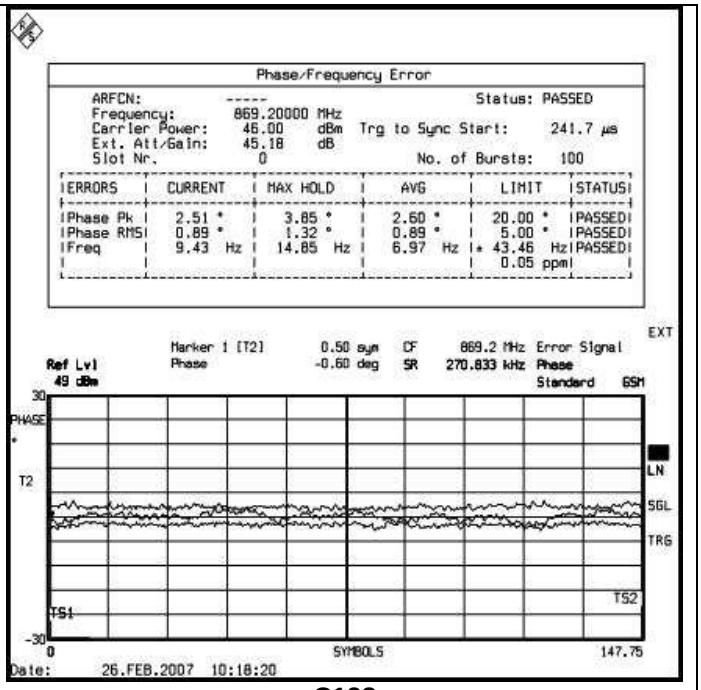
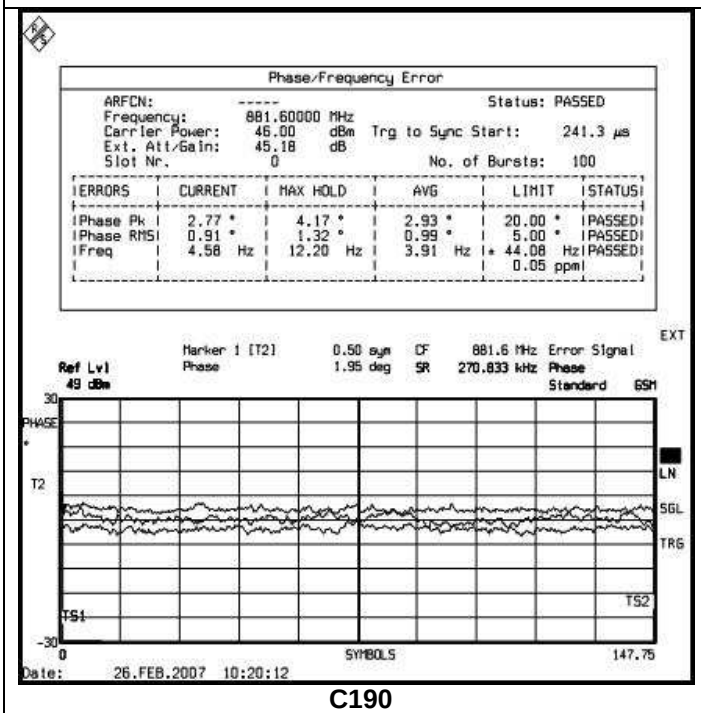
5.3.5.2.3 PHASE AND MEAN FREQUENCY ERROR @ 187VAC

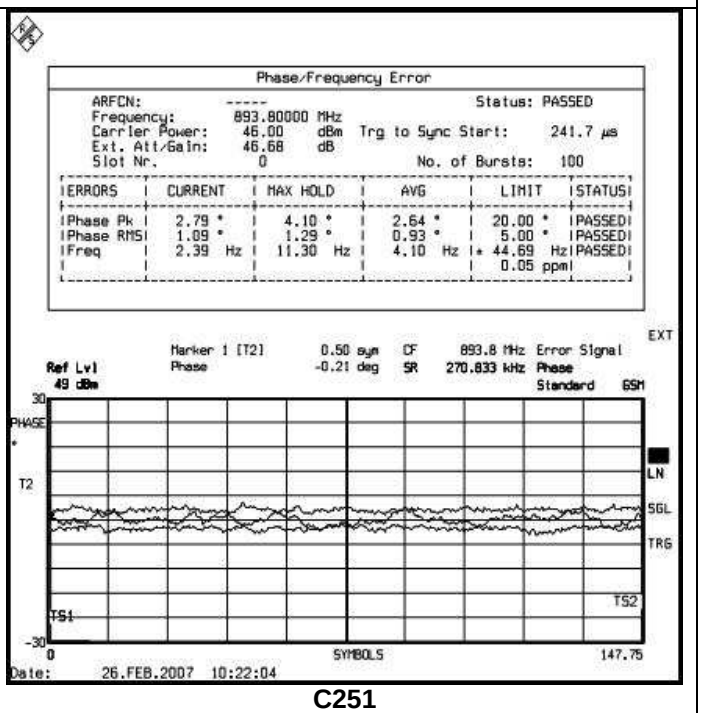
	Canal	Mesure	HPRM tested Max hold	Average	Sanction
TDMA 0	128	Phase Pk	3,85 °	2,60 °	PASS
		Phase RMS	1,32 °	0,89 °	PASS
		Freq	14,85 Hz	6,97 Hz	PASS
TDMA 1	190	Phase Pk	4,17 °	2,93 °	PASS
		Phase RMS	1,32 °	0,99 °	PASS
		Freq	12,20 Hz	3,91 Hz	PASS
TDMA 2	251	Phase Pk	4,10 °	2,64 °	PASS
		Phase RMS	1,29 °	0,93 °	PASS
		Freq	11,30 Hz	4,10 Hz	PASS



C128



C190

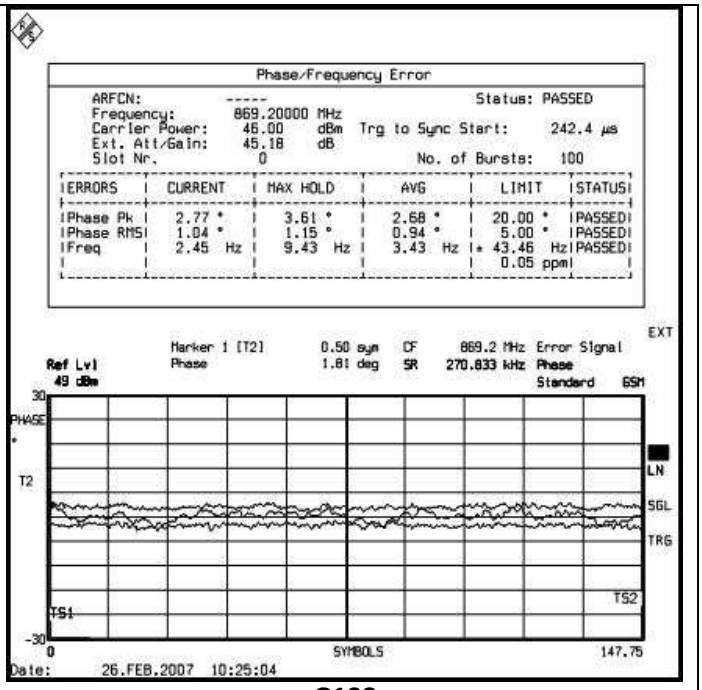


C251

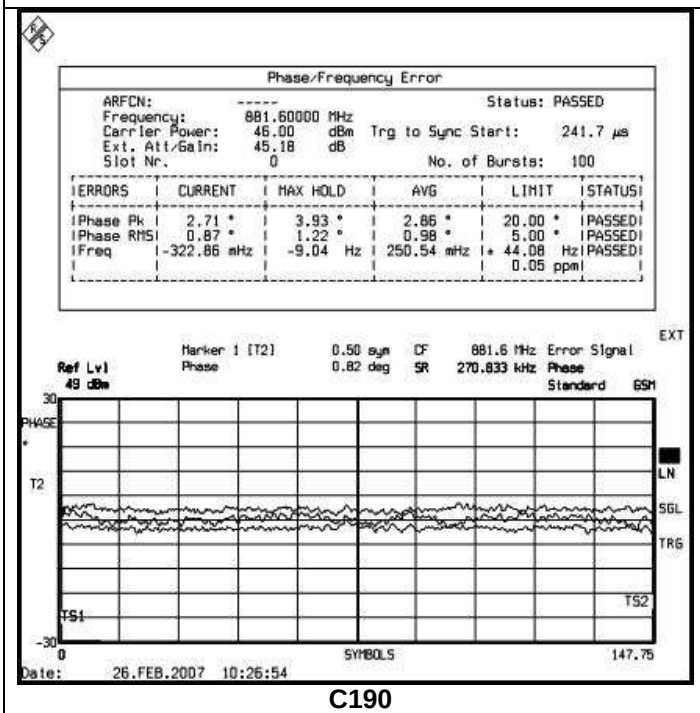
The maximum frequency deviation allowed is 0.05 ppm (+/- 43Hz). The maximum deviation measured (14.85 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.5.2.4 PHASE AND MEAN FREQUENCY ERROR @ 265 VDC

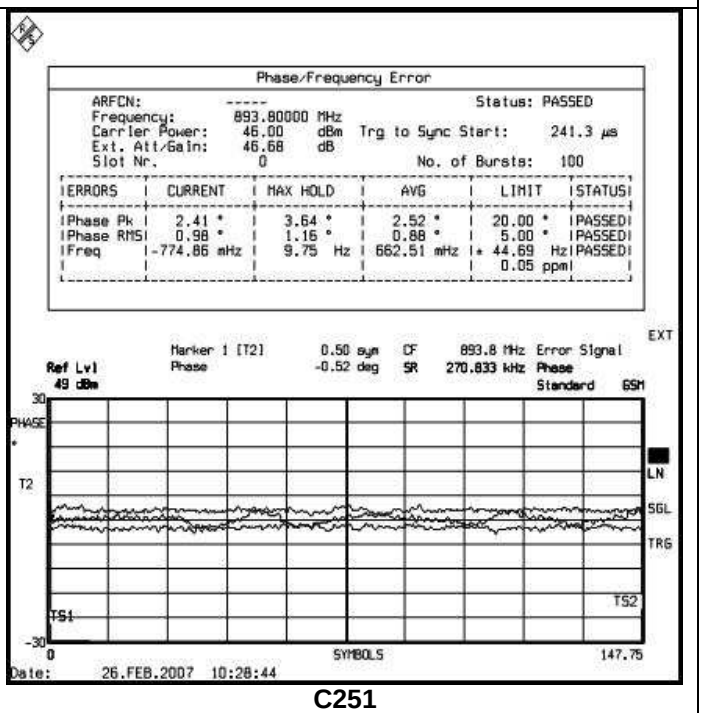
	Canal	Mesure	HPRM tested Max hold	Average	Sanction
TDMA 0	128	Phase Pk	3,61 °	2,68 °	PASS
		Phase RMS	1,15 °	0,94 °	PASS
		Freq	9,43 Hz	3,43 Hz	PASS
TDMA 1	190	Phase Pk	3,93 °	2,86 °	PASS
		Phase RMS	1,22 °	0,98 °	PASS
		Freq	-9,04 Hz	0,25 Hz	PASS
TDMA 2	251	Phase Pk	3,64 °	2,52 °	PASS
		Phase RMS	1,16 °	0,88 °	PASS
		Freq	9,75 Hz	0,66 Hz	PASS



C128



C190



C251

The maximum frequency deviation allowed is 0.05 ppm (+/- 43Hz). The maximum deviation measured (9.75 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.6 TESTS AT TEMPERATURE 10 ℃

5.3.6.1 TX TESTS ON RM 1 (1900 MHZ) IN GMSK

Measurements are realized at antenna output for H2 Duplexer configuration.

5.3.6.1.1 MEAN RF POWER @ 187 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 38 dBm and ≤ 42 dBm.

		RM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**512**	GMSK	40,52	**PASS**
TDMA 1	**661**	GMSK	40,88	**PASS**
TDMA 2	**810**	GMSK	41,29	**PASS**

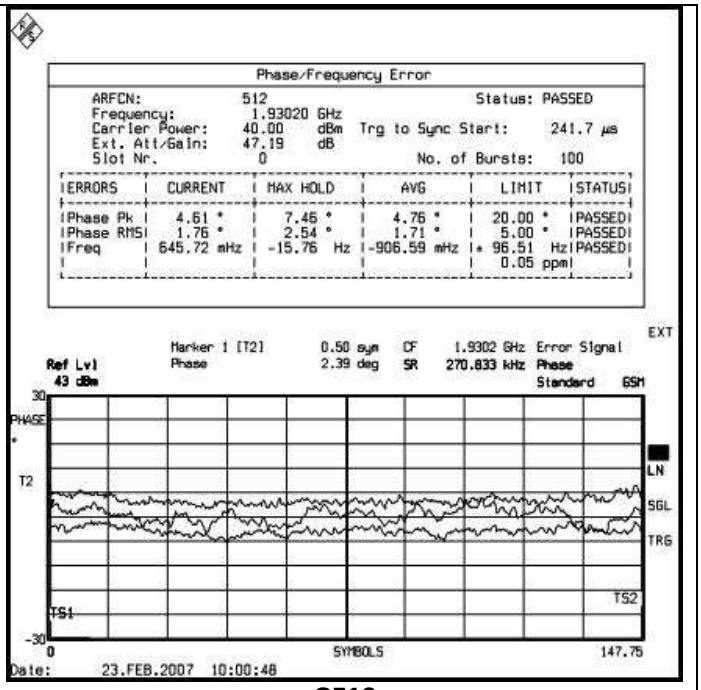
5.3.6.1.2 MEAN RF POWER @ 265 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 38 dBm and ≤ 42 dBm.

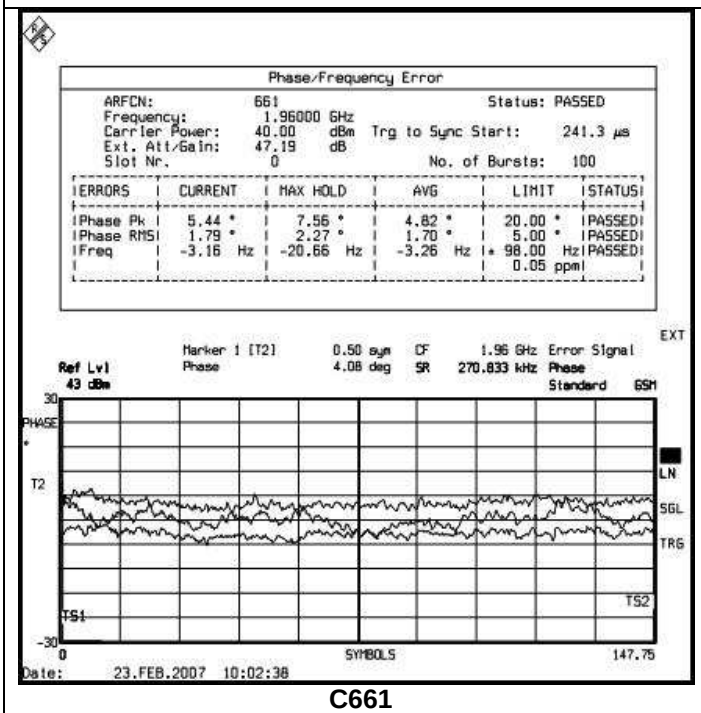
		RM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**512**	GMSK	40,52	**PASS**
TDMA 1	**661**	GMSK	40,88	**PASS**
TDMA 2	**810**	GMSK	41,29	**PASS**

5.3.6.1.3 PHASE AND MEAN FREQUENCY ERROR @ 187 VAC

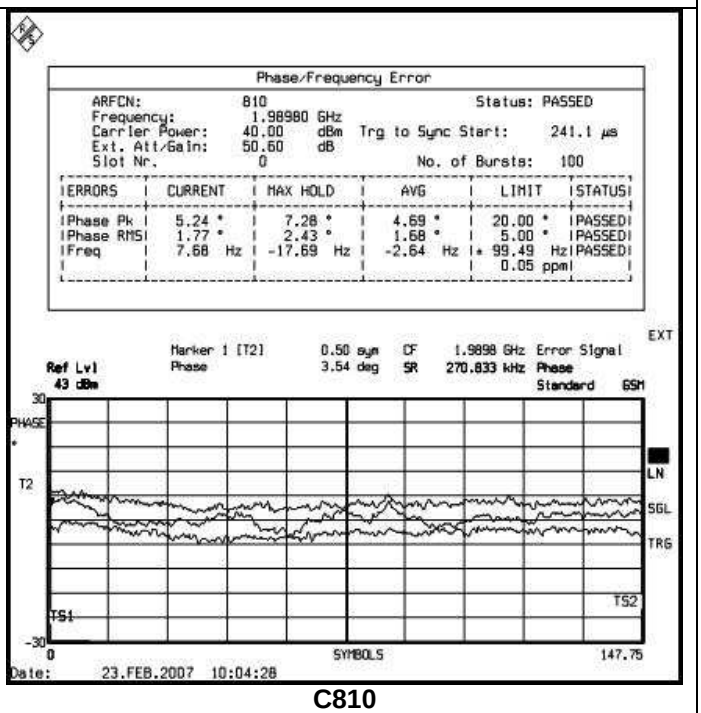
	Canal	Mesure	RM tested Max hold	Average	Sanction
TDMA 0	512	Phase Pk	7,46 °	4,76 °	PASS
		Phase RMS	2,54 °	1,71 °	PASS
		Freq	-15,76 Hz	-0,91 Hz	PASS
TDMA 1	661	Phase Pk	7,56 °	4,82 °	PASS
		Phase RMS	2,27 °	1,70 °	PASS
		Freq	-20,66 Hz	-3,26 Hz	PASS
TDMA 2	810	Phase Pk	7,28 °	4,69 °	PASS
		Phase RMS	2,43 °	1,68 °	PASS
		Freq	-17,69 Hz	-2,64 Hz	PASS



C512



C661

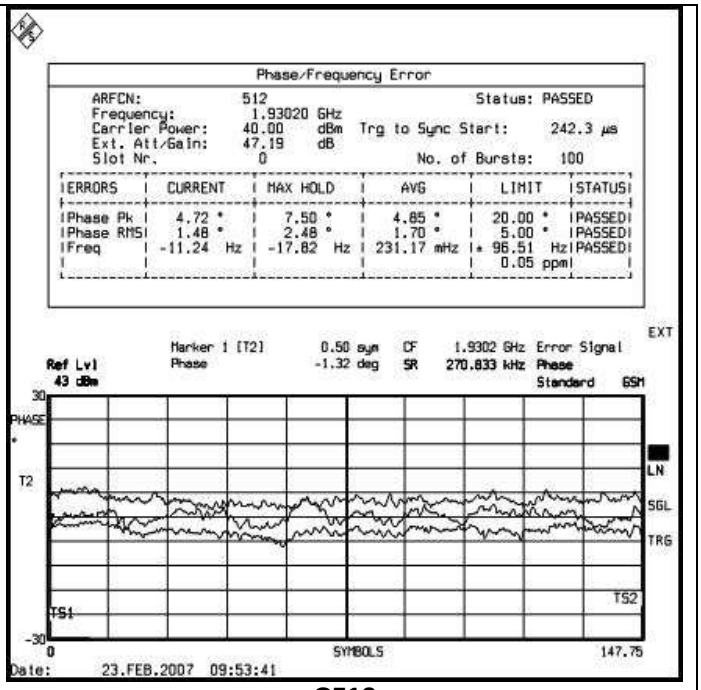


C810

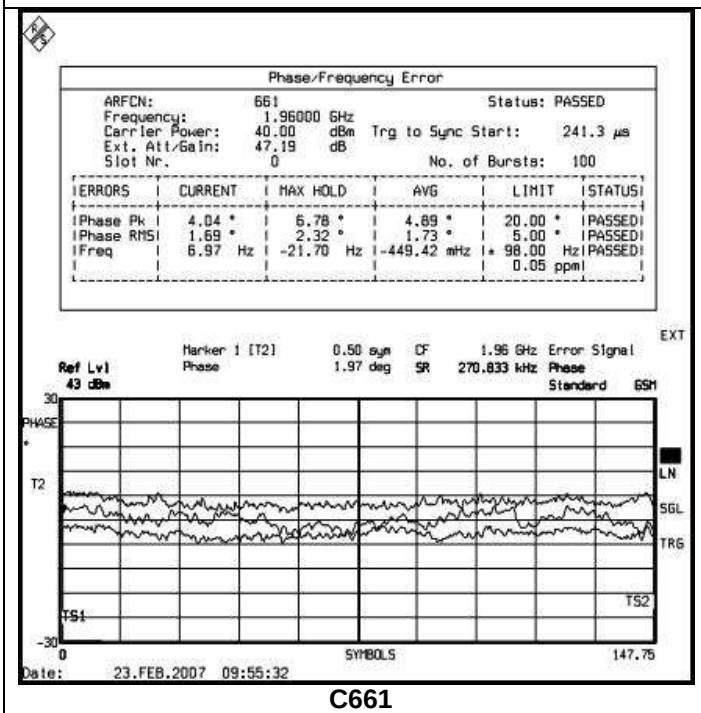
The maximum frequency deviation allowed is 0.05 ppm (+/- 95Hz). The maximum deviation measured (-20.66 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.6.1.4 PHASE AND MEAN FREQUENCY ERROR @ 265 VAC

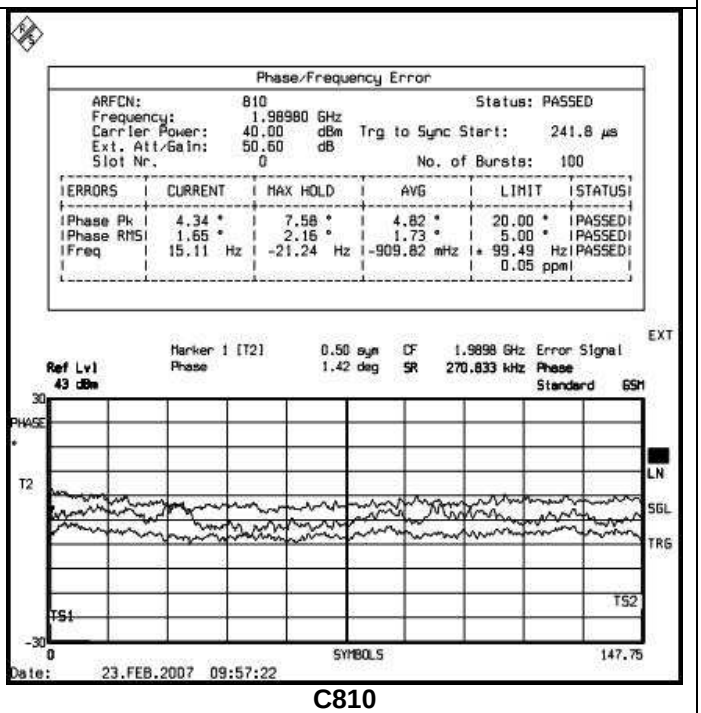
			RM tested		
	Canal	Mesure	Max hold	Average	Sanction
TDMA 0	512	Phase Pk	7,50 °	4,85 °	PASS
		Phase RMS	2,48 °	1,70 °	PASS
		Freq	-17,82 Hz	0,23 Hz	PASS
TDMA 1	661	Phase Pk	6,78 °	4,89 °	PASS
		Phase RMS	2,32 °	1,73 °	PASS
		Freq	-21,70 Hz	-0,45 Hz	PASS
TDMA 2	810	Phase Pk	7,58 °	4,82 °	PASS
		Phase RMS	2,16 °	1,73 °	PASS
		Freq	-21,24 Hz	-0,91 Hz	PASS



C512



C661



C810

The maximum frequency deviation allowed is 0.05 ppm (+/- 95Hz). The maximum deviation measured (-21.70 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.6.2 TX TESTS ON HPRM 3 (850 MHZ) IN GMSK

Measurements are realized at antenna output for H2 Duplexer configuration.

5.3.6.2.1 MEAN RF POWER @ 187 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 41 dBm and ≥ 45 dBm.

		HPRM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**128**	GMSK	43,54	**PASS**
TDMA 1	**190**	GMSK	43,84	**PASS**
TDMA 2	**251**	GMSK	43,98	**PASS**

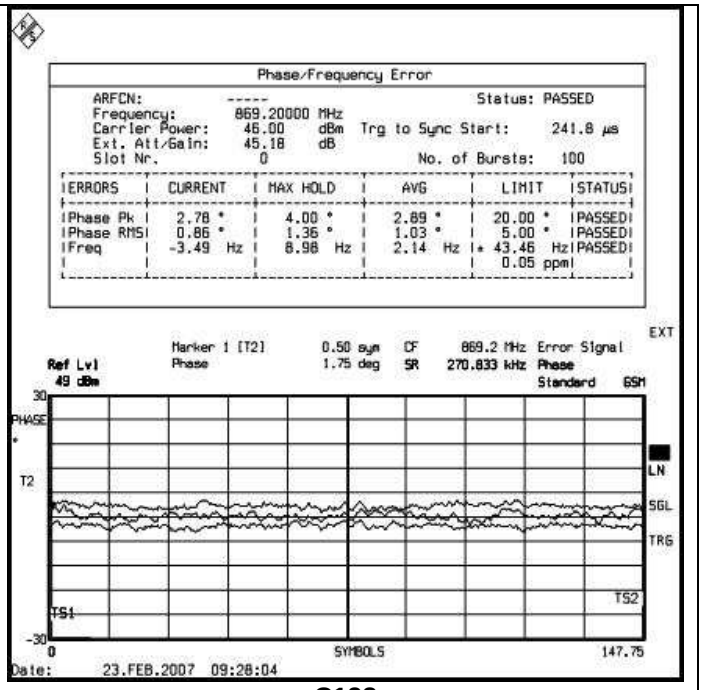
5.3.6.2.2 MEAN RF POWER @ 265 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 41 dBm and ≥ 45 dBm.

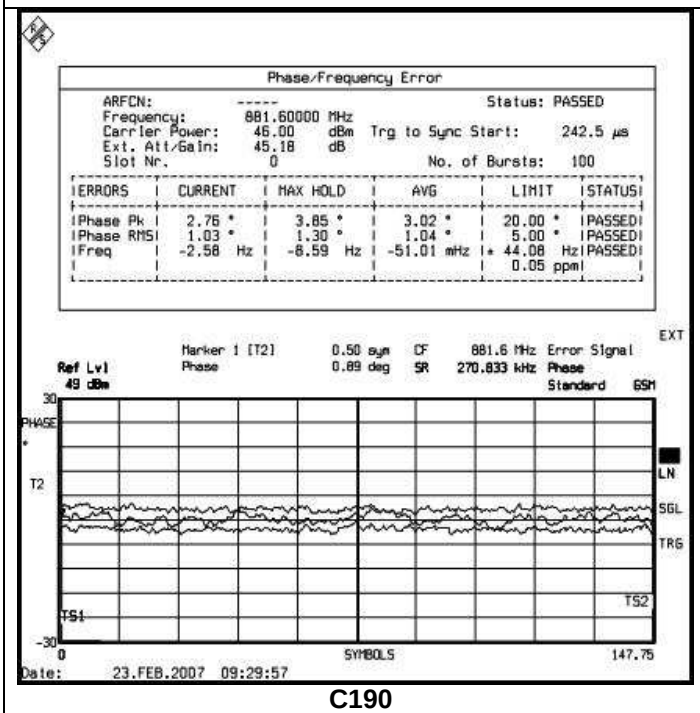
		HPRM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**128**	GMSK	43,54	**PASS**
TDMA 1	**190**	GMSK	43,83	**PASS**
TDMA 2	**251**	GMSK	43,98	**PASS**

5.3.6.2.3 PHASE AND MEAN FREQUENCY ERROR @ 187VAC

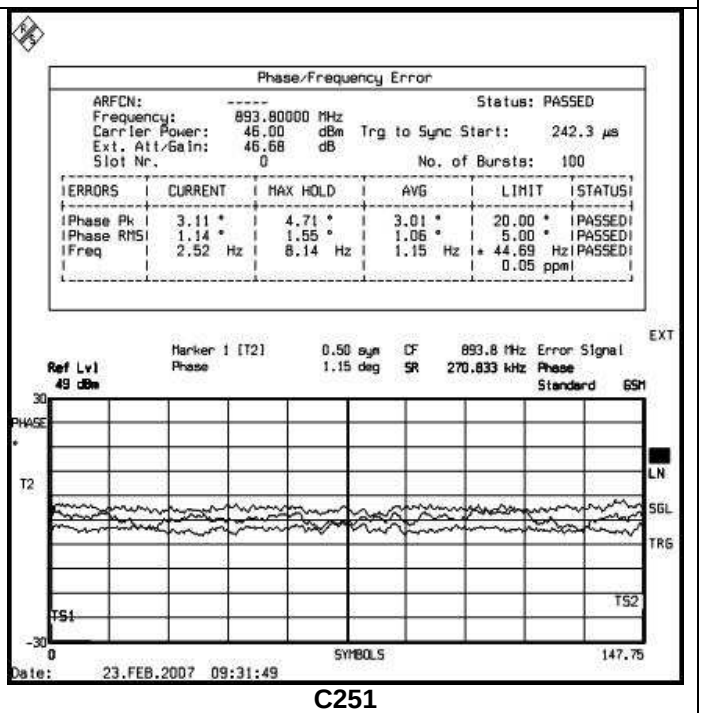
	Canal	Mesure	HPRM tested Max hold	Average	Sanction
TDMA 0	128	Phase Pk	4,00 °	2,89 °	PASS
		Phase RMS	1,36 °	1,03 °	PASS
		Freq	8,98 Hz	2,14 Hz	PASS
TDMA 1	190	Phase Pk	3,85 °	3,02 °	PASS
		Phase RMS	1,30 °	1,04 °	PASS
		Freq	-8,59 Hz	-0,05 Hz	PASS
TDMA 2	251	Phase Pk	4,71 °	3,01 °	PASS
		Phase RMS	1,55 °	1,06 °	PASS
		Freq	8,14 Hz	1,15 Hz	PASS



C128



C190

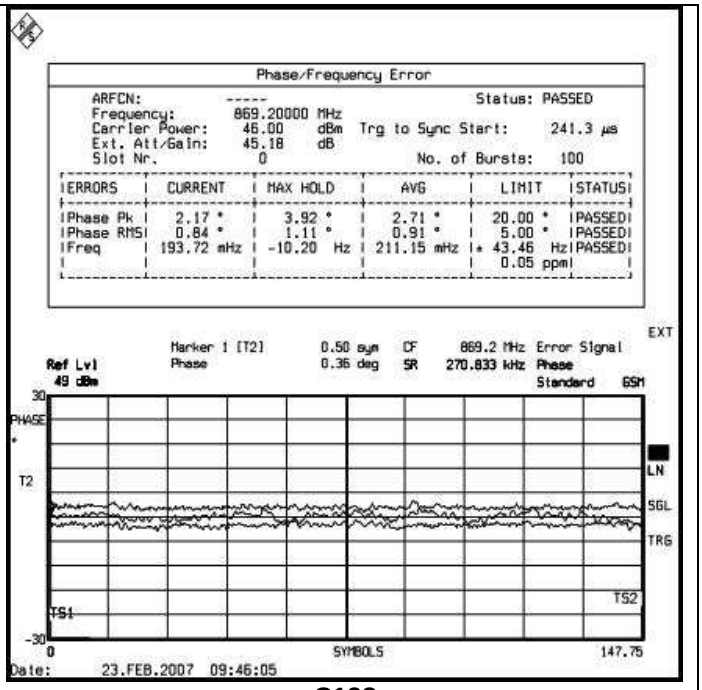


C251

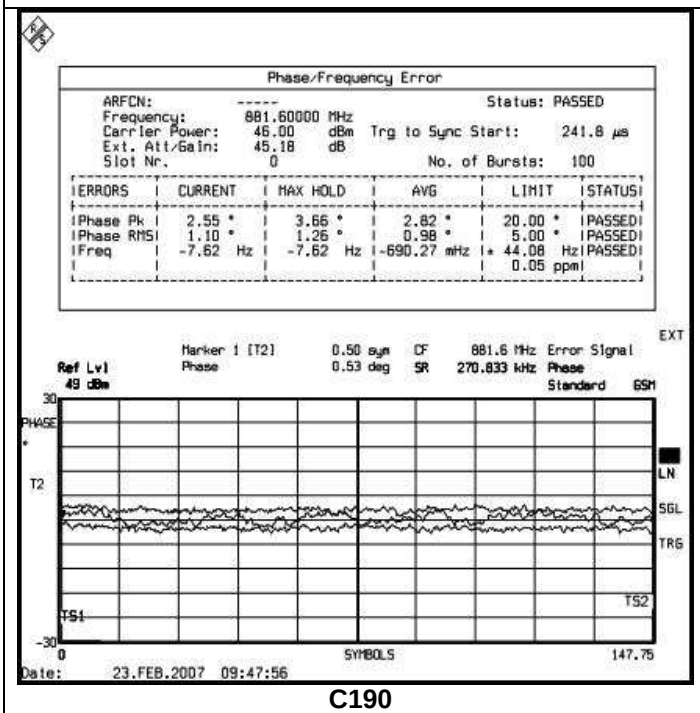
The maximum frequency deviation allowed is 0.05 ppm (+/- 43Hz). The maximum deviation measured (8.98 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.6.2.4 PHASE AND MEAN FREQUENCY ERROR @ 265 VDC

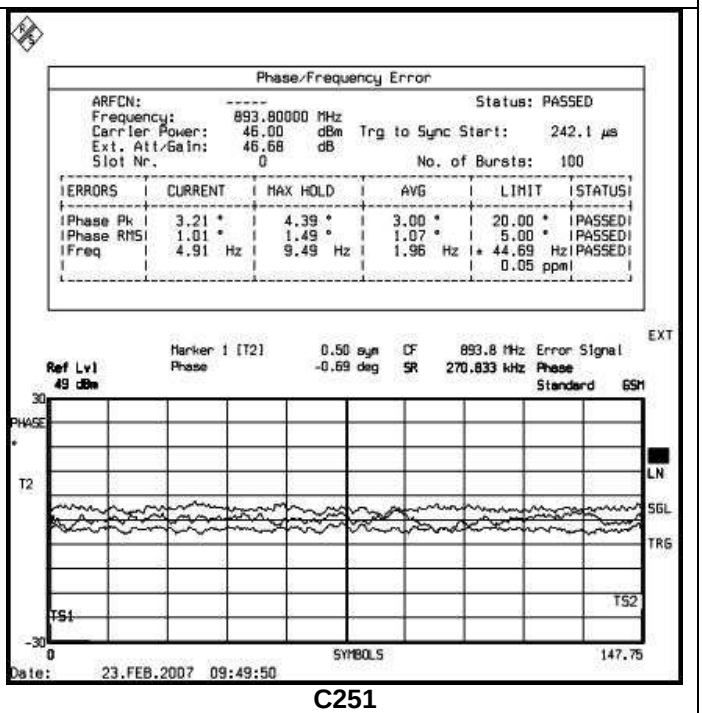
	Canal	Mesure	HPRM tested Max hold	Average	Sanction
TDMA 0	128	Phase Pk	3,92 °	2,71 °	PASS
		Phase RMS	1,11 °	0,91 °	PASS
		Freq	-10,20 Hz	0,21 Hz	PASS
TDMA 1	190	Phase Pk	3,66 °	2,82 °	PASS
		Phase RMS	1,26 °	0,98 °	PASS
		Freq	-7,62 Hz	-0,69 Hz	PASS
TDMA 2	251	Phase Pk	4,39 °	3,00 °	PASS
		Phase RMS	1,49 °	1,07 °	PASS
		Freq	9,49 Hz	1,96 Hz	PASS



C128



C190



C251

The maximum frequency deviation allowed is 0.05 ppm (+/- 43Hz). The maximum deviation measured (-10.20 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.7 TESTS AT TEMPERATURE 0 ℃

5.3.7.1 TX TESTS ON RM 1 (1900 MHZ) IN GMSK

Measurements are realized at antenna output for H2 Duplexer configuration.

5.3.7.1.1 MEAN RF POWER @ 187 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 38 dBm and ≤ 42 dBm.

		RM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**512**	GMSK	40,57	**PASS**
TDMA 1	**661**	GMSK	40,92	**PASS**
TDMA 2	**810**	GMSK	41,34	**PASS**

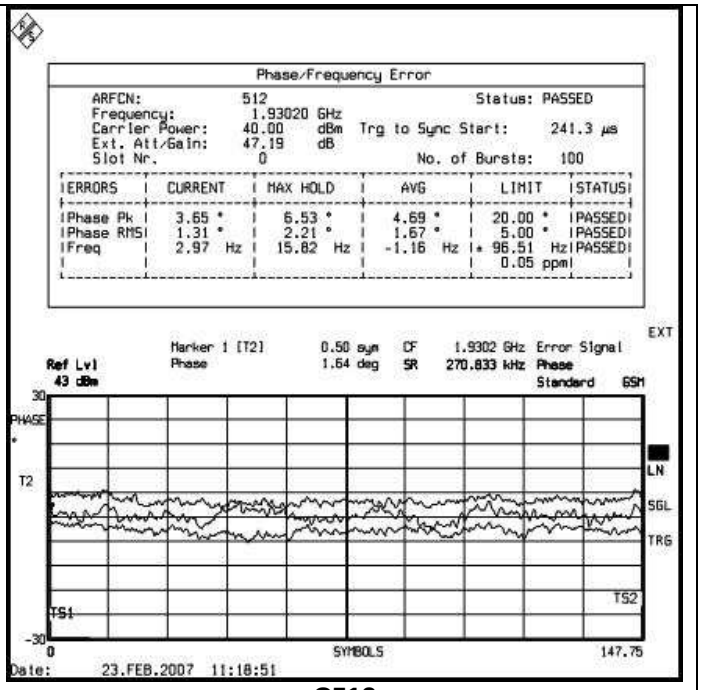
5.3.7.1.2 MEAN RF POWER @ 265 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 38 dBm and ≤ 42 dBm.

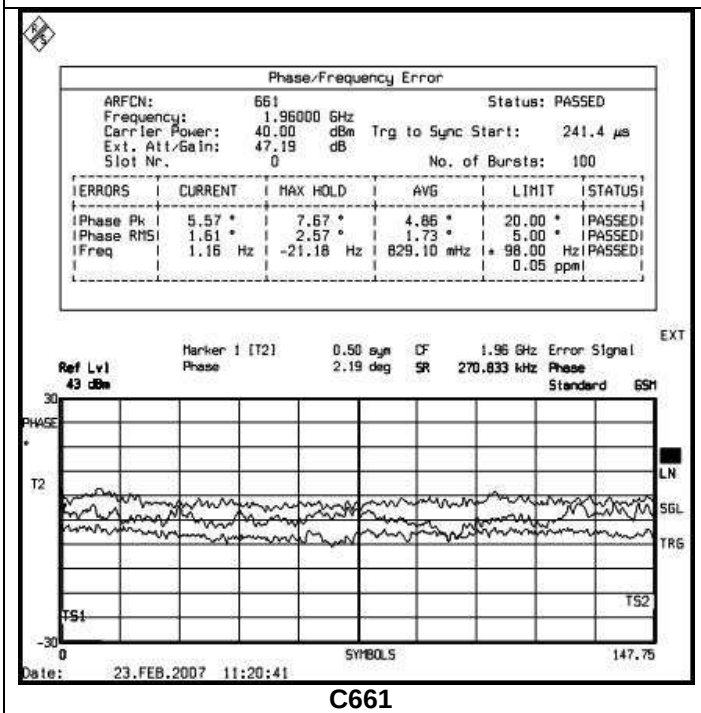
		RM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**512**	GMSK	40,57	**PASS**
TDMA 1	**661**	GMSK	40,92	**PASS**
TDMA 2	**810**	GMSK	41,34	**PASS**

5.3.7.1.3 PHASE AND MEAN FREQUENCY ERROR @ 187 VAC

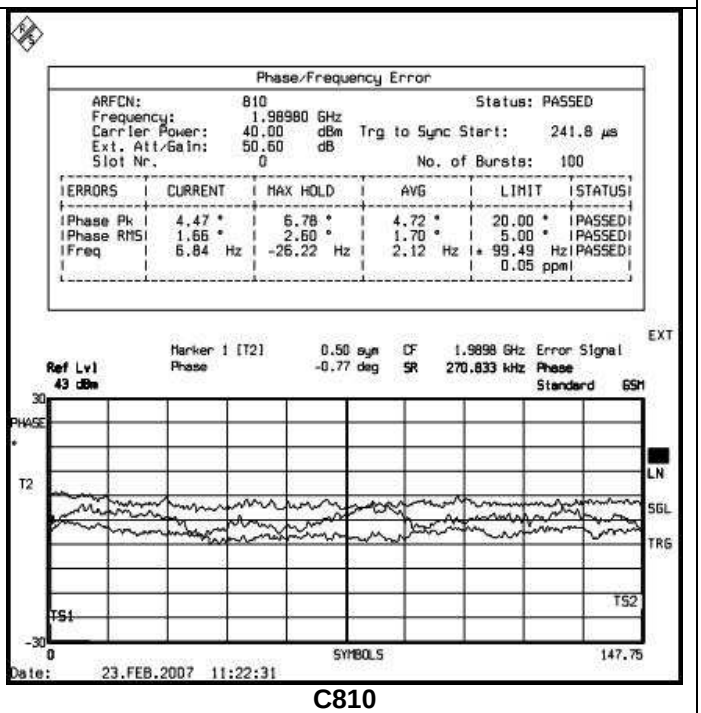
			RM tested		
	Canal	Mesure	Max hold	Average	Sanction
TDMA 0	512	Phase Pk	6,53 °	4,69 °	PASS
		Phase RMS	2,21 °	1,67 °	PASS
		Freq	15,82 Hz	-1,16 Hz	PASS
TDMA 1	661	Phase Pk	7,67 °	4,86 °	PASS
		Phase RMS	2,57 °	1,73 °	PASS
		Freq	-21,18 Hz	0,83 Hz	PASS
TDMA 2	810	Phase Pk	6,78 °	4,72 °	PASS
		Phase RMS	2,60 °	1,70 °	PASS
		Freq	-26,22 Hz	2,12 Hz	PASS



C512



C661

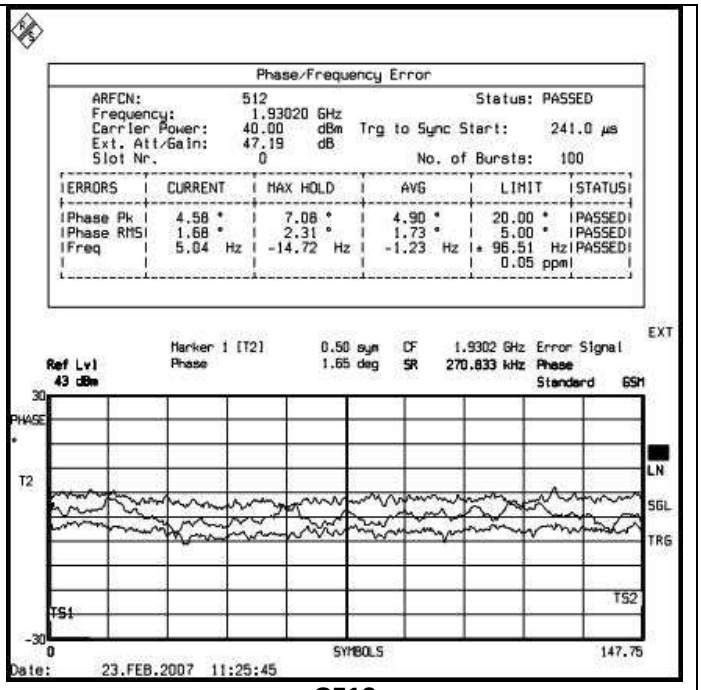


C810

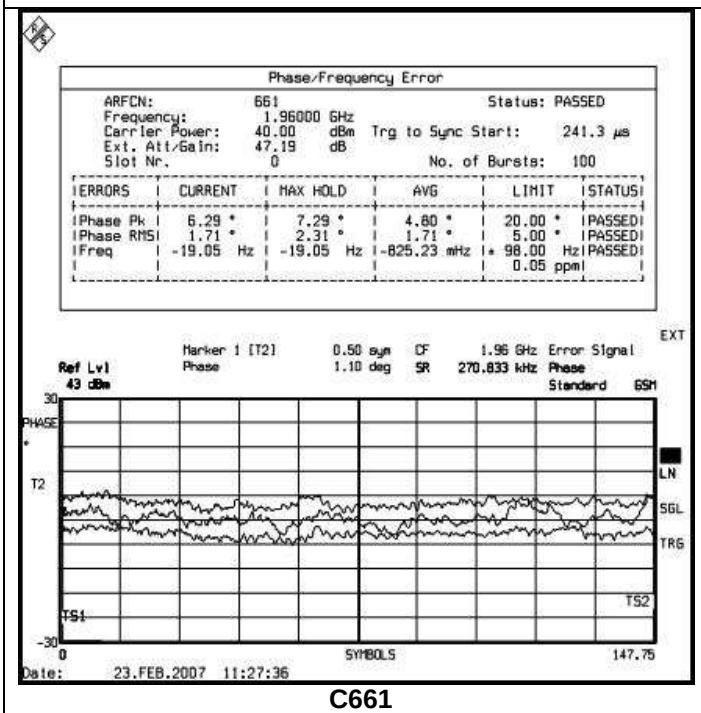
The maximum frequency deviation allowed is 0.05 ppm (+/- 95Hz). The maximum deviation measured (-26.22 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.7.1.4 PHASE AND MEAN FREQUENCY ERROR @ 265 VAC

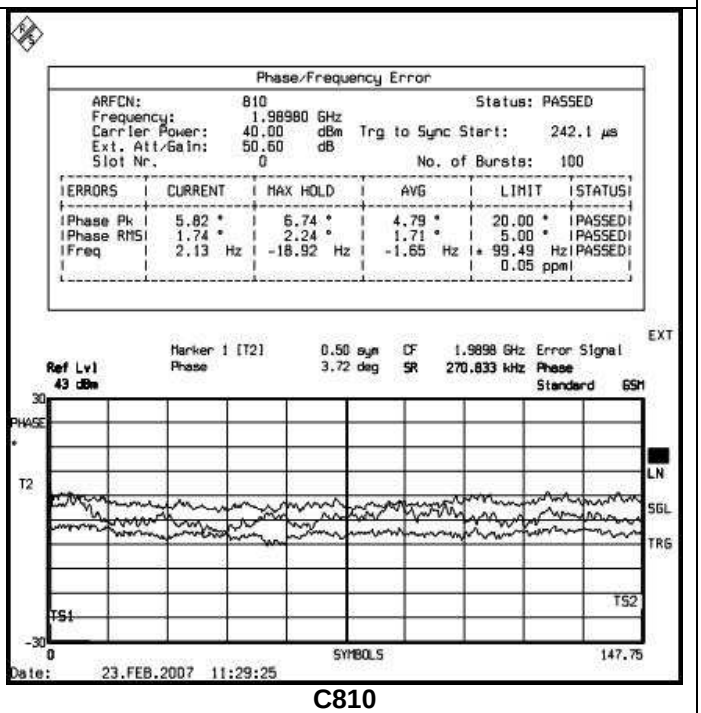
			RM tested		
	Canal	Mesure	Max hold	Average	Sanction
TDMA 0	512	Phase Pk	7,08 °	4,90 °	PASS
		Phase RMS	2,31 °	1,73 °	PASS
		Freq	-14,72 Hz	-1,23 Hz	PASS
TDMA 1	661	Phase Pk	7,29 °	4,80 °	PASS
		Phase RMS	2,31 °	1,71 °	PASS
		Freq	-19,05 Hz	-0,83 Hz	PASS
TDMA 2	810	Phase Pk	6,74 °	4,79 °	PASS
		Phase RMS	2,24 °	1,71 °	PASS
		Freq	-18,92 Hz	-1,65 Hz	PASS



C512



C661



C810

The maximum frequency deviation allowed is 0.05 ppm (+/- 95Hz). The maximum deviation measured (-19.05 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.7.2 TX TESTS ON HPRM 3 (850 MHZ) IN GMSK

Measurements are realized at antenna output for H2 Duplexer configuration.

5.3.7.2.1 MEAN RF POWER @ 187 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 41 dBm and ≥ 45 dBm.

		HPRM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**128**	GMSK	43,61	**PASS**
TDMA 1	**190**	GMSK	43,96	**PASS**
TDMA 2	**251**	GMSK	44,03	**PASS**

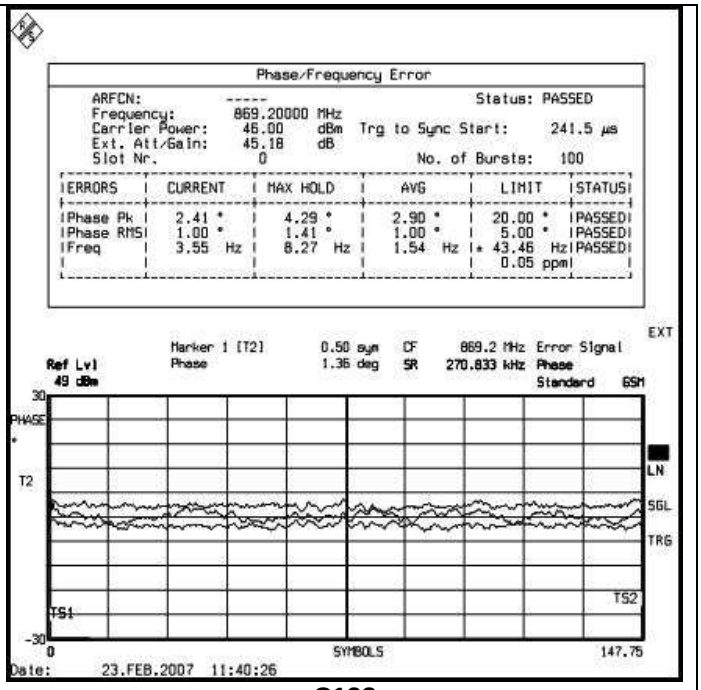
5.3.7.2.2 MEAN RF POWER @ 265 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 41 dBm and ≥ 45 dBm.

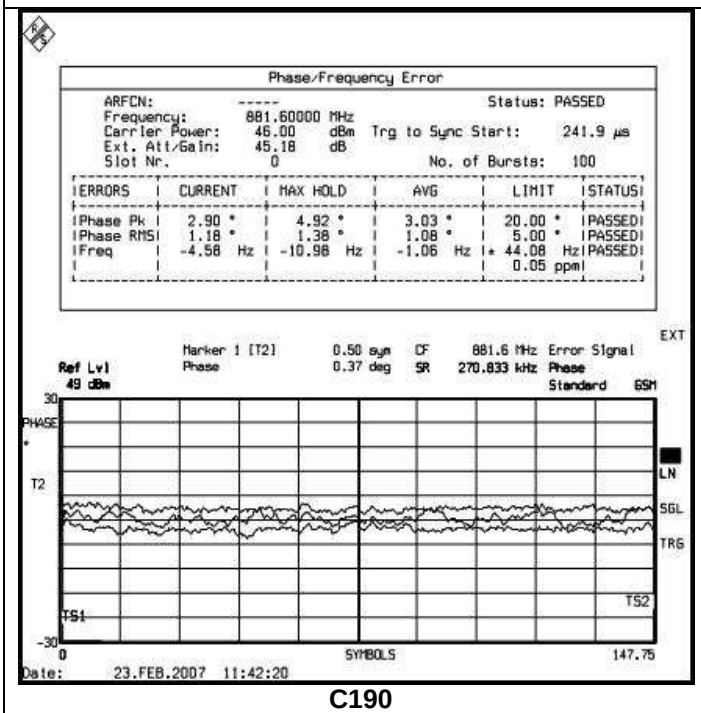
		HPRM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**128**	GMSK	43,60	**PASS**
TDMA 1	**190**	GMSK	43,96	**PASS**
TDMA 2	**251**	GMSK	44,02	**PASS**

5.3.7.2.3 PHASE AND MEAN FREQUENCY ERROR @ 187VAC

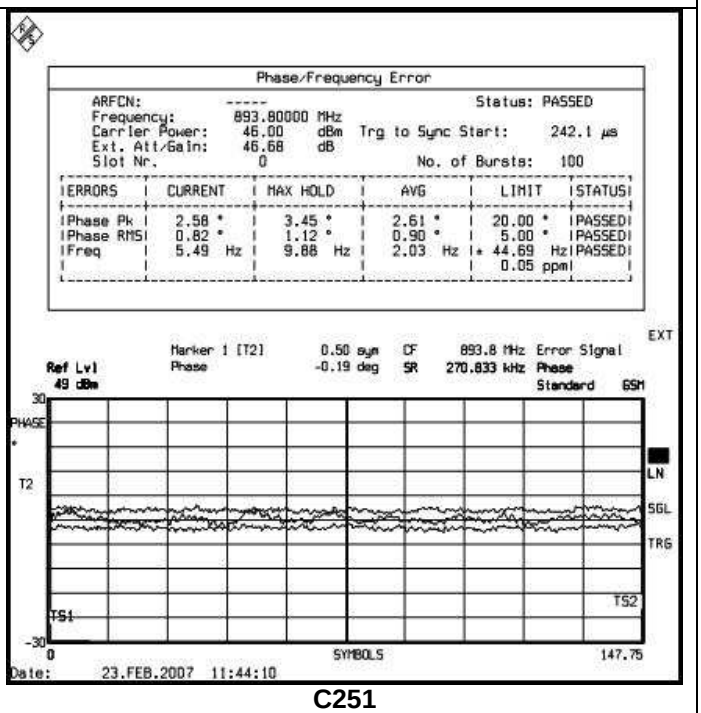
	Canal	Mesure	HPRM tested Max hold	Average	Sanction
TDMA 0	128	Phase Pk	4,29 °	2,90 °	PASS
		Phase RMS	1,41 °	1,00 °	PASS
		Freq	8,27 Hz	1,54 Hz	PASS
TDMA 1	190	Phase Pk	4,92 °	3,03 °	PASS
		Phase RMS	1,38 °	1,08 °	PASS
		Freq	-10,98 Hz	-1,06 Hz	PASS
TDMA 2	251	Phase Pk	3,45 °	2,61 °	PASS
		Phase RMS	1,12 °	0,90 °	PASS
		Freq	9,88 Hz	2,03 Hz	PASS



C128



C190

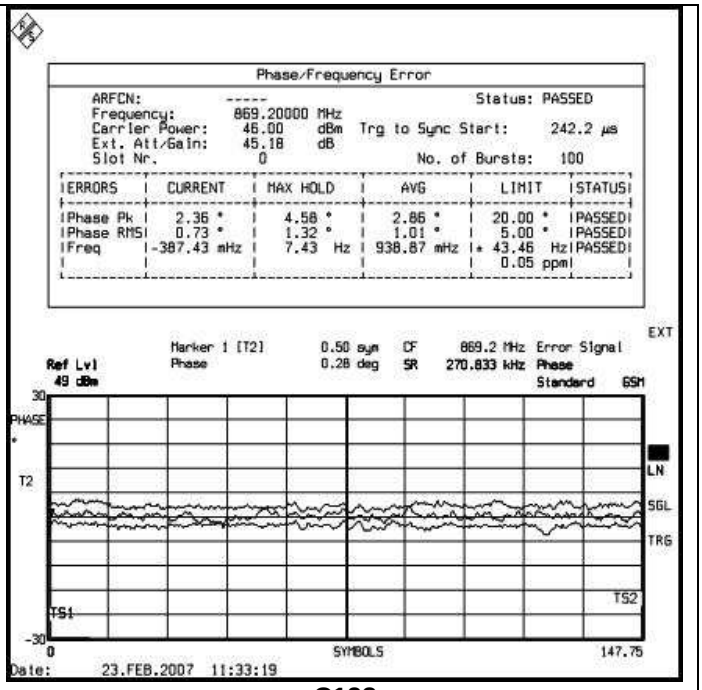


C251

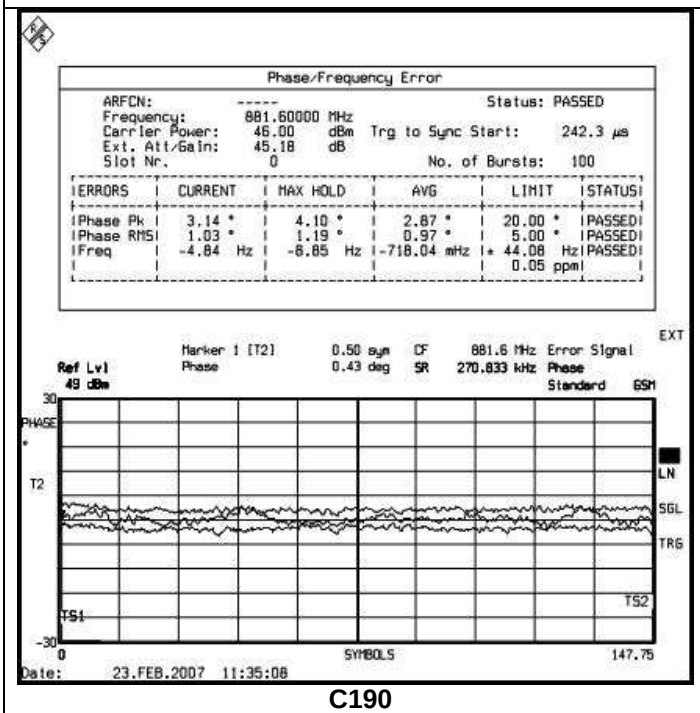
The maximum frequency deviation allowed is 0.05 ppm (+/- 43Hz). The maximum deviation measured (-10.98 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.7.2.4 PHASE AND MEAN FREQUENCY ERROR @ 265 VDC

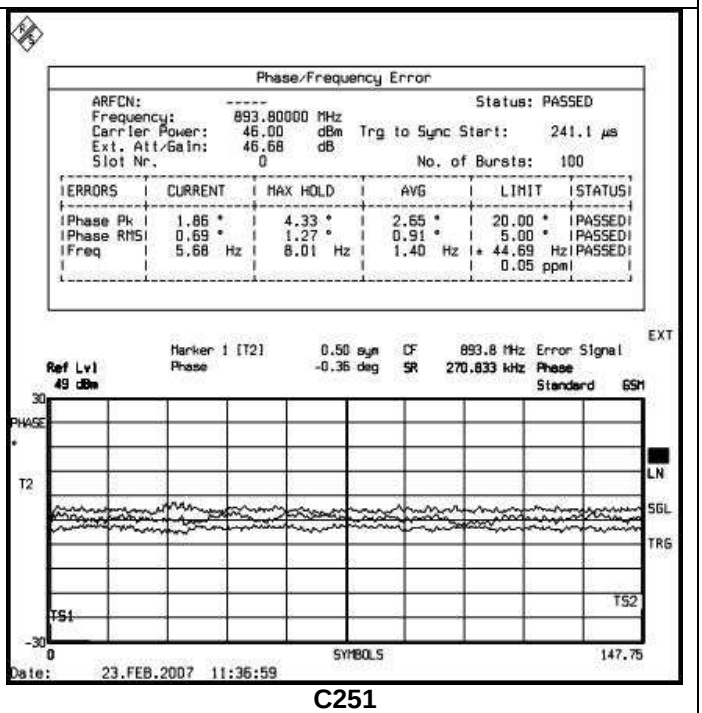
	Canal	Mesure	HPRM tested Max hold	Average	Sanction
TDMA 0	128	Phase Pk	4,58 °	2,86 °	PASS
		Phase RMS	1,32 °	1,01 °	PASS
		Freq	7,43 Hz	0,94 Hz	PASS
TDMA 1	190	Phase Pk	4,10 °	2,87 °	PASS
		Phase RMS	1,19 °	0,97 °	PASS
		Freq	-8,85 Hz	-0,72 Hz	PASS
TDMA 2	251	Phase Pk	4,33 °	2,65 °	PASS
		Phase RMS	1,27 °	0,91 °	PASS
		Freq	8,01 Hz	1,40 Hz	PASS



C128



C190



C251

The maximum frequency deviation allowed is 0.05 ppm (+/- 43Hz). The maximum deviation measured (-8.85 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.8 TESTS AT TEMPERATURE -10 ℃

5.3.8.1 TX TESTS ON RM 1 (1900 MHZ) IN GMSK

Measurements are realized at antenna output for H2 Duplexer configuration.

5.3.8.1.1 MEAN RF POWER @ 187 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 38 dBm and ≤ 42 dBm.

		RM tested		
	Canal	Modulation Type	Mean RF Power	Sanction
TDMA 0	512	GMSK	40,65	PASS
TDMA 1	661	GMSK	41,00	PASS
TDMA 2	810	GMSK	41,40	PASS

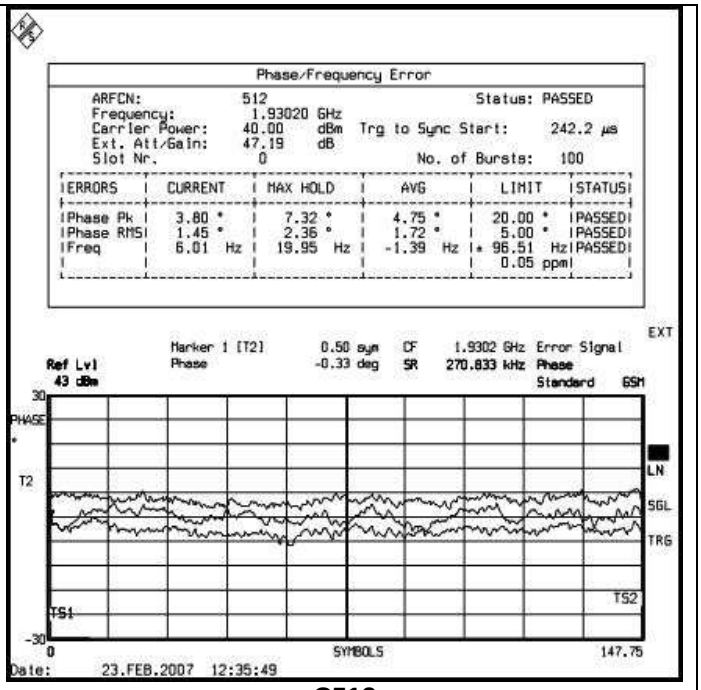
5.3.8.1.2 MEAN RF POWER @ 265 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 38 dBm and ≤ 42 dBm.

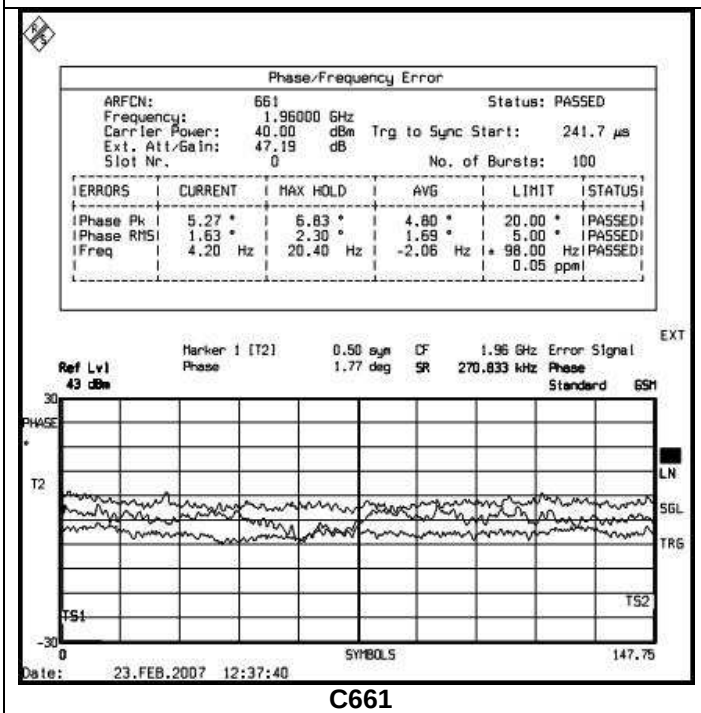
		RM tested		
	Canal	Modulation Type	Mean RF Power	Sanction
TDMA 0	512	GMSK	40,67	PASS
TDMA 1	661	GMSK	41,02	PASS
TDMA 2	810	GMSK	41,41	PASS

5.3.8.1.3 PHASE AND MEAN FREQUENCY ERROR @ 187 VAC

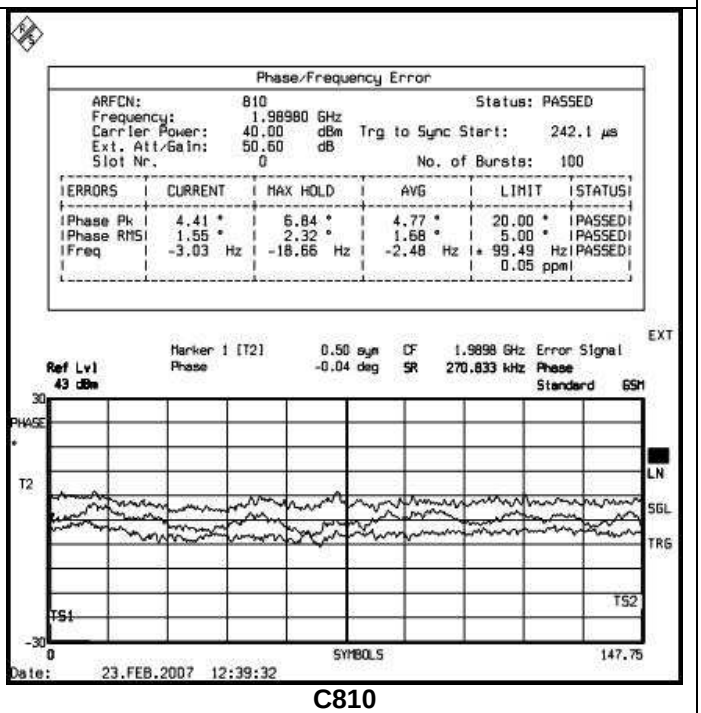
			RM tested		
	Canal	Mesure	Max hold	Average	Sanction
TDMA 0	512	Phase Pk	7,32 °	4,75 °	PASS
		Phase RMS	2,36 °	1,72 °	PASS
		Freq	19,95 Hz	-1,39 Hz	PASS
TDMA 1	661	Phase Pk	6,83 °	4,80 °	PASS
		Phase RMS	2,30 °	1,69 °	PASS
		Freq	20,40 Hz	-2,06 Hz	PASS
TDMA 2	810	Phase Pk	6,84 °	4,77 °	PASS
		Phase RMS	2,32 °	1,68 °	PASS
		Freq	-18,66 Hz	-2,48 Hz	PASS



C512



C661

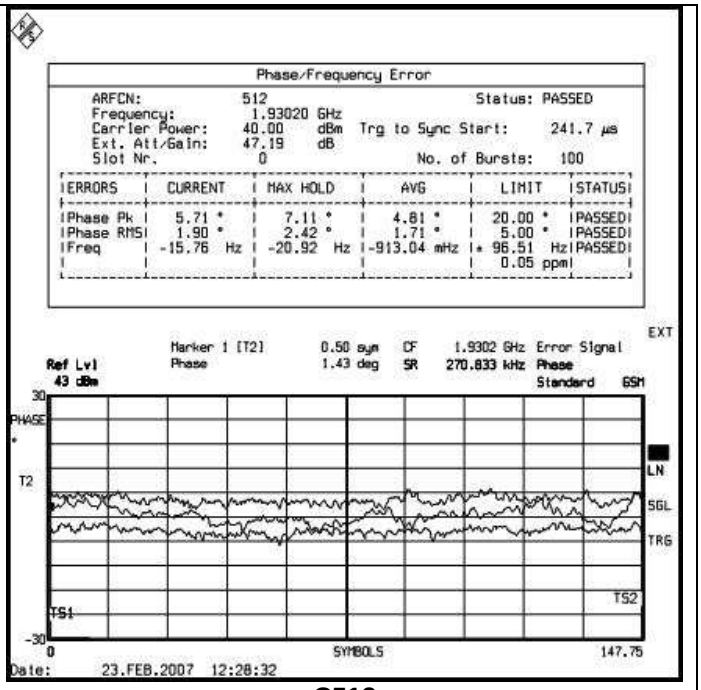


C810

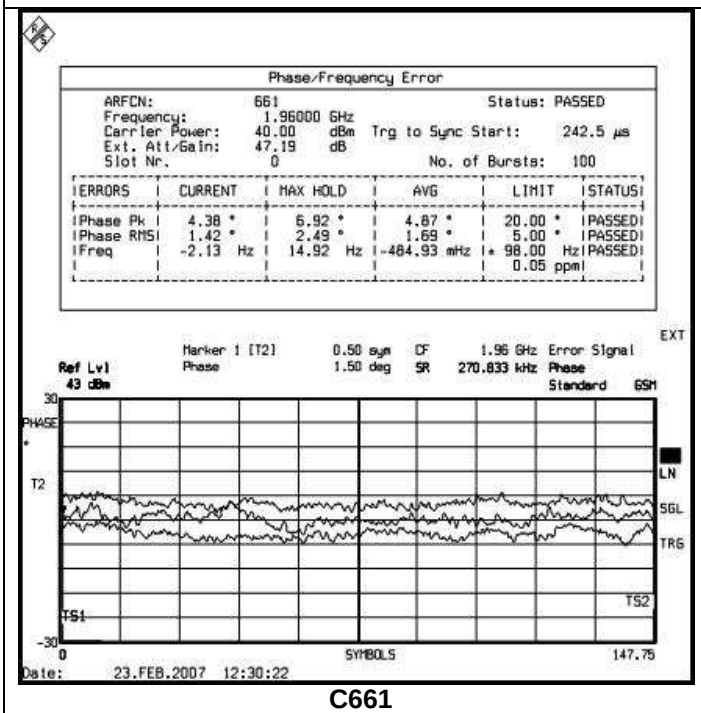
The maximum frequency deviation allowed is 0.05 ppm (+/- 95Hz). The maximum deviation measured (20.40 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.8.1.4 PHASE AND MEAN FREQUENCY ERROR @ 265 VAC

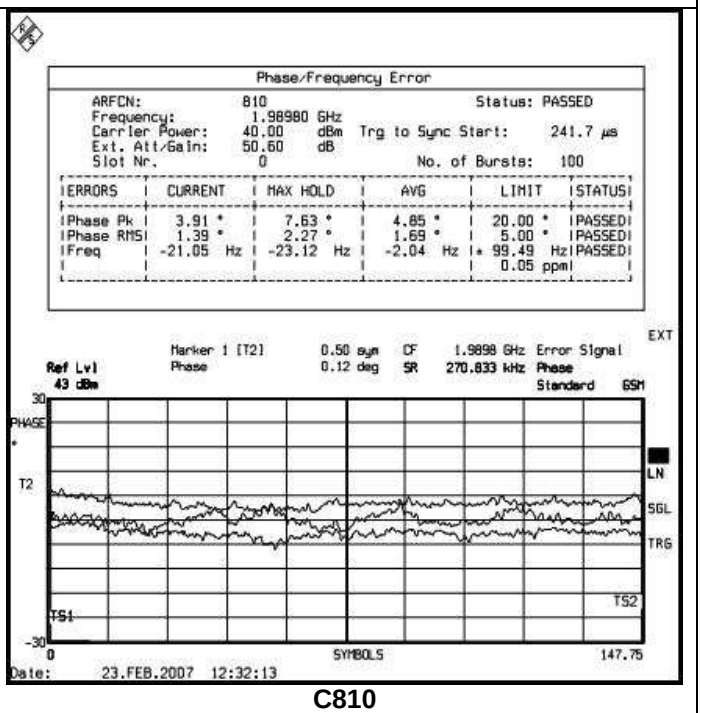
	Canal	Mesure	RM tested Max hold	Average	Sanction
TDMA 0	512	Phase Pk	7,11 °	4,81 °	PASS
		Phase RMS	2,42 °	1,71 °	PASS
		Freq	-20,92 Hz	-0,91 Hz	PASS
TDMA 1	661	Phase Pk	6,92 °	4,87 °	PASS
		Phase RMS	2,49 °	1,69 °	PASS
		Freq	14,92 Hz	-0,48 Hz	PASS
TDMA 2	810	Phase Pk	7,63 °	4,85 °	PASS
		Phase RMS	2,27 °	1,69 °	PASS
		Freq	-23,12 Hz	-2,04 Hz	PASS



C512



C661



C810

The maximum frequency deviation allowed is 0.05 ppm (+/- 95Hz). The maximum deviation measured (-20.92 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.8.2 TX TESTS ON HPRM 3 (850 MHZ) IN GMSK

Measurements are realized at antenna output for H2 Duplexer configuration.

5.3.8.2.1 MEAN RF POWER @ 187 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 41 dBm and ≥ 45 dBm.

		HPRM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**128**	GMSK	43,71	**PASS**
TDMA 1	**190**	GMSK	44,04	**PASS**
TDMA 2	**251**	GMSK	44,08	**PASS**

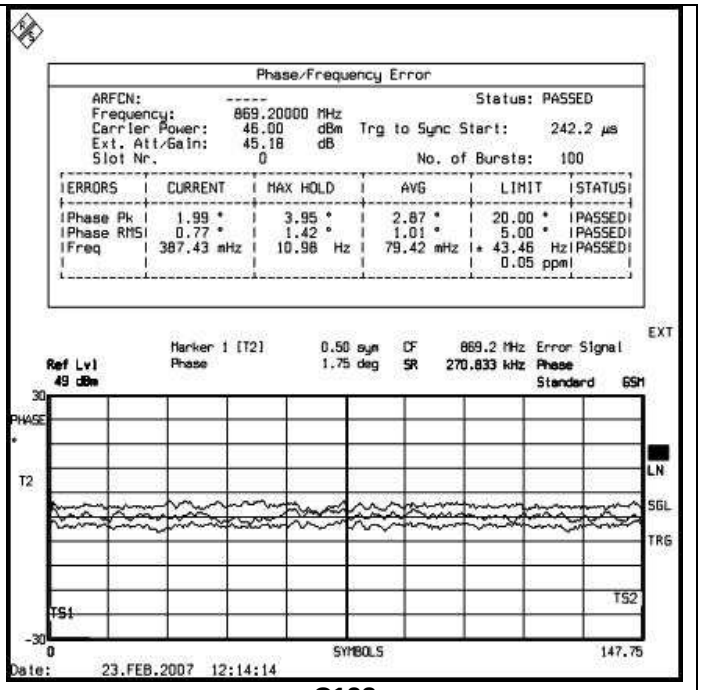
5.3.8.2.2 MEAN RF POWER @ 265 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 41 dBm and ≥ 45 dBm.

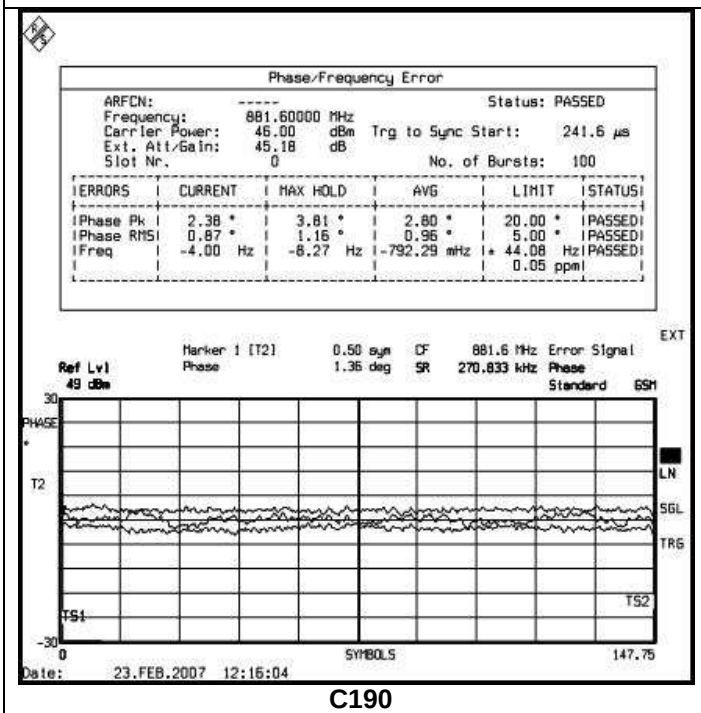
		HPRM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**128**	GMSK	43,71	**PASS**
TDMA 1	**190**	GMSK	44,05	**PASS**
TDMA 2	**251**	GMSK	44,08	**PASS**

5.3.8.2.3 PHASE AND MEAN FREQUENCY ERROR @ 187VAC

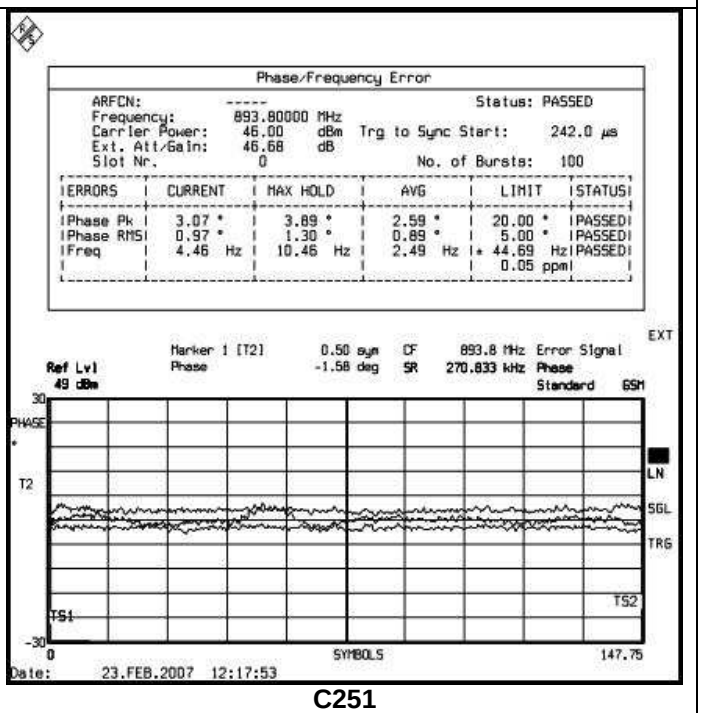
			HPRM tested		
	Canal	Mesure	Max hold	Average	Sanction
TDMA 0	128	Phase Pk	3,95 °	2,87 °	PASS
		Phase RMS	1,42 °	1,01 °	PASS
		Freq	10,98 Hz	0,08 Hz	PASS
TDMA 1	190	Phase Pk	3,81 °	2,80 °	PASS
		Phase RMS	1,16 °	0,96 °	PASS
		Freq	-8,27 Hz	-0,79 Hz	PASS
TDMA 2	251	Phase Pk	3,89 °	2,59 °	PASS
		Phase RMS	1,30 °	0,89 °	PASS
		Freq	10,46 Hz	2,49 Hz	PASS



C128



C190

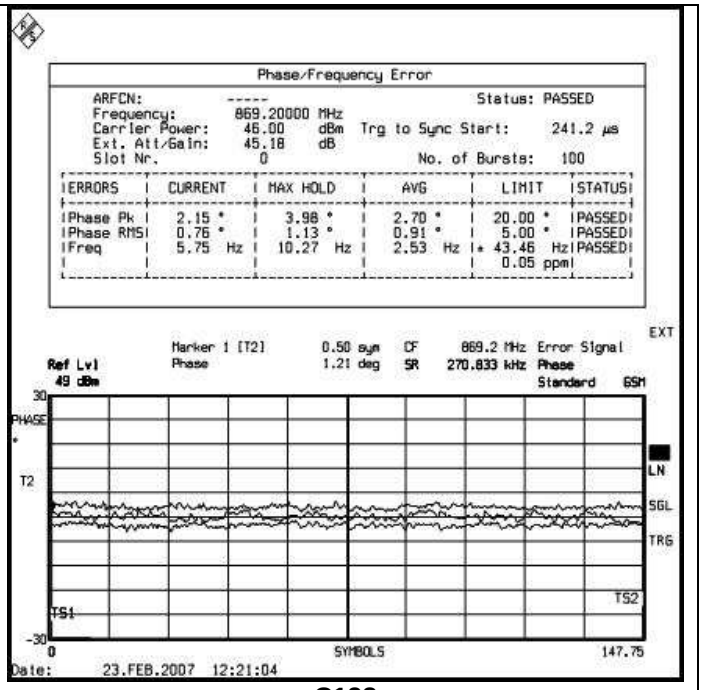


C251

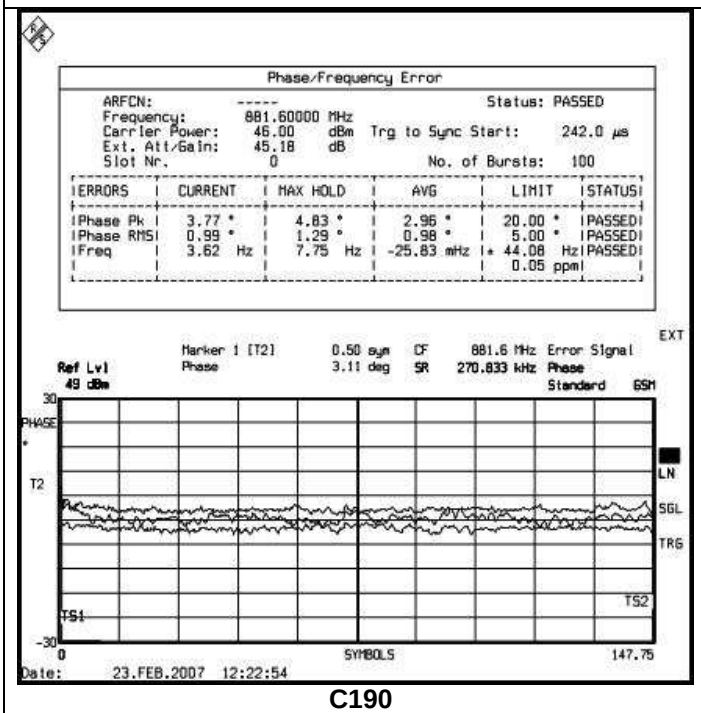
The maximum frequency deviation allowed is 0.05 ppm (+/- 43Hz). The maximum deviation measured (10.98 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.8.2.4 PHASE AND MEAN FREQUENCY ERROR @ 265 VDC

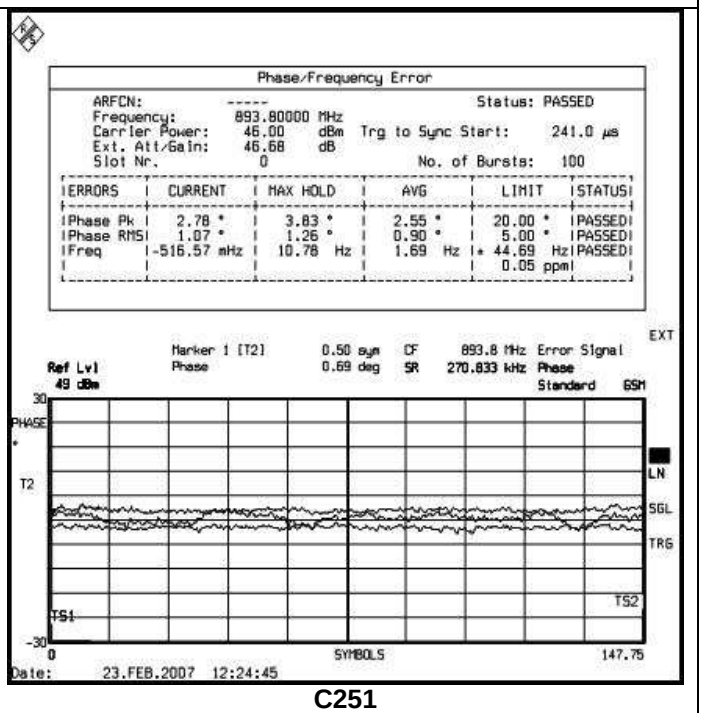
	Canal	Mesure	HPRM tested		
			Max hold	Average	Sanction
TDMA 0	128	Phase Pk	3,98 °	2,70 °	PASS
		Phase RMS	1,13 °	0,91 °	PASS
		Freq	10,27 Hz	2,53 Hz	PASS
TDMA 1	190	Phase Pk	4,83 °	2,96 °	PASS
		Phase RMS	1,29 °	0,98 °	PASS
		Freq	7,75 Hz	-0,03 Hz	PASS
TDMA 2	251	Phase Pk	3,83 °	2,55 °	PASS
		Phase RMS	1,26 °	0,90 °	PASS
		Freq	10,78 Hz	1,69 Hz	PASS



C128



C190



C251

The maximum frequency deviation allowed is 0.05 ppm (+/- 43Hz). The maximum deviation measured (10.78 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.9 TESTS AT TEMPERATURE -20 ℃

5.3.9.1 TX TESTS ON RM 1 (1900 MHZ) IN GMSK

Measurements are realized at antenna output for H2 Duplexer configuration.

5.3.9.1.1 MEAN RF POWER @ 187 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 38 dBm and ≤ 42 dBm.

		RM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**512**	GMSK	40,74	**PASS**
TDMA 1	**661**	GMSK	41,10	**PASS**
TDMA 2	**810**	GMSK	41,49	**PASS**

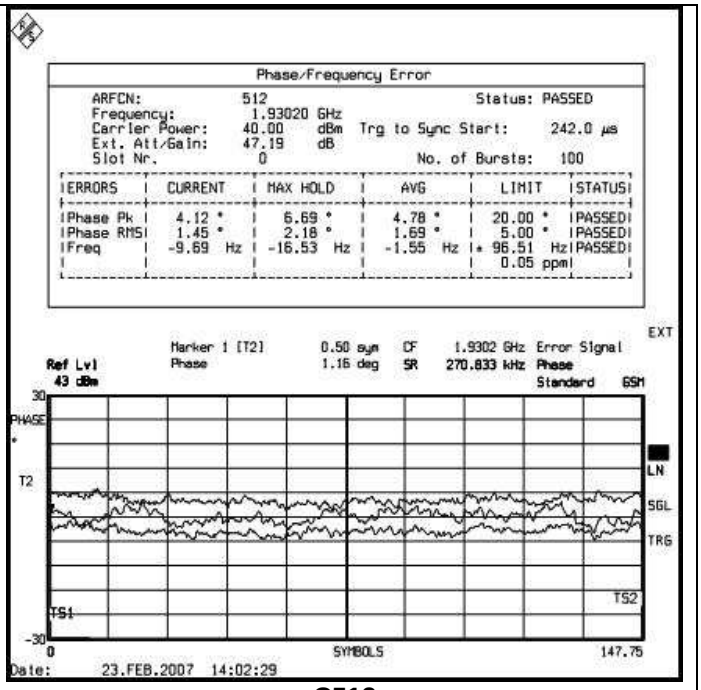
5.3.9.1.2 MEAN RF POWER @ 265 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 38 dBm and ≤ 42 dBm.

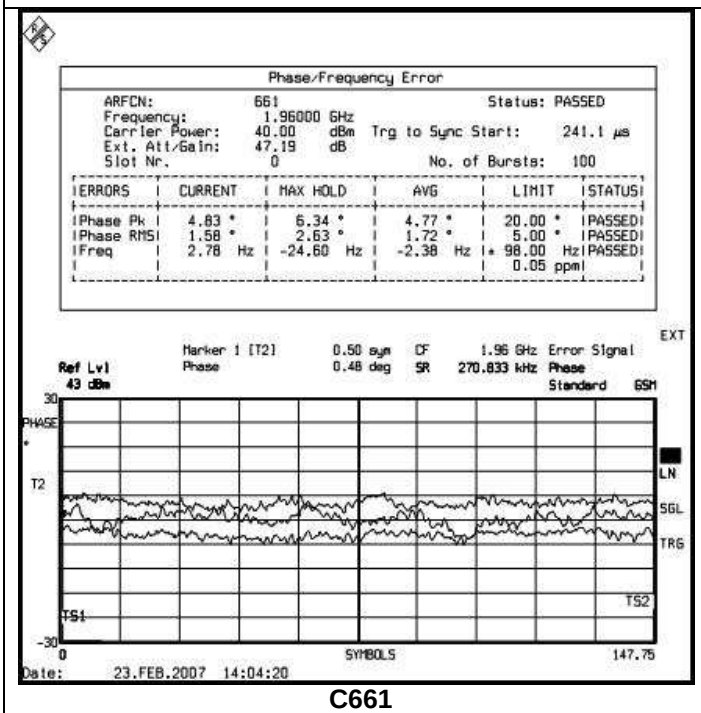
		RM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**512**	GMSK	40,65	**PASS**
TDMA 1	**661**	GMSK	41,03	**PASS**
TDMA 2	**810**	GMSK	41,39	**PASS**

5.3.9.1.3 PHASE AND MEAN FREQUENCY ERROR @ 187 VAC

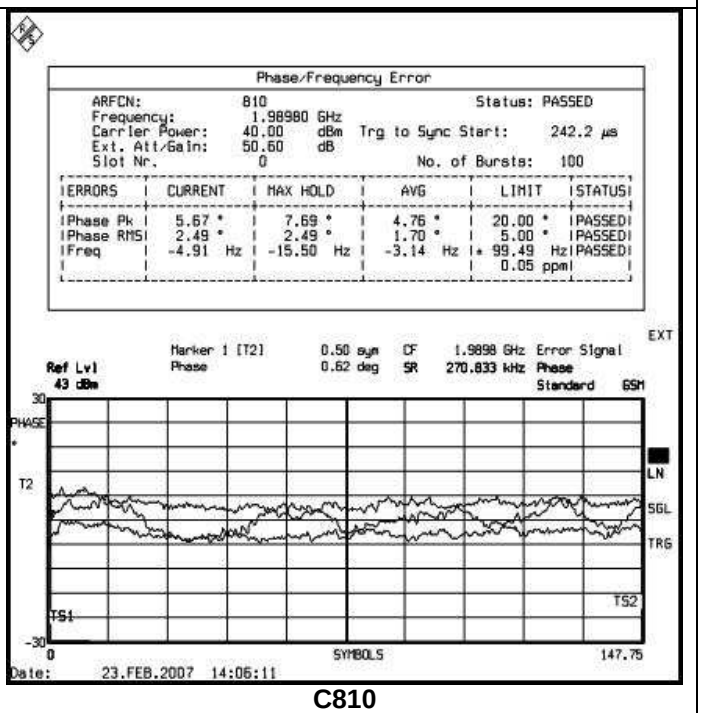
			RM tested		
	Canal	Mesure	Max hold	Average	Sanction
TDMA 0	512	Phase Pk	6,69 °	4,78 °	PASS
		Phase RMS	2,18 °	1,69 °	PASS
		Freq	-16,53 Hz	-1,55 Hz	PASS
TDMA 1	661	Phase Pk	6,34 °	4,77 °	PASS
		Phase RMS	2,63 °	1,72 °	PASS
		Freq	-24,60 Hz	-2,38 Hz	PASS
TDMA 2	810	Phase Pk	7,69 °	4,76 °	PASS
		Phase RMS	2,49 °	1,70 °	PASS
		Freq	-15,50 Hz	-3,14 Hz	PASS



C512



C661

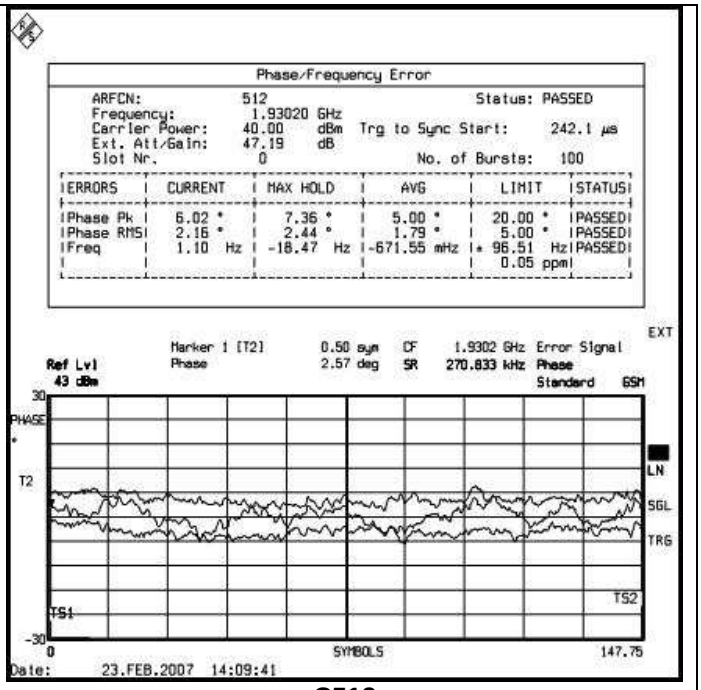


C810

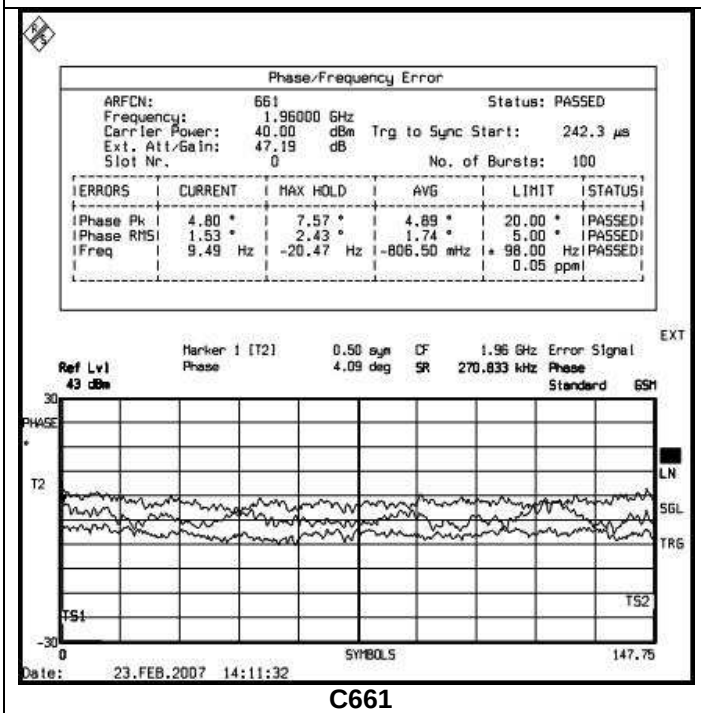
The maximum frequency deviation allowed is 0.05 ppm (+/- 95Hz). The maximum deviation measured (-24.60 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.9.1.4 PHASE AND MEAN FREQUENCY ERROR @ 265 VAC

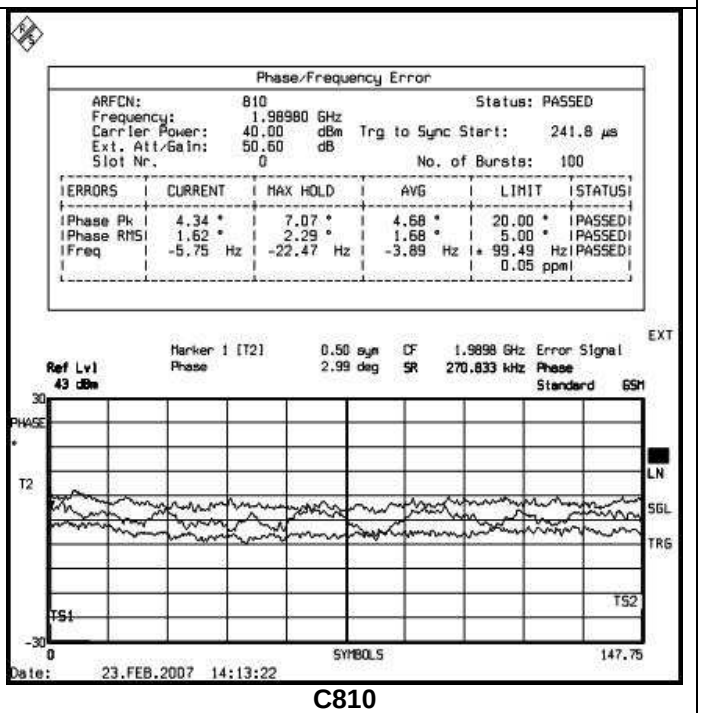
			RM tested		
	Canal	Mesure	Max hold	Average	Sanction
TDMA 0	512	Phase Pk	7,36 °	5,00 °	PASS
		Phase RMS	2,44 °	1,79 °	PASS
		Freq	-18,47 Hz	-0,67 Hz	PASS
TDMA 1	661	Phase Pk	7,57 °	4,89 °	PASS
		Phase RMS	2,43 °	1,74 °	PASS
		Freq	-20,47 Hz	-0,81 Hz	PASS
TDMA 2	810	Phase Pk	7,07 °	4,68 °	PASS
		Phase RMS	2,29 °	1,68 °	PASS
		Freq	-22,47 Hz	-3,89 Hz	PASS



C512



C661



C810

The maximum frequency deviation allowed is 0.05 ppm (+/- 95Hz). The maximum deviation measured (-22.47 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.9.2 TX TESTS ON HPRM 3 (850 MHZ) IN GMSK

Measurements are realized at antenna output for H2 Duplexer configuration.

5.3.9.2.1 MEAN RF POWER @ 187 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 41 dBm and ≥ 45 dBm.

		HPRM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**128**	GMSK	43,76	**PASS**
TDMA 1	**190**	GMSK	44,10	**PASS**
TDMA 2	**251**	GMSK	44,10	**PASS**

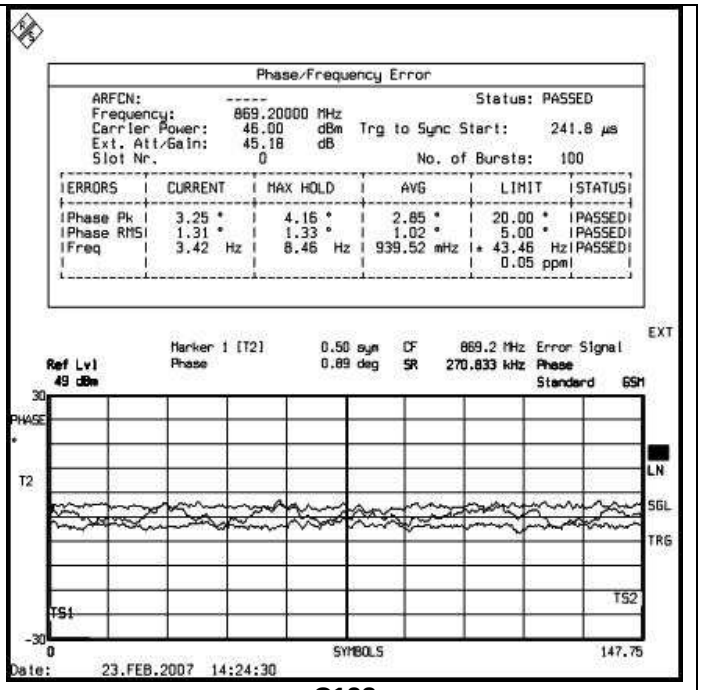
5.3.9.2.2 MEAN RF POWER @ 265 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 41 dBm and ≥ 45 dBm.

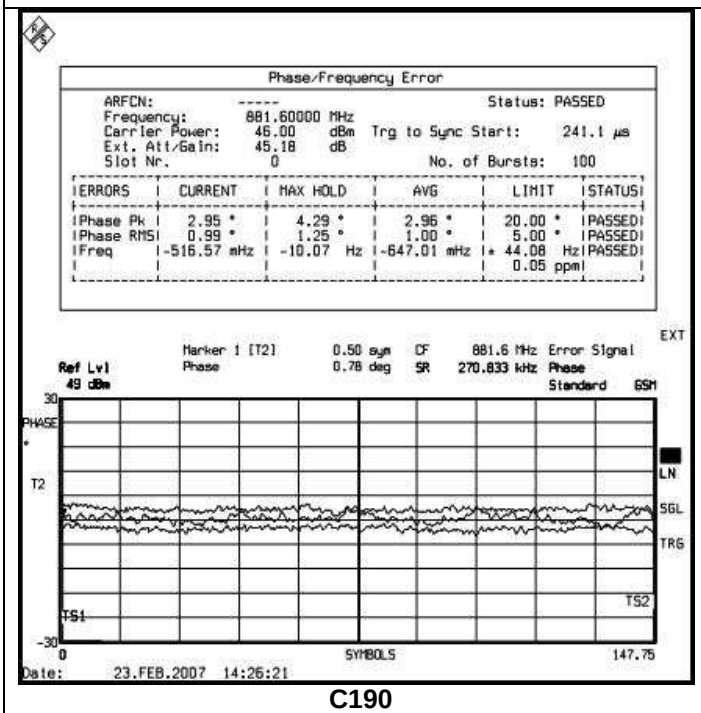
		HPRM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**128**	GMSK	43,75	**PASS**
TDMA 1	**190**	GMSK	44,08	**PASS**
TDMA 2	**251**	GMSK	44,07	**PASS**

5.3.9.2.3 PHASE AND MEAN FREQUENCY ERROR @ 187VAC

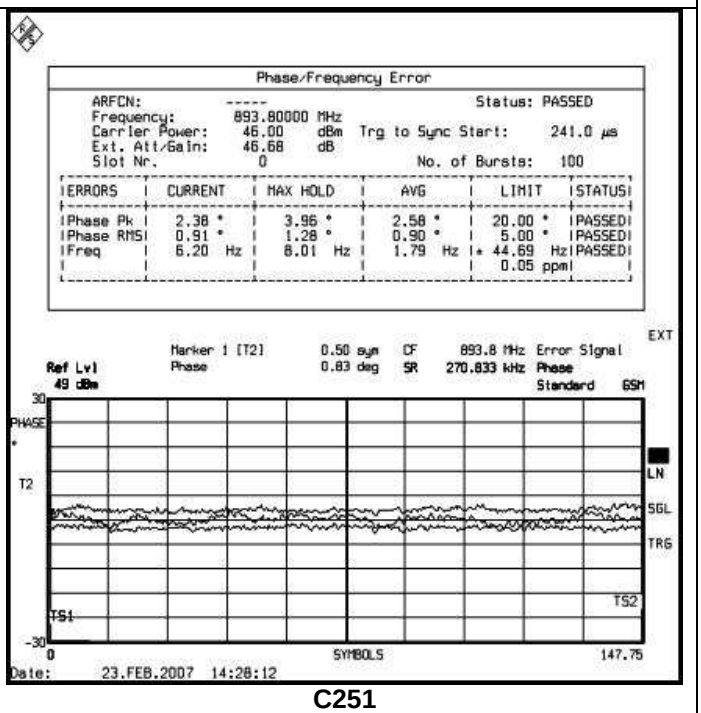
			HPRM tested		
	Canal	Mesure	Max hold	Average	Sanction
TDMA 0	128	Phase Pk	4,16 °	2,85 °	PASS
		Phase RMS	1,33 °	1,02 °	PASS
		Freq	8,46 Hz	0,94 Hz	PASS
TDMA 1	190	Phase Pk	4,29 °	2,96 °	PASS
		Phase RMS	1,25 °	1,00 °	PASS
		Freq	-10,07 Hz	-0,65 Hz	PASS
TDMA 2	251	Phase Pk	3,96 °	2,58 °	PASS
		Phase RMS	1,28 °	0,90 °	PASS
		Freq	8,01 Hz	1,79 Hz	PASS



C128



C190

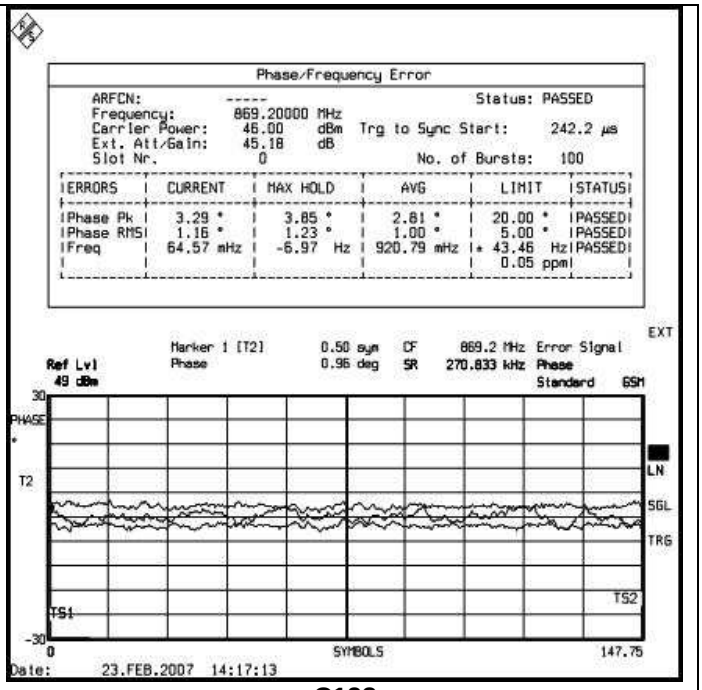


C251

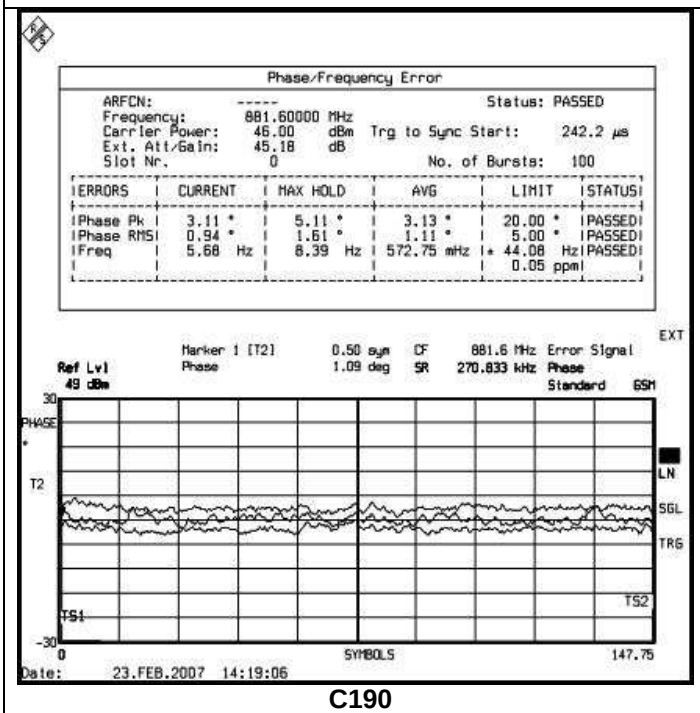
The maximum frequency deviation allowed is 0.05 ppm (+/- 43Hz). The maximum deviation measured (-10.07 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.9.2.4 PHASE AND MEAN FREQUENCY ERROR @ 265 VDC

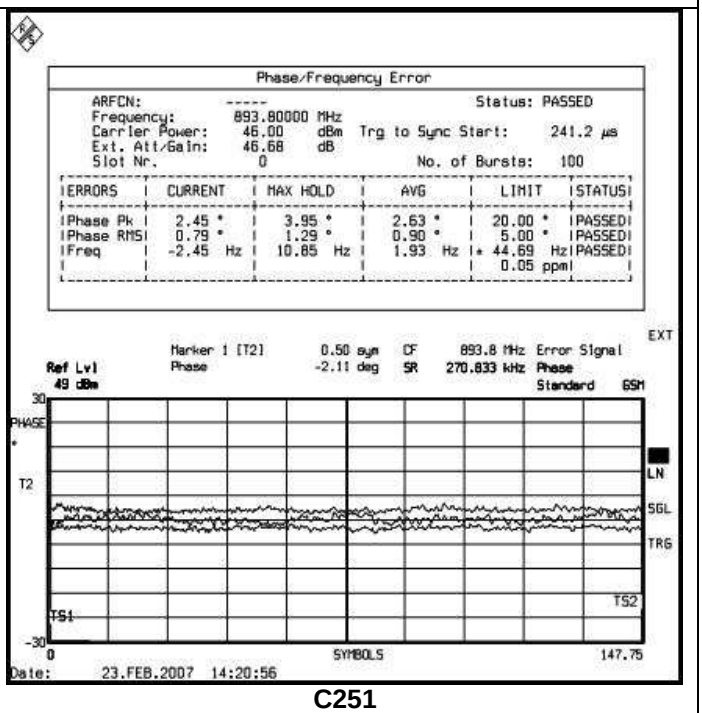
	Canal	Mesure	HPRM tested Max hold	Average	Sanction
TDMA 0	128	Phase Pk	3,85 °	2,81 °	PASS
		Phase RMS	1,23 °	1,00 °	PASS
		Freq	-6,97 Hz	0,92 Hz	PASS
TDMA 1	190	Phase Pk	5,11 °	3,13 °	PASS
		Phase RMS	1,61 °	1,11 °	PASS
		Freq	8,39 Hz	0,57 Hz	PASS
TDMA 2	251	Phase Pk	3,95 °	2,63 °	PASS
		Phase RMS	1,29 °	0,90 °	PASS
		Freq	10,85 Hz	1,93 Hz	PASS



C128



C190



C251

The maximum frequency deviation allowed is 0.05 ppm (+/- 43Hz). The maximum deviation measured (10.85 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.10 TESTS AT TEMPERATURE -30 ℃

5.3.10.1 TX TESTS ON RM 1 (1900 MHZ) IN GMSK

Measurements are realized at antenna output for H2 Duplexer configuration.

5.3.10.1.1 MEAN RF POWER @ 187 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 38 dBm and ≤ 42 dBm.

		RM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**512**	GMSK	40,71	**PASS**
TDMA 1	**661**	GMSK	41,08	**PASS**
TDMA 2	**810**	GMSK	41,41	**PASS**

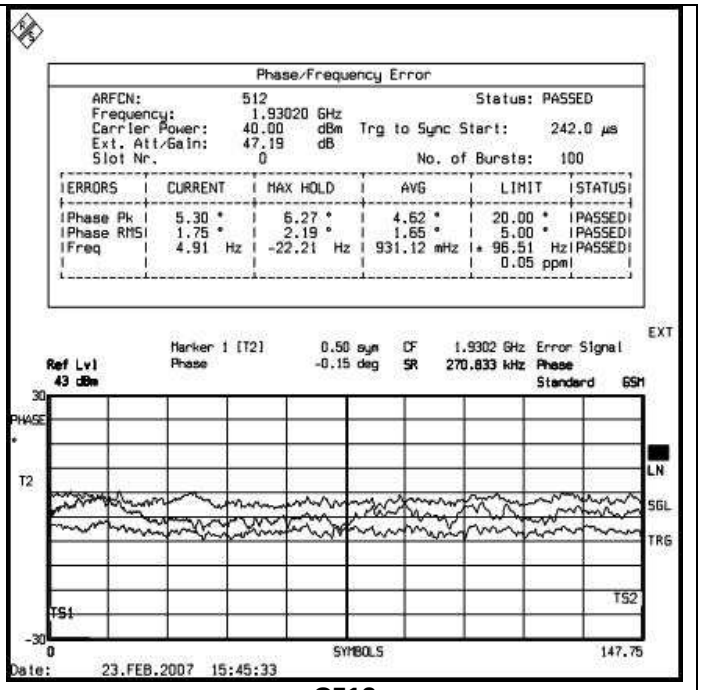
5.3.10.1.2 MEAN RF POWER @ 265 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 38 dBm and ≤ 42 dBm.

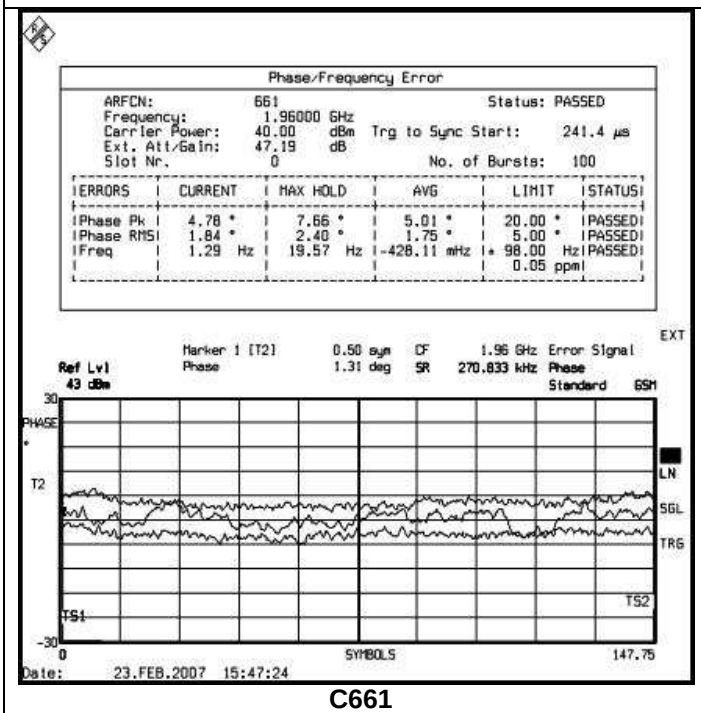
		RM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**512**	GMSK	40,80	**PASS**
TDMA 1	**661**	GMSK	41,16	**PASS**
TDMA 2	**810**	GMSK	41,54	**PASS**

5.3.10.1.3 PHASE AND MEAN FREQUENCY ERROR @ 187 VAC

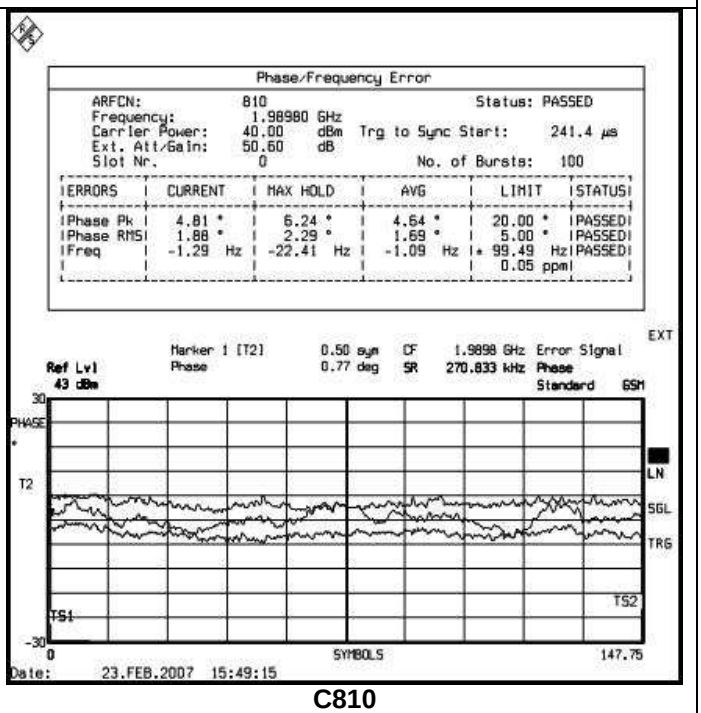
			RM tested		
	Canal	Mesure	Max hold	Average	Sanction
TDMA 0	512	Phase Pk	6,27 °	4,62 °	PASS
		Phase RMS	2,19 °	1,65 °	PASS
		Freq	-22,21 Hz	0,93 Hz	PASS
TDMA 1	661	Phase Pk	7,66 °	5,01 °	PASS
		Phase RMS	2,40 °	1,75 °	PASS
		Freq	19,57 Hz	-0,43 Hz	PASS
TDMA 2	810	Phase Pk	6,24 °	4,64 °	PASS
		Phase RMS	2,29 °	1,69 °	PASS
		Freq	-22,41 Hz	-1,09 Hz	PASS



C512



C661

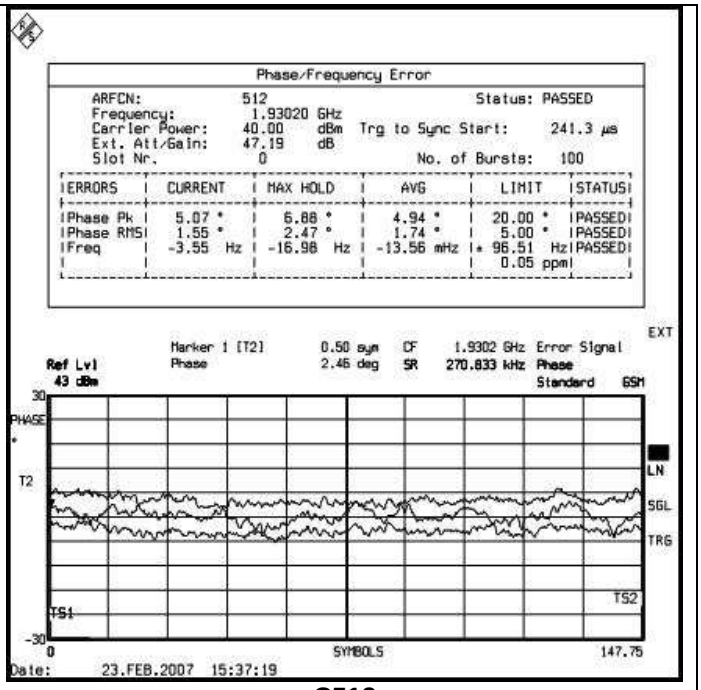


C810

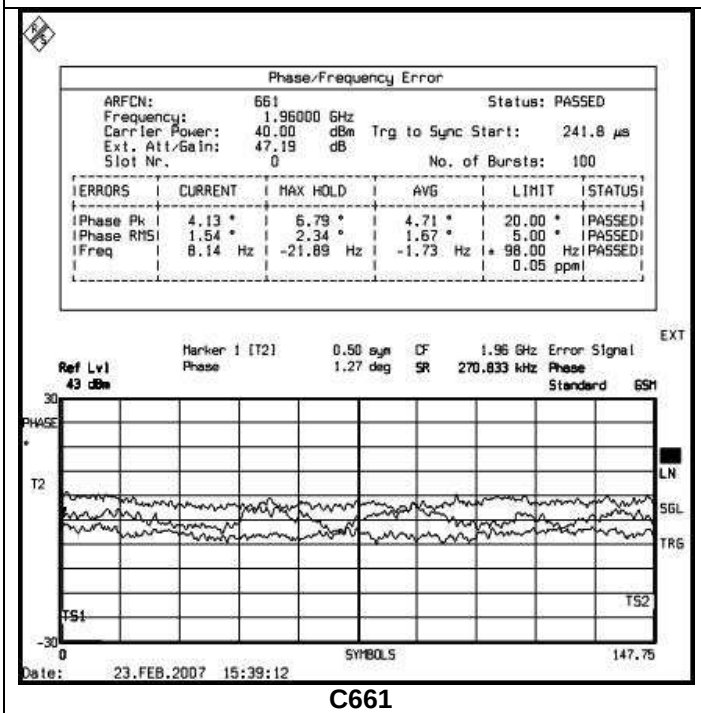
The maximum frequency deviation allowed is 0.05 ppm (+/- 95Hz). The maximum deviation measured (-22.41 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.10.1.4 PHASE AND MEAN FREQUENCY ERROR @ 265 VAC

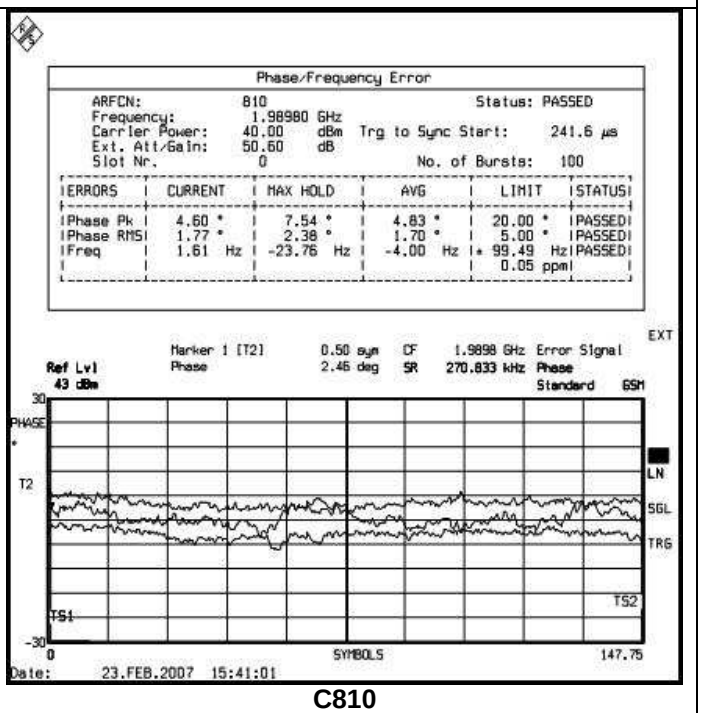
			RM tested		
	Canal	Mesure	Max hold	Average	Sanction
TDMA 0	512	Phase Pk	6,88 °	4,94 °	PASS
		Phase RMS	2,47 °	1,74 °	PASS
		Freq	-16,98 Hz	-0,01 Hz	PASS
TDMA 1	661	Phase Pk	6,79 °	4,71 °	PASS
		Phase RMS	2,34 °	1,67 °	PASS
		Freq	-21,89 Hz	-1,73 Hz	PASS
TDMA 2	810	Phase Pk	7,54 °	4,83 °	PASS
		Phase RMS	2,38 °	1,70 °	PASS
		Freq	-23,76 Hz	-4,00 Hz	PASS



C512



C661



C810

The maximum frequency deviation allowed is 0.05 ppm (+/- 95Hz). The maximum deviation measured (-23.76 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.10.2 TX TESTS ON HPRM 3 (850 MHZ) IN GMSK

Measurements are realized at antenna output for H2 Duplexer configuration.

5.3.10.2.1 MEAN RF POWER @ 187 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 41 dBm and ≥ 45 dBm.

		HPRM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**128**	GMSK	43,82	**PASS**
TDMA 1	**190**	GMSK	44,14	**PASS**
TDMA 2	**251**	GMSK	44,12	**PASS**

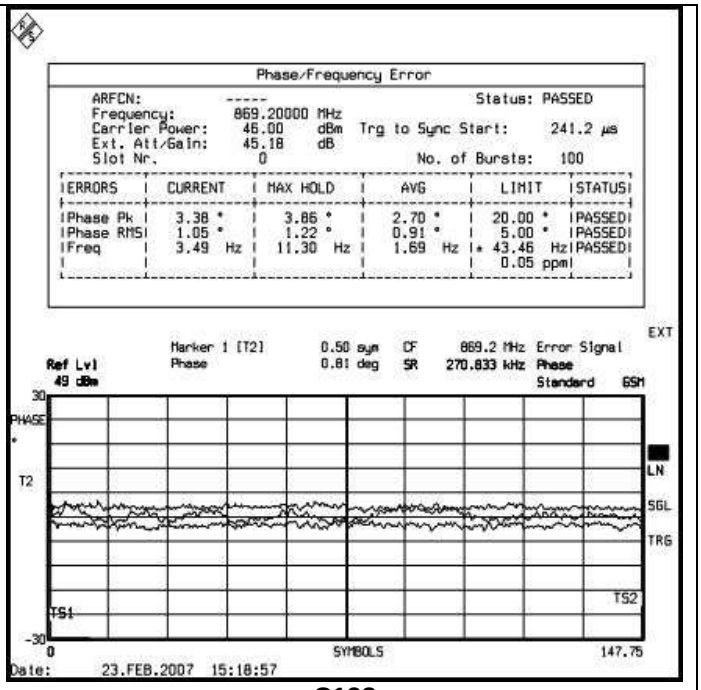
5.3.10.2.2 MEAN RF POWER @ 265 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 41 dBm and ≥ 45 dBm.

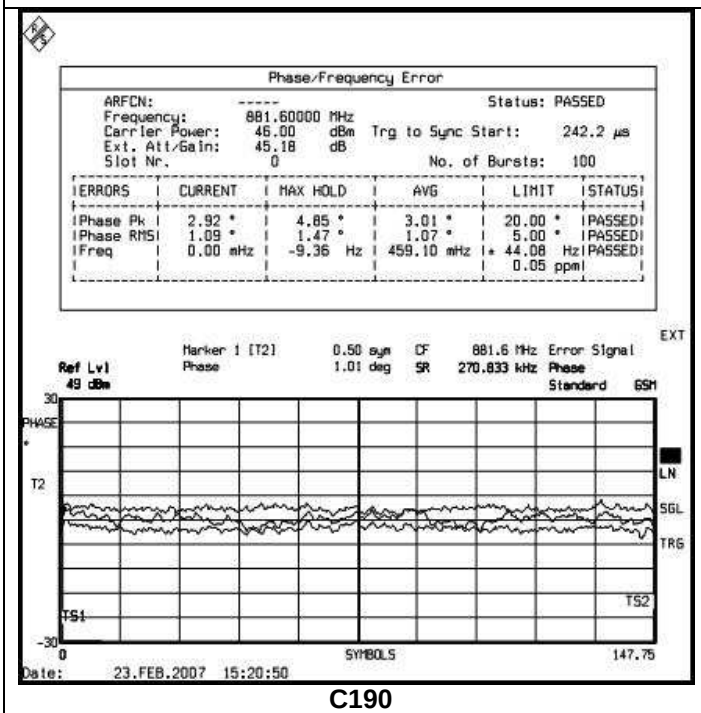
		HPRM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**128**	GMSK	43,81	**PASS**
TDMA 1	**190**	GMSK	44,14	**PASS**
TDMA 2	**251**	GMSK	44,12	**PASS**

5.3.10.2.3 PHASE AND MEAN FREQUENCY ERROR @ 187VAC

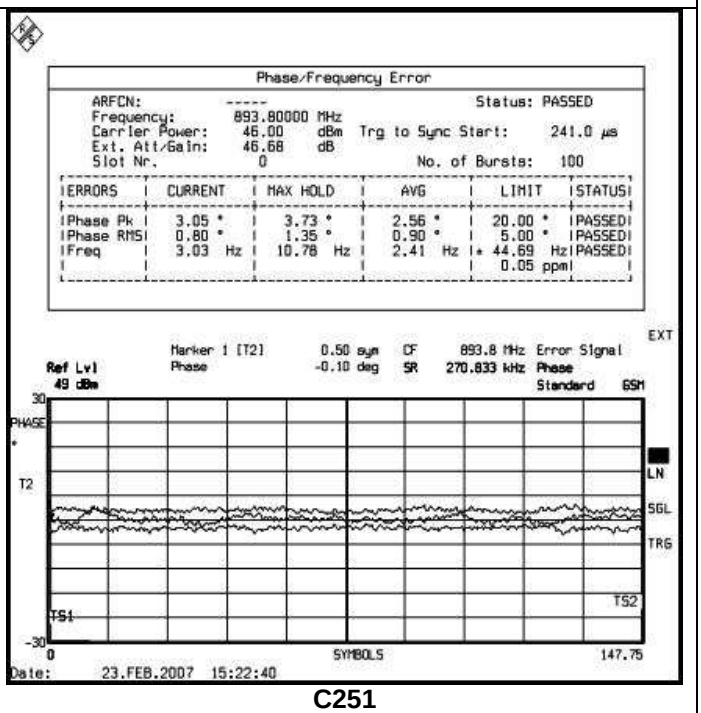
			HPRM tested		
	Canal	Mesure	Max hold	Average	Sanction
TDMA 0	128	Phase Pk	3,86 °	2,70 °	PASS
		Phase RMS	1,22 °	0,91 °	PASS
		Freq	11,30 Hz	1,69 Hz	PASS
TDMA 1	190	Phase Pk	4,85 °	3,01 °	PASS
		Phase RMS	1,47 °	1,07 °	PASS
		Freq	-9,36 Hz	0,46 Hz	PASS
TDMA 2	251	Phase Pk	3,73 °	2,56 °	PASS
		Phase RMS	1,35 °	0,90 °	PASS
		Freq	10,78 Hz	2,41 Hz	PASS



C128



C190

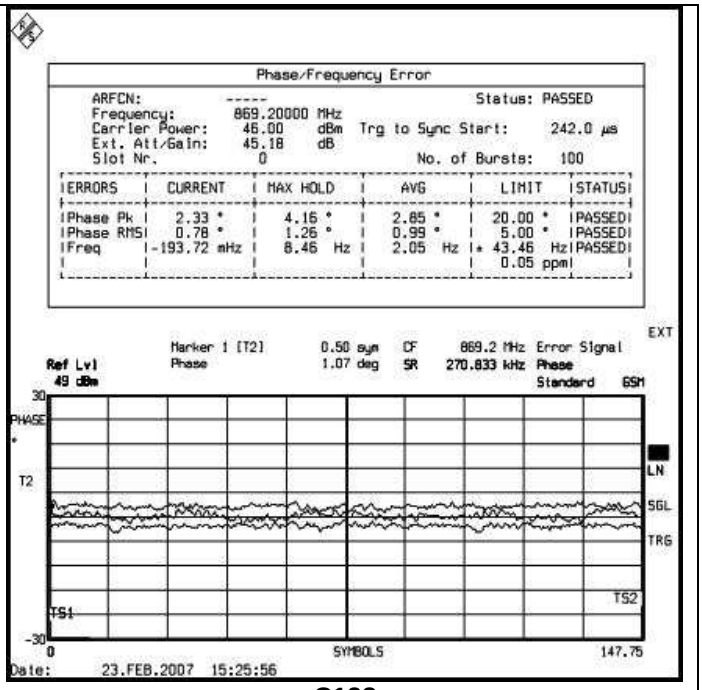


C251

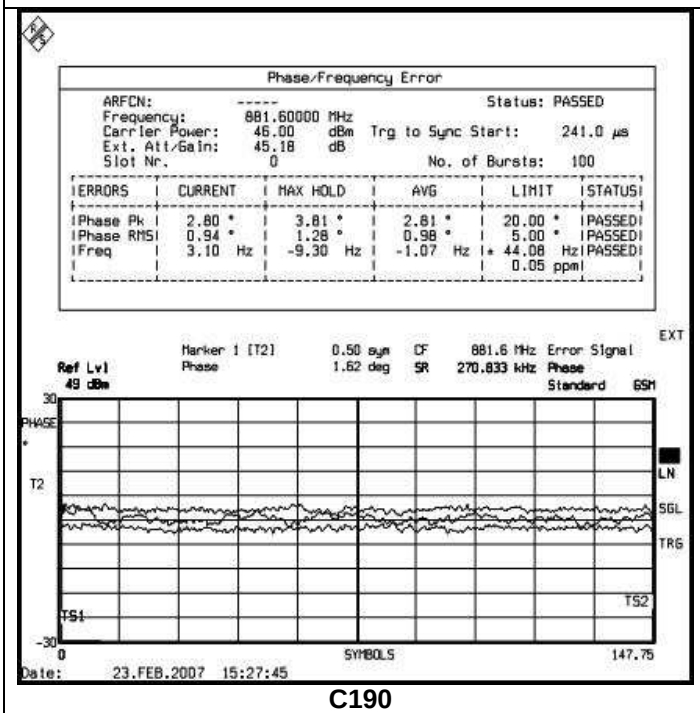
The maximum frequency deviation allowed is 0.05 ppm (+/- 43Hz). The maximum deviation measured (11.30 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.10.2.4 PHASE AND MEAN FREQUENCY ERROR @ 265 VDC

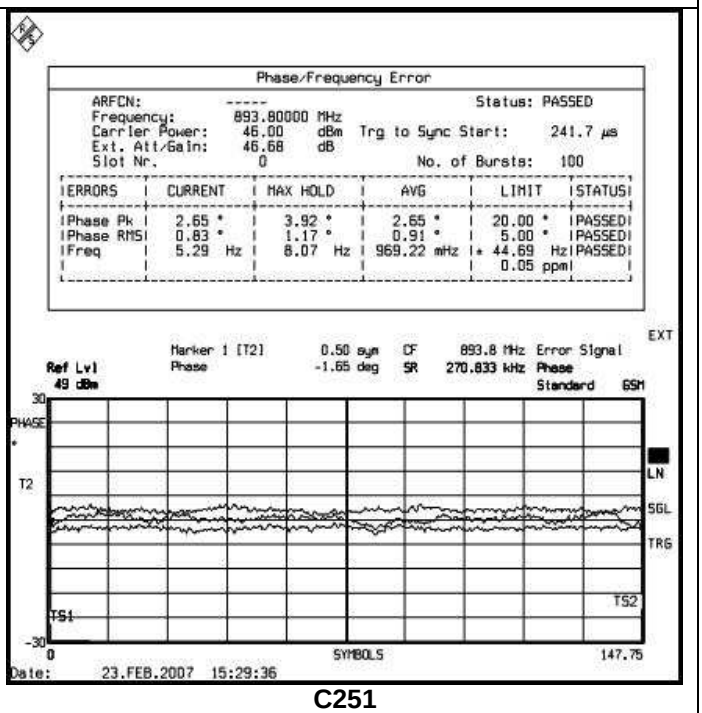
			HPRM tested		
	Canal	Mesure	Max hold	Average	Sanction
TDMA 0	128	Phase Pk	4,16 °	2,85 °	PASS
		Phase RMS	1,26 °	0,99 °	PASS
		Freq	8,46 Hz	2,05 Hz	PASS
TDMA 1	190	Phase Pk	3,81 °	2,81 °	PASS
		Phase RMS	1,28 °	0,98 °	PASS
		Freq	-9,30 Hz	-1,07 Hz	PASS
TDMA 2	251	Phase Pk	3,92 °	2,65 °	PASS
		Phase RMS	1,17 °	0,91 °	PASS
		Freq	8,07 Hz	0,97 Hz	PASS



C128



C190



C251

The maximum frequency deviation allowed is 0.05 ppm (+/- 43Hz). The maximum deviation measured (-9.30 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.11 TESTS AT TEMPERATURE -40 ℃

5.3.11.1 TX TESTS ON RM 1 (1900 MHZ) IN GMSK

Measurements are realized at antenna output for H2 Duplexer configuration.

5.3.11.1.1 MEAN RF POWER @ 187 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 38 dBm and ≤ 42 dBm.

		RM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**512**	GMSK	40,80	**PASS**
TDMA 1	**661**	GMSK	41,16	**PASS**
TDMA 2	**810**	GMSK	41,49	**PASS**

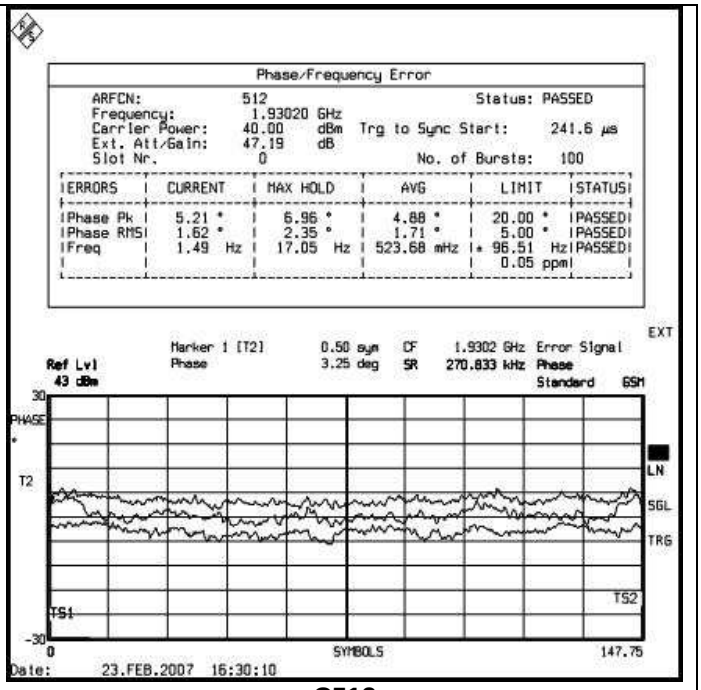
5.3.11.1.2 MEAN RF POWER @ 265 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 38 dBm and ≤ 42 dBm.

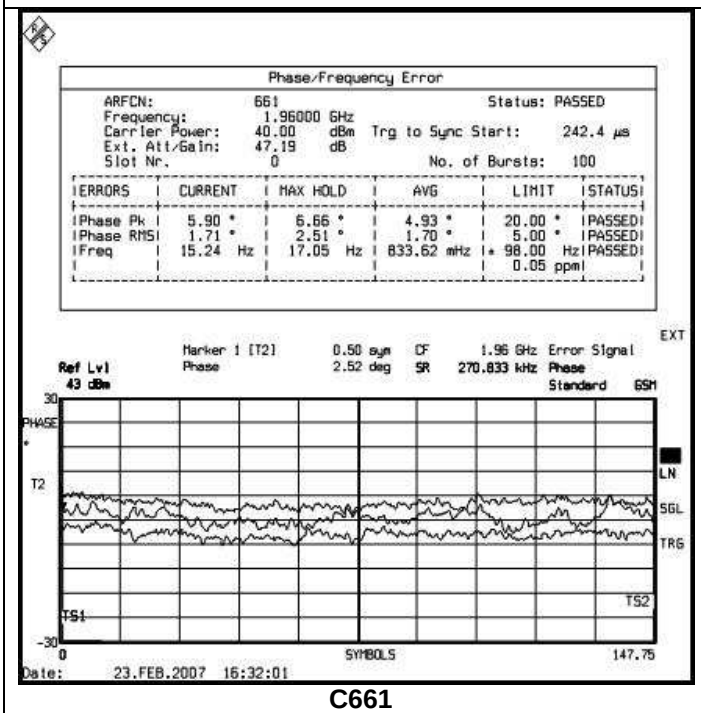
		RM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**512**	GMSK	40,79	**PASS**
TDMA 1	**661**	GMSK	41,15	**PASS**
TDMA 2	**810**	GMSK	41,53	**PASS**

5.3.11.1.3 PHASE AND MEAN FREQUENCY ERROR @ 187 VAC

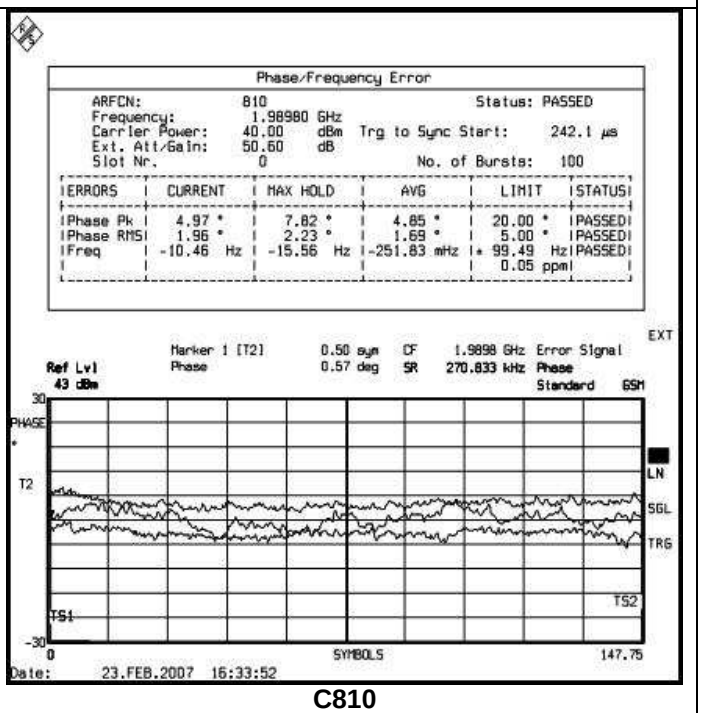
			RM tested		
	Canal	Mesure	Max hold	Average	Sanction
TDMA 0	512	Phase Pk	6,96 °	4,88 °	PASS
		Phase RMS	2,35 °	1,71 °	PASS
		Freq	17,05 Hz	0,52 Hz	PASS
TDMA 1	661	Phase Pk	6,66 °	4,93 °	PASS
		Phase RMS	2,51 °	1,70 °	PASS
		Freq	17,05 Hz	0,83 Hz	PASS
TDMA 2	810	Phase Pk	7,82 °	4,85 °	PASS
		Phase RMS	2,23 °	1,69 °	PASS
		Freq	-15,56 Hz	-0,25 Hz	PASS



C512



C661

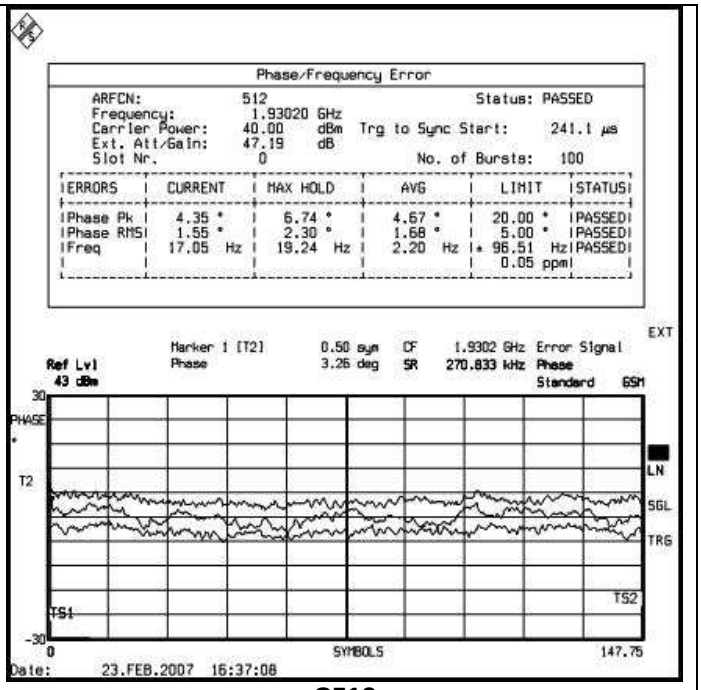


C810

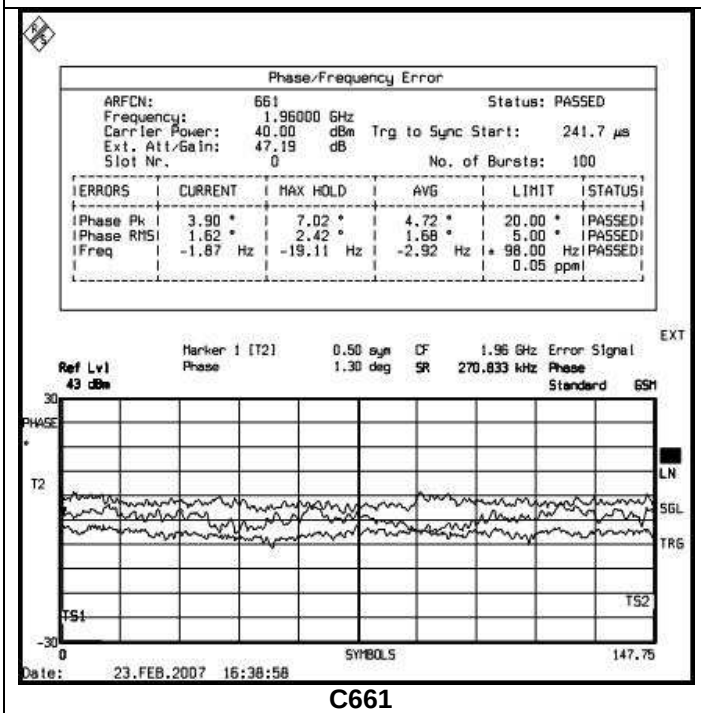
The maximum frequency deviation allowed is 0.05 ppm (+/- 95Hz). The maximum deviation measured (17.05 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.11.1.4 PHASE AND MEAN FREQUENCY ERROR @ 265 VAC

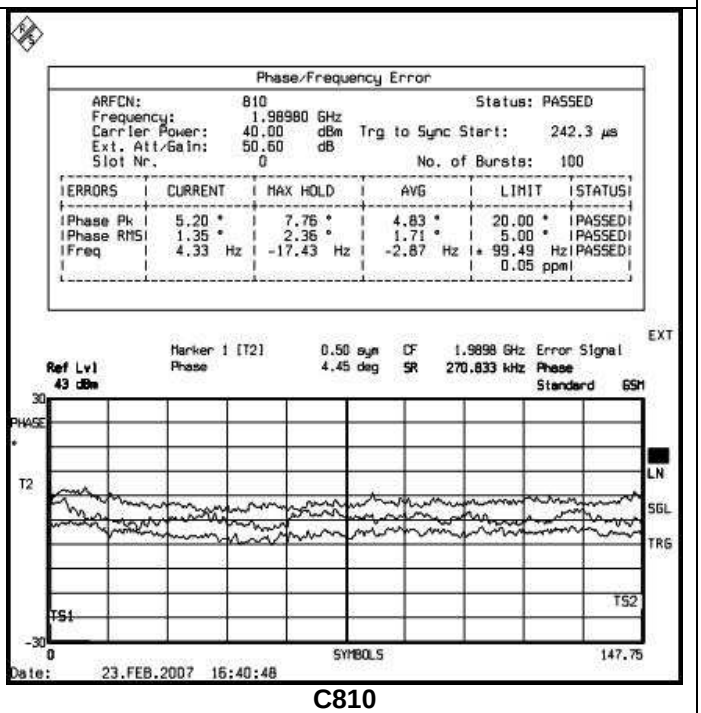
			RM tested		
	Canal	Mesure	Max hold	Average	Sanction
TDMA 0	512	Phase Pk	6,74 °	4,67 °	PASS
		Phase RMS	2,30 °	1,68 °	PASS
		Freq	19,24 Hz	2,20 Hz	PASS
TDMA 1	661	Phase Pk	7,02 °	4,72 °	PASS
		Phase RMS	2,42 °	1,68 °	PASS
		Freq	-19,11 Hz	-2,92 Hz	PASS
TDMA 2	810	Phase Pk	7,76 °	4,83 °	PASS
		Phase RMS	2,36 °	1,71 °	PASS
		Freq	-17,43 Hz	-2,87 Hz	PASS



C512



C661



C810

The maximum frequency deviation allowed is 0.05 ppm (+/- 95Hz). The maximum deviation measured (19.24 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.11.2 TX TESTS ON HPRM 3 (850 MHZ) IN GMSK

Measurements are realized at antenna output for H2 Duplexer configuration.

5.3.11.2.1 MEAN RF POWER @ 187 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 41 dBm and ≥ 45 dBm.

		HPRM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**128**	GMSK	43,88	**PASS**
TDMA 1	**190**	GMSK	44,21	**PASS**
TDMA 2	**251**	GMSK	44,17	**PASS**

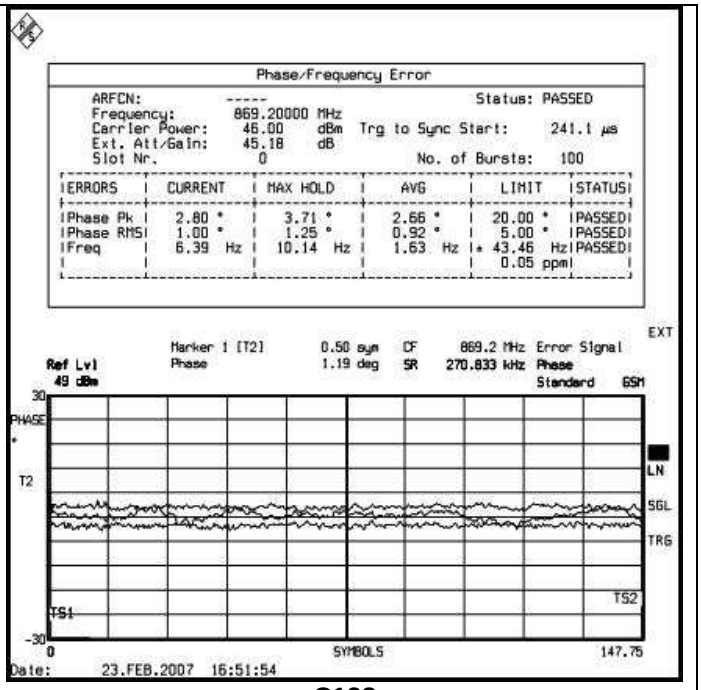
5.3.11.2.2 MEAN RF POWER @ 265 VAC

Specification for H2 Duplexer configuration in GMSK :
The power must be ≥ 41 dBm and ≥ 45 dBm.

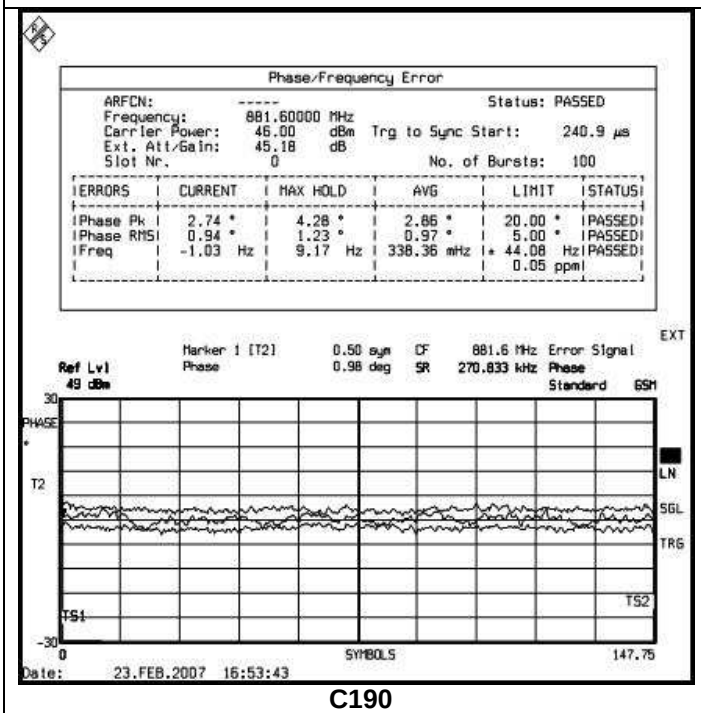
		HPRM tested		
	Canal	**Modulation Type**	**Mean RF Power**	**Sanction**
TDMA 0	**128**	GMSK	43,83	**PASS**
TDMA 1	**190**	GMSK	44,21	**PASS**
TDMA 2	**251**	GMSK	44,14	**PASS**

5.3.11.2.3 PHASE AND MEAN FREQUENCY ERROR @ 187VAC

	Canal	Mesure	HPRM tested Max hold	Average	Sanction
TDMA 0	128	Phase Pk	3,71 °	2,66 °	PASS
		Phase RMS	1,25 °	0,92 °	PASS
		Freq	10,14 Hz	1,63 Hz	PASS
TDMA 1	190	Phase Pk	4,28 °	2,86 °	PASS
		Phase RMS	1,23 °	0,97 °	PASS
		Freq	9,17 Hz	0,34 Hz	PASS
TDMA 2	251	Phase Pk	3,85 °	2,68 °	PASS
		Phase RMS	1,25 °	0,90 °	PASS
		Freq	9,75 Hz	1,95 Hz	PASS



C128



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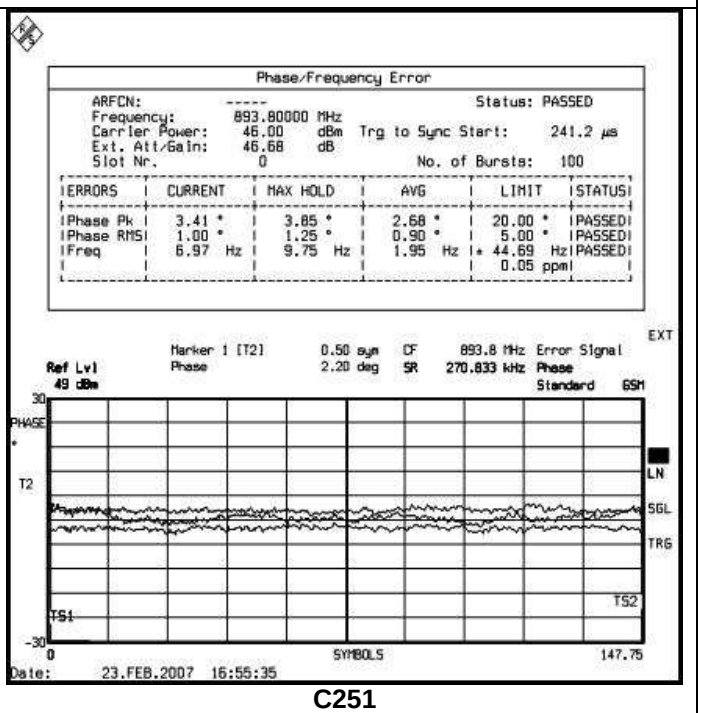
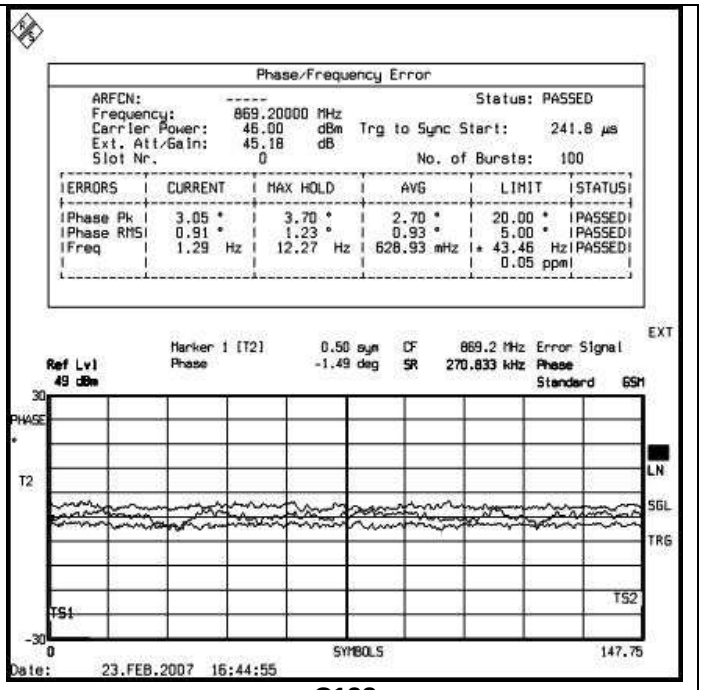


C251

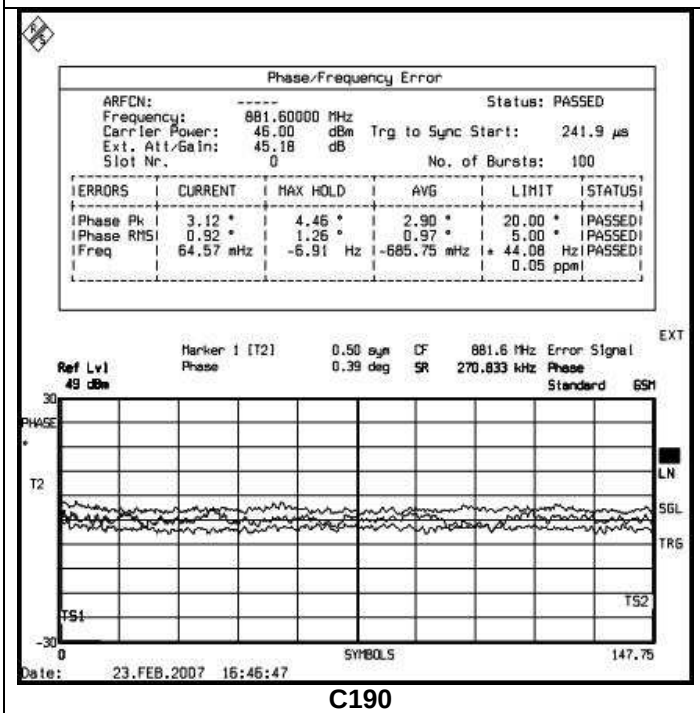
The maximum frequency deviation allowed is 0.05 ppm (+/- 43Hz). The maximum deviation measured (10.14 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

5.3.11.2.4 PHASE AND MEAN FREQUENCY ERROR @ 265 VDC

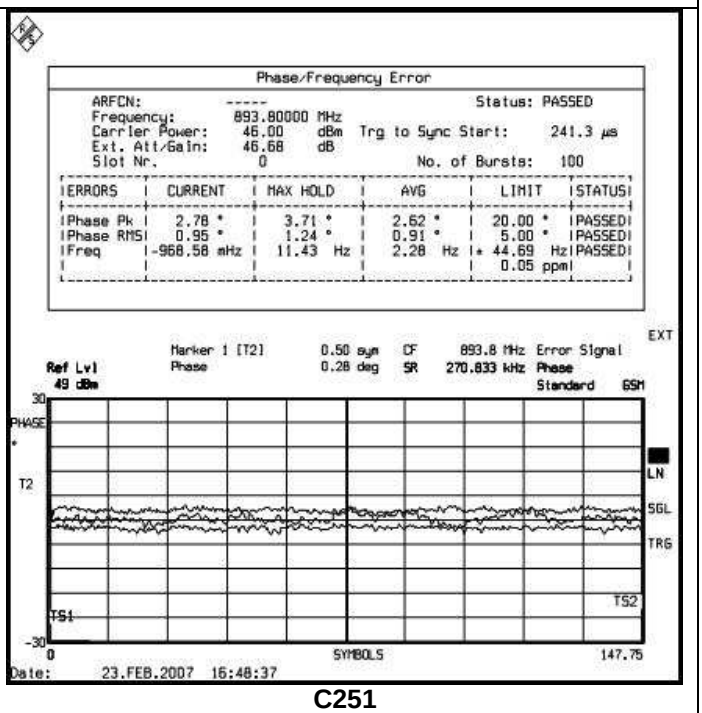
	Canal	Mesure	HPRM tested Max hold	Average	Sanction
TDMA 0	128	Phase Pk	3,70 °	2,70 °	PASS
		Phase RMS	1,23 °	0,93 °	PASS
		Freq	12,27 Hz	0,63 Hz	PASS
TDMA 1	190	Phase Pk	4,46 °	2,90 °	PASS
		Phase RMS	1,26 °	0,97 °	PASS
		Freq	-6,91 Hz	-0,69 Hz	PASS
TDMA 2	251	Phase Pk	3,71 °	2,62 °	PASS
		Phase RMS	1,24 °	0,91 °	PASS
		Freq	11,43 Hz	2,28 Hz	PASS



C128



C190



C251

The maximum frequency deviation allowed is 0.05 ppm (+/- 43Hz). The maximum deviation measured (12.27 Hz) is more than sufficient to ensure that the fundamental emission stays within the authorized frequency block.

6. CONCLUSION

The GSM 18000 Outdoor BTS (GSM 850 & Dual GSM 850 MHz / PCS 1900 MHz) equipped with modules HPRRM on 850 MHz band & RM on 1900 MHz band as described in this document complies with the FCC & IC radio requirements in extreme temperature.

7. MEASUREMENT EQUIPMENT LIST

Equipment description	Manufacturer	Model	Serial No.	LCIE No.
Spectrum analyser	R&S	FSEA	842655/02	A4060015
Spectrum analyser	Agilent	VSA	Nortel N° 571313	-
MIC analyseur	W&G	PA20	Y0075	A4040009
Signal generator	HP	8657B	3520U06355	A5442020
Signal generator	HP	8648A	3430V00370	-
Power Meter	Giga-tronics	8542C	1832488	A1503009
RF Probe	Giga-tronics	80401A	18330224	A1509027
40 dB 60 W attenuator	Diconex		02077	-
Temperature chambre	CLIMAT SAPRATIN	PV305C80F60HR	SV025470S	D1025026
Temperature chambre	CLIMAT SAPRATIN	PV140C80F60HR	SV025496S	D1025025

8. ABBREVIATIONS AND DEFINITIONS

8.1. ABBREVIATIONS

ARFCN	Absolute Radio Frequency Channel Number
BCCH	Broadcast Control Channel
BER	Bit Error Rate
BTS	Base Transceiver Station
C	Celsius
CPC	Common Product Code
DB	Decibel
dBc	Decibel referenced to the carrier level
dBm	Decibel ref 1milliwatt
DOA	Dead On Arrival
DRX	Driver Receiver Board
DTX	Discontinuous Transmitter
EDGE	Enhanced Data for GSM Evolution
EFT	Electrical Fast Transient
EMC	Electro-Magnetic-Compatibility
EMI	Electro-Magnetic-Interference
ESD	Electrical Static Discharge
ESS	Environmental Screaming Test
FH Bus	Transmission bus between FP and TX
FMECA	Failures Mode Effect Critically Analysis
FP	Frame Processor
GMSK	Gaussian Minimum Shift Keying
GSM	Global System for Mobile Communications
HALT	Highly Accelerated Life Test
IF	Intermediate Frequency
LISN	Line Impedance Stabilization Networks
LNA	Low Noise Amplifier
MTBF	Mean Time Between Failure
N.A.	Not Applicable
NER	Nominal Error Rate
NFF	No Fault Found
NFH	No Frequency Hopping
NN	Nortel Networks
OEM	Original Equipment Manufacturer
PA	Power Amplifier
PAR	Peak to Average Ratio
PEC	Product Engineering Code
PMR	Peak to Minimum Ratio
PSU	Power Supply Unit
RBER	Residual Bit Error Rate
RF	Radio Frequency
RMS	Root Mean Square

RX	Receiver
SFH	Slow Frequency Hopping
SPQL	Shipped Product Quality Level
SPR	Serial PEC Release
TBC	To Be Confirmed
TBD	To Be Defined
TCH	Traffic Channel
TDMA	Time Domain Multiple Access
TRX	Transmitter – Receiver
TS	Time slot
TX	Transmitter
UNL	Unit nominal Level
URG	Unit Reference Gain
UUT	Unit Under Test
VAD	Voice Activity Detection
VSWR	Voltage Standing Wave Ratio
VVA	Variable Voltage Attenuator

8.2. DEFINITIONS

None

END OF DOCUMENT