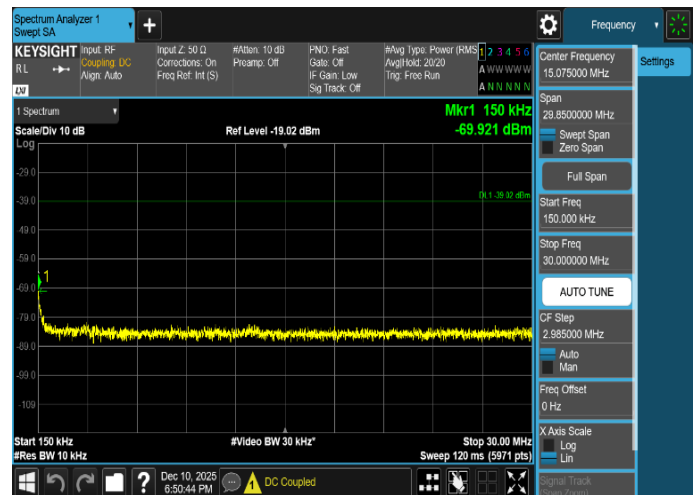
REPORT No.:
CTK-2025-03736
Page (149) / (195) pages



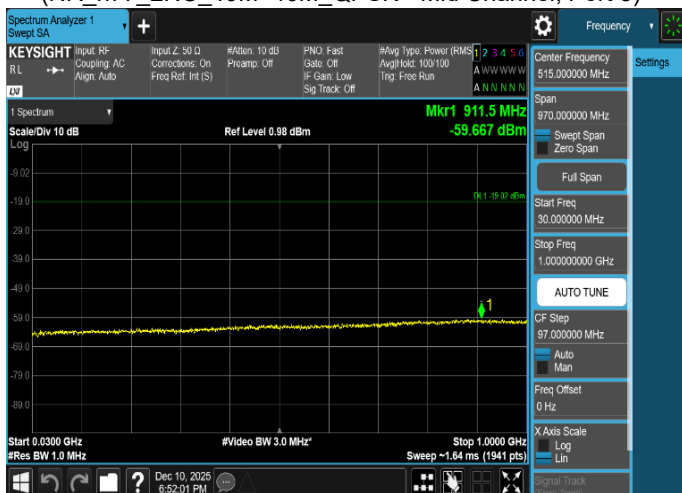
Plot 8-264. Conducted Spurious Emission Plot
10 GHz to 40 GHz
(NR_n77_1C_60M_16QAM - High Channel, Port 5)



Plot 8-265. Conducted Spurious Emission Plot
9 kHz to 150 kHz
(NR_n77_2NC_40M+40M_QPSK - Mid Channel, Port 5)



Plot 8-266. Conducted Spurious Emission Plot
150 kHz to 30 MHz
(NR_n77_2NC_40M+40M_QPSK - Mid Channel, Port 5)



Plot 8-267. Conducted Spurious Emission Plot
30 MHz to 1 GHz
(NR_n77_2NC_40M+40M_QPSK - Mid Channel, Port 5)



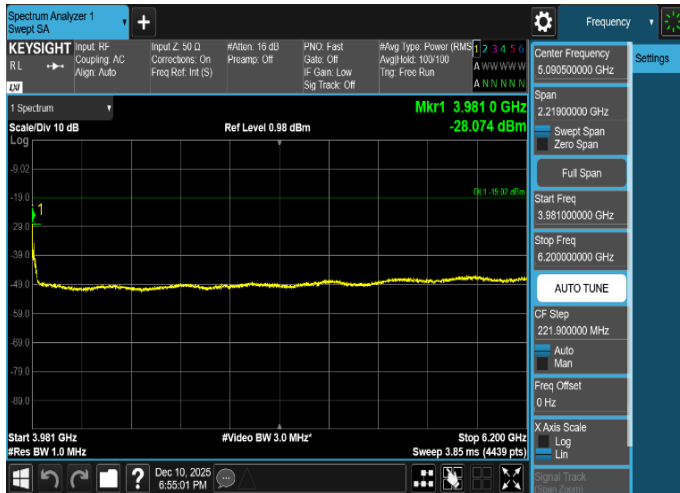
Plot 8-268. Conducted Spurious Emission Plot
1 GHz to 3.699 GHz
(NR_n77_2NC_40M+40M_QPSK - Mid Channel, Port 5)



CTK Co., Ltd.

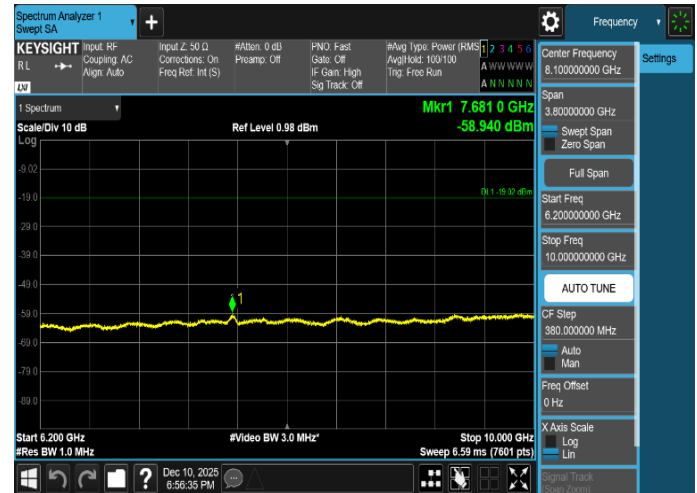
(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:
CTK-2025-03736
Page (150) / (195) pages



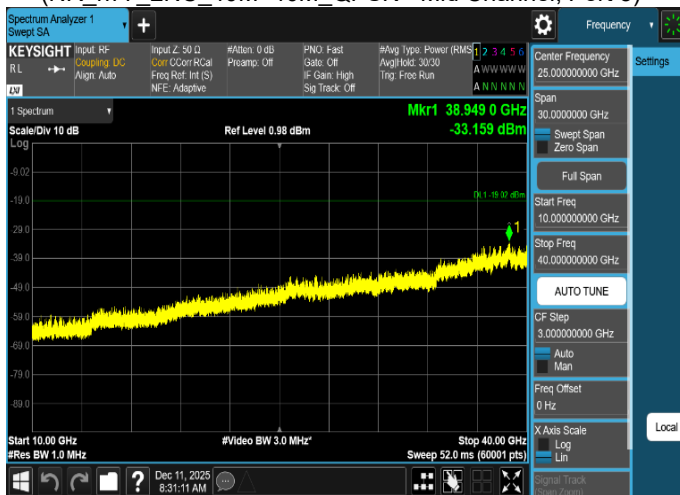
Plot 8-269. Conducted Spurious Emission Plot
3.981 GHz to 6.2 GHz

(NR_n77_2NC_40M+40M_QPSK - Mid Channel, Port 5)



Plot 8-270. Conducted Spurious Emission Plot
6.2 GHz to 10 GHz

(NR_n77_2NC_40M+40M_QPSK - Mid Channel, Port 5)



Plot 8-271. Conducted Spurious Emission Plot
10 GHz to 40 GHz

(NR_n77_2NC_40M+40M_QPSK - Mid Channel, Port 5)

8.7 Frequency Stability

Test Overview and Limit

Frequency stability testing is performed in accordance with the guidelines of KDB 971168 D01 v03r01. The frequency stability of the transmitter is measured by:

- a.) **Temperature:** The temperature is varied from -30°C to +50°C in 10°C increments using an environmental chamber.
- b.) **Primary Supply Voltage:** The primary supply voltage is varied from 85% to 115% of the nominal value for DC powered equipment.

Test Description

1. The carrier frequency of the transmitter is measured at room temperature (20°C to provide a reference).
2. The equipment is turned on in a “standby” condition for fifteen minutes before applying power to the transmitter. Measurement of the carrier frequency of the transmitter is made within one minute after applying power to the transmitter.

Frequency measurements are made -30°C to +50°C in 10°C increments. A period of at least one half-hour is provided to allow stabilization of the equipment at each temperature level.

Limit

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

Test Setup

The EUT was connected via an RF cable to a spectrum analyzer with the EUT placed inside an environmental chamber.

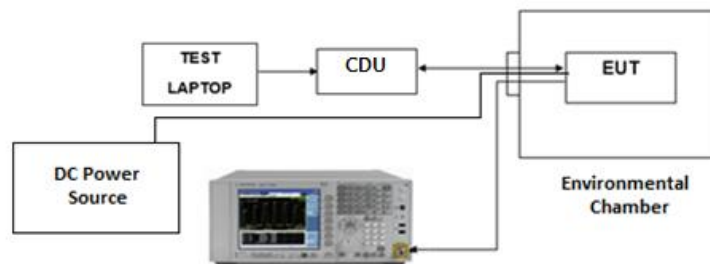


Figure 8-6. Test Instrument & Measurement Setup

Test Notes

None.



CTK Co., Ltd.

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:
CTK-2025-03736
Page (152) / (195) pages

OPERATING FREQUENCY: 1,932,500,000_Hz
REFERENCE VOLTAGE: -48.00_VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	- 48.0	- 30	1,932,499,997	-1.32	-0.0000001
100 %		- 20	1,932,499,999	-0.22	0.0000000
100 %		- 10	1,932,499,997	-1.39	-0.0000001
100 %		0	1,932,500,001	2.30	0.0000001
100 %		+ 10	1,932,499,999	0.66	0.0000000
100 %		+ 20(Ref)	1,932,499,999	0.00	0.0000000
100 %		+ 30	1,932,499,999	0.56	0.0000000
100 %		+ 40	1,932,500,001	2.15	0.0000001
100 %		+ 50	1,932,499,997	-1.41	-0.0000001
85 %	- 40.8	+ 20	1,932,500,002	3.53	0.0000002
115 %	- 55.2	+ 20	1,932,500,000	0.73	0.0000000

Table 8-116. Frequency Stability Summary Data (LTE_B25_1C_5M)

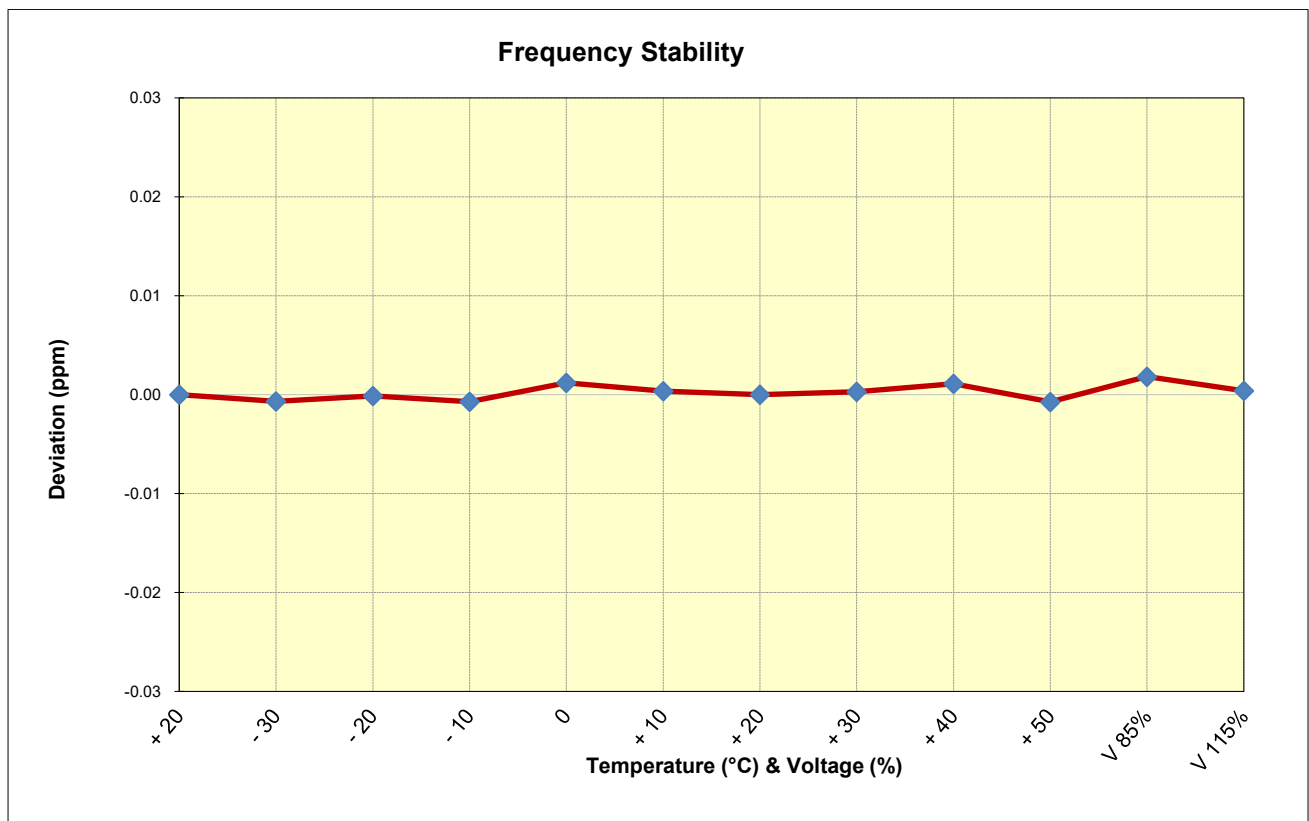


Figure 8-7. Frequency Stability Graph (LTE_B25_1C_5M)



CTK Co., Ltd.

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:
CTK-2025-03736
Page (153) / (195) pages

OPERATING FREQUENCY: 2,145,000,000_Hz
REFERENCE VOLTAGE: -48.00_VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	- 48.0	- 30	2,144,999,998	-8.39	-0.0000004
100 %		- 20	2,144,999,998	-8.85	-0.0000004
100 %		- 10	2,144,999,999	-7.28	-0.0000003
100 %		0	2,145,000,003	-3.36	-0.0000002
100 %		+ 10	2,145,000,000	-6.95	-0.0000003
100 %		+ 20(Ref)	2,145,000,007	0.00	0.0000000
100 %		+ 30	2,145,000,000	-6.87	-0.0000003
100 %		+ 40	2,144,999,999	-7.59	-0.0000004
100 %		+ 50	2,145,000,001	-5.72	-0.0000003
85 %	- 40.8	+ 20	2,144,999,997	-9.70	-0.0000005
115 %	- 55.2	+ 20	2,145,000,000	-6.59	-0.0000003

Table 8-117. Frequency Stability Summary Data (LTE_B66_1C_5M)

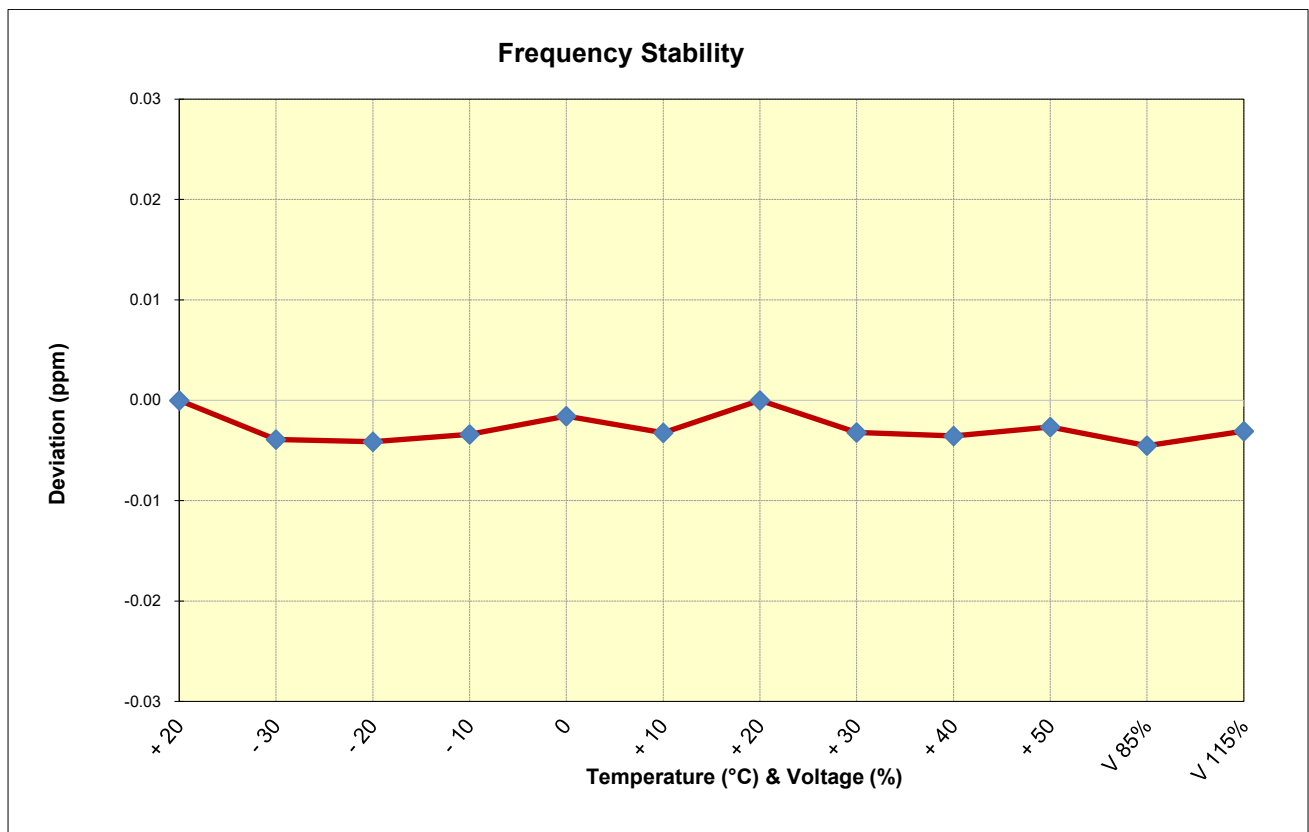


Figure 8-8. Frequency Stability Graph (LTE_B66_1C_5M)

**CTK Co., Ltd.**

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:
CTK-2025-03736
Page (154) / (195) pages

OPERATING FREQUENCY: 3,720,000,000_Hz
REFERENCE VOLTAGE: -48.00_VDC

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	- 48.0	- 30	3,719,999,996	-5.57	-0.0000001
100 %		- 20	3,719,999,994	-7.02	-0.0000002
100 %		- 10	3,719,999,998	-3.11	-0.0000001
100 %		0	3,719,999,998	-3.47	-0.0000001
100 %		+ 10	3,719,999,998	-3.14	-0.0000001
100 %		+ 20(Ref)	3,720,000,001	0.00	0.0000000
100 %		+ 30	3,720,000,000	-1.51	0.0000000
100 %		+ 40	3,720,000,000	-1.24	0.0000000
100 %		+ 50	3,720,000,002	0.78	0.0000000
85 %	- 40.8	+ 20	3,719,999,996	-5.36	-0.0000001
115 %	- 55.2	+ 20	3,720,000,002	0.62	0.0000000

Table 8-118. Frequency Stability Summary Data (NR_n77_1C_40M)

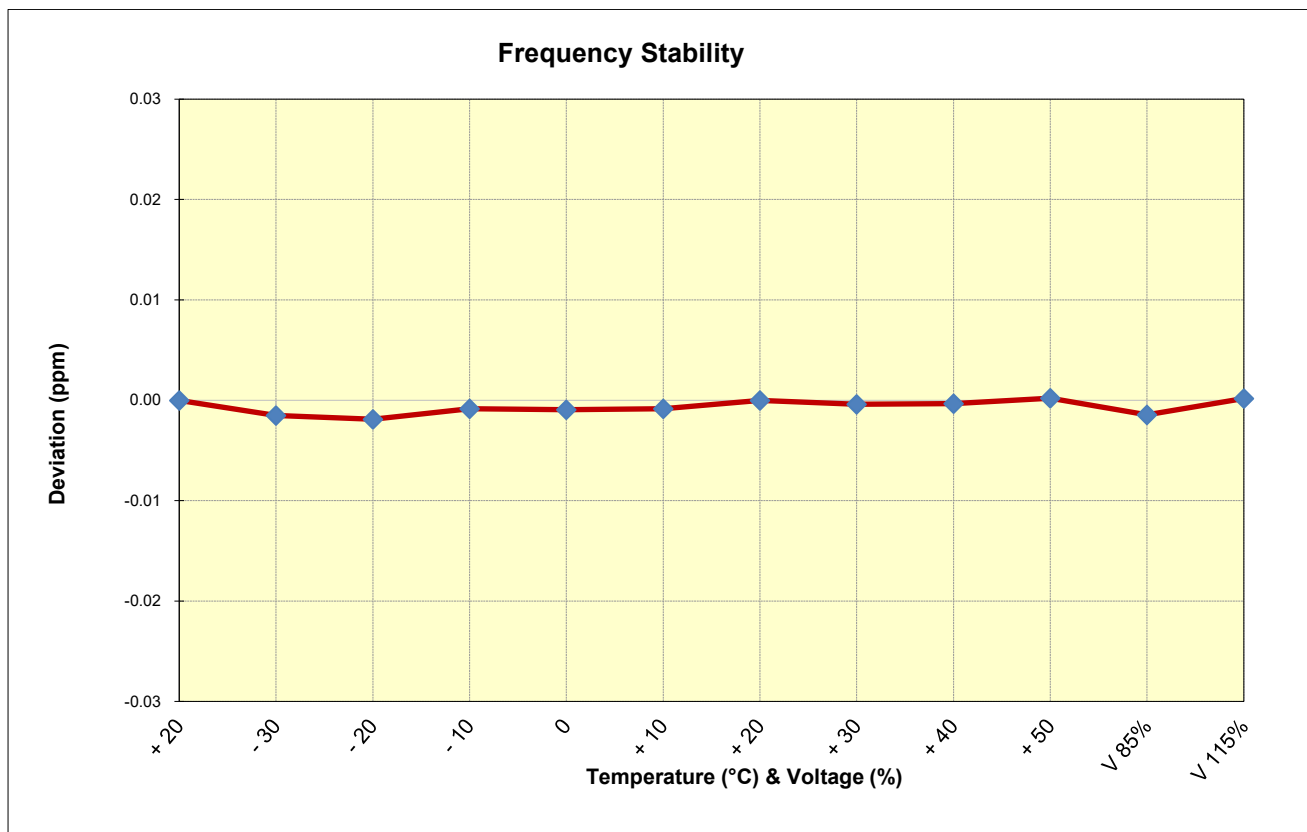


Figure 8-9. Frequency Stability Graph (NR_n77_1C_40M)

**CTK Co., Ltd.**

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:
CTK-2025-03736
Page (155) / (195) pages

OPERATING FREQUENCY: 1,932,500,000_Hz
REFERENCE VOLTAGE: -46.00_PoE

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	- 46.0	- 30	1,932,499,999	-4.01	-0.0000002
100 %		- 20	1,932,500,002	-1.33	-0.0000001
100 %		- 10	1,932,499,999	-3.56	-0.0000002
100 %		0	1,932,500,000	-2.87	-0.0000001
100 %		+ 10	1,932,500,000	-2.78	-0.0000001
100 %		+ 20(Ref)	1,932,500,003	0.00	0.0000000
100 %		+ 30	1,932,499,999	-3.66	-0.0000002
100 %		+ 40	1,932,500,000	-3.54	-0.0000002
100 %		+ 50	1,932,500,001	-1.86	-0.0000001
85 %	- 39.1	+ 20	1,932,499,996	-6.94	-0.0000004
115 %	- 52.9	+ 20	1,932,499,999	-4.43	-0.0000002

Table 8-119. Frequency Stability Summary Data (LTE_B25_1C_5M)

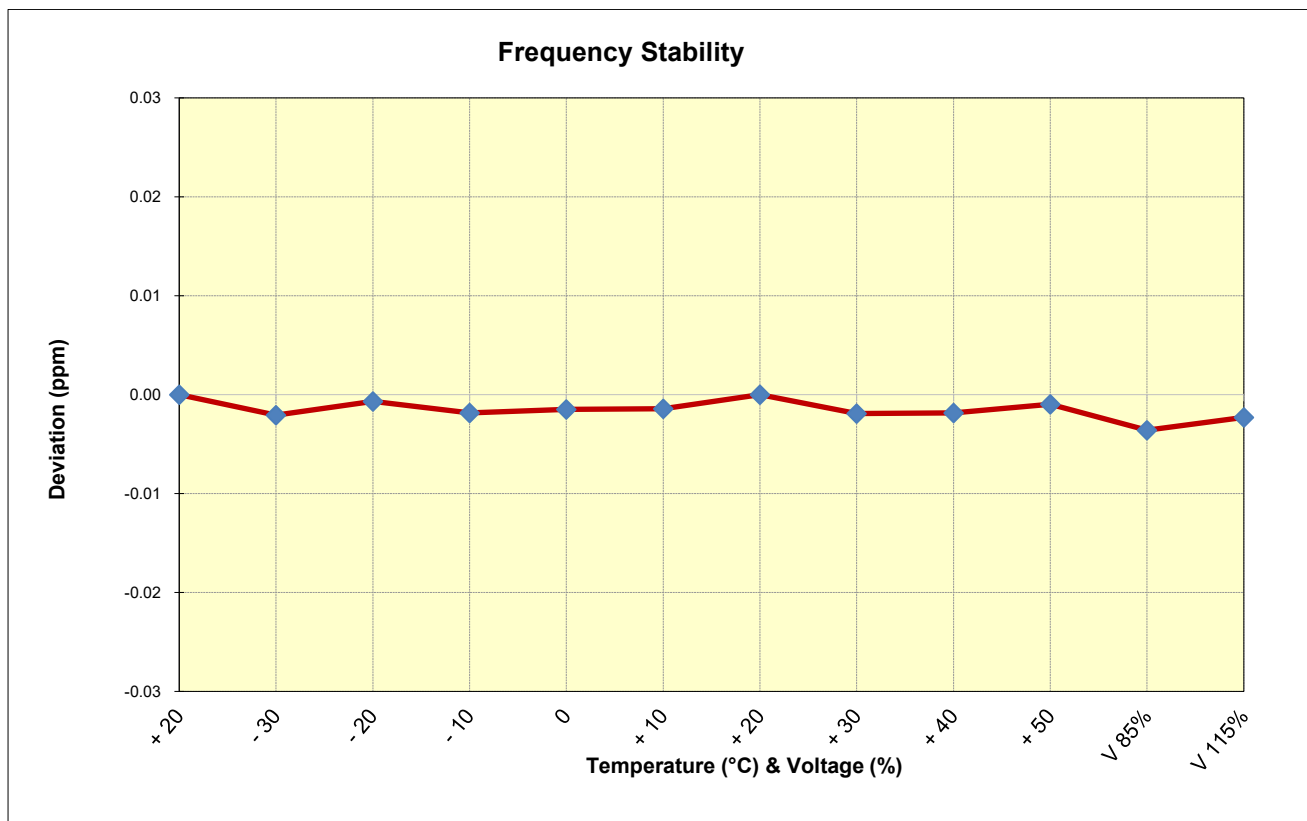


Figure 8-10. Frequency Stability Graph (LTE_B25_1C_5M)



CTK Co., Ltd.

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:
CTK-2025-03736
Page (156) / (195) pages

OPERATING FREQUENCY: 2,112,500,000_Hz
REFERENCE VOLTAGE: -46.00_PoE

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	- 46.0	- 30	2,112,499,998	-3.32	-0.0000002
100 %		- 20	2,112,499,997	-4.27	-0.0000002
100 %		- 10	2,112,499,998	-3.26	-0.0000002
100 %		0	2,112,500,000	-0.45	0.0000000
100 %		+ 10	2,112,500,000	-0.59	0.0000000
100 %		+ 20(Ref)	2,112,500,001	0.00	0.0000000
100 %		+ 30	2,112,500,000	-0.63	0.0000000
100 %		+ 40	2,112,500,002	1.00	0.0000000
100 %		+ 50	2,112,500,000	-1.05	0.0000000
85 %	- 39.1	+ 20	2,112,499,998	-2.68	-0.0000001
115 %	- 52.9	+ 20	2,112,499,999	-2.24	-0.0000001

Table 8-120. Frequency Stability Summary Data (LTE_B66_1C_5M)

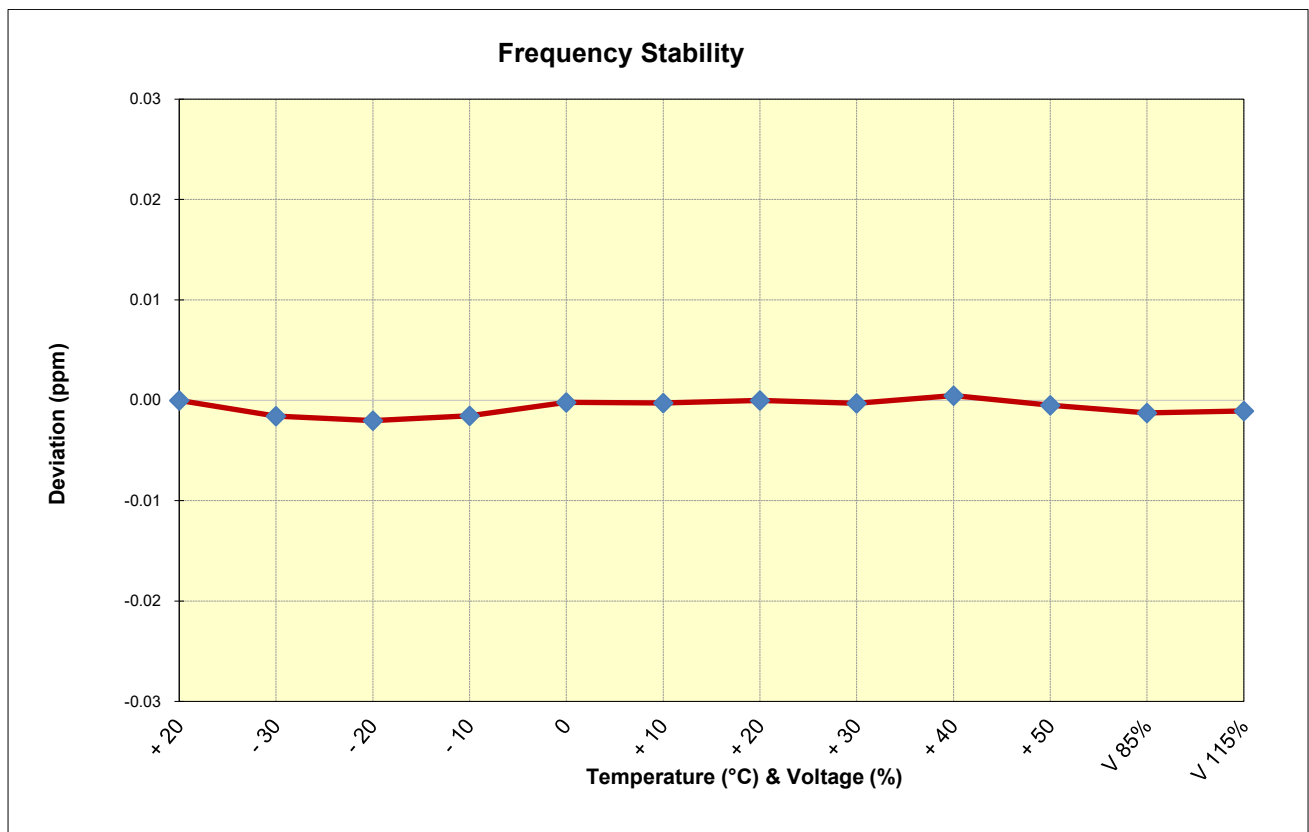


Figure 8-11. Frequency Stability Graph (LTE_B66_1C_5M)



CTK Co., Ltd.

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:
CTK-2025-03736
Page (157) / (195) pages

OPERATING FREQUENCY: 3,720,000,000_Hz
REFERENCE VOLTAGE: -46.00 PoE

VOLTAGE (%)	POWER (VDC)	TEMP (°C)	FREQUENCY (Hz)	Freq. Dev. (Hz)	Deviation (%)
100 %	- 46.0	- 30	3,719,999,999	6.11	0.0000002
100 %		- 20	3,719,999,997	4.35	0.0000001
100 %		- 10	3,720,000,002	8.77	0.0000002
100 %		0	3,719,999,999	6.44	0.0000002
100 %		+ 10	3,720,000,000	7.39	0.0000002
100 %		+ 20(Ref)	3,719,999,993	0.00	0.0000000
100 %		+ 30	3,719,999,998	4.74	0.0000001
100 %		+ 40	3,719,999,998	5.47	0.0000001
100 %		+ 50	3,719,999,995	2.58	0.0000001
85 %	- 39.1	+ 20	3,719,999,998	4.88	0.0000001
115 %	- 52.9	+ 20	3,719,999,995	1.74	0.0000000

Table 8-121. Frequency Stability Summary Data (NR_n77_1C_40M)

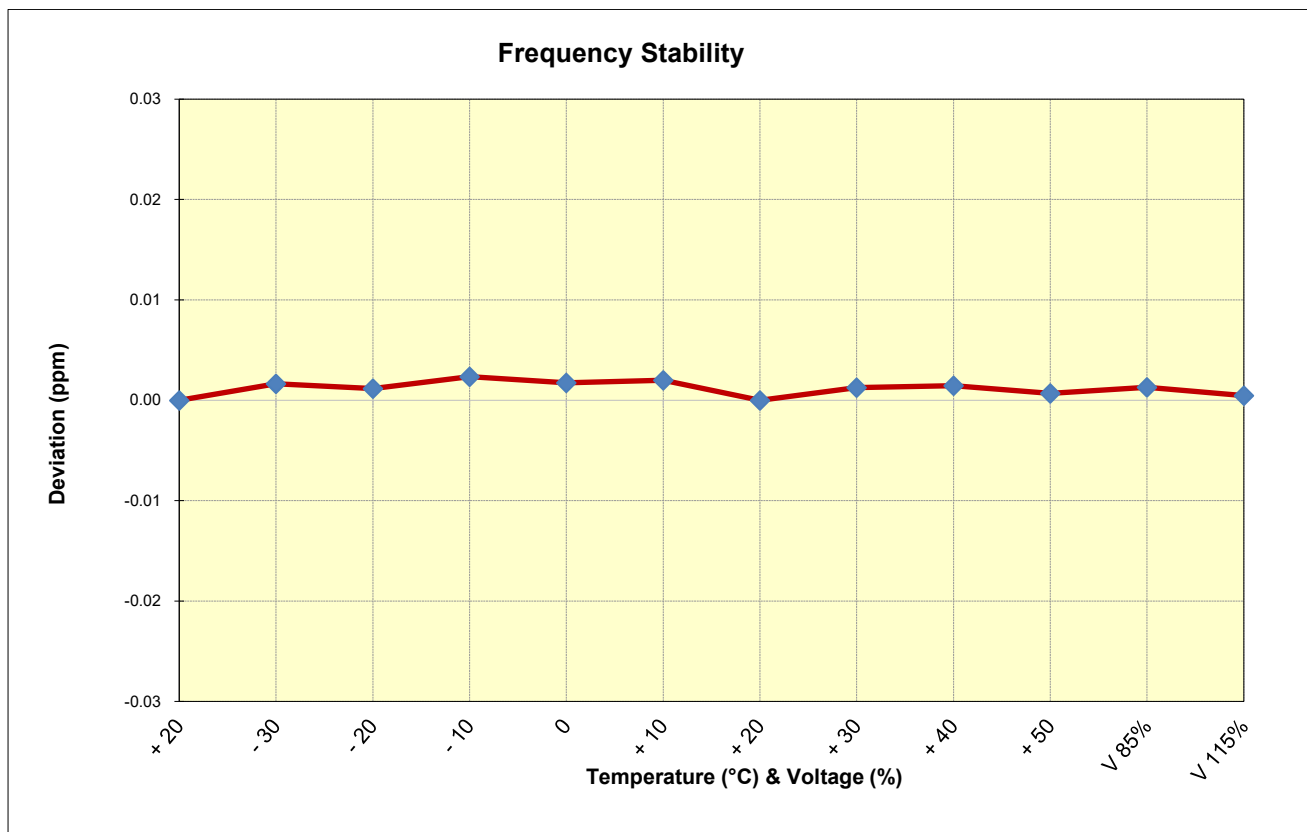


Figure 8-12. Frequency Stability Graph (NR_n77_1C_40M)

**CTK Co., Ltd.**

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:
CTK-2025-03736
Page (158) / (195) pages

8.8 Radiated spurious emission

Test Overview

Radiated spurious emissions measurements are performed using the field strength method described in ANSI C63.26-2015 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized broadband tri-log antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas.

Test Procedure Used

ANSI C63.26 - Section 5.5.3.2

Test Setting

1. Start frequency was set to 30 MHz and stop frequency was set to at least 10 * the fundamental frequency
2. RBW = 100 kHz for emissions below 1 GHz and 1 MHz for emissions above 1GHz
3. VBW $\geq 3 \times$ RBW
4. No. of sweep points $\geq 2 \times$ span / RBW
5. Detector = RMS
6. Trace mode = Max Hold (In cases where the level is within 2 dB of the limit, the final measurement is taken using triggering/gating and trace averaging.)
7. The trace was allowed to stabilize.

Limit

§ 24.238

(a) Out of band emissions. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

§ 27.53

(1) General protection levels. Except as otherwise specified below, for operations in the 1695–1710 MHz, 1710–1755 MHz, 1755–1780 MHz, 1915–1920 MHz, 1995–2000 MHz, 2000–2020 MHz, 2110–2155 MHz, 2155–2180 MHz, and 2180–2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ dB.

§ 27.53

(l)(1) For base station operations in the 3700-3980 MHz band, the conducted power of any emission outside the licensee's authorized bandwidth shall not exceed -13 dBm/MHz. Compliance with this paragraph (l)(1) is based on the use of measurement instrumentation employing a resolution bandwidth of 1 megahertz or greater. However, in the 1 megahertz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.

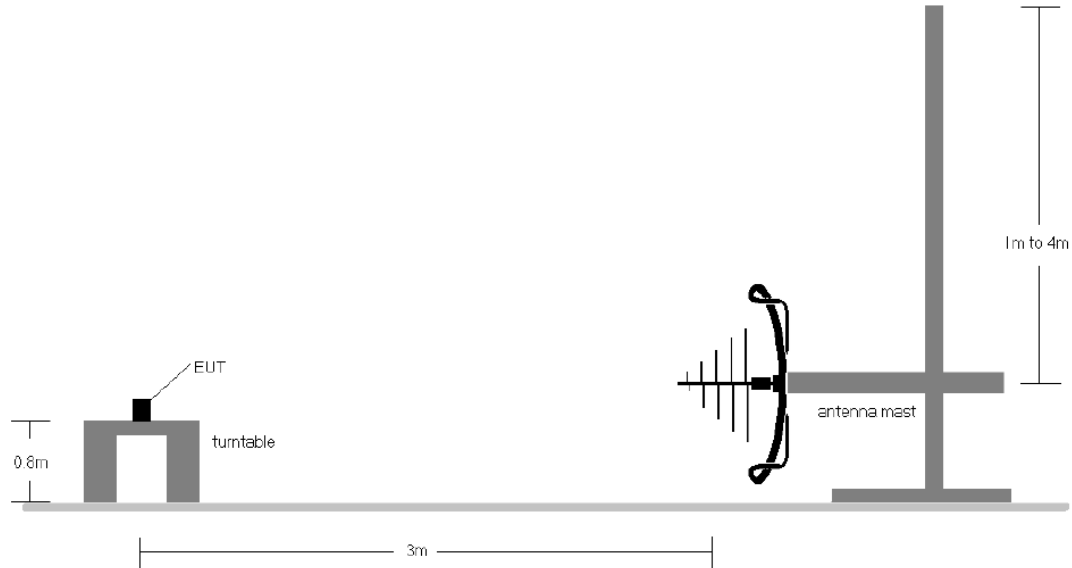


Figure 8-13. Test Instrument & Measurement Setup < 1 GHz

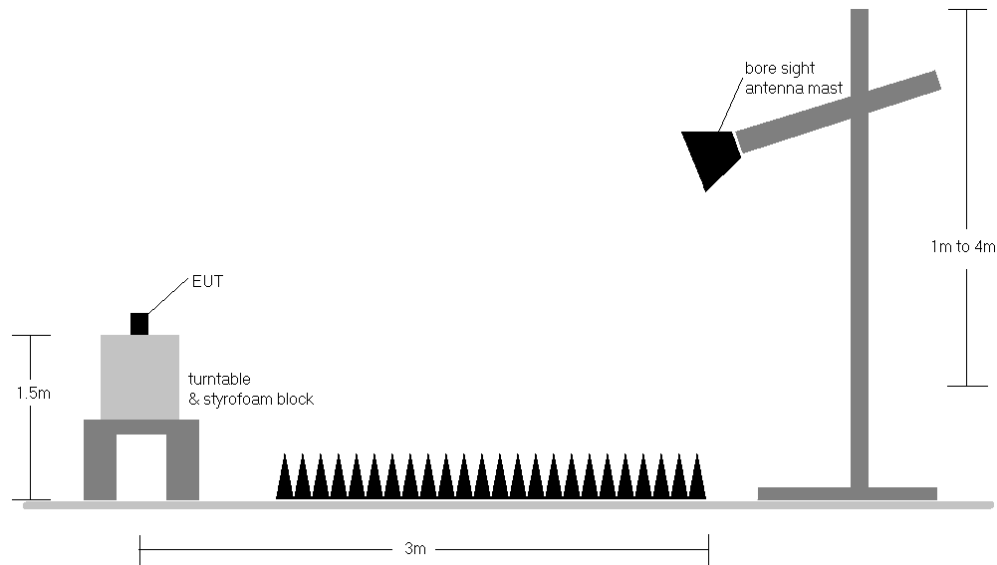


Figure 8-14. Test Instrument & Measurement Setup > 1 GHz

**CTK Co., Ltd.**

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:
CTK-2025-03736
Page (160) / (195) pages

Test Notes

1. The below 1GHz average EIRP reported below is calculated per 5.2.7 of ANSI C63.26-2015 which states:
The measured E-field in V/m is converted to e.i.r.p in dBm.

Effective Isotropic Radiated Power Sample Calculation

$$\begin{aligned}\text{Field Strength [dB}\mu\text{V/m]} &= \text{Measured Value [dB}\mu\text{V/m]} + \text{AFCL [dB/m]} \\ &= 24.4 \text{ [dB}\mu\text{V/m]} + 6.5 \text{ [dB/m]} = 30.9 \text{ dB}\mu\text{V/m}\end{aligned}$$

$$\begin{aligned}\text{e.i.r.p. [dBm]} &= E[\text{dB } \mu\text{V/m}] + 20 \log_{10}(d[\text{m}]) - 104.8 \\ &= 30.9 \text{ dB}[\mu\text{V/m}] + (20 * \log(3)) - 104.8 \\ &= -64.36 \text{ dBm}\end{aligned}$$

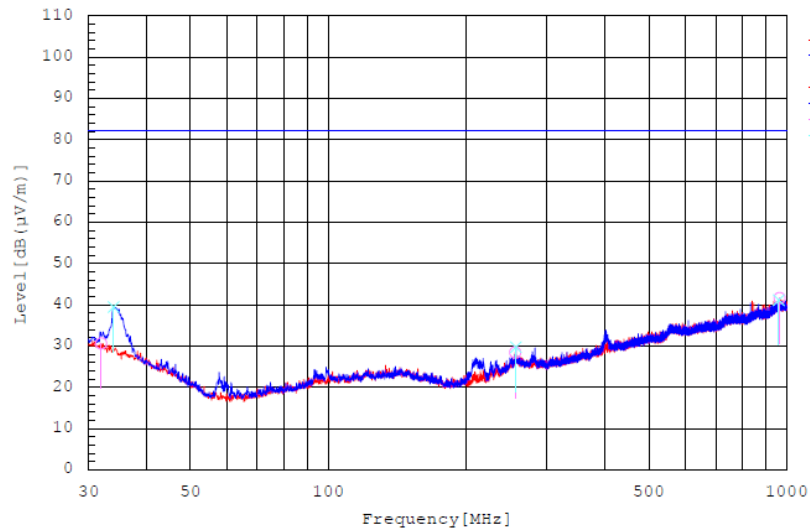
2. The above 1GHz average EIRP reported below is calculated per 5.2.7 of ANSI C63.26-2015 which states:
The measured E-field in V/m is converted to e.i.r.p in dBm.

Effective Isotropic Radiated Power Sample Calculation

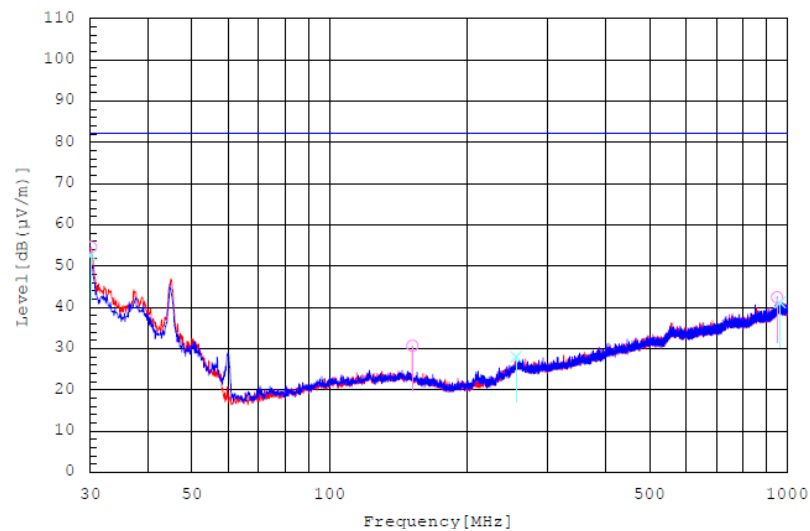
$$\begin{aligned}\text{Field Strength [dB}\mu\text{V/m]} &= \text{Measured Value [dB}\mu\text{V/m]} + \text{AFCL [dB/m]} \\ &= 24.4 \text{ [dB}\mu\text{V/m]} + 6.5 \text{ [dB/m]} = 30.9 \text{ dB}\mu\text{V/m}\end{aligned}$$

$$\begin{aligned}\text{e.i.r.p. [dBm]} &= E[\text{dB } \mu\text{V/m}] + 20 \log_{10}(d[\text{m}]) - 104.8 \\ &= 30.9 \text{ dB}[\mu\text{V/m}] + (20 * \log(3)) - 104.8 \\ &= -64.36 \text{ dBm}\end{aligned}$$

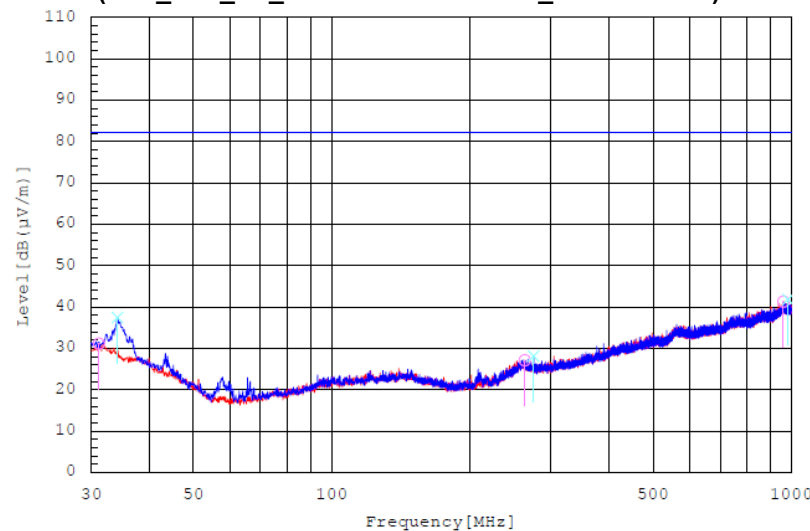
3. The EUT was tested in both horizontal and vertical antenna polarizations and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, channel bandwidth configurations shown in the tables below.
4. The spectrum is measured from 30 MHz to the 10th harmonic of the fundamental frequency of the transmitter. The worst-case emissions are reported.
5. All emissions were measured at a 3-meter test distance.
6. Spurious emissions were measured with all EUT antennas transmitting simultaneously and all antenna ports terminated.
7. The "-" shown in the following RSE tables are used to denote a noise floor measurement.
8. All modes of operation were investigated and the worst case configuration results are reported in this section.



**Plot 8-272. Radiated spurious emission Plot_30 MHz to 1000 MHz
(LTE_B25_1C_5M_Low Channel)**



**Plot 8-273. Radiated spurious emission Plot_30 MHz to 1000 MHz
(LTE_B25_4C_15M+15M+15M+15M_Mid Channel)**



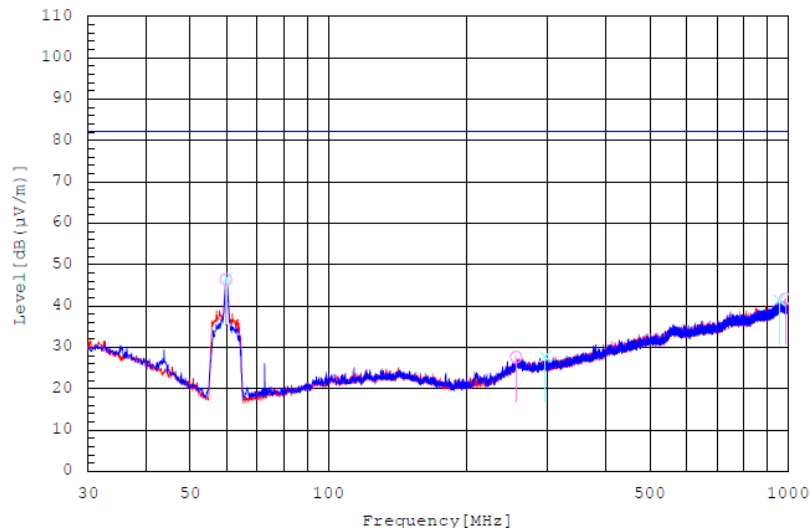
**Plot 8-274. Radiated spurious emission Plot_30 MHz to 1000 MHz
(NR_n25_1C_25M_High Channel)**



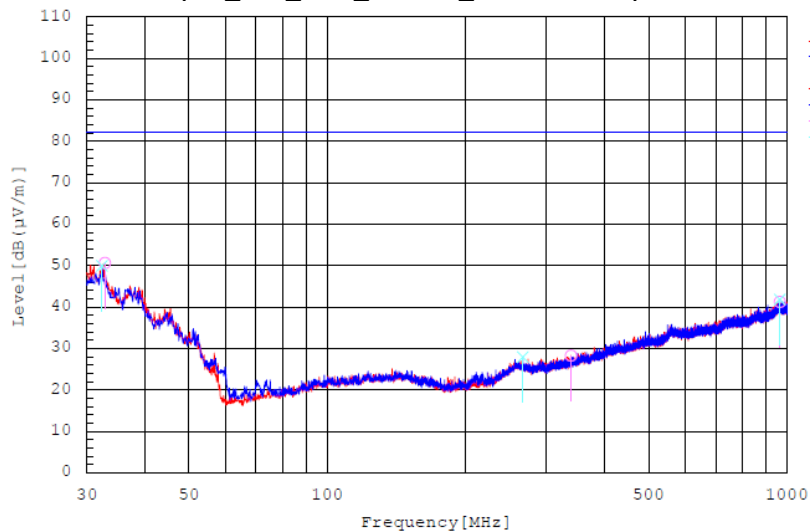
CTK Co., Ltd.

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

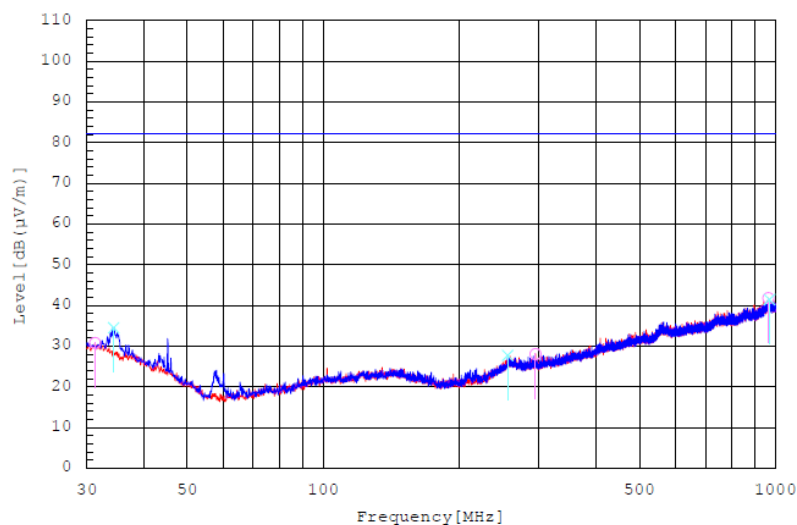
REPORT No.:
CTK-2025-03736
Page (162) / (195) pages



**Plot 8-275. Radiated spurious emission Plot_30 MHz to 1000 MHz
(NR_n25_2NC_5M+5M_Mid Channel)**



**Plot 8-276. Radiated spurious emission Plot_30 MHz to 1000 MHz
(MSR_B/n25_4C_LTE_15M+15M+NR_15M+15M_Mid Channel)**



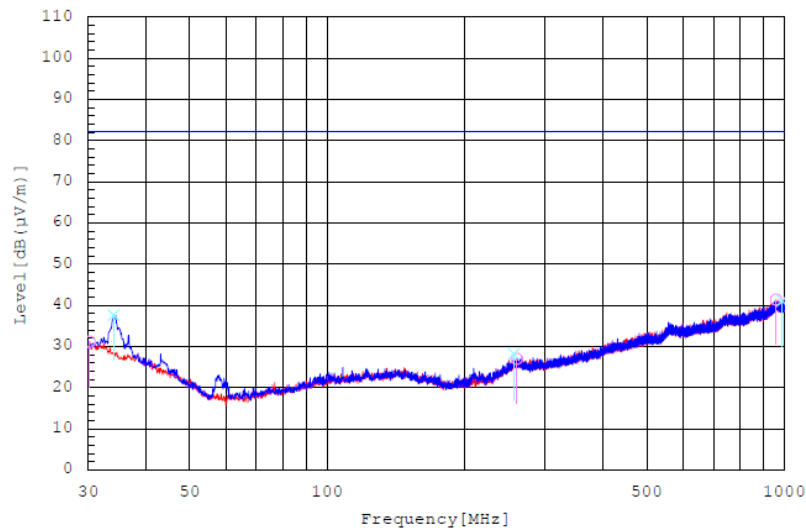
**Plot 8-277. Radiated spurious emission Plot_30 MHz to 1000 MHz
(LTE_B66_1C_5M_High Channel)**



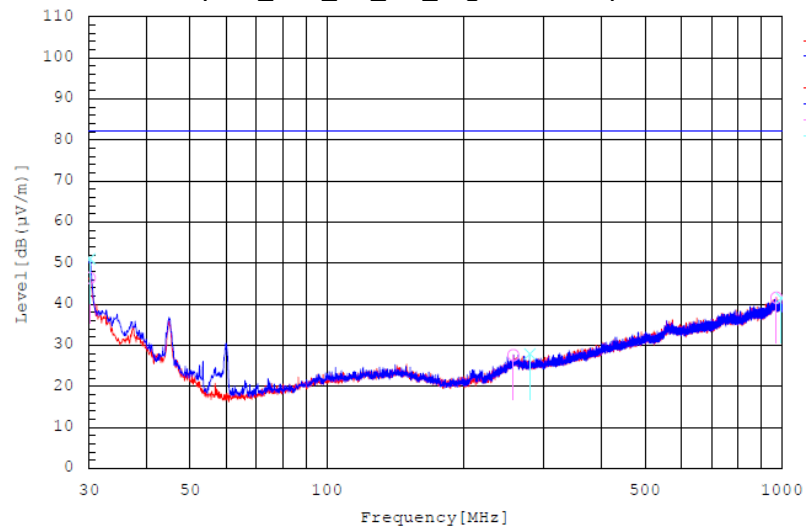
CTK Co., Ltd.

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

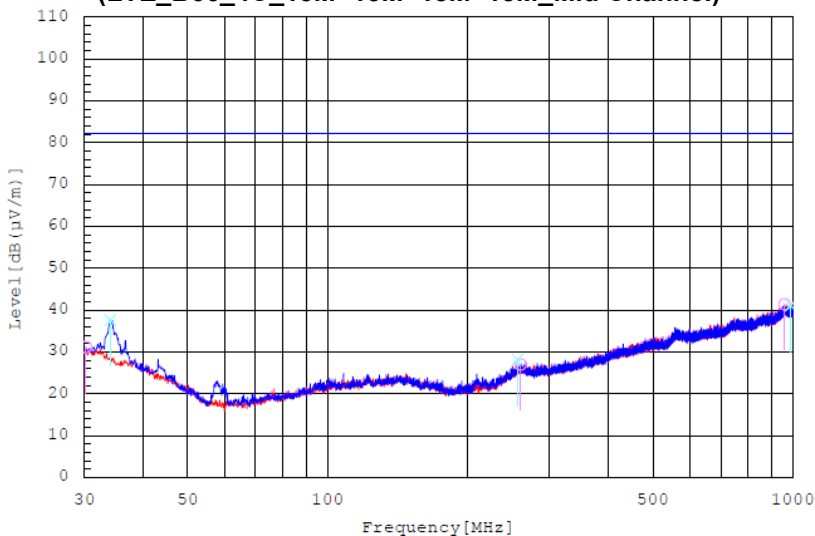
REPORT No.:
CTK-2025-03736
Page (163) / (195) pages



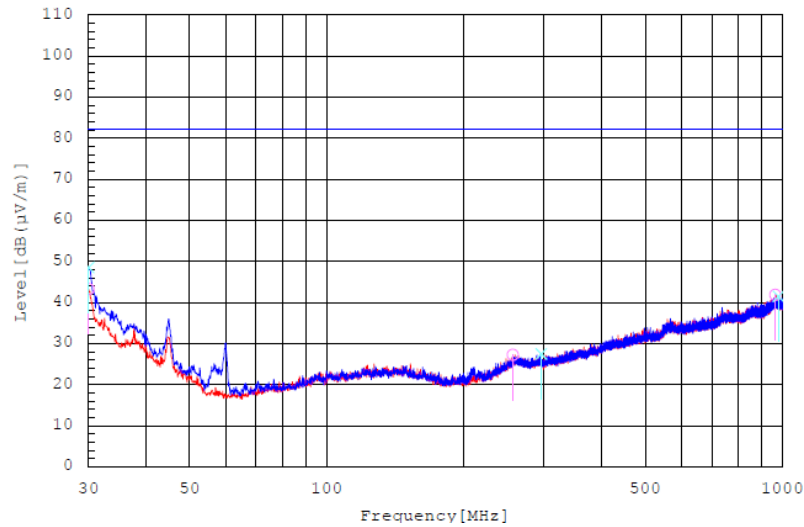
**Plot 8-278. Radiated spurious emission Plot_30 MHz to 1000 MHz
(LTE_B66_1C_5M_High Channel)**



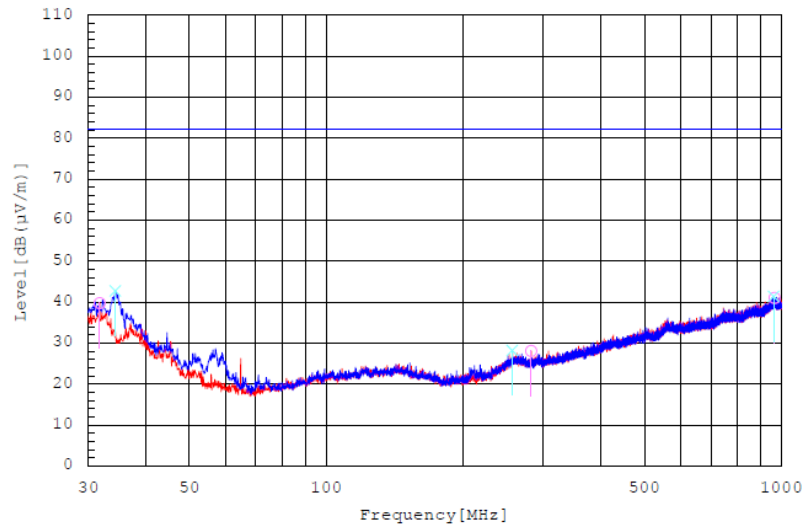
**Plot 8-279. Radiated spurious emission Plot_30 MHz to 1000 MHz
(LTE_B66_4C_15M+15M+15M+15M_Mid Channel)**



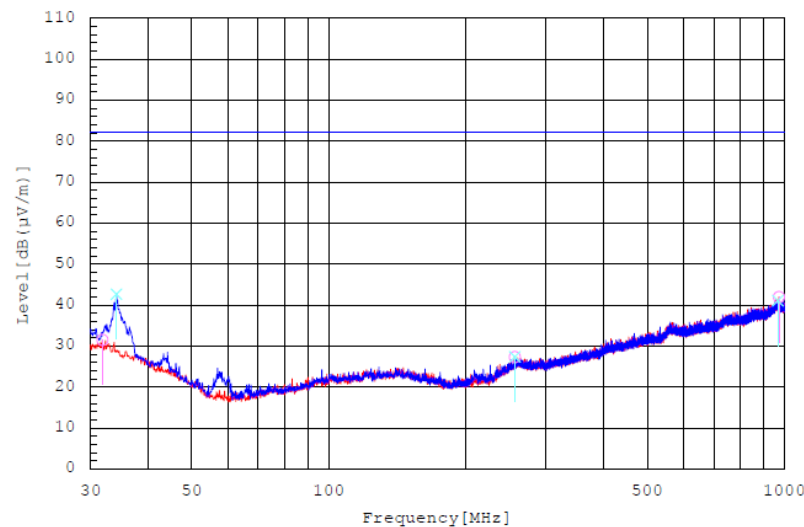
**Plot 8-280. Radiated spurious emission Plot_30 MHz to 1000 MHz
(NR_n66_1C_30M_Low Channel)**



**Plot 8-281. Radiated spurious emission Plot_30 MHz to 1000 MHz
(NR_n66_4C_15M+15M+15M+15M_Mid Channel)**



**Plot 8-282. Radiated spurious emission Plot_30 MHz to 1000 MHz
(MSR_B/n66_4C_LTE_15M+15M+NR_15M+15M_Mid Channel)**



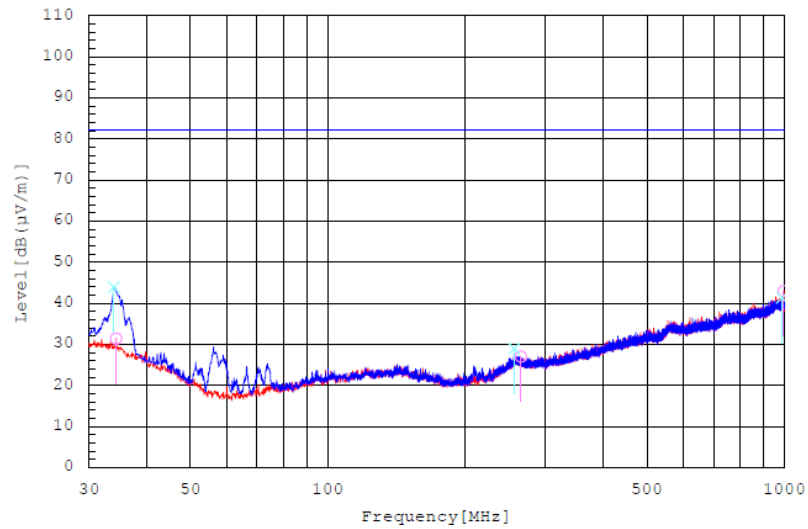
**Plot 8-283. Radiated spurious emission Plot_30 MHz to 1000 MHz
(NR_n77_1C_40M_Low Channel)**



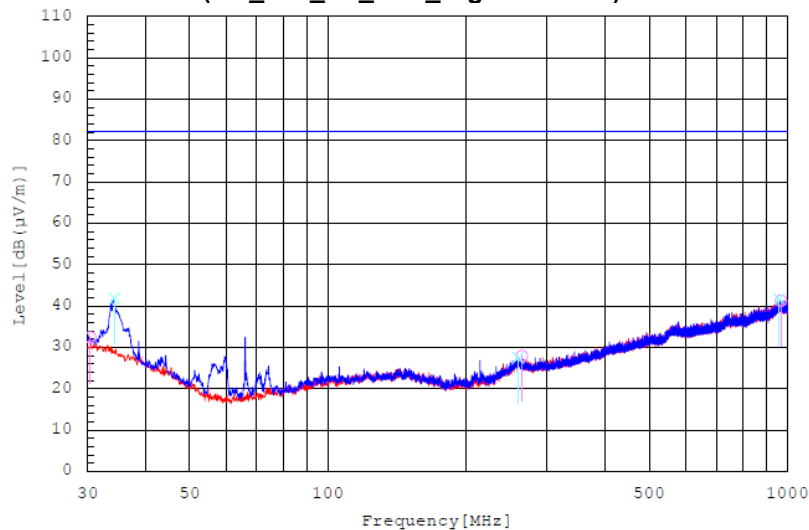
CTK Co., Ltd.

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

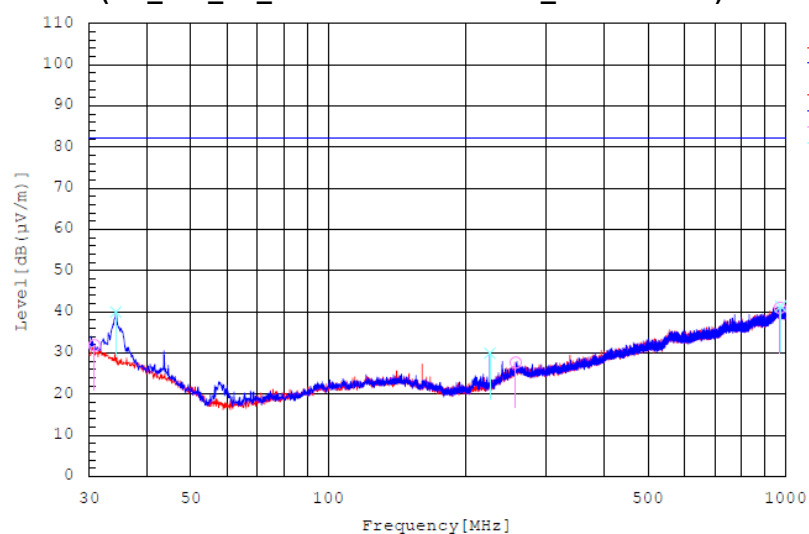
REPORT No.:
CTK-2025-03736
Page (165) / (195) pages



**Plot 8-284. Radiated spurious emission Plot_30 MHz to 1000 MHz
(NR_n77_1C_40M_High Channel)**



**Plot 8-285. Radiated spurious emission Plot_30 MHz to 1000 MHz
(NR_n77_4C_40M+60M+80M+100M_Mid Channel)**



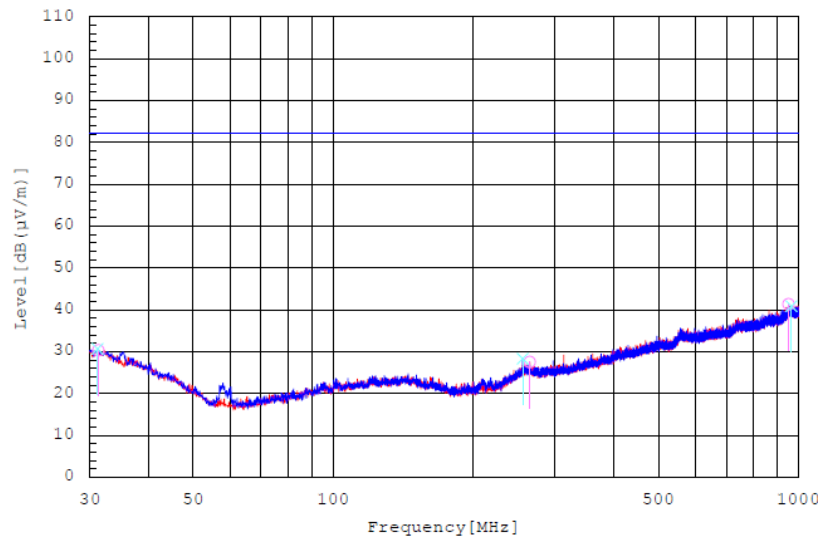
**Plot 8-286. Radiated spurious emission Plot_30 MHz to 1000 MHz
(NR_n77_2NC_40M+40M_Mid Channel)**



CTK Co., Ltd.

(Ho-dong), 113, Yejik-ro, Cheoin-gu, Yongin-si, Gyeonggi-do,
17142, Korea
Tel: +82-31-339-9970
Fax: +82-31-624-9501

REPORT No.:
CTK-2025-03736
Page (166) / (195) pages



Plot 8-287. Radiated spurious emission Plot_30 MHz to 1000 MHz
(NR_n66_1C_30M_Low Channel_PoE Mode)

Worst Mode	Frequency [MHz]	Ant. Pol. [H/V]	Analyzer Level [dBμV/m]	AFCL [dB]	Field Strength [dBμV/m]	EIRP [dBm/MHz]	Limit [dBm/MHz]	Margin [dB]	Antenna Heigh [cm]	Turntable azimuth [degree]
LTE_B25_4C_15M+15M+15M+15M_Mid Channel	30.02	V	62.4	-5.9	56.5	-38.76	-13	-25.76	203.0	278.3
	30.02	H	51.9	-5.9	46.0	-49.26	-13	-36.26	297.0	245.6
	153.61	V	37.8	-12.7	25.1	-70.16	-13	-57.16	201.0	15.4
	254.67	H	33.6	-9.9	23.7	-71.56	-13	-58.56	211.0	25.1

All detected emissions are compliant with attenuated more than 20 dB below limit.

Table 8-122. Radiated spurious emission below 1GHz Worst mode Summary Data